REPORT OF GEOTECHNICAL EXPLORATION

ASH DISPOSAL AREA
KINGSTON FOSSIL PLANT
KINGSTON, TENNESSEE

Prepared For:

TENNESSEE VALLEY AUTHORITY

Chattanooga, Tennessee

Prepared By:

MACTEC ENGINEERING AND CONSULTING, INC.

Knoxville, Tennessee

MACTEC Project 3043041009/0001

May 4, 2004

MACTEC

MACTEC

May 4, 2004

Mr. Ron Purkey
Tennessee Valley Authority
1101 Market Street, LP-2G
Chattanooga, TN 37402

Subject: **Report of Geotechnical Exploration**
Ash Disposal Area
TVA Kingston Fossil Plant
Kingston, Tennessee
MACTEC Project 3043041009/0001

Dear Mr. Purkey:

We at MACTEC Engineering and Consulting, Inc., (MACTEC) are pleased to submit this Report of Geotechnical Exploration for your project. Our services, as authorized through TAO No. MAC-0692-00050 were provided in general accordance with our proposal number Prop04Knox/076 dated February 17, 2004.

This report reviews the information provided to us, discusses the site and subsurface conditions, and presents our results of field and laboratory testing of the materials at the existing Ash Disposal Area. The Appendices contain a brief description of the Field Exploratory Procedures, a Key Sheet and Test Boring Records, Subsurface Fence Diagrams, In-situ Hydraulic Conductivity Test Results, Cone Penetrometer Test Results, the Laboratory Test Procedures, and the Laboratory Test Results.

We anticipate further dialog and interaction with your team and will be happy to provide additional information or interpretation of the data and recommendations presented here in which may be necessary.

We will be pleased to discuss our recommendations with you and would welcome the opportunity to provide the engineering services needed to successfully complete your project.

Sincerely,
MACTEC ENGINEERING AND CONSULTING, INC.

C. Todd Justice, E.I.T
Project Professional

Matthew B. Haston, P.E.
Senior Engineer

Carl D. Tockstein, P.E.
Chief Engineer - Tennessee Operations
CTJ/MBH/CDT:sjm

CARL DEWAYNE TOCKSTEIN REGISTERED ENGINEER AGRICULTURE COMMERCE STATE OF TENNESSEE 2008

MACTEC Engineering and Consulting, Inc.
1725 Louisville Drive • Knoxville, TN 37921-5602
865-588-8544 • Fax 865-588-1424

REPORT OF GEOTECHNICAL EXPLORATION

ASH DISPOSAL AREA
KINGSTON FOSSIL PLANT
KINGSTON, TENNESSEE

Prepared For:

TENNESSEE VALLEY AUTHORITY

Chattanooga, Tennessee

Prepared By:

MACTEC ENGINEERING AND CONSULTING, INC.

Knoxville, Tennessee

MACTEC Project 3043041009/0001

May 4, 2004

TABLE OF CONTENTS

Page

LIST OF TABLES IV

LIST OF FIGURES V

EXECUTIVE SUMMARY VI

1.0 INTRODUCTION 1

2.0 OBJECTIVES OF EXPLORATION 1

3.0 SCOPE OF EXPLORATION 1
- 3.1 DRILLING AND SAMPLING 1
- 3.2 MEASUREMENT OF GROUND-WATER LEVELS 2
- 3.3 PLUGGING AND ABANDONMENT OF BOREHOLES 2
- 3.4 ADDITIONAL FIELD TESTING 3
  - 3.4.1 Field Hydraulic Conductivity Testing 3
  - 3.4.2 Cone Penetrometer Testing (CPT) 3
- 3.5 LABORATORY TESTING 3

4.0 PROJECT INFORMATION AND SITE CONDITIONS 4

5.0 AREA AND SITE GEOLOGY 4

6.0 SUBSURFACE CONDITIONS 4

7.0 IN-SITU HYDRAULIC CONDUCTIVITY TESTING AND DISCUSSION OF RESULTS 6

8.0 CONE PENETROMETER TEST RESULTS 6

9.0 LABORATORY TESTING AND DISCUSSION OF LAB RESULTS 6
- 9.1 ASH SAMPLES 7
  - 9.1.1 Index Properties, Specific Gravity, and Unit Weight 7
  - 9.1.2 Ash Sample Remolding 7
  - 9.1.3 Strength 7
  - 9.1.4 Hydraulic Conductivity 8
- 9.2 SOIL SAMPLES 8
  - 9.2.1 Index Properties, Specific Gravity, and Unit Weight 8
  - 9.2.2 Compressibility 9

10.0 GROUND-WATER CONDITIONS 9

11.0 BASIS OF RESULTS 10

TABLES

FIGURES

APPENDIX A: FIELD EXPLORATORY PROCEDURES

APPENDIX B: KEY TO SYMBOLS AND DESCRIPTIONS
SOIL TEST BORING RECORDS
SUBSURFACE FENCE DIAGRAMS

APPENDIX C: IN-SITU HYDRAULIC CONDUCTIVITY TEST RESULTS AND PROCEDURE

TABLE OF CONTENTS — Continued

APPENDIX D: CONE PENETROMETER TEST RESULTS

APPENDIX E: LABORATORY TEST PROCEDURES
LABORATORY TEST RESULTS

LIST OF TABLES

Table

1 Boring Summary

2 Ground-Water Data

3 Natural Moisture Content and Atterberg Limits Test Results

4 Ash Triaxial Shear Strength Data – Consolidated – Undrained with Pore Pressure Measurements for Ash Samples

5 Laboratory Hydraulic Conductivity Test Data for Ash Samples

6 Consolidation Test Data for Soil Samples

LIST OF FIGURES

Figure

1 Site Location Map

2 Boring Location Plan

EXECUTIVE SUMMARY

MACTEC was selected by the Tennessee Valley Authority (TVA) to perform a geotechnical exploration for the existing Ash Disposal Area at the Kingston Fossil Plant in Kingston, Tennessee. The objectives of our exploration were to determine the subsurface conditions at the site, to obtain data to evaluate the strength and hydraulic conductivity characteristics of the ash materials, and also to evaluate the consolidation characteristics of the alluvial soils.

The exploration consisted of drilling a total of fifteen geotechnical test borings, installing three ground-water monitoring wells (piezometers), drilling three auger borings used to perform in-situ hydraulic conductivity testing, and performing Cone Penetrometer Test (CPT) probes at selected locations. The major findings and recommendations of our geotechnical exploration are as follows:

- The test borings typically encountered ash and intervals of fill soils overlying alluvial soils. The ash was typically comprised of silt and sand sized particles with lesser percentages of clay and gravel sized particles. The consistency and relative density of the ash varied from very soft to very stiff and very loose to very dense. The fill soils were typically comprised of silty clay and silty sand with chert fragments and some ash. The fill soils are judged to generally be of very soft to stiff consistency and firm relative density. The underlying alluvial soils were typically comprised of silty clay, clayey sand, and sand. The alluvial soils are judged to have very soft to very stiff consistencies and very loose to dense relative densities.

- Ground-water was measured in the test borings at the time of drilling. Table 2 summarizes the recorded ground-water data. Three ground-water monitoring wells identified as MW-1, MW-2, and MW-3, were installed along the slope of the Ash Disposal Area located adjacent to Swan Pond Road at the north end of the site (see Figure 2: Boring Location Plan). Long-term ground-water levels can be obtained from these well locations.

- In-situ hydraulic conductivity testing was conducted at auger boring locations B-1A, B-1B, and B-2A (see Figure 2: Boring Location Plan). A discussion of the field test results is found in Section 7.0. The test results are found in Appendix C.

- Cone Penetrometer Test soundings were performed at selected locations near some of the geotechnical test borings and on a newly constructed dike. The test locations are shown on Figure 2: Boring Location Plan. A discussion of the test results is found in Section 8.0. The CPT results are found in Appendix D.

This summary is only an overview and should not be used as a separate document or in place of reading the entire report, including the appendices.

1.0 INTRODUCTION

This report presents the findings of our subsurface exploration and field and laboratory testing recently performed for the existing Ash Disposal Area at TVA's Kingston Fossil Plant. Our services were authorized by Mr. Ron Purkey of TVA.

2.0 OBJECTIVES OF EXPLORATION

The objectives of our exploration were to characterize the subsurface conditions at the Ash Disposal Area, and to obtain data to aid in the evaluation of the strength and hydraulic conductivity characteristics of the ash materials and consolidation characteristics of the alluvial soils. An assessment of site environmental conditions, or an assessment for the presence or absence of pollutants in the soil, bedrock, surface water, or ground water of the site was beyond the proposed objectives of our exploration.

3.0 SCOPE OF EXPLORATION

The scope of our exploration was based on our proposal number Prop04Knox/076 dated February 17, 2004, and the geotechnical scope of work outlined in the project's scope of work prepared by TVA and Parsons E & C. It included the following:

3.1 DRILLING AND SAMPLING

The subsurface exploration for this project consisted of drilling and sampling twelve geotechnical borings (designated B-1 through B-12), three offset geotechnical borings (designated B-4A, B-5A, and B-8A), drilling three auger borings used to perform in-situ hydraulic conductivity testing (designated B-1A, B-1B, and B-2A), and drilling and installing three ground-water monitoring wells (piezometers), (designated MW-1, MW-2, and MW-3). One of our geotechnical engineers estimated the boring locations in the field using a boring location map as a reference. The boring locations are shown on Figure 2: Boring Location Plan. TVA determined the coordinates, and ground surface elevations at the geotechnical boring locations relative to mean sea level (msl), using surveying techniques.

The borings were drilled with a truck-mounted Central Mine Equipment (CME) Model 75 drill rig and an all-terrain vehicle (ATV) mounted Central Mine Equipment (CME) Model 55 drill rig in

general accordance with the procedures described in Appendix B. Standard Penetration Tests (SPTs) were performed in the geotechnical borings using a CME automatic hammer. The SPTs were performed using standard 2.00-inch OD split spoons with 1.38-inch ID barrels (i.e., no room for liners in the barrels). SPTs were performed at 5-foot intervals.

Three-inch-diameter relatively undisturbed (Shelby tube) samples were obtained from representative cohesive soils in the geotechnical borings. The Shelby tubes were pushed into the bottoms of the boreholes at the desired sampling depth. The samples were then sealed with wax and capped at both ends to minimize changes in the structure and moisture content of the samples.

A 3.5-inch OD, 3-inch ID split spoon with liner was used to sample the ash at varying depths. The spoon was pushed into the bottoms of the boreholes at the desired sampling depths. The ash samples, enclosed in the liners, were then sealed with a wax / motor oil mixture at both ends and capped to minimize changes in the structure and moisture content of the samples.

3.2 MEASUREMENT OF GROUND-WATER LEVELS

Ground-water levels in the geotechnical borings were generally measured and recorded when first encountered (at the time of drilling). Twenty-four-hour ground-water readings were not recorded in the geotechnical borings due to the necessity of grouting the borings immediately after termination of the borings. Ground water measurements taken at the termination of the borings were not recorded due to the introduction of water into the boreholes during drilling. The recorded ground-water levels are discussed in Section 9.0 and are summarized in Table 2.

3.3 PLUGGING AND ABANDONMENT OF BOREHOLES

Upon completion of drilling and sampling, the geotechnical boreholes were plugged with a Type I Portland cement-bentonite grout mixture using a tremie pipe method. The borings were backfilled in general accordance with the requirements specified by TVA. During plugging and abandonment precautions were taken to stabilize against cave-ins prior to and during plugging procedures, however, it was observed that at a few of the boring locations portions of the ash profiles collapsed (caved-in) within the borings due to the behavior of the saturated ash. However, it is noted that the alluvial and residual soil profiles encountered underlying the intervals of ash were successfully grouted.

3.4 ADDITIONAL FIELD TESTING

3.4.1 Field Hydraulic Conductivity Testing

Field measurements to assist in estimating the limiting hydraulic conductivity of the in-situ dike materials were performed near soil test borings B-1 and B-2. The locations of the in-situ hydraulic conductivity tests are shown on Figure 2: Boring Location Plan. The in-situ hydraulic conductivity test results are found in Appendix C. A discussion of the field test results is found in Section 7.0.

3.4.2 Cone Penetrometer Testing (CPT)

Eleven CPT soundings were performed to supplement the data obtained from the geotechnical borings. The CPT locations are shown on Figure 2: Boring Location Plan. Nine soundings were performed near geotechnical test boring locations while two were performed on a newly constructed dike. The CPT results are found in Appendix D. A discussion of the test results is found in Section 8.0.

CPT soundings were performed using an electric penetrometer with pore pressure measurements. The cone penetrometer equipment was mounted on a track vehicle. Continuous data was recorded with a computerized data acquisition system. Pore pressure measurements were performed to evaluate the rate of pore pressure dissipation within the ash and underlying soils.

3.5 LABORATORY TESTING

This section outlines the geotechnical laboratory testing program. The discussion and summary of the results of the laboratory testing program are found in Section 9.0. The laboratory testing procedures and laboratory test results are included in Appendix E.

- 46 Natural Moisture Content Tests
- 13 Unit Weight with Moisture Content Tests
- 18 Specific Gravity Tests
- 6 Atterberg Limits Tests
- 27 Particle Size Distribution Tests
- 3 Consolidated Undrained Triaxial Compression (CU) Tests
- 2 Falling Head Permeability Tests
- 1 Consolidation Test

4.0 PROJECT INFORMATION AND SITE CONDITIONS

Project information was provided to us by TVA and Parsons E & C in the form of a Subsurface Exploration document and a boring location plan. The existing Ash Disposal Area consists of an upstream method of construction ash disposal facility with various cells, existing ash pond, and stilling pond. The site is located just north of the Kingston Fossil Plant. The ground surface elevation varies by as much as about 48 feet in the areas of our exploration program. The areas of exploration included existing cells, a perimeter slope of the disposal facility, and areas along the perimeter of the existing ash and stilling ponds.

5.0 AREA AND SITE GEOLOGY

Kingston, Tennessee, is located in the Appalachian Valley and Ridge Physiographic Province. This province extends as a continuous belt from Central Alabama, through Georgia and Tennessee, northward into Pennsylvania. The formations that underlie this province consist primarily of limestone, dolostone, shale, and sandstone, which have been folded and faulted in the geologic past. These formations range in age from Cambrian to Pennsylvanian and have been subject to at least one extensive period of erosion since their structural deformation. The erosion has produced a series of subparallel, alternating ridges and valleys. The valleys are formed over more soluble bedrock (limestone and interbedded limestone and shale), whereas bedrock more resistant to solution weathering forms ridges (sandstone, shale, and cherty dolostone).

The site and vicinity are blanketed with alluvial (water-transported) soils that have been deposited over time by the nearby Emory River. The alluvial soils typically consist of heterogeneous mixtures of clay, silt, sand and gravel. The alluvial soils typically grade coarser with depth and may contain rock fragments ranging up to cobble and boulder size. The published geologic map of this area shows that this site is underlain by bedrock of the Conasauga Shale. The Conasauga Shale is mainly composed of blue-gray shale with many lenses of limestone, conglomerate, and siltstone. The proportion of shale to other materials is about 4 to 1. The lenses of limestone typically range in thickness from about 1 inch to several feet.

6.0 SUBSURFACE CONDITIONS

Subsurface conditions encountered in our borings are described in the following paragraphs. The approximate boring locations are shown on Figure 2: Boring Location Plan. Subsurface conditions encountered at the boring locations are shown on the Boring Records. The Boring Records

represent our interpretation of the subsurface conditions based on the field boring logs and visual examination of the field samples by one of our geotechnical engineers. The lines designating the interfaces between various strata on the Boring Records and Subsurface Profiles represent the approximate interface locations. Boring depths and types are summarized in Table 1. Descriptions of the materials encountered in the borings are given below:

- Ash – Ash was encountered at each boring location. The ash typically consisted of fine and coarse sized particles as described on the boring logs. Standard Penetration Test (SPT) N-values in the ash ranged from 0 (woh / "weight of hammer") to over 50 blows per foot (bpf).

- Fill Soils – Fill was encountered in borings B-1 through B-3, B-7, B-9, B-11, and B-12. Fill soils are soils that have been transported to their present location by man. These soils typically consisted of silty clay and silty sand with varying percentages of chert fragments, coal fragments, limestone fragments, and ash. N-values in the fill soils ranged from 1 to over 50 blows per foot (bpf). The higher N-values were likely inflated due to the presence of large rock fragments in the fill. Correspondingly, the fill soils are judged to generally be of very soft to stiff consistency and firm relative density. The depth to fill varied from ground surface at borings B-1 and B-2 to about 57.5 feet at boring B-3.

- Alluvium – Alluvial soils were encountered below the ash in borings B-1, B-2, B-4, B-5A, B-6, B-7, B-8A, and B-9 through B-12. Alluvial soils are soils that have been transported to their present location by running water. These soils consisted of silty clay, clayey sand, and sand with coal fragments and roots. The N-values in the alluvial soils ranged from 0 (woh / "weight of hammer") to 33 bpf. These soils are judged to have very soft to very stiff consistencies and very loose to dense relative densities. The depth to alluvium varied from about 26.2 ft at boring B-12 to about 83 ft at boring B-4. Based on the results of the laboratory testing, the alluvial soils were classified as CL and SM, in accordance with the USCS.

- Residuum - The residuum was encountered below the alluvial soils and extended to auger refusal or to auger termination depth in borings B-8A, B-9, B-10, and B-12. Residual soils (residuum) are soils that have developed from the in-place weathering of the underlying parent bedrock. The residuum typically consisted of weathered shale and shale with limestone. The N-values in the residuum ranged from 14 bpf to over 50 bpf. These residual materials are judged to have stiff to very hard consistencies. The depth to residuum varied from about 38 ft at boring B-10 to about 70.5 ft at boring B-8A.

7.0 IN-SITU HYDRAULIC CONDUCTIVITY TESTING AND DISCUSSION OF RESULTS

This section describes the hydraulic conductivity testing performed for this project. The results of the testing and a brief discussion of the test procedure is provided in Appendix C.

The hydraulic conductivity testing was performed at locations B-1A, adjacent to soil test boring B-1 and at B-2A, adjacent to soil test boring B-2. The temperature effect gage was installed at B-1B. These locations are shown on the Boring Location Plan, Figure 2, in the Appendix.

The in-situ hydraulic conductivity test provides the in-situ limiting hydraulic conductivity of the tested material. These limiting values are the maximum possible for the vertical direction, and the minimum possible for the horizontal direction.

The results of the tests indicated that the maximum vertical hydraulic conductivity at borings B-1 and B-2 was 5.13×10^{-6} and 3.59×10^{-6} centimeters per second (cm/s), respectively. The minimum horizontal hydraulic conductivity at borings B-1 and B-2 was measured as 1.42×10^{-5} and 3.67×10^{-6} cm/s, respectively.

8.0 CONE PENETROMETER TEST RESULTS

The subsurface profiles developed by the CPT soundings were consistent with those obtained from the geotechnical borings. Typically, the CPT soundings indicated that the tip resistance decreased from the coarser, cohesionless ash into the finer ash. Several pore pressure dissipation tests were performed at the CPT locations which give further indications of material types. Refer to Appendix D for details of the CPT results.

9.0 LABORATORY TESTING AND DISCUSSION OF LAB RESULTS

This section describes the geotechnical laboratory testing program performed for this project. The laboratory testing procedures and laboratory test results are included in Appendix E. The following paragraphs provide a short discussion of the laboratory testing conducted and summarize the results.

9.1 ASH SAMPLES

9.1.1 Index Properties, Specific Gravity, and Unit Weight

Natural moisture content, grain size distributions with hydrometer analyses, and specific gravity tests were performed on split-spoon and undisturbed ash samples. In addition, unit weight testing was performed on selected undisturbed ash samples.

Moisture contents of the tested ash ranged from 16 (B-3) to 48 (B-10) percent; most values ranged between 22 and 40 percent. Table 3 summarizes the results of the natural moisture content testing performed on selected split-spoon ash samples.

The grain size testing confirmed the variability of the grain size distributions of the sampled ash materials. Percent fines (percent silt and clay-size particles) varied from 30 to 98 percent.

Specific gravities for the ash samples tested varied from 2.27 to 2.58, with the preponderance of values in the 2.3 to 2.5 range. Moist unit weights in the ash material ranged from 76.7 to 114.0 pounds per cubic foot (pcf), and averaged 104.3 pcf. Dry unit weights in the ash material varied from 61.6 to 95.5 pcf and averaged 80.5 pcf.

9.1.2 Ash Sample Remolding

Remolded ash specimens were subjected to consolidated-undrained triaxial compression with pore pressure measurements (CU w/PP) and hydraulic conductivity testing. An undisturbed ash specimen (B-10, 5 to 7 feet), subjected to CU w/PP triaxial testing, was remolded to similar density and moisture content conditions as the undisturbed sample unit weight test results indicated. Bulk samples of ash (obtained from borings B-1A, B1B, and B-2A) subjected to hydraulic conductivity testing were remolded to density and moisture content conditions obtained from a unit weight test performed on an undisturbed ash specimen sampled from B-1 (4 to 4.5 feet).

9.1.3 Strength

Shear strength testing on ash material included consolidated-undrained triaxial compression with pore pressure measurements (CU w/PP). Tests were performed on relatively undisturbed and

remolded ash specimens. The strength parameters from the triaxial shear strength testing are summarized in Table 4. The test results are discussed below.

As shown in Table 4, CU w/PP parameters consisted of total stress cohesion intercepts from 3.0 to 5.6 ksf and total stress friction angles of 25.0 to 32.7 degrees. Effective stress cohesion intercepts varied from 0 to 0.1 ksf, and effective stress friction angles varied from 32.1 to 36.6 degrees. The high total stress cohesion values may be indicative of chemical bonding within the ash.

9.1.4 Hydraulic Conductivity

Hydraulic conductivity tests were performed on remolded specimens of ash material obtained from bulk samples. The results of the hydraulic conductivity tests are presented in Table 5. Values of hydraulic conductivity for the two remolded specimens were 1.67×10^{-5} cm/sec and 1.87×10^{-5} cm/sec.

9.2 SOIL SAMPLES

9.2.1 Index Properties, Specific Gravity, and Unit Weight

Natural moisture content and specific gravity tests were performed on split-spoon and undisturbed soil samples. Liquid limit and plastic limits (collectively known as Atterberg limits tests); and grain size distributions with hydrometer analyses were performed on split-spoon and undisturbed soil samples, as well. These tests were used to confirm our visual-manual classifications and to evaluate the volume change potential of the samples tested. In addition, unit weight testing was performed on selected undisturbed soil samples. Table 3 summarizes the results of the natural moisture content and Atterberg limits testing performed on selected split-spoon soil samples.

Moisture contents of the tested alluvial soils ranged from 17 (B-2 and B-8A) to 27 (B-8A) percent. Liquid limits of the tested alluvial soils were 26, while the plastic limits varied from 15 to 16. Plasticity indices (PIs) varied from 10 to 11. The majority of the tested alluvial soils were non-viscous and non-plastic. The tested soils, having plasticity indices of less than 30, are considered to have a relatively low potential for volume change with changes in moisture content. The alluvial soils classified as CL and SM in accordance with the Unified Soil Classification System.

The grain size testing confirmed the variability of the grain size distributions of the sampled alluvial soils. Percent fines (percent silt and clay-size particles) varied from 17.3 to 57.2 percent. Specific gravities of the tested alluvial soil samples varied from 2.67 to 2.68. Moist unit weights in the alluvial soils ranged from 124.6 to 131.0 pounds per cubic foot (pcf), and averaged 127.6 pcf. Dry unit weights in the alluvial soils varied from 102.2 to 112.2 pcf and averaged 106.3 pcf.

9.2.2 Compressibility

One-dimensional consolidation testing was performed on an undisturbed specimen of alluvial soil. Compression properties of the soil subjected to one-dimensional consolidation testing are summarized in Table 6. The laboratory consolidation data is presented in Appendix E. The preconsolidation pressure listed in Table 6 was estimated graphically by hand using the Casagrande Method and checked by the Log-Log Method.

The coefficients of consolidation were computed for each load increment by the consolidation test software. The compression index for the "laboratory" void ratio versus log pressure curve also was computed by the consolidation test software. The "field" compression index was estimated graphically using the Schmertmann Method.

10.0 GROUND-WATER CONDITIONS

Ground-water level measurements made in the borings during drilling are summarized in Table 2. Ground water was observed in borings B-1 through B-4, B-6 through B-8, B-9 through B-12, and in B-5A and B-8A. Depths below the ground surface to ground-water levels at the time of drilling varied from 3.0 to 42.0 feet. The ground-water elevations at the time of drilling varied from 943.1 to 982.8 feet msl. Twenty-four-hour ground-water levels were not measured in the geotechnical borings because plugging and abandonment procedures were initiated immediately after drilling.

To provide long-term ground-water data for the site vicinity near borings B-1 through B-3, three ground-water monitoring wells (piezometers) were installed and identified as MW-1, MW-2, and MW-3. Twenty-four-hour ground-water measurements were taken at these locations after the installation of these monitoring wells. Initial readings indicate depths below the ground surface to ground-water levels of 6.9 ft, 15.4 ft, and 27.3 ft, at locations MW-1, MW-2, and MW-3, respectively. These correspond to ground-water elevations of 774.9, 779.9, and 783.5 feet msl.

11.0 BASIS OF RESULTS

The results of our geotechnical exploration provided herein are based on the encountered subsurface conditions, and on the field and laboratory testing performed with respect to the specific project site and locations discussed in this report. Regardless of the thoroughness of a geotechnical exploration, there is always a possibility that conditions between test borings will differ from those at specific test boring locations, and that conditions may not be as anticipated. In addition, the interpretation and analysis of the results of a geotechnical exploration are critical related to proposed design criteria. Therefore, we recommend that experienced geotechnical engineers review any proposed site specific design plans that incorporate the results of our geotechnical exploration. We recommend that TVA retain MACTEC to provide this service, based upon our familiarity with the subsurface conditions, field and laboratory testing results, and our geotechnical experience.

Our exploration services include storing the collected samples and making them available for inspection for a period of 30 days. The samples are then discarded unless you request otherwise.

TABLES

TABLE 1
BORING SUMMARY

Boring Number	Type	Ground Elevation msl (Feet)	Refusal Depth (Feet)	Refusal Elevation msl (Feet)	Refusal Type	Boring Termination Depth (Feet)	Boring Termination Elevation msl (Feet)
B-1	STB	781.8	82.2	699.6	AR	82.2	699.6
B-1A	HC	781.8*	NA	NA	NA	5.0	776.8
B-1B	HC	781.8*	NA	NA	NA	5.0	776.8
B-2	STB	795.3	87.5	707.8	AR	87.5	707.8
B-2A	HC	795.3*	NA	NA	NA	5.0	790.3
B-3	STB	810.8	NA	NA	NA	70.0	740.8
B-4	STB	810.6	NA	NA	NA	98.5	712.1
B-4A	STB	810.6*	NA	NA	NA	28.5	782.1
B-5	STB	810.2	NA	NA	NA	41.5	768.7
B-5A	STB	810.2	NA	NA	NA	101.5	708.7
B-6	STB	809.5	NA	NA	NA	86.5	723.0
B-7	STB	767.0*	NA	NA	NA	46.5	720.5
B-8	STB	773.6*	NA	NA	NA	35.0	738.6
B-8A	STB	773.6	70.7	702.9	AR	70.9	702.7
B-9	STB	764.4	61.9	702.5	AR	61.9	702.5
B-10	STB	762.6	39.2	723.4	AR	39.2	723.4
B-11	STB	765.0	62.5	702.5	AR	62.5	702.5
B-12	STB	763.9	59.7	704.2	AR	60.6	703.3
MW-1	MW	781.8*	NA	NA	NA	20.0	761.8
MW-2	MW	795.3*	NA	NA	NA	35.0	760.3
MW-3	MW	810.8*	NA	NA	NA	40.0	770.8

NA – Not Applicable
STB – Soil Test Boring
AR – Auger Refusal
HC – Auger Boring used for In-Situ Hydraulic Conductivity Testing
MW – Monitoring Well or Piezometer
* - Elevations were estimated based on nearby surveyed boring locations and field reconnaissance

Prepared By CCT Date 5/4/04 Checked By MBH Date 5/4/04

TABLE 2
GROUND-WATER DATA

Boring Number	Ground Elevation msl (Feet)	Depth to Ground Water at Time of Drilling (Feet)	Ground-Water Elevation, msl at Time of Drilling (Feet)	Depth to Ground Water 24 Hours After Drilling (Feet)	Ground-Water Elevation 24 Hours After Drilling msl (Feet)
B-1	781.8	7.4	774.4	Not Measured	Not Measured
B-1A	781.8	Not Encountered	Not Encountered	Not Measured	Not Measured
B-1B	781.8	Not Encountered	Not Encountered	Not Measured	Not Measured
B-2	795.3	26.2	769.1	Not Measured	Not Measured
B-2A	795.3	Not Encountered	Not Encountered	Not Measured	Not Measured
B-3	810.8	28.0	782.8	Not Measured	Not Measured
B-4	810.6	28.0	782.6	Not Measured	Not Measured
B-4A	810.6	Not Encountered	Not Encountered	Not Measured	Not Measured
B-5	810.2	Not Encountered	Not Encountered	Not Measured	Not Measured
B-5A	810.2	41.0	769.2	Not Measured	Not Measured
B-6	809.5	42.0	767.5	Not Measured	Not Measured
B-7	767.0	12.6	754.4	Not Measured	Not Measured
B-8	773.6	12.2	761.4	Not Measured	Not Measured
B-8A	773.6	12.0	761.6	Not Measured	Not Measured
B-9	764.4	9.0	755.4	Not Measured	Not Measured
B-10	762.6	3.0	759.6	Not Measured	Not Measured
B-11	765.0	21.9	743.1	Not Measured	Not Measured
B-12	763.9	18.5	745.4	Not Measured	Not Measured
MW-1	781.8	Not Measured	Not Measured	6.9 *	774.9
MW-2	795.3	Not Measured	Not Measured	15.4 *	779.9
MW-3	810.8	Not Measured	Not Measured	27.3 *	783.5

*Measurements were taken 24 hours after monitoring well (piezometer) installation.

Prepared By CTJ Date 5/4/04 Checked By mBH Date 5/4/04

TABLE 3
NATURAL MOISTURE CONTENT AND
ATTERBERG LIMITS LABORATORY TEST RESULTS

Boring Number	Sample Number	Sample Type	Sample Description/ Origin	Sample Depth (Feet)	Moisture Content (%)	Atterberg Limits		
						Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)
B-1	UD-1	UD	ASH	4-4.5	19	NT	NT	NT
B-1	UD-2	UD	Alluvium	65-67	20	NV	NP	NP
B-2	UD-4	UD	Alluvium	70-72	17	NV	NP	NP
B-3	1	SPT	ASH	0-1.5	24	NT	NT	NT
B-3	2	SPT	ASH	5-6.5	20	NT	NT	NT
B-3	3	SPT	ASH	10-11.5	16	NT	NT	NT
B-3	4	SPT	ASH	15-16.5	17	NT	NT	NT
B-3	5	SPT	ASH	20-21.5	39	NT	NT	NT
B-3	6	SPT	ASH	25-26.5	40	NT	NT	NT
B-3	7	SPT	ASH	30-31.5	34	NT	NT	NT
B-3	8	SPT	ASH	35-36.5	22	NT	NT	NT
B-3	9	SPT	ASH	40-41.5	22	NT	NT	NT
B-3	10	SPT	ASH	45-46.5	31	NT	NT	NT
B-3	11	SPT	ASH	50-51.5	39	NT	NT	NT
B-3	12	SPT	ASH	55-56.5	43	NT	NT	NT
B-3	13	SPT	FILL/ASH	60-61.5	30	NT	NT	NT
B-3	14	SPT	ASH	65-66.5	16	NT	NT	NT
B-4A	UD-1	UD	ASH	15-17	37	NT	NT	NT
B-4A	UD-3	UD	ASH	25-27	38	NT	NT	NT
B-5	1	SPT	ASH	0-1.5	22	NT	NT	NT
B-5	2	SPT	ASH	5-6.5	39	NT	NT	NT
B-5	3	SPT	ASH	10-11.5	25	NT	NT	NT
B-5	4	SPT	ASH	15-16.5	32	NT	NT	NT
B-5	5	SPT	ASH	20-21.5	30	NT	NT	NT
B-5	6	SPT	ASH	25-26.5	39	NT	NT	NT
B-5	7	SPT	ASH	30-31.5	41	NT	NT	NT
B-5	8	SPT	ASH	35-36.5	29	NT	NT	NT
B-5	9	SPT	ASH	40-41.5	34	NT	NT	NT
B-8	1	SPT	ASH	0-1.5	25	NT	NT	NT
B-8	2	SPT	ASH	5.8-7.3	20	NT	NT	NT
B-8	UD-2	UD	ASH	10-12	19	NT	NT	NT
B-8	3	SPT	ASH	12-13.5	22	NT	NT	NT
B-8	4	SPT	ASH	15-16.5	45	NT	NT	NT
B-8	UD-3	UD	ASH	20-22	32	NT	NT	NT

TABLE 3
NATURAL MOISTURE CONTENT AND
ATTERBERG LIMITS LABORATORY TEST RESULTS

Boring Number	Sample Number	Sample Type	Sample Description/ Origin	Sample Depth (Feet)	Moisture Content (%)	Atterberg Limits		
						Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)
B-8	5	SPT	ASH	22-23.5	43	NT	NT	NT
B-8	6	SPT	ASH	25.6-27.1	27	NT	NT	NT
B-8	7	SPT	ASH	30-31.5	25	NT	NT	NT
B-8A	1	SPT	ASH	35-36.5	37	NT	NT	NT
B-8A	2	SPT	ASH	40-41.5	47	NT	NT	NT
B-8A	3	SPT	ASH	45-46.5	37	NT	NT	NT
B-8A	4	SPT	ASH	50-51.5	36	NT	NT	NT
B-8A	5	SPT	Alluvium	57-58.5	24	26	15	11
B-8A	6	SPT	Alluvium	62-63.5	24			
B-8A	UD-2	UD	Alluvium	60-62	22	26	16	10
B-8A	7	SPT	Alluvium	65-66.5	27	NV	NP	NP
B-8A	8	SPT	Alluvium	70-70.9	17			
B-10	1	SPT	ASH	0-1.5	18	NT	NT	NT
B-10	UD-1	UD	ASH	5-7	25	NT	NT	NT
B-10	2	SPT	ASH	7-8.5	28	NT	NT	NT
B-10	UD-2	UD	ASH	10-12	25	NT	NT	NT
B-10	3	SPT	ASH	12-13.5	30	NT	NT	NT
B-10	UD-3	UD	ASH	15-17	38	NT	NT	NT
B-10	4	SPT	ASH	17-18.5	45	NT	NT	NT
B-10	UD-4	UD	ASH	20-22	37	NT	NT	NT
B-10	5	SPT	ASH	22-23.5	32	NT	NT	NT
B-10	6	SPT	ASH	25-26.5	48	NT	NT	NT
B-10	7	SPT	Alluvium	30-31.5	25	NT	NT	NT
B-10	UD-5	UD	Alluvium	35-37	22	NV	NP	NP
B-10	8	SPT	Alluvium	37-38.5	20	NT	NT	NT

NT - Not Tested
NV – Non-Viscous
NP - Non-Plastic
SPT - Standard Penetration Test

Prepared By CTJ Date 5/4/04 Checked By MBH Date 5/4/04

TABLE 4
ASH TRIAXIAL SHEAR STRENGTH TEST DATA
CONSOLIDATED-UNDRAINED WITH PORE PRESSURE MEASUREMENTS FOR ASH SAMPLES

Boring Number	Sample Depth (Feet)	Sample Type[1, 2]	Description	Standard Penetration Test N-Value (Blows Per Foot)[3]	Average Initial Moisture Content (%)	Average Initial Dry Density (pcf)	Strength Parameters			
							Total		Effective	
							Cohesion, C (ksf)	Friction Angle, ϕ (Degrees)	Cohesion, C' (ksf)	Friction Angle, ϕ' (Degrees)
B-4A	15-17	1	Gray Ash	1	32.0	83.1	5.6	32.7	0	34.7
B-10	5- 7	2	Gray Ash	17	24.7	89.4	3.0	28.5	0.1	36.6
B-10	20-22	1	Gray Ash	3	36.5	79.2	5.0	25.0	0	32.1

(1) UD = Undisturbed Sample

(2) Remolded

(3) Performed after undisturbed sample retrieval

Prepared By CTJ Date 5/4/04 Checked By mBH Date 5/4/04

TABLE 5
LABORATORY HYDRAULIC CONDUCTIVITY TEST DATA FOR ASH SAMPLES

Boring Number	Sample Depth (Feet)	Sample Type	Description	Initial Moisture Content (%)	Initial Dry Density (pcf)	Average or Mean Hydraulic Conductivity (cm/Sec)
B-1A, 1B	0 - 5	1	Gray Ash	21.4	87.8	1.87×10^{-5}
B-2A	0 - 5	1	Gray Ash	19.4	90.9	1.67×10^{-5}

(1) Bulk samples remolded to dry density and moisture content conditions determined from laboratory tests performed on an undisturbed sample obtained at a depth of 4 to 4.5 feet from boring B-1.

Prepared By CTJ Date 5/4/04 Checked By MBH Date 5/4/04

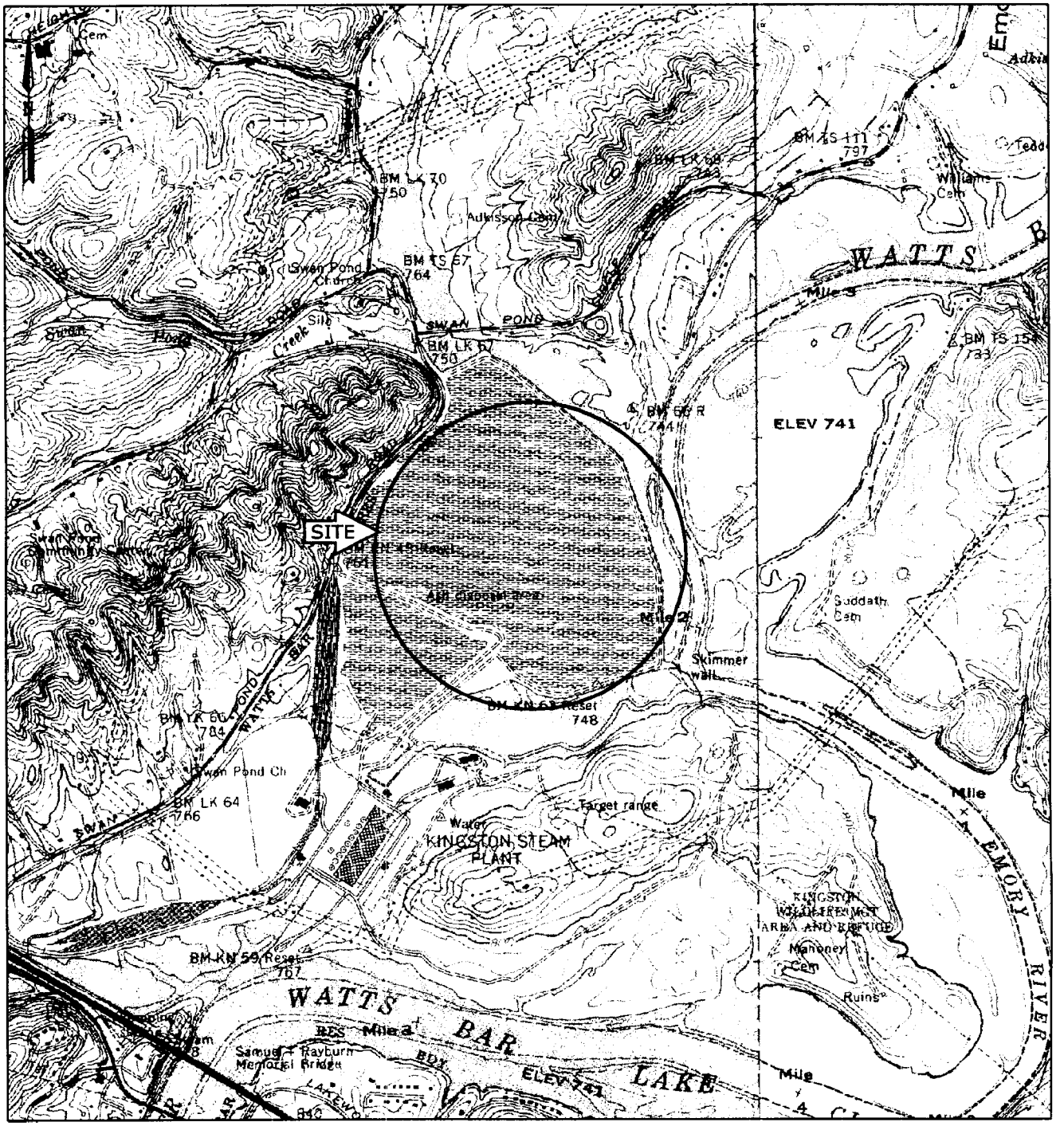
TABLE 6
CONSOLIDATION TEST DATA FOR SOIL SAMPLES

Boring Number	Sample Depth (Feet)	Sample Type	Origin	Initial Moisture Content (%)	Initial Dry Density (pcf)	e Initial Void Ratio	"Laboratory" Cc Compression Index	"Field" Cc Compression Index	Pc Preconsolidation Pressure (ksf)
B-8A	60-62	UD	Alluvium	21.9	102.0	0.6795	0.19	0.21	5.0

UD - Undisturbed Sample (ASTM D 1587)

Prepared By CTT Date 5/4/04 Checked By MBH Date 5/4/04

FIGURES



SOURCE: USGS TOPOGRAPHIC MAPS OF HARRIMAN AND ELVERTON, TN QUADRANGLES

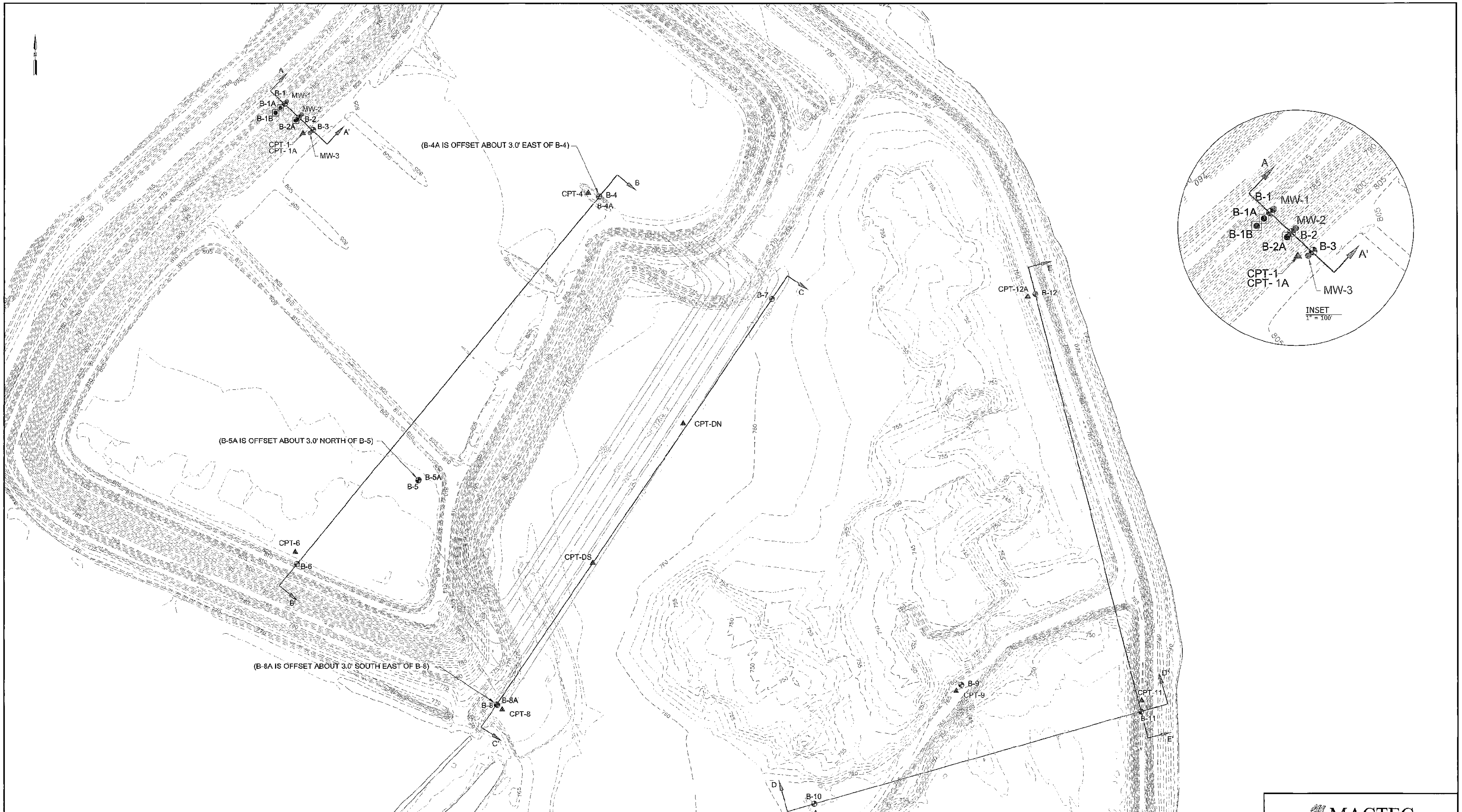
MACTEC

MACTEC Engineering and Consulting, Inc.
1725 Louisville Drive
Knoxville, Tennessee 37921-5904
865-588-8544 • Fax: 865-588-8026

FIGURE 1: SITE LOCATION MAP
TENNESSEE VALLEY AUTHORITY
KINGSTON FOSSIL PLANT - ASH DISPOSAL AREA
KINGSTON, TENNESSEE

DRAFTING BY:	PREPARED BY: CTJ	CHECKED BY: MBH
JOB NUMBER: 3043041009/0001	DATE: APRIL 9, 2004	SCALE: 0 2000'

COORDINATES: N XX°XX'XX" W XX°XX'XX"



LEGEND

B-4	GEOTECHNICAL SOIL TEST BORING LOCATION AND IDENTIFICATION
B-1B	AUGER BORINGS USED TO PERFORM IN-SITU HYDRAULIC CONDUCTIVITY TESTS
CPT-4	CONE PENETROMETER TEST (CPT) PROBE LOCATION AND IDENTIFICATION
MW-1	GROUND-WATER MONITORING WELL (PIEZOMETER) LOCATION AND IDENTIFICATION
A	SUBSURFACE SECTION LIMITS AND IDENTIFICATION

MACTEC

MACTEC Engineering and Consulting of Georgia, Inc.
1725 Louisville Drive
Knoxville, Tennessee 37921-7904
865-588-8544 • Fax: 865-588-8026

FIGURE 2: BORING LOCATION PLAN
TENNESSEE VALLEY AUTHORITY
KINGSTON FOSSIL PLANT - ASH DISPOSAL AREA
KINGSTON, TENNESSEE

DRAWN BY:	PREPARED BY:	CHECKED BY: mBH
JOB NUMBER: 3043041009/0001	DATE: APRIL 23, 2004	SCALE: 0 150'

APPENDIX A

FIELD EXPLORATORY PROCEDURES

FIELD EXPLORATORY PROCEDURES

Soil Test Boring (Hollow Stem)

All boring and sampling operations were conducted in general accordance with ASTM D 1586. The borings were advanced by mechanically turning continuous steel hollow-stem auger flights into the ground. At regular intervals, soil samples were obtained with a standard 1.4-inch I.D., 2-inch O.D., split-tube sampler. The sampler was first seated 6 inches to penetrate any loose cuttings and then driven an additional foot with blows of a 140-pound hammer falling 30 inches. The number of hammer blows required to drive the sampler the final foot of penetration was recorded and is designated the "standard penetration test (SPT) resistance." Proper evaluation of the penetration resistance provides an index to the soil's strength, density, and ability to support foundations.

Representative portions of the soil samples obtained from the split-tube sampler were sealed in glass jars and transported to our laboratory for testing and further examination. Test Boring Records are attached, graphically showing the soil descriptions and penetration resistances.

Plugging and Abandonment of Boreholes

Upon completion of drilling and sampling, the geotechnical boreholes were plugged with a Type I Portland cement-bentonite grout mixture using a tremie pipe method. The borings were plugged in general accordance with the requirements specified by TVA. The borings were plugged immediately after drilling and sampling of the boreholes.

Bulk Samples

Bulk samples of several ash types obtained at various elevations were collected for testing.

Undisturbed Sampling

The relatively undisturbed soil samples were obtained by pushing a section of 3-inch O.D., 16-gauge steel tubing into the soil at the desired sampling level. The sampling procedure is described by ASTM D-1587. The tube, together with the encased soils, was carefully removed from the ground, made airtight, and transported to our laboratory.

To obtain relatively undisturbed samples of ash a 3-1/2-inch OD, 3-inch ID split spoon with liner was used. The spoon was pushed into the bottoms of the boreholes at the desired sampling depths. The ash samples, enclosed in the liners, were then sealed with a wax / motor oil mixture at both ends and then capped to minimize changes in the structure and moisture content of the samples.

APPENDIX B

KEY TO SYMBOLS AND DESCRIPTIONS

SOIL TEST BORING RECORDS

SUBSURFACE FENCE DIAGRAMS

TABLE 1
BORING SUMMARY

Boring Number	Type	Ground Elevation msl (Feet)	Refusal Depth (Feet)	Refusal Elevation msl (Feet)	Refusal Type	Boring Termination Depth (Feet)	Boring Termination Elevation msl (Feet)
B-1	STB	781.8	82.2	699.6	AR	82.2	699.6
B-1A	HC	781.8*	NA	NA	NA	5.0	776.8
B-1B	HC	781.8*	NA	NA	NA	5.0	776.8
B-2	STB	795.3	87.5	707.8	AR	87.5	707.8
B-2A	HC	795.3*	NA	NA	NA	5.0	790.3
B-3	STB	810.8	NA	NA	NA	70.0	740.8
B-4	STB	810.6	NA	NA	NA	98.5	712.1
B-4A	STB	810.6*	NA	NA	NA	28.5	782.1
B-5	STB	810.2	NA	NA	NA	41.5	768.7
B-5A	STB	810.2	NA	NA	NA	101.5	708.7
B-6	STB	809.5	NA	NA	NA	86.5	723.0
B-7	STB	767.0*	NA	NA	NA	46.5	720.5
B-8	STB	773.6*	NA	NA	NA	35.0	738.6
B-8A	STB	773.6	70.7	702.9	AR	70.9	702.7
B-9	STB	764.4	61.9	702.5	AR	61.9	702.5
B-10	STB	762.6	39.2	723.4	AR	39.2	723.4
B-11	STB	765.0	62.5	702.5	AR	62.5	702.5
B-12	STB	763.9	59.7	704.2	AR	60.6	703.3
MW-1	MW	781.8*	NA	NA	NA	20.0	761.8
MW-2	MW	795.3*	NA	NA	NA	35.0	760.3
MW-3	MW	810.8*	NA	NA	NA	40.0	770.8

NA – Not Applicable

STB – Soil Test Boring

AR – Auger Refusal

HC – Auger Boring used for In-Situ Hydraulic Conductivity Testing

MW – Monitoring Well or Piezometer

* - Elevations were estimated based on nearby surveyed boring locations and field reconnaissance

Prepared By CTJ Date 5/4/04 Checked By MBH Date 5/4/04

TABLE 2
GROUND-WATER DATA

Boring Number	Ground Elevation msl (Feet)	Depth to Ground Water at Time of Drilling (Feet)	Ground-Water Elevation, msl at Time of Drilling (Feet)	Depth to Ground Water 24 Hours After Drilling (Feet)	Ground-Water Elevation 24 Hours After Drilling msl (Feet)
B-1	781.8	7.4	774.4	Not Measured	Not Measured
B-1A	781.8	Not Encountered	Not Encountered	Not Measured	Not Measured
B-1B	781.8	Not Encountered	Not Encountered	Not Measured	Not Measured
B-2	795.3	26.2	769.1	Not Measured	Not Measured
B-2A	795.3	Not Encountered	Not Encountered	Not Measured	Not Measured
B-3	810.8	28.0	782.8	Not Measured	Not Measured
B-4	810.6	28.0	782.6	Not Measured	Not Measured
B-4A	810.6	Not Encountered	Not Encountered	Not Measured	Not Measured
B-5	810.2	Not Encountered	Not Encountered	Not Measured	Not Measured
B-5A	810.2	41.0	769.2	Not Measured	Not Measured
B-6	809.5	42.0	767.5	Not Measured	Not Measured
B-7	767.0	12.6	754.4	Not Measured	Not Measured
B-8	773.6	12.2	761.4	Not Measured	Not Measured
B-8A	773.6	12.0	761.6	Not Measured	Not Measured
B-9	764.4	9.0	755.4	Not Measured	Not Measured
B-10	762.6	3.0	759.6	Not Measured	Not Measured
B-11	765.0	21.9	743.1	Not Measured	Not Measured
B-12	763.9	18.5	745.4	Not Measured	Not Measured
MW-1	781.8	Not Measured	Not Measured	6.9 *	774.9
MW-2	795.3	Not Measured	Not Measured	15.4 *	779.9
MW-3	810.8	Not Measured	Not Measured	27.3 *	783.5

*Measurements were taken 24 hours after monitoring well (piezometer) installation.

Prepared By CTJ Date 5/4/04 Checked By MBH Date 5/4/04

TABLE 3
NATURAL MOISTURE CONTENT AND
ATTERBERG LIMITS LABORATORY TEST RESULTS

Boring Number	Sample Number	Sample Type	Sample Description/ Origin	Sample Depth (Feet)	Moisture Content (%)	Atterberg Limits		
						Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)
B-1	UD-1	UD	ASH	4-4.5	19	NT	NT	NT
B-1	UD-2	UD	Alluvium	65-67	20	NV	NP	NP
B-2	UD-4	UD	Alluvium	70-72	17	NV	NP	NP
B-3	1	SPT	ASH	0-1.5	24	NT	NT	NT
B-3	2	SPT	ASH	5-6.5	20	NT	NT	NT
B-3	3	SPT	ASH	10-11.5	16	NT	NT	NT
B-3	4	SPT	ASH	15-16.5	17	NT	NT	NT
B-3	5	SPT	ASH	20-21.5	39	NT	NT	NT
B-3	6	SPT	ASH	25-26.5	40	NT	NT	NT
B-3	7	SPT	ASH	30-31.5	34	NT	NT	NT
B-3	8	SPT	ASH	35-36.5	22	NT	NT	NT
B-3	9	SPT	ASH	40-41.5	22	NT	NT	NT
B-3	10	SPT	ASH	45-46.5	31	NT	NT	NT
B-3	11	SPT	ASH	50-51.5	39	NT	NT	NT
B-3	12	SPT	ASH	55-56.5	43	NT	NT	NT
B-3	13	SPT	FILL/ASH	60-61.5	30	NT	NT	NT
B-3	14	SPT	ASH	65-66.5	16	NT	NT	NT
B-4A	UD-1	UD	ASH	15-17	37	NT	NT	NT
B-4A	UD-3	UD	ASH	25-27	38	NT	NT	NT
B-5	1	SPT	ASH	0-1.5	22	NT	NT	NT
B-5	2	SPT	ASH	5-6.5	39	NT	NT	NT
B-5	3	SPT	ASH	10-11.5	25	NT	NT	NT
B-5	4	SPT	ASH	15-16.5	32	NT	NT	NT
B-5	5	SPT	ASH	20-21.5	30	NT	NT	NT
B-5	6	SPT	ASH	25-26.5	39	NT	NT	NT
B-5	7	SPT	ASH	30-31.5	41	NT	NT	NT
B-5	8	SPT	ASH	35-36.5	29	NT	NT	NT
B-5	9	SPT	ASH	40-41.5	34	NT	NT	NT
B-8	1	SPT	ASH	0-1.5	25	NT	NT	NT
B-8	2	SPT	ASH	5.8-7.3	20	NT	NT	NT
B-8	UD-2	UD	ASH	10-12	19	NT	NT	NT
B-8	3	SPT	ASH	12-13.5	22	NT	NT	NT
B-8	4	SPT	ASH	15-16.5	45	NT	NT	NT
B-8	UD-3	UD	ASH	20-22	32	NT	NT	NT

TABLE 3
NATURAL MOISTURE CONTENT AND ATTERBERG LIMITS LABORATORY TEST RESULTS

Boring Number	Sample Number	Sample Type	Sample Description/ Origin	Sample Depth (Feet)	Moisture Content (%)	Atterberg Limits		
						Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)
B-8	5	SPT	ASH	22-23.5	43	NT	NT	NT
B-8	6	SPT	ASH	25.6-27.1	27	NT	NT	NT
B-8	7	SPT	ASH	30-31.5	25	NT	NT	NT
B-8A	1	SPT	ASH	35-36.5	37	NT	NT	NT
B-8A	2	SPT	ASH	40-41.5	47	NT	NT	NT
B-8A	3	SPT	ASH	45-46.5	37	NT	NT	NT
B-8A	4	SPT	ASH	50-51.5	36	NT	NT	NT
B-8A	5	SPT	Alluvium	57-58.5	24	26	15	11
B-8A	6	SPT	Alluvium	62-63.5	24			
B-8A	UD-2	UD	Alluvium	60-62	22	26	16	10
B-8A	7	SPT	Alluvium	65-66.5	27	NV	NP	NP
B-8A	8	SPT	Alluvium	70-70.9	17			
B-10	1	SPT	ASH	0-1.5	18	NT	NT	NT
B-10	UD-1	UD	ASH	5-7	25	NT	NT	NT
B-10	2	SPT	ASH	7-8.5	28	NT	NT	NT
B-10	UD-2	UD	ASH	10-12	25	NT	NT	NT
B-10	3	SPT	ASH	12-13.5	30	NT	NT	NT
B-10	UD-3	UD	ASH	15-17	38	NT	NT	NT
B-10	4	SPT	ASH	17-18.5	45	NT	NT	NT
B-10	UD-4	UD	ASH	20-22	37	NT	NT	NT
B-10	5	SPT	ASH	22-23.5	32	NT	NT	NT
B-10	6	SPT	ASH	25-26.5	48	NT	NT	NT
B-10	7	SPT	Alluvium	30-31.5	25	NT	NT	NT
B-10	UD-5	UD	Alluvium	35-37	22	NV	NP	NP
B-10	8	SPT	Alluvium	37-38.5	20	NT	NT	NT

NT - Not Tested
NV – Non-Viscous
NP - Non-Plastic
SPT - Standard Penetration Test

Prepared By CTJ Date 5/4/04 Checked By mBH Date 5/4/04

TABLE 4
ASH TRIAXIAL SHEAR STRENGTH TEST DATA
CONSOLIDATED-UNDRAINED WITH PORE PRESSURE MEASUREMENTS FOR ASH SAMPLES

Boring Number	Sample Depth (Feet)	Sample Type[1, 2]	Description	Standard Penetration Test N-Value (Blows Per Foot)[3]	Average Initial Moisture Content (%)	Average Initial Dry Density (pcf)	Strength Parameters			
							Total		Effective	
							Cohesion, C (ksf)	Friction Angle, ϕ (Degrees)	Cohesion, C' (ksf)	Friction Angle, ϕ' (Degrees)
B-4A	15-17	1	Gray Ash	1	32.0	83.1	5.6	32.7	0	34.7
B-10	5- 7	2	Gray Ash	17	24.7	89.4	3.0	28.5	0.1	36.6
B-10	20-22	1	Gray Ash	3	36.5	79.2	5.0	25.0	0	32.1

(1) UD = Undisturbed Sample

(2) Remolded

(3) Performed after undisturbed sample retrieval

Prepared By CTJ Date 5/4/04 Checked By MBH Date 5/4/04

TABLE 5
LABORATORY HYDRAULIC CONDUCTIVITY TEST DATA FOR ASH SAMPLES

Boring Number	Sample Depth (Feet)	Sample Type	Description	Initial Moisture Content (%)	Initial Dry Density (pcf)	Average or Mean Hydraulic Conductivity (cm/Sec)
B-1A, 1B	0 - 5	1	Gray Ash	21.4	87.8	1.87×10^{-5}
B-2A	0 - 5	1	Gray Ash	19.4	90.9	1.67×10^{-5}

(1) Bulk samples remolded to dry density and moisture content conditions determined from laboratory tests performed on an undisturbed sample obtained at a depth of 4 to 4.5 feet from boring B-1.

Prepared By CTT Date 5/4/04 Checked By MBH Date 5/4/04

TABLE 6
CONSOLIDATION TEST DATA FOR SOIL SAMPLES

Boring Number	Sample Depth (Feet)	Sample Type	Origin	Initial Moisture Content (%)	Initial Dry Density (pcf)	e Initial Void Ratio	"Laboratory" Cc Compression Index	"Field" Cc Compression Index	Pc Preconsolidation Pressure (ksf)
B-8A	60-62	UD	Alluvium	21.9	102.0	0.6795	0.19	0.21	5.0

UD - Undisturbed Sample (ASTM D 1587)

Prepared By CTT Date 5/4/04 Checked By mBH Date 5/4/04

REPORT OF GEOTECHNICAL EXPLORATION

ASH DISPOSAL AREA
KINGSTON FOSSIL PLANT
KINGSTON, TENNESSEE

Prepared For:

TENNESSEE VALLEY AUTHORITY

Chattanooga, Tennessee

Prepared By:

MACTEC ENGINEERING AND CONSULTING, INC.

Knoxville, Tennessee

MACTEC Project 3043041009/0001

May 4, 2004

MACTEC

GROUP SYMBOLS	TYPICAL NAMES	GROUP SYMBOLS	TYPICAL NAMES
	TOPSOIL		**CONCRETE**
	ASH		**DOLOMITE**
	GRAVEL		**LIMESTONE**
	FILL		**SHALE**
	SUBSOIL		**LIMESTONE/SHALE** - Limestone with shale interbeds
	ALLUVIUM		**SANDSTONE**
	COLLUVIUM		**SILTSTONE**
	RESIDUUM - Soft to firm		**AUGER BORING**
	RESIDUUM - Stiff to very hard		**UNDISTURBED SAMPLE ATTEMPT**

	Undisturbed Sample 1.5-2.0 = Recovered (ft) / Pushed (ft)		
	Split Spoon Sample		Auger Cuttings
	Rock Core 60-100 = RQD / Recovery		Dilatometer
	No Sample		Crandall Sampler
	Rotary Drill		Pressure Meter
▽	Water Table at time of drilling	○	No Recovery
		▼	Water Table after 24 hours

Correlation of Penetration Resistance with Relative Density and Consistency

SAND & GRAVEL		SILT & CLAY	
No. of Blows	Relative Density	No. of Blows	Consistency
0 - 4	Very Loose	0 - 2	Very Soft
5 - 10	Loose	3 - 4	Soft
11 - 20	Firm	5 - 8	Firm
21 - 30	Very Firm	9 - 15	Stiff
31 - 50	Dense	16 - 30	Very Stiff
Over 50	Very Dense	31 - 50	Hard
		Over 50	Very Hard

BOUNDARY CLASSIFICATIONS: Soils possessing characteristics of two groups are designated by combinations of group symbols.

SILT OR CLAY	SAND			GRAVEL		Cobbles	Boulders
	Fine	Medium	Coarse	Fine	Coarse		

No.200 No.40 No.10 No.4 3/4" 3" 12"

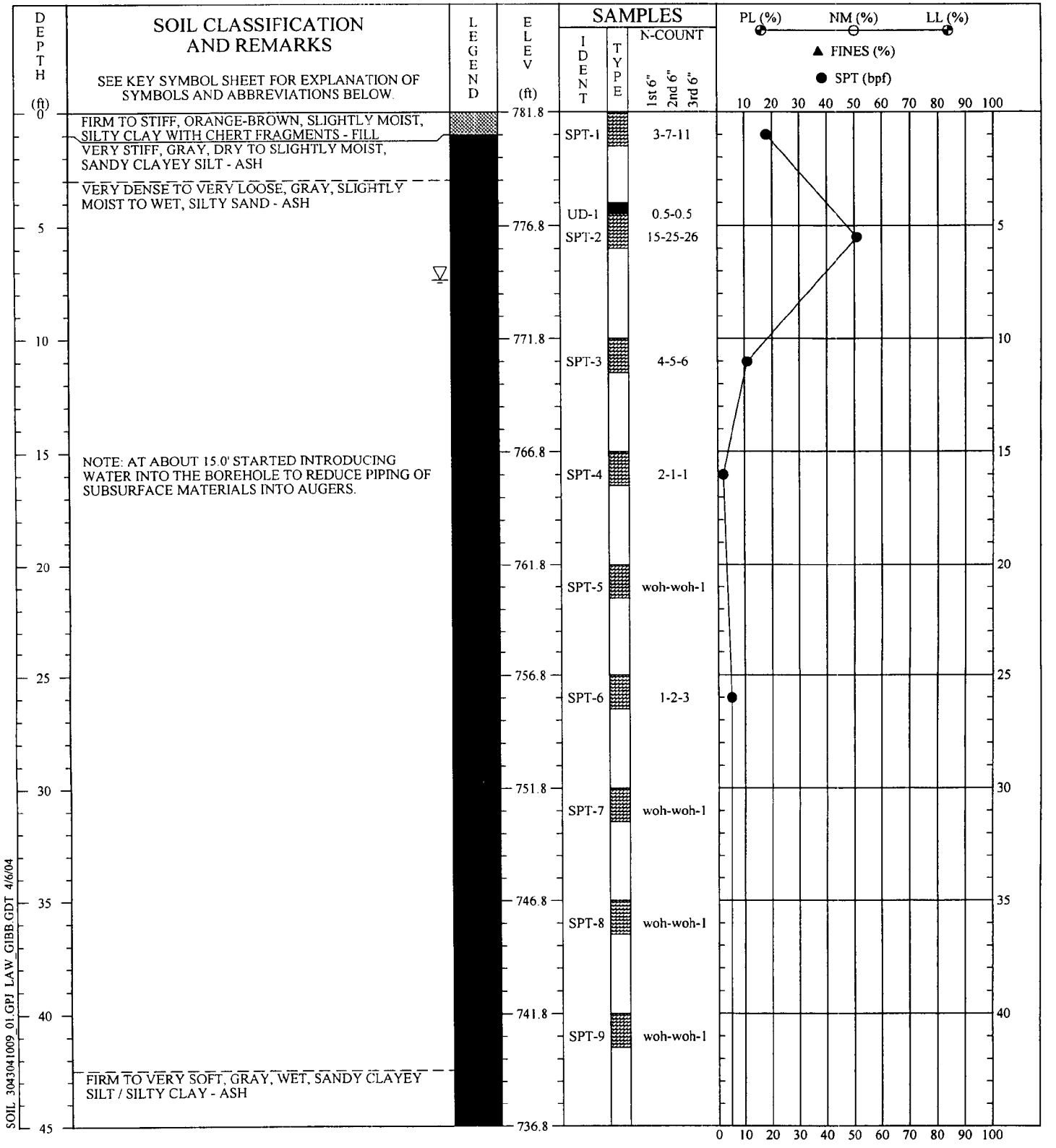
U.S. STANDARD SIEVE SIZE

Reference: The Unified Soil Classification System, Corps of Engineers, U.S. Army Technical Memorandum No. 3-357, Vol. 1, March, 1953 (Revised April, 1960)

KEY TO SYMBOLS AND DESCRIPTIONS

MACTEC

MACTEC Engineering and Consulting of Georgia, Inc.
1725 Louisville Drive
Knoxville, Tennessee 37921-5904
865-588-8544 • Fax: 865-588-8026



SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/6/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

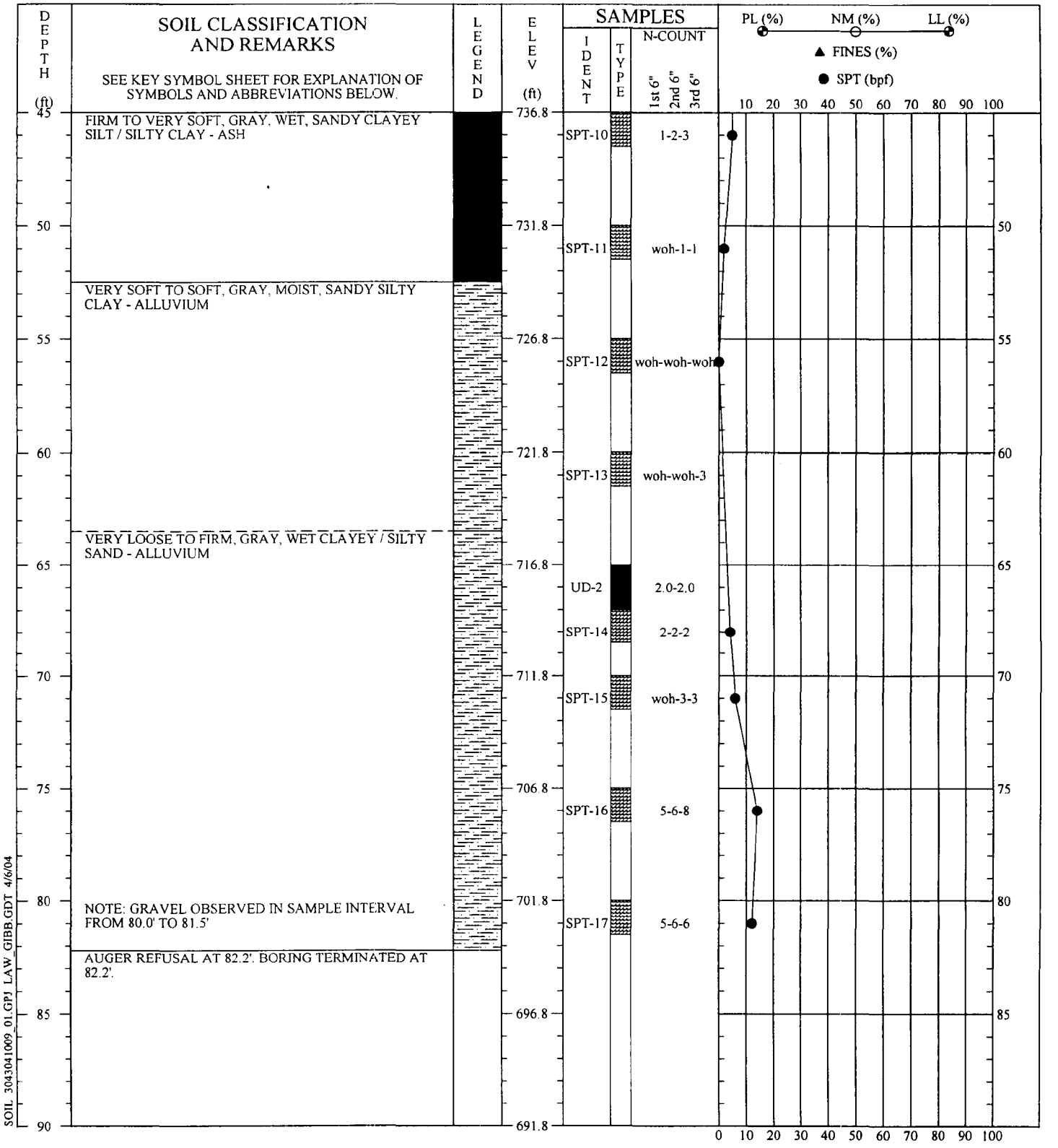
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 8, 2004 **BORING NO.:** B-1

PROJ. NO.: 3043041009/0001 **PAGE 1 OF 2**

MACTEC



REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

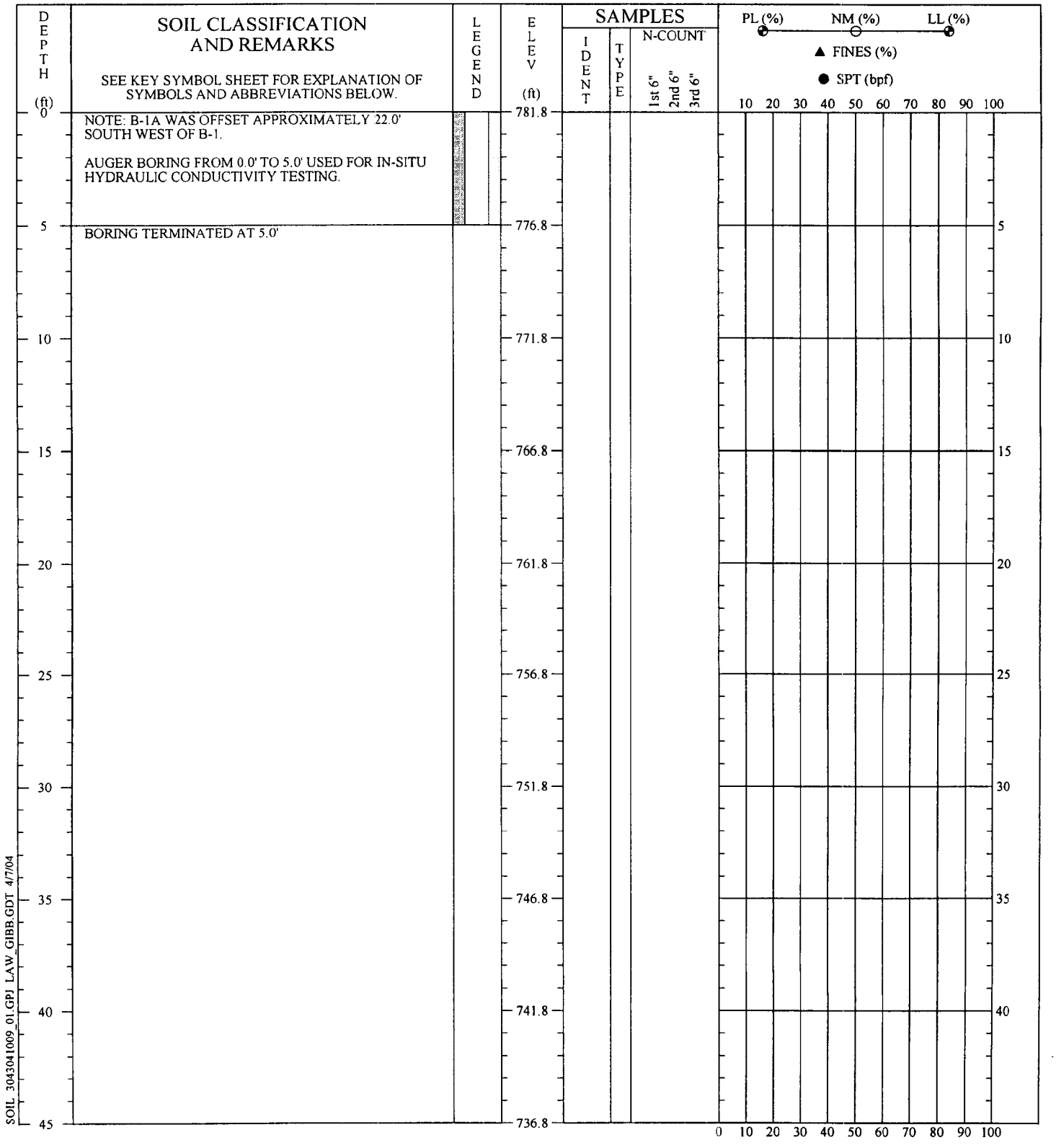
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 8, 2004 **BORING NO.:** B-1

PROJ. NO.: 3043041009/0001 **PAGE 2 OF 2**

MACTEC



SOIL_3043041009_01.GPJ LAW_GIBB.GDT 4/7/04

REMARKS:

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller:	Akins
Prepared By:	Justice
Checked By:	

SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 15, 2004 **BORING NO.:** B-1A

PROJ. NO.: 3043041009/0001 **PAGE 1 OF 1**

MACTEC

DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS	LEGEND	ELEV (ft)	SAMPLES IDENT	SAMPLES TYPE	SAMPLES N-COUNT 1st 6" 2nd 6" 3rd 6"	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (bpf)
0	NOTE: B-1B WAS OFFSET APPROXIMATELY 47.0' SOUTH WEST OF B-1. AUGER BORING FROM 0.0' TO 5.0' USED FOR IN-SITU HYDRAULIC CONDUCTIVITY TESTING.		781.8				
5	BORING TERMINATED AT 5.0'		776.8				
10			771.8				
15			766.8				
20			761.8				
25			756.8				
30			751.8				
35			746.8				
40			741.8				
45			736.8				

0 10 20 30 40 50 60 70 80 90 100

SOIL 3043041009 01.GPJ LAW_GIBB.GDT 4/7/04

REMARKS:

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

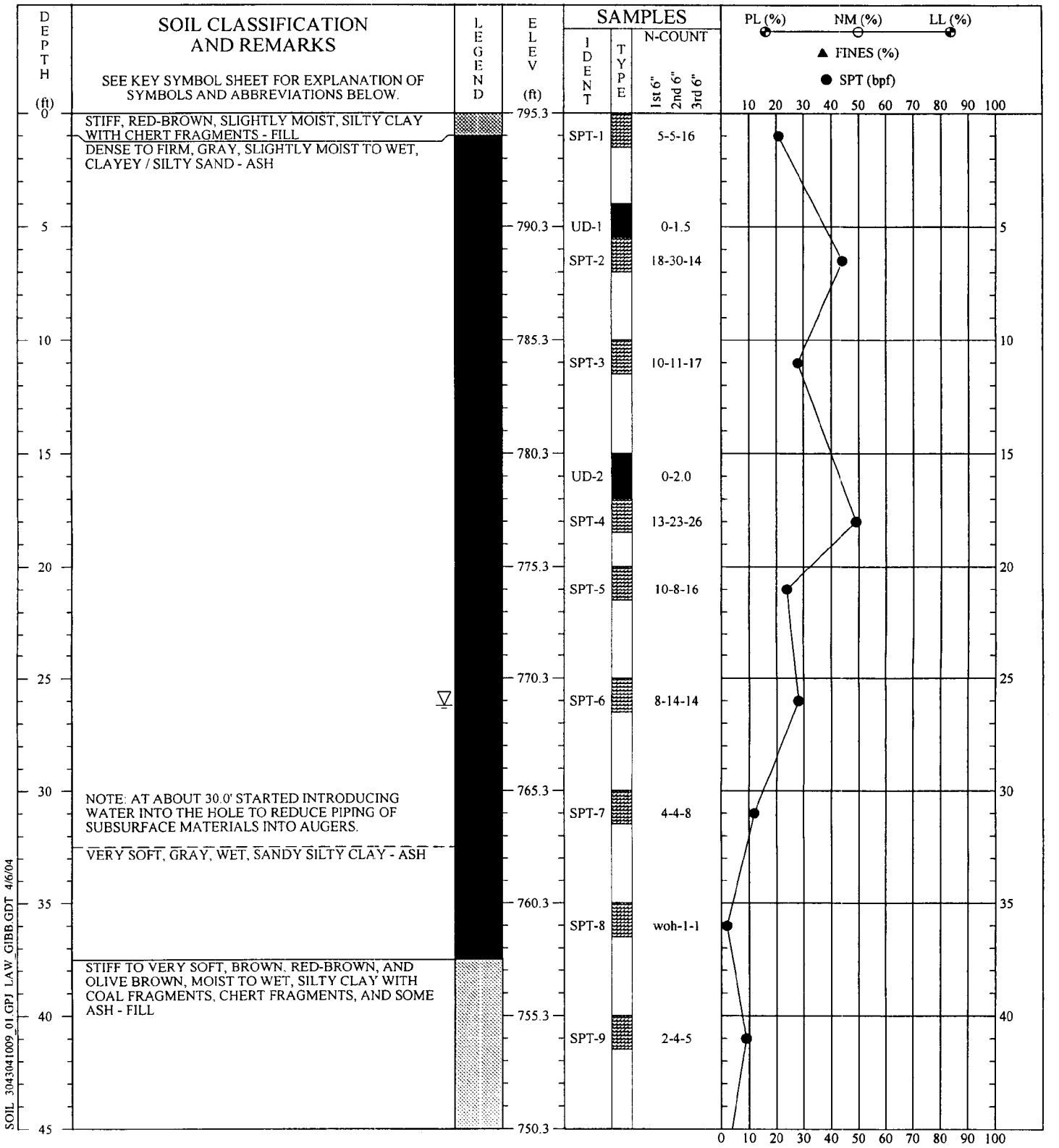
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 15, 2004 **BORING NO.:** B-1B

PROJ. NO.: 3043041009/0001 **PAGE** 1 **OF** 1

MACTEC



SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/6/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

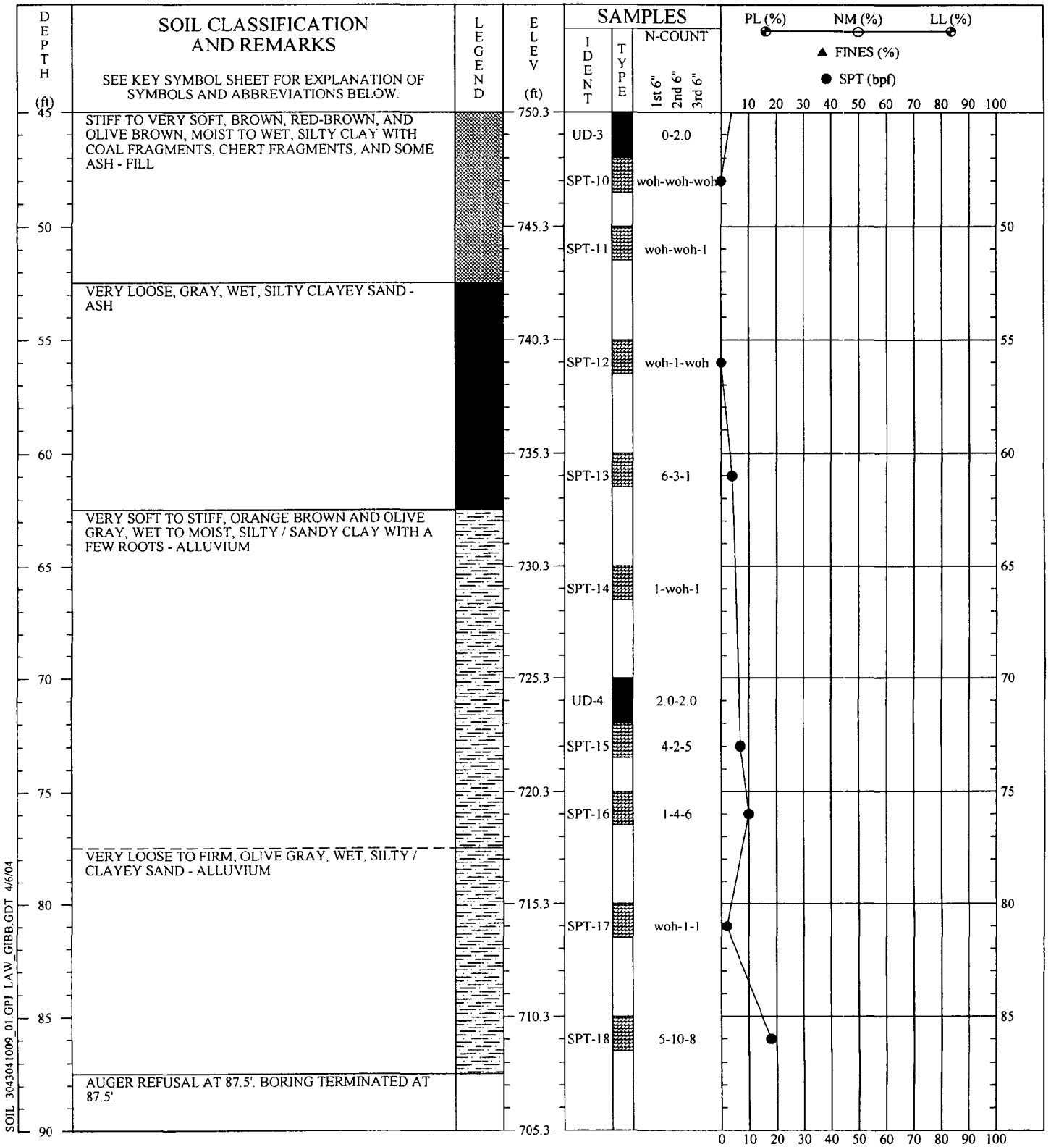
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 4, 2004 **BORING NO.:** B-2

PROJ. NO.: 3043041009/0001 **PAGE** 1 **OF** 2

MACTEC



REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 4, 2004 **BORING NO.:** B-2

PROJ. NO.: 3043041009/0001 **PAGE** 2 **OF** 2

MACTEC

DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS	LEGEND	ELEV (ft)	SAMPLES IDENT	SAMPLES TYPE	SAMPLES N-COUNT 1st 6" 2nd 6" 3rd 6"	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (bpf)
0	SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW. NOTE: B-2A WAS OFFSET APPROXIMATELY 15.0' SOUTH WEST OF B-2. AUGER BORING FROM 0.0' TO 5.0' USED FOR IN-SITU HYDRAULIC CONDUCTIVITY TESTING.		795.3				10 20 30 40 50 60 70 80 90 100
5	BORING TERMINATED AT 5.0'		790.3				5
10			785.3				10
15			780.3				15
20			775.3				20
25			770.3				25
30			765.3				30
35			760.3				35
40			755.3				40
45			750.3				0 10 20 30 40 50 60 70 80 90 100

SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/7/04

REMARKS:

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller	Akins
Prepared By:	Justice
Checked By:	

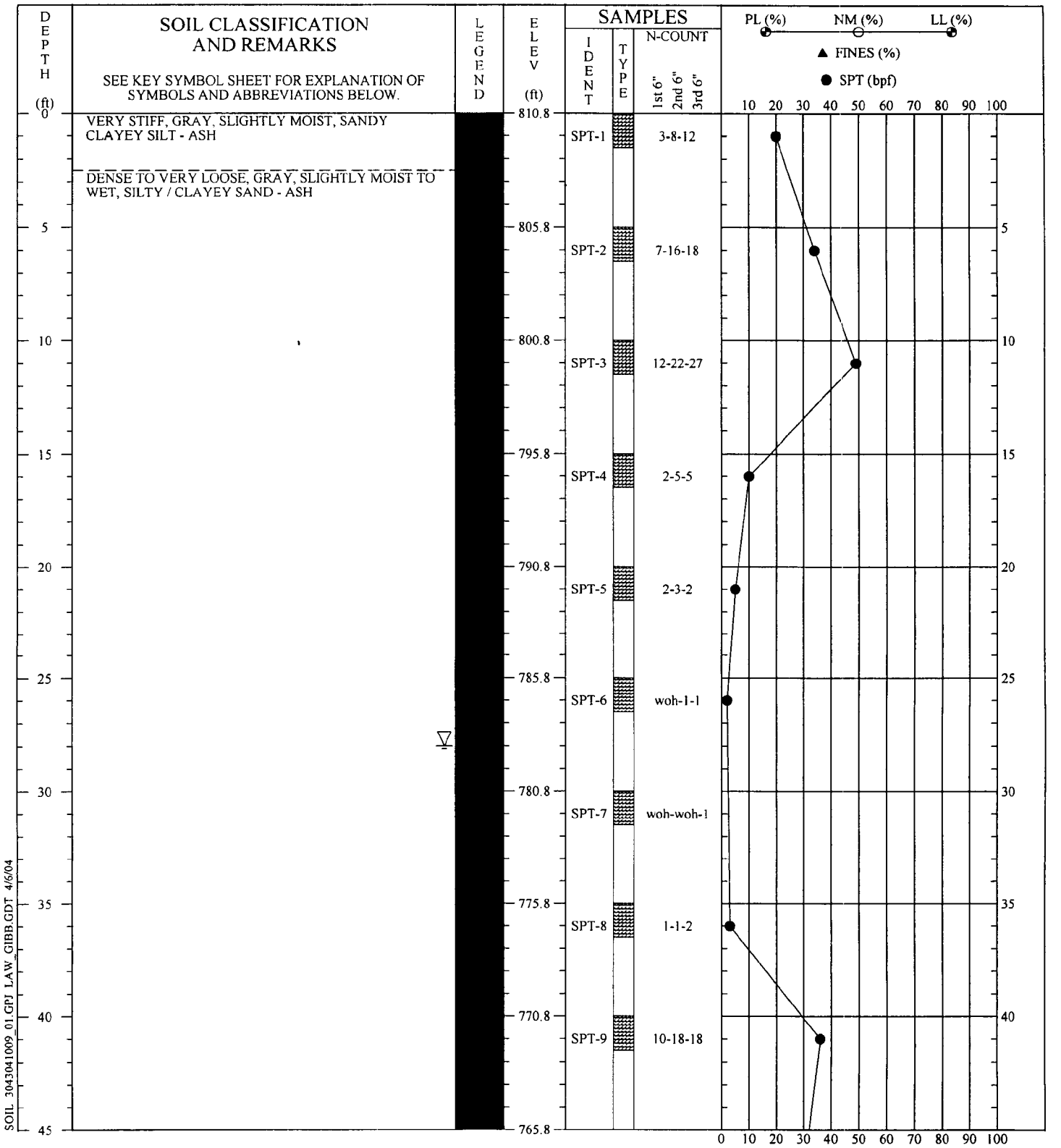
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 15, 2004 **BORING NO.:** B-2A

PROJ. NO.: 3043041009/0001 **PAGE 1 OF 1**

MACTEC



REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

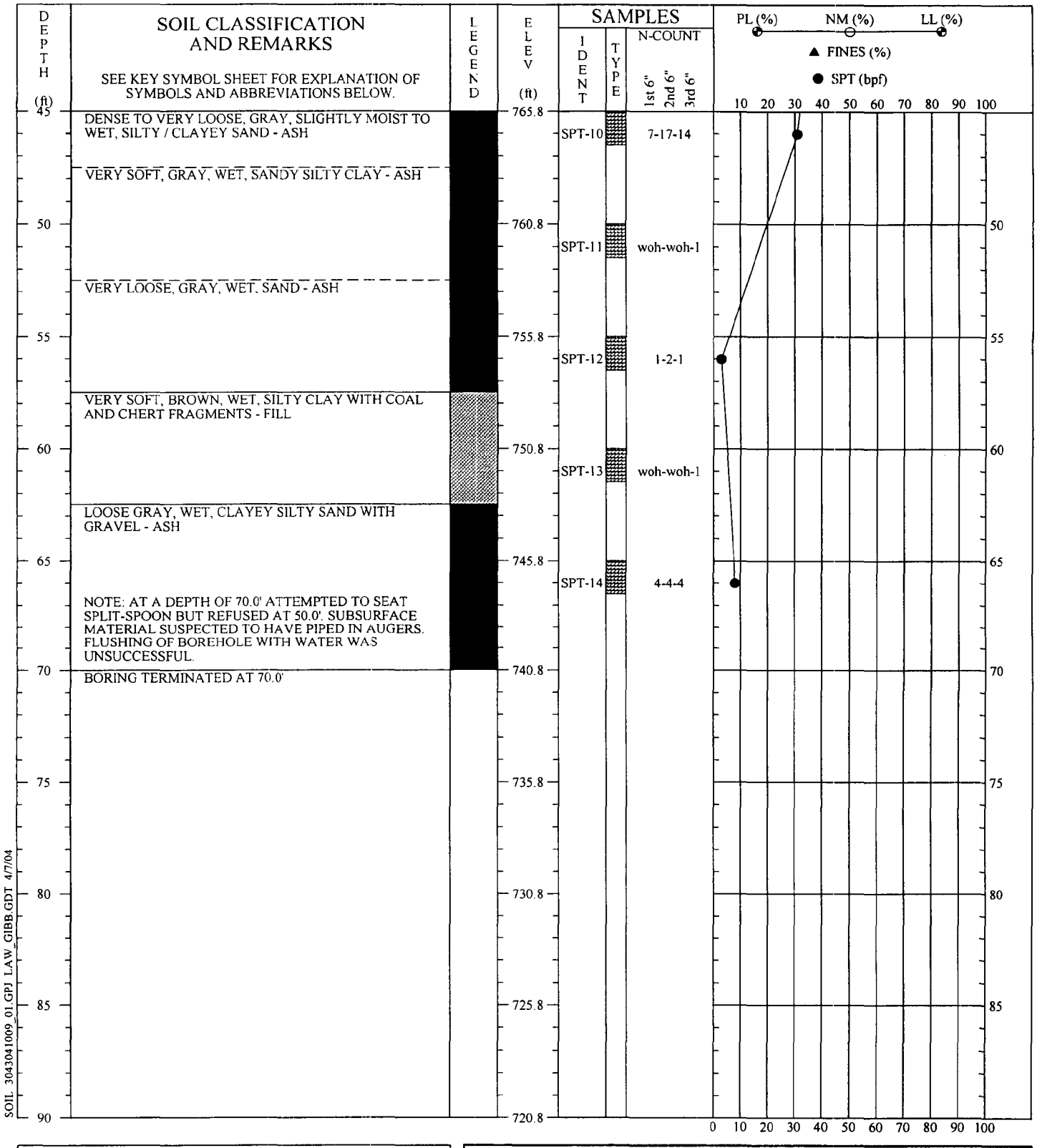
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 3, 2004 **BORING NO.:** B-3

PROJ. NO.: 3043041009/0001 **PAGE** 1 **OF** 2

MACTEC



REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL

Driller Akins
Prepared By:Justice
Checked By:

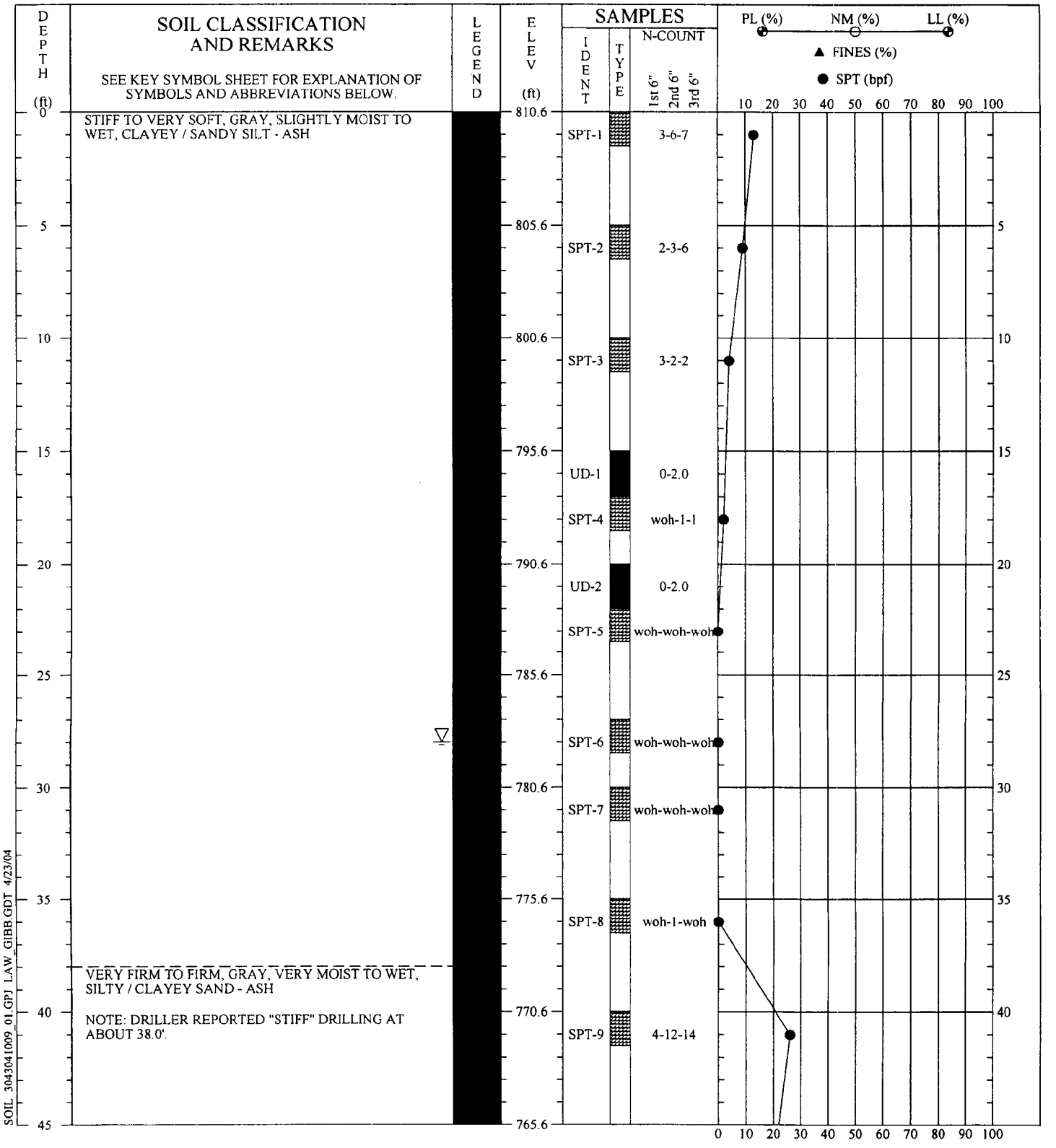
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 3, 2004 **BORING NO.:** B-3

PROJ. NO.: 3043041009/0001 **PAGE 2 OF 2**

MACTEC



SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/23/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller	Akins
Prepared By:	Justice
Checked By:	

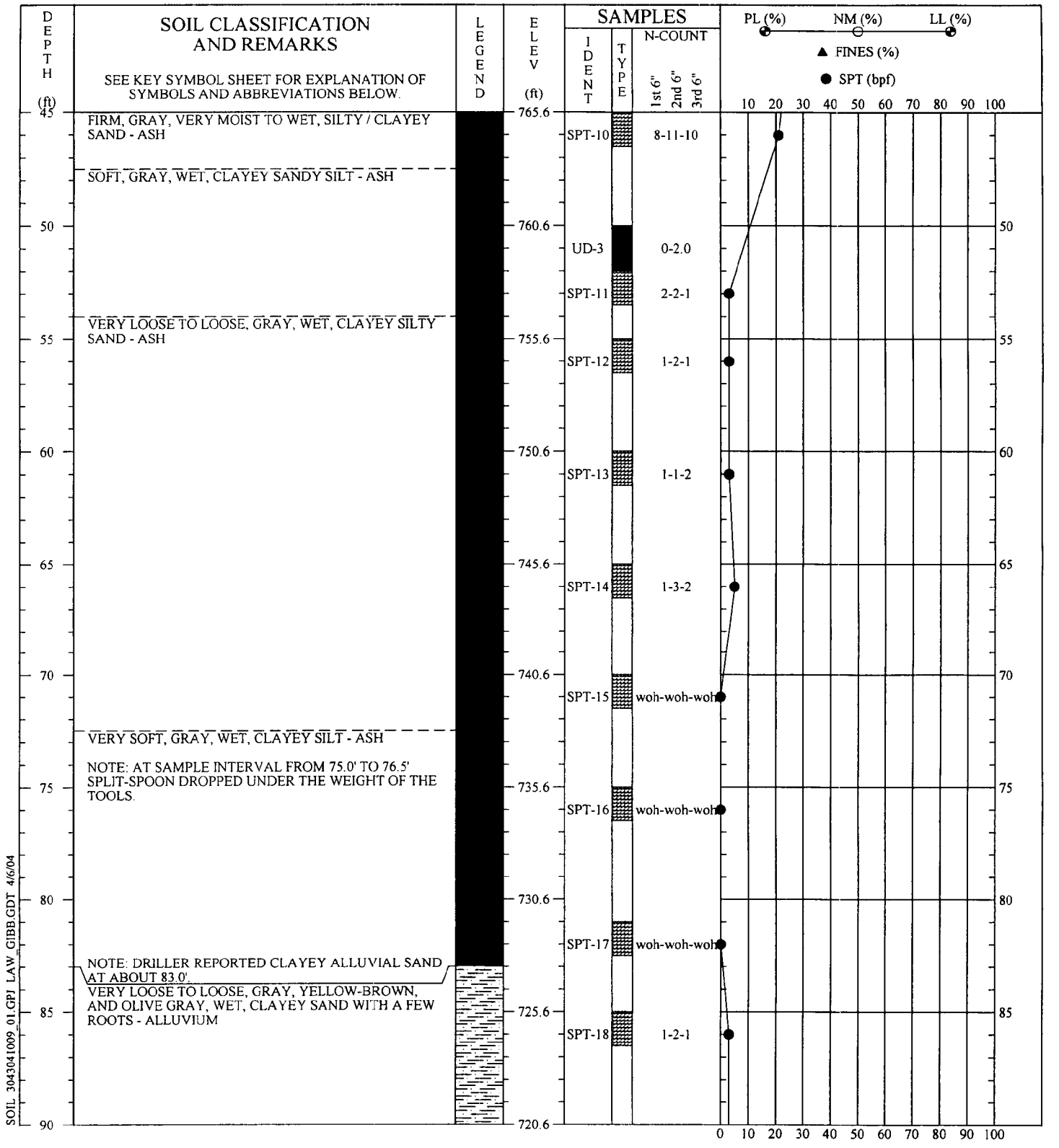
SOIL TEST BORING RECORD

PROJECT: Kingston Fossil Plant - Ash Diposal Area

DRILLED: March 23, 2004 **BORING NO.:** B-4

PROJ. NO.: 3043041009/0001 **PAGE** 1 **OF** 3

MACTEC



SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/6/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

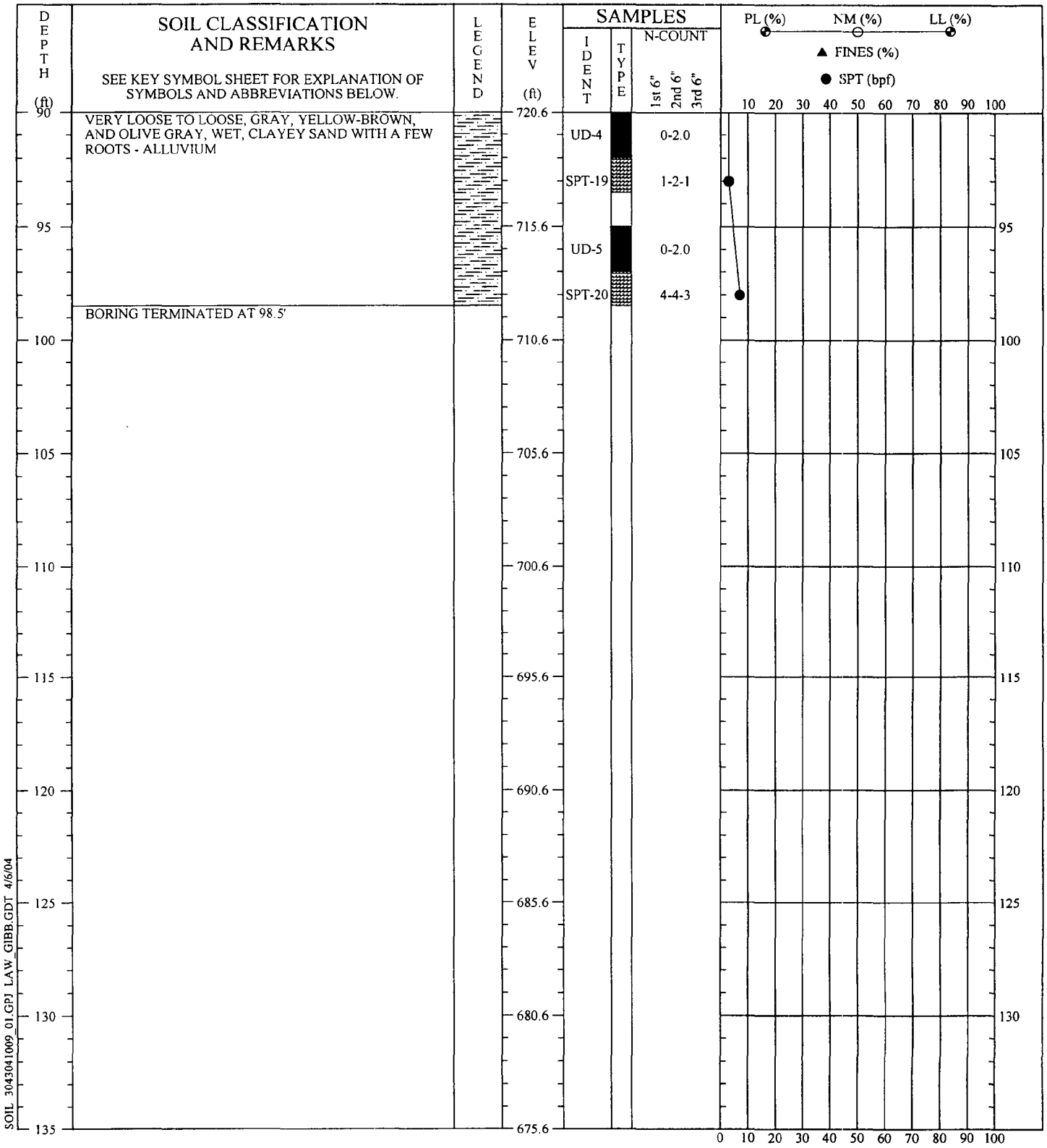
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 23, 2004 **BORING NO.:** B-4

PROJ. NO.: 3043041009/0001 **PAGE** 2 **OF** 3

MACTEC



REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

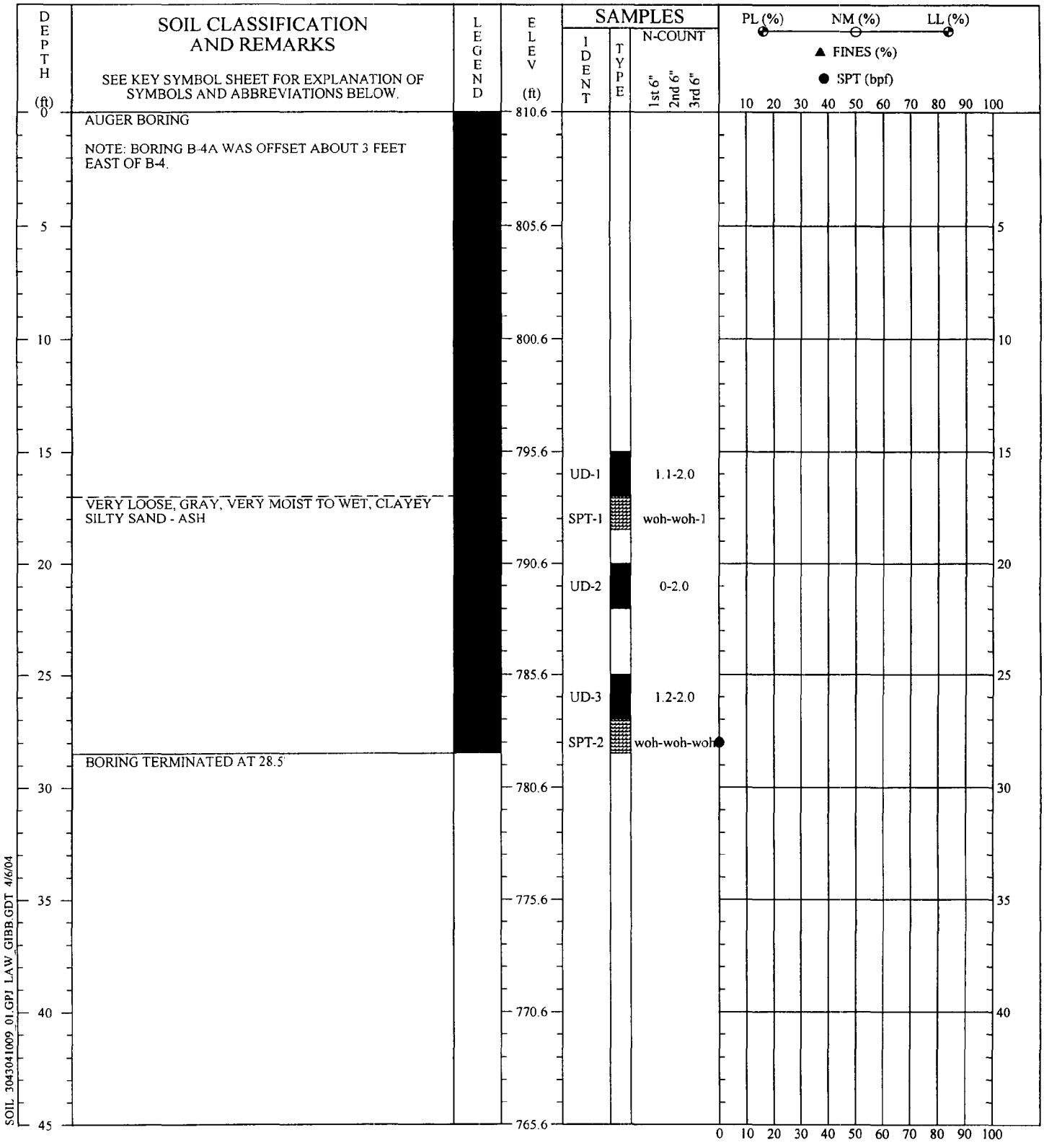
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 23, 2004 **BORING NO.:** B-4

PROJ. NO.: 3043041009/0001 **PAGE** 3 **OF** 3

MACTEC



SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/6/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER. NO GROUND WATER ENCOUNTERED AT TIME OF EXPLORATION.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller	Akins
Prepared By:	Justice
Checked By:	

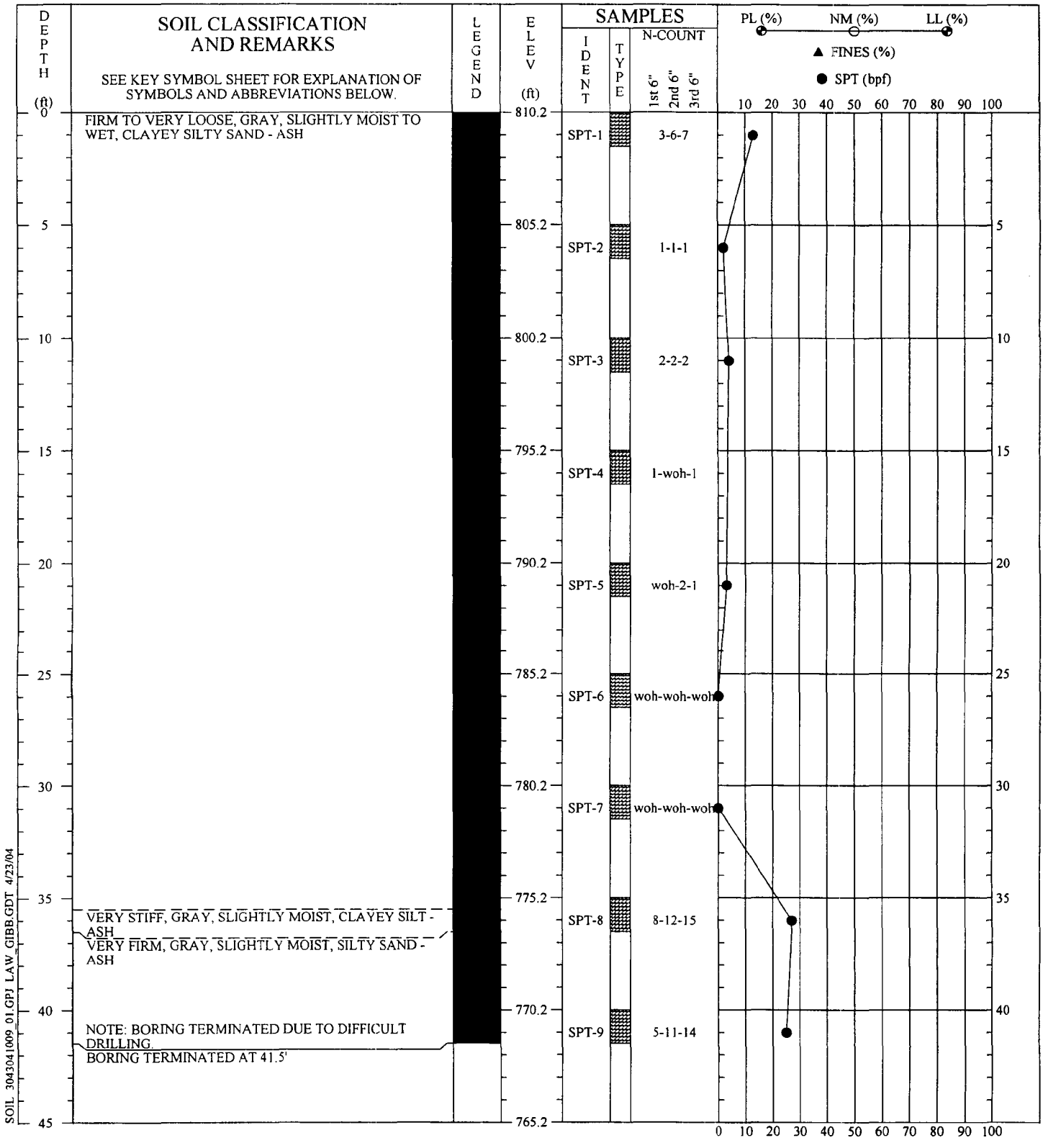
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 24, 2004 **BORING NO.:** B-4A

PROJ. NO.: 3043041009/0001 **PAGE** 1 **OF** 1

MACTEC



REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER. NO GROUND WATER ENCOUNTERED AT TIME OF EXPLORATION.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller : Akins
Prepared By:Justice
Checked By:

SOIL TEST BORING RECORD

PROJECT: Kingston Fossil Plant - Ash Diposal Area

DRILLED: March 1, 2004 **BORING NO.:** B-5

PROJ. NO.: 3043041009/0001 **PAGE** 1 **OF** 1

MACTEC

DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS	LEGEND	ELEV (ft)	SAMPLES IDENT	SAMPLES TYPE	SAMPLES N-COUNT 1st 6" 2nd 6" 3rd 6"	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (bpf)
0	AUGER BORING FROM 0.0' TO 45.0' - ASH NOTE: BORING B-5A WAS OFFSET ABOUT 3 FEET NORTH OF B-5.		810.2				
5			805.2				
10			800.2				
15			795.2				
20			790.2				
25			785.2				
30			780.2				
35			775.2				
40	▽		770.2				
45			765.2				

10 20 30 40 50 60 70 80 90 100

0 10 20 30 40 50 60 70 80 90 100

SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/7/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

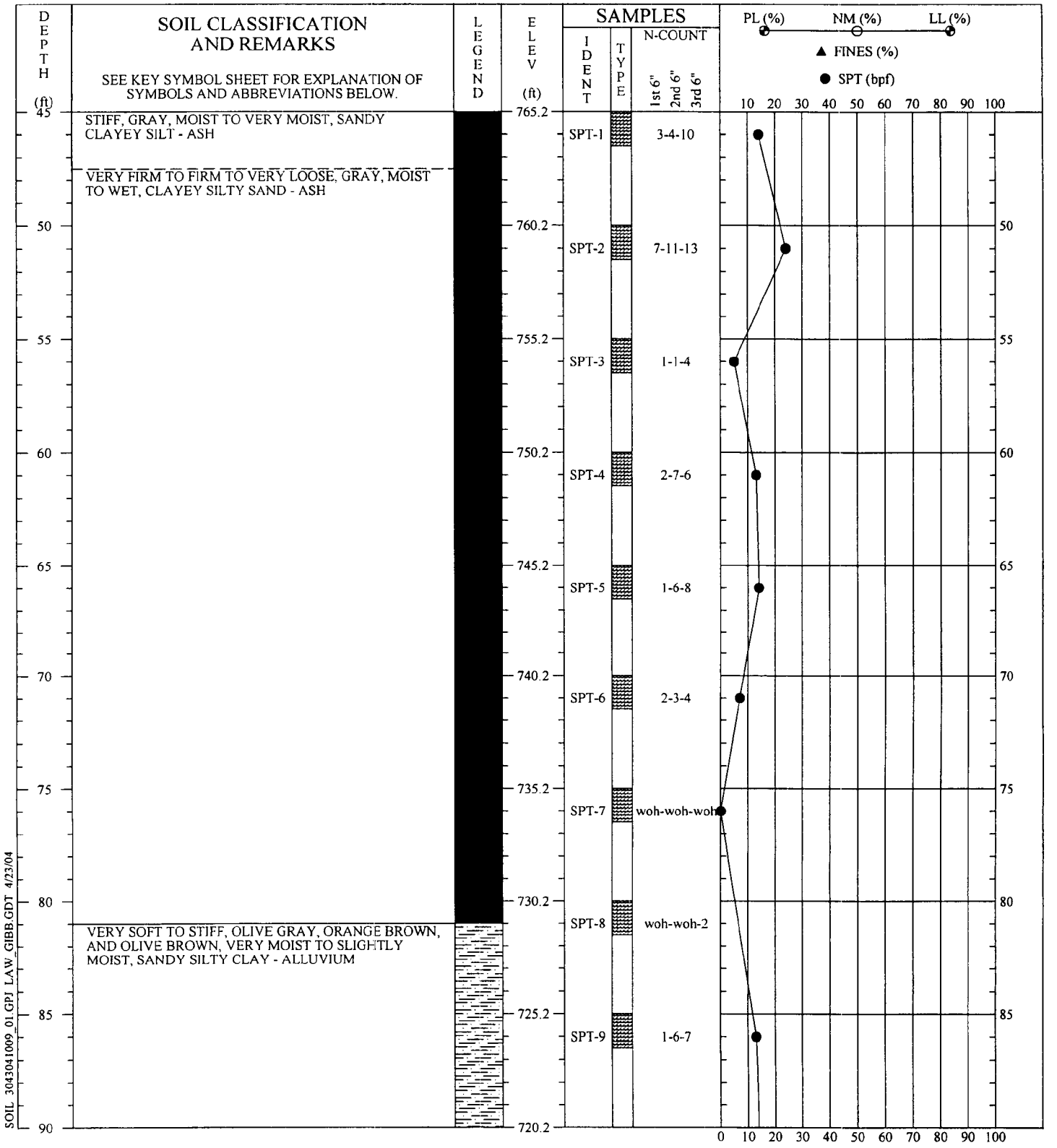
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 2, 2004 **BORING NO.:** B-5A

PROJ. NO.: 3043041009/0001 **PAGE** 1 **OF** 3

MACTEC



SOIL 3043041009 01.GPJ LAW_GIBB.GDT 4/23/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

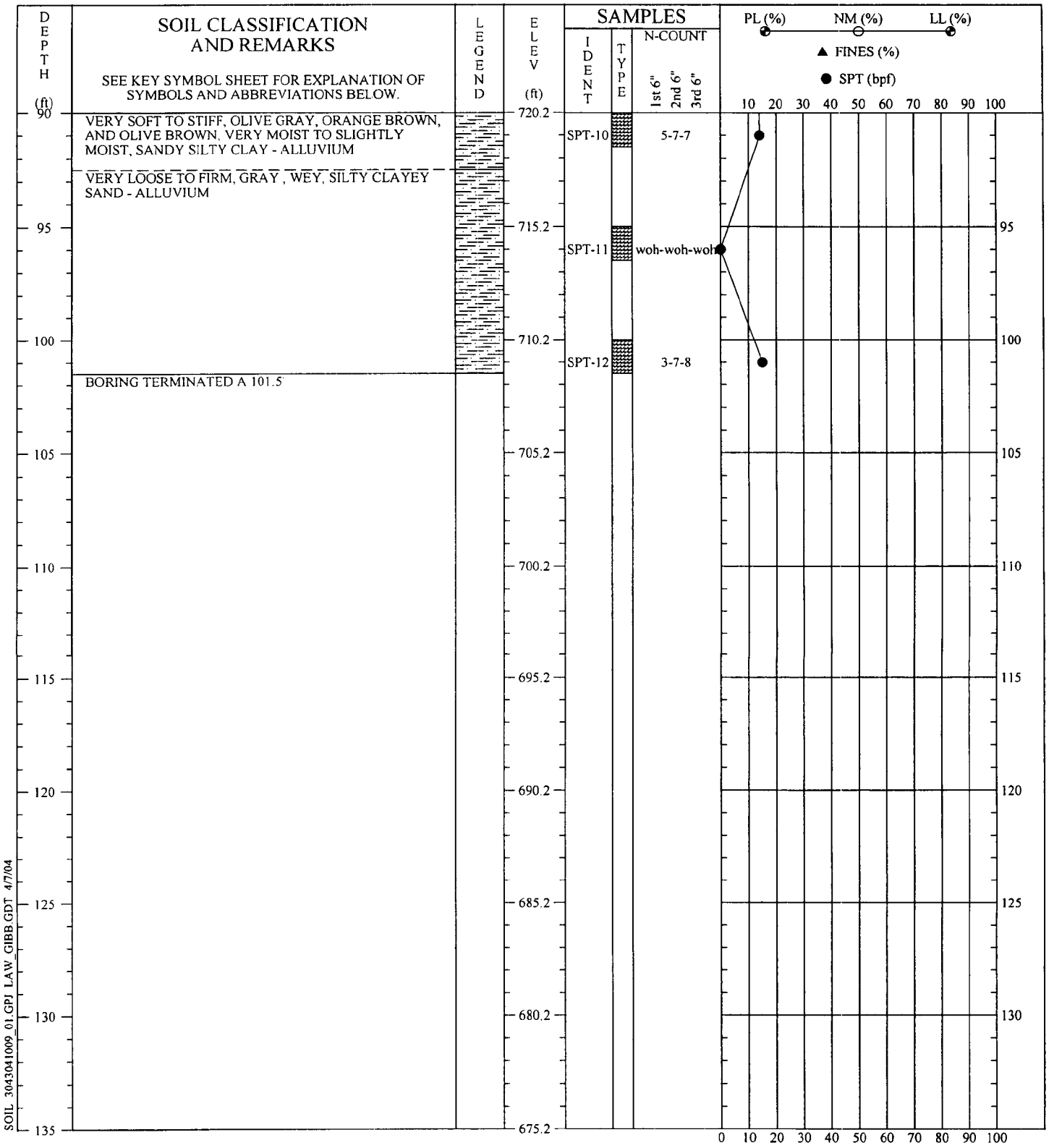
SOIL TEST BORING RECORD

PROJECT: Kingston Fossil Plant - Ash Diposal Area

DRILLED: March 2, 2004 **BORING NO.:** B-5A

PROJ. NO.: 3043041009/0001 **PAGE 2 OF 3**

MACTEC



SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/7/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller	Akins
Prepared By:	Justice
Checked By:	

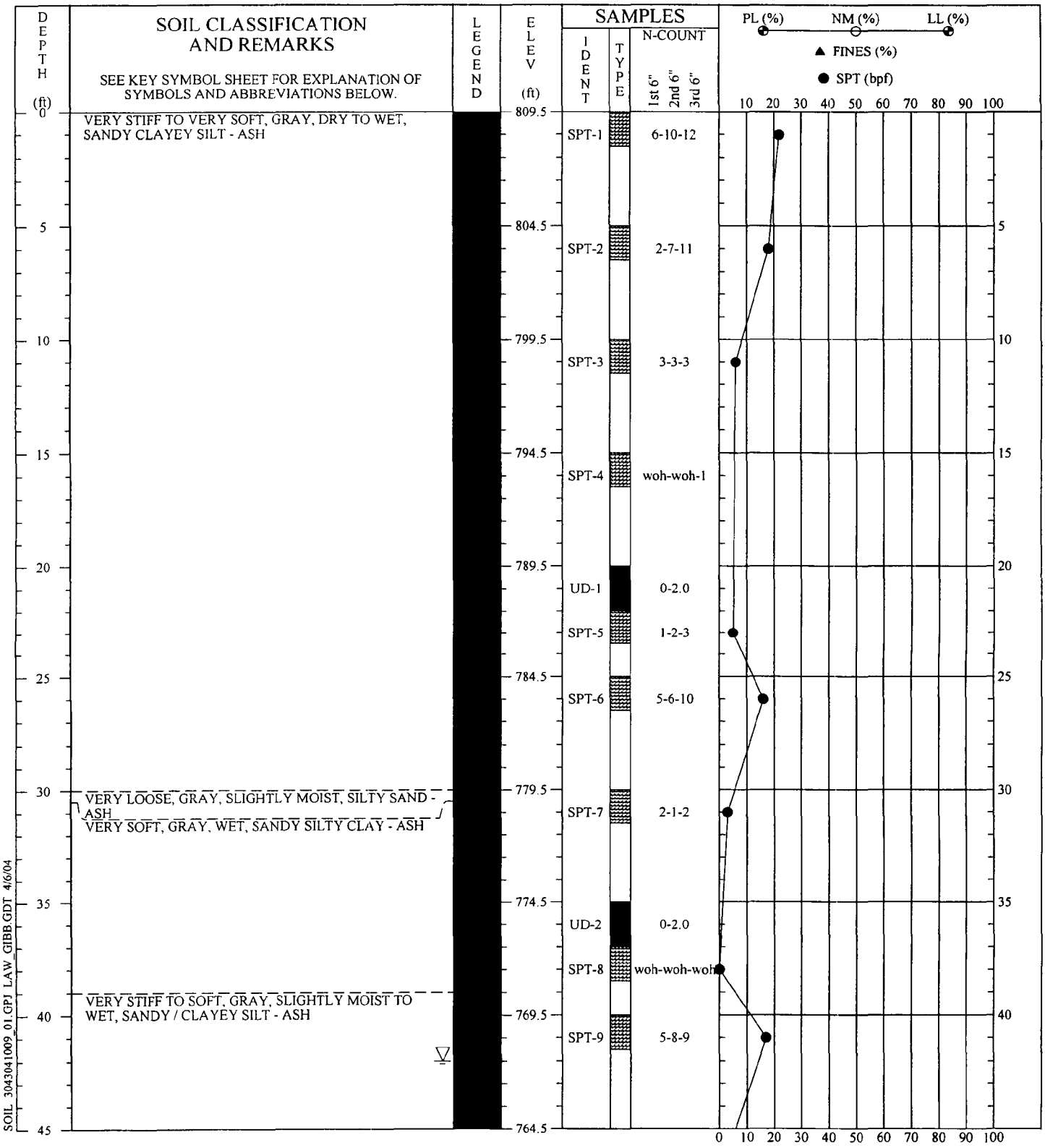
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 2, 2004 **BORING NO.:** B-5A

PROJ. NO.: 3043041009/0001 **PAGE** 3 **OF** 3

MACTEC



REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller	Akins
Prepared By:	Justice
Checked By:	

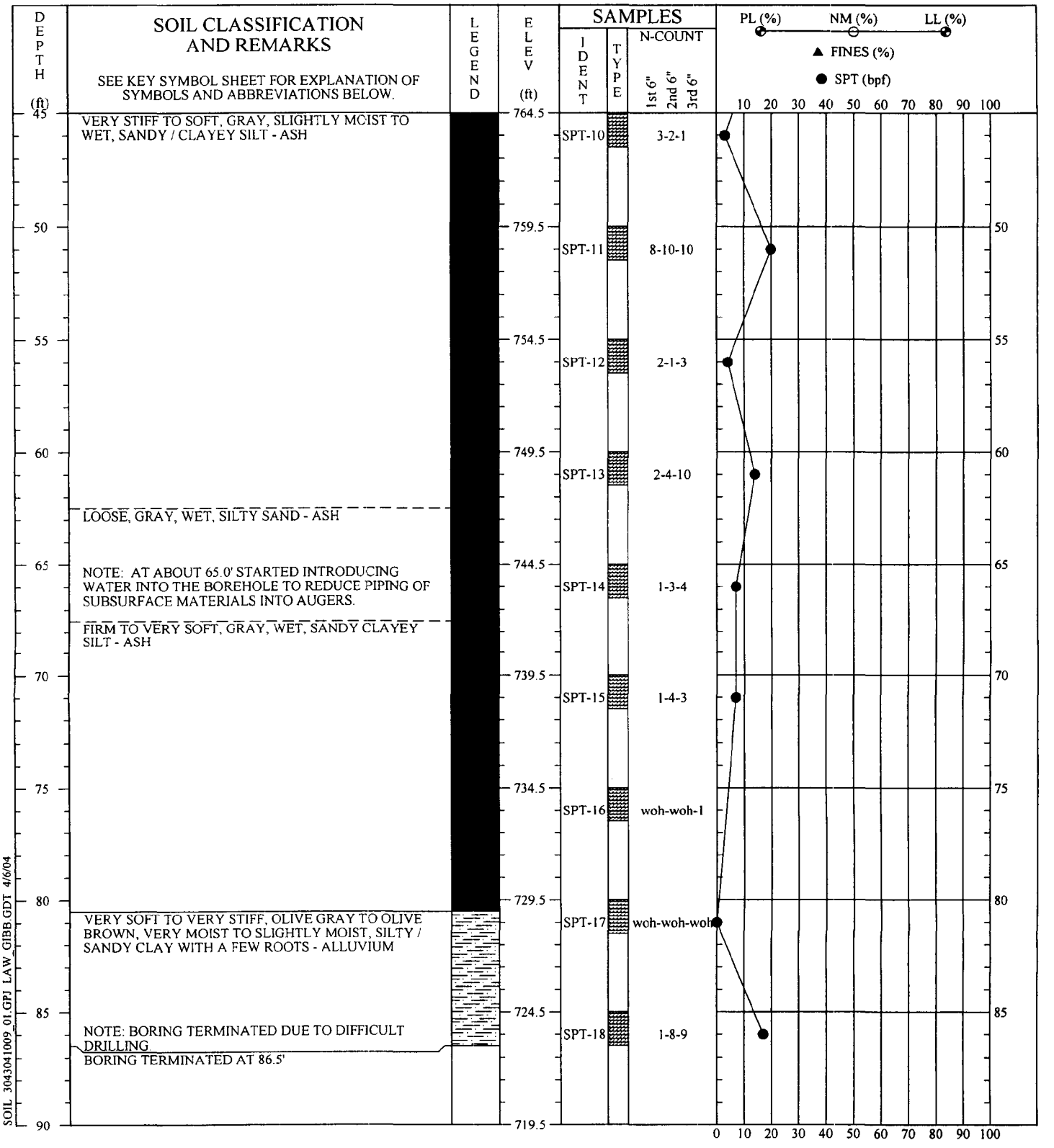
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 10, 2004 **BORING NO.:** B-6

PROJ. NO.: 3043041009/0001 **PAGE** 1 **OF** 2

MACTEC



SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/6/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

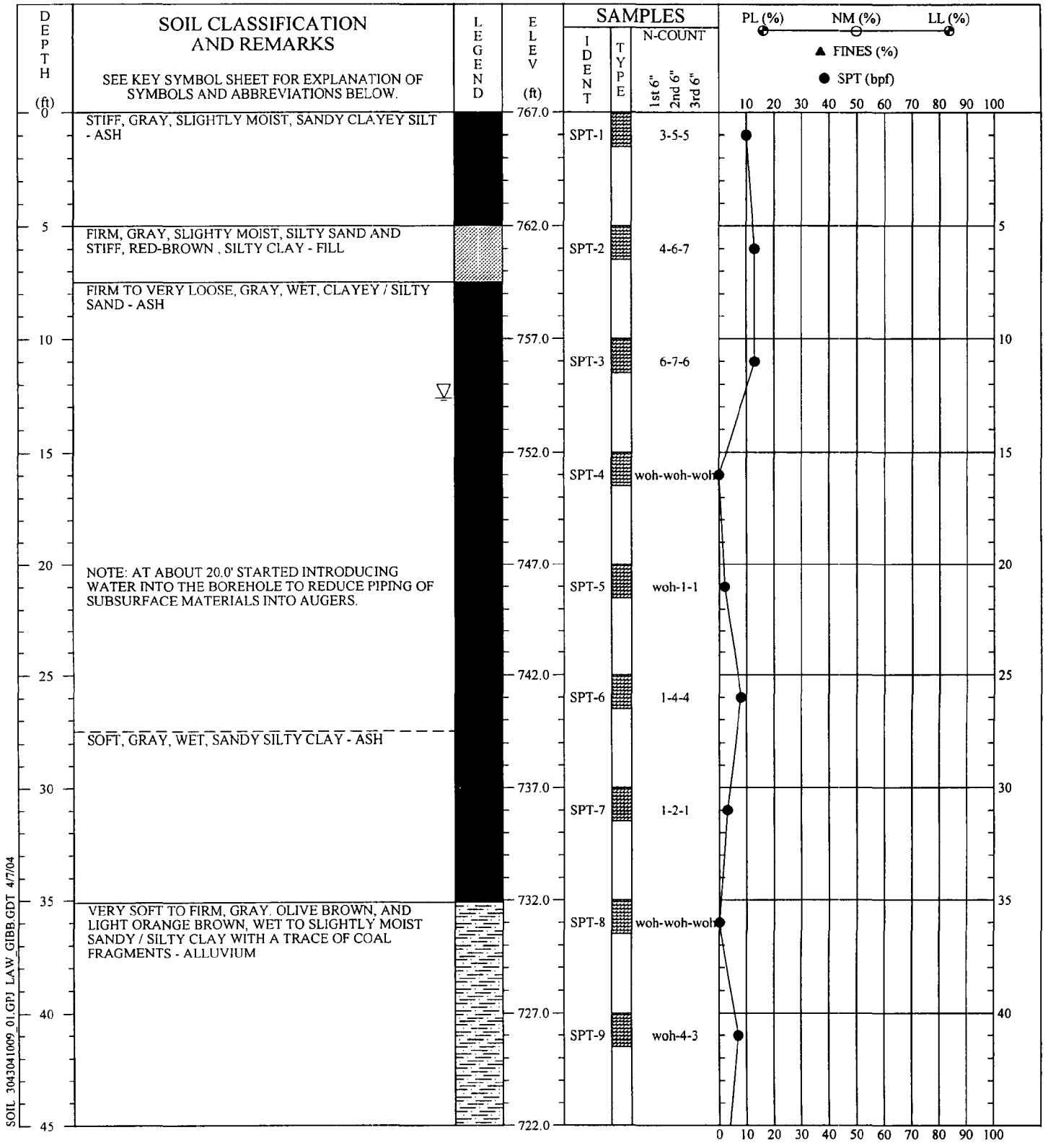
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 10, 2004 **BORING NO.:** B-6

PROJ. NO.: 3043041009/0001 **PAGE 2 OF 2**

MACTEC



SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/7/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller : Akins
Prepared By:Justice
Checked By:

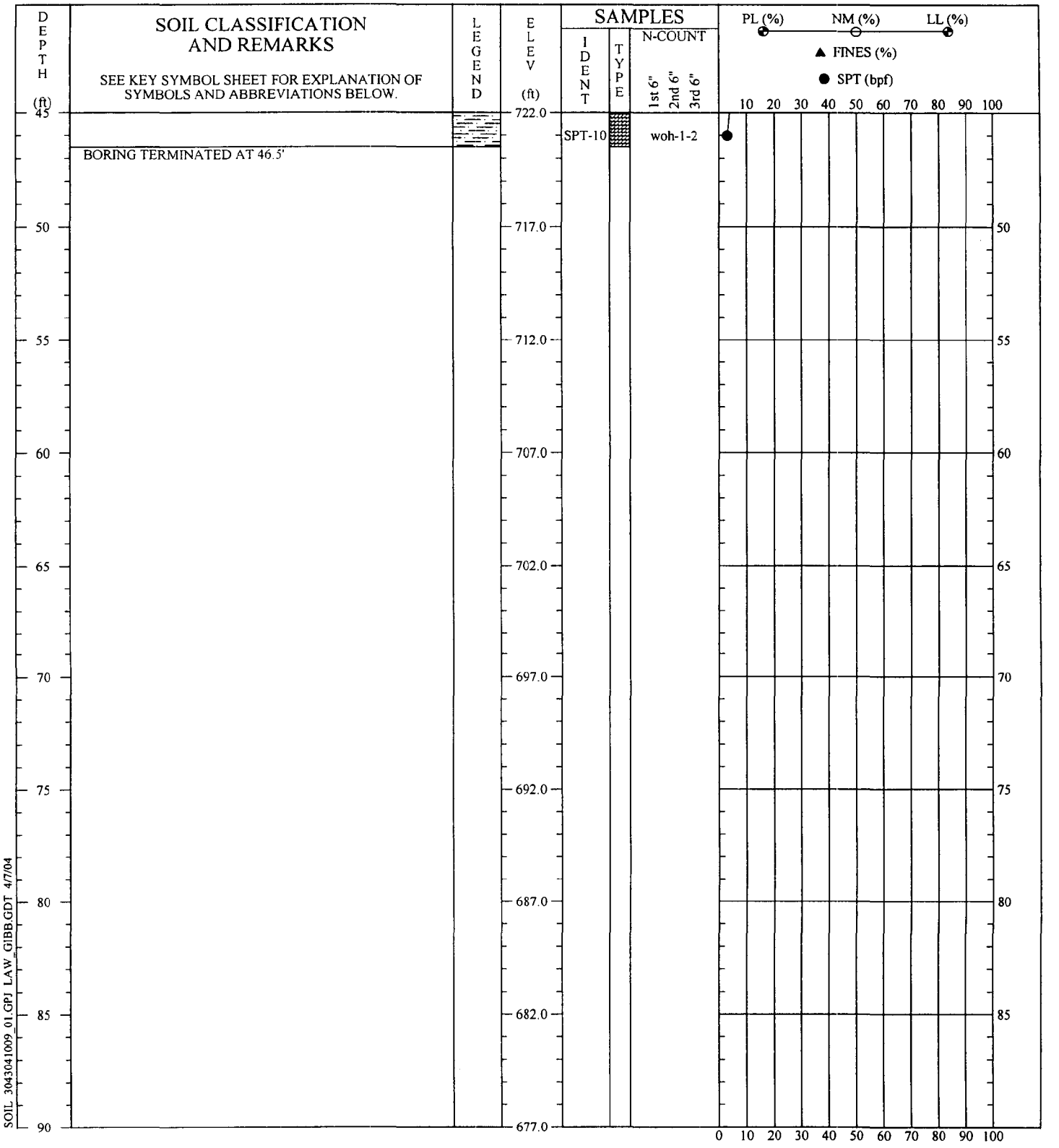
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 11, 2004 **BORING NO.:** B-7

PROJ. NO.: 3043041009/0001 **PAGE** 1 **OF** 2

MACTEC



SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/7/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

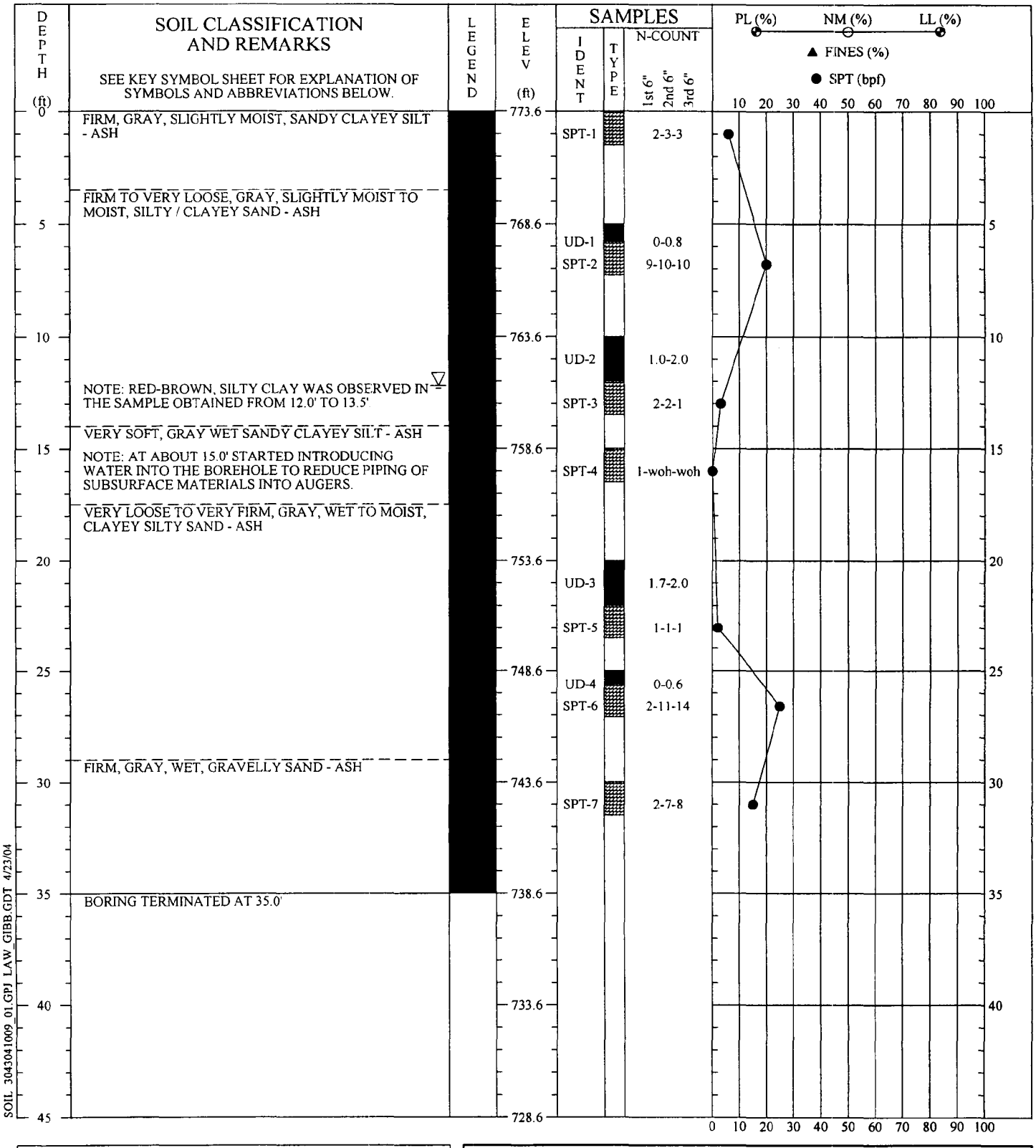
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 11, 2004 **BORING NO.:** B-7

PROJ. NO.: 3043041009/0001 **PAGE 2 OF 2**

MACTEC



SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/23/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

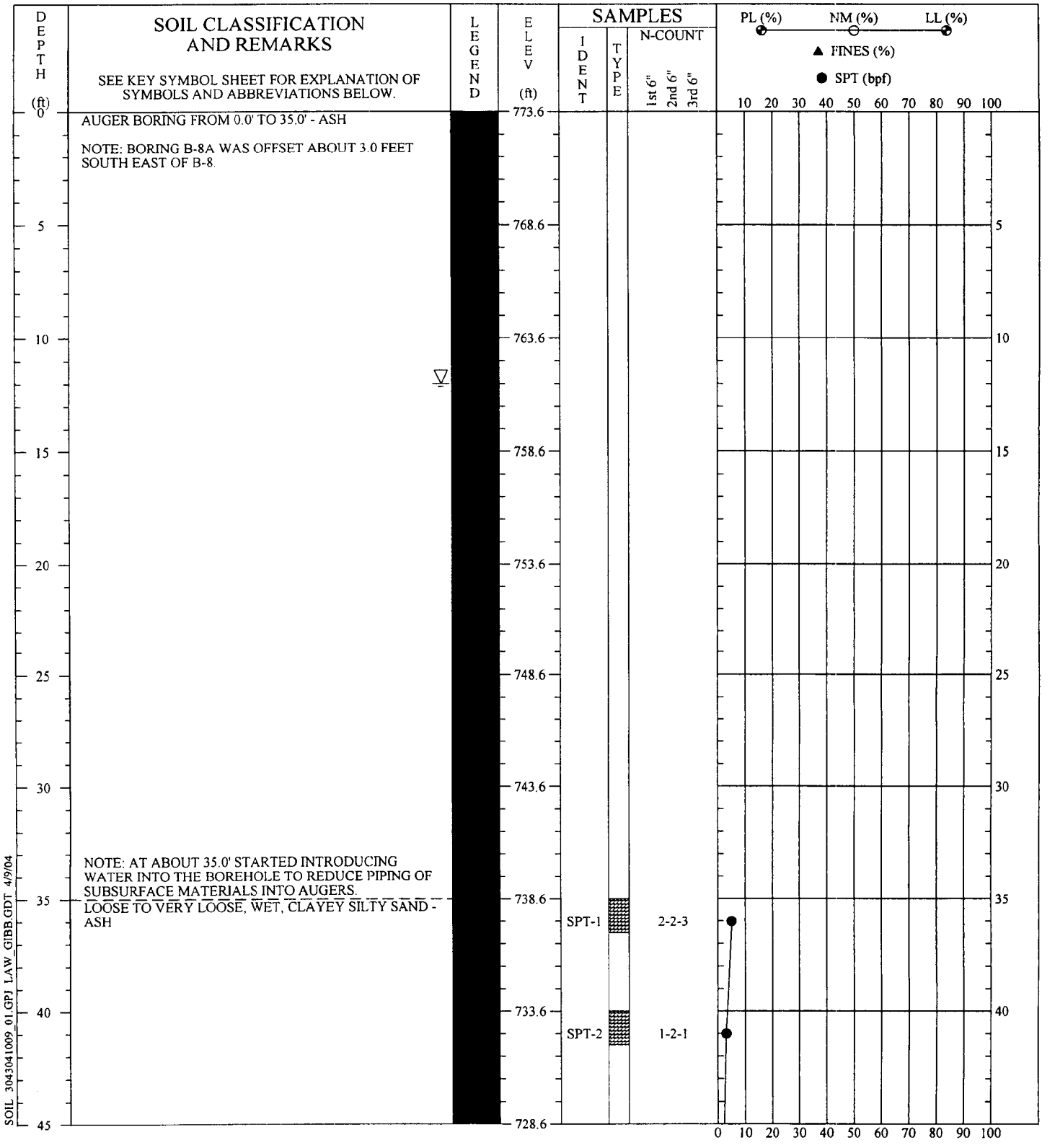
SOIL TEST BORING RECORD

PROJECT: Kingston Fossil Plant - Ash Diposal Area

DRILLED: March 19, 2004 **BORING NO.:** B-8

PROJ. NO.: 3043041009/0001 **PAGE** 1 **OF** 1

MACTEC



REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

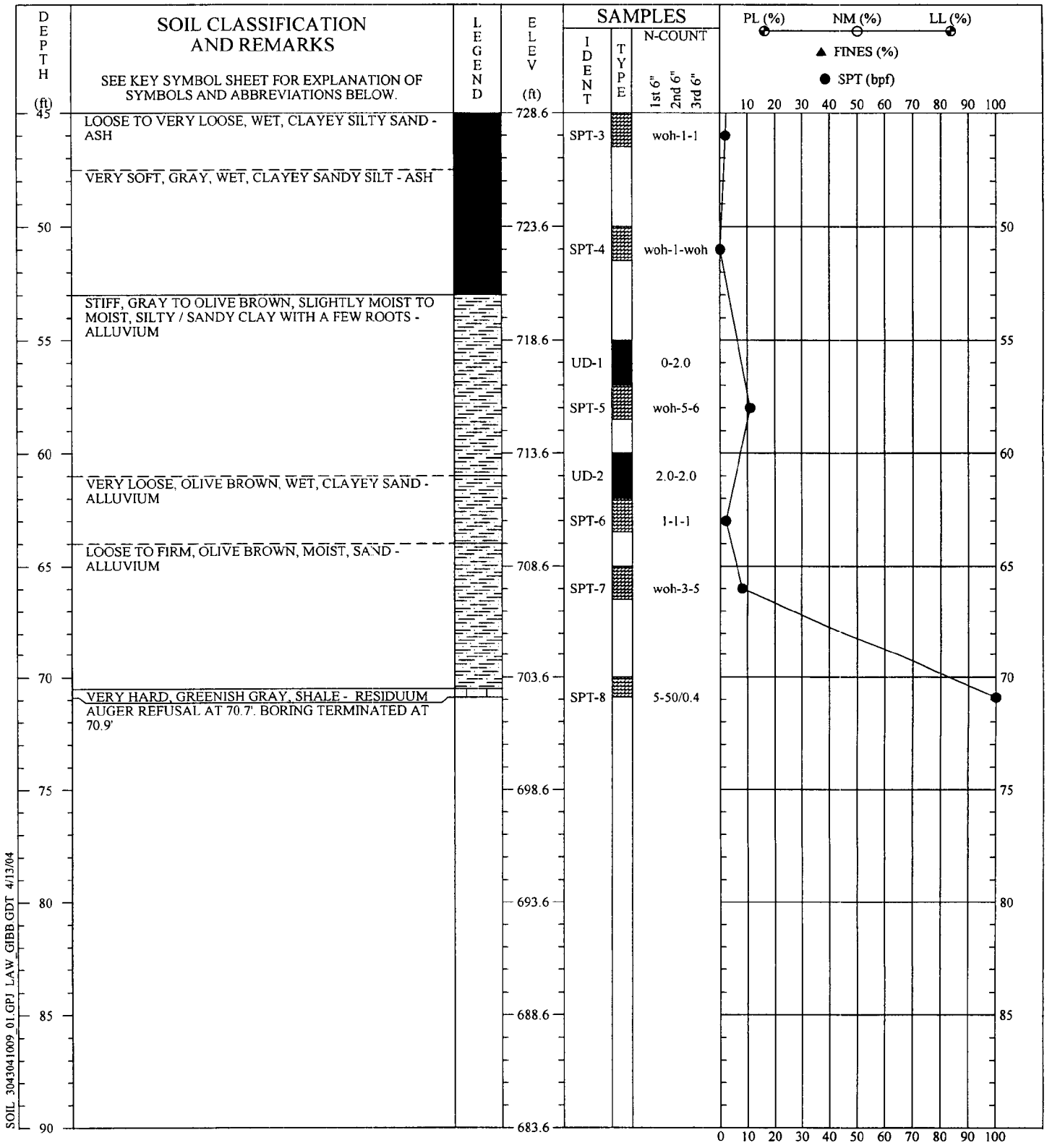
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 22, 2004 **BORING NO.:** B-8A

PROJ. NO.: 3043041009/0001 **PAGE** 1 **OF** 2

MACTEC



SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/13/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

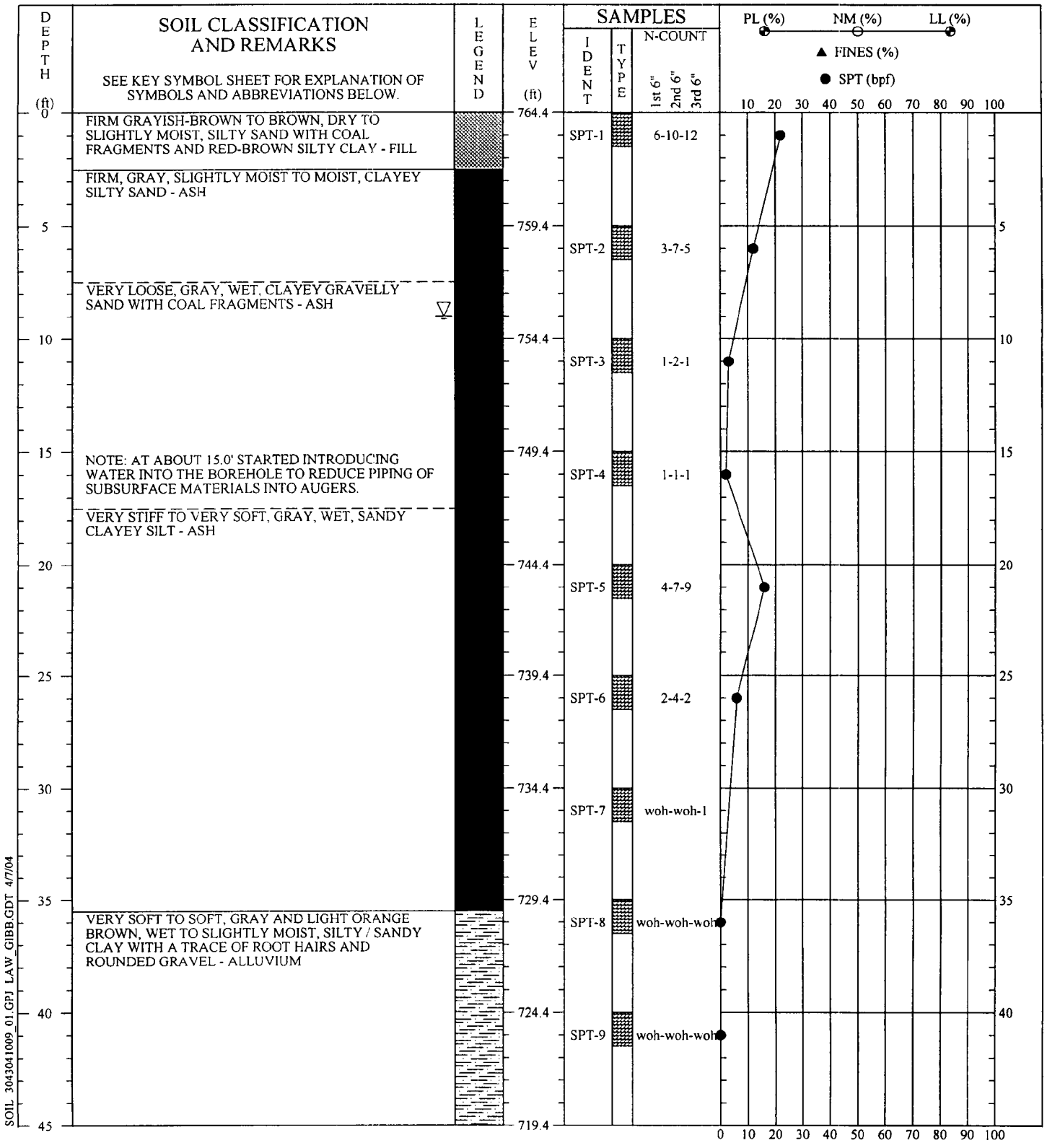
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 22, 2004 **BORING NO.:** B-8A

PROJ. NO.: 3043041009/0001 **PAGE 2 OF 2**

MACTEC



SOIL 3043041009 01.GPJ LAW_GIBB.GDT 4/7/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

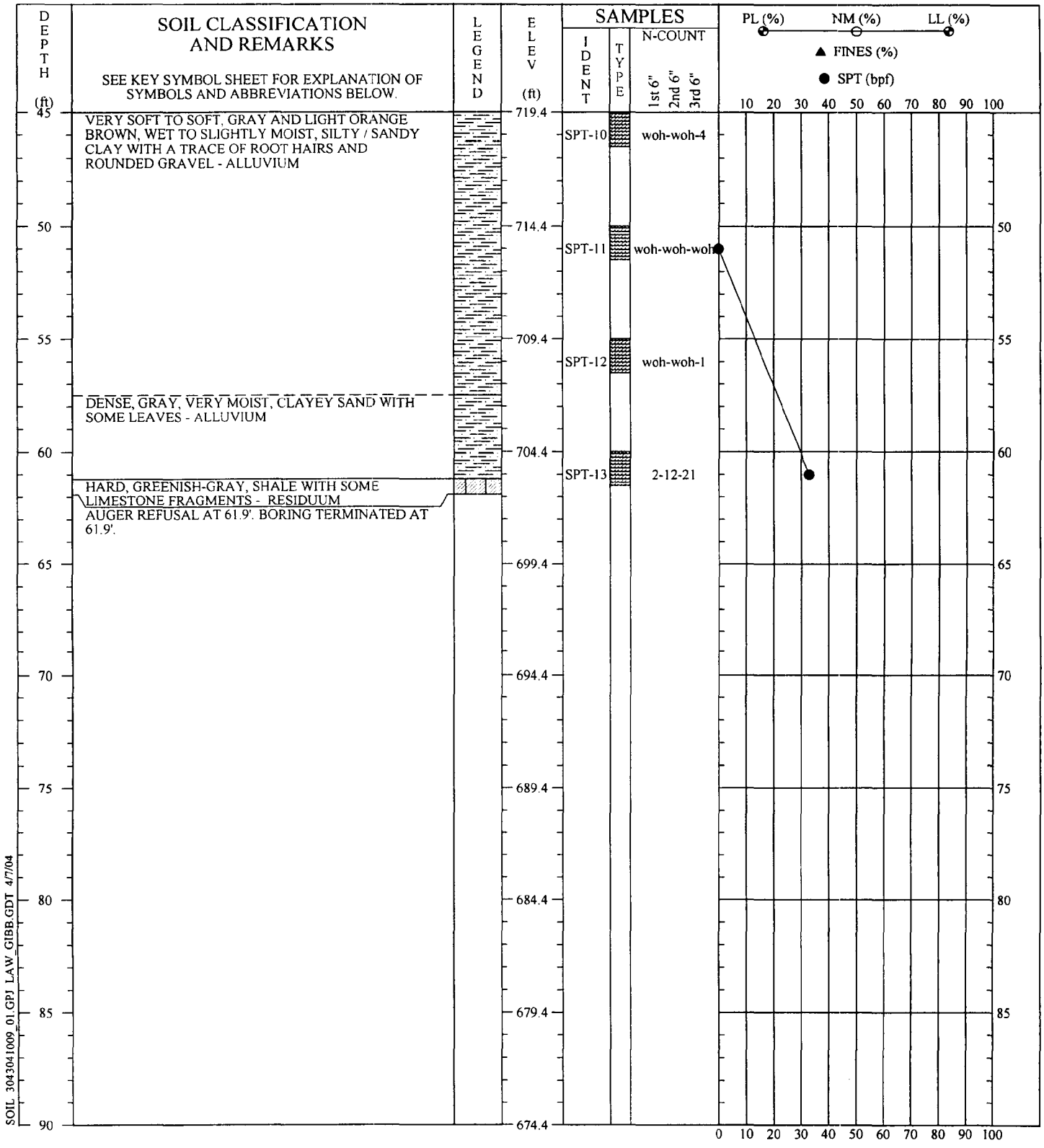
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 12, 2004 **BORING NO.:** B-9

PROJ. NO.: 3043041009/0001 **PAGE** 1 **OF** 2

MACTEC



REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

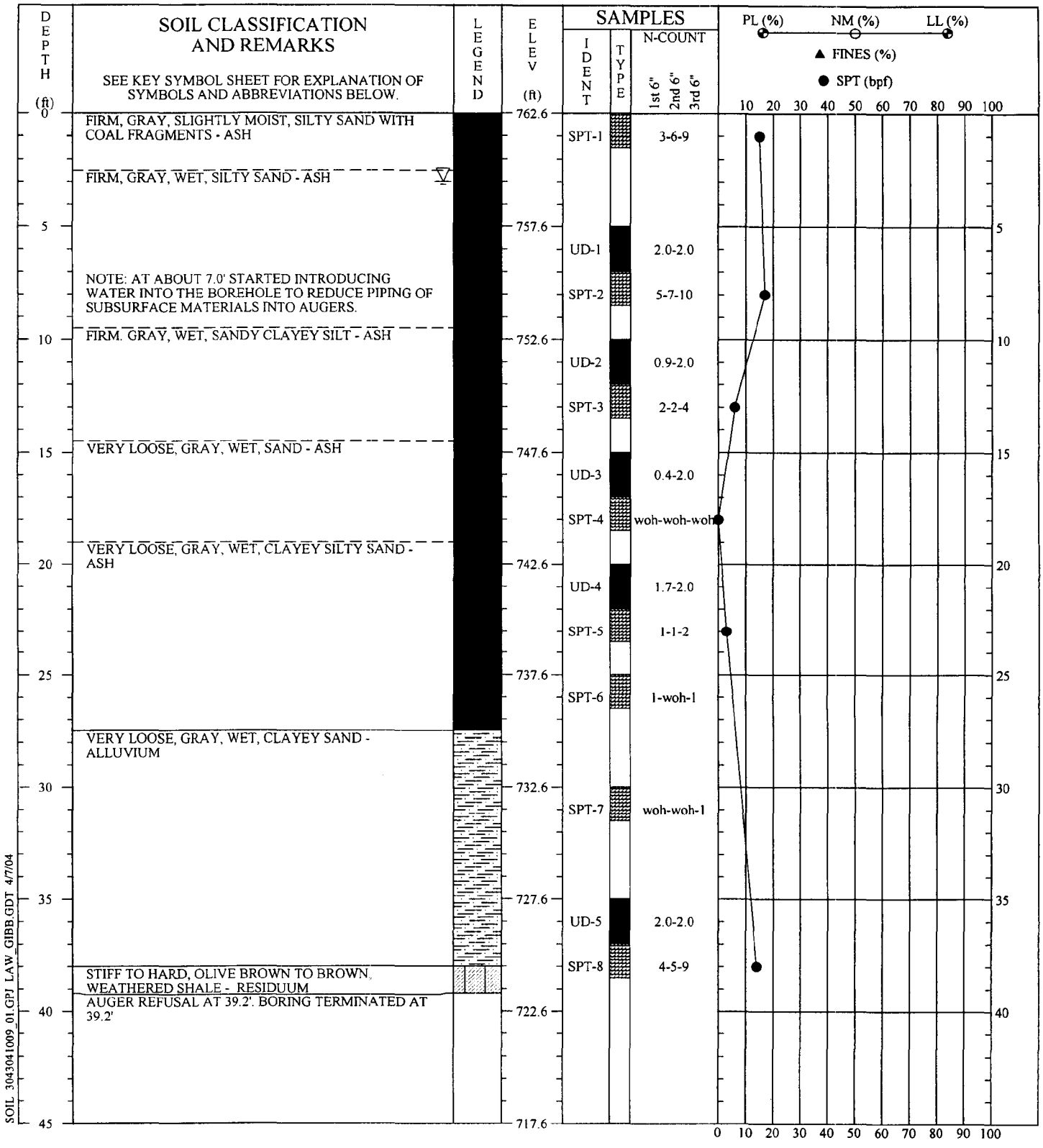
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 12, 2004 **BORING NO.:** B-9

PROJ. NO.: 3043041009/0001 **PAGE 2 OF 2**

MACTEC



SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/7/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

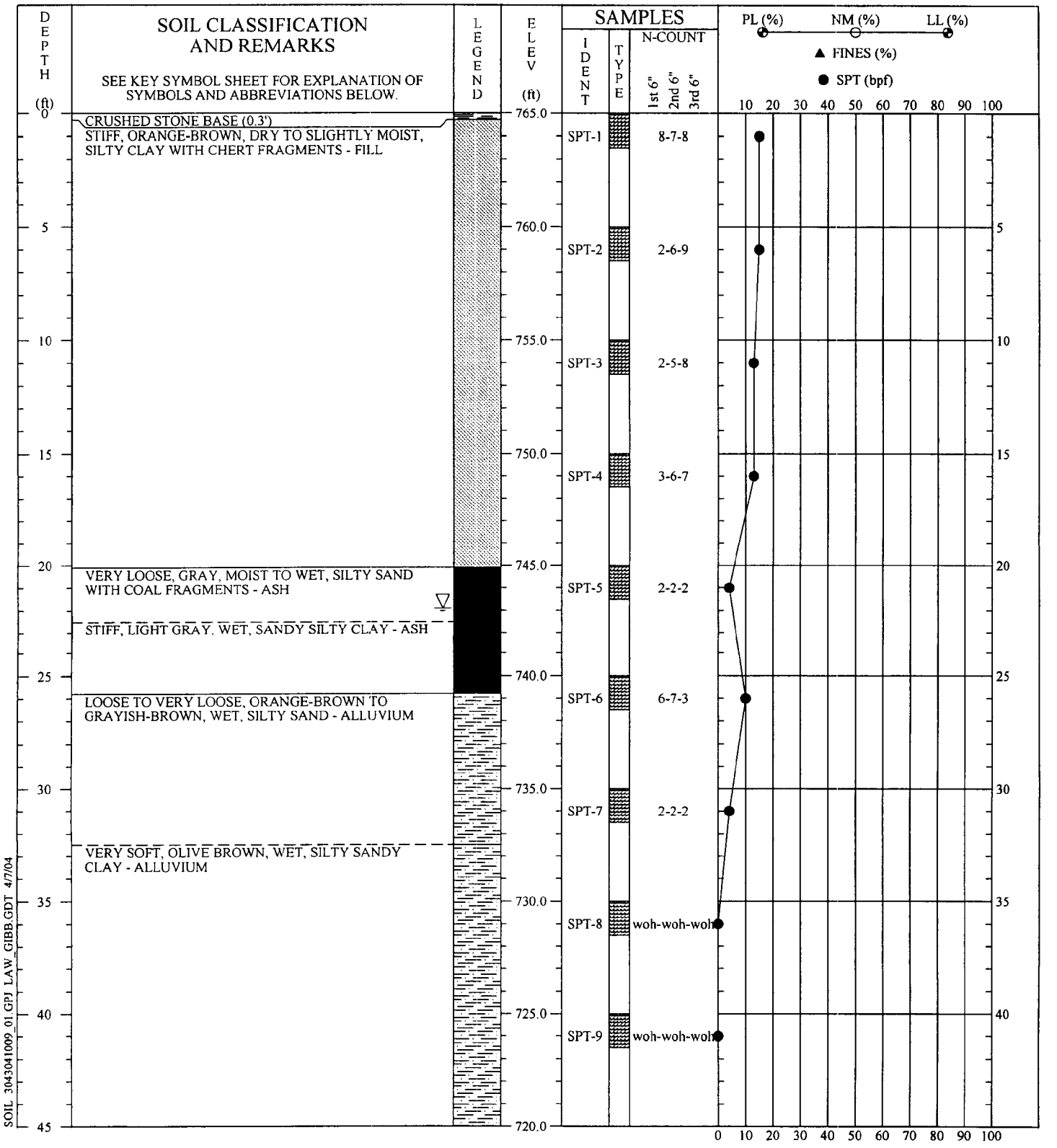
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 18, 2004 **BORING NO.:** B-10

PROJ. NO.: 3043041009/0001 **PAGE** 1 **OF** 1

MACTEC



SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/7/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller	Akins
Prepared By:	Justice
Checked By:	

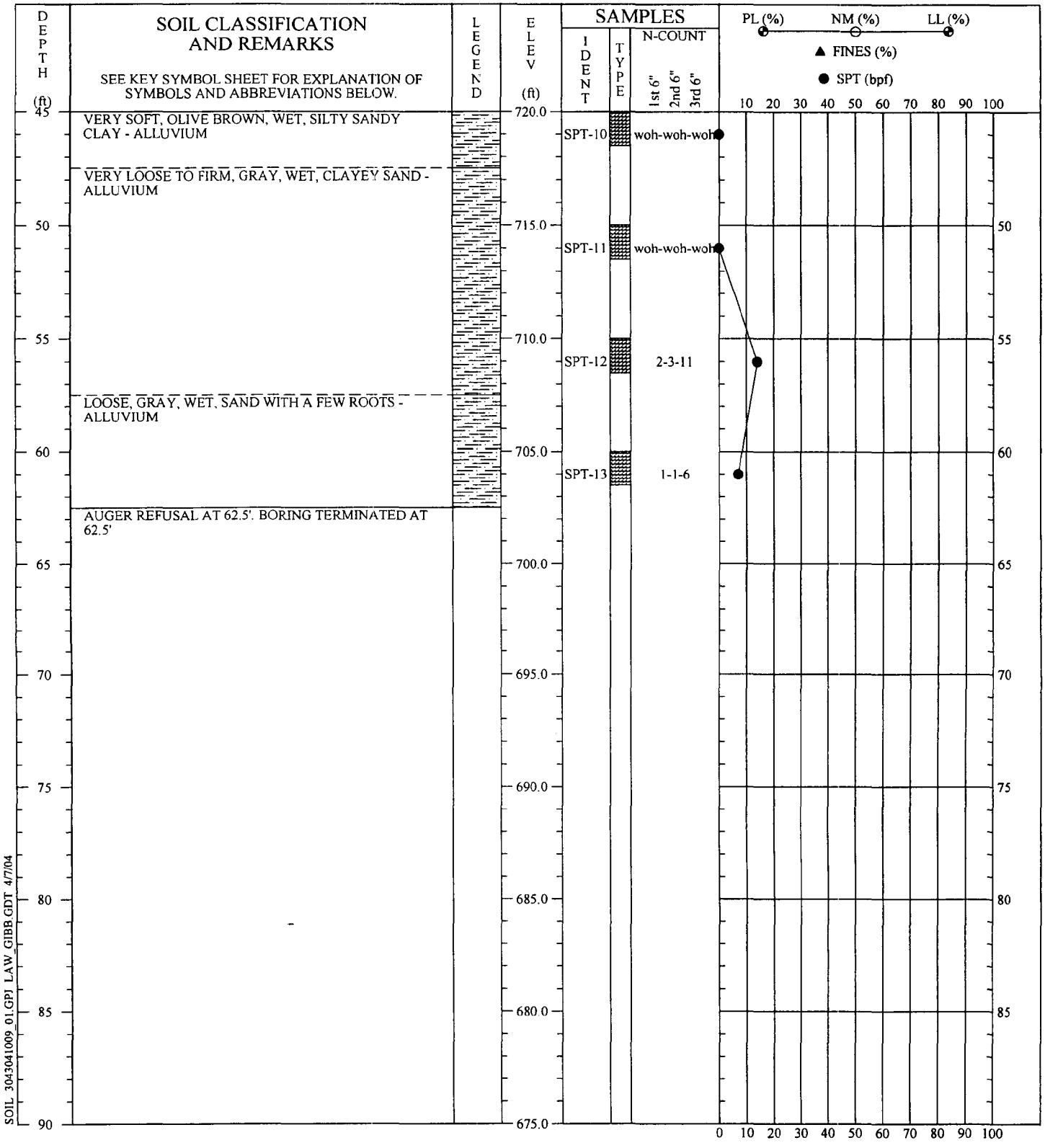
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 15, 2004 **BORING NO.:** B-11

PROJ. NO.: 3043041009/0001 **PAGE** 1 **OF** 2

MACTEC



REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

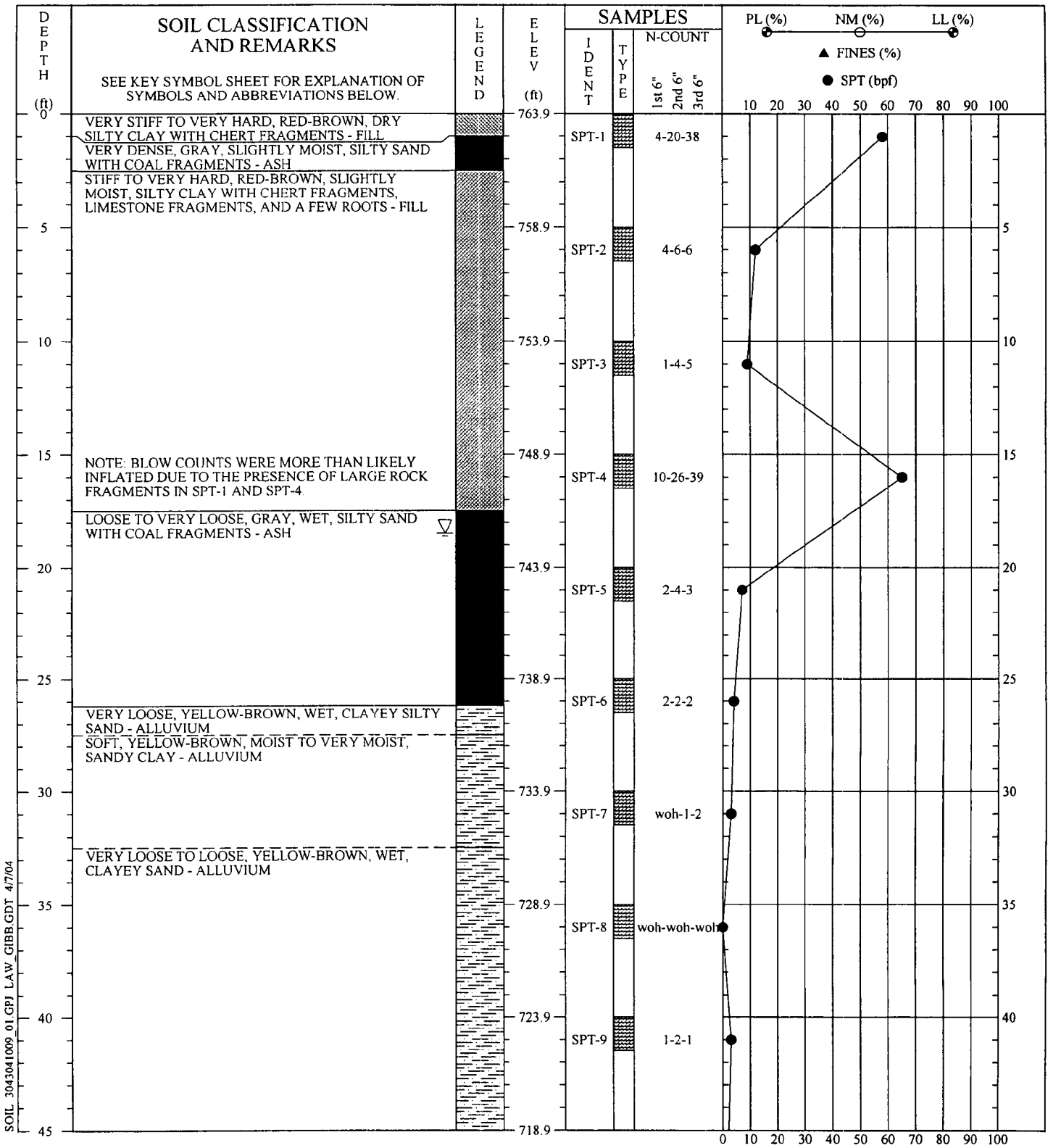
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 15, 2004 **BORING NO.:** B-11

PROJ. NO.: 3043041009/0001 **PAGE 2 OF 2**

MACTEC



SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/7/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

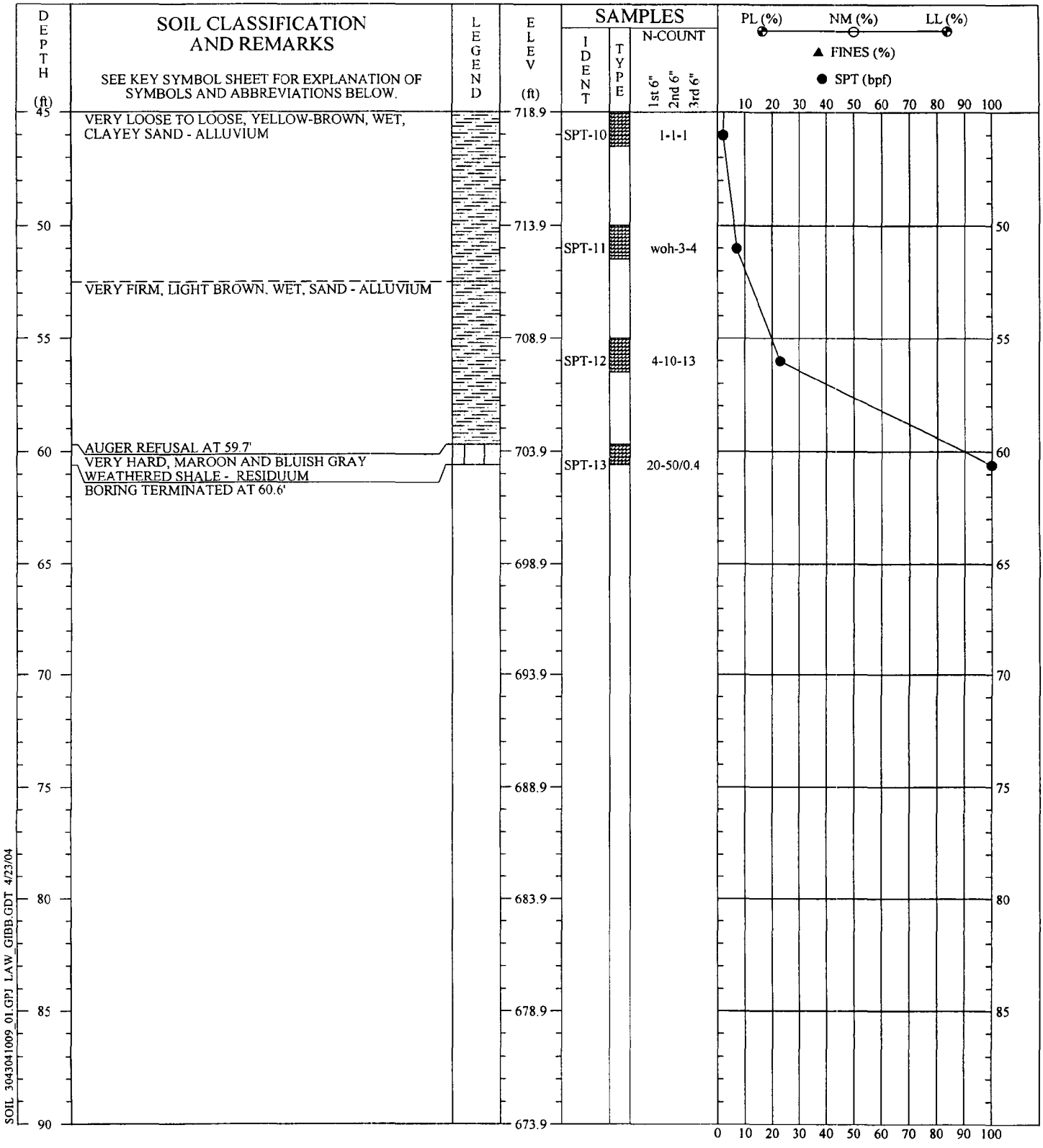
SOIL TEST BORING RECORD

PROJECT: TVA Kingston Ash

DRILLED: March 16, 2004 **BORING NO.:** B-12

PROJ. NO.: 3043041009/0001 **PAGE 1 OF 2**

MACTEC



SOIL 3043041009 01.GPJ LAW_GIBB.GDT 4/23/04

REMARKS: STANDARD PENETRATION RESISTANCE TESTING PERFORMED USING AN AUTOMATIC HAMMER.

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

SOIL TEST BORING RECORD

PROJECT: Kingston Fossil Plant - Ash Diposal Area

DRILLED: March 16, 2004 **BORING NO.:** B-12

PROJ. NO.: 3043041009/0001 **PAGE 2 OF 2**

MACTEC

DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS	LEGEND	ELEV (ft)	SAMPLES IDENT	SAMPLES TYPE	SAMPLES N-COUNT 1st 6" 2nd 6" 3rd 6"	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (bpf) 10 20 30 40 50 60 70 80 90 100
0	SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.						
	NOTE: MONITORING WELL 1 (PIEZOMETER) WAS INSTALLED APPROXIMATELY 11.0' NORTH EAST OF B-1.						
	AUGER BORING FROM 0.0' TO 20.0'.						
	1" PIEZOMETER PIPE INSTALLED FROM GROUND SURFACE TO A DEPTH OF 20.0'.						
5			776.8				
10			771.8				
15			766.8				
20	BORING TERMINATED AT 20.0'		761.8				
25			756.8				
30			751.8				
35			746.8				
40			741.8				
45			736.8				

SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/23/04

REMARKS:

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller : Akins
Prepared By:Justice
Checked By:

SOIL TEST BORING RECORD

PROJECT: Kingston Fossil Plant - Ash Diposal Area

DRILLED: March 25, 2004 **BORING NO.:** MW-1

PROJ. NO.: 3043041009/0001 **PAGE 1 OF 1**

MACTEC

DEPTH (ft)	SOIL CLASSIFICATION AND REMARKS	LEGEND	ELEV (ft)	SAMPLES IDENT	SAMPLES TYPE	SAMPLES N-COUNT 1st 6" 2nd 6" 3rd 6"	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (bpf) 10 20 30 40 50 60 70 80 90 100
0	SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS BELOW.		795.3				
	NOTE: MONITORING WELL 2 (PIEZOMETER) WAS INSTALLED APPROXIMATELY 15.0' NORTH EAST OF B-2.						
	AUGER BORING FROM 0.0' TO 35.0'.						
	1" PIEZOMETER PIPE INSTALLED FROM GROUND SURFACE TO A DEPTH OF 35.0'						
5			790.3				5
10			785.3				10
15		▼	780.3				15
20			775.3				20
25			770.3				25
30			765.3				30
35	BORING TERMINATED AT 35.0'		760.3				35
40			755.3				40
45			750.3				0 10 20 30 40 50 60 70 80 90 100

SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/23/04

REMARKS:

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller : Akins
Prepared By:Justice
Checked By:

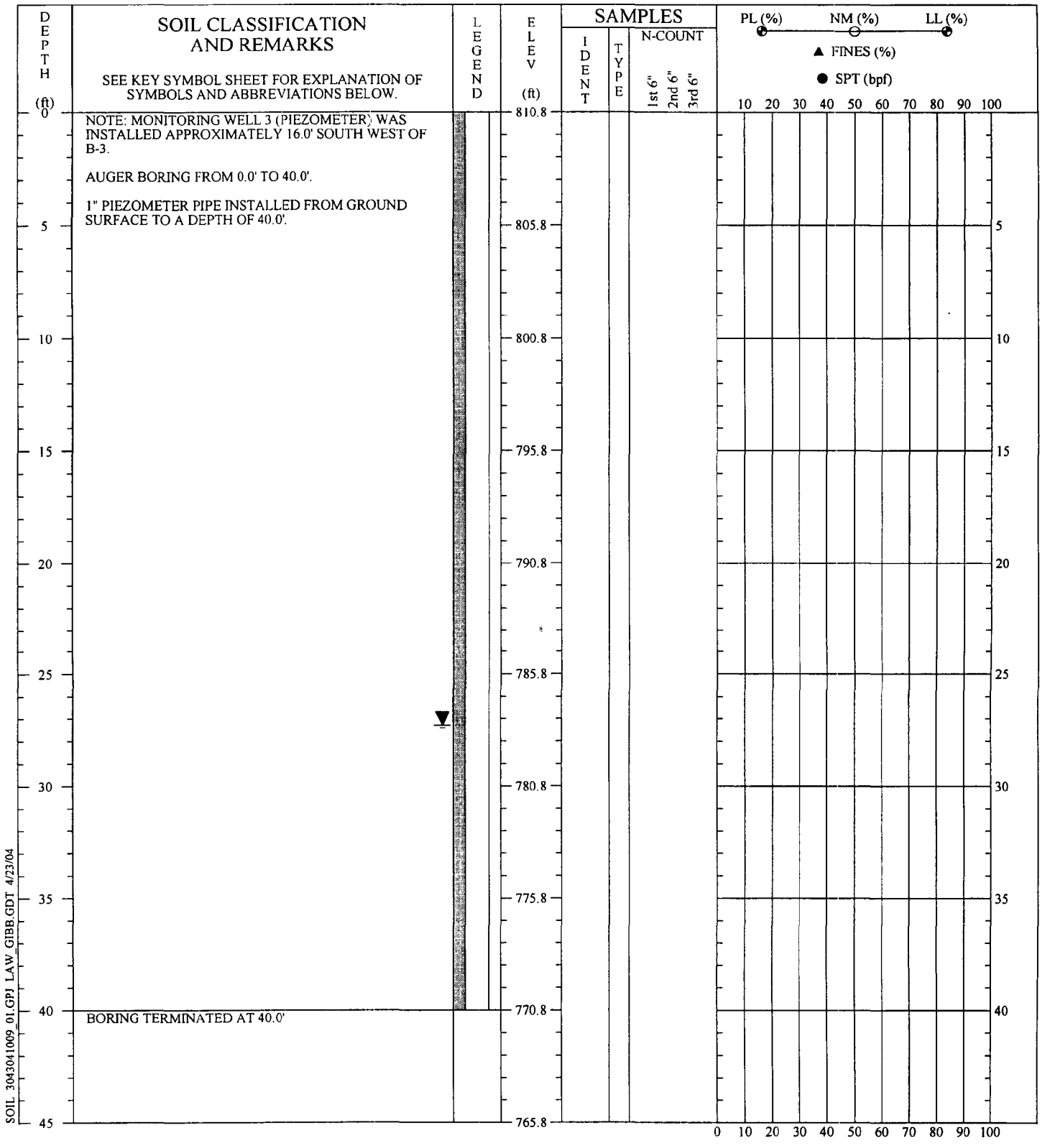
SOIL TEST BORING RECORD

PROJECT: Kingston Fossil Plant - Ash Diposal Area

DRILLED: March 25, 2004 **BORING NO.:** MW-2

PROJ. NO.: 3043041009/0001 **PAGE** 1 **OF** 1

MACTEC



SOIL 3043041009_01.GPJ LAW_GIBB.GDT 4/23/04

REMARKS:

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BEWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

Driller :	Akins
Prepared By:	Justice
Checked By:	

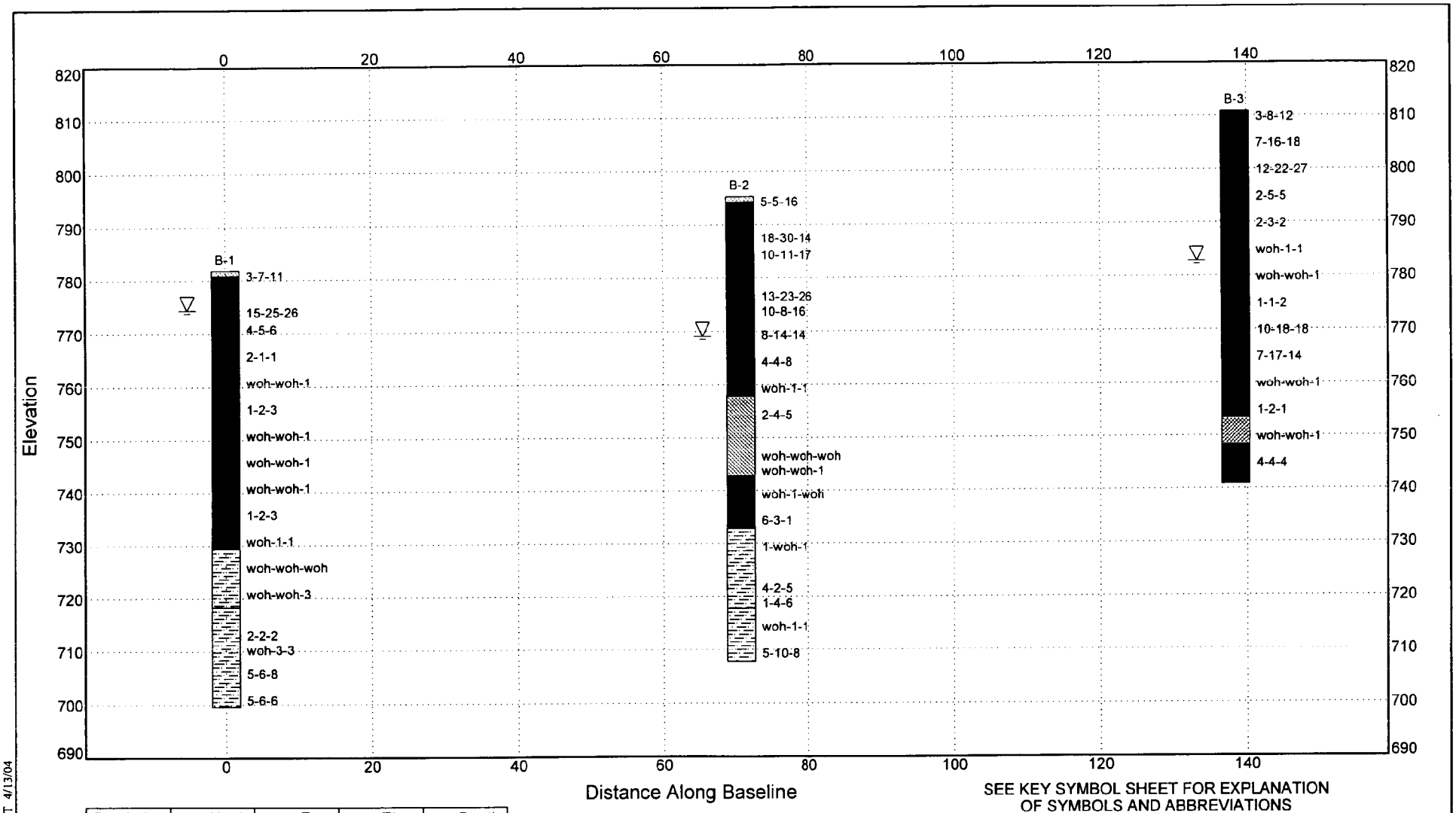
SOIL TEST BORING RECORD

PROJECT: Kingston Fossil Plant - Ash Diposal Area

DRILLED: March 25, 2004 **BORING NO.:** MW-3

PROJ. NO.: 3043041009/0001 **PAGE** 1 **OF** 1

MACTEC



SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

Borehole	North	East	Elev.	Depth
B-1	556953	2439764	781.8	82.2
B-2	556903	2439814	795.3	87.5
B-3	556859	2439865	810.8	70.0

DISTANCES:
Beginning 0
Ending 140
VIEWING ANGLES (degrees):
Horizontal 0.0
Vertical 0.0

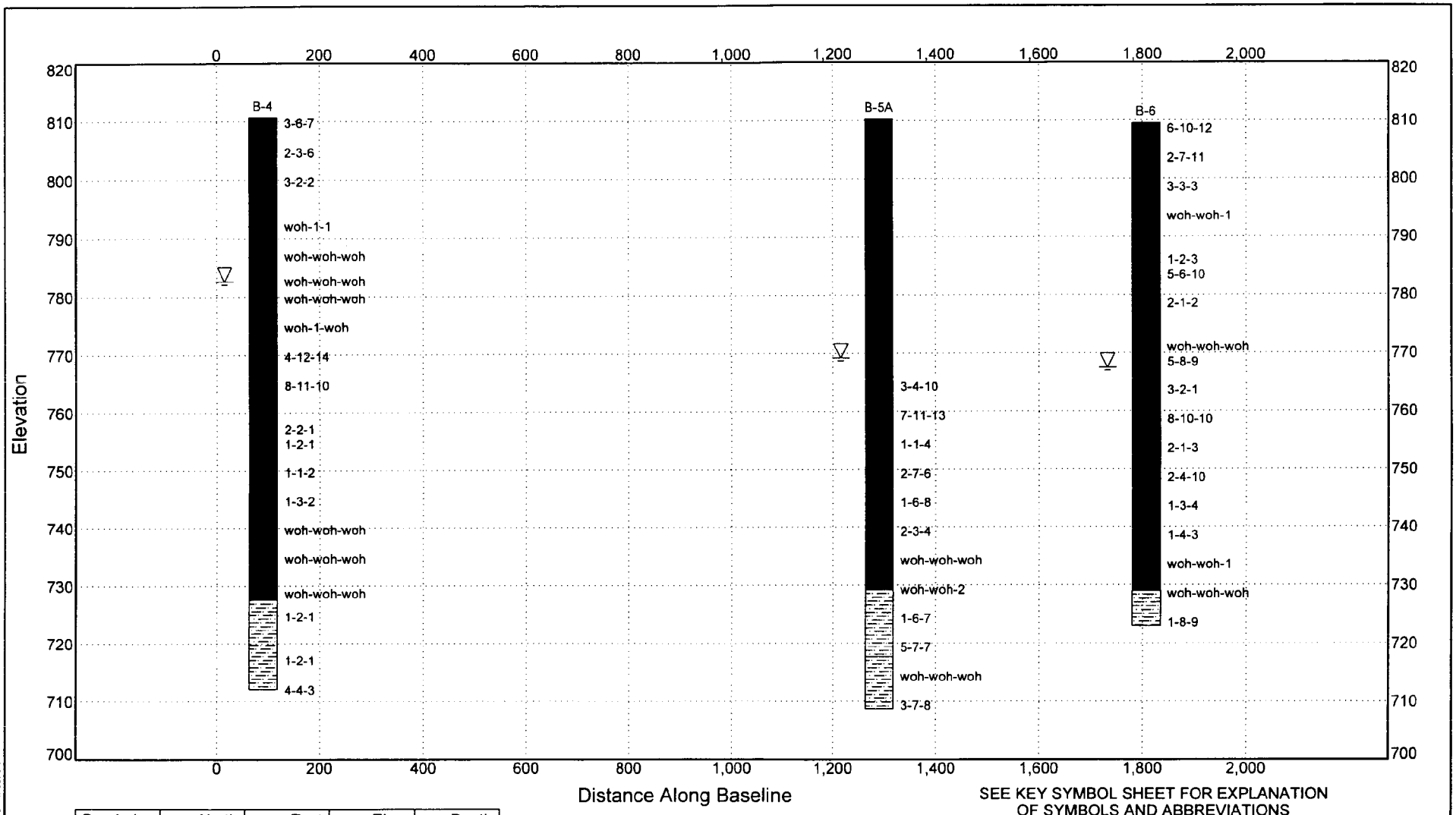
Position	North	East
Left, Front	556952	2439763
Right, Front	556857	2439866
Left, Back	556952	2439763
Right, Back	556857	2439866

SUBSURFACE FENCE DIAGRAM A - A

Kingston Fossil Plant - Ash Diposal Area

PROJECT #	DATE	PLATE
3043041009/0001	Apr 04	1

SECTION2 3043041009_01.GPJ FAGWGN01.GDT 4/13/04



SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

Borehole	North	East	Elev.	Depth
B-4	556619	2440897	810.6	98.5
B-5A	555597	2440247	810.2	101.5
B-6	555292	2439808	809.5	86.5

DISTANCES:
Beginning 0
Ending 2000
VIEWING ANGLES (degrees):
Horizontal 0.0
Vertical 0.0

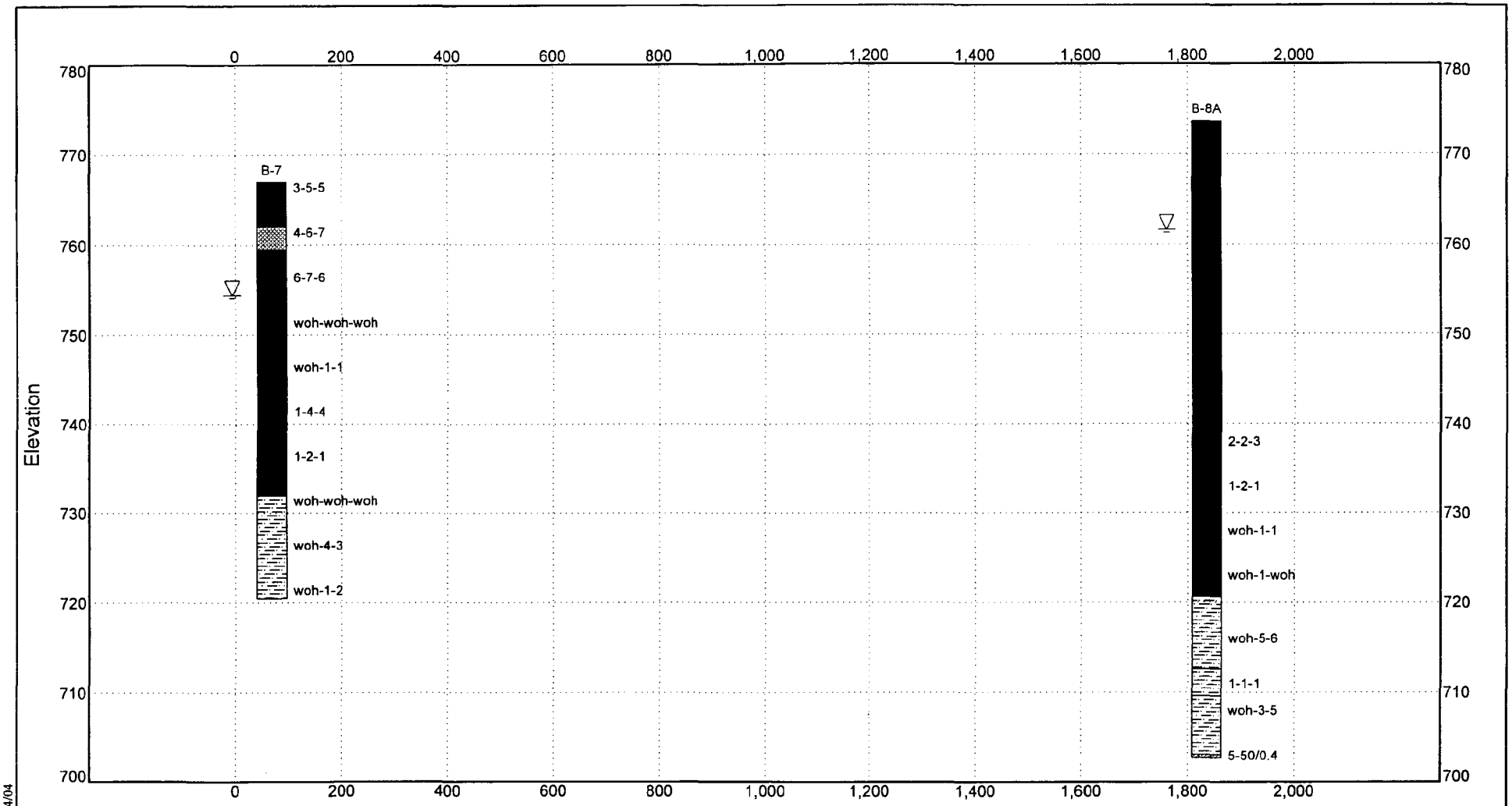
Position	North	East
Left, Front	556690	2440952
Right, Front	555166	2439657
Left, Back	556690	2440952
Right, Back	555166	2439657

SUBSURFACE FENCE DIAGRAM B - B'

Kingston Fossil Plant - Ash Diposal Area

PROJECT #	DATE	PLATE
3043041009/0001	Apr 04	2

SECTION2 3043041009 01.GPJ FAGWGN01.GDT 4/13/04



SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

Borehole	North	East	Elev.	Depth
B-7	556249	2441518	767.0	46.5
B-8A	554787	2440526	773.6	70.9

DISTANCES:
Beginning 0
Ending 2000
VIEWING ANGLES (degrees):
Horizontal 0.0
Vertical 0.0

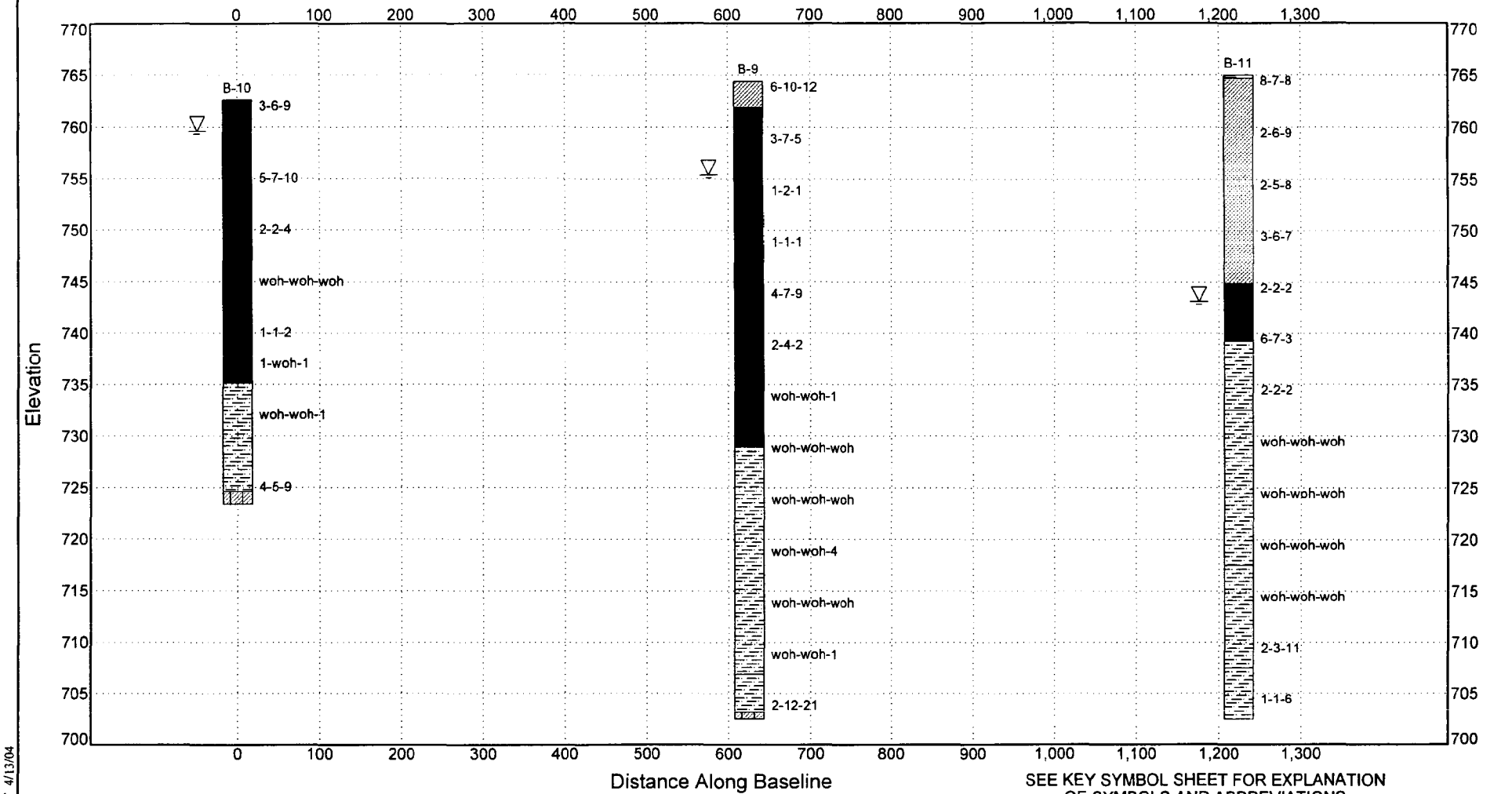
Position	North	East
Left, Front	556304	2441560
Right, Front	554663	2440417
Left, Back	556304	2441560
Right, Back	554663	2440417

SUBSURFACE FENCE DIAGRAM C - C'

Kingston Fossil Plant - Ash Diposal Area

PROJECT #	DATE	PLATE
3043041009/0001	Apr 04	3

SECTION2 3043041009 01.GPJ FAGWGN01.GDT 4/14/04



SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

Borehole	North	East	Elev.	Depth
B-10	554428	2441665	762.6	39.2
B-11	554761	2442844	765.0	62.5
B-9	554858	2442197	764.4	61.9

DISTANCES:
Beginning 0
Ending 1300
VIEWING ANGLES (degrees):
Horizontal 0.0
Vertical 0.0

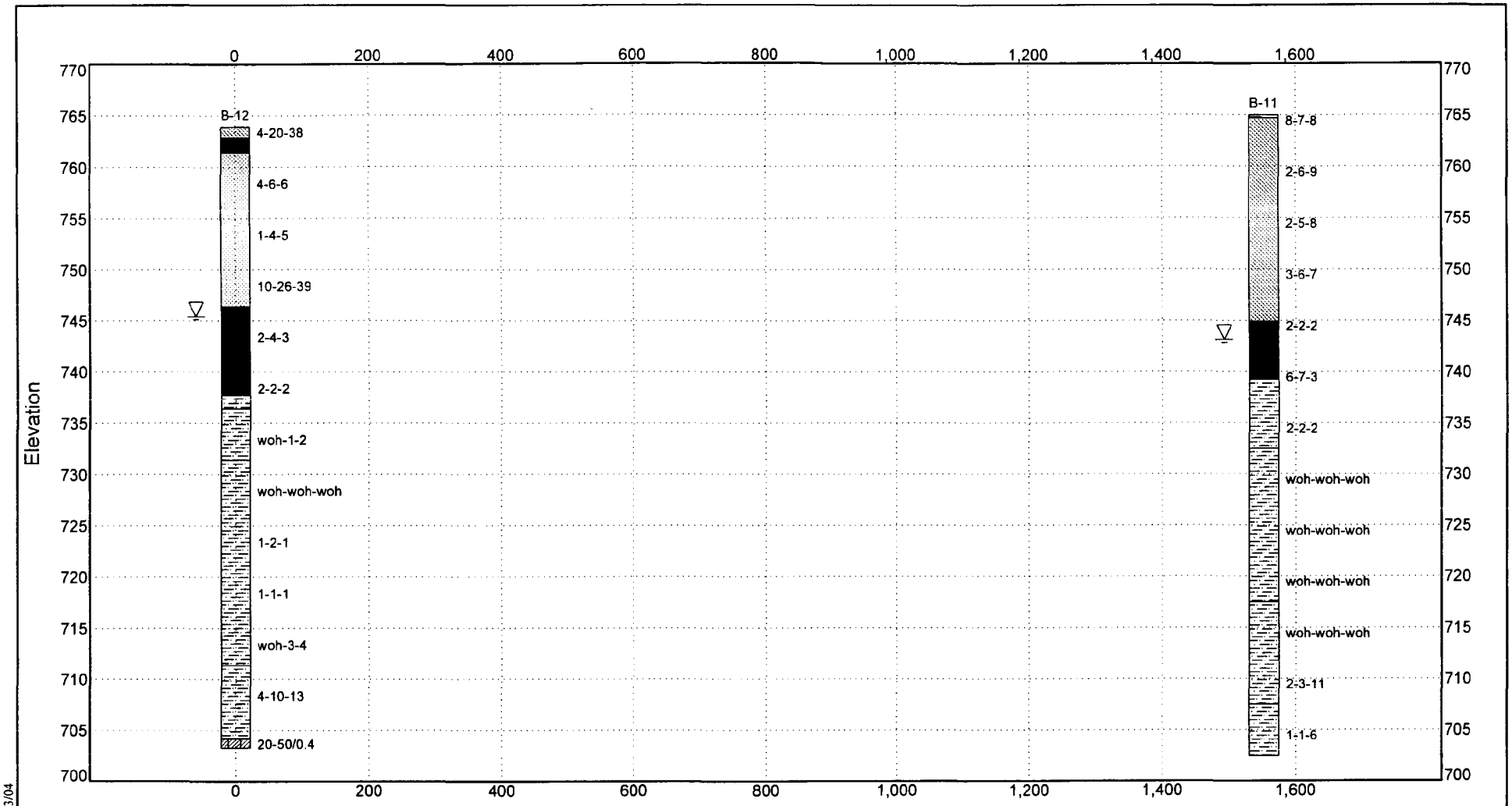
Position	North	East
Left, Front	554523	2441640
Right, Front	554858	2442896
Left, Back	554523	2441640
Right, Back	554858	2442896

SUBSURFACE FENCE DIAGRAM D - D'

Kingston Fossil Plant - Ash Diposal Area

PROJECT #	DATE	PLATE
3043041009/0001	Apr 04	4

SECTION2 3043041009 01.GPJ FAGWGN01.GDT 4/13/04



SEE KEY SYMBOL SHEET FOR EXPLANATION OF SYMBOLS AND ABBREVIATIONS

Borehole	North	East	Elev.	Depth
B-11	554761	2442844	765.0	62.5
B-12	556266	2442464	763.9	60.6

DISTANCES:
Beginning 0
Ending 1600
VIEWING ANGLES (degrees):
Horizontal 0.0
Vertical 0.0

Position	North	East
Left, Front	556266	2442464
Right, Front	554715	2442855
Left, Back	556266	2442464
Right, Back	554715	2442855

SUBSURFACE FENCE DIAGRAM E - E'

Kingston Fossil Plant - Ash Diposal Area

PROJECT #	DATE	PLATE
3043041009/0001	Apr 04	5

SECTION2 3043041009 01.GPJ FAGWGN01.GDT 4/13/04

APPENDIX C

IN-SITU HYDRAULIC CONDUCTIVITY TEST RESULTS AND PROCEDURE

IN-SITU HYDRAULIC CONDUCTIVTY TEST RESULTS

Stage 1 – Maximum Vertical Hydraulic Conductivity

Location:	Boring B-1
Depth:	5 Ft.
Max. Vertical Hydraulic Conductivity:	5.13×10^{-6} cm/s

Location:	Boring B-2
Depth:	5 Ft.
Max. Vertical Hydraulic Conductivity:	3.59×10^{-6} cm/s

Stage 2 – Minimum Horizontal Hydraulic Conductivity

Location:	Boring B-1
Depth:	5.42 Ft.
Min. Horizontal Hydraulic Conductivity:	1.42×10^{-5} cm/s

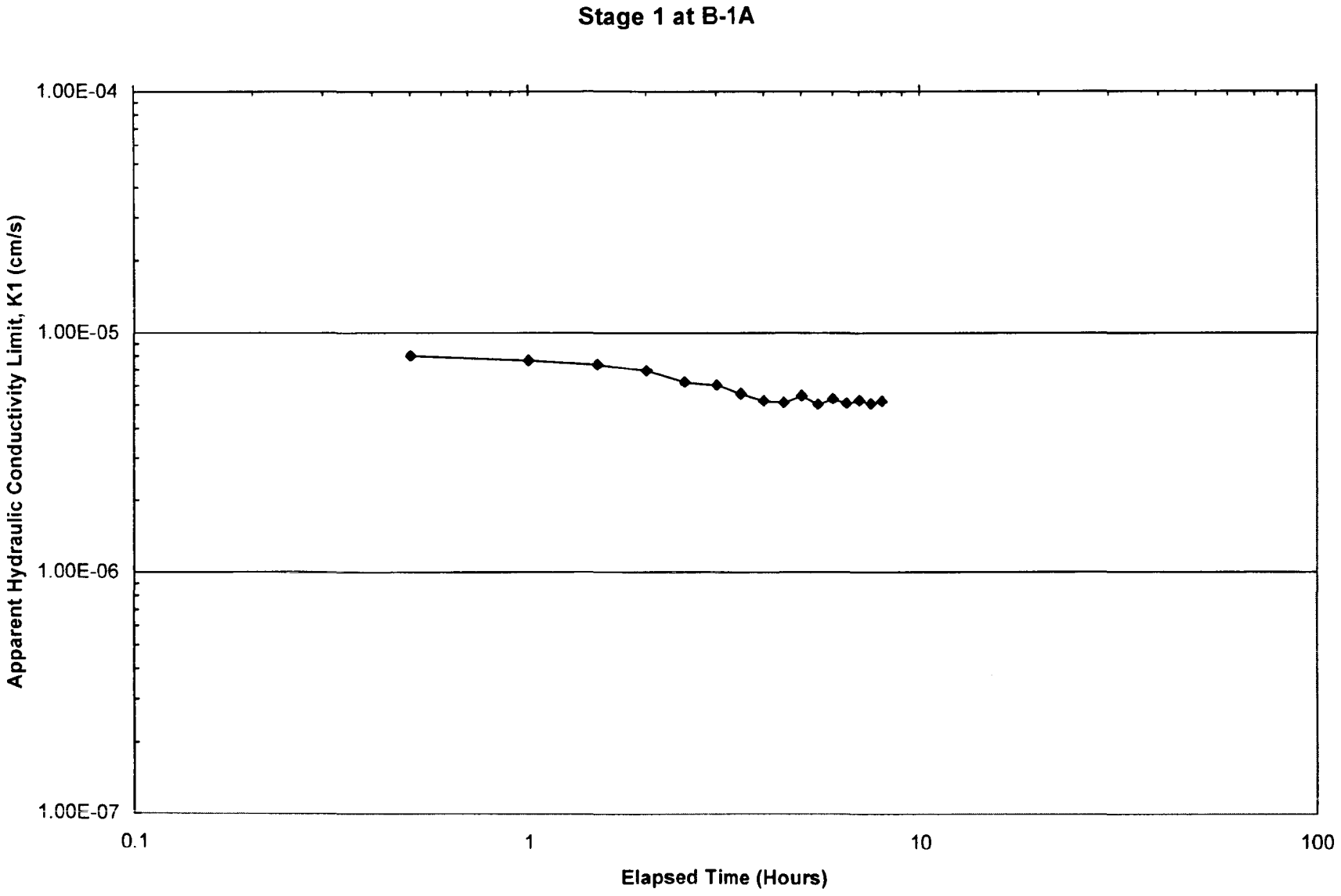
Location:	Boring B-2
Depth:	5.38 Ft.
Min. Horizontal Hydraulic Conductivity:	3.67×10^{-6} cm/s

Note: The stage 2 depth is reported as the middle of the test interval below the bottom of the casing.

TWO STAGE FIELD HYDRAULIC CONDUCTIVITY TEST DATA
ASTM D 6391
STAGE 1

Project: TVA KIF Ash
Number: 3043041009/0001
Test: Stage 1
Location: B-1A

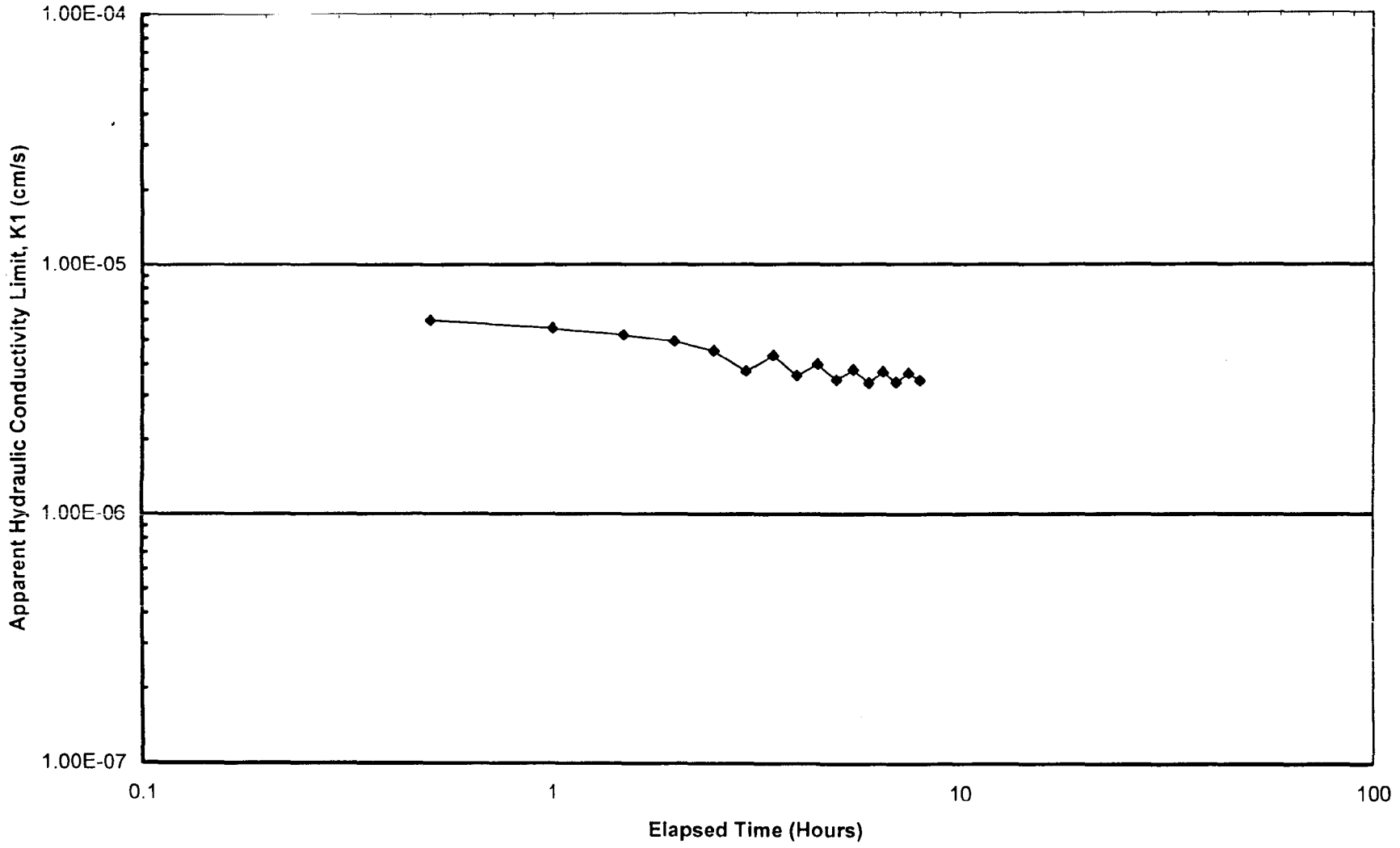
			Test			TEG at B-1B							Cumlative		
Date	Time	Delta t (sec)	R (cm)	H1 (cm)	H2 (cm)	Ro (cm)	Rf (cm)	C (cm)	H2' (cm)	Temp (deg)	Rt	K1 (cm/s)	Vol (cc)	Cum Hrs	Rem
3/26/2004	10:14		88.8		327.0		70.9	0.0	-	9		-			Start
3/26/2004	10:44	1800	19.3	327.0	257.5	70.9	70.6	-0.3	257.8	9	1.339	8.01E-06	87.9	0.5	
3/26/2004	10:45		99.0	-	337.2		70.6	0.0	337.2	9		-			Refill
3/26/2004	11:15	1800	30.2	337.2	268.4	70.6	70.4	-0.2	268.6	9	1.339	7.66E-06	175.0	1	
3/26/2004	11:17		98.5	-	336.7		70.4	0.0	336.7	9		-	-		Refill
3/26/2004	11:47	1800	32.5	336.7	270.7	70.4	70.4	0.0	270.7	9	1.339	7.35E-06	258.8	1.5	
3/26/2004	11:48		99.0	-	337.2		70.4	0.0	337.2	9		-	-		Refill
3/26/2004	12:18	1800	36.2	337.2	274.4	70.4	70.3	-0.1	274.5	9	1.339	6.93E-06	338.5	2	
3/26/2004	12:19		100.0	-	338.2		70.3	0.0	338.2	9		-	-		Refill
3/26/2004	12:49	1800	42.9	338.2	281.1	70.3	70.2	-0.1	281.2	9	1.339	6.22E-06	410.8	2.5	
3/26/2004	12:51		98.5	-	336.7	70.2	70.2	0.0	336.7	9		-	-		Refill
3/26/2004	13:21	1800	43.2	336.7	281.4		70.3	0.0	281.4	9	1.339	6.05E-06	481.1	3	
3/26/2004	13:23		100.0	-	338.2	70.3	70.4	0.1	338.1	9		-	-		Refill
3/26/2004	13:53	1800	48.6	338.2	286.8	70.4	70.4	0.0	286.8	9	1.339	5.56E-06	546.4	3.5	
3/26/2004	13:54		97.0	-	335.2		70.4	0.0	335.2	9		-	-		Refill
3/26/2004	14:24	1800	49.2	335.2	287.4	70.4	70.4	0.0	287.4	9	1.339	5.18E-06	607.1	4	
3/26/2004	14:25		100.0	-	338.2	70.4	70.4	0.0	338.2	9		-	-		Refill
3/26/2004	14:55	1800	52.5	338.2	290.7		70.4	0.0	290.7	9	1.339	5.1E-06	667.4	4.5	
3/26/2004	15:25	1800	9.2	290.7	247.4	70.4	70.5	0.1	247.3	9	1.339	5.45E-06	722.5	5	
3/26/2004	15:25		99.0	-	337.2	70.5	70.5	0.0	337.2	9		-	-		Refill
3/26/2004	15:55	1800	52.3	337.2	290.5		70.5	0.0	290.5	9	1.339	5.02E-06	781.8	5.5	
3/26/2004	16:25	1800	10.1	290.5	248.3	70.5	70.5	0.0	248.3	9	1.339	5.29E-06	835.4	6	
3/26/2004	16:26		99.5	-	337.7	70.5	70.5	0.0	337.7	9		-	-		Refill
3/26/2004	16:56	1800	52.3	337.7	290.5		70.5	0.0	290.5	9	1.339	5.07E-06	895.4	6.5	
3/26/2004	17:26	1800	10.7	290.5	248.9	70.5	70.4	-0.1	249.0	9	1.339	5.19E-06	948.1	7	
3/26/2004	17:28		100.0	-	338.2	70.4	70.3	-0.1	338.3	9		-	-		Refill
3/26/2004	17:58	1800	53.0	338.2	291.2	70.3	70.3	0.0	291.2	9	1.339	5.04E-06	1007.7	7.5	
3/26/2004	18:28	1800	11.6	291.2	249.8	70.3	70.3	0.0	249.8	9	1.339	5.17E-06	1060.3	8	End


Stage 1 at B-1A
1.00E-04
1.00E-05
1.00E-06
1.00E-07
Apparent Hydraulic Conductivity Limit, K1 (cm/s)
0.1
1
10
100
Elapsed Time (Hours)

TWO STAGE FIELD HYDRAULIC CONDUCTIVITY TEST DATA
ASTM D 6391
STAGE 1

Project: TVA KIF Ash
Number: 3043041009/0001
Test: Stage 1
Location: B-2A

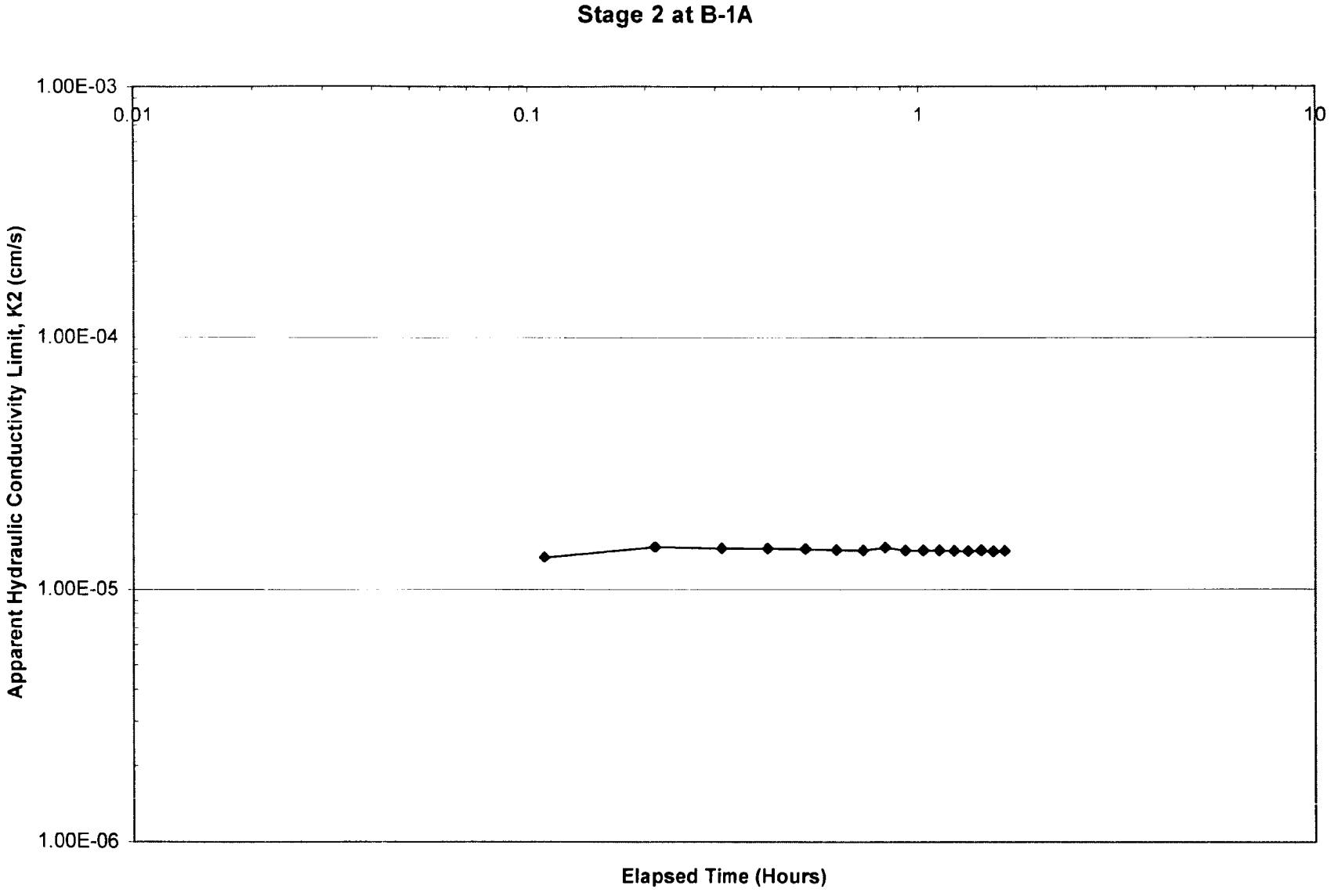
			Test			TEG at B-1A							Cumlative		
Date	Time	Delta t (sec	R (cm)	H1 (cm)	H2 (cm)	Ro (cm)	Rf (cm)	C (cm)	H2' (cm)	Temp (deg	Rt	K1 (cm/s)	Vol. (cc)	Cum Hrs	Rem
3/26/2004	10:08		99.4		372.1		70.9	0.0	-	9		-			Start
3/26/2004	10:38	1800	38.7	372.1	311.4	70.9	70.6	-0.3	311.7	9	1.339	5.97E-06	76.7	0.5	
3/26/2004	10:39		99.0		371.7		70.6	0.0	-	9		-			Refill
3/26/2004	11:09	1800	42.3	371.7	315.0	70.6	70.4	-0.2	315.2	9	1.339	5.56E-06	148.5	1	
3/26/2004	11:10		100.0		372.7		70.4	0.0	-	9		-	-		Refill
3/26/2004	11:40	1800	46.4	372.7	319.1	70.4	70.4	0.0	319.1	9	1.339	5.23E-06	216.5	1.5	
3/26/2004	11:41		100.0		372.7		70.4	0.0	-	9		-	-		Refill
3/26/2004	12:11	1800	49.2	372.7	321.9	70.4	70.3	-0.1	322.0	9	1.339	4.93E-06	280.9	2	
3/26/2004	12:41		100.0		372.7		70.3	0.0	-	9		-	-		Refill
3/26/2004	12:56	1800	53.2	372.7	325.9	70.3	70.2	-0.1	326.0	9	1.339	4.51E-06	340.2	2.5	
3/26/2004	13:26	1800	19.1	325.9	291.8	70.2	70.3	0.1	291.7	9	1.339	3.74E-06	383.7	3	
3/26/2004	13:27		99.5		372.2		70.3	0.0	-	9		-	-		Refill
3/26/2004	13:57	1800	54.8	372.2	327.5	70.3	70.4	0.1	327.4	9	1.339	4.32E-06	440.6	3.5	
3/26/2004	14:27	1800	21.7	327.5	294.4	70.4	70.4	0.0	294.4	9	1.339	3.59E-06	482.6	4	
3/26/2004	14:29		97.0		369.7		70.4	0.0	-	9		-	-		Refill
3/26/2004	14:59	1800	55.7	369.7	328.4	70.4	70.4	0.0	328.4	9	1.339	3.99E-06	535.1	4.5	
3/26/2004	15:29	1800	23.9	328.4	296.6	70.4	70.5	0.1	296.5	9	1.339	3.44E-06	575.6	5	
3/26/2004	15:31		98.5		371.2		70.5	0.0	-	9		-	-		Refill
3/26/2004	16:01	1800	59.0	371.2	331.7	70.5	70.5	0.0	331.7	9	1.339	3.79E-06	625.7	5.5	
3/26/2004	16:31	1800	27.6	331.7	300.3	70.5	70.5	0.0	300.3	9	1.339	3.35E-06	665.6	6	
3/26/2004	16:33		99.5		372.2		70.5	0.0	-	9		-	-		Refill
3/26/2004	17:03	1800	60.7	372.2	333.4	70.5	70.5	0.0	333.4	9	1.339	3.71E-06	714.9	6.5	
3/26/2004	17:33	1800	28.7	333.4	301.4	70.5	70.3	-0.2	301.6	9	1.339	3.38E-06	755.3	7	
3/26/2004	17:35		98.5		371.2		70.3	0.0	-	9		-	-		Refill
3/26/2004	18:05	1800	60.2	371.2	332.9	70.3	70.3	0.0	332.9	9	1.339	3.67E-06	803.9	7.5	
3/26/2004	18:35	1800	28.1	332.9	300.8	70.2	70.3	0.1	300.7	9	1.339	3.43E-06	844.8	8	Stop


Stage 1 at B-2A
1.00E-04
1.00E-05
1.00E-06
1.00E-07
Apparent Hydraulic Conductivity Limit, K1 (cm/s)
0.1
1
10
100
Elapsed Time (Hours)

TWO STAGE FIELD HYDRAULIC CONDUCTIVITY TEST DATA
ASTM D 6391
STAGE 2

Project: TVA KIF Ash
Number: 3043041009/0001
Test: Stage 2
Location: B-1A

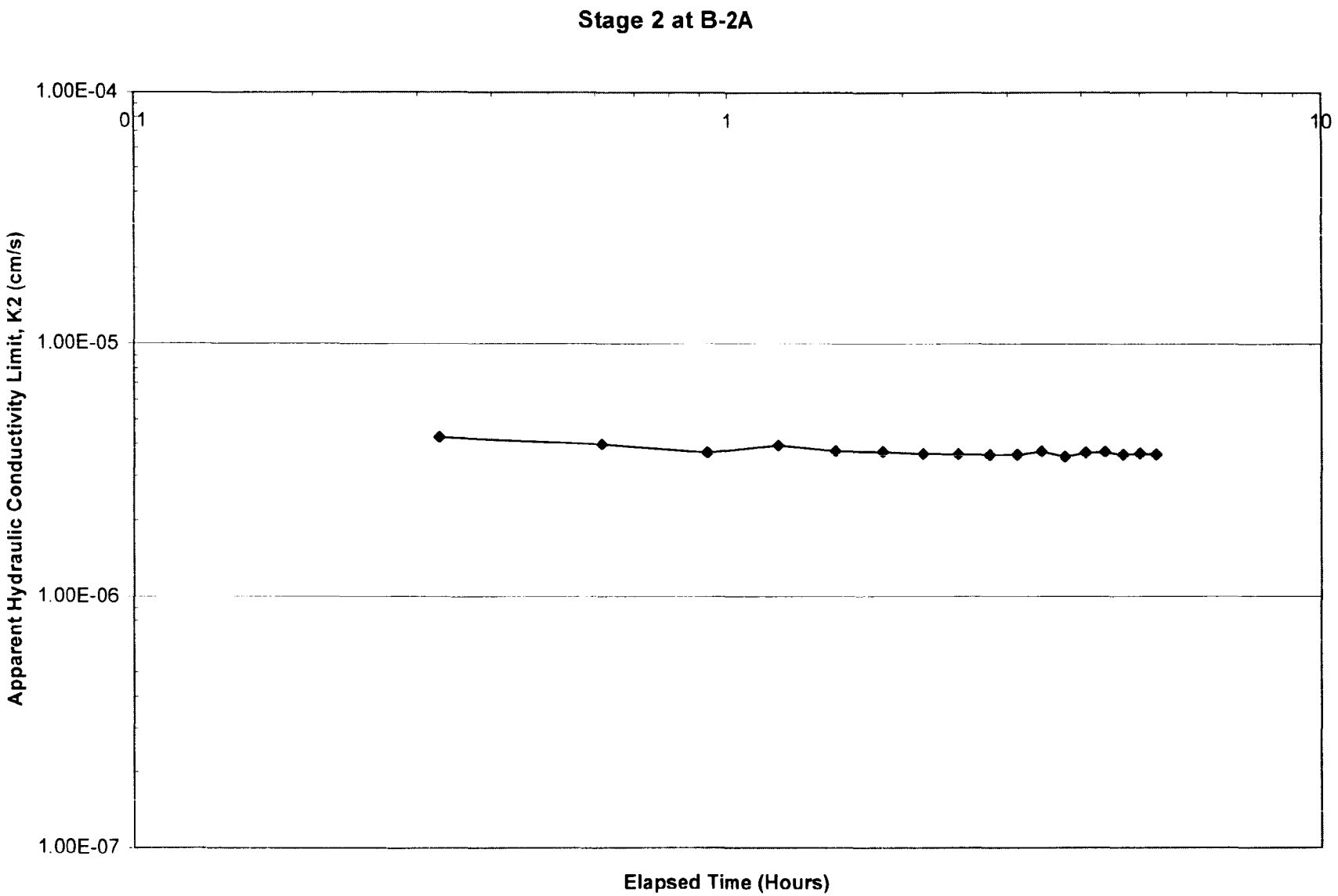
			Test			TEG							Cumlative		
Date	Time	Delta t (sec)	R (cm)	H1 (cm)	H2 (cm)	Ro (cm)	Rf (cm)	C (cm)	H2' (cm)	Temp (deg)	Rt	K2 (cm/s)	Vol (cc.)	Cum. Hrs	Rem
3/31/2004	10:00:00	-	100.0		338.2		40.2	0.0	-	10		-	-		Start
3/31/2004	10:06:37	397	10.0	338.2	248.2	40.2	40.2	0.0	248.2	10	1.301	1.34E-05	114.3	0.11	
3/31/2004	10:07:10	-	100.0	-	338.2		40.2	0.0	-	10		-	-		Refill
3/31/2004	10:13:11	361	10.0	338.2	248.2	40.2	40.2	0.0	248.2	10	1.301	1.47E-05	228.6	0.21	
3/31/2004	10:13:45	-	100.0	-	338.2		40.2	0.0	-	10		-	-	-	Refill
3/31/2004	10:19:50	365	10.0	338.2	248.2	40.2	40.2	0.0	248.2	10	1.301	1.46E-05	342.9	0.31	
3/31/2004	10:20:17	-	100.0	-	338.2		40.2	0.0	-	10		-	-	-	Refill
3/31/2004	10:26:23	366	10.0	338.2	248.2	40.2	40.2	0.0	248.2	10	1.301	1.45E-05	457.2	0.41	
3/31/2004	10:26:57	-	100.0	-	338.2		40.2	0.0	-	10		-	-	-	Refill
3/31/2004	10:33:05	368	10.0	338.2	248.2	40.2	40.2	0.0	248.2	10	1.301	1.44E-05	571.5	0.52	
3/31/2004	10:33:46	-	100.0	-	338.2		40.2	0.0	-	10		-	-	-	Refill
3/31/2004	10:39:57	371	10.0	338.2	248.2	40.2	40.2	0.0	248.2	10	1.301	1.43E-05	685.8	0.62	
3/31/2004	10:40:48	-	100.0	-	338.2		40.2	0.0	-	10		-	-	-	Refill
3/31/2004	10:47:01	373	10.0	338.2	248.2	40.2	40.2	0.0	248.2	10	1.301	1.42E-05	800.1	0.72	
3/31/2004	10:47:49	-	100.0	-	338.2		40.2	0.0	-	10		-	-	-	Refill
3/31/2004	10:53:52	363	10.0	338.2	248.2	40.2	40.2	0.0	248.2	10	1.301	1.46E-05	914.4	0.82	
3/31/2004	10:54:35	-	100.0	-	338.2		40.2	0.0	-	10		-	-	-	Refill
3/31/2004	11:00:48	373	10.0	338.2	248.2	40.2	40.2	0.0	248.2	10	1.301	1.42E-05	1028.7	0.93	
3/31/2004	11:01:32	-	100.0	-	338.2		40.2	0.0	-	10		-	-	-	Refill
3/31/2004	11:07:45	373	10.0	338.2	248.2	40.2	40.3	0.1	248.1	10	1.301	1.43E-05	1143.1	1.03	
3/31/2004	11:08:25	-	100.0	-	338.2		40.3	0.0	-	10		-	-	-	Refill
3/31/2004	11:14:38	373	10.0	338.2	248.2	40.3	40.3	0.0	248.2	10	1.301	1.42E-05	1257.4	1.13	
3/31/2004	11:15:18	-	100.0	-	338.2		40.3	0.0	-	10		-	-	-	Refill
3/31/2004	11:21:32	374	10.0	338.2	248.2	40.3	40.3	0.0	248.2	10	1.301	1.42E-05	1371.7	1.24	
3/31/2004	11:22:15	-	100.0	-	338.2		40.3	0.0	-	10		-	-	-	Refill
3/31/2004	11:28:30	375	10.0	338.2	248.2	40.3	40.3	0.0	248.2	10	1.301	1.42E-05	1486.0	1.34	
3/31/2004	11:29:03	-	100.0	-	338.2		40.3	0.0	-	10		-	-	-	Refill
3/31/2004	11:35:16	373	10.0	338.2	248.2	40.3	40.4	0.1	248.1	10	1.301	1.43E-05	1600.5	1.45	
3/31/2004	11:35:58	-	100.0	-	338.2		40.4	0.0	-	10		-	-	-	Refill
3/31/2004	11:42:14	376	10.0	338.2	248.2	40.4	40.4	0.0	248.2	10	1.301	1.41E-05	1714.8	1.55	
3/31/2004	11:42:46	-	100.0	-	338.2		40.4	0.0	-	10		-	-	-	Refill
3/31/2004	11:49:00	374	10.0	338.2	248.2	40.4	40.4	0.0	248.2	10	1.301	1.42E-05	1829.1	1.65	
3/31/2004	11:49:34	-	100.0	-	338.2		40.4	0.0	-	10		-	-	-	Refill
3/31/2004	11:55:49	375	10.0	338.2	248.2	40.4	40.4	0.0	248.2	10	1.301	1.42E-05	1943.4	1.76	
3/31/2004	11:56:27	-	100.0	-	338.2		40.4	0.0	-	10		-	-	-	Refill
3/31/2004	12:02:43	376	10.0	338.2	248.2	40.4	40.4	0.0	248.2	10	1.301	1.41E-05	2057.7	1.86	Stop


Stage 2 at B-1A
1.00E-03
0.01
0.1
1
10
1.00E-04
1.00E-05
1.00E-06
Apparent Hydraulic Conductivity Limit, K2 (cm/s)
Elapsed Time (Hours)

TWO STAGE FIELD HYDRAULIC CONDUCTIVITY TEST DATA
ASTM D 6391
STAGE 2

Project: TVA KIF Ash
Number: 3043041009/0001
Test: Stage 2
Location: B-2A

			Test			TEG							Cumlative		
Date	Time	Delta t (sec)	R (cm)	H1 (cm)	H2 (cm)	Ro (cm)	Rf (cm)	C (cm)	H2' (cm)	Temp (deg)	Rt	K2 (cm/s)	Vol (cc.)	Cum. Hrs	Rem
3/31/2004	12:20:26		100		372.7		39.7	0	-	10			-		Start
3/31/2004	12:39:58	1172	10	372.7	282.7	39.7	39.5	-0.2	282.9	10	1.301	4.25E-06	114.0	0.33	
3/31/2004	12:40:52		100	-	372.7		39.5	0	-	10			-		Refill
3/31/2004	12:58:11	1039	20	372.7	292.7	39.5	39.4	-0.1	292.8	10	1.301	3.99E-06	215.5	0.61	
3/31/2004	12:58:40		100	-	372.7		39.4	0	-	10			-	-	Refill
3/31/2004	13:17:17	1117	20	372.7	292.7	39.4	39.2	-0.2	292.9	10	1.301	3.7E-06	316.9	0.92	
3/31/2004	13:17:54		100	-	372.7		39.2	0	-	10			-	-	Refill
3/31/2004	13:36:09	1095	17	372.7	289.7	39.2	39.2	0	289.7	10	1.301	3.95E-06	422.3	1.23	
3/31/2004	13:36:42		100	-	372.7		39.2	0	-	10			-	-	Refill
3/31/2004	13:55:04	1102	20	372.7	292.7	39.2	39.1	-0.1	292.8	10	1.301	3.76E-06	523.7	1.53	
3/31/2004	13:55:33		100	-	372.7		39.1	0	-	10			-	-	Refill
3/31/2004	14:14:06	1113	20	372.7	292.7	39.1	39.1	0	292.7	10	1.301	3.73E-06	625.3	1.84	
3/31/2004	14:14:33		100	-	372.7		39	0	-	10			-	-	Refill
3/31/2004	14:33:23	1130	20	372.7	292.7	39	38.8	-0.2	292.9	10	1.301	3.66E-06	726.7	2.16	
3/31/2004	14:33:45		100	-	372.7		38.8	0	-	10			-	-	Refill
3/31/2004	14:52:40	1135	20	372.7	292.7	38.8	38.9	0.1	292.6	10	1.301	3.66E-06	828.4	2.47	
3/31/2004	14:53:07		100	-	372.7		38.9	0	-	10			-	-	Refill
3/31/2004	15:12:12	1145	20	372.7	292.7	38.9	39	0.1	292.6	10	1.301	3.63E-06	930.1	2.79	
3/31/2004	15:12:55		100	-	372.7		39	0	-	10			-	-	Refill
3/31/2004	15:31:57	1142	20	372.7	292.7	39	39.2	0.2	292.5	10	1.301	3.64E-06	1032.0	3.11	
3/31/2004	15:32:40		100	-	372.7		39.2	0	-	10			-	-	Refill
3/31/2004	15:51:09	1109	20	372.7	292.7	39.2	39.3	0.1	292.6	10	1.301	3.75E-06	1133.7	3.42	
3/31/2004	15:51:42		100	-	372.7		39.3	0	-	10			-	-	Refill
3/31/2004	16:11:01	1159	20	372.7	292.7	39.3	39.3	0	292.7	10	1.301	3.58E-06	1235.3	3.74	
3/31/2004	16:11:43		100	-	372.7		39.3	0	-	10			-	-	Refill
3/31/2004	16:30:25	1122	20	372.7	292.7	39.3	39.5	0.2	292.5	10	1.301	3.71E-06	1337.2	4.05	
3/31/2004	16:31:02		100	-	372.7		39.5	0	-	10			-	-	Refill
3/31/2004	16:49:36	1114	20	372.7	292.7	39.5	39.6	0.1	292.6	10	1.301	3.73E-06	1438.9	4.36	
3/31/2004	16:50:23		100	-	372.7		39.6	0	-	10			-	-	Refill
3/31/2004	17:09:22	1139	20	372.7	292.7	39.6	39.6	0	292.7	10	1.301	3.64E-06	1540.5	4.68	
3/31/2004	17:09:57		100	-	372.7		39.6	0	-	10			-	-	Refill
3/31/2004	17:28:45	1128	20	372.7	292.7	39.6	39.7	0.1	292.6	10	1.301	3.68E-06	1642.2	4.99	
3/31/2004	17:29:35		100	-	372.7		39.7	0	-	10			-	-	Refill
3/31/2004	17:48:33	1138	20	372.7	292.7	39.7	39.8	0.1	292.6	10	1.301	3.65E-06	1744.0	5.31	Stop


Stage 2 at B-2A
1.00E-04
1.00E-05
1.00E-06
1.00E-07
0.1
1
10
Apparent Hydraulic Conductivity Limit, K2 (cm/s)
Elapsed Time (Hours)

IN-SITU HYDRAULIC CONDUCTIVITY TEST PROCEDURE

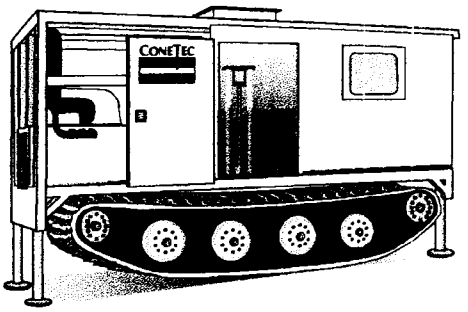
The field measurement of the limiting hydraulic conductivity values was performed in general accordance with ASTM D6391. The test method consists of installing and sealing a casing to the desired test depth. A graduated standpipe and flow control system is then attached to the casing. The system is filled with water and the drop in water level observed on the graduated standpipe and corresponding time is recorded. In a separate test installation, a casing sealed at the bottom is checked at each reading to obtain information regarding the temperature of the water in the test system and corresponding variation of the meniscus in the graduated standpipe. The reported hydraulic conductivity values are the time-weighted averages of the individual hydraulic conductivity values for each increment over the period when the individual readings have stabilized.

At this site one temperature effects gage was used to monitor and record the effect of temperature variation on the meniscus level in the standpipe. As the test locations, borings B-1A and B-2A in relatively close proximity, it was decided that atmospheric or subsurface temperature differences between the two locations would be negligible.

Also, the reported limiting hydraulic conductivity values were determined from individual hydraulic conductivity readings over a stabilized period less than that recommended in the ASTM standard. As the rate of evacuation of water from the system was such that refills were generally necessary at least every hour; it was not possible to leave the system unmonitored (such as overnight). The ASTM standard does not address this situation; therefore, it was decided that obtaining the time weighted averages over a stabilized period less than the recommended period would yield more valuable test data than another option.

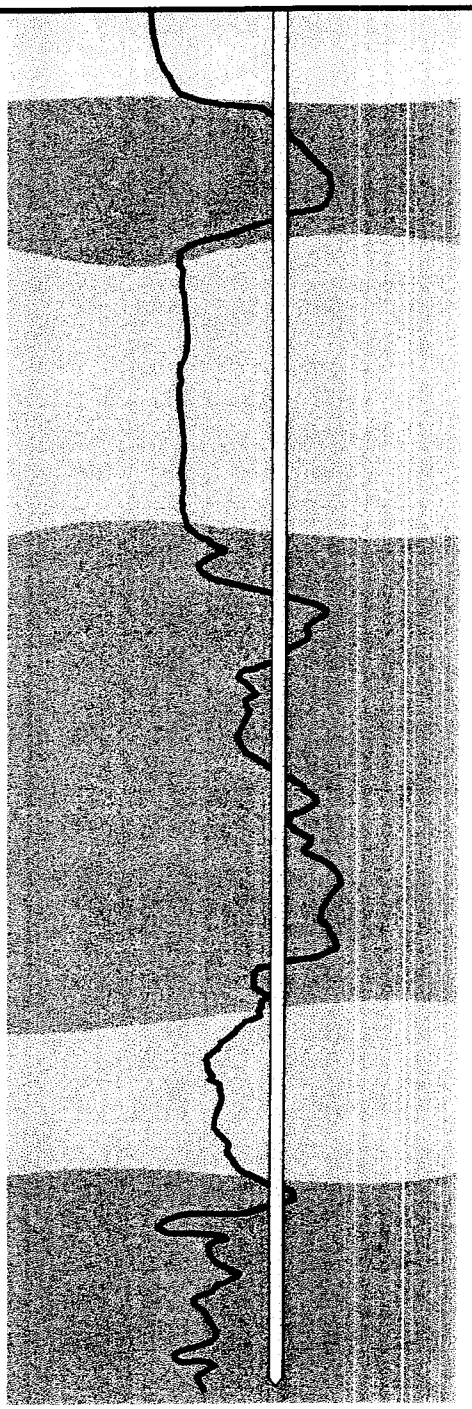
APPENDIX D

CONE PENETROMETER TEST RESULTS



CONETEC

Geotechnical and Environmental In Situ Testing Contractors



ConeTec Field Report

Presentation of CPTU Test Results for:

TVA Fossil Fuel Power Plant Kingston, Tennessee

Presented to:	MACTEC Engineering and Consulting Inc.
Date:	April 1, 2004
Presented by:	ConeTec Inc. 436 Commerce Lane, Unit C West Berlin, NJ (856) 767-8600

Vancouver • Edmonton • Salt Lake City • New Jersey • Denver • Los Angeles • San Francisco • Houston • Hong Kong

PRESENTATION OF IN SITU TESTING PROGRAM RESULTS

TVA Fossil Fuel Power Plant
Kingston, Tennessee

March 22, 23, & 24, 2004

Prepared for:

MACTEC Engineering and Consulting, Inc.
Knoxville, Tennessee

Prepared by:

ConeTec Inc.
West Berlin, NJ

April 1, 2004

TABLE OF CONTENTS

1.0 INTRODUCTION. 3

2.0 FIELD EQUIPMENT AND PROCEDURES 4

2.1 CONE PENETRATION TESTING 4
2.2 PORE PRESSURE DISSIPATION TESTS 6

3.0 CONE PENETRATION TEST DATA AND INTERPRETATION 8

3.1 ANALYSIS OF PIEZOCONE DATA - GENERAL 8
3.2 CONE PLOTS 9
3.3 PORE PRESSURE DISSIPATION TEST RESULTS 9
3.4 CPTSUMM DATA PROCESSING 10
3.5 DATA DISK 10

4.0 REFERENCES 11

TABLES

TABLE 1 Summary of CPT Soundings

FIGURES

FIGURE 1 Typical Cone Penetrometer
FIGURE 2 Typical Dissipation Tests

APPENDICES

APPENDIX A CPT Plots (normalized & non-normalized)
APPENDIX B CPTSumm Data
APPENDIX C Dissipation Tests
APPENDIX D Data Disk

1.0 INTRODUCTION

This report presents the results of a cone penetrometer testing (CPT) program carried out at your site located in Kingston, Tennessee for MACTEC Engineering and Consulting, Inc. The CPT program took place from March 22nd thru March 24th, 2004 when a total of 11 soundings were completed at 10 different sounding locations. Many dissipation tests were taken during the program.

CPT sounding locations were selected and numbered under the direction and supervision of MACTEC Engineering and Consulting personnel.

2.0 FIELD EQUIPMENT AND PROCEDURES

2.1 CONE PENETRATION TESTING

The cone penetrometer tests were carried out using an integrated electronic piezo cone manufactured by ConeTec in Vancouver, Canada. The piezo cone used was a compression model cone penetrometer with a 15 cm^2 tip and a 225 cm^2 friction sleeve. The cone is designed with an equal end area friction sleeve and a tip end area ratio of 0.85. The piezo cone dimensions and the operating procedure were in accordance with ASTM Standard D-3441. A diagram of the cone penetrometer used for this project is shown as Figure 1.

Pore pressure filter elements, made of porous plastic, were saturated under a vacuum using glycerin as the saturating fluid. The pore pressure element was six millimeters thick and was located immediately behind the tip (the U_2 location) for all soundings.

The cone was advanced using ConeTec's 20-ton track mounted rig. The following data were recorded onto magnetic media every five centimeters (approximately every two inches) as the cone was advanced into the ground:

- Tip Resistance (Qc)
- Sleeve Friction (Fs)
- Dynamic Pore Pressure (Ut)

The field data recorded is included on the attached diskette (appendix D).

The principal objective of this project was to profile the soils.

Before each sounding a complete set of analog baseline readings are taken with a multi-meter and compared with the digitized value on the computer screen. This provides a check on the analog to digital conversion board.

Evaluation of the analog baselines is key to consistent readings. The baseline data should be stable and should not wander excessively during the course of a sounding. Baseline data can be used to apply corrections to the cone data where necessary. For this project, the baseline shift from sounding to sounding was small, typically less than 0.1% of full scale, and no data corrections were applied.

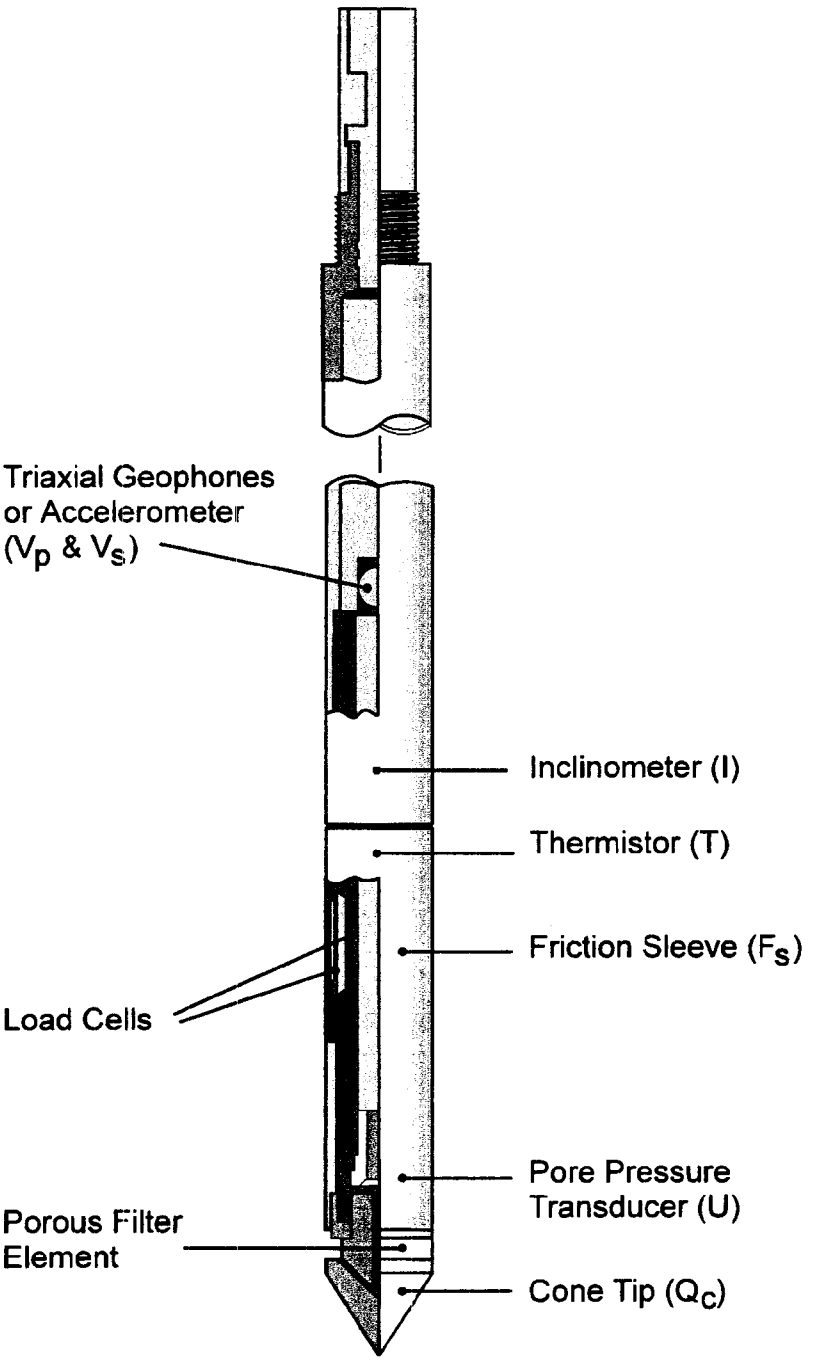


FIGURE 1 - TYPICAL CONE PENETROMETER

2.2 PORE PRESSURE DISSIPATION TESTS

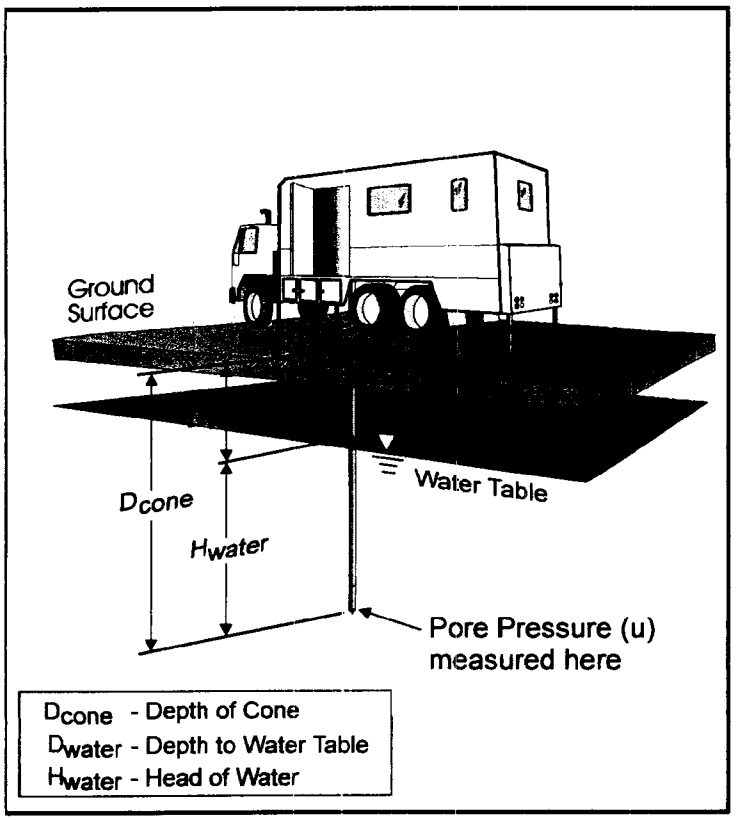
When cone penetration is stopped, the piezo cone essentially becomes a piezometer. While stopped, pore water pressures are automatically recorded at five-second intervals and the readings are stored in a dissipation file (.ppd). Dissipation data can then be plotted onto a dissipation curve consisting of pore water pressure (U) verses time (t). The shapes of dissipation curves are very useful in evaluating soil type, drainage and in situ static water level.

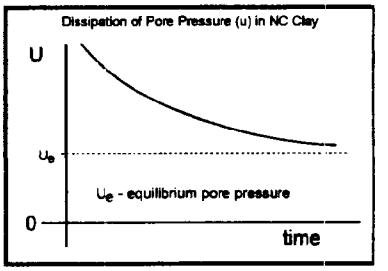
A flat curve that stabilizes quickly (i.e. less than 30 seconds) is typical of a free draining sand. In this case, the final measured pore water pressure is the static in situ water pressure.

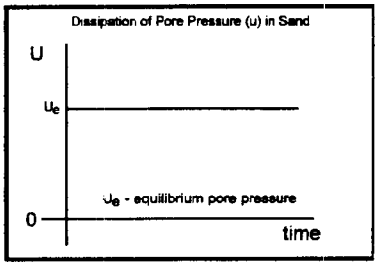
Soils that generate excess dynamic pore water pressure during penetration will dissipate this excess pressure when penetration stops. The shape of the dissipation curve and the time of dissipation can be used to estimate C_h, the coefficient of consolidation that can in turn be used to calculate K_h, the horizontal permeability.

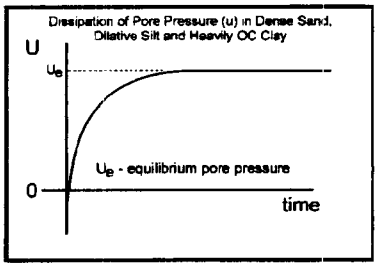
Figure 3 shows some idealized shapes of various pore water pressure dissipation curves. The reader is referred Robertson et. al., 1990 to reference dissipation test data analytical techniques.

Estimation of Ground Water Table from CPT Dissipation Tests









Water Table Calculation

$$D_{water} = D_{cone} - H_{water}$$

where $H_{water} = U_e$ (depth units)

Useful Conversion Factors: 1psi = 0.704m = 2.31 feet (water)
1tsf = 0.958 bar = 13.9 psi
1m = 3.28 feet

FIGURE 3 - TYPICAL DISSIPATION TESTS

3.0 CONE PENETRATION TEST DATA AND INTERPRETATION

3.1 ANALYSIS OF PIEZOCONE DATA - GENERAL

A total of 11 CPT soundings involving 758.39 feet of testing, were completed.

The interpretation of cone data is based on the relationship between cone bearing, Qc, sleeve friction, Fs, and penetration pore water pressure, U. The friction ratio, Rf , (sleeve friction divided by cone bearing) is a calculated parameter which is used to infer soil behavior type. Generally, saturated cohesive soils have low tip resistance, high friction ratios and generate large excess pore water pressures. Cohesionless soils have higher tip resistances, lower friction ratios and do not generate significant excess pore water pressure.

The interpretation of soils encountered on this project was carried out using correlations developed by Robertson et al., 1986. It should be noted that it is not always possible to clearly identify a soil type based on Qc, Fs and Ut. Occasionally soils will fall within different soil categories on the classification charts. In these situations, experience and judgment and an assessment of the pore pressure dissipation data should be used to infer the soil behavior type. Computer tabulations of the interpreted soil types along with certain other geotechnical parameters for each cone hole is presented in Appendix B.

Each of the parameters measured in the sounding is discussed briefly below. A detailed explanation of CPTU testing and interpretation of the results can be found in "Guidelines for Geotechnical Design Using CPT and CPTU" by P. K. Robertson and R. G. Campanella, listed in the references.

TIP RESISTANCE (Q_c): The resistance to penetration, measured at the cone tip, provides an accurate profile of subsurface strata. The recorded tip resistance is a composite of the penetration resistance of the soils located five to ten cone diameters (7 to 14 inches) in front of and behind the tip. The actual resistance "sensed" by the tip depends on the soil properties and on the relative stiffness of the layers encountered. Tip resistance is often corrected for pore pressure effects when testing in soft saturated cohesive soils.

For this project the correction was made and the tip resistance shown, Q_t is the corrected tip resistance.

The correction used is: $Q_t = Q_c + (1-a)U$

Where:
- Q_t = corrected tip resistance
- Q_c = measured tip resistance
- a = net area ratio for cone (0.85 for this project)
- U = dynamic pore water pressure measured behind tip

SLEEVE FRICTION (F_s) The resistance recorded on the friction sleeve, is a measure of the remolded strength of the soil. Values of sleeve friction in very soft soils (such as peat) may fluctuate due to the measured force being small relative to the capacity of the measuring load cell.

FRICTION RATIO (R_f) The ratio of sleeve friction to tip resistance expressed as a percentage, is an indicator of soil type. Cohesive soils generally have friction ratios that are greater than two, while sands and non-plastic silts have friction ratios that are lower than two.

PORE PRESSURE (U) Dynamic pore water pressure is measured during penetration. (dynamic pore water pressure data can be found in the .cor, .ifi (importable) and .ifp (printable) files). Static pore water pressure is measured when cone penetration is stopped (static pore water pressure data can be found in the .ppd files). The measured dynamic pore water pressure changes with the location of the porous filter and negative readings are possible when the filter is located behind the tip.

It is important to note that the CPT classifies soil by physical behavior, not by grain size; therefore, the CPT classification should be verified against samples obtained from a conventional drilling program. While the CPT soil classification may not always be accurate in terms of the actual label it applies to a particular soil, it is very accurate in grouping soils with similar mechanical properties.

Table 1 presents a summary of CPT soundings, including sounding depths.

3.2 CONE PLOTS

The data from each sounding was plotted using the computer program ScreenZ. The plots are included in Appendix A. ScreenZ was developed by ConeTec Inc. and it incorporates soil behavior type (SBT) classification as part of the plot. The soil classification is based on the classification chart reproduced chart in Appendix B.

3.3 PORE PRESSURE DISSIPATION TEST RESULTS

When conducting CPT investigations, pore water pressure dissipations are automatically recorded during pauses in penetration. The pore water pressure data is recorded at five second intervals. Dynamic and static pore pressure dissipation data for each CPT is included on the data disk. Many dissipation tests were completed during this project.

3.4 CPTSUMM DATA PROCESSING

The electronic data files were processed using the program CPTSUMM. CPTSUMM is a program developed by ConeTec to calculate common engineering parameters from CPT data. The processed data files are attached in Appendix B. The files are also included on the data disk. The calculations used are summarized in the table at the front of the Appendix. The water table used can be found in the header of each CPTSUMM file. Each calculation is derived according to the referenced article. The water table used was determined from the dissipation data.

3.5 DATA DISK

One data disk is included in Appendix D. The disk includes all of the CPT, dynamic and static pore water pressure, and CPTSUMM data.

4.0 REFERENCES

Robertson, P.K. and Campananella, R.G., 1989, "Guidelines for Geotechnical Design using CPT and CPTU", Soil Mechanics Series No. 120, The University of British Columbia.

Robertson, P.K., Sully, J., Woeller, D.G., Lunne, T., Powell, J.M., and Gillespie, D.J., 1990, "Guidelines for Interpretation of CPTU Test Data for determination of consolidation and permeability Parameters for Soils, Report prepared by ConeTec Investigations Ltd. for Energy Mines and Resources, Contract No. 23420-9-m644/01-OSC (copies available from ConeTec, Inc.).

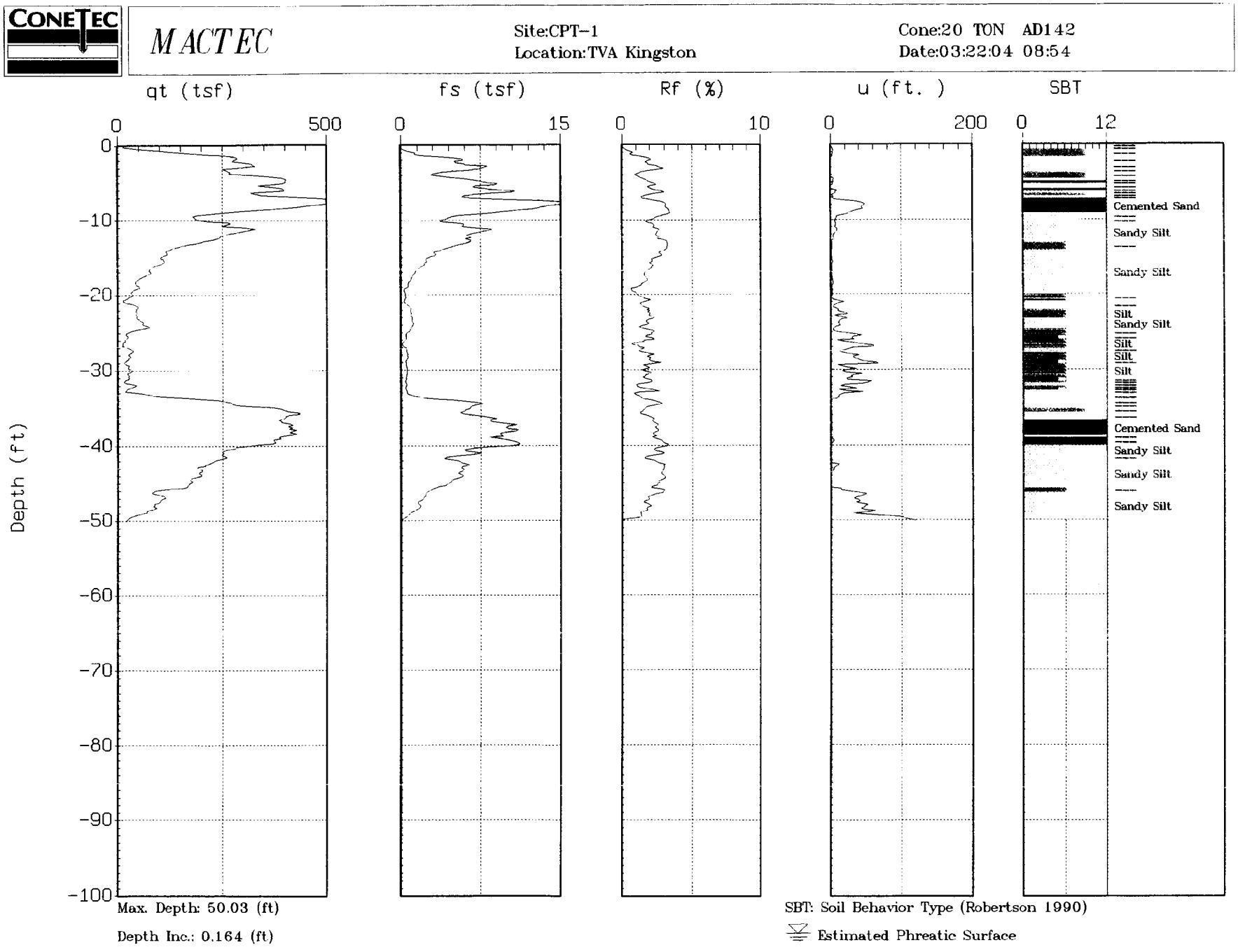
APPENDIX A

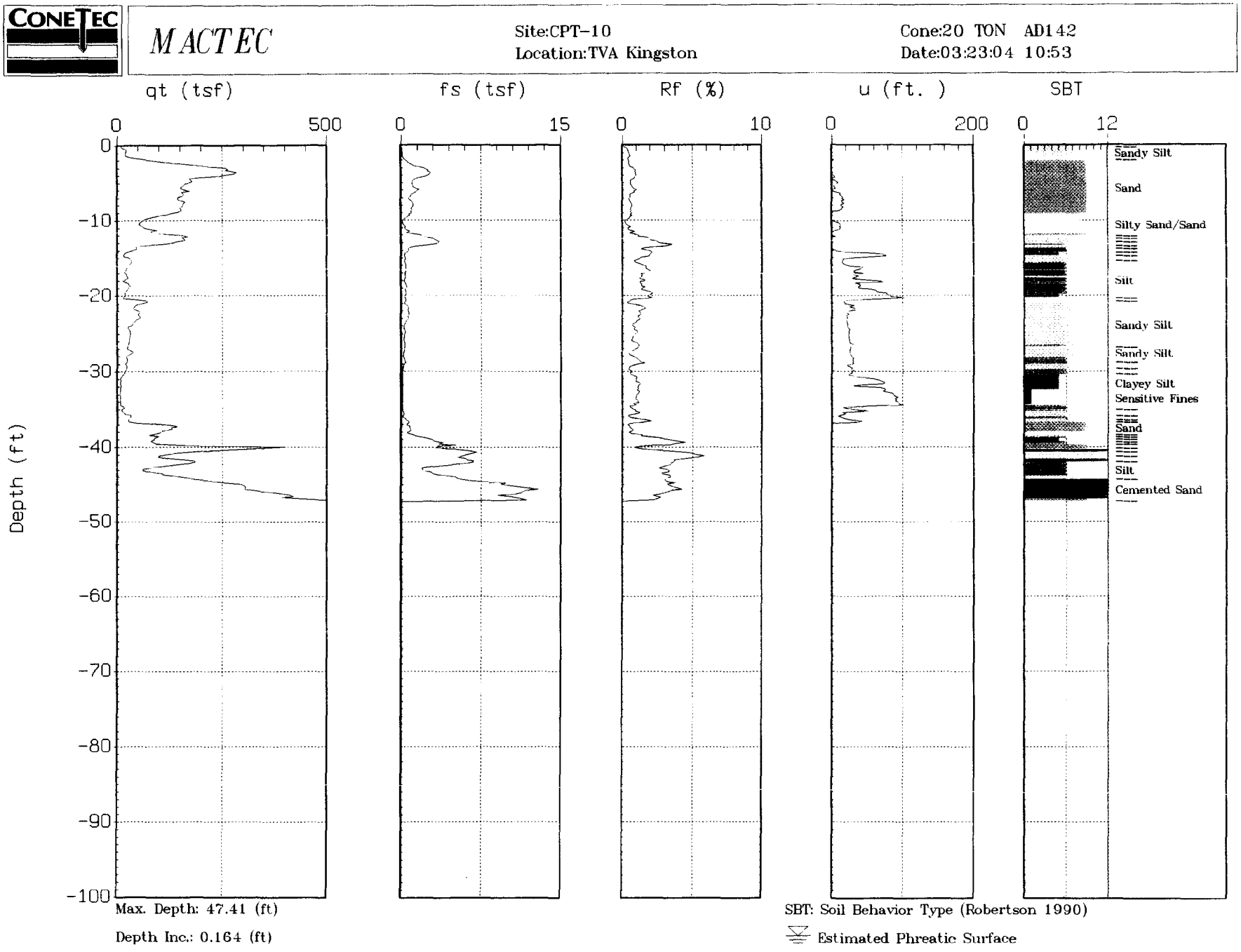
TABLE 1 - SUMMARY OF CPTU SOUNDINGS

Job No.: 04-717
Location: TVA Fossil Fuel Power Plant - Kingston, Tennessee
Client: MACTEC Engineering and Consulting Inc.
Date: March 22, 23, 24, 2004

Date	CPTU Sounding	File Name	Total Depth (ft)	Pore Water Pressure Dissipation Tests (sec)	Est. Water Table Depth (ft)	Comments
22-Mar-04	CPT-1	717cp001.cor	50.03	1,000	27.60	ran out of rods, having more shipped in.
23-Mar-04	CPT-10	717cp010.cor	47.41	400	2.70	
23-Mar-04	CPT-8	717cp008.cor	71.69	475	10.02	
23-Mar-04	CPT-1A	717cp01a.cor	95.14	1,625	28.22	redue of CPT-1
23-Mar-04	CPT-6	717cp006.cor	87.93	490	36.85	
24-Mar-04	CPT-4	717cp004.cor	95.14	2,304	25.35	
24-Mar-04	CPT-11	717cp011.cor	63.98	0	23.42	
24-Mar-04	CPT-9	717cp009.cor	49.38	145	6.74	
24-Mar-04	CPT-12A	717cp12a.cor	61.52	200	20.28	2nd attempt - 1st attempt refusal at 2.6 feet
24-Mar-04	DIKE N	717cp00n.cor	69.06	145	11.04	
24-Mar-04	DIKE S	717cp00s.cor	67.09	605	9.40	
Totals:		11	758.4	7,389		

Non-normalized CPT plots


CONETEC
MACTEC
Site:CPT-1
Location:TVA Kingston
Cone:20 TON AD142
Date:03:22:04 08:54
qt (tsf)
fs (tsf)
Rf (%)
u (ft.)
SBT
0
500
15
10
200
12
Depth (ft)
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Cemented Sand
Sandy Silt
Sandy Silt
Silt
Sandy Silt
Silt
Silt
Silt
Cemented Sand
Sandy Silt
Sandy Silt
Sandy Silt
Max. Depth: 50.03 (ft)
Depth Inc.: 0.164 (ft)
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

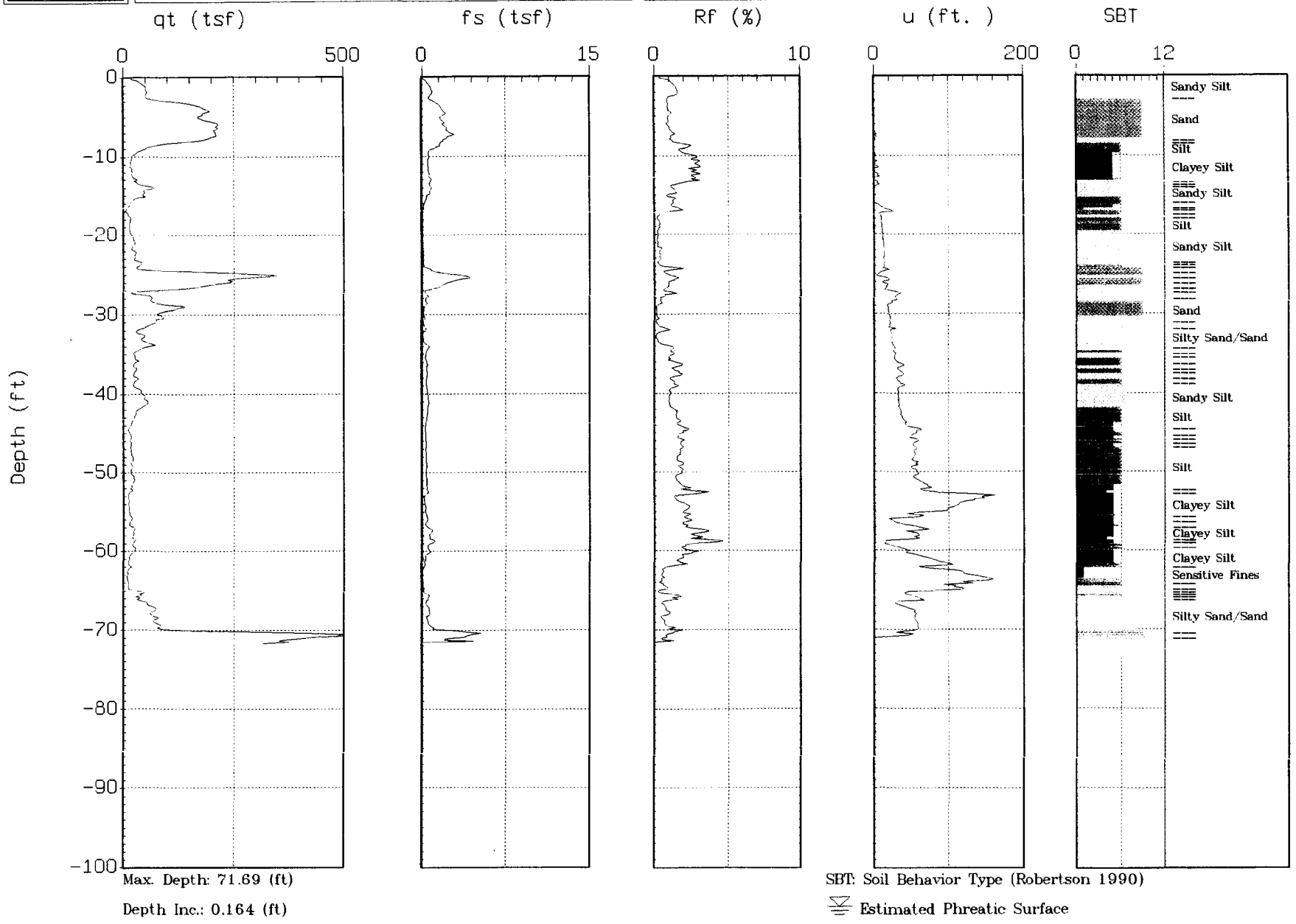

CONETEC
MACTEC
Site:CPT-10
Location:TVA Kingston
Cone:20 TON AD142
Date:03:23:04 10:53
qt (tsf)
fs (tsf)
Rf (%)
u (ft.)
SBT
0
500
15
10
200
12
Depth (ft)
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Sandy Silt
Sand
Silty Sand/Sand
Silt
Sandy Silt
Sandy Silt
Clayey Silt
Sensitive Fines
Sand
Silt
Cemented Sand
Max. Depth: 47.41 (ft)
Depth Inc.: 0.164 (ft)
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

MACTEC

Site:CPT-8
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 12:41

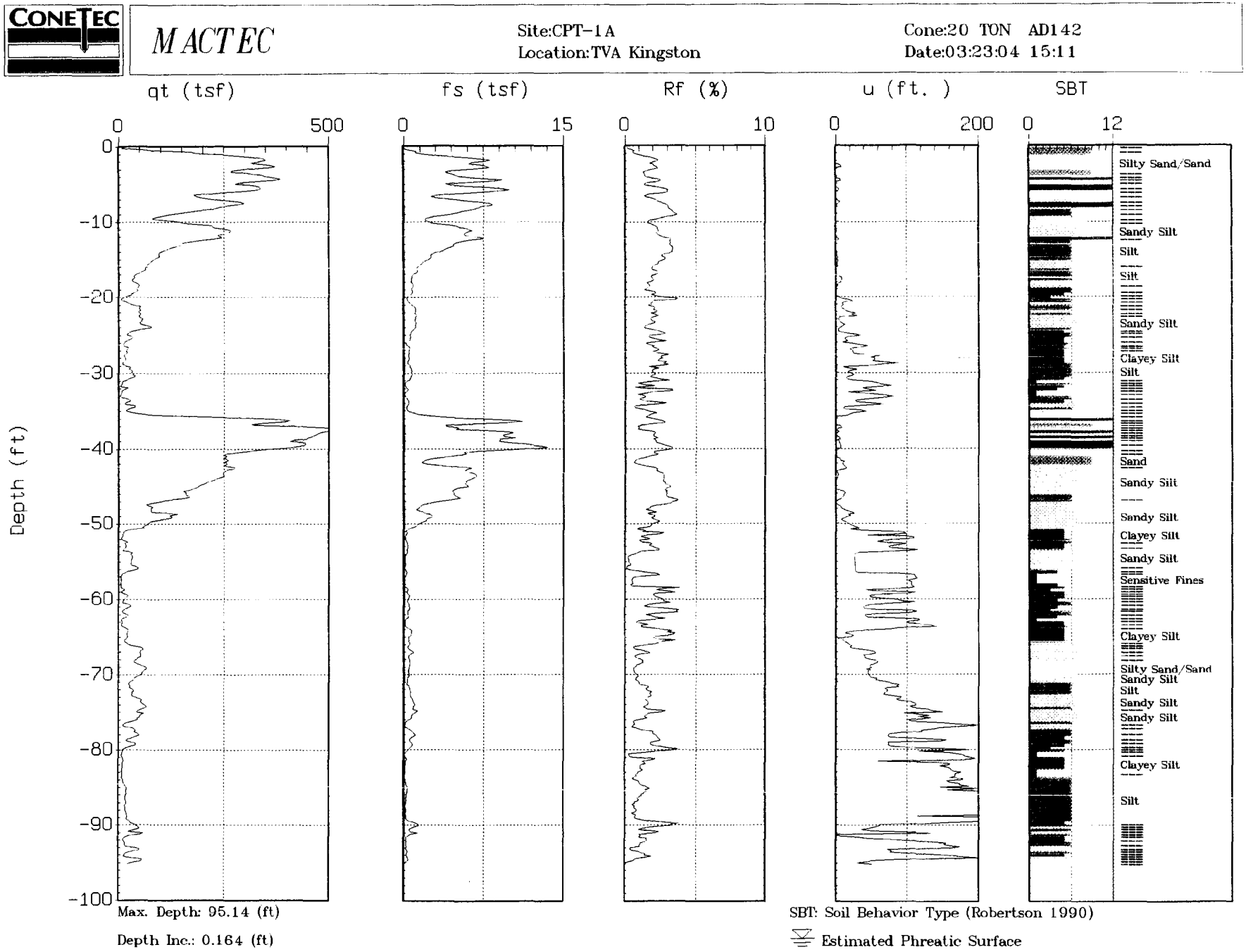


Max. Depth: 71.69 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

Estimated Phreatic Surface

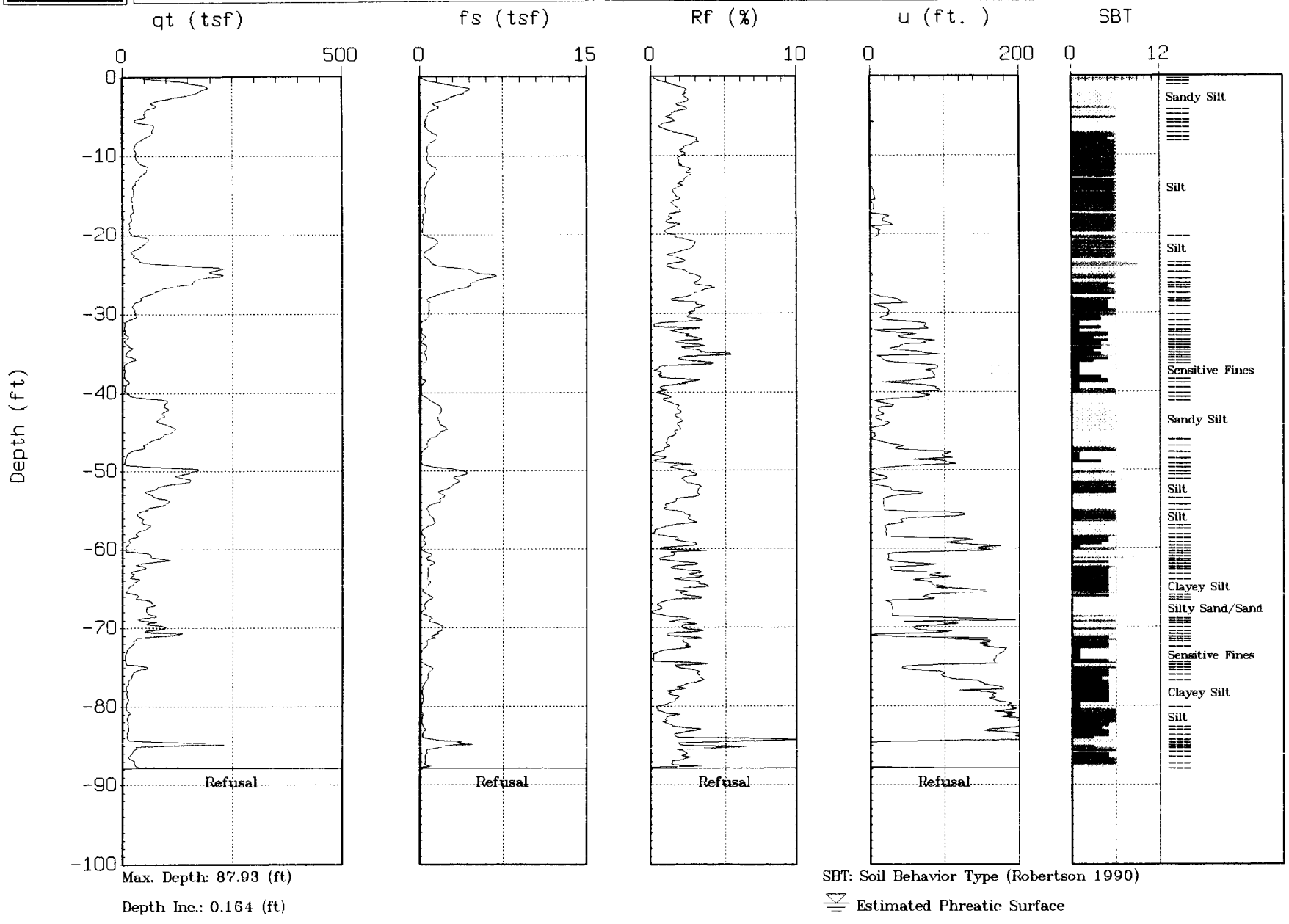

CONETEC
MACTEC
Site:CPT-1A
Location:TVA Kingston
Cone:20 TON AD142
Date:03:23:04 15:11
qt (tsf)
fs (tsf)
Rf (%)
u (ft.)
SBT
0
500
15
10
200
12
Depth (ft)
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Silty Sand/Sand
Sandy Silt
Silt
Silt
Sandy Silt
Clayey Silt
Silt
Sand
Sandy Silt
Sandy Silt
Clayey Silt
Sandy Silt
Sensitive Fines
Clayey Silt
Silty Sand/Sand
Sandy Silt
Silt
Sandy Silt
Sandy Silt
Clayey Silt
Silt
Max. Depth: 95.14 (ft)
Depth Inc.: 0.164 (ft)
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

MACTEC

Site:CPT-6
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 17:20

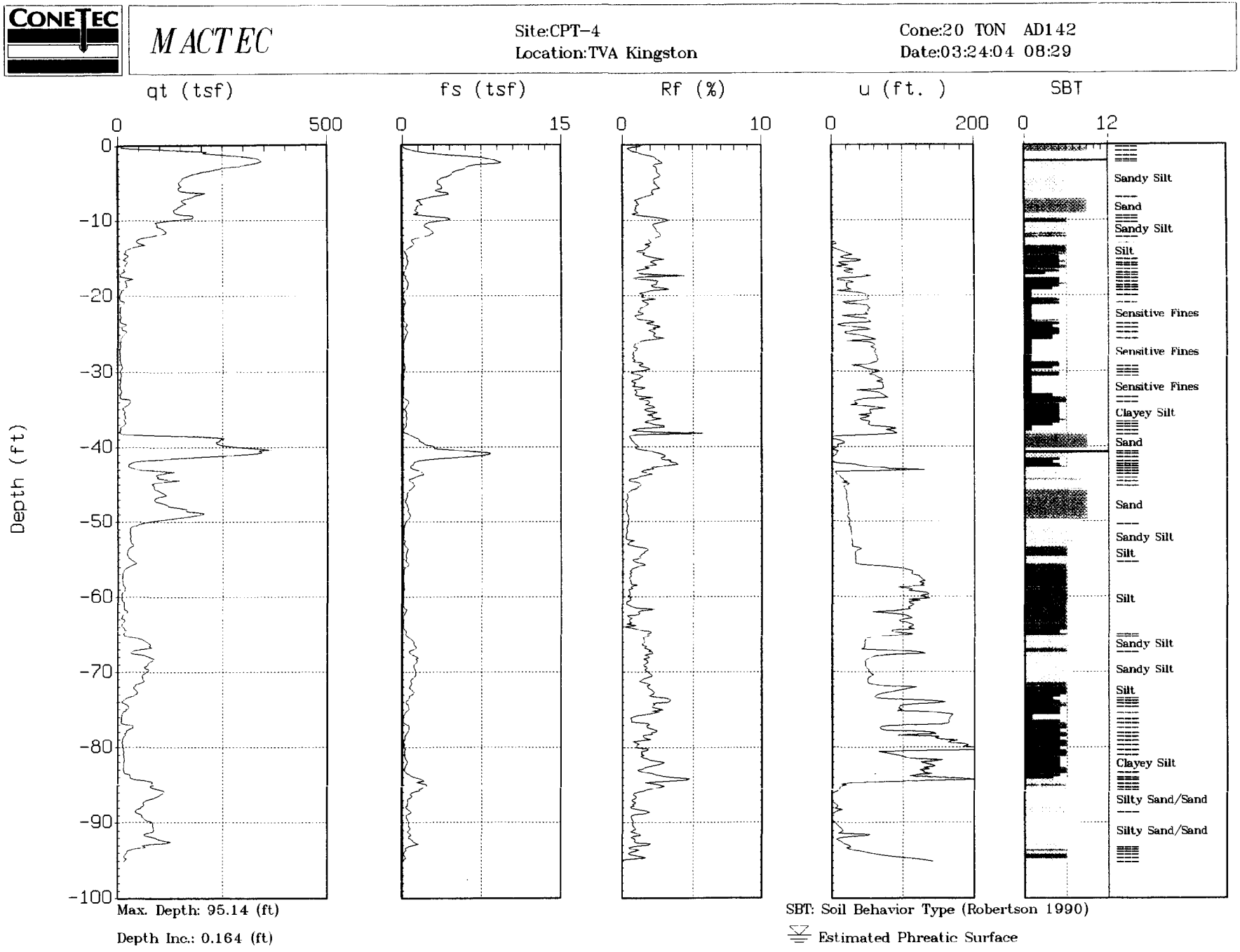


Max. Depth: 87.93 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

Estimated Phreatic Surface

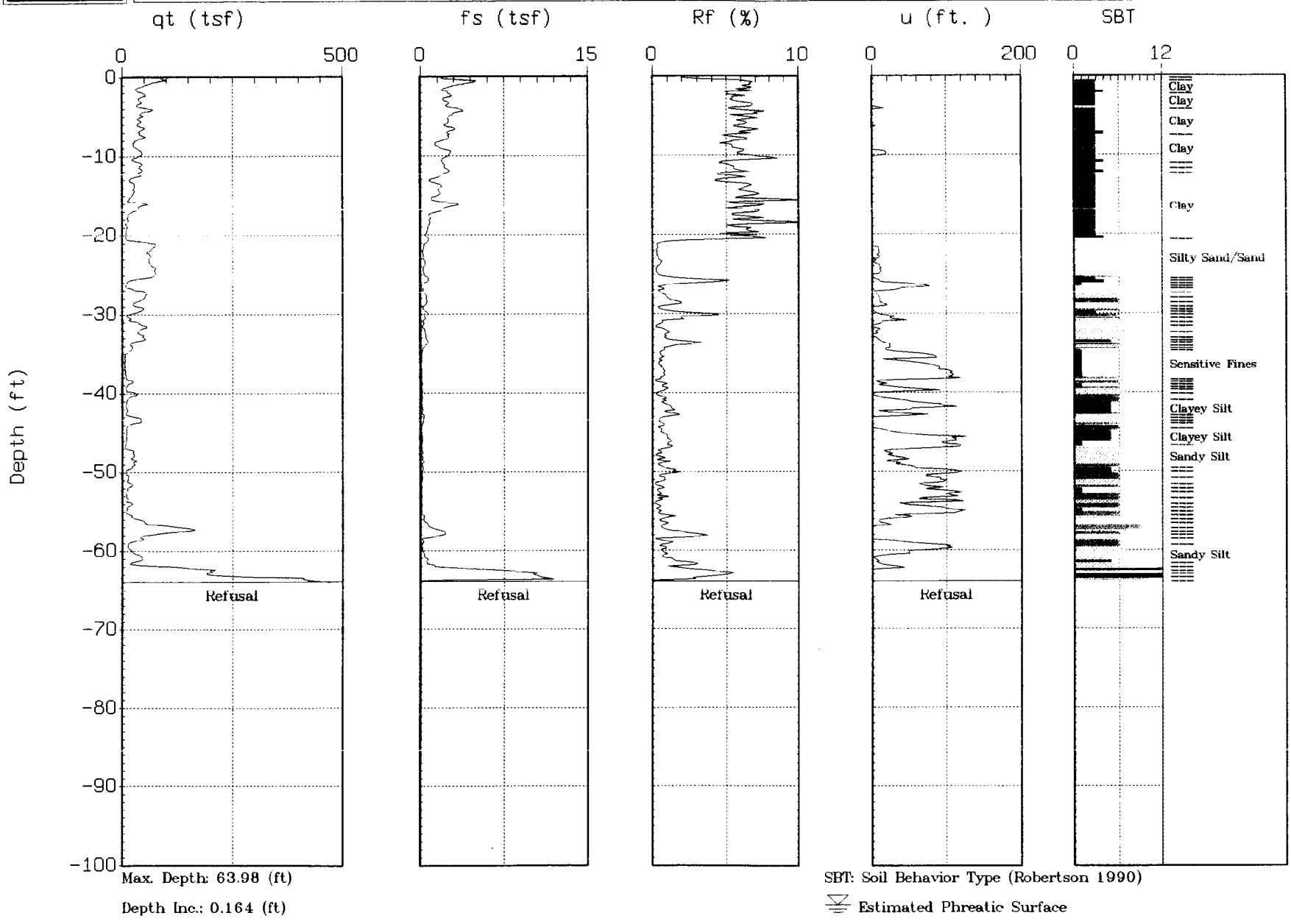

CONETEC
MACTEC
Site:CPT-4
Location:TVA Kingston
Cone:20 TON AD142
Date:03:24:04 08:29
qt (tsf)
fs (tsf)
Rf (%)
u (ft.)
SBT
0
500
15
10
200
12
Depth (ft)
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Sandy Silt
Sand
Sandy Silt
Silt
Sensitive Fines
Sensitive Fines
Sensitive Fines
Clayey Silt
Sand
Sand
Sandy Silt
Silt
Silt
Sandy Silt
Sandy Silt
Silt
Clayey Silt
Silty Sand/Sand
Silty Sand/Sand
Max. Depth: 95.14 (ft)
Depth Inc.: 0.164 (ft)
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

MACTEC

Site:CPT-11
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 12:03



Max. Depth: 63.98 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

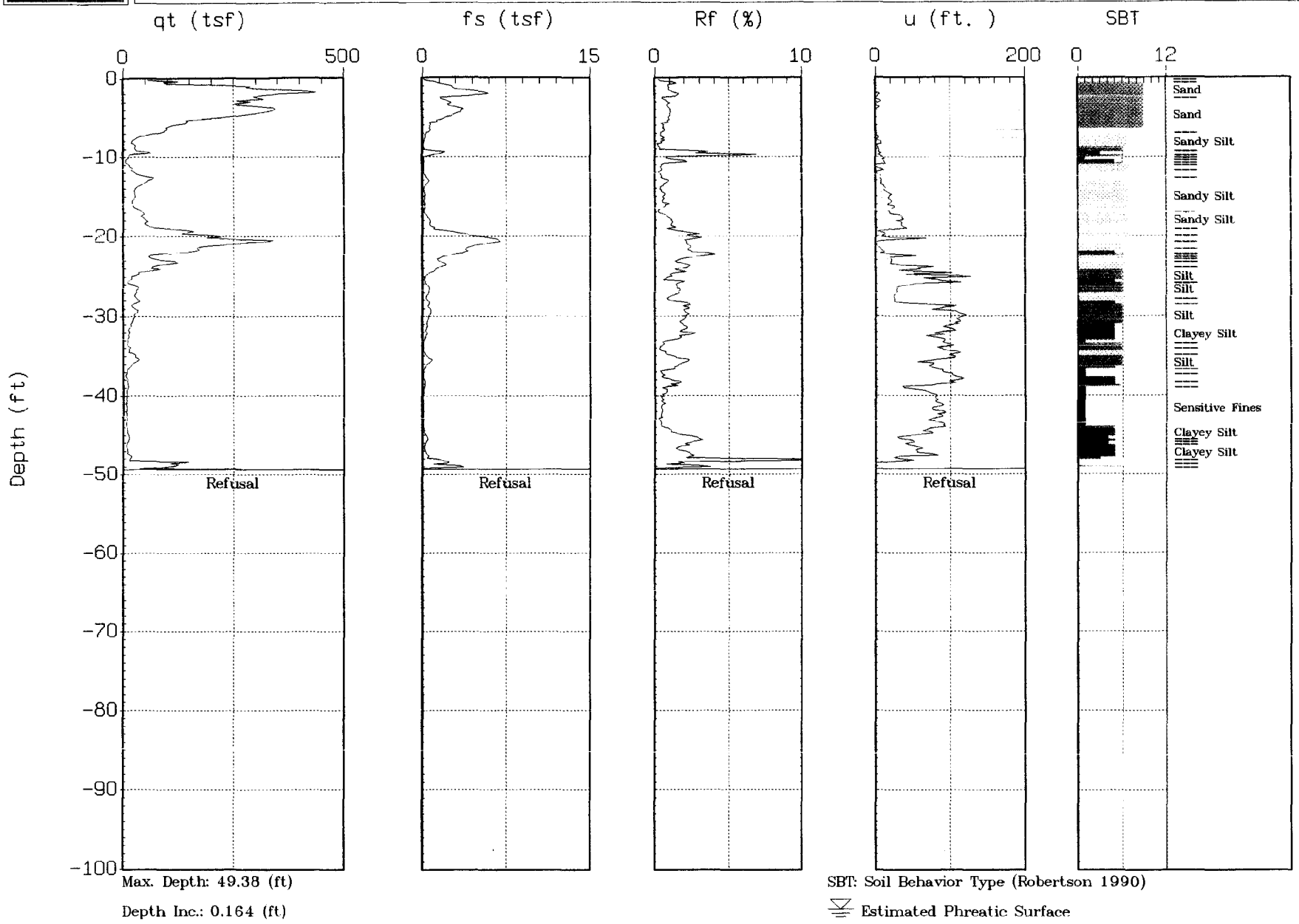
Estimated Phreatic Surface

CONETEC

MACTEC

Site:CPT-9
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 13:20



Max. Depth: 49.38 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

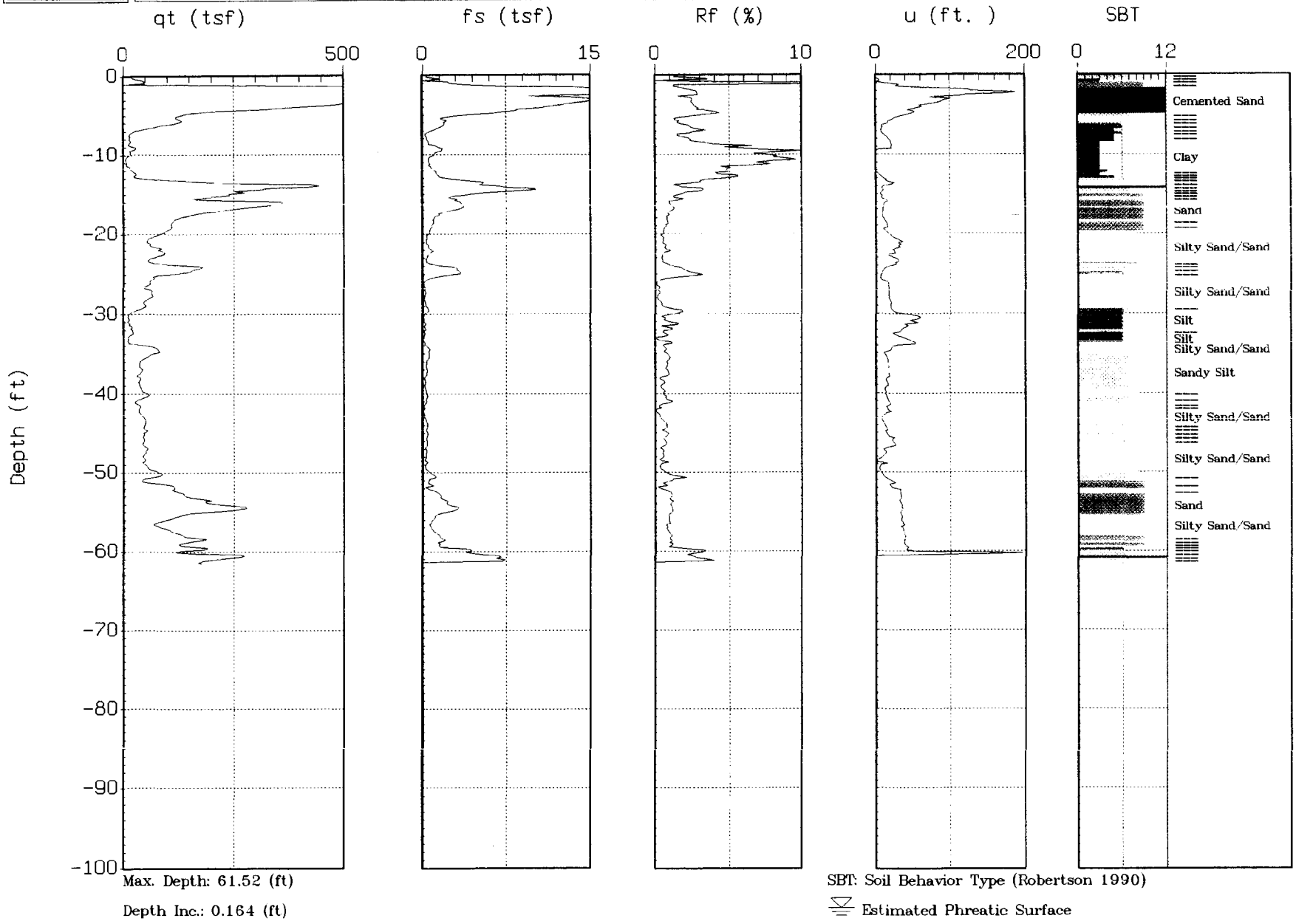
Estimated Phreatic Surface

CONETEC

MACTEC

Site:CPT-12A
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 14:54



Max. Depth: 61.52 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

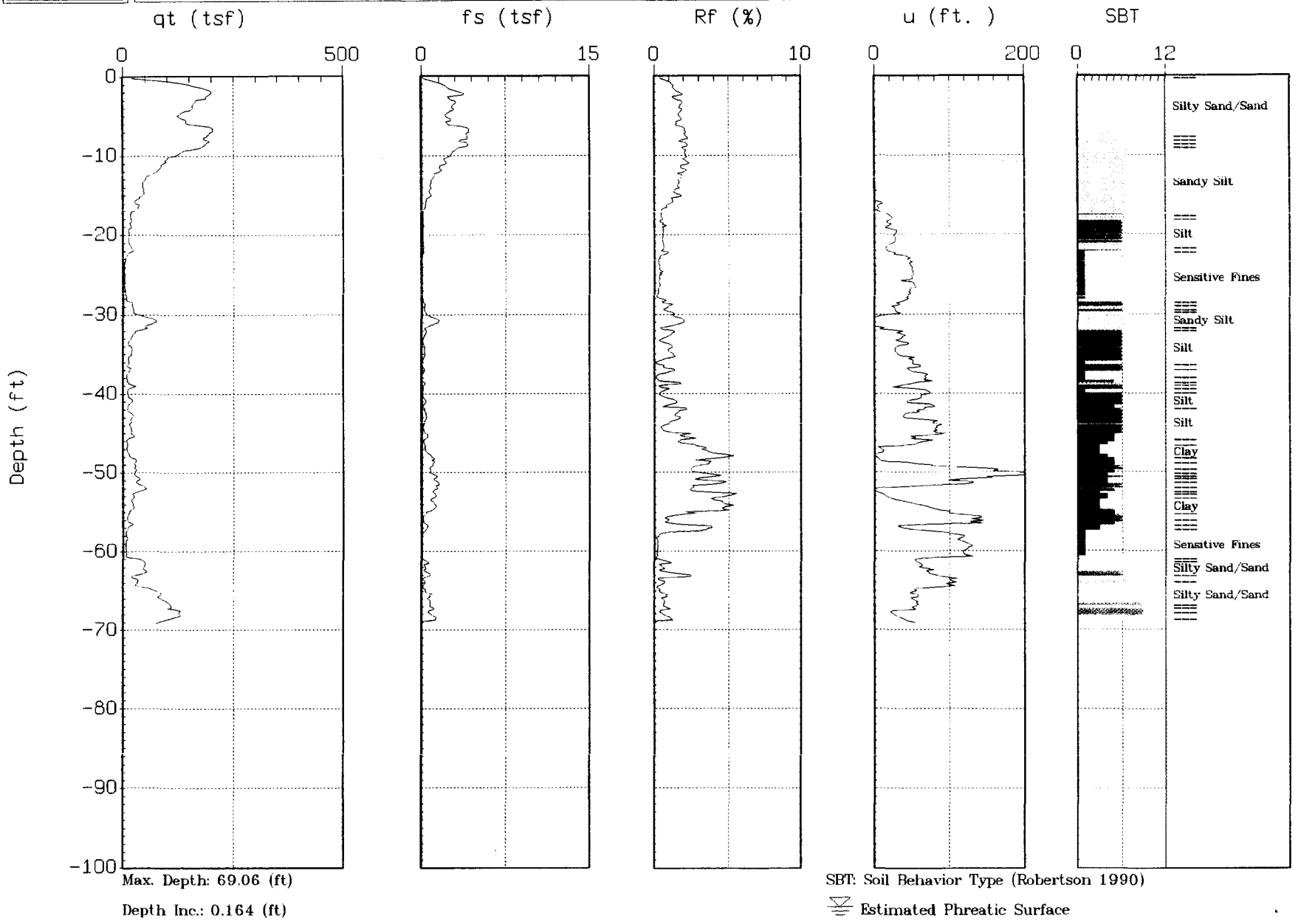
Estimated Phreatic Surface

CONETEC

MACTEC

Site:DIKE N
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 16:19



Max. Depth: 69.06 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

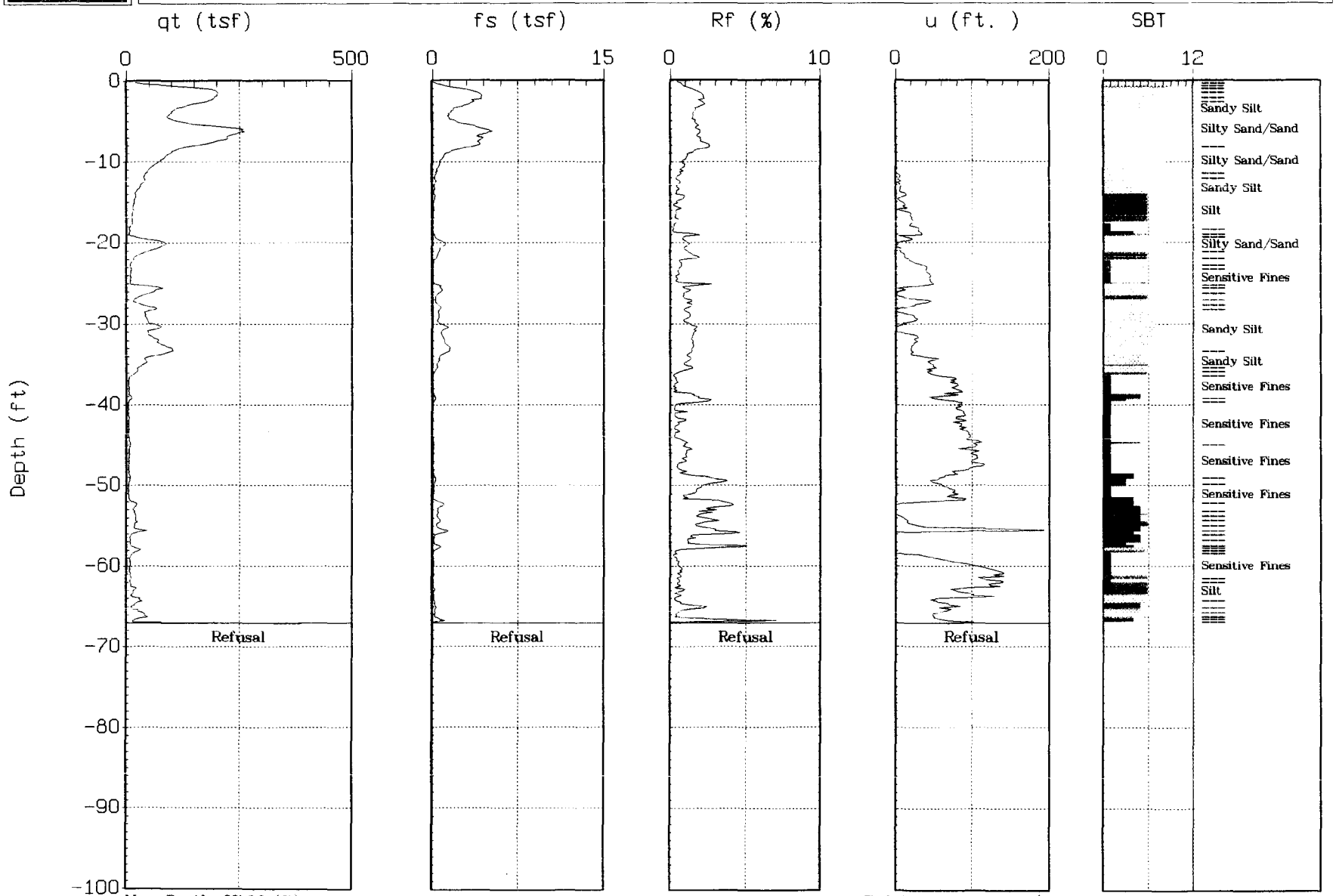
Estimated Phreatic Surface

CONETEC

MACTEC

Site:DIKE S
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 17:34



Max. Depth: 67.09 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

Estimated Phreatic Surface

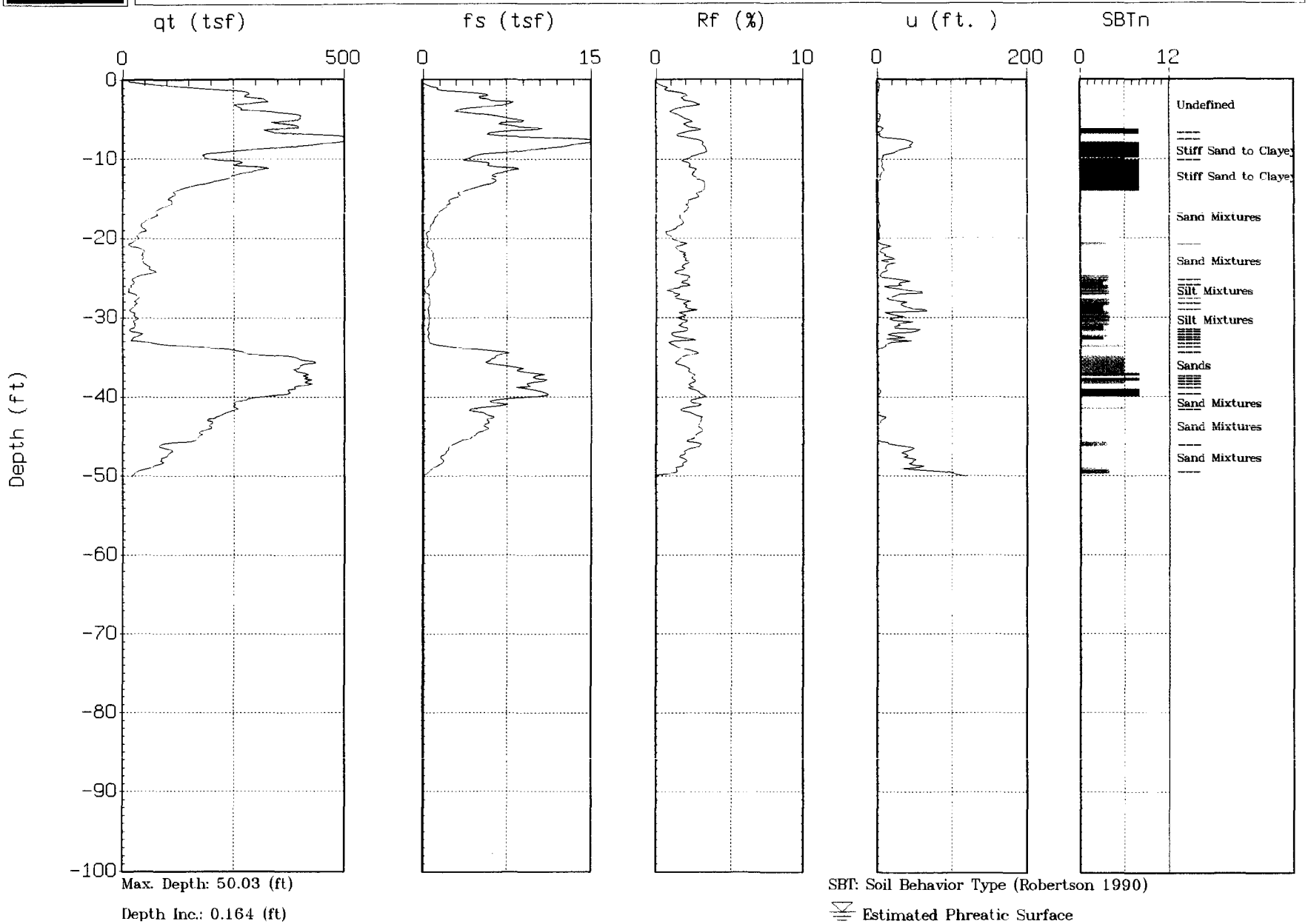
Normalized CPT plots

CONETEC

MACTEC

Site:CPT-1
Location:TVA Kingston

Cone:20 TON AD142
Date:03:22:04 08:54



Max. Depth: 50.03 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

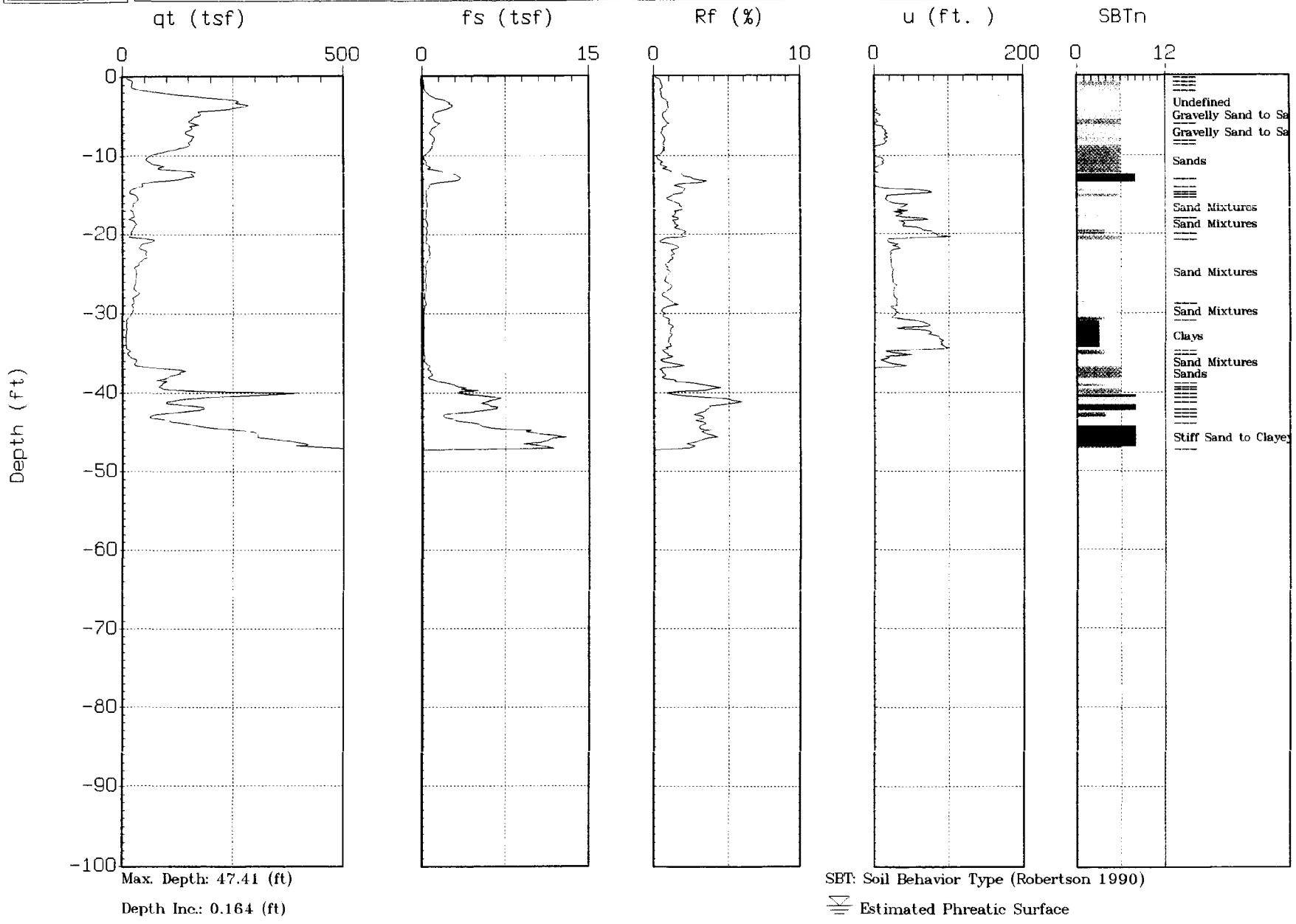
Estimated Phreatic Surface

CONETEC

MACTEC

Site:CPT-10
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 10:53



Max. Depth: 47.41 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

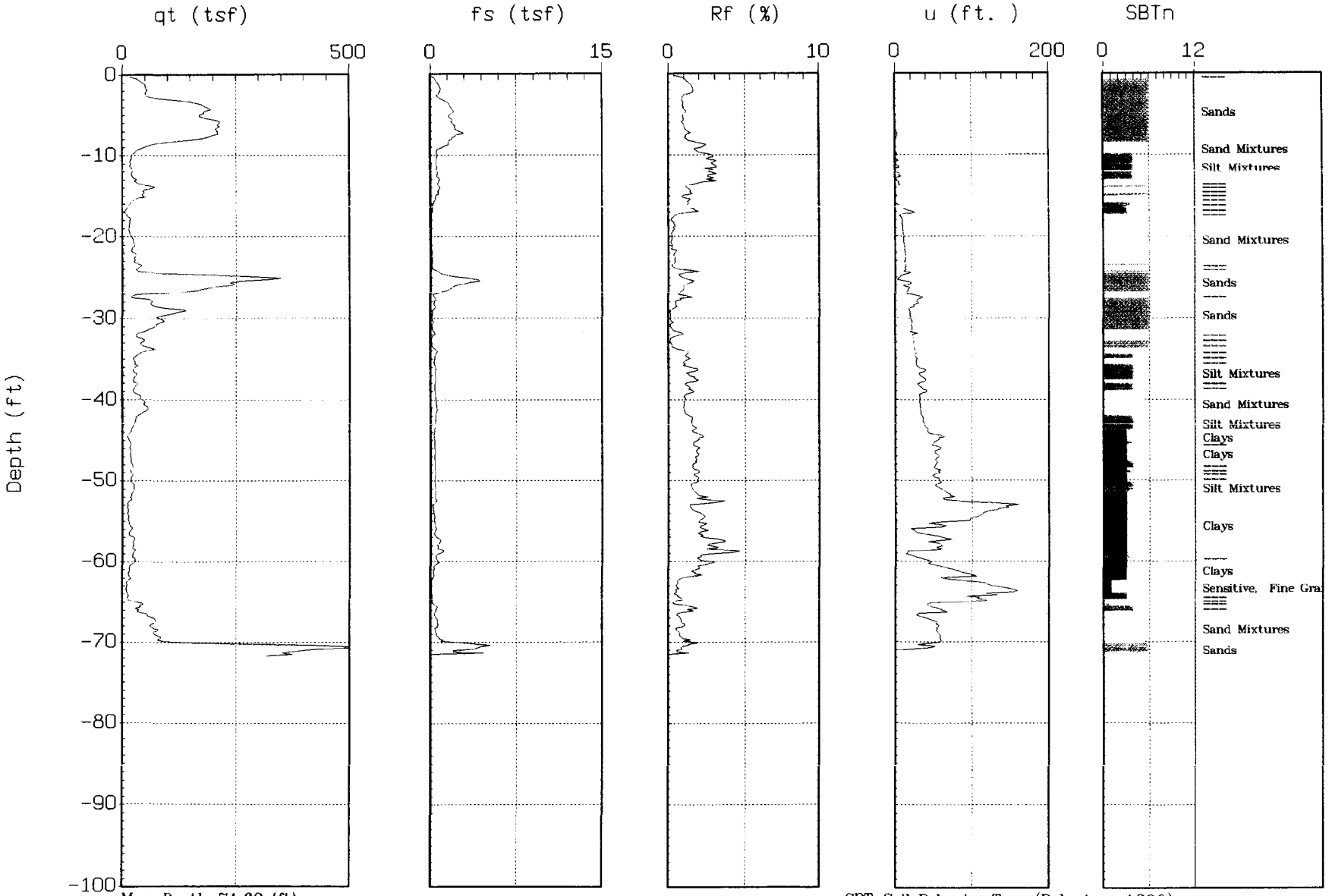
Estimated Phreatic Surface

CONETEC

MACTEC

Site:CPT-8
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 12:41



Max. Depth: 71.69 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

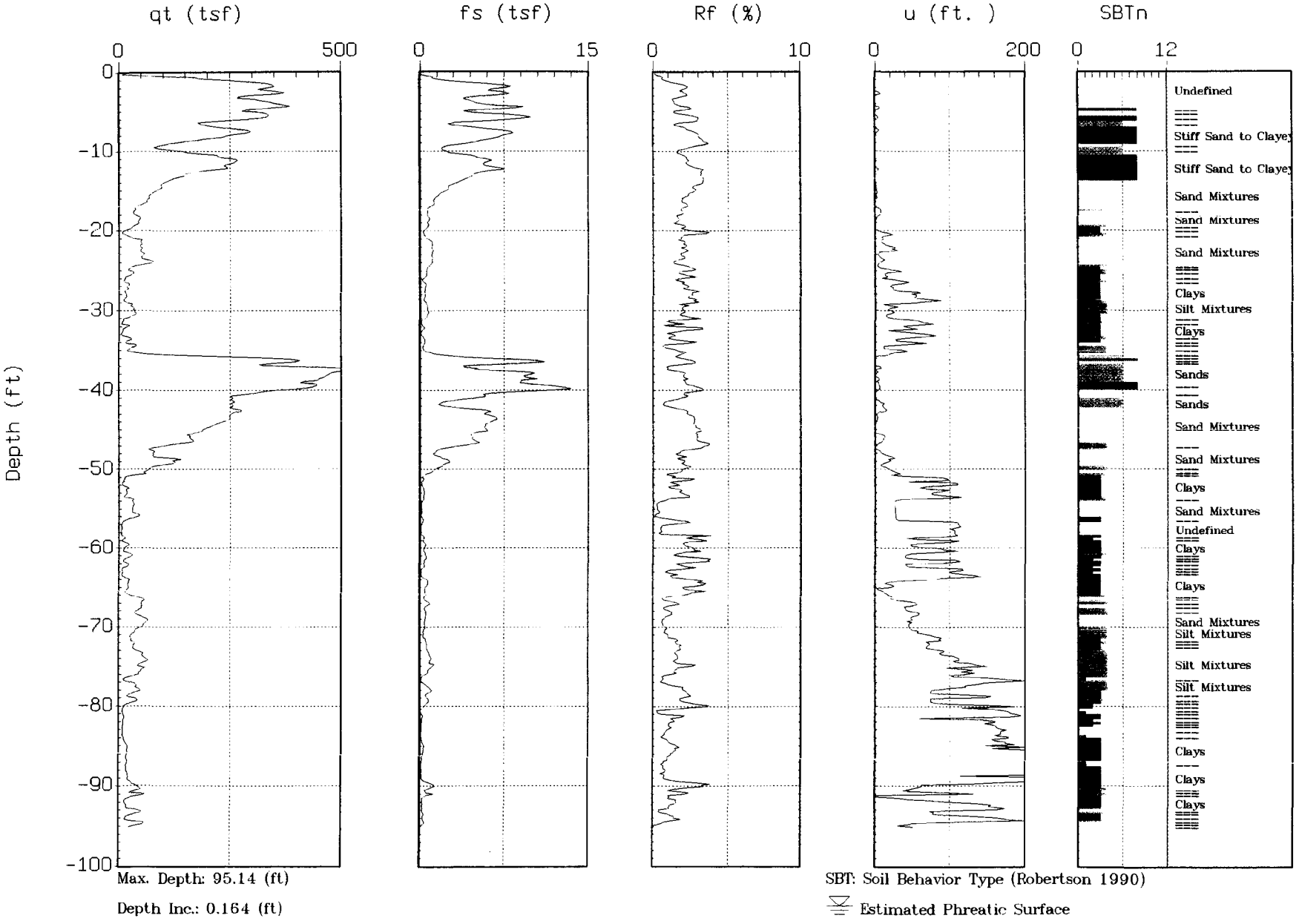
Estimated Phreatic Surface

CONETEC

MACTEC

Site:CPT-1A
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 15:11



Max. Depth: 95.14 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

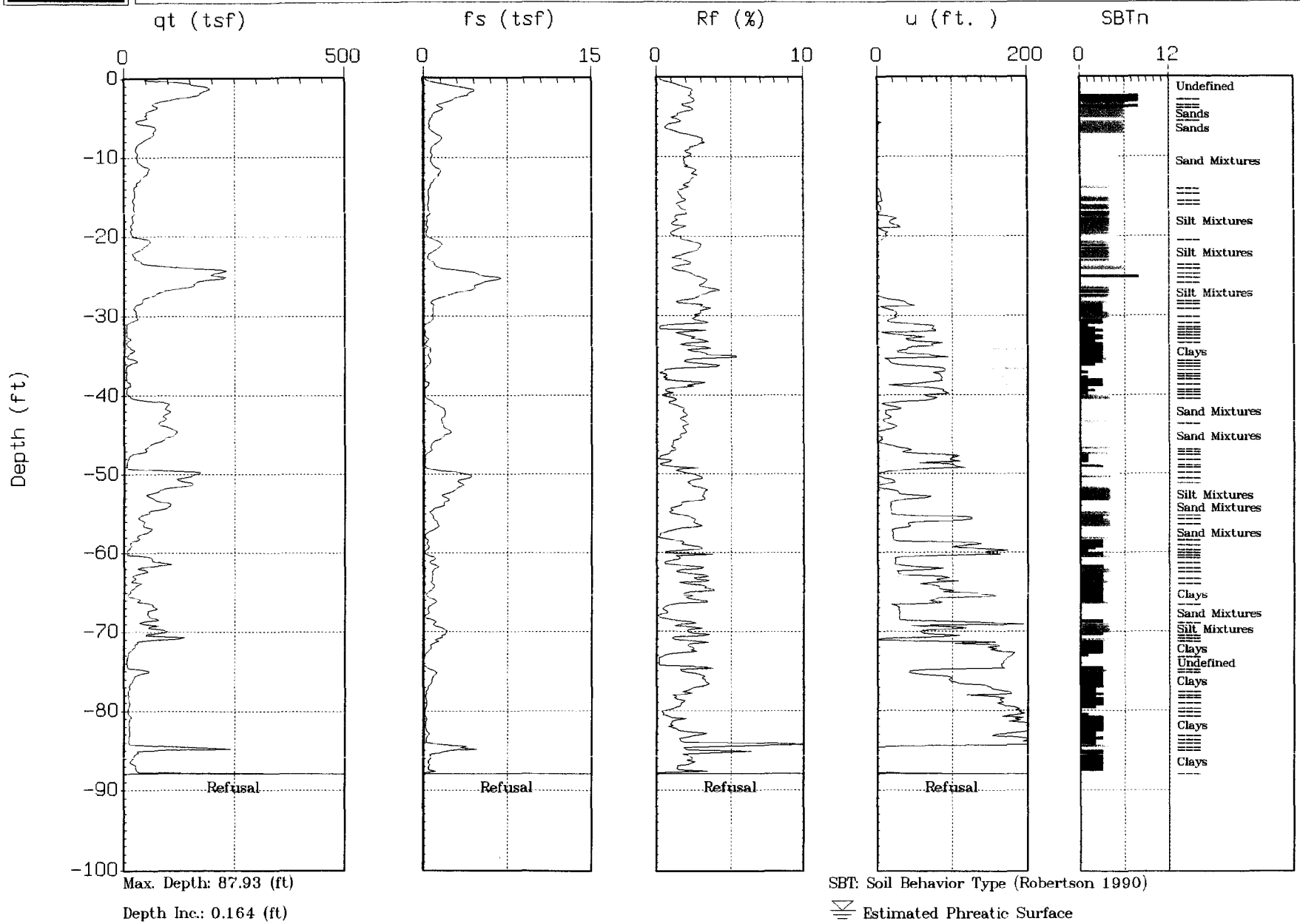
Estimated Phreatic Surface

CONETEC

MACTEC

Site:CPT-6
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 17:20



Max. Depth: 87.93 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

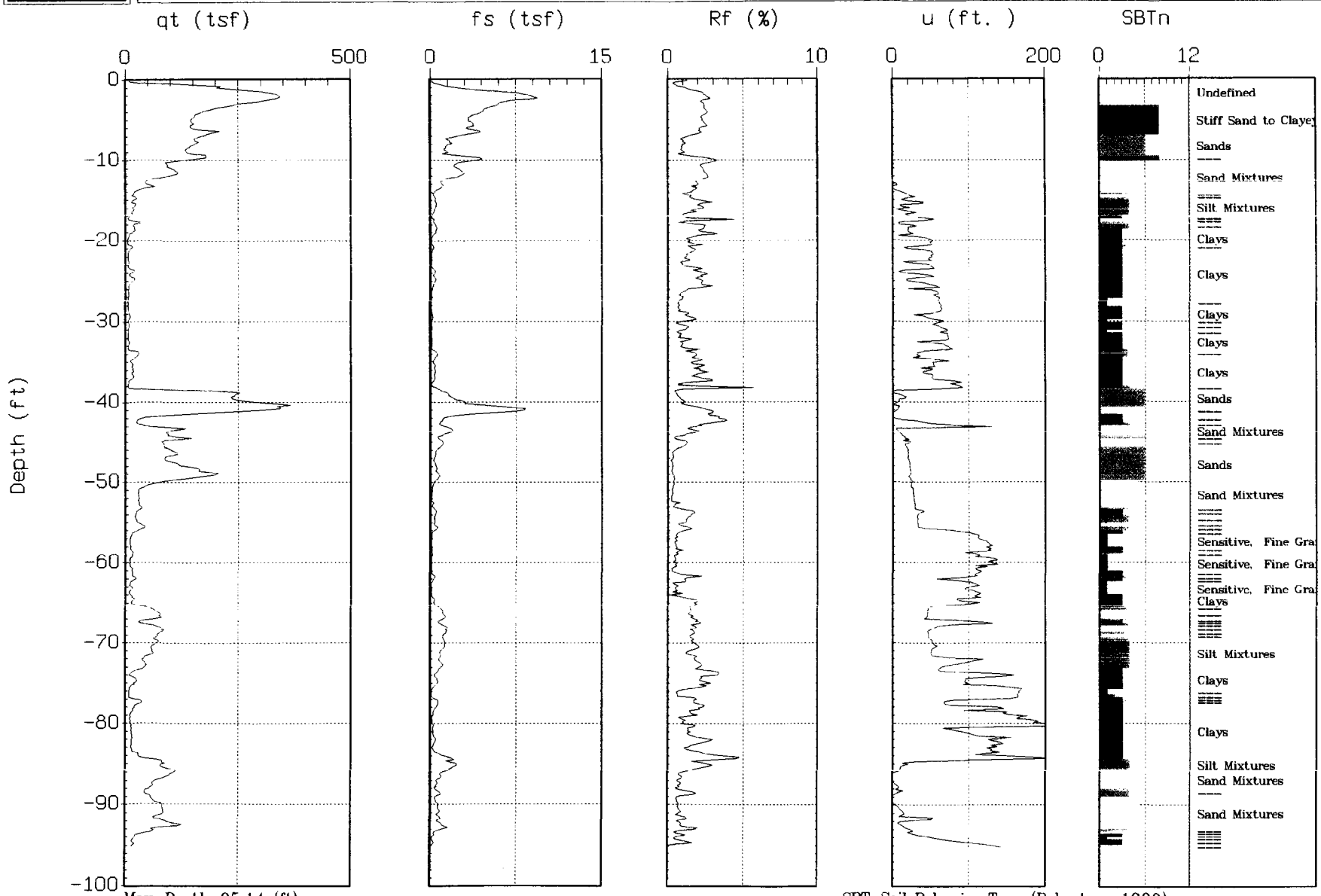
Estimated Phreatic Surface

CONETEC

MACTEC

Site:CPT-4
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 08:29



Max. Depth: 95.14 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

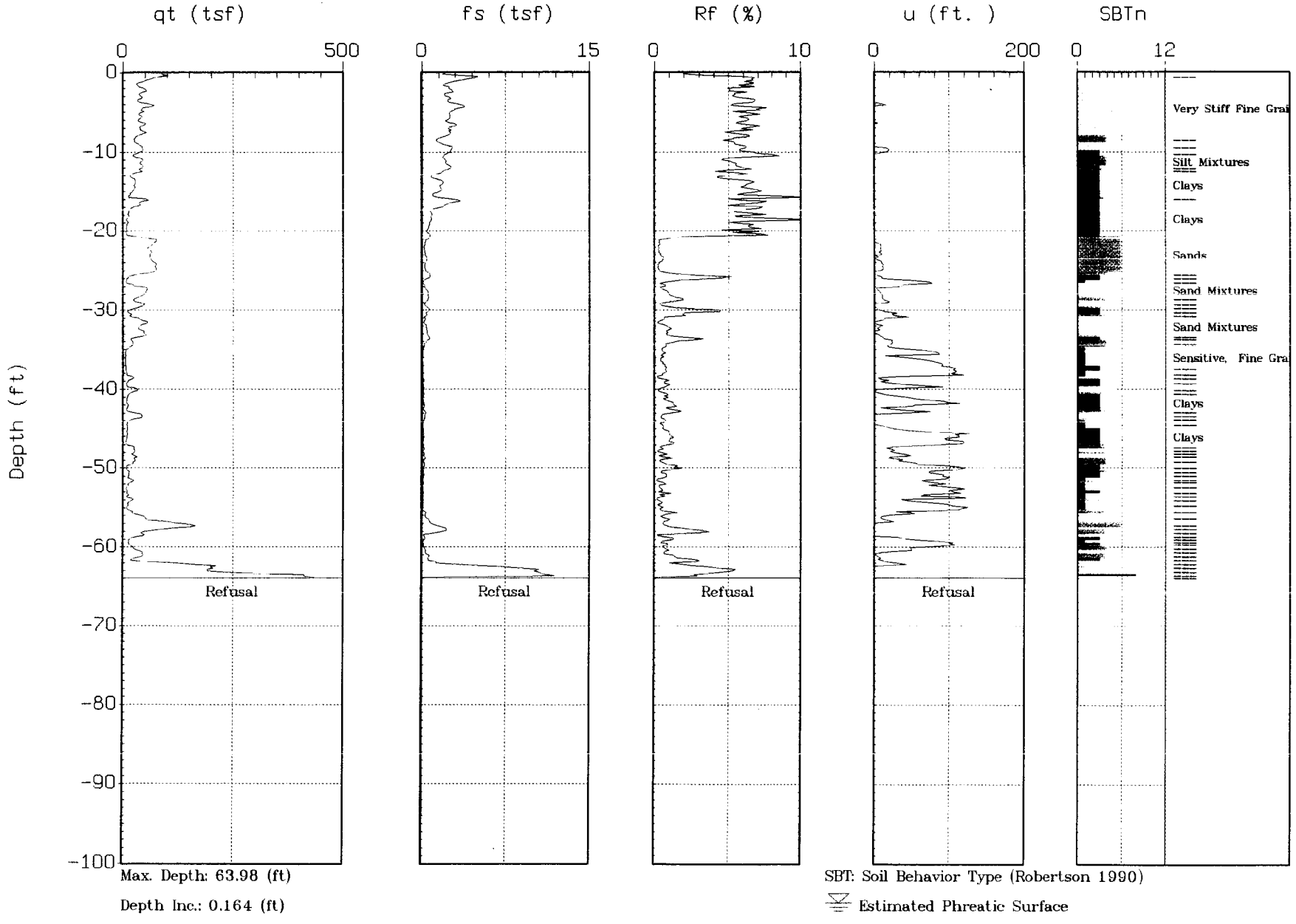
Estimated Phreatic Surface

CONETEC

MACTEC

Site:CPT-11
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 12:03



Max. Depth: 63.98 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

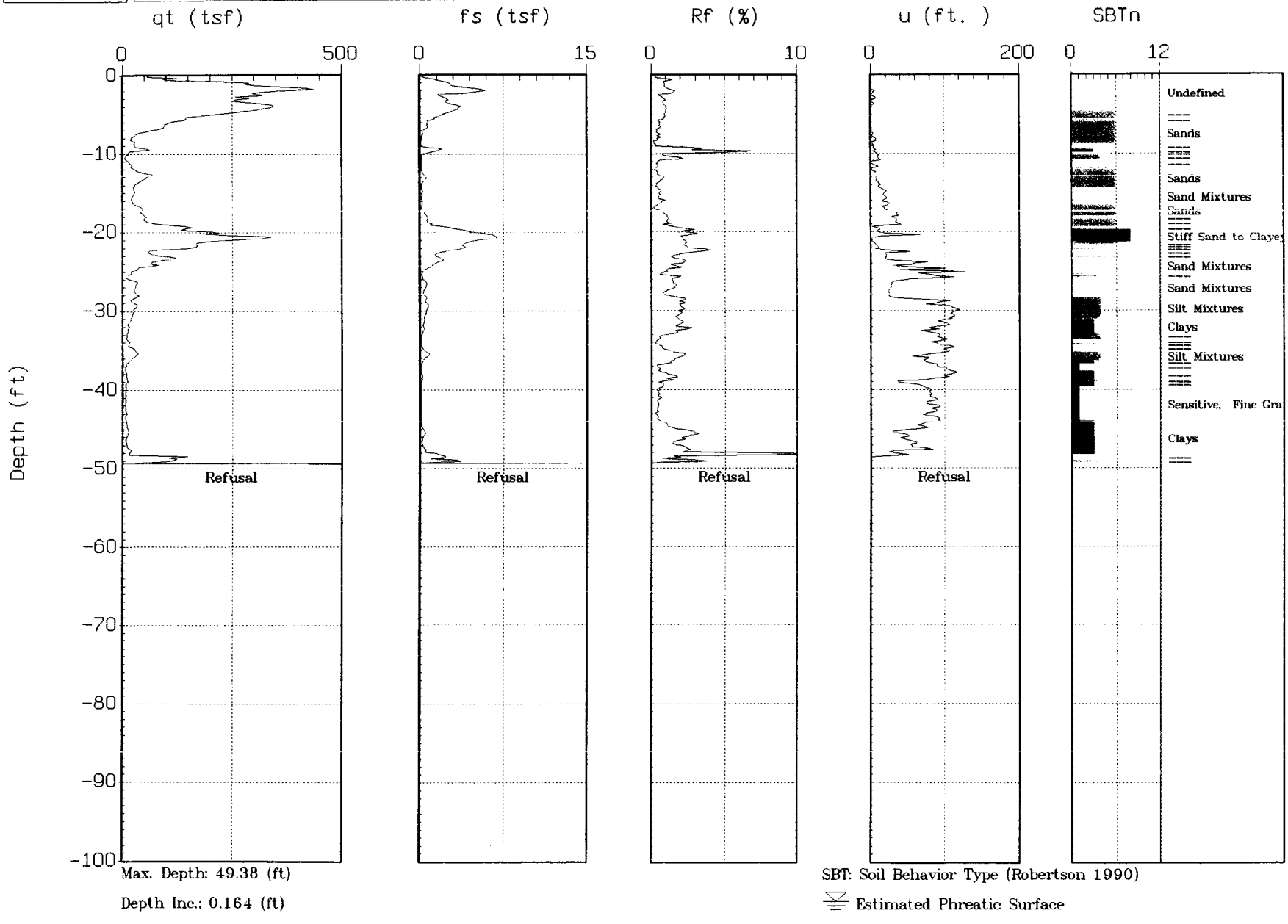
Estimated Phreatic Surface

CONETEC

MACTEC

Site:CPT-9
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 13:20



Max. Depth: 49.38 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

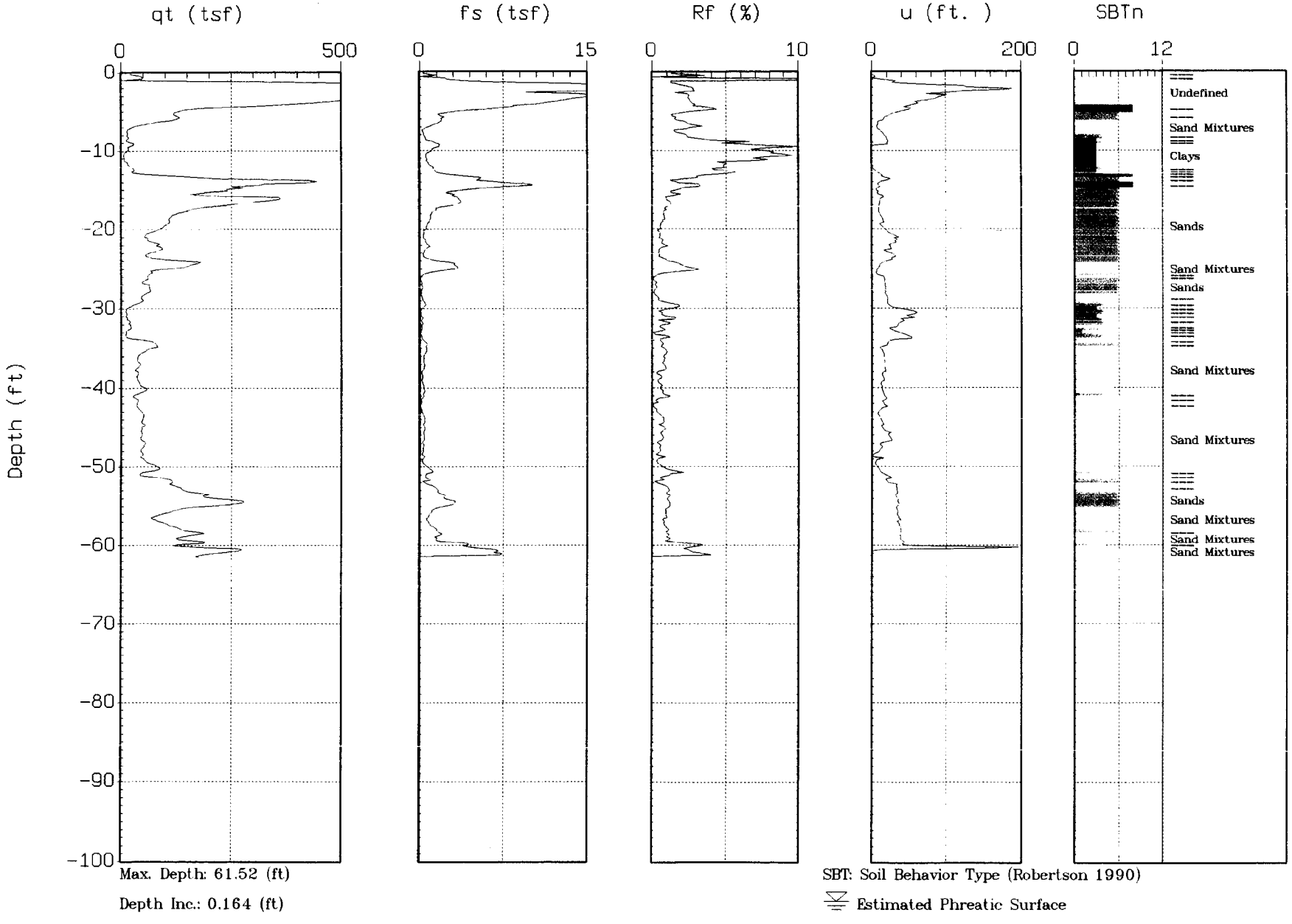
Estimated Phreatic Surface

CONETEC

MACTEC

Site:CPT-12A
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 14:54



Max. Depth: 61.52 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

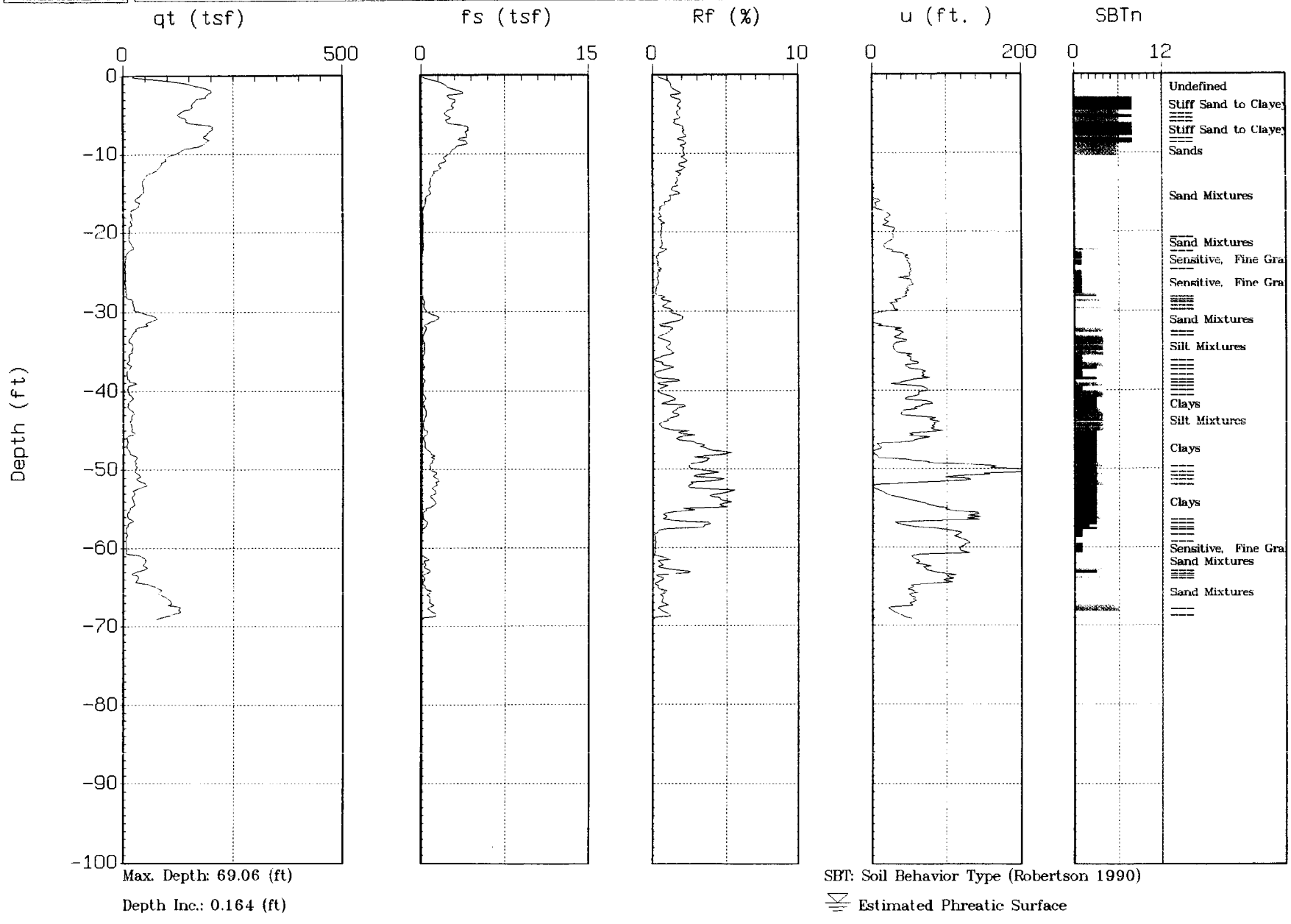
Estimated Phreatic Surface

CONETEC

MACTEC

Site:DIKE N
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 16:19



Max. Depth: 69.06 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

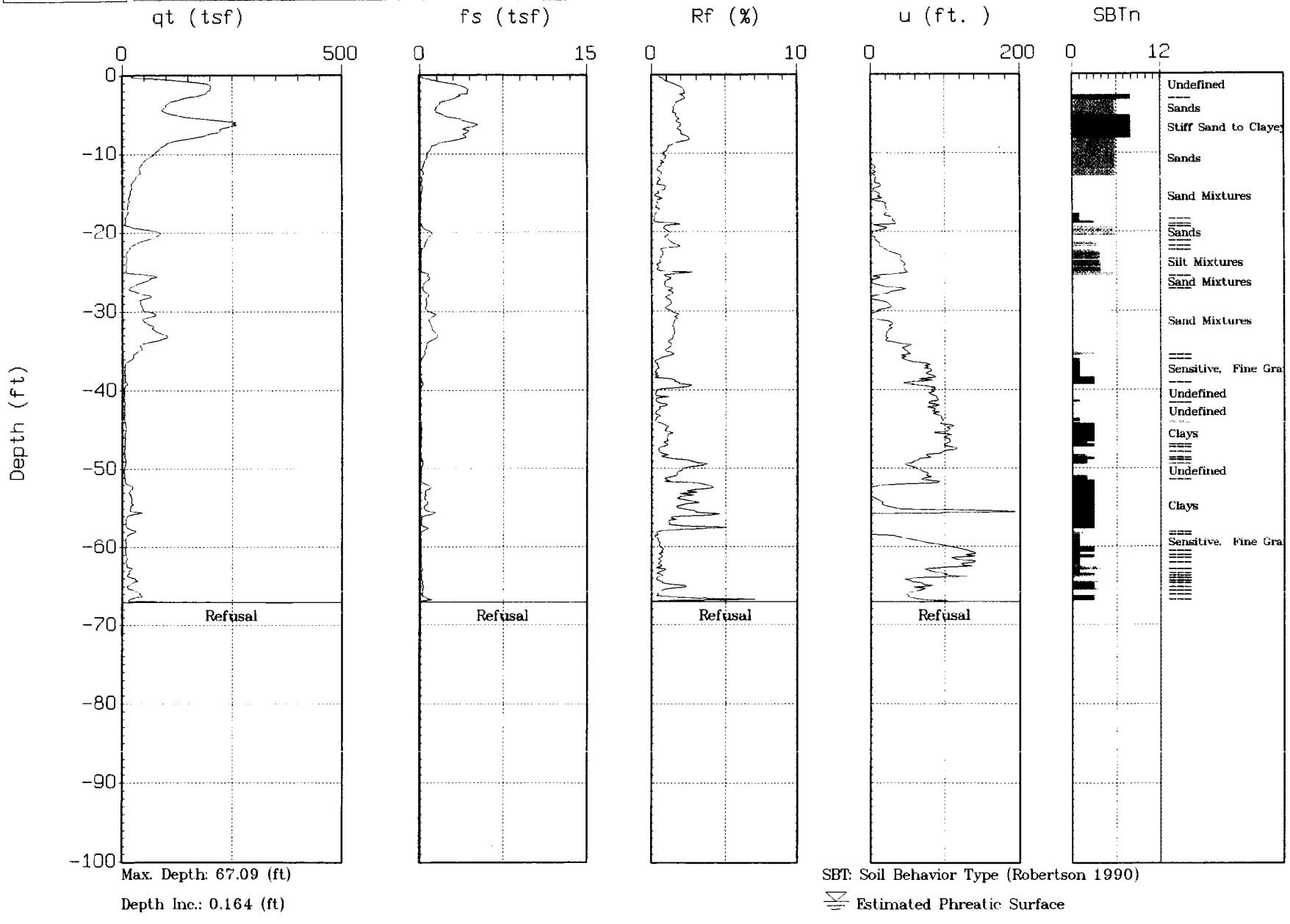
Estimated Phreatic Surface

CONETEC

MACTEC

Site:DIKE S
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 17:34



Max. Depth: 67.09 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)

Estimated Phreatic Surface

APPENDIX B

ConeTec CPT Interpretations as of January 7, 1999 (Release 1.00.19)

ConeTec's interpretation routine should be considered a calculator of current published CPT correlations and is subject to change to reflect the current state of practice. The interpreted values are not considered valid for all soil types. The interpretations are presented only as a guide for geotechnical use and should be carefully scrutinized for consideration in any geotechnical design. Reference to current literature is strongly recommended.

The CPT interpretations are based on values of tip, sleeve friction and pore pressure averaged over a user specified interval (typically 0.25m). Note that Qt is the recorded tip value, Qc, corrected for pore pressure effects. Since all ConeTec cones have equal end area friction sleeves, pore pressure corrections to sleeve friction, Fs, are not required.

The tip correction is: $Qt = Qc + (1-a) \bullet Ud$

where: *Qt* is the corrected tip load
Qc is the recorded tip load
Ud is the recorded dynamic pore pressure
a is the Net Area Ratio for the cone (typically 0.85 for ConeTec cones)

Effective vertical overburden stresses are calculated based on a hydrostatic distribution of equilibrium pore pressures below the water table or from a user defined equilibrium pore pressure profile (this can be obtained from CPT dissipation tests). The stress calculations use unit weights assigned to the Soil Behaviour Type zones or from a user defined unit weight profile.

Details regarding the interpretation methods for all of the interpreted parameters is given in table 1. The appropriate references referred to in table 1 are listed in table 2.

The estimated Soil Behaviour Type is based on the charts developed by Robertson and Campanella shown in figure 1.

Table 1 CPT Interpretation Methods

Interpreted Parameter	Description	Equation	Ref
Depth	mid layer depth		
AvgQt	Averaged corrected tip (Qt)	$AvgQt = \frac{1}{n}\sum_{i=1}^{n} Qt_i$	
AvgFs	Averaged sleeve friction (Fs)	$AvgFs = \frac{1}{n}\sum_{i=1}^{n} Fs_i$	
AvgRf	Averaged friction ratio (Rf)	$AvgRf = 100\% \bullet \frac{AvgFs}{AvgQt}$	
AvgUd	Averaged dynamic pore pressure (Ud)	$AvgUd = \frac{1}{n}\sum_{i=1}^{n} Ud_i$	
SBT	Soil Behavior Type as defined by Robertson and Campanella		1

U.Wt.	Unit Weight of soil determined from: 1) uniform value or 2) value assigned to each SBT zone 3) user supplied unit weight profile		
TStress	Total vertical overburden stress at mid layer depth	$TStress = \sum_{i=1}^{n} \gamma_i h_i$ where γ_i is layer unit weight h_i is layer thickness	
EStress	Effective vertical overburden stress at mid layer depth	$EStress = TStress - Ueq$	
Ueq	Equilibrium pore pressure determined from: 1) hydrostatic from water table depth 2) user supplied profile		
Cn	SPT N_{60} overburden correction factor	$Cn = (\sigma_v')^{-0.5}$ where σ_v' is in tsf $0.5 < C_n < 2.0$	
N_{60}	SPT N value at 60% energy calculated from Qt/N ratios assigned to each SBT zone		3
$(N1)_{60}$	SPT N_{60} value corrected for overburden pressure	$N1_{60} = Cn \bullet N_{60}$	3
$\Delta(N1)_{60}$	Equivalent Clean Sand Correction to $(N1)_{60}$	$\Delta(N1)_{60} = \frac{K_{SPT}}{1 - K_{SPT}} \bullet (N1)_{60}$ Where: K_{SPT} is defined as: 0.0 for FC < 5% 0.0167 • (FC - 5) for 5% < FC < 35% 0.5 for FC > 35% FC - Fines Content in %	7
$(N1)_{60cs}$	Equivalent Clean Sand $(N1)_{60}$	$(N1)_{60cs} = (N1)_{60} + \Delta(N1)_{60}$	7
Su	Undrained shear strength - Nkt is use selectable	$Su = \frac{Qt - \sigma_v}{Nkt}$	2
k	Coefficient of permeability (assigned to each SBT zone)		6
Bq	Pore pressure parameter	$Bq = \frac{\Delta u}{Qt - \sigma_v}$	2
Qtn	Normalized Qt for Soil Behavior Type classification as defined by Robertson, 1990	$Qtn = \frac{Qt - \sigma_v}{\sigma'_v}$	4
Rfn	Normalized Rf for Soil Behavior Type classification as defined by Robertson, 1990	$Rfn = 100\% \bullet \frac{f_s}{Qt - \sigma_v}$	4
SBTn	Normalized Soil Behavior Type (slightly modified from that published by Robertson, 1990. This version includes all the soil zones of the original non-normalized SBT chart - see figure 1)		4
Qc1	Normalized Qt for seismic analysis	$qc1 = qc \bullet (Pa/\sigma_v')^{0.5}$ where: Pa = atm. pressure	5
Qc1N	Dimensionless Normalized Qt1	qc1N = qc1 / Pa where: Pa = atm. pressure	

CONETEC

ΔQc1N1	Equivalent clean sand correction	$\Delta qc1N = \frac{K_{CPT}}{1 - K_{CPT}} \bullet qc1N$ Where: K_{CPT} is defined as: 0.0 for FC < 5% 0.0267 • (FC - 5) for 5% < FC < 35% 0.5 for FC > 35% FC - Fines Content in %	5
Qc1Ncs	Clean Sand equivalent Qc1N	$qc1Ncs = qc1N + \Delta qc1N$	5
Ic	Soil index for estimating grain characteristics	$Ic = [(3.47 - \log Q)^2 + (\log F + 1.22)^2]^{0.5}$	5
FC	Fines content (%)	$FC=1.75(Ic^{3.25}) - 3.7$ *FC=100 for Ic > 3.5* *FC=0 for Ic < 1.26* *FC = 5% if 1.64 < Ic < 2.6 AND Rfn<0.5*	8
PHI	Friction Angle	Campanella and Robertson Durunoglu and Mitchel Janbu	1
Dr	Relative Density	Ticino Sand Hokksund Sand Schmertmann 1976 Jamiolkowski - All Sands	1
OCR	Over Consolidation Ratio		1
State Parameter			9
CRR	Cyclic Resistance Ratio		7

CONETEC

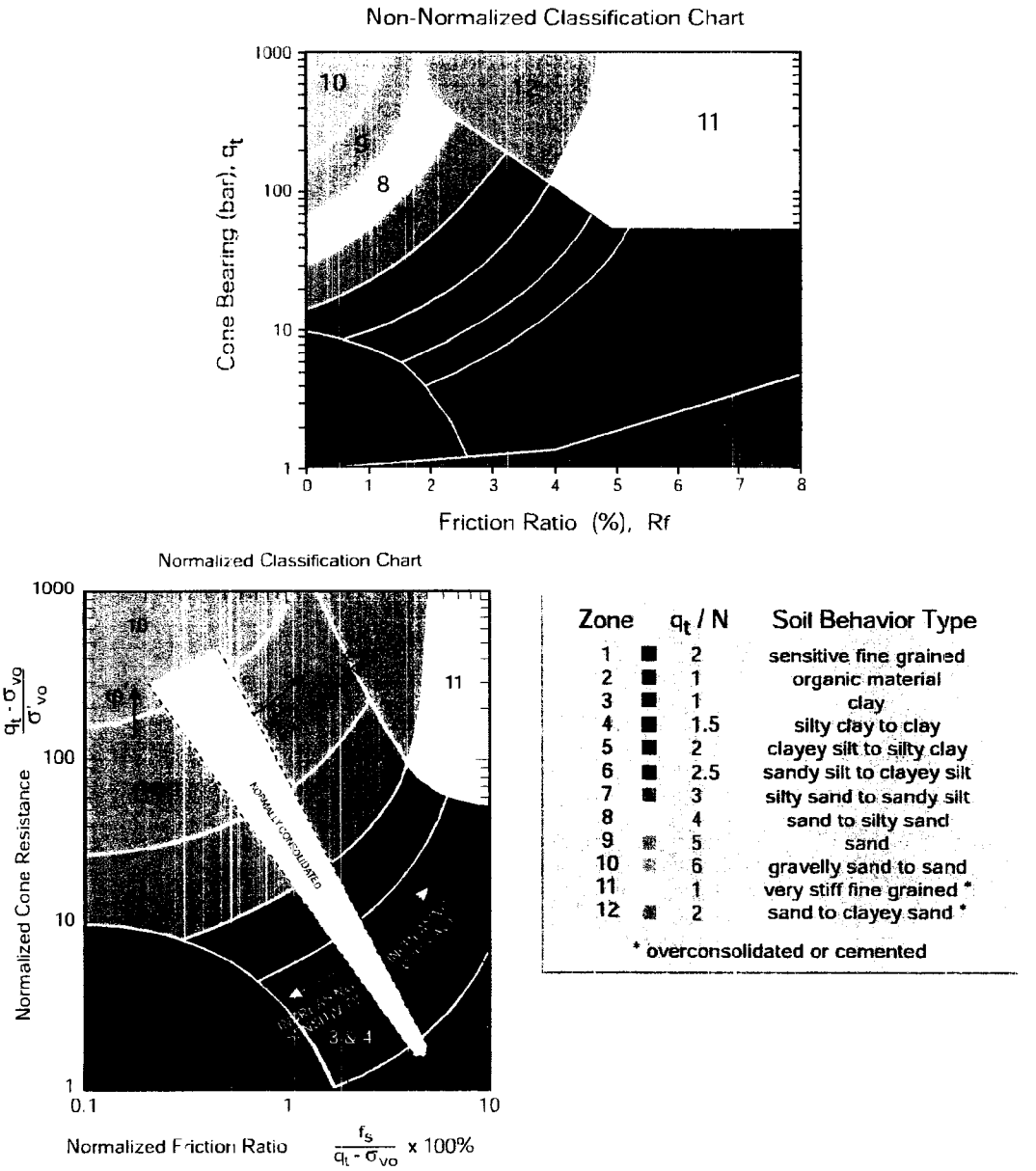


Figure 1 Non-Normalized and Normalized Soil Behaviour Type Classification Charts

CONETEC

Table 2 References

No.	Reference
1	Robertson, P.K. and Campanella, R.G., 1986, "Guidelines for Use, Interpretation and Application of the CPT and CPTU", UBC, Soil Mechanics Series No. 105, Civil Eng. Dept., Vancouver, B.C., Canada
2	Robertson, P.K., Campanella, R.G., Gillespie, D. and Greig, J., 1986, "Use of Piezometer Cone Data", Proceedings of InSitu 86, ASCE Specialty Conference, Blacksburg, Virginia.
3	Robertson, P.K. and Campanella, R.G., 1989, "Guidelines for Geotechnical Design Using CPT and CPTU", UBC, Soil Mechanics Series No. 120, Civil Eng. Dept., Vancouver, B.C., Canada
4	Robertson, P.K., 1990, "Soil Classification Using the Cone Penetration Test", Canadian Geotechnical Journal, Volume 27.
5	Robertson, P.K. and Fear, C.E., 1995, "Liquefaction of Sands and its Evaluation", Keynote Lecture, First International Conference on Earthquake Geotechnical Enginnering, Tokyo, Japan.
6	ConeTec Internal Report
7	Robertson, P.K. and Wride, C.E., 1997, "Cyclic Liquefaction and its Evaluation Based on SPT and CPT", NCEER Workshop Paper, January 22, 1997
8	Wride, C.E. and Robertson, P.K., 1997, "Phase II Data Review Report (Massey and Kidd Sites, Fraser River Delta)", Volume 1 - Data Report (June 1997), University of Alberta.
9	Plewes, H.D., Davies, M.P. and Jefferies, M.G., 1992, "CPT Based Screening Procedure for Evaluating Liquefaction Susceptibility", 45th Canadian Geotechnical Conference, Toronto, Ontario, October 1992.

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.00.19M
Run No: 04-0401-1123-5225
Job No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-1
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/22/03
CPT Time: 08:54
CPT File: 717CP001.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 8.41 (ft): 27.6
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60 (blows/ft)	Su (tsf)	CRR
0.16	23.5	0.01	0.04	0.9	7	117.8	0.01	0.01	0.00	2.00	7.5	15.0	UnDef	0.09
0.49	71.6	0.17	0.24	2.4	8	120.9	0.03	0.03	0.00	2.00	17.1	34.3	UnDef	0.32
0.82	146.6	0.99	0.67	2.5	9	124.1	0.05	0.05	0.00	2.00	28.1	56.2	UnDef	0.00
1.15	232.0	1.51	0.65	2.0	9	124.1	0.07	0.07	0.00	2.00	44.4	88.9	UnDef	0.00
1.48	280.7	4.00	1.42	1.3	8	120.9	0.09	0.09	0.00	2.00	67.2	134.4	UnDef	0.00
1.80	282.0	5.78	2.05	-2.0	8	120.9	0.11	0.11	0.00	2.00	67.5	135.0	UnDef	0.00
2.13	289.1	5.07	1.75	-4.8	8	120.9	0.13	0.13	0.00	2.00	69.2	138.4	UnDef	0.00
2.46	320.8	5.97	1.86	-3.1	8	120.9	0.15	0.15	0.00	2.00	76.8	153.6	UnDef	0.00
2.79	312.2	7.98	2.56	-1.0	7	117.8	0.17	0.17	0.00	2.00	99.7	199.4	UnDef	0.00
3.12	255.0	6.83	2.68	-1.7	7	117.8	0.19	0.19	0.00	2.00	81.4	162.8	UnDef	0.00
3.44	265.9	4.31	1.62	-2.6	8	120.9	0.21	0.21	0.00	2.00	63.7	127.3	UnDef	0.00
3.77	285.6	2.97	1.04	-0.1	9	124.1	0.23	0.23	0.00	2.00	54.7	109.4	UnDef	0.00
4.10	362.5	4.26	1.17	0.2	9	124.1	0.25	0.25	0.00	2.00	69.4	138.8	UnDef	0.00
4.43	399.6	6.20	1.55	3.5	8	120.9	0.27	0.27	0.00	1.93	95.7	184.7	UnDef	0.00
4.76	401.4	7.58	1.89	3.3	8	120.9	0.29	0.29	0.00	1.86	96.1	179.0	UnDef	0.00
5.09	377.1	8.95	2.37	2.6	8	120.9	0.31	0.31	0.00	1.80	90.3	162.7	UnDef	0.00
5.41	351.8	6.90	1.96	-0.8	8	120.9	0.33	0.33	0.00	1.75	84.2	147.1	UnDef	0.00
5.74	395.0	8.27	2.09	0.4	8	120.9	0.35	0.35	0.00	1.70	94.6	160.4	UnDef	0.00
6.07	371.9	10.49	2.82	7.0	12	120.9	0.37	0.37	0.00	1.65	178.1	293.7	UnDef	0.00
6.40	325.2	7.85	2.41	5.2	7	117.8	0.39	0.39	0.00	1.61	103.8	166.9	UnDef	0.00
6.73	382.3	5.81	1.52	2.3	8	120.9	0.41	0.41	0.00	1.57	91.5	143.5	UnDef	0.00
7.05	503.2	8.61	1.71	3.2	8	120.9	0.43	0.43	0.00	1.53	120.5	184.5	UnDef	0.00
7.38	563.4	14.20	2.52	26.6	12	120.9	0.45	0.45	0.00	1.50	269.8	403.8	UnDef	0.00
7.79	490.0	14.97	3.05	44.5	12	120.9	0.47	0.47	0.00	1.46	234.6	341.8	UnDef	0.00
8.20	424.9	13.18	3.10	42.7	12	120.9	0.50	0.50	0.00	1.42	203.5	288.9	UnDef	0.00
8.53	349.7	11.51	3.29	40.9	12	120.9	0.52	0.52	0.00	1.39	167.5	233.2	UnDef	0.00
8.86	266.7	8.96	3.36	27.4	12	120.9	0.54	0.54	0.00	1.37	127.7	174.5	UnDef	0.00
9.19	204.0	6.22	3.05	19.5	7	117.8	0.56	0.56	0.00	1.34	65.1	87.4	UnDef	0.00
9.51	182.2	4.57	2.51	7.8	7	117.8	0.57	0.57	0.00	1.32	58.2	76.7	UnDef	0.00
9.84	190.7	3.96	2.08	6.0	7	117.8	0.59	0.59	0.00	1.30	60.9	79.0	UnDef	0.00
10.17	240.0	4.21	1.75	5.5	8	120.9	0.61	0.61	0.00	1.28	57.5	73.4	UnDef	0.00
10.50	264.2	5.88	2.23	6.6	7	117.8	0.63	0.63	0.00	1.26	84.3	106.0	UnDef	0.00
10.83	278.5	6.24	2.24	5.8	7	117.8	0.65	0.65	0.00	1.24	88.9	110.1	UnDef	0.00
11.15	323.9	8.52	2.63	8.2	7	117.8	0.67	0.67	0.00	1.22	103.4	126.2	UnDef	0.00
11.48	295.6	7.47	2.53	7.6	7	117.8	0.69	0.69	0.00	1.20	94.4	113.5	UnDef	0.00
11.81	262.0	6.37	2.43	4.7	7	117.8	0.71	0.71	0.00	1.19	83.6	99.2	UnDef	0.00
12.14	246.2	6.38	2.59	3.2	7	117.8	0.73	0.73	0.00	1.17	78.6	92.0	UnDef	0.00
12.47	233.1	6.29	2.70	3.9	7	117.8	0.75	0.75	0.00	1.16	74.4	86.0	UnDef	0.00
12.80	203.0	6.43	3.16	0.5	7	117.8	0.77	0.77	0.00	1.14	64.8	74.0	UnDef	0.00

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
13.12	176.8	5.71	3.23	1.1	6	114.6	0.79	0.79	0.00	1.13	67.7	76.3	14.08	0.00
13.45	150.1	4.82	3.21	1.3	6	114.6	0.81	0.81	0.00	1.11	57.5	64.0	11.94	0.00
13.78	127.6	3.98	3.12	1.4	6	114.6	0.82	0.82	0.00	1.10	48.9	53.8	10.14	0.00
14.11	115.5	3.27	2.83	0.6	6	114.6	0.84	0.84	0.00	1.09	44.3	48.2	9.18	0.00
14.44	118.0	3.18	2.69	0.6	7	117.8	0.86	0.86	0.00	1.08	37.7	40.6	UnDef	0.00
14.76	106.6	2.90	2.72	0.6	6	114.6	0.88	0.88	0.00	1.07	40.8	43.5	8.46	0.00
15.09	105.0	2.32	2.21	1.1	7	117.8	0.90	0.90	0.00	1.05	33.5	35.3	UnDef	0.42
15.42	110.2	2.38	2.16	1.6	7	117.8	0.92	0.92	0.00	1.04	35.2	36.7	UnDef	0.44
15.75	103.6	2.13	2.06	1.1	7	117.8	0.94	0.94	0.00	1.03	33.1	34.1	UnDef	0.38
16.08	88.3	1.90	2.16	1.3	7	117.8	0.96	0.96	0.00	1.02	28.2	28.8	UnDef	0.31
16.40	78.1	1.61	2.07	1.3	7	117.8	0.98	0.98	0.00	1.01	24.9	25.2	UnDef	0.26
16.73	75.4	1.33	1.76	1.6	7	117.8	1.00	1.00	0.00	1.00	24.1	24.1	UnDef	0.22
17.06	76.2	1.22	1.60	1.5	7	117.8	1.02	1.02	0.00	0.99	24.3	24.1	UnDef	0.20
17.39	62.1	1.01	1.62	1.4	7	117.8	1.04	1.04	0.00	0.98	19.8	19.5	UnDef	0.17
17.72	51.3	0.91	1.78	1.8	7	117.8	1.06	1.06	0.00	0.97	16.4	15.9	UnDef	0.16
18.04	44.6	0.79	1.78	2.4	7	117.8	1.07	1.07	0.00	0.96	14.2	13.7	UnDef	0.16
18.37	41.9	0.63	1.51	3.0	7	117.8	1.09	1.09	0.00	0.96	13.4	12.8	UnDef	0.14
18.70	48.2	0.62	1.28	1.9	7	117.8	1.11	1.11	0.00	0.95	15.4	14.6	UnDef	0.13
19.03	48.6	0.40	0.81	1.2	7	117.8	1.13	1.13	0.00	0.94	15.5	14.6	UnDef	0.11
19.36	35.3	0.25	0.70	1.8	7	117.8	1.15	1.15	0.00	0.93	11.3	10.5	UnDef	0.10
19.68	33.0	0.33	1.00	1.8	7	117.8	1.17	1.17	0.00	0.92	10.5	9.7	UnDef	0.11
20.01	32.8	0.37	1.13	1.7	7	117.8	1.19	1.19	0.00	0.92	10.5	9.6	UnDef	0.11
20.34	23.9	0.38	1.58	0.5	6	114.6	1.21	1.21	0.00	0.91	9.1	8.3	1.81	0.19
20.67	13.4	0.26	1.91	6.1	5	114.6	1.23	1.23	0.00	0.90	6.4	5.8	0.97	0.10
21.00	26.8	0.36	1.35	15.6	6	114.6	1.25	1.25	0.00	0.90	10.3	9.2	2.04	0.16
21.33	44.2	0.63	1.43	4.7	7	117.8	1.27	1.27	0.00	0.89	14.1	12.5	UnDef	0.14
21.65	46.7	0.84	1.80	4.6	7	117.8	1.29	1.29	0.00	0.88	14.9	13.1	UnDef	0.18
[illegible]98	44.2	0.83	1.87	9.9	7	117.8	1.30	1.30	0.00	0.88	14.1	12.3	UnDef	0.19
[illegible]31	45.9	0.87	1.90	16.6	7	117.8	1.32	1.32	0.00	0.87	14.6	12.7	UnDef	0.20
22.64	45.1	0.88	1.95	13.7	6	114.6	1.34	1.34	0.00	0.86	17.3	14.9	3.50	0.21
22.97	46.0	1.03	2.23	17.7	6	114.6	1.36	1.36	0.00	0.86	17.6	15.1	3.57	0.28
23.29	53.9	0.98	1.82	13.7	7	117.8	1.38	1.38	0.00	0.85	17.2	14.6	UnDef	0.19
23.62	59.4	1.09	1.83	10.8	7	117.8	1.40	1.40	0.00	0.85	19.0	16.0	UnDef	0.20
23.95	66.6	1.04	1.56	12.7	7	117.8	1.42	1.42	0.00	0.84	21.3	17.9	UnDef	0.18
24.28	69.1	0.90	1.30	5.5	7	117.8	1.44	1.44	0.00	0.83	22.1	18.4	UnDef	0.16
24.61	38.8	0.77	1.98	3.2	6	114.6	1.46	1.46	0.00	0.83	14.9	12.3	2.99	0.32
24.93	23.4	0.51	2.17	11.8	6	114.6	1.48	1.48	0.00	0.82	9.0	7.4	1.75	0.16
25.26	21.6	0.42	1.93	37.7	6	114.6	1.50	1.50	0.00	0.82	8.3	6.8	1.61	0.14
25.59	22.5	0.43	1.92	29.3	6	114.6	1.51	1.51	0.00	0.81	8.6	7.0	1.68	0.15
25.92	17.4	0.33	1.90	20.4	6	114.6	1.53	1.53	0.00	0.81	6.7	5.4	1.27	0.11
26.25	13.1	0.16	1.18	24.4	6	114.6	1.55	1.55	0.00	0.80	5.0	4.0	0.93	0.09
26.57	11.8	0.11	0.89	50.7	6	114.6	1.57	1.57	0.00	0.80	4.5	3.6	0.82	0.09
26.90	24.1	0.34	1.41	44.6	6	114.6	1.59	1.59	0.00	0.79	9.2	7.3	1.80	0.16
27.23	34.0	0.45	1.31	22.3	7	117.8	1.61	1.61	0.00	0.79	10.8	8.5	UnDef	0.20
27.56	31.6	0.48	1.52	13.8	6	114.6	1.63	1.63	0.00	0.78	12.1	9.5	2.40	0.25
27.89	26.1	0.55	2.11	32.8	6	114.6	1.65	1.64	0.01	0.78	10.0	7.8	1.96	0.17
28.21	29.3	0.56	1.90	31.5	6	114.6	1.67	1.65	0.02	0.78	11.2	8.8	2.21	0.21
28.54	23.2	0.45	1.95	37.8	6	114.6	1.68	1.65	0.03	0.78	8.9	6.9	1.72	0.14
28.87	15.8	0.39	2.44	54.1	5	114.6	1.70	1.66	0.04	0.78	7.6	5.9	1.13	0.10
29.20	22.3	0.40	1.80	36.9	6	114.6	1.72	1.67	0.05	0.77	8.5	6.6	1.65	0.14
29.53	25.1	0.47	1.85	19.2	6	114.6	1.74	1.68	0.06	0.77	9.6	7.4	1.87	0.16
29.86	32.7	0.50	1.53	28.8	6	114.6	1.76	1.69	0.07	0.77	12.5	9.6	2.47	0.25
30.18	26.6	0.49	1.84	18.5	6	114.6	1.78	1.70	0.08	0.77	10.2	7.8	1.99	0.17
30.59	25.6	0.45	1.76	34.8	6	114.6	1.80	1.71	0.09	0.77	9.8	7.5	1.90	0.16
31.00	26.3	0.42	1.58	25.8	6	114.6	1.83	1.72	0.11	0.76	10.1	7.7	1.96	0.17
31.33	15.8	0.33	2.09	39.3	5	114.6	1.84	1.73	0.12	0.76	7.6	5.8	1.12	0.10
31.66	28.3	0.42	1.47	47.5	6	114.6	1.86	1.74	0.13	0.76	10.8	8.2	2.11	0.19
31.99	41.7	0.43	1.03	16.2	7	117.8	1.88	1.75	0.14	0.76	13.3	10.1	UnDef	0.14
[illegible]32	26.6	0.38	1.41	29.7	6	114.6	1.90	1.75	0.15	0.76	10.2	7.7	1.98	0.17
[illegible]64	19.2	0.47	2.43	16.3	5	114.6	1.92	1.76	0.16	0.75	9.2	6.9	1.38	0.11
32.97	49.5	0.50	1.00	31.3	7	117.8	1.94	1.77	0.17	0.75	15.8	11.9	UnDef	0.13
33.30	92.0	1.00	1.09	12.0	8	120.9	1.96	1.78	0.18	0.75	22.0	16.5	UnDef	0.18

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
33.63	184.3	2.64	1.43	8.7	8	120.9	1.98	1.79	0.19	0.75	44.1	33.0	UnDef	0.00
33.96	246.0	5.32	2.16	-1.1	7	117.8	2.00	1.80	0.20	0.75	78.5	58.5	UnDef	0.00
34.28	273.1	7.42	2.72	-2.1	7	117.8	2.02	1.81	0.21	0.74	87.2	64.8	UnDef	0.00
34.61	306.1	6.82	2.23	-3.0	8	120.9	2.04	1.82	0.22	0.74	73.3	54.4	UnDef	0.00
34.94	382.2	6.47	1.69	-0.9	8	120.9	2.06	1.83	0.23	0.74	91.5	67.7	UnDef	0.00
35.27	401.6	5.98	1.49	-1.4	8	120.9	2.08	1.84	0.24	0.74	96.2	71.0	UnDef	0.00
35.60	434.7	5.68	1.31	-2.3	9	124.1	2.10	1.85	0.25	0.74	83.3	61.3	UnDef	0.00
35.92	407.8	6.95	1.70	0.0	8	120.9	2.12	1.86	0.26	0.73	97.6	71.7	UnDef	0.00
36.25	399.1	8.60	2.15	0.1	8	120.9	2.14	1.87	0.27	0.73	95.6	70.0	UnDef	0.00
36.58	388.6	8.44	2.17	0.5	8	120.9	2.16	1.88	0.28	0.73	93.0	67.9	UnDef	0.00
36.91	401.1	9.28	2.31	0.9	8	120.9	2.18	1.89	0.29	0.73	96.0	69.9	UnDef	0.00
37.24	413.6	10.49	2.54	-0.2	12	120.9	2.20	1.90	0.30	0.73	198.1	143.9	UnDef	0.00
37.57	414.9	10.01	2.41	0.7	12	120.9	2.22	1.90	0.31	0.72	198.7	144.0	UnDef	0.00
37.89	422.8	10.95	2.59	0.2	12	120.9	2.24	1.91	0.32	0.72	202.5	146.3	UnDef	0.00
38.22	419.7	9.51	2.27	-0.9	8	120.9	2.26	1.92	0.33	0.72	100.5	72.5	UnDef	0.00
38.55	402.9	9.52	2.36	-0.9	8	120.9	2.28	1.93	0.34	0.72	96.5	69.4	UnDef	0.00
38.88	388.5	8.78	2.26	-1.9	8	120.9	2.30	1.94	0.35	0.72	93.0	66.7	UnDef	0.00
39.21	374.3	10.26	2.74	3.2	12	120.9	2.31	1.95	0.36	0.72	179.2	128.3	UnDef	0.00
39.53	373.9	11.07	2.96	1.9	12	120.9	2.33	1.96	0.37	0.71	179.0	127.8	UnDef	0.00
39.86	327.0	10.61	3.24	-0.1	12	120.9	2.35	1.97	0.38	0.71	156.6	111.5	UnDef	0.00
40.19	280.9	7.21	2.57	-2.4	7	117.8	2.37	1.98	0.39	0.71	89.7	63.7	UnDef	0.00
40.52	255.5	6.00	2.35	-3.7	7	117.8	2.39	1.99	0.40	0.71	81.6	57.8	UnDef	0.00
40.85	251.9	7.16	2.84	-1.8	7	117.8	2.41	2.00	0.41	0.71	80.4	56.9	UnDef	0.00
41.17	251.6	6.05	2.41	-1.3	7	117.8	2.43	2.01	0.42	0.71	80.3	56.7	UnDef	0.00
41.50	255.3	4.18	1.64	-2.8	8	120.9	2.45	2.02	0.43	0.70	61.1	43.0	UnDef	0.00
41.83	236.5	4.95	2.09	-0.4	8	120.9	2.47	2.03	0.44	0.70	56.6	39.8	UnDef	0.00
42.16	222.2	5.69	2.56	0.1	7	117.8	2.49	2.04	0.45	0.70	70.9	49.7	UnDef	0.00
[illegible]49	208.9	6.23	2.98	10.3	7	117.8	2.51	2.05	0.46	0.70	66.7	46.6	UnDef	0.00
[illegible]81	192.1	5.71	2.97	5.2	7	117.8	2.53	2.06	0.47	0.70	61.3	42.8	UnDef	0.00
43.14	202.1	5.86	2.90	3.3	7	117.8	2.55	2.06	0.48	0.70	64.5	44.9	UnDef	0.00
43.47	195.1	5.44	2.79	0.7	7	117.8	2.57	2.07	0.50	0.69	62.3	43.3	UnDef	0.00
43.80	199.6	5.72	2.86	-0.9	7	117.8	2.59	2.08	0.51	0.69	63.7	44.2	UnDef	0.00
44.13	182.1	5.52	3.03	-3.2	7	117.8	2.61	2.09	0.52	0.69	58.1	40.2	UnDef	0.00
44.45	173.3	4.80	2.77	-4.9	7	117.8	2.63	2.10	0.53	0.69	55.3	38.2	UnDef	0.00
44.78	175.5	4.62	2.63	-5.3	7	117.8	2.65	2.11	0.54	0.69	56.0	38.6	UnDef	0.00
45.11	168.4	4.25	2.52	-5.8	7	117.8	2.67	2.12	0.55	0.69	53.8	36.9	UnDef	0.00
45.44	160.5	3.38	2.11	-6.7	7	117.8	2.68	2.13	0.56	0.69	51.2	35.1	UnDef	0.00
45.77	102.0	2.84	2.78	13.4	6	114.6	2.70	2.14	0.57	0.68	39.1	26.7	7.95	0.00
46.10	82.9	2.39	2.88	31.7	6	114.6	2.72	2.15	0.58	0.68	31.8	21.7	6.41	0.00
46.42	99.4	2.23	2.24	47.0	7	117.8	2.74	2.15	0.59	0.68	31.7	21.6	UnDef	0.45
46.75	111.7	2.15	1.92	38.7	7	117.8	2.76	2.16	0.60	0.68	35.7	24.2	UnDef	0.38
47.08	103.5	1.98	1.92	35.0	7	117.8	2.78	2.17	0.61	0.68	33.0	22.4	UnDef	0.36
47.41	98.3	1.55	1.58	37.8	7	117.8	2.80	2.18	0.62	0.68	31.4	21.2	UnDef	0.27
47.74	87.8	1.63	1.86	45.7	7	117.8	2.82	2.19	0.63	0.68	28.0	18.9	UnDef	0.33
48.06	88.5	1.74	1.97	46.7	7	117.8	2.84	2.20	0.64	0.67	28.2	19.0	UnDef	0.36
48.39	80.6	1.43	1.77	44.5	7	117.8	2.86	2.21	0.65	0.67	25.7	17.3	UnDef	0.30
48.72	68.4	1.05	1.54	57.9	7	117.8	2.88	2.22	0.66	0.67	21.8	14.7	UnDef	0.25
49.05	50.2	0.68	1.35	41.0	7	117.8	2.90	2.23	0.67	0.67	16.0	10.7	UnDef	0.27
49.38	30.7	0.41	1.32	88.9	6	114.6	2.91	2.24	0.68	0.67	11.8	7.9	2.23	0.17
49.70	23.8	0.12	0.48	103.5	7	117.8	2.93	2.24	0.69	0.67	7.6	5.1	UnDef	0.12

Interpretation Output - Release 1.00.19M
Run No: 04-0401-1123-5225
Job No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-1
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/22/03
CPT Time: 08:54
CPT File: 717CP001.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 8.41 (ft): 27.6
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.16	5.0E-04	0.00	1000.0	0.04	10	45.0	0.0	45.0	0.0	50	91.7	1.0	-0.12	0.0	15.0
0.49	5.0E-03	0.00	1000.0	0.24	10	137.1	0.0	137.1	0.0	50	95.0	1.0	-0.26	0.0	34.3
0.82	5.0E-02	0.00	1000.0	0.67	10	280.8	0.0	280.8	0.0	50	95.0	1.0	-0.36	0.0	56.2
1.15	5.0E-02	0.00	1000.0	0.65	10	444.3	0.0	444.3	0.0	50	95.0	1.0	-0.36	0.0	88.9
1.48	5.0E-03	0.00	1000.0	1.43	12	537.7	UnDef	UnDef	0.0	50	95.0	1.0	-0.45	UnDef	UnDef
1.80	5.0E-03	0.00	1000.0	2.05	12	540.2	UnDef	UnDef	0.0	50	95.0	1.0	-0.52	UnDef	UnDef
2.13	5.0E-03	0.00	1000.0	1.76	12	553.7	UnDef	UnDef	0.0	50	95.0	1.0	-0.49	UnDef	UnDef
2.46	5.0E-03	0.00	1000.0	1.86	12	614.5	UnDef	UnDef	0.0	50	95.0	1.0	-0.50	UnDef	UnDef
2.79	5.0E-04	0.00	1000.0	2.56	12	598.1	UnDef	UnDef	0.0	50	95.0	1.0	-0.57	UnDef	UnDef
3.12	5.0E-04	0.00	1000.0	2.68	12	488.5	UnDef	UnDef	0.0	50	95.0	1.0	-0.59	UnDef	UnDef
3.44	5.0E-03	0.00	1000.0	1.62	12	509.3	UnDef	UnDef	0.0	50	95.0	1.0	-0.47	UnDef	UnDef
3.77	5.0E-02	0.00	1000.0	1.04	9	547.0	0.0	547.0	0.6	50	95.0	1.0	-0.41	0.0	109.4
4.10	5.0E-02	0.00	1000.0	1.17	9	694.2	0.0	694.2	1.2	50	95.0	1.0	-0.43	0.0	138.8
4.43	5.0E-03	0.00	1000.0	1.55	12	754.9	UnDef	UnDef	0.0	50	95.0	1.0	-0.47	UnDef	UnDef
4.76	5.0E-03	0.00	1000.0	1.89	12	731.7	UnDef	UnDef	0.0	50	95.0	1.0	-0.50	UnDef	UnDef
5.09	5.0E-03	0.00	1000.0	2.37	12	664.9	UnDef	UnDef	0.0	50	95.0	1.0	-0.55	UnDef	UnDef
5.41	5.0E-03	0.00	1000.0	1.96	12	601.2	UnDef	UnDef	0.0	50	95.0	1.0	-0.51	UnDef	UnDef
5.74	5.0E-03	0.00	1000.0	2.10	12	655.4	UnDef	UnDef	0.0	50	95.0	1.0	-0.52	UnDef	UnDef
6.07	1.0E-15	0.00	1000.0	2.82	12	600.3	UnDef	UnDef	0.0	50	95.0	1.0	-0.61	UnDef	UnDef
6.40	5.0E-04	0.00	839.1	2.42	12	511.5	UnDef	UnDef	0.0	50	95.0	1.0	-0.54	UnDef	UnDef
6.73	5.0E-03	0.00	939.1	1.52	12	586.7	UnDef	UnDef	0.0	50	95.0	1.0	-0.46	UnDef	UnDef
7.05	5.0E-03	0.00	1000.0	1.71	12	754.0	UnDef	UnDef	0.0	50	95.0	1.0	-0.48	UnDef	UnDef
7.38	1.0E-15	0.00	1000.0	2.52	12	825.2	UnDef	UnDef	0.0	50	95.0	1.0	-0.57	UnDef	UnDef
7.79	1.0E-15	0.00	1000.0	3.06	12	698.5	UnDef	UnDef	0.0	50	95.0	1.0	-0.63	UnDef	UnDef
8.20	1.0E-15	0.00	855.8	3.11	12	590.5	UnDef	UnDef	0.0	50	95.0	1.0	-0.62	UnDef	UnDef
8.53	1.0E-15	0.00	677.0	3.30	12	476.6	UnDef	UnDef	0.0	50	95.0	1.0	-0.61	UnDef	UnDef
8.86	1.0E-15	0.00	496.9	3.37	12	356.6	UnDef	UnDef	0.0	48	95.0	1.0	-0.58	UnDef	UnDef
9.19	5.0E-04	0.00	366.4	3.05	12	267.9	UnDef	UnDef	0.0	48	95.0	1.0	-0.51	UnDef	UnDef
9.51	5.0E-04	0.00	316.1	2.52	12	235.2	UnDef	UnDef	0.0	46	91.8	1.0	-0.43	UnDef	UnDef
9.84	5.0E-04	0.00	320.1	2.08	9	242.2	24.7	266.9	8.5	46	92.6	1.0	-0.40	4.9	83.9
10.17	5.0E-03	0.00	390.2	1.76	9	299.9	10.5	310.4	6.3	48	95.0	1.0	-0.39	1.6	75.0
10.50	5.0E-04	0.00	416.3	2.23	12	324.9	UnDef	UnDef	0.0	48	95.0	1.0	-0.44	UnDef	UnDef
10.83	5.0E-04	0.00	426.0	2.24	12	337.5	UnDef	UnDef	0.0	48	95.0	1.0	-0.44	UnDef	UnDef
11.15	5.0E-04	0.00	481.3	2.64	12	386.8	UnDef	UnDef	0.0	48	95.0	1.0	-0.50	UnDef	UnDef
11.48	5.0E-04	0.00	426.9	2.53	12	348.1	UnDef	UnDef	0.0	48	95.0	1.0	-0.47	UnDef	UnDef
11.81	5.0E-04	0.00	367.8	2.44	12	304.2	UnDef	UnDef	0.0	48	95.0	1.0	-0.45	UnDef	UnDef
12.14	5.0E-04	0.00	336.4	2.60	12	282.1	UnDef	UnDef	0.0	48	95.0	1.0	-0.45	UnDef	UnDef
12.47	5.0E-04	0.00	310.2	2.71	12	263.5	UnDef	UnDef	0.0	46	95.0	1.0	-0.45	UnDef	UnDef
12.80	5.0E-04	0.00	263.3	3.18	12	226.7	UnDef	UnDef	0.0	46	90.7	1.0	-0.48	UnDef	UnDef

Dch (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
13.12	5.0E-05	0.00	223.5	3.25	12	195.0	UnDef	UnDef	0.0	46	86.4	10.0	-0.46	UnDef	UnDef
13.45	5.0E-05	0.00	185.2	3.23	12	163.6	UnDef	UnDef	0.0	44	81.4	10.0	-0.44	UnDef	UnDef
13.78	5.0E-05	0.00	153.7	3.14	12	137.5	UnDef	UnDef	0.0	44	76.4	10.0	-0.40	UnDef	UnDef
14.11	5.0E-05	0.00	135.9	2.85	7	123.1	59.1	182.2	17.1	44	73.2	10.0	-0.36	12.3	60.4
14.44	5.0E-04	0.00	135.8	2.71	7	124.3	55.9	180.2	16.6	44	73.5	1.0	-0.35	9.8	50.3
14.76	5.0E-05	0.00	119.9	2.74	7	111.1	57.8	168.9	17.8	42	70.3	10.0	-0.34	11.8	55.3
15.09	5.0E-04	0.00	115.6	2.23	7	108.3	45.1	153.4	16.0	42	69.6	1.0	-0.30	8.0	43.3
15.42	5.0E-04	0.00	118.8	2.17	7	112.5	44.0	156.5	15.5	42	70.6	1.0	-0.30	7.8	44.5
15.75	5.0E-04	0.00	109.3	2.08	7	104.6	42.5	147.1	15.8	42	68.6	1.0	-0.28	7.5	41.6
16.08	5.0E-04	0.00	91.0	2.18	7	88.2	47.0	135.3	18.0	42	63.7	1.0	-0.27	8.0	36.8
16.40	5.0E-04	0.00	78.8	2.09	7	77.3	46.5	123.7	19.1	42	59.9	1.0	-0.24	7.7	32.9
16.73	5.0E-04	0.00	74.6	1.79	7	73.9	39.6	113.5	18.1	40	58.6	1.0	-0.22	6.7	30.8
17.06	5.0E-04	0.00	74.0	1.62	7	74.0	35.9	109.9	17.2	40	58.6	1.0	-0.21	6.2	30.3
17.39	5.0E-04	0.00	59.0	1.65	7	59.7	39.3	99.0	19.9	40	52.5	1.0	-0.18	6.4	25.9
17.72	5.0E-04	0.00	47.6	1.82	7	48.9	47.3	96.1	23.4	38	46.8	1.0	-0.17	7.1	23.0
18.04	5.0E-04	0.00	40.5	1.82	7	42.1	51.3	93.4	25.6	38	42.5	1.0	-0.16	7.2	20.9
18.37	5.0E-04	0.00	37.3	1.55	7	39.2	44.9	84.1	25.0	38	40.4	1.0	-0.13	6.4	19.2
18.70	5.0E-04	0.00	42.3	1.31	7	44.7	36.0	80.7	21.7	38	44.2	1.0	-0.13	5.6	20.2
19.03	5.0E-04	0.00	41.9	0.83	7	44.7	23.9	68.6	18.1	38	44.2	1.0	-0.09	4.1	18.6
19.36	5.0E-04	0.00	29.7	0.72	7	32.2	25.1	57.3	21.4	36	34.8	1.0	-0.05	4.0	14.5
19.68	5.0E-04	0.00	27.1	1.04	7	29.8	36.9	66.7	25.7	36	32.6	1.0	-0.07	5.1	14.9
20.01	5.0E-04	0.00	26.5	1.17	7	29.4	42.7	72.1	27.2	36	32.2	1.0	-0.07	5.6	15.2
20.34	5.0E-05	0.00	18.7	1.66	6	21.2	84.9	106.2	36.7	32	30.0	8.5	-0.07	8.3	16.6
20.67	5.0E-06	0.02	9.9	2.11	6	11.8	47.2	58.9	53.1	UnDef	UnDef	3.2	UnDef	5.8	11.5
21.00	5.0E-05	0.02	20.5	1.41	7	23.5	72.3	95.8	33.3	34	30.0	9.8	-0.06	8.2	17.4
21.33	5.0E-04	0.00	33.9	1.47	7	38.4	48.0	86.5	25.8	36	39.9	1.0	-0.12	6.7	19.2
21.65	5.0E-04	0.00	35.3	1.85	7	40.3	61.9	102.2	27.7	38	41.2	1.0	-0.14	8.0	21.2
21.98	5.0E-04	0.01	32.8	1.93	7	37.8	69.1	106.9	29.2	36	39.4	1.0	-0.14	8.4	20.7
22.31	5.0E-04	0.01	33.6	1.96	7	39.0	69.7	108.7	29.0	36	40.3	1.0	-0.14	8.5	21.2
22.64	5.0E-05	0.01	32.5	2.01	7	38.1	74.5	112.5	29.8	36	39.6	10.0	-0.14	10.5	25.4
22.97	5.0E-05	0.01	32.8	2.30	6	38.6	91.3	129.9	31.3	36	40.0	10.0	-0.16	11.9	27.0
23.29	5.0E-04	0.01	38.0	1.87	7	44.8	62.1	107.0	26.8	38	44.3	1.0	-0.15	8.3	23.0
23.62	5.0E-04	0.01	41.4	1.87	7	49.1	59.9	109.0	25.6	38	46.9	1.0	-0.16	8.4	24.4
23.95	5.0E-04	0.01	45.9	1.59	7	54.7	48.1	102.8	22.5	38	50.0	1.0	-0.16	7.4	25.2
24.28	5.0E-04	0.00	47.0	1.33	7	56.4	40.0	96.4	20.5	38	50.9	1.0	-0.14	6.4	24.8
24.61	5.0E-05	0.00	25.6	2.05	6	31.4	105.6	137.0	33.9	34	34.1	10.0	-0.12	11.5	23.8
24.93	5.0E-05	0.02	14.8	2.31	6	18.8	75.3	94.1	45.5	32	30.0	5.9	-0.07	7.4	14.7
25.26	5.0E-05	0.06	13.4	2.07	6	17.3	69.2	86.4	46.0	32	30.0	5.1	-0.04	6.8	13.5
25.59	5.0E-05	0.04	13.8	2.06	6	17.9	71.4	89.3	45.3	32	30.0	5.3	-0.05	7.0	14.0
25.92	5.0E-05	0.04	10.4	2.08	6	13.8	55.0	68.8	51.8	30	30.0	3.4	-0.02	5.4	10.8
26.25	5.0E-05	0.07	7.4	1.34	6	10.3	41.2	51.5	53.7	30	30.0	2.2	0.05	4.0	8.1
26.57	5.0E-05	0.16	6.5	1.03	6	9.2	36.8	45.9	53.9	30	30.0	1.8	0.09	3.6	7.2
26.90	5.0E-05	0.06	14.2	1.51	6	18.7	74.8	93.5	40.9	32	30.0	5.5	-0.03	7.3	14.6
27.23	5.0E-04	0.02	20.1	1.38	7	26.2	81.4	107.6	33.3	34	30.0	1.0	-0.06	7.7	16.2
27.56	5.0E-05	0.01	18.4	1.61	6	24.2	96.9	121.2	36.6	32	30.0	8.3	-0.06	9.5	19.0
27.89	5.0E-05	0.04	14.9	2.26	6	19.9	79.8	99.7	45.0	32	30.0	6.0	-0.06	7.8	15.6
28.21	5.0E-05	0.03	16.8	2.01	6	22.4	89.4	111.8	41.2	32	30.0	7.2	-0.07	8.8	17.5
28.54	5.0E-05	0.05	13.0	2.10	6	17.6	70.5	88.2	46.9	30	30.0	4.8	-0.04	6.9	13.8
28.87	5.0E-06	0.12	8.5	2.73	4	12.0	48.1	60.1	60.7	UnDef	UnDef	2.6	UnDef	5.9	11.8
29.20	5.0E-05	0.05	12.3	1.95	6	16.9	67.5	84.4	47.0	30	30.0	4.5	-0.03	6.6	13.2
29.53	5.0E-05	0.02	13.9	1.99	6	19.0	75.9	94.9	44.8	32	30.0	5.4	-0.05	7.4	14.9
29.86	5.0E-05	0.03	18.3	1.62	6	24.6	98.4	123.0	36.8	32	30.0	8.2	-0.06	9.6	19.3
30.18	5.0E-05	0.02	14.6	1.98	6	20.0	80.0	100.0	43.6	32	30.0	5.8	-0.05	7.8	15.7
30.59	5.0E-05	0.04	13.9	1.90	6	19.2	76.6	95.8	44.1	32	30.0	5.4	-0.04	7.5	15.0
31.00	5.0E-05	0.03	14.3	1.70	6	19.7	78.7	98.3	42.2	32	30.0	5.6	-0.04	7.7	15.4
31.33	5.0E-06	0.08	8.1	2.37	4	11.8	47.1	58.8	59.7	UnDef	UnDef	2.4	UnDef	5.8	11.5
31.66	5.0E-05	0.05	15.2	1.58	6	21.0	84.0	105.0	40.0	32	30.0	6.1	-0.04	8.2	16.4
31.99	5.0E-04	0.01	22.8	1.08	7	30.9	53.7	84.6	28.8	34	33.6	1.0	-0.05	6.6	16.7
32.32	5.0E-05	0.03	14.1	1.52	6	19.7	78.7	98.3	41.1	32	30.0	5.5	-0.03	7.7	15.4
32.64	5.0E-06	0.02	9.8	2.70	4	14.2	56.7	70.8	57.0	UnDef	UnDef	3.2	UnDef	6.9	13.9
32.97	5.0E-04	0.02	26.8	1.04	7	36.4	46.0	82.4	25.9	36	38.3	1.0	-0.06	6.4	18.2
33.30	5.0E-03	0.00	50.6	1.11	7	67.5	36.4	103.8	18.1	38	56.0	1.0	-0.13	4.6	21.1

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
33.63	5.0E-03	0.00	101.8	1.45	9	134.8	38.0	172.8	13.2	42	75.8	1.0	-0.23	5.3	38.2
33.96	5.0E-04	0.00	135.6	2.18	7	179.5	60.6	240.1	14.5	44	84.0	1.0	-0.31	11.0	69.5
34.28	5.0E-04	0.00	149.9	2.74	7	198.8	81.5	280.2	15.9	44	87.0	1.0	-0.37	14.4	79.3
34.61	5.0E-03	0.00	167.3	2.24	7	222.2	61.3	283.5	13.1	44	90.2	1.0	-0.34	8.5	62.9
34.94	5.0E-03	0.00	208.0	1.70	9	276.6	35.7	312.3	9.3	46	95.0	1.0	-0.32	5.2	72.9
35.27	5.0E-03	0.00	217.5	1.50	9	290.0	25.8	315.8	8.1	46	95.0	1.0	-0.31	3.8	74.8
35.60	5.0E-02	0.00	234.2	1.31	9	313.0	15.3	328.3	6.7	46	95.0	1.0	-0.30	1.8	63.1
35.92	5.0E-03	0.00	218.5	1.71	9	292.9	35.3	328.2	9.0	46	95.0	1.0	-0.33	5.2	76.8
36.25	5.0E-03	0.00	212.7	2.17	9	285.9	55.9	341.8	11.1	46	95.0	1.0	-0.36	8.0	77.9
36.58	5.0E-03	0.00	206.0	2.18	9	277.6	57.3	334.9	11.4	46	95.0	1.0	-0.36	8.1	76.1
36.91	5.0E-03	0.00	211.5	2.33	9	285.8	63.4	349.2	11.8	46	95.0	1.0	-0.37	9.0	78.9
37.24	1.0E-15	0.00	217.1	2.55	7	294.0	73.4	367.4	12.5	46	95.0	1.0	-0.39	20.5	164.4
37.57	1.0E-15	0.00	216.6	2.43	9	294.2	67.9	362.1	12.0	46	95.0	1.0	-0.38	19.1	163.1
37.89	1.0E-15	0.00	219.7	2.60	7	299.1	76.1	375.2	12.6	46	95.0	1.0	-0.40	21.3	167.6
38.22	5.0E-03	0.00	217.0	2.28	9	296.1	61.5	357.7	11.4	46	95.0	1.0	-0.37	8.7	81.2
38.55	5.0E-03	0.00	207.2	2.38	9	283.6	66.7	350.3	12.1	46	95.0	1.0	-0.37	9.4	78.8
38.88	5.0E-03	0.00	198.7	2.27	9	272.7	62.8	335.5	12.0	46	95.0	1.0	-0.36	8.8	75.6
39.21	1.0E-15	0.00	190.5	2.76	7	262.1	84.7	346.8	14.1	44	94.9	1.0	-0.40	23.1	151.4
39.53	1.0E-15	0.00	189.3	2.98	12	261.2	UnDef	UnDef	0.0	44	94.8	1.0	-0.42	UnDef	UnDef
39.86	1.0E-15	0.00	164.6	3.27	12	227.9	UnDef	UnDef	0.0	44	90.9	1.0	-0.42	UnDef	UnDef
40.19	5.0E-04	0.00	140.6	2.59	7	195.3	79.6	274.9	15.8	44	86.5	1.0	-0.35	14.1	77.8
40.52	5.0E-04	0.00	127.1	2.37	7	177.2	71.9	249.1	15.8	44	83.7	1.0	-0.32	12.7	70.5
40.85	5.0E-04	0.00	124.8	2.87	7	174.3	92.2	266.5	18.0	42	83.2	1.0	-0.35	15.7	72.6
41.17	5.0E-04	0.00	124.1	2.43	7	173.7	74.7	248.4	16.3	42	83.1	1.0	-0.32	13.1	69.8
41.50	5.0E-03	0.00	125.3	1.65	9	175.9	44.9	220.8	12.6	44	83.5	1.0	-0.26	6.3	49.3
41.83	5.0E-03	0.00	115.4	2.11	7	162.5	63.4	226.0	15.5	42	81.2	1.0	-0.29	8.5	48.2
42.16	5.0E-04	0.00	107.9	2.59	7	152.4	82.8	235.2	18.2	42	79.3	1.0	-0.32	14.0	63.7
[illegible]49	5.0E-04	0.00	100.9	3.02	7	142.9	101.3	244.2	20.5	42	77.5	1.0	-0.34	16.3	62.9
[illegible]81	5.0E-04	0.00	92.2	3.01	7	131.1	102.4	233.5	21.4	42	75.0	1.0	-0.33	16.2	58.9
43.14	5.0E-04	0.00	96.7	2.94	7	137.7	98.7	236.3	20.6	42	76.4	1.0	-0.33	15.9	60.8
43.47	5.0E-04	0.00	92.9	2.83	7	132.6	94.8	227.4	20.6	42	75.4	1.0	-0.31	15.3	58.5
43.80	5.0E-04	0.00	94.6	2.90	7	135.4	98.0	233.3	20.7	42	76.0	1.0	-0.32	15.7	59.9
44.13	5.0E-04	0.00	85.8	3.08	7	123.2	107.3	230.5	22.4	42	73.3	1.0	-0.32	16.5	56.7
44.45	5.0E-04	0.00	81.3	2.81	7	117.0	96.8	213.9	22.0	42	71.8	1.0	-0.30	15.1	53.3
44.78	5.0E-04	0.00	81.9	2.67	7	118.2	90.9	209.1	21.3	42	72.1	1.0	-0.29	14.4	53.0
45.11	5.0E-04	0.00	78.2	2.56	7	113.2	87.3	200.5	21.3	42	70.8	1.0	-0.28	13.8	50.8
45.44	5.0E-04	0.00	74.2	2.14	7	107.7	71.5	179.1	19.9	40	69.4	1.0	-0.24	11.7	46.8
45.77	5.0E-05	0.00	46.5	2.86	6	68.3	121.6	189.9	29.0	38	56.4	10.0	-0.23	17.9	44.6
46.10	5.0E-05	0.01	37.4	2.98	6	55.4	156.9	212.3	32.7	38	50.3	10.0	-0.21	18.6	40.3
46.42	5.0E-04	0.01	44.9	2.31	7	66.3	92.8	159.1	26.9	38	55.5	1.0	-0.19	12.4	34.0
46.75	5.0E-04	0.01	50.4	1.97	7	74.3	73.1	147.4	23.6	38	58.8	1.0	-0.19	10.9	35.1
47.08	5.0E-04	0.00	46.4	1.97	7	68.7	75.7	144.4	24.6	38	56.5	1.0	-0.18	10.9	33.4
47.41	5.0E-04	0.01	43.8	1.62	7	65.1	62.4	127.5	23.3	38	55.0	1.0	-0.15	9.4	30.6
47.74	5.0E-04	0.01	38.8	1.92	7	58.0	80.5	138.6	26.8	38	51.7	1.0	-0.16	10.8	29.7
48.06	5.0E-04	0.01	38.9	2.04	7	58.4	86.5	144.8	27.4	38	51.8	1.0	-0.16	11.3	30.4
48.39	5.0E-04	0.01	35.2	1.84	7	53.1	81.1	134.1	27.6	38	49.1	1.0	-0.14	10.5	27.8
48.72	5.0E-04	0.02	29.5	1.61	7	44.9	77.9	122.9	28.8	36	44.3	1.0	-0.11	9.6	24.3
49.05	5.0E-04	0.01	21.3	1.43	7	32.9	94.6	127.6	32.8	34	35.4	1.0	-0.07	9.3	20.0
49.38	5.0E-05	0.08	12.4	1.46	6	20.1	80.5	100.6	43.1	30	30.0	4.5	-0.01	7.9	15.7
49.70	5.0E-04	0.12	9.3	0.55	6	15.5	62.2	77.7	39.4	30	30.0	1.0	0.09	5.1	10.1

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.00.19M
Job No: 04-0401-1123-5274
Job No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-10
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/23/03
CPT Time: 10:53
CPT File: 717CP010.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 0.82 (ft): 2.7
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
0.16	12.5	0.03	0.24	0.5	6	114.6	0.01	0.01	0.00	2.00	4.8	9.6	1.00	0.00
0.49	22.3	0.09	0.41	0.3	7	117.8	0.03	0.03	0.00	2.00	7.1	14.2	UnDef	0.09
0.82	22.0	0.11	0.48	-0.3	7	117.8	0.05	0.05	0.00	2.00	7.0	14.0	UnDef	0.09
1.15	20.9	0.12	0.55	0.0	7	117.8	0.07	0.07	0.00	2.00	6.7	13.3	UnDef	0.09
48	30.3	0.15	0.48	0.3	7	117.8	0.09	0.09	0.00	2.00	9.7	19.3	UnDef	0.10
80	70.1	0.31	0.44	1.6	8	120.9	0.11	0.11	0.00	2.00	16.8	33.6	UnDef	0.31
2.13	119.3	0.56	0.47	-0.2	9	124.1	0.13	0.13	0.00	2.00	22.8	45.7	UnDef	0.00
2.46	172.9	0.88	0.51	-4.9	9	124.1	0.15	0.15	0.00	2.00	33.1	66.2	UnDef	0.00
2.79	239.4	1.64	0.69	-6.5	9	124.1	0.17	0.16	0.00	2.00	45.9	91.7	UnDef	0.00
3.12	260.4	2.37	0.91	-5.7	9	124.1	0.19	0.17	0.01	2.00	49.9	99.8	UnDef	0.00
3.44	277.7	2.56	0.92	-1.5	9	124.1	0.21	0.18	0.02	2.00	53.2	106.4	UnDef	0.00
3.77	266.9	2.61	0.98	0.7	9	124.1	0.23	0.19	0.03	2.00	51.1	102.3	UnDef	0.00
4.10	222.5	1.99	0.90	3.6	9	124.1	0.25	0.20	0.04	2.00	42.6	85.2	UnDef	0.00
4.43	172.8	1.28	0.74	-0.3	9	124.1	0.27	0.21	0.05	2.00	33.1	66.2	UnDef	0.00
4.76	175.2	1.01	0.58	6.8	9	124.1	0.29	0.22	0.06	2.00	33.6	67.1	UnDef	0.00
5.09	160.2	0.99	0.62	5.1	9	124.1	0.31	0.23	0.07	2.00	30.7	61.4	UnDef	0.00
5.41	154.3	1.07	0.70	2.9	9	124.1	0.33	0.25	0.08	2.00	29.6	59.1	UnDef	0.00
5.74	156.0	1.44	0.93	0.7	9	124.1	0.35	0.26	0.09	1.98	29.9	59.1	UnDef	0.00
6.07	163.1	1.38	0.85	1.2	9	124.1	0.37	0.27	0.11	1.94	31.2	60.7	UnDef	0.00
6.40	157.5	1.00	0.64	10.8	9	124.1	0.39	0.28	0.12	1.91	30.2	57.5	UnDef	0.00
6.73	149.5	0.81	0.54	13.9	9	124.1	0.41	0.29	0.13	1.87	28.6	53.6	UnDef	0.00
7.05	144.6	0.69	0.47	15.5	9	124.1	0.43	0.30	0.14	1.84	27.7	50.9	UnDef	0.00
7.38	157.2	0.91	0.58	14.0	9	124.1	0.45	0.31	0.15	1.81	30.1	54.4	UnDef	0.00
7.79	158.1	1.09	0.69	15.8	9	124.1	0.48	0.32	0.16	1.77	30.3	53.7	UnDef	0.00
8.20	150.7	0.99	0.66	15.4	9	124.1	0.50	0.33	0.17	1.74	28.9	50.2	UnDef	0.00
8.53	152.1	0.95	0.63	11.7	9	124.1	0.52	0.34	0.18	1.71	29.1	49.9	UnDef	0.00
8.86	137.1	0.88	0.64	-2.2	9	124.1	0.54	0.35	0.19	1.69	26.3	44.3	UnDef	0.00
9.19	111.7	0.71	0.63	-1.1	9	124.1	0.56	0.36	0.20	1.66	21.4	35.6	UnDef	0.00
9.51	85.0	0.45	0.53	-7.6	8	120.9	0.58	0.37	0.21	1.64	20.3	33.4	UnDef	0.32
9.84	63.4	0.18	0.28	-6.9	8	120.9	0.60	0.38	0.22	1.62	15.2	24.6	UnDef	0.17
10.17	55.3	0.11	0.19	6.0	8	120.9	0.62	0.39	0.23	1.60	13.2	21.2	UnDef	0.14
10.50	55.1	0.18	0.33	11.7	8	120.9	0.64	0.40	0.24	1.58	13.2	20.9	UnDef	0.14
10.83	64.0	0.33	0.51	11.2	8	120.9	0.66	0.41	0.25	1.56	15.3	23.9	UnDef	0.17
11.15	88.0	0.44	0.50	8.5	8	120.9	0.68	0.42	0.26	1.54	21.1	32.5	UnDef	0.30
11.48	80.6	0.58	0.71	0.5	8	120.9	0.70	0.43	0.27	1.53	19.3	29.5	UnDef	0.24
81	135.5	1.44	1.06	-4.3	8	120.9	0.72	0.44	0.28	1.51	32.4	49.0	UnDef	0.00
12.14	160.9	2.28	1.42	1.7	8	120.9	0.74	0.45	0.29	1.49	38.5	57.6	UnDef	0.00
12.47	160.3	3.14	1.96	-2.3	7	117.8	0.76	0.46	0.30	1.48	51.2	75.7	UnDef	0.00
12.80	136.1	3.44	2.53	-7.0	7	117.8	0.78	0.47	0.31	1.46	43.4	63.6	UnDef	0.00

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60 (blows/ft)	Su (tsf)	CRR
33.63	7.3	0.08	1.02	88.7	5	114.6	1.99	1.03	0.96	0.99	3.5	3.5	0.43	0.08
33.96	7.7	0.09	1.11	89.9	5	114.6	2.01	1.03	0.98	0.98	3.7	3.6	0.45	0.08
34.28	8.0	0.07	0.88	96.6	5	114.6	2.03	1.04	0.99	0.98	3.8	3.7	0.47	0.09
34.61	15.9	0.09	0.57	34.0	6	114.6	2.05	1.05	1.00	0.98	6.1	5.9	1.11	0.11
34.94	10.8	0.09	0.79	26.5	6	114.6	2.07	1.06	1.01	0.97	4.1	4.0	0.70	0.09
35.27	15.0	0.17	1.10	32.3	6	114.6	2.08	1.07	1.02	0.97	5.7	5.6	1.03	0.11
35.60	25.6	0.17	0.65	15.9	7	117.8	2.10	1.08	1.03	0.96	8.2	7.9	UnDef	0.09
35.92	31.5	0.16	0.51	10.3	7	117.8	2.12	1.09	1.04	0.96	10.0	9.6	UnDef	0.09
36.25	26.8	0.37	1.36	22.7	6	114.6	2.14	1.09	1.05	0.96	10.3	9.8	1.98	0.15
36.58	38.6	0.63	1.62	38.0	7	117.8	2.16	1.10	1.06	0.95	12.3	11.7	UnDef	0.15
36.91	105.8	0.47	0.44	-3.6	9	124.1	2.18	1.11	1.07	0.95	20.3	19.2	UnDef	0.17
37.24	135.9	0.71	0.52	-4.6	9	124.1	2.20	1.12	1.08	0.94	26.0	24.6	UnDef	0.28
37.57	122.6	0.86	0.70	-5.0	9	124.1	2.22	1.13	1.09	0.94	23.5	22.1	UnDef	0.25
37.89	104.8	0.63	0.60	-15.8	8	120.9	2.24	1.14	1.10	0.94	25.1	23.5	UnDef	0.19
38.22	85.5	0.89	1.04	-16.4	8	120.9	2.26	1.15	1.11	0.93	20.5	19.1	UnDef	0.18
38.55	95.4	1.74	1.82	-13.0	7	117.8	2.28	1.16	1.12	0.93	30.4	28.2	UnDef	0.29
38.88	88.8	2.70	3.04	-21.8	6	114.6	2.30	1.17	1.13	0.92	34.0	31.4	6.92	0.00
39.21	84.3	3.50	4.16	-24.7	5	114.6	2.32	1.18	1.14	0.92	40.4	37.2	6.56	0.00
39.53	121.5	4.28	3.52	-25.4	6	114.6	2.34	1.19	1.15	0.92	46.5	42.7	9.53	0.00
39.86	299.5	3.36	1.12	-25.9	9	124.1	2.36	1.20	1.16	0.91	57.4	52.4	UnDef	0.00
40.19	309.6	4.66	1.51	-25.5	8	120.9	2.38	1.21	1.17	0.91	74.1	67.5	UnDef	0.00
40.52	184.1	6.81	3.70	-25.2	12	120.9	2.40	1.22	1.18	0.91	88.1	79.9	UnDef	0.00
40.85	126.3	6.42	5.08	-25.4	11	130.5	2.42	1.23	1.19	0.90	121.0	109.2	UnDef	0.00
41.17	98.5	5.53	5.62	-26.0	11	130.5	2.44	1.24	1.20	0.90	94.3	84.8	UnDef	0.00
41.50	149.3	6.10	4.09	-26.4	11	130.5	2.46	1.25	1.21	0.89	142.9	127.9	UnDef	0.00
41.83	184.5	6.77	3.67	-27.0	12	120.9	2.48	1.26	1.22	0.89	88.3	78.7	UnDef	0.00
42.16	159.2	5.47	3.44	-27.5	6	114.6	2.50	1.27	1.23	0.89	61.0	54.1	12.54	0.00
[illegible]49	104.4	3.06	2.93	-27.7	6	114.6	2.52	1.28	1.24	0.88	40.0	35.4	8.15	0.00
[illegible]81	65.6	1.88	2.86	-27.9	6	114.6	2.54	1.29	1.25	0.88	25.1	22.2	5.05	0.43
43.14	72.6	2.39	3.29	-28.2	6	114.6	2.56	1.29	1.26	0.88	27.8	24.5	5.61	0.00
43.47	107.6	3.15	2.93	-28.3	6	114.6	2.58	1.30	1.27	0.88	41.2	36.1	8.40	0.00
43.80	138.7	4.71	3.39	-28.6	6	114.6	2.59	1.31	1.28	0.87	53.1	46.4	10.89	0.00
44.13	177.2	5.43	3.07	-28.8	7	117.8	2.61	1.32	1.29	0.87	56.6	49.2	UnDef	0.00
44.45	226.5	7.03	3.10	-28.9	7	117.8	2.63	1.33	1.30	0.87	72.3	62.7	UnDef	0.00
44.78	277.6	9.59	3.45	-28.8	12	120.9	2.65	1.34	1.31	0.86	132.9	114.9	UnDef	0.00
45.11	305.0	10.56	3.46	-28.6	12	120.9	2.67	1.35	1.32	0.86	146.0	125.8	UnDef	0.00
45.44	305.8	12.50	4.09	-28.2	12	120.9	2.69	1.36	1.33	0.86	146.4	125.7	UnDef	0.00
45.77	336.3	11.65	3.47	-28.0	12	120.9	2.71	1.37	1.34	0.86	161.0	137.7	UnDef	0.00
46.10	386.4	10.95	2.83	-28.1	12	120.9	2.73	1.38	1.35	0.85	185.0	157.7	UnDef	0.00
46.42	419.2	9.73	2.32	-28.1	8	120.9	2.75	1.39	1.36	0.85	100.4	85.2	UnDef	0.00
46.75	419.0	11.04	2.64	-28.5	12	120.9	2.77	1.40	1.37	0.85	200.6	169.8	UnDef	0.00
47.08	535.2	5.94	1.11	-28.5	9	124.1	2.79	1.41	1.38	0.84	102.5	86.4	UnDef	0.00

Interpretation Output - Release 1.00.19M
Run No: 04-0401-1123-5274
Job No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-10
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/23/03
CPT Time: 10:53
CPT File: 717CP010.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 0.82 (ft): 2.7
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.16	5.0E-05	0.00	1000.0	0.24	10	24.0	0.0	24.0	0.0	50	74.0	10.0	-0.27	0.0	9.6
0.49	5.0E-04	0.00	781.5	0.41	10	42.6	0.0	42.6	0.0	50	74.6	1.0	-0.29	0.0	14.2
0.82	5.0E-04	0.00	459.6	0.43	10	42.1	0.0	42.1	0.0	48	66.8	1.0	-0.26	0.0	14.0
1.15	5.0E-04	0.00	309.9	0.55	9	39.9	0.0	39.9	1.2	46	60.4	1.0	-0.24	0.0	13.3
1.48	5.0E-04	0.00	349.4	0.48	10	58.0	0.0	58.0	0.3	48	67.5	1.0	-0.23	0.0	19.3
[illegible]80	5.0E-03	0.00	660.9	0.44	10	134.4	0.0	134.4	0.0	50	88.7	1.0	-0.28	0.0	33.6
[illegible]13	5.0E-02	0.00	944.9	0.47	10	228.4	0.0	228.4	0.0	50	95.0	1.0	-0.32	0.0	45.7
2.46	5.0E-02	0.00	1000.0	0.51	10	331.2	0.0	331.2	0.0	50	95.0	1.0	-0.33	0.0	66.2
2.79	5.0E-02	0.00	1000.0	0.69	10	458.6	0.0	458.6	0.0	50	95.0	1.0	-0.36	0.0	91.7
3.12	5.0E-02	0.00	1000.0	0.91	10	498.8	0.0	498.8	0.1	50	95.0	1.0	-0.39	0.0	99.8
3.44	5.0E-02	0.00	1000.0	0.92	10	531.9	0.0	531.9	0.2	50	95.0	1.0	-0.40	0.0	106.4
3.77	5.0E-02	0.00	1000.0	0.98	10	511.3	0.0	511.3	0.4	50	95.0	1.0	-0.40	0.0	102.3
4.10	5.0E-02	0.00	1000.0	0.90	10	426.2	0.0	426.2	0.0	50	95.0	1.0	-0.39	0.0	85.2
4.43	5.0E-02	0.00	803.7	0.74	10	331.0	0.0	331.0	0.0	50	95.0	1.0	-0.35	0.0	66.2
4.76	5.0E-02	0.00	778.1	0.58	10	335.6	0.0	335.6	0.0	50	95.0	1.0	-0.32	0.0	67.1
5.09	5.0E-02	0.00	680.5	0.62	10	306.8	0.0	306.8	0.0	50	95.0	1.0	-0.32	0.0	61.4
5.41	5.0E-02	0.00	628.3	0.70	10	295.5	0.0	295.5	0.0	50	95.0	1.0	-0.32	0.0	59.1
5.74	5.0E-02	0.00	609.8	0.93	9	298.7	0.0	298.7	1.2	50	95.0	1.0	-0.35	0.0	59.1
6.07	5.0E-02	0.00	613.5	0.85	9	309.9	0.0	309.9	0.8	50	95.0	1.0	-0.34	0.0	60.7
6.40	5.0E-02	0.00	570.5	0.64	10	293.7	0.0	293.7	0.0	50	95.0	1.0	-0.30	0.0	57.5
6.73	5.0E-02	0.00	522.3	0.54	10	273.9	0.0	273.9	0.0	48	95.0	1.0	-0.28	0.0	53.6
7.05	5.0E-02	0.00	487.6	0.48	10	260.2	0.0	260.2	0.0	48	94.7	1.0	-0.26	0.0	50.9
7.38	5.0E-02	0.00	512.4	0.58	10	278.1	0.0	278.1	0.0	48	95.0	1.0	-0.29	0.0	54.4
7.79	5.0E-02	0.00	495.0	0.69	10	274.2	0.0	274.2	0.6	48	95.0	1.0	-0.30	0.0	53.7
8.20	5.0E-02	0.00	453.7	0.66	10	256.4	0.0	256.4	0.6	48	94.3	1.0	-0.29	0.0	50.2
8.53	5.0E-02	0.00	444.2	0.63	10	254.8	0.0	254.8	0.5	48	94.1	1.0	-0.28	0.0	49.9
8.86	5.0E-02	0.00	388.8	0.64	9	226.4	0.0	226.4	1.0	48	90.7	1.0	-0.27	0.0	44.3
9.19	5.0E-02	0.00	307.3	0.64	9	181.7	0.0	181.7	1.8	46	84.4	1.0	-0.25	0.0	35.6
9.51	5.0E-03	-0.01	227.3	0.53	9	136.5	0.0	136.5	2.3	46	76.2	1.0	-0.21	0.0	33.4
9.84	5.0E-03	-0.01	164.8	0.29	9	100.5	0.0	100.5	1.8	44	67.4	1.0	-0.13	0.0	24.6
10.17	5.0E-03	0.00	140.0	0.19	9	86.6	0.0	86.6	1.7	44	63.1	1.0	-0.08	0.0	21.2
10.50	5.0E-03	0.00	136.1	0.33	9	85.2	0.0	85.2	3.2	44	62.7	1.0	-0.12	0.0	20.9
10.83	5.0E-03	0.00	154.6	0.51	9	97.8	0.0	97.8	4.1	44	66.6	1.0	-0.17	0.0	23.9
11.15	5.0E-03	0.00	208.2	0.51	9	133.0	0.0	133.0	2.5	46	75.4	1.0	-0.19	0.0	32.5
11.48	5.0E-03	0.00	186.3	0.72	9	120.5	0.0	120.5	4.6	44	72.6	1.0	-0.22	0.0	29.5
11.81	5.0E-03	0.00	307.3	1.07	9	200.2	0.0	200.2	4.2	46	87.2	1.0	-0.30	0.0	49.0
[illegible]14	5.0E-03	0.00	357.4	1.42	9	235.2	1.5	236.7	5.2	48	91.8	1.0	-0.35	0.2	57.8
[illegible]47	5.0E-04	0.00	348.8	1.97	9	232.0	17.3	249.3	7.6	48	91.4	1.0	-0.40	3.4	79.1
12.80	5.0E-04	0.00	290.0	2.54	12	195.0	UnDef	UnDef	0.0	46	86.4	1.0	-0.43	UnDef	UnDef

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
13.12	5.0E-05	-0.01	184.7	3.28	12	125.7	UnDef	UnDef	0.0	44	73.8	10.0	-0.44	UnDef	UnDef
13.45	5.0E-05	-0.01	90.1	2.46	7	62.5	39.0	101.5	19.4	42	53.8	10.0	-0.29	7.7	32.2
13.78	5.0E-04	-0.01	83.9	1.53	7	58.8	22.8	81.6	15.5	42	52.1	1.0	-0.21	4.1	23.3
14.11	5.0E-05	0.01	48.7	2.11	7	34.9	39.1	74.0	24.8	38	37.1	10.0	-0.19	6.7	20.4
14.44	5.0E-06	0.11	29.1	2.09	6	21.6	55.7	77.2	32.0	UnDef	UnDef	10.0	UnDef	8.7	19.2
14.76	5.0E-05	0.07	39.3	1.57	7	28.9	31.3	60.1	24.5	38	31.7	10.0	-0.13	5.4	16.8
15.09	5.0E-04	0.00	60.0	1.14	7	43.9	19.2	63.1	16.4	40	43.7	1.0	-0.15	3.4	17.7
15.42	5.0E-04	0.00	63.1	0.90	9	46.5	15.0	61.4	14.1	40	45.3	1.0	-0.13	2.7	17.9
15.75	5.0E-05	0.01	53.8	1.37	7	40.1	24.4	64.6	19.2	40	41.1	10.0	-0.16	4.9	20.6
16.08	5.0E-05	0.03	40.7	1.78	7	30.9	36.4	67.3	25.3	38	33.6	10.0	-0.15	6.2	18.3
16.40	5.0E-05	0.04	38.6	1.85	7	29.6	39.4	69.0	26.4	38	32.4	10.0	-0.15	6.4	18.0
16.73	5.0E-05	0.03	31.4	2.04	7	24.5	52.5	77.0	30.5	36	30.0	10.0	-0.14	7.1	16.7
17.06	5.0E-05	0.03	37.4	1.46	7	29.2	31.1	60.3	24.3	38	32.0	10.0	-0.12	5.4	16.9
17.39	5.0E-05	0.03	40.7	1.44	7	31.9	29.9	61.8	23.1	38	34.5	10.0	-0.13	5.4	17.9
17.72	5.0E-05	0.03	33.9	1.44	7	27.0	32.8	59.8	25.5	36	30.0	10.0	-0.11	5.5	16.1
18.04	5.0E-05	0.10	27.6	1.47	7	22.4	39.2	61.5	28.8	36	30.0	10.0	-0.09	5.8	14.6
18.37	5.0E-05	0.02	42.9	1.41	7	34.2	29.1	63.4	22.2	38	36.6	10.0	-0.13	5.4	18.8
18.70	5.0E-05	0.02	45.6	1.54	7	36.6	31.3	67.9	22.3	38	38.5	10.0	-0.15	5.8	20.1
19.03	5.0E-05	0.04	38.7	1.44	7	31.5	31.6	63.0	23.8	38	34.1	10.0	-0.12	5.6	17.9
19.36	5.0E-05	0.07	32.0	1.93	7	26.5	50.8	77.2	29.6	36	30.0	10.0	-0.13	7.2	17.6
19.68	5.0E-05	0.10	27.9	2.19	6	23.4	71.7	95.2	33.2	36	30.0	10.0	-0.12	8.2	17.4
20.01	5.0E-05	0.13	23.8	1.96	6	20.3	75.7	96.0	34.5	34	30.0	10.0	-0.09	7.7	15.7
20.34	5.0E-04	0.07	45.1	1.15	7	37.5	24.4	61.8	19.8	38	39.1	1.0	-0.12	4.0	16.2
20.67	5.0E-03	0.00	102.8	0.47	9	84.1	0.0	84.1	5.0	42	62.3	1.0	-0.12	0.0	20.6
21.00	5.0E-03	0.00	75.1	0.62	9	62.3	9.9	72.2	10.2	40	53.7	1.0	-0.12	1.4	16.7
21.33	5.0E-04	0.01	57.1	1.46	7	48.0	28.9	76.9	19.1	40	46.3	1.0	-0.17	4.8	20.5
21.65	5.0E-04	0.01	53.9	1.57	7	45.7	32.1	77.9	20.5	40	44.9	1.0	-0.17	5.2	20.1
[illegible]98	5.0E-04	0.00	71.9	1.18	7	60.9	21.6	82.4	14.8	40	53.0	1.0	-0.17	3.9	23.7
[illegible]31	5.0E-04	0.00	69.7	1.33	7	59.5	25.0	84.5	16.1	40	52.4	1.0	-0.18	4.4	23.8
22.64	5.0E-04	0.00	72.9	1.16	9	62.5	21.4	83.9	14.5	40	53.8	1.0	-0.17	3.9	24.3
22.97	5.0E-04	0.00	65.7	1.27	7	56.8	24.7	81.5	16.3	40	51.1	1.0	-0.17	4.3	22.9
23.29	5.0E-04	0.00	53.0	1.06	7	46.4	22.4	68.9	17.2	40	45.3	1.0	-0.13	3.9	19.0
23.62	5.0E-04	0.00	47.0	0.82	7	41.6	18.6	60.2	16.6	38	42.2	1.0	-0.10	3.2	16.8
23.95	5.0E-04	0.00	37.8	0.87	7	34.0	21.8	55.7	19.6	38	36.3	1.0	-0.08	3.6	14.7
24.28	5.0E-04	0.00	33.3	0.91	7	30.3	24.4	54.7	21.7	36	33.0	1.0	-0.08	3.8	13.7
24.61	5.0E-04	0.00	37.6	1.09	7	34.2	27.1	61.3	21.6	38	36.5	1.0	-0.10	4.3	15.4
24.93	5.0E-04	0.00	37.7	1.01	7	34.5	25.3	59.8	20.9	38	36.7	1.0	-0.10	4.1	15.3
25.26	5.0E-04	0.00	36.1	0.81	7	33.3	21.5	54.9	19.7	38	35.8	1.0	-0.07	3.5	14.4
25.59	5.0E-04	0.00	34.4	0.75	7	32.0	20.8	52.8	19.8	38	34.6	1.0	-0.06	3.4	13.9
25.92	5.0E-04	0.00	33.6	0.80	7	31.5	22.3	53.7	20.5	36	34.1	1.0	-0.07	3.6	13.9
26.25	5.0E-05	0.00	30.9	1.13	7	29.2	32.1	61.3	24.6	36	32.0	10.0	-0.09	5.6	17.0
26.57	5.0E-05	0.00	28.5	1.20	7	27.2	35.8	63.0	26.3	36	30.0	10.0	-0.08	5.9	16.5
26.90	5.0E-05	0.00	28.4	1.06	7	27.3	32.1	59.4	25.2	36	30.0	10.0	-0.07	5.5	16.1
27.23	5.0E-04	0.00	39.2	0.72	7	37.2	19.3	56.5	17.8	38	38.9	1.0	-0.07	3.3	15.4
27.56	5.0E-04	0.00	37.0	0.52	7	35.4	15.4	50.8	16.4	38	37.5	1.0	-0.04	2.7	14.3
27.89	5.0E-04	0.00	25.3	0.79	7	24.9	26.9	51.8	24.5	34	30.0	1.0	-0.04	3.9	12.0
28.21	5.0E-05	0.01	23.9	1.09	7	23.8	38.1	61.9	28.1	34	30.0	10.0	-0.06	5.8	15.1
28.54	5.0E-05	0.00	25.1	1.32	7	24.9	45.7	70.7	29.2	34	30.0	10.0	-0.08	6.6	16.4
28.87	5.0E-05	0.00	19.9	1.48	6	20.2	73.1	93.4	34.3	34	30.0	9.4	-0.06	7.6	15.5
29.20	5.0E-04	-0.01	23.3	0.73	7	23.5	27.1	50.6	25.1	34	30.0	1.0	-0.03	3.9	11.5
29.53	5.0E-04	0.00	22.4	0.51	7	22.8	21.2	44.0	23.0	34	30.0	1.0	0.00	3.2	10.7
29.86	5.0E-05	0.00	17.9	0.69	7	18.7	32.6	51.3	28.8	32	30.0	8.0	0.00	4.8	12.2
30.18	5.0E-05	0.00	16.0	0.60	7	17.0	32.7	49.6	29.6	32	30.0	6.7	0.02	4.6	11.3
30.59	5.0E-05	0.02	9.3	1.06	5	10.7	42.7	53.4	45.7	30	30.0	3.0	0.04	4.2	8.4
31.00	5.0E-06	0.15	7.1	1.25	5	8.7	34.6	43.3	53.9	UnDef	UnDef	2.1	UnDef	4.2	8.5
31.33	5.0E-06	0.21	6.6	1.42	4	8.2	32.8	41.0	57.4	UnDef	UnDef	1.9	UnDef	4.0	8.0
31.66	5.0E-06	0.09	7.5	1.51	5	9.1	36.4	45.5	55.1	UnDef	UnDef	2.2	UnDef	4.5	8.9
31.99	5.0E-06	0.10	6.8	1.42	4	8.5	34.0	42.5	56.6	UnDef	UnDef	1.9	UnDef	4.2	8.3
[illegible]32	5.0E-06	0.22	6.4	1.41	4	8.2	32.7	40.8	58.0	UnDef	UnDef	1.8	UnDef	4.0	8.0
[illegible].64	5.0E-06	0.27	5.3	1.62	4	7.0	28.1	35.2	65.4	UnDef	UnDef	1.4	UnDef	3.4	6.9
32.97	5.0E-06	0.32	5.2	1.42	4	7.1	28.2	35.3	63.6	UnDef	UnDef	1.4	UnDef	3.5	6.9
33.30	5.0E-06	0.34	5.3	1.31	4	7.1	28.4	35.5	62.4	UnDef	UnDef	1.4	UnDef	3.5	7.0

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
33.63	5.0E-06	0.34	5.2	1.40	4	7.1	28.4	35.5	63.5	UnDef	UnDef	1.4	UnDef	3.5	7.0
33.96	5.0E-06	0.32	5.5	1.50	4	7.4	29.5	36.9	63.2	UnDef	UnDef	1.5	UnDef	3.6	7.2
34.28	5.0E-06	0.34	5.7	1.18	4	7.6	30.5	38.1	59.0	UnDef	UnDef	1.6	UnDef	3.7	7.5
34.61	5.0E-05	0.00	13.2	0.65	7	15.2	50.3	65.5	33.8	32	30.0	4.9	0.03	5.5	11.4
34.94	5.0E-05	-0.02	8.2	0.98	6	10.3	41.1	51.3	47.5	30	30.0	2.5	0.05	4.0	8.0
35.27	5.0E-05	0.00	12.1	1.28	6	14.2	56.9	71.1	42.1	30	30.0	4.3	0.00	5.6	11.1
35.60	5.0E-04	-0.02	21.8	0.70	7	24.1	30.0	54.1	25.7	34	30.0	1.0	-0.02	4.2	12.1
35.92	5.0E-04	-0.02	27.0	0.55	7	29.6	21.5	51.1	20.8	36	32.3	1.0	-0.02	3.4	13.1
36.25	5.0E-05	-0.01	22.6	1.48	7	25.1	66.2	91.3	32.2	34	30.0	10.0	-0.08	8.2	18.0
36.58	5.0E-04	0.00	33.1	1.72	7	36.0	56.0	92.0	27.8	36	38.0	1.0	-0.13	7.2	19.0
36.91	5.0E-02	-0.01	93.1	0.45	9	98.1	0.0	98.1	5.0	42	66.7	1.0	-0.11	0.0	19.2
37.24	5.0E-02	-0.01	119.0	0.53	9	125.5	2.8	128.2	5.8	42	73.8	1.0	-0.15	0.3	24.9
37.57	5.0E-02	-0.01	106.2	0.71	9	112.7	10.1	122.8	8.1	42	70.7	1.0	-0.16	1.2	23.3
37.89	5.0E-03	-0.02	89.7	0.61	9	95.9	10.1	106.0	8.6	42	66.1	1.0	-0.14	1.5	25.0
38.22	5.0E-03	-0.02	72.2	1.07	9	77.9	24.7	102.6	14.0	40	60.1	1.0	-0.16	3.4	22.4
38.55	5.0E-04	-0.02	80.1	1.87	7	86.6	44.8	131.4	17.8	42	63.1	1.0	-0.23	7.7	35.9
38.88	5.0E-05	-0.02	73.9	3.12	7	80.3	84.9	165.2	24.3	40	61.0	10.0	-0.31	14.9	46.3
39.21	5.0E-06	-0.02	69.5	4.27	6	76.0	137.7	213.7	29.1	UnDef	UnDef	10.0	UnDef	25.1	62.3
39.53	5.0E-05	-0.02	100.3	3.59	7	109.1	97.3	206.4	22.7	42	69.8	10.0	-0.39	17.9	60.6
39.86	5.0E-02	-0.01	248.2	1.13	9	267.9	3.7	271.6	5.5	46	95.0	1.0	-0.29	0.4	52.9
40.19	5.0E-03	-0.01	254.5	1.52	9	275.7	17.9	293.6	7.3	46	95.0	1.0	-0.32	2.7	70.1
40.52	1.0E-15	-0.01	149.3	3.75	12	163.3	UnDef	UnDef	0.0	44	81.3	1.0	-0.46	UnDef	UnDef
40.85	1.0E-15	-0.02	101.0	5.13	11	111.6	UnDef	UnDef	0.0	42	70.4	1.0	-0.58	UnDef	UnDef
41.17	1.0E-15	-0.02	77.6	5.75	11	86.6	UnDef	UnDef	0.0	42	63.2	1.0	-0.64	UnDef	UnDef
41.50	1.0E-15	-0.01	117.5	4.15	11	130.7	UnDef	UnDef	0.0	42	74.9	1.0	-0.47	UnDef	UnDef
41.83	1.0E-15	-0.01	144.4	3.72	12	160.8	UnDef	UnDef	0.0	44	80.9	1.0	-0.45	UnDef	UnDef
42.16	5.0E-05	-0.01	123.5	3.49	12	138.3	UnDef	UnDef	0.0	42	76.6	10.0	-0.41	UnDef	UnDef
[illegible]49	5.0E-05	-0.02	79.8	3.01	7	90.4	83.1	173.5	22.9	42	64.4	10.0	-0.31	15.1	50.5
[illegible]81	5.0E-05	-0.03	49.1	2.98	6	56.6	98.6	155.2	28.8	38	51.0	10.0	-0.25	14.6	36.8
43.14	5.0E-05	-0.03	54.1	3.41	6	62.5	114.8	177.2	29.3	40	53.8	10.0	-0.29	16.6	41.1
43.47	5.0E-05	-0.02	80.6	3.00	7	92.2	83.5	175.7	22.8	42	65.0	10.0	-0.31	15.3	51.4
43.80	5.0E-05	-0.02	103.7	3.46	7	118.5	97.0	215.5	21.9	42	72.1	10.0	-0.38	18.2	64.6
44.13	5.0E-04	-0.01	132.2	3.11	7	150.9	83.5	234.4	18.3	44	79.1	1.0	-0.38	14.1	63.3
44.45	5.0E-04	-0.01	168.4	3.14	12	192.2	UnDef	UnDef	0.0	44	86.0	1.0	-0.42	UnDef	UnDef
44.78	1.0E-15	-0.01	205.3	3.49	12	234.7	UnDef	UnDef	0.0	46	91.7	1.0	-0.48	UnDef	UnDef
45.11	1.0E-15	-0.01	224.2	3.49	12	257.0	UnDef	UnDef	0.0	46	94.3	1.0	-0.49	UnDef	UnDef
45.44	1.0E-15	-0.01	223.2	4.12	12	256.8	UnDef	UnDef	0.0	46	94.3	1.0	-0.56	UnDef	UnDef
45.77	1.0E-15	-0.01	243.9	3.49	12	281.4	UnDef	UnDef	0.0	46	95.0	1.0	-0.50	UnDef	UnDef
46.10	1.0E-15	-0.01	278.6	2.85	12	322.2	UnDef	UnDef	0.0	46	95.0	1.0	-0.45	UnDef	UnDef
46.42	5.0E-03	-0.01	300.3	2.34	12	348.3	UnDef	UnDef	0.0	46	95.0	1.0	-0.41	UnDef	UnDef
46.75	1.0E-15	-0.01	298.0	2.65	12	347.0	UnDef	UnDef	0.0	46	95.0	1.0	-0.44	UnDef	UnDef
47.08	5.0E-02	0.00	378.5	1.12	9	441.6	0.0	441.6	3.6	48	95.0	1.0	-0.33	0.0	86.4

Interpretation Output - Release 1.00.19M

Run No: 04-0401-1123-5324

Job No: 04-717

Client: MACTEC

Project: TVA Kingston

Site: CPT-8

Location: TVA Kingston

Cone: 20 TON AD142

CPT Date: 04/23/03

CPT Time: 12:41

CPT File: 717CP008.COR

Northing (m): 0.000

Easting (m): 0.000

Elevation (m): 0.000

Water Table (m): 3.05 (ft): 10.0

Unit Weight of Water (User Specified): 62.40 pcf

Su Nkt used: 12.50 Su/P' (nc): 0.30

Averaging Increment (m): 0.10

Phi Method : Robertson and Campanella, 1983

Dr Method : Jamiolkowski - All Sands

State Parameter M: 1.20

Used Unit Weights Assigned to Soil Zones

Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
0.16	21.7	0.13	0.58	0.0	7	117.8	0.01	0.01	0.00	2.00	6.9	13.9	UnDef	0.09
0.49	35.2	0.37	1.04	-1.5	7	117.8	0.03	0.03	0.00	2.00	11.2	22.5	UnDef	0.11
0.82	44.6	0.55	1.22	-4.2	7	117.8	0.05	0.05	0.00	2.00	14.2	28.5	UnDef	0.14
1.15	50.5	0.73	1.45	-7.8	7	117.8	0.07	0.07	0.00	2.00	16.1	32.3	UnDef	0.16
1.48	51.8	0.79	1.53	-11.5	7	117.8	0.09	0.09	0.00	2.00	16.5	33.1	UnDef	0.17
1.80	54.6	0.88	1.61	-13.1	7	117.8	0.11	0.11	0.00	2.00	17.4	34.9	UnDef	0.19
2.13	51.7	0.79	1.53	-13.0	7	117.8	0.13	0.13	0.00	2.00	16.5	33.0	UnDef	0.17
2.46	53.5	0.61	1.14	-12.8	7	117.8	0.14	0.14	0.00	2.00	17.1	34.1	UnDef	0.18
2.79	82.1	0.74	0.90	-9.3	8	120.9	0.16	0.16	0.00	2.00	19.7	39.3	UnDef	0.44
3.12	138.3	1.21	0.88	-8.3	9	124.1	0.18	0.18	0.00	2.00	26.5	53.0	UnDef	0.00
3.44	164.0	1.53	0.93	-4.3	9	124.1	0.20	0.20	0.00	2.00	31.4	62.8	UnDef	0.00
3.77	181.3	1.68	0.93	-8.1	9	124.1	0.23	0.23	0.00	2.00	34.7	69.4	UnDef	0.00
4.10	193.6	1.85	0.96	-7.0	9	124.1	0.25	0.25	0.00	2.00	37.1	74.1	UnDef	0.00
4.43	183.3	2.04	1.11	-6.5	9	124.1	0.27	0.27	0.00	1.94	35.1	68.1	UnDef	0.00
4.76	174.6	1.85	1.06	-7.3	9	124.1	0.29	0.29	0.00	1.87	33.4	62.5	UnDef	0.00
5.09	174.5	1.61	0.92	-5.3	9	124.1	0.31	0.31	0.00	1.81	33.4	60.4	UnDef	0.00
5.41	190.9	1.80	0.95	-5.7	9	124.1	0.33	0.33	0.00	1.75	36.6	63.9	UnDef	0.00
5.74	213.4	1.90	0.89	-6.1	9	124.1	0.35	0.35	0.00	1.70	40.9	69.3	UnDef	0.00
6.07	210.6	2.02	0.96	-3.0	9	124.1	0.37	0.37	0.00	1.65	40.3	66.5	UnDef	0.00
6.40	212.4	2.18	1.02	-1.8	9	124.1	0.39	0.39	0.00	1.61	40.7	65.3	UnDef	0.00
6.73	207.3	2.27	1.10	-2.2	9	124.1	0.41	0.41	0.00	1.56	39.7	62.1	UnDef	0.00
7.05	209.9	2.78	1.33	2.0	8	120.9	0.43	0.43	0.00	1.53	50.3	76.8	UnDef	0.00
7.38	204.8	2.41	1.18	2.2	8	120.9	0.45	0.45	0.00	1.49	49.0	73.2	UnDef	0.00
7.79	174.6	2.03	1.16	0.6	8	120.9	0.47	0.47	0.00	1.45	41.8	60.8	UnDef	0.00
8.20	114.7	1.61	1.40	-1.9	8	120.9	0.50	0.50	0.00	1.42	27.5	38.9	UnDef	0.00
8.53	71.1	1.56	2.19	-1.7	7	117.8	0.52	0.52	0.00	1.39	22.7	31.5	UnDef	0.28
8.86	49.5	1.12	2.27	0.0	6	114.6	0.54	0.54	0.00	1.37	19.0	25.9	3.92	0.18
9.19	36.1	0.60	1.67	-0.2	6	114.6	0.56	0.56	0.00	1.34	13.8	18.6	2.84	0.12
9.51	28.2	0.54	1.90	0.5	6	114.6	0.57	0.57	0.00	1.32	10.8	14.3	2.21	0.12
9.84	20.8	0.55	2.65	1.7	5	114.6	0.59	0.59	0.00	1.30	10.0	13.0	1.62	0.18
10.17	19.7	0.55	2.78	-0.9	5	114.6	0.61	0.61	0.00	1.28	9.4	12.1	1.52	0.25
10.50	17.7	0.49	2.75	2.1	5	114.6	0.63	0.62	0.01	1.27	8.5	10.8	1.37	0.21
10.83	17.3	0.49	2.84	0.3	5	114.6	0.65	0.62	0.03	1.27	8.3	10.5	1.33	0.19
11.15	16.3	0.49	3.01	2.3	5	114.6	0.67	0.63	0.04	1.26	7.8	9.8	1.25	0.17
11.48	19.3	0.52	2.67	0.7	5	114.6	0.69	0.64	0.05	1.25	9.3	11.6	1.49	0.23
11.81	20.2	0.54	2.68	0.6	5	114.6	0.71	0.65	0.06	1.24	9.7	12.0	1.56	0.25
12.14	19.8	0.59	2.99	3.9	5	114.6	0.72	0.66	0.07	1.23	9.5	11.7	1.52	0.24
12.47	21.3	0.54	2.54	5.9	5	114.6	0.74	0.67	0.08	1.22	10.2	12.5	1.65	0.21
12.80	28.6	0.76	2.66	-1.9	6	114.6	0.76	0.68	0.09	1.22	11.0	13.3	2.23	0.18

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60 (blows/ft)	Su (tsf)	CRR
13.12	26.9	0.73	2.70	3.0	5	114.6	0.78	0.68	0.10	1.21	12.9	15.6	2.09	0.20
13.45	35.9	0.62	1.72	5.1	6	114.6	0.80	0.69	0.11	1.20	13.7	16.5	2.81	0.12
13.78	66.6	0.75	1.12	-0.5	7	117.8	0.82	0.70	0.12	1.19	21.3	25.4	UnDef	0.16
14.11	56.3	0.74	1.31	-10.4	7	117.8	0.84	0.71	0.13	1.19	18.0	21.3	UnDef	0.15
14.44	47.1	0.66	1.39	-3.3	7	117.8	0.86	0.72	0.14	1.18	15.0	17.7	UnDef	0.13
14.76	44.5	0.55	1.23	0.7	7	117.8	0.88	0.73	0.15	1.17	14.2	16.6	UnDef	0.12
15.09	42.6	0.39	0.91	-3.2	7	117.8	0.90	0.74	0.16	1.16	13.6	15.8	UnDef	0.11
15.42	24.0	0.33	1.36	-3.8	6	114.6	0.92	0.75	0.17	1.16	9.2	10.6	1.85	0.11
15.75	17.7	0.22	1.24	-5.1	6	114.6	0.93	0.76	0.18	1.15	6.8	7.8	1.34	0.11
16.08	12.8	0.15	1.17	5.6	6	114.6	0.95	0.76	0.19	1.14	4.9	5.6	0.95	0.11
16.40	9.8	0.14	1.38	10.3	5	114.6	0.97	0.77	0.20	1.14	4.7	5.4	0.71	0.10
16.73	5.6	0.10	1.78	18.0	4	114.6	0.99	0.78	0.21	1.13	3.6	4.1	0.37	0.08
17.06	7.8	0.07	0.83	17.3	5	114.6	1.01	0.79	0.22	1.13	3.7	4.2	0.54	0.09
17.39	11.3	0.04	0.36	6.6	6	114.6	1.03	0.80	0.23	1.12	4.3	4.8	0.82	0.00
17.72	16.4	0.03	0.18	8.7	6	114.6	1.05	0.81	0.24	1.11	6.3	7.0	1.23	0.00
18.04	15.7	0.04	0.25	8.9	6	114.6	1.07	0.82	0.25	1.11	6.0	6.7	1.17	0.00
18.37	14.7	0.05	0.34	9.1	6	114.6	1.08	0.82	0.26	1.10	5.6	6.2	1.09	0.00
18.70	14.3	0.05	0.35	9.5	6	114.6	1.10	0.83	0.27	1.10	5.5	6.0	1.06	0.00
19.03	13.4	0.05	0.34	9.8	6	114.6	1.12	0.84	0.28	1.09	5.1	5.6	0.98	0.00
19.36	14.9	0.04	0.24	10.1	6	114.6	1.14	0.85	0.29	1.09	5.7	6.2	1.10	0.00
19.68	16.3	0.04	0.21	10.2	6	114.6	1.16	0.86	0.30	1.08	6.3	6.8	1.21	0.00
20.01	20.8	0.05	0.24	10.7	7	117.8	1.18	0.87	0.31	1.07	6.6	7.1	UnDef	0.00
20.34	22.7	0.04	0.18	10.7	7	117.8	1.20	0.88	0.32	1.07	7.2	7.7	UnDef	0.00
20.67	24.8	0.04	0.16	11.2	7	117.8	1.22	0.89	0.33	1.06	7.9	8.4	UnDef	0.00
21.00	26.8	0.06	0.21	11.6	7	117.8	1.24	0.89	0.34	1.06	8.5	9.0	UnDef	0.00
21.33	20.9	0.04	0.19	12.0	7	117.8	1.26	0.90	0.35	1.05	6.7	7.0	UnDef	0.00
21.65	19.6	0.10	0.49	12.2	6	114.6	1.27	0.91	0.36	1.05	7.5	7.9	1.47	0.09
[illegible]98	27.5	0.11	0.38	12.6	7	117.8	1.29	0.92	0.37	1.04	8.8	9.1	UnDef	0.00
[illegible]31	27.5	0.11	0.38	13.4	7	117.8	1.31	0.93	0.38	1.04	8.8	9.1	UnDef	0.00
22.64	26.5	0.10	0.38	13.3	7	117.8	1.33	0.94	0.39	1.03	8.5	8.7	UnDef	0.00
22.97	25.5	0.11	0.43	11.6	7	117.8	1.35	0.95	0.40	1.03	8.2	8.4	UnDef	0.00
23.29	37.9	0.09	0.24	13.1	8	120.9	1.37	0.96	0.41	1.02	9.1	9.3	UnDef	0.09
23.62	38.8	0.12	0.30	12.9	8	120.9	1.39	0.97	0.42	1.02	9.3	9.4	UnDef	0.09
23.95	30.4	0.24	0.79	12.8	7	117.8	1.41	0.98	0.43	1.01	9.7	9.8	UnDef	0.10
24.28	52.4	0.73	1.40	15.5	7	117.8	1.43	0.99	0.44	1.01	16.7	16.8	UnDef	0.14
24.61	210.9	1.39	0.66	10.0	9	124.1	1.45	1.00	0.46	1.00	40.4	40.5	UnDef	0.00
24.93	331.2	3.00	0.90	5.0	9	124.1	1.47	1.01	0.47	1.00	63.4	63.3	UnDef	0.00
25.26	288.7	4.22	1.46	6.8	8	120.9	1.49	1.02	0.48	0.99	69.1	68.6	UnDef	0.00
25.59	241.6	3.15	1.30	19.2	8	120.9	1.51	1.02	0.49	0.99	57.8	57.2	UnDef	0.00
25.92	228.6	2.20	0.96	10.2	9	124.1	1.53	1.03	0.50	0.98	43.8	43.1	UnDef	0.00
26.25	185.3	1.76	0.95	17.3	9	124.1	1.55	1.04	0.51	0.98	35.5	34.7	UnDef	0.00
26.57	150.1	1.25	0.83	15.6	9	124.1	1.57	1.05	0.52	0.97	28.8	28.0	UnDef	0.40
26.90	49.6	0.32	0.65	15.9	8	120.9	1.59	1.06	0.53	0.97	11.9	11.5	UnDef	0.11
27.23	19.8	0.26	1.31	31.2	6	114.6	1.61	1.07	0.54	0.97	7.6	7.3	1.46	0.16
27.56	59.8	0.44	0.73	28.9	8	120.9	1.63	1.08	0.55	0.96	14.3	13.8	UnDef	0.12
27.89	63.0	0.26	0.41	27.5	8	120.9	1.65	1.09	0.56	0.96	15.1	14.4	UnDef	0.10
28.21	62.8	0.27	0.42	25.6	8	120.9	1.67	1.10	0.57	0.95	15.0	14.3	UnDef	0.10
28.54	84.4	0.36	0.42	21.4	8	120.9	1.69	1.11	0.58	0.95	20.2	19.2	UnDef	0.12
28.87	136.4	0.21	0.15	16.7	9	124.1	1.71	1.12	0.59	0.94	26.1	24.7	UnDef	0.27
29.20	118.0	0.13	0.11	18.0	9	124.1	1.73	1.13	0.60	0.94	22.6	21.2	UnDef	0.20
29.53	87.7	0.11	0.12	18.3	9	124.1	1.75	1.14	0.61	0.94	16.8	15.7	UnDef	0.13
29.86	77.2	0.07	0.09	19.0	8	120.9	1.77	1.15	0.62	0.93	18.5	17.2	UnDef	0.11
30.18	89.5	0.13	0.14	19.8	9	124.1	1.79	1.16	0.63	0.93	17.1	15.9	UnDef	0.13
30.59	77.1	0.14	0.18	20.5	8	120.9	1.82	1.17	0.64	0.92	18.5	17.0	UnDef	0.11
31.00	69.0	0.10	0.15	20.8	8	120.9	1.84	1.19	0.65	0.92	16.5	15.2	UnDef	0.10
31.33	55.2	0.15	0.27	20.9	8	120.9	1.86	1.20	0.66	0.91	13.2	12.1	UnDef	0.09
31.66	40.9	0.31	0.76	23.6	7	117.8	1.88	1.20	0.68	0.91	13.0	11.9	UnDef	0.10
31.99	30.1	0.25	0.83	21.6	7	117.8	1.90	1.21	0.69	0.91	9.6	8.7	UnDef	0.10
[illegible]32	39.0	0.08	0.19	21.9	8	120.9	1.92	1.22	0.70	0.90	9.3	8.5	UnDef	0.08
[illegible]64	48.1	0.05	0.09	22.6	8	120.9	1.94	1.23	0.71	0.90	11.5	10.4	UnDef	0.09
32.97	41.3	0.06	0.13	22.9	8	120.9	1.96	1.24	0.72	0.90	9.9	8.9	UnDef	0.08
33.30	48.5	0.11	0.22	23.1	8	120.9	1.98	1.25	0.73	0.89	11.6	10.4	UnDef	0.09

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
33.63	68.1	0.34	0.50	23.7	8	120.9	2.00	1.26	0.74	0.89	16.3	14.5	UnDef	0.12
33.96	53.8	0.58	1.07	25.6	7	117.8	2.02	1.27	0.75	0.89	17.2	15.2	UnDef	0.13
34.28	37.6	0.46	1.21	25.6	7	117.8	2.04	1.28	0.76	0.88	12.0	10.6	UnDef	0.13
34.61	26.7	0.31	1.16	25.5	6	114.6	2.06	1.29	0.77	0.88	10.2	9.0	1.97	0.16
34.94	23.9	0.31	1.28	27.4	6	114.6	2.07	1.30	0.78	0.88	9.1	8.0	1.74	0.18
35.27	26.8	0.27	0.99	26.6	7	117.8	2.09	1.31	0.79	0.88	8.6	7.5	UnDef	0.13
35.60	31.3	0.31	0.98	27.1	7	117.8	2.11	1.32	0.80	0.87	10.0	8.7	UnDef	0.12
35.92	28.2	0.38	1.33	29.4	6	114.6	2.13	1.32	0.81	0.87	10.8	9.4	2.08	0.20
36.25	22.7	0.43	1.87	37.8	6	114.6	2.15	1.33	0.82	0.87	8.7	7.5	1.65	0.16
36.58	28.0	0.37	1.31	33.2	6	114.6	2.17	1.34	0.83	0.86	10.7	9.3	2.06	0.20
36.91	29.3	0.38	1.30	30.8	6	114.6	2.19	1.35	0.84	0.86	11.2	9.7	2.17	0.19
37.24	25.1	0.42	1.68	36.4	6	114.6	2.21	1.36	0.85	0.86	9.6	8.2	1.83	0.19
37.57	23.0	0.41	1.79	37.5	6	114.6	2.23	1.37	0.86	0.86	8.8	7.5	1.66	0.16
37.89	31.7	0.36	1.14	30.4	7	117.8	2.25	1.38	0.87	0.85	10.1	8.6	UnDef	0.14
38.22	28.5	0.34	1.20	30.3	6	114.6	2.26	1.38	0.88	0.85	10.9	9.3	2.10	0.18
38.55	24.3	0.33	1.34	34.5	6	114.6	2.28	1.39	0.89	0.85	9.3	7.9	1.76	0.18
38.88	23.1	0.36	1.56	40.1	6	114.6	2.30	1.40	0.90	0.84	8.9	7.5	1.67	0.16
39.21	32.1	0.39	1.20	31.9	7	117.8	2.32	1.41	0.91	0.84	10.3	8.6	UnDef	0.16
39.53	40.7	0.41	1.01	30.8	7	117.8	2.34	1.42	0.92	0.84	13.0	10.9	UnDef	0.12
39.86	41.3	0.45	1.08	31.2	7	117.8	2.36	1.43	0.93	0.84	13.2	11.0	UnDef	0.13
40.19	48.9	0.49	1.00	30.8	7	117.8	2.38	1.44	0.94	0.83	15.6	13.0	UnDef	0.12
40.52	47.9	0.48	0.99	31.5	7	117.8	2.40	1.45	0.95	0.83	15.3	12.7	UnDef	0.12
40.85	54.7	0.53	0.97	31.7	7	117.8	2.42	1.46	0.96	0.83	17.5	14.5	UnDef	0.13
41.17	53.7	0.55	1.02	31.9	7	117.8	2.44	1.46	0.97	0.83	17.2	14.2	UnDef	0.13
41.50	43.9	0.47	1.06	32.5	7	117.8	2.46	1.47	0.98	0.82	14.0	11.5	UnDef	0.13
41.83	35.3	0.44	1.25	33.4	7	117.8	2.48	1.48	0.99	0.82	11.3	9.3	UnDef	0.16
42.16	28.8	0.44	1.51	34.7	6	114.6	2.49	1.49	1.00	0.82	11.0	9.0	2.11	0.22
[illegible]49	27.8	0.41	1.48	35.0	6	114.6	2.51	1.50	1.01	0.82	10.7	8.7	2.02	0.21
[illegible]81	25.6	0.38	1.49	36.1	6	114.6	2.53	1.51	1.02	0.81	9.8	8.0	1.85	0.18
43.14	22.6	0.36	1.57	37.4	6	114.6	2.55	1.52	1.03	0.81	8.7	7.0	1.61	0.15
43.47	18.7	0.32	1.71	41.1	6	114.6	2.57	1.53	1.04	0.81	7.2	5.8	1.29	0.12
43.80	17.7	0.27	1.53	40.7	6	114.6	2.59	1.53	1.05	0.81	6.8	5.5	1.21	0.11
44.13	13.5	0.26	1.89	45.5	5	114.6	2.61	1.54	1.06	0.81	6.5	5.2	0.87	0.09
44.45	10.5	0.24	2.29	61.3	5	114.6	2.63	1.55	1.07	0.80	5.0	4.0	0.63	0.00
44.78	13.7	0.27	1.93	55.6	5	114.6	2.64	1.56	1.08	0.80	6.6	5.3	0.89	0.09
45.11	16.7	0.28	1.65	51.0	6	114.6	2.66	1.57	1.09	0.80	6.4	5.1	1.12	0.11
45.44	17.7	0.28	1.59	47.3	6	114.6	2.68	1.58	1.11	0.80	6.8	5.4	1.20	0.11
45.77	15.7	0.30	1.88	55.8	5	114.6	2.70	1.59	1.12	0.79	7.5	6.0	1.04	0.10
46.10	17.6	0.32	1.80	54.9	6	114.6	2.72	1.59	1.13	0.79	6.7	5.3	1.19	0.11
46.42	17.9	0.32	1.79	50.6	6	114.6	2.74	1.60	1.14	0.79	6.9	5.4	1.21	0.11
46.75	16.2	0.31	1.92	54.1	5	114.6	2.76	1.61	1.15	0.79	7.8	6.1	1.07	0.10
47.08	17.2	0.30	1.72	54.1	6	114.6	2.78	1.62	1.16	0.79	6.6	5.2	1.15	0.11
47.41	17.7	0.31	1.75	52.1	6	114.6	2.80	1.63	1.17	0.78	6.8	5.3	1.20	0.11
47.74	19.5	0.33	1.67	53.2	6	114.6	2.81	1.64	1.18	0.78	7.5	5.8	1.33	0.12
48.06	21.9	0.34	1.56	50.8	6	114.6	2.83	1.65	1.19	0.78	8.4	6.5	1.52	0.13
48.39	20.4	0.32	1.57	50.7	6	114.6	2.85	1.65	1.20	0.78	7.8	6.1	1.40	0.12
48.72	17.3	0.33	1.91	56.1	6	114.6	2.87	1.66	1.21	0.78	6.6	5.1	1.16	0.11
49.05	20.3	0.35	1.72	53.7	6	114.6	2.89	1.67	1.22	0.77	7.8	6.0	1.40	0.12
49.38	19.2	0.35	1.80	48.5	6	114.6	2.91	1.68	1.23	0.77	7.4	5.7	1.31	0.12
49.70	17.2	0.32	1.86	55.5	6	114.6	2.93	1.69	1.24	0.77	6.6	5.1	1.14	0.11
50.03	17.9	0.33	1.82	58.0	6	114.6	2.95	1.70	1.25	0.77	6.9	5.3	1.20	0.11
50.36	23.8	0.34	1.43	53.0	6	114.6	2.96	1.71	1.26	0.77	9.1	7.0	1.67	0.15
50.69	24.2	0.36	1.47	53.1	6	114.6	2.98	1.71	1.27	0.76	9.3	7.1	1.70	0.15
51.02	24.0	0.38	1.56	59.7	6	114.6	3.00	1.72	1.28	0.76	9.2	7.0	1.68	0.15
51.34	20.6	0.36	1.73	65.3	6	114.6	3.02	1.73	1.29	0.76	7.9	6.0	1.41	0.12
51.67	19.2	0.37	1.90	70.3	6	114.6	3.04	1.74	1.30	0.76	7.4	5.6	1.30	0.11
52.00	18.3	0.39	2.10	67.8	6	114.6	3.06	1.75	1.31	0.76	7.0	5.3	1.22	0.11
52.33	16.0	0.49	3.04	72.6	5	114.6	3.08	1.76	1.32	0.75	7.7	5.8	1.03	0.00
[illegible]66	10.9	0.32	2.89	107.3	4	114.6	3.10	1.77	1.33	0.75	7.0	5.2	0.63	0.00
[illegible]98	10.4	0.14	1.34	150.3	5	114.6	3.11	1.77	1.34	0.75	5.0	3.8	0.59	0.09
53.31	11.1	0.16	1.45	138.7	5	114.6	3.13	1.78	1.35	0.75	5.3	4.0	0.63	0.09
53.64	11.6	0.19	1.64	125.1	5	114.6	3.15	1.79	1.36	0.75	5.6	4.2	0.68	0.09

[illegible]ch (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
53.97	11.4	0.24	2.12	112.2	5	114.6	3.17	1.80	1.37	0.75	5.4	4.1	0.65	0.00
54.30	12.6	0.30	2.35	106.3	5	114.6	3.19	1.81	1.38	0.74	6.0	4.5	0.75	0.00
54.63	12.0	0.27	2.22	96.9	5	114.6	3.21	1.82	1.39	0.74	5.7	4.2	0.70	0.00
54.95	13.4	0.26	1.94	78.7	5	114.6	3.23	1.83	1.40	0.74	6.4	4.7	0.81	0.09
55.28	14.1	0.34	2.38	49.9	5	114.6	3.25	1.83	1.41	0.74	6.7	5.0	0.87	0.00
55.61	18.7	0.39	2.06	61.1	6	114.6	3.27	1.84	1.42	0.74	7.2	5.3	1.24	0.11
55.94	17.7	0.42	2.38	21.1	5	114.6	3.28	1.85	1.43	0.74	8.5	6.2	1.15	0.10
56.27	14.0	0.29	2.05	27.3	5	114.6	3.30	1.86	1.44	0.73	6.7	4.9	0.85	0.09
56.59	13.8	0.29	2.07	39.8	5	114.6	3.32	1.87	1.45	0.73	6.6	4.8	0.84	0.09
56.92	24.1	0.55	2.27	59.3	6	114.6	3.34	1.88	1.46	0.73	9.2	6.7	1.66	0.14
57.25	24.5	0.85	3.46	62.6	5	114.6	3.36	1.89	1.47	0.73	11.7	8.5	1.69	0.00
57.58	22.8	0.75	3.30	48.2	5	114.6	3.38	1.89	1.48	0.73	10.9	7.9	1.55	0.00
57.91	22.8	0.60	2.62	58.6	5	114.6	3.40	1.90	1.49	0.73	10.9	7.9	1.55	0.13
58.23	21.4	0.60	2.81	55.8	5	114.6	3.42	1.91	1.50	0.72	10.3	7.4	1.44	0.00
58.56	26.2	1.04	3.96	32.9	4	114.6	3.43	1.92	1.51	0.72	16.7	12.1	1.82	0.00
58.89	22.3	0.76	3.42	14.2	5	114.6	3.45	1.93	1.52	0.72	10.7	7.7	1.50	0.00
59.22	20.9	0.44	2.09	22.2	6	114.6	3.47	1.94	1.54	0.72	8.0	5.7	1.39	0.12
59.55	26.0	0.48	1.85	33.0	6	114.6	3.49	1.95	1.55	0.72	9.9	7.1	1.80	0.15
59.87	25.5	0.65	2.54	43.9	6	114.6	3.51	1.95	1.56	0.72	9.8	7.0	1.76	0.15
60.20	18.2	0.46	2.50	44.2	5	114.6	3.53	1.96	1.57	0.71	8.7	6.2	1.18	0.10
60.53	14.4	0.27	1.88	58.2	5	114.6	3.55	1.97	1.58	0.71	6.9	4.9	0.87	0.09
60.86	14.3	0.26	1.83	72.2	5	114.6	3.57	1.98	1.59	0.71	6.8	4.9	0.86	0.09
61.19	12.0	0.19	1.59	84.1	5	114.6	3.58	1.99	1.60	0.71	5.7	4.1	0.67	0.09
61.52	11.8	0.23	1.96	96.6	5	114.6	3.60	2.00	1.61	0.71	5.6	4.0	0.65	0.00
61.84	16.2	0.19	1.15	81.4	6	114.6	3.62	2.01	1.62	0.71	6.2	4.4	1.01	0.10
62.17	12.0	0.07	0.59	78.3	6	114.6	3.64	2.01	1.63	0.70	4.6	3.2	0.67	0.09
62.50	8.4	0.05	0.60	110.4	6	114.6	3.66	2.02	1.64	0.70	3.2	2.3	0.38	0.00
[illegible]83	9.0	0.05	0.50	119.9	6	114.6	3.68	2.03	1.65	0.70	3.4	2.4	0.42	0.00
[illegible]16	7.7	0.05	0.59	139.9	1	111.4	3.70	2.04	1.66	0.70	3.7	2.6	0.32	0.00
63.48	8.5	0.04	0.47	154.4	6	114.6	3.72	2.05	1.67	0.70	3.3	2.3	0.38	0.00
63.81	11.0	0.05	0.41	133.9	6	114.6	3.73	2.06	1.68	0.70	4.2	2.9	0.58	0.00
64.14	11.9	0.07	0.59	111.0	6	114.6	3.75	2.06	1.69	0.70	4.5	3.2	0.65	0.09
64.47	11.7	0.10	0.81	106.6	6	114.6	3.77	2.07	1.70	0.69	4.5	3.1	0.64	0.09
64.80	20.2	0.11	0.52	116.4	6	114.6	3.79	2.08	1.71	0.69	7.7	5.4	1.31	0.11
65.12	44.6	0.17	0.38	42.5	8	120.9	3.81	2.09	1.72	0.69	10.7	7.4	UnDef	0.08
65.45	39.2	0.52	1.32	43.9	7	117.8	3.83	2.10	1.73	0.69	12.5	8.6	UnDef	0.30
65.78	32.7	0.49	1.50	55.6	6	114.6	3.85	2.11	1.74	0.69	12.5	8.6	2.31	0.20
66.11	35.6	0.42	1.17	64.5	7	117.8	3.87	2.12	1.75	0.69	11.4	7.8	UnDef	0.24
66.44	53.4	0.29	0.54	28.5	8	120.9	3.89	2.13	1.76	0.69	12.8	8.8	UnDef	0.11
66.76	59.4	0.40	0.68	33.0	8	120.9	3.91	2.14	1.77	0.68	14.2	9.7	UnDef	0.12
67.09	72.0	0.57	0.79	43.2	8	120.9	3.93	2.15	1.78	0.68	17.2	11.8	UnDef	0.14
67.42	72.3	0.59	0.81	52.3	8	120.9	3.95	2.16	1.79	0.68	17.3	11.8	UnDef	0.14
67.75	61.3	0.64	1.05	53.6	7	117.8	3.97	2.17	1.80	0.68	19.6	13.3	UnDef	0.17
68.08	65.9	0.44	0.67	53.9	8	120.9	3.99	2.17	1.81	0.68	15.8	10.7	UnDef	0.13
68.40	77.4	0.40	0.51	53.1	8	120.9	4.01	2.18	1.82	0.68	18.5	12.5	UnDef	0.12
68.73	67.4	0.46	0.68	54.9	8	120.9	4.03	2.19	1.83	0.68	16.1	10.9	UnDef	0.13
69.06	75.7	0.52	0.69	57.2	8	120.9	4.05	2.20	1.84	0.67	18.1	12.2	UnDef	0.14
69.39	83.6	0.71	0.85	57.1	8	120.9	4.07	2.21	1.85	0.67	20.0	13.5	UnDef	0.16
69.72	84.3	0.98	1.16	58.0	8	120.9	4.09	2.22	1.86	0.67	20.2	13.5	UnDef	0.19
70.05	238.2	3.61	1.52	45.6	8	120.9	4.11	2.23	1.87	0.67	57.0	38.2	UnDef	0.00
70.37	461.4	4.87	1.05	39.7	9	124.1	4.13	2.24	1.88	0.67	88.4	59.0	UnDef	0.00
70.70	478.9	3.86	0.81	32.0	10	127.3	4.15	2.25	1.89	0.67	76.4	50.9	UnDef	0.00
71.03	381.1	2.02	0.53	-10.6	10	127.3	4.17	2.26	1.90	0.66	60.8	40.4	UnDef	0.00
71.36	363.7	2.32	0.64	-19.3	10	127.3	4.19	2.27	1.91	0.66	58.1	38.5	UnDef	0.00

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.00.19M
Run No: 04-0401-1123-5324
Job No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-8
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/23/03
CPT Time: 12:41
CPT File: 717CP008.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 3.05 (ft): 10.0
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.16	5.0E-04	0.00	1000.0	0.58	10	41.6	0.0	41.6	0.0	50	89.4	1.0	-0.35	0.0	13.9
0.49	5.0E-04	0.00	1000.0	1.04	9	67.5	0.0	67.5	0.6	50	87.5	1.0	-0.41	0.0	22.5
0.82	5.0E-04	0.00	923.2	1.23	9	85.5	0.0	85.5	1.6	50	87.0	1.0	-0.42	0.0	28.5
1.15	5.0E-04	0.00	746.3	1.45	9	96.8	0.0	96.8	2.9	50	85.7	1.0	-0.43	0.0	32.3
1.48	5.0E-04	-0.01	595.1	1.53	9	99.3	0.0	99.3	3.8	50	82.8	1.0	-0.41	0.0	33.1
1.80	5.0E-04	-0.01	513.1	1.61	9	104.6	0.0	104.6	4.6	48	81.5	1.0	-0.40	0.0	34.9
2.13	5.0E-04	-0.01	410.9	1.54	9	99.1	0.4	99.4	5.1	48	77.5	1.0	-0.38	0.1	33.1
2.46	5.0E-04	-0.01	368.1	1.15	9	102.4	0.0	102.4	3.8	48	76.4	1.0	-0.33	0.0	34.1
2.79	5.0E-03	0.00	498.3	0.91	9	157.3	0.0	157.3	1.6	48	86.9	1.0	-0.33	0.0	39.3
3.12	5.0E-02	0.00	748.1	0.88	10	264.8	0.0	264.8	0.5	50	95.0	1.0	-0.36	0.0	53.0
3.44	5.0E-02	0.00	799.1	0.93	10	314.0	0.0	314.0	0.6	50	95.0	1.0	-0.38	0.0	62.8
3.77	5.0E-02	0.00	803.7	0.93	10	347.2	0.0	347.2	0.6	50	95.0	1.0	-0.38	0.0	69.4
4.10	5.0E-02	0.00	787.0	0.96	9	370.7	0.0	370.7	0.7	50	95.0	1.0	-0.38	0.0	74.1
4.43	5.0E-02	0.00	688.0	1.11	9	347.7	0.0	347.7	1.7	50	95.0	1.0	-0.38	0.0	68.1
4.76	5.0E-02	0.00	608.5	1.06	9	319.2	0.0	319.2	1.8	50	95.0	1.0	-0.37	0.0	62.5
5.09	5.0E-02	0.00	567.9	0.92	9	308.3	0.0	308.3	1.3	50	95.0	1.0	-0.34	0.0	60.4
5.41	5.0E-02	0.00	582.7	0.95	9	326.7	0.0	326.7	1.4	50	95.0	1.0	-0.35	0.0	63.9
5.74	5.0E-02	0.00	613.2	0.89	9	354.3	0.0	354.3	1.0	50	95.0	1.0	-0.35	0.0	69.3
6.07	5.0E-02	0.00	571.5	0.96	9	339.8	0.0	339.8	1.5	50	95.0	1.0	-0.35	0.0	66.5
6.40	5.0E-02	0.00	546.1	1.03	9	333.6	0.0	333.6	1.9	50	95.0	1.0	-0.35	0.0	65.3
6.73	5.0E-02	0.00	506.5	1.10	9	317.5	0.0	317.5	2.5	48	95.0	1.0	-0.35	0.0	62.1
7.05	5.0E-03	0.00	488.7	1.33	9	313.8	0.0	313.8	3.6	48	95.0	1.0	-0.37	0.0	76.8
7.38	5.0E-03	0.00	455.7	1.18	9	299.3	0.0	299.3	3.2	48	95.0	1.0	-0.35	0.0	73.2
7.79	5.0E-03	0.00	368.0	1.17	9	248.4	0.0	248.4	3.9	48	93.4	1.0	-0.33	0.0	60.8
8.20	5.0E-03	0.00	229.2	1.41	9	159.0	10.6	169.6	7.3	46	80.6	1.0	-0.30	1.6	40.5
8.53	5.0E-04	0.00	136.3	2.21	7	96.7	33.0	129.7	14.5	44	66.3	1.0	-0.31	6.0	37.5
8.86	5.0E-05	0.00	91.2	2.29	7	66.1	37.3	103.5	18.5	42	55.4	10.0	-0.27	7.5	33.4
9.19	5.0E-05	0.00	64.0	1.69	7	47.4	28.9	76.3	19.2	40	45.9	10.0	-0.20	5.8	24.3
9.51	5.0E-05	0.00	48.2	1.94	7	36.5	37.4	73.8	24.0	38	38.4	10.0	-0.18	6.6	20.9
9.84	5.0E-06	0.00	34.1	2.72	6	26.5	76.9	103.4	32.9	UnDef	UnDef	10.0	UnDef	11.3	24.2
10.17	5.0E-06	0.00	31.4	2.87	6	24.7	97.1	121.8	34.9	UnDef	UnDef	10.0	UnDef	12.0	24.1
10.50	5.0E-06	0.00	27.7	2.85	6	22.1	88.3	110.4	36.8	UnDef	UnDef	10.0	UnDef	10.8	21.6
10.83	5.0E-06	0.00	26.7	2.95	6	21.4	85.8	107.2	37.9	UnDef	UnDef	10.0	UnDef	10.5	21.0
11.15	5.0E-06	0.00	24.7	3.14	6	20.1	80.4	100.4	40.1	UnDef	UnDef	10.0	UnDef	9.8	19.7
11.48	5.0E-06	0.00	29.1	2.77	6	23.6	94.5	118.1	35.6	UnDef	UnDef	10.0	UnDef	11.6	23.1
11.81	5.0E-06	0.00	30.0	2.77	6	24.5	98.2	122.7	35.1	UnDef	UnDef	10.0	UnDef	12.0	24.0
12.14	5.0E-06	0.00	28.9	3.10	6	23.9	95.4	119.3	37.3	UnDef	UnDef	10.0	UnDef	11.7	23.4
12.47	5.0E-06	0.01	30.9	2.63	6	25.6	87.3	112.9	34.0	UnDef	UnDef	10.0	UnDef	11.7	24.2
12.80	5.0E-05	-0.01	41.2	2.74	6	34.1	69.4	103.4	30.1	38	36.4	10.0	-0.21	9.6	23.0

Dch (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
13.12	5.0E-06	0.00	38.2	2.78	6	31.9	76.2	108.1	31.4	UnDef	UnDef	10.0	UnDef	12.3	27.9
13.45	5.0E-05	0.00	50.7	1.76	7	42.2	36.2	78.4	22.3	38	42.5	10.0	-0.18	6.7	23.2
13.78	5.0E-04	0.00	93.8	1.13	9	77.8	18.1	96.0	12.1	42	60.1	1.0	-0.19	3.4	28.8
14.11	5.0E-04	-0.01	78.1	1.33	7	65.4	23.7	89.1	15.0	42	55.1	1.0	-0.19	4.3	25.6
14.44	5.0E-04	-0.01	64.3	1.42	7	54.4	27.3	81.7	17.5	40	49.8	1.0	-0.18	4.7	22.4
14.76	5.0E-04	0.00	59.8	1.25	7	51.0	24.7	75.7	17.2	40	48.0	1.0	-0.16	4.3	20.9
15.09	5.0E-04	-0.01	56.5	0.93	7	48.5	18.8	67.3	15.4	40	46.5	1.0	-0.13	3.3	19.2
15.42	5.0E-05	-0.01	30.9	1.41	7	27.2	37.5	64.7	26.7	36	30.0	10.0	-0.11	6.1	16.7
15.75	5.0E-05	-0.02	22.2	1.31	7	20.0	45.9	65.9	31.1	34	30.0	10.0	-0.07	6.0	13.9
16.08	5.0E-05	0.00	15.5	1.27	6	14.3	57.3	71.7	37.1	32	30.0	6.3	-0.03	5.6	11.2
16.40	5.0E-06	0.01	11.5	1.53	6	10.9	43.7	54.7	45.4	UnDef	UnDef	4.0	UnDef	5.4	10.7
16.73	5.0E-07	0.08	6.0	2.16	4	6.2	25.0	31.2	66.3	UnDef	UnDef	1.6	UnDef	4.1	8.1
17.06	5.0E-06	0.05	8.6	0.96	6	8.6	34.4	43.0	46.3	UnDef	UnDef	2.7	UnDef	4.2	8.4
17.39	5.0E-05	0.00	12.8	0.39	7	12.4	0.0	12.4	5.0	30	30.0	4.7	0.07	0.0	4.8
17.72	5.0E-05	0.00	19.0	0.20	7	17.8	0.0	17.8	5.0	32	30.0	8.7	0.09	0.0	7.0
18.04	5.0E-05	0.00	18.0	0.27	7	17.0	0.0	17.0	5.0	32	30.0	8.0	0.07	0.0	6.7
18.37	5.0E-05	0.00	16.5	0.37	7	15.9	0.0	15.9	5.0	32	30.0	7.0	0.06	0.0	6.2
18.70	5.0E-05	0.00	15.9	0.38	7	15.4	0.0	15.4	5.0	32	30.0	6.6	0.06	0.0	6.0
19.03	5.0E-05	0.00	14.6	0.37	7	14.3	0.0	14.3	5.0	32	30.0	5.8	0.07	0.0	5.6
19.36	5.0E-05	0.00	16.2	0.26	7	15.8	0.0	15.8	5.0	32	30.0	6.8	0.09	0.0	6.2
19.68	5.0E-05	0.00	17.7	0.23	7	17.3	0.0	17.3	5.0	32	30.0	7.8	0.09	0.0	6.8
20.01	5.0E-04	0.00	22.6	0.26	7	21.9	0.0	21.9	5.0	34	30.0	1.0	0.06	0.0	7.1
20.34	5.0E-04	0.00	24.5	0.19	7	23.7	0.0	23.7	5.0	34	30.0	1.0	0.07	0.0	7.7
20.67	5.0E-04	0.00	26.7	0.17	7	25.8	0.0	25.8	5.0	36	30.0	1.0	0.07	0.0	8.4
21.00	5.0E-04	0.00	28.5	0.22	7	27.7	0.0	27.7	5.0	36	30.5	1.0	0.05	0.0	9.0
21.33	5.0E-04	0.00	21.7	0.20	7	21.5	0.0	21.5	5.0	34	30.0	1.0	0.08	0.0	7.0
21.65	5.0E-05	0.00	20.1	0.52	7	20.1	22.6	42.7	24.8	34	30.0	9.5	0.01	3.9	11.8
[illegible]98	5.0E-04	0.00	28.4	0.40	7	28.0	0.0	28.0	5.0	36	30.8	1.0	0.00	0.0	9.1
[illegible]31	5.0E-04	0.00	28.2	0.40	7	27.9	0.0	27.9	5.0	36	30.7	1.0	0.00	0.0	9.1
22.64	5.0E-04	0.00	26.8	0.40	7	26.8	0.0	26.8	5.0	36	30.0	1.0	0.01	0.0	8.7
22.97	5.0E-04	0.00	25.5	0.46	7	25.7	0.0	25.7	5.0	34	30.0	1.0	0.00	0.0	8.4
23.29	5.0E-03	0.00	38.1	0.25	9	37.9	0.0	37.9	5.0	38	39.5	1.0	0.01	0.0	9.3
23.62	5.0E-03	0.00	38.7	0.31	9	38.6	0.0	38.6	5.0	38	40.0	1.0	0.00	0.0	9.4
23.95	5.0E-04	0.00	29.7	0.83	7	30.1	26.4	56.5	22.5	36	32.8	1.0	-0.06	4.1	13.9
24.28	5.0E-04	0.00	51.7	1.44	7	51.6	34.8	86.5	20.1	38	48.3	1.0	-0.16	5.7	22.5
24.61	5.0E-02	0.00	210.5	0.66	9	206.9	0.0	206.9	3.6	46	88.1	1.0	-0.22	0.0	40.5
24.93	5.0E-02	0.00	328.1	0.91	9	323.3	0.0	323.3	3.1	48	95.0	1.0	-0.29	0.0	63.3
25.26	5.0E-03	0.00	283.0	1.47	9	280.5	11.7	292.2	6.5	46	95.0	1.0	-0.33	1.8	70.4
25.59	5.0E-03	0.00	234.3	1.31	9	233.6	11.4	245.0	6.7	46	91.6	1.0	-0.30	1.7	58.9
25.92	5.0E-02	0.00	219.5	0.97	9	220.0	1.4	221.3	5.2	46	89.9	1.0	-0.26	0.2	43.2
26.25	5.0E-02	0.00	175.9	0.96	9	177.4	7.0	184.4	6.4	44	83.7	1.0	-0.24	0.8	35.6
26.57	5.0E-02	0.00	140.8	0.84	9	143.1	8.3	151.3	7.0	44	77.5	1.0	-0.20	1.0	29.0
26.90	5.0E-03	0.00	45.1	0.67	7	47.1	18.7	65.8	15.6	38	45.7	1.0	-0.08	2.5	14.0
27.23	5.0E-05	0.02	17.0	1.43	6	18.7	74.9	93.6	36.8	32	30.0	7.3	-0.04	7.3	14.7
27.56	5.0E-03	0.01	53.8	0.75	9	56.3	19.1	75.4	14.5	40	50.8	1.0	-0.10	2.6	16.4
27.89	5.0E-03	0.00	56.1	0.42	9	59.0	0.0	59.0	5.0	40	52.1	1.0	-0.06	0.0	14.4
28.21	5.0E-03	0.00	55.5	0.43	9	58.6	0.0	58.6	5.0	40	51.9	1.0	-0.06	0.0	14.3
28.54	5.0E-03	0.00	74.4	0.43	9	78.4	0.0	78.4	5.0	40	60.3	1.0	-0.09	0.0	19.2
28.87	5.0E-02	0.00	120.1	0.16	9	126.0	0.0	126.0	2.2	42	73.9	1.0	-0.05	0.0	24.7
29.20	5.0E-02	0.00	102.7	0.11	9	108.5	0.0	108.5	2.6	42	69.6	1.0	0.00	0.0	21.2
29.53	5.0E-02	0.00	75.3	0.12	9	80.3	0.0	80.3	4.7	40	61.0	1.0	0.01	0.0	15.7
29.86	5.0E-03	0.00	65.5	0.09	9	70.4	0.0	70.4	5.0	40	57.2	1.0	0.05	0.0	17.2
30.18	5.0E-02	0.00	75.5	0.14	9	81.3	0.0	81.3	5.0	40	61.3	1.0	0.00	0.0	15.9
30.59	5.0E-03	0.00	64.1	0.18	9	69.6	0.0	69.6	5.0	40	56.9	1.0	-0.01	0.0	17.0
31.00	5.0E-03	0.00	56.6	0.15	9	62.0	0.0	62.0	5.0	40	53.6	1.0	0.02	0.0	15.2
31.33	5.0E-03	0.00	44.6	0.28	9	49.4	0.0	49.4	5.0	38	47.0	1.0	-0.01	0.0	12.1
31.66	5.0E-04	0.00	32.4	0.80	7	36.4	27.2	63.6	21.0	36	38.3	1.0	-0.06	4.3	16.2
31.99	5.0E-04	0.00	23.2	0.89	7	26.7	36.8	63.5	26.7	34	30.0	1.0	-0.04	5.0	13.7
[illegible]32	5.0E-03	0.00	30.4	0.20	9	34.5	0.0	34.5	5.0	36	36.8	1.0	0.05	0.0	8.5
[illegible].64	5.0E-03	0.00	37.5	0.10	9	42.4	0.0	42.4	5.0	38	42.7	1.0	0.09	0.0	10.4
32.97	5.0E-03	0.00	31.7	0.14	9	36.3	0.0	36.3	5.0	36	38.2	1.0	0.08	0.0	8.9
33.30	5.0E-03	0.00	37.1	0.23	9	42.4	0.0	42.4	5.0	38	42.7	1.0	0.02	0.0	10.4

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
33.63	5.0E-03	0.00	52.4	0.52	9	59.3	14.9	74.2	12.5	40	52.3	1.0	-0.07	2.1	16.6
33.96	5.0E-04	0.00	40.7	1.11	7	46.7	33.8	80.5	20.7	38	45.4	1.0	-0.11	5.4	20.7
34.28	5.0E-04	0.00	27.8	1.28	7	32.5	48.1	80.6	27.4	36	35.1	1.0	-0.09	6.3	16.9
34.61	5.0E-05	0.00	19.1	1.26	7	23.0	70.5	93.5	33.2	32	30.0	8.8	-0.05	8.0	17.1
34.94	5.0E-05	0.00	16.8	1.40	6	20.5	82.0	102.5	36.8	32	30.0	7.2	-0.04	8.0	16.1
35.27	5.0E-04	0.00	18.9	1.08	7	22.9	57.9	80.9	31.8	32	30.0	1.0	-0.04	6.1	13.6
35.60	5.0E-04	0.00	22.2	1.05	7	26.7	47.0	73.7	28.9	34	30.0	1.0	-0.05	5.8	14.5
35.92	5.0E-05	0.00	19.7	1.44	6	24.0	85.0	108.9	34.2	34	30.0	9.2	-0.06	8.9	18.3
36.25	5.0E-05	0.02	15.4	2.07	6	19.3	77.1	96.3	43.2	32	30.0	6.3	-0.06	7.5	15.1
36.58	5.0E-05	0.01	19.2	1.42	6	23.6	86.5	110.1	34.4	34	30.0	8.9	-0.06	8.9	18.2
36.91	5.0E-05	0.00	20.1	1.41	6	24.7	79.5	104.2	33.6	34	30.0	9.5	-0.06	8.8	18.5
37.24	5.0E-05	0.01	16.8	1.84	6	21.1	84.3	105.3	39.9	32	30.0	7.2	-0.06	8.2	16.5
37.57	5.0E-05	0.01	15.2	1.98	6	19.2	76.9	96.2	42.9	32	30.0	6.1	-0.06	7.5	15.1
37.89	5.0E-04	0.00	21.4	1.23	7	26.4	60.2	86.7	31.0	34	30.0	1.0	-0.06	6.6	15.3
38.22	5.0E-05	0.00	18.9	1.30	6	23.7	78.3	102.0	33.8	32	30.0	8.7	-0.05	8.6	17.8
38.55	5.0E-05	0.01	15.8	1.48	6	20.2	80.6	100.8	38.5	32	30.0	6.5	-0.04	7.9	15.8
38.88	5.0E-05	0.02	14.9	1.73	6	19.1	76.5	95.6	41.6	32	30.0	5.9	-0.04	7.5	15.0
39.21	5.0E-04	0.00	21.1	1.30	7	26.5	66.8	93.2	31.8	34	30.0	1.0	-0.06	7.0	15.6
39.53	5.0E-04	0.00	27.0	1.07	7	33.4	42.9	76.3	26.0	36	35.9	1.0	-0.07	5.9	16.8
39.86	5.0E-04	0.00	27.3	1.15	7	33.8	45.7	79.6	26.5	36	36.2	1.0	-0.08	6.2	17.2
40.19	5.0E-04	0.00	32.3	1.05	7	39.9	37.9	77.8	23.2	36	40.9	1.0	-0.08	5.7	18.7
40.52	5.0E-04	0.00	31.5	1.05	7	39.0	38.6	77.6	23.6	36	40.3	1.0	-0.08	5.7	18.5
40.85	5.0E-04	0.00	35.9	1.02	7	44.4	35.2	79.6	21.6	38	44.0	1.0	-0.09	5.5	20.0
41.17	5.0E-04	0.00	35.0	1.06	7	43.5	37.3	80.8	22.3	38	43.4	1.0	-0.09	5.8	19.9
41.50	5.0E-04	0.00	28.1	1.12	7	35.4	44.7	80.1	25.9	36	37.5	1.0	-0.08	6.2	17.7
41.83	5.0E-04	0.00	22.1	1.34	7	28.4	68.1	96.4	31.4	34	31.2	1.0	-0.07	7.3	16.6
42.16	5.0E-05	0.00	17.6	1.66	6	23.1	92.4	115.4	37.8	32	30.0	7.7	-0.06	9.0	18.1
[illegible]49	5.0E-05	0.00	16.9	1.62	6	22.2	88.9	111.1	38.4	32	30.0	7.2	-0.05	8.7	17.4
[illegible]81	5.0E-05	0.00	15.3	1.65	6	20.4	81.6	102.0	40.5	32	30.0	6.2	-0.05	8.0	16.0
43.14	5.0E-05	0.01	13.2	1.77	6	18.0	71.9	89.9	44.3	32	30.0	5.0	-0.04	7.0	14.1
43.47	5.0E-05	0.01	10.6	1.99	6	14.8	59.3	74.1	50.7	30	30.0	3.6	-0.02	5.8	11.6
43.80	5.0E-05	0.01	9.8	1.80	6	14.0	55.8	69.8	51.0	30	30.0	3.2	0.00	5.5	10.9
44.13	5.0E-06	0.03	7.1	2.34	4	10.7	42.7	53.3	62.9	UnDef	UnDef	2.0	UnDef	5.2	10.4
44.45	5.0E-06	0.11	5.1	3.05	1	8.3	UnDef	UnDef	100.0	UnDef	UnDef	1.4	UnDef	UnDef	UnDef
44.78	5.0E-06	0.06	7.1	2.39	4	10.8	43.1	53.8	63.2	UnDef	UnDef	2.0	UnDef	5.3	10.5
45.11	5.0E-05	0.04	9.0	1.96	6	13.1	52.2	65.3	54.4	30	30.0	2.8	0.00	5.1	10.2
45.44	5.0E-05	0.02	9.5	1.87	6	13.8	55.1	68.9	52.3	30	30.0	3.1	0.00	5.4	10.8
45.77	5.0E-06	0.05	8.2	2.28	4	12.2	48.8	61.0	58.8	UnDef	UnDef	2.5	UnDef	6.0	11.9
46.10	5.0E-05	0.04	9.3	2.13	4	13.6	54.5	68.1	54.6	30	30.0	3.0	-0.01	5.3	10.7
46.42	5.0E-05	0.03	9.5	2.12	4	13.8	55.3	69.2	54.2	30	30.0	3.0	-0.01	5.4	10.8
46.75	5.0E-06	0.04	8.3	2.31	4	12.5	49.9	62.4	58.6	UnDef	UnDef	2.5	UnDef	6.1	12.2
47.08	5.0E-05	0.04	8.9	2.05	4	13.2	52.8	66.0	55.2	30	30.0	2.8	0.00	5.2	10.3
47.41	5.0E-05	0.03	9.2	2.08	4	13.6	54.4	68.0	54.6	30	30.0	2.9	0.00	5.3	10.7
47.74	5.0E-05	0.03	10.2	1.95	6	14.9	59.6	74.5	51.3	30	30.0	3.4	-0.01	5.8	11.7
48.06	5.0E-05	0.02	11.6	1.79	6	16.7	66.8	83.5	47.2	30	30.0	4.1	-0.02	6.5	13.1
48.39	5.0E-05	0.02	10.6	1.83	6	15.5	62.1	77.6	49.5	30	30.0	3.6	-0.01	6.1	12.1
48.72	5.0E-05	0.04	8.7	2.29	4	13.1	52.6	65.7	57.4	30	30.0	2.7	0.00	5.1	10.3
49.05	5.0E-05	0.03	10.4	2.01	6	15.4	61.6	77.0	51.1	30	30.0	3.5	-0.02	6.0	12.1
49.38	5.0E-05	0.02	9.7	2.12	6	14.5	58.1	72.6	53.6	30	30.0	3.1	-0.01	5.7	11.4
49.70	5.0E-05	0.03	8.5	2.24	4	13.0	51.9	64.8	57.7	30	30.0	2.6	0.00	5.1	10.2
50.03	5.0E-05	0.04	8.8	2.18	4	13.4	53.8	67.2	56.3	30	30.0	2.7	0.00	5.3	10.5
50.36	5.0E-05	0.02	12.2	1.63	6	17.8	71.4	89.2	44.9	30	30.0	4.4	-0.02	7.0	14.0
50.69	5.0E-05	0.02	12.4	1.67	6	18.1	72.4	90.6	44.9	30	30.0	4.5	-0.02	7.1	14.2
51.02	5.0E-05	0.03	12.2	1.79	6	17.9	71.7	89.6	46.1	30	30.0	4.4	-0.03	7.0	14.0
51.34	5.0E-05	0.04	10.1	2.03	6	15.3	61.3	76.6	51.9	30	30.0	3.3	-0.01	6.0	12.0
51.67	5.0E-05	0.06	9.3	2.26	4	14.3	57.1	71.4	55.5	30	30.0	3.0	-0.01	5.6	11.2
52.00	5.0E-05	0.05	8.7	2.53	4	13.6	54.3	67.8	58.8	30	30.0	2.7	-0.01	5.3	10.6
52.33	5.0E-06	0.07	7.4	3.76	1	11.8	UnDef	UnDef	100.0	UnDef	UnDef	2.1	UnDef	UnDef	UnDef
[illegible]66	5.0E-07	0.26	4.4	4.04	1	8.0	UnDef	UnDef	100.0	UnDef	UnDef	1.2	UnDef	UnDef	UnDef
[illegible]98	5.0E-06	0.46	4.1	1.91	4	7.7	30.7	38.4	75.0	UnDef	UnDef	1.1	UnDef	3.8	7.5
53.31	5.0E-06	0.38	4.4	2.02	4	8.1	32.4	40.5	73.6	UnDef	UnDef	1.2	UnDef	4.0	7.9
53.64	5.0E-06	0.30	4.7	2.25	4	8.5	33.9	42.4	73.7	UnDef	UnDef	1.3	UnDef	4.2	8.3

Dpth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
53.97	5.0E-06	0.26	4.5	2.94	1	8.3	UnDef	UnDef	100.0	UnDef	UnDef	1.2	UnDef	UnDef	UnDef
54.30	5.0E-06	0.21	5.2	3.14	1	9.2	UnDef	UnDef	100.0	UnDef	UnDef	1.4	UnDef	UnDef	UnDef
54.63	5.0E-06	0.19	4.8	3.04	1	8.7	UnDef	UnDef	100.0	UnDef	UnDef	1.3	UnDef	UnDef	UnDef
54.95	5.0E-06	0.10	5.6	2.56	4	9.7	38.8	48.5	71.0	UnDef	UnDef	1.5	UnDef	4.7	9.5
55.28	5.0E-06	0.01	5.9	3.10	1	10.2	UnDef	UnDef	100.0	UnDef	UnDef	1.6	UnDef	UnDef	UnDef
55.61	5.0E-05	0.03	8.4	2.49	4	13.5	54.1	67.6	59.5	30	30.0	2.6	-0.01	5.3	10.6
55.94	5.0E-06	-0.05	7.8	2.92	4	12.7	50.9	63.6	64.1	UnDef	UnDef	2.3	UnDef	6.2	12.5
56.27	5.0E-06	-0.06	5.7	2.68	4	10.0	40.1	50.1	70.9	UnDef	UnDef	1.6	UnDef	4.9	9.8
56.59	5.0E-06	-0.02	5.6	2.73	4	9.9	39.5	49.4	71.9	UnDef	UnDef	1.5	UnDef	4.8	9.7
56.92	5.0E-05	0.02	11.0	2.63	4	17.2	68.8	86.0	53.9	30	30.0	3.8	-0.04	6.7	13.5
57.25	5.0E-06	0.02	11.2	4.01	1	17.4	UnDef	UnDef	100.0	UnDef	UnDef	3.9	UnDef	UnDef	UnDef
57.58	5.0E-06	0.00	10.2	3.88	1	16.2	UnDef	UnDef	100.0	UnDef	UnDef	3.4	UnDef	UnDef	UnDef
57.91	5.0E-06	0.02	10.2	3.07	4	16.2	64.7	80.9	58.2	UnDef	UnDef	3.4	UnDef	7.9	15.8
58.23	5.0E-06	0.01	9.4	3.34	1	15.2	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDef
58.56	5.0E-07	-0.02	11.9	4.56	1	18.5	UnDef	UnDef	100.0	UnDef	UnDef	4.2	UnDef	UnDef	UnDef
58.89	5.0E-06	-0.06	9.8	4.05	1	15.7	UnDef	UnDef	100.0	UnDef	UnDef	3.2	UnDef	UnDef	UnDef
59.22	5.0E-05	-0.05	9.0	2.51	4	14.7	58.7	73.4	58.0	30	30.0	2.8	-0.02	5.7	11.5
59.55	5.0E-05	-0.02	11.6	2.14	6	18.2	72.9	91.1	49.8	30	30.0	4.0	-0.04	7.1	14.3
59.87	5.0E-05	-0.01	11.3	2.94	4	17.9	71.4	89.3	55.2	30	30.0	3.9	-0.06	7.0	14.0
60.20	5.0E-06	-0.01	7.5	3.10	4	12.7	50.9	63.6	66.2	UnDef	UnDef	2.2	UnDef	6.2	12.5
60.53	5.0E-06	0.02	5.5	2.49	4	10.1	40.2	50.3	70.7	UnDef	UnDef	1.5	UnDef	4.9	9.8
60.86	5.0E-06	0.06	5.4	2.44	4	9.9	39.7	49.6	71.0	UnDef	UnDef	1.5	UnDef	4.9	9.7
61.19	5.0E-06	0.12	4.2	2.27	4	8.3	33.2	41.5	77.2	UnDef	UnDef	1.1	UnDef	4.1	8.1
61.52	5.0E-06	0.17	4.1	2.82	1	8.2	UnDef	UnDef	100.0	UnDef	UnDef	1.1	UnDef	UnDef	UnDef
61.84	5.0E-05	0.07	6.3	1.48	4	11.2	44.8	55.9	59.3	30	30.0	1.7	0.06	4.4	8.8
62.17	5.0E-05	0.10	4.1	0.84	4	8.3	33.0	41.3	63.7	30	30.0	1.1	0.13	3.2	6.5
62.50	5.0E-05	0.38	2.3	1.06	1	5.8	UnDef	UnDef	100.0	30	30.0	0.7	0.21	UnDef	UnDef
62.83	5.0E-05	0.40	2.6	0.85	1	6.2	UnDef	UnDef	100.0	30	30.0	0.7	0.21	UnDef	UnDef
63.16	1.0E-07	0.68	2.0	1.13	1	5.3	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
63.48	5.0E-05	0.66	2.3	0.84	1	5.8	UnDef	UnDef	100.0	30	30.0	0.7	0.28	UnDef	UnDef
63.81	5.0E-05	0.35	3.5	0.62	1	7.5	UnDef	UnDef	100.0	30	30.0	0.9	0.20	UnDef	UnDef
64.14	5.0E-05	0.22	3.9	0.87	4	8.1	32.3	40.4	65.5	30	30.0	1.0	0.15	3.2	6.3
64.47	5.0E-05	0.20	3.8	1.19	4	8.0	31.9	39.9	70.2	30	30.0	1.0	0.13	3.1	6.3
64.80	5.0E-05	0.12	7.9	0.64	6	13.7	54.7	68.3	44.4	30	30.0	2.3	0.09	5.4	10.7
65.12	5.0E-03	-0.01	19.5	0.42	7	30.2	0.0	30.2	5.0	34	33.0	1.0	0.03	0.0	7.4
65.45	5.0E-04	-0.01	16.8	1.46	6	26.5	105.9	132.4	37.2	32	30.0	1.0	-0.05	8.6	17.3
65.78	5.0E-05	0.00	13.7	1.70	6	22.1	88.3	110.3	43.0	32	30.0	5.2	-0.04	8.6	17.3
66.11	5.0E-04	0.01	15.0	1.31	6	23.9	95.7	119.6	38.2	32	30.0	1.0	-0.03	7.8	15.6
66.44	5.0E-03	-0.02	23.3	0.59	7	35.9	34.6	70.5	23.4	34	37.9	1.0	-0.01	3.9	12.7
66.76	5.0E-03	-0.01	26.0	0.72	7	39.8	38.1	77.9	23.3	36	40.8	1.0	-0.04	4.3	14.0
67.09	5.0E-03	-0.01	31.7	0.83	7	48.1	38.3	86.4	21.6	36	46.3	1.0	-0.06	4.5	16.3
67.42	5.0E-03	0.00	31.7	0.86	7	48.2	39.4	87.6	21.9	36	46.3	1.0	-0.07	4.6	16.4
67.75	5.0E-04	0.00	26.5	1.12	7	40.7	56.6	97.3	26.8	36	41.5	1.0	-0.07	7.6	20.9
68.08	5.0E-03	0.00	28.5	0.71	7	43.7	36.0	79.7	21.9	36	43.6	1.0	-0.04	4.2	14.9
68.40	5.0E-03	0.00	33.6	0.56	7	51.2	26.7	77.9	17.8	36	48.1	1.0	-0.04	3.4	16.0
68.73	5.0E-03	0.00	28.9	0.73	7	44.5	36.5	81.0	21.9	36	44.1	1.0	-0.05	4.3	15.2
69.06	5.0E-03	0.00	32.5	0.73	7	49.9	34.3	84.2	20.2	36	47.4	1.0	-0.06	4.2	16.4
69.39	5.0E-03	0.00	35.9	0.89	7	55.0	38.9	93.9	20.5	38	50.1	1.0	-0.08	4.7	18.2
69.72	5.0E-03	0.00	36.1	1.22	7	55.3	51.8	107.2	23.1	38	50.3	1.0	-0.11	5.9	19.4
70.05	5.0E-03	0.00	104.9	1.54	9	156.0	46.0	202.0	13.5	42	80.0	1.0	-0.24	6.3	44.5
70.37	5.0E-02	0.00	203.9	1.06	9	301.5	9.8	311.4	6.2	46	95.0	1.0	-0.26	1.2	60.2
70.70	5.0E+00	0.00	210.8	0.81	9	312.3	0.0	312.3	4.5	46	95.0	1.0	-0.24	0.0	50.9
71.03	5.0E+00	-0.01	166.6	0.54	9	247.9	0.0	247.9	3.9	44	93.3	1.0	-0.18	0.0	40.4
71.36	5.0E+00	-0.01	158.1	0.64	9	236.1	0.0	236.1	5.0	44	91.9	1.0	-0.19	0.0	38.5

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.00.19M
[redacted] No: 04-0401-1123-5373
[redacted] No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-1A
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/23/03
CPT Time: 15:11
CPT File: 717CP01A.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 8.60 (ft): 28.2
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
0.16	30.5	0.06	0.20	0.2	7	117.8	0.01	0.01	0.00	2.00	9.7	19.5	UnDef	0.10
0.49	128.9	0.77	0.60	-0.3	9	124.1	0.03	0.03	0.00	2.00	24.7	49.4	UnDef	0.00
0.82	211.8	1.40	0.66	-0.9	9	124.1	0.05	0.05	0.00	2.00	40.6	81.1	UnDef	0.00
1.15	299.2	3.60	1.20	-1.9	9	124.1	0.07	0.07	0.00	2.00	57.3	114.6	UnDef	0.00
[illegible]48	341.8	6.49	1.90	-8.9	8	120.9	0.09	0.09	0.00	2.00	81.8	163.7	UnDef	0.00
[illegible]80	343.7	7.92	2.30	-7.5	8	120.9	0.11	0.11	0.00	2.00	82.3	164.6	UnDef	0.00
2.13	327.7	6.25	1.91	-5.1	8	120.9	0.13	0.13	0.00	2.00	78.5	156.9	UnDef	0.00
2.46	366.0	7.39	2.02	4.5	8	120.9	0.15	0.15	0.00	2.00	87.6	175.2	UnDef	0.00
2.79	326.0	7.42	2.28	2.8	8	120.9	0.17	0.17	0.00	2.00	78.1	156.1	UnDef	0.00
3.12	269.3	4.47	1.66	-2.8	8	120.9	0.19	0.19	0.00	2.00	64.5	129.0	UnDef	0.00
3.44	312.6	4.17	1.33	-0.6	9	124.1	0.21	0.21	0.00	2.00	59.9	119.8	UnDef	0.00
3.77	345.7	4.93	1.43	-1.1	8	120.9	0.23	0.23	0.00	2.00	82.8	165.5	UnDef	0.00
4.10	377.9	6.71	1.78	0.6	8	120.9	0.25	0.25	0.00	2.00	90.5	180.9	UnDef	0.00
4.43	353.5	8.82	2.49	6.2	7	117.8	0.27	0.27	0.00	1.93	112.8	217.5	UnDef	0.00
4.76	283.8	5.03	1.77	-0.5	8	120.9	0.29	0.29	0.00	1.86	67.9	126.4	UnDef	0.00
5.09	327.8	5.20	1.59	-1.2	8	120.9	0.31	0.31	0.00	1.80	78.5	141.3	UnDef	0.00
5.41	337.8	8.52	2.52	1.0	7	117.8	0.33	0.33	0.00	1.75	107.8	188.3	UnDef	0.00
5.74	315.4	9.38	2.97	3.7	12	120.9	0.35	0.35	0.00	1.70	151.0	256.1	UnDef	0.00
6.07	224.2	6.28	2.80	-0.4	7	117.8	0.37	0.37	0.00	1.65	71.6	118.1	UnDef	0.00
6.40	180.5	2.85	1.58	-1.8	8	120.9	0.39	0.39	0.00	1.61	43.2	69.5	UnDef	0.00
6.73	204.4	3.50	1.71	-0.6	8	120.9	0.41	0.41	0.00	1.57	48.9	76.7	UnDef	0.00
7.05	255.8	5.66	2.21	1.1	7	117.8	0.43	0.43	0.00	1.53	81.7	125.1	UnDef	0.00
7.38	293.9	7.66	2.61	4.6	7	117.8	0.45	0.45	0.00	1.50	93.8	140.6	UnDef	0.00
7.79	264.1	7.82	2.96	-0.3	12	120.9	0.47	0.47	0.00	1.46	126.5	184.4	UnDef	0.00
8.20	221.1	6.86	3.10	-3.0	7	117.8	0.49	0.49	0.00	1.42	70.6	100.4	UnDef	0.00
8.53	171.6	5.68	3.31	-3.6	6	114.6	0.51	0.51	0.00	1.40	65.7	91.7	13.69	0.00
8.86	126.1	4.55	3.60	-4.0	6	114.6	0.53	0.53	0.00	1.37	48.3	66.2	10.05	0.00
9.19	95.2	2.91	3.05	-4.0	6	114.6	0.55	0.55	0.00	1.35	36.5	49.1	7.57	0.00
9.51	85.1	1.98	2.33	-0.9	7	117.8	0.57	0.57	0.00	1.32	27.2	36.0	UnDef	0.38
9.84	132.4	2.19	1.65	-0.1	8	120.9	0.59	0.59	0.00	1.30	31.7	41.3	UnDef	0.00
10.17	168.6	2.89	1.71	0.0	8	120.9	0.61	0.61	0.00	1.28	40.4	51.7	UnDef	0.00
10.50	222.8	4.70	2.11	0.1	7	117.8	0.63	0.63	0.00	1.26	71.1	89.7	UnDef	0.00
10.83	247.0	5.60	2.27	-2.2	7	117.8	0.65	0.65	0.00	1.24	78.9	97.9	UnDef	0.00
11.15	266.2	6.26	2.35	0.9	7	117.8	0.67	0.67	0.00	1.22	85.0	104.0	UnDef	0.00
11.48	253.4	5.72	2.26	-0.2	7	117.8	0.69	0.69	0.00	1.21	80.9	97.6	UnDef	0.00
[illegible]81	240.1	6.16	2.57	-0.4	7	117.8	0.71	0.71	0.00	1.19	76.7	91.2	UnDef	0.00
[illegible].14	233.8	7.40	3.17	2.5	12	120.9	0.73	0.73	0.00	1.17	111.9	131.4	UnDef	0.00
12.47	184.3	5.83	3.16	2.4	6	114.6	0.75	0.75	0.00	1.16	70.6	81.8	14.68	0.00
12.80	150.8	4.77	3.17	-1.8	6	114.6	0.76	0.76	0.00	1.14	57.7	66.1	12.00	0.00

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
13.12	140.7	4.58	3.25	0.0	6	114.6	0.78	0.78	0.00	1.13	53.9	60.9	11.19	0.00
13.45	120.4	4.01	3.33	-0.3	6	114.6	0.80	0.80	0.00	1.12	46.1	51.5	9.57	0.00
13.78	105.8	3.49	3.30	0.4	6	114.6	0.82	0.82	0.00	1.10	40.5	44.7	8.39	0.00
14.11	95.9	2.85	2.97	0.9	6	114.6	0.84	0.84	0.00	1.09	36.7	40.1	7.61	0.00
14.44	96.3	2.53	2.63	0.9	6	114.6	0.86	0.86	0.00	1.08	36.9	39.8	7.64	0.44
14.76	87.6	2.46	2.81	2.2	6	114.6	0.88	0.88	0.00	1.07	33.5	35.8	6.93	0.41
15.09	77.9	2.00	2.57	2.5	6	114.6	0.90	0.90	0.00	1.06	29.8	31.5	6.16	0.32
15.42	70.4	1.67	2.37	1.5	6	114.6	0.91	0.91	0.00	1.05	27.0	28.2	5.56	0.26
15.75	68.0	1.37	2.01	2.3	7	117.8	0.93	0.93	0.00	1.03	21.7	22.4	UnDef	0.22
16.08	63.1	1.20	1.90	-0.1	7	117.8	0.95	0.95	0.00	1.02	20.1	20.6	UnDef	0.19
16.40	59.9	1.25	2.09	0.3	7	117.8	0.97	0.97	0.00	1.01	19.1	19.4	UnDef	0.20
16.73	45.7	1.05	2.30	-0.3	6	114.6	0.99	0.99	0.00	1.00	17.5	17.6	3.57	0.20
17.06	36.7	0.72	1.97	1.9	6	114.6	1.01	1.01	0.00	1.00	14.1	14.0	2.86	0.17
17.39	35.3	0.67	1.90	7.3	6	114.6	1.03	1.03	0.00	0.99	13.5	13.3	2.74	0.16
17.72	32.5	0.64	1.96	6.9	6	114.6	1.05	1.05	0.00	0.98	12.5	12.2	2.52	0.18
18.04	43.4	0.68	1.56	5.3	7	117.8	1.07	1.07	0.00	0.97	13.9	13.4	UnDef	0.14
18.37	47.8	0.81	1.70	1.9	7	117.8	1.09	1.09	0.00	0.96	15.3	14.6	UnDef	0.15
18.70	44.7	0.72	1.60	0.3	7	117.8	1.11	1.11	0.00	0.95	14.3	13.6	UnDef	0.14
19.03	44.6	0.69	1.54	-2.5	7	117.8	1.12	1.12	0.00	0.94	14.3	13.4	UnDef	0.14
19.36	32.6	0.69	2.12	-3.1	6	114.6	1.14	1.14	0.00	0.94	12.5	11.7	2.51	0.26
19.68	22.2	0.45	2.01	-1.2	6	114.6	1.16	1.16	0.00	0.93	8.5	7.9	1.68	0.17
20.01	8.5	0.27	3.20	5.3	3	111.4	1.18	1.18	0.00	0.92	8.1	7.5	0.58	0.00
20.34	12.2	0.31	2.51	20.4	5	114.6	1.20	1.20	0.00	0.91	5.8	5.3	0.88	0.09
20.67	25.4	0.48	1.89	10.3	6	114.6	1.22	1.22	0.00	0.91	9.7	8.8	1.94	0.21
21.00	45.1	0.79	1.76	10.0	7	117.8	1.24	1.24	0.00	0.90	14.4	12.9	UnDef	0.17
21.33	49.8	1.04	2.09	8.0	6	114.6	1.26	1.26	0.00	0.89	19.1	17.0	3.88	0.22
21.65	50.3	1.06	2.11	13.3	6	114.6	1.28	1.28	0.00	0.89	19.3	17.1	3.92	0.22
[illegible]98	50.8	1.02	2.01	23.8	6	114.6	1.29	1.29	0.00	0.88	19.4	17.1	3.96	0.21
[illegible]31	49.9	1.13	2.26	25.5	6	114.6	1.31	1.31	0.00	0.87	19.1	16.7	3.89	0.26
22.64	54.7	1.07	1.95	5.3	7	117.8	1.33	1.33	0.00	0.87	17.5	15.1	UnDef	0.21
22.97	55.1	1.02	1.85	3.8	7	117.8	1.35	1.35	0.00	0.86	17.6	15.1	UnDef	0.19
23.29	51.3	1.08	2.11	7.1	6	114.6	1.37	1.37	0.00	0.85	19.7	16.8	4.00	0.24
23.62	69.1	1.06	1.53	11.2	7	117.8	1.39	1.39	0.00	0.85	22.1	18.7	UnDef	0.18
23.95	71.9	1.01	1.40	5.4	7	117.8	1.41	1.41	0.00	0.84	23.0	19.3	UnDef	0.18
24.28	40.1	0.83	2.08	3.0	6	114.6	1.43	1.43	0.00	0.84	15.3	12.8	3.09	0.32
24.61	22.5	0.60	2.68	11.3	5	114.6	1.45	1.45	0.00	0.83	10.8	8.9	1.68	0.15
24.93	25.6	0.53	2.06	31.8	6	114.6	1.47	1.47	0.00	0.83	9.8	8.1	1.93	0.18
25.26	30.9	0.55	1.77	14.7	6	114.6	1.48	1.48	0.00	0.82	11.8	9.7	2.35	0.26
25.59	18.3	0.46	2.52	14.9	5	114.6	1.50	1.50	0.00	0.82	8.8	7.1	1.34	0.12
25.92	12.8	0.22	1.72	14.8	5	114.6	1.52	1.52	0.00	0.81	6.1	5.0	0.90	0.09
26.25	12.2	0.23	1.89	37.2	5	114.6	1.54	1.54	0.00	0.81	5.8	4.7	0.85	0.09
26.57	22.2	0.46	2.05	29.3	6	114.6	1.56	1.56	0.00	0.80	8.5	6.8	1.65	0.14
26.90	17.6	0.42	2.36	21.0	5	114.6	1.58	1.58	0.00	0.80	8.4	6.7	1.28	0.11
27.23	18.5	0.40	2.14	23.3	6	114.6	1.60	1.60	0.00	0.79	7.1	5.6	1.36	0.11
27.56	13.2	0.37	2.80	47.5	5	114.6	1.62	1.62	0.00	0.79	6.3	5.0	0.93	0.00
27.89	16.0	0.41	2.58	51.1	5	114.6	1.63	1.63	0.00	0.78	7.6	6.0	1.15	0.10
28.21	14.8	0.35	2.36	52.4	5	114.6	1.65	1.65	0.00	0.78	7.1	5.5	1.06	0.10
28.54	10.5	0.29	2.78	76.7	4	114.6	1.67	1.66	0.01	0.78	6.7	5.2	0.70	0.00
28.87	16.7	0.47	2.79	56.5	5	114.6	1.69	1.67	0.02	0.77	8.0	6.2	1.20	0.10
29.20	26.8	0.54	2.02	13.9	6	114.6	1.71	1.68	0.03	0.77	10.3	7.9	2.00	0.18
29.53	31.8	0.62	1.94	24.4	6	114.6	1.73	1.69	0.04	0.77	12.2	9.4	2.40	0.24
29.86	32.8	0.65	1.97	19.0	6	114.6	1.75	1.70	0.05	0.77	12.6	9.6	2.48	0.25
30.18	36.7	0.72	1.97	22.9	6	114.6	1.77	1.71	0.06	0.77	14.1	10.8	2.79	0.32
30.59	26.5	0.55	2.07	15.7	6	114.6	1.79	1.72	0.07	0.76	10.2	7.8	1.98	0.17
31.00	10.0	0.24	2.40	37.1	5	114.6	1.81	1.73	0.09	0.76	4.8	3.7	0.66	0.00
31.33	7.1	0.08	1.06	60.6	5	114.6	1.83	1.73	0.10	0.76	3.4	2.6	0.42	0.00
31.66	14.0	0.14	0.97	65.2	6	114.6	1.85	1.74	0.11	0.76	5.4	4.1	0.97	0.09
31.99	16.2	0.33	2.02	41.2	5	114.6	1.87	1.75	0.12	0.76	7.7	5.8	1.14	0.10
[illegible]32	8.5	0.23	2.66	36.5	4	114.6	1.89	1.76	0.13	0.75	5.4	4.1	0.53	0.00
[illegible].64	6.0	0.08	1.26	46.3	5	114.6	1.91	1.77	0.14	0.75	2.9	2.1	0.32	0.00
32.97	6.0	0.09	1.43	73.9	5	114.6	1.93	1.78	0.15	0.75	2.9	2.1	0.32	0.00
33.30	23.0	0.26	1.11	52.7	6	114.6	1.94	1.79	0.16	0.75	8.8	6.6	1.68	0.14

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60 (blows/ft)	Su (tsf)	CRR
33.63	22.2	0.38	1.69	27.6	6	114.6	1.96	1.79	0.17	0.75	8.5	6.4	1.62	0.13
33.96	15.2	0.39	2.58	55.9	5	114.6	1.98	1.80	0.18	0.74	7.3	5.4	1.06	0.10
34.28	39.5	0.28	0.71	24.7	7	117.8	2.00	1.81	0.19	0.74	12.6	9.4	UnDef	0.11
34.61	23.7	0.23	0.95	11.9	6	114.6	2.02	1.82	0.20	0.74	9.1	6.7	1.73	0.14
34.94	21.8	0.36	1.65	37.6	6	114.6	2.04	1.83	0.21	0.74	8.4	6.2	1.58	0.13
35.27	54.6	1.10	2.02	22.1	7	117.8	2.06	1.84	0.22	0.74	17.4	12.9	UnDef	0.37
35.60	188.2	2.93	1.56	8.7	8	120.9	2.08	1.85	0.23	0.74	45.1	33.1	UnDef	0.00
35.92	346.4	6.54	1.89	-3.1	8	120.9	2.10	1.86	0.24	0.73	82.9	60.9	UnDef	0.00
36.25	403.1	10.79	2.68	-1.5	12	120.9	2.12	1.87	0.25	0.73	193.0	141.3	UnDef	0.00
36.58	332.8	7.67	2.31	-5.4	8	120.9	2.14	1.88	0.26	0.73	79.7	58.2	UnDef	0.00
36.91	383.1	3.92	1.02	1.6	9	124.1	2.16	1.89	0.27	0.73	73.4	53.4	UnDef	0.00
37.24	514.6	4.98	0.97	5.1	9	124.1	2.18	1.90	0.28	0.73	98.6	71.6	UnDef	0.00
37.57	503.3	8.69	1.73	1.7	8	120.9	2.20	1.91	0.29	0.72	120.5	87.3	UnDef	0.00
37.89	474.9	10.00	2.11	1.1	8	120.9	2.22	1.92	0.30	0.72	113.7	82.2	UnDef	0.00
38.22	463.8	9.40	2.03	0.9	8	120.9	2.24	1.93	0.31	0.72	111.1	80.0	UnDef	0.00
38.55	450.3	9.73	2.16	5.1	8	120.9	2.26	1.94	0.32	0.72	107.8	77.5	UnDef	0.00
38.88	414.6	8.99	2.17	2.6	8	120.9	2.28	1.94	0.33	0.72	99.3	71.2	UnDef	0.00
39.21	445.9	10.63	2.38	4.5	12	120.9	2.30	1.95	0.34	0.72	213.5	152.7	UnDef	0.00
39.53	433.7	12.75	2.94	6.2	12	120.9	2.32	1.96	0.35	0.71	207.7	148.2	UnDef	0.00
39.86	383.2	12.66	3.30	5.3	12	120.9	2.34	1.97	0.36	0.71	183.5	130.6	UnDef	0.00
40.19	316.5	7.69	2.43	0.9	7	117.8	2.36	1.98	0.37	0.71	101.0	71.7	UnDef	0.00
40.52	266.1	5.77	2.17	-3.4	8	120.9	2.38	1.99	0.38	0.71	63.7	45.1	UnDef	0.00
40.85	255.3	5.23	2.05	0.1	8	120.9	2.40	2.00	0.39	0.71	61.1	43.2	UnDef	0.00
41.17	254.1	3.09	1.22	2.1	9	124.1	2.42	2.01	0.40	0.71	48.7	34.3	UnDef	0.00
41.50	257.1	1.89	0.73	9.2	9	124.1	2.44	2.02	0.41	0.70	49.3	34.6	UnDef	0.00
41.83	257.3	1.84	0.71	10.1	9	124.1	2.46	2.03	0.42	0.70	49.3	34.6	UnDef	0.00
42.16	253.9	3.56	1.40	11.6	8	120.9	2.48	2.04	0.43	0.70	60.8	42.5	UnDef	0.00
[illegible]49	275.7	6.11	2.22	13.6	7	117.8	2.50	2.05	0.45	0.70	88.0	61.4	UnDef	0.00
[illegible]81	255.9	5.84	2.28	3.4	7	117.8	2.52	2.06	0.46	0.70	81.7	56.9	UnDef	0.00
43.14	249.3	6.45	2.59	2.0	7	117.8	2.54	2.07	0.47	0.70	79.6	55.3	UnDef	0.00
43.47	250.2	6.84	2.73	2.8	7	117.8	2.55	2.08	0.48	0.69	79.9	55.4	UnDef	0.00
43.80	240.0	6.53	2.72	1.8	7	117.8	2.57	2.09	0.49	0.69	76.6	53.0	UnDef	0.00
44.13	222.1	5.96	2.69	0.1	7	117.8	2.59	2.10	0.50	0.69	70.9	49.0	UnDef	0.00
44.45	206.4	5.81	2.81	-1.2	7	117.8	2.61	2.11	0.51	0.69	65.9	45.4	UnDef	0.00
44.78	194.1	5.88	3.03	-2.0	7	117.8	2.63	2.11	0.52	0.69	61.9	42.6	UnDef	0.00
45.11	183.1	5.58	3.05	-1.9	7	117.8	2.65	2.12	0.53	0.69	58.5	40.1	UnDef	0.00
45.44	160.6	4.62	2.88	3.9	7	117.8	2.67	2.13	0.54	0.68	51.3	35.1	UnDef	0.00
45.77	159.7	4.63	2.90	12.4	7	117.8	2.69	2.14	0.55	0.68	51.0	34.8	UnDef	0.00
46.10	163.0	4.70	2.88	10.8	7	117.8	2.71	2.15	0.56	0.68	52.0	35.5	UnDef	0.00
46.42	161.4	5.21	3.23	8.2	6	114.6	2.73	2.16	0.57	0.68	61.8	42.1	12.69	0.00
46.75	120.6	4.47	3.71	3.3	6	114.6	2.75	2.17	0.58	0.68	46.2	31.4	9.43	0.00
47.08	83.1	2.74	3.30	-0.5	6	114.6	2.77	2.18	0.59	0.68	31.8	21.6	6.43	0.00
47.41	70.3	1.64	2.33	1.9	6	114.6	2.78	2.19	0.60	0.68	26.9	18.2	5.40	0.00
47.74	78.4	1.40	1.79	7.3	7	117.8	2.80	2.19	0.61	0.68	25.0	16.9	UnDef	0.31
48.06	77.1	1.25	1.62	13.0	7	117.8	2.82	2.20	0.62	0.67	24.6	16.6	UnDef	0.26
48.39	100.3	1.85	1.84	23.3	7	117.8	2.84	2.21	0.63	0.67	32.0	21.5	UnDef	0.34
48.72	130.4	2.48	1.90	18.6	7	117.8	2.86	2.22	0.64	0.67	41.6	27.9	UnDef	0.43
49.05	124.3	2.47	1.98	13.1	7	117.8	2.88	2.23	0.65	0.67	39.7	26.6	UnDef	0.44
49.38	91.5	2.04	2.23	8.0	7	117.8	2.90	2.24	0.66	0.67	29.2	19.5	UnDef	0.00
49.70	71.7	1.68	2.34	14.3	6	114.6	2.92	2.25	0.67	0.67	27.5	18.3	5.50	0.00
50.03	64.0	1.21	1.89	21.3	7	117.8	2.94	2.26	0.68	0.67	20.4	13.6	UnDef	0.44
50.36	58.8	0.78	1.33	30.0	7	117.8	2.96	2.27	0.69	0.66	18.8	12.5	UnDef	0.23
50.69	28.4	0.31	1.08	28.9	7	117.8	2.98	2.28	0.70	0.66	9.1	6.0	UnDef	0.15
51.02	12.4	0.25	1.98	91.8	5	114.6	3.00	2.28	0.71	0.66	5.9	3.9	0.75	0.09
51.34	10.2	0.19	1.86	70.6	5	114.6	3.01	2.29	0.72	0.66	4.9	3.2	0.58	0.00
51.67	7.7	0.10	1.30	101.5	5	114.6	3.03	2.30	0.73	0.66	3.7	2.4	0.38	0.00
52.00	11.1	0.14	1.27	87.5	5	114.6	3.05	2.31	0.74	0.66	5.3	3.5	0.64	0.08
52.33	18.8	0.26	1.39	66.3	6	114.6	3.07	2.32	0.75	0.66	7.2	4.7	1.26	0.10
[illegible]66	16.6	0.30	1.81	91.8	6	114.6	3.09	2.33	0.76	0.66	6.4	4.2	1.08	0.09
[illegible]98	16.9	0.34	1.99	74.4	5	114.6	3.11	2.34	0.77	0.65	8.1	5.3	1.10	0.09
53.31	11.2	0.27	2.42	101.5	5	114.6	3.13	2.34	0.78	0.65	5.4	3.5	0.64	0.00
53.64	28.2	0.29	1.03	66.7	7	117.8	3.15	2.35	0.79	0.65	9.0	5.9	UnDef	0.15

[illegible]ch (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
53.97	29.9	0.17	0.55	25.6	7	117.8	3.17	2.36	0.80	0.65	9.5	6.2	UnDef	0.16
54.30	33.4	0.08	0.23	25.2	7	117.8	3.19	2.37	0.81	0.65	10.7	6.9	UnDef	0.00
54.63	31.1	0.08	0.26	25.6	7	117.8	3.20	2.38	0.82	0.65	9.9	6.4	UnDef	0.00
54.95	30.0	0.08	0.27	26.0	7	117.8	3.22	2.39	0.83	0.65	9.6	6.2	UnDef	0.00
55.28	30.0	0.12	0.40	26.1	7	117.8	3.24	2.40	0.84	0.65	9.6	6.2	UnDef	0.00
55.61	43.5	0.07	0.15	26.3	8	120.9	3.26	2.41	0.85	0.64	10.4	6.7	UnDef	0.00
55.94	40.6	0.10	0.23	26.6	8	120.9	3.28	2.42	0.86	0.64	9.7	6.3	UnDef	0.00
56.27	16.8	0.23	1.37	28.8	6	114.6	3.30	2.43	0.88	0.64	6.4	4.1	1.08	0.09
56.59	8.3	0.20	2.36	96.2	4	114.6	3.32	2.44	0.89	0.64	5.3	3.4	0.40	0.00
56.92	5.6	0.05	0.90	109.5	1	111.4	3.34	2.44	0.90	0.64	2.7	1.7	0.18	0.00
57.25	5.8	0.03	0.51	108.8	1	111.4	3.36	2.45	0.91	0.64	2.8	1.8	0.20	0.00
57.58	5.9	0.03	0.51	101.8	1	111.4	3.38	2.46	0.92	0.64	2.8	1.8	0.20	0.00
57.91	5.5	0.03	0.46	104.4	1	111.4	3.39	2.47	0.93	0.64	2.6	1.7	0.17	0.00
58.23	5.6	0.13	2.23	106.4	4	114.6	3.41	2.48	0.94	0.64	3.6	2.3	0.18	0.00
58.56	12.4	0.30	2.42	70.3	5	114.6	3.43	2.48	0.95	0.63	6.0	3.8	0.72	0.00
58.89	7.3	0.24	3.30	83.8	3	111.4	3.45	2.49	0.96	0.63	7.0	4.4	0.31	0.00
59.22	17.4	0.35	2.02	77.1	6	114.6	3.47	2.50	0.97	0.63	6.6	4.2	1.11	0.09
59.55	19.7	0.42	2.14	46.7	6	114.6	3.49	2.51	0.98	0.63	7.5	4.8	1.29	0.10
59.87	12.7	0.33	2.61	74.2	5	114.6	3.51	2.52	0.99	0.63	6.1	3.8	0.73	0.00
60.20	9.4	0.27	2.89	99.7	4	114.6	3.52	2.53	1.00	0.63	6.0	3.8	0.47	0.00
60.53	21.1	0.39	1.85	66.0	6	114.6	3.54	2.54	1.01	0.63	8.1	5.1	1.40	0.11
60.86	28.1	0.44	1.57	39.1	6	114.6	3.56	2.54	1.02	0.63	10.8	6.7	1.96	0.14
61.19	14.4	0.47	3.28	49.0	4	114.6	3.58	2.55	1.03	0.63	9.2	5.7	0.86	0.00
61.52	9.1	0.34	3.69	108.6	3	111.4	3.60	2.56	1.04	0.62	8.7	5.4	0.44	0.00
61.84	18.5	0.34	1.81	69.4	6	114.6	3.62	2.57	1.05	0.62	7.1	4.4	1.19	0.10
62.17	18.4	0.37	1.99	42.8	6	114.6	3.64	2.58	1.06	0.62	7.1	4.4	1.18	0.10
62.50	8.1	0.20	2.48	95.7	4	114.6	3.66	2.59	1.07	0.62	5.2	3.2	0.35	0.00
[illegible]83	8.3	0.07	0.85	107.4	5	114.6	3.67	2.59	1.08	0.62	4.0	2.5	0.37	0.00
[illegible]16	7.1	0.10	1.35	110.1	5	114.6	3.69	2.60	1.09	0.62	3.4	2.1	0.27	0.00
63.48	9.9	0.12	1.16	135.5	5	114.6	3.71	2.61	1.10	0.62	4.7	2.9	0.49	0.00
63.81	20.8	0.48	2.28	80.9	6	114.6	3.73	2.62	1.11	0.62	8.0	4.9	1.37	0.10
64.14	22.1	0.69	3.11	23.5	5	114.6	3.75	2.63	1.12	0.62	10.6	6.5	1.47	0.00
64.47	20.0	0.70	3.48	16.3	4	114.6	3.77	2.64	1.13	0.62	12.8	7.9	1.30	0.00
64.80	21.0	0.51	2.43	22.3	5	114.6	3.79	2.65	1.14	0.61	10.1	6.2	1.38	0.10
65.12	17.5	0.39	2.23	2.8	5	114.6	3.81	2.65	1.15	0.61	8.4	5.1	1.10	0.00
65.45	13.7	0.42	3.08	10.8	4	114.6	3.82	2.66	1.16	0.61	8.7	5.4	0.79	0.00
65.78	21.5	0.48	2.22	16.4	6	114.6	3.84	2.67	1.17	0.61	8.2	5.0	1.41	0.10
66.11	40.9	0.34	0.82	20.6	7	117.8	3.86	2.68	1.18	0.61	13.1	8.0	UnDef	0.25
66.44	56.8	0.38	0.66	24.6	8	120.9	3.88	2.69	1.19	0.61	13.6	8.3	UnDef	0.14
66.76	52.5	0.74	1.40	49.3	7	117.8	3.90	2.70	1.20	0.61	16.7	10.2	UnDef	0.43
67.09	52.1	0.76	1.45	52.2	7	117.8	3.92	2.71	1.21	0.61	16.6	10.1	UnDef	0.43
67.42	51.9	0.40	0.76	38.8	7	117.8	3.94	2.72	1.22	0.61	16.6	10.0	UnDef	0.16
67.75	44.4	0.40	0.90	41.5	7	117.8	3.96	2.73	1.23	0.61	14.2	8.6	UnDef	0.29
68.08	36.7	0.46	1.24	56.2	7	117.8	3.98	2.74	1.24	0.60	11.7	7.1	UnDef	0.20
68.40	42.7	0.50	1.16	55.4	7	117.8	4.00	2.74	1.25	0.60	13.6	8.2	UnDef	0.27
68.73	56.7	0.45	0.79	47.6	8	120.9	4.02	2.75	1.26	0.60	13.6	8.2	UnDef	0.16
69.06	64.5	0.39	0.61	45.7	8	120.9	4.04	2.76	1.27	0.60	15.4	9.3	UnDef	0.13
69.39	59.3	0.36	0.61	46.2	8	120.9	4.06	2.77	1.28	0.60	14.2	8.5	UnDef	0.13
69.72	55.0	0.38	0.69	44.3	8	120.9	4.08	2.78	1.29	0.60	13.2	7.9	UnDef	0.15
70.05	46.3	0.41	0.88	45.8	7	117.8	4.10	2.79	1.30	0.60	14.8	8.8	UnDef	0.29
70.37	37.0	0.29	0.77	52.4	7	117.8	4.12	2.80	1.32	0.60	11.8	7.1	UnDef	0.20
70.70	32.5	0.27	0.82	59.4	7	117.8	4.14	2.81	1.33	0.60	10.4	6.2	UnDef	0.16
71.03	25.4	0.25	0.97	76.0	6	114.6	4.15	2.82	1.34	0.60	9.7	5.8	1.70	0.12
71.36	26.7	0.34	1.28	85.2	6	114.6	4.17	2.83	1.35	0.59	10.2	6.1	1.80	0.12
71.69	29.1	0.45	1.55	76.3	6	114.6	4.19	2.84	1.36	0.59	11.1	6.6	1.99	0.14
72.01	34.9	0.55	1.58	71.3	6	114.6	4.21	2.84	1.37	0.59	13.4	7.9	2.45	0.18
72.34	32.1	0.58	1.79	68.1	6	114.6	4.23	2.85	1.38	0.59	12.3	7.3	2.23	0.15
72.67	32.0	0.58	1.82	72.6	6	114.6	4.25	2.86	1.39	0.59	12.3	7.2	2.22	0.15
[illegible]00	45.6	0.70	1.54	89.4	7	117.8	4.27	2.87	1.40	0.59	14.6	8.6	UnDef	0.29
[illegible]33	53.4	0.80	1.50	86.0	7	117.8	4.29	2.88	1.41	0.59	17.0	10.0	UnDef	0.42
73.65	54.6	0.90	1.64	105.3	7	117.8	4.31	2.89	1.42	0.59	17.4	10.2	UnDef	0.44
73.98	63.5	0.98	1.54	110.6	7	117.8	4.33	2.90	1.43	0.59	20.3	11.9	UnDef	0.00

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
74.31	62.0	0.86	1.39	104.7	7	117.8	4.35	2.91	1.44	0.59	19.8	11.6	UnDef	0.00
74.64	47.6	1.04	2.19	130.0	6	114.6	4.36	2.92	1.45	0.59	18.2	10.7	3.46	0.32
74.97	51.4	1.03	2.00	121.1	7	117.8	4.38	2.92	1.46	0.58	16.4	9.6	UnDef	0.38
75.29	52.5	0.81	1.54	120.1	7	117.8	4.40	2.93	1.47	0.58	16.7	9.8	UnDef	0.39
75.62	47.1	0.69	1.47	122.5	7	117.8	4.42	2.94	1.48	0.58	15.0	8.8	UnDef	0.31
75.95	42.4	0.43	1.01	108.7	7	117.8	4.44	2.95	1.49	0.58	13.5	7.9	UnDef	0.24
76.28	21.0	0.13	0.60	125.3	6	114.6	4.46	2.96	1.50	0.58	8.0	4.7	1.32	0.10
76.61	10.4	0.07	0.63	184.8	6	114.6	4.48	2.97	1.51	0.58	4.0	2.3	0.47	0.00
76.93	25.4	0.17	0.65	153.9	7	117.8	4.50	2.98	1.52	0.58	8.1	4.7	UnDef	0.11
77.26	38.9	0.46	1.19	126.7	7	117.8	4.52	2.99	1.53	0.58	12.4	7.2	UnDef	0.20
77.59	40.2	0.79	1.96	106.2	6	114.6	4.54	3.00	1.54	0.58	15.4	8.9	2.85	0.22
77.92	48.0	1.01	2.10	73.7	6	114.6	4.56	3.00	1.55	0.58	18.4	10.6	3.48	0.31
78.25	35.1	0.80	2.28	74.0	6	114.6	4.57	3.01	1.56	0.58	13.5	7.8	2.44	0.17
78.58	18.9	0.47	2.47	135.5	5	114.6	4.59	3.02	1.57	0.58	9.0	5.2	1.14	0.00
78.90	32.3	0.61	1.88	108.4	6	114.6	4.61	3.03	1.58	0.57	12.4	7.1	2.21	0.15
79.23	41.5	0.77	1.86	72.8	6	114.6	4.63	3.04	1.59	0.57	15.9	9.1	2.95	0.23
79.56	23.3	0.60	2.58	88.5	5	114.6	4.65	3.05	1.60	0.57	11.1	6.4	1.49	0.00
79.89	10.3	0.37	3.59	171.8	3	111.4	4.67	3.06	1.61	0.57	9.9	5.7	0.45	0.00
80.22	9.2	0.17	1.86	135.0	5	114.6	4.69	3.06	1.62	0.57	4.4	2.5	0.36	0.00
80.54	7.7	0.02	0.26	171.7	1	111.4	4.70	3.07	1.63	0.57	3.7	2.1	0.24	0.00
80.87	8.9	0.04	0.45	181.5	6	114.6	4.72	3.08	1.64	0.57	3.4	1.9	0.33	0.00
81.20	10.6	0.21	1.99	183.3	5	114.6	4.74	3.09	1.65	0.57	5.1	2.9	0.47	0.00
81.53	10.3	0.13	1.26	98.5	5	114.6	4.76	3.10	1.66	0.57	4.9	2.8	0.45	0.00
81.86	9.3	0.12	1.29	157.9	5	114.6	4.78	3.11	1.67	0.57	4.5	2.5	0.36	0.00
82.18	9.4	0.10	1.06	148.9	5	114.6	4.80	3.11	1.68	0.57	4.5	2.6	0.37	0.00
82.51	8.3	0.10	1.14	159.2	5	114.6	4.82	3.12	1.69	0.57	4.0	2.3	0.28	0.00
82.84	7.8	0.08	0.97	167.6	5	114.6	4.84	3.13	1.70	0.57	3.7	2.1	0.24	0.00
[illegible]17	8.1	0.07	0.80	165.2	5	114.6	4.86	3.14	1.71	0.56	3.9	2.2	0.26	0.00
[illegible]50	7.8	0.06	0.71	161.4	5	114.6	4.87	3.15	1.72	0.56	3.7	2.1	0.24	0.00
83.82	10.0	0.06	0.60	175.1	6	114.6	4.89	3.16	1.73	0.56	3.8	2.2	0.41	0.00
84.15	10.6	0.10	0.95	155.6	6	114.6	4.91	3.17	1.75	0.56	4.1	2.3	0.45	0.00
84.48	13.6	0.15	1.10	170.5	6	114.6	4.93	3.17	1.76	0.56	5.2	2.9	0.69	0.08
84.81	17.6	0.27	1.51	163.8	6	114.6	4.95	3.18	1.77	0.56	6.8	3.8	1.01	0.09
85.14	18.5	0.30	1.60	181.1	6	114.6	4.97	3.19	1.78	0.56	7.1	4.0	1.08	0.09
85.46	17.8	0.26	1.47	209.4	6	114.6	4.99	3.20	1.79	0.56	6.8	3.8	1.02	0.09
85.79	17.7	0.22	1.25	214.0	6	114.6	5.01	3.21	1.80	0.56	6.8	3.8	1.02	0.09
86.12	15.9	0.17	1.07	239.2	6	114.6	5.02	3.22	1.81	0.56	6.1	3.4	0.87	0.09
86.45	15.5	0.14	0.91	279.7	6	114.6	5.04	3.23	1.82	0.56	5.9	3.3	0.84	0.09
86.78	17.5	0.14	0.77	253.9	6	114.6	5.06	3.23	1.83	0.56	6.7	3.7	1.00	0.09
87.11	17.5	0.11	0.60	234.7	6	114.6	5.08	3.24	1.84	0.56	6.7	3.7	0.99	0.09
87.43	15.3	0.10	0.66	266.6	6	114.6	5.10	3.25	1.85	0.55	5.8	3.2	0.81	0.09
87.76	15.1	0.11	0.73	280.7	6	114.6	5.12	3.26	1.86	0.55	5.8	3.2	0.80	0.09
88.09	16.6	0.13	0.75	267.3	6	114.6	5.14	3.27	1.87	0.55	6.4	3.5	0.92	0.09
88.42	18.9	0.12	0.61	256.6	6	114.6	5.16	3.28	1.88	0.55	7.2	4.0	1.10	0.09
88.75	19.5	0.14	0.69	164.4	6	114.6	5.17	3.29	1.89	0.55	7.5	4.1	1.14	0.09
89.07	18.6	0.17	0.89	237.2	6	114.6	5.19	3.29	1.90	0.55	7.1	3.9	1.07	0.09
89.40	25.5	0.57	2.24	192.8	6	114.6	5.21	3.30	1.91	0.55	9.8	5.4	1.63	0.11
89.73	33.9	1.18	3.47	92.7	5	114.6	5.23	3.31	1.92	0.55	16.2	8.9	2.30	0.00
90.06	43.7	1.17	2.68	57.8	6	114.6	5.25	3.32	1.93	0.55	16.8	9.2	3.08	0.23
90.39	45.5	0.52	1.14	41.0	7	117.8	5.27	3.33	1.94	0.55	14.5	8.0	UnDef	0.25
90.71	25.1	0.51	2.04	70.8	6	114.6	5.29	3.34	1.95	0.55	9.6	5.3	1.59	0.11
91.04	54.0	0.86	1.59	60.4	7	117.8	5.31	3.35	1.96	0.55	17.2	9.4	UnDef	0.36
91.37	23.3	0.25	1.05	9.0	6	114.6	5.33	3.36	1.97	0.55	8.9	4.9	1.44	0.10
91.70	12.3	0.19	1.51	58.9	5	114.6	5.34	3.36	1.98	0.55	5.9	3.2	0.55	0.00
92.03	12.5	0.19	1.48	114.6	5	114.6	5.36	3.37	1.99	0.54	6.0	3.3	0.57	0.00
92.35	15.4	0.17	1.10	150.5	6	114.6	5.38	3.38	2.00	0.54	5.9	3.2	0.80	0.09
92.68	16.5	0.17	1.03	164.5	6	114.6	5.40	3.39	2.01	0.54	6.3	3.4	0.89	0.09
93.01	45.7	0.18	0.39	115.8	8	120.9	5.42	3.40	2.02	0.54	11.0	5.9	UnDef	0.00
[illegible]34	40.1	0.30	0.75	76.2	7	117.8	5.44	3.41	2.03	0.54	12.8	6.9	UnDef	0.19
[illegible].67	18.0	0.24	1.31	118.4	6	114.6	5.46	3.42	2.04	0.54	6.9	3.7	1.00	0.09
93.99	13.1	0.21	1.60	166.1	5	114.6	5.48	3.43	2.05	0.54	6.3	3.4	0.61	0.00
94.32	38.2	0.32	0.84	143.2	7	117.8	5.50	3.43	2.06	0.54	12.2	6.6	UnDef	0.18

[illegible]h (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
94.65	54.2	0.28	0.52	47.5	8	120.9	5.52	3.44	2.07	0.54	13.0	7.0	UnDef	0.17

Interpretation Output - Release 1.00.19M
Run No: 04-0401-1123-5373
Job No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-1A
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/23/03
CPT Time: 15:11
CPT File: 717CP01A.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 8.60 (ft): 28.2
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (rc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.16	5.0E-04	0.00	1000.0	0.20	10	58.4	0.0	58.4	0.0	50	95.0	1.0	-0.25	0.0	19.5
0.49	5.0E-02	0.00	1000.0	0.60	10	247.0	0.0	247.0	0.0	50	95.0	1.0	-0.35	0.0	49.4
0.82	5.0E-02	0.00	1000.0	0.66	10	405.7	0.0	405.7	0.0	50	95.0	1.0	-0.36	0.0	81.1
1.15	5.0E-02	0.00	1000.0	1.20	9	573.0	0.0	573.0	1.3	50	95.0	1.0	-0.43	0.0	114.6
1.48	5.0E-03	0.00	1000.0	1.90	12	654.7	UnDef	UnDef	0.0	50	95.0	1.0	-0.50	UnDef	UnDef
1.80	5.0E-03	0.00	1000.0	2.30	12	658.3	UnDef	UnDef	0.0	50	95.0	1.0	-0.55	UnDef	UnDef
2.13	5.0E-03	0.00	1000.0	1.91	12	627.6	UnDef	UnDef	0.0	50	95.0	1.0	-0.50	UnDef	UnDef
2.46	5.0E-03	0.00	1000.0	2.02	12	701.0	UnDef	UnDef	0.0	50	95.0	1.0	-0.52	UnDef	UnDef
2.79	5.0E-03	0.00	1000.0	2.28	12	624.5	UnDef	UnDef	0.0	50	95.0	1.0	-0.54	UnDef	UnDef
3.12	5.0E-03	0.00	1000.0	1.66	12	515.8	UnDef	UnDef	0.0	50	95.0	1.0	-0.48	UnDef	UnDef
3.44	5.0E-02	0.00	1000.0	1.35	9	598.8	0.0	598.8	1.8	50	95.0	1.0	-0.44	0.0	119.8
3.77	5.0E-03	0.00	1000.0	1.45	12	662.0	UnDef	UnDef	0.0	50	95.0	1.0	-0.45	UnDef	UnDef
4.10	5.0E-03	0.00	1000.0	1.78	12	723.7	UnDef	UnDef	0.0	50	95.0	1.0	-0.49	UnDef	UnDef
4.43	5.0E-04	0.00	1000.0	2.50	12	666.7	UnDef	UnDef	0.0	50	95.0	1.0	-0.57	UnDef	UnDef
4.76	5.0E-03	0.00	981.8	1.77	12	516.8	UnDef	UnDef	0.0	50	95.0	1.0	-0.49	UnDef	UnDef
5.09	5.0E-03	0.00	1000.0	1.59	12	577.5	UnDef	UnDef	0.0	50	95.0	1.0	-0.47	UnDef	UnDef
5.41	5.0E-04	0.00	1000.0	2.52	12	577.0	UnDef	UnDef	0.0	50	95.0	1.0	-0.57	UnDef	UnDef
5.74	1.0E-15	0.00	906.1	2.98	12	523.4	UnDef	UnDef	0.0	50	95.0	1.0	-0.61	UnDef	UnDef
6.07	5.0E-04	0.00	609.4	2.81	12	362.0	UnDef	UnDef	0.0	50	95.0	1.0	-0.54	UnDef	UnDef
6.40	5.0E-03	0.00	465.5	1.58	9	283.9	0.0	283.9	4.9	48	95.0	1.0	-0.39	0.0	69.5
6.73	5.0E-03	0.00	501.6	1.72	9	313.7	1.2	314.8	5.1	48	95.0	1.0	-0.41	0.2	76.9
7.05	5.0E-04	0.00	599.1	2.22	12	383.4	UnDef	UnDef	0.0	50	95.0	1.0	-0.48	UnDef	UnDef
7.38	5.0E-04	0.00	658.6	2.61	12	430.9	UnDef	UnDef	0.0	50	95.0	1.0	-0.53	UnDef	UnDef
7.79	1.0E-15	0.00	560.7	2.97	12	376.9	UnDef	UnDef	0.0	50	95.0	1.0	-0.55	UnDef	UnDef
8.20	5.0E-04	0.00	446.0	3.11	12	307.7	UnDef	UnDef	0.0	48	95.0	1.0	-0.54	UnDef	UnDef
8.53	5.0E-05	0.00	333.1	3.32	12	234.3	UnDef	UnDef	0.0	48	91.7	10.0	-0.52	UnDef	UnDef
8.86	5.0E-05	0.00	235.9	3.62	12	169.2	UnDef	UnDef	0.0	46	82.3	10.0	-0.51	UnDef	UnDef
9.19	5.0E-05	0.00	171.7	3.07	12	125.5	UnDef	UnDef	0.0	44	73.8	10.0	-0.41	UnDef	UnDef
9.51	5.0E-04	0.00	148.3	2.34	7	110.3	37.0	147.4	14.4	44	70.1	1.0	-0.33	6.7	42.7
9.84	5.0E-03	0.00	223.4	1.66	9	168.6	18.3	187.0	8.7	46	82.3	1.0	-0.32	2.7	44.0
10.17	5.0E-03	0.00	275.6	1.72	9	211.3	16.8	228.1	7.8	46	88.7	1.0	-0.35	2.5	54.2
10.50	5.0E-04	0.00	353.0	2.12	9	274.8	24.9	299.8	8.1	48	95.0	1.0	-0.41	4.9	94.6
10.83	5.0E-04	0.00	379.8	2.27	12	300.1	UnDef	UnDef	0.0	48	95.0	1.0	-0.43	UnDef	UnDef
11.15	5.0E-04	0.00	397.5	2.36	12	318.8	UnDef	UnDef	0.0	48	95.0	1.0	-0.45	UnDef	UnDef
11.48	5.0E-04	0.00	367.7	2.26	12	299.1	UnDef	UnDef	0.0	48	95.0	1.0	-0.43	UnDef	UnDef
11.81	5.0E-04	0.00	338.8	2.57	12	279.5	UnDef	UnDef	0.0	48	95.0	1.0	-0.45	UnDef	UnDef
12.14	1.0E-15	0.00	320.9	3.18	12	268.4	UnDef	UnDef	0.0	46	95.0	1.0	-0.50	UnDef	UnDef
12.47	5.0E-05	0.00	246.2	3.18	12	208.9	UnDef	UnDef	0.0	46	88.4	10.0	-0.47	UnDef	UnDef
12.80	5.0E-05	0.00	196.2	3.18	12	168.7	UnDef	UnDef	0.0	46	82.3	10.0	-0.44	UnDef	UnDef

[illegible]h (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
13.12	5.0E-05	0.00	178.7	3.27	12	155.6	UnDef	UnDef	0.0	44	79.9	10.0	-0.43	UnDef	UnDef
13.45	5.0E-05	0.00	149.1	3.35	12	131.6	UnDef	UnDef	0.0	44	75.1	10.0	-0.42	UnDef	UnDef
13.78	5.0E-05	0.00	127.9	3.33	7	114.2	71.4	185.7	19.4	44	71.1	10.0	-0.40	14.2	58.9
14.11	5.0E-05	0.00	113.3	2.99	7	102.4	63.4	165.8	19.3	42	68.0	10.0	-0.35	12.6	52.7
14.44	5.0E-05	0.00	111.2	2.65	7	101.8	55.0	156.8	18.1	42	67.8	10.0	-0.32	11.2	51.0
14.76	5.0E-05	0.00	98.8	2.84	7	91.5	61.4	152.9	20.0	42	64.7	10.0	-0.32	12.0	47.8
15.09	5.0E-05	0.00	86.0	2.60	7	80.6	56.8	137.3	20.5	42	61.1	10.0	-0.29	11.0	42.5
15.42	5.0E-05	0.00	75.9	2.40	7	72.0	53.2	125.3	20.9	40	57.9	10.0	-0.26	10.2	38.4
15.75	5.0E-04	0.00	71.8	2.04	7	68.8	45.0	113.8	19.8	40	56.6	1.0	-0.23	7.4	29.8
16.08	5.0E-04	0.00	65.2	1.93	7	63.2	43.6	106.8	20.3	40	54.1	1.0	-0.21	7.1	27.7
16.40	5.0E-04	0.00	60.6	2.12	7	59.4	50.0	109.4	22.1	40	52.3	1.0	-0.22	7.8	27.1
16.73	5.0E-05	0.00	45.1	2.36	7	44.9	64.2	109.0	27.0	38	44.3	10.0	-0.20	10.2	27.8
17.06	5.0E-05	0.00	35.3	2.02	7	35.7	61.3	97.1	28.7	38	37.8	10.0	-0.15	9.1	23.1
17.39	5.0E-05	0.01	33.3	1.96	7	34.0	62.1	96.1	29.2	36	36.4	10.0	-0.14	9.0	22.4
17.72	5.0E-05	0.01	30.0	2.02	7	31.1	71.6	102.7	31.1	36	33.8	10.0	-0.13	9.4	21.6
18.04	5.0E-04	0.00	39.7	1.60	7	41.2	44.5	85.6	24.5	38	41.8	1.0	-0.14	6.5	19.9
18.37	5.0E-04	0.00	43.0	1.74	7	44.9	47.5	92.4	24.3	38	44.3	1.0	-0.16	6.9	21.6
18.70	5.0E-04	0.00	39.5	1.64	7	41.6	46.9	88.5	24.8	38	42.2	1.0	-0.14	6.7	20.3
19.03	5.0E-04	0.00	38.7	1.58	7	41.2	45.6	86.8	24.7	38	41.9	1.0	-0.14	6.6	20.0
19.36	5.0E-05	0.00	27.5	2.20	6	29.8	95.8	125.6	33.6	36	32.6	10.0	-0.13	10.6	22.3
19.68	5.0E-05	0.00	18.1	2.12	6	20.1	80.6	100.7	40.4	32	30.0	8.1	-0.08	7.9	15.8
20.01	5.0E-08	0.02	6.2	3.72	1	7.6	UnDef	UnDef	100.0	UnDef	UnDef	1.7	UnDef	UnDef	UnDef
20.34	5.0E-06	0.06	9.1	2.79	4	10.9	43.5	54.4	59.2	UnDef	UnDef	2.9	UnDef	5.3	10.6
20.67	5.0E-05	0.01	19.9	1.99	6	22.5	90.1	112.6	37.9	34	30.0	9.3	-0.09	8.8	17.6
21.00	5.0E-04	0.01	35.5	1.80	7	39.7	58.6	98.3	27.3	38	40.8	1.0	-0.14	7.7	20.6
21.33	5.0E-05	0.01	38.6	2.15	7	43.5	69.8	113.3	28.1	38	43.4	10.0	-0.17	10.7	27.7
21.65	5.0E-05	0.01	38.4	2.17	7	43.6	71.4	115.0	28.3	38	43.5	10.0	-0.17	10.8	27.9
[illegible]98	5.0E-05	0.02	38.2	2.07	7	43.7	67.8	111.5	27.8	38	43.5	10.0	-0.16	10.5	27.6
[illegible]31	5.0E-05	0.02	37.0	2.32	7	42.6	81.9	124.5	29.6	38	42.8	10.0	-0.17	11.7	28.3
22.64	5.0E-04	0.00	40.1	2.00	7	46.4	64.3	110.6	26.8	38	45.3	1.0	-0.16	8.6	23.8
22.97	5.0E-04	0.00	39.8	1.89	7	46.4	60.8	107.2	26.2	38	45.2	1.0	-0.16	8.3	23.4
23.29	5.0E-05	0.00	36.5	2.17	7	42.9	76.7	119.6	29.0	38	43.0	10.0	-0.16	11.3	28.0
23.62	5.0E-04	0.01	48.8	1.56	7	57.4	45.6	103.0	21.6	38	51.4	1.0	-0.16	7.2	25.9
23.95	5.0E-04	0.00	50.1	1.43	7	59.3	41.5	100.8	20.4	38	52.3	1.0	-0.15	6.7	26.1
24.28	5.0E-05	0.00	27.1	2.15	6	32.8	105.0	137.8	33.5	36	35.3	10.0	-0.13	11.7	24.5
24.61	5.0E-06	0.02	14.5	2.86	6	18.3	73.2	91.4	49.1	UnDef	UnDef	5.7	UnDef	8.9	17.9
24.93	5.0E-05	0.04	16.4	2.18	6	20.7	82.7	103.4	42.6	32	30.0	6.9	-0.07	8.1	16.2
25.26	5.0E-05	0.02	19.8	1.86	6	24.8	99.2	124.0	37.1	32	30.0	9.3	-0.08	9.7	19.4
25.59	5.0E-06	0.03	11.2	2.75	4	14.6	58.4	73.0	54.3	UnDef	UnDef	3.8	UnDef	7.1	14.3
25.92	5.0E-06	0.04	7.4	1.95	4	10.2	40.7	50.8	58.9	UnDef	UnDef	2.2	UnDef	5.0	9.9
26.25	5.0E-06	0.11	6.9	2.17	4	9.6	38.4	48.0	62.4	UnDef	UnDef	2.0	UnDef	4.7	9.4
26.57	5.0E-05	0.04	13.3	2.21	6	17.4	69.7	87.1	47.2	30	30.0	5.0	-0.05	6.8	13.6
26.90	5.0E-06	0.04	10.2	2.59	4	13.7	55.0	68.7	55.5	UnDef	UnDef	3.4	UnDef	6.7	13.4
27.23	5.0E-05	0.04	10.6	2.34	5	14.4	57.4	71.8	53.0	30	30.0	3.6	-0.03	5.6	11.2
27.56	5.0E-06	0.13	7.2	3.20	1	10.2	UnDef	UnDef	100.0	UnDef	UnDef	2.1	UnDef	UnDef	UnDef
27.89	5.0E-06	0.11	8.8	2.87	4	12.2	48.9	61.1	60.8	UnDef	UnDef	2.7	UnDef	6.0	12.0
28.21	5.0E-06	0.12	8.0	2.66	4	11.3	45.2	56.5	61.9	UnDef	UnDef	2.4	UnDef	5.5	11.1
28.54	5.0E-07	0.27	5.3	3.31	1	7.9	UnDef	UnDef	100.0	UnDef	UnDef	1.4	UnDef	UnDef	UnDef
28.87	5.0E-06	0.12	9.0	3.11	4	12.6	50.5	63.2	61.5	UnDef	UnDef	2.8	UnDef	6.2	12.4
29.20	5.0E-05	0.02	14.9	2.16	6	20.2	80.8	101.1	44.5	32	30.0	6.0	-0.06	7.9	15.8
29.53	5.0E-05	0.02	17.8	2.05	6	23.9	95.7	119.6	40.3	32	30.0	7.9	-0.08	9.4	18.7
29.86	5.0E-05	0.02	18.3	2.08	6	24.6	98.6	123.2	40.0	32	30.0	8.2	-0.08	9.6	19.3
30.18	5.0E-05	0.02	20.5	2.07	6	27.5	110.0	137.5	37.8	34	30.3	9.8	-0.09	10.8	21.5
30.59	5.0E-05	0.02	14.4	2.22	6	19.8	79.2	99.0	45.5	32	30.0	5.6	-0.06	7.8	15.5
31.00	5.0E-06	0.13	4.8	2.92	1	7.5	UnDef	UnDef	100.0	UnDef	UnDef	1.3	UnDef	UnDef	UnDef
31.33	5.0E-06	0.34	3.0	1.43	4	5.3	21.1	26.3	80.2	UnDef	UnDef	0.8	UnDef	2.6	5.2
31.66	5.0E-05	0.16	7.0	1.12	6	10.4	41.4	51.8	53.1	30	30.0	2.0	0.07	4.1	8.1
31.99	5.0E-06	0.08	8.2	2.28	4	11.9	47.8	59.7	58.9	UnDef	UnDef	2.5	UnDef	5.8	11.7
[illegible]32	5.0E-07	0.15	3.7	3.42	1	6.3	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDef
[illegible].64	5.0E-06	0.32	2.3	1.85	4	4.4	17.6	21.9	94.0	UnDef	UnDef	0.7	UnDef	2.1	4.3
32.97	5.0E-06	0.53	2.3	2.11	4	4.4	17.5	21.9	96.5	UnDef	UnDef	0.7	UnDef	2.1	4.3
33.30	5.0E-05	0.07	11.8	1.22	6	16.8	67.2	84.0	42.1	30	30.0	4.2	0.01	6.6	13.2

[illegible]h (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
33.63	5.0E-05	0.03	11.3	1.85	6	16.2	65.0	81.2	48.3	30	30.0	3.9	-0.02	6.4	12.7
33.96	5.0E-06	0.12	7.3	2.96	4	11.1	44.2	55.3	66.0	UnDef	UnDef	2.1	UnDef	5.4	10.8
34.28	5.0E-04	0.02	20.7	0.75	7	28.7	41.2	69.9	27.1	34	31.5	1.0	-0.02	5.5	14.8
34.61	5.0E-05	0.01	11.9	1.04	6	17.2	68.6	85.8	40.2	30	30.0	4.2	0.01	6.7	13.4
34.94	5.0E-05	0.05	10.8	1.82	6	15.8	63.2	79.0	49.0	30	30.0	3.7	-0.01	6.2	12.4
35.27	5.0E-04	0.01	28.6	2.10	6	39.4	106.4	145.8	32.3	36	40.6	1.0	-0.13	10.8	23.7
35.60	5.0E-03	0.00	100.7	1.57	7	135.5	43.1	178.5	14.0	42	76.0	1.0	-0.23	5.9	39.0
35.92	5.0E-03	0.00	185.4	1.90	9	248.7	46.5	295.3	10.9	44	93.4	1.0	-0.32	6.7	67.5
36.25	1.0E-15	0.00	214.8	2.69	12	288.7	UnDef	UnDef	0.0	46	95.0	1.0	-0.40	UnDef	UnDef
36.58	5.0E-03	0.00	176.2	2.32	7	237.8	64.9	302.7	13.0	44	92.1	1.0	-0.35	9.0	67.2
36.91	5.0E-02	0.00	202.0	1.03	9	273.0	7.8	280.8	6.0	46	95.0	1.0	-0.26	0.9	54.4
37.24	5.0E-02	0.00	270.2	0.97	9	365.7	0.0	365.7	4.2	46	95.0	1.0	-0.28	0.0	71.6
37.57	5.0E-03	0.00	262.8	1.73	9	356.7	31.9	388.6	8.1	46	95.0	1.0	-0.35	4.7	92.0
37.89	5.0E-03	0.00	246.7	2.12	9	335.8	51.9	387.7	10.0	46	95.0	1.0	-0.37	7.5	89.7
38.22	5.0E-03	0.00	239.7	2.04	9	327.1	48.9	376.0	9.9	46	95.0	1.0	-0.36	7.1	87.1
38.55	5.0E-03	0.00	231.5	2.17	9	316.8	55.9	372.7	10.6	46	95.0	1.0	-0.37	8.0	85.5
38.88	5.0E-03	0.00	212.0	2.18	9	291.0	57.7	348.7	11.2	46	95.0	1.0	-0.36	8.2	79.4
39.21	1.0E-15	0.00	227.0	2.40	9	312.1	67.0	379.1	11.6	46	95.0	1.0	-0.39	19.0	171.7
39.53	1.0E-15	0.00	219.6	2.95	12	302.8	UnDef	UnDef	0.0	46	95.0	1.0	-0.43	UnDef	UnDef
39.86	1.0E-15	0.00	192.9	3.32	12	266.9	UnDef	UnDef	0.0	44	95.0	1.0	-0.45	UnDef	UnDef
40.19	5.0E-04	0.00	158.4	2.45	7	219.9	73.1	293.0	14.3	44	89.9	1.0	-0.35	13.3	85.0
40.52	5.0E-03	0.00	132.4	2.19	7	184.5	64.3	248.8	14.7	44	84.8	1.0	-0.31	8.7	53.8
40.85	5.0E-03	0.00	126.3	2.07	7	176.6	60.3	236.9	14.5	44	83.6	1.0	-0.29	8.2	51.4
41.17	5.0E-02	0.00	125.1	1.23	9	175.3	29.0	204.4	10.3	44	83.4	1.0	-0.23	3.3	37.7
41.50	5.0E-02	0.00	126.0	0.74	9	177.0	10.5	187.5	7.1	44	83.6	1.0	-0.18	1.3	35.9
41.83	5.0E-02	0.00	125.4	0.72	9	176.7	9.9	186.5	7.0	44	83.6	1.0	-0.18	1.2	35.8
42.16	5.0E-03	0.00	123.1	1.42	9	173.9	36.6	210.5	11.5	42	83.1	1.0	-0.24	5.2	47.7
[illegible]49	5.0E-04	0.00	133.2	2.24	7	188.3	67.2	255.6	14.9	44	85.4	1.0	-0.31	12.1	73.5
[illegible]81	5.0E-04	0.00	123.0	2.31	7	174.5	70.8	245.3	15.8	42	83.2	1.0	-0.31	12.5	69.5
43.14	5.0E-04	0.00	119.2	2.61	7	169.6	83.5	253.1	17.4	42	82.4	1.0	-0.33	14.4	69.7
43.47	5.0E-04	0.00	119.1	2.76	7	169.8	89.9	259.7	18.0	42	82.5	1.0	-0.34	15.3	70.7
43.80	5.0E-04	0.00	113.7	2.75	7	162.5	89.9	252.5	18.3	42	81.2	1.0	-0.33	15.2	68.2
44.13	5.0E-04	0.00	104.7	2.72	7	150.1	89.4	239.6	19.0	42	78.9	1.0	-0.32	14.9	63.9
44.45	5.0E-04	0.00	96.8	2.85	7	139.2	96.0	235.2	20.3	42	76.8	1.0	-0.32	15.6	61.0
44.78	5.0E-04	0.00	90.5	3.07	7	130.6	106.8	237.4	21.8	42	74.9	1.0	-0.33	16.7	59.3
45.11	5.0E-04	0.00	85.0	3.09	7	123.0	108.9	231.8	22.6	42	73.2	1.0	-0.32	16.7	56.8
45.44	5.0E-04	0.00	74.1	2.93	7	107.6	104.5	212.1	23.4	40	69.4	1.0	-0.29	15.6	50.8
45.77	5.0E-04	0.00	73.3	2.95	7	106.8	106.1	212.9	23.7	40	69.2	1.0	-0.29	15.8	50.6
46.10	5.0E-04	0.00	74.5	2.93	7	108.8	105.2	213.9	23.4	40	69.7	1.0	-0.29	15.8	51.2
46.42	5.0E-05	0.00	73.4	3.28	7	107.4	122.6	230.0	25.0	40	69.3	10.0	-0.32	21.0	63.1
46.75	5.0E-05	0.00	54.3	3.79	6	80.1	174.3	254.4	30.7	40	60.9	10.0	-0.32	23.5	54.9
47.08	5.0E-05	-0.01	36.9	3.41	6	55.1	212.9	268.0	34.8	38	50.2	10.0	-0.24	21.3	42.9
47.41	5.0E-05	-0.01	30.9	2.43	6	46.6	136.1	182.7	32.9	36	45.4	10.0	-0.16	15.9	34.1
47.74	5.0E-04	-0.01	34.5	1.86	7	51.8	82.9	134.7	28.1	36	48.4	1.0	-0.14	10.6	27.5
48.06	5.0E-04	0.00	33.7	1.69	7	50.8	74.9	125.8	27.3	36	47.9	1.0	-0.13	9.9	26.4
48.39	5.0E-04	0.00	44.0	1.90	7	66.0	74.8	140.7	24.9	38	55.4	1.0	-0.17	10.7	32.2
48.72	5.0E-04	0.00	57.4	1.94	7	85.6	69.7	155.4	21.8	40	62.8	1.0	-0.20	10.9	38.8
49.05	5.0E-04	0.00	54.4	2.03	7	81.4	74.9	156.3	22.9	40	61.4	1.0	-0.20	11.4	37.9
49.38	5.0E-04	0.00	39.6	2.30	7	59.9	101.5	161.3	28.6	38	52.6	1.0	-0.18	12.7	32.2
49.70	5.0E-05	0.00	30.6	2.44	6	46.8	141.8	188.6	33.2	36	45.5	10.0	-0.16	16.3	34.6
50.03	5.0E-04	0.00	27.0	1.98	6	41.7	115.4	157.1	32.5	36	42.2	1.0	-0.12	11.6	25.2
50.36	5.0E-04	0.00	24.6	1.40	7	38.2	77.9	116.1	30.1	34	39.7	1.0	-0.08	9.0	21.5
50.69	5.0E-04	0.01	11.2	1.20	6	18.4	73.8	92.2	43.1	30	30.0	1.0	0.01	6.0	12.0
51.02	5.0E-06	0.23	4.1	2.62	4	8.0	32.0	40.1	80.5	UnDef	UnDef	1.1	UnDef	3.9	7.8
51.34	5.0E-06	0.21	3.1	2.64	1	6.6	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
51.67	5.0E-06	0.52	2.0	2.14	4	5.0	19.9	24.9	100.0	UnDef	UnDef	0.6	UnDef	2.4	4.9
52.00	5.0E-06	0.25	3.5	1.75	4	7.1	28.5	35.7	78.9	UnDef	UnDef	0.9	UnDef	3.5	7.0
52.33	5.0E-05	0.08	6.8	1.66	4	12.1	48.3	60.3	58.9	30	30.0	1.9	0.05	4.7	9.4
[illegible]66	5.0E-05	0.16	5.8	2.22	4	10.7	42.6	53.3	67.4	30	30.0	1.6	0.06	4.2	8.3
[illegible].98	5.0E-06	0.11	5.9	2.44	4	10.8	43.2	54.0	68.6	UnDef	UnDef	1.6	UnDef	5.3	10.6
53.31	5.0E-06	0.30	3.4	3.35	1	7.1	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
53.64	5.0E-04	0.05	10.6	1.15	6	18.0	71.9	89.8	43.8	30	30.0	1.0	0.02	5.9	11.7

Dpth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
53.97	5.0E-04	0.00	11.3	0.62	6	19.0	76.1	95.1	36.3	30	30.0	1.0	0.05	6.2	12.4
54.30	5.0E-04	0.00	12.7	0.25	7	21.2	0.0	21.2	5.0	30	30.0	1.0	0.11	0.0	6.9
54.63	5.0E-04	0.00	11.7	0.29	7	19.7	0.0	19.7	5.0	30	30.0	1.0	0.10	0.0	6.4
54.95	5.0E-04	0.00	11.2	0.30	7	19.0	0.0	19.0	5.0	30	30.0	1.0	0.11	0.0	6.2
55.28	5.0E-04	0.00	11.2	0.45	7	19.0	0.0	19.0	5.0	30	30.0	1.0	0.08	0.0	6.2
55.61	5.0E-03	0.00	16.7	0.16	7	27.4	0.0	27.4	5.0	32	30.2	1.0	0.12	0.0	6.7
55.94	5.0E-03	0.00	15.4	0.26	7	25.5	0.0	25.5	5.0	32	30.0	1.0	0.09	0.0	6.3
56.27	5.0E-05	0.00	5.6	1.7[illegible]	4	10.5	42.2	52.7	64.7	30	30.0	1.5	0.06	4.1	8.3
56.59	5.0E-07	0.43	2.0	3.94	1	5.2	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
56.92	1.0E-07	1.14	0.9	2.26	1	3.5	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
57.25	1.0E-07	1.00	1.0	1.2[illegible]	1	3.7	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
57.58	1.0E-07	0.91	1.0	1.20	1	3.7	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
57.91	1.0E-07	1.10	0.9	1.19	1	3.4	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
58.23	5.0E-07	1.09	0.9	5.70	1	3.5	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
58.56	5.0E-06	0.14	3.6	3.34	1	7.7	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDef
58.89	5.0E-08	0.43	1.5	6.27	1	4.5	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
59.22	5.0E-05	0.10	5.6	2.53	4	10.7	43.0	53.7	70.8	30	30.0	1.5	0.05	4.2	8.4
59.55	5.0E-05	0.03	6.4	2.60	4	12.2	48.6	60.8	67.2	30	30.0	1.8	0.02	4.8	9.5
59.87	5.0E-06	0.15	3.6	3.61	1	7.8	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDef
60.20	5.0E-07	0.36	2.3	4.62	1	5.8	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
60.53	5.0E-05	0.06	6.9	2.23	4	13.0	51.9	64.9	62.7	30	30.0	2.0	0.03	5.1	10.2
60.86	5.0E-05	0.01	9.6	1.80	6	17.2	69.0	86.2	51.4	30	30.0	3.1	0.00	6.7	13.5
61.19	5.0E-07	0.05	4.2	4.36	1	8.8	UnDef	UnDef	100.0	UnDef	UnDef	1.1	UnDef	UnDef	UnDef
61.52	5.0E-08	0.43	2.1	6.11	1	5.6	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
61.84	5.0E-05	0.07	5.8	2.25	4	11.3	45.3	56.6	67.7	30	30.0	1.6	0.05	4.4	8.9
62.17	5.0E-05	0.02	5.7	2.43	4	11.2	44.9	56.1	69.6	30	30.0	1.6	0.04	4.4	8.8
62.50	5.0E-07	0.43	1.7	4.53	1	4.9	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
[illegible]83	5.0E-06	0.49	1.8	1.52	4	5.0	20.2	25.2	100.0	UnDef	UnDef	0.6	UnDef	2.5	4.9
[illegible]16	5.0E-06	0.70	1.3	2.82	1	4.3	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
63.48	5.0E-06	0.51	2.4	1.85	4	6.0	24.0	30.0	92.9	UnDef	UnDef	0.7	UnDef	2.9	5.9
63.81	5.0E-05	0.08	6.5	2.78	4	12.6	50.4	63.0	67.9	30	30.0	1.8	0.02	4.9	9.9
64.14	5.0E-06	-0.02	7.0	3.74	1	13.3	UnDef	UnDef	100.0	UnDef	UnDef	2.0	UnDef	UnDef	UnDef
64.47	5.0E-07	-0.04	6.2	4.23	1	12.1	UnDef	UnDef	100.0	UnDef	UnDef	1.7	UnDef	UnDef	UnDef
64.80	5.0E-06	-0.03	6.5	2.96	4	12.7	50.6	63.3	69.1	UnDef	UnDef	1.8	UnDef	6.2	12.4
65.12	5.0E-06	-0.08	5.2	2.85	1	10.5	UnDef	UnDef	100.0	UnDef	UnDef	1.4	UnDef	UnDef	UnDef
65.45	5.0E-07	-0.08	3.7	4.27	1	8.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDef
65.78	5.0E-05	-0.04	6.6	2.70	4	12.9	51.4	64.3	67.1	30	30.0	1.9	0.01	5.0	10.1
66.11	5.0E-04	-0.01	13.8	0.91	6	24.5	97.9	122.4	35.8	32	30.0	1.0	0.01	8.0	16.0
66.44	5.0E-03	-0.01	19.7	0.71	7	33.9	50.7	84.7	27.4	34	36.3	1.0	-0.01	5.0	13.3
66.76	5.0E-04	0.01	18.0	1.52	6	31.2	125.0	156.2	36.4	32	33.9	1.0	-0.06	10.2	20.4
67.09	5.0E-04	0.01	17.8	1.57	6	31.0	123.9	154.9	37.0	32	33.7	1.0	-0.06	10.1	20.2
67.42	5.0E-04	0.00	17.6	0.83	7	30.8	66.2	97.0	30.6	32	33.5	1.0	-0.01	7.5	17.5
67.75	5.0E-04	0.00	14.8	0.99	6	26.3	105.3	131.7	35.4	32	30.0	1.0	-0.01	8.6	17.2
68.08	5.0E-04	0.02	12.0	1.39	6	21.7	86.9	108.6	43.4	30	30.0	1.0	-0.01	7.1	14.2
68.40	5.0E-04	0.01	14.1	1.23	6	25.2	101.0	126.2	39.0	32	30.0	1.0	-0.02	8.2	16.5
68.73	5.0E-03	0.00	19.1	0.85	7	33.4	62.6	96.0	29.4	32	35.9	1.0	-0.02	5.6	13.8
69.06	5.0E-03	0.00	21.9	0.65	7	38.0	43.8	81.8	25.1	34	39.5	1.0	-0.01	4.7	14.0
69.39	5.0E-03	0.00	19.9	0.65	7	34.8	47.6	82.4	26.6	34	37.0	1.0	0.00	4.8	13.3
69.72	5.0E-03	0.00	18.3	0.75	7	32.2	58.3	90.5	29.1	32	34.8	1.0	-0.01	5.3	13.2
70.05	5.0E-04	0.00	15.1	0.96	6	27.1	104.6	131.7	34.7	32	30.0	1.0	-0.01	8.7	17.6
70.37	5.0E-04	0.01	11.7	0.87	6	21.6	86.5	108.1	38.7	30	30.0	1.0	0.03	7.1	14.1
70.70	5.0E-04	0.02	10.1	0.94	6	19.0	75.9	94.9	42.5	30	30.0	1.0	0.04	6.2	12.4
71.03	5.0E-05	0.05	7.5	1.16	6	14.8	59.1	73.9	51.6	30	30.0	2.2	0.05	5.8	11.6
71.36	5.0E-05	0.06	8.0	1.51	6	15.5	62.1	77.6	53.6	30	30.0	2.4	0.03	6.1	12.2
71.69	5.0E-05	0.04	8.8	1.81	6	16.9	67.6	84.5	53.7	30	30.0	2.7	0.01	6.6	13.2
72.01	5.0E-05	0.03	10.8	1.80	6	20.2	81.0	101.2	48.8	30	30.0	3.7	-0.01	7.9	15.9
72.34	5.0E-05	0.03	9.8	2.07	6	18.6	74.5	93.1	53.0	30	30.0	3.2	-0.01	7.3	14.6
72.67	5.0E-05	0.03	9.7	2.10	6	18.5	74.0	92.5	53.4	30	30.0	3.1	-0.01	7.2	14.5
[illegible]00	5.0E-04	0.03	14.4	1.70	6	26.3	105.4	131.7	42.0	32	30.0	1.0	-0.04	8.6	17.2
[illegible]33	5.0E-04	0.03	17.0	1.63	6	30.8	123.1	153.9	38.3	32	33.5	1.0	-0.05	10.0	20.1
73.65	5.0E-04	0.04	17.4	1.78	6	31.4	125.7	157.1	39.0	32	34.1	1.0	-0.06	10.2	20.5
73.98	5.0E-04	0.03	20.4	1.65	6	36.5	146.0	182.5	35.1	34	38.4	1.0	-0.07	11.9	23.8

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
74.31	5.0E-04	0.03	19.8	1.50	6	35.6	131.4	167.0	34.5	34	37.7	1.0	-0.06	11.3	22.9
74.64	5.0E-05	0.06	14.8	2.41	6	27.3	109.0	136.3	46.2	32	30.0	5.9	-0.07	10.7	21.3
74.97	5.0E-04	0.05	16.1	2.18	6	29.4	117.7	147.1	43.1	32	32.2	1.0	-0.07	9.6	19.2
75.29	5.0E-04	0.05	16.4	1.68	6	30.0	119.9	149.9	39.3	32	32.7	1.0	-0.05	9.8	19.6
75.62	5.0E-04	0.05	14.5	1.62	6	26.9	107.6	134.5	41.2	32	30.0	1.0	-0.03	8.8	17.5
75.95	5.0E-04	0.05	12.8	1.12	6	24.1	96.5	120.6	39.5	32	30.0	1.0	0.00	7.9	15.7
76.28	5.0E-05	0.15	5.6	0.76	6	11.9	47.7	59.6	54.4	30	30.0	1.5	0.12	4.7	9.3
76.61	5.0E-05	0.72	2.0	1.10	1	5.9	UnDef	UnDef	100.0	30	30.0	0.6	0.30	UnDef	UnDef
76.93	5.0E-04	0.16	7.0	0.79	6	14.4	57.7	72.1	49.0	30	30.0	1.0	0.09	4.7	9.4
77.26	5.0E-04	0.07	11.5	1.34	6	22.0	88.1	110.1	43.7	30	30.0	1.0	0.00	7.2	14.4
77.59	5.0E-05	0.05	11.9	2.21	6	22.7	90.8	113.6	49.6	30	30.0	4.2	-0.04	8.9	17.8
77.92	5.0E-05	0.02	14.5	2.32	6	27.1	108.4	135.5	46.1	32	30.0	5.7	-0.07	10.6	21.2
78.25	5.0E-05	0.02	10.1	2.62	4	19.8	79.2	99.0	55.8	30	30.0	3.3	-0.03	7.8	15.5
78.58	5.0E-06	0.19	4.7	3.26	1	10.6	UnDef	UnDef	100.0	UnDef	UnDef	1.3	UnDef	UnDef	UnDef
78.90	5.0E-05	0.07	9.1	2.19	4	18.2	72.6	90.8	55.5	30	30.0	2.9	0.00	7.1	14.2
79.23	5.0E-05	0.02	12.1	2.09	6	23.3	93.3	116.6	48.3	30	30.0	4.4	-0.04	9.1	18.3
79.56	5.0E-06	0.06	6.1	3.23	1	13.1	UnDef	UnDef	100.0	UnDef	UnDef	1.7	UnDef	UnDef	UnDef
79.89	5.0E-08	0.66	1.9	6.56	1	5.8	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
80.22	5.0E-06	0.58	1.5	3.81	1	5.1	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
80.54	1.0E-07	1.26	1.0	0.68	1	4.3	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
80.87	5.0E-05	0.96	1.4	0.96	1	5.0	UnDef	UnDef	100.0	30	30.0	0.6	0.53	UnDef	UnDef
81.20	5.0E-06	0.70	1.9	3.61	1	5.9	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
81.53	5.0E-06	0.25	1.8	2.34	1	5.7	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
81.86	5.0E-06	0.72	1.5	2.64	1	5.2	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
82.18	5.0E-06	0.64	1.5	2.16	1	5.2	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
82.51	5.0E-06	0.94	1.1	2.72	1	4.6	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
82.84	5.0E-06	1.20	0.9	2.55	1	4.3	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
[illegible]17	5.0E-06	1.05	1.0	1.99	1	4.5	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
[illegible]50	5.0E-06	1.13	0.9	1.88	1	4.3	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
83.82	5.0E-05	0.73	1.6	1.18	1	5.5	UnDef	UnDef	100.0	30	30.0	0.6	0.32	UnDef	UnDef
84.15	5.0E-05	0.55	1.8	1.76	4	5.8	23.3	29.1	100.0	30	30.0	0.6	0.26	2.3	4.6
84.48	5.0E-05	0.41	2.7	1.73	4	7.5	29.9	37.4	86.7	30	30.0	0.8	0.18	2.9	5.9
84.81	5.0E-05	0.26	4.0	2.10	4	9.7	38.7	48.3	77.6	30	30.0	1.1	0.12	3.8	7.6
85.14	5.0E-05	0.29	4.2	2.18	4	10.1	40.6	50.7	76.3	30	30.0	1.1	0.11	4.0	7.9
85.46	5.0E-05	0.37	4.0	2.04	4	9.7	38.8	48.6	77.1	30	30.0	1.1	0.13	3.8	7.6
85.79	5.0E-05	0.38	4.0	1.74	4	9.7	38.7	48.4	74.7	30	30.0	1.1	0.14	3.8	7.6
86.12	5.0E-05	0.52	3.4	1.57	4	8.7	34.7	43.4	78.0	30	30.0	0.9	0.19	3.4	6.8
86.45	5.0E-05	0.66	3.2	1.34	4	8.4	33.8	42.2	77.1	30	30.0	0.9	0.23	3.3	6.6
86.78	5.0E-05	0.49	3.8	1.09	4	9.5	38.1	47.6	68.9	30	30.0	1.0	0.18	3.7	7.5
87.11	5.0E-05	0.44	3.8	0.85	4	9.5	38.0	47.5	66.0	30	30.0	1.0	0.18	3.7	7.4
87.43	5.0E-05	0.64	3.1	0.99	4	8.3	33.1	41.4	74.0	30	30.0	0.9	0.24	3.2	6.5
87.76	5.0E-05	0.69	3.1	1.10	4	8.2	32.8	41.0	76.0	30	30.0	0.8	0.25	3.2	6.4
88.09	5.0E-05	0.56	3.5	1.09	4	9.0	36.0	45.1	71.6	30	30.0	0.9	0.20	3.5	7.1
88.42	5.0E-05	0.45	4.2	0.84	4	10.2	40.8	51.0	63.3	30	30.0	1.1	0.18	4.0	8.0
88.75	5.0E-05	0.23	4.4	0.95	4	10.5	42.1	52.6	63.6	30	30.0	1.2	0.14	4.1	8.2
89.07	5.0E-05	0.41	4.1	1.24	4	10.0	40.0	50.0	69.1	30	30.0	1.1	0.16	3.9	7.8
89.40	5.0E-05	0.20	6.2	2.81	4	13.7	55.0	68.7	69.8	30	30.0	1.7	0.05	5.4	10.8
89.73	5.0E-06	0.03	8.7	4.10	1	18.2	UnDef	UnDef	100.0	UnDef	UnDef	2.7	UnDef	UnDef	UnDef
90.06	5.0E-05	0.00	11.6	3.05	4	23.5	94.0	117.5	55.1	30	30.0	4.1	-0.07	9.2	18.4
90.39	5.0E-04	-0.02	12.1	1.29	6	24.4	97.7	122.1	42.3	30	30.0	1.0	-0.01	8.0	15.9
90.71	5.0E-05	0.01	5.9	2.58	4	13.5	53.8	67.3	69.3	30	30.0	1.6	0.03	5.3	10.5
91.04	5.0E-04	0.00	14.5	1.76	6	28.9	115.5	144.4	42.3	32	31.7	1.0	-0.05	9.4	18.8
91.37	5.0E-05	-0.09	5.4	1.37	4	12.4	49.8	62.2	62.5	30	30.0	1.4	0.06	4.9	9.7
91.70	5.0E-06	-0.02	2.1	2.68	1	6.5	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
92.03	5.0E-06	0.22	2.1	2.59	1	6.7	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
92.35	5.0E-05	0.27	3.0	1.70	4	8.2	32.8	41.1	83.5	30	30.0	0.8	0.15	3.2	6.4
92.68	5.0E-05	0.28	3.3	1.53	4	8.8	35.2	44.0	78.6	30	30.0	0.9	0.15	3.4	6.9
93.01	5.0E-03	0.04	11.9	0.45	7	24.3	0.0	24.3	5.0	30	30.0	1.0	0.07	0.0	5.9
[illegible]34	5.0E-04	0.01	10.2	0.87	6	21.3	85.0	106.3	41.6	30	30.0	1.0	0.04	6.9	13.9
[illegible].67	5.0E-05	0.13	3.7	1.88	4	9.5	38.1	47.6	78.4	30	30.0	1.0	0.11	3.7	7.5
93.99	5.0E-06	0.41	2.2	2.75	1	6.9	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
94.32	5.0E-04	0.07	9.5	0.98	6	20.2	80.6	100.8	44.3	30	30.0	1.0	0.04	6.6	13.2

[redacted]h (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
94.65	5.0E-03	-0.01	14.1	0.58	7	28.6	69.4	98.0	31.5	32	31.4	1.0	0.04	5.6	12.6

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.00.19M
[redacted] No: 04-0401-1123-5439
[redacted] No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-6
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/23/03
CPT Time: 17:20
CPT File: 717CP006.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 11.23 (ft): 36.8
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (n.c): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
0.16	70.3	0.25	0.36	-0.1	8	120.9	0.01	0.01	0.00	2.00	16.8	33.7	UnDef	0.31
0.49	132.9	0.90	0.68	-1.4	9	124.1	0.03	0.03	0.00	2.00	25.4	50.9	UnDef	0.00
0.82	166.5	2.27	1.36	-10.2	8	120.9	0.05	0.05	0.00	2.00	39.9	79.7	UnDef	0.00
1.15	193.7	3.71	1.92	-13.0	8	120.9	0.07	0.07	0.00	2.00	46.4	92.7	UnDef	0.00
[illegible]48	187.2	4.50	2.40	-13.2	7	117.8	0.09	0.09	0.00	2.00	59.7	119.5	UnDef	0.00
[illegible]80	173.2	4.05	2.34	-14.1	7	117.8	0.11	0.11	0.00	2.00	55.3	110.6	UnDef	0.00
2.13	158.6	3.60	2.27	-11.7	7	117.8	0.13	0.13	0.00	2.00	50.6	101.2	UnDef	0.00
2.46	126.8	2.92	2.30	-15.1	7	117.8	0.15	0.15	0.00	2.00	40.5	81.0	UnDef	0.00
2.79	93.7	2.38	2.54	-8.9	7	117.8	0.17	0.17	0.00	2.00	29.9	59.8	UnDef	0.00
3.12	67.6	1.54	2.28	-5.3	6	114.6	0.19	0.19	0.00	2.00	25.9	51.8	5.39	0.00
3.44	71.7	1.25	1.75	-6.6	7	117.8	0.20	0.20	0.00	2.00	22.9	45.8	UnDef	0.36
3.77	70.4	1.64	2.33	-11.3	6	114.6	0.22	0.22	0.00	2.00	27.0	54.0	5.62	0.00
4.10	54.0	1.20	2.22	-13.6	6	114.6	0.24	0.24	0.00	2.00	20.7	41.4	4.30	0.26
4.43	51.9	0.82	1.58	-11.8	7	117.8	0.26	0.26	0.00	1.95	16.6	32.4	UnDef	0.21
4.76	50.2	0.70	1.39	-11.2	7	117.8	0.28	0.28	0.00	1.89	16.0	30.2	UnDef	0.18
5.09	45.6	0.52	1.14	-13.9	7	117.8	0.30	0.30	0.00	1.82	14.6	26.6	UnDef	0.15
5.41	28.5	0.46	1.60	-7.3	6	114.6	0.32	0.32	0.00	1.77	10.9	19.3	2.26	0.11
5.74	44.5	0.44	0.98	-1.2	7	117.8	0.34	0.34	0.00	1.72	14.2	24.4	UnDef	0.13
6.07	70.5	0.44	0.62	0.5	8	120.9	0.36	0.36	0.00	1.67	16.9	28.2	UnDef	0.22
6.40	71.8	0.50	0.69	0.5	8	120.9	0.38	0.38	0.00	1.63	17.2	28.0	UnDef	0.22
6.73	67.6	0.81	1.20	0.4	7	117.8	0.40	0.40	0.00	1.59	21.6	34.2	UnDef	0.22
7.05	66.9	1.23	1.84	0.0	7	117.8	0.42	0.42	0.00	1.55	21.3	33.1	UnDef	0.26
7.38	60.2	1.55	2.57	0.1	6	114.6	0.44	0.44	0.00	1.51	23.1	34.9	4.78	0.27
7.79	45.9	1.40	3.06	-0.4	6	114.6	0.46	0.46	0.00	1.48	17.6	26.0	3.64	0.22
8.20	34.3	1.05	3.06	0.1	5	114.6	0.48	0.48	0.00	1.44	16.4	23.6	2.70	0.18
8.53	29.4	0.80	2.71	0.0	5	114.6	0.50	0.50	0.00	1.41	14.1	19.9	2.31	0.15
8.86	27.7	0.63	2.26	0.1	6	114.6	0.52	0.52	0.00	1.39	10.6	14.7	2.17	0.13
9.19	27.4	0.56	2.03	0.0	6	114.6	0.54	0.54	0.00	1.36	10.5	14.3	2.15	0.12
9.51	31.0	0.68	2.18	0.0	6	114.6	0.56	0.56	0.00	1.34	11.9	15.9	2.44	0.13
9.84	30.2	0.66	2.19	0.1	6	114.6	0.58	0.58	0.00	1.32	11.6	15.2	2.37	0.13
10.17	30.4	0.57	1.86	0.1	6	114.6	0.60	0.60	0.00	1.30	11.7	15.1	2.39	0.12
10.50	32.2	0.61	1.89	-0.4	6	114.6	0.61	0.61	0.00	1.28	12.3	15.7	2.52	0.12
10.83	38.7	0.73	1.88	-1.8	6	114.6	0.63	0.63	0.00	1.26	14.8	18.6	3.05	0.13
11.15	50.5	1.01	1.99	0.0	7	117.8	0.65	0.65	0.00	1.24	16.1	20.0	UnDef	0.17
11.48	57.5	1.45	2.53	-2.3	6	114.6	0.67	0.67	0.00	1.22	22.0	26.9	4.54	0.23
[illegible]81	54.7	1.41	2.58	-2.3	6	114.6	0.69	0.69	0.00	1.20	21.0	25.2	4.32	0.22
[illegible].14	50.7	1.29	2.54	-1.9	6	114.6	0.71	0.71	0.00	1.19	19.4	23.1	4.00	0.21
12.47	43.2	1.13	2.62	-2.2	6	114.6	0.73	0.73	0.00	1.17	16.6	19.4	3.40	0.20
12.80	37.8	0.89	2.35	-6.3	6	114.6	0.75	0.75	0.00	1.16	14.5	16.8	2.96	0.17

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
13.12	31.5	0.71	2.24	-5.5	6	114.6	0.77	0.77	0.00	1.14	12.1	13.8	2.46	0.16
13.45	29.6	0.56	1.88	-4.0	6	114.6	0.78	0.78	0.00	1.13	11.3	12.8	2.31	0.13
13.78	23.8	0.49	2.06	-1.3	6	114.6	0.80	0.80	0.00	1.12	9.1	10.2	1.84	0.17
14.11	23.6	0.37	1.57	2.5	6	114.6	0.82	0.82	0.00	1.10	9.1	10.0	1.83	0.12
14.44	24.6	0.37	1.49	3.9	6	114.6	0.84	0.84	0.00	1.09	9.4	10.3	1.90	0.12
14.76	24.9	0.40	1.61	4.3	6	114.6	0.86	0.86	0.00	1.08	9.6	10.3	1.93	0.13
15.09	24.1	0.41	1.70	4.4	6	114.6	0.88	0.88	0.00	1.07	9.2	9.9	1.86	0.14
15.42	20.4	0.40	1.94	5.8	6	114.6	0.90	0.90	0.00	1.06	7.8	8.3	1.56	0.19
15.75	23.6	0.34	1.42	0.7	6	114.6	0.92	0.92	0.00	1.05	9.1	9.5	1.82	0.12
16.08	23.3	0.35	1.48	2.9	6	114.6	0.93	0.93	0.00	1.03	8.9	9.2	1.79	0.13
16.40	22.5	0.37	1.65	4.4	6	114.6	0.95	0.95	0.00	1.02	8.6	8.8	1.72	0.17
16.73	24.2	0.48	1.97	4.2	6	114.6	0.97	0.97	0.00	1.01	9.3	9.4	1.86	0.24
17.06	23.9	0.48	1.99	0.3	6	114.6	0.99	0.99	0.00	1.00	9.2	9.2	1.83	0.23
17.39	18.5	0.24	1.27	8.1	6	114.6	1.01	1.01	0.00	1.00	7.1	7.1	1.40	0.15
17.72	19.6	0.26	1.30	22.1	6	114.6	1.03	1.03	0.00	0.99	7.5	7.4	1.48	0.16
18.04	20.8	0.24	1.16	16.0	6	114.6	1.05	1.05	0.00	0.98	8.0	7.8	1.58	0.13
18.37	17.0	0.18	1.03	18.6	6	114.6	1.07	1.07	0.00	0.97	6.5	6.3	1.27	0.13
18.70	15.8	0.30	1.87	27.9	5	114.6	1.08	1.08	0.00	0.96	7.6	7.3	1.18	0.12
19.03	17.4	0.24	1.39	1.9	6	114.6	1.10	1.10	0.00	0.95	6.6	6.3	1.30	0.13
19.36	15.2	0.16	1.02	10.2	6	114.6	1.12	1.12	0.00	0.94	5.8	5.5	1.12	0.11
19.68	18.5	0.19	1.03	10.6	6	114.6	1.14	1.14	0.00	0.94	7.1	6.6	1.39	0.14
20.01	29.6	0.49	1.64	10.5	6	114.6	1.16	1.16	0.00	0.93	11.3	10.5	2.27	0.17
20.34	56.3	1.06	1.89	4.8	7	117.8	1.18	1.18	0.00	0.92	18.0	16.6	UnDef	0.19
20.67	57.2	1.49	2.61	1.1	6	114.6	1.20	1.20	0.00	0.91	21.9	20.0	4.48	0.30
21.00	52.1	1.54	2.95	-1.4	6	114.6	1.22	1.22	0.00	0.91	20.0	18.1	4.07	0.42
21.33	44.0	1.26	2.86	-2.0	6	114.6	1.24	1.24	0.00	0.90	16.9	15.2	3.42	0.00
21.65	33.7	0.91	2.69	-1.7	6	114.6	1.25	1.25	0.00	0.89	12.9	11.5	2.59	0.38
[illegible]98	21.2	0.45	2.10	0.3	6	114.6	1.27	1.27	0.00	0.89	8.1	7.2	1.60	0.15
[illegible]31	21.5	0.33	1.52	0.5	6	114.6	1.29	1.29	0.00	0.88	8.2	7.2	1.62	0.15
22.64	25.6	0.33	1.29	-2.7	6	114.6	1.31	1.31	0.00	0.87	9.8	8.6	1.94	0.19
22.97	36.2	0.70	1.94	-2.0	6	114.6	1.33	1.33	0.00	0.87	13.9	12.0	2.79	0.26
23.29	40.2	0.92	2.29	-6.7	6	114.6	1.35	1.35	0.00	0.86	15.4	13.3	3.11	0.37
23.62	90.5	1.16	1.28	-1.7	8	120.9	1.37	1.37	0.00	0.86	21.7	18.5	UnDef	0.20
23.95	193.1	2.13	1.10	-0.1	9	124.1	1.39	1.39	0.00	0.85	37.0	31.4	UnDef	0.00
24.28	225.9	4.03	1.79	-0.3	8	120.9	1.41	1.41	0.00	0.84	54.1	45.6	UnDef	0.00
24.61	200.2	4.86	2.43	-0.9	7	117.8	1.43	1.43	0.00	0.84	63.9	53.5	UnDef	0.00
24.93	222.1	6.12	2.76	0.5	7	117.8	1.45	1.45	0.00	0.83	70.9	58.9	UnDef	0.00
25.26	206.3	6.64	3.22	1.5	7	117.8	1.47	1.47	0.00	0.83	65.9	54.4	UnDef	0.00
25.59	166.7	5.42	3.25	-4.4	6	114.6	1.49	1.49	0.00	0.82	63.8	52.4	13.22	0.00
25.92	159.0	4.73	2.97	-3.7	7	117.8	1.50	1.50	0.00	0.82	50.8	41.4	UnDef	0.00
26.25	146.9	4.55	3.10	-3.7	6	114.6	1.52	1.52	0.00	0.81	56.3	45.6	11.63	0.00
26.57	101.5	4.18	4.12	-3.1	5	114.6	1.54	1.54	0.00	0.81	48.6	39.1	8.00	0.00
26.90	85.2	3.05	3.58	-1.8	6	114.6	1.56	1.56	0.00	0.80	32.7	26.1	6.69	0.00
27.23	71.1	2.22	3.12	-1.2	6	114.6	1.58	1.58	0.00	0.80	27.2	21.7	5.56	0.00
27.56	53.2	1.44	2.72	4.0	6	114.6	1.60	1.60	0.00	0.79	20.4	16.1	4.13	0.00
27.89	41.9	0.85	2.02	20.6	6	114.6	1.62	1.62	0.00	0.79	16.0	12.6	3.22	0.42
28.21	41.1	0.58	1.42	37.0	7	117.8	1.64	1.64	0.00	0.78	13.1	10.2	UnDef	0.18
28.54	27.6	0.83	3.01	45.7	5	114.6	1.66	1.66	0.00	0.78	13.2	10.3	2.08	0.19
28.87	23.4	0.78	3.32	4.8	5	114.6	1.67	1.67	0.00	0.77	11.2	8.7	1.74	0.14
29.20	25.4	0.79	3.10	17.1	5	114.6	1.69	1.69	0.00	0.77	12.2	9.4	1.90	0.16
29.53	27.7	0.81	2.91	23.7	5	114.6	1.71	1.71	0.00	0.76	13.3	10.2	2.08	0.18
29.86	28.6	0.75	2.61	21.9	6	114.6	1.73	1.73	0.00	0.76	10.9	8.3	2.15	0.19
30.18	30.8	0.76	2.47	21.8	6	114.6	1.75	1.75	0.00	0.76	11.8	8.9	2.33	0.22
30.59	17.1	0.50	2.93	14.4	5	114.6	1.77	1.77	0.00	0.75	8.2	6.1	1.22	0.00
31.00	5.5	0.11	1.91	46.7	4	114.6	1.80	1.80	0.00	0.75	3.5	2.6	0.30	0.00
31.33	5.0	0.01	0.20	73.6	1	111.4	1.82	1.82	0.00	0.74	2.4	1.8	0.25	0.00
31.66	4.2	0.07	1.66	73.3	1	111.4	1.83	1.83	0.00	0.74	2.0	1.5	0.19	0.00
31.99	6.3	0.11	1.68	40.2	4	114.6	1.85	1.85	0.00	0.73	4.0	2.9	0.35	0.00
[illegible]32	4.3	0.08	1.85	26.3	4	114.6	1.87	1.87	0.00	0.73	2.8	2.0	0.20	0.00
[illegible]64	12.2	0.30	2.42	53.0	5	114.6	1.89	1.89	0.00	0.73	5.9	4.3	0.83	0.09
32.97	11.9	0.34	2.86	38.2	5	114.6	1.91	1.91	0.00	0.72	5.7	4.1	0.80	0.00
33.30	5.0	0.14	2.83	71.1	3	111.4	1.93	1.93	0.00	0.72	4.8	3.4	0.24	0.00

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
33.63	8.2	0.17	2.09	71.9	5	114.6	1.95	1.95	0.00	0.72	3.9	2.8	0.50	0.00
33.96	14.2	0.48	3.38	42.3	4	114.6	1.96	1.96	0.00	0.71	9.1	6.5	0.98	0.00
34.28	22.8	0.51	2.22	31.6	6	114.6	1.98	1.98	0.00	0.71	8.7	6.2	1.66	0.13
34.61	12.0	0.39	3.23	37.8	4	114.6	2.00	2.00	0.00	0.71	7.6	5.4	0.80	0.00
34.94	7.9	0.33	4.17	69.0	3	111.4	2.02	2.02	0.00	0.70	7.6	5.3	0.47	0.00
35.27	13.7	0.45	3.28	50.5	4	114.6	2.04	2.04	0.00	0.70	8.8	6.1	0.94	0.00
35.60	28.7	0.54	1.89	14.5	6	114.6	2.06	2.06	0.00	0.70	11.0	7.7	2.13	0.17
35.92	17.2	0.45	2.59	18.2	5	114.6	2.08	2.08	0.00	0.69	8.3	5.7	1.21	0.10
36.25	5.1	0.21	4.12	48.7	3	111.4	2.09	2.09	0.00	0.69	4.9	3.4	0.24	0.00
36.58	4.0	0.04	1.01	87.0	1	111.4	2.11	2.11	0.00	0.69	1.9	1.3	0.15	0.00
36.91	4.1	0.02	0.49	88.3	1	111.4	2.13	2.13	0.00	0.69	1.9	1.3	0.15	0.00
37.24	5.2	0.02	0.39	77.3	1	111.4	2.15	2.14	0.01	0.68	2.5	1.7	0.24	0.00
37.57	4.4	0.03	0.57	83.3	1	111.4	2.17	2.15	0.02	0.68	2.1	1.4	0.18	0.00
37.89	4.9	0.03	0.61	84.3	1	111.4	2.19	2.15	0.03	0.68	2.4	1.6	0.22	0.00
38.22	9.7	0.26	2.62	75.0	4	114.6	2.20	2.16	0.04	0.68	6.2	4.2	0.60	0.00
38.55	14.5	0.35	2.39	32.6	5	114.6	2.22	2.17	0.05	0.68	6.9	4.7	0.98	0.09
38.88	8.1	0.17	2.10	43.5	5	114.6	2.24	2.18	0.06	0.68	3.9	2.6	0.47	0.00
39.21	5.9	0.04	0.68	81.8	1	111.4	2.26	2.19	0.07	0.68	2.8	1.9	0.29	0.00
39.53	4.7	0.04	0.86	88.5	1	111.4	2.28	2.20	0.08	0.67	2.2	1.5	0.19	0.00
39.86	11.1	0.05	0.45	77.1	6	114.6	2.30	2.20	0.09	0.67	4.2	2.9	0.70	0.00
40.19	16.6	0.16	0.94	71.7	6	114.6	2.32	2.21	0.10	0.67	6.4	4.3	1.14	0.10
40.52	43.8	0.54	1.22	67.6	7	117.8	2.34	2.22	0.11	0.67	14.0	9.4	UnDef	0.27
40.85	95.2	0.80	0.84	22.7	8	120.9	2.36	2.23	0.12	0.67	22.8	15.3	UnDef	0.16
41.17	99.6	1.23	1.24	8.6	8	120.9	2.38	2.24	0.13	0.67	23.8	15.9	UnDef	0.22
41.50	94.8	1.65	1.74	26.5	7	117.8	2.39	2.25	0.15	0.67	30.3	20.2	UnDef	0.30
41.83	100.5	1.81	1.80	19.0	7	117.8	2.41	2.26	0.16	0.67	32.1	21.3	UnDef	0.33
42.16	100.1	1.88	1.88	10.3	7	117.8	2.43	2.27	0.17	0.66	31.9	21.2	UnDef	0.35
[illegible]49	89.2	1.79	2.01	13.8	7	117.8	2.45	2.28	0.18	0.66	28.5	18.9	UnDef	0.38
[illegible]81	94.6	1.57	1.66	15.8	7	117.8	2.47	2.29	0.19	0.66	30.2	20.0	UnDef	0.29
43.14	86.7	1.55	1.79	6.8	7	117.8	2.49	2.29	0.20	0.66	27.7	18.3	UnDef	0.32
43.47	78.6	1.65	2.10	13.0	7	117.8	2.51	2.30	0.21	0.66	25.1	16.5	UnDef	0.45
43.80	90.4	1.71	1.90	22.8	7	117.8	2.53	2.31	0.22	0.66	28.9	19.0	UnDef	0.35
44.13	108.8	2.01	1.85	19.0	7	117.8	2.55	2.32	0.23	0.66	34.7	22.8	UnDef	0.36
44.45	120.5	2.39	1.98	-0.3	7	117.8	2.57	2.33	0.24	0.66	38.5	25.2	UnDef	0.43
44.78	115.5	2.06	1.78	-9.9	7	117.8	2.59	2.34	0.25	0.65	36.9	24.1	UnDef	0.36
45.11	103.9	1.69	1.63	-3.2	7	117.8	2.61	2.35	0.26	0.65	33.2	21.6	UnDef	0.30
45.44	91.2	1.39	1.52	5.3	7	117.8	2.63	2.36	0.27	0.65	29.1	19.0	UnDef	0.26
45.77	79.4	0.91	1.14	1.1	8	120.9	2.65	2.37	0.28	0.65	19.0	12.4	UnDef	0.19
46.10	61.6	0.66	1.07	8.2	7	117.8	2.67	2.38	0.29	0.65	19.7	12.7	UnDef	0.17
46.42	52.7	0.52	0.99	23.7	7	117.8	2.68	2.39	0.30	0.65	16.8	10.9	UnDef	0.17
46.75	48.9	0.61	1.25	40.3	7	117.8	2.70	2.40	0.31	0.65	15.6	10.1	UnDef	0.29
47.08	41.2	0.37	0.89	33.8	7	117.8	2.72	2.40	0.32	0.64	13.2	8.5	UnDef	0.20
47.41	16.3	0.12	0.71	75.6	6	114.6	2.74	2.41	0.33	0.64	6.3	4.0	1.09	0.09
47.74	11.0	0.03	0.23	103.9	6	114.6	2.76	2.42	0.34	0.64	4.2	2.7	0.66	0.00
48.06	8.5	0.04	0.47	95.8	6	114.6	2.78	2.43	0.35	0.64	3.2	2.1	0.45	0.00
48.39	6.2	0.04	0.64	81.0	1	111.4	2.80	2.44	0.36	0.64	3.0	1.9	0.27	0.00
48.72	5.2	0.02	0.29	96.3	1	111.4	2.82	2.45	0.37	0.64	2.5	1.6	0.19	0.00
49.05	7.5	0.17	2.20	109.0	4	114.6	2.84	2.45	0.38	0.64	4.8	3.1	0.37	0.00
49.38	87.5	1.19	1.36	42.2	8	120.9	2.85	2.46	0.39	0.64	21.0	13.4	UnDef	0.23
49.70	171.9	3.06	1.78	5.1	8	120.9	2.87	2.47	0.40	0.64	41.1	26.2	UnDef	0.00
50.03	155.2	4.16	2.68	-6.0	7	117.8	2.89	2.48	0.41	0.63	49.5	31.4	UnDef	0.00
50.36	129.3	3.89	3.01	6.8	6	114.6	2.91	2.49	0.42	0.63	49.5	31.4	10.11	0.00
50.69	127.0	3.05	2.40	18.9	7	117.8	2.93	2.50	0.43	0.63	40.5	25.6	UnDef	0.00
51.02	154.9	3.31	2.14	18.6	7	117.8	2.95	2.51	0.44	0.63	49.4	31.2	UnDef	0.00
51.34	145.2	3.41	2.35	-1.4	7	117.8	2.97	2.52	0.45	0.63	46.4	29.2	UnDef	0.00
51.67	102.0	2.97	2.91	-1.0	6	114.6	2.99	2.53	0.46	0.63	39.1	24.6	7.92	0.00
52.00	80.3	2.66	3.31	20.7	6	114.6	3.01	2.54	0.47	0.63	30.8	19.3	6.18	0.00
52.33	64.1	2.01	3.14	27.3	6	114.6	3.03	2.54	0.48	0.63	24.5	15.4	4.88	0.00
[illegible]66	52.4	1.60	3.06	54.6	6	114.6	3.05	2.55	0.49	0.63	20.1	12.6	3.95	0.00
[illegible]98	66.1	2.11	3.19	53.6	6	114.6	3.07	2.56	0.50	0.62	25.3	15.8	5.05	0.00
53.31	79.4	1.94	2.45	24.1	6	114.6	3.08	2.57	0.51	0.62	30.4	19.0	6.10	0.00
53.64	104.0	1.76	1.69	17.0	7	117.8	3.10	2.58	0.52	0.62	33.2	20.7	UnDef	0.34

Dpth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgDd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60 (blows/ft)	Su (tsf)	CRR
53.97	102.0	1.54	1.51	16.6	8	120.9	3.12	2.59	0.53	0.62	24.4	15.2	UnDef	0.29
54.30	87.0	0.82	0.94	16.7	8	120.9	3.14	2.60	0.54	0.62	20.8	12.9	UnDef	0.17
54.63	59.8	0.57	0.95	17.2	7	117.8	3.16	2.61	0.55	0.62	19.1	11.8	UnDef	0.17
54.95	52.1	0.62	1.18	17.7	7	117.8	3.18	2.62	0.56	0.62	16.6	10.3	UnDef	0.30
55.28	35.5	0.78	2.20	83.1	6	114.6	3.20	2.63	0.58	0.62	13.6	8.4	2.59	0.19
55.61	33.5	0.84	2.50	124.3	6	114.6	3.22	2.63	0.59	0.62	12.8	7.9	2.42	0.18
55.94	45.2	1.14	2.52	79.8	6	114.6	3.24	2.64	0.60	0.62	17.3	10.6	3.36	0.31
56.27	44.6	1.22	2.74	39.6	6	114.6	3.26	2.65	0.61	0.61	17.1	10.5	3.31	0.30
56.59	46.4	1.26	2.71	40.9	6	114.6	3.28	2.66	0.62	0.61	17.8	10.9	3.45	0.33
56.92	62.5	0.84	1.34	20.9	7	117.8	3.29	2.67	0.63	0.61	20.0	12.2	UnDef	0.30
57.25	54.5	0.34	0.62	19.1	8	120.9	3.31	2.68	0.64	0.61	13.1	8.0	UnDef	0.13
57.58	39.9	0.10	0.24	19.7	8	120.9	3.33	2.69	0.65	0.61	9.5	5.8	UnDef	0.00
57.91	30.8	0.05	0.16	19.7	7	117.8	3.35	2.70	0.66	0.61	9.8	6.0	UnDef	0.00
58.23	33.0	0.30	0.91	20.2	7	117.8	3.37	2.71	0.67	0.61	10.5	6.4	UnDef	0.17
58.56	16.6	0.30	1.78	77.3	6	114.6	3.39	2.71	0.68	0.61	6.4	3.9	1.06	0.09
58.89	15.9	0.32	1.98	126.1	5	114.6	3.41	2.72	0.69	0.61	7.6	4.6	1.00	0.09
59.22	13.4	0.40	2.95	105.5	5	114.6	3.43	2.73	0.70	0.61	6.4	3.9	0.80	0.00
59.55	7.5	0.19	2.54	153.5	4	114.6	3.45	2.74	0.71	0.60	4.8	2.9	0.32	0.00
59.87	7.5	0.05	0.60	144.0	1	111.4	3.47	2.75	0.72	0.60	3.6	2.2	0.33	0.00
60.20	24.0	0.40	1.67	127.4	6	114.6	3.49	2.76	0.73	0.60	9.2	5.5	1.64	0.11
60.53	62.0	0.96	1.55	27.9	7	117.8	3.50	2.77	0.74	0.60	19.8	11.9	UnDef	0.00
60.86	65.0	0.73	1.12	22.8	7	117.8	3.52	2.77	0.75	0.60	20.7	12.5	UnDef	0.22
61.19	97.9	0.56	0.57	22.7	8	120.9	3.54	2.78	0.76	0.60	23.4	14.0	UnDef	0.15
61.52	78.1	1.15	1.48	27.8	7	117.8	3.56	2.79	0.77	0.60	24.9	14.9	UnDef	0.32
61.84	34.9	1.06	3.05	69.9	5	114.6	3.58	2.80	0.78	0.60	16.7	10.0	2.50	0.18
62.17	51.8	0.75	1.44	45.9	7	117.8	3.60	2.81	0.79	0.60	16.5	9.9	UnDef	0.40
62.50	40.1	0.70	1.75	26.4	7	117.8	3.62	2.82	0.80	0.60	12.8	7.6	UnDef	0.23
62.83	20.4	0.68	3.32	57.0	5	114.6	3.64	2.83	0.81	0.59	9.7	5.8	1.34	0.00
63.16	25.2	0.65	2.58	86.0	5	114.6	3.66	2.84	0.82	0.59	12.1	7.2	1.73	0.12
63.48	17.9	0.61	3.39	91.3	4	114.6	3.68	2.85	0.83	0.59	11.4	6.8	1.14	0.00
63.81	37.3	0.67	1.79	64.5	6	114.6	3.70	2.85	0.84	0.59	14.3	8.4	2.68	0.20
64.14	27.3	0.88	3.22	77.8	5	114.6	3.71	2.86	0.85	0.59	13.1	7.7	1.88	0.00
64.47	21.3	0.73	3.44	81.2	5	114.6	3.73	2.87	0.86	0.59	10.2	6.0	1.41	0.00
64.80	13.6	0.41	3.02	92.9	5	114.6	3.75	2.88	0.87	0.59	6.5	3.8	0.79	0.00
65.12	9.6	0.17	1.77	135.7	5	114.6	3.77	2.89	0.88	0.59	4.6	2.7	0.47	0.00
65.45	13.9	0.29	2.09	151.8	5	114.6	3.79	2.90	0.89	0.59	6.7	3.9	0.81	0.00
65.78	34.2	0.78	2.29	77.4	6	114.6	3.81	2.91	0.90	0.59	13.1	7.7	2.43	0.17
66.11	31.4	1.06	3.37	76.0	5	114.6	3.83	2.91	0.91	0.59	15.0	8.8	2.21	0.00
66.44	57.8	0.72	1.24	49.5	7	117.8	3.85	2.92	0.92	0.58	18.4	10.8	UnDef	0.42
66.76	67.2	0.39	0.58	26.0	8	120.9	3.87	2.93	0.93	0.58	16.1	9.4	UnDef	0.13
67.09	69.5	0.32	0.46	26.9	8	120.9	3.89	2.94	0.94	0.58	16.6	9.7	UnDef	0.09
67.42	55.0	0.39	0.70	27.8	8	120.9	3.91	2.95	0.95	0.58	13.2	7.7	UnDef	0.16
67.75	53.9	0.19	0.34	27.9	8	120.9	3.93	2.96	0.96	0.58	12.9	7.5	UnDef	0.08
68.08	57.8	0.10	0.16	27.8	8	120.9	3.95	2.97	0.97	0.58	13.8	8.0	UnDef	0.08
68.40	74.9	0.66	0.88	28.3	8	120.9	3.97	2.98	0.98	0.58	17.9	10.4	UnDef	0.17
68.73	40.9	0.98	2.39	115.6	6	114.6	3.98	2.99	0.99	0.58	15.6	9.1	2.95	0.22
69.06	61.2	0.85	1.39	117.4	7	117.8	4.00	3.00	1.01	0.58	19.5	11.3	UnDef	0.00
69.39	56.1	1.48	2.63	103.9	6	114.6	4.02	3.01	1.02	0.58	21.5	12.4	4.17	0.45
69.72	93.1	1.94	2.08	75.9	7	117.8	4.04	3.02	1.03	0.58	29.7	17.1	UnDef	0.00
70.05	84.3	1.94	2.30	58.3	7	117.8	4.06	3.03	1.04	0.57	26.9	15.5	UnDef	0.00
70.37	51.5	1.69	3.29	87.9	5	114.6	4.08	3.03	1.05	0.57	24.6	14.1	3.79	0.36
70.70	129.9	1.46	1.13	44.2	8	120.9	4.10	3.04	1.06	0.57	31.1	17.8	UnDef	0.27
71.03	60.2	1.14	1.89	23.2	7	117.8	4.12	3.05	1.07	0.57	19.2	11.0	UnDef	0.00
71.36	30.5	0.86	2.83	128.3	5	114.6	4.14	3.06	1.08	0.57	14.6	8.3	2.11	0.00
71.69	25.3	0.54	2.14	159.5	6	114.6	4.16	3.07	1.09	0.57	9.7	5.5	1.69	0.11
72.01	23.1	0.58	2.50	150.6	5	114.6	4.18	3.08	1.10	0.57	11.0	6.3	1.51	0.00
72.34	16.3	0.40	2.46	154.5	5	114.6	4.19	3.09	1.11	0.57	7.8	4.4	0.97	0.00
72.67	10.3	0.15	1.41	178.8	5	114.6	4.21	3.10	1.12	0.57	4.9	2.8	0.49	0.00
73.00	8.4	0.04	0.48	175.0	6	114.6	4.23	3.10	1.13	0.57	3.2	1.8	0.33	0.00
73.33	6.7	0.01	0.15	170.1	1	111.4	4.25	3.11	1.14	0.57	3.2	1.8	0.20	0.00
73.65	6.3	0.01	0.16	166.5	1	111.4	4.27	3.12	1.15	0.57	3.0	1.7	0.16	0.00
73.98	6.4	0.01	0.16	164.5	1	111.4	4.29	3.13	1.16	0.57	3.0	1.7	0.17	0.00

[illegible]ch (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
74.31	7.0	0.12	1.64	164.1	5	114.6	4.31	3.14	1.17	0.56	3.4	1.9	0.22	0.00
74.64	24.3	0.49	2.02	116.6	6	114.6	4.32	3.15	1.18	0.56	9.3	5.3	1.60	0.11
74.97	56.3	1.04	1.85	41.6	7	117.8	4.34	3.15	1.19	0.56	18.0	10.1	UnDef	0.43
75.29	37.1	1.03	2.78	54.1	6	114.6	4.36	3.16	1.20	0.56	14.2	8.0	2.62	0.18
75.62	25.0	0.79	3.15	94.7	5	114.6	4.38	3.17	1.21	0.56	12.0	6.7	1.65	0.00
75.95	22.2	0.70	3.16	95.2	5	114.6	4.40	3.18	1.22	0.56	10.6	6.0	1.42	0.00
76.28	20.3	0.67	3.30	99.2	5	114.6	4.42	3.19	1.23	0.56	9.7	5.5	1.27	0.00
76.61	14.7	0.51	3.45	125.1	4	114.6	4.44	3.20	1.24	0.56	9.4	5.2	0.82	0.00
76.93	13.0	0.36	2.75	147.3	5	114.6	4.46	3.21	1.25	0.56	6.2	3.5	0.68	0.00
77.26	10.7	0.24	2.20	155.8	5	114.6	4.48	3.21	1.26	0.56	5.1	2.9	0.50	0.00
77.59	8.0	0.17	2.06	173.9	5	114.6	4.49	3.22	1.27	0.56	3.8	2.1	0.28	0.00
77.92	9.5	0.13	1.37	145.9	5	114.6	4.51	3.23	1.28	0.56	4.5	2.5	0.40	0.00
78.25	9.2	0.12	1.26	159.3	5	114.6	4.53	3.24	1.29	0.56	4.4	2.4	0.37	0.00
78.58	10.4	0.17	1.64	162.0	5	114.6	4.55	3.25	1.30	0.55	5.0	2.8	0.47	0.00
78.90	12.5	0.22	1.73	161.5	5	114.6	4.57	3.26	1.31	0.55	6.0	3.3	0.63	0.00
79.23	12.1	0.20	1.62	166.7	5	114.6	4.59	3.27	1.32	0.55	5.8	3.2	0.60	0.00
79.56	9.3	0.11	1.19	183.6	5	114.6	4.61	3.27	1.33	0.55	4.4	2.5	0.37	0.00
79.89	7.8	0.05	0.58	184.5	1	111.4	4.63	3.28	1.34	0.55	3.7	2.1	0.25	0.00
80.22	8.0	0.04	0.44	189.2	1	111.4	4.64	3.29	1.35	0.55	3.8	2.1	0.27	0.00
80.54	13.5	0.09	0.67	172.9	6	114.6	4.66	3.30	1.36	0.55	5.2	2.9	0.71	0.00
80.87	15.1	0.22	1.42	185.5	6	114.6	4.68	3.31	1.37	0.55	5.8	3.2	0.84	0.09
81.20	12.2	0.14	1.15	180.0	6	114.6	4.70	3.32	1.38	0.55	4.7	2.6	0.60	0.08
81.53	10.8	0.11	0.97	202.4	6	114.6	4.72	3.32	1.39	0.55	4.1	2.3	0.49	0.00
81.86	12.0	0.11	0.92	195.4	6	114.6	4.74	3.33	1.40	0.55	4.6	2.5	0.58	0.08
82.18	11.8	0.15	1.23	210.0	6	114.6	4.76	3.34	1.41	0.55	4.5	2.5	0.56	0.08
82.51	13.0	0.24	1.82	195.9	5	114.6	4.78	3.35	1.42	0.55	6.2	3.4	0.65	0.00
82.84	13.2	0.43	3.24	164.4	4	114.6	4.79	3.36	1.43	0.55	8.4	4.6	0.67	0.00
[illegible]17	11.3	0.26	2.31	166.8	5	114.6	4.81	3.37	1.45	0.54	5.4	2.9	0.52	0.00
[illegible]50	11.1	0.18	1.58	199.3	5	114.6	4.83	3.38	1.46	0.54	5.3	2.9	0.50	0.00
83.82	10.5	0.19	1.76	198.7	5	114.6	4.85	3.38	1.47	0.54	5.0	2.7	0.45	0.00
84.15	13.9	1.36	9.83	219.5	3	111.4	4.87	3.39	1.48	0.54	13.3	7.2	0.72	0.00
84.48	126.8	3.54	2.79	4.7	7	117.8	4.89	3.40	1.49	0.54	40.5	21.9	UnDef	0.00
84.81	174.3	3.49	2.00	-28.8	7	117.8	4.91	3.41	1.50	0.54	55.6	30.1	UnDef	0.00
85.14	31.7	1.61	5.08	-24.8	3	111.4	4.93	3.42	1.51	0.54	30.4	16.4	2.14	0.00
85.46	26.0	0.51	1.96	-22.3	6	114.6	4.94	3.43	1.52	0.54	10.0	5.4	1.69	0.11
85.79	23.0	0.54	2.35	-21.1	6	114.6	4.96	3.44	1.53	0.54	8.8	4.8	1.45	0.00
86.12	17.9	0.40	2.24	-20.0	5	114.6	4.98	3.44	1.54	0.54	8.6	4.6	1.03	0.00
86.45	14.5	0.36	2.45	-19.0	5	114.6	5.00	3.45	1.55	0.54	7.0	3.7	0.76	0.00
86.78	25.1	0.44	1.76	-17.1	6	114.6	5.02	3.46	1.56	0.54	9.6	5.2	1.61	0.11
87.11	26.7	0.38	1.41	-14.0	6	114.6	5.04	3.47	1.57	0.54	10.2	5.5	1.73	0.11
87.43	29.0	0.73	2.51	-9.7	6	114.6	5.06	3.48	1.58	0.54	11.1	6.0	1.91	0.12

Interpretation Output - Release 1.00.19M
Run No: 04-0401-1123-5439
Job No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-6
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/23/03
CPT Time: 17:20
CPT File: 717CP006.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 11.23 (ft): 36.8
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.16	5.0E-03	0.00	1000.0	0.36	10	134.6	0.0	134.6	0.0	50	95.0	1.0	-0.30	0.0	33.7
0.49	5.0E-02	0.00	1000.0	0.68	10	254.5	0.0	254.5	0.0	50	95.0	1.0	-0.36	0.0	50.9
0.82	5.0E-03	0.00	1000.0	1.36	9	318.9	0.0	318.9	1.9	50	95.0	1.0	-0.45	0.0	79.7
1.15	5.0E-03	0.00	1000.0	1.92	12	371.0	UnDef	UnDef	0.0	50	95.0	1.0	-0.51	UnDef	UnDef
1.48	5.0E-04	0.00	1000.0	2.40	12	358.5	UnDef	UnDef	0.0	50	95.0	1.0	-0.56	UnDef	UnDef
1.80	5.0E-04	0.00	1000.0	2.34	12	331.7	UnDef	UnDef	0.0	50	95.0	1.0	-0.55	UnDef	UnDef
2.13	5.0E-04	0.00	1000.0	2.27	12	303.7	UnDef	UnDef	0.0	50	95.0	1.0	-0.54	UnDef	UnDef
2.46	5.0E-04	0.00	858.9	2.30	12	242.9	UnDef	UnDef	0.0	50	95.0	1.0	-0.53	UnDef	UnDef
2.79	5.0E-04	0.00	560.5	2.55	12	179.4	UnDef	UnDef	0.0	50	90.4	1.0	-0.51	UnDef	UnDef
3.12	5.0E-05	0.00	362.5	2.28	12	129.4	UnDef	UnDef	0.0	48	79.5	10.0	-0.43	UnDef	UnDef
3.44	5.0E-04	0.00	348.9	1.75	9	137.3	6.7	144.1	6.7	48	79.8	1.0	-0.38	1.4	47.2
3.77	5.0E-05	-0.01	313.5	2.33	12	134.9	UnDef	UnDef	0.0	46	78.1	10.0	-0.42	UnDef	UnDef
4.10	5.0E-05	-0.01	221.5	2.23	9	103.5	20.2	123.6	11.1	46	69.3	10.0	-0.37	4.7	46.1
4.43	5.0E-04	-0.01	197.0	1.58	9	99.2	12.1	111.2	9.1	46	67.0	1.0	-0.30	2.4	34.7
4.76	5.0E-04	-0.01	177.6	1.39	9	92.7	10.4	103.1	8.8	44	65.1	1.0	-0.28	2.0	32.3
5.09	5.0E-04	-0.01	150.9	1.15	9	81.5	8.5	89.9	8.5	44	61.4	1.0	-0.24	1.7	28.2
5.41	5.0E-05	-0.01	88.3	1.62	7	49.4	19.2	68.6	15.5	42	47.0	10.0	-0.23	4.1	23.4
5.74	5.0E-04	0.00	130.3	0.99	9	74.8	7.8	82.6	8.6	44	58.9	1.0	-0.21	1.5	25.9
6.07	5.0E-03	0.00	195.7	0.62	9	115.2	0.0	115.2	3.6	44	71.3	1.0	-0.21	0.0	28.2
6.40	5.0E-03	0.00	189.0	0.69	9	114.3	0.0	114.3	4.3	44	71.1	1.0	-0.21	0.0	28.0
6.73	5.0E-04	0.00	169.1	1.21	9	104.9	9.5	114.4	8.1	44	68.7	1.0	-0.26	1.9	36.1
7.05	5.0E-04	0.00	159.4	1.86	9	101.3	22.3	123.7	11.8	44	67.7	1.0	-0.30	4.2	37.3
7.38	5.0E-05	0.00	137.1	2.59	7	89.2	37.4	126.6	16.1	44	64.0	10.0	-0.34	7.9	42.8
7.79	5.0E-05	0.00	99.0	3.09	7	66.3	49.3	115.7	21.0	42	55.5	10.0	-0.34	9.4	35.4
8.20	5.0E-06	0.00	70.0	3.10	7	48.3	54.2	102.5	24.8	UnDef	UnDef	10.0	UnDef	11.7	35.3
8.53	5.0E-06	0.00	57.6	2.76	7	40.6	50.4	91.0	25.7	UnDef	UnDef	10.0	UnDef	10.5	30.4
8.86	5.0E-05	0.00	52.1	2.31	7	37.5	42.5	80.0	24.9	38	39.2	10.0	-0.21	7.3	22.0
9.19	5.0E-05	0.00	49.8	2.07	7	36.5	38.6	75.1	24.3	38	38.4	10.0	-0.19	6.8	21.1
9.51	5.0E-05	0.00	54.6	2.22	7	40.7	41.3	81.9	23.9	40	41.5	10.0	-0.21	7.3	23.2
9.84	5.0E-05	0.00	51.3	2.24	7	38.8	43.3	82.2	24.7	38	40.2	10.0	-0.21	7.5	22.7
10.17	5.0E-05	0.00	50.1	1.90	7	38.6	36.6	75.2	23.2	38	40.0	10.0	-0.18	6.6	21.7
10.50	5.0E-05	0.00	51.3	1.92	7	40.1	37.4	77.6	23.1	38	41.1	10.0	-0.19	6.8	22.5
10.83	5.0E-05	0.00	60.2	1.91	7	47.6	35.9	83.5	21.1	40	46.0	10.0	-0.20	6.8	25.5
11.15	5.0E-04	0.00	76.5	2.02	7	61.2	36.6	97.9	19.0	40	53.2	1.0	-0.24	6.1	26.1
11.48	5.0E-05	0.00	84.6	2.56	7	68.7	48.2	116.9	20.5	42	56.5	10.0	-0.28	9.4	36.2
11.81	5.0E-05	0.00	78.3	2.62	7	64.4	51.0	115.4	21.5	42	54.7	10.0	-0.28	9.6	34.9
12.14	5.0E-05	0.00	70.5	2.58	7	58.9	51.9	110.7	22.5	40	52.1	10.0	-0.26	9.5	32.6
12.47	5.0E-05	0.00	58.4	2.67	7	49.6	57.8	107.4	25.2	40	47.2	10.0	-0.25	9.9	29.3
12.80	5.0E-05	-0.01	49.6	2.40	7	42.8	54.4	97.2	26.0	38	42.9	10.0	-0.21	9.0	25.8

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
13.12	5.0E-05	-0.01	40.2	2.30	7	35.2	58.3	93.5	28.3	38	37.4	10.0	-0.18	8.8	22.6
13.45	5.0E-05	0.00	36.8	1.93	7	32.7	49.5	82.3	27.5	38	35.3	10.0	-0.15	7.7	20.6
13.78	5.0E-05	0.00	28.6	2.14	6	26.0	72.1	98.1	32.5	36	30.0	10.0	-0.14	8.7	18.8
14.11	5.0E-05	0.00	27.8	1.63	7	25.5	50.2	75.7	29.8	36	30.0	10.0	-0.11	7.1	17.1
14.44	5.0E-05	0.01	28.2	1.54	7	26.2	46.8	73.0	29.0	36	30.0	10.0	-0.10	6.9	17.1
14.76	5.0E-05	0.01	28.0	1.67	7	26.3	52.6	78.9	30.0	36	30.0	10.0	-0.11	7.4	17.7
15.09	5.0E-05	0.01	26.5	1.77	7	25.2	61.1	86.3	31.5	36	30.0	10.0	-0.11	7.8	17.7
15.42	5.0E-05	0.01	21.7	2.03	6	21.1	84.3	105.4	36.5	34	30.0	10.0	-0.10	8.3	16.5
15.75	5.0E-05	0.00	24.8	1.48	7	24.2	52.0	76.2	30.6	34	30.0	10.0	-0.09	7.1	16.5
16.08	5.0E-05	0.00	23.9	1.55	7	23.6	58.2	81.8	31.7	34	30.0	10.0	-0.09	7.4	16.6
16.40	5.0E-05	0.01	22.6	1.72	6	22.6	75.3	97.9	33.8	34	30.0	10.0	-0.09	8.2	17.0
16.73	5.0E-05	0.01	23.9	2.05	6	24.0	96.2	120.2	35.0	34	30.0	10.0	-0.11	9.4	18.8
17.06	5.0E-05	0.00	23.1	2.08	6	23.5	94.0	117.4	35.7	34	30.0	10.0	-0.11	9.2	18.4
17.39	5.0E-05	0.01	17.3	1.34	6	18.0	72.2	90.2	35.7	32	30.0	7.5	-0.04	7.1	14.1
17.72	5.0E-05	0.04	18.0	1.38	6	18.9	75.6	94.5	35.2	32	30.0	8.0	-0.05	7.4	14.8
18.04	5.0E-05	0.03	18.8	1.22	7	19.9	60.3	80.2	33.2	32	30.0	8.6	-0.04	6.9	14.7
18.37	5.0E-05	0.04	14.9	1.10	6	16.1	64.4	80.5	36.3	32	30.0	6.0	-0.01	6.3	12.6
18.70	5.0E-06	0.06	13.6	2.00	6	14.9	59.5	74.4	45.3	UnDef	UnDef	5.2	UnDef	7.3	14.6
19.03	5.0E-05	0.00	14.7	1.48	6	16.2	64.6	80.8	39.9	32	30.0	5.8	-0.03	6.3	12.7
19.36	5.0E-05	0.02	12.5	1.11	6	14.0	56.0	70.0	39.9	30	30.0	4.6	0.00	5.5	11.0
19.68	5.0E-05	0.02	15.2	1.10	6	17.0	67.8	84.8	35.9	32	30.0	6.2	-0.01	6.6	13.3
20.01	5.0E-05	0.01	24.5	1.71	7	26.9	73.3	100.2	32.4	34	30.0	10.0	-0.10	8.9	19.4
20.34	5.0E-04	0.00	46.8	1.93	7	50.8	53.8	104.6	24.3	38	47.8	1.0	-0.18	7.9	24.4
20.67	5.0E-05	0.00	46.8	2.66	7	51.2	81.7	132.9	28.0	38	48.1	10.0	-0.22	12.5	32.6
21.00	5.0E-05	0.00	41.8	3.02	6	46.2	107.8	154.0	31.2	38	45.2	10.0	-0.23	14.1	32.2
21.33	5.0E-05	0.00	34.6	2.94	6	38.8	126.2	165.0	33.7	36	40.1	10.0	-0.20	13.9	29.1
21.65	5.0E-05	0.00	25.9	2.80	6	29.4	117.7	147.2	37.7	34	32.2	10.0	-0.16	11.5	23.0
[illegible]98	5.0E-05	0.00	15.7	2.23	6	18.4	73.7	92.1	43.9	32	30.0	6.4	-0.07	7.2	14.4
[illegible]31	5.0E-05	0.00	15.6	1.61	6	18.5	74.0	92.5	39.7	32	30.0	6.4	-0.05	7.2	14.5
22.64	5.0E-05	0.00	18.5	1.36	6	21.9	83.4	105.3	34.7	32	30.0	8.4	-0.05	8.4	17.0
22.97	5.0E-05	0.00	26.3	2.01	6	30.8	93.5	124.2	33.2	34	33.5	10.0	-0.12	10.7	22.7
23.29	5.0E-05	-0.01	28.8	2.37	6	33.9	111.7	145.6	33.7	36	36.3	10.0	-0.15	12.2	25.5
23.62	5.0E-03	0.00	65.2	1.30	7	75.7	34.0	109.8	16.6	40	59.3	1.0	-0.17	4.5	23.0
23.95	5.0E-02	0.00	138.1	1.11	9	160.4	18.7	179.1	8.9	44	80.8	1.0	-0.23	2.2	33.6
24.28	5.0E-03	0.00	159.5	1.80	9	186.3	39.1	225.4	11.5	44	85.1	1.0	-0.30	5.5	51.1
24.61	5.0E-04	0.00	139.2	2.45	7	164.0	62.6	226.6	15.4	44	81.4	1.0	-0.33	11.2	64.7
24.93	5.0E-04	0.00	152.5	2.77	7	180.7	74.1	254.8	15.9	44	84.2	1.0	-0.37	13.1	72.0
25.26	5.0E-04	0.00	139.7	3.24	12	166.7	UnDef	UnDef	0.0	44	81.9	1.0	-0.40	UnDef	UnDef
25.59	5.0E-05	0.00	111.2	3.28	7	133.8	94.9	228.8	20.5	42	75.6	10.0	-0.37	18.4	70.8
25.92	5.0E-04	0.00	104.7	3.00	7	126.9	85.6	212.5	20.1	42	74.1	1.0	-0.34	13.9	55.3
26.25	5.0E-05	0.00	95.5	3.13	7	116.5	91.9	208.4	21.5	42	71.7	10.0	-0.34	17.4	63.0
26.57	5.0E-06	0.00	64.8	4.18	6	80.0	155.1	235.1	29.7	UnDef	UnDef	10.0	UnDef	27.5	66.6
26.90	5.0E-05	0.00	53.6	3.65	6	66.8	138.8	205.6	30.3	40	55.7	10.0	-0.30	19.1	45.2
27.23	5.0E-05	0.00	44.0	3.20	6	55.3	129.3	184.6	31.2	38	50.3	10.0	-0.24	16.9	38.5
27.56	5.0E-05	0.00	32.3	2.80	6	41.2	143.5	184.7	34.1	36	41.8	10.0	-0.18	15.2	31.3
27.89	5.0E-05	0.02	24.9	2.10	6	32.2	122.1	154.3	34.6	34	34.8	10.0	-0.12	12.4	25.0
28.21	5.0E-04	0.03	24.1	1.47	7	31.4	71.6	103.0	31.0	34	34.1	1.0	-0.08	7.9	18.1
28.54	5.0E-06	0.05	15.7	3.21	6	21.0	84.0	105.0	49.3	UnDef	UnDef	6.4	UnDef	10.3	20.6
28.87	5.0E-06	0.01	13.0	3.57	4	17.7	70.9	88.6	55.1	UnDef	UnDef	4.8	UnDef	8.7	17.3
29.20	5.0E-06	0.02	14.0	3.32	4	19.1	76.4	95.5	52.2	UnDef	UnDef	5.4	UnDef	9.4	18.7
29.53	5.0E-06	0.03	15.2	3.10	6	20.7	83.0	103.7	49.4	UnDef	UnDef	6.1	UnDef	10.2	20.3
29.86	5.0E-05	0.03	15.5	2.78	6	21.2	85.0	106.2	47.3	32	30.0	6.3	-0.09	8.3	16.6
30.18	5.0E-05	0.02	16.6	2.62	6	22.8	91.2	114.1	45.0	32	30.0	7.1	-0.09	8.9	17.9
30.59	5.0E-06	0.03	8.6	3.27	1	12.6	UnDef	UnDef	100.0	UnDef	UnDef	2.7	UnDef	UnDef	UnDef
31.00	5.0E-07	0.39	2.1	2.83	1	4.0	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
31.33	1.0E-07	0.73	1.7	0.32	1	3.6	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
31.66	1.0E-07	0.95	1.3	2.92	1	3.1	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
31.99	5.0E-07	0.28	2.4	2.39	1	4.5	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
[illegible]32	5.0E-07	0.33	1.3	3.25	1	3.1	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
[illegible]64	5.0E-06	0.16	5.5	2.86	4	8.7	34.8	43.5	73.4	UnDef	UnDef	1.5	UnDef	4.3	8.5
32.97	5.0E-06	0.12	5.2	3.41	1	8.4	UnDef	UnDef	100.0	UnDef	UnDef	1.4	UnDef	UnDef	UnDef
33.30	5.0E-08	0.73	1.6	4.62	1	3.5	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
33.63	5.0E-06	0.36	3.2	2.74	1	5.7	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
33.96	5.0E-07	0.11	6.2	3.93	1	9.9	UnDef	UnDef	100.0	UnDef	UnDef	1.7	UnDef	UnDef	UnDef
34.28	5.0E-05	0.05	10.5	2.43	4	15.8	63.4	79.2	53.8	30	30.0	3.5	-0.03	6.2	12.4
34.61	5.0E-07	0.12	5.0	3.88	1	8.3	UnDef	UnDef	100.0	UnDef	UnDef	1.3	UnDef	UnDef	UnDef
34.94	5.0E-08	0.36	2.9	5.60	1	5.5	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
35.27	5.0E-07	0.13	5.7	3.85	1	9.4	UnDef	UnDef	100.0	UnDef	UnDef	1.6	UnDef	UnDef	UnDef
35.60	5.0E-05	0.02	12.9	2.03	6	19.6	78.3	97.9	46.6	30	30.0	4.8	-0.04	7.7	15.3
35.92	5.0E-06	0.04	7.3	2.94	4	11.7	46.8	58.5	65.9	UnDef	UnDef	2.1	UnDef	5.7	11.5
36.25	5.0E-08	0.50	1.4	6.97	1	3.5	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
36.58	1.0E-07	1.48	0.9	2.18	1	2.7	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
36.91	1.0E-07	1.43	0.9	1.04	1	2.7	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
37.24	1.0E-07	0.79	1.4	0.66	1	3.5	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
37.57	1.0E-07	1.15	1.0	1.12	1	2.9	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
37.89	1.0E-07	0.95	1.3	1.10	1	3.3	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
38.22	5.0E-07	0.31	3.5	3.39	1	6.5	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
38.55	5.0E-06	0.08	5.7	2.82	4	9.6	38.5	48.1	72.2	UnDef	UnDef	1.5	UnDef	4.7	9.4
38.88	5.0E-06	0.22	2.7	2.90	1	5.4	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
39.21	1.0E-07	0.69	1.7	1.11	1	3.9	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
39.53	1.0E-07	1.12	1.1	1.68	2	3.1	12.3	15.4	100.0	UnDef	UnDef	0.5	UnDef	1.5	3.0
39.86	5.0E-05	0.26	4.0	0.57	1	7.3	UnDef	UnDef	100.0	30	30.0	1.1	0.18	UnDef	UnDef
40.19	5.0E-05	0.15	6.5	1.09	6	10.9	43.7	54.6	54.7	30	30.0	1.8	0.08	4.3	8.5
40.52	5.0E-04	0.05	18.7	1.29	6	28.8	97.7	126.5	33.9	32	31.6	1.0	-0.04	8.8	18.2
40.85	5.0E-03	0.01	41.6	0.86	7	62.4	34.6	96.9	18.4	38	53.7	1.0	-0.09	4.4	19.6
41.17	5.0E-03	0.00	43.4	1.27	7	65.1	49.0	114.1	21.1	38	55.0	1.0	-0.13	5.8	21.8
41.50	5.0E-04	0.01	41.1	1.79	7	61.8	72.1	134.0	25.2	38	53.5	1.0	-0.15	10.2	30.4
41.83	5.0E-04	0.00	43.4	1.85	7	65.4	73.2	138.6	24.8	38	55.1	1.0	-0.16	10.5	31.9
42.16	5.0E-04	0.00	43.1	1.93	7	65.0	77.6	142.6	25.4	38	54.9	1.0	-0.17	10.9	32.2
[illegible]49	5.0E-04	0.00	38.1	2.06	7	57.9	90.0	147.9	27.8	38	51.6	1.0	-0.16	11.6	30.5
[illegible]81	5.0E-04	0.00	40.3	1.70	7	61.2	69.6	130.8	24.9	38	53.2	1.0	-0.15	10.0	29.9
43.14	5.0E-04	0.00	36.7	1.85	7	56.0	80.5	136.5	27.1	38	50.7	1.0	-0.15	10.7	28.9
43.47	5.0E-04	0.00	33.0	2.17	7	50.7	107.8	158.5	30.5	36	47.8	1.0	-0.15	12.2	28.8
43.80	5.0E-04	0.01	38.0	1.95	7	58.2	84.7	142.9	27.2	38	51.8	1.0	-0.16	11.2	30.2
44.13	5.0E-04	0.00	45.8	1.89	7	69.9	74.7	144.6	24.4	38	57.0	1.0	-0.17	10.9	33.7
44.45	5.0E-04	0.00	50.6	2.02	7	77.2	77.9	155.1	23.8	38	59.9	1.0	-0.19	11.5	36.7
44.78	5.0E-04	0.00	48.3	1.82	7	73.9	70.5	144.4	23.3	38	58.6	1.0	-0.18	10.6	34.7
45.11	5.0E-04	0.00	43.1	1.67	7	66.3	67.1	133.5	23.8	38	55.5	1.0	-0.15	9.9	31.6
45.44	5.0E-04	0.00	37.6	1.57	7	58.1	66.7	124.9	25.0	38	51.7	1.0	-0.13	9.5	28.5
45.77	5.0E-03	0.00	32.4	1.18	7	50.5	53.7	104.2	24.3	36	47.7	1.0	-0.09	5.9	18.2
46.10	5.0E-04	0.00	24.8	1.12	7	39.1	60.9	100.0	27.8	34	40.3	1.0	-0.06	7.8	20.6
46.42	5.0E-04	0.01	21.0	1.04	7	33.4	65.2	98.6	29.8	34	35.9	1.0	-0.04	7.7	18.6
46.75	5.0E-04	0.02	19.3	1.32	7	30.9	100.4	131.3	33.6	32	33.6	1.0	-0.05	9.2	19.3
47.08	5.0E-04	0.02	16.0	0.95	7	26.0	83.5	109.6	33.6	32	30.0	1.0	-0.01	7.7	16.2
47.41	5.0E-05	0.15	5.6	0.85	6	10.3	41.1	51.4	55.3	30	30.0	1.5	0.11	4.0	8.1
47.74	5.0E-05	0.35	3.4	0.30	1	6.9	UnDef	UnDef	100.0	30	30.0	0.9	0.25	UnDef	UnDef
48.06	5.0E-05	0.46	2.3	0.71	1	5.3	UnDef	UnDef	100.0	30	30.0	0.7	0.24	UnDef	UnDef
48.39	1.0E-07	0.63	1.4	1.17	1	3.9	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
48.72	1.0E-07	1.10	1.0	0.63	1	3.3	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
49.05	5.0E-07	0.65	1.9	3.54	1	4.7	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
49.38	5.0E-03	0.01	34.4	1.40	7	54.6	63.5	118.0	25.1	36	49.9	1.0	-0.11	6.8	20.1
49.70	5.0E-03	0.00	68.3	1.81	7	106.9	64.8	171.7	19.1	40	69.2	1.0	-0.21	8.1	34.2
50.03	5.0E-04	0.00	61.3	2.73	7	96.4	108.5	204.8	24.8	40	66.2	1.0	-0.26	15.6	47.0
50.36	5.0E-05	0.00	50.7	3.08	6	80.2	139.1	219.2	28.8	38	60.9	10.0	-0.26	20.6	52.0
50.69	5.0E-04	0.00	49.6	2.46	7	78.6	103.4	182.0	26.3	38	60.4	1.0	-0.22	14.1	39.8
51.02	5.0E-04	0.00	60.5	2.18	7	95.7	83.1	178.8	22.4	40	66.0	1.0	-0.22	12.8	44.0
51.34	5.0E-04	0.00	56.5	2.40	7	89.6	95.4	184.9	24.3	40	64.1	1.0	-0.23	13.9	43.1
51.67	5.0E-05	0.00	39.2	3.00	6	62.8	163.7	226.5	32.1	38	53.9	10.0	-0.22	20.3	44.9
52.00	5.0E-05	0.00	30.5	3.44	6	49.3	197.4	246.7	37.9	36	47.0	10.0	-0.21	19.3	38.6
52.33	5.0E-05	0.01	24.0	3.29	6	39.3	157.2	196.5	41.4	34	40.5	10.0	-0.17	15.4	30.8
[illegible]66	5.0E-05	0.02	19.3	3.25	6	32.1	128.5	160.6	45.2	32	34.7	9.0	-0.14	12.6	25.1
[illegible]98	5.0E-05	0.02	24.6	3.35	6	40.4	161.8	202.2	41.2	34	41.3	10.0	-0.17	15.8	31.7
53.31	5.0E-05	0.00	29.7	2.55	6	48.4	171.3	219.8	34.2	36	46.5	10.0	-0.16	18.0	37.0
53.64	5.0E-04	0.00	39.1	1.74	7	63.4	77.3	140.7	25.6	38	54.2	1.0	-0.15	10.8	31.5

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
53.97	5.0E-03	0.00	38.2	1.56	7	62.1	69.2	131.2	24.7	38	53.6	1.0	-0.14	7.5	22.7
54.30	5.0E-03	0.00	32.3	0.98	7	52.8	47.4	100.2	22.7	36	49.0	1.0	-0.08	5.4	18.4
54.63	5.0E-04	0.00	21.7	1.00	7	36.3	63.2	99.4	28.8	34	38.2	1.0	-0.04	7.8	19.6
54.95	5.0E-04	0.00	18.7	1.26	7	31.5	102.4	133.9	33.6	32	34.2	1.0	-0.05	9.4	19.7
55.28	5.0E-05	0.06	12.3	2.42	6	21.5	85.8	107.3	50.1	30	30.0	4.5	-0.04	8.4	16.8
55.61	5.0E-05	0.11	11.5	2.77	4	20.2	80.8	100.9	53.7	30	30.0	4.0	-0.04	7.9	15.8
55.94	5.0E-05	0.05	15.9	2.71	6	27.2	108.8	136.0	46.4	32	30.0	6.6	-0.09	10.6	21.3
56.27	5.0E-05	0.02	15.6	2.95	6	26.8	107.3	134.2	48.1	32	30.0	6.4	-0.10	10.5	21.0
56.59	5.0E-05	0.02	16.2	2.91	6	27.9	111.5	139.3	47.1	32	30.7	6.8	-0.10	10.9	21.8
56.92	5.0E-04	0.00	22.2	1.41	7	37.5	95.7	133.1	31.9	34	39.1	1.0	-0.07	10.0	22.2
57.25	5.0E-03	0.00	19.1	0.66	7	32.6	47.9	80.6	27.3	32	35.2	1.0	0.00	4.7	12.7
57.58	5.0E-03	0.00	13.6	0.26	7	23.8	0.0	23.8	5.0	32	30.0	1.0	0.10	0.0	5.8
57.91	5.0E-04	0.00	10.2	0.18	7	18.4	0.0	18.4	5.0	30	30.0	1.0	0.15	0.0	6.0
58.23	5.0E-04	0.00	10.9	1.02	6	19.6	78.5	98.1	41.7	30	30.0	1.0	0.02	6.4	12.8
58.56	5.0E-05	0.13	4.9	2.24	4	9.9	39.5	49.4	72.5	30	30.0	1.3	0.07	3.9	7.7
58.89	5.0E-06	0.26	4.6	2.52	4	9.4	37.8	47.2	76.4	UnDef	UnDef	1.2	UnDef	4.6	9.2
59.22	5.0E-06	0.26	3.6	3.97	1	7.9	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDef
59.55	5.0E-07	1.01	1.5	4.71	1	4.4	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
59.87	1.0E-07	0.93	1.5	1.11	1	4.5	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
60.20	5.0E-05	0.16	7.4	1.96	4	14.1	56.5	70.7	58.9	30	30.0	2.2	0.04	5.5	11.1
60.53	5.0E-04	0.00	21.2	1.65	6	36.5	134.1	170.6	34.4	34	38.4	1.0	-0.08	11.5	23.4
60.86	5.0E-04	0.00	22.1	1.18	7	38.2	77.7	115.8	30.1	34	39.7	1.0	-0.06	9.0	21.4
61.19	5.0E-03	0.00	33.9	0.59	7	57.4	31.5	88.9	18.3	36	51.4	1.0	-0.04	4.0	18.0
61.52	5.0E-04	0.00	26.7	1.55	7	45.7	90.9	136.6	29.9	36	44.8	1.0	-0.10	10.6	25.5
61.84	5.0E-06	0.04	11.2	3.39	4	20.4	81.6	102.0	57.7	UnDef	UnDef	3.9	UnDef	10.0	20.0
62.17	5.0E-04	0.01	17.1	1.55	6	30.2	120.9	151.1	37.5	32	33.0	1.0	-0.05	9.9	19.7
62.50	5.0E-04	0.00	12.9	1.92	6	23.4	93.5	116.9	45.8	30	30.0	1.0	-0.04	7.6	15.3
[illegible]83	5.0E-06	0.06	5.9	4.09	1	11.8	UnDef	UnDef	100.0	UnDef	UnDef	1.6	UnDef	UnDef	UnDef
[illegible]16	5.0E-06	0.09	7.6	3.02	4	14.7	58.6	73.3	65.3	UnDef	UnDef	2.2	UnDef	7.2	14.3
63.48	5.0E-07	0.14	5.0	4.27	1	10.4	UnDef	UnDef	100.0	UnDef	UnDef	1.3	UnDef	UnDef	UnDef
63.81	5.0E-05	0.03	11.8	1.99	6	21.6	86.3	107.9	48.3	30	30.0	4.2	-0.03	8.4	16.9
64.14	5.0E-06	0.07	8.2	3.73	1	15.8	UnDef	UnDef	100.0	UnDef	UnDef	2.5	UnDef	UnDef	UnDef
64.47	5.0E-06	0.10	6.1	4.17	1	12.3	UnDef	UnDef	100.0	UnDef	UnDef	1.7	UnDef	UnDef	UnDef
64.80	5.0E-06	0.21	3.4	4.16	1	7.9	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
65.12	5.0E-06	0.57	2.0	2.90	1	5.6	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
65.45	5.0E-06	0.38	3.5	2.87	1	8.0	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
65.78	5.0E-05	0.05	10.4	2.58	4	19.6	78.4	98.0	54.8	30	30.0	3.5	-0.03	7.7	15.4
66.11	5.0E-06	0.05	9.5	3.84	1	18.0	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDef
66.44	5.0E-04	0.01	18.5	1.33	6	33.1	121.6	154.7	34.4	32	35.6	1.0	-0.05	10.4	21.2
66.76	5.0E-03	0.00	21.6	0.62	7	38.4	43.6	82.0	24.9	34	39.8	1.0	-0.01	4.7	14.1
67.09	5.0E-03	0.00	22.3	0.49	7	39.6	0.0	39.6	5.0	34	40.8	1.0	0.01	0.0	9.7
67.42	5.0E-03	0.00	17.3	0.76	7	31.3	63.8	95.1	30.1	32	34.0	1.0	0.00	5.5	13.2
67.75	5.0E-03	0.00	16.9	0.37	7	30.6	0.0	30.6	5.0	32	33.4	1.0	0.05	0.0	7.5
68.08	5.0E-03	0.00	18.1	0.18	7	32.8	0.0	32.8	5.0	32	35.3	1.0	0.10	0.0	8.0
68.40	5.0E-03	0.00	23.8	0.95	7	42.5	58.2	100.7	26.7	34	42.7	1.0	-0.05	5.9	16.3
68.73	5.0E-05	0.07	12.3	2.65	6	23.1	92.5	115.6	51.5	30	30.0	4.5	-0.05	9.1	18.1
69.06	5.0E-04	0.05	19.1	1.49	6	34.6	138.3	172.8	35.1	32	36.8	1.0	-0.06	11.3	22.6
69.39	5.0E-05	0.04	17.3	2.84	6	31.7	126.7	158.4	45.4	32	34.3	7.5	-0.10	12.4	24.8
69.72	5.0E-04	0.02	29.5	2.18	6	52.4	140.8	193.3	32.3	36	48.8	1.0	-0.14	14.3	31.4
70.05	5.0E-04	0.01	26.5	2.42	6	47.4	189.7	237.2	35.3	36	45.9	1.0	-0.14	15.5	31.0
70.37	5.0E-06	0.04	15.6	3.58	4	28.9	115.6	144.5	51.1	UnDef	UnDef	6.4	UnDef	14.1	28.3
70.70	5.0E-03	0.00	41.3	1.16	7	72.9	53.9	126.8	20.9	38	58.2	1.0	-0.12	6.5	24.3
71.03	5.0E-04	-0.01	18.4	2.03	6	33.7	134.8	168.5	39.6	32	36.1	1.0	-0.08	11.0	22.0
71.36	5.0E-06	0.11	8.6	3.27	1	17.0	UnDef	UnDef	100.0	UnDef	UnDef	2.6	UnDef	UnDef	UnDef
71.69	5.0E-05	0.18	6.9	2.56	4	14.1	56.5	70.6	65.2	30	30.0	2.0	0.04	5.5	11.1
72.01	5.0E-06	0.19	6.1	3.09	1	12.9	UnDef	UnDef	100.0	UnDef	UnDef	1.7	UnDef	UnDef	UnDef
72.34	5.0E-06	0.31	3.9	3.32	1	9.1	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDef
72.67	5.0E-06	0.73	2.0	2.38	1	5.7	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
[illegible]00	5.0E-05	1.05	1.3	0.97	1	4.6	UnDef	UnDef	100.0	30	30.0	0.5	0.00	UnDef	UnDef
[illegible]33	1.0E-07	1.67	0.8	0.40	1	3.7	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
73.65	1.0E-07	1.99	0.7	0.49	1	3.5	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
73.98	1.0E-07	1.92	0.7	0.48	1	3.5	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
74.31	5.0E-06	1.45	0.9	4.23	1	3.9	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
74.64	5.0E-05	0.12	6.4	2.45	4	13.4	53.7	67.2	66.5	30	30.0	1.8	0.04	5.3	10.5
74.97	5.0E-04	0.00	16.5	2.01	6	31.0	124.0	155.0	41.5	32	33.7	1.0	-0.07	10.1	20.2
75.29	5.0E-05	0.01	10.4	3.15	4	20.4	81.7	102.1	58.3	30	30.0	3.4	-0.05	8.0	16.0
75.62	5.0E-06	0.08	6.5	3.82	1	13.7	UnDef	UnDef	100.0	UnDef	UnDef	1.8	UnDef	UnDef	UnDef
75.95	5.0E-06	0.10	5.6	3.94	1	12.2	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDef
76.28	5.0E-06	0.12	5.0	4.22	1	11.1	UnDef	UnDef	100.0	UnDef	UnDef	1.3	UnDef	UnDef	UnDef
76.61	5.0E-07	0.26	3.2	4.95	1	8.0	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
76.93	5.0E-06	0.39	2.7	4.19	1	7.1	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
77.26	5.0E-06	0.58	1.9	3.79	1	5.8	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
77.59	5.0E-06	1.18	1.1	4.63	1	4.4	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
77.92	5.0E-06	0.66	1.5	2.61	1	5.2	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
78.25	5.0E-06	0.79	1.4	2.48	1	5.0	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
78.58	5.0E-06	0.64	1.8	2.91	1	5.6	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
78.90	5.0E-06	0.47	2.4	2.73	1	6.8	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
79.23	5.0E-06	0.52	2.3	2.61	1	6.5	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
79.56	5.0E-06	0.95	1.4	2.37	1	5.0	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
79.89	1.0E-07	1.39	1.0	1.42	1	4.2	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
80.22	1.0E-07	1.34	1.0	1.03	1	4.3	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
80.54	5.0E-05	0.46	2.7	1.02	1	7.3	UnDef	UnDef	100.0	30	30.0	0.8	0.21	UnDef	UnDef
80.87	5.0E-05	0.42	3.2	2.05	4	8.2	32.6	40.8	84.6	30	30.0	0.9	0.17	3.2	6.4
81.20	5.0E-05	0.57	2.3	1.83	4	6.5	26.2	32.7	94.8	30	30.0	0.7	0.24	2.6	5.1
81.53	5.0E-05	0.81	1.8	1.73	4	5.8	23.2	29.0	100.0	30	30.0	0.6	0.34	2.3	4.5
81.86	5.0E-05	0.64	2.2	1.51	4	6.4	25.8	32.2	92.3	30	30.0	0.7	0.26	2.5	5.0
82.18	5.0E-05	0.73	2.1	2.05	4	6.3	25.3	31.6	98.9	30	30.0	0.7	0.29	2.5	5.0
82.51	5.0E-06	0.57	2.4	2.88	1	6.9	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
82.84	5.0E-07	0.44	2.5	5.09	1	7.0	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
[illegible]17	5.0E-06	0.58	1.9	4.03	1	6.0	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
[illegible]50	5.0E-06	0.76	1.9	2.79	1	5.9	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
83.82	5.0E-06	0.84	1.7	3.27	1	5.6	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
84.15	5.0E-08	0.60	2.7	10.00	1	7.4	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
84.48	5.0E-04	-0.01	35.8	2.90	6	67.3	198.3	265.6	33.0	38	55.9	1.0	-0.20	19.2	41.2
84.81	5.0E-04	-0.01	49.7	2.05	7	92.4	97.6	190.0	24.2	38	65.0	1.0	-0.19	14.3	44.4
85.14	5.0E-08	-0.09	7.8	6.01	1	16.8	UnDef	UnDef	100.0	UnDef	UnDef	2.3	UnDef	UnDef	UnDef
85.46	5.0E-05	-0.11	6.2	2.43	4	13.8	55.0	68.8	67.3	30	30.0	1.7	0.02	5.4	10.8
85.79	5.0E-05	-0.12	5.3	3.00	1	12.2	UnDef	UnDef	100.0	30	30.0	1.4	0.02	UnDef	UnDef
86.12	5.0E-06	-0.17	3.7	3.11	1	9.4	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDef
86.45	5.0E-06	-0.22	2.8	3.73	1	7.7	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
86.78	5.0E-05	-0.10	5.8	2.20	4	13.2	52.8	66.0	67.3	30	30.0	1.6	0.03	5.2	10.3
87.11	5.0E-05	-0.09	6.2	1.74	4	14.0	56.0	70.0	61.8	30	30.0	1.7	0.03	5.5	11.0
87.43	5.0E-05	-0.08	6.9	3.04	4	15.2	60.8	76.1	68.0	30	30.0	2.0	-0.01	6.0	11.9

Interpretation Output - Release 1.00.19M
[redacted] No: 04-0401-1123-5533
[redacted] No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-4
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/24/03
CPT Time: 08:29
CPT File: 717CP004.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 7.73 (ft): 25.4
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
0.16	19.4	0.14	0.72	-0.6	6	114.6	0.01	0.01	0.00	2.00	7.5	14.9	1.56	0.08
0.49	123.5	0.58	0.47	0.1	9	124.1	0.03	0.03	0.00	2.00	23.6	47.3	UnDef	0.00
0.82	207.9	1.79	0.86	-0.4	9	124.1	0.05	0.05	0.00	2.00	39.8	79.7	UnDef	0.00
1.15	258.8	3.88	1.50	-1.2	8	120.9	0.07	0.07	0.00	2.00	62.0	123.9	UnDef	0.00
[redacted]48	312.5	6.76	2.16	-6.7	8	120.9	0.09	0.09	0.00	2.00	74.8	149.6	UnDef	0.00
[redacted]80	338.7	8.40	2.48	-4.4	7	117.8	0.11	0.11	0.00	2.00	108.1	216.2	UnDef	0.00
2.13	340.1	9.20	2.71	-5.4	12	120.9	0.13	0.13	0.00	2.00	162.8	325.7	UnDef	0.00
2.46	315.6	8.06	2.55	-6.4	7	117.8	0.15	0.15	0.00	2.00	100.8	201.5	UnDef	0.00
2.79	270.6	6.16	2.28	-9.1	7	117.8	0.17	0.17	0.00	2.00	86.4	172.8	UnDef	0.00
3.12	232.5	5.70	2.45	-8.1	7	117.8	0.19	0.19	0.00	2.00	74.2	148.5	UnDef	0.00
3.44	201.3	4.93	2.45	-6.7	7	117.8	0.21	0.21	0.00	2.00	64.3	128.5	UnDef	0.00
3.77	178.0	4.63	2.60	-4.3	7	117.8	0.23	0.23	0.00	2.00	56.8	113.6	UnDef	0.00
4.10	161.4	4.23	2.62	-2.7	7	117.8	0.24	0.24	0.00	2.00	51.5	103.1	UnDef	0.00
4.43	153.7	3.59	2.34	-3.0	7	117.8	0.26	0.26	0.00	1.95	49.1	95.5	UnDef	0.00
4.76	147.1	3.33	2.26	-5.9	7	117.8	0.28	0.28	0.00	1.88	46.9	88.2	UnDef	0.00
5.09	146.6	3.43	2.34	-7.5	7	117.8	0.30	0.30	0.00	1.82	46.8	85.1	UnDef	0.00
5.41	149.3	3.72	2.49	-9.1	7	117.8	0.32	0.32	0.00	1.76	47.7	84.0	UnDef	0.00
5.74	144.1	3.48	2.41	-9.3	7	117.8	0.34	0.34	0.00	1.71	46.0	78.8	UnDef	0.00
6.07	162.3	3.40	2.10	-8.3	7	117.8	0.36	0.36	0.00	1.67	51.8	86.3	UnDef	0.00
6.40	202.1	4.34	2.15	-3.0	7	117.8	0.38	0.38	0.00	1.62	64.5	104.7	UnDef	0.00
6.73	179.4	3.24	1.81	-2.4	8	120.9	0.40	0.40	0.00	1.58	42.9	68.0	UnDef	0.00
7.05	160.0	1.88	1.17	0.1	8	120.9	0.42	0.42	0.00	1.54	38.3	59.2	UnDef	0.00
7.38	153.5	1.46	0.95	-0.1	9	124.1	0.44	0.44	0.00	1.51	29.4	44.4	UnDef	0.00
7.79	157.5	1.54	0.98	-0.1	9	124.1	0.46	0.46	0.00	1.47	30.2	44.3	UnDef	0.00
8.20	143.4	1.36	0.95	-0.5	9	124.1	0.49	0.49	0.00	1.43	27.5	39.2	UnDef	0.00
8.53	134.4	1.23	0.91	-0.2	9	124.1	0.51	0.51	0.00	1.40	25.7	36.0	UnDef	0.00
8.86	135.3	1.42	1.05	-0.4	8	120.9	0.53	0.53	0.00	1.37	32.4	44.5	UnDef	0.00
9.19	164.4	1.33	0.81	0.3	9	124.1	0.55	0.55	0.00	1.35	31.5	42.4	UnDef	0.00
9.51	178.9	3.58	2.00	-0.5	7	117.8	0.57	0.57	0.00	1.32	57.1	75.6	UnDef	0.00
9.84	140.1	4.29	3.06	-1.1	6	114.6	0.59	0.59	0.00	1.30	53.7	69.9	11.16	0.00
10.17	96.3	2.83	2.94	-1.7	6	114.6	0.61	0.61	0.00	1.28	36.9	47.3	7.65	0.00
10.50	92.8	2.13	2.30	-0.2	7	117.8	0.63	0.63	0.00	1.26	29.6	37.4	UnDef	0.41
10.83	97.5	2.20	2.25	-0.5	7	117.8	0.65	0.65	0.00	1.24	31.1	38.7	UnDef	0.44
11.15	109.2	2.61	2.39	-2.4	7	117.8	0.67	0.67	0.00	1.23	34.8	42.7	UnDef	0.00
11.48	115.3	2.86	2.48	-5.3	7	117.8	0.69	0.69	0.00	1.21	36.8	44.5	UnDef	0.00
[redacted]81	99.4	2.63	2.64	-5.4	6	114.6	0.70	0.70	0.00	1.19	38.1	45.4	7.90	0.00
[redacted]14	73.9	1.95	2.64	-6.1	6	114.6	0.72	0.72	0.00	1.18	28.3	33.3	5.85	0.32
12.47	48.6	1.02	2.10	-5.0	6	114.6	0.74	0.74	0.00	1.16	18.6	21.6	3.83	0.17
12.80	46.5	0.91	1.96	2.1	6	114.6	0.76	0.76	0.00	1.15	17.8	20.4	3.66	0.16

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60 (blows/ft)	Su (tsf)	CRR
13.12	61.0	1.07	1.76	3.1	7	117.8	0.78	0.78	0.00	1.13	19.5	22.1	UnDef	0.18
13.45	39.1	0.74	1.88	-0.1	6	114.6	0.80	0.80	0.00	1.12	15.0	16.8	3.06	0.14
13.78	22.1	0.36	1.61	6.9	6	114.6	0.82	0.82	0.00	1.11	8.5	9.4	1.70	0.13
14.11	18.7	0.19	0.99	16.1	6	114.6	0.84	0.84	0.00	1.09	7.2	7.8	1.43	0.10
14.44	18.6	0.28	1.48	24.4	6	114.6	0.86	0.86	0.00	1.08	7.1	7.7	1.42	0.15
14.76	22.0	0.39	1.77	14.3	6	114.6	0.87	0.87	0.00	1.07	8.4	9.0	1.69	0.16
15.09	14.0	0.38	2.69	30.0	5	114.6	0.89	0.89	0.00	1.06	6.7	7.1	1.05	0.12
15.42	22.4	0.46	2.06	24.3	6	114.6	0.91	0.91	0.00	1.05	8.6	9.0	1.72	0.22
15.75	17.3	0.41	2.35	16.4	5	114.6	0.93	0.93	0.00	1.04	8.3	8.6	1.31	0.14
16.08	18.2	0.31	1.68	8.2	6	114.6	0.95	0.95	0.00	1.03	7.0	7.2	1.38	0.15
16.40	14.9	0.25	1.65	24.6	6	114.6	0.97	0.97	0.00	1.02	5.7	5.8	1.11	0.12
16.73	12.8	0.13	1.02	18.1	6	114.6	0.99	0.99	0.00	1.01	4.9	4.9	0.95	0.10
17.06	5.9	0.08	1.35	35.4	5	114.6	1.01	1.01	0.00	1.00	2.8	2.8	0.40	0.00
17.39	12.2	0.25	2.06	46.0	5	114.6	1.02	1.02	0.00	0.99	5.8	5.8	0.89	0.10
17.72	27.2	0.31	1.12	7.7	6	114.6	1.04	1.04	0.00	0.98	10.4	10.2	2.09	0.11
18.04	17.8	0.44	2.47	27.8	5	114.6	1.06	1.06	0.00	0.97	8.5	8.3	1.34	0.14
18.37	19.9	0.48	2.40	19.8	5	114.6	1.08	1.08	0.00	0.96	9.5	9.1	1.50	0.16
18.70	20.0	0.42	2.08	19.4	6	114.6	1.10	1.10	0.00	0.95	7.6	7.3	1.51	0.16
19.03	10.8	0.34	3.11	24.2	4	114.6	1.12	1.12	0.00	0.95	6.9	6.5	0.77	0.00
19.36	7.5	0.14	1.86	19.1	5	114.6	1.14	1.14	0.00	0.94	3.6	3.4	0.51	0.08
19.68	4.6	0.06	1.32	46.0	1	111.4	1.16	1.16	0.00	0.93	2.2	2.0	0.27	0.00
20.01	4.3	0.06	1.39	49.8	1	111.4	1.17	1.17	0.00	0.92	2.1	1.9	0.25	0.00
20.34	4.9	0.10	2.03	50.2	4	114.6	1.19	1.19	0.00	0.92	3.1	2.9	0.30	0.00
20.67	15.0	0.22	1.47	26.4	6	114.6	1.21	1.21	0.00	0.91	5.8	5.2	1.11	0.11
21.00	9.8	0.18	1.79	28.4	5	114.6	1.23	1.23	0.00	0.90	4.7	4.2	0.69	0.09
21.33	5.8	0.09	1.57	50.0	4	114.6	1.25	1.25	0.00	0.89	3.7	3.3	0.36	0.00
21.65	4.9	0.06	1.24	50.8	1	111.4	1.27	1.27	0.00	0.89	2.3	2.1	0.29	0.00
[illegible]98	5.4	0.06	1.11	48.9	1	111.4	1.29	1.29	0.00	0.88	2.6	2.3	0.33	0.00
[illegible]31	4.9	0.07	1.44	48.1	1	111.4	1.30	1.30	0.00	0.88	2.3	2.0	0.29	0.00
22.64	6.8	0.06	0.88	20.6	1	111.4	1.32	1.32	0.00	0.87	3.3	2.8	0.44	0.00
22.97	5.4	0.06	1.03	47.6	1	111.4	1.34	1.34	0.00	0.86	2.6	2.2	0.32	0.00
23.29	7.1	0.15	2.10	52.8	4	114.6	1.36	1.36	0.00	0.86	4.6	3.9	0.46	0.08
23.62	18.6	0.34	1.83	12.0	6	114.6	1.38	1.38	0.00	0.85	7.1	6.1	1.38	0.12
23.95	10.8	0.28	2.56	23.7	5	114.6	1.40	1.40	0.00	0.85	5.2	4.4	0.75	0.09
24.28	9.9	0.22	2.24	50.7	5	114.6	1.42	1.42	0.00	0.84	4.7	4.0	0.67	0.09
24.61	20.0	0.39	1.95	24.1	6	114.6	1.43	1.43	0.00	0.84	7.7	6.4	1.49	0.13
24.93	15.1	0.35	2.29	21.8	5	114.6	1.45	1.45	0.00	0.83	7.2	6.0	1.09	0.10
25.26	9.7	0.22	2.22	44.0	5	114.6	1.47	1.47	0.00	0.82	4.6	3.8	0.66	0.09
25.59	6.2	0.16	2.61	58.0	4	114.6	1.49	1.48	0.01	0.82	3.9	3.2	0.37	0.00
25.92	6.2	0.08	1.29	34.2	5	114.6	1.51	1.49	0.02	0.82	3.0	2.4	0.38	0.00
26.25	5.8	0.06	0.95	57.1	1	111.4	1.53	1.50	0.03	0.82	2.8	2.3	0.34	0.00
26.57	6.3	0.05	0.79	56.0	1	111.4	1.55	1.51	0.04	0.81	3.0	2.5	0.38	0.00
26.90	5.5	0.06	0.99	58.7	1	111.4	1.56	1.52	0.05	0.81	2.7	2.2	0.32	0.00
27.23	5.5	0.05	0.82	58.7	1	111.4	1.58	1.52	0.06	0.81	2.6	2.1	0.31	0.00
27.56	5.6	0.04	0.71	60.1	1	111.4	1.60	1.53	0.07	0.81	2.7	2.2	0.32	0.00
27.89	5.2	0.04	0.77	61.8	1	111.4	1.62	1.54	0.08	0.81	2.5	2.0	0.28	0.00
28.21	5.6	0.04	0.71	62.4	1	111.4	1.64	1.55	0.09	0.80	2.7	2.2	0.32	0.00
28.54	6.5	0.05	0.78	61.9	1	111.4	1.66	1.56	0.10	0.80	3.1	2.5	0.38	0.00
28.87	7.5	0.11	1.40	53.3	5	114.6	1.67	1.56	0.11	0.80	3.6	2.9	0.47	0.00
29.20	10.9	0.14	1.24	34.3	5	114.6	1.69	1.57	0.12	0.80	5.2	4.2	0.74	0.09
29.53	8.0	0.15	1.81	48.0	5	114.6	1.71	1.58	0.13	0.80	3.8	3.1	0.50	0.08
29.86	5.6	0.07	1.15	64.9	1	111.4	1.73	1.59	0.14	0.79	2.7	2.1	0.31	0.00
30.18	7.8	0.06	0.71	54.6	5	114.6	1.75	1.60	0.15	0.79	3.7	3.0	0.48	0.08
30.59	7.4	0.10	1.30	61.7	5	114.6	1.77	1.61	0.16	0.79	3.6	2.8	0.45	0.00
31.00	6.2	0.06	0.97	70.0	1	111.4	1.80	1.62	0.18	0.79	3.0	2.3	0.35	0.00
31.33	6.0	0.05	0.75	65.8	1	111.4	1.81	1.63	0.19	0.78	2.9	2.3	0.34	0.00
31.66	4.9	0.04	0.82	70.9	1	111.4	1.83	1.64	0.20	0.78	2.3	1.8	0.24	0.00
31.99	5.7	0.07	1.14	71.4	1	111.4	1.85	1.64	0.21	0.78	2.7	2.1	0.31	0.00
[illegible]32	7.8	0.08	1.02	49.8	5	114.6	1.87	1.65	0.22	0.78	3.8	2.9	0.48	0.00
[illegible]64	7.7	0.08	0.98	58.8	5	114.6	1.89	1.66	0.23	0.78	3.7	2.8	0.46	0.00
32.97	6.2	0.06	0.88	69.4	1	111.4	1.91	1.67	0.24	0.77	3.0	2.3	0.35	0.00
33.30	5.7	0.10	1.68	76.1	4	114.6	1.93	1.68	0.25	0.77	3.6	2.8	0.30	0.00

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
33.63	27.6	0.39	1.42	39.4	6	114.6	1.94	1.69	0.26	0.77	10.6	8.2	2.05	0.18
33.96	28.9	0.54	1.86	31.1	6	114.6	1.96	1.69	0.27	0.77	11.1	8.5	2.15	0.20
34.28	24.5	0.42	1.72	30.3	6	114.6	1.98	1.70	0.28	0.77	9.4	7.2	1.80	0.15
34.61	13.6	0.30	2.18	54.5	5	114.6	2.00	1.71	0.29	0.76	6.5	5.0	0.93	0.09
34.94	12.8	0.22	1.68	63.5	5	114.6	2.02	1.72	0.30	0.76	6.2	4.7	0.87	0.09
35.27	15.8	0.33	2.06	52.9	5	114.6	2.04	1.73	0.31	0.76	7.6	5.8	1.10	0.10
35.60	16.0	0.31	1.91	45.6	5	114.6	2.06	1.74	0.32	0.76	7.7	5.8	1.12	0.10
35.92	16.8	0.36	2.12	49.8	5	114.6	2.08	1.75	0.33	0.76	8.1	6.1	1.18	0.10
36.25	14.5	0.35	2.43	39.6	5	114.6	2.09	1.75	0.34	0.76	6.9	5.2	0.99	0.09
36.58	17.7	0.30	1.68	52.0	6	114.6	2.11	1.76	0.35	0.75	6.8	5.1	1.24	0.11
36.91	16.3	0.33	2.03	50.7	5	114.6	2.13	1.77	0.36	0.75	7.8	5.9	1.13	0.10
37.24	7.9	0.23	2.91	67.1	4	114.6	2.15	1.78	0.37	0.75	5.1	3.8	0.46	0.00
37.57	6.5	0.07	1.00	81.8	5	114.6	2.17	1.79	0.38	0.75	3.1	2.3	0.35	0.00
37.89	5.3	0.08	1.42	84.1	4	114.6	2.19	1.80	0.39	0.75	3.4	2.5	0.25	0.00
38.22	37.8	0.58	1.53	73.9	7	117.8	2.21	1.81	0.40	0.74	12.1	9.0	UnDef	0.32
38.55	210.0	1.04	0.50	-1.4	9	124.1	2.23	1.82	0.41	0.74	40.2	29.9	UnDef	0.43
38.88	248.7	1.48	0.60	-2.7	9	124.1	2.25	1.83	0.42	0.74	47.6	35.3	UnDef	0.00
39.21	239.1	1.68	0.70	14.4	9	124.1	2.27	1.84	0.43	0.74	45.8	33.8	UnDef	0.00
39.53	242.0	2.11	0.87	11.7	9	124.1	2.29	1.85	0.44	0.74	46.4	34.1	UnDef	0.00
39.86	275.0	2.93	1.06	7.4	9	124.1	2.31	1.86	0.45	0.73	52.7	38.7	UnDef	0.00
40.19	349.5	3.76	1.08	1.2	9	124.1	2.33	1.87	0.46	0.73	66.9	49.0	UnDef	0.00
40.52	341.2	6.72	1.97	7.0	8	120.9	2.35	1.88	0.47	0.73	81.7	59.7	UnDef	0.00
40.85	323.5	8.28	2.56	6.1	7	117.8	2.37	1.89	0.48	0.73	103.3	75.2	UnDef	0.00
41.17	219.4	6.51	2.97	0.9	7	117.8	2.39	1.89	0.49	0.73	70.0	50.9	UnDef	0.00
41.50	107.2	2.90	2.70	-6.2	6	114.6	2.41	1.90	0.50	0.72	41.1	29.8	8.38	0.00
41.83	39.8	1.34	3.37	-1.9	5	114.6	2.43	1.91	0.51	0.72	19.0	13.8	2.99	0.34
42.16	25.8	0.99	3.82	18.7	4	114.6	2.44	1.92	0.52	0.72	16.5	11.9	1.87	0.00
[illegible]49	27.0	0.76	2.81	44.4	5	114.6	2.46	1.93	0.53	0.72	12.9	9.3	1.96	0.16
[illegible]81	41.2	0.88	2.14	76.1	6	114.6	2.48	1.94	0.54	0.72	15.8	11.3	3.10	0.36
43.14	113.9	1.60	1.41	66.2	8	120.9	2.50	1.95	0.56	0.72	27.3	19.6	UnDef	0.27
43.47	101.7	1.88	1.85	5.0	7	117.8	2.52	1.96	0.57	0.72	32.5	23.2	UnDef	0.32
43.80	93.2	1.38	1.49	10.0	8	120.9	2.54	1.97	0.58	0.71	22.3	15.9	UnDef	0.24
44.13	103.3	0.80	0.77	13.9	8	120.9	2.56	1.97	0.59	0.71	24.7	17.6	UnDef	0.17
44.45	129.1	0.69	0.53	17.8	9	124.1	2.58	1.98	0.60	0.71	24.7	17.6	UnDef	0.19
44.78	84.5	0.96	1.14	18.1	8	120.9	2.60	1.99	0.61	0.71	20.2	14.3	UnDef	0.18
45.11	85.0	1.06	1.24	18.4	8	120.9	2.62	2.00	0.62	0.71	20.3	14.4	UnDef	0.19
45.44	86.4	0.83	0.96	16.7	8	120.9	2.64	2.01	0.63	0.70	20.7	14.6	UnDef	0.17
45.77	97.4	0.57	0.58	18.5	8	120.9	2.66	2.02	0.64	0.70	23.3	16.4	UnDef	0.15
46.10	110.0	0.38	0.35	19.4	9	124.1	2.68	2.03	0.65	0.70	21.1	14.8	UnDef	0.12
46.42	109.6	0.37	0.34	19.2	9	124.1	2.70	2.04	0.66	0.70	21.0	14.7	UnDef	0.12
46.75	90.5	0.34	0.37	19.6	8	120.9	2.72	2.05	0.67	0.70	21.7	15.1	UnDef	0.10
47.08	88.0	0.25	0.28	19.8	9	124.1	2.74	2.06	0.68	0.70	16.9	11.7	UnDef	0.10
47.41	107.0	0.32	0.30	21.1	9	124.1	2.76	2.07	0.69	0.69	20.5	14.2	UnDef	0.12
47.74	119.6	0.39	0.32	21.3	9	124.1	2.78	2.08	0.70	0.69	22.9	15.9	UnDef	0.13
48.06	152.5	0.48	0.31	21.6	9	124.1	2.80	2.09	0.71	0.69	29.2	20.2	UnDef	0.18
48.39	163.8	0.42	0.25	22.0	9	124.1	2.82	2.10	0.72	0.69	31.4	21.6	UnDef	0.21
48.72	194.1	0.59	0.30	22.4	9	124.1	2.84	2.11	0.73	0.69	37.2	25.6	UnDef	0.29
49.05	187.8	0.71	0.38	21.0	9	124.1	2.86	2.12	0.74	0.69	36.0	24.7	UnDef	0.27
49.38	139.9	0.60	0.43	22.0	9	124.1	2.88	2.13	0.75	0.68	26.8	18.3	UnDef	0.16
49.70	94.7	0.38	0.40	23.9	9	124.1	2.90	2.14	0.76	0.68	18.1	12.4	UnDef	0.10
50.03	57.8	0.23	0.39	23.5	8	120.9	2.92	2.15	0.77	0.68	13.8	9.4	UnDef	0.09
50.36	41.0	0.14	0.34	23.0	8	120.9	2.94	2.16	0.78	0.68	9.8	6.7	UnDef	0.00
50.69	30.3	0.10	0.31	25.2	7	117.8	2.96	2.17	0.79	0.68	9.7	6.6	UnDef	0.00
51.02	28.9	0.09	0.31	25.5	7	117.8	2.98	2.18	0.80	0.68	9.2	6.3	UnDef	0.00
51.34	28.6	0.09	0.30	26.0	7	117.8	3.00	2.19	0.81	0.68	9.1	6.2	UnDef	0.00
51.67	29.4	0.07	0.24	26.3	7	117.8	3.02	2.20	0.82	0.67	9.4	6.3	UnDef	0.00
52.00	29.3	0.07	0.24	26.6	7	117.8	3.04	2.21	0.83	0.67	9.3	6.3	UnDef	0.00
52.33	30.3	0.16	0.53	27.5	7	117.8	3.06	2.22	0.84	0.67	9.7	6.5	UnDef	0.15
[illegible]66	30.8	0.15	0.47	27.7	7	117.8	3.08	2.23	0.85	0.67	9.8	6.6	UnDef	0.13
[illegible]98	35.7	0.16	0.43	27.9	7	117.8	3.10	2.24	0.86	0.67	11.4	7.6	UnDef	0.00
53.31	28.0	0.34	1.20	33.3	6	114.6	3.12	2.25	0.87	0.67	10.7	7.2	1.99	0.15
53.64	24.0	0.42	1.75	37.7	6	114.6	3.14	2.25	0.88	0.67	9.2	6.1	1.67	0.12

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
53.97	21.7	0.33	1.52	32.0	6	114.6	3.16	2.26	0.89	0.66	8.3	5.5	1.48	0.11
54.30	22.4	0.29	1.30	31.6	6	114.6	3.17	2.27	0.90	0.66	8.6	5.7	1.54	0.12
54.63	24.8	0.30	1.21	31.9	6	114.6	3.19	2.28	0.91	0.66	9.5	6.3	1.73	0.13
54.95	31.5	0.28	0.89	32.0	7	117.8	3.21	2.29	0.92	0.66	10.0	6.6	UnDef	0.18
55.28	41.5	0.38	0.91	32.2	7	117.8	3.23	2.30	0.93	0.66	13.2	8.7	UnDef	0.20
55.61	36.6	0.54	1.47	37.2	7	117.8	3.25	2.31	0.94	0.66	11.7	7.7	UnDef	0.23
55.94	23.2	0.25	1.06	78.8	6	114.6	3.27	2.32	0.95	0.66	8.9	5.9	1.60	0.12
56.27	14.6	0.09	0.62	102.5	6	114.6	3.29	2.32	0.96	0.66	5.6	3.7	0.91	0.09
56.59	12.1	0.07	0.58	110.8	6	114.6	3.31	2.33	0.97	0.65	4.7	3.0	0.71	0.00
56.92	11.0	0.06	0.50	111.0	6	114.6	3.33	2.34	0.99	0.65	4.2	2.8	0.61	0.00
57.25	10.4	0.06	0.53	121.2	6	114.6	3.34	2.35	1.00	0.65	4.0	2.6	0.56	0.00
57.58	10.7	0.06	0.52	123.9	6	114.6	3.36	2.36	1.01	0.65	4.1	2.7	0.59	0.00
57.91	11.7	0.07	0.56	124.6	6	114.6	3.38	2.37	1.02	0.65	4.5	2.9	0.67	0.00
58.23	11.9	0.09	0.76	124.9	6	114.6	3.40	2.38	1.03	0.65	4.6	3.0	0.68	0.09
58.56	15.7	0.10	0.61	110.0	6	114.6	3.42	2.38	1.04	0.65	6.0	3.9	0.98	0.09
58.89	15.8	0.09	0.57	109.1	6	114.6	3.44	2.39	1.05	0.65	6.0	3.9	0.99	0.09
59.22	12.2	0.06	0.45	115.1	6	114.6	3.46	2.40	1.06	0.65	4.7	3.0	0.70	0.00
59.55	9.8	0.05	0.51	133.3	6	114.6	3.48	2.41	1.07	0.64	3.8	2.4	0.51	0.00
59.87	9.8	0.05	0.46	125.1	6	114.6	3.50	2.42	1.08	0.64	3.7	2.4	0.50	0.00
60.20	10.5	0.06	0.53	121.5	6	114.6	3.51	2.43	1.09	0.64	4.0	2.6	0.56	0.00
60.53	13.7	0.05	0.33	114.5	6	114.6	3.53	2.44	1.10	0.64	5.3	3.4	0.82	0.00
60.86	14.7	0.04	0.27	110.8	6	114.6	3.55	2.44	1.11	0.64	5.6	3.6	0.89	0.00
61.19	15.8	0.10	0.60	109.7	6	114.6	3.57	2.45	1.12	0.64	6.0	3.9	0.97	0.09
61.52	15.5	0.25	1.62	107.1	6	114.6	3.59	2.46	1.13	0.64	5.9	3.8	0.95	0.09
61.84	22.7	0.28	1.21	74.1	6	114.6	3.61	2.47	1.14	0.64	8.7	5.5	1.53	0.11
62.17	13.4	0.16	1.16	88.8	6	114.6	3.63	2.48	1.15	0.64	5.1	3.3	0.78	0.09
62.50	10.1	0.04	0.35	105.0	6	114.6	3.65	2.49	1.16	0.63	3.9	2.5	0.52	0.00
[illegible]83	12.1	0.07	0.58	105.3	6	114.6	3.66	2.50	1.17	0.63	4.6	2.9	0.67	0.00
[illegible]16	15.3	0.08	0.49	94.4	6	114.6	3.68	2.50	1.18	0.63	5.9	3.7	0.93	0.00
63.48	10.2	0.05	0.49	106.1	6	114.6	3.70	2.51	1.19	0.63	3.9	2.5	0.52	0.00
63.81	10.8	0.06	0.51	111.7	6	114.6	3.72	2.52	1.20	0.63	4.2	2.6	0.57	0.00
64.14	15.6	0.14	0.90	110.2	6	114.6	3.74	2.53	1.21	0.63	6.0	3.8	0.95	0.09
64.47	18.8	0.31	1.65	82.9	6	114.6	3.76	2.54	1.22	0.63	7.2	4.5	1.20	0.10
64.80	14.0	0.26	1.86	103.5	5	114.6	3.78	2.55	1.23	0.63	6.7	4.2	0.82	0.09
65.12	21.9	0.39	1.78	80.7	6	114.6	3.80	2.55	1.24	0.63	8.4	5.3	1.45	0.11
65.45	50.8	0.75	1.48	47.7	7	117.8	3.81	2.56	1.25	0.62	16.2	10.1	UnDef	0.43
65.78	64.3	0.99	1.54	45.3	7	117.8	3.83	2.57	1.26	0.62	20.5	12.8	UnDef	0.39
66.11	73.9	1.06	1.44	44.9	7	117.8	3.85	2.58	1.27	0.62	23.6	14.7	UnDef	0.28
66.44	75.8	1.17	1.54	44.7	7	117.8	3.87	2.59	1.28	0.62	24.2	15.0	UnDef	0.32
66.76	73.4	1.19	1.62	42.1	7	117.8	3.89	2.60	1.29	0.62	23.4	14.5	UnDef	0.37
67.09	36.7	0.71	1.93	92.8	6	114.6	3.91	2.61	1.30	0.62	14.1	8.7	2.62	0.21
67.42	32.6	0.70	2.14	125.5	6	114.6	3.93	2.62	1.31	0.62	12.5	7.7	2.29	0.17
67.75	65.3	1.11	1.70	66.3	7	117.8	3.95	2.63	1.32	0.62	20.8	12.9	UnDef	0.00
68.08	81.5	1.37	1.68	51.7	7	117.8	3.97	2.64	1.33	0.62	26.0	16.0	UnDef	0.37
68.40	80.8	1.37	1.69	45.7	7	117.8	3.99	2.64	1.34	0.61	25.8	15.9	UnDef	0.38
68.73	72.4	1.22	1.68	45.6	7	117.8	4.01	2.65	1.35	0.61	23.1	14.2	UnDef	0.44
69.06	69.0	1.03	1.50	45.7	7	117.8	4.03	2.66	1.36	0.61	22.0	13.5	UnDef	0.35
69.39	63.1	1.08	1.71	47.5	7	117.8	4.05	2.67	1.37	0.61	20.1	12.3	UnDef	0.00
69.72	72.4	1.18	1.63	50.5	7	117.8	4.07	2.68	1.38	0.61	23.1	14.1	UnDef	0.42
70.05	64.4	1.21	1.88	53.3	7	117.8	4.08	2.69	1.39	0.61	20.5	12.5	UnDef	0.00
70.37	58.0	1.19	2.06	55.9	7	117.8	4.10	2.70	1.40	0.61	18.5	11.3	UnDef	0.00
70.70	58.5	0.99	1.69	50.1	7	117.8	4.12	2.71	1.41	0.61	18.7	11.3	UnDef	0.00
71.03	60.8	0.77	1.27	49.2	7	117.8	4.14	2.72	1.43	0.61	19.4	11.8	UnDef	0.32
71.36	56.6	0.84	1.48	49.8	7	117.8	4.16	2.73	1.44	0.61	18.1	10.9	UnDef	0.00
71.69	42.3	0.78	1.84	65.0	7	117.8	4.18	2.74	1.45	0.60	13.5	8.2	UnDef	0.26
72.01	37.9	0.69	1.81	111.3	6	114.6	4.20	2.74	1.46	0.60	14.5	8.8	2.70	0.21
72.34	42.6	0.89	2.08	96.0	6	114.6	4.22	2.75	1.47	0.60	16.3	9.8	3.07	0.26
72.67	45.8	1.02	2.23	73.4	6	114.6	4.24	2.76	1.48	0.60	17.5	10.6	3.32	0.31
[illegible]00	40.1	0.78	1.95	61.1	6	114.6	4.26	2.77	1.49	0.60	15.4	9.2	2.87	0.23
[illegible]33	25.0	0.64	2.57	60.1	5	114.6	4.28	2.78	1.50	0.60	12.0	7.2	1.66	0.12
73.65	13.1	0.44	3.36	113.7	4	114.6	4.29	2.79	1.51	0.60	8.4	5.0	0.71	0.00
73.98	12.2	0.31	2.55	148.5	5	114.6	4.31	2.80	1.52	0.60	5.8	3.5	0.63	0.00

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUi (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60 (blows/ft)	Su (tsf)	CRR
74.31	21.8	0.48	2.21	103.7	6	114.6	4.33	2.80	1.53	0.60	8.3	5.0	1.39	0.10
74.64	25.2	0.58	2.29	93.3	6	114.6	4.35	2.81	1.54	0.60	9.6	5.7	1.66	0.12
74.97	19.3	0.47	2.44	93.7	5	114.6	4.37	2.82	1.55	0.60	9.3	5.5	1.20	0.00
75.29	12.2	0.30	2.42	139.8	5	114.6	4.39	2.83	1.56	0.59	5.8	3.5	0.63	0.00
75.62	9.1	0.13	1.38	166.3	5	114.6	4.41	2.84	1.57	0.59	4.3	2.6	0.37	0.00
75.95	8.6	0.06	0.64	163.7	6	114.6	4.43	2.85	1.58	0.59	3.3	1.9	0.33	0.00
76.28	8.1	0.05	0.62	162.1	5	114.6	4.44	2.86	1.59	0.59	3.9	2.3	0.29	0.00
76.61	8.1	0.10	1.24	161.8	5	114.6	4.46	2.86	1.60	0.59	3.9	2.3	0.29	0.00
76.93	24.7	0.44	1.79	115.0	6	114.6	4.48	2.87	1.61	0.59	9.5	5.6	1.62	0.11
77.26	35.8	0.62	1.73	66.0	6	114.6	4.50	2.88	1.62	0.59	13.7	8.1	2.51	0.18
77.59	25.3	0.58	2.28	71.8	6	114.6	4.52	2.89	1.63	0.59	9.7	5.7	1.66	0.12
77.92	19.5	0.43	2.21	132.8	6	114.6	4.54	2.90	1.64	0.59	7.5	4.4	1.19	0.00
78.25	16.2	0.29	1.77	117.6	6	114.6	4.56	2.91	1.65	0.59	6.2	3.6	0.93	0.09
78.58	13.2	0.20	1.52	145.5	5	114.6	4.58	2.92	1.66	0.59	6.3	3.7	0.69	0.09
78.90	10.0	0.17	1.70	162.1	5	114.6	4.59	2.92	1.67	0.58	4.8	2.8	0.43	0.00
79.23	10.6	0.09	0.80	161.6	6	114.6	4.61	2.93	1.68	0.58	4.1	2.4	0.48	0.08
79.56	10.8	0.12	1.07	185.6	6	114.6	4.63	2.94	1.69	0.58	4.1	2.4	0.49	0.08
79.89	10.8	0.11	0.97	188.5	6	114.6	4.65	2.95	1.70	0.58	4.2	2.4	0.50	0.08
80.22	13.0	0.23	1.78	206.4	5	114.6	4.67	2.96	1.71	0.58	6.2	3.6	0.66	0.00
80.54	13.4	0.18	1.35	69.3	6	114.6	4.69	2.97	1.72	0.58	5.1	3.0	0.70	0.09
80.87	13.2	0.19	1.41	86.7	6	114.6	4.71	2.98	1.73	0.58	5.0	2.9	0.68	0.08
81.20	14.0	0.19	1.36	100.3	6	114.6	4.73	2.98	1.74	0.58	5.4	3.1	0.75	0.09
81.53	14.6	0.27	1.82	131.5	5	114.6	4.75	2.99	1.75	0.58	7.0	4.0	0.79	0.00
81.86	14.5	0.40	2.76	131.2	5	114.6	4.76	3.00	1.76	0.58	6.9	4.0	0.78	0.00
82.18	13.6	0.35	2.54	134.3	5	114.6	4.78	3.01	1.77	0.58	6.5	3.8	0.71	0.00
82.51	13.6	0.24	1.74	134.8	5	114.6	4.80	3.02	1.78	0.58	6.5	3.7	0.70	0.00
82.84	12.1	0.15	1.24	128.3	6	114.6	4.82	3.03	1.79	0.57	4.6	2.7	0.58	0.08
[illegible]17	14.4	0.21	1.43	126.6	6	114.6	4.84	3.04	1.80	0.57	5.5	3.2	0.76	0.09
[illegible]50	21.6	0.50	2.32	127.7	6	114.6	4.86	3.04	1.81	0.57	8.3	4.7	1.34	0.00
83.82	28.0	0.88	3.15	124.1	5	114.6	4.88	3.05	1.82	0.57	13.4	7.7	1.85	0.00
84.15	34.5	1.59	4.62	202.0	3	111.4	4.90	3.06	1.83	0.57	33.1	18.9	2.37	0.00
84.48	74.3	1.67	2.25	71.4	7	117.8	4.91	3.07	1.84	0.57	23.7	13.5	UnDef	0.00
84.81	83.9	2.05	2.44	15.7	7	117.8	4.93	3.08	1.86	0.57	26.8	15.3	UnDef	0.00
85.14	77.3	2.13	2.75	11.6	6	114.6	4.95	3.09	1.87	0.57	29.6	16.9	5.79	0.00
85.46	90.3	1.71	1.90	9.3	7	117.8	4.97	3.10	1.88	0.57	28.8	16.4	UnDef	0.00
85.79	110.1	1.40	1.27	5.3	8	120.9	4.99	3.11	1.89	0.57	26.4	15.0	UnDef	0.29
86.12	103.6	0.80	0.77	-3.6	8	120.9	5.01	3.11	1.90	0.57	24.8	14.1	UnDef	0.18
86.45	93.7	0.87	0.93	-5.2	8	120.9	5.03	3.12	1.91	0.57	22.4	12.7	UnDef	0.20
86.78	78.2	0.60	0.77	-3.2	8	120.9	5.05	3.13	1.92	0.56	18.7	10.6	UnDef	0.17
87.11	62.2	0.49	0.78	0.8	8	120.9	5.07	3.14	1.93	0.56	14.9	8.4	UnDef	0.19
87.43	60.0	0.46	0.77	5.6	8	120.9	5.09	3.15	1.94	0.56	14.4	8.1	UnDef	0.20
87.76	57.0	0.38	0.67	7.6	8	120.9	5.11	3.16	1.95	0.56	13.7	7.7	UnDef	0.18
88.09	48.6	0.40	0.82	8.8	7	117.8	5.13	3.17	1.96	0.56	15.5	8.7	UnDef	0.30
88.42	42.1	0.75	1.77	4.9	7	117.8	5.15	3.18	1.97	0.56	13.4	7.5	UnDef	0.22
88.75	51.6	0.64	1.23	-0.3	7	117.8	5.17	3.19	1.98	0.56	16.5	9.2	UnDef	0.34
89.07	56.6	0.34	0.59	-3.5	8	120.9	5.19	3.20	1.99	0.56	13.5	7.6	UnDef	0.16
89.40	61.7	0.40	0.64	-1.4	8	120.9	5.21	3.21	2.00	0.56	14.8	8.3	UnDef	0.16
89.73	74.4	0.54	0.72	1.9	8	120.9	5.23	3.22	2.01	0.56	17.8	9.9	UnDef	0.16
90.06	82.0	0.57	0.70	5.8	8	120.9	5.25	3.23	2.02	0.56	19.6	10.9	UnDef	0.16
90.39	82.3	0.60	0.73	9.5	8	120.9	5.27	3.24	2.03	0.56	19.7	10.9	UnDef	0.16
90.71	83.7	0.73	0.87	12.9	8	120.9	5.29	3.25	2.04	0.55	20.0	11.1	UnDef	0.19
91.04	83.4	0.54	0.65	13.5	8	120.9	5.31	3.26	2.05	0.55	20.0	11.1	UnDef	0.15
91.37	65.4	0.69	1.05	30.5	8	120.9	5.33	3.27	2.06	0.55	15.6	8.7	UnDef	0.33
91.70	68.9	0.70	1.02	40.3	8	120.9	5.35	3.28	2.07	0.55	16.5	9.1	UnDef	0.28
92.03	90.7	0.66	0.73	8.9	8	120.9	5.37	3.29	2.08	0.55	21.7	12.0	UnDef	0.17
92.35	115.0	0.98	0.85	11.4	8	120.9	5.39	3.30	2.09	0.55	27.5	15.2	UnDef	0.21
92.68	95.8	1.36	1.42	16.3	8	120.9	5.41	3.31	2.10	0.55	22.9	12.6	UnDef	0.37
93.01	60.7	0.79	1.30	24.4	7	117.8	5.43	3.31	2.11	0.55	19.4	10.6	UnDef	0.00
[illegible]34	48.5	0.26	0.54	22.1	8	120.9	5.45	3.32	2.12	0.55	11.6	6.4	UnDef	0.20
[illegible].67	23.7	0.26	1.08	36.0	6	114.6	5.46	3.33	2.13	0.55	9.1	5.0	1.46	0.10
93.99	20.3	0.10	0.49	54.2	7	117.8	5.48	3.34	2.14	0.55	6.5	3.5	UnDef	0.00
94.32	15.8	0.15	0.95	77.6	6	114.6	5.50	3.35	2.15	0.55	6.0	3.3	0.82	0.09

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
94.65	18.7	0.24	1.29	107.7	5	114.6	5.52	3.36	2.16	0.55	7.2	3.9	1.06	0.09

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.00.19M
Run No: 04-0401-1123-5533
Job No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-4
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/24/03
CPT Time: 08:29
CPT File: 717CP004.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 7.73 (ft): 25.4
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.16	5.0E-05	0.00	1000.0	0.72	10	37.3	0.0	37.3	0.0	50	86.6	10.0	-0.37	0.0	14.9
0.49	5.0E-02	0.00	1000.0	0.47	10	236.4	0.0	236.4	0.0	50	95.0	1.0	-0.33	0.0	47.3
0.82	5.0E-02	0.00	1000.0	0.85	10	398.3	0.0	398.3	0.0	50	95.0	1.0	-0.39	0.0	79.7
1.15	5.0E-03	0.00	1000.0	1.50	12	495.6	UnDef	UnDef	0.0	50	95.0	1.0	-0.46	UnDef	UnDef
1.48	5.0E-03	0.00	1000.0	2.15	12	598.5	UnDef	UnDef	0.0	50	95.0	1.0	-0.53	UnDef	UnDef
[illegible]80	5.0E-04	0.00	1000.0	2.48	12	648.7	UnDef	UnDef	0.0	50	95.0	1.0	-0.57	UnDef	UnDef
[illegible]13	1.0E-15	0.00	1000.0	2.71	12	651.4	UnDef	UnDef	0.0	50	95.0	1.0	-0.59	UnDef	UnDef
2.46	5.0E-04	0.00	1000.0	2.55	12	604.6	UnDef	UnDef	0.0	50	95.0	1.0	-0.57	UnDef	UnDef
2.79	5.0E-04	0.00	1000.0	2.28	12	518.3	UnDef	UnDef	0.0	50	95.0	1.0	-0.54	UnDef	UnDef
3.12	5.0E-04	0.00	1000.0	2.46	12	445.4	UnDef	UnDef	0.0	50	95.0	1.0	-0.56	UnDef	UnDef
3.44	5.0E-04	0.00	976.4	2.45	12	385.6	UnDef	UnDef	0.0	50	95.0	1.0	-0.56	UnDef	UnDef
3.77	5.0E-04	0.00	789.0	2.60	12	340.9	UnDef	UnDef	0.0	50	95.0	1.0	-0.55	UnDef	UnDef
4.10	5.0E-04	0.00	659.0	2.62	12	309.2	UnDef	UnDef	0.0	50	95.0	1.0	-0.53	UnDef	UnDef
4.43	5.0E-04	0.00	581.3	2.34	12	292.8	UnDef	UnDef	0.0	50	95.0	1.0	-0.49	UnDef	UnDef
4.76	5.0E-04	0.00	518.2	2.27	12	270.4	UnDef	UnDef	0.0	48	95.0	1.0	-0.47	UnDef	UnDef
5.09	5.0E-04	0.00	483.5	2.34	12	260.8	UnDef	UnDef	0.0	48	94.7	1.0	-0.47	UnDef	UnDef
5.41	5.0E-04	0.00	462.9	2.50	12	257.6	UnDef	UnDef	0.0	48	94.4	1.0	-0.48	UnDef	UnDef
5.74	5.0E-04	0.00	421.4	2.42	12	241.4	UnDef	UnDef	0.0	48	92.5	1.0	-0.46	UnDef	UnDef
6.07	5.0E-04	0.00	449.2	2.10	12	264.5	UnDef	UnDef	0.0	48	95.0	1.0	-0.44	UnDef	UnDef
6.40	5.0E-04	0.00	531.0	2.15	12	320.9	UnDef	UnDef	0.0	48	95.0	1.0	-0.46	UnDef	UnDef
6.73	5.0E-03	0.00	448.1	1.81	9	277.8	7.0	284.8	5.9	48	95.0	1.0	-0.41	1.1	69.0
7.05	5.0E-03	0.00	380.6	1.18	9	241.8	0.0	241.8	3.8	48	92.6	1.0	-0.33	0.0	59.2
7.38	5.0E-02	0.00	348.5	0.96	9	226.7	0.0	226.7	3.1	48	90.7	1.0	-0.30	0.0	44.4
7.79	5.0E-02	0.00	337.9	0.98	9	226.1	0.0	226.1	3.3	48	90.7	1.0	-0.30	0.0	44.3
8.20	5.0E-02	0.00	291.5	0.95	9	200.4	0.0	200.4	3.8	46	87.2	1.0	-0.28	0.0	39.2
8.53	5.0E-02	0.00	262.3	0.92	9	184.1	0.0	184.1	4.1	46	84.8	1.0	-0.27	0.0	36.0
8.86	5.0E-03	0.00	254.0	1.06	9	181.8	0.0	181.8	5.0	46	84.4	1.0	-0.28	0.0	44.5
9.19	5.0E-02	0.00	297.4	0.81	9	216.7	0.0	216.7	2.9	46	89.4	1.0	-0.27	0.0	42.4
9.51	5.0E-04	0.00	312.6	2.01	9	231.8	22.3	254.1	8.3	46	91.4	1.0	-0.39	4.4	80.0
9.84	5.0E-05	0.00	236.7	3.07	12	176.6	UnDef	UnDef	0.0	46	83.9	10.0	-0.45	UnDef	UnDef
10.17	5.0E-05	0.00	157.2	2.96	7	120.8	52.3	173.0	16.3	44	72.7	10.0	-0.39	11.0	58.3
10.50	5.0E-04	0.00	146.8	2.31	7	114.6	38.3	152.8	14.4	44	71.2	1.0	-0.33	6.9	44.3
10.83	5.0E-04	0.00	149.7	2.27	7	118.6	37.7	156.3	14.0	44	72.2	1.0	-0.33	6.9	45.6
11.15	5.0E-04	0.00	162.9	2.41	7	130.9	41.2	172.0	14.0	44	75.0	1.0	-0.35	7.5	50.2
11.48	5.0E-04	0.00	167.2	2.50	7	136.3	43.8	180.1	14.1	44	76.2	1.0	-0.36	8.0	52.4
11.81	5.0E-05	0.00	140.1	2.66	7	115.9	49.1	165.1	16.1	44	71.5	10.0	-0.35	10.4	55.8
[illegible]14	5.0E-05	0.00	101.1	2.67	7	85.0	51.4	136.4	19.1	42	62.6	10.0	-0.31	10.3	43.5
[illegible]47	5.0E-05	0.00	64.5	2.14	7	55.2	43.4	98.6	21.5	40	50.2	10.0	-0.23	8.2	29.8
12.80	5.0E-05	0.00	60.1	1.99	7	52.2	41.4	93.5	21.6	40	48.6	10.0	-0.21	7.8	28.2

[illegible]ch (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
13.12	5.0E-04	0.00	77.2	1.78	7	67.6	34.6	102.2	17.7	40	56.1	1.0	-0.22	5.9	28.0
13.45	5.0E-05	0.00	47.9	1.92	7	42.8	43.8	86.6	23.9	38	42.9	10.0	-0.18	7.8	24.5
13.78	5.0E-05	0.01	26.0	1.67	7	23.9	55.4	79.4	31.2	34	30.0	10.0	-0.10	7.3	16.6
14.11	5.0E-05	0.03	21.4	1.04	7	20.0	37.6	57.6	29.4	34	30.0	10.0	-0.04	5.4	13.2
14.44	5.0E-05	0.04	20.7	1.56	6	19.7	69.1	88.8	34.2	34	30.0	10.0	-0.07	7.3	15.0
14.76	5.0E-05	0.02	24.2	1.85	6	23.1	73.5	96.6	33.5	34	30.0	10.0	-0.10	8.2	17.2
15.09	5.0E-06	0.07	14.6	2.87	6	14.5	57.9	72.3	49.0	UnDef	UnDef	5.8	UnDef	7.1	14.2
15.42	5.0E-05	0.04	23.5	2.15	6	22.9	91.7	114.6	35.8	34	30.0	10.0	-0.11	9.0	18.0
15.75	5.0E-06	0.03	17.6	2.48	6	17.5	70.2	87.7	43.1	UnDef	UnDef	7.7	UnDef	8.6	17.2
16.08	5.0E-05	0.01	18.2	1.77	6	18.3	73.3	91.6	38.0	32	30.0	8.1	-0.07	7.2	14.3
16.40	5.0E-05	0.06	14.4	1.77	6	14.8	59.2	73.9	42.6	32	30.0	5.6	-0.04	5.8	11.6
16.73	5.0E-05	0.05	12.0	1.10	6	12.6	50.6	63.2	40.6	30	30.0	4.3	0.01	4.9	9.9
17.06	5.0E-06	0.22	4.9	1.62	4	5.8	23.2	29.0	67.3	UnDef	UnDef	1.3	UnDef	2.8	5.7
17.39	5.0E-06	0.13	10.9	2.24	6	11.8	47.2	58.9	51.7	UnDef	UnDef	3.7	UnDef	5.8	11.5
17.72	5.0E-05	0.01	25.1	1.17	7	26.0	41.6	67.6	28.0	34	30.0	10.0	-0.07	6.4	16.6
18.04	5.0E-06	0.05	15.8	2.63	6	16.9	67.7	84.6	46.1	UnDef	UnDef	6.5	UnDef	8.3	16.6
18.37	5.0E-06	0.03	17.4	2.53	6	18.7	74.8	93.5	43.6	UnDef	UnDef	7.6	UnDef	9.1	18.3
18.70	5.0E-05	0.03	17.1	2.21	6	18.6	74.5	93.1	42.0	32	30.0	7.4	-0.08	7.3	14.6
19.03	5.0E-07	0.08	8.6	3.47	1	10.0	UnDef	UnDef	100.0	UnDef	UnDef	2.7	UnDef	UnDef	UnDef
19.36	5.0E-06	0.09	5.6	2.19	4	6.9	27.6	34.6	68.1	UnDef	UnDef	1.5	UnDef	3.4	6.8
19.68	1.0E-07	0.42	2.9	1.77	4	4.2	16.6	20.8	84.5	UnDef	UnDef	0.8	UnDef	2.0	4.1
20.01	1.0E-07	0.49	2.7	1.91	4	3.9	15.6	19.5	89.1	UnDef	UnDef	0.8	UnDef	1.9	3.8
20.34	5.0E-07	0.42	3.1	2.68	1	4.4	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
20.67	5.0E-05	0.06	11.4	1.59	6	13.4	53.5	66.9	46.0	30	30.0	4.0	-0.01	5.2	10.5
21.00	5.0E-06	0.10	7.0	2.04	4	8.7	34.6	43.3	61.2	UnDef	UnDef	2.0	UnDef	4.2	8.5
21.33	5.0E-07	0.35	3.6	2.00	4	5.0	20.2	25.2	79.8	UnDef	UnDef	1.0	UnDef	3.3	6.6
21.65	1.0E-07	0.44	2.8	1.67	4	4.2	16.9	21.2	84.8	UnDef	UnDef	0.8	UnDef	2.1	4.1
[illegible]98	1.0E-07	0.37	3.2	1.45	4	4.7	18.8	23.5	78.4	UnDef	UnDef	0.9	UnDef	2.3	4.6
[illegible]31	1.0E-07	0.42	2.7	1.96	4	4.2	16.7	20.9	88.6	UnDef	UnDef	0.8	UnDef	2.0	4.1
22.64	1.0E-07	0.12	4.2	1.09	4	5.8	23.3	29.1	66.6	UnDef	UnDef	1.1	UnDef	2.8	5.7
22.97	1.0E-07	0.37	3.0	1.37	4	4.5	18.1	22.7	79.9	UnDef	UnDef	0.8	UnDef	2.2	4.4
23.29	5.0E-07	0.28	4.3	2.60	4	6.0	24.0	30.0	79.2	UnDef	UnDef	1.1	UnDef	3.9	7.8
23.62	5.0E-05	0.02	12.5	1.98	6	15.5	62.1	77.6	46.9	30	30.0	4.6	-0.04	6.1	12.2
23.95	5.0E-06	0.08	6.7	2.94	4	8.9	35.7	44.6	68.1	UnDef	UnDef	1.9	UnDef	4.4	8.7
24.28	5.0E-06	0.19	6.0	2.61	4	8.1	32.4	40.5	69.4	UnDef	UnDef	1.6	UnDef	4.0	7.9
24.61	5.0E-05	0.04	13.0	2.10	6	16.4	65.5	81.9	47.0	30	30.0	4.8	-0.04	6.4	12.8
24.93	5.0E-06	0.05	9.4	2.54	4	12.2	49.0	61.2	57.1	UnDef	UnDef	3.0	UnDef	6.0	12.0
25.26	5.0E-06	0.17	5.6	2.62	4	7.8	31.3	39.1	71.3	UnDef	UnDef	1.5	UnDef	3.8	7.6
25.59	5.0E-07	0.39	3.1	3.44	1	4.9	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
25.92	5.0E-06	0.22	3.1	1.71	4	5.0	19.9	24.8	81.8	UnDef	UnDef	0.9	UnDef	2.4	4.9
26.25	1.0E-07	0.41	2.8	1.29	4	4.6	18.5	23.1	80.8	UnDef	UnDef	0.8	UnDef	2.3	4.5
26.57	1.0E-07	0.36	3.2	1.05	4	5.0	20.2	25.2	74.3	UnDef	UnDef	0.9	UnDef	2.5	4.9
26.90	1.0E-07	0.45	2.6	1.39	4	4.4	17.6	22.0	84.6	UnDef	UnDef	0.8	UnDef	2.2	4.3
27.23	1.0E-07	0.46	2.6	1.16	4	4.3	17.4	21.7	82.8	UnDef	UnDef	0.7	UnDef	2.1	4.3
27.56	1.0E-07	0.45	2.6	0.99	1	4.5	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
27.89	1.0E-07	0.52	2.3	1.13	1	4.1	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
28.21	1.0E-07	0.47	2.6	1.01	1	4.4	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
28.54	1.0E-07	0.38	3.1	1.04	4	5.1	20.3	25.3	75.2	UnDef	UnDef	0.8	UnDef	2.5	5.0
28.87	5.0E-06	0.27	3.7	1.80	4	5.9	23.6	29.5	77.0	UnDef	UnDef	1.0	UnDef	2.9	5.8
29.20	5.0E-06	0.10	5.9	1.47	4	8.5	34.1	42.6	61.0	UnDef	UnDef	1.6	UnDef	4.2	8.3
29.53	5.0E-06	0.22	4.0	2.30	4	6.2	25.0	31.2	79.2	UnDef	UnDef	1.1	UnDef	3.1	6.1
29.86	1.0E-07	0.48	2.5	1.67	4	4.4	17.5	21.9	89.7	UnDef	UnDef	0.7	UnDef	2.1	4.3
30.18	5.0E-06	0.26	3.8	0.91	4	6.0	24.1	30.2	67.2	UnDef	UnDef	1.0	UnDef	3.0	5.9
30.59	5.0E-06	0.31	3.5	1.71	4	5.7	23.0	28.7	78.1	UnDef	UnDef	0.9	UnDef	2.8	5.6
31.00	1.0E-07	0.46	2.7	1.37	4	4.7	19.0	23.7	83.4	UnDef	UnDef	0.8	UnDef	2.3	4.6
31.33	1.0E-07	0.44	2.6	1.07	4	4.6	18.5	23.1	81.3	UnDef	UnDef	0.7	UnDef	2.3	4.5
31.66	1.0E-07	0.66	1.9	1.32	4	3.7	14.9	18.6	96.2	UnDef	UnDef	0.6	UnDef	1.8	3.6
31.99	1.0E-07	0.52	2.4	1.68	4	4.4	17.5	21.9	91.3	UnDef	UnDef	0.7	UnDef	2.1	4.3
[illegible]32	5.0E-06	0.22	3.6	1.34	4	6.0	23.9	29.8	73.7	UnDef	UnDef	1.0	UnDef	2.9	5.8
[illegible]64	5.0E-06	0.28	3.5	1.30	4	5.8	23.2	29.1	74.5	UnDef	UnDef	0.9	UnDef	2.8	5.7
32.97	1.0E-07	0.45	2.6	1.27	4	4.7	18.9	23.6	83.7	UnDef	UnDef	0.7	UnDef	2.3	4.6
33.30	5.0E-07	0.57	2.2	2.55	1	4.3	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
33.63	5.0E-05	0.04	15.2	1.52	6	20.8	83.3	104.1	39.6	32	30.0	6.2	-0.04	8.2	16.3
33.96	5.0E-05	0.03	15.9	1.99	6	21.7	86.8	108.5	42.1	32	30.0	6.6	-0.06	8.5	17.0
34.28	5.0E-05	0.03	13.2	1.87	6	18.4	73.4	91.8	45.0	32	30.0	5.0	-0.04	7.2	14.4
34.61	5.0E-06	0.12	6.8	2.56	4	10.2	40.6	50.8	65.6	UnDef	UnDef	1.9	UnDef	5.0	9.9
34.94	5.0E-06	0.16	6.3	1.99	4	9.6	38.3	47.9	63.5	UnDef	UnDef	1.8	UnDef	4.7	9.4
35.27	5.0E-06	0.10	8.0	2.36	4	11.8	47.1	58.9	60.0	UnDef	UnDef	2.4	UnDef	5.8	11.5
35.60	5.0E-06	0.08	8.0	2.19	4	11.9	47.6	59.5	58.6	UnDef	UnDef	2.4	UnDef	5.8	11.6
35.92	5.0E-06	0.08	8.4	2.41	4	12.5	49.8	62.3	58.9	UnDef	UnDef	2.6	UnDef	6.1	12.2
36.25	5.0E-06	0.07	7.1	2.84	4	10.7	42.8	53.4	66.2	UnDef	UnDef	2.0	UnDef	5.2	10.5
36.58	5.0E-05	0.08	8.8	1.90	6	13.0	52.0	65.0	54.3	30	30.0	2.7	0.01	5.1	10.2
36.91	5.0E-06	0.09	8.0	2.33	4	12.0	48.0	59.9	59.7	UnDef	UnDef	2.4	UnDef	5.9	11.7
37.24	5.0E-07	0.30	3.2	4.00	1	5.8	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
37.57	5.0E-06	0.50	2.4	1.51	4	4.7	19.0	23.7	88.7	UnDef	UnDef	0.7	UnDef	2.3	4.6
37.89	5.0E-07	0.72	1.7	2.43	1	3.9	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
38.22	5.0E-04	0.05	19.7	1.62	6	27.5	110.1	137.6	35.5	34	30.3	1.0	-0.07	9.0	18.0
38.55	5.0E-02	0.00	114.5	0.50	9	152.5	3.5	156.0	5.8	42	79.4	1.0	-0.14	0.4	30.3
38.88	5.0E-02	0.00	135.0	0.60	9	180.1	2.9	183.0	5.6	44	84.1	1.0	-0.17	0.4	35.6
39.21	5.0E-02	0.00	129.0	0.71	9	172.7	8.3	181.0	6.7	44	82.9	1.0	-0.18	1.0	34.8
39.53	5.0E-02	0.00	129.9	0.88	9	174.3	14.4	188.8	7.9	44	83.2	1.0	-0.20	1.7	35.8
39.86	5.0E-02	0.00	146.9	1.07	9	197.5	18.8	216.3	8.3	44	86.8	1.0	-0.23	2.2	40.9
40.19	5.0E-02	0.00	186.0	1.08	9	250.4	12.8	263.2	6.8	44	93.6	1.0	-0.25	1.5	50.5
40.52	5.0E-03	0.00	180.6	1.98	9	243.8	50.7	294.5	11.4	44	92.8	1.0	-0.33	7.2	66.9
40.85	5.0E-04	0.00	170.3	2.58	7	230.6	76.1	306.6	14.3	44	91.2	1.0	-0.37	13.8	89.0
41.17	5.0E-04	0.00	114.6	3.00	7	156.0	95.6	251.6	19.2	42	80.0	1.0	-0.35	15.9	66.8
41.50	5.0E-05	-0.01	55.1	2.76	7	76.0	100.7	176.7	26.3	40	59.4	10.0	-0.25	16.5	46.2
41.83	5.0E-06	-0.02	19.5	3.58	6	28.1	112.6	140.7	46.6	UnDef	UnDef	9.1	UnDef	13.8	27.5
42.16	5.0E-07	0.00	12.2	4.22	1	18.2	UnDef	UnDef	100.0	UnDef	UnDef	4.4	UnDef	UnDef	UnDef
[illegible]49	5.0E-06	0.03	12.7	3.09	4	19.0	76.0	95.0	53.2	UnDef	UnDef	4.7	UnDef	9.3	18.6
[illegible]81	5.0E-05	0.05	20.0	2.28	6	28.9	115.8	144.7	39.5	34	31.7	9.4	-0.10	11.3	22.7
43.14	5.0E-03	0.01	57.2	1.44	7	79.9	47.3	127.2	18.9	40	60.8	1.0	-0.17	5.9	25.5
43.47	5.0E-04	0.00	50.7	1.90	7	71.2	66.5	137.7	23.1	38	57.5	1.0	-0.19	10.1	33.3
43.80	5.0E-03	0.00	46.1	1.53	7	65.0	54.4	119.4	22.1	38	54.9	1.0	-0.15	6.3	22.3
44.13	5.0E-03	0.00	51.0	0.79	7	71.9	27.8	99.7	15.4	38	57.8	1.0	-0.10	3.7	21.3
44.45	5.0E-02	0.00	63.7	0.54	9	89.7	16.7	106.4	10.9	40	64.2	1.0	-0.09	1.9	19.5
44.78	5.0E-03	0.00	41.1	1.17	7	58.6	44.1	102.7	21.1	38	51.9	1.0	-0.12	5.3	19.6
45.11	5.0E-03	0.00	41.1	1.28	7	58.7	48.2	107.0	21.9	38	52.0	1.0	-0.12	5.6	20.0
45.44	5.0E-03	0.00	41.6	0.99	7	59.6	37.7	97.3	19.5	38	52.4	1.0	-0.10	4.7	19.2
45.77	5.0E-03	0.00	46.8	0.60	9	67.0	22.9	89.9	14.5	38	55.8	1.0	-0.07	3.1	19.5
46.10	5.0E-02	0.00	52.8	0.36	9	75.5	0.0	75.5	5.0	40	59.2	1.0	-0.04	0.0	14.8
46.42	5.0E-02	0.00	52.3	0.35	9	75.0	0.0	75.0	5.0	38	59.0	1.0	-0.04	0.0	14.7
46.75	5.0E-03	0.00	42.7	0.38	9	61.8	0.0	61.8	5.0	38	53.5	1.0	-0.03	0.0	15.1
47.08	5.0E-02	0.00	41.3	0.29	9	60.0	0.0	60.0	5.0	38	52.6	1.0	-0.01	0.0	11.7
47.41	5.0E-02	0.00	50.3	0.30	9	72.7	0.0	72.7	5.0	38	58.1	1.0	-0.03	0.0	14.2
47.74	5.0E-02	0.00	56.1	0.33	9	81.1	0.0	81.1	5.0	40	61.3	1.0	-0.04	0.0	15.9
48.06	5.0E-02	0.00	71.5	0.32	9	103.2	0.0	103.2	5.0	40	68.2	1.0	-0.06	0.0	20.2
48.39	5.0E-02	0.00	76.5	0.26	9	110.5	0.0	110.5	5.0	40	70.1	1.0	-0.05	0.0	21.6
48.72	5.0E-02	0.00	90.5	0.31	9	130.6	0.0	130.6	5.0	42	74.9	1.0	-0.08	0.0	25.6
49.05	5.0E-02	0.00	87.1	0.38	9	126.1	0.0	126.1	5.0	42	73.9	1.0	-0.09	0.0	24.7
49.38	5.0E-02	0.00	64.2	0.44	9	93.7	0.0	93.7	5.0	40	65.4	1.0	-0.08	0.0	18.3
49.70	5.0E-02	0.00	42.8	0.41	9	63.3	0.0	63.3	5.0	38	54.2	1.0	-0.04	0.0	12.4
50.03	5.0E-03	0.00	25.5	0.41	7	38.5	0.0	38.5	5.0	34	39.9	1.0	0.01	0.0	9.4
50.36	5.0E-03	0.00	17.6	0.37	7	27.3	0.0	27.3	5.0	32	30.1	1.0	0.05	0.0	6.7
50.69	5.0E-04	0.00	12.6	0.35	7	20.1	0.0	20.1	5.0	30	30.0	1.0	0.08	0.0	6.6
51.02	5.0E-04	0.00	11.9	0.35	7	19.2	0.0	19.2	5.0	30	30.0	1.0	0.09	0.0	6.3
51.34	5.0E-04	0.00	11.7	0.33	7	18.9	0.0	18.9	5.0	30	30.0	1.0	0.09	0.0	6.2
51.67	5.0E-04	0.00	12.0	0.27	7	19.4	0.0	19.4	5.0	30	30.0	1.0	0.11	0.0	6.3
52.00	5.0E-04	0.00	11.9	0.27	7	19.3	0.0	19.3	5.0	30	30.0	1.0	0.11	0.0	6.3
52.33	5.0E-04	0.00	12.3	0.59	7	19.9	71.6	91.5	34.3	30	30.0	1.0	0.05	6.2	12.7
[illegible]66	5.0E-04	0.00	12.5	0.52	7	20.2	61.0	81.3	33.1	30	30.0	1.0	0.06	5.8	12.4
[illegible].98	5.0E-04	0.00	14.6	0.48	7	23.4	0.0	23.4	5.0	32	30.0	1.0	0.05	0.0	7.6
53.31	5.0E-05	0.01	11.1	1.35	6	18.3	73.1	91.3	44.7	30	30.0	3.8	0.00	7.2	14.3
53.64	5.0E-05	0.01	9.3	2.01	6	15.7	62.7	78.4	53.9	30	30.0	2.9	-0.01	6.1	12.3

Dch (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
53.97	5.0E-05	0.01	8.2	1.78	4	14.1	56.5	70.6	55.1	30	30.0	2.5	0.01	5.5	11.1
54.30	5.0E-05	0.00	8.5	1.51	6	14.5	58.1	72.7	52.2	30	30.0	2.6	0.02	5.7	11.4
54.63	5.0E-05	0.00	9.5	1.39	6	16.1	64.4	80.5	48.4	30	30.0	3.0	0.01	6.3	12.6
54.95	5.0E-04	0.00	12.3	0.99	6	20.3	81.4	101.7	39.0	30	30.0	1.0	0.01	6.6	13.3
55.28	5.0E-04	0.00	16.6	0.98	7	26.8	81.7	108.4	33.2	32	30.0	1.0	-0.02	7.8	16.5
55.61	5.0E-04	0.01	14.5	1.61	6	23.6	94.3	117.9	41.3	32	30.0	1.0	-0.04	7.7	15.4
55.94	5.0E-05	0.08	8.6	1.23	6	14.9	59.8	74.7	49.1	30	30.0	2.7	0.04	5.9	11.7
56.27	5.0E-05	0.20	4.9	0.80	4	9.4	37.6	47.0	58.4	30	30.0	1.3	0.13	3.7	7.4
56.59	5.0E-05	0.28	3.8	0.79	1	7.8	UnDef	UnDef	100.0	30	30.0	1.0	0.17	UnDef	UnDef
56.92	5.0E-05	0.32	3.3	0.72	1	7.0	UnDef	UnDef	100.0	30	30.0	0.9	0.19	UnDef	UnDef
57.25	5.0E-05	0.40	3.0	0.78	1	6.6	UnDef	UnDef	100.0	30	30.0	0.8	0.20	UnDef	UnDef
57.58	5.0E-05	0.39	3.1	0.75	1	6.8	UnDef	UnDef	100.0	30	30.0	0.9	0.20	UnDef	UnDef
57.91	5.0E-05	0.34	3.5	0.78	1	7.5	UnDef	UnDef	100.0	30	30.0	0.9	0.18	UnDef	UnDef
58.23	5.0E-05	0.34	3.6	1.06	4	7.6	30.3	37.9	70.6	30	30.0	1.0	0.16	3.0	5.9
58.56	5.0E-05	0.20	5.1	0.78	6	9.9	39.7	49.6	56.8	30	30.0	1.4	0.13	3.9	7.8
58.89	5.0E-05	0.19	5.2	0.73	6	10.0	39.9	49.9	56.0	30	30.0	1.4	0.13	3.9	7.8
59.22	5.0E-05	0.29	3.6	0.63	1	7.7	UnDef	UnDef	100.0	30	30.0	1.0	0.18	UnDef	UnDef
59.55	5.0E-05	0.49	2.6	0.79	1	6.2	UnDef	UnDef	100.0	30	30.0	0.8	0.23	UnDef	UnDef
59.87	5.0E-05	0.45	2.6	0.72	1	6.2	UnDef	UnDef	100.0	30	30.0	0.7	0.23	UnDef	UnDef
60.20	5.0E-05	0.39	2.9	0.79	1	6.6	UnDef	UnDef	100.0	30	30.0	0.8	0.21	UnDef	UnDef
60.53	5.0E-05	0.24	4.2	0.44	1	8.6	UnDef	UnDef	100.0	30	30.0	1.1	0.19	UnDef	UnDef
60.86	5.0E-05	0.21	4.6	0.36	1	9.2	UnDef	UnDef	100.0	30	30.0	1.2	0.19	UnDef	UnDef
61.19	5.0E-05	0.19	5.0	0.78	6	9.8	39.4	49.2	57.7	30	30.0	1.3	0.13	3.9	7.7
61.52	5.0E-05	0.19	4.8	2.11	4	9.7	38.6	48.3	71.8	30	30.0	1.3	0.08	3.8	7.6
61.84	5.0E-05	0.06	7.7	1.44	6	14.1	56.6	70.7	53.7	30	30.0	2.3	0.04	5.5	11.1
62.17	5.0E-05	0.17	3.9	1.59	4	8.3	33.3	41.6	73.6	30	30.0	1.0	0.11	3.3	6.5
62.50	5.0E-05	0.33	2.6	0.54	1	6.3	UnDef	UnDef	100.0	30	30.0	0.8	0.23	UnDef	UnDef
[illegible]83	5.0E-05	0.25	3.4	0.83	1	7.5	UnDef	UnDef	100.0	30	30.0	0.9	0.17	UnDef	UnDef
[illegible]16	5.0E-05	0.15	4.6	0.65	1	9.5	UnDef	UnDef	100.0	30	30.0	1.2	0.14	UnDef	UnDef
63.48	5.0E-05	0.32	2.6	0.77	1	6.3	UnDef	UnDef	100.0	30	30.0	0.7	0.21	UnDef	UnDef
63.81	5.0E-05	0.32	2.8	0.77	1	6.7	UnDef	UnDef	100.0	30	30.0	0.8	0.20	UnDef	UnDef
64.14	5.0E-05	0.19	4.7	1.18	4	9.6	38.5	48.1	64.2	30	30.0	1.3	0.11	3.8	7.5
64.47	5.0E-05	0.09	5.9	2.06	4	11.6	46.2	57.8	65.7	30	30.0	1.6	0.05	4.5	9.1
64.80	5.0E-06	0.20	4.0	2.54	4	8.6	34.4	43.0	80.6	UnDef	UnDef	1.1	UnDef	4.2	8.4
65.12	5.0E-05	0.07	7.1	2.16	4	13.4	53.7	67.1	61.6	30	30.0	2.0	0.03	5.3	10.5
65.45	5.0E-04	0.01	18.3	1.60	6	31.0	124.1	155.1	36.7	32	33.7	1.0	-0.06	10.1	20.2
65.78	5.0E-04	0.00	23.5	1.64	7	39.2	110.5	149.7	32.6	34	40.4	1.0	-0.09	11.0	23.8
66.11	5.0E-04	0.00	27.1	1.52	7	45.0	84.6	129.6	29.4	36	44.4	1.0	-0.10	10.1	24.8
66.44	5.0E-04	0.00	27.8	1.62	7	46.1	90.5	136.6	29.8	36	45.1	1.0	-0.11	10.6	25.7
66.76	5.0E-04	0.00	26.7	1.72	7	44.6	101.5	146.0	31.0	36	44.1	1.0	-0.11	11.2	25.7
67.09	5.0E-05	0.05	12.6	2.16	6	22.2	88.9	111.1	48.0	30	30.0	4.6	-0.04	8.7	17.4
67.42	5.0E-05	0.09	10.9	2.43	4	19.7	78.8	98.5	52.9	30	30.0	3.7	-0.03	7.7	15.4
67.75	5.0E-04	0.01	23.4	1.81	6	39.4	133.0	172.4	33.9	34	40.6	1.0	-0.10	12.0	24.9
68.08	5.0E-04	0.00	29.4	1.76	7	49.2	96.8	146.0	29.8	36	46.9	1.0	-0.12	11.4	27.4
68.40	5.0E-04	0.00	29.1	1.78	7	48.6	99.4	148.0	30.1	36	46.6	1.0	-0.12	11.5	27.4
68.73	5.0E-04	0.00	25.8	1.78	7	43.5	113.2	156.7	32.1	34	43.4	1.0	-0.11	11.7	25.9
69.06	5.0E-04	0.00	24.4	1.59	7	41.4	102.0	143.4	31.6	34	42.0	1.0	-0.09	10.8	24.3
69.39	5.0E-04	0.00	22.1	1.83	6	37.8	149.9	187.6	34.9	34	39.4	1.0	-0.09	12.3	24.6
69.72	5.0E-04	0.00	25.5	1.73	7	43.3	110.2	153.5	31.9	34	43.3	1.0	-0.10	11.5	25.6
70.05	5.0E-04	0.00	22.4	2.00	6	38.4	153.6	192.0	35.8	34	39.8	1.0	-0.10	12.5	25.1
70.37	5.0E-04	0.01	20.0	2.21	6	34.5	138.2	172.7	39.2	34	36.8	1.0	-0.10	11.3	22.5
70.70	5.0E-04	0.00	20.1	1.82	6	34.8	139.1	173.8	36.6	34	37.0	1.0	-0.08	11.3	22.7
71.03	5.0E-04	0.00	20.9	1.36	7	36.1	100.8	136.9	32.6	34	38.1	1.0	-0.06	10.1	21.8
71.36	5.0E-04	0.00	19.2	1.60	6	33.5	134.1	167.7	35.8	32	36.0	1.0	-0.07	10.9	21.9
71.69	5.0E-04	0.02	13.9	2.04	6	25.0	100.1	125.1	45.1	32	30.0	1.0	-0.05	8.2	16.3
72.01	5.0E-05	0.06	12.3	2.04	6	22.4	89.5	111.9	47.7	30	30.0	4.4	-0.03	8.8	17.5
72.34	5.0E-05	0.04	13.9	2.31	6	25.1	100.4	125.5	46.8	32	30.0	5.4	-0.06	9.8	19.7
72.67	5.0E-05	0.02	15.1	2.46	6	27.0	107.9	134.9	46.1	32	30.0	6.0	-0.07	10.6	21.1
[illegible]00	5.0E-05	0.01	12.9	2.18	6	23.6	94.4	117.9	47.5	32	30.0	4.8	-0.05	9.2	18.5
[illegible].33	5.0E-06	0.02	7.5	3.10	4	14.7	58.7	73.4	66.2	UnDef	UnDef	2.2	UnDef	7.2	14.4
73.65	5.0E-07	0.23	3.2	5.00	1	7.7	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
73.98	5.0E-06	0.40	2.8	3.96	1	7.1	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef

[illegible]ch (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
74.31	5.0E-05	0.10	6.2	2.76	4	12.7	50.9	63.6	69.2	30	30.0	1.7	0.03	5.0	10.0
74.64	5.0E-05	0.07	7.4	2.77	4	14.7	58.7	73.4	64.5	30	30.0	2.2	0.01	5.7	11.5
74.97	5.0E-06	0.09	5.3	3.15	1	11.3	UnDef	UnDef	100.0	UnDef	UnDef	1.4	UnDef	UnDef	UnDef
75.29	5.0E-06	0.36	2.8	3.78	1	7.1	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
75.62	5.0E-06	0.77	1.6	2.68	1	5.3	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
75.95	5.0E-05	0.86	1.5	1.33	1	5.0	UnDef	UnDef	100.0	30	30.0	0.6	0.39	UnDef	UnDef
76.28	5.0E-06	0.95	1.3	1.37	1	4.7	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
76.61	5.0E-06	0.96	1.3	2.78	1	4.7	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
76.93	5.0E-05	0.10	7.0	2.18	4	14.3	57.0	71.3	62.0	30	30.0	2.0	0.03	5.6	11.2
77.26	5.0E-05	0.01	10.9	1.98	6	20.7	82.6	103.3	50.0	30	30.0	3.7	-0.02	8.1	16.2
77.59	5.0E-05	0.03	7.2	2.77	4	14.6	58.3	72.9	65.3	30	30.0	2.1	0.01	5.7	11.4
77.92	5.0E-05	0.17	5.1	2.89	1	11.2	UnDef	UnDef	100.0	30	30.0	1.4	0.06	UnDef	UnDef
78.25	5.0E-05	0.17	4.0	2.46	4	9.3	37.1	46.4	80.2	30	30.0	1.1	0.10	3.6	7.3
78.58	5.0E-06	0.33	3.0	2.32	4	7.6	30.3	37.8	89.0	UnDef	UnDef	0.8	UnDef	3.7	7.4
78.90	5.0E-06	0.62	1.9	3.14	1	5.7	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
79.23	5.0E-05	0.56	2.0	1.42	4	6.1	24.2	30.3	93.9	30	30.0	0.6	0.25	2.4	4.7
79.56	5.0E-05	0.67	2.1	1.88	4	6.1	24.6	30.7	97.6	30	30.0	0.7	0.27	2.4	4.8
79.89	5.0E-05	0.67	2.1	1.70	4	6.2	24.7	30.9	95.7	30	30.0	0.7	0.27	2.4	4.8
80.22	5.0E-06	0.57	2.8	2.78	1	7.4	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
80.54	5.0E-05	0.05	2.9	2.07	4	7.6	30.4	38.0	87.3	30	30.0	0.8	0.12	3.0	6.0
80.87	5.0E-05	0.12	2.8	2.20	4	7.5	29.8	37.3	89.4	30	30.0	0.8	0.13	2.9	5.8
81.20	5.0E-05	0.15	3.1	2.04	4	8.0	31.8	39.8	84.9	30	30.0	0.9	0.13	3.1	6.2
81.53	5.0E-06	0.24	3.3	2.70	1	8.2	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
81.86	5.0E-06	0.24	3.2	4.11	1	8.2	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
82.18	5.0E-06	0.27	2.9	3.92	1	7.7	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
82.51	5.0E-06	0.28	2.9	2.69	1	7.6	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
82.84	5.0E-05	0.30	2.4	2.06	4	6.8	27.3	34.1	94.0	30	30.0	0.7	0.18	2.7	5.3
[illegible]17	5.0E-05	0.23	3.1	2.16	4	8.1	32.3	40.3	85.7	30	30.0	0.9	0.14	3.2	6.3
[illegible]50	5.0E-05	0.13	5.5	2.99	1	12.1	UnDef	UnDef	100.0	30	30.0	1.5	0.05	UnDef	UnDef
83.82	5.0E-06	0.09	7.6	3.82	1	15.7	UnDef	UnDef	100.0	UnDef	UnDef	2.2	UnDef	UnDef	UnDef
84.15	5.0E-08	0.15	9.7	5.38	1	19.3	UnDef	UnDef	100.0	UnDef	UnDef	3.1	UnDef	UnDef	UnDef
84.48	5.0E-04	0.01	22.6	2.43	6	41.5	166.1	207.6	38.0	34	42.1	1.0	-0.12	13.5	27.1
84.81	5.0E-04	-0.02	25.6	2.60	6	46.8	187.1	233.9	36.9	34	45.5	1.0	-0.15	15.3	30.5
85.14	5.0E-05	-0.02	23.4	2.94	6	43.1	172.3	215.3	40.2	34	43.1	10.0	-0.15	16.9	33.7
85.46	5.0E-04	-0.02	27.6	2.01	6	50.2	136.6	186.9	32.4	36	47.5	1.0	-0.13	13.8	30.2
85.79	5.0E-03	-0.02	33.8	1.34	7	61.1	69.0	130.2	24.9	36	53.2	1.0	-0.11	7.4	22.4
86.12	5.0E-03	-0.02	31.6	0.81	7	57.4	44.8	102.2	21.4	36	51.4	1.0	-0.06	5.3	19.4
86.45	5.0E-03	-0.02	28.4	0.98	7	51.9	56.4	108.3	24.5	36	48.5	1.0	-0.07	6.1	18.8
86.78	5.0E-03	-0.03	23.3	0.82	7	43.2	54.9	98.1	26.0	34	43.2	1.0	-0.04	5.7	16.3
87.11	5.0E-03	-0.03	18.2	0.85	7	34.3	71.5	105.9	30.3	32	36.6	1.0	-0.02	6.2	14.6
87.43	5.0E-03	-0.03	17.4	0.84	7	33.1	74.5	107.6	30.9	32	35.5	1.0	-0.01	6.2	14.3
87.76	5.0E-03	-0.03	16.4	0.79	7	31.4	69.3	100.7	30.8	32	34.1	1.0	0.00	5.8	13.5
88.09	5.0E-04	-0.04	13.7	0.91	6	26.7	106.7	133.4	36.1	32	30.0	1.0	0.00	8.7	17.4
88.42	5.0E-04	-0.05	11.6	2.02	6	23.1	92.4	115.5	48.8	30	30.0	1.0	-0.04	7.5	15.1
88.75	5.0E-04	-0.04	14.6	1.37	6	28.3	113.1	141.4	39.2	32	31.1	1.0	-0.03	9.2	18.5
89.07	5.0E-03	-0.04	16.1	0.65	7	31.0	63.8	94.8	30.2	32	33.7	1.0	0.01	5.5	13.1
89.40	5.0E-03	-0.04	17.6	0.70	7	33.7	61.5	95.3	29.2	32	36.1	1.0	0.00	5.6	13.8
89.73	5.0E-03	-0.03	21.5	0.78	7	40.6	56.3	96.9	26.8	34	41.4	1.0	-0.03	5.7	15.6
90.06	5.0E-03	-0.02	23.8	0.74	7	44.7	50.4	95.1	24.9	34	44.2	1.0	-0.03	5.4	16.4
90.39	5.0E-03	-0.02	23.8	0.77	7	44.7	52.3	97.0	25.2	34	44.2	1.0	-0.03	5.6	16.5
90.71	5.0E-03	-0.02	24.1	0.93	7	45.4	61.4	106.8	26.5	34	44.7	1.0	-0.05	6.2	17.4
91.04	5.0E-03	-0.02	24.0	0.69	7	45.2	47.5	92.7	24.2	34	44.5	1.0	-0.03	5.2	16.3
91.37	5.0E-03	-0.02	18.4	1.14	7	35.4	103.9	139.3	32.9	32	37.5	1.0	-0.04	7.6	16.2
91.70	5.0E-03	-0.01	19.4	1.10	7	37.2	91.9	129.2	31.7	34	39.0	1.0	-0.04	7.3	16.4
92.03	5.0E-03	-0.02	26.0	0.78	7	49.0	49.7	98.7	23.9	36	46.8	1.0	-0.04	5.5	17.5
92.35	5.0E-03	-0.02	33.3	0.90	7	62.0	49.1	111.1	21.6	36	53.6	1.0	-0.08	5.8	21.0
92.68	5.0E-03	-0.02	27.3	1.50	7	51.6	94.3	145.9	29.2	36	48.3	1.0	-0.10	8.6	21.2
93.01	5.0E-04	-0.02	16.7	1.43	6	32.6	130.5	163.2	37.1	32	35.2	1.0	-0.05	10.6	21.3
[illegible]34	5.0E-03	-0.03	13.0	0.61	7	26.0	83.2	109.2	33.5	32	30.0	1.0	0.04	5.8	12.2
[illegible].67	5.0E-05	-0.06	5.5	1.40	4	12.7	50.8	63.5	62.2	30	30.0	1.5	0.06	5.0	10.0
93.99	5.0E-04	-0.03	4.4	0.68	1	10.9	UnDef	UnDef	100.0	30	30.0	1.0	0.13	UnDef	UnDef
94.32	5.0E-05	0.03	3.1	1.47	4	8.4	33.7	42.1	80.3	30	30.0	0.8	0.13	3.3	6.6

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
94.65	5.0E-05	0.09	3.9	1.82	4	10.0	40.0	50.0	75.7	30	30.0	1.0	0.10	3.9	7.8

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.00.19M
Run No: 04-0401-1123-5615
Job No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-11
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/24/03
CPT Time: 12:03
CPT File: 717CP011.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 7.14 (ft): 23.4
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60 (blows/ft)	Su (tsf)	CRR
0.16	94.8	2.65	2.79	1.1	6	114.6	0.01	0.01	0.00	2.00	36.3	72.7	7.59	0.00
0.49	78.6	4.88	6.20	-2.2	11	130.5	0.03	0.03	0.00	2.00	75.3	150.6	UnDef	0.00
0.82	56.8	3.74	6.59	-17.0	11	130.5	0.05	0.05	0.00	2.00	54.4	108.8	UnDef	0.00
1.15	40.1	2.54	6.34	-19.1	3	111.4	0.07	0.07	0.00	2.00	38.4	76.8	3.20	0.00
1.48	31.8	1.93	6.09	-19.3	3	111.4	0.09	0.09	0.00	2.00	30.4	60.8	2.53	0.00
1.80	41.9	2.40	5.72	-8.9	3	111.4	0.11	0.11	0.00	2.00	40.1	80.2	3.34	0.00
2.13	53.1	2.70	5.08	-5.7	11	130.5	0.13	0.13	0.00	2.00	50.8	101.6	UnDef	0.00
2.46	41.7	2.44	5.86	-16.3	3	111.4	0.15	0.15	0.00	2.00	39.9	79.8	3.32	0.00
2.79	37.9	2.02	5.34	-6.2	3	111.4	0.17	0.17	0.00	2.00	36.3	72.5	3.01	0.00
3.12	42.6	2.52	5.92	-10.8	3	111.4	0.18	0.18	0.00	2.00	40.8	81.5	3.39	0.00
3.44	33.7	2.28	6.76	-20.3	3	111.4	0.20	0.20	0.00	2.00	32.2	64.5	2.68	0.00
3.77	48.3	2.81	5.82	3.4	3	111.4	0.22	0.22	0.00	2.00	46.3	92.5	3.85	0.00
4.10	66.4	3.74	5.64	0.9	11	130.5	0.24	0.24	0.00	2.00	63.6	127.2	UnDef	0.00
4.43	44.2	3.20	7.25	-18.2	3	111.4	0.26	0.26	0.00	1.96	42.3	83.0	3.51	0.00
4.76	44.6	2.73	6.13	-13.2	3	111.4	0.28	0.28	0.00	1.90	42.7	81.0	3.55	0.00
5.09	36.9	2.47	6.70	-16.2	3	111.4	0.30	0.30	0.00	1.84	35.3	64.9	2.93	0.00
5.41	40.9	2.47	6.04	-13.0	3	111.4	0.31	0.31	0.00	1.78	39.2	69.9	3.25	0.00
5.74	37.5	2.38	6.33	-11.5	3	111.4	0.33	0.33	0.00	1.73	35.9	62.3	2.97	0.00
6.07	38.4	2.23	5.82	-8.4	3	111.4	0.35	0.35	0.00	1.69	36.7	62.0	3.04	0.00
6.40	50.5	2.98	5.90	-1.5	3	111.4	0.37	0.37	0.00	1.65	48.3	79.5	4.01	0.00
6.73	39.5	2.71	6.87	-7.7	3	111.4	0.39	0.39	0.00	1.61	37.8	60.7	3.13	0.00
7.05	39.4	2.46	6.25	-2.7	3	111.4	0.41	0.41	0.00	1.57	37.7	59.2	3.12	0.00
7.38	49.0	2.49	5.08	-4.5	3	111.4	0.42	0.42	0.00	1.54	46.9	72.0	3.88	0.00
7.79	36.8	2.18	5.91	-17.5	3	111.4	0.45	0.45	0.00	1.50	35.2	52.7	2.91	0.00
8.20	26.3	1.40	5.34	-19.6	3	111.4	0.47	0.47	0.00	1.46	25.2	36.7	2.07	0.00
8.53	26.4	1.31	4.95	-10.5	3	111.4	0.49	0.49	0.00	1.43	25.3	36.2	2.08	0.00
8.86	32.8	1.77	5.39	-0.7	3	111.4	0.51	0.51	0.00	1.41	31.4	44.1	2.58	0.00
9.19	40.7	2.48	6.09	-9.5	3	111.4	0.52	0.52	0.00	1.38	39.0	53.9	3.22	0.00
9.51	44.5	2.65	5.95	16.6	3	111.4	0.54	0.54	0.00	1.36	42.7	57.9	3.52	0.00
9.84	40.5	2.50	6.17	16.9	3	111.4	0.56	0.56	0.00	1.33	38.8	51.8	3.19	0.00
10.17	28.2	2.10	7.43	1.2	3	111.4	0.58	0.58	0.00	1.31	27.0	35.5	2.21	0.00
10.50	26.1	1.87	7.16	-6.3	3	111.4	0.60	0.60	0.00	1.29	25.0	32.4	2.04	0.00
10.83	43.5	2.00	4.60	-2.3	4	114.6	0.62	0.62	0.00	1.27	27.7	35.3	3.43	0.00
11.15	40.9	2.11	5.14	-6.1	3	111.4	0.63	0.63	0.00	1.26	39.2	49.2	3.22	0.00
11.48	40.7	2.23	5.48	-8.3	3	111.4	0.65	0.65	0.00	1.24	39.0	48.3	3.20	0.00
11.81	44.4	2.56	5.76	-13.2	3	111.4	0.67	0.67	0.00	1.22	42.6	51.9	3.50	0.00
12.14	37.4	2.15	5.74	-13.5	3	111.4	0.69	0.69	0.00	1.20	35.9	43.2	2.94	0.00
12.47	36.6	1.72	4.70	-15.9	3	111.4	0.71	0.71	0.00	1.19	35.0	41.7	2.87	0.00
12.80	18.3	1.04	5.66	-15.3	3	111.4	0.73	0.73	0.00	1.17	17.5	20.6	1.41	0.00

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
13.12	19.6	0.83	4.22	-13.9	3	111.4	0.74	0.74	0.00	1.16	18.8	21.8	1.51	0.21
13.45	27.2	1.55	5.69	-13.7	3	111.4	0.76	0.76	0.00	1.15	26.1	29.8	2.12	0.00
13.78	28.2	1.85	6.58	-17.1	3	111.4	0.78	0.78	0.00	1.13	27.0	30.5	2.19	0.00
14.11	26.3	1.62	6.16	-17.3	3	111.4	0.80	0.80	0.00	1.12	25.2	28.2	2.04	0.00
14.44	27.4	1.66	6.06	-16.1	3	111.4	0.82	0.82	0.00	1.11	26.2	29.0	2.12	0.00
14.76	23.8	1.69	7.11	-15.4	3	111.4	0.84	0.84	0.00	1.09	22.7	24.9	1.83	0.00
15.09	18.7	1.19	6.39	-15.4	3	111.4	0.85	0.85	0.00	1.08	17.9	19.4	1.43	0.00
15.42	14.1	0.95	6.74	-14.6	3	111.4	0.87	0.87	0.00	1.07	13.5	14.4	1.05	0.00
15.75	32.4	2.03	6.28	-13.2	3	111.4	0.89	0.89	0.00	1.06	31.0	32.9	2.52	0.00
16.08	51.0	3.35	6.58	-17.3	3	111.4	0.91	0.91	0.00	1.05	48.8	51.2	4.01	0.00
16.40	37.1	2.43	6.55	-19.0	3	111.4	0.93	0.93	0.00	1.04	35.5	36.9	2.89	0.00
16.73	32.4	1.91	5.89	-19.6	3	111.4	0.95	0.95	0.00	1.03	31.1	31.9	2.52	0.00
17.06	17.9	1.25	6.98	-19.5	3	111.4	0.96	0.96	0.00	1.02	17.1	17.5	1.35	0.00
17.39	13.4	0.72	5.39	-19.5	3	111.4	0.98	0.98	0.00	1.01	12.8	12.9	0.99	0.00
17.72	11.9	0.83	6.98	-19.7	3	111.4	1.00	1.00	0.00	1.00	11.4	11.4	0.87	0.00
18.04	13.7	0.75	5.48	-19.0	3	111.4	1.02	1.02	0.00	0.99	13.1	13.0	1.02	0.00
18.37	8.3	0.79	9.43	-19.1	3	111.4	1.04	1.04	0.00	0.98	8.0	7.9	0.58	0.00
18.70	11.7	0.67	5.76	-17.8	3	111.4	1.06	1.06	0.00	0.97	11.2	10.9	0.85	0.00
19.03	9.9	0.61	6.16	-17.8	3	111.4	1.07	1.07	0.00	0.97	9.4	9.1	0.70	0.00
19.36	8.4	0.53	6.36	-16.1	3	111.4	1.09	1.09	0.00	0.96	8.0	7.7	0.58	0.00
19.68	8.1	0.46	5.65	-15.8	3	111.4	1.11	1.11	0.00	0.95	7.7	7.3	0.56	0.00
20.01	6.3	0.38	6.00	-15.3	3	111.4	1.13	1.13	0.00	0.94	6.1	5.7	0.42	0.00
20.34	8.7	0.65	7.42	-15.9	3	111.4	1.15	1.15	0.00	0.93	8.3	7.8	0.61	0.00
20.67	41.3	0.62	1.49	-15.2	7	117.8	1.17	1.17	0.00	0.93	13.2	12.2	UnDef	0.14
21.00	74.5	0.32	0.43	-13.3	8	120.9	1.18	1.18	0.00	0.92	17.8	16.4	UnDef	0.11
21.33	71.8	0.24	0.34	-1.2	8	120.9	1.20	1.20	0.00	0.91	17.2	15.7	UnDef	0.10
21.65	65.3	0.22	0.34	7.8	8	120.9	1.22	1.22	0.00	0.90	15.6	14.1	UnDef	0.10
[illegible]98	56.7	0.18	0.31	8.0	8	120.9	1.24	1.24	0.00	0.90	13.6	12.2	UnDef	0.09
[illegible]31	61.8	0.18	0.29	8.3	8	120.9	1.26	1.26	0.00	0.89	14.8	13.2	UnDef	0.09
22.64	63.3	0.23	0.36	7.2	8	120.9	1.28	1.28	0.00	0.88	15.2	13.4	UnDef	0.10
22.97	60.6	0.25	0.40	4.4	8	120.9	1.30	1.30	0.00	0.88	14.5	12.7	UnDef	0.09
23.29	61.1	0.37	0.61	2.2	8	120.9	1.32	1.32	0.00	0.87	14.6	12.7	UnDef	0.11
23.62	65.4	0.35	0.54	5.6	8	120.9	1.34	1.34	0.01	0.86	15.7	13.5	UnDef	0.12
23.95	73.1	0.24	0.32	9.0	8	120.9	1.36	1.35	0.02	0.86	17.5	15.1	UnDef	0.10
24.28	73.7	0.19	0.26	11.0	8	120.9	1.38	1.36	0.03	0.86	17.6	15.2	UnDef	0.10
24.61	74.1	0.21	0.28	11.0	8	120.9	1.40	1.37	0.04	0.86	17.7	15.2	UnDef	0.10
24.93	71.8	0.28	0.38	4.9	8	120.9	1.42	1.38	0.05	0.85	17.2	14.6	UnDef	0.10
25.26	53.0	0.58	1.10	-3.6	7	117.8	1.44	1.39	0.06	0.85	16.9	14.4	UnDef	0.13
25.59	16.9	0.64	3.79	6.1	4	114.6	1.46	1.39	0.07	0.85	10.8	9.2	1.24	0.00
25.92	10.1	0.40	3.92	13.8	3	111.4	1.48	1.40	0.08	0.84	9.7	8.2	0.69	0.00
26.25	7.1	0.09	1.20	62.1	5	114.6	1.50	1.41	0.09	0.84	3.4	2.9	0.45	0.00
26.57	17.1	0.11	0.62	56.8	6	114.6	1.52	1.42	0.10	0.84	6.5	5.5	1.24	0.11
26.90	36.9	0.19	0.50	30.9	7	117.8	1.54	1.43	0.11	0.84	11.8	9.9	UnDef	0.10
27.23	54.8	0.30	0.54	2.7	8	120.9	1.56	1.44	0.12	0.83	13.1	10.9	UnDef	0.11
27.56	52.1	0.46	0.89	6.4	7	117.8	1.58	1.45	0.13	0.83	16.6	13.8	UnDef	0.12
27.89	48.1	0.48	0.99	9.0	7	117.8	1.60	1.46	0.14	0.83	15.4	12.7	UnDef	0.12
28.21	37.1	0.50	1.34	9.6	7	117.8	1.61	1.46	0.15	0.83	11.9	9.8	UnDef	0.15
28.54	24.7	0.48	1.93	12.1	6	114.6	1.63	1.47	0.16	0.82	9.4	7.8	1.84	0.17
28.87	31.7	0.27	0.85	18.5	7	117.8	1.65	1.48	0.17	0.82	10.1	8.3	UnDef	0.11
29.20	48.2	0.20	0.42	-1.8	8	120.9	1.67	1.49	0.18	0.82	11.5	9.5	UnDef	0.09
29.53	36.9	0.42	1.14	0.9	7	117.8	1.69	1.50	0.19	0.82	11.8	9.6	UnDef	0.13
29.86	16.6	0.58	3.47	5.5	4	114.6	1.71	1.51	0.20	0.81	10.6	8.6	1.19	0.00
30.18	11.8	0.37	3.10	21.5	4	114.6	1.73	1.52	0.21	0.81	7.5	6.1	0.81	0.00
30.59	18.9	0.28	1.48	31.5	6	114.6	1.75	1.53	0.22	0.81	7.2	5.9	1.37	0.12
31.00	37.0	0.25	0.66	13.4	7	117.8	1.78	1.54	0.24	0.81	11.8	9.5	UnDef	0.10
31.33	50.1	0.17	0.34	3.2	8	120.9	1.80	1.55	0.25	0.80	12.0	9.6	UnDef	0.09
31.66	47.7	0.21	0.43	1.8	8	120.9	1.82	1.56	0.26	0.80	11.4	9.2	UnDef	0.08
31.99	37.7	0.33	0.86	8.3	7	117.8	1.84	1.57	0.27	0.80	12.0	9.6	UnDef	0.11
[illegible]32	36.2	0.37	1.02	5.1	7	117.8	1.86	1.58	0.28	0.80	11.6	9.2	UnDef	0.13
[illegible].64	47.6	0.41	0.85	-1.7	7	117.8	1.87	1.59	0.29	0.79	15.2	12.1	UnDef	0.12
32.97	51.7	0.43	0.82	3.8	7	117.8	1.89	1.60	0.30	0.79	16.5	13.1	UnDef	0.12
33.30	38.1	0.58	1.51	9.1	7	117.8	1.91	1.60	0.31	0.79	12.2	9.6	UnDef	0.23

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
33.63	18.5	0.54	2.90	18.4	5	114.6	1.93	1.61	0.32	0.79	8.9	7.0	1.32	0.11
33.96	22.2	0.31	1.40	22.6	6	114.6	1.95	1.62	0.33	0.79	8.5	6.7	1.62	0.14
34.28	22.1	0.17	0.77	19.7	6	114.6	1.97	1.63	0.34	0.78	8.5	6.6	1.61	0.14
34.61	14.0	0.10	0.68	23.0	6	114.6	1.99	1.64	0.35	0.78	5.4	4.2	0.96	0.09
34.94	6.9	0.04	0.51	54.6	1	111.4	2.01	1.65	0.36	0.78	3.3	2.6	0.39	0.00
35.27	5.3	0.04	0.67	81.4	1	111.4	2.03	1.66	0.37	0.78	2.5	2.0	0.26	0.00
35.60	6.1	0.03	0.49	49.3	1	111.4	2.04	1.66	0.38	0.78	2.9	2.3	0.33	0.00
35.92	4.6	0.03	0.55	38.4	1	111.4	2.06	1.67	0.39	0.77	2.2	1.7	0.20	0.00
36.25	4.8	0.02	0.42	69.0	1	111.4	2.08	1.68	0.40	0.77	2.3	1.8	0.21	0.00
36.58	5.1	0.03	0.59	85.2	1	111.4	2.10	1.69	0.41	0.77	2.4	1.9	0.24	0.00
36.91	5.6	0.04	0.72	88.5	1	111.4	2.12	1.70	0.42	0.77	2.7	2.0	0.28	0.00
37.24	6.3	0.05	0.79	103.8	1	111.4	2.13	1.70	0.43	0.77	3.0	2.3	0.34	0.00
37.57	6.9	0.06	0.79	105.3	1	111.4	2.15	1.71	0.44	0.76	3.3	2.5	0.38	0.00
37.89	8.6	0.06	0.64	103.8	6	114.6	2.17	1.72	0.45	0.76	3.3	2.5	0.51	0.08
38.22	15.5	0.04	0.26	74.2	6	114.6	2.19	1.73	0.46	0.76	5.9	4.5	1.06	0.00
38.55	22.1	0.10	0.45	6.3	7	117.8	2.21	1.74	0.47	0.76	7.1	5.4	UnDef	0.12
38.88	11.9	0.10	0.84	13.4	6	114.6	2.23	1.75	0.48	0.76	4.6	3.5	0.78	0.09
39.21	7.6	0.07	0.86	28.2	5	114.6	2.25	1.75	0.49	0.75	3.6	2.7	0.43	0.00
39.53	10.0	0.08	0.80	75.5	6	114.6	2.27	1.76	0.50	0.75	3.8	2.9	0.62	0.08
39.86	28.5	0.11	0.37	25.2	7	117.8	2.29	1.77	0.51	0.75	9.1	6.8	UnDef	0.00
40.19	27.5	0.09	0.33	0.2	7	117.8	2.30	1.78	0.52	0.75	8.8	6.6	UnDef	0.00
40.52	13.8	0.12	0.87	12.1	6	114.6	2.32	1.79	0.53	0.75	5.3	4.0	0.92	0.09
40.85	11.2	0.09	0.80	35.0	6	114.6	2.34	1.80	0.54	0.75	4.3	3.2	0.71	0.09
41.17	9.5	0.07	0.69	60.5	6	114.6	2.36	1.81	0.55	0.74	3.6	2.7	0.57	0.08
41.50	8.1	0.09	1.11	92.7	5	114.6	2.38	1.82	0.56	0.74	3.9	2.9	0.46	0.00
41.83	11.2	0.15	1.30	82.0	5	114.6	2.40	1.82	0.57	0.74	5.4	4.0	0.70	0.09
42.16	10.7	0.13	1.17	28.5	5	114.6	2.42	1.83	0.58	0.74	5.1	3.8	0.66	0.09
[illegible]49	8.4	0.12	1.37	33.6	5	114.6	2.44	1.84	0.59	0.74	4.0	3.0	0.48	0.08
[illegible]81	18.5	0.26	1.38	58.3	6	114.6	2.46	1.85	0.61	0.74	7.1	5.2	1.28	0.11
43.14	41.6	0.22	0.53	-6.7	7	117.8	2.47	1.86	0.62	0.73	13.3	9.7	UnDef	0.10
43.47	41.8	0.20	0.47	-12.5	7	117.8	2.49	1.87	0.63	0.73	13.4	9.8	UnDef	0.00
43.80	22.2	0.16	0.70	-14.8	6	114.6	2.51	1.88	0.64	0.73	8.5	6.2	1.57	0.13
44.13	10.4	0.06	0.58	-6.3	6	114.6	2.53	1.89	0.65	0.73	4.0	2.9	0.63	0.00
44.45	9.5	0.06	0.58	5.1	6	114.6	2.55	1.89	0.66	0.73	3.6	2.6	0.56	0.00
44.78	10.4	0.06	0.58	19.0	6	114.6	2.57	1.90	0.67	0.73	4.0	2.9	0.62	0.00
45.11	9.6	0.08	0.84	43.5	6	114.6	2.59	1.91	0.68	0.72	3.7	2.7	0.56	0.08
45.44	10.1	0.10	0.99	101.8	5	114.6	2.61	1.92	0.69	0.72	4.8	3.5	0.60	0.08
45.77	9.9	0.11	1.06	108.0	5	114.6	2.63	1.93	0.70	0.72	4.7	3.4	0.58	0.08
46.10	8.8	0.11	1.19	101.1	5	114.6	2.64	1.94	0.71	0.72	4.2	3.0	0.49	0.08
46.42	6.6	0.07	0.99	104.6	5	114.6	2.66	1.95	0.72	0.72	3.1	2.3	0.31	0.00
46.75	5.9	0.08	1.28	115.8	5	114.6	2.68	1.95	0.73	0.72	2.8	2.0	0.26	0.00
47.08	19.2	0.10	0.50	48.3	6	114.6	2.70	1.96	0.74	0.71	7.3	5.2	1.32	0.11
47.41	24.9	0.15	0.58	18.0	7	117.8	2.72	1.97	0.75	0.71	8.0	5.7	UnDef	0.14
47.74	27.0	0.07	0.26	22.9	7	117.8	2.74	1.98	0.76	0.71	8.6	6.1	UnDef	0.00
48.06	22.3	0.16	0.70	34.5	7	117.8	2.76	1.99	0.77	0.71	7.1	5.1	UnDef	0.12
48.39	29.2	0.14	0.46	34.3	7	117.8	2.78	2.00	0.78	0.71	9.3	6.6	UnDef	0.11
48.72	26.1	0.22	0.84	27.9	7	117.8	2.80	2.01	0.79	0.71	8.3	5.9	UnDef	0.15
49.05	25.4	0.12	0.45	37.9	7	117.8	2.82	2.02	0.80	0.70	8.1	5.7	UnDef	0.14
49.38	19.2	0.16	0.81	56.3	6	114.6	2.84	2.03	0.81	0.70	7.3	5.2	1.31	0.11
49.70	9.2	0.14	1.48	99.1	5	114.6	2.85	2.03	0.82	0.70	4.4	3.1	0.50	0.08
50.03	8.3	0.11	1.34	113.1	5	114.6	2.87	2.04	0.83	0.70	4.0	2.8	0.43	0.00
50.36	14.5	0.07	0.48	71.4	6	114.6	2.89	2.05	0.84	0.70	5.6	3.9	0.93	0.09
50.69	13.4	0.11	0.82	85.0	6	114.6	2.91	2.06	0.85	0.70	5.1	3.6	0.84	0.09
51.02	11.5	0.09	0.74	94.3	6	114.6	2.93	2.07	0.86	0.70	4.4	3.1	0.69	0.09
51.34	21.6	0.04	0.16	76.7	7	117.8	2.95	2.08	0.87	0.69	6.9	4.8	UnDef	0.00
51.67	19.5	0.08	0.41	69.7	7	117.8	2.97	2.09	0.88	0.69	6.2	4.3	UnDef	0.11
52.00	11.7	0.07	0.56	82.2	6	114.6	2.99	2.09	0.89	0.69	4.5	3.1	0.70	0.00
52.33	8.2	0.03	0.37	101.2	1	111.4	3.01	2.10	0.90	0.69	3.9	2.7	0.42	0.00
[illegible]66	8.9	0.05	0.56	109.0	6	114.6	3.02	2.11	0.91	0.69	3.4	2.4	0.47	0.00
[illegible]98	9.6	0.07	0.73	108.2	6	114.6	3.04	2.12	0.92	0.69	3.7	2.5	0.53	0.08
53.31	11.9	0.06	0.51	62.8	6	114.6	3.06	2.13	0.93	0.69	4.6	3.1	0.71	0.00
53.64	13.3	0.04	0.30	114.8	6	114.6	3.08	2.14	0.94	0.68	5.1	3.5	0.82	0.00

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
53.97	21.3	0.06	0.26	39.5	7	117.8	3.10	2.15	0.95	0.68	6.8	4.6	UnDef	0.11
54.30	11.6	0.06	0.52	77.2	6	114.6	3.12	2.15	0.96	0.68	4.4	3.0	0.68	0.00
54.63	11.4	0.04	0.31	100.0	6	114.6	3.14	2.16	0.97	0.68	4.4	3.0	0.66	0.00
54.95	9.0	0.05	0.50	118.4	6	114.6	3.16	2.17	0.98	0.68	3.4	2.3	0.46	0.00
55.28	18.8	0.14	0.72	68.7	6	114.6	3.17	2.18	0.99	0.68	7.2	4.9	1.25	0.10
55.61	23.0	0.30	1.29	49.3	6	114.6	3.19	2.19	1.00	0.68	8.8	5.9	1.58	0.12
55.94	42.0	0.23	0.55	15.1	7	117.8	3.21	2.20	1.01	0.67	13.4	9.0	UnDef	0.11
56.27	51.6	0.44	0.85	9.6	7	117.8	3.23	2.21	1.02	0.67	16.5	11.1	UnDef	0.14
56.59	78.8	0.61	0.77	21.0	8	120.9	3.25	2.22	1.04	0.67	18.9	12.7	UnDef	0.14
56.92	134.7	0.84	0.63	-1.1	9	124.1	3.27	2.23	1.05	0.67	25.8	17.3	UnDef	0.21
57.25	159.0	1.56	0.98	-3.6	9	124.1	3.29	2.24	1.06	0.67	30.4	20.4	UnDef	0.32
57.58	101.9	2.13	2.09	-17.9	7	117.8	3.31	2.25	1.07	0.67	32.5	21.7	UnDef	0.43
57.91	56.5	1.92	3.40	-20.8	5	114.6	3.33	2.25	1.08	0.67	27.1	18.0	4.26	0.00
58.23	44.5	0.56	1.26	-20.0	7	117.8	3.35	2.26	1.09	0.66	14.2	9.4	UnDef	0.36
58.56	38.0	0.17	0.44	4.8	7	117.8	3.37	2.27	1.10	0.66	12.1	8.0	UnDef	0.00
58.89	15.5	0.20	1.26	46.5	6	114.6	3.39	2.28	1.11	0.66	5.9	3.9	0.97	0.09
59.22	13.2	0.07	0.53	93.0	6	114.6	3.41	2.29	1.12	0.66	5.1	3.4	0.79	0.00
59.55	14.5	0.13	0.90	102.4	6	114.6	3.43	2.30	1.13	0.66	5.5	3.7	0.88	0.09
59.87	22.3	0.14	0.63	65.8	7	117.8	3.44	2.31	1.14	0.66	7.1	4.7	UnDef	0.11
60.20	28.7	0.26	0.91	48.2	7	117.8	3.46	2.32	1.15	0.66	9.2	6.0	UnDef	0.15
60.53	41.7	0.29	0.70	17.0	7	117.8	3.48	2.33	1.16	0.66	13.3	8.7	UnDef	0.14
60.86	45.4	0.47	1.04	1.2	7	117.8	3.50	2.33	1.17	0.65	14.5	9.5	UnDef	0.23
61.19	34.2	0.51	1.49	6.4	6	114.6	3.52	2.34	1.18	0.65	13.1	8.6	2.46	0.20
61.52	18.7	0.52	2.76	7.2	5	114.6	3.54	2.35	1.19	0.65	9.0	5.8	1.21	0.00
61.84	81.5	1.23	1.51	23.5	7	117.8	3.56	2.36	1.20	0.65	26.0	16.9	UnDef	0.26
62.17	182.8	4.17	2.28	24.5	7	117.8	3.58	2.37	1.21	0.65	58.4	37.9	UnDef	0.00
62.50	202.2	7.99	3.95	-24.3	12	120.9	3.60	2.38	1.22	0.65	96.8	62.8	UnDef	0.00
[illegible]83	192.3	10.31	5.36	-28.6	11	130.5	3.62	2.39	1.23	0.65	184.2	119.1	UnDef	0.00
[illegible]16	270.8	10.64	3.93	-29.7	12	120.9	3.64	2.40	1.24	0.65	129.6	83.7	UnDef	0.00
63.48	412.7	11.56	2.80	-31.0	12	120.9	3.66	2.41	1.25	0.64	197.6	127.3	UnDef	0.00

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.00.19M
Run No: 04-0401-1123-5615
Job No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-11
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/24/03
CPT Time: 12:03
CPT File: 717CP011.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 7.14 (ft): 23.4
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.16	5.0E-05	0.00	1000.0	2.79	12	181.6	UnDef	UnDef	0.0	50	95.0	10.0	-0.60	UnDef	UnDef
0.49	1.0E-15	0.00	1000.0	6.20	11	150.6	UnDef	UnDef	0.0	50	95.0	1.0	-1.44	UnDef	UnDef
0.82	1.0E-15	-0.01	1000.0	6.60	11	108.8	UnDef	UnDef	0.0	50	93.1	1.0	-1.69	UnDef	UnDef
1.15	5.0E-08	-0.01	565.7	6.35	11	76.8	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
1.48	5.0E-08	-0.02	355.7	6.11	11	60.8	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
1.80	5.0E-08	-0.01	389.2	5.74	11	80.2	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
2.13	1.0E-15	0.00	416.3	5.09	11	101.6	UnDef	UnDef	0.0	48	78.0	1.0	-0.84	UnDef	UnDef
2.46	5.0E-08	-0.01	282.5	5.88	11	79.8	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
2.79	5.0E-08	-0.01	228.1	5.36	11	72.5	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
3.12	5.0E-08	-0.01	230.9	5.95	11	81.5	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
3.44	5.0E-08	-0.02	165.8	6.80	11	64.5	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
3.77	5.0E-08	0.00	218.5	5.85	11	92.5	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
4.10	1.0E-15	0.00	275.8	5.66	11	127.2	UnDef	UnDef	0.0	46	75.4	1.0	-0.90	UnDef	UnDef
4.43	5.0E-08	-0.01	169.1	7.29	11	84.6	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
4.76	5.0E-08	-0.01	159.4	6.16	11	82.8	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
5.09	5.0E-08	-0.01	123.5	6.75	11	66.3	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
5.41	5.0E-08	-0.01	129.1	6.09	11	71.4	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
5.74	5.0E-08	-0.01	111.7	6.39	11	63.6	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
6.07	5.0E-08	-0.01	108.2	5.87	11	63.3	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
6.40	5.0E-08	0.00	135.6	5.94	11	81.2	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
6.73	5.0E-08	-0.01	100.8	6.94	11	62.0	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
7.05	5.0E-08	0.00	96.0	6.32	11	60.5	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
7.38	5.0E-08	0.00	114.5	5.12	11	73.6	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
7.79	5.0E-08	-0.02	81.3	5.99	11	53.8	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
8.20	5.0E-08	-0.02	55.0	5.43	6	37.5	150.1	187.7	35.9	UnDef	UnDef	10.0	UnDef	36.7	73.5
8.53	5.0E-08	-0.01	53.1	5.04	6	37.0	148.1	185.1	35.2	UnDef	UnDef	10.0	UnDef	36.2	72.5
8.86	5.0E-08	0.00	63.8	5.48	6	45.1	153.7	198.9	34.0	UnDef	UnDef	10.0	UnDef	41.3	85.5
9.19	5.0E-08	-0.01	76.7	6.17	11	55.0	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
9.51	5.0E-08	0.01	81.0	6.03	11	59.2	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
9.84	5.0E-08	0.01	71.1	6.25	11	52.9	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
10.17	5.0E-08	0.00	47.7	7.58	1	36.3	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
10.50	5.0E-08	-0.01	42.7	7.32	1	33.1	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
10.83	5.0E-07	0.00	69.5	4.67	6	54.2	114.2	168.4	30.4	UnDef	UnDef	10.0	UnDef	26.0	61.4
11.15	5.0E-08	0.00	63.5	5.23	6	50.3	155.1	205.3	33.3	UnDef	UnDef	10.0	UnDef	44.0	93.2
11.48	5.0E-08	-0.01	61.3	5.57	6	49.3	190.0	239.3	34.7	UnDef	UnDef	10.0	UnDef	47.6	95.9
11.81	5.0E-08	-0.01	65.2	5.85	11	53.1	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
12.14	5.0E-08	-0.01	53.3	5.85	1	44.1	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
12.47	5.0E-08	-0.01	50.7	4.79	6	42.6	170.2	212.8	35.0	UnDef	UnDef	10.0	UnDef	41.7	83.3
12.80	5.0E-08	-0.03	24.2	5.90	1	21.0	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef

[redacted]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
13.12	5.0E-08	-0.02	25.3	4.38	4	22.2	89.0	111.2	44.9	UnDef	UnDef	10.0	UnDef	21.8	43.5
13.45	5.0E-08	-0.02	34.7	5.86	1	30.5	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
13.78	5.0E-08	-0.02	35.1	6.77	1	31.2	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
14.11	5.0E-08	-0.02	31.9	6.35	1	28.8	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
14.44	5.0E-08	-0.02	32.5	6.25	1	29.6	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
14.76	5.0E-08	-0.02	27.4	7.37	1	25.4	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
15.09	5.0E-08	-0.03	20.9	6.69	1	19.8	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
15.42	5.0E-08	-0.03	15.1	7.19	1	14.7	UnDef	UnDef	100.0	UnDef	UnDef	6.1	UnDef	UnDef	UnDef
15.75	5.0E-08	-0.01	35.4	6.46	1	33.6	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
16.08	5.0E-08	-0.01	55.1	6.70	1	52.3	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
16.40	5.0E-08	-0.02	39.0	6.71	1	37.7	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
16.73	5.0E-08	-0.02	33.3	6.07	1	32.6	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
17.06	5.0E-08	-0.04	17.6	7.37	1	17.8	UnDef	UnDef	100.0	UnDef	UnDef	7.7	UnDef	UnDef	UnDef
17.39	5.0E-08	-0.05	12.6	5.82	1	13.2	UnDef	UnDef	100.0	UnDef	UnDef	4.6	UnDef	UnDef	UnDef
17.72	5.0E-08	-0.06	10.9	7.62	1	11.7	UnDef	UnDef	100.0	UnDef	UnDef	3.7	UnDef	UnDef	UnDef
18.04	5.0E-08	-0.05	12.5	5.92	1	13.3	UnDef	UnDef	100.0	UnDef	UnDef	4.5	UnDef	UnDef	UnDef
18.37	5.0E-08	-0.08	7.0	10.00	1	8.0	UnDef	UnDef	100.0	UnDef	UnDef	2.0	UnDef	UnDef	UnDef
18.70	5.0E-08	-0.05	10.1	6.33	1	11.1	UnDef	UnDef	100.0	UnDef	UnDef	3.3	UnDef	UnDef	UnDef
19.03	5.0E-08	-0.06	8.2	6.91	1	9.3	UnDef	UnDef	100.0	UnDef	UnDef	2.5	UnDef	UnDef	UnDef
19.36	5.0E-08	-0.07	6.7	7.31	1	7.8	UnDef	UnDef	100.0	UnDef	UnDef	1.9	UnDef	UnDef	UnDef
19.68	5.0E-08	-0.07	6.3	6.55	1	7.5	UnDef	UnDef	100.0	UnDef	UnDef	1.7	UnDef	UnDef	UnDef
20.01	5.0E-08	-0.09	4.6	7.30	1	5.8	UnDef	UnDef	100.0	UnDef	UnDef	1.2	UnDef	UnDef	UnDef
20.34	5.0E-08	-0.07	6.6	8.55	1	8.0	UnDef	UnDef	100.0	UnDef	UnDef	1.9	UnDef	UnDef	UnDef
20.67	5.0E-04	-0.01	34.4	1.54	7	37.4	48.0	85.4	26.0	36	39.1	1.0	-0.12	6.6	18.8
21.00	5.0E-03	-0.01	61.9	0.44	9	67.0	0.0	67.0	5.0	40	55.8	1.0	-0.07	0.0	16.4
21.33	5.0E-03	0.00	58.6	0.34	9	64.0	0.0	64.0	5.0	40	54.5	1.0	-0.05	0.0	15.7
21.65	5.0E-03	0.00	52.3	0.34	9	57.8	0.0	57.8	5.0	38	51.5	1.0	-0.04	0.0	14.1
[redacted]98	5.0E-03	0.00	44.5	0.32	9	49.7	0.0	49.7	5.0	38	47.2	1.0	-0.02	0.0	12.2
[redacted]31	5.0E-03	0.00	47.9	0.30	9	53.8	0.0	53.8	5.0	38	49.5	1.0	-0.02	0.0	13.2
22.64	5.0E-03	0.00	48.3	0.37	9	54.7	0.0	54.7	5.0	38	50.0	1.0	-0.04	0.0	13.4
22.97	5.0E-03	0.00	45.5	0.41	9	52.0	0.0	52.0	5.0	38	48.5	1.0	-0.04	0.0	12.7
23.29	5.0E-03	0.00	45.2	0.62	9	52.0	19.4	71.4	15.2	38	48.5	1.0	-0.07	2.6	15.3
23.62	5.0E-03	0.00	47.9	0.55	9	55.4	16.9	72.3	13.8	38	50.3	1.0	-0.07	2.3	15.9
23.95	5.0E-03	0.00	53.3	0.33	9	61.6	0.0	61.6	5.0	40	53.4	1.0	-0.04	0.0	15.1
24.28	5.0E-03	0.00	53.3	0.26	9	61.9	0.0	61.9	5.0	40	53.5	1.0	-0.02	0.0	15.2
24.61	5.0E-03	0.00	53.2	0.29	9	62.1	0.0	62.1	5.0	40	53.6	1.0	-0.03	0.0	15.2
24.93	5.0E-03	0.00	51.1	0.39	9	59.9	0.0	59.9	5.0	38	52.6	1.0	-0.05	0.0	14.6
25.26	5.0E-04	0.00	37.2	1.13	7	44.1	36.6	80.7	22.0	38	43.8	1.0	-0.10	5.7	20.1
25.59	5.0E-07	0.01	11.1	4.15	1	14.0	UnDef	UnDef	100.0	UnDef	UnDef	3.8	UnDef	UnDef	UnDef
25.92	5.0E-08	0.04	6.1	4.60	1	8.3	UnDef	UnDef	100.0	UnDef	UnDef	1.7	UnDef	UnDef	UnDef
26.25	5.0E-06	0.33	4.0	1.51	4	5.9	23.5	29.4	72.4	UnDef	UnDef	1.1	UnDef	2.9	5.7
26.57	5.0E-05	0.11	11.0	0.68	6	14.0	56.1	70.1	37.7	30	30.0	3.7	0.06	5.5	11.0
26.90	5.0E-04	0.02	24.8	0.52	7	30.3	24.4	54.7	21.7	34	33.0	1.0	0.00	3.8	13.7
27.23	5.0E-03	0.00	37.0	0.56	7	44.7	20.6	65.3	16.8	38	44.2	1.0	-0.05	2.7	13.6
27.56	5.0E-04	0.00	34.9	0.91	7	42.4	31.8	74.2	21.1	38	42.7	1.0	-0.08	5.1	18.9
27.89	5.0E-04	0.00	32.0	1.02	7	39.0	37.0	76.0	23.2	36	40.3	1.0	-0.08	5.6	18.3
28.21	5.0E-04	0.00	24.2	1.40	7	30.0	62.9	92.9	30.4	34	32.8	1.0	-0.08	7.2	17.0
28.54	5.0E-05	0.01	15.6	2.07	6	19.9	79.5	99.4	42.9	32	30.0	6.4	-0.07	7.8	15.6
28.87	5.0E-04	0.01	20.3	0.90	7	25.5	45.4	70.9	29.0	34	30.0	1.0	-0.03	5.6	13.9
29.20	5.0E-03	-0.01	31.2	0.43	7	38.6	0.0	38.6	5.0	36	40.0	1.0	-0.01	0.0	9.5
29.53	5.0E-04	0.00	23.5	1.19	7	29.5	54.3	83.8	29.3	34	32.3	1.0	-0.06	6.6	16.2
29.86	5.0E-07	0.00	9.9	3.87	1	13.2	UnDef	UnDef	100.0	UnDef	UnDef	3.2	UnDef	UnDef	UnDef
30.18	5.0E-07	0.05	6.6	3.64	1	9.4	UnDef	UnDef	100.0	UnDef	UnDef	1.9	UnDef	UnDef	UnDef
30.59	5.0E-05	0.04	11.2	1.64	6	15.0	59.9	74.8	46.7	30	30.0	3.9	-0.01	5.9	11.7
31.00	5.0E-04	0.01	22.9	0.70	7	29.2	33.2	62.4	24.9	34	32.0	1.0	-0.02	4.7	14.3
31.33	5.0E-03	0.00	31.2	0.35	7	39.4	0.0	39.4	5.0	36	40.6	1.0	0.00	0.0	9.6
31.66	5.0E-03	0.00	29.4	0.45	7	37.4	0.0	37.4	5.0	36	39.1	1.0	-0.01	0.0	9.2
31.99	5.0E-04	0.00	22.9	0.91	7	29.5	42.5	72.0	27.1	34	32.2	1.0	-0.04	5.6	15.2
[redacted]32	5.0E-04	0.00	21.8	1.08	7	28.2	53.3	81.5	29.5	34	31.0	1.0	-0.05	6.4	15.6
[redacted].64	5.0E-04	-0.01	28.9	0.89	7	37.0	35.9	72.9	23.4	36	38.8	1.0	-0.06	5.4	17.5
32.97	5.0E-04	0.00	31.2	0.86	7	40.1	33.5	73.5	22.0	36	41.0	1.0	-0.07	5.2	18.3
33.30	5.0E-04	0.00	22.6	1.59	7	29.4	86.8	116.3	33.0	34	32.2	1.0	-0.08	8.4	18.0

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
33.63	5.0E-06	0.02	10.3	3.24	4	14.2	57.0	71.2	58.9	UnDef	UnDef	3.4	UnDef	7.0	13.9
33.96	5.0E-05	0.02	12.5	1.54	6	17.0	68.2	85.2	43.7	30	30.0	4.5	-0.02	6.7	13.3
34.28	5.0E-05	0.01	12.4	0.85	6	17.0	67.8	84.8	37.3	30	30.0	4.5	0.02	6.6	13.3
34.61	5.0E-05	0.03	7.4	0.79	6	10.7	42.9	53.6	48.0	30	30.0	2.1	0.08	4.2	8.4
34.94	1.0E-07	0.28	2.9	0.72	1	5.2	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
35.27	1.0E-07	0.67	2.0	1.08	1	4.0	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
35.60	1.0E-07	0.29	2.4	0.74	1	4.6	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
35.92	1.0E-07	0.32	1.5	1.00	1	3.4	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
36.25	1.0E-07	0.65	1.6	0.75	1	3.6	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
36.58	1.0E-07	0.76	1.8	1.02	1	3.8	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
36.91	1.0E-07	0.68	2.0	1.17	1	4.2	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
37.24	1.0E-07	0.67	2.5	1.19	4	4.7	19.0	23.7	84.5	UnDef	UnDef	0.7	UnDef	2.3	4.6
37.57	1.0E-07	0.59	2.8	1.15	4	5.2	20.8	26.0	79.7	UnDef	UnDef	0.8	UnDef	2.5	5.1
37.89	5.0E-05	0.43	3.7	0.86	4	6.4	25.7	32.1	66.8	30	30.0	1.0	0.19	2.5	5.0
38.22	5.0E-05	0.14	7.7	0.30	1	11.5	UnDef	UnDef	100.0	30	30.0	2.3	0.15	UnDef	UnDef
38.55	5.0E-04	-0.01	11.5	0.50	7	16.4	60.2	76.7	34.4	30	30.0	1.0	0.06	5.2	10.5
38.88	5.0E-05	-0.01	5.6	1.03	4	8.8	35.4	44.2	57.9	30	30.0	1.5	0.08	3.5	6.9
39.21	5.0E-06	0.07	3.1	1.22	4	5.6	22.5	28.1	77.6	UnDef	UnDef	0.8	UnDef	2.7	5.5
39.53	5.0E-05	0.24	4.4	1.03	4	7.4	29.6	37.0	64.3	30	30.0	1.2	0.13	2.9	5.8
39.86	5.0E-04	0.01	14.8	0.40	7	21.0	0.0	21.0	5.0	32	30.0	1.0	0.06	0.0	6.8
40.19	5.0E-04	-0.02	14.1	0.36	7	20.2	0.0	20.2	5.0	32	30.0	1.0	0.07	0.0	6.6
40.52	5.0E-05	-0.01	6.4	1.05	6	10.1	40.4	50.5	54.3	30	30.0	1.8	0.07	4.0	7.9
40.85	5.0E-05	0.06	4.9	1.02	4	8.2	32.7	40.9	60.9	30	30.0	1.3	0.10	3.2	6.4
41.17	5.0E-05	0.19	3.9	0.92	4	6.9	27.5	34.4	66.2	30	30.0	1.0	0.14	2.7	5.4
41.50	5.0E-06	0.41	3.2	1.57	4	5.9	23.6	29.5	80.2	UnDef	UnDef	0.9	UnDef	2.9	5.8
41.83	5.0E-06	0.23	4.8	1.65	4	8.1	32.5	40.6	68.0	UnDef	UnDef	1.3	UnDef	4.0	7.9
42.16	5.0E-06	0.04	4.5	1.51	4	7.7	30.9	38.7	68.7	UnDef	UnDef	1.2	UnDef	3.8	7.6
[illegible]49	5.0E-06	0.08	3.2	1.93	4	6.1	24.2	30.3	82.8	UnDef	UnDef	0.9	UnDef	3.0	5.9
[illegible]81	5.0E-05	0.08	8.7	1.59	6	13.3	53.2	66.5	52.3	30	30.0	2.7	0.02	5.2	10.4
43.14	5.0E-04	-0.02	21.0	0.55	7	29.9	33.0	62.9	24.7	34	32.6	1.0	0.00	4.8	14.5
43.47	5.0E-04	-0.03	21.1	0.50	7	30.0	0.0	30.0	5.0	34	32.7	1.0	0.01	0.0	9.8
43.80	5.0E-05	-0.06	10.5	0.79	6	15.8	63.3	79.1	40.1	30	30.0	3.5	0.04	6.2	12.4
44.13	5.0E-05	-0.11	4.2	0.75	1	7.4	UnDef	UnDef	100.0	30	30.0	1.1	0.12	UnDef	UnDef
44.45	5.0E-05	-0.07	3.7	0.79	1	6.8	UnDef	UnDef	100.0	30	30.0	1.0	0.13	UnDef	UnDef
44.78	5.0E-05	-0.01	4.1	0.77	1	7.4	UnDef	UnDef	100.0	30	30.0	1.1	0.13	UnDef	UnDef
45.11	5.0E-05	0.10	3.7	1.15	4	6.8	27.1	33.9	71.2	30	30.0	1.0	0.13	2.7	5.3
45.44	5.0E-06	0.33	3.9	1.34	4	7.1	28.5	35.6	71.3	UnDef	UnDef	1.0	UnDef	3.5	7.0
45.77	5.0E-06	0.37	3.8	1.45	4	7.0	27.9	34.9	73.5	UnDef	UnDef	1.0	UnDef	3.4	6.8
46.10	5.0E-06	0.40	3.2	1.71	4	6.2	24.8	31.0	81.3	UnDef	UnDef	0.9	UnDef	3.0	6.1
46.42	5.0E-06	0.65	2.0	1.67	4	4.6	18.4	23.0	97.2	UnDef	UnDef	0.6	UnDef	2.3	4.5
46.75	5.0E-06	0.90	1.6	2.35	1	4.1	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
47.08	5.0E-05	0.05	8.4	0.58	6	13.4	53.6	66.9	42.0	30	30.0	2.6	0.09	5.2	10.5
47.41	5.0E-04	-0.01	11.3	0.65	6	17.4	69.5	86.9	36.9	30	30.0	1.0	0.05	5.7	11.3
47.74	5.0E-04	0.00	12.2	0.29	7	18.8	0.0	18.8	5.0	30	30.0	1.0	0.10	0.0	6.1
48.06	5.0E-04	0.02	9.8	0.79	6	15.5	62.0	77.5	41.4	30	30.0	1.0	0.05	5.1	10.1
48.39	5.0E-04	0.01	13.2	0.51	7	20.2	51.2	71.5	31.9	32	30.0	1.0	0.05	5.4	12.0
48.72	5.0E-04	0.00	11.6	0.95	6	18.0	72.2	90.2	39.7	30	30.0	1.0	0.02	5.9	11.8
49.05	5.0E-04	0.02	11.2	0.51	7	17.5	70.3	87.8	35.0	30	30.0	1.0	0.07	5.7	11.4
49.38	5.0E-05	0.06	8.1	0.95	6	13.2	52.7	65.9	47.7	30	30.0	2.4	0.06	5.2	10.3
49.70	5.0E-06	0.36	3.1	2.15	4	6.3	25.1	31.4	86.1	UnDef	UnDef	0.8	UnDef	3.1	6.1
50.03	5.0E-06	0.50	2.6	2.05	4	5.7	22.6	28.3	90.8	UnDef	UnDef	0.8	UnDef	2.8	5.5
50.36	5.0E-05	0.12	5.7	0.60	6	9.9	39.7	49.6	51.7	30	30.0	1.5	0.13	3.9	7.8
50.69	5.0E-05	0.17	5.1	1.05	4	9.1	36.5	45.7	60.5	30	30.0	1.4	0.11	3.6	7.2
51.02	5.0E-05	0.24	4.2	0.99	4	7.8	31.4	39.2	65.5	30	30.0	1.1	0.14	3.1	6.1
51.34	5.0E-04	0.08	9.0	0.19	1	14.7	UnDef	UnDef	100.0	30	30.0	1.0	0.17	UnDef	UnDef
51.67	5.0E-04	0.08	7.9	0.49	6	13.2	52.7	65.9	41.9	30	30.0	1.0	0.11	4.3	8.6
52.00	5.0E-05	0.19	4.2	0.75	1	7.9	UnDef	UnDef	100.0	30	30.0	1.1	0.15	UnDef	UnDef
52.33	1.0E-07	0.43	2.5	0.53	1	5.5	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
[illegible]66	5.0E-05	0.42	2.8	0.85	1	6.0	UnDef	UnDef	100.0	30	30.0	0.8	0.21	UnDef	UnDef
[illegible]98	5.0E-05	0.37	3.1	1.06	4	6.5	25.9	32.4	75.1	30	30.0	0.9	0.18	2.5	5.1
53.31	5.0E-05	0.12	4.1	0.68	1	8.0	UnDef	UnDef	100.0	30	30.0	1.1	0.15	UnDef	UnDef
53.64	5.0E-05	0.26	4.8	0.39	1	8.9	UnDef	UnDef	100.0	30	30.0	1.3	0.19	UnDef	UnDef

[redacted]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
53.97	5.0E-04	0.02	8.5	0.30	7	14.2	57.0	71.2	37.1	30	30.0	1.0	0.13	4.6	9.3
54.30	5.0E-05	0.17	3.9	0.71	1	7.7	UnDef	UnDef	100.0	30	30.0	1.0	0.16	UnDef	UnDef
54.63	5.0E-05	0.26	3.8	0.42	1	7.6	UnDef	UnDef	100.0	30	30.0	1.0	0.20	UnDef	UnDef
54.95	5.0E-05	0.47	2.7	0.78	1	5.9	UnDef	UnDef	100.0	30	30.0	0.8	0.23	UnDef	UnDef
55.28	5.0E-05	0.07	7.2	0.87	6	12.5	49.8	62.3	49.5	30	30.0	2.1	0.08	4.9	9.7
55.61	5.0E-05	0.03	9.0	1.50	6	15.2	60.8	76.0	50.5	30	30.0	2.8	0.02	5.9	11.9
55.94	5.0E-04	-0.01	17.7	0.59	7	27.7	43.5	71.2	27.9	32	30.5	1.0	0.01	5.6	14.6
56.27	5.0E-04	-0.01	21.9	0.91	7	34.0	53.0	87.0	27.8	34	36.4	1.0	-0.04	6.8	17.9
56.59	5.0E-03	-0.01	34.1	0.80	7	51.8	36.0	87.8	20.4	36	48.4	1.0	-0.07	4.4	17.1
56.92	5.0E-02	-0.01	59.0	0.64	9	88.3	22.3	110.6	12.5	40	63.7	1.0	-0.10	2.5	19.8
57.25	5.0E-02	-0.01	69.6	1.00	9	104.0	32.5	136.5	13.9	40	68.4	1.0	-0.15	3.6	23.9
57.58	5.0E-04	-0.02	43.9	2.16	7	66.5	88.5	155.1	26.4	38	55.6	1.0	-0.19	12.1	33.8
57.91	5.0E-06	-0.03	23.6	3.62	6	36.8	147.4	184.2	43.1	UnDef	UnDef	10.0	UnDef	18.0	36.1
58.23	5.0E-04	-0.04	18.2	1.36	6	29.0	116.1	145.1	35.0	32	31.8	1.0	-0.05	9.5	18.9
58.56	5.0E-04	-0.03	15.2	0.48	7	24.7	0.0	24.7	5.0	32	30.0	1.0	0.04	0.0	8.0
58.89	5.0E-05	0.03	5.3	1.62	4	10.0	40.1	50.1	65.2	30	30.0	1.4	0.07	3.9	7.8
59.22	5.0E-05	0.18	4.3	0.71	1	8.6	UnDef	UnDef	100.0	30	30.0	1.1	0.15	UnDef	UnDef
59.55	5.0E-05	0.19	4.8	1.18	4	9.3	37.4	46.7	63.5	30	30.0	1.3	0.11	3.7	7.3
59.87	5.0E-04	0.05	8.2	0.75	6	14.3	57.3	71.7	45.0	30	30.0	1.0	0.07	4.7	9.4
60.20	5.0E-04	0.01	10.9	1.03	6	18.5	73.9	92.3	41.9	30	30.0	1.0	0.02	6.0	12.0
60.53	5.0E-04	-0.02	16.4	0.76	7	26.8	61.4	88.1	31.1	32	30.0	1.0	0.00	6.7	15.5
60.86	5.0E-04	-0.03	18.0	1.12	7	29.1	88.3	117.4	33.2	32	31.9	1.0	-0.04	8.4	17.9
61.19	5.0E-05	-0.03	13.1	1.66	5	21.9	87.5	109.4	43.7	32	30.0	4.9	-0.03	8.6	17.1
61.52	5.0E-06	-0.06	6.5	3.40	1	11.9	UnDef	UnDef	100.0	UnDef	UnDef	1.8	UnDef	UnDef	UnDef
61.84	5.0E-04	-0.01	33.0	1.58	7	51.9	73.1	125.0	26.9	36	48.5	1.0	-0.12	9.8	26.7
62.17	5.0E-04	0.00	75.6	2.33	7	116.2	83.1	199.3	20.6	40	71.6	1.0	-0.26	13.4	51.3
62.50	1.0E-15	-0.01	83.5	4.03	6	128.3	166.2	294.5	26.1	42	74.4	1.0	-0.40	34.2	97.0
[redacted]83	1.0E-15	-0.01	79.0	5.46	11	121.7	UnDef	UnDef	0.0	42	72.9	1.0	-0.58	UnDef	UnDef
[redacted]16	1.0E-15	-0.01	111.3	3.98	12	171.0	UnDef	UnDef	0.0	42	82.7	1.0	-0.44	UnDef	UnDef
63.48	1.0E-15	-0.01	169.7	2.83	7	260.2	98.0	358.1	15.2	44	94.7	1.0	-0.39	26.3	153.6

Interpretation Output - Release 1.00.19M
[redacted] No: 04-0401-1123-5670
[redacted] No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-9
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/24/03
CPT Time: 13:20
CPT File: 717CP009.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 2.05 (ft): 6.7
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
0.16	90.9	0.34	0.37	0.6	8	120.9	0.01	0.01	0.00	2.00	21.8	43.5	UnDef	0.00
0.49	96.0	1.28	1.33	0.4	8	120.9	0.03	0.03	0.00	2.00	23.0	46.0	UnDef	0.00
0.82	256.0	2.30	0.90	0.3	9	124.1	0.05	0.05	0.00	2.00	49.0	98.1	UnDef	0.00
1.15	293.7	2.75	0.94	-0.3	9	124.1	0.07	0.07	0.00	2.00	56.3	112.5	UnDef	0.00
[illegible]48	384.1	3.89	1.01	-0.6	9	124.1	0.09	0.09	0.00	2.00	73.6	147.1	UnDef	0.00
[illegible]80	398.6	5.71	1.43	2.7	9	124.1	0.11	0.11	0.00	2.00	76.3	152.7	UnDef	0.00
2.13	307.1	4.44	1.45	2.7	8	120.9	0.13	0.13	0.00	2.00	73.5	147.0	UnDef	0.00
2.46	311.4	1.60	0.52	0.1	10	127.3	0.15	0.15	0.00	2.00	49.7	99.4	UnDef	0.00
2.79	273.8	2.14	0.78	6.2	9	124.1	0.17	0.17	0.00	2.00	52.4	104.9	UnDef	0.00
3.12	255.0	2.40	0.94	1.4	9	124.1	0.19	0.19	0.00	2.00	48.8	97.7	UnDef	0.00
3.44	293.4	2.50	0.85	2.5	9	124.1	0.21	0.21	0.00	2.00	56.2	112.4	UnDef	0.00
3.77	343.4	3.40	0.99	0.4	9	124.1	0.23	0.23	0.00	2.00	65.8	131.5	UnDef	0.00
4.10	327.0	3.43	1.05	-2.8	9	124.1	0.25	0.25	0.00	1.99	62.6	124.4	UnDef	0.00
4.43	294.0	2.97	1.01	-6.5	9	124.1	0.27	0.27	0.00	1.91	56.3	107.6	UnDef	0.00
4.76	242.8	2.35	0.97	-10.0	9	124.1	0.29	0.29	0.00	1.84	46.5	85.7	UnDef	0.00
5.09	178.9	1.69	0.95	-8.7	9	124.1	0.31	0.31	0.00	1.78	34.3	61.1	UnDef	0.00
5.41	144.5	1.25	0.87	-8.6	9	124.1	0.33	0.33	0.00	1.73	27.7	47.8	UnDef	0.00
5.74	126.3	0.64	0.50	-11.1	9	124.1	0.36	0.36	0.00	1.68	24.2	40.6	UnDef	0.00
6.07	100.0	0.59	0.59	-5.5	8	120.9	0.38	0.38	0.00	1.63	24.0	39.1	UnDef	0.46
6.40	97.1	0.59	0.60	-3.1	8	120.9	0.40	0.40	0.00	1.59	23.2	37.0	UnDef	0.40
6.73	88.1	0.45	0.51	0.5	8	120.9	0.42	0.42	0.00	1.55	21.1	32.7	UnDef	0.30
7.05	57.0	0.22	0.38	0.3	8	120.9	0.43	0.43	0.01	1.53	13.6	20.9	UnDef	0.14
7.38	34.4	0.20	0.57	2.9	7	117.8	0.45	0.43	0.02	1.52	11.0	16.7	UnDef	0.10
7.79	23.6	0.10	0.40	3.7	7	117.8	0.48	0.45	0.03	1.50	7.5	11.3	UnDef	0.08
8.20	20.9	0.06	0.29	6.5	7	117.8	0.50	0.46	0.05	1.48	6.7	9.9	UnDef	0.08
8.53	27.4	0.06	0.20	0.7	7	117.8	0.52	0.47	0.06	1.46	8.8	12.8	UnDef	0.09
8.86	27.3	0.09	0.31	2.8	7	117.8	0.54	0.48	0.07	1.45	8.7	12.6	UnDef	0.09
9.19	43.0	1.39	3.23	3.6	5	114.6	0.56	0.48	0.08	1.44	20.6	29.6	3.39	0.23
9.51	39.4	1.43	3.63	4.4	5	114.6	0.58	0.49	0.09	1.42	18.9	26.9	3.10	0.25
9.84	13.3	0.38	2.83	7.9	5	114.6	0.60	0.50	0.10	1.41	6.4	9.0	1.02	0.15
10.17	7.5	0.07	0.94	9.7	5	114.6	0.62	0.51	0.11	1.40	3.6	5.0	0.55	0.09
10.50	5.3	0.11	2.10	10.4	4	114.6	0.64	0.52	0.12	1.39	3.4	4.7	0.37	0.08
10.83	12.6	0.07	0.56	4.9	6	114.6	0.65	0.53	0.13	1.38	4.8	6.6	0.95	0.08
11.15	17.2	0.07	0.41	-0.4	6	114.6	0.67	0.54	0.14	1.37	6.6	9.0	1.32	0.00
11.48	20.2	0.10	0.47	7.8	7	117.8	0.69	0.54	0.15	1.36	6.4	8.7	UnDef	0.00
[illegible]81	25.4	0.07	0.28	-0.8	7	117.8	0.71	0.55	0.16	1.34	8.1	10.9	UnDef	0.08
[illegible]14	35.7	0.15	0.41	4.4	7	117.8	0.73	0.56	0.17	1.33	11.4	15.2	UnDef	0.09
12.47	60.4	0.28	0.46	5.2	8	120.9	0.75	0.57	0.18	1.32	14.5	19.1	UnDef	0.12
12.80	60.9	0.46	0.76	6.6	8	120.9	0.77	0.58	0.19	1.31	14.6	19.1	UnDef	0.14

[illegible]ch (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUi (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
13.12	51.4	0.44	0.85	6.9	7	117.8	0.79	0.59	0.20	1.30	16.4	21.4	UnDef	0.12
13.45	40.3	0.25	0.61	8.6	7	117.8	0.81	0.60	0.21	1.29	12.9	16.6	UnDef	0.10
13.78	30.0	0.12	0.38	11.8	7	117.8	0.83	0.61	0.22	1.28	9.6	12.3	UnDef	0.08
14.11	25.6	0.10	0.37	10.2	7	117.8	0.85	0.62	0.23	1.27	8.2	10.4	UnDef	0.08
14.44	26.0	0.15	0.56	15.6	7	117.8	0.87	0.63	0.24	1.26	8.3	10.5	UnDef	0.09
14.76	27.3	0.18	0.64	19.6	7	117.8	0.89	0.64	0.25	1.25	8.7	10.9	UnDef	0.09
15.09	25.7	0.15	0.59	16.9	7	117.8	0.91	0.65	0.26	1.25	8.2	10.2	UnDef	0.09
15.42	21.2	0.11	0.52	19.9	7	117.8	0.93	0.65	0.27	1.24	6.8	8.4	UnDef	0.09
15.75	20.9	0.16	0.77	18.4	6	114.6	0.94	0.66	0.28	1.23	8.0	9.8	1.59	0.09
16.08	22.3	0.16	0.72	19.9	6	114.6	0.96	0.67	0.29	1.22	8.5	10.4	1.71	0.09
16.40	29.5	0.14	0.46	23.0	7	117.8	0.98	0.68	0.30	1.21	9.4	11.4	UnDef	0.08
16.73	42.1	0.09	0.20	16.5	8	120.9	1.00	0.69	0.31	1.20	10.1	12.1	UnDef	0.09
17.06	45.8	0.20	0.43	19.4	8	120.9	1.02	0.70	0.32	1.20	11.0	13.1	UnDef	0.09
17.39	42.6	0.34	0.80	33.2	7	117.8	1.04	0.71	0.33	1.19	13.6	16.1	UnDef	0.11
17.72	49.9	0.53	1.05	35.5	7	117.8	1.06	0.72	0.34	1.18	15.9	18.8	UnDef	0.12
18.04	53.6	0.61	1.13	29.7	7	117.8	1.08	0.73	0.35	1.17	17.1	20.1	UnDef	0.13
18.37	52.0	0.57	1.10	34.1	7	117.8	1.10	0.74	0.36	1.17	16.6	19.3	UnDef	0.13
18.70	68.4	0.87	1.27	35.3	7	117.8	1.12	0.75	0.37	1.16	21.8	25.3	UnDef	0.17
19.03	125.1	1.23	0.99	29.8	8	120.9	1.14	0.75	0.38	1.15	30.0	34.5	UnDef	0.39
19.36	150.1	2.87	1.91	6.1	7	117.8	1.16	0.76	0.39	1.14	47.9	54.8	UnDef	0.00
19.68	169.6	4.20	2.47	9.9	7	117.8	1.18	0.77	0.40	1.14	54.1	61.6	UnDef	0.00
20.01	205.8	5.68	2.76	15.2	7	117.8	1.20	0.78	0.41	1.13	65.7	74.3	UnDef	0.00
20.34	294.7	6.77	2.30	41.1	7	117.8	1.22	0.79	0.42	1.12	94.1	105.8	UnDef	0.00
20.67	300.7	6.45	2.14	1.7	8	120.9	1.24	0.80	0.43	1.12	72.0	80.5	UnDef	0.00
21.00	210.1	4.76	2.26	-0.9	7	117.8	1.25	0.81	0.44	1.11	67.1	74.5	UnDef	0.00
21.33	168.7	4.00	2.37	4.3	7	117.8	1.27	0.82	0.46	1.11	53.9	59.5	UnDef	0.00
21.65	169.3	3.96	2.34	7.8	7	117.8	1.29	0.83	0.47	1.10	54.0	59.4	UnDef	0.00
[illegible]98	121.1	3.61	2.98	8.4	6	114.6	1.31	0.84	0.48	1.09	46.4	50.7	9.58	0.00
[illegible]31	59.8	2.17	3.63	36.7	5	114.6	1.33	0.85	0.49	1.09	28.6	31.2	4.68	0.44
22.64	67.4	1.40	2.08	19.1	7	117.8	1.35	0.85	0.50	1.08	21.5	23.3	UnDef	0.23
22.97	101.1	1.47	1.46	20.7	8	120.9	1.37	0.86	0.51	1.08	24.2	26.0	UnDef	0.30
23.29	112.4	1.98	1.76	19.7	7	117.8	1.39	0.87	0.52	1.07	35.9	38.4	UnDef	0.40
23.62	72.3	1.66	2.30	54.6	7	117.8	1.41	0.88	0.53	1.06	23.1	24.6	UnDef	0.27
23.95	74.0	1.22	1.65	57.3	7	117.8	1.43	0.89	0.54	1.06	23.6	25.0	UnDef	0.21
24.28	49.8	0.90	1.80	41.2	7	117.8	1.45	0.90	0.55	1.05	15.9	16.8	UnDef	0.16
24.61	32.3	0.37	1.13	70.2	7	117.8	1.47	0.91	0.56	1.05	10.3	10.8	UnDef	0.11
24.93	19.1	0.20	1.02	115.7	6	114.6	1.49	0.92	0.57	1.04	7.3	7.6	1.41	0.11
25.26	16.7	0.11	0.66	72.1	6	114.6	1.50	0.93	0.58	1.04	6.4	6.6	1.21	0.09
25.59	9.3	0.18	1.88	100.0	5	114.6	1.52	0.94	0.59	1.03	4.5	4.6	0.62	0.09
25.92	19.5	0.28	1.42	50.1	6	114.6	1.54	0.94	0.60	1.03	7.5	7.7	1.43	0.17
26.25	33.7	0.51	1.50	28.8	6	114.6	1.56	0.95	0.61	1.02	12.9	13.2	2.57	0.13
26.57	30.3	0.52	1.70	27.3	6	114.6	1.58	0.96	0.62	1.02	11.6	11.8	2.30	0.15
26.90	29.1	0.47	1.62	27.3	6	114.6	1.60	0.97	0.63	1.02	11.2	11.3	2.20	0.14
27.23	26.1	0.33	1.27	24.3	6	114.6	1.62	0.98	0.64	1.01	10.0	10.1	1.96	0.12
27.56	28.3	0.25	0.87	23.8	7	117.8	1.64	0.99	0.65	1.01	9.0	9.1	UnDef	0.10
27.89	34.6	0.34	0.99	24.1	7	117.8	1.66	1.00	0.66	1.00	11.0	11.1	UnDef	0.11
28.21	27.9	0.54	1.94	30.9	6	114.6	1.67	1.00	0.67	1.00	10.7	10.7	2.10	0.22
28.54	18.9	0.40	2.12	89.6	6	114.6	1.69	1.01	0.68	0.99	7.3	7.2	1.38	0.15
28.87	24.8	0.57	2.28	87.8	6	114.6	1.71	1.02	0.69	0.99	9.5	9.4	1.85	0.24
29.20	32.6	0.64	1.97	88.9	6	114.6	1.73	1.03	0.70	0.99	12.5	12.3	2.47	0.19
29.53	28.4	0.61	2.16	109.3	6	114.6	1.75	1.04	0.71	0.98	10.9	10.7	2.13	0.31
29.86	25.9	0.50	1.93	117.5	6	114.6	1.77	1.05	0.72	0.98	9.9	9.7	1.93	0.26
30.18	23.2	0.47	2.03	108.3	6	114.6	1.79	1.06	0.73	0.97	8.9	8.7	1.72	0.21
30.59	20.2	0.35	1.75	109.3	6	114.6	1.81	1.07	0.74	0.97	7.7	7.5	1.47	0.16
31.00	18.2	0.35	1.90	103.5	6	114.6	1.83	1.08	0.76	0.96	7.0	6.7	1.31	0.14
31.33	14.5	0.31	2.14	93.5	5	114.6	1.85	1.09	0.77	0.96	6.9	6.7	1.01	0.11
31.66	12.1	0.22	1.83	104.5	5	114.6	1.87	1.09	0.78	0.96	5.8	5.5	0.81	0.10
31.99	14.4	0.31	2.17	83.9	5	114.6	1.89	1.10	0.79	0.95	6.9	6.5	1.00	0.11
[illegible]32	12.2	0.25	2.01	78.4	5	114.6	1.91	1.11	0.80	0.95	5.8	5.5	0.82	0.10
[illegible]64	10.8	0.19	1.72	82.8	5	114.6	1.93	1.12	0.81	0.94	5.2	4.9	0.71	0.09
32.97	9.7	0.10	0.98	90.8	5	114.6	1.95	1.13	0.82	0.94	4.7	4.4	0.62	0.09
33.30	8.8	0.05	0.57	91.3	6	114.6	1.97	1.14	0.83	0.94	3.4	3.1	0.54	0.09

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60 (blows/ft)	Su (tsf)	CRR
33.63	11.5	0.05	0.44	97.1	6	114.6	1.98	1.15	0.84	0.93	4.4	4.1	0.76	0.09
33.96	15.1	0.05	0.33	84.6	6	114.6	2.00	1.15	0.85	0.93	5.8	5.4	1.05	0.00
34.28	13.6	0.08	0.55	98.1	6	114.6	2.02	1.16	0.86	0.93	5.2	4.8	0.93	0.10
34.61	24.8	0.19	0.75	106.3	7	117.8	2.04	1.17	0.87	0.92	7.9	7.3	UnDef	0.10
34.94	28.3	0.35	1.24	101.2	6	114.6	2.06	1.18	0.88	0.92	10.8	10.0	2.10	0.14
35.27	34.4	0.66	1.91	93.0	6	114.6	2.08	1.19	0.89	0.92	13.2	12.1	2.59	0.24
35.60	29.2	0.63	2.16	63.0	6	114.6	2.10	1.20	0.90	0.91	11.2	10.2	2.17	0.29
35.92	21.2	0.37	1.75	76.1	6	114.6	2.12	1.21	0.91	0.91	8.1	7.4	1.53	0.16
36.25	14.6	0.21	1.44	71.4	6	114.6	2.14	1.21	0.92	0.91	5.6	5.1	1.00	0.11
36.58	8.3	0.09	1.08	83.9	5	114.6	2.15	1.22	0.93	0.90	4.0	3.6	0.50	0.08
36.91	7.3	0.03	0.41	88.1	1	111.4	2.17	1.23	0.94	0.90	3.5	3.2	0.41	0.00
37.24	5.2	0.03	0.57	100.7	1	111.4	2.19	1.24	0.95	0.90	2.5	2.3	0.24	0.00
37.57	7.1	0.04	0.56	108.7	1	111.4	2.21	1.25	0.96	0.90	3.4	3.1	0.39	0.00
37.89	9.6	0.10	1.05	111.1	5	114.6	2.23	1.26	0.97	0.89	4.6	4.1	0.59	0.09
38.22	9.5	0.17	1.75	101.1	5	114.6	2.25	1.26	0.98	0.89	4.5	4.0	0.58	0.09
38.55	10.9	0.14	1.29	77.2	5	114.6	2.27	1.27	0.99	0.89	5.2	4.6	0.69	0.09
38.88	10.5	0.08	0.72	35.7	6	114.6	2.28	1.28	1.00	0.88	4.0	3.5	0.66	0.09
39.21	7.5	0.06	0.80	56.7	5	114.6	2.30	1.29	1.01	0.88	3.6	3.2	0.41	0.08
39.53	7.4	0.06	0.74	70.4	5	114.6	2.32	1.30	1.02	0.88	3.6	3.1	0.41	0.08
39.86	7.5	0.04	0.53	79.5	1	111.4	2.34	1.31	1.03	0.87	3.6	3.2	0.42	0.00
40.19	6.7	0.03	0.45	78.5	1	111.4	2.36	1.32	1.04	0.87	3.2	2.8	0.35	0.00
40.52	6.9	0.04	0.51	80.3	1	111.4	2.38	1.32	1.05	0.87	3.3	2.9	0.36	0.00
40.85	5.8	0.04	0.60	82.3	1	111.4	2.40	1.33	1.06	0.87	2.8	2.4	0.27	0.00
41.17	6.5	0.03	0.46	86.9	1	111.4	2.41	1.34	1.07	0.86	3.1	2.7	0.33	0.00
41.50	6.6	0.03	0.45	74.7	1	111.4	2.43	1.35	1.08	0.86	3.2	2.7	0.34	0.00
41.83	6.2	0.03	0.49	82.7	1	111.4	2.45	1.36	1.09	0.86	3.0	2.5	0.30	0.00
42.16	6.7	0.03	0.45	86.1	1	111.4	2.47	1.36	1.11	0.86	3.2	2.8	0.34	0.00
[illegible]49	7.1	0.03	0.42	87.5	1	111.4	2.49	1.37	1.12	0.85	3.4	2.9	0.37	0.00
[illegible]81	8.5	0.03	0.35	78.8	1	111.4	2.51	1.38	1.13	0.85	4.1	3.5	0.48	0.00
43.14	7.5	0.03	0.40	74.5	1	111.4	2.52	1.39	1.14	0.85	3.6	3.1	0.40	0.00
43.47	6.7	0.03	0.45	90.0	1	111.4	2.54	1.40	1.15	0.85	3.2	2.7	0.33	0.00
43.80	7.7	0.04	0.52	90.5	1	111.4	2.56	1.40	1.16	0.84	3.7	3.1	0.41	0.00
44.13	9.2	0.09	0.98	70.4	5	114.6	2.58	1.41	1.17	0.84	4.4	3.7	0.53	0.09
44.45	9.4	0.11	1.12	66.4	5	114.6	2.60	1.42	1.18	0.84	4.5	3.8	0.55	0.09
44.78	11.4	0.18	1.59	70.4	5	114.6	2.62	1.43	1.19	0.84	5.4	4.6	0.70	0.09
45.11	13.2	0.35	2.67	34.7	5	114.6	2.63	1.44	1.20	0.83	6.3	5.3	0.84	0.00
45.44	12.7	0.39	3.08	37.8	4	114.6	2.65	1.45	1.21	0.83	8.1	6.7	0.80	0.00
45.77	10.4	0.27	2.60	49.6	5	114.6	2.67	1.45	1.22	0.83	5.0	4.1	0.62	0.00
46.10	7.9	0.17	2.16	41.4	4	114.6	2.69	1.46	1.23	0.83	5.0	4.2	0.42	0.00
46.42	7.9	0.13	1.66	56.3	5	114.6	2.71	1.47	1.24	0.82	3.8	3.1	0.41	0.08
46.75	9.3	0.14	1.51	57.1	5	114.6	2.73	1.48	1.25	0.82	4.4	3.7	0.52	0.08
47.08	10.0	0.22	2.21	54.5	5	114.6	2.75	1.49	1.26	0.82	4.8	3.9	0.58	0.00
47.41	15.6	0.40	2.54	78.4	5	114.6	2.77	1.50	1.27	0.82	7.5	6.1	1.03	0.10
47.74	17.5	0.40	2.27	27.9	5	114.6	2.79	1.51	1.28	0.81	8.4	6.8	1.18	0.11
48.06	14.8	1.57	10.61	42.0	3	111.4	2.80	1.51	1.29	0.81	14.2	11.5	0.96	0.00
48.39	126.6	2.20	1.73	-0.2	7	117.8	2.82	1.52	1.30	0.81	40.4	32.7	UnDef	0.38
48.72	120.4	2.10	1.74	-21.2	7	117.8	2.84	1.53	1.31	0.81	38.4	31.1	UnDef	0.36
49.05	67.3	1.82	2.71	-20.2	6	114.6	2.86	1.54	1.32	0.81	25.8	20.8	5.16	0.00

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.00.19M
Run No: 04-0401-1123-5670
Job No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-9
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/24/03
CPT Time: 13:20
CPT File: 717CP009.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 2.05 (ft): 6.7
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.16	5.0E-03	0.00	1000.0	0.37	10	174.2	0.0	174.2	0.0	50	95.0	1.0	-0.31	0.0	43.5
0.49	5.0E-03	0.00	1000.0	1.33	9	183.9	0.0	183.9	1.8	50	95.0	1.0	-0.44	0.0	46.0
0.82	5.0E-02	0.00	1000.0	0.90	10	490.3	0.0	490.3	0.0	50	95.0	1.0	-0.39	0.0	98.1
1.15	5.0E-02	0.00	1000.0	0.94	10	562.5	0.0	562.5	0.2	50	95.0	1.0	-0.40	0.0	112.5
1.48	5.0E-02	0.00	1000.0	1.01	10	735.6	0.0	735.6	0.5	50	95.0	1.0	-0.41	0.0	147.1
1.80	5.0E-02	0.00	1000.0	1.43	12	763.5	UnDef	UnDef	0.0	50	95.0	1.0	-0.45	UnDef	UnDef
2.13	5.0E-03	0.00	1000.0	1.45	12	588.1	UnDef	UnDef	0.0	50	95.0	1.0	-0.46	UnDef	UnDef
2.46	5.0E+00	0.00	1000.0	0.52	10	596.4	0.0	596.4	0.0	50	95.0	1.0	-0.33	0.0	99.4
2.79	5.0E-02	0.00	1000.0	0.78	10	524.5	0.0	524.5	0.0	50	95.0	1.0	-0.38	0.0	104.9
3.12	5.0E-02	0.00	1000.0	0.94	10	488.4	0.0	488.4	0.2	50	95.0	1.0	-0.40	0.0	97.7
3.44	5.0E-02	0.00	1000.0	0.85	10	561.9	0.0	561.9	0.0	50	95.0	1.0	-0.39	0.0	112.4
3.77	5.0E-02	0.00	1000.0	0.99	10	657.7	0.0	657.7	0.4	50	95.0	1.0	-0.40	0.0	131.5
4.10	5.0E-02	0.00	1000.0	1.05	9	626.4	0.0	626.4	0.7	50	95.0	1.0	-0.41	0.0	124.4
4.43	5.0E-02	0.00	1000.0	1.01	10	549.9	0.0	549.9	0.5	50	95.0	1.0	-0.41	0.0	107.6
4.76	5.0E-02	0.00	824.2	0.97	9	438.0	0.0	438.0	0.7	50	95.0	1.0	-0.38	0.0	85.7
5.09	5.0E-02	0.00	567.6	0.95	9	312.1	0.0	312.1	1.5	50	95.0	1.0	-0.35	0.0	61.1
5.41	5.0E-02	0.00	430.3	0.87	9	244.3	0.0	244.3	1.9	48	92.9	1.0	-0.31	0.0	47.8
5.74	5.0E-02	0.00	354.6	0.51	10	207.4	0.0	207.4	0.4	48	88.2	1.0	-0.24	0.0	40.6
6.07	5.0E-03	0.00	265.5	0.59	9	159.8	0.0	159.8	2.0	46	80.7	1.0	-0.23	0.0	39.1
6.40	5.0E-03	0.00	244.6	0.61	9	151.1	0.0	151.1	2.5	46	79.1	1.0	-0.22	0.0	37.0
6.73	5.0E-03	0.00	211.2	0.51	9	133.8	0.0	133.8	2.5	46	75.6	1.0	-0.20	0.0	32.7
7.05	5.0E-03	0.00	133.0	0.38	9	85.5	0.0	85.5	3.8	44	62.8	1.0	-0.13	0.0	20.9
7.38	5.0E-04	0.00	78.2	0.58	9	51.1	6.8	57.9	9.4	42	48.0	1.0	-0.12	1.3	18.0
7.79	5.0E-04	0.00	51.9	0.41	9	34.6	0.0	34.6	5.0	38	36.9	1.0	-0.05	0.0	11.3
8.20	5.0E-04	0.01	44.7	0.29	9	30.3	0.0	30.3	5.0	38	33.0	1.0	-0.01	0.0	9.9
8.53	5.0E-04	0.00	57.7	0.20	9	39.3	0.0	39.3	5.0	40	40.5	1.0	-0.01	0.0	12.8
8.86	5.0E-04	0.00	56.3	0.32	9	38.7	0.0	38.7	5.0	40	40.1	1.0	-0.04	0.0	12.6
9.19	5.0E-06	0.00	87.6	3.27	7	60.4	55.6	116.1	23.0	UnDef	UnDef	10.0	UnDef	12.7	42.2
9.51	5.0E-06	0.00	78.7	3.68	6	54.9	67.3	122.2	25.6	UnDef	UnDef	10.0	UnDef	14.1	41.0
9.84	5.0E-06	0.01	25.3	2.96	6	18.4	73.5	91.9	38.9	UnDef	UnDef	10.0	UnDef	9.0	18.0
10.17	5.0E-06	0.03	13.4	1.03	6	10.2	40.9	51.1	37.7	UnDef	UnDef	5.1	UnDef	5.0	10.0
10.50	5.0E-07	0.04	8.9	2.39	4	7.1	28.6	35.7	57.4	UnDef	UnDef	2.8	UnDef	4.7	9.3
10.83	5.0E-05	0.00	22.6	0.59	7	17.0	17.2	34.2	23.9	34	30.0	10.0	-0.01	3.1	9.7
11.15	5.0E-05	-0.01	30.9	0.42	7	23.0	0.0	23.0	5.0	36	30.0	10.0	-0.01	0.0	9.0
11.48	5.0E-04	0.00	35.8	0.49	7	26.8	0.0	26.8	5.0	38	30.0	1.0	-0.03	0.0	8.7
11.81	5.0E-04	-0.01	44.6	0.28	9	33.4	0.0	33.4	5.0	38	35.9	1.0	-0.01	0.0	10.9
12.14	5.0E-04	0.00	62.1	0.42	9	46.5	0.0	46.5	5.0	40	45.4	1.0	-0.07	0.0	15.2
12.47	5.0E-03	0.00	104.3	0.46	9	78.2	0.0	78.2	5.0	42	60.2	1.0	-0.12	0.0	19.1
12.80	5.0E-03	0.00	103.4	0.77	9	78.2	8.6	86.8	8.7	42	60.2	1.0	-0.17	1.3	20.4

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
13.12	5.0E-04	0.00	85.7	0.86	9	65.5	12.4	77.8	10.9	42	55.1	1.0	-0.16	2.4	23.7
13.45	5.0E-04	0.00	65.9	0.62	9	51.0	10.3	61.3	11.3	40	48.0	1.0	-0.11	2.0	18.6
13.78	5.0E-04	0.01	47.8	0.40	9	37.6	0.0	37.6	5.0	38	39.2	1.0	-0.04	0.0	12.3
14.11	5.0E-04	0.00	40.0	0.39	9	31.8	0.0	31.8	5.0	38	34.5	1.0	-0.02	0.0	10.4
14.44	5.0E-04	0.01	40.1	0.58	7	32.1	13.5	45.7	16.1	38	34.7	1.0	-0.06	2.4	12.9
14.76	5.0E-04	0.01	41.5	0.66	7	33.5	15.0	48.5	16.6	38	35.9	1.0	-0.07	2.6	13.5
15.09	5.0E-04	0.01	38.4	0.61	7	31.3	14.6	45.9	16.9	38	34.0	1.0	-0.06	2.5	12.7
15.42	5.0E-04	0.02	31.0	0.54	7	25.7	15.1	40.8	18.9	36	30.0	1.0	-0.03	2.5	10.9
15.75	5.0E-05	0.01	30.1	0.80	7	25.1	21.0	46.1	22.1	36	30.0	10.0	-0.06	3.9	13.7
16.08	5.0E-05	0.02	31.8	0.75	7	26.6	19.5	46.1	20.8	36	30.0	10.0	-0.06	3.7	14.2
16.40	5.0E-04	0.01	41.9	0.47	9	35.0	0.0	35.0	5.0	38	37.2	1.0	-0.04	0.0	11.4
16.73	5.0E-03	0.00	59.5	0.21	9	49.6	0.0	49.6	5.0	40	47.2	1.0	-0.01	0.0	12.1
17.06	5.0E-03	0.01	64.1	0.44	9	53.6	0.0	53.6	5.0	40	49.4	1.0	-0.08	0.0	13.1
17.39	5.0E-04	0.02	58.6	0.82	9	49.5	16.1	65.6	14.2	40	47.1	1.0	-0.12	2.9	19.1
17.72	5.0E-04	0.02	68.0	1.08	9	57.6	20.1	77.7	14.7	40	51.5	1.0	-0.16	3.6	22.4
18.04	5.0E-04	0.01	72.3	1.15	9	61.6	21.2	82.8	14.6	40	53.4	1.0	-0.17	3.8	23.9
18.37	5.0E-04	0.01	69.2	1.12	7	59.3	21.1	80.4	14.8	40	52.3	1.0	-0.16	3.8	23.1
18.70	5.0E-04	0.01	90.3	1.29	9	77.6	22.3	99.9	13.4	42	60.0	1.0	-0.20	4.1	29.4
19.03	5.0E-03	0.00	164.3	0.99	9	141.0	8.2	149.1	7.0	44	77.1	1.0	-0.23	1.2	35.7
19.36	5.0E-04	0.00	195.0	1.93	9	168.1	30.1	198.1	10.7	44	82.2	1.0	-0.33	5.8	60.6
19.68	5.0E-04	0.00	217.9	2.49	9	188.8	45.2	234.0	12.2	46	85.5	1.0	-0.39	8.5	70.0
20.01	5.0E-04	0.00	261.6	2.78	12	227.7	UnDef	UnDef	0.0	46	90.9	1.0	-0.44	UnDef	UnDef
20.34	5.0E-04	0.00	371.0	2.31	12	324.3	UnDef	UnDef	0.0	48	95.0	1.0	-0.43	UnDef	UnDef
20.67	5.0E-03	0.00	374.1	2.15	12	328.9	UnDef	UnDef	0.0	48	95.0	1.0	-0.42	UnDef	UnDef
21.00	5.0E-04	0.00	257.9	2.28	9	228.5	38.4	266.9	10.4	46	91.0	1.0	-0.39	7.4	81.9
21.33	5.0E-04	0.00	204.5	2.39	9	182.5	43.9	226.4	12.3	46	84.5	1.0	-0.37	8.2	67.7
21.65	5.0E-04	0.00	202.9	2.36	9	182.1	43.3	225.4	12.2	46	84.5	1.0	-0.37	8.1	67.5
[illegible]98	5.0E-05	0.00	143.1	3.02	7	129.5	63.4	193.0	17.3	44	74.7	10.0	-0.38	13.1	63.8
[illegible]31	5.0E-06	0.01	69.2	3.71	6	63.7	93.3	156.9	27.3	UnDef	UnDef	10.0	UnDef	18.4	49.6
22.64	5.0E-04	0.00	77.4	2.12	7	71.4	44.7	116.1	19.4	40	57.6	1.0	-0.24	7.4	30.7
22.97	5.0E-03	0.00	115.5	1.43	9	106.4	26.0	132.5	12.4	42	69.1	1.0	-0.24	3.7	29.7
23.29	5.0E-04	0.00	127.2	1.73	9	117.8	32.7	150.5	13.1	44	72.0	1.0	-0.27	6.0	44.5
23.62	5.0E-04	0.02	80.3	2.34	7	75.3	50.5	125.8	20.0	42	59.1	1.0	-0.26	8.2	32.8
23.95	5.0E-04	0.02	81.4	1.68	7	76.7	34.4	111.1	16.6	42	59.7	1.0	-0.22	6.0	31.0
24.28	5.0E-04	0.02	53.7	1.86	7	51.4	43.4	94.7	22.1	40	48.2	1.0	-0.19	6.7	23.5
24.61	5.0E-04	0.05	33.9	1.19	7	33.2	33.1	66.3	23.7	36	35.6	1.0	-0.09	4.9	15.7
24.93	5.0E-05	0.17	19.2	1.11	7	19.5	49.6	69.1	31.9	34	30.0	8.8	-0.02	6.2	13.9
25.26	5.0E-05	0.11	16.4	0.73	7	16.9	37.4	54.4	30.8	32	30.0	6.9	0.02	5.0	11.6
25.59	5.0E-06	0.33	8.3	2.25	4	9.4	37.7	47.2	58.1	UnDef	UnDef	2.5	UnDef	4.6	9.2
25.92	5.0E-05	0.05	19.0	1.54	6	19.6	78.4	98.0	35.6	32	30.0	8.7	-0.06	7.7	15.4
26.25	5.0E-05	0.01	33.7	1.58	7	33.8	46.0	79.7	26.6	36	36.2	10.0	-0.12	7.5	20.7
26.57	5.0E-05	0.01	29.9	1.80	7	30.3	59.3	89.6	29.8	36	33.0	10.0	-0.12	8.4	20.2
26.90	5.0E-05	0.01	28.4	1.71	7	29.0	58.5	87.4	30.0	36	31.8	10.0	-0.11	8.2	19.5
27.23	5.0E-05	0.00	25.1	1.35	7	25.8	48.7	74.5	29.5	34	30.0	10.0	-0.08	7.0	17.1
27.56	5.0E-04	0.00	27.0	0.92	7	27.9	30.9	58.8	24.7	36	30.7	1.0	-0.06	4.5	13.6
27.89	5.0E-04	0.00	33.1	1.04	7	33.9	30.9	64.8	22.8	36	36.3	1.0	-0.09	4.7	15.8
28.21	5.0E-05	0.01	26.1	2.06	6	27.2	88.0	115.2	33.6	36	30.0	10.0	-0.12	9.8	20.4
28.54	5.0E-05	0.12	17.0	2.32	6	18.4	73.7	92.1	42.8	32	30.0	7.3	-0.07	7.2	14.4
28.87	5.0E-05	0.09	22.6	2.45	6	24.1	96.2	120.3	38.2	34	30.0	10.0	-0.11	9.4	18.8
29.20	5.0E-05	0.07	30.0	2.08	7	31.4	75.7	107.2	31.5	36	34.1	10.0	-0.13	9.7	22.1
29.53	5.0E-05	0.10	25.6	2.30	6	27.2	108.9	136.2	35.3	34	30.0	10.0	-0.12	10.7	21.3
29.86	5.0E-05	0.12	23.1	2.07	6	24.8	99.2	124.0	35.7	34	30.0	10.0	-0.09	9.7	19.4
30.18	5.0E-05	0.12	20.3	2.20	6	22.1	88.6	110.7	38.7	34	30.0	9.7	-0.09	8.7	17.3
30.59	5.0E-05	0.14	17.3	1.92	6	19.2	76.7	95.8	40.0	32	30.0	7.5	-0.05	7.5	15.0
31.00	5.0E-05	0.15	15.2	2.12	6	17.1	68.6	85.7	43.8	32	30.0	6.1	-0.05	6.7	13.4
31.33	5.0E-06	0.17	11.6	2.46	6	13.6	54.4	68.0	51.6	UnDef	UnDef	4.1	UnDef	6.7	13.3
31.66	5.0E-06	0.24	9.3	2.17	4	11.3	45.1	56.4	54.9	UnDef	UnDef	3.0	UnDef	5.5	11.0
31.99	5.0E-06	0.15	11.3	2.49	4	13.4	53.5	66.9	52.5	UnDef	UnDef	3.9	UnDef	6.5	13.1
[illegible]32	5.0E-06	0.16	9.3	2.38	4	11.3	45.4	56.7	56.4	UnDef	UnDef	2.9	UnDef	5.5	11.1
[illegible]64	5.0E-06	0.20	7.9	2.10	4	10.0	39.8	49.8	58.4	UnDef	UnDef	2.4	UnDef	4.9	9.7
32.97	5.0E-06	0.26	6.9	1.22	6	9.0	35.8	44.8	54.5	UnDef	UnDef	2.0	UnDef	4.4	8.8
33.30	5.0E-05	0.30	6.0	0.74	6	8.0	32.2	40.2	52.3	30	30.0	1.6	0.13	3.1	6.3

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
33.63	5.0E-05	0.23	8.3	0.53	6	10.5	42.1	52.6	41.4	30	30.0	2.5	0.11	4.1	8.2
33.96	5.0E-05	0.14	11.3	0.38	7	13.7	0.0	13.7	5.0	30	30.0	3.9	0.10	0.0	5.4
34.28	5.0E-05	0.19	10.0	0.65	6	12.4	49.4	61.8	39.3	30	30.0	3.3	0.08	4.8	9.7
34.61	5.0E-04	0.11	19.5	0.81	7	22.5	39.0	61.5	28.8	34	30.0	1.0	-0.01	4.8	12.1
34.94	5.0E-05	0.09	22.2	1.34	7	25.5	60.4	85.9	31.4	34	30.0	10.0	-0.06	7.8	17.8
35.27	5.0E-05	0.06	27.2	2.03	6	30.9	88.1	119.0	32.7	36	33.6	10.0	-0.12	10.4	22.5
35.60	5.0E-05	0.04	22.6	2.33	6	26.1	104.3	130.4	37.6	34	30.0	10.0	-0.11	10.2	20.4
35.92	5.0E-05	0.08	15.8	1.94	6	18.9	75.6	94.5	41.8	32	30.0	6.5	-0.05	7.4	14.8
36.25	5.0E-05	0.11	10.2	1.69	6	12.9	51.8	64.7	49.2	30	30.0	3.4	0.01	5.1	10.1
36.58	5.0E-06	0.27	5.1	1.46	4	7.4	29.5	36.9	65.0	UnDef	UnDef	1.4	UnDef	3.6	7.2
36.91	1.0E-07	0.35	4.2	0.58	1	6.5	UnDef	UnDef	100.0	UnDef	UnDef	1.1	UnDef	UnDef	UnDef
37.24	1.0E-07	0.72	2.5	0.99	1	4.6	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
37.57	1.0E-07	0.50	3.9	0.82	1	6.2	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDef
37.89	5.0E-06	0.34	5.8	1.37	4	8.3	33.4	41.7	60.2	UnDef	UnDef	1.6	UnDef	4.1	8.2
38.22	5.0E-06	0.30	5.7	2.30	4	8.2	32.9	41.1	68.5	UnDef	UnDef	1.6	UnDef	4.0	8.0
38.55	5.0E-06	0.16	6.8	1.63	4	9.4	37.7	47.1	58.8	UnDef	UnDef	1.9	UnDef	4.6	9.2
38.88	5.0E-05	0.01	6.4	0.92	6	9.1	36.2	45.3	52.9	30	30.0	1.8	0.08	3.5	7.1
39.21	5.0E-06	0.15	4.0	1.16	4	6.4	25.8	32.2	68.5	UnDef	UnDef	1.1	UnDef	3.2	6.3
39.53	5.0E-06	0.23	3.9	1.08	4	6.4	25.5	31.9	68.2	UnDef	UnDef	1.0	UnDef	3.1	6.2
39.86	1.0E-07	0.28	4.0	0.77	1	6.4	UnDef	UnDef	100.0	UnDef	UnDef	1.1	UnDef	UnDef	UnDef
40.19	1.0E-07	0.32	3.3	0.69	1	5.7	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
40.52	1.0E-07	0.32	3.4	0.78	1	5.9	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
40.85	1.0E-07	0.44	2.6	1.03	1	4.9	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
41.17	1.0E-07	0.40	3.1	0.73	1	5.5	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
41.50	1.0E-07	0.30	3.1	0.75	1	5.6	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
41.83	1.0E-07	0.40	2.7	0.81	1	5.2	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
42.16	1.0E-07	0.37	3.1	0.71	1	5.6	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
[illegible]49	1.0E-07	0.35	3.4	0.65	1	6.0	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
[illegible]81	1.0E-07	0.22	4.4	0.50	1	7.1	UnDef	UnDef	100.0	UnDef	UnDef	1.2	UnDef	UnDef	UnDef
43.14	1.0E-07	0.24	3.6	0.60	1	6.3	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDef
43.47	1.0E-07	0.40	3.0	0.72	1	5.6	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
43.80	1.0E-07	0.32	3.7	0.77	1	6.4	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDef
44.13	5.0E-06	0.16	4.7	1.36	4	7.6	30.3	37.9	66.1	UnDef	UnDef	1.3	UnDef	3.7	7.4
44.45	5.0E-06	0.13	4.8	1.54	4	7.7	30.9	38.6	67.3	UnDef	UnDef	1.3	UnDef	3.8	7.6
44.78	5.0E-06	0.12	6.1	2.06	4	9.3	37.3	46.6	64.7	UnDef	UnDef	1.7	UnDef	4.6	9.1
45.11	5.0E-06	-0.01	7.3	3.33	1	10.7	UnDef	UnDef	100.0	UnDef	UnDef	2.1	UnDef	UnDef	UnDef
45.44	5.0E-07	0.00	6.9	3.89	1	10.3	UnDef	UnDef	100.0	UnDef	UnDef	2.0	UnDef	UnDef	UnDef
45.77	5.0E-06	0.04	5.3	3.49	1	8.5	UnDef	UnDef	100.0	UnDef	UnDef	1.4	UnDef	UnDef	UnDef
46.10	5.0E-07	0.01	3.6	3.23	1	6.4	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDef
46.42	5.0E-06	0.10	3.5	2.53	4	6.3	25.4	31.7	84.9	UnDef	UnDef	0.9	UnDef	3.1	6.2
46.75	5.0E-06	0.08	4.4	2.14	4	7.5	29.8	37.3	74.8	UnDef	UnDef	1.2	UnDef	3.7	7.3
47.08	5.0E-06	0.06	4.8	3.05	1	8.0	UnDef	UnDef	100.0	UnDef	UnDef	1.3	UnDef	UnDef	UnDef
47.41	5.0E-06	0.09	8.6	3.03	4	12.5	49.9	62.4	62.5	UnDef	UnDef	2.6	UnDef	6.1	12.2
47.74	5.0E-06	-0.03	9.8	2.70	4	13.9	55.7	69.7	57.1	UnDef	UnDef	3.2	UnDef	6.8	13.6
48.06	5.0E-08	0.00	7.9	10.00	1	11.8	UnDef	UnDef	100.0	UnDef	UnDef	2.4	UnDef	UnDef	UnDef
48.39	5.0E-04	-0.01	81.3	1.77	7	100.4	48.1	148.5	17.1	42	67.4	1.0	-0.23	8.3	41.1
48.72	5.0E-04	-0.02	76.8	1.79	7	95.2	49.3	144.5	17.8	40	65.9	1.0	-0.22	8.4	39.5
49.05	5.0E-05	-0.03	41.8	2.83	6	53.1	111.0	164.1	30.3	38	49.1	10.0	-0.22	15.2	36.0

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.00.19M
[redacted] No: 04-0401-1123-5747
[redacted] No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-12A
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/24/03
CPT Time: 14:54
CPT File: 717CP12A.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 6.18 (ft): 20.3
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
0.16	25.4	0.60	2.35	0.4	6	114.6	0.01	0.01	0.00	2.00	9.7	19.4	2.03	0.00
0.49	46.8	0.78	1.67	3.8	7	117.8	0.03	0.03	0.00	2.00	14.9	29.8	UnDef	0.00
0.82	27.7	2.33	8.42	6.9	3	111.4	0.05	0.05	0.00	2.00	26.5	53.0	2.21	0.00
1.15	428.8	5.44	1.27	28.9	9	124.1	0.07	0.07	0.00	2.00	82.1	164.3	UnDef	0.00
[redacted]48	863.4	15.20	1.76	59.4	12	120.9	0.09	0.09	0.00	2.00	413.4	826.9	UnDef	0.00
[redacted]80	799.8	20.59	2.57	124.5	12	120.9	0.11	0.11	0.00	2.00	383.0	766.0	UnDef	0.00
2.13	692.7	19.41	2.80	175.7	12	120.9	0.13	0.13	0.00	2.00	331.7	663.4	UnDef	0.00
2.46	598.6	13.06	2.18	116.2	12	120.9	0.15	0.15	0.00	2.00	286.6	573.2	UnDef	0.00
2.79	605.3	14.93	2.47	86.2	12	120.9	0.17	0.17	0.00	2.00	289.8	579.7	UnDef	0.00
3.12	602.3	14.93	2.48	88.4	12	120.9	0.19	0.19	0.00	2.00	288.4	576.8	UnDef	0.00
3.44	524.1	13.42	2.56	77.9	12	120.9	0.21	0.21	0.00	2.00	251.0	501.9	UnDef	0.00
3.77	439.2	11.77	2.68	59.4	12	120.9	0.23	0.23	0.00	2.00	210.3	420.6	UnDef	0.00
4.10	328.1	9.37	2.85	51.8	12	120.9	0.25	0.25	0.00	2.00	157.1	314.3	UnDef	0.00
4.43	209.7	7.87	3.75	46.8	12	120.9	0.27	0.27	0.00	1.94	100.4	194.9	UnDef	0.00
4.76	139.4	5.28	3.79	45.7	12	120.9	0.29	0.29	0.00	1.87	66.7	125.0	UnDef	0.00
5.09	120.4	2.46	2.04	30.6	7	117.8	0.30	0.30	0.00	1.81	38.4	69.6	UnDef	0.00
5.41	124.5	1.65	1.33	23.1	8	120.9	0.32	0.32	0.00	1.76	29.8	52.3	UnDef	0.00
5.74	129.1	2.02	1.56	16.5	8	120.9	0.34	0.34	0.00	1.70	30.9	52.7	UnDef	0.00
6.07	100.4	1.89	1.88	11.6	7	117.8	0.36	0.36	0.00	1.66	32.0	53.1	UnDef	0.00
6.40	68.5	1.63	2.39	7.9	6	114.6	0.38	0.38	0.00	1.62	26.2	42.4	5.45	0.33
6.73	36.5	1.09	2.99	6.8	5	114.6	0.40	0.40	0.00	1.58	17.5	27.6	2.89	0.18
7.05	18.7	0.47	2.49	7.2	5	114.6	0.42	0.42	0.00	1.54	9.0	13.8	1.46	0.12
7.38	14.3	0.22	1.50	11.3	6	114.6	0.44	0.44	0.00	1.51	5.5	8.3	1.11	0.09
7.79	14.6	0.30	2.05	15.7	5	114.6	0.46	0.46	0.00	1.47	7.0	10.3	1.13	0.11
8.20	16.9	0.43	2.55	18.9	5	114.6	0.49	0.49	0.00	1.43	8.1	11.6	1.31	0.15
8.53	13.1	0.49	3.70	20.3	3	111.4	0.50	0.50	0.00	1.41	12.6	17.7	1.01	0.15
8.86	23.1	1.24	5.37	20.7	3	111.4	0.52	0.52	0.00	1.38	22.1	30.6	1.81	0.00
9.19	25.7	1.72	6.69	12.3	3	111.4	0.54	0.54	0.00	1.36	24.6	33.5	2.01	0.00
9.51	15.8	1.47	9.28	-2.0	3	111.4	0.56	0.56	0.00	1.34	15.2	20.3	1.22	0.00
9.84	14.6	1.04	7.13	-2.2	3	111.4	0.58	0.58	0.00	1.32	13.9	18.3	1.12	0.00
10.17	8.5	0.70	8.21	-2.9	3	111.4	0.60	0.60	0.00	1.30	8.1	10.5	0.63	0.00
10.50	5.3	0.49	9.35	-3.6	2	79.6	0.61	0.61	0.00	1.28	5.0	6.4	0.37	0.00
10.83	7.1	0.52	7.23	-3.4	3	111.4	0.63	0.63	0.00	1.26	6.8	8.6	0.52	0.00
11.15	7.3	0.55	7.49	-3.4	3	111.4	0.65	0.65	0.00	1.24	7.0	8.7	0.53	0.00
11.48	14.4	0.68	4.71	-2.6	3	111.4	0.66	0.66	0.00	1.23	13.7	16.9	1.10	0.00
[redacted]81	18.5	0.89	4.83	-0.9	3	111.4	0.68	0.68	0.00	1.21	17.7	21.4	1.42	0.00
[redacted]14	26.5	1.18	4.46	1.3	3	111.4	0.70	0.70	0.00	1.20	25.4	30.4	2.07	0.43
12.47	27.3	1.31	4.81	4.2	3	111.4	0.72	0.72	0.00	1.18	26.1	30.8	2.13	0.44
12.80	36.0	1.80	5.00	8.8	3	111.4	0.74	0.74	0.00	1.16	34.5	40.1	2.82	0.00

[illegible]h (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60 (blows/ft)	Su (tsf)	CRR
13.12	114.8	3.64	3.17	13.3	6	114.6	0.76	0.76	0.00	1.15	44.0	50.6	9.12	0.00
13.45	207.2	5.44	2.62	20.6	7	117.8	0.77	0.77	0.00	1.14	66.1	75.2	UnDef	0.00
13.78	435.5	5.99	1.38	15.5	9	124.1	0.79	0.79	0.00	1.12	83.4	93.6	UnDef	0.00
14.11	371.8	8.79	2.36	8.1	8	120.9	0.81	0.81	0.00	1.11	89.0	98.6	UnDef	0.00
14.44	282.6	8.98	3.18	9.5	12	120.9	0.83	0.83	0.00	1.09	135.3	148.2	UnDef	0.00
14.76	258.0	5.01	1.94	6.2	8	120.9	0.85	0.85	0.00	1.08	61.8	66.8	UnDef	0.00
15.09	228.2	3.13	1.37	7.2	8	120.9	0.87	0.87	0.00	1.07	54.6	58.4	UnDef	0.00
15.42	169.8	2.68	1.58	7.3	8	120.9	0.89	0.89	0.00	1.06	40.6	43.0	UnDef	0.00
15.75	276.9	3.09	1.12	14.6	9	124.1	0.91	0.91	0.00	1.05	53.0	55.5	UnDef	0.00
16.08	360.0	3.43	0.95	11.1	9	124.1	0.93	0.93	0.00	1.03	69.0	71.3	UnDef	0.00
16.40	315.5	3.62	1.15	10.1	9	124.1	0.95	0.95	0.00	1.02	60.4	61.8	UnDef	0.00
16.73	256.9	3.23	1.26	9.4	9	124.1	0.98	0.98	0.00	1.01	49.2	49.8	UnDef	0.00
17.06	203.1	2.09	1.03	9.1	9	124.1	1.00	1.00	0.00	1.00	38.9	39.0	UnDef	0.00
17.39	161.0	1.43	0.89	8.7	9	124.1	1.02	1.02	0.00	0.99	30.8	30.6	UnDef	0.00
17.72	137.5	1.07	0.78	8.7	9	124.1	1.04	1.04	0.00	0.98	26.3	25.9	UnDef	0.34
18.04	119.2	0.94	0.79	10.4	8	120.9	1.06	1.06	0.00	0.97	28.5	27.8	UnDef	0.26
18.37	111.1	0.92	0.83	12.6	8	120.9	1.08	1.08	0.00	0.96	26.6	25.6	UnDef	0.23
18.70	108.3	0.84	0.78	14.4	8	120.9	1.10	1.10	0.00	0.96	25.9	24.8	UnDef	0.22
19.03	108.9	0.76	0.70	15.5	8	120.9	1.12	1.12	0.00	0.95	26.1	24.7	UnDef	0.21
19.36	100.5	0.58	0.57	10.9	8	120.9	1.14	1.14	0.00	0.94	24.1	22.6	UnDef	0.18
19.68	93.0	0.53	0.57	14.7	8	120.9	1.16	1.16	0.00	0.93	22.3	20.7	UnDef	0.16
20.01	80.0	0.36	0.44	18.5	8	120.9	1.18	1.18	0.00	0.92	19.1	17.7	UnDef	0.11
20.34	63.2	0.33	0.52	21.7	8	120.9	1.20	1.19	0.00	0.92	15.1	13.8	UnDef	0.11
20.67	54.6	0.29	0.53	29.7	8	120.9	1.21	1.20	0.01	0.91	13.1	11.9	UnDef	0.11
21.00	57.3	0.29	0.51	32.4	8	120.9	1.23	1.21	0.02	0.91	13.7	12.5	UnDef	0.11
21.33	61.2	0.45	0.73	31.6	8	120.9	1.25	1.22	0.03	0.90	14.6	13.2	UnDef	0.12
21.65	81.6	0.53	0.65	28.8	8	120.9	1.27	1.23	0.04	0.90	19.5	17.6	UnDef	0.14
[illegible]98	82.0	0.81	0.98	22.8	8	120.9	1.29	1.24	0.05	0.90	19.6	17.6	UnDef	0.16
[illegible]31	93.0	0.55	0.59	24.7	8	120.9	1.31	1.25	0.06	0.89	22.3	19.9	UnDef	0.16
22.64	79.2	0.37	0.46	17.5	8	120.9	1.33	1.26	0.07	0.89	19.0	16.9	UnDef	0.11
22.97	60.4	0.27	0.44	25.3	8	120.9	1.35	1.27	0.08	0.89	14.5	12.8	UnDef	0.09
23.29	56.4	0.28	0.50	30.2	8	120.9	1.37	1.28	0.09	0.88	13.5	11.9	UnDef	0.11
23.62	87.3	0.71	0.82	25.9	8	120.9	1.39	1.29	0.10	0.88	20.9	18.4	UnDef	0.16
23.95	166.6	1.99	1.20	18.6	8	120.9	1.41	1.30	0.11	0.88	39.9	35.0	UnDef	0.00
24.28	166.5	3.06	1.84	11.6	8	120.9	1.43	1.31	0.12	0.87	39.9	34.9	UnDef	0.00
24.61	145.8	3.31	2.27	9.1	7	117.8	1.45	1.32	0.13	0.87	46.5	40.5	UnDef	0.00
24.93	96.5	2.92	3.03	7.1	6	114.6	1.47	1.33	0.15	0.87	37.0	32.1	7.60	0.00
25.26	68.4	1.28	1.87	5.7	7	117.8	1.49	1.34	0.16	0.87	21.8	18.9	UnDef	0.22
25.59	63.2	0.31	0.49	6.7	8	120.9	1.51	1.34	0.17	0.86	15.1	13.1	UnDef	0.11
25.92	59.3	0.10	0.16	15.9	8	120.9	1.53	1.35	0.18	0.86	14.2	12.2	UnDef	0.09
26.25	57.4	0.04	0.07	16.3	8	120.9	1.55	1.36	0.19	0.86	13.7	11.8	UnDef	0.09
26.57	47.8	0.14	0.29	16.5	8	120.9	1.57	1.37	0.20	0.85	11.4	9.8	UnDef	0.09
26.90	61.4	0.12	0.20	16.9	8	120.9	1.59	1.38	0.21	0.85	14.7	12.5	UnDef	0.09
27.23	63.0	0.20	0.31	17.5	8	120.9	1.61	1.39	0.22	0.85	15.1	12.8	UnDef	0.09
27.56	65.3	0.13	0.19	17.2	8	120.9	1.63	1.40	0.23	0.84	15.6	13.2	UnDef	0.09
27.89	59.7	0.08	0.13	17.7	8	120.9	1.65	1.41	0.24	0.84	14.3	12.0	UnDef	0.09
28.21	50.5	0.12	0.23	18.5	8	120.9	1.67	1.42	0.25	0.84	12.1	10.1	UnDef	0.09
28.54	46.5	0.20	0.42	20.3	8	120.9	1.69	1.43	0.26	0.84	11.1	9.3	UnDef	0.09
28.87	50.2	0.23	0.46	19.8	8	120.9	1.71	1.44	0.27	0.83	12.0	10.0	UnDef	0.09
29.20	41.1	0.39	0.94	19.8	7	117.8	1.73	1.45	0.28	0.83	13.1	10.9	UnDef	0.12
29.53	23.9	0.43	1.81	23.1	6	114.6	1.75	1.46	0.29	0.83	9.1	7.6	1.77	0.16
29.86	13.2	0.19	1.45	31.5	6	114.6	1.77	1.47	0.30	0.83	5.0	4.2	0.91	0.09
30.18	10.8	0.07	0.60	51.5	6	114.6	1.79	1.48	0.31	0.82	4.1	3.4	0.72	0.09
30.59	12.5	0.09	0.69	53.5	6	114.6	1.81	1.49	0.32	0.82	4.8	3.9	0.86	0.09
31.00	12.6	0.17	1.31	52.4	6	114.6	1.83	1.50	0.33	0.82	4.8	3.9	0.86	0.09
31.33	16.2	0.14	0.87	40.1	6	114.6	1.85	1.51	0.34	0.81	6.2	5.0	1.14	0.10
31.66	18.5	0.19	1.03	37.9	6	114.6	1.87	1.51	0.36	0.81	7.1	5.8	1.33	0.12
31.99	20.6	0.18	0.85	33.9	6	114.6	1.89	1.52	0.37	0.81	7.9	6.4	1.50	0.13
[illegible]32	21.8	0.14	0.62	26.9	7	117.8	1.91	1.53	0.38	0.81	7.0	5.6	UnDef	0.13
[illegible].64	13.0	0.10	0.77	27.6	6	114.6	1.93	1.54	0.39	0.81	5.0	4.0	0.89	0.09
32.97	11.1	0.02	0.14	36.2	6	114.6	1.95	1.55	0.40	0.80	4.2	3.4	0.73	0.00
33.30	10.8	0.07	0.65	45.6	6	114.6	1.96	1.56	0.41	0.80	4.1	3.3	0.70	0.09

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60 (blows/ft)	Su (tsf)	CRR
33.63	20.5	0.17	0.83	52.0	6	114.6	1.98	1.57	0.42	0.80	7.8	6.3	1.48	0.13
33.96	57.7	0.32	0.55	25.8	8	120.9	2.00	1.58	0.43	0.80	13.8	11.0	UnDef	0.11
34.28	76.7	0.56	0.73	20.5	8	120.9	2.02	1.59	0.44	0.79	18.4	14.6	UnDef	0.14
34.61	81.9	0.51	0.62	16.8	8	120.9	2.04	1.59	0.45	0.79	19.6	15.5	UnDef	0.14
34.94	65.5	0.53	0.81	11.1	8	120.9	2.06	1.60	0.46	0.79	15.7	12.4	UnDef	0.13
35.27	54.6	0.52	0.96	13.7	7	117.8	2.08	1.61	0.47	0.79	17.4	13.7	UnDef	0.13
35.60	43.5	0.40	0.92	15.1	7	117.8	2.10	1.62	0.48	0.79	13.9	10.9	UnDef	0.12
35.92	38.1	0.30	0.79	15.7	7	117.8	2.12	1.63	0.49	0.78	12.1	9.5	UnDef	0.11
36.25	36.3	0.30	0.83	15.8	7	117.8	2.14	1.64	0.50	0.78	11.6	9.0	UnDef	0.12
36.58	38.0	0.29	0.76	16.6	7	117.8	2.16	1.65	0.51	0.78	12.1	9.5	UnDef	0.11
36.91	43.1	0.33	0.77	16.3	7	117.8	2.18	1.66	0.52	0.78	13.8	10.7	UnDef	0.11
37.24	39.3	0.34	0.87	16.7	7	117.8	2.20	1.67	0.53	0.77	12.6	9.7	UnDef	0.12
37.57	32.7	0.29	0.87	17.3	7	117.8	2.22	1.68	0.54	0.77	10.4	8.1	UnDef	0.13
37.89	36.8	0.15	0.41	16.1	7	117.8	2.24	1.69	0.55	0.77	11.7	9.0	UnDef	0.00
38.22	37.3	0.17	0.44	13.3	7	117.8	2.26	1.70	0.56	0.77	11.9	9.1	UnDef	0.00
38.55	35.2	0.22	0.63	14.9	7	117.8	2.27	1.70	0.57	0.77	11.2	8.6	UnDef	0.11
38.88	36.7	0.16	0.44	15.7	7	117.8	2.29	1.71	0.58	0.76	11.7	9.0	UnDef	0.00
39.21	39.5	0.18	0.44	12.4	7	117.8	2.31	1.72	0.59	0.76	12.6	9.6	UnDef	0.00
39.53	43.5	0.28	0.63	11.9	7	117.8	2.33	1.73	0.60	0.76	13.9	10.6	UnDef	0.11
39.86	52.4	0.30	0.56	12.9	8	120.9	2.35	1.74	0.61	0.76	12.5	9.5	UnDef	0.11
40.19	56.2	0.37	0.65	13.4	8	120.9	2.37	1.75	0.62	0.76	13.4	10.2	UnDef	0.11
40.52	41.9	0.30	0.72	14.6	7	117.8	2.39	1.76	0.63	0.75	13.4	10.1	UnDef	0.11
40.85	29.0	0.29	1.00	16.0	7	117.8	2.41	1.77	0.64	0.75	9.3	7.0	UnDef	0.19
41.17	30.6	0.21	0.67	18.8	7	117.8	2.43	1.78	0.65	0.75	9.8	7.3	UnDef	0.12
41.50	38.1	0.10	0.26	15.1	8	120.9	2.45	1.79	0.66	0.75	9.1	6.8	UnDef	0.00
41.83	35.7	0.10	0.27	15.3	7	117.8	2.47	1.80	0.67	0.75	11.4	8.5	UnDef	0.00
42.16	35.4	0.02	0.06	18.7	8	120.9	2.49	1.81	0.68	0.74	8.5	6.3	UnDef	0.00
[illegible]49	39.2	0.10	0.24	12.7	8	120.9	2.51	1.82	0.69	0.74	9.4	7.0	UnDef	0.00
[illegible]81	45.3	0.14	0.30	9.2	8	120.9	2.53	1.83	0.70	0.74	10.8	8.0	UnDef	0.08
43.14	49.6	0.22	0.43	7.5	8	120.9	2.55	1.84	0.71	0.74	11.9	8.8	UnDef	0.08
43.47	50.4	0.32	0.63	9.2	8	120.9	2.57	1.84	0.72	0.74	12.1	8.9	UnDef	0.11
43.80	49.4	0.38	0.77	11.1	7	117.8	2.59	1.85	0.73	0.73	15.8	11.6	UnDef	0.12
44.13	47.0	0.37	0.78	13.1	7	117.8	2.61	1.86	0.74	0.73	15.0	11.0	UnDef	0.12
44.45	51.1	0.29	0.57	14.7	8	120.9	2.63	1.87	0.75	0.73	12.2	8.9	UnDef	0.11
44.78	49.6	0.36	0.72	12.7	7	117.8	2.65	1.88	0.76	0.73	15.8	11.5	UnDef	0.12
45.11	47.1	0.40	0.84	14.9	7	117.8	2.67	1.89	0.77	0.73	15.0	10.9	UnDef	0.13
45.44	46.0	0.31	0.66	20.6	7	117.8	2.68	1.90	0.78	0.73	14.7	10.7	UnDef	0.11
45.77	47.7	0.30	0.62	21.4	7	117.8	2.70	1.91	0.80	0.72	15.2	11.0	UnDef	0.11
46.10	45.1	0.34	0.74	23.0	7	117.8	2.72	1.92	0.81	0.72	14.4	10.4	UnDef	0.12
46.42	45.9	0.31	0.68	25.3	7	117.8	2.74	1.93	0.82	0.72	14.6	10.6	UnDef	0.11
46.75	53.5	0.21	0.39	17.4	8	120.9	2.76	1.94	0.83	0.72	12.8	9.2	UnDef	0.08
47.08	52.6	0.29	0.54	11.0	8	120.9	2.78	1.95	0.84	0.72	12.6	9.0	UnDef	0.11
47.41	50.3	0.26	0.52	13.2	8	120.9	2.80	1.96	0.85	0.72	12.1	8.6	UnDef	0.11
47.74	45.6	0.25	0.55	10.7	7	117.8	2.82	1.97	0.86	0.71	14.6	10.4	UnDef	0.11
48.06	47.4	0.22	0.46	6.6	8	120.9	2.84	1.97	0.87	0.71	11.4	8.1	UnDef	0.08
48.39	48.7	0.20	0.41	1.0	8	120.9	2.86	1.98	0.88	0.71	11.7	8.3	UnDef	0.08
48.72	46.7	0.31	0.66	7.9	7	117.8	2.88	1.99	0.89	0.71	14.9	10.6	UnDef	0.12
49.05	53.9	0.18	0.33	5.6	8	120.9	2.90	2.00	0.90	0.71	12.9	9.1	UnDef	0.08
49.38	60.1	0.23	0.38	3.9	8	120.9	2.92	2.01	0.91	0.71	14.4	10.2	UnDef	0.09
49.70	74.9	0.43	0.58	4.8	8	120.9	2.94	2.02	0.92	0.70	17.9	12.6	UnDef	0.12
50.03	86.4	0.72	0.84	7.6	8	120.9	2.96	2.03	0.93	0.70	20.7	14.5	UnDef	0.15
50.36	73.4	1.07	1.45	10.3	7	117.8	2.98	2.04	0.94	0.70	23.4	16.4	UnDef	0.22
50.69	47.2	0.81	1.72	13.7	7	117.8	3.00	2.05	0.95	0.70	15.1	10.5	UnDef	0.00
51.02	48.8	0.47	0.96	20.1	7	117.8	3.02	2.06	0.96	0.70	15.6	10.9	UnDef	0.15
51.34	97.8	0.61	0.62	21.7	8	120.9	3.04	2.07	0.97	0.70	23.4	16.3	UnDef	0.15
51.67	114.6	0.58	0.51	19.1	9	124.1	3.06	2.08	0.98	0.69	21.9	15.2	UnDef	0.16
52.00	112.2	0.52	0.46	26.9	9	124.1	3.08	2.09	0.99	0.69	21.5	14.9	UnDef	0.12
52.33	124.1	1.16	0.94	32.0	8	120.9	3.10	2.10	1.00	0.69	29.7	20.5	UnDef	0.23
[illegible]66	136.8	1.47	1.07	32.4	8	120.9	3.12	2.11	1.01	0.69	32.8	22.6	UnDef	0.28
[illegible]98	148.0	1.58	1.07	33.3	8	120.9	3.14	2.12	1.02	0.69	35.4	24.4	UnDef	0.31
53.31	189.2	1.86	0.99	32.4	9	124.1	3.16	2.13	1.03	0.69	36.2	24.9	UnDef	0.43
53.64	187.4	2.18	1.16	31.2	8	120.9	3.18	2.14	1.04	0.68	44.9	30.7	UnDef	0.00

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
53.97	230.2	2.31	1.00	33.6	9	124.1	3.20	2.15	1.05	0.68	44.1	30.1	UnDef	0.00
54.30	278.1	3.15	1.13	34.2	9	124.1	3.22	2.16	1.06	0.68	53.3	36.3	UnDef	0.00
54.63	255.3	2.98	1.17	34.5	9	124.1	3.24	2.17	1.07	0.68	48.9	33.2	UnDef	0.00
54.95	176.1	1.98	1.13	32.8	8	120.9	3.26	2.18	1.08	0.68	42.2	28.6	UnDef	0.41
55.28	130.6	1.18	0.90	33.2	9	124.1	3.28	2.19	1.09	0.68	25.0	16.9	UnDef	0.23
55.61	113.5	1.04	0.91	33.6	8	120.9	3.30	2.20	1.10	0.67	27.2	18.3	UnDef	0.20
55.94	92.1	0.85	0.93	33.2	8	120.9	3.32	2.21	1.11	0.67	22.1	14.8	UnDef	0.17
56.27	72.5	0.69	0.95	35.1	8	120.9	3.34	2.22	1.12	0.67	17.4	11.7	UnDef	0.16
56.59	72.9	0.55	0.76	37.1	8	120.9	3.36	2.23	1.13	0.67	17.4	11.7	UnDef	0.14
56.92	90.7	0.71	0.78	33.9	8	120.9	3.38	2.24	1.14	0.67	21.7	14.5	UnDef	0.16
57.25	105.7	0.88	0.83	35.7	8	120.9	3.40	2.24	1.15	0.67	25.3	16.9	UnDef	0.18
57.58	122.9	1.15	0.94	37.2	8	120.9	3.42	2.25	1.16	0.67	29.4	19.6	UnDef	0.22
57.91	136.8	1.47	1.08	37.8	8	120.9	3.44	2.26	1.17	0.66	32.8	21.8	UnDef	0.27
58.23	178.1	1.71	0.96	38.1	9	124.1	3.46	2.27	1.18	0.66	34.1	22.6	UnDef	0.37
58.56	166.4	1.82	1.09	37.0	8	120.9	3.48	2.28	1.19	0.66	39.8	26.4	UnDef	0.36
58.89	132.2	1.41	1.07	37.3	8	120.9	3.50	2.29	1.20	0.66	31.7	20.9	UnDef	0.26
59.22	149.8	1.46	0.97	39.1	9	124.1	3.52	2.30	1.21	0.66	28.7	18.9	UnDef	0.29
59.55	187.5	3.34	1.78	41.2	8	120.9	3.54	2.31	1.23	0.66	44.9	29.5	UnDef	0.00
59.87	125.0	4.10	3.28	47.8	6	114.6	3.56	2.32	1.24	0.66	47.9	31.4	9.72	0.00
60.20	217.7	5.04	2.32	166.7	7	117.8	3.58	2.33	1.25	0.66	69.5	45.5	UnDef	0.00
60.53	270.1	6.91	2.56	6.0	7	117.8	3.60	2.34	1.26	0.65	86.2	56.4	UnDef	0.00
60.86	220.0	7.00	3.18	-4.0	12	120.9	3.62	2.35	1.27	0.65	105.4	68.7	UnDef	0.00
61.19	174.2	3.56	2.05	-6.3	7	117.8	3.64	2.36	1.28	0.65	55.6	36.2	UnDef	0.00

Interpretation Output - Release 1.00.19M
Run No: 04-0401-1123-5747
Job No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: CPT-12A
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/24/03
CPT Time: 14:54
CPT File: 717CP12A.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 6.18 (ft): 20.3
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.16	5.0E-05	0.00	1000.0	2.35	12	48.6	UnDef	UnDef	0.0	50	94.2	10.0	-0.55	UnDef	UnDef
0.49	5.0E-04	0.00	1000.0	1.67	12	89.5	UnDef	UnDef	0.0	50	95.0	1.0	-0.48	UnDef	UnDef
0.82	5.0E-08	0.01	584.5	8.44	11	53.0	UnDef	UnDef	0.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
1.15	5.0E-02	0.00	1000.0	1.27	9	821.4	0.0	821.4	1.6	50	95.0	1.0	-0.44	0.0	164.3
1.48	1.0E-15	0.00	1000.0	1.76	12	1653.8	UnDef	UnDef	0.0	50	95.0	1.0	-0.49	UnDef	UnDef
1.80	1.0E-15	0.00	1000.0	2.57	12	1531.9	UnDef	UnDef	0.0	50	95.0	1.0	-0.58	UnDef	UnDef
2.13	1.0E-15	0.01	1000.0	2.80	12	1326.7	UnDef	UnDef	0.0	50	95.0	1.0	-0.60	UnDef	UnDef
2.46	1.0E-15	0.01	1000.0	2.18	12	1146.5	UnDef	UnDef	0.0	50	95.0	1.0	-0.53	UnDef	UnDef
2.79	1.0E-15	0.00	1000.0	2.47	12	1159.3	UnDef	UnDef	0.0	50	95.0	1.0	-0.56	UnDef	UnDef
3.12	1.0E-15	0.00	1000.0	2.43	12	1153.6	UnDef	UnDef	0.0	50	95.0	1.0	-0.57	UnDef	UnDef
3.44	1.0E-15	0.00	1000.0	2.56	12	1003.9	UnDef	UnDef	0.0	50	95.0	1.0	-0.57	UnDef	UnDef
3.77	1.0E-15	0.00	1000.0	2.63	12	841.2	UnDef	UnDef	0.0	50	95.0	1.0	-0.59	UnDef	UnDef
4.10	1.0E-15	0.00	1000.0	2.85	12	628.5	UnDef	UnDef	0.0	50	95.0	1.0	-0.61	UnDef	UnDef
4.43	1.0E-15	0.01	789.5	3.75	12	398.4	UnDef	UnDef	0.0	50	95.0	1.0	-0.70	UnDef	UnDef
4.76	1.0E-15	0.01	487.9	3.79	12	255.5	UnDef	UnDef	0.0	48	94.2	1.0	-0.63	UnDef	UnDef
5.09	5.0E-04	0.01	394.1	2.05	9	213.4	14.4	227.8	7.4	48	89.0	1.0	-0.42	2.9	72.5
5.41	5.0E-03	0.01	382.9	1.33	9	213.9	0.0	213.9	4.5	48	89.1	1.0	-0.35	0.0	52.3
5.74	5.0E-03	0.00	374.2	1.57	9	215.4	3.9	219.3	5.7	48	89.3	1.0	-0.37	0.6	53.3
6.07	5.0E-04	0.00	275.0	1.89	9	162.9	16.7	179.6	8.5	46	81.3	1.0	-0.36	3.3	56.4
6.40	5.0E-05	0.00	177.9	2.40	7	108.3	30.7	139.1	13.3	44	69.6	10.0	-0.36	6.8	49.2
6.73	5.0E-06	0.01	90.0	3.02	7	56.4	45.5	101.9	21.7	UnDef	UnDef	10.0	UnDef	10.7	38.3
7.05	5.0E-06	0.01	43.5	2.55	7	28.3	47.3	75.6	28.5	UnDef	UnDef	10.0	UnDef	8.9	22.7
7.38	5.0E-05	0.03	31.6	1.55	7	21.2	31.3	52.5	27.4	36	30.0	10.0	-0.11	4.9	13.2
7.79	5.0E-06	0.03	30.6	2.12	7	21.1	50.1	71.2	31.4	UnDef	UnDef	10.0	UnDef	8.1	18.4
8.20	5.0E-06	0.04	33.7	2.63	6	23.7	66.1	89.8	32.6	UnDef	UnDef	10.0	UnDef	9.9	21.5
8.53	5.0E-08	0.05	25.0	3.85	6	18.1	72.3	90.4	43.1	UnDef	UnDef	10.0	UnDef	17.7	35.4
8.86	5.0E-08	0.03	43.2	5.50	1	31.3	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
9.19	5.0E-08	0.02	46.5	6.83	1	34.2	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
9.51	5.0E-08	0.00	27.3	9.62	1	20.7	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
9.84	5.0E-08	0.00	24.2	7.42	1	18.7	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
10.17	5.0E-08	-0.01	13.2	8.83	1	10.8	UnDef	UnDef	100.0	UnDef	UnDef	5.0	UnDef	UnDef	UnDef
10.50	1.0E-15	-0.02	7.6	10.00	1	6.6	UnDef	UnDef	100.0	UnDef	UnDef	2.2	UnDef	UnDef	UnDef
10.83	5.0E-08	-0.02	10.4	7.93	1	8.8	UnDef	UnDef	100.0	UnDef	UnDef	3.5	UnDef	UnDef	UnDef
11.15	5.0E-08	-0.02	10.3	8.21	1	8.9	UnDef	UnDef	100.0	UnDef	UnDef	3.4	UnDef	UnDef	UnDef
11.48	5.0E-08	-0.01	20.6	4.94	1	17.2	UnDef	UnDef	100.0	UnDef	UnDef	9.9	UnDef	UnDef	UnDef
11.81	5.0E-08	0.00	26.1	5.02	1	21.9	UnDef	UnDef	100.0	UnDef	UnDef	10.0	UnDef	UnDef	UnDef
12.14	5.0E-08	0.00	36.9	4.58	6	31.0	124.2	155.2	39.2	UnDef	UnDef	10.0	UnDef	30.4	60.8
12.47	5.0E-08	0.00	37.0	4.94	6	31.5	126.0	157.5	40.4	UnDef	UnDef	10.0	UnDef	30.8	61.7
12.80	5.0E-08	0.01	47.8	5.11	6	41.0	164.0	205.0	36.9	UnDef	UnDef	10.0	UnDef	40.1	80.3

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
13.12	5.0E-05	0.00	150.9	3.20	12	129.2	UnDef	UnDef	0.0	44	74.6	10.0	-0.40	UnDef	UnDef
13.45	5.0E-04	0.00	266.5	2.63	12	230.4	UnDef	UnDef	0.0	46	91.2	1.0	-0.43	UnDef	UnDef
13.78	5.0E-02	0.00	547.2	1.38	9	478.2	0.0	478.2	3.5	50	95.0	1.0	-0.39	0.0	93.6
14.11	5.0E-03	0.00	455.5	2.37	12	403.2	UnDef	UnDef	0.0	48	95.0	1.0	-0.46	UnDef	UnDef
14.44	1.0E-15	0.00	337.7	3.19	12	302.8	UnDef	UnDef	0.0	48	95.0	1.0	-0.51	UnDef	UnDef
14.76	5.0E-03	0.00	301.1	1.95	9	273.2	25.9	299.1	8.2	46	95.0	1.0	-0.38	3.8	70.7
15.09	5.0E-03	0.00	260.0	1.38	9	238.8	10.0	248.8	6.5	46	92.2	1.0	-0.31	1.5	59.9
15.42	5.0E-03	0.00	188.9	1.59	9	175.7	23.1	198.8	9.4	44	83.4	1.0	-0.30	3.4	46.4
15.75	5.0E-02	0.00	302.0	1.12	9	283.5	0.0	283.5	4.5	46	95.0	1.0	-0.30	0.0	55.5
16.08	5.0E-02	0.00	384.3	0.96	9	364.5	0.0	364.5	2.7	48	95.0	1.0	-0.31	0.0	71.3
16.40	5.0E-02	0.00	329.4	1.15	9	316.0	0.0	316.0	4.3	48	95.0	1.0	-0.32	0.0	61.8
16.73	5.0E-02	0.00	262.5	1.26	9	254.6	6.2	260.8	5.9	46	94.1	1.0	-0.30	0.8	50.6
17.06	5.0E-02	0.00	203.0	1.03	9	199.2	5.7	204.9	6.0	46	87.0	1.0	-0.26	0.7	39.7
17.39	5.0E-02	0.00	157.5	0.89	9	156.3	7.3	163.7	6.7	44	80.1	1.0	-0.22	0.9	31.5
17.72	5.0E-02	0.00	131.8	0.79	9	132.2	7.9	140.1	7.1	44	75.3	1.0	-0.19	0.9	26.8
18.04	5.0E-03	0.00	111.8	0.80	9	113.5	11.2	124.6	8.4	42	70.9	1.0	-0.18	1.6	29.4
18.37	5.0E-03	0.00	102.2	0.84	9	104.8	13.7	118.5	9.3	42	68.6	1.0	-0.17	2.0	27.6
18.70	5.0E-03	0.00	97.8	0.79	9	101.3	13.1	114.3	9.3	42	67.6	1.0	-0.16	1.9	26.7
19.03	5.0E-03	0.00	96.6	0.70	9	100.9	11.2	112.1	8.7	42	67.5	1.0	-0.15	1.6	26.3
19.36	5.0E-03	0.00	87.5	0.58	9	92.3	9.5	101.8	8.5	42	65.0	1.0	-0.13	1.4	24.0
19.68	5.0E-03	0.01	79.5	0.57	9	84.7	10.7	95.4	9.2	42	62.5	1.0	-0.12	1.6	22.3
20.01	5.0E-03	0.01	67.0	0.45	9	72.2	0.0	72.2	5.0	40	57.9	1.0	-0.08	0.0	17.7
20.34	5.0E-03	0.01	51.9	0.53	9	56.6	14.9	71.4	12.8	38	51.0	1.0	-0.07	2.1	15.9
20.67	5.0E-03	0.02	44.4	0.54	9	48.7	16.7	65.5	14.6	38	46.7	1.0	-0.06	2.3	14.2
21.00	5.0E-03	0.02	46.2	0.52	9	50.9	15.8	66.7	13.9	38	47.9	1.0	-0.06	2.2	14.6
21.33	5.0E-03	0.02	49.0	0.74	9	54.1	20.9	75.1	15.4	38	49.7	1.0	-0.09	2.8	16.0
21.65	5.0E-03	0.01	65.3	0.66	9	72.0	15.9	87.9	11.8	40	57.9	1.0	-0.11	2.2	19.9
[illegible]98	5.0E-03	0.01	65.1	1.00	9	72.1	24.7	96.7	14.6	40	57.9	1.0	-0.15	3.3	21.0
[illegible]31	5.0E-03	0.01	73.3	0.60	9	81.3	12.9	94.2	10.1	40	61.4	1.0	-0.11	1.9	21.8
22.64	5.0E-03	0.01	61.7	0.47	9	69.0	0.0	69.0	5.0	40	56.6	1.0	-0.08	0.0	16.9
22.97	5.0E-03	0.01	46.5	0.45	9	52.5	0.0	52.5	5.0	38	48.8	1.0	-0.05	0.0	12.8
23.29	5.0E-03	0.02	43.0	0.51	9	48.8	16.7	65.5	14.6	38	46.7	1.0	-0.05	2.3	14.2
23.62	5.0E-03	0.01	66.7	0.83	9	75.3	20.4	95.7	13.0	40	59.1	1.0	-0.13	2.8	21.2
23.95	5.0E-03	0.00	127.2	1.21	9	143.1	22.4	165.5	10.1	44	77.5	1.0	-0.23	3.2	38.2
24.28	5.0E-03	0.00	126.2	1.85	7	142.5	42.1	184.6	13.5	44	77.4	1.0	-0.28	5.8	40.7
24.61	5.0E-04	0.00	109.5	2.30	7	124.3	57.1	181.4	16.8	42	73.5	1.0	-0.30	9.9	50.5
24.93	5.0E-05	0.00	71.6	3.08	7	82.0	88.5	170.4	24.4	40	61.6	10.0	-0.30	15.4	47.5
25.26	5.0E-04	0.00	50.1	1.91	7	57.9	55.4	113.3	23.3	38	51.6	1.0	-0.18	8.3	27.2
25.59	5.0E-03	0.00	45.9	0.50	9	53.3	16.3	69.7	13.8	38	49.3	1.0	-0.06	2.2	15.3
25.92	5.0E-03	0.01	42.6	0.16	9	49.9	0.0	49.9	5.0	38	47.3	1.0	0.04	0.0	12.2
26.25	5.0E-03	0.01	40.9	0.07	9	48.1	0.0	48.1	5.0	38	46.3	1.0	0.11	0.0	11.8
26.57	5.0E-03	0.01	33.6	0.30	9	39.9	0.0	39.9	5.0	36	40.9	1.0	0.01	0.0	9.8
26.90	5.0E-03	0.01	43.2	0.20	9	51.1	0.0	51.1	5.0	38	48.0	1.0	0.02	0.0	12.5
27.23	5.0E-03	0.01	44.1	0.32	9	52.3	0.0	52.3	5.0	38	48.7	1.0	-0.02	0.0	12.8
27.56	5.0E-03	0.00	45.4	0.20	9	53.9	0.0	53.9	5.0	38	49.6	1.0	0.02	0.0	13.2
27.89	5.0E-03	0.01	41.1	0.13	9	49.1	0.0	49.1	5.0	38	46.9	1.0	0.06	0.0	12.0
28.21	5.0E-03	0.01	34.3	0.24	9	41.4	0.0	41.4	5.0	36	42.0	1.0	0.03	0.0	10.1
28.54	5.0E-03	0.01	31.3	0.44	7	38.0	0.0	38.0	5.0	36	39.6	1.0	-0.01	0.0	9.3
28.87	5.0E-03	0.01	33.7	0.48	7	40.9	0.0	40.9	5.0	36	41.7	1.0	-0.03	0.0	10.0
29.20	5.0E-04	0.01	27.2	0.98	7	33.4	38.9	72.4	25.2	36	35.9	1.0	-0.06	5.5	16.4
29.53	5.0E-05	0.02	15.2	1.95	6	19.3	77.4	96.7	42.7	32	30.0	6.1	-0.06	7.6	15.1
29.86	5.0E-05	0.06	7.8	1.67	4	10.6	42.6	53.2	55.5	30	30.0	2.3	0.03	4.2	8.3
30.18	5.0E-05	0.14	6.1	0.72	6	8.7	34.9	43.6	51.5	30	30.0	1.7	0.11	3.4	6.8
30.59	5.0E-05	0.13	7.2	0.81	6	10.0	40.2	50.2	48.7	30	30.0	2.1	0.09	3.9	7.9
31.00	5.0E-05	0.12	7.2	1.54	4	10.1	40.3	50.4	56.3	30	30.0	2.1	0.05	3.9	7.9
31.33	5.0E-05	0.06	9.5	0.98	6	12.9	51.6	64.4	44.3	30	30.0	3.0	0.04	5.0	10.1
31.66	5.0E-05	0.05	11.0	1.14	6	14.7	58.9	73.6	42.9	30	30.0	3.8	0.02	5.8	11.5
[illegible]99	5.0E-05	0.04	12.3	0.94	6	16.4	65.4	81.8	38.4	30	30.0	4.4	0.02	6.4	12.8
[illegible]32	5.0E-04	0.02	13.0	0.68	7	17.2	63.1	80.4	34.4	30	30.0	1.0	0.03	5.4	11.1
32.64	5.0E-05	0.04	7.2	0.90	6	10.3	41.1	51.4	49.8	30	30.0	2.1	0.07	4.0	8.0
32.97	5.0E-05	0.08	5.9	0.16	1	8.7	UnDef	UnDef	100.0	30	30.0	1.6	0.21	UnDef	UnDef
33.30	5.0E-05	0.12	5.6	0.80	6	8.4	33.7	42.2	54.6	30	30.0	1.5	0.11	3.3	6.6

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
33.63	5.0E-05	0.07	11.8	0.92	6	16.0	64.0	80.0	39.1	30	30.0	4.2	0.03	6.3	12.5
33.96	5.0E-03	0.01	35.4	0.57	7	45.0	22.5	67.5	17.5	38	44.4	1.0	-0.04	2.9	13.9
34.28	5.0E-03	0.00	47.1	0.75	7	59.6	24.5	84.1	15.9	38	52.4	1.0	-0.09	3.2	17.8
34.61	5.0E-03	0.00	50.1	0.64	9	63.5	20.8	84.2	14.2	38	54.2	1.0	-0.09	2.8	18.4
34.94	5.0E-03	0.00	39.5	0.84	7	50.6	29.5	80.1	18.8	38	47.8	1.0	-0.09	3.7	16.1
35.27	5.0E-04	0.00	32.5	0.99	7	42.0	37.7	79.8	22.7	36	42.4	1.0	-0.08	5.8	19.5
35.60	5.0E-04	0.00	25.5	0.97	7	33.4	42.6	76.1	26.0	34	35.9	1.0	-0.06	5.9	16.8
35.92	5.0E-04	0.00	22.0	0.84	7	29.1	41.6	70.7	27.0	34	31.9	1.0	-0.03	5.5	15.0
36.25	5.0E-04	0.00	20.8	0.88	7	27.7	45.9	73.7	28.4	34	30.5	1.0	-0.03	5.8	14.8
36.58	5.0E-04	0.00	21.7	0.81	7	29.0	41.0	70.0	26.9	34	31.8	1.0	-0.03	5.5	14.9
36.91	5.0E-04	0.00	24.7	0.81	7	32.7	37.4	70.2	25.0	34	35.3	1.0	-0.04	5.3	16.0
37.24	5.0E-04	0.00	22.3	0.92	7	29.8	45.6	75.4	27.6	34	32.6	1.0	-0.04	5.9	15.6
37.57	5.0E-04	0.00	18.2	0.94	7	24.7	57.5	82.2	31.2	32	30.0	1.0	-0.02	6.3	14.3
37.89	5.0E-04	0.00	20.5	0.44	7	27.7	0.0	27.7	5.0	34	30.5	1.0	0.02	0.0	9.0
38.22	5.0E-04	0.00	20.7	0.47	7	28.0	0.0	28.0	5.0	34	30.8	1.0	0.02	0.0	9.1
38.55	5.0E-04	0.00	19.3	0.67	7	26.4	38.9	65.3	27.3	32	30.0	1.0	0.00	5.1	13.7
38.88	5.0E-04	0.00	20.1	0.47	7	27.5	0.0	27.5	5.0	34	30.2	1.0	0.02	0.0	9.0
39.21	5.0E-04	-0.01	21.6	0.47	7	29.5	0.0	29.5	5.0	34	32.3	1.0	0.01	0.0	9.6
39.53	5.0E-04	-0.01	23.8	0.67	7	32.4	33.5	65.8	24.0	34	34.9	1.0	-0.02	4.9	15.5
39.86	5.0E-03	0.00	28.7	0.59	7	38.8	27.3	66.2	20.5	36	40.2	1.0	-0.03	3.3	12.8
40.19	5.0E-03	0.00	30.7	0.68	7	41.5	29.4	70.9	20.5	36	42.1	1.0	-0.05	3.6	13.7
40.52	5.0E-04	0.00	22.5	0.76	7	30.9	39.1	70.0	25.9	34	33.6	1.0	-0.03	5.4	15.5
40.85	5.0E-04	-0.01	15.0	1.09	6	21.3	85.3	106.6	36.2	32	30.0	1.0	-0.01	7.0	13.9
41.17	5.0E-04	0.00	15.8	0.75	7	22.4	53.6	76.1	31.4	32	30.0	1.0	0.01	5.8	13.1
41.50	5.0E-03	-0.01	20.0	0.28	7	27.9	0.0	27.9	5.0	34	30.7	1.0	0.06	0.0	6.8
41.83	5.0E-04	-0.01	18.5	0.29	7	26.1	0.0	26.1	5.0	32	30.0	1.0	0.06	0.0	8.5
42.16	5.0E-03	0.00	18.2	0.06	7	25.8	0.0	25.8	5.0	32	30.0	1.0	0.19	0.0	6.3
[illegible]49	5.0E-03	-0.01	20.2	0.26	7	28.5	0.0	28.5	5.0	34	31.3	1.0	0.06	0.0	7.0
[illegible]81	5.0E-03	-0.01	23.4	0.32	7	32.8	0.0	32.8	5.0	34	35.3	1.0	0.04	0.0	8.0
43.14	5.0E-03	-0.01	25.6	0.46	7	35.8	0.0	35.8	5.0	34	37.8	1.0	0.00	0.0	8.8
43.47	5.0E-03	-0.01	26.0	0.66	7	36.3	32.4	68.8	22.7	34	38.3	1.0	-0.03	3.7	12.6
43.80	5.0E-04	-0.01	25.3	0.81	7	35.5	39.3	74.8	24.7	34	37.6	1.0	-0.04	5.7	17.3
44.13	5.0E-04	-0.01	23.8	0.82	7	33.7	41.4	75.1	25.6	34	36.1	1.0	-0.04	5.8	16.8
44.45	5.0E-03	-0.01	25.9	0.60	7	36.5	30.4	67.0	22.0	34	38.4	1.0	-0.02	3.6	12.5
44.78	5.0E-04	-0.01	25.0	0.76	7	35.4	37.6	72.9	24.3	34	37.5	1.0	-0.04	5.5	17.0
45.11	5.0E-04	-0.01	23.5	0.89	7	33.5	45.3	78.8	26.5	34	36.0	1.0	-0.04	6.1	17.1
45.44	5.0E-04	0.00	22.8	0.71	7	32.7	37.7	70.4	25.1	34	35.2	1.0	-0.02	5.4	16.0
45.77	5.0E-04	0.00	23.6	0.65	7	33.8	35.0	68.7	24.0	34	36.2	1.0	-0.02	5.1	16.2
46.10	5.0E-04	0.00	22.1	0.79	7	31.9	43.0	74.9	26.5	34	34.5	1.0	-0.03	5.8	16.2
46.42	5.0E-04	0.00	22.4	0.72	7	32.3	39.2	71.6	25.5	34	34.9	1.0	-0.02	5.5	16.1
46.75	5.0E-03	-0.01	26.2	0.42	7	37.6	0.0	37.6	5.0	36	39.2	1.0	0.01	0.0	9.2
47.08	5.0E-03	-0.01	25.6	0.57	7	36.9	30.2	67.1	21.9	34	38.7	1.0	-0.02	3.5	12.6
47.41	5.0E-03	-0.01	24.3	0.55	7	35.2	30.3	65.5	22.3	34	37.4	1.0	-0.01	3.5	12.1
47.74	5.0E-04	-0.01	21.8	0.59	7	31.9	34.2	66.1	24.4	34	34.5	1.0	0.00	5.0	15.4
48.06	5.0E-03	-0.01	22.6	0.49	7	33.0	0.0	33.0	5.0	34	35.5	1.0	0.00	0.0	8.1
48.39	5.0E-03	-0.02	23.1	0.44	7	33.9	0.0	33.9	5.0	34	36.2	1.0	0.01	0.0	8.3
48.72	5.0E-04	-0.01	22.0	0.71	7	32.4	39.9	72.3	25.7	34	35.0	1.0	-0.02	5.6	16.1
49.05	5.0E-03	-0.01	25.5	0.35	7	37.3	0.0	37.3	5.0	34	39.0	1.0	0.02	0.0	9.1
49.38	5.0E-03	-0.01	28.4	0.39	7	41.5	0.0	41.5	5.0	36	42.1	1.0	0.00	0.0	10.2
49.70	5.0E-03	-0.01	35.6	0.60	7	51.5	26.7	78.2	17.8	38	48.3	1.0	-0.05	3.4	16.0
50.03	5.0E-03	-0.01	41.1	0.86	7	59.3	33.7	93.1	18.6	38	52.3	1.0	-0.09	4.3	18.8
50.36	5.0E-04	-0.01	34.5	1.52	7	50.3	63.2	113.5	25.9	38	47.6	1.0	-0.12	8.8	25.2
50.69	5.0E-04	-0.01	21.6	1.84	6	32.3	129.1	161.3	35.4	34	34.9	1.0	-0.09	10.5	21.1
51.02	5.0E-04	-0.01	22.2	1.02	7	33.3	56.7	90.0	28.6	34	35.7	1.0	-0.05	7.1	17.9
51.34	5.0E-03	0.00	45.8	0.64	9	66.6	24.9	91.5	15.2	38	55.6	1.0	-0.08	3.3	19.6
51.67	5.0E-02	0.00	53.7	0.52	9	77.8	18.9	96.7	12.3	40	60.1	1.0	-0.08	2.1	17.3
52.00	5.0E-02	0.00	52.2	0.48	9	76.0	0.0	76.0	5.0	38	59.4	1.0	-0.07	0.0	14.9
[illegible]33	5.0E-03	0.00	57.7	0.96	7	83.8	32.7	116.5	15.5	40	62.2	1.0	-0.13	4.4	24.9
[illegible]66	5.0E-03	0.00	63.4	1.10	7	92.2	36.1	128.3	15.5	40	65.0	1.0	-0.15	4.8	27.4
[illegible]98	5.0E-03	0.00	68.4	1.09	9	99.5	34.9	134.4	14.7	40	67.1	1.0	-0.16	4.7	29.1
53.31	5.0E-02	0.00	87.5	1.00	9	127.0	28.1	155.1	11.8	42	74.1	1.0	-0.17	3.2	28.0
53.64	5.0E-03	0.00	86.2	1.18	9	125.4	34.8	160.2	13.1	42	73.8	1.0	-0.19	4.8	35.5

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
53.97	5.0E-02	0.00	105.7	1.02	9	153.8	25.3	179.1	10.3	42	79.6	1.0	-0.19	2.9	33.0
54.30	5.0E-02	0.00	127.4	1.15	9	185.3	26.5	211.8	9.7	44	85.0	1.0	-0.22	3.1	39.3
54.63	5.0E-02	0.00	116.3	1.18	9	169.7	29.8	199.6	10.6	42	82.4	1.0	-0.22	3.4	36.6
54.95	5.0E-03	0.00	79.4	1.15	9	116.8	35.1	151.9	13.7	42	71.7	1.0	-0.18	4.8	33.4
55.28	5.0E-02	0.00	58.2	0.92	9	86.4	32.0	118.4	15.1	40	63.1	1.0	-0.13	3.4	20.4
55.61	5.0E-03	0.00	50.2	0.94	7	74.9	34.8	109.7	16.9	38	59.0	1.0	-0.12	4.5	22.9
55.94	5.0E-03	0.00	40.2	0.96	7	60.7	38.9	99.6	19.6	38	53.0	1.0	-0.10	4.8	19.7
56.27	5.0E-03	0.00	31.2	1.00	7	47.7	45.7	93.4	23.3	36	46.1	1.0	-0.08	5.1	16.8
56.59	5.0E-03	0.00	31.2	0.79	7	47.8	37.4	85.2	21.4	36	46.1	1.0	-0.06	4.4	16.1
56.92	5.0E-03	0.00	39.1	0.82	7	59.4	34.4	93.8	18.7	38	52.3	1.0	-0.08	4.3	18.9
57.25	5.0E-03	0.00	45.6	0.86	7	69.0	33.8	102.9	17.3	38	56.7	1.0	-0.10	4.4	21.3
57.58	5.0E-03	0.00	53.0	0.96	7	80.1	35.3	115.4	16.4	40	60.9	1.0	-0.12	4.6	24.2
57.91	5.0E-03	0.00	58.9	1.10	7	89.0	38.7	127.7	16.4	40	63.9	1.0	-0.15	5.1	26.9
58.23	5.0E-02	0.00	76.8	0.98	9	115.6	30.4	145.9	12.8	40	71.4	1.0	-0.16	3.4	26.0
58.56	5.0E-03	0.00	71.3	1.12	9	107.7	36.5	144.2	14.5	40	69.4	1.0	-0.17	5.0	31.3
58.89	5.0E-03	0.00	56.1	1.09	7	85.4	39.3	124.7	16.8	40	62.8	1.0	-0.14	5.1	26.0
59.22	5.0E-02	0.00	63.5	1.00	9	96.6	34.1	130.7	14.8	40	66.3	1.0	-0.14	3.7	22.6
59.55	5.0E-03	0.00	79.5	1.81	7	120.7	60.9	181.6	17.6	42	72.7	1.0	-0.23	7.8	37.4
59.87	5.0E-05	0.00	52.3	3.38	6	80.3	153.4	233.6	29.6	40	61.0	10.0	-0.28	21.9	53.3
60.20	5.0E-04	0.02	91.8	2.36	7	139.5	80.8	220.3	18.7	42	76.8	1.0	-0.28	13.5	59.1
60.53	5.0E-04	0.00	113.9	2.59	7	172.8	88.5	261.3	17.7	42	83.0	1.0	-0.32	15.2	71.5
60.86	1.0E-15	-0.01	92.1	3.23	7	140.5	120.2	260.7	22.3	42	77.0	1.0	-0.34	27.9	96.6
61.19	5.0E-04	-0.01	72.3	2.09	7	111.0	73.9	184.9	20.0	40	70.3	1.0	-0.24	12.1	48.3

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.00.19M
[redacted] No: 04-0401-1123-5807
[redacted] No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: DIKE N
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/24/03
CPT Time: 16:19
CPT File: 717CP00N.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 3.37 (ft): 11.0
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
0.16	35.2	0.16	0.46	0.3	7	117.8	0.01	0.01	0.00	2.00	11.2	22.5	UnDef	0.11
0.49	89.3	0.72	0.81	0.3	8	120.9	0.03	0.03	0.00	2.00	21.4	42.7	UnDef	0.00
0.82	137.3	1.58	1.15	-3.9	8	120.9	0.05	0.05	0.00	2.00	32.9	65.7	UnDef	0.00
1.15	165.0	2.12	1.28	-14.1	8	120.9	0.07	0.07	0.00	2.00	39.5	79.0	UnDef	0.00
[redacted]48	186.0	2.42	1.30	-15.4	8	120.9	0.09	0.09	0.00	2.00	44.5	89.1	UnDef	0.00
[redacted]80	200.6	3.14	1.57	-11.8	8	120.9	0.11	0.11	0.00	2.00	48.0	96.0	UnDef	0.00
2.13	197.3	3.71	1.88	-9.5	8	120.9	0.13	0.13	0.00	2.00	47.2	94.5	UnDef	0.00
2.46	189.0	2.85	1.51	-9.3	8	120.9	0.15	0.15	0.00	2.00	45.3	90.5	UnDef	0.00
2.79	176.8	2.47	1.40	-7.3	8	120.9	0.17	0.17	0.00	2.00	42.3	84.7	UnDef	0.00
3.12	163.4	3.05	1.87	-6.4	7	117.8	0.19	0.19	0.00	2.00	52.2	104.3	UnDef	0.00
3.44	158.2	2.92	1.85	-7.3	7	117.8	0.21	0.21	0.00	2.00	50.5	101.0	UnDef	0.00
3.77	157.4	2.71	1.72	-8.2	8	120.9	0.23	0.23	0.00	2.00	37.7	75.4	UnDef	0.00
4.10	153.0	2.86	1.87	-12.5	7	117.8	0.25	0.25	0.00	2.00	48.9	97.7	UnDef	0.00
4.43	135.3	2.42	1.79	-15.8	7	117.8	0.27	0.27	0.00	1.94	43.2	83.8	UnDef	0.00
4.76	126.9	2.09	1.65	-9.1	8	120.9	0.29	0.29	0.00	1.87	30.4	56.9	UnDef	0.00
5.09	128.6	2.27	1.77	-3.7	7	117.8	0.30	0.30	0.00	1.81	41.1	74.4	UnDef	0.00
5.41	141.8	2.60	1.83	-5.6	7	117.8	0.32	0.32	0.00	1.76	45.3	79.5	UnDef	0.00
5.74	142.9	2.17	1.52	-13.0	8	120.9	0.34	0.34	0.00	1.71	34.2	58.4	UnDef	0.00
6.07	171.1	2.65	1.55	-12.0	8	120.9	0.36	0.36	0.00	1.66	41.0	68.0	UnDef	0.00
6.40	200.5	3.87	1.93	-7.8	8	120.9	0.38	0.38	0.00	1.62	48.0	77.6	UnDef	0.00
6.73	203.5	4.19	2.06	-14.0	7	117.8	0.40	0.40	0.00	1.58	65.0	102.4	UnDef	0.00
7.05	196.9	4.10	2.09	-9.4	7	117.8	0.42	0.42	0.00	1.54	62.8	96.7	UnDef	0.00
7.38	191.3	4.00	2.09	-7.8	7	117.8	0.44	0.44	0.00	1.51	61.1	91.9	UnDef	0.00
7.79	186.1	3.76	2.02	-8.4	7	117.8	0.47	0.47	0.00	1.47	59.4	87.1	UnDef	0.00
8.20	193.5	3.63	1.88	-14.1	8	120.9	0.49	0.49	0.00	1.43	46.3	66.2	UnDef	0.00
8.53	185.6	4.08	2.20	-12.3	7	117.8	0.51	0.51	0.00	1.40	59.2	83.0	UnDef	0.00
8.86	175.7	3.60	2.05	-10.4	7	117.8	0.53	0.53	0.00	1.38	56.1	77.1	UnDef	0.00
9.19	148.6	3.05	2.05	-12.1	7	117.8	0.55	0.55	0.00	1.35	47.4	64.1	UnDef	0.00
9.51	131.6	2.73	2.08	-12.1	7	117.8	0.57	0.57	0.00	1.33	42.0	55.8	UnDef	0.00
9.84	120.6	2.54	2.11	-14.2	7	117.8	0.59	0.59	0.00	1.31	38.5	50.3	UnDef	0.00
10.17	102.5	2.19	2.14	-12.9	7	117.8	0.61	0.61	0.00	1.28	32.7	42.0	UnDef	0.00
10.50	97.7	1.96	2.01	-11.9	7	117.8	0.63	0.63	0.00	1.26	31.2	39.4	UnDef	0.41
10.83	94.6	2.16	2.28	-9.9	7	117.8	0.64	0.64	0.00	1.25	30.2	37.6	UnDef	0.42
11.15	87.3	1.73	1.99	-14.3	7	117.8	0.66	0.66	0.00	1.23	27.9	34.3	UnDef	0.32
11.48	84.7	1.53	1.81	-11.2	7	117.8	0.68	0.67	0.01	1.22	27.0	33.0	UnDef	0.29
[redacted]81	77.5	1.66	2.14	-8.4	7	117.8	0.70	0.68	0.02	1.21	24.7	30.0	UnDef	0.28
[redacted]14	70.9	1.25	1.76	-11.7	7	117.8	0.72	0.69	0.03	1.21	22.6	27.3	UnDef	0.22
12.47	59.3	1.10	1.85	-8.7	7	117.8	0.74	0.70	0.04	1.20	18.9	22.7	UnDef	0.18
12.80	52.4	0.93	1.78	-7.2	7	117.8	0.76	0.71	0.05	1.19	16.7	19.9	UnDef	0.16

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60 (blows/ft)	Su (tsf)	CRR
13.12	48.3	0.79	1.64	-10.5	7	117.8	0.78	0.72	0.06	1.18	15.4	18.3	UnDef	0.14
13.45	44.6	0.75	1.67	-5.6	7	117.8	0.80	0.72	0.08	1.18	14.2	16.7	UnDef	0.14
13.78	44.7	0.72	1.60	-7.0	7	117.8	0.82	0.73	0.09	1.17	14.3	16.7	UnDef	0.13
14.11	46.7	0.73	1.57	-5.0	7	117.8	0.84	0.74	0.10	1.16	14.9	17.3	UnDef	0.14
14.44	45.9	0.60	1.31	1.7	7	117.8	0.86	0.75	0.11	1.15	14.7	16.9	UnDef	0.13
14.76	46.7	0.71	1.51	0.1	7	117.8	0.88	0.76	0.12	1.15	14.9	17.1	UnDef	0.13
15.09	40.0	0.72	1.79	-2.9	6	114.6	0.90	0.77	0.13	1.14	15.3	17.5	3.13	0.14
15.42	33.8	0.40	1.17	-1.3	7	117.8	0.91	0.78	0.14	1.13	10.8	12.2	UnDef	0.11
15.75	26.6	0.33	1.23	5.0	6	114.6	0.93	0.79	0.15	1.13	10.2	11.5	2.05	0.10
16.08	34.2	0.31	0.89	8.2	7	117.8	0.95	0.80	0.16	1.12	10.9	12.2	UnDef	0.10
16.40	34.9	0.30	0.85	3.8	7	117.8	0.97	0.80	0.17	1.11	11.1	12.4	UnDef	0.10
16.73	31.5	0.18	0.56	3.9	7	117.8	0.99	0.81	0.18	1.11	10.1	11.2	UnDef	0.09
17.06	19.6	0.10	0.51	6.2	6	114.6	1.01	0.82	0.19	1.10	7.5	8.3	1.49	0.09
17.39	17.3	0.08	0.46	16.9	6	114.6	1.03	0.83	0.20	1.10	6.6	7.3	1.30	0.00
17.72	17.5	0.09	0.51	22.5	6	114.6	1.05	0.84	0.21	1.09	6.7	7.3	1.32	0.09
18.04	19.4	0.10	0.49	20.6	6	114.6	1.07	0.85	0.22	1.09	7.4	8.1	1.47	0.09
18.37	17.7	0.09	0.51	16.4	6	114.6	1.09	0.86	0.23	1.08	6.8	7.3	1.33	0.09
18.70	17.3	0.12	0.70	20.6	6	114.6	1.10	0.87	0.24	1.08	6.6	7.1	1.29	0.09
19.03	16.5	0.10	0.58	14.6	6	114.6	1.12	0.87	0.25	1.07	6.3	6.8	1.23	0.09
19.36	13.0	0.08	0.62	25.8	6	114.6	1.14	0.88	0.26	1.06	5.0	5.3	0.95	0.10
19.68	14.0	0.09	0.61	28.0	6	114.6	1.16	0.89	0.27	1.06	5.4	5.7	1.03	0.09
20.01	13.8	0.08	0.58	24.9	6	114.6	1.18	0.90	0.28	1.05	5.3	5.6	1.01	0.09
20.34	12.5	0.07	0.56	27.2	6	114.6	1.20	0.91	0.29	1.05	4.8	5.0	0.91	0.10
20.67	12.4	0.07	0.57	27.1	6	114.6	1.22	0.92	0.30	1.04	4.7	4.9	0.89	0.10
21.00	13.8	0.09	0.62	23.9	6	114.6	1.24	0.93	0.31	1.04	5.3	5.5	1.01	0.10
21.33	18.0	0.12	0.64	18.0	6	114.6	1.25	0.93	0.32	1.03	6.9	7.1	1.34	0.09
21.65	21.4	0.14	0.63	14.9	6	114.6	1.27	0.94	0.33	1.03	8.2	8.4	1.61	0.09
[illegible]98	19.5	0.13	0.67	17.8	6	114.6	1.29	0.95	0.34	1.03	7.5	7.7	1.46	0.09
[illegible]31	10.1	0.08	0.79	26.1	6	114.6	1.31	0.96	0.35	1.02	3.9	3.9	0.70	0.09
22.64	6.3	0.03	0.40	41.1	1	111.4	1.33	0.97	0.36	1.02	3.0	3.1	0.40	0.00
22.97	4.9	0.02	0.31	44.9	1	111.4	1.35	0.98	0.37	1.01	2.3	2.4	0.28	0.00
23.29	3.5	0.01	0.29	46.9	1	111.4	1.37	0.98	0.38	1.01	1.7	1.7	0.17	0.00
23.62	3.0	0.01	0.33	46.4	1	111.4	1.38	0.99	0.39	1.00	1.4	1.4	0.13	0.00
23.95	3.1	0.01	0.33	48.9	1	111.4	1.40	1.00	0.40	1.00	1.5	1.5	0.13	0.00
24.28	2.7	0.01	0.37	48.9	1	111.4	1.42	1.01	0.41	1.00	1.3	1.3	0.10	0.00
24.61	2.2	0.01	0.47	50.3	1	111.4	1.44	1.02	0.42	0.99	1.0	1.0	0.06	0.00
24.93	2.4	0.01	0.42	50.1	1	111.4	1.46	1.02	0.43	0.99	1.2	1.1	0.08	0.00
25.26	2.8	0.01	0.36	49.1	1	111.4	1.48	1.03	0.44	0.98	1.3	1.3	0.10	0.00
25.59	3.1	0.01	0.32	41.3	1	111.4	1.49	1.04	0.45	0.98	1.5	1.5	0.13	0.00
25.92	3.0	0.01	0.33	49.7	1	111.4	1.51	1.05	0.46	0.98	1.5	1.4	0.12	0.00
26.25	2.6	0.01	0.38	52.1	1	111.4	1.53	1.06	0.47	0.97	1.3	1.2	0.09	0.00
26.57	3.5	0.01	0.29	50.7	1	111.4	1.55	1.06	0.48	0.97	1.7	1.6	0.16	0.00
26.90	4.4	0.01	0.23	46.3	1	111.4	1.57	1.07	0.49	0.97	2.1	2.0	0.23	0.00
27.23	4.7	0.01	0.21	46.0	1	111.4	1.59	1.08	0.51	0.96	2.3	2.2	0.25	0.00
27.56	6.5	0.01	0.15	44.4	1	111.4	1.60	1.09	0.52	0.96	3.1	3.0	0.39	0.00
27.89	6.4	0.03	0.47	43.9	1	111.4	1.62	1.10	0.53	0.96	3.1	2.9	0.38	0.00
28.21	13.6	0.09	0.63	38.8	6	114.6	1.64	1.10	0.54	0.95	5.2	5.0	0.96	0.10
28.54	21.0	0.20	0.96	30.9	6	114.6	1.66	1.11	0.55	0.95	8.0	7.6	1.54	0.12
28.87	21.2	0.21	0.99	25.9	6	114.6	1.68	1.12	0.56	0.94	8.1	7.7	1.56	0.13
29.20	22.5	0.17	0.73	26.7	6	114.6	1.70	1.13	0.57	0.94	8.6	8.1	1.67	0.10
29.53	23.0	0.23	1.00	27.9	6	114.6	1.72	1.14	0.58	0.94	8.8	8.2	1.70	0.12
29.86	32.4	0.41	1.25	26.7	7	117.8	1.73	1.15	0.59	0.93	10.3	9.6	UnDef	0.12
30.18	52.7	0.77	1.47	3.2	7	117.8	1.75	1.16	0.60	0.93	16.8	15.6	UnDef	0.15
30.59	72.7	1.43	1.97	-6.2	7	117.8	1.78	1.17	0.61	0.93	23.2	21.5	UnDef	0.23
31.00	67.7	1.27	1.88	-6.7	7	117.8	1.80	1.18	0.62	0.92	21.6	19.9	UnDef	0.21
31.33	52.5	0.62	1.18	-4.5	7	117.8	1.82	1.19	0.63	0.92	16.7	15.4	UnDef	0.13
31.66	49.9	0.23	0.46	9.3	8	120.9	1.84	1.20	0.64	0.91	12.0	10.9	UnDef	0.09
31.99	29.6	0.37	1.25	29.9	6	114.6	1.86	1.21	0.65	0.91	11.3	10.3	2.22	0.14
[illegible]32	25.6	0.30	1.16	32.9	6	114.6	1.88	1.22	0.66	0.91	9.8	8.9	1.90	0.14
[illegible].64	20.9	0.19	0.91	39.0	6	114.6	1.90	1.22	0.67	0.90	8.0	7.2	1.52	0.14
32.97	18.2	0.11	0.58	35.0	6	114.6	1.92	1.23	0.68	0.90	7.0	6.3	1.30	0.11
33.30	13.6	0.06	0.44	31.9	6	114.6	1.94	1.24	0.69	0.90	5.2	4.7	0.93	0.10

[illegible]ch (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60 (blows/ft)	Su (tsf)	CRR
33.63	12.5	0.13	1.00	44.4	6	114.6	1.95	1.25	0.70	0.89	4.8	4.3	0.84	0.10
33.96	18.8	0.23	1.20	30.2	6	114.6	1.97	1.26	0.72	0.89	7.2	6.4	1.34	0.13
34.28	20.6	0.20	0.97	27.0	6	114.6	1.99	1.27	0.73	0.89	7.9	7.0	1.49	0.15
34.61	19.4	0.20	1.04	27.4	6	114.6	2.01	1.28	0.74	0.89	7.4	6.6	1.39	0.13
34.94	19.1	0.24	1.26	29.8	6	114.6	2.03	1.28	0.75	0.88	7.3	6.5	1.37	0.13
35.27	12.9	0.17	1.32	43.3	6	114.6	2.05	1.29	0.76	0.88	4.9	4.4	0.87	0.10
35.60	12.5	0.08	0.60	47.4	6	114.6	2.07	1.30	0.77	0.88	4.8	4.2	0.84	0.09
35.92	13.6	0.03	0.18	50.0	6	114.6	2.09	1.31	0.78	0.87	5.2	4.5	0.92	0.00
36.25	8.9	0.04	0.39	55.4	6	114.6	2.11	1.32	0.79	0.87	3.4	3.0	0.54	0.00
36.58	15.5	0.11	0.71	51.4	6	114.6	2.12	1.33	0.80	0.87	5.9	5.2	1.07	0.11
36.91	15.2	0.20	1.32	44.6	6	114.6	2.14	1.34	0.81	0.87	5.8	5.0	1.04	0.10
37.24	10.9	0.10	0.92	55.4	6	114.6	2.16	1.34	0.82	0.86	4.2	3.6	0.70	0.09
37.57	7.7	0.02	0.19	67.6	1	111.4	2.18	1.35	0.83	0.86	3.7	3.2	0.44	0.00
37.89	7.9	0.01	0.13	66.8	1	111.4	2.20	1.36	0.84	0.86	3.8	3.3	0.46	0.00
38.22	8.6	0.03	0.29	70.1	1	111.4	2.22	1.37	0.85	0.85	4.1	3.5	0.51	0.00
38.55	13.6	0.24	1.77	51.2	5	114.6	2.24	1.38	0.86	0.85	6.5	5.6	0.91	0.10
38.88	24.5	0.15	0.61	37.8	7	117.8	2.25	1.39	0.87	0.85	7.8	6.6	UnDef	0.10
39.21	15.1	0.09	0.60	36.6	6	114.6	2.27	1.39	0.88	0.85	5.8	4.9	1.02	0.10
39.53	10.1	0.07	0.65	68.3	6	114.6	2.29	1.40	0.89	0.84	3.9	3.3	0.62	0.09
39.86	9.7	0.04	0.36	72.6	6	114.6	2.31	1.41	0.90	0.84	3.7	3.1	0.59	0.00
40.19	12.8	0.07	0.51	61.0	6	114.6	2.33	1.42	0.91	0.84	4.9	4.1	0.84	0.09
40.52	18.3	0.20	1.10	57.9	6	114.6	2.35	1.43	0.92	0.84	7.0	5.9	1.27	0.12
40.85	21.2	0.31	1.44	44.7	6	114.6	2.37	1.44	0.93	0.83	8.1	6.8	1.51	0.14
41.17	14.2	0.19	1.35	56.0	6	114.6	2.39	1.45	0.94	0.83	5.4	4.5	0.94	0.10
41.50	10.2	0.07	0.69	78.0	6	114.6	2.40	1.45	0.95	0.83	3.9	3.2	0.62	0.09
41.83	10.1	0.22	2.12	65.3	5	114.6	2.42	1.46	0.96	0.83	4.9	4.0	0.62	0.09
42.16	14.5	0.24	1.66	56.6	6	114.6	2.44	1.47	0.97	0.82	5.5	4.6	0.96	0.10
[illegible]49	22.0	0.31	1.41	40.2	6	114.6	2.46	1.48	0.98	0.82	8.4	6.9	1.56	0.14
[illegible]81	22.3	0.34	1.53	37.7	6	114.6	2.48	1.49	0.99	0.82	8.5	7.0	1.58	0.15
43.14	18.3	0.30	1.64	50.2	6	114.6	2.50	1.50	1.00	0.82	7.0	5.7	1.27	0.12
43.47	17.8	0.20	1.10	79.2	6	114.6	2.52	1.51	1.01	0.82	6.8	5.6	1.22	0.11
43.80	14.8	0.13	0.88	82.6	6	114.6	2.54	1.51	1.02	0.81	5.7	4.6	0.98	0.10
44.13	17.6	0.08	0.46	81.6	6	114.6	2.56	1.52	1.03	0.81	6.7	5.5	1.20	0.11
44.45	18.6	0.11	0.59	80.2	6	114.6	2.57	1.53	1.04	0.81	7.1	5.8	1.29	0.12
44.78	18.7	0.19	1.02	78.8	6	114.6	2.59	1.54	1.05	0.81	7.2	5.8	1.29	0.12
45.11	22.2	0.45	2.03	84.5	6	114.6	2.61	1.55	1.06	0.80	8.5	6.8	1.57	0.14
45.44	17.6	0.39	2.19	50.4	5	114.6	2.63	1.56	1.07	0.80	8.4	6.8	1.20	0.11
45.77	7.6	0.15	1.98	61.6	5	114.6	2.65	1.57	1.08	0.80	3.6	2.9	0.40	0.00
46.10	8.5	0.15	1.71	60.6	5	114.6	2.67	1.57	1.09	0.80	4.1	3.2	0.47	0.08
46.42	9.0	0.25	2.78	43.4	4	114.6	2.69	1.58	1.10	0.79	5.8	4.6	0.51	0.00
46.75	7.5	0.25	3.34	5.8	3	111.4	2.71	1.59	1.11	0.79	7.2	5.7	0.38	0.00
47.08	8.0	0.27	3.32	10.1	3	111.4	2.72	1.60	1.12	0.79	7.7	6.1	0.42	0.00
47.41	12.6	0.49	3.87	6.4	3	111.4	2.74	1.61	1.13	0.79	12.0	9.5	0.78	0.00
47.74	14.9	0.75	5.02	-0.5	3	111.4	2.76	1.62	1.14	0.79	14.2	11.2	0.97	0.00
48.06	23.3	1.00	4.28	2.8	3	111.4	2.78	1.62	1.16	0.78	22.3	17.5	1.64	0.00
48.39	29.4	0.97	3.30	6.9	5	114.6	2.80	1.63	1.17	0.78	14.1	11.0	2.12	0.21
48.72	25.8	0.95	3.67	47.4	5	114.6	2.82	1.64	1.18	0.78	12.4	9.7	1.84	0.00
49.05	28.2	0.85	3.00	74.2	5	114.6	2.83	1.65	1.19	0.78	13.5	10.5	2.03	0.20
49.38	27.5	0.69	2.50	134.5	6	114.6	2.85	1.66	1.20	0.78	10.5	8.2	1.97	0.19
49.70	28.2	0.70	2.49	159.2	6	114.6	2.87	1.67	1.21	0.77	10.8	8.4	2.03	0.19
50.03	25.9	0.89	3.44	225.0	5	114.6	2.89	1.67	1.22	0.77	12.4	9.6	1.84	0.00
50.36	31.6	1.28	4.06	176.6	4	114.6	2.91	1.68	1.23	0.77	20.2	15.6	2.30	0.00
50.69	36.9	1.06	2.88	135.0	6	114.6	2.93	1.69	1.24	0.77	14.1	10.9	2.72	0.33
51.02	30.3	1.28	4.24	111.6	4	114.6	2.95	1.70	1.25	0.77	19.3	14.8	2.19	0.00
51.34	35.6	1.47	4.13	123.8	4	114.6	2.97	1.71	1.26	0.77	22.8	17.4	2.61	0.00
51.67	48.5	1.27	2.62	59.2	6	114.6	2.98	1.72	1.27	0.76	18.6	14.2	3.64	0.00
52.00	49.0	1.20	2.45	1.9	6	114.6	3.00	1.73	1.28	0.76	18.8	14.3	3.68	0.00
52.33	30.1	0.97	3.21	1.3	5	114.6	3.02	1.73	1.29	0.76	14.4	11.0	2.17	0.21
[illegible]66	22.1	1.19	5.38	9.6	3	111.4	3.04	1.74	1.30	0.76	21.1	16.0	1.52	0.00
[illegible]98	25.3	1.14	4.51	17.1	3	111.4	3.06	1.75	1.31	0.76	24.2	18.3	1.78	0.00
53.31	19.5	0.76	3.91	25.5	4	114.6	3.08	1.76	1.32	0.75	12.5	9.4	1.31	0.00
53.64	20.8	0.94	4.53	39.9	3	111.4	3.10	1.77	1.33	0.75	19.9	15.0	1.42	0.00

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60 (blows/ft)	Su (tsf)	CRR
53.97	23.0	1.15	5.02	55.6	3	111.4	3.11	1.78	1.34	0.75	22.0	16.5	1.59	0.00
54.30	24.7	1.15	4.66	70.8	3	111.4	3.13	1.78	1.35	0.75	23.7	17.7	1.73	0.00
54.63	18.3	0.87	4.76	81.7	3	111.4	3.15	1.79	1.36	0.75	17.6	13.1	1.21	0.00
54.95	14.4	0.35	2.41	97.8	5	114.6	3.17	1.80	1.37	0.75	6.9	5.1	0.89	0.00
55.28	11.3	0.19	1.68	115.8	5	114.6	3.19	1.81	1.38	0.74	5.4	4.0	0.65	0.09
55.61	9.8	0.08	0.82	140.0	6	114.6	3.21	1.82	1.39	0.74	3.7	2.8	0.52	0.08
55.94	10.6	0.10	0.95	135.0	6	114.6	3.23	1.83	1.40	0.74	4.0	3.0	0.59	0.09
56.27	19.4	0.20	1.03	133.4	6	114.6	3.24	1.83	1.41	0.74	7.4	5.5	1.29	0.11
56.59	16.8	0.44	2.63	52.1	5	114.6	3.26	1.84	1.42	0.74	8.0	5.9	1.08	0.00
56.92	10.2	0.38	3.68	37.1	3	111.4	3.28	1.85	1.43	0.74	9.8	7.2	0.55	0.00
57.25	7.2	0.23	3.22	60.9	3	111.4	3.30	1.86	1.44	0.73	6.8	5.0	0.31	0.00
57.58	6.2	0.05	0.73	90.9	1	111.4	3.32	1.87	1.45	0.73	3.0	2.2	0.23	0.00
57.91	6.3	0.02	0.32	112.8	1	111.4	3.34	1.87	1.46	0.73	3.0	2.2	0.24	0.00
58.23	8.6	0.01	0.12	113.4	1	111.4	3.36	1.88	1.47	0.73	4.1	3.0	0.42	0.00
58.56	5.7	0.01	0.18	110.6	1	111.4	3.37	1.89	1.48	0.73	2.7	2.0	0.19	0.00
58.89	5.4	0.01	0.19	121.5	1	111.4	3.39	1.90	1.49	0.73	2.6	1.9	0.16	0.00
59.22	5.2	0.01	0.19	127.9	1	111.4	3.41	1.91	1.50	0.72	2.5	1.8	0.14	0.00
59.55	5.7	0.01	0.18	122.6	1	111.4	3.43	1.91	1.51	0.72	2.7	2.0	0.18	0.00
59.87	5.9	0.01	0.17	117.0	1	111.4	3.45	1.92	1.52	0.72	2.8	2.0	0.20	0.00
60.20	7.1	0.01	0.14	116.4	1	111.4	3.46	1.93	1.53	0.72	3.4	2.5	0.29	0.00
60.53	7.7	0.01	0.13	124.8	1	111.4	3.48	1.94	1.54	0.72	3.7	2.6	0.34	0.00
60.86	36.9	0.09	0.24	57.6	7	117.8	3.50	1.95	1.55	0.72	11.8	8.4	UnDef	0.00
61.19	48.7	0.44	0.90	54.2	7	117.8	3.52	1.96	1.56	0.71	15.5	11.1	UnDef	0.14
61.52	51.0	0.38	0.75	59.4	7	117.8	3.54	1.97	1.57	0.71	16.3	11.6	UnDef	0.12
61.84	48.2	0.26	0.53	59.6	8	120.9	3.56	1.98	1.59	0.71	11.5	8.2	UnDef	0.11
62.17	48.4	0.25	0.52	72.5	8	120.9	3.58	1.98	1.60	0.71	11.6	8.2	UnDef	0.11
62.50	52.8	0.38	0.71	68.5	8	120.9	3.60	1.99	1.61	0.71	12.6	8.9	UnDef	0.12
[illegible]83	35.0	0.71	2.03	74.9	6	114.6	3.62	2.00	1.62	0.71	13.4	9.5	2.51	0.24
[illegible]16	20.3	0.32	1.55	92.3	6	114.6	3.64	2.01	1.63	0.71	7.8	5.5	1.34	0.11
63.48	32.0	0.09	0.28	104.6	7	117.8	3.66	2.02	1.64	0.70	10.2	7.2	UnDef	0.00
63.81	32.5	0.23	0.71	104.3	7	117.8	3.68	2.03	1.65	0.70	10.4	7.3	UnDef	0.18
64.14	28.7	0.14	0.47	97.1	7	117.8	3.70	2.04	1.66	0.70	9.1	6.4	UnDef	0.14
64.47	48.8	0.08	0.16	90.2	8	120.9	3.72	2.05	1.67	0.70	11.7	8.2	UnDef	0.08
64.80	70.2	0.27	0.38	53.1	8	120.9	3.74	2.06	1.68	0.70	16.8	11.7	UnDef	0.09
65.12	83.8	0.41	0.48	48.1	8	120.9	3.75	2.07	1.69	0.70	20.1	14.0	UnDef	0.13
65.45	84.6	0.73	0.86	54.7	8	120.9	3.77	2.08	1.70	0.69	20.3	14.1	UnDef	0.16
65.78	80.8	0.56	0.69	53.6	8	120.9	3.79	2.09	1.71	0.69	19.3	13.4	UnDef	0.14
66.11	94.1	0.64	0.68	52.2	8	120.9	3.81	2.10	1.72	0.69	22.5	15.6	UnDef	0.15
66.44	101.5	0.70	0.69	55.4	8	120.9	3.83	2.11	1.73	0.69	24.3	16.7	UnDef	0.16
66.76	107.3	0.67	0.62	56.0	8	120.9	3.85	2.12	1.74	0.69	25.7	17.7	UnDef	0.16
67.09	104.7	1.00	0.95	50.5	8	120.9	3.87	2.13	1.75	0.69	25.1	17.2	UnDef	0.19
67.42	124.3	0.72	0.58	38.8	9	124.1	3.89	2.13	1.76	0.68	23.8	16.3	UnDef	0.19
67.75	126.5	0.58	0.46	21.9	9	124.1	3.91	2.15	1.77	0.68	24.2	16.5	UnDef	0.14
68.08	128.2	0.95	0.74	27.1	9	124.1	3.93	2.16	1.78	0.68	24.6	16.7	UnDef	0.21
68.40	111.8	1.21	1.09	34.3	8	120.9	3.95	2.17	1.79	0.68	26.8	18.2	UnDef	0.22
68.73	89.2	0.59	0.66	42.0	8	120.9	3.97	2.17	1.80	0.68	21.4	14.5	UnDef	0.15

Interpretation Output - Release 1.00.19M
Run No: 04-0401-1123-5807
Job No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: DIKE N
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/24/03
CPT Time: 16:19
CPT File: 717CP00N.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 3.37 (ft): 11.0
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.16	5.0E-04	0.00	1000.0	0.46	10	67.4	0.0	67.4	0.0	50	95.0	1.0	-0.32	0.0	22.5
0.49	5.0E-03	0.00	1000.0	0.81	10	171.0	0.0	171.0	0.0	50	95.0	1.0	-0.38	0.0	42.7
0.82	5.0E-03	0.00	1000.0	1.15	9	263.0	0.0	263.0	1.1	50	95.0	1.0	-0.42	0.0	65.7
1.15	5.0E-03	0.00	1000.0	1.29	9	316.0	0.0	316.0	1.6	50	95.0	1.0	-0.44	0.0	79.0
1.48	5.0E-03	0.00	1000.0	1.30	9	356.3	0.0	356.3	1.7	50	95.0	1.0	-0.44	0.0	89.1
1.80	5.0E-03	0.00	1000.0	1.57	12	384.1	UnDef	UnDef	0.0	50	95.0	1.0	-0.47	UnDef	UnDef
2.13	5.0E-03	0.00	1000.0	1.88	12	377.9	UnDef	UnDef	0.0	50	95.0	1.0	-0.50	UnDef	UnDef
2.46	5.0E-03	0.00	1000.0	1.51	12	362.1	UnDef	UnDef	0.0	50	95.0	1.0	-0.46	UnDef	UnDef
2.79	5.0E-03	0.00	1000.0	1.40	12	338.6	UnDef	UnDef	0.0	50	95.0	1.0	-0.45	UnDef	UnDef
3.12	5.0E-04	0.00	869.4	1.87	12	312.9	UnDef	UnDef	0.0	50	95.0	1.0	-0.48	UnDef	UnDef
3.44	5.0E-04	0.00	763.4	1.85	12	303.1	UnDef	UnDef	0.0	50	95.0	1.0	-0.47	UnDef	UnDef
3.77	5.0E-03	0.00	693.8	1.72	12	301.5	UnDef	UnDef	0.0	50	95.0	1.0	-0.45	UnDef	UnDef
4.10	5.0E-04	0.00	620.7	1.87	12	293.1	UnDef	UnDef	0.0	50	95.0	1.0	-0.45	UnDef	UnDef
4.43	5.0E-04	0.00	508.5	1.79	9	256.9	2.7	259.5	5.4	48	94.3	1.0	-0.42	0.5	84.3
4.76	5.0E-03	0.00	444.2	1.65	9	232.6	2.0	234.6	5.3	48	91.5	1.0	-0.39	0.3	57.2
5.09	5.0E-04	0.00	421.3	1.77	9	228.1	6.3	234.4	6.0	48	90.9	1.0	-0.40	1.3	75.7
5.41	5.0E-04	0.00	436.7	1.84	9	243.8	7.5	251.3	6.1	48	92.8	1.0	-0.41	1.5	81.0
5.74	5.0E-03	0.00	414.9	1.52	9	238.5	0.3	238.8	5.0	48	92.2	1.0	-0.37	0.0	58.4
6.07	5.0E-03	0.00	470.0	1.55	9	277.8	0.0	277.8	4.7	48	95.0	1.0	-0.39	0.0	68.0
6.40	5.0E-03	0.00	522.2	1.94	12	317.0	UnDef	UnDef	0.0	48	95.0	1.0	-0.44	UnDef	UnDef
6.73	5.0E-04	0.00	504.2	2.06	12	313.8	UnDef	UnDef	0.0	48	95.0	1.0	-0.45	UnDef	UnDef
7.05	5.0E-04	0.00	465.4	2.09	12	296.5	UnDef	UnDef	0.0	48	95.0	1.0	-0.44	UnDef	UnDef
7.38	5.0E-04	0.00	432.3	2.10	12	281.7	UnDef	UnDef	0.0	48	95.0	1.0	-0.43	UnDef	UnDef
7.79	5.0E-04	0.00	398.7	2.02	9	266.9	16.8	283.7	7.2	48	95.0	1.0	-0.42	3.4	90.4
8.20	5.0E-03	0.00	393.9	1.88	9	270.5	13.1	283.6	6.7	48	95.0	1.0	-0.40	2.0	68.2
8.53	5.0E-04	0.00	363.1	2.20	12	254.4	UnDef	UnDef	0.0	48	94.0	1.0	-0.42	UnDef	UnDef
8.86	5.0E-04	0.00	331.1	2.05	9	236.4	22.0	258.4	8.2	48	91.9	1.0	-0.40	4.3	81.5
9.19	5.0E-04	0.00	270.1	2.06	9	196.4	25.3	221.7	9.3	46	86.6	1.0	-0.38	4.9	69.0
9.51	5.0E-04	0.00	230.8	2.09	9	170.9	28.1	199.0	10.3	46	82.6	1.0	-0.36	5.4	61.2
9.84	5.0E-04	0.00	204.5	2.12	9	154.0	30.5	184.5	11.2	46	79.7	1.0	-0.35	5.8	56.0
10.17	5.0E-04	0.00	168.2	2.15	9	128.9	33.2	162.0	12.7	44	74.5	1.0	-0.33	6.2	48.2
10.50	5.0E-04	0.00	155.2	2.02	9	120.9	31.3	152.1	12.7	44	72.7	1.0	-0.31	5.8	45.2
10.83	5.0E-04	0.00	145.7	2.29	7	115.3	38.4	153.7	14.4	44	71.4	1.0	-0.33	7.0	44.6
11.15	5.0E-04	-0.01	131.2	2.00	7	105.1	32.9	138.0	13.9	44	68.7	1.0	-0.29	6.0	40.3
11.48	5.0E-04	0.00	125.4	1.85	7	101.2	29.6	130.8	13.5	44	67.6	1.0	-0.28	5.4	38.5
11.81	5.0E-04	0.00	113.2	2.16	7	92.1	37.8	129.9	15.9	42	64.9	1.0	-0.29	6.7	36.7
12.14	5.0E-04	-0.01	102.0	1.78	7	83.6	30.5	114.1	15.0	42	62.2	1.0	-0.25	5.5	32.8
12.47	5.0E-04	-0.01	84.0	1.88	7	69.5	34.1	103.6	17.3	42	56.8	1.0	-0.24	5.9	28.5
12.80	5.0E-04	-0.01	73.1	1.81	7	61.0	33.9	94.9	18.4	40	53.1	1.0	-0.22	5.7	25.6

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
13.12	5.0E-04	-0.01	66.5	1.66	7	55.9	32.0	87.9	18.6	40	50.6	1.0	-0.20	5.4	23.6
13.45	5.0E-04	-0.01	60.5	1.70	7	51.3	33.9	85.2	19.9	40	48.2	1.0	-0.19	5.5	22.3
13.78	5.0E-04	-0.01	59.9	1.63	7	51.1	32.6	83.7	19.6	40	48.1	1.0	-0.19	5.4	22.1
14.11	5.0E-04	-0.01	61.8	1.60	7	53.0	31.8	84.8	19.0	40	49.1	1.0	-0.19	5.3	22.6
14.44	5.0E-04	0.00	60.0	1.33	7	51.9	26.7	78.6	17.7	40	48.5	1.0	-0.17	4.6	21.5
14.76	5.0E-04	0.00	60.3	1.54	7	52.4	31.2	83.6	19.0	40	48.8	1.0	-0.18	5.2	22.3
15.09	5.0E-05	-0.01	50.9	1.83	7	44.7	39.9	84.6	22.7	38	44.2	10.0	-0.18	7.3	24.8
15.42	5.0E-04	-0.01	42.2	1.21	7	37.4	27.9	65.3	21.0	38	39.1	1.0	-0.12	4.4	16.7
15.75	5.0E-05	0.00	32.6	1.27	7	29.3	33.3	62.6	24.9	36	32.1	10.0	-0.10	5.7	17.2
16.08	5.0E-04	0.00	41.8	0.92	7	37.5	22.0	59.5	18.8	38	39.2	1.0	-0.10	3.7	15.9
16.40	5.0E-04	0.00	42.1	0.87	7	38.0	21.0	59.1	18.3	38	39.6	1.0	-0.09	3.6	16.0
16.73	5.0E-04	0.00	37.5	0.57	7	34.2	15.8	50.0	16.9	38	36.5	1.0	-0.05	2.8	13.9
17.06	5.0E-05	0.00	22.6	0.54	7	21.2	20.1	41.3	23.3	34	30.0	10.0	0.00	3.6	11.9
17.39	5.0E-05	0.02	19.5	0.49	7	18.5	0.0	18.5	5.0	32	30.0	9.1	0.02	0.0	7.3
17.72	5.0E-05	0.03	19.6	0.55	7	18.7	22.7	41.5	25.5	34	30.0	9.2	0.01	3.8	11.2
18.04	5.0E-05	0.02	21.6	0.52	7	20.6	20.5	41.2	23.7	34	30.0	10.0	0.01	3.7	11.7
18.37	5.0E-05	0.02	19.4	0.54	7	18.8	23.0	41.8	25.6	32	30.0	9.0	0.01	3.9	11.2
18.70	5.0E-05	0.02	18.7	0.74	7	18.2	31.3	49.4	28.7	32	30.0	8.5	0.00	4.7	11.8
19.03	5.0E-05	0.01	17.6	0.62	7	17.3	28.1	45.4	28.2	32	30.0	7.7	0.01	4.3	11.1
19.36	5.0E-05	0.05	13.4	0.68	7	13.5	44.7	58.3	33.7	32	30.0	5.1	0.03	4.9	10.2
19.68	5.0E-05	0.05	14.4	0.66	7	14.5	38.8	53.3	32.2	32	30.0	5.7	0.03	4.7	10.4
20.01	5.0E-05	0.04	14.0	0.63	7	14.3	38.8	53.1	32.4	32	30.0	5.4	0.03	4.7	10.3
20.34	5.0E-05	0.05	12.5	0.62	7	12.9	47.2	60.1	34.4	30	30.0	4.5	0.05	4.9	9.9
20.67	5.0E-05	0.05	12.2	0.63	7	12.6	50.5	63.2	35.1	30	30.0	4.4	0.05	4.9	9.9
21.00	5.0E-05	0.03	13.6	0.68	7	14.1	45.0	59.0	33.5	32	30.0	5.2	0.03	5.0	10.5
21.33	5.0E-05	0.01	17.9	0.69	7	18.2	31.7	49.9	28.8	32	30.0	7.9	0.00	4.7	11.8
21.65	5.0E-05	0.01	21.3	0.67	7	21.5	26.8	48.3	25.8	34	30.0	10.0	-0.01	4.5	12.9
[illegible]98	5.0E-05	0.01	19.2	0.71	7	19.6	30.9	50.5	27.9	32	30.0	8.8	-0.01	4.8	12.4
[illegible]31	5.0E-05	0.05	9.1	0.91	6	10.1	40.3	50.4	44.4	30	30.0	2.9	0.05	3.9	7.9
22.64	1.0E-07	0.19	5.1	0.51	1	6.3	UnDef	UnDef	100.0	UnDef	UnDef	1.4	UnDef	UnDef	UnDef
22.97	1.0E-07	0.29	3.6	0.43	1	4.8	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDef
23.29	1.0E-07	0.51	2.2	0.47	1	3.5	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
23.62	1.0E-07	0.66	1.6	0.62	1	2.9	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
23.95	1.0E-07	0.67	1.7	0.60	1	3.0	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
24.28	1.0E-07	0.86	1.3	0.77	1	2.7	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
24.61	1.0E-07	1.61	0.7	1.41	1	2.1	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
24.93	1.0E-07	1.19	0.9	1.05	1	2.3	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
25.26	1.0E-07	0.83	1.3	0.77	1	2.7	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
25.59	1.0E-07	0.52	1.5	0.62	1	3.0	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
25.92	1.0E-07	0.71	1.5	0.65	1	2.9	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
26.25	1.0E-07	1.04	1.0	0.90	1	2.5	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
26.57	1.0E-07	0.56	1.8	0.52	1	3.3	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
26.90	1.0E-07	0.34	2.6	0.35	1	4.2	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
27.23	1.0E-07	0.30	2.9	0.32	1	4.4	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
27.56	1.0E-07	0.18	4.5	0.21	1	6.1	UnDef	UnDef	100.0	UnDef	UnDef	1.2	UnDef	UnDef	UnDef
27.89	1.0E-07	0.18	4.4	0.63	1	6.0	UnDef	UnDef	100.0	UnDef	UnDef	1.2	UnDef	UnDef	UnDef
28.21	5.0E-05	0.06	10.8	0.71	6	12.7	50.6	63.3	38.4	30	30.0	3.7	0.05	5.0	9.9
28.54	5.0E-05	0.02	17.3	1.04	7	19.4	57.5	77.0	33.0	32	30.0	7.5	-0.02	6.7	14.3
28.87	5.0E-05	0.01	17.4	1.08	7	19.6	60.6	80.2	33.3	32	30.0	7.6	-0.03	6.9	14.5
29.20	5.0E-05	0.01	18.4	0.79	7	20.8	39.0	59.8	29.5	32	30.0	8.3	-0.01	5.6	13.7
29.53	5.0E-05	0.01	18.7	1.08	7	21.1	55.5	76.5	32.1	32	30.0	8.5	-0.03	6.8	15.1
29.86	5.0E-04	0.01	26.7	1.32	7	29.6	48.6	78.1	28.3	36	32.4	1.0	-0.08	6.1	15.8
30.18	5.0E-04	-0.01	44.0	1.52	7	47.9	42.4	90.3	22.6	38	46.2	1.0	-0.15	6.5	22.1
30.59	5.0E-04	-0.01	60.7	2.02	7	65.8	52.2	118.0	21.6	40	55.3	1.0	-0.21	8.2	29.7
31.00	5.0E-04	-0.01	55.8	1.93	7	61.0	51.2	112.2	22.1	40	53.1	1.0	-0.20	8.0	27.8
31.33	5.0E-04	-0.02	42.6	1.22	7	47.1	34.9	82.0	20.9	38	45.7	1.0	-0.12	5.6	20.9
31.66	5.0E-03	-0.01	40.1	0.48	9	44.6	0.0	44.6	5.0	38	44.2	1.0	-0.04	0.0	10.9
31.99	5.0E-05	0.01	23.0	1.34	7	26.4	58.1	84.5	30.8	34	30.0	10.0	-0.07	7.8	18.1
[illegible]32	5.0E-05	0.02	19.5	1.25	7	22.7	65.4	88.2	32.8	34	30.0	9.1	-0.05	7.7	16.6
[illegible].64	5.0E-05	0.03	15.5	1.00	6	18.5	70.1	88.6	34.6	32	30.0	6.3	-0.01	7.1	14.3
32.97	5.0E-05	0.03	13.2	0.65	7	16.0	52.7	68.7	33.7	32	30.0	4.9	0.04	5.8	12.1
33.30	5.0E-05	0.03	9.4	0.52	6	11.9	47.6	59.6	38.7	30	30.0	3.0	0.08	4.7	9.3

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
33.63	5.0E-05	0.06	8.4	1.19	6	10.9	43.7	54.6	49.3	30	30.0	2.6	0.04	4.3	8.5
33.96	5.0E-05	0.01	13.3	1.34	6	16.4	65.5	81.8	40.7	32	30.0	5.0	-0.02	6.4	12.8
34.28	5.0E-05	0.01	14.7	1.08	6	17.9	71.6	89.5	36.4	32	30.0	5.8	-0.01	7.0	14.0
34.61	5.0E-05	0.01	13.6	1.16	6	16.8	67.1	83.9	38.7	32	30.0	5.2	-0.01	6.6	13.1
34.94	5.0E-05	0.01	13.3	1.41	6	16.5	66.1	82.7	41.3	32	30.0	5.0	-0.02	6.5	12.9
35.27	5.0E-05	0.05	8.4	1.57	6	11.1	44.5	55.6	52.8	30	30.0	2.6	0.02	4.4	8.7
35.60	5.0E-05	0.07	8.0	0.72	6	10.7	43.0	53.7	45.0	30	30.0	2.4	0.08	4.2	8.4
35.92	5.0E-05	0.07	8.8	0.22	1	11.6	UnDef	UnDef	100.0	30	30.0	2.7	0.16	UnDef	UnDef
36.25	5.0E-05	0.14	5.2	0.52	1	7.6	UnDef	UnDef	100.0	30	30.0	1.4	0.15	UnDef	UnDef
36.58	5.0E-05	0.06	10.1	0.82	6	13.2	52.7	65.9	41.3	30	30.0	3.3	0.05	5.2	10.3
36.91	5.0E-05	0.04	9.8	1.54	6	12.9	51.5	64.3	49.0	30	30.0	3.2	0.01	5.0	10.1
37.24	5.0E-05	0.10	6.5	1.14	6	9.2	36.9	46.1	55.0	30	30.0	1.8	0.07	3.6	7.2
37.57	1.0E-07	0.23	4.1	0.27	1	6.5	UnDef	UnDef	100.0	UnDef	UnDef	1.1	UnDef	UnDef	UnDef
37.89	1.0E-07	0.22	4.2	0.18	1	6.6	UnDef	UnDef	100.0	UnDef	UnDef	1.1	UnDef	UnDef	UnDef
38.22	1.0E-07	0.21	4.7	0.39	1	7.2	UnDef	UnDef	100.0	UnDef	UnDef	1.2	UnDef	UnDef	UnDef
38.55	5.0E-06	0.06	8.3	2.11	4	11.4	45.4	56.8	57.4	UnDef	UnDef	2.5	UnDef	5.6	11.1
38.88	5.0E-04	0.01	16.0	0.68	7	20.4	43.5	63.9	30.5	32	30.0	1.0	0.02	4.9	11.6
39.21	5.0E-05	0.02	9.2	0.71	6	12.5	49.9	62.4	41.8	30	30.0	2.9	0.06	4.9	9.8
39.53	5.0E-05	0.16	5.5	0.84	6	8.3	33.3	41.6	55.6	30	30.0	1.5	0.11	3.3	6.5
39.86	5.0E-05	0.19	5.2	0.47	1	8.0	UnDef	UnDef	100.0	30	30.0	1.4	0.16	UnDef	UnDef
40.19	5.0E-05	0.10	7.4	0.62	6	10.5	41.9	52.4	45.7	30	30.0	2.1	0.10	4.1	8.2
40.52	5.0E-05	0.06	11.1	1.26	6	14.9	59.8	74.7	43.7	30	30.0	3.8	0.01	5.9	11.7
40.85	5.0E-05	0.02	13.1	1.62	6	17.3	69.2	86.5	43.4	32	30.0	4.9	-0.03	6.8	13.5
41.17	5.0E-05	0.07	8.1	1.62	6	11.5	46.1	57.6	54.0	30	30.0	2.5	0.03	4.5	9.0
41.50	5.0E-05	0.19	5.4	0.90	6	8.3	33.1	41.4	57.2	30	30.0	1.4	0.12	3.2	6.5
41.83	5.0E-06	0.14	5.3	2.79	4	8.2	32.8	41.0	74.0	UnDef	UnDef	1.4	UnDef	4.0	8.0
42.16	5.0E-05	0.07	8.2	2.00	4	11.7	46.7	58.4	56.8	30	30.0	2.5	0.01	4.6	9.1
[illegible]49	5.0E-05	0.01	13.2	1.59	6	17.7	70.8	88.5	42.9	32	30.0	4.9	-0.03	6.9	13.9
[illegible]81	5.0E-05	0.01	13.3	1.72	6	17.8	71.4	89.2	43.8	32	30.0	5.0	-0.03	7.0	14.0
43.14	5.0E-05	0.04	10.6	1.90	6	14.7	58.7	73.4	50.0	30	30.0	3.6	-0.01	5.7	11.5
43.47	5.0E-05	0.10	10.1	1.23	6	14.2	56.7	70.9	45.9	30	30.0	3.3	0.02	5.6	11.1
43.80	5.0E-05	0.13	8.1	1.07	6	11.7	46.9	58.7	49.0	30	30.0	2.4	0.06	4.6	9.2
44.13	5.0E-05	0.10	9.9	0.53	6	13.9	55.7	69.7	37.9	30	30.0	3.2	0.08	5.5	10.9
44.45	5.0E-05	0.09	10.5	0.69	6	14.7	59.0	73.7	38.7	30	30.0	3.5	0.06	5.8	11.5
44.78	5.0E-05	0.09	10.5	1.13	6	14.7	59.0	73.7	44.3	30	30.0	3.5	0.02	5.8	11.5
45.11	5.0E-05	0.08	12.7	2.30	6	17.5	70.0	87.5	48.7	32	30.0	4.7	-0.04	6.8	13.7
45.44	5.0E-06	0.03	9.6	2.57	4	13.8	55.3	69.2	56.7	UnDef	UnDef	3.1	UnDef	6.8	13.5
45.77	5.0E-06	0.17	3.2	3.03	1	5.9	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
46.10	5.0E-06	0.14	3.7	2.50	4	6.6	26.5	33.1	82.9	UnDef	UnDef	1.0	UnDef	3.2	6.5
46.42	5.0E-07	0.04	4.0	3.95	1	7.0	UnDef	UnDef	100.0	UnDef	UnDef	1.1	UnDef	UnDef	UnDef
46.75	5.0E-08	-0.19	3.0	5.23	1	5.8	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
47.08	5.0E-08	-0.15	3.3	5.03	1	6.2	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
47.41	5.0E-08	-0.10	6.1	4.96	1	9.7	UnDef	UnDef	100.0	UnDef	UnDef	1.7	UnDef	UnDef	UnDef
47.74	5.0E-08	-0.10	7.5	6.16	1	11.5	UnDef	UnDef	100.0	UnDef	UnDef	2.2	UnDef	UnDef	UnDef
48.06	5.0E-08	-0.05	12.6	4.86	1	17.9	UnDef	UnDef	100.0	UnDef	UnDef	4.6	UnDef	UnDef	UnDef
48.39	5.0E-06	-0.04	16.3	3.64	4	22.5	90.0	112.4	50.5	UnDef	UnDef	6.8	UnDef	11.0	22.0
48.72	5.0E-06	0.01	14.0	4.12	1	19.7	UnDef	UnDef	100.0	UnDef	UnDef	5.4	UnDef	UnDef	UnDef
49.05	5.0E-06	0.04	15.4	3.34	4	21.5	86.1	107.6	50.3	UnDef	UnDef	6.3	UnDef	10.5	21.1
49.38	5.0E-05	0.12	14.8	2.79	6	20.9	83.5	104.4	48.2	32	30.0	5.9	-0.07	8.2	16.3
49.70	5.0E-05	0.15	15.2	2.77	6	21.4	85.6	107.0	47.6	32	30.0	6.1	-0.07	8.4	16.8
50.03	5.0E-06	0.25	13.7	3.83	1	19.6	UnDef	UnDef	100.0	UnDef	UnDef	5.3	UnDef	UnDef	UnDef
50.36	5.0E-07	0.15	17.1	4.47	1	23.9	UnDef	UnDef	100.0	UnDef	UnDef	7.3	UnDef	UnDef	UnDef
50.69	5.0E-05	0.09	20.1	3.13	6	27.8	111.1	138.9	43.9	34	30.6	9.5	-0.13	10.9	21.8
51.02	5.0E-07	0.08	16.1	4.69	1	22.7	UnDef	UnDef	100.0	UnDef	UnDef	6.7	UnDef	UnDef	UnDef
51.34	5.0E-07	0.08	19.1	4.51	1	26.7	UnDef	UnDef	100.0	UnDef	UnDef	8.8	UnDef	UnDef	UnDef
51.67	5.0E-05	0.01	26.5	2.79	6	36.2	144.8	181.0	37.3	36	38.2	10.0	-0.16	14.2	28.3
52.00	5.0E-05	-0.03	26.7	2.61	6	36.5	146.1	182.7	36.3	36	38.4	10.0	-0.15	14.3	28.6
52.33	5.0E-06	-0.05	15.6	3.57	4	22.4	89.5	111.9	51.1	UnDef	UnDef	6.4	UnDef	11.0	21.9
[illegible]66	5.0E-08	-0.05	10.9	6.24	1	16.4	UnDef	UnDef	100.0	UnDef	UnDef	3.7	UnDef	UnDef	UnDef
[illegible]98	5.0E-08	-0.03	12.7	5.13	1	18.7	UnDef	UnDef	100.0	UnDef	UnDef	4.7	UnDef	UnDef	UnDef
53.31	5.0E-07	-0.03	9.3	4.64	1	14.4	UnDef	UnDef	100.0	UnDef	UnDef	3.0	UnDef	UnDef	UnDef
53.64	5.0E-08	0.00	10.0	5.32	1	15.3	UnDef	UnDef	100.0	UnDef	UnDef	3.3	UnDef	UnDef	UnDef

Dpth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
53.97	5.0E-08	0.02	11.2	5.81	1	16.9	UnDef	UnDef	100.0	UnDef	UnDef	3.9	UnDef	UnDef	UnDef
54.30	5.0E-08	0.04	12.1	5.34	1	18.1	UnDef	UnDef	100.0	UnDef	UnDef	4.3	UnDef	UnDef	UnDef
54.63	5.0E-08	0.08	8.5	5.74	1	13.4	UnDef	UnDef	100.0	UnDef	UnDef	2.6	UnDef	UnDef	UnDef
54.95	5.0E-06	0.15	6.2	3.09	1	10.5	UnDef	UnDef	100.0	UnDef	UnDef	1.7	UnDef	UnDef	UnDef
55.28	5.0E-06	0.27	4.5	2.34	4	8.3	33.0	41.3	75.6	UnDef	UnDef	1.2	UnDef	4.0	8.1
55.61	5.0E-05	0.45	3.6	1.22	4	7.1	28.3	35.4	72.5	30	30.0	1.0	0.18	2.8	5.5
55.94	5.0E-05	0.38	4.0	1.37	4	7.7	30.6	38.3	70.7	30	30.0	1.1	0.15	3.0	6.0
56.27	5.0E-05	0.17	8.8	1.24	6	14.0	56.1	70.1	48.7	30	30.0	2.7	0.05	5.5	11.0
56.59	5.0E-06	0.02	7.3	3.26	1	12.1	UnDef	UnDef	100.0	UnDef	UnDef	2.1	UnDef	UnDef	UnDef
56.92	5.0E-08	-0.04	3.7	5.43	1	7.3	UnDef	UnDef	100.0	UnDef	UnDef	1.0	UnDef	UnDef	UnDef
57.25	5.0E-08	0.12	2.1	5.99	1	5.1	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
57.58	1.0E-07	0.48	1.5	1.56	4	4.4	17.8	22.2	100.0	UnDef	UnDef	0.6	UnDef	2.2	4.3
57.91	1.0E-07	0.70	1.6	0.68	1	4.5	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
58.23	1.0E-07	0.39	2.8	0.19	1	6.2	UnDef	UnDef	100.0	UnDef	UnDef	0.8	UnDef	UnDef	UnDef
58.56	1.0E-07	0.84	1.2	0.43	1	4.1	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
58.89	1.0E-07	1.17	1.0	0.51	1	3.8	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
59.22	1.0E-07	1.39	0.9	0.56	1	3.7	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
59.55	1.0E-07	1.02	1.2	0.44	1	4.0	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
59.87	1.0E-07	0.86	1.3	0.41	1	4.2	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
60.20	1.0E-07	0.57	1.9	0.27	1	5.0	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
60.53	1.0E-07	0.56	2.2	0.24	1	5.4	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
60.86	5.0E-04	0.01	17.2	0.27	7	25.9	0.0	25.9	5.0	32	30.0	1.0	0.08	0.0	8.4
61.19	5.0E-04	0.00	23.1	0.97	7	34.1	51.3	85.4	27.5	34	36.4	1.0	-0.05	6.7	17.8
61.52	5.0E-04	0.01	24.1	0.80	7	35.6	41.9	77.4	25.2	34	37.7	1.0	-0.04	5.9	17.5
61.84	5.0E-03	0.01	22.6	0.57	7	33.6	33.4	67.0	23.7	34	36.0	1.0	0.00	3.7	11.9
62.17	5.0E-03	0.01	22.6	0.56	7	33.6	33.0	66.6	23.5	34	36.0	1.0	0.00	3.7	11.9
62.50	5.0E-03	0.01	24.7	0.76	7	36.6	39.9	76.4	24.5	34	38.4	1.0	-0.03	4.3	13.3
62.83	5.0E-05	0.02	15.7	2.27	6	24.2	96.7	120.9	44.2	32	30.0	6.4	-0.07	9.5	18.9
63.16	5.0E-05	0.08	8.3	1.89	4	14.0	56.1	70.1	55.7	30	30.0	2.5	0.02	5.5	11.0
63.48	5.0E-04	0.06	14.0	0.32	7	22.0	0.0	22.0	5.0	32	30.0	1.0	0.09	0.0	7.2
63.81	5.0E-04	0.06	14.2	0.80	7	22.3	78.7	101.0	34.2	32	30.0	1.0	0.02	6.9	14.2
64.14	5.0E-04	0.06	12.2	0.54	7	19.6	64.6	84.3	33.7	30	30.0	1.0	0.06	5.9	12.3
64.47	5.0E-03	0.03	22.0	0.18	7	33.4	0.0	33.4	5.0	34	35.8	1.0	0.09	0.0	8.2
64.80	5.0E-03	0.00	32.3	0.40	7	47.9	0.0	47.9	5.0	36	46.2	1.0	-0.01	0.0	11.7
65.12	5.0E-03	0.00	38.7	0.51	7	57.0	22.9	79.9	15.7	38	51.2	1.0	-0.04	3.0	17.0
65.45	5.0E-03	0.00	38.9	0.91	7	57.5	36.7	94.1	19.6	38	51.4	1.0	-0.09	4.5	18.6
65.78	5.0E-03	0.00	36.9	0.72	7	54.7	31.1	85.9	18.6	38	50.0	1.0	-0.07	3.9	17.3
66.11	5.0E-03	0.00	43.1	0.71	7	63.6	28.5	92.1	16.6	38	54.3	1.0	-0.08	3.7	19.3
66.44	5.0E-03	0.00	46.4	0.72	7	68.5	27.8	96.3	15.8	38	56.4	1.0	-0.09	3.7	20.4
66.76	5.0E-03	0.00	48.9	0.64	9	72.2	24.7	96.8	14.5	38	57.9	1.0	-0.08	3.3	21.0
67.09	5.0E-03	0.00	47.4	0.99	7	70.3	36.9	107.2	17.9	38	57.2	1.0	-0.12	4.7	21.9
67.42	5.0E-02	0.00	56.4	0.60	9	83.2	21.2	104.5	12.6	40	62.0	1.0	-0.09	2.4	18.7
67.75	5.0E-02	-0.01	57.1	0.47	9	84.5	0.0	84.5	5.0	40	62.4	1.0	-0.07	0.0	16.5
68.08	5.0E-02	-0.01	57.7	0.77	9	85.5	26.7	112.1	13.9	40	62.8	1.0	-0.11	2.9	19.7
68.40	5.0E-03	-0.01	49.8	1.13	7	74.3	41.3	115.6	18.4	38	58.8	1.0	-0.13	5.2	23.4
68.73	5.0E-03	-0.01	39.2	0.69	7	59.2	29.9	89.0	17.6	38	52.2	1.0	-0.07	3.8	18.3

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.00.19M
[redacted] No: 04-0401-1123-5857
[redacted] No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: DIKE S
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/24/03
CPT Time: 17:34
CPT File: 717CP00S.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 2.87 ft): 9.4
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
0.16	30.6	0.20	0.66	0.0	7	117.8	0.01	0.01	0.00	2.00	9.8	19.5	UnDef	0.10
0.49	101.0	0.84	0.83	-1.5	8	120.9	0.03	0.03	0.00	2.00	24.2	48.4	UnDef	0.00
0.82	172.6	2.08	1.20	-5.1	8	120.9	0.05	0.05	0.00	2.00	41.3	82.6	UnDef	0.00
1.15	200.8	3.41	1.70	-9.6	8	120.9	0.07	0.07	0.00	2.00	48.1	96.2	UnDef	0.00
[illegible]48	201.8	4.05	2.01	-10.2	7	117.8	0.09	0.09	0.00	2.00	64.4	128.9	UnDef	0.00
[illegible]80	197.5	4.32	2.19	-9.3	7	117.8	0.11	0.11	0.00	2.00	63.0	126.1	UnDef	0.00
2.13	191.2	4.28	2.24	-9.0	7	117.8	0.13	0.13	0.00	2.00	61.0	122.0	UnDef	0.00
2.46	177.1	3.52	1.99	-8.3	7	117.8	0.15	0.15	0.00	2.00	56.5	113.1	UnDef	0.00
2.79	143.5	3.23	2.25	-8.8	7	117.8	0.17	0.17	0.00	2.00	45.8	91.6	UnDef	0.00
3.12	121.3	2.41	1.98	-5.1	7	117.8	0.19	0.19	0.00	2.00	38.7	77.4	UnDef	0.00
3.44	105.6	1.79	1.69	-9.2	7	117.8	0.20	0.20	0.00	2.00	33.7	67.4	UnDef	0.00
3.77	99.2	1.58	1.59	-10.4	7	117.8	0.22	0.22	0.00	2.00	31.7	63.3	UnDef	0.00
4.10	93.4	1.40	1.50	-7.9	7	117.8	0.24	0.24	0.00	2.00	29.8	59.6	UnDef	0.00
4.43	91.9	1.36	1.48	-7.8	8	120.9	0.26	0.26	0.00	1.95	22.0	42.9	UnDef	0.00
4.76	106.3	1.64	1.54	-4.5	8	120.9	0.28	0.28	0.00	1.88	25.5	47.9	UnDef	0.00
5.09	135.0	2.21	1.64	-9.2	8	120.9	0.30	0.30	0.00	1.82	32.3	58.8	UnDef	0.00
5.41	177.9	3.25	1.83	-8.2	8	120.9	0.32	0.32	0.00	1.76	42.6	75.1	UnDef	0.00
5.74	241.8	4.07	1.69	-5.7	8	120.9	0.34	0.34	0.00	1.71	57.9	99.0	UnDef	0.00
6.07	256.8	5.03	1.96	-3.8	8	120.9	0.36	0.36	0.00	1.66	61.5	102.2	UnDef	0.00
6.40	247.2	4.83	1.95	-3.0	8	120.9	0.38	0.38	0.00	1.62	59.2	95.8	UnDef	0.00
6.73	225.2	3.96	1.76	-5.3	8	120.9	0.40	0.40	0.00	1.58	53.9	85.1	UnDef	0.00
7.05	220.7	4.35	1.97	-6.9	8	120.9	0.42	0.42	0.00	1.54	52.8	81.4	UnDef	0.00
7.38	198.7	3.99	2.01	-5.5	7	117.8	0.44	0.44	0.00	1.51	63.4	95.5	UnDef	0.00
7.79	164.6	3.94	2.40	-6.7	7	117.8	0.47	0.47	0.00	1.47	52.6	77.1	UnDef	0.00
8.20	121.5	2.98	2.46	-8.1	7	117.8	0.49	0.49	0.00	1.43	38.8	55.4	UnDef	0.00
8.53	105.3	1.79	1.70	-10.2	7	117.8	0.51	0.51	0.00	1.40	33.6	47.2	UnDef	0.00
8.86	95.8	1.23	1.29	-6.0	8	120.9	0.53	0.53	0.00	1.38	22.9	31.6	UnDef	0.34
9.19	86.1	0.96	1.12	-6.8	8	120.9	0.55	0.55	0.00	1.35	20.6	27.8	UnDef	0.26
9.51	79.8	0.82	1.02	-5.8	8	120.9	0.57	0.56	0.00	1.33	19.1	25.4	UnDef	0.22
9.84	73.6	0.57	0.78	-2.3	8	120.9	0.59	0.57	0.01	1.32	17.6	23.3	UnDef	0.18
10.17	66.6	0.60	0.90	-3.9	8	120.9	0.61	0.58	0.02	1.31	15.9	20.9	UnDef	0.16
10.50	57.8	0.53	0.92	-5.4	7	117.8	0.63	0.59	0.03	1.30	18.5	24.0	UnDef	0.14
10.83	51.0	0.37	0.72	0.6	7	117.8	0.65	0.60	0.04	1.29	16.3	21.0	UnDef	0.12
11.15	45.7	0.34	0.73	0.1	7	117.8	0.67	0.61	0.05	1.28	14.6	18.7	UnDef	0.11
11.48	40.9	0.27	0.66	2.0	7	117.8	0.68	0.62	0.06	1.27	13.1	16.6	UnDef	0.10
[illegible]81	38.3	0.17	0.43	5.1	7	117.8	0.70	0.63	0.08	1.26	12.2	15.4	UnDef	0.09
[illegible].14	40.4	0.20	0.50	2.9	7	117.8	0.72	0.64	0.09	1.25	12.9	16.2	UnDef	0.10
12.47	38.5	0.26	0.66	3.7	7	117.8	0.74	0.65	0.10	1.24	12.3	15.3	UnDef	0.10
12.80	31.5	0.16	0.49	4.4	7	117.8	0.76	0.66	0.11	1.23	10.0	12.4	UnDef	0.09

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
13.12	29.5	0.16	0.53	6.0	7	117.8	0.78	0.67	0.12	1.23	9.4	11.5	UnDef	0.09
13.45	23.8	0.12	0.50	5.1	7	117.8	0.80	0.67	0.13	1.22	7.6	9.3	UnDef	0.09
13.78	19.8	0.08	0.40	8.2	7	117.8	0.82	0.68	0.14	1.21	6.3	7.7	UnDef	0.00
14.11	20.8	0.20	0.96	12.9	6	114.6	0.84	0.69	0.15	1.20	8.0	9.6	1.60	0.09
14.44	19.3	0.17	0.88	4.8	6	114.6	0.86	0.70	0.16	1.19	7.4	8.9	1.48	0.09
14.76	17.7	0.09	0.51	4.0	6	114.6	0.88	0.71	0.17	1.19	6.8	8.0	1.34	0.09
15.09	16.8	0.07	0.39	9.8	6	114.6	0.90	0.72	0.18	1.18	6.5	7.6	1.28	0.00
15.42	15.3	0.05	0.33	9.8	6	114.6	0.91	0.73	0.19	1.17	5.9	6.9	1.15	0.00
15.75	15.2	0.09	0.56	8.8	6	114.6	0.93	0.74	0.20	1.17	5.8	6.8	1.15	0.09
16.08	13.7	0.05	0.37	10.7	6	114.6	0.95	0.74	0.21	1.16	5.2	6.1	1.02	0.00
16.40	12.2	0.05	0.37	19.3	6	114.6	0.97	0.75	0.22	1.15	4.7	5.4	0.90	0.00
16.73	11.2	0.04	0.31	19.7	6	114.6	0.99	0.76	0.23	1.15	4.3	4.9	0.82	0.00
17.06	11.7	0.06	0.52	20.5	6	114.6	1.01	0.77	0.24	1.14	4.5	5.1	0.85	0.09
17.39	12.1	0.05	0.37	22.0	6	114.6	1.03	0.78	0.25	1.13	4.6	5.3	0.89	0.00
17.72	8.8	0.02	0.23	18.1	1	111.4	1.05	0.79	0.26	1.13	4.2	4.8	0.62	0.00
18.04	6.1	0.01	0.16	27.1	1	111.4	1.06	0.79	0.27	1.12	2.9	3.3	0.40	0.00
18.37	6.6	0.01	0.15	28.7	1	111.4	1.08	0.80	0.28	1.12	3.2	3.5	0.44	0.00
18.70	5.1	0.05	0.88	31.9	1	111.4	1.10	0.81	0.29	1.11	2.5	2.7	0.32	0.00
19.03	12.3	0.16	1.27	17.9	6	114.6	1.12	0.82	0.30	1.11	4.7	5.2	0.89	0.11
19.36	32.4	0.27	0.82	17.1	7	117.8	1.14	0.83	0.31	1.10	10.3	11.4	UnDef	0.10
19.68	73.1	0.74	1.01	12.6	8	120.9	1.16	0.84	0.32	1.09	17.5	19.1	UnDef	0.16
20.01	87.3	1.08	1.23	1.8	8	120.9	1.18	0.85	0.33	1.09	20.9	22.7	UnDef	0.22
20.34	78.4	0.80	1.02	0.0	8	120.9	1.20	0.86	0.34	1.08	18.8	20.3	UnDef	0.18
20.67	65.1	0.61	0.94	4.4	8	120.9	1.22	0.87	0.35	1.07	15.6	16.7	UnDef	0.14
21.00	45.5	0.53	1.17	5.9	7	117.8	1.24	0.88	0.36	1.07	14.5	15.5	UnDef	0.12
21.33	30.1	0.43	1.43	10.4	6	114.6	1.26	0.88	0.37	1.06	11.5	12.3	2.31	0.12
21.65	17.9	0.34	1.87	11.2	6	114.6	1.27	0.89	0.38	1.06	6.9	7.3	1.33	0.15
[illegible]98	16.2	0.13	0.77	17.6	6	114.6	1.29	0.90	0.39	1.05	6.2	6.5	1.19	0.10
[illegible]31	10.1	0.07	0.70	23.0	6	114.6	1.31	0.91	0.40	1.05	3.9	4.0	0.70	0.09
22.64	8.0	0.06	0.75	34.0	5	114.6	1.33	0.92	0.41	1.04	3.9	4.0	0.54	0.09
22.97	9.2	0.06	0.65	40.3	6	114.6	1.35	0.93	0.42	1.04	3.5	3.7	0.63	0.09
23.29	9.9	0.06	0.56	39.0	6	114.6	1.37	0.94	0.43	1.03	3.8	3.9	0.68	0.09
23.62	8.7	0.05	0.58	41.2	6	114.6	1.39	0.94	0.44	1.03	3.3	3.4	0.58	0.09
23.95	8.3	0.04	0.42	44.9	1	111.4	1.41	0.95	0.45	1.02	4.0	4.1	0.55	0.09
24.28	8.6	0.04	0.47	43.5	6	114.6	1.42	0.96	0.46	1.02	3.3	3.3	0.57	0.09
24.61	7.4	0.03	0.41	44.4	1	111.4	1.44	0.97	0.47	1.02	3.5	3.6	0.48	0.00
24.93	8.9	0.18	2.03	48.2	5	114.6	1.46	0.98	0.48	1.01	4.3	4.3	0.59	0.09
25.26	56.3	0.65	1.16	28.4	7	117.8	1.48	0.99	0.49	1.01	18.0	18.1	UnDef	0.13
25.59	71.7	0.79	1.10	6.9	8	120.9	1.50	1.00	0.51	1.00	17.2	17.2	UnDef	0.16
25.92	59.7	0.66	1.10	4.0	7	117.8	1.52	1.00	0.52	1.00	19.1	19.0	UnDef	0.14
26.25	42.3	0.38	0.89	0.4	7	117.8	1.54	1.01	0.53	0.99	13.5	13.4	UnDef	0.11
26.57	26.0	0.23	0.87	8.1	7	117.8	1.56	1.02	0.54	0.99	8.3	8.2	UnDef	0.10
26.90	16.7	0.20	1.20	29.1	6	114.6	1.58	1.03	0.55	0.98	6.4	6.3	1.21	0.13
27.23	20.7	0.25	1.18	41.6	6	114.6	1.60	1.04	0.56	0.98	7.9	7.8	1.53	0.15
27.56	37.5	0.53	1.42	24.3	7	117.8	1.62	1.05	0.57	0.98	12.0	11.7	UnDef	0.13
27.89	63.7	0.73	1.14	9.7	7	117.8	1.63	1.06	0.58	0.97	20.3	19.8	UnDef	0.14
28.21	55.3	0.53	0.96	-1.0	7	117.8	1.65	1.07	0.59	0.97	17.6	17.1	UnDef	0.12
28.54	39.7	0.50	1.26	8.7	7	117.8	1.67	1.08	0.60	0.96	12.7	12.2	UnDef	0.12
28.87	40.7	0.54	1.32	22.2	7	117.8	1.69	1.09	0.61	0.96	13.0	12.5	UnDef	0.13
29.20	43.7	0.51	1.16	25.3	7	117.8	1.71	1.09	0.62	0.96	13.9	13.3	UnDef	0.12
29.53	46.6	0.44	0.93	22.3	7	117.8	1.73	1.10	0.63	0.95	14.9	14.2	UnDef	0.11
29.86	54.4	0.69	1.27	10.0	7	117.8	1.75	1.11	0.64	0.95	17.4	16.5	UnDef	0.14
30.18	73.1	1.21	1.65	2.5	7	117.8	1.77	1.12	0.65	0.94	23.3	22.0	UnDef	0.20
30.59	59.7	0.99	1.66	-6.3	7	117.8	1.79	1.13	0.66	0.94	19.1	17.9	UnDef	0.17
31.00	47.4	0.75	1.59	6.5	7	117.8	1.82	1.14	0.67	0.93	15.1	14.1	UnDef	0.15
31.33	54.6	0.82	1.50	25.8	7	117.8	1.84	1.15	0.68	0.93	17.4	16.2	UnDef	0.15
31.66	66.0	0.94	1.43	26.1	7	117.8	1.86	1.16	0.69	0.93	21.1	19.5	UnDef	0.17
31.99	68.7	1.02	1.49	26.5	7	117.8	1.88	1.17	0.70	0.92	21.9	20.3	UnDef	0.18
[illegible]32	74.0	1.11	1.50	23.2	7	117.8	1.90	1.18	0.71	0.92	23.6	21.7	UnDef	0.19
[illegible]64	89.2	1.36	1.52	20.6	7	117.8	1.91	1.19	0.73	0.92	28.5	26.1	UnDef	0.23
32.97	101.2	1.47	1.46	19.7	8	120.9	1.93	1.20	0.74	0.91	24.2	22.1	UnDef	0.26
33.30	97.1	1.38	1.42	20.8	8	120.9	1.95	1.21	0.75	0.91	23.3	21.2	UnDef	0.24

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60 (blows/ft)	Su (tsf)	CRR
33.63	75.9	0.89	1.17	19.5	8	120.9	1.97	1.22	0.76	0.91	18.2	16.5	UnDef	0.17
33.96	50.0	0.60	1.19	34.0	7	117.8	1.99	1.23	0.77	0.90	16.0	14.4	UnDef	0.13
34.28	40.2	0.52	1.30	51.1	7	117.8	2.01	1.24	0.78	0.90	12.8	11.5	UnDef	0.13
34.61	44.5	0.45	1.01	42.7	7	117.8	2.03	1.25	0.79	0.90	14.2	12.7	UnDef	0.12
34.94	36.6	0.34	0.93	46.8	7	117.8	2.05	1.25	0.80	0.89	11.7	10.4	UnDef	0.11
35.27	26.7	0.38	1.43	50.0	6	114.6	2.07	1.26	0.81	0.89	10.2	9.1	1.97	0.23
35.60	24.8	0.26	1.03	43.4	6	114.6	2.09	1.27	0.82	0.89	9.5	8.4	1.82	0.14
35.92	20.9	0.12	0.58	41.9	7	117.8	2.11	1.28	0.83	0.88	6.7	5.9	UnDef	0.10
36.25	11.3	0.03	0.22	52.1	6	114.6	2.13	1.29	0.84	0.88	4.3	3.8	0.74	0.00
36.58	5.2	0.02	0.38	76.6	1	111.4	2.15	1.30	0.85	0.88	2.5	2.2	0.25	0.00
36.91	4.6	0.02	0.44	73.5	1	111.4	2.16	1.31	0.86	0.88	2.2	1.9	0.19	0.00
37.24	3.8	0.02	0.40	74.9	1	111.4	2.18	1.31	0.87	0.87	1.8	1.6	0.13	0.00
37.57	4.3	0.01	0.24	77.9	1	111.4	2.20	1.32	0.88	0.87	2.0	1.8	0.17	0.00
37.89	4.9	0.02	0.31	74.8	1	111.4	2.22	1.33	0.89	0.87	2.3	2.0	0.21	0.00
38.22	4.8	0.02	0.31	84.7	1	111.4	2.24	1.34	0.90	0.86	2.3	2.0	0.21	0.00
38.55	4.6	0.07	1.43	72.1	1	111.4	2.26	1.35	0.91	0.86	2.2	1.9	0.18	0.00
38.88	9.5	0.17	1.73	54.3	5	114.6	2.27	1.35	0.92	0.86	4.6	3.9	0.58	0.09
39.21	8.6	0.19	2.15	53.2	5	114.6	2.29	1.36	0.93	0.86	4.1	3.5	0.51	0.00
39.53	3.4	0.08	2.20	80.3	3	111.4	2.31	1.37	0.94	0.85	3.3	2.8	0.09	0.00
39.86	3.0	0.02	0.51	82.3	1	111.4	2.33	1.38	0.95	0.85	1.4	1.2	0.05	0.00
40.19	3.4	0.01	0.29	80.4	1	111.4	2.35	1.39	0.96	0.85	1.6	1.4	0.09	0.00
40.52	3.4	0.01	0.29	82.2	1	111.4	2.37	1.40	0.97	0.85	1.7	1.4	0.09	0.00
40.85	1.9	0.01	0.52	87.3	1	111.4	2.38	1.40	0.98	0.84	0.9	0.8	0.00	0.00
41.17	3.5	0.01	0.29	89.1	1	111.4	2.40	1.41	0.99	0.84	1.7	1.4	0.09	0.00
41.50	5.2	0.03	0.48	77.0	1	111.4	2.42	1.42	1.00	0.84	2.5	2.1	0.22	0.00
41.83	3.5	0.04	1.00	87.7	1	111.4	2.44	1.43	1.01	0.84	1.7	1.4	0.09	0.00
42.16	3.8	0.02	0.53	79.0	1	111.4	2.46	1.44	1.02	0.83	1.8	1.5	0.11	0.00
[illegible]49	3.9	0.02	0.38	83.1	1	111.4	2.48	1.44	1.03	0.83	1.9	1.6	0.12	0.00
[illegible]81	3.9	0.01	0.26	86.4	1	111.4	2.49	1.45	1.04	0.83	1.9	1.6	0.11	0.00
43.14	3.6	0.02	0.55	89.6	1	111.4	2.51	1.46	1.05	0.83	1.7	1.4	0.09	0.00
43.47	3.4	0.01	0.30	93.5	1	111.4	2.53	1.47	1.06	0.83	1.6	1.3	0.07	0.00
43.80	4.4	0.01	0.23	95.3	1	111.4	2.55	1.48	1.07	0.82	2.1	1.7	0.15	0.00
44.13	6.3	0.04	0.64	92.0	1	111.4	2.57	1.48	1.08	0.82	3.0	2.5	0.30	0.00
44.45	7.1	0.08	1.07	108.4	5	114.6	2.59	1.49	1.09	0.82	3.4	2.8	0.36	0.00
44.78	8.2	0.08	0.98	102.7	5	114.6	2.60	1.50	1.10	0.82	3.9	3.2	0.45	0.08
45.11	6.7	0.07	0.97	102.3	5	114.6	2.62	1.51	1.11	0.81	3.2	2.6	0.33	0.00
45.44	5.5	0.07	1.28	89.4	1	111.4	2.64	1.52	1.12	0.81	2.6	2.1	0.23	0.00
45.77	5.6	0.06	1.07	103.7	1	111.4	2.66	1.53	1.13	0.81	2.7	2.2	0.24	0.00
46.10	5.4	0.06	1.02	100.7	1	111.4	2.68	1.53	1.14	0.81	2.6	2.1	0.22	0.00
46.42	4.8	0.05	0.93	105.1	1	111.4	2.70	1.54	1.16	0.81	2.3	1.9	0.17	0.00
46.75	4.5	0.05	1.00	100.1	1	111.4	2.72	1.55	1.17	0.80	2.2	1.7	0.14	0.00
47.08	4.7	0.04	0.74	102.5	1	111.4	2.73	1.56	1.18	0.80	2.3	1.8	0.16	0.00
47.41	4.1	0.02	0.49	113.2	1	111.4	2.75	1.57	1.19	0.80	2.0	1.6	0.11	0.00
47.74	4.0	0.02	0.50	97.6	1	111.4	2.77	1.57	1.20	0.80	1.9	1.5	0.10	0.00
48.06	4.4	0.04	0.91	82.7	1	111.4	2.79	1.58	1.21	0.80	2.1	1.7	0.13	0.00
48.39	4.7	0.04	0.86	77.3	1	111.4	2.81	1.59	1.22	0.79	2.2	1.8	0.15	0.00
48.72	6.6	0.13	1.99	63.4	4	114.6	2.83	1.60	1.23	0.79	4.2	3.3	0.30	0.00
49.05	6.7	0.20	2.91	55.7	3	111.4	2.84	1.61	1.24	0.79	6.4	5.1	0.31	0.00
49.38	5.5	0.20	3.62	45.4	3	111.4	2.86	1.61	1.25	0.79	5.3	4.2	0.21	0.00
49.70	4.2	0.11	2.65	54.9	3	111.4	2.88	1.62	1.26	0.79	4.0	3.1	0.10	0.00
50.03	3.7	0.08	2.04	63.0	3	111.4	2.90	1.63	1.27	0.78	3.5	2.8	0.06	0.00
50.36	3.8	0.07	1.72	72.6	1	111.4	2.92	1.64	1.28	0.78	1.8	1.4	0.07	0.00
50.69	3.8	0.07	1.70	73.9	1	111.4	2.93	1.65	1.29	0.78	1.8	1.4	0.07	0.00
51.02	5.1	0.06	1.08	75.0	1	111.4	2.95	1.65	1.30	0.78	2.4	1.9	0.17	0.00
51.34	5.3	0.06	1.03	71.9	1	111.4	2.97	1.66	1.31	0.78	2.6	2.0	0.19	0.00
51.67	6.8	0.15	2.15	89.5	4	114.6	2.99	1.67	1.32	0.77	4.3	3.3	0.30	0.00
52.00	19.3	0.73	3.76	22.8	4	114.6	3.01	1.68	1.33	0.77	12.3	9.5	1.31	0.00
52.33	22.0	0.89	4.03	-4.2	4	114.6	3.03	1.69	1.34	0.77	14.1	10.8	1.52	0.00
[illegible]66	17.8	0.48	2.70	-12.1	5	114.6	3.05	1.70	1.35	0.77	8.5	6.5	1.18	0.00
[illegible]98	16.5	0.40	2.39	-8.2	5	114.6	3.07	1.71	1.36	0.77	7.9	6.1	1.08	0.10
53.31	18.7	0.45	2.41	-3.5	5	114.6	3.08	1.71	1.37	0.76	9.0	6.8	1.25	0.11
53.64	21.1	0.38	1.81	2.8	6	114.6	3.10	1.72	1.38	0.76	8.1	6.1	1.44	0.13

[illegible]th (ft)	AvgQt (tsf)	AvgFs (tsf)	AvgRf (%)	AvgUd (ft)	SBT	U.Wt. pcf	TStress (tsf)	EStress (tsf)	Ueq (tsf)	Cn	N60 (blows/ft)	(N1)60	Su (tsf)	CRR
53.97	20.9	0.52	2.47	10.7	5	114.6	3.12	1.73	1.39	0.76	10.0	7.6	1.43	0.12
54.30	22.6	0.61	2.70	14.9	5	114.6	3.14	1.74	1.40	0.76	10.8	8.2	1.56	0.14
54.63	19.4	0.37	1.89	18.9	6	114.6	3.16	1.75	1.41	0.76	7.4	5.6	1.30	0.11
54.95	17.8	0.35	1.97	34.3	6	114.6	3.18	1.76	1.42	0.75	6.8	5.2	1.17	0.11
55.28	23.9	0.70	2.94	160.2	5	114.6	3.20	1.77	1.43	0.75	11.4	8.6	1.65	0.14
55.61	35.4	1.25	3.52	86.2	5	114.6	3.22	1.77	1.44	0.75	17.0	12.7	2.58	0.29
55.94	11.5	0.33	2.88	-21.7	4	114.6	3.23	1.78	1.45	0.75	7.3	5.5	0.66	0.00
56.27	7.5	0.11	1.47	-20.4	5	114.6	3.25	1.79	1.46	0.75	3.6	2.7	0.34	0.00
56.59	7.8	0.09	1.15	-18.6	5	114.6	3.27	1.80	1.47	0.75	3.8	2.8	0.37	0.00
56.92	7.7	0.09	1.17	-16.9	5	114.6	3.29	1.81	1.48	0.74	3.7	2.7	0.35	0.00
57.25	9.6	0.36	3.75	-15.8	3	111.4	3.31	1.82	1.49	0.74	9.2	6.8	0.51	0.00
57.58	17.2	0.60	3.49	-14.3	4	114.6	3.33	1.82	1.50	0.74	11.0	8.1	1.11	0.00
57.91	29.0	0.17	0.59	-12.3	7	117.8	3.35	1.83	1.51	0.74	9.3	6.8	UnDef	0.13
58.23	15.2	0.06	0.39	-10.5	6	114.6	3.37	1.84	1.52	0.74	5.8	4.3	0.95	0.10
58.56	9.7	0.02	0.21	33.3	6	114.6	3.38	1.85	1.53	0.74	3.7	2.7	0.51	0.00
58.89	6.9	0.03	0.43	51.5	1	111.4	3.40	1.86	1.54	0.73	3.3	2.4	0.28	0.00
59.22	6.9	0.04	0.51	69.0	1	111.4	3.42	1.87	1.55	0.73	3.3	2.4	0.28	0.00
59.55	7.5	0.04	0.54	86.3	1	111.4	3.44	1.88	1.56	0.73	3.6	2.6	0.32	0.00
59.87	7.1	0.04	0.56	102.8	1	111.4	3.46	1.88	1.57	0.73	3.4	2.5	0.29	0.00
60.20	6.4	0.05	0.78	121.3	1	111.4	3.48	1.89	1.59	0.73	3.1	2.2	0.24	0.00
60.53	6.4	0.05	0.70	132.2	1	111.4	3.49	1.90	1.60	0.73	3.1	2.2	0.24	0.00
60.86	7.9	0.05	0.57	132.6	1	111.4	3.51	1.91	1.61	0.72	3.8	2.8	0.35	0.00
61.19	10.3	0.07	0.63	122.2	6	114.6	3.53	1.92	1.62	0.72	3.9	2.9	0.54	0.08
61.52	9.8	0.05	0.51	114.0	6	114.6	3.55	1.92	1.63	0.72	3.8	2.7	0.50	0.00
61.84	8.8	0.05	0.57	137.7	6	114.6	3.57	1.93	1.64	0.72	3.4	2.4	0.41	0.00
62.17	10.3	0.06	0.58	121.3	6	114.6	3.59	1.94	1.65	0.72	4.0	2.8	0.54	0.00
62.50	16.3	0.07	0.40	115.0	6	114.6	3.61	1.95	1.66	0.72	6.3	4.5	1.02	0.10
[illegible]83	17.9	0.16	0.90	74.0	6	114.6	3.63	1.96	1.67	0.71	6.9	4.9	1.14	0.10
[illegible]16	15.4	0.07	0.42	88.7	6	114.6	3.64	1.97	1.68	0.71	5.9	4.2	0.94	0.09
63.48	11.7	0.08	0.68	100.1	6	114.6	3.66	1.98	1.69	0.71	4.5	3.2	0.65	0.09
63.81	22.7	0.09	0.37	92.7	7	117.8	3.68	1.98	1.70	0.71	7.3	5.2	UnDef	0.13
64.14	32.1	0.14	0.42	48.3	7	117.8	3.70	1.99	1.71	0.71	10.3	7.3	UnDef	0.00
64.47	22.9	0.17	0.72	60.5	7	117.8	3.72	2.00	1.72	0.71	7.3	5.2	UnDef	0.13
64.80	13.8	0.24	1.71	76.0	5	114.6	3.74	2.01	1.73	0.71	6.6	4.7	0.80	0.09
65.12	13.9	0.23	1.66	64.2	5	114.6	3.76	2.02	1.74	0.70	6.6	4.7	0.81	0.09
65.45	25.9	0.19	0.74	65.4	7	117.8	3.78	2.03	1.75	0.70	8.3	5.8	UnDef	0.15
65.78	38.3	0.18	0.46	50.9	7	117.8	3.80	2.04	1.76	0.70	12.2	8.6	UnDef	0.11
66.11	44.0	0.17	0.39	48.7	8	120.9	3.82	2.05	1.77	0.70	10.5	7.4	UnDef	0.08
66.44	25.6	0.53	2.07	53.4	6	114.6	3.84	2.06	1.78	0.70	9.8	6.9	1.74	0.14
66.76	15.1	0.53	3.50	84.7	4	114.6	3.85	2.06	1.79	0.70	9.6	6.7	0.90	0.00

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.00.19M
Run No: 04-0401-1123-5857
Job No: 04-717
Client: MACTEC
Project: TVA Kingston
Site: DIKE S
Location: TVA Kingston
Cone: 20 TON AD142
CPT Date: 04/24/03
CPT Time: 17:34
CPT File: 717CP00S.COR
Northing (m): 0.000
Easting (m): 0.000
Elevation (m): 0.000

Water Table (m): 2.87 (ft): 9.4
Unit Weight of Water (User Specified): 62.40 pcf
Su Nkt used: 12.50 Su/P' (nc): 0.30
Averaging Increment (m): 0.10
Phi Method : Robertson and Campanella, 1983
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Values of 1.0E9 or UnDef are printed for parameters that are not valid for the material type (SBT)

Depth (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
0.16	5.0E-04	0.00	1000.0	0.66	10	58.6	0.0	58.6	0.0	50	95.0	1.0	-0.36	0.0	19.5
0.49	5.0E-03	0.00	1000.0	0.83	10	193.5	0.0	193.5	0.0	50	95.0	1.0	-0.38	0.0	48.4
0.82	5.0E-03	0.00	1000.0	1.20	9	330.5	0.0	330.5	1.3	50	95.0	1.0	-0.43	0.0	82.6
1.15	5.0E-03	0.00	1000.0	1.70	12	384.7	UnDef	UnDef	0.0	50	95.0	1.0	-0.48	UnDef	UnDef
1.48	5.0E-04	0.00	1000.0	2.01	12	386.6	UnDef	UnDef	0.0	50	95.0	1.0	-0.51	UnDef	UnDef
1.80	5.0E-04	0.00	1000.0	2.19	12	378.2	UnDef	UnDef	0.0	50	95.0	1.0	-0.53	UnDef	UnDef
2.13	5.0E-04	0.00	1000.0	2.24	12	366.1	UnDef	UnDef	0.0	50	95.0	1.0	-0.54	UnDef	UnDef
2.46	5.0E-04	0.00	1000.0	1.99	12	339.3	UnDef	UnDef	0.0	50	95.0	1.0	-0.51	UnDef	UnDef
2.79	5.0E-04	0.00	864.9	2.25	12	274.9	UnDef	UnDef	0.0	50	95.0	1.0	-0.52	UnDef	UnDef
3.12	5.0E-04	0.00	654.3	1.99	12	232.3	UnDef	UnDef	0.0	50	95.0	1.0	-0.47	UnDef	UnDef
3.44	5.0E-04	0.00	515.7	1.70	9	202.3	0.0	202.3	5.0	48	91.0	1.0	-0.41	0.0	67.4
3.77	5.0E-04	0.00	442.5	1.59	9	190.0	0.5	190.6	5.1	48	87.9	1.0	-0.39	0.1	63.5
4.10	5.0E-04	0.00	383.3	1.52	9	178.9	1.5	180.3	5.3	48	85.0	1.0	-0.37	0.3	59.9
4.43	5.0E-03	0.00	349.0	1.49	9	175.5	2.9	178.5	5.6	48	83.4	1.0	-0.35	0.4	43.4
4.76	5.0E-03	0.00	375.4	1.55	9	195.7	3.0	198.7	5.6	48	86.5	1.0	-0.37	0.5	48.3
5.09	5.0E-03	0.00	445.7	1.64	9	240.3	1.7	242.1	5.3	48	92.4	1.0	-0.39	0.3	59.1
5.41	5.0E-03	0.00	551.4	1.83	12	306.8	UnDef	UnDef	0.0	50	95.0	1.0	-0.43	UnDef	UnDef
5.74	5.0E-03	0.00	706.0	1.69	12	404.6	UnDef	UnDef	0.0	50	95.0	1.0	-0.44	UnDef	UnDef
6.07	5.0E-03	0.00	708.8	1.96	12	417.8	UnDef	UnDef	0.0	50	95.0	1.0	-0.47	UnDef	UnDef
6.40	5.0E-03	0.00	646.6	1.96	12	391.5	UnDef	UnDef	0.0	50	95.0	1.0	-0.46	UnDef	UnDef
6.73	5.0E-03	0.00	560.0	1.76	12	347.8	UnDef	UnDef	0.0	50	95.0	1.0	-0.43	UnDef	UnDef
7.05	5.0E-03	0.00	522.9	1.97	12	332.8	UnDef	UnDef	0.0	48	95.0	1.0	-0.44	UnDef	UnDef
7.38	5.0E-04	0.00	449.6	2.02	12	292.8	UnDef	UnDef	0.0	48	95.0	1.0	-0.43	UnDef	UnDef
7.79	5.0E-04	0.00	353.0	2.40	12	236.2	UnDef	UnDef	0.0	48	91.9	1.0	-0.44	UnDef	UnDef
8.20	5.0E-04	0.00	247.3	2.47	9	169.9	34.6	204.6	11.3	46	82.5	1.0	-0.40	6.6	62.0
8.53	5.0E-04	0.00	206.1	1.71	9	144.5	19.0	163.6	9.4	46	77.8	1.0	-0.32	3.7	50.9
8.86	5.0E-03	0.00	180.5	1.29	9	129.0	11.9	140.9	8.2	44	74.6	1.0	-0.27	1.8	33.3
9.19	5.0E-03	0.00	156.1	1.13	9	113.8	10.5	124.3	8.2	44	71.0	1.0	-0.24	1.5	29.4
9.51	5.0E-03	0.00	140.5	1.03	9	104.0	10.0	114.0	8.3	44	68.4	1.0	-0.22	1.5	26.9
9.84	5.0E-03	0.00	127.3	0.78	9	95.1	6.3	101.4	7.3	44	65.8	1.0	-0.19	0.9	24.2
10.17	5.0E-03	0.00	113.1	0.91	9	85.3	10.4	95.7	9.1	42	62.7	1.0	-0.19	1.5	22.4
10.50	5.0E-04	0.00	96.5	0.93	9	73.5	12.5	86.0	10.4	42	58.4	1.0	-0.18	2.4	26.4
10.83	5.0E-04	0.00	83.7	0.73	9	64.3	10.1	74.5	10.1	42	54.6	1.0	-0.14	2.0	22.9
11.15	5.0E-04	0.00	73.8	0.75	9	57.3	11.7	69.0	11.4	40	51.3	1.0	-0.13	2.2	20.9
11.48	5.0E-04	0.00	64.9	0.67	9	50.9	11.5	62.4	11.9	40	47.9	1.0	-0.11	2.2	18.8
11.81	5.0E-04	0.00	59.8	0.44	9	47.3	0.0	47.3	5.0	40	45.8	1.0	-0.07	0.0	15.4
12.14	5.0E-04	0.00	62.2	0.51	9	49.5	8.9	58.4	10.7	40	47.1	1.0	-0.09	1.7	17.9
12.47	5.0E-04	0.00	58.4	0.68	9	46.9	12.7	59.6	13.0	40	45.6	1.0	-0.10	2.4	17.6
12.80	5.0E-04	0.00	46.8	0.51	9	38.0	11.3	49.3	13.6	38	39.6	1.0	-0.06	2.1	14.5

[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
13.12	5.0E-04	0.00	43.2	0.54	9	35.4	12.6	48.0	14.8	38	37.5	1.0	-0.06	2.3	13.8
13.45	5.0E-04	0.00	34.1	0.52	7	28.4	14.1	42.5	17.4	36	31.2	1.0	-0.03	2.4	11.7
13.78	5.0E-04	0.01	27.8	0.42	7	23.5	0.0	23.5	5.0	36	30.0	1.0	0.00	0.0	7.7
14.11	5.0E-05	0.01	28.9	1.00	7	24.5	26.6	51.1	24.5	36	30.0	10.0	-0.07	4.6	14.2
14.44	5.0E-05	0.00	26.4	0.92	7	22.6	26.1	48.7	25.1	36	30.0	10.0	-0.06	4.5	13.3
14.76	5.0E-05	0.00	23.7	0.54	7	20.5	18.1	38.7	22.5	34	30.0	10.0	0.00	3.3	11.4
15.09	5.0E-05	0.01	22.2	0.41	7	19.5	0.0	19.5	5.0	34	30.0	10.0	0.02	0.0	7.6
15.42	5.0E-05	0.01	19.8	0.35	7	17.6	0.0	17.6	5.0	34	30.0	9.3	0.05	0.0	6.9
15.75	5.0E-05	0.01	19.5	0.60	7	17.4	22.9	40.3	26.3	32	30.0	9.1	0.01	3.8	10.6
16.08	5.0E-05	0.01	17.1	0.39	7	15.5	0.0	15.5	5.0	32	30.0	7.4	0.05	0.0	6.1
16.40	5.0E-05	0.03	15.0	0.40	7	13.8	0.0	13.8	5.0	32	30.0	6.0	0.06	0.0	5.4
16.73	5.0E-05	0.04	13.4	0.34	7	12.6	0.0	12.6	5.0	32	30.0	5.1	0.08	0.0	4.9
17.06	5.0E-05	0.04	13.8	0.56	7	13.0	32.5	45.5	31.7	32	30.0	5.3	0.04	4.1	9.2
17.39	5.0E-05	0.04	14.2	0.41	7	13.4	0.0	13.4	5.0	32	30.0	5.6	0.07	0.0	5.3
17.72	1.0E-07	0.04	9.9	0.26	7	9.8	0.0	9.8	5.0	UnDef	UnDef	3.2	UnDef	0.0	4.8
18.04	1.0E-07	0.11	6.3	0.20	1	6.7	UnDef	UnDef	100.0	UnDef	UnDef	1.8	UnDef	UnDef	UnDef
18.37	1.0E-07	0.11	6.9	0.18	1	7.2	UnDef	UnDef	100.0	UnDef	UnDef	2.0	UnDef	UnDef	UnDef
18.70	1.0E-07	0.17	5.0	1.12	4	5.6	22.3	27.9	61.9	UnDef	UnDef	1.3	UnDef	2.7	5.5
19.03	5.0E-05	0.02	13.6	1.40	6	13.3	53.0	66.3	40.8	32	30.0	5.2	-0.02	5.2	10.4
19.36	5.0E-04	0.01	37.7	0.85	7	34.8	22.0	56.8	19.5	38	37.0	1.0	-0.08	3.6	15.0
19.68	5.0E-03	0.00	86.0	1.03	9	78.2	18.4	96.6	12.1	42	60.2	1.0	-0.18	2.6	21.7
20.01	5.0E-03	0.00	101.7	1.25	9	92.9	21.7	114.6	12.1	42	65.2	1.0	-0.21	3.1	25.8
20.34	5.0E-03	0.00	90.2	1.03	9	83.0	18.1	101.1	11.7	42	61.9	1.0	-0.18	2.6	22.9
20.67	5.0E-03	0.00	73.7	0.96	9	68.4	18.6	87.1	13.0	40	56.4	1.0	-0.16	2.6	19.3
21.00	5.0E-04	0.00	50.6	1.20	7	47.6	27.6	75.2	18.7	38	46.0	1.0	-0.14	4.6	20.2
21.33	5.0E-05	0.00	32.6	1.49	7	31.3	42.3	73.6	26.5	36	34.0	10.0	-0.12	6.9	19.1
21.65	5.0E-05	0.00	18.6	2.02	6	18.6	74.2	92.8	39.2	32	30.0	8.4	-0.08	7.3	14.5
[illegible]98	5.0E-05	0.01	16.6	0.84	7	16.7	42.2	58.9	31.8	32	30.0	7.0	0.00	5.3	11.9
[illegible]31	5.0E-05	0.04	9.6	0.80	6	10.3	41.3	51.7	42.0	30	30.0	3.1	0.05	4.0	8.1
22.64	5.0E-06	0.10	7.3	0.90	6	8.2	32.9	41.1	49.4	UnDef	UnDef	2.1	UnDef	4.0	8.0
22.97	5.0E-05	0.11	8.5	0.76	6	9.4	37.5	46.9	44.3	30	30.0	2.6	0.07	3.7	7.3
23.29	5.0E-05	0.09	9.1	0.65	6	10.0	40.0	50.0	41.2	30	30.0	2.9	0.08	3.9	7.8
23.62	5.0E-05	0.12	7.7	0.69	6	8.7	34.9	43.6	45.5	30	30.0	2.3	0.09	3.4	6.8
23.95	1.0E-07	0.14	7.2	0.51	6	8.3	33.3	41.6	44.3	UnDef	UnDef	2.1	UnDef	4.1	8.1
24.28	5.0E-05	0.13	7.4	0.56	6	8.6	34.2	42.8	44.5	30	30.0	2.2	0.11	3.3	6.7
24.61	1.0E-07	0.15	6.1	0.51	1	7.4	UnDef	UnDef	100.0	UnDef	UnDef	1.7	UnDef	UnDef	UnDef
24.93	5.0E-06	0.14	7.6	2.43	4	8.8	35.2	44.0	61.7	UnDef	UnDef	2.2	UnDef	4.3	8.6
25.26	5.0E-04	0.01	55.7	1.19	7	55.5	28.0	83.6	17.6	40	50.4	1.0	-0.15	4.8	22.9
25.59	5.0E-03	0.00	70.6	1.13	9	70.3	24.4	94.8	14.7	40	57.2	1.0	-0.17	3.3	20.5
25.92	5.0E-04	-0.01	57.9	1.13	7	58.3	26.5	84.8	16.7	40	51.8	1.0	-0.15	4.6	23.6
26.25	5.0E-04	-0.01	40.2	0.92	7	41.1	25.5	66.6	19.3	38	41.8	1.0	-0.10	4.2	17.6
26.57	5.0E-04	-0.01	23.9	0.92	7	25.2	34.1	59.3	26.5	34	30.0	1.0	-0.05	4.6	12.8
26.90	5.0E-05	0.02	14.7	1.32	6	16.1	64.4	80.5	38.7	32	30.0	5.8	-0.02	6.3	12.6
27.23	5.0E-05	0.04	18.4	1.28	6	19.9	69.5	89.4	34.1	32	30.0	8.3	-0.04	7.4	15.2
27.56	5.0E-04	0.01	34.2	1.48	7	35.9	44.4	80.3	25.7	36	37.9	1.0	-0.12	6.2	17.9
27.89	5.0E-04	0.00	58.7	1.17	7	60.6	28.1	88.7	16.9	40	52.9	1.0	-0.15	4.9	24.7
28.21	5.0E-04	-0.01	50.3	0.99	7	52.4	25.4	77.8	17.2	38	48.7	1.0	-0.12	4.4	21.5
28.54	5.0E-04	-0.01	35.3	1.32	7	37.4	39.2	76.6	24.2	38	39.1	1.0	-0.11	5.7	17.9
28.87	5.0E-04	0.00	36.0	1.37	7	38.3	40.7	78.9	24.3	38	39.7	1.0	-0.12	5.9	18.4
29.20	5.0E-04	0.00	38.4	1.21	7	40.9	34.7	75.6	22.2	38	41.6	1.0	-0.11	5.4	18.7
29.53	5.0E-04	0.00	40.7	0.97	7	43.5	27.7	71.2	19.6	38	43.4	1.0	-0.10	4.6	18.7
29.86	5.0E-04	-0.01	47.4	1.31	7	50.5	34.9	85.4	20.3	38	47.7	1.0	-0.14	5.7	22.1
30.18	5.0E-04	-0.01	63.6	1.69	7	67.6	41.6	109.1	19.3	40	56.0	1.0	-0.20	6.9	28.9
30.59	5.0E-04	-0.01	51.1	1.71	7	54.9	45.3	100.2	21.9	38	50.1	1.0	-0.18	7.1	25.0
31.00	5.0E-04	-0.01	39.8	1.65	7	43.4	48.3	91.7	24.7	38	43.3	1.0	-0.15	7.0	21.1
31.33	5.0E-04	0.00	45.8	1.55	7	49.8	42.7	92.5	22.3	38	47.3	1.0	-0.15	6.6	22.8
31.66	5.0E-04	0.00	55.2	1.47	7	59.9	38.0	97.9	19.5	40	52.6	1.0	-0.17	6.3	25.8
[illegible]99	5.0E-04	0.00	57.0	1.53	7	62.1	39.4	101.5	19.5	40	53.6	1.0	-0.17	6.5	26.8
[illegible]32	5.0E-04	0.00	61.0	1.54	7	66.6	39.1	105.7	18.9	40	55.6	1.0	-0.18	6.5	28.3
[illegible]64	5.0E-04	0.00	73.4	1.56	7	80.0	37.5	117.6	17.0	40	60.9	1.0	-0.20	6.5	32.6
32.97	5.0E-03	0.00	82.8	1.49	7	90.4	34.5	124.9	15.4	42	64.4	1.0	-0.21	4.6	26.7
33.30	5.0E-03	0.00	78.8	1.45	7	86.5	34.4	120.8	15.6	42	63.1	1.0	-0.20	4.6	25.7

[redacted]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
33.63	5.0E-03	0.00	60.7	1.20	7	67.3	30.6	97.9	16.7	40	55.9	1.0	-0.16	4.0	20.5
33.96	5.0E-04	0.01	39.1	1.24	7	44.2	37.6	81.8	22.2	38	43.8	1.0	-0.12	5.8	20.2
34.28	5.0E-04	0.02	30.9	1.36	7	35.4	47.1	82.5	26.4	36	37.5	1.0	-0.10	6.4	18.0
34.61	5.0E-04	0.01	34.1	1.06	7	39.0	34.8	73.8	22.7	36	40.3	1.0	-0.09	5.3	18.0
34.94	5.0E-04	0.02	27.5	0.99	7	31.9	36.8	68.7	25.0	36	34.6	1.0	-0.06	5.2	15.7
35.27	5.0E-05	0.03	19.5	1.55	6	23.2	92.8	116.0	35.2	34	30.0	9.0	-0.06	9.1	18.2
35.60	5.0E-05	0.02	17.9	1.12	7	21.5	66.1	87.7	33.3	32	30.0	7.9	-0.03	7.5	16.0
35.92	5.0E-04	0.03	14.7	0.64	7	18.1	44.7	62.8	31.7	32	30.0	1.0	0.03	4.7	10.6
36.25	5.0E-05	0.09	7.1	0.27	1	9.8	UnDef	UnDef	100.0	30	30.0	2.1	0.16	UnDef	UnDef
36.58	1.0E-07	0.50	2.4	0.65	1	4.5	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
36.91	1.0E-07	0.59	1.9	0.82	1	3.9	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
37.24	1.0E-07	0.93	1.2	0.95	1	3.2	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
37.57	1.0E-07	0.75	1.6	0.49	1	3.6	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
37.89	1.0E-07	0.55	2.0	0.57	1	4.1	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
38.22	1.0E-07	0.67	1.9	0.58	1	4.1	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
38.55	1.0E-07	0.58	1.7	2.84	1	3.8	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
38.88	5.0E-06	0.11	5.4	2.27	4	8.0	32.1	40.1	70.0	UnDef	UnDef	1.5	UnDef	3.9	7.9
39.21	5.0E-06	0.12	4.6	2.93	1	7.2	UnDef	UnDef	100.0	UnDef	UnDef	1.2	UnDef	UnDef	UnDef
39.53	5.0E-08	1.42	0.8	6.82	1	2.9	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
39.86	1.0E-07	2.52	0.5	2.34	1	2.5	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
40.19	1.0E-07	1.41	0.8	0.91	1	2.9	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
40.52	1.0E-07	1.48	0.8	0.93	1	2.9	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
40.85	1.0E-07	166.88	0.0	10.00	1	1.6	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
41.17	1.0E-07	1.65	0.8	0.93	1	2.9	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
41.50	1.0E-07	0.51	1.9	0.91	1	4.3	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
41.83	1.0E-07	1.61	0.7	3.28	1	2.9	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
42.16	1.0E-07	1.09	0.9	1.51	1	3.1	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
[redacted]49	1.0E-07	1.07	1.0	1.03	1	3.2	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
[redacted]81	1.0E-07	1.16	1.0	0.70	1	3.2	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
43.14	1.0E-07	1.54	0.8	1.77	1	3.0	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
43.47	1.0E-07	2.20	0.6	1.19	1	2.7	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
43.80	1.0E-07	1.02	1.3	0.54	1	3.5	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
44.13	1.0E-07	0.48	2.5	1.08	1	5.0	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
44.45	5.0E-06	0.51	3.0	1.68	4	5.7	22.6	28.3	83.1	UnDef	UnDef	0.8	UnDef	2.8	5.5
44.78	5.0E-06	0.38	3.7	1.44	4	6.5	26.1	32.7	73.9	UnDef	UnDef	1.0	UnDef	3.2	6.4
45.11	5.0E-06	0.51	2.7	1.59	4	5.3	21.4	26.7	85.7	UnDef	UnDef	0.8	UnDef	2.6	5.2
45.44	1.0E-07	0.58	1.9	2.46	1	4.4	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
45.77	1.0E-07	0.72	1.9	2.05	4	4.4	17.7	22.2	100.0	UnDef	UnDef	0.6	UnDef	2.2	4.3
46.10	1.0E-07	0.73	1.8	2.01	4	4.3	17.1	21.4	100.0	UnDef	UnDef	0.6	UnDef	2.1	4.2
46.42	1.0E-07	0.99	1.4	2.11	1	3.8	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
46.75	1.0E-07	1.10	1.1	2.54	1	3.5	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
47.08	1.0E-07	1.01	1.3	1.76	4	3.7	14.8	18.5	100.0	UnDef	UnDef	0.5	UnDef	1.8	3.6
47.41	1.0E-07	1.73	0.9	1.48	1	3.2	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
47.74	1.0E-07	1.50	0.8	1.63	1	3.1	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
48.06	1.0E-07	0.85	1.0	2.47	1	3.4	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
48.39	1.0E-07	0.64	1.2	2.15	1	3.6	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
48.72	5.0E-07	0.20	2.3	3.49	1	5.1	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
49.05	5.0E-08	0.13	2.4	5.05	1	5.2	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
49.38	5.0E-08	0.06	1.7	7.47	1	4.3	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
49.70	5.0E-08	0.36	0.8	8.64	1	3.2	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
50.03	5.0E-08	0.89	0.5	9.64	1	2.8	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
50.36	1.0E-07	1.13	0.5	7.47	1	2.9	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
50.69	1.0E-07	1.15	0.5	7.32	1	2.9	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
51.02	1.0E-07	0.48	1.3	2.55	1	3.9	UnDef	UnDef	100.0	UnDef	UnDef	0.5	UnDef	UnDef	UnDef
51.34	1.0E-07	0.39	1.4	2.32	1	4.1	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
51.67	5.0E-07	0.39	2.3	3.84	1	5.1	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
52.00	5.0E-07	-0.04	9.7	4.45	1	14.6	UnDef	UnDef	100.0	UnDef	UnDef	3.1	UnDef	UnDef	UnDef
52.33	5.0E-07	-0.08	11.2	4.67	1	16.6	UnDef	UnDef	100.0	UnDef	UnDef	3.9	UnDef	UnDef	UnDef
[redacted]66	5.0E-06	-0.12	8.7	3.26	1	13.4	UnDef	UnDef	100.0	UnDef	UnDef	2.7	UnDef	UnDef	UnDef
[redacted]98	5.0E-06	-0.12	7.9	2.94	4	12.4	49.6	62.0	63.8	UnDef	UnDef	2.4	UnDef	6.1	12.1
53.31	5.0E-06	-0.09	9.1	2.89	4	14.0	55.9	69.9	59.9	UnDef	UnDef	2.9	UnDef	6.8	13.7
53.64	5.0E-05	-0.07	10.4	2.12	6	15.7	62.8	78.5	51.9	30	30.0	3.5	-0.03	6.1	12.3

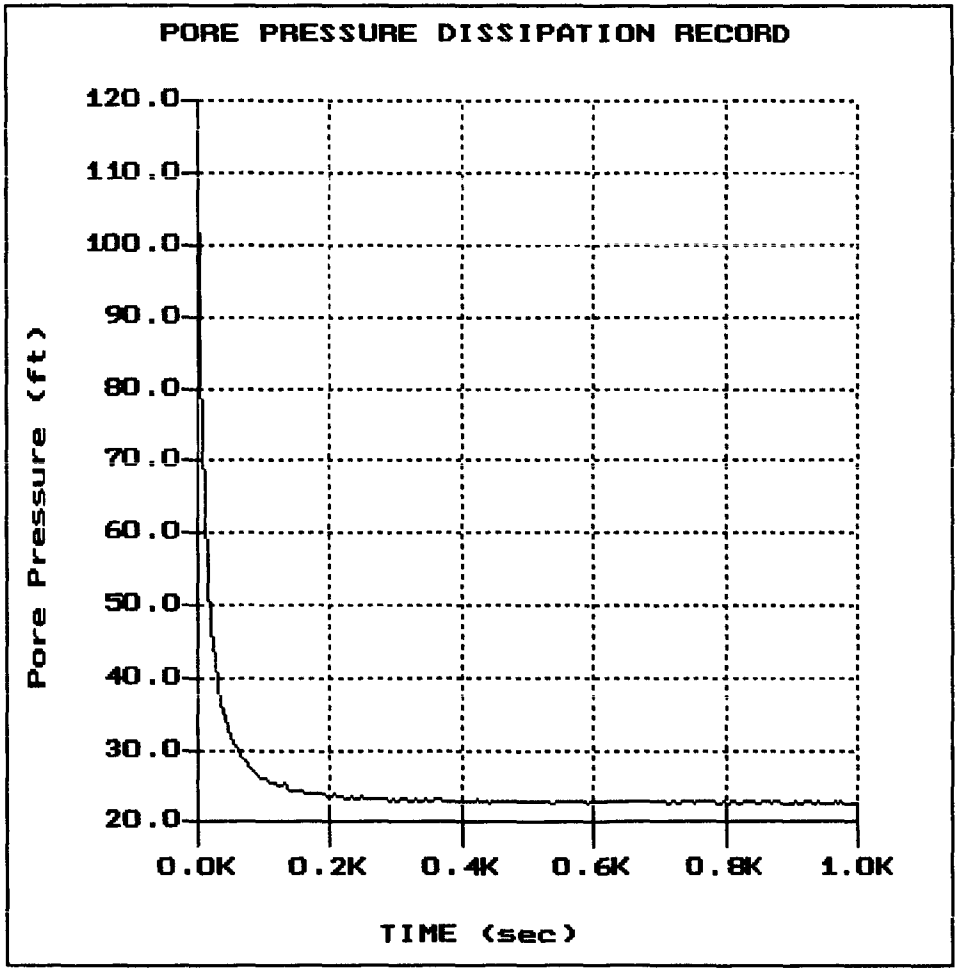
[illegible]th (ft)	k (cm/s)	Bq	Qtn	Rfn	SBTn	Qc1N	DeltaQc1N	Qc1Ncs	Fc (%)	Phi (Deg)	Dr (%)	OCR	State Param	Del(n1)60	(N1)60cs
53.97	5.0E-06	-0.06	10.3	2.90	4	15.6	62.3	77.9	57.0	UnDef	UnDef	3.4	UnDef	7.6	15.2
54.30	5.0E-06	-0.05	11.2	3.15	4	16.8	67.2	84.0	56.3	UnDef	UnDef	3.9	UnDef	8.2	16.4
54.63	5.0E-05	-0.05	9.3	2.25	4	14.4	57.5	71.8	55.5	30	30.0	3.0	-0.02	5.6	11.2
54.95	5.0E-05	-0.02	8.3	2.40	4	13.2	52.6	65.8	59.1	30	30.0	2.5	-0.01	5.2	10.3
55.28	5.0E-06	0.17	11.7	3.39	4	17.6	70.3	87.9	56.6	UnDef	UnDef	4.1	UnDef	8.6	17.2
55.61	5.0E-06	0.04	18.2	3.87	4	26.0	104.2	130.2	49.3	UnDef	UnDef	8.1	UnDef	12.7	25.5
55.94	5.0E-07	-0.26	4.6	4.00	1	8.4	UnDef	UnDef	100.0	UnDef	UnDef	1.2	UnDef	UnDef	UnDef
56.27	5.0E-06	-0.50	2.4	2.61	1	5.5	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
56.59	5.0E-06	-0.45	2.5	1.98	4	5.7	22.9	28.6	91.5	UnDef	UnDef	0.7	UnDef	2.8	5.6
56.92	5.0E-06	-0.46	2.4	2.06	4	5.6	22.4	27.9	93.8	UnDef	UnDef	0.7	UnDef	2.7	5.5
57.25	5.0E-08	-0.31	3.5	5.71	1	7.0	UnDef	UnDef	100.0	UnDef	UnDef	0.9	UnDef	UnDef	UnDef
57.58	5.0E-07	-0.14	7.6	4.33	1	12.5	UnDef	UnDef	100.0	UnDef	UnDef	2.2	UnDef	UnDef	UnDef
57.91	5.0E-04	-0.07	14.0	0.66	7	21.0	60.6	81.6	32.8	32	30.0	1.0	0.02	5.9	12.8
58.23	5.0E-05	-0.16	6.4	0.51	6	11.0	44.0	55.0	46.9	30	30.0	1.8	0.10	4.3	8.6
58.56	5.0E-05	-0.08	3.4	0.32	1	7.0	UnDef	UnDef	100.0	30	30.0	0.9	0.20	UnDef	UnDef
58.89	1.0E-07	0.02	1.9	0.86	1	5.0	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
59.22	1.0E-07	0.17	1.9	1.00	1	5.0	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
59.55	1.0E-07	0.28	2.1	1.00	1	5.3	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
59.87	1.0E-07	0.45	1.9	1.09	1	5.1	UnDef	UnDef	100.0	UnDef	UnDef	0.6	UnDef	UnDef	UnDef
60.20	1.0E-07	0.74	1.6	1.69	4	4.6	18.3	22.9	100.0	UnDef	UnDef	0.6	UnDef	2.2	4.5
60.53	1.0E-07	0.86	1.5	1.54	4	4.6	18.3	22.8	100.0	UnDef	UnDef	0.6	UnDef	2.2	4.5
60.86	1.0E-07	0.57	2.3	1.02	1	5.6	UnDef	UnDef	100.0	UnDef	UnDef	0.7	UnDef	UnDef	UnDef
61.19	5.0E-05	0.32	3.5	0.96	4	7.3	29.2	36.5	69.9	30	30.0	0.9	0.17	2.9	5.7
61.52	5.0E-05	0.31	3.3	0.80	1	6.9	UnDef	UnDef	100.0	30	30.0	0.9	0.18	UnDef	UnDef
61.84	5.0E-05	0.51	2.7	0.97	1	6.2	UnDef	UnDef	100.0	30	30.0	0.8	0.22	UnDef	UnDef
62.17	5.0E-05	0.32	3.5	0.89	1	7.3	UnDef	UnDef	100.0	30	30.0	0.9	0.17	UnDef	UnDef
62.50	5.0E-05	0.15	6.5	0.51	6	11.4	45.8	57.2	46.8	30	30.0	1.8	0.13	4.5	9.0
[illegible]83	5.0E-05	0.05	7.3	1.12	6	12.5	50.0	62.5	52.1	30	30.0	2.1	0.06	4.9	9.8
[illegible]16	5.0E-05	0.09	6.0	0.56	6	10.7	42.9	53.6	49.7	30	30.0	1.6	0.13	4.2	8.4
63.48	5.0E-05	0.18	4.1	0.99	4	8.2	32.7	40.9	66.0	30	30.0	1.1	0.13	3.2	6.4
63.81	5.0E-04	0.06	9.6	0.45	6	15.8	63.2	78.9	37.1	30	30.0	1.0	0.10	5.2	10.3
64.14	5.0E-04	-0.01	14.3	0.48	7	22.3	0.0	22.3	5.0	32	30.0	1.0	0.05	0.0	7.3
64.47	5.0E-04	0.01	9.6	0.85	6	15.8	63.3	79.1	42.9	30	30.0	1.0	0.05	5.2	10.3
64.80	5.0E-06	0.06	5.0	2.35	4	9.5	38.0	47.5	72.7	UnDef	UnDef	1.3	UnDef	4.7	9.3
65.12	5.0E-06	0.03	5.0	2.23	4	9.6	38.2	47.8	72.1	UnDef	UnDef	1.3	UnDef	4.7	9.3
65.45	5.0E-04	0.01	10.9	0.85	6	17.8	71.1	88.8	40.1	30	30.0	1.0	0.03	5.8	11.6
65.78	5.0E-04	0.00	16.9	0.51	7	26.2	39.3	65.6	27.5	32	30.0	1.0	0.03	5.1	13.7
66.11	5.0E-03	-0.01	19.6	0.42	7	30.1	0.0	30.1	5.0	34	32.8	1.0	0.03	0.0	7.4
66.44	5.0E-05	-0.01	10.6	2.44	4	17.5	70.0	87.5	53.6	30	30.0	3.6	-0.04	6.9	13.7
66.76	5.0E-07	0.08	5.4	4.70	1	10.3	UnDef	UnDef	100.0	UnDef	UnDef	1.5	UnDef	UnDef	UnDef

APPENDIX C

MACTEC

Hole:B3 CPT-1
Location:TVA Kingston

Cone:20 TON AD142
Date:03:22:04 08:54

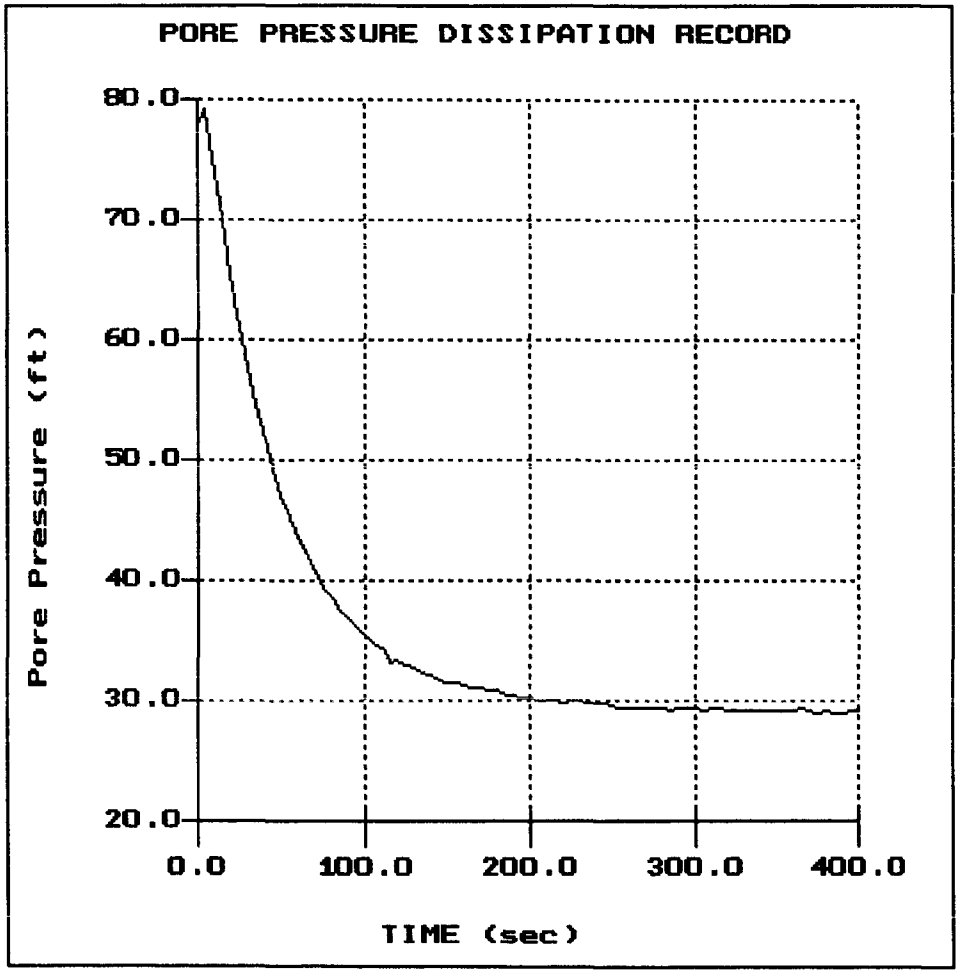


File: 717CP001.PPD
Depth (m): 15.25
(ft): 50.03
Duration : 1000.0s
U-min: 22.29 815.0s
U-max: 120.00 0.0s

MACTEC

Hole:CPT-10
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 10:53

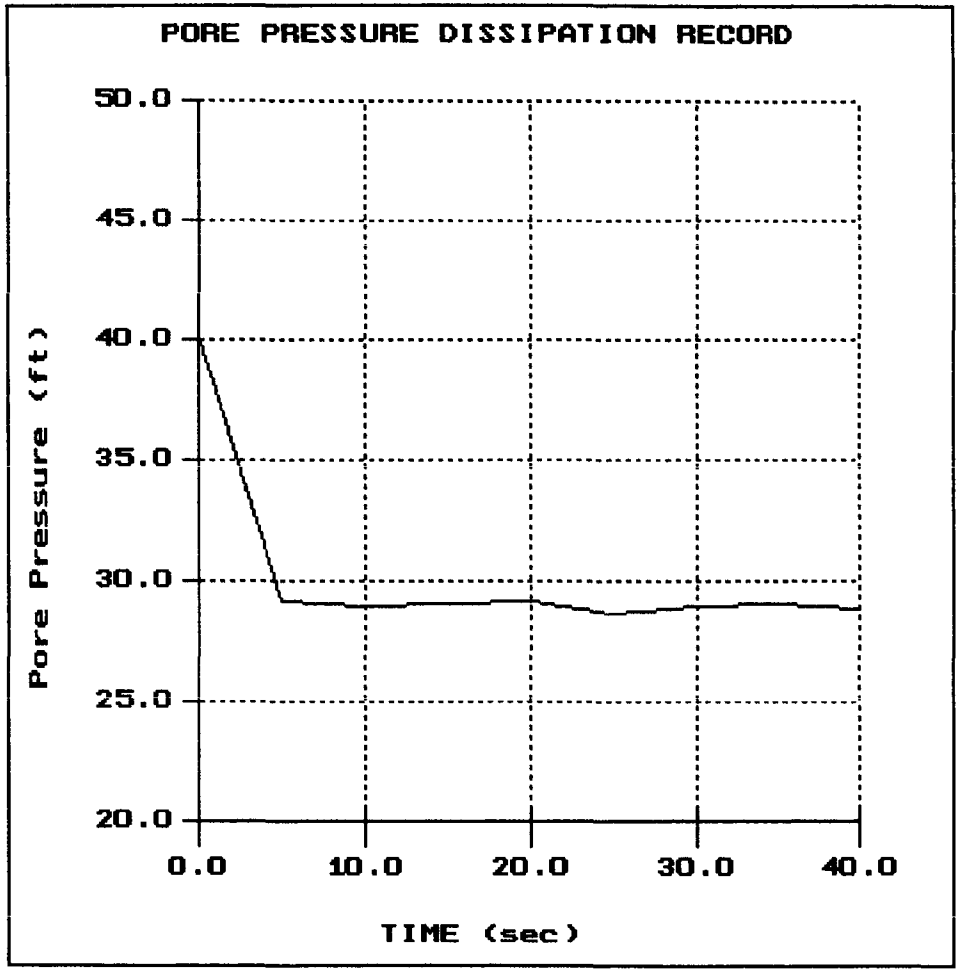


File: 717CP010.PPD
Depth (m): 9.65
(ft): 31.66
Duration : 400.0s
U-min: 29.00 375.0s
U-max: 79.07 5.0s

MACTEC

Hole:CPT-8
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 12:41

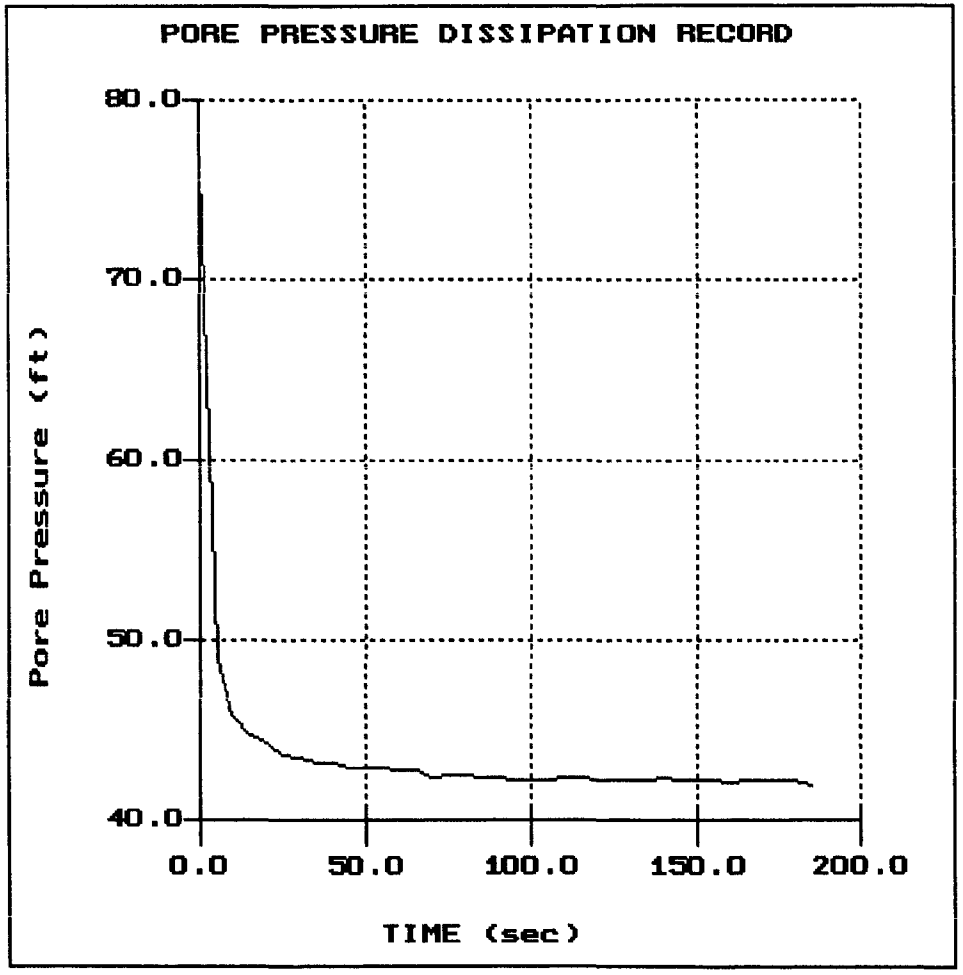


File: 717CP008.PPD
Depth (m): 11.85
(ft): 38.88
Duration : 40.0s
U-min: 28.63 25.0s
U-max: 40.26 0.0s

MACTEC

Hole:CPT-8
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 12:41

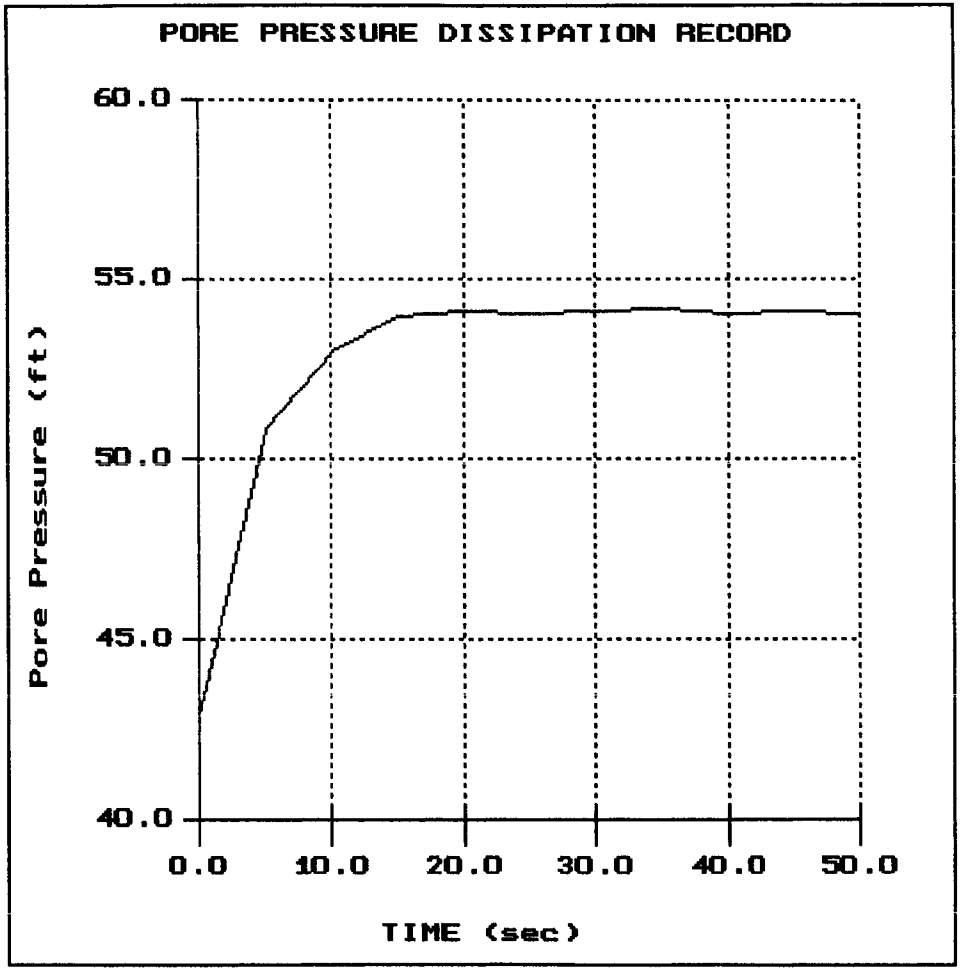


File: 717CP008.PPD
Depth (m): 15.85
(ft): 52.00
Duration : 185.0s
U-min: 42.00 185.0s
U-max: 76.82 0.0s

MACTEC

Hole:CPT-8
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 12:41

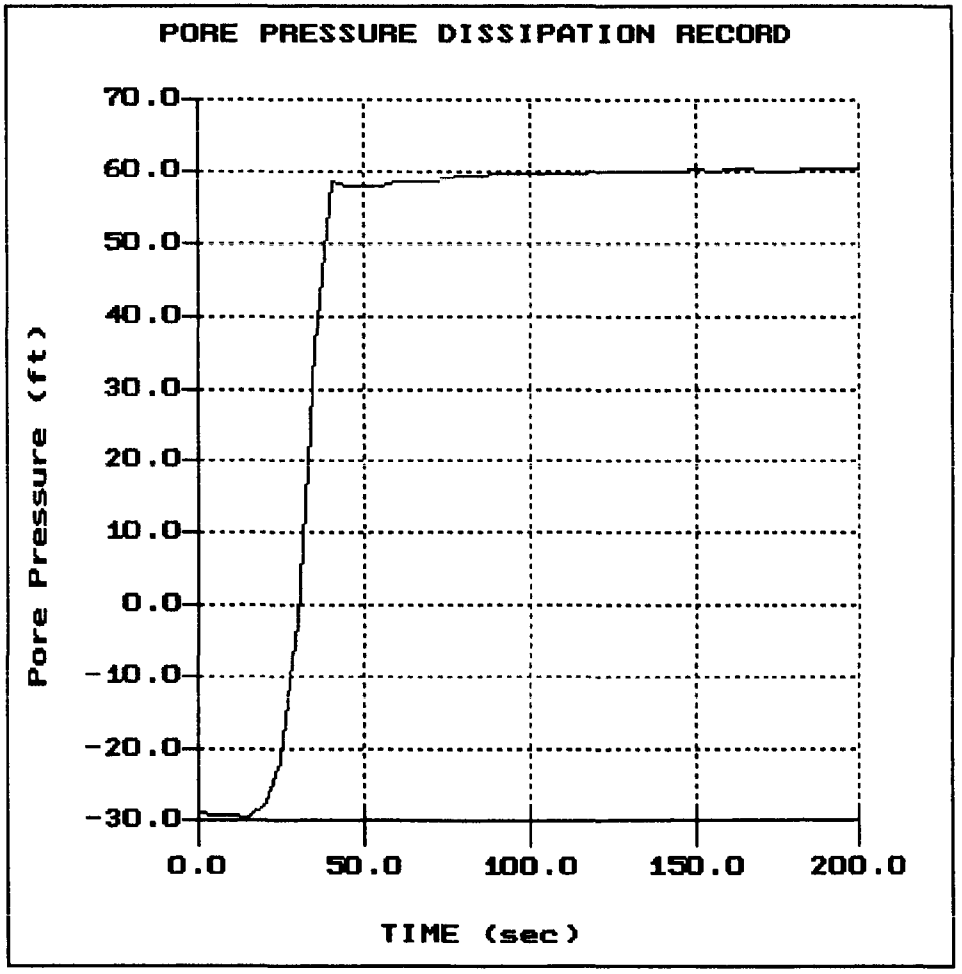


File: 717CP008.PPD
Depth (m): 19.85
(ft): 65.12
Duration : 50.0s
U-min: 42.85 0.0s
U-max: 54.20 35.0s

MACTEC

Hole:CPT-8
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 12:41

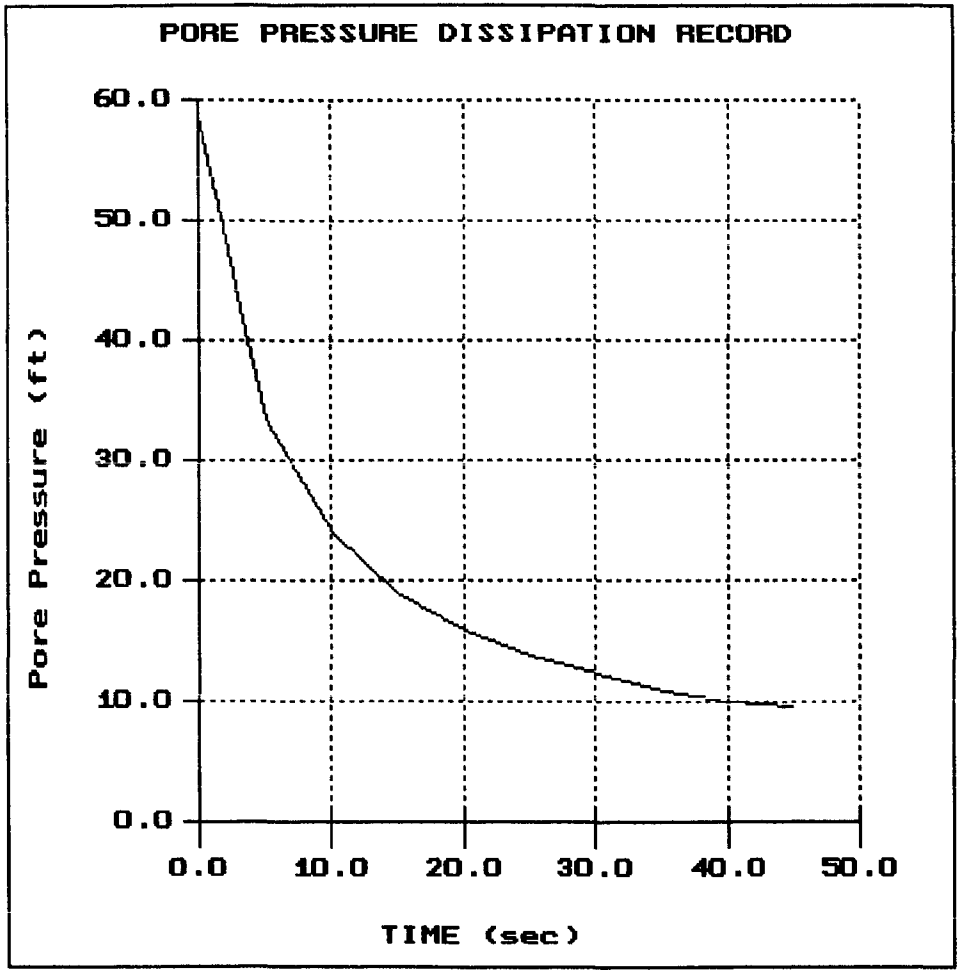


File: 717CP008.PPD
Depth (m): 21.85
(ft): 71.69
Duration : 200.0s
U-min: -29.52 15.0s
U-max: 60.44 185.0s

MACTEC

Hole:CPT-1A
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 15:11

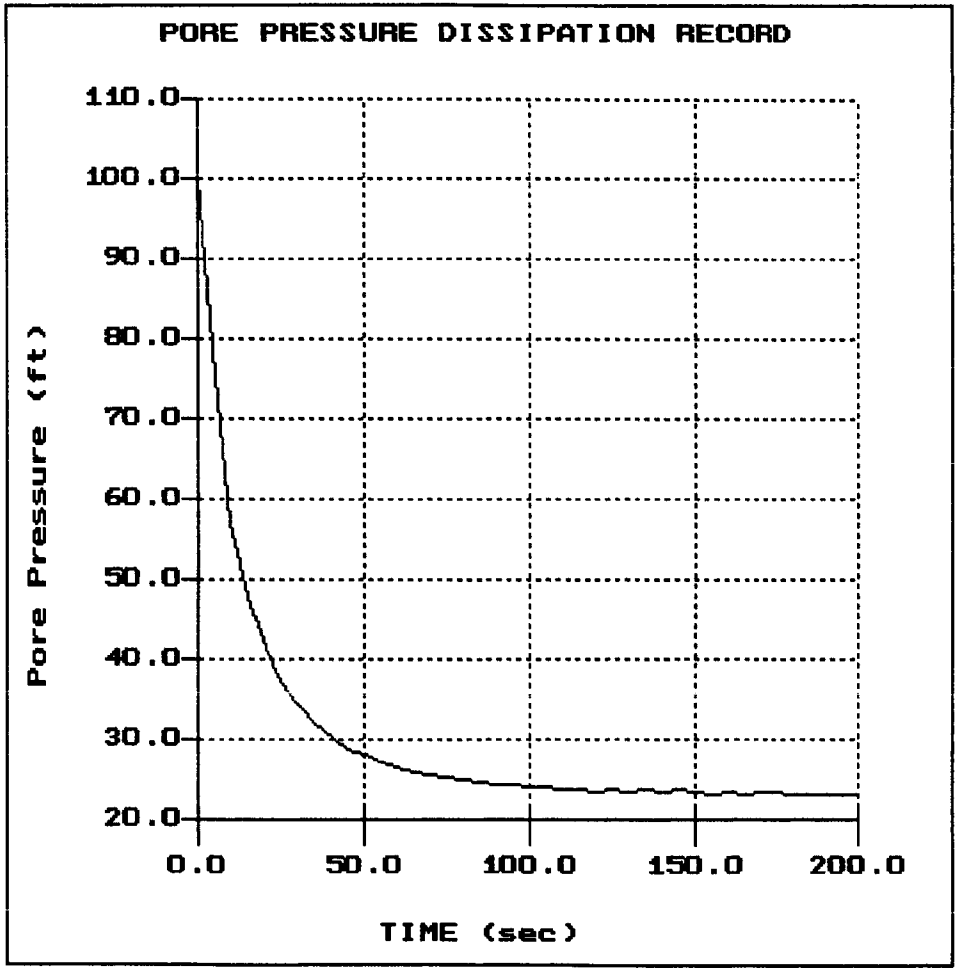


File: 717CP01A.PPD
Depth (m): 9.85
(ft): 32.32
Duration : 45.0s
U-min: 9.48 45.0s
U-max: 58.75 0.0s

MACTEC

Hole:CPT-1A
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 15:11

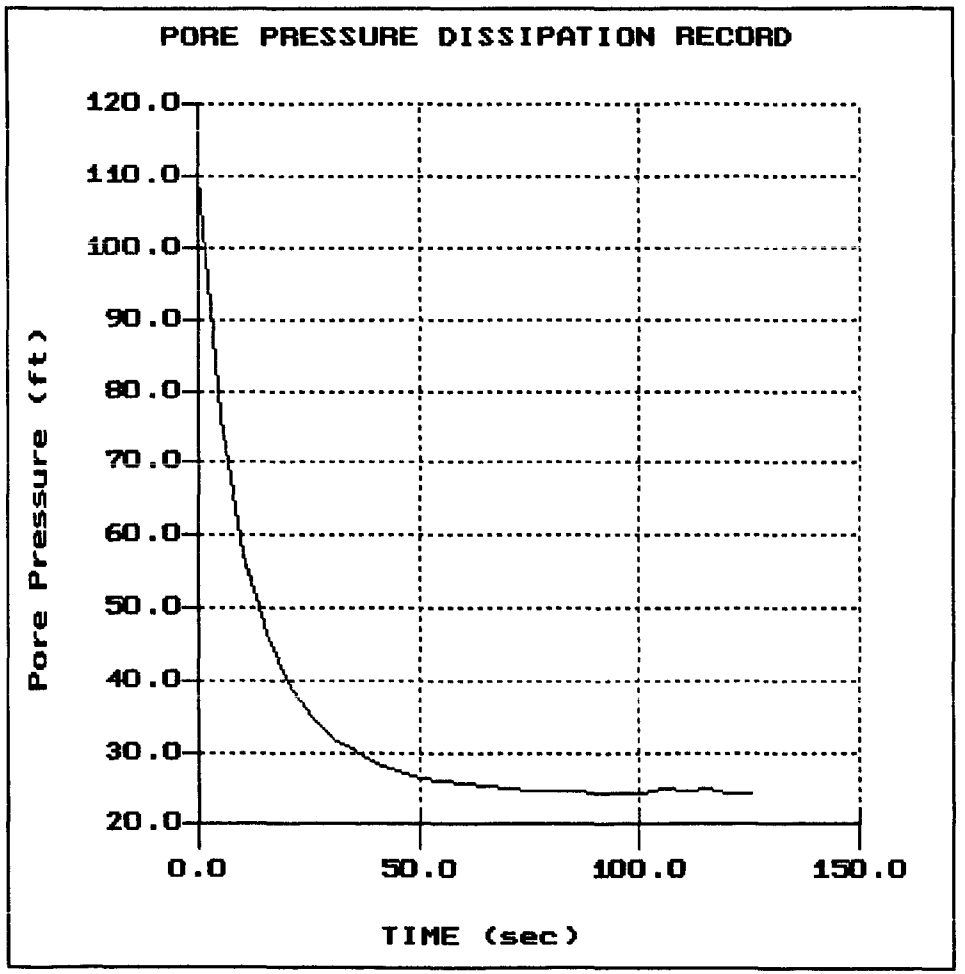


File: 717CP01A.PPD
Depth (m): 15.65
(ft): 51.35
Duration : 200.0s
U-min: 23.09 200.0s
U-max: 100.24 0.0s

MACTEC

Hole:CPT-1A
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 15:11

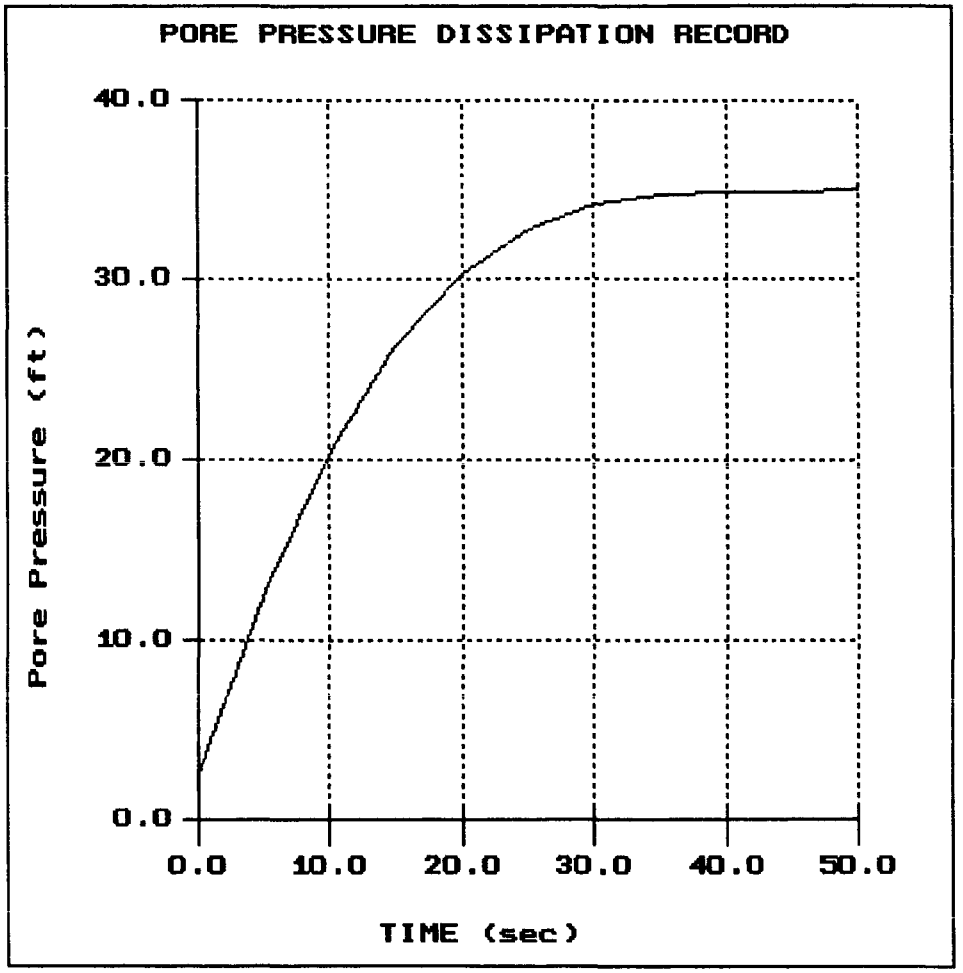


File: 717CP01A.PPD
Depth (m): 15.85
(ft): 52.00
Duration : 125.0s
U-min: 24.17 90.0s
U-max: 110.28 0.0s

MACTEC

Hole:CPT-1A
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 15:11

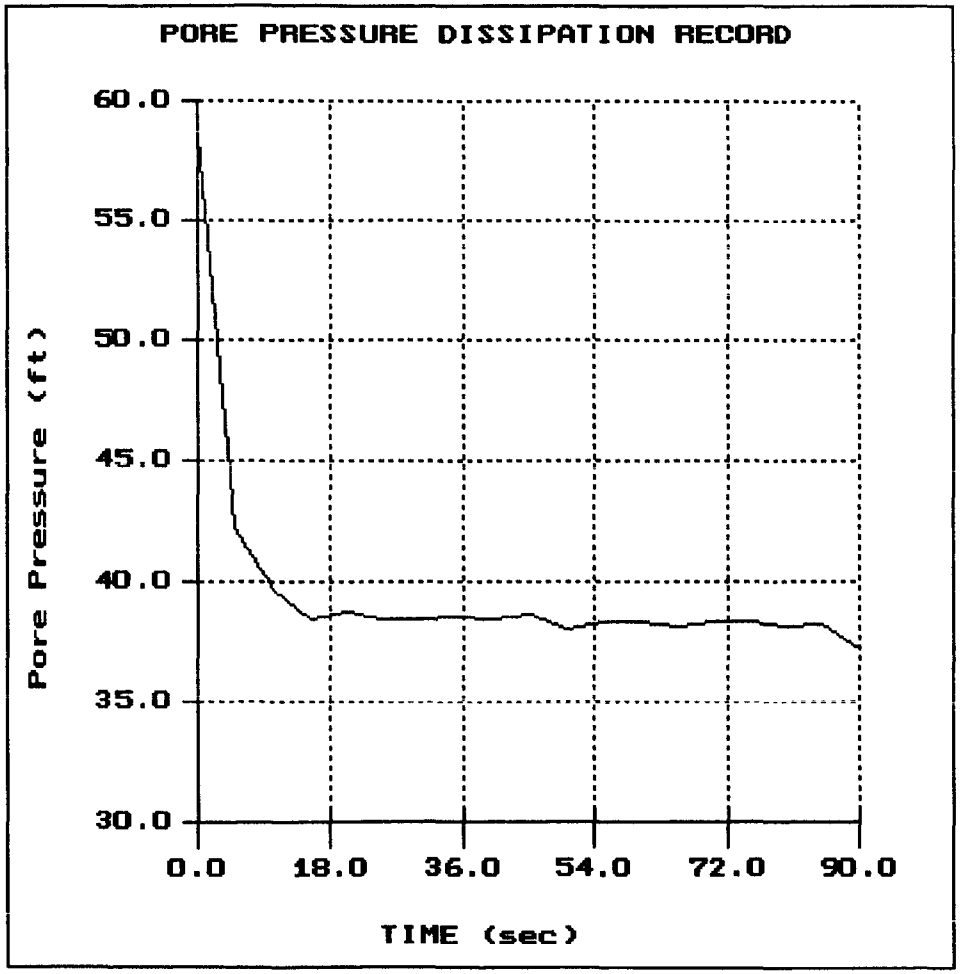


File: 717CP01A.PPD
Depth (m): 19.85
(ft): 65.12
Duration : 50.0s
U-min: 2.53 0.0s
U-max: 34.96 50.0s

MACTEC

Hole:CPT-1A
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 15:11

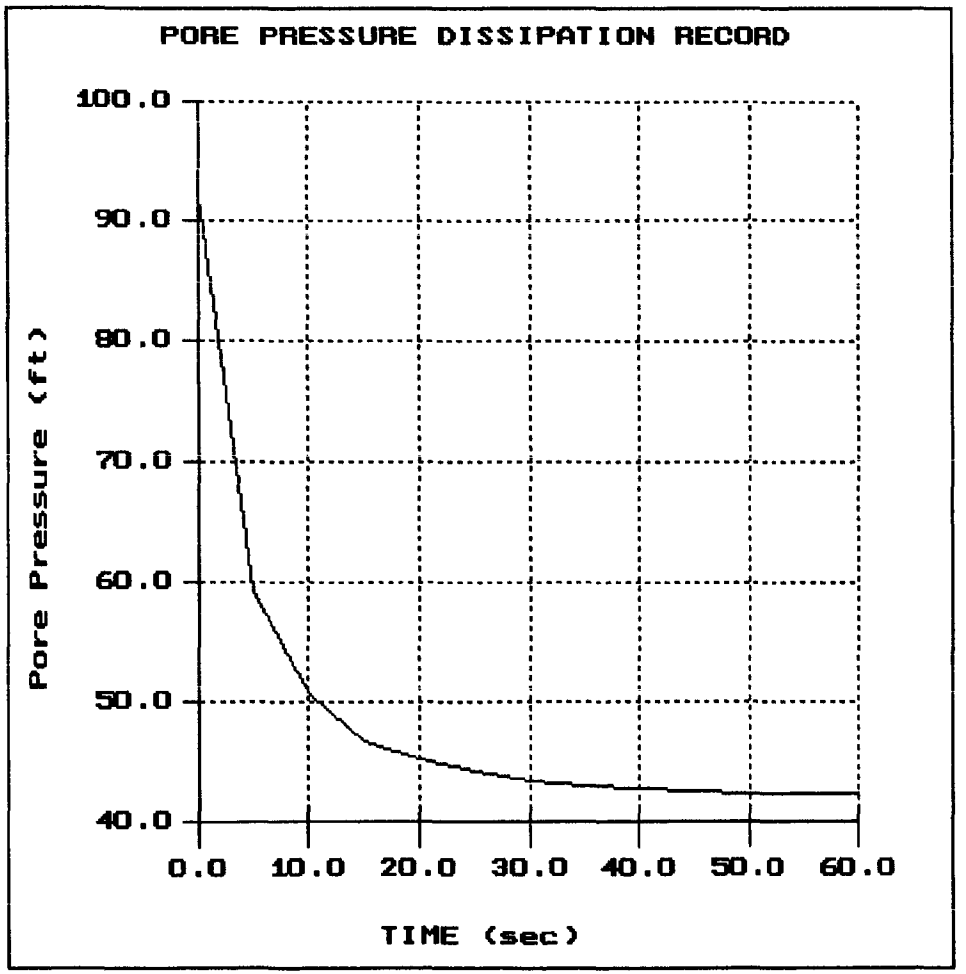


File: 717CP01A.PPD
Depth (m): 20.85
(ft): 68.41
Duration : 90.0s
U-min: 37.21 90.0s
U-max: 58.61 0.0s

MACTEC

Hole:CPT-1A
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 15:11

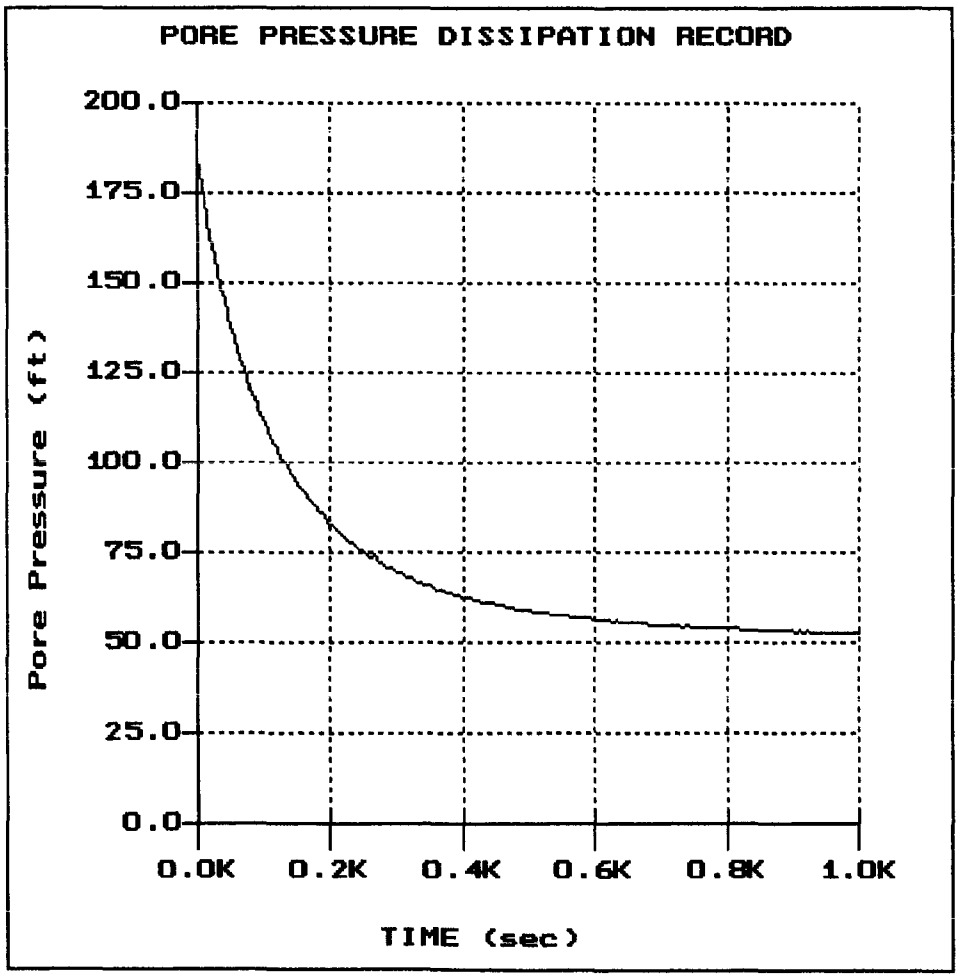


File: 717CP01A.PPD
Depth (m): 21.85
(ft): 71.69
Duration : 60.0s
U-min: 42.19 60.0s
U-max: 92.12 0.0s

MACTEC

Hole:CPT-1A
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 15:11

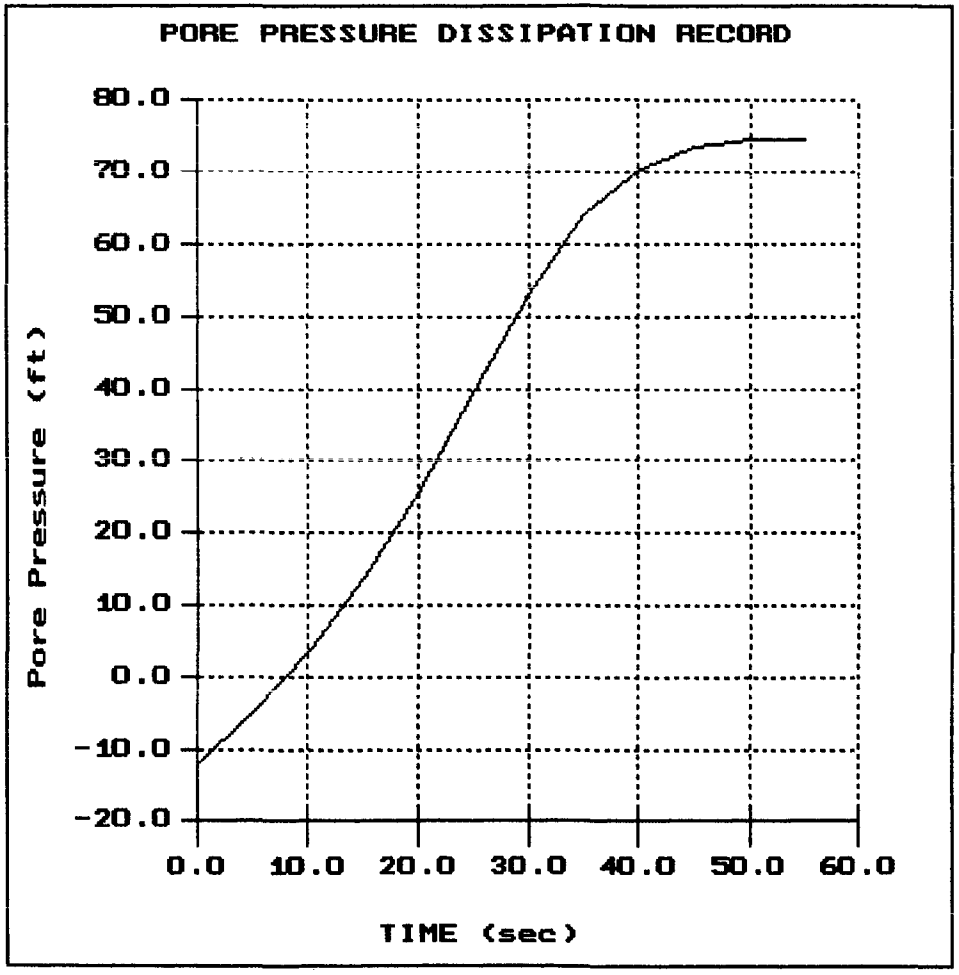


File: 717CP01A.PPD
Depth (m): 24.80
(ft): 81.36
Duration : 1000.0s
U-min: 52.70 1000.0s
U-max: 185.18 0.0s

MACTEC

Hole:CPT-1A
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 15:11

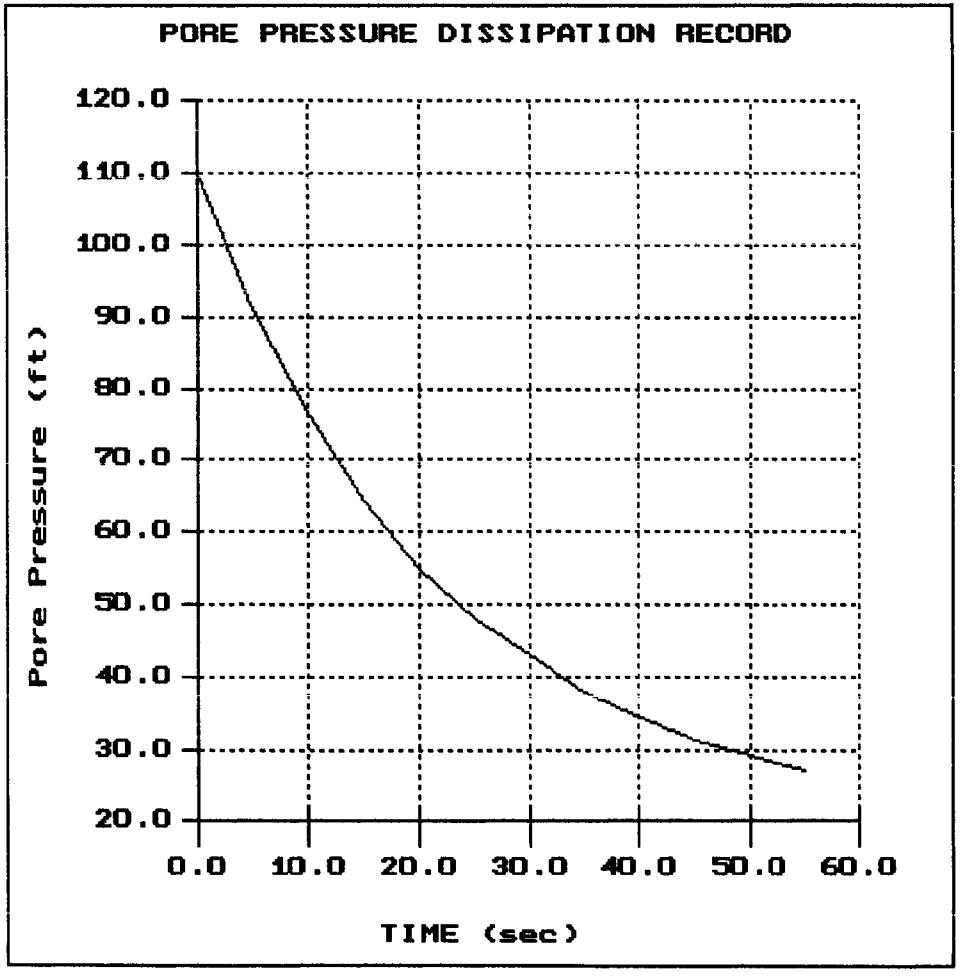


File: 717CP01A.PPD
Depth (m): 27.85
(ft): 91.37
Duration : 55.0s
U-min: -12.39 0.0s
U-max: 74.43 55.0s

MACTEC

Hole:CPT-6
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 17:20

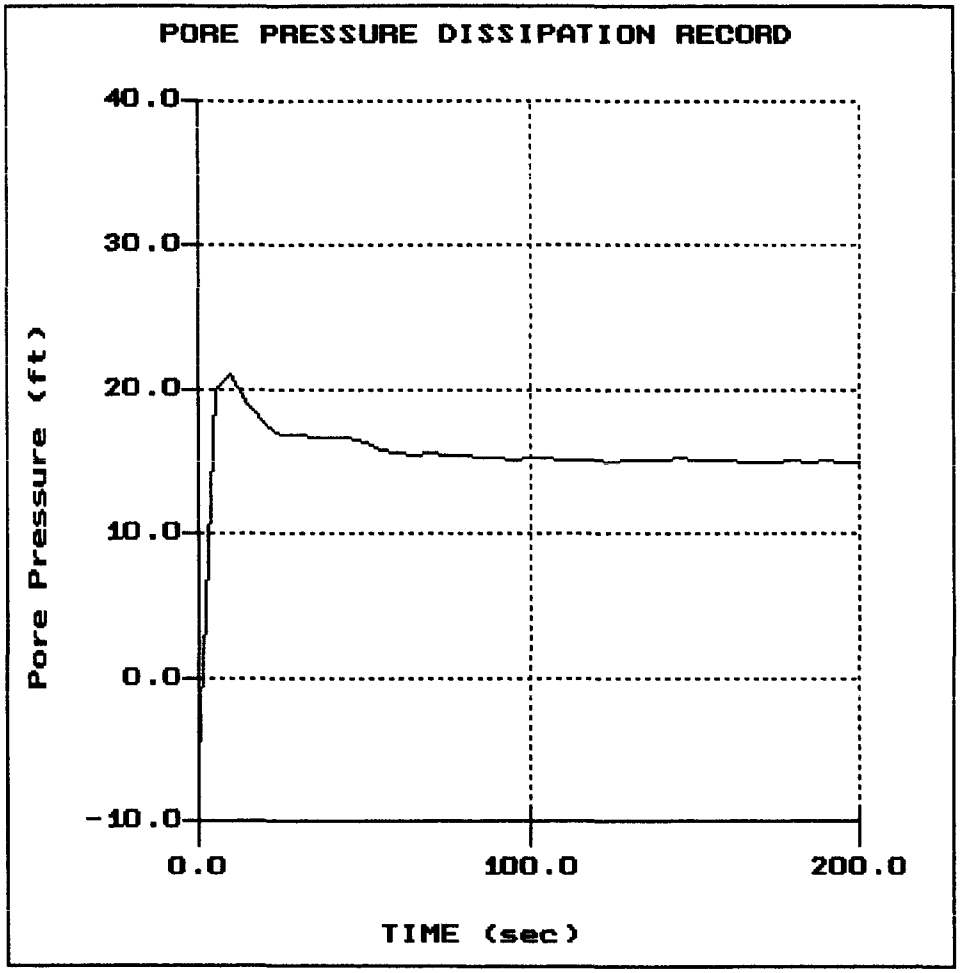


File: 717CP006.PPD
Depth (m): 14.75
(ft): 48.39
Duration : 55.0s
U-min: 26.94 55.0s
U-max: 110.05 0.0s

MACTEC

Hole:CPT-6
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 17:20

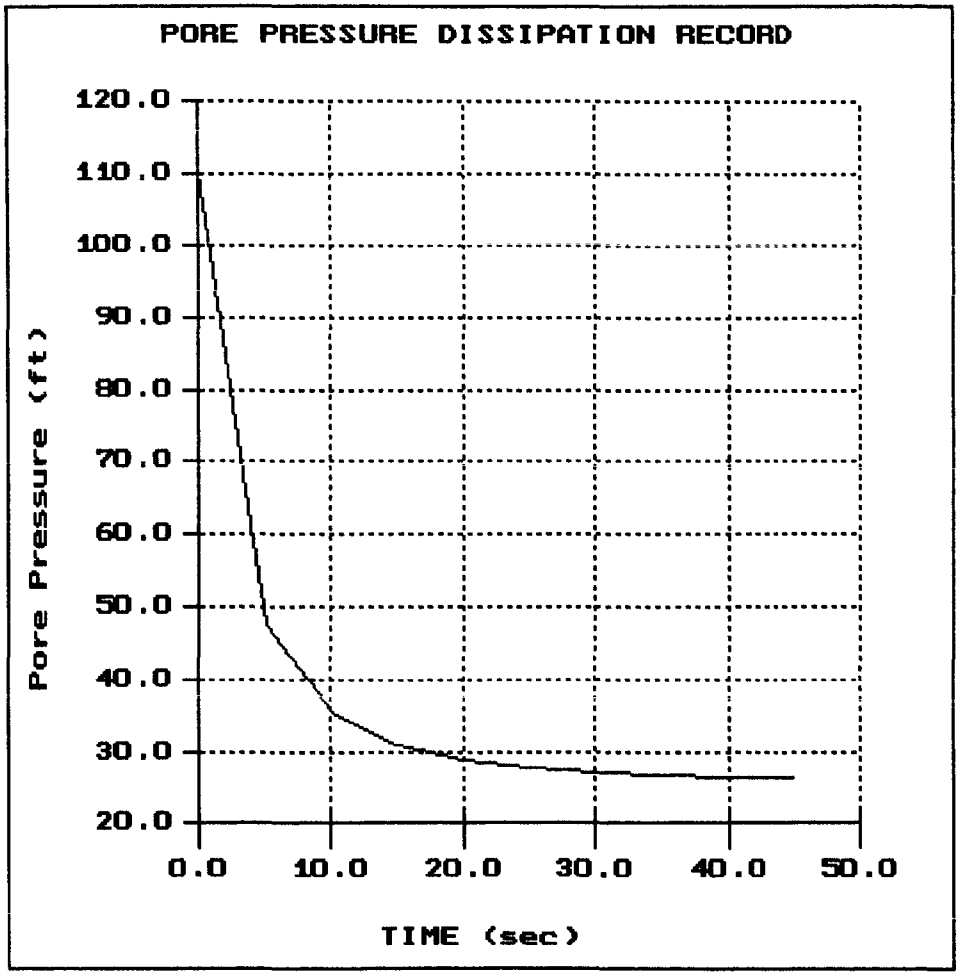


File: 717CP006.PPD
Depth (m): 15.75
(ft): 51.67
Duration : 200.0s
U-min: -6.38 0.0s
U-max: 20.84 10.0s

MACTEC

Hole:CPT-6
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 17:20

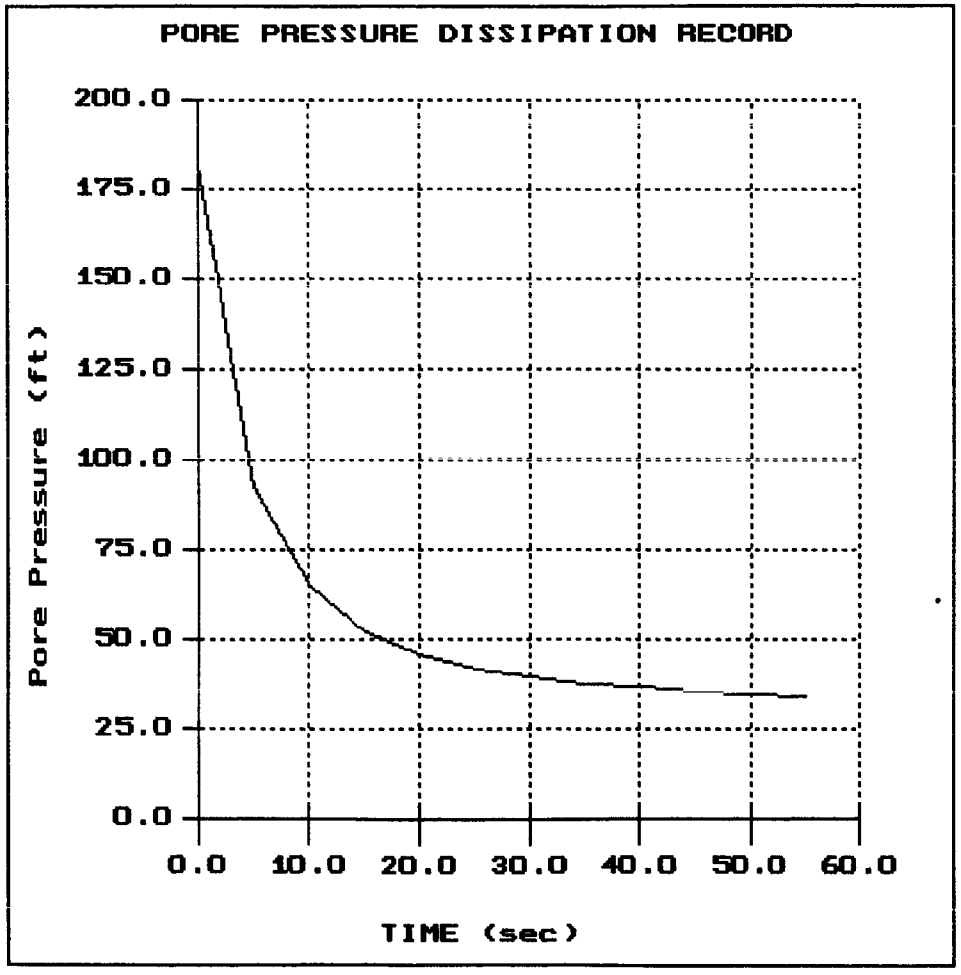


File: 717CP006.PPD
Depth (m): 19.75
(ft): 64.80
Duration : 45.0s
U-min: 26.19 45.0s
U-max: 110.33 0.0s

MACTEC

Hole:CPT-6
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 17:20

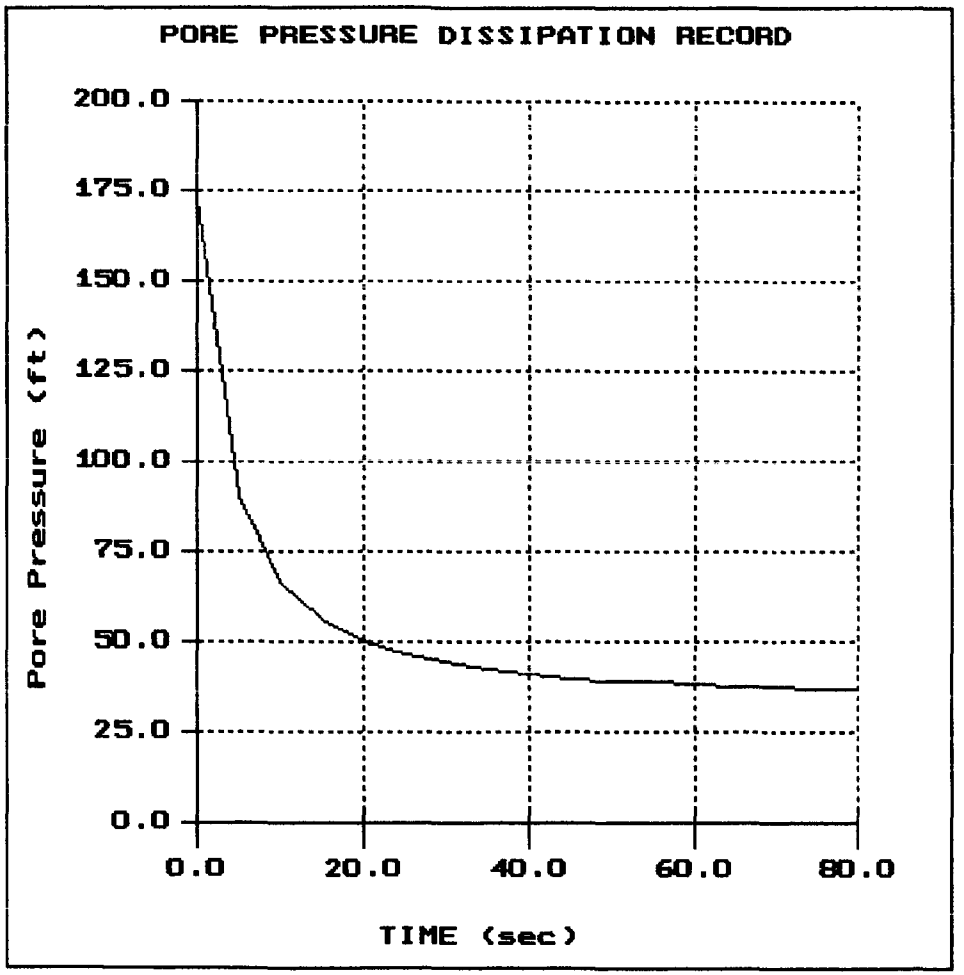


File: 717CP006.PPD
Depth (m): 21.75
(ft): 71.36
Duration : 55.0s
U-min: 34.26 55.0s
U-max: 182.18 0.0s

MACTEC

Hole:CPT-6
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 17:20

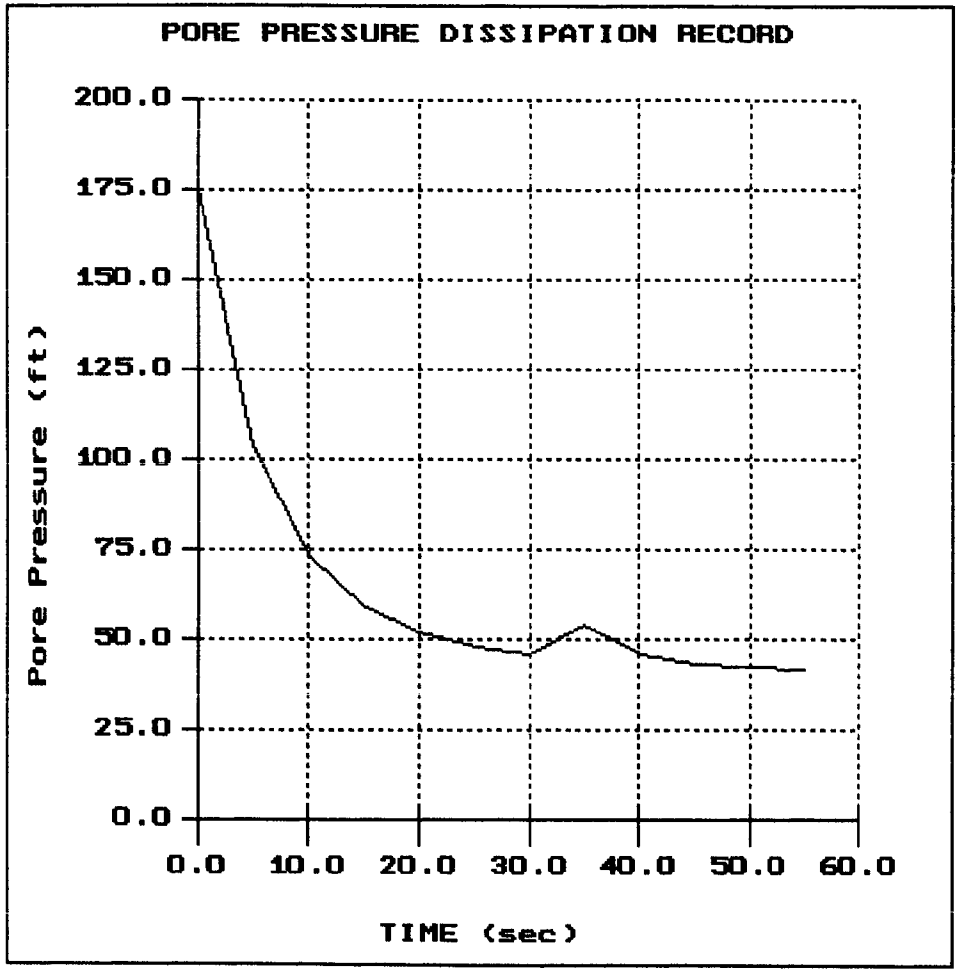


File: 717CP006.PPD
Depth (m): 22.75
(ft): 74.64
Duration : 80.0s
U-min: 36.70 80.0s
U-max: 172.93 0.0s

MACTEC

Hole:CPT-6
Location:TVA Kingston

Cone:20 TON AD142
Date:03:23:04 17:20

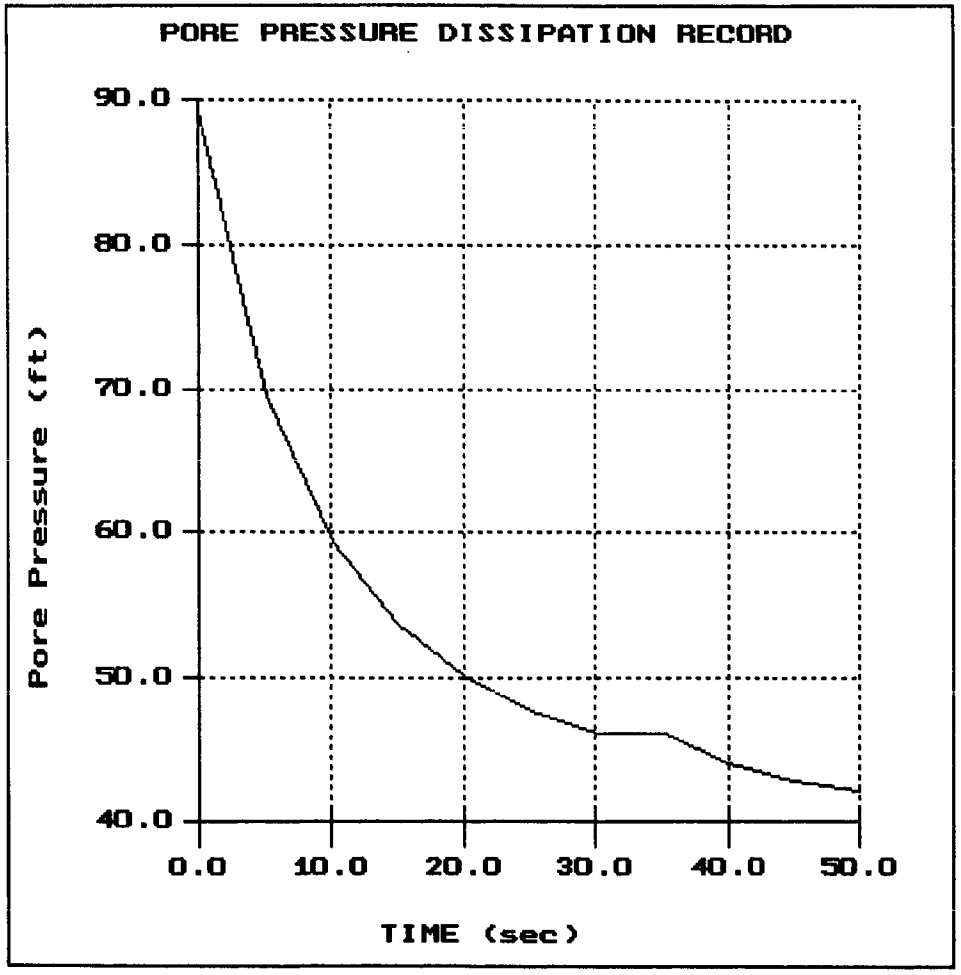


File: 717CP006.PPD
Depth (m): 23.75
(ft): 77.92
Duration : 55.0s
U-min: 41.34 55.0s
U-max: 175.75 0.0s

MACTEC

Hole:CPT-4
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 08:29

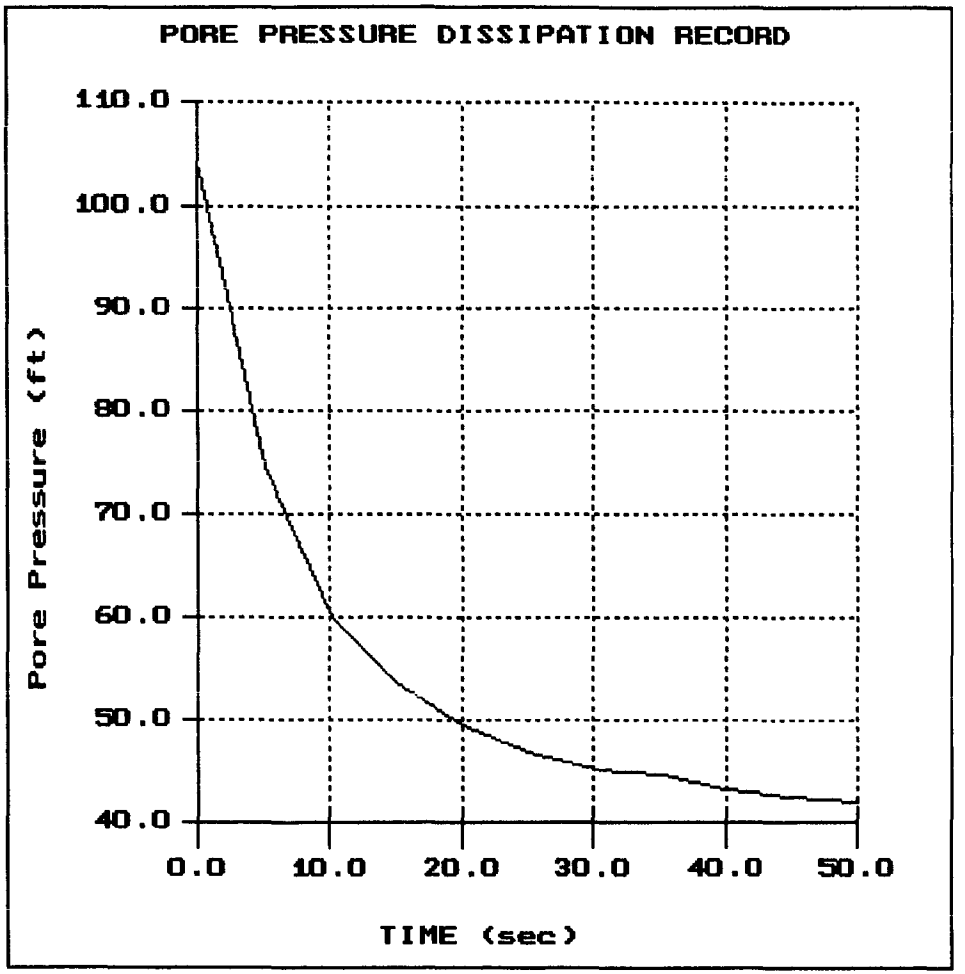


File: 717CP004.PPD
Depth (m): 18.85
(ft): 61.84
Duration : 50.0s
U-min: 42.14 50.0s
U-max: 89.26 0.0s

MACTEC

Hole:CPT-4
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 08:29

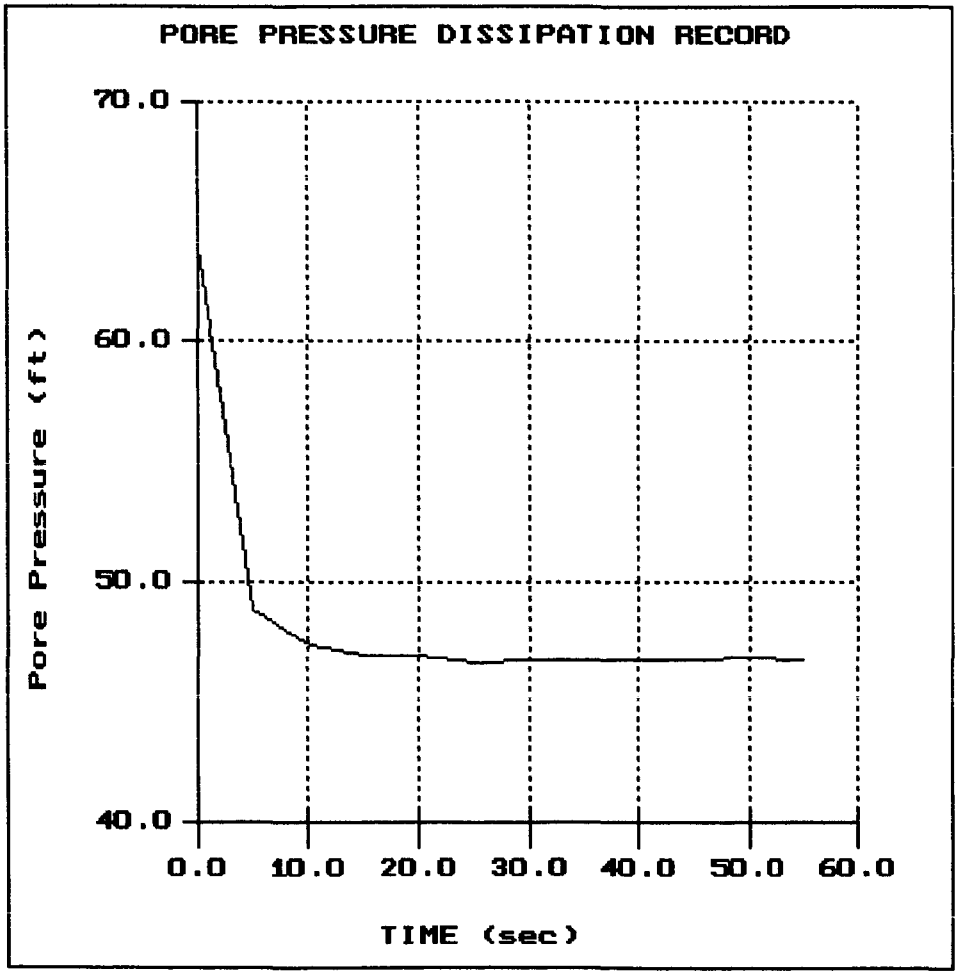


File: 717CP004.PPD
Depth (m): 19.85
(ft): 65.12
Duration : 50.0s
U-min: 42.05 50.0s
U-max: 104.18 0.0s

MACTEC

Hole:CPT-4
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 08:29

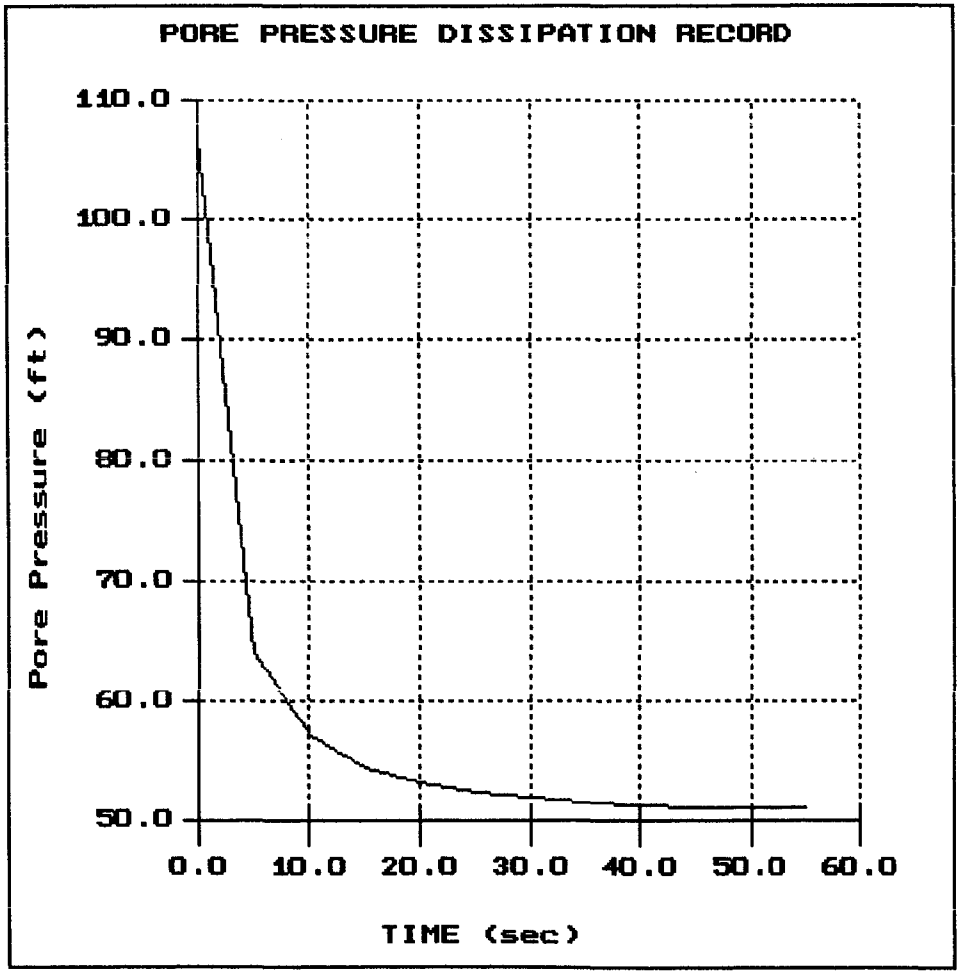


File: 717CP004.PPD
Depth (m): 21.85
(ft): 71.69
Duration : 55.0s
U-min: 46.69 25.0s
U-max: 63.92 0.0s

MACTEC

Hole:CPT-4
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 08:29

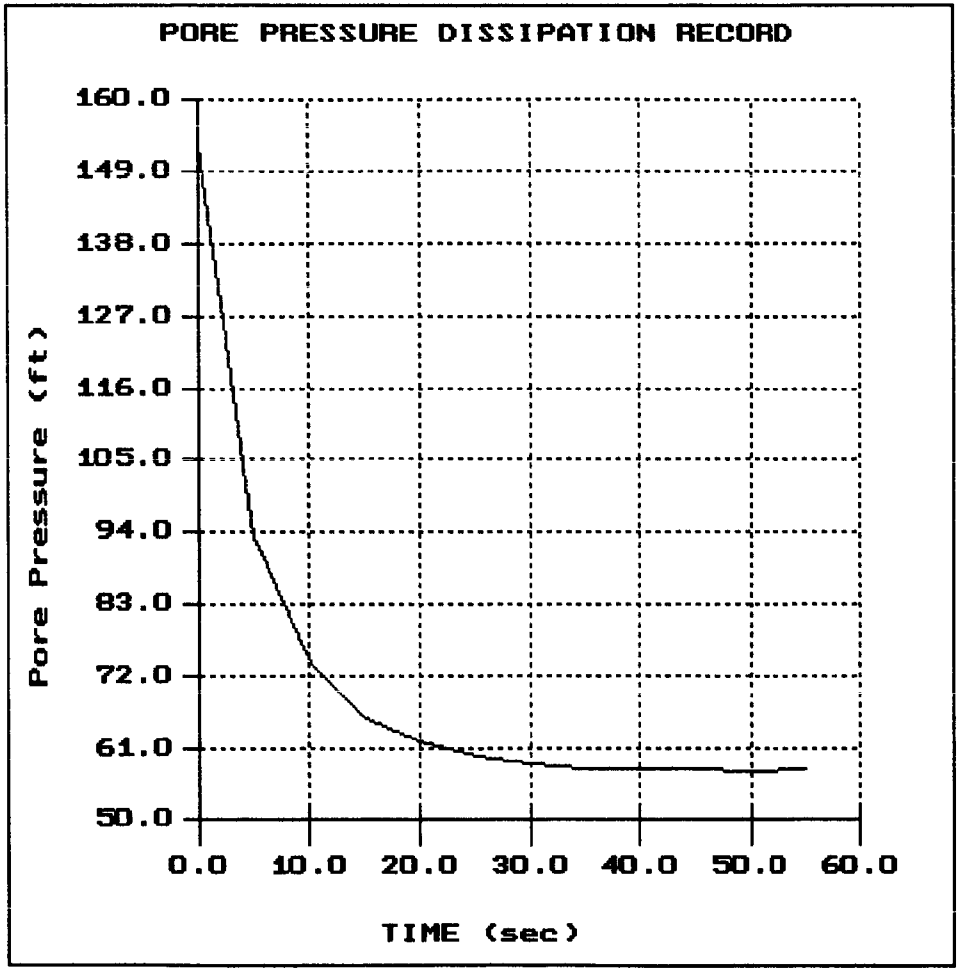


File: 717CP004.PPD
Depth (m): 22.85
(ft): 74.97
Duration : 55.0s
U-min: 50.96 55.0s
U-max: 106.81 0.0s

MACTEC

Hole:CPT-4
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 08:29

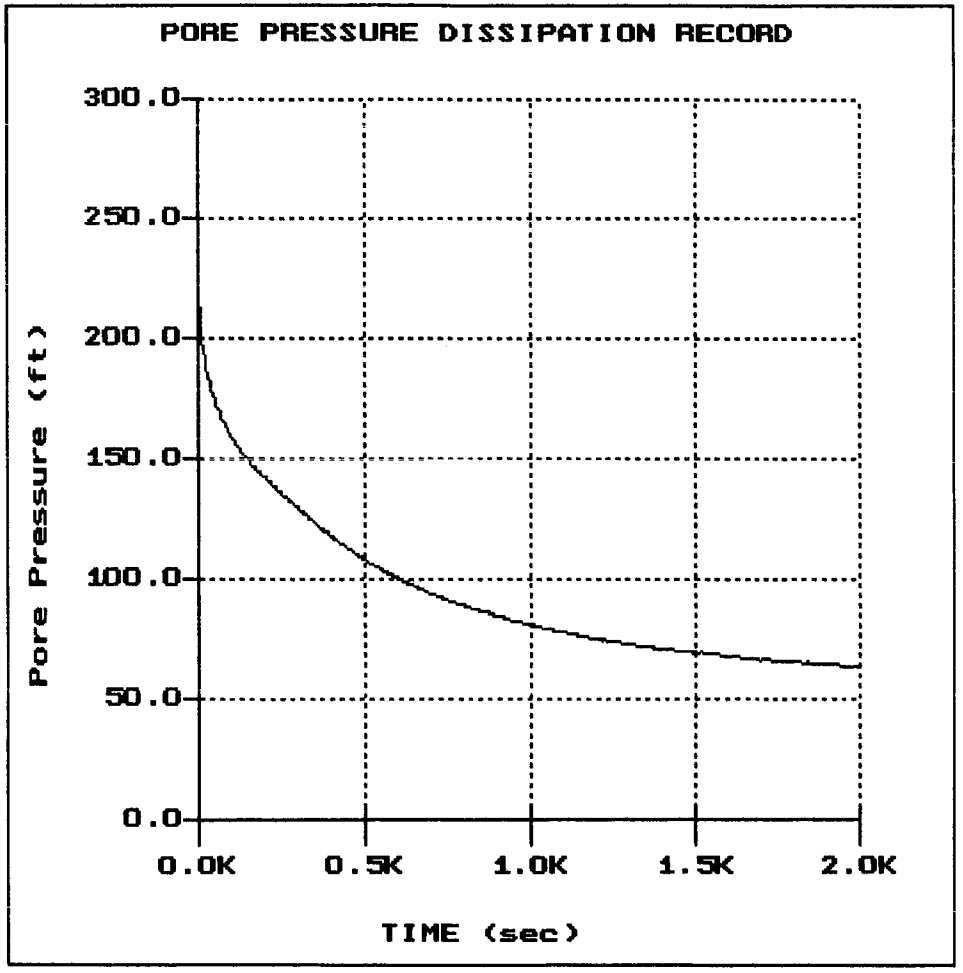


File: 717CP004.PPD
Depth (m): 23.85
(ft): 78.25
Duration : 55.0s
U-min: 57.32 50.0s
U-max: 153.18 0.0s

MACTEC

Hole:CPT-4
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 08:29

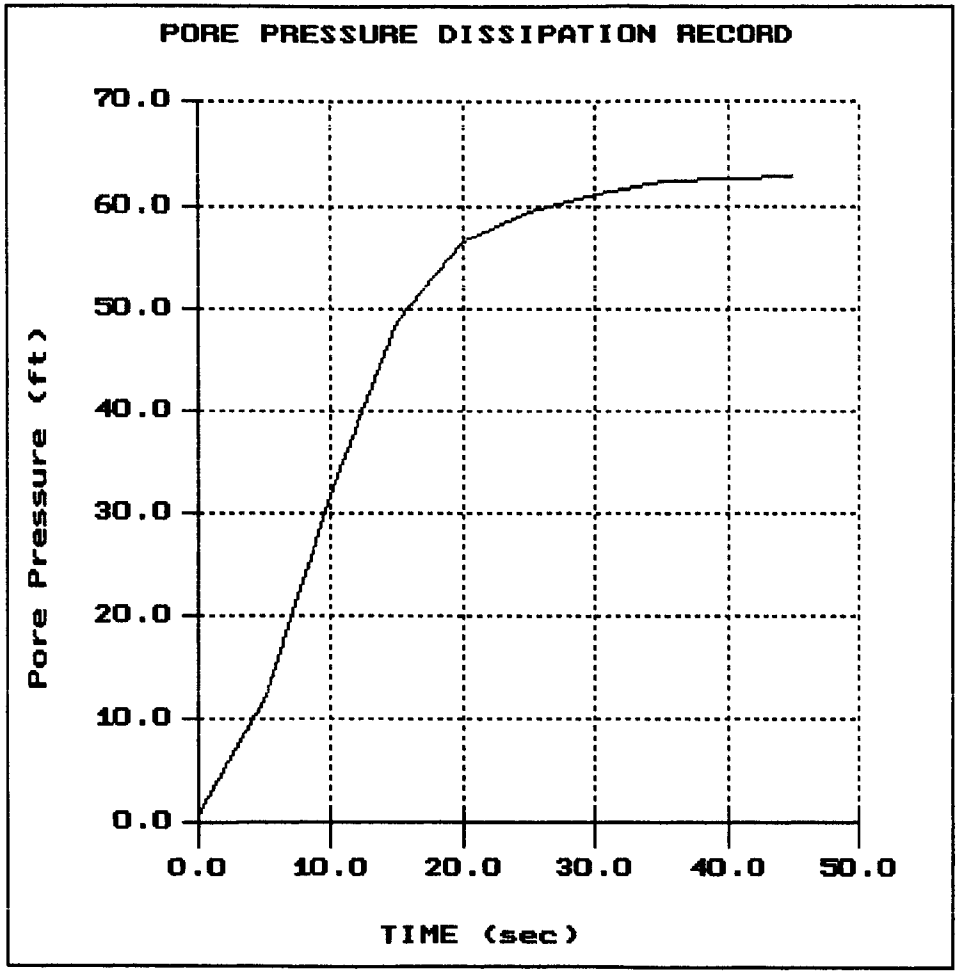


File: 717CP004.PPD
Depth (m): 24.50
(ft): 80.38
Duration : 1995.0s
U-min: 63.68 1995.0s
U-max: 217.80 0.0s

MACTEC

Hole:CPT-4
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 08:29

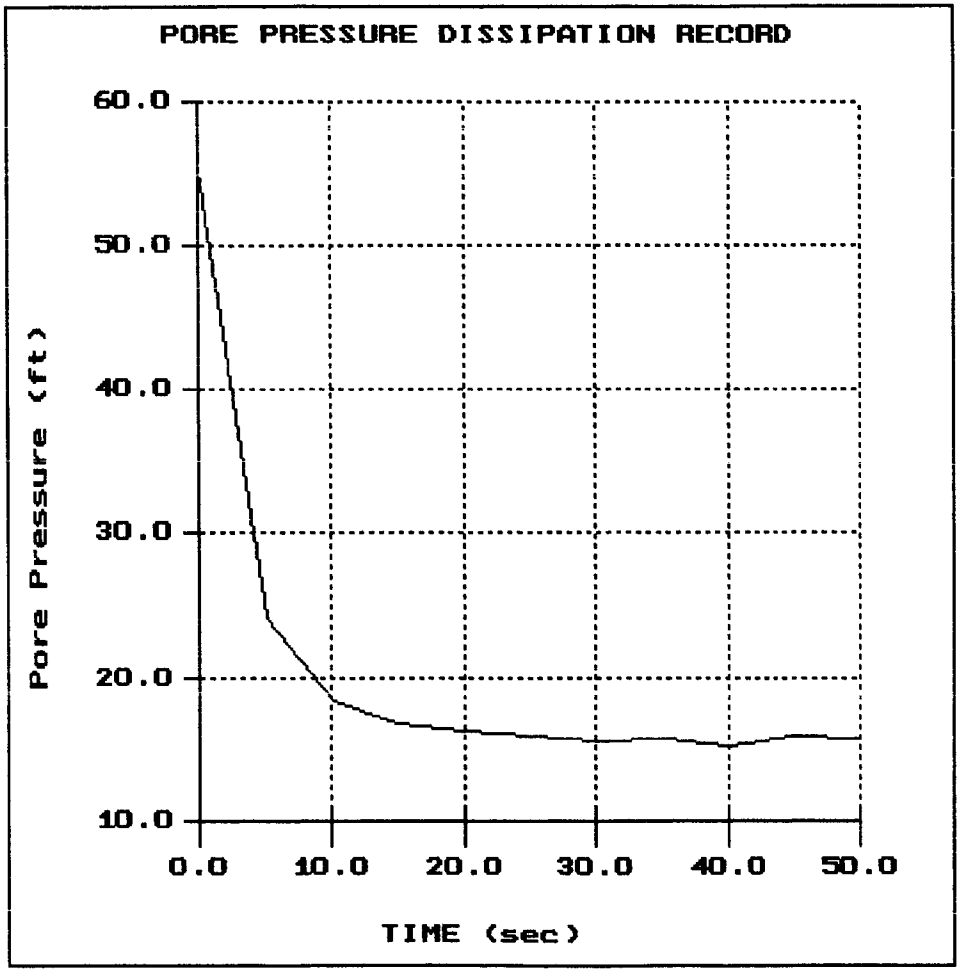


File: 717CP004.PPD
Depth (m): 26.85
(ft): 88.09
Duration : 45.0s
U-min: 0.66 0.0s
U-max: 62.79 45.0s

MACTEC

Hole:CPT-9
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 13:20

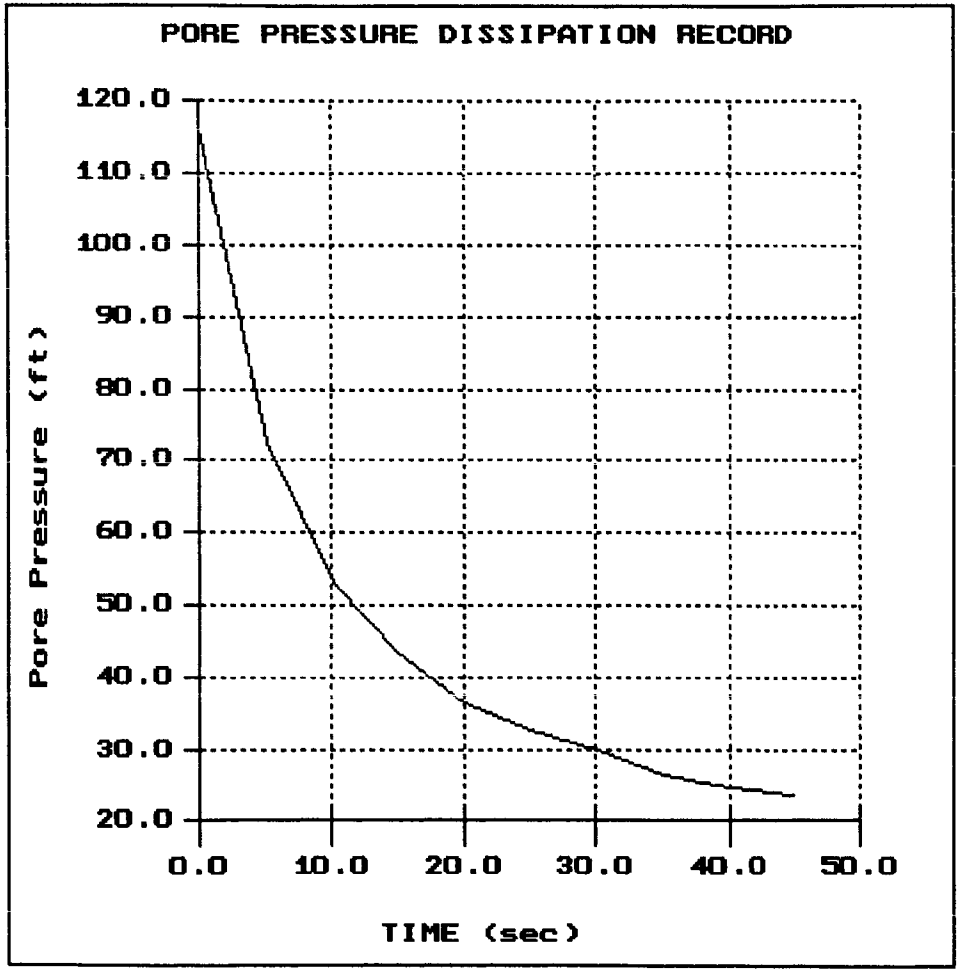


File: 717CP009.PPD
Depth (m): 6.85
(ft): 22.47
Duration : 50.0s
U-min: 15.28 40.0s
U-max: 55.24 0.0s

MACTEC

Hole:CPT-9
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 13:20

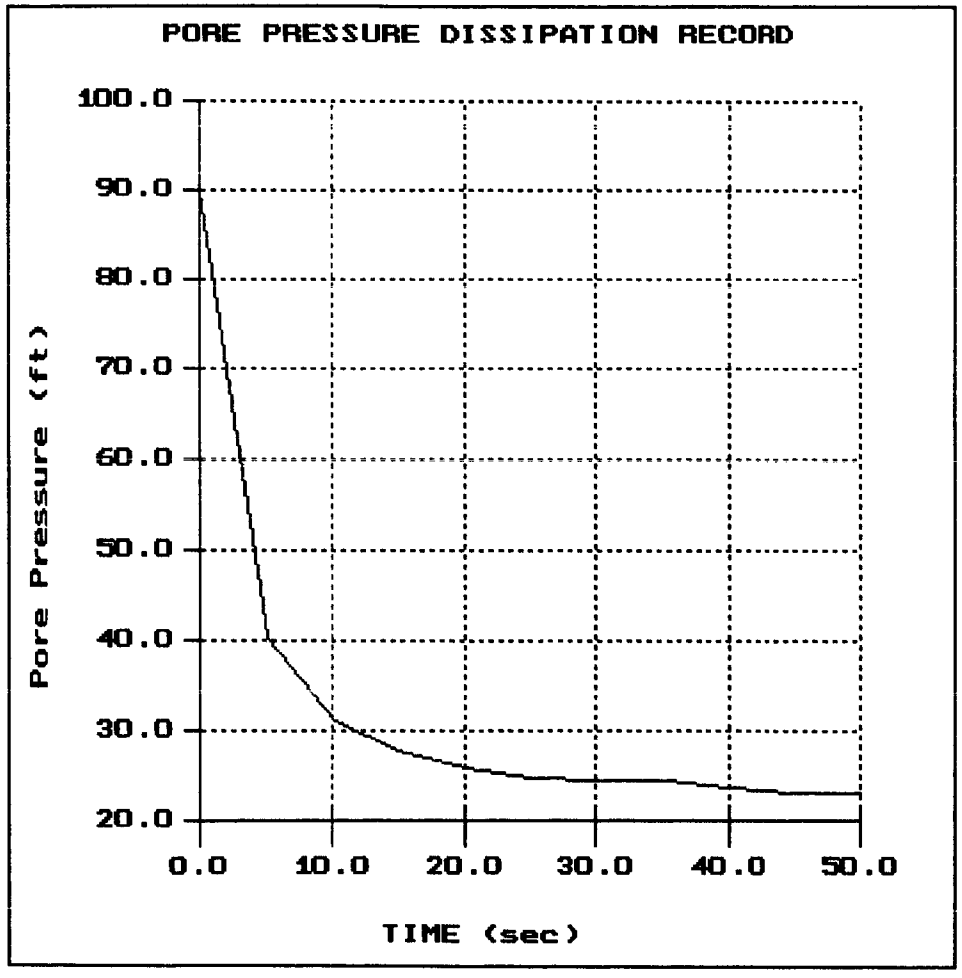


File: 717CP009.PPD
Depth (m): 7.85
(ft): 25.75
Duration : 45.0s
U-min: 23.32 45.0s
U-max: 116.15 0.0s

MACTEC

Hole:CPT-9
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 13:20

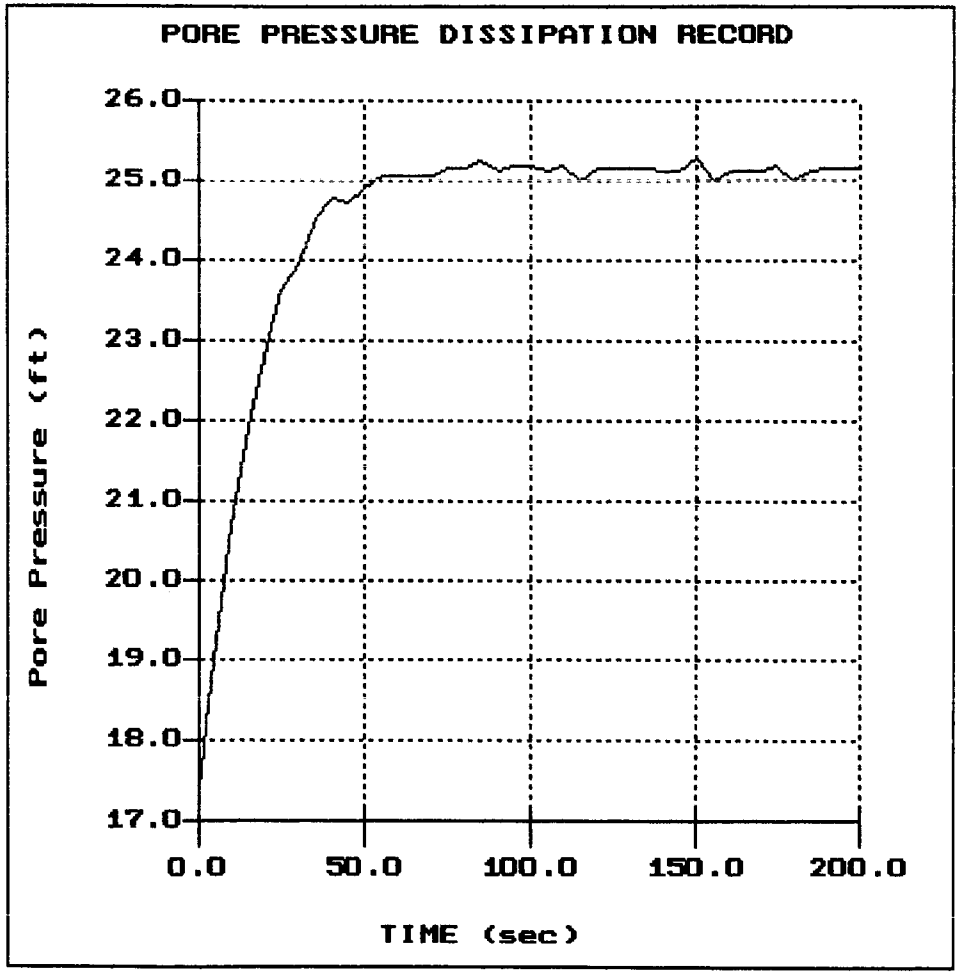


File: 717CP009.PPD
Depth (m): 8.85
(ft): 29.04
Duration : 50.0s
U-min: 23.04 50.0s
U-max: 90.10 0.0s

MACTEC

Hole:CPT-12A
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 14:54

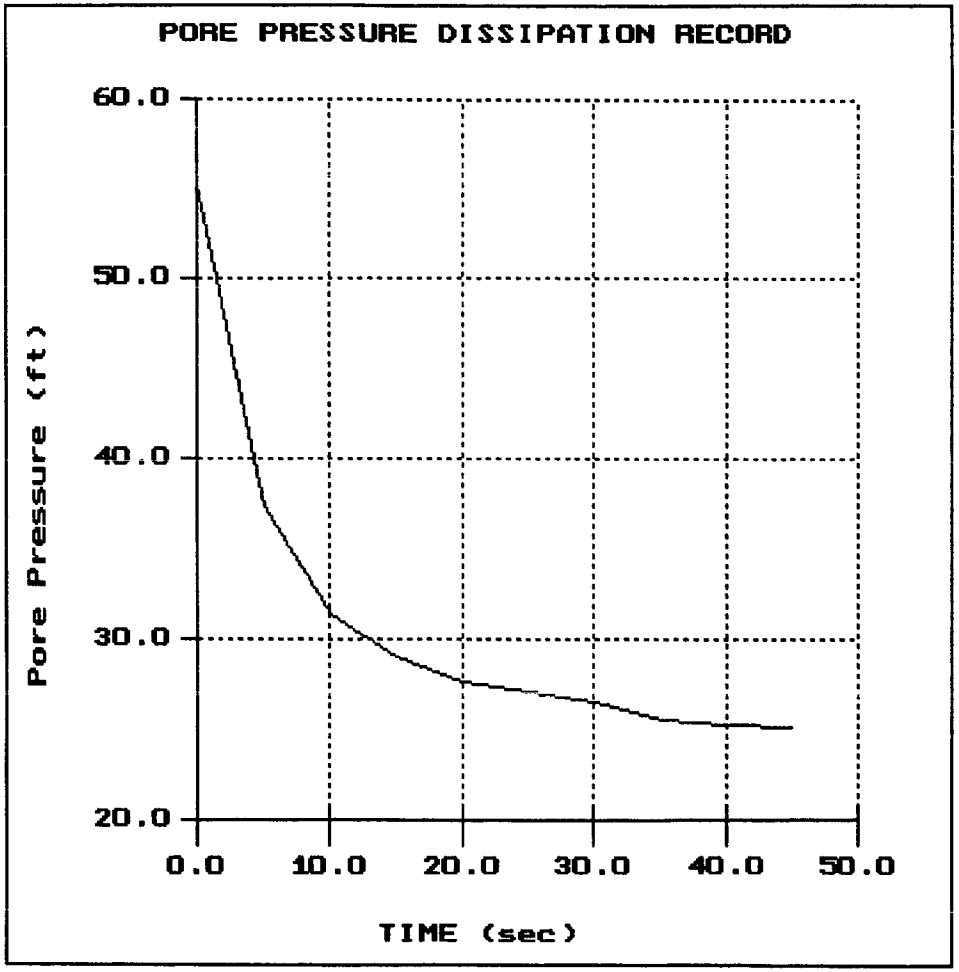


File: 717CP12A.PPD
Depth (m): 13.85
(ft): 45.44
Duration : 200.0s
U-min: 17.36 0.0s
U-max: 25.29 150.0s

MACTEC

Hole:DIKE N
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 16:19

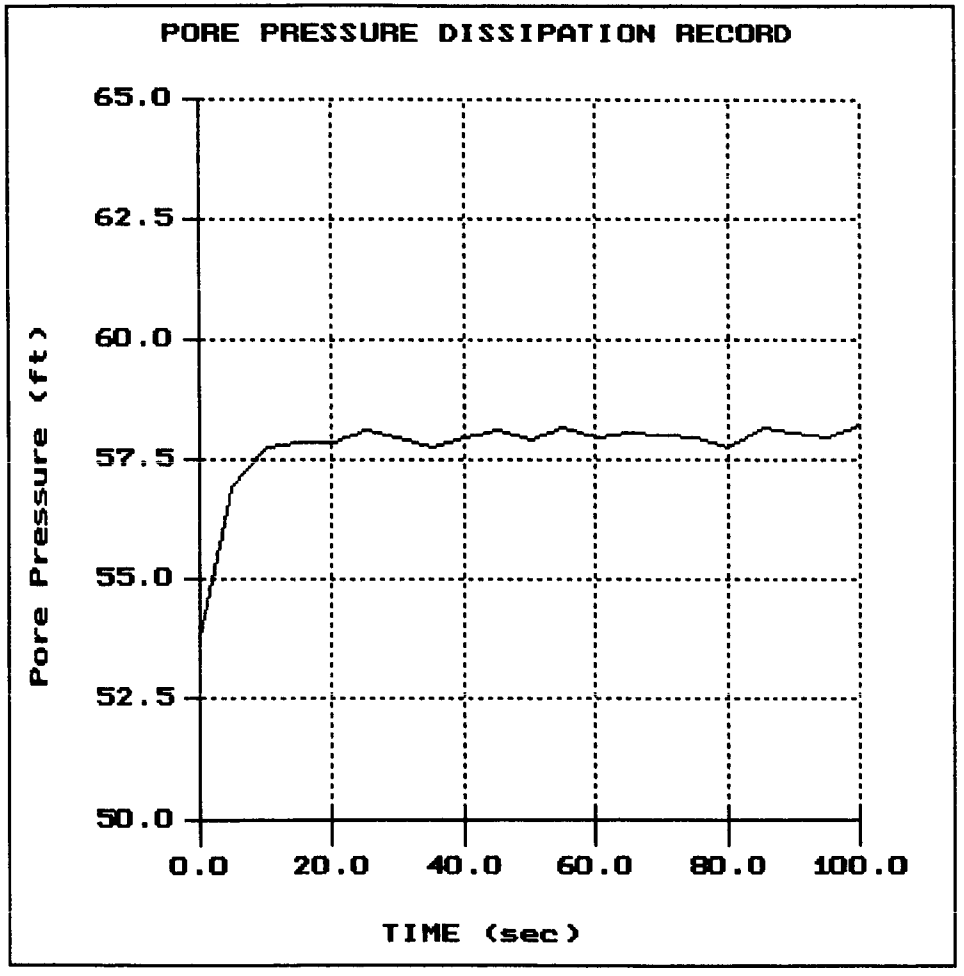


File: 717CPOON.PPD
Depth (m): 10.80
(ft): 35.43
Duration : 45.0s
U-min: 25.15 45.0s
U-max: 55.24 0.0s

MACTEC

Hole:DIKE N
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 16:19

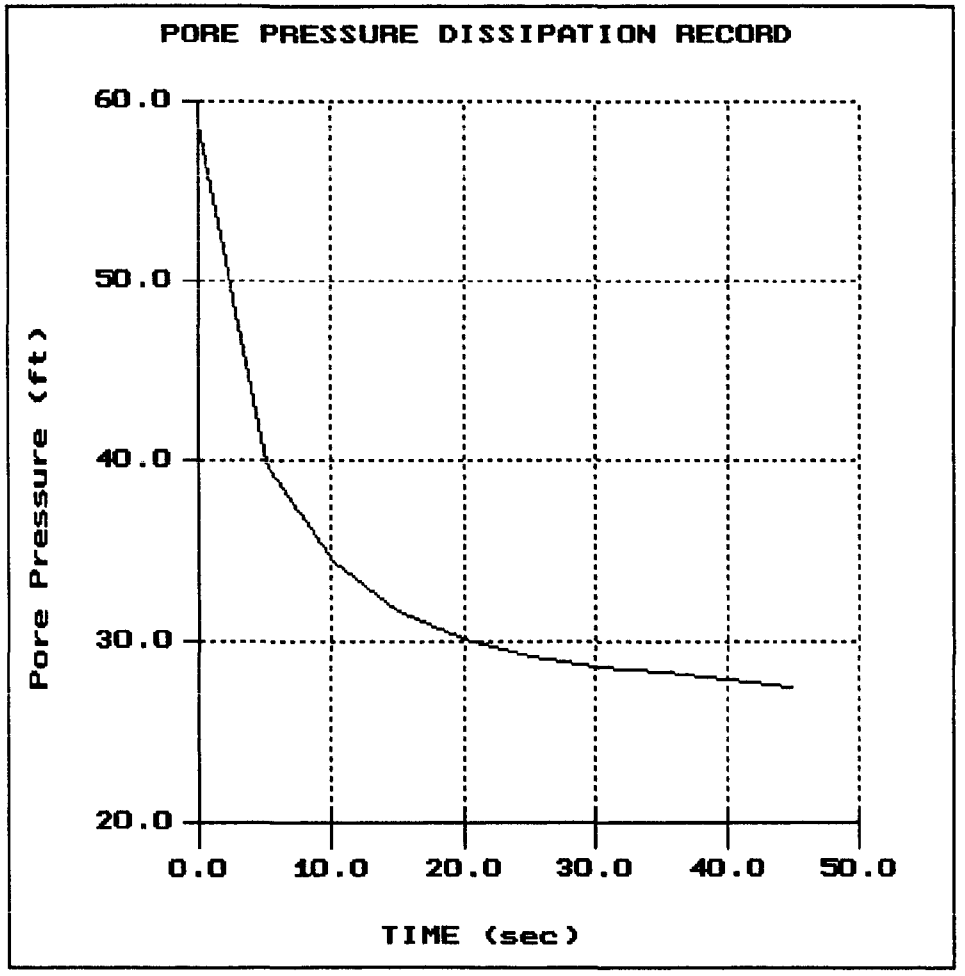


File: 717CPOON.PPD
Depth (m): 21.05
(ft): 69.06
Duration : 100.0s
U-min: 53.73 0.0s
U-max: 58.24 100.0s

MACTEC

Hole:DIKE S
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 17:34

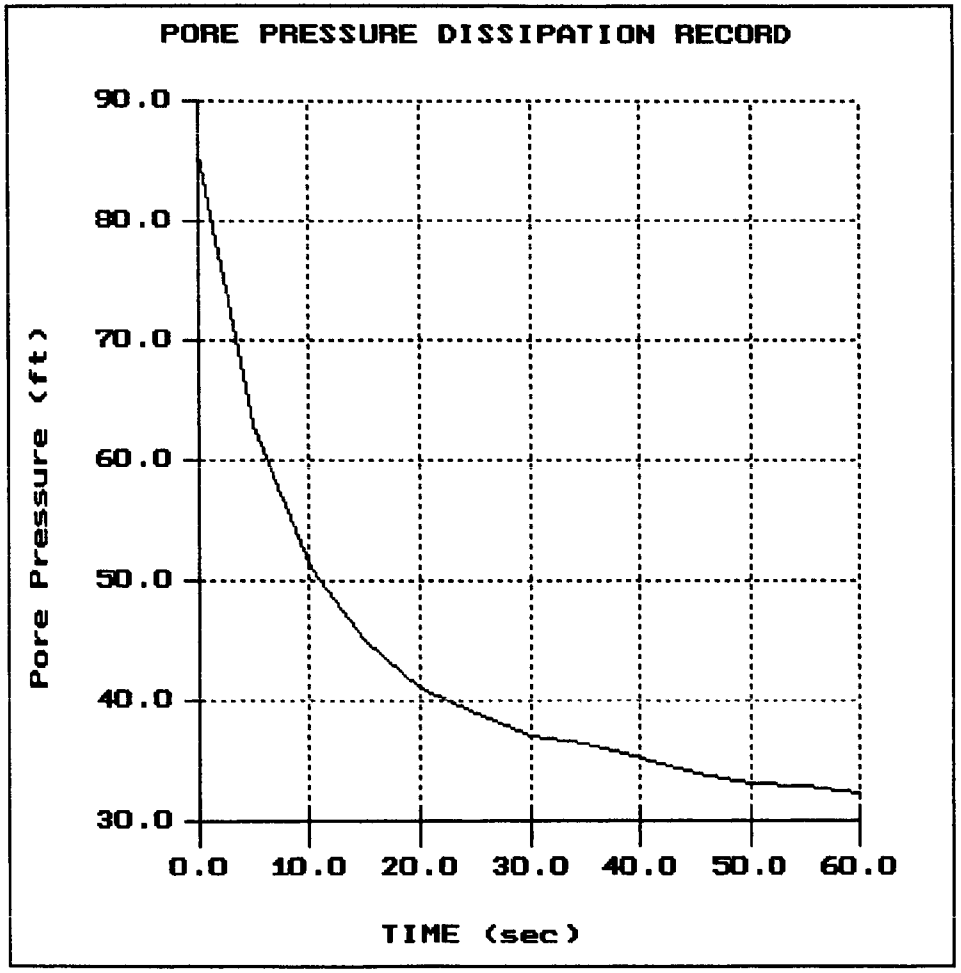


File: 717CP00S.PPD
Depth (m): 10.80
(ft): 35.43
Duration : 45.0s
U-min: 27.55 45.0s
U-max: 58.71 0.0s

MACTEC

Hole:DIKE S
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 17:34

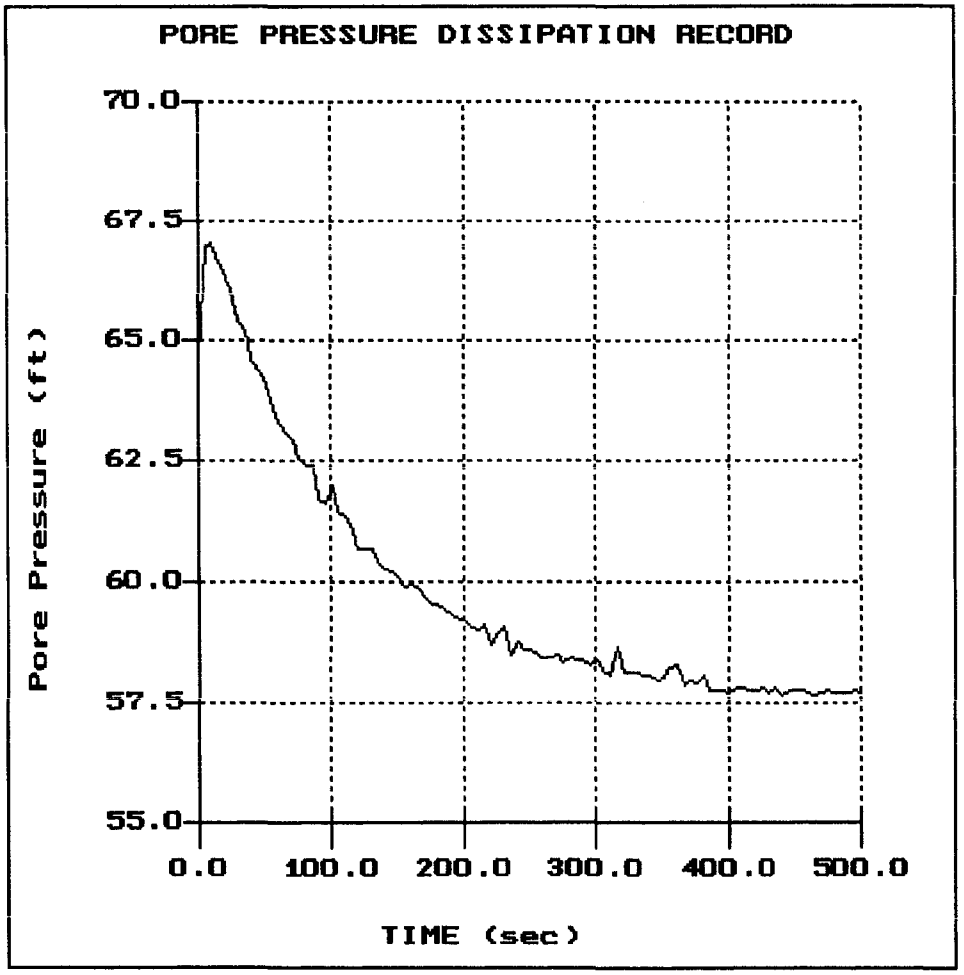


File: 717CP00S.PPD
Depth (m): 11.80
(ft): 38.71
Duration : 60.0s
U-min: 32.24 60.0s
U-max: 85.55 0.0s

MACTEC

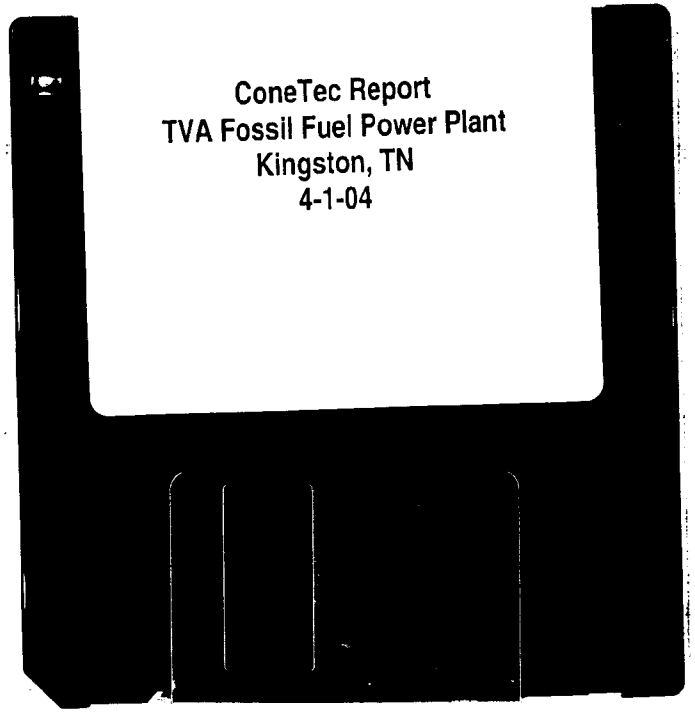
Hole:DIKE S
Location:TVA Kingston

Cone:20 TON AD142
Date:03:24:04 17:34



File: 717CP00S.PPD
Depth (m): 20.45
(ft): 67.09
Duration : 500.0s
U-min: 57.68 465.0s
U-max: 67.01 10.0s

APPENDIX D



ConeTec Report
TVA Fossil Fuel Power Plant
Kingston, TN
4-1-04

APPENDIX E

LABORATORY TEST PROCEDURES

LABORATORY TEST RESULTS

LABORATORY TEST PROCEDURES

Moisture Content

The moisture content in a given mass of soil is the ratio, expressed as a percentage, of the weight of the water to the weight of the solid particles. This test was conducted in accordance with ASTM D 2216.

Unit Weights

The moist or dry unit weight of a given soil mass is obtained by dividing the weight of the soil mass by the volume. Selected portions of the 3-inch split spoon and Shelby tube samples obtained during the exploration were measured and weighed in our laboratory to determine sample unit weights.

Specific Gravity of Soil Solids

The specific gravity of soil solids is the ratio of the mass of a unit volume of a soil solid to the mass of the same volume of gas-free distilled water at 20C. The test method for determining the specific gravity of soil solids that passes the 4.75-mm (No. 4) sieve using a water pycnometer is described in ASTM D 854, Method B, and "Test Methods for Specific Gravity of Soil Solids by Water Pycnometer".

Atterberg Limits

Originally, the Atterberg Limits consisted of seven "limits of consistency" of fine-grained soils. In current engineering usage, the term usually refers only to the liquid limit (LL) and plastic limit (PL). The LL (between the liquid and plastic states) is the water content at which a trapezoidal groove of specified shape, cut in moist soil held in a special cup, is closed after 25 taps on a hard rubber plate. The PL (between plastic and semi-solid states) is the water content at which the soil crumbles when rolled into threads of 1/8 inch in diameter.

The LL has been found to be proportional to the compressibility of the normally consolidated soil. The PI is the calculated difference in water contents between the LL and the PL. Together the LL and PI are used to classify silts and clays according to the Unified Soil Classification System

(ASTM D 2487). The PI is used to predict the potential for volume changes in confined soils beneath foundations or grade slabs. The LL, PL, and PI are determined in accordance with ASTM D 4318.

Grain Size Distribution

Grain Size Tests are performed to aid in determining the soil classification and the grain size distribution. The soil samples are prepared for testing according to ASTM D 421 (dry preparation) or ASTM D 2217 (wet preparation). If only the grain size distribution of soils coarser than a number 200 sieve (0.074-mm opening) is desired, the grain size distribution is determined by washing the sample over a number 200 sieve and, after drying, passing the samples through a standard set of nested sieves. If the grain size distribution of the soils finer than the number 200 sieve is also desired, the grain size distribution of the soils coarser than the number 10 sieve is determined by passing the sample through a set of nested sieves. Materials passing the number 10 sieve are dispersed with a dispersing agent and suspended in water, and the grain size distribution calculated from the measured settlement rate of the particles. These tests are conducted in accordance with ASTM D 422.

Triaxial Shear Tests

Triaxial shear tests are used to determine the strength characteristics and friction angle of a given soil sample. Triaxial tests are also used to determine the elastic properties of the soil specimen.

Triaxial shear tests are performed on several sections of a relatively undisturbed sample extruded from the sampling tube. The samples are trimmed into cylinders 1.4 to 2.8 inches in diameter and encased in rubber membranes. Each is then placed in a compression chamber and confined by all-around air pressure. The test results are presented in the form of stress-strain curves and Mohr envelopes, or p-q plots on the accompanying Triaxial Shear Test Sheets.

One of three types of triaxial tests is normally performed, the most suitable type being determined by the loading conditions imposed on the soil in the field and the soil characteristics.

1. Consolidated-Undrained (Designated as a CU or R Test)
2. Consolidated-Drained (designated as a CD or S Test)
3. Unconsolidated-Undrained (designated as a UU or Q Test)

Consolidation Test

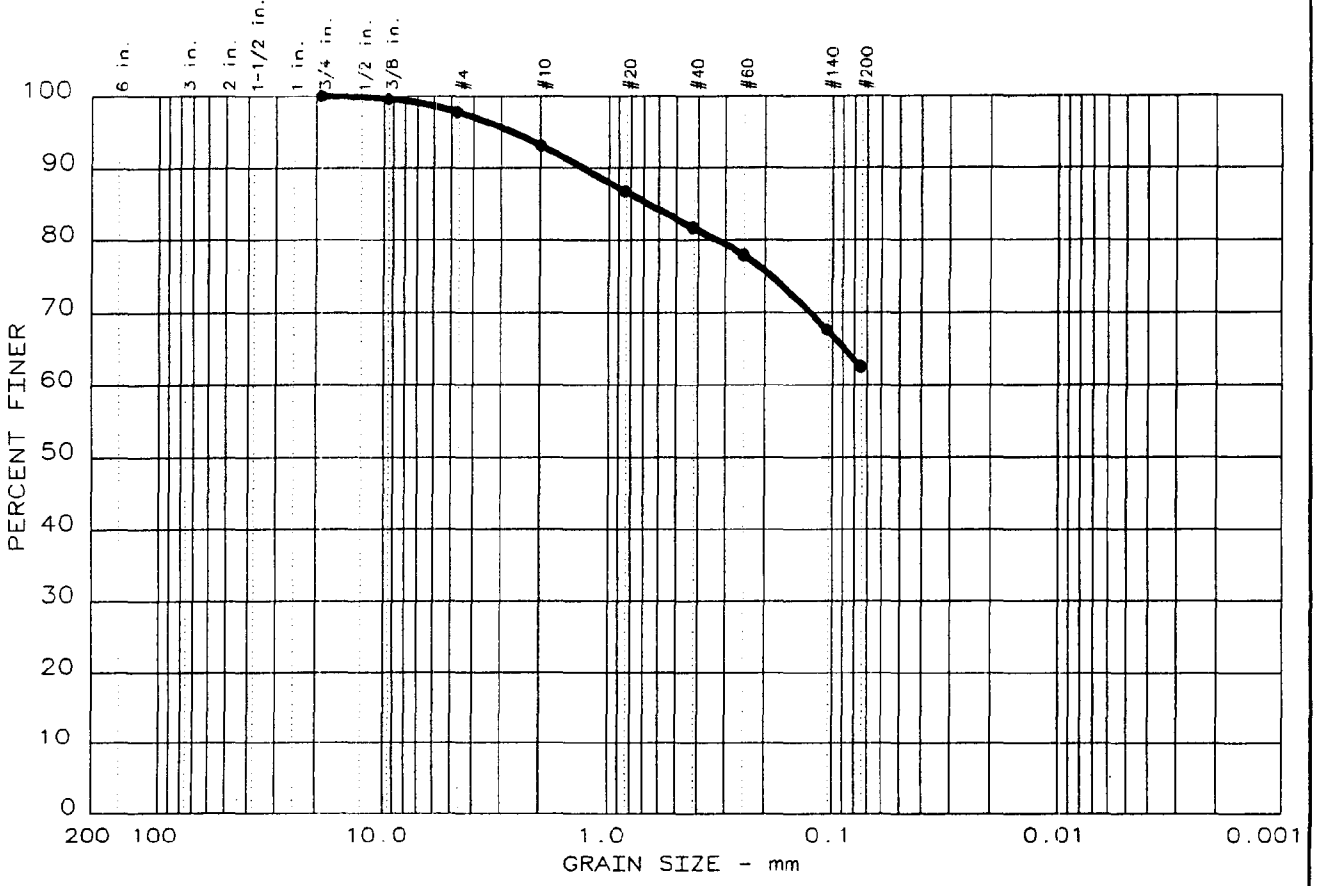
Consolidation tests are conducted on representative soil samples to determine the change in height of the sample with increasing load. The results of these tests are used to estimate the amount and rate of settlement of structures constructed on similar soils.

A consolidation test is conducted according to ASTM D-2435 on a single section of an undisturbed sample extruded from a sample tube. The sample is trimmed into a disc 2.0 or 2.5 inches in diameter and 1 inch thick. The disc is confined in a steel ring and sandwiched between porous plates. Depending on the conditions in the field, the test may be conducted with a sample either at its natural moisture content or saturated. It is then subjected to incrementally increasing vertical loads, and the resulting deformations are measured with a micrometer dial gauge. Void ratios are then calculated from these deformation readings. The test results are presented in the form of pressure-versus-void-ratio curves on the accompanying Consolidation Test Sheet.

Falling Head Permeability Test

The test sample was taken from the bottom of the undisturbed sample. The physical dimensions and weight were obtained and the sample was encased in a rubber membrane and placed in a triaxial chamber. The sample was then back-pressure saturated until a B value of 0.95 or greater was reached. After saturation was obtained, the sample was consolidated under 10-psi confining stress. Upon completion of consolidation, a falling head permeability test was performed. The test was conducted in accordance with ASTM D 5084.

PARTICLE SIZE ANALYSIS REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	15	0.0	2.2	35.3	62.5	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NV	NP	0.668							

MATERIAL DESCRIPTION	USCS	AASHTO
● Grey Bottom Ash with Fly Ash		

Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area
● Location: B-1A & B Bulk @ 0'-5'

Date: 04-19-04

Remarks:
Specific Gravity: 2.35

PARTICLE SIZE ANALYSIS REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Fig. No.: _____

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 15

Date: 04-19-04
Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area

Sample Data

Location of Sample: B-1A & B Bulk @ 0'-5'
Sample Description: Grey Bottom Ash with Fly Ash
USCS Class: Liquid limit: NV
AASHTO Class: Plasticity index: NP

Notes

Remarks: Specific Gravity: 2.35

Fig. No.:

Mechanical Analysis Data

Initial
Dry sample and tare= 211.63
Tare = 0.00
Dry sample weight = 211.63
Tare for cumulative weight retained= 0

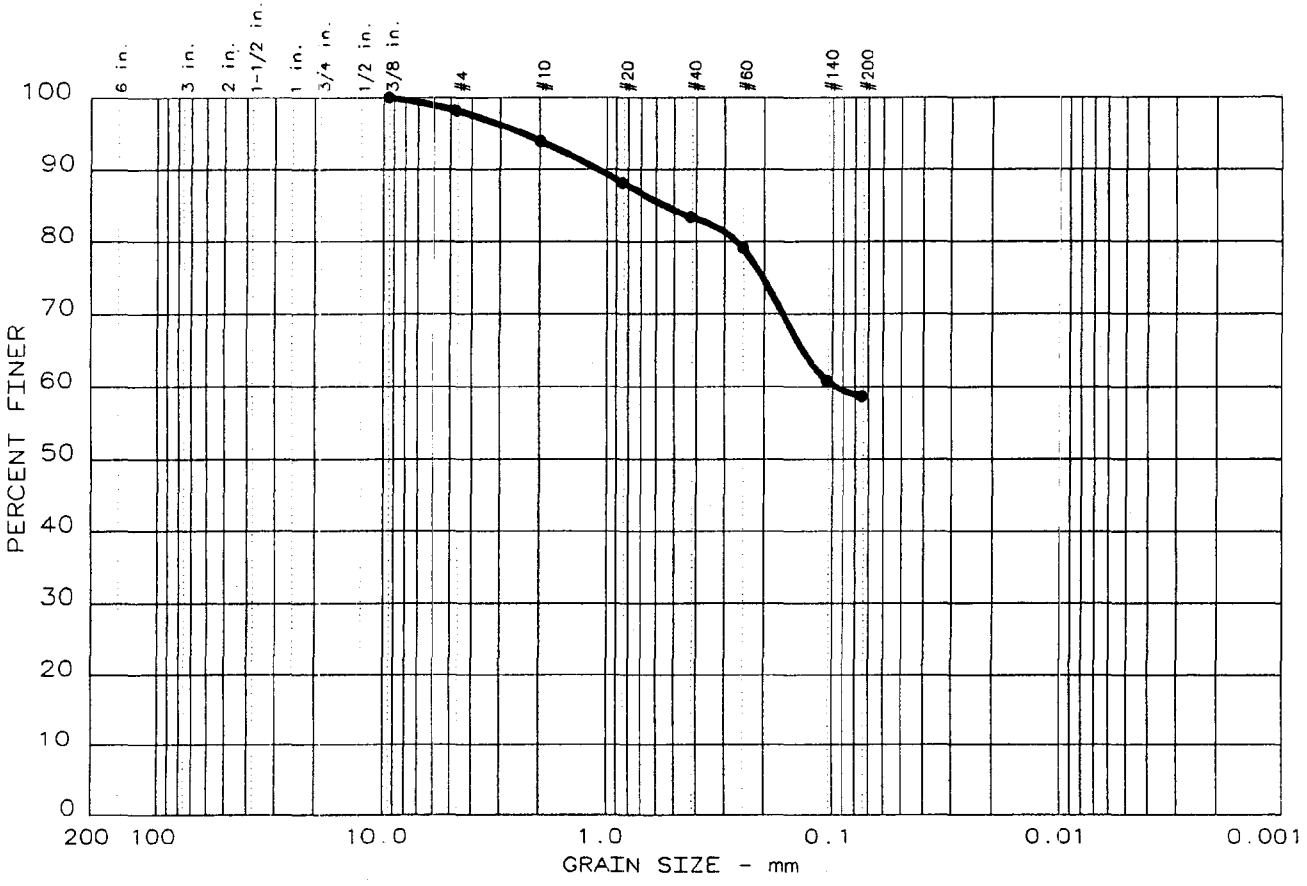
Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	0.86	99.6
# 4	4.57	97.8
# 10	14.62	93.1
# 20	28.12	86.7
# 40	38.73	81.7
# 60	46.75	77.9
# 140	68.43	67.7
# 200	79.26	62.5

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 2.2 % SAND = 35.3
% FINES = 62.5

D85= 0.67

PARTICLE SIZE ANALYSIS REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	6	0.0	1.8	39.4	58.8	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NV	NP	0.550	0.0966						

MATERIAL DESCRIPTION	USCS	AASHTO
● Grey Fly Ash with Bottom Ash		

Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area
● Location: B-1 UD @ 4'-4.5'

Date: 04-19-04

Remarks:

Moisture Content: 19.0%

PARTICLE SIZE ANALYSIS REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Fig. No.: _____

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 6

Date: 04-19-04
Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area

Sample Data

Location of Sample: B-1 UD @ 4'-4.5'
Sample Description: Grey Fly Ash with Bottom Ash
USCS Class: Liquid limit: NV
AASHTO Class: Plasticity index: NP

Notes

Remarks: Moisture Content: 19.0%

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	240.07
Tare =	0.00
Dry sample weight =	240.07

Tare for cumulative weight retained= 0

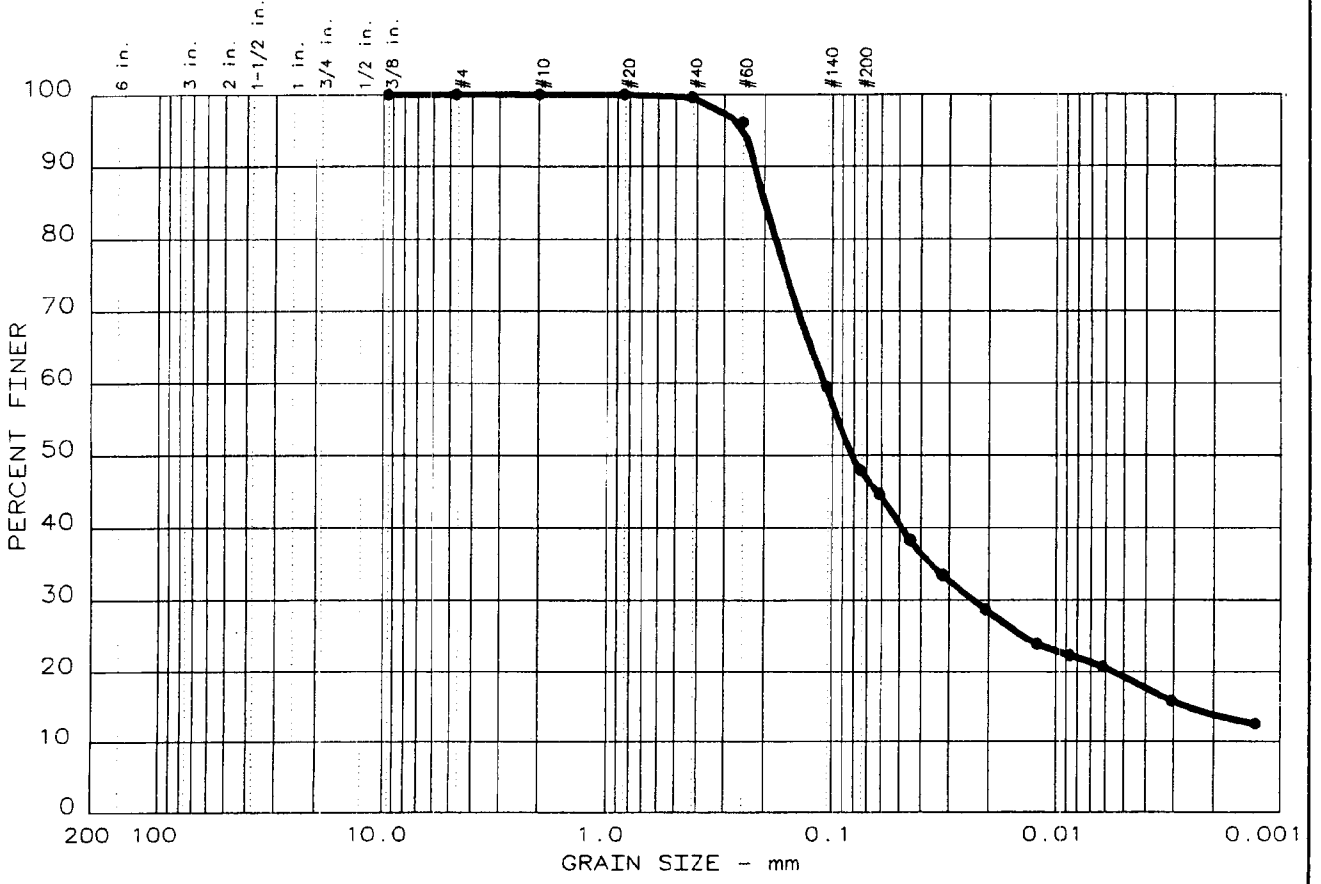
Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	4.42	98.2
# 10	14.68	93.9
# 20	28.49	88.1
# 40	39.89	83.4
# 60	50.07	79.1
# 140	93.88	60.9
# 200	99.12	58.7

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 1.8 % SAND = 39.4
% FINES = 58.8

D85= 0.55 D60= 0.097

PARTICLE SIZE ANALYSIS REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	5	0.0	0.0	52.1	28.6	19.3

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NV	NP	0.198	0.107	0.0814	0.0235	0.0026			

MATERIAL DESCRIPTION	USCS	AASHTO
● Orange-Grey Silty Fine Sand	SM	

Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area
● Location: B-1 UD @ 65'-67'

Date: 04-19-04

Remarks:

Moisture Content: 20.0%

PARTICLE SIZE ANALYSIS REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Fig. No.: ———

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 5

Date: 04-19-04
Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area

Sample Data

Location of Sample: B-1 UD @ 65'-67'
Sample Description: Orange-Grey Silty Fine Sand
USCS Class: SM Liquid limit: NV
AASHTO Class: Plasticity index: NP

Notes

Remarks: Moisture Content: 20.0%

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	326.61
Tare =	0.00
Dry sample weight =	326.61

Sample split on number 10 sieve
Split sample data:
Sample and tare = 61.85 Tare = 0 Sample weight = 61.85
Cumulative weight retained tare= 0
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.00	100.0
# 10	0.00	100.0
# 20	0.00	100.0
# 40	0.24	99.6
# 60	2.40	96.1
# 140	24.99	59.6
# 200	32.20	47.9

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 100.0
Weight of hydrometer sample: 61.85
Calculated biased weight= 61.85
Table of composite correction values:

Temp, deg C:	20.0	22.0	24.0

Comp. corr: - 5.5 - 4.8 - 4.0
Meniscus correction only= 1
Specific gravity of solids= 2.7
Specific gravity correction factor= 0.989
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

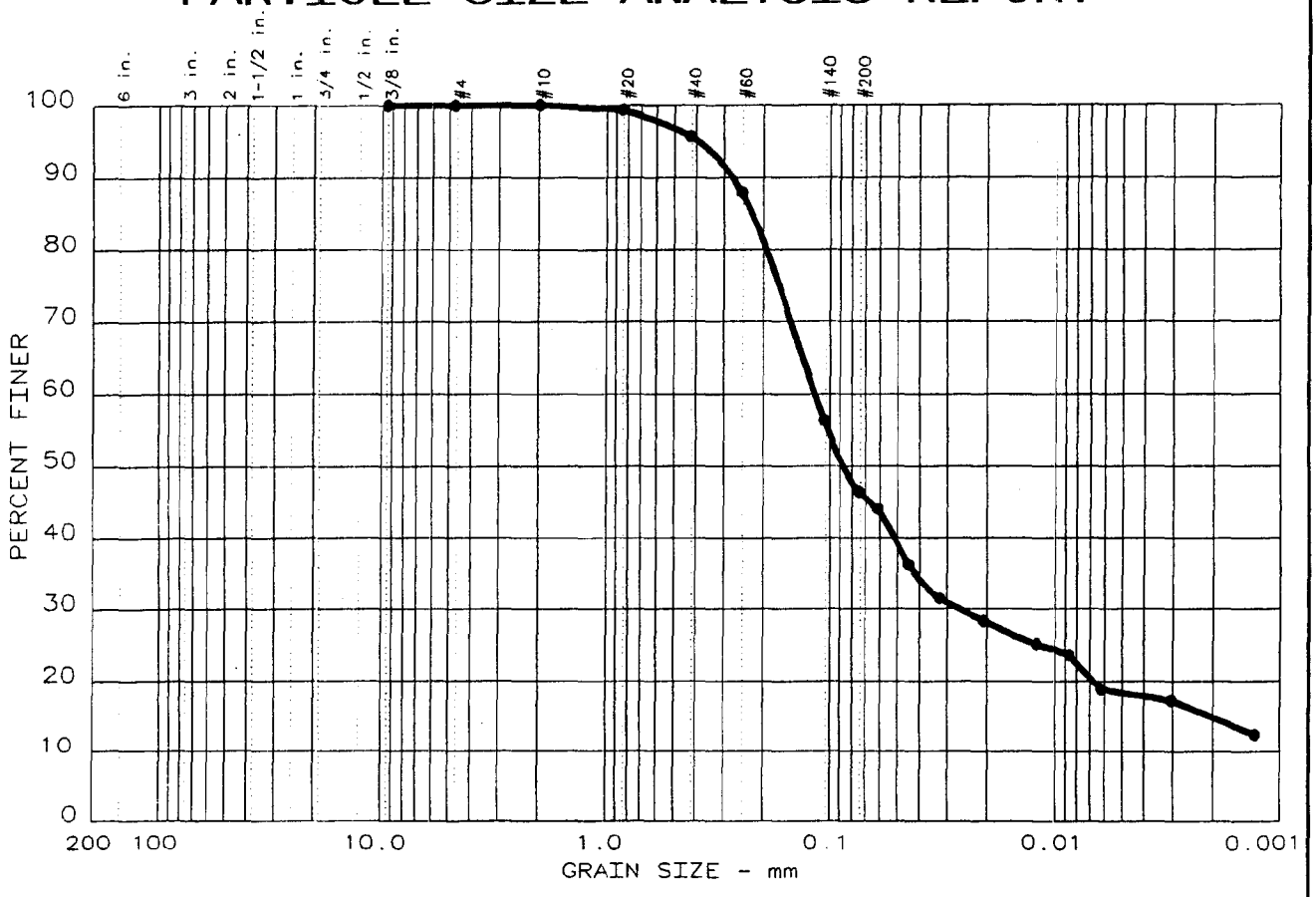
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
0.5	21.3	33.0	28.0	0.0132	34.0	10.7	0.0612	44.7
1.0	21.3	29.0	24.0	0.0132	30.0	11.4	0.0446	38.3
2.0	21.3	26.0	21.0	0.0132	27.0	11.9	0.0322	33.5
5.0	21.3	23.0	18.0	0.0132	24.0	12.4	0.0208	28.7
15.0	21.3	20.0	15.0	0.0132	21.0	12.9	0.0122	23.9
30.0	21.3	19.0	14.0	0.0132	20.0	13.0	0.0087	22.3
60.0	21.3	18.0	13.0	0.0132	19.0	13.2	0.0062	20.7
250.0	21.4	15.0	10.0	0.0132	16.0	13.7	0.0031	16.0
1440.0	21.3	13.0	8.0	0.0132	14.0	14.0	0.0013	12.7

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 52.1
% SILT = 28.6 % CLAY = 19.3

D85= 0.20 D60= 0.107 D50= 0.081
D30= 0.0235 D15= 0.00257

PARTICLE SIZE ANALYSIS REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	2	0.0	0.0	53.5	28.1	18.4

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NV	NP	0.224	0.116	0.0878	0.0265	0.0020			

MATERIAL DESCRIPTION	USCS	AASHTO
● Orange-Brown Silty Fine Sand	SM	

Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area
● Location: B-2 UD @ 70'-72'

Date: 04-19-04

Remarks:
Moisture Content: 16.8%

PARTICLE SIZE ANALYSIS REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Fig. No.: _____

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 2

Date: 04-19-04
Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area

Sample Data

Location of Sample: B-2 UD @ 70'-72'
Sample Description: Orange-Brown Silty Fine Sand
USCS Class: SM Liquid limit: NV
AASHTO Class: Plasticity index: NP

Notes

Remarks: Moisture Content: 16.8%

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	334.59
Tare =	0.00
Dry sample weight =	334.59

Sample split on number 10 sieve
Split sample data:
Sample and tare = 62.67 Tare = 0 Sample weight = 62.67
Cumulative weight retained tare= 0
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.00	100.0
# 10	0.00	100.0
# 20	0.38	99.4
# 40	2.70	95.7
# 60	7.56	87.9
# 140	27.34	56.4
# 200	33.55	46.5

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 100.0
Weight of hydrometer sample: 62.67
Calculated biased weight= 62.67
Table of composite correction values:

Temp, deg C:	20.0	22.0	24.0

Comp. corr: - 5.5 - 4.8 - 4.0
Meniscus correction only= 1
Specific gravity of solids= 2.7
Specific gravity correction factor= 0.989
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

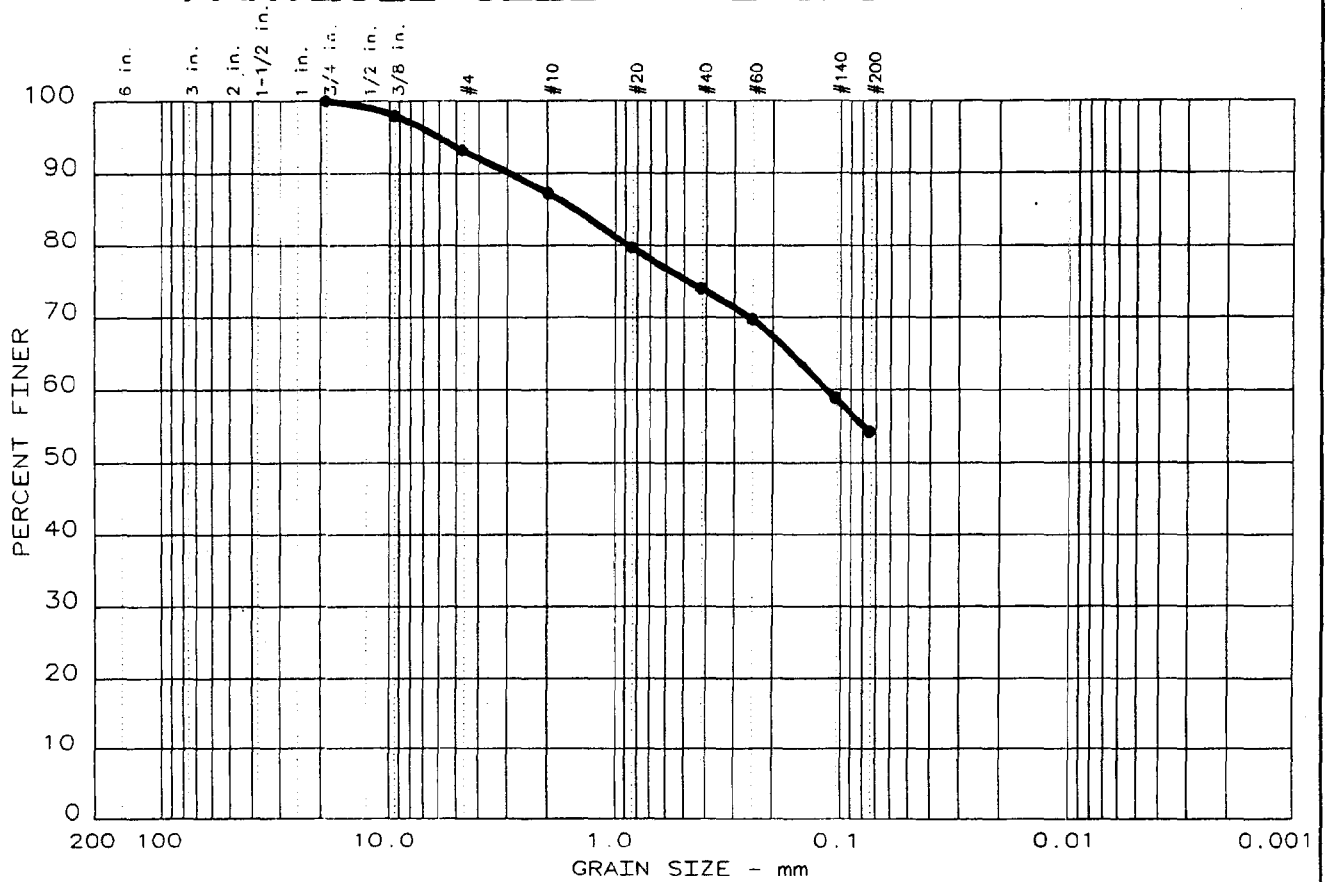
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
0.5	21.3	33.0	28.0	0.0132	34.0	10.7	0.0612	44.1
1.0	21.3	28.0	23.0	0.0132	29.0	11.5	0.0449	36.2
2.0	21.3	25.0	20.0	0.0132	26.0	12.0	0.0324	31.5
5.0	21.3	23.0	18.0	0.0132	24.0	12.4	0.0208	28.3
15.0	21.3	21.0	16.0	0.0132	22.0	12.7	0.0122	25.2
30.0	21.3	20.0	15.0	0.0132	21.0	12.9	0.0087	23.6
60.0	21.3	17.0	12.0	0.0132	18.0	13.3	0.0062	18.9
250.0	21.4	16.0	11.0	0.0132	17.0	13.5	0.0031	17.3
1440.0	21.3	13.0	8.0	0.0132	14.0	14.0	0.0013	12.6

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 53.5
% SILT = 28.1 % CLAY = 18.4

D85= 0.22 D60= 0.116 D50= 0.088
D30= 0.0265 D15= 0.00201

PARTICLE SIZE ANALYSIS REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	16	0.0	6.8	38.9	54.3	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NV	NP	1.51	0.114						

MATERIAL DESCRIPTION	USCS	AASHTO
● Grey Bottom Ash with Fly Ash		

Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area
● Location: B-2A Bulk @ 0'-5'

Date: 04-19-04

Remarks:

Specific Gravity: 2.40

PARTICLE SIZE ANALYSIS REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Fig. No.: ———

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 16

Date: 04-19-04
Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area

Sample Data

Location of Sample: B-2A Bulk @ 0'-5'
Sample Description: Grey Bottom Ash with Fly Ash
USCS Class: Liquid limit: NV
AASHTO Class: Plasticity index: NP

Notes

Remarks: Specific Gravity: 2.40

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	286.19
Tare =	0.00
Dry sample weight =	286.19

Tare for cumulative weight retained= 0

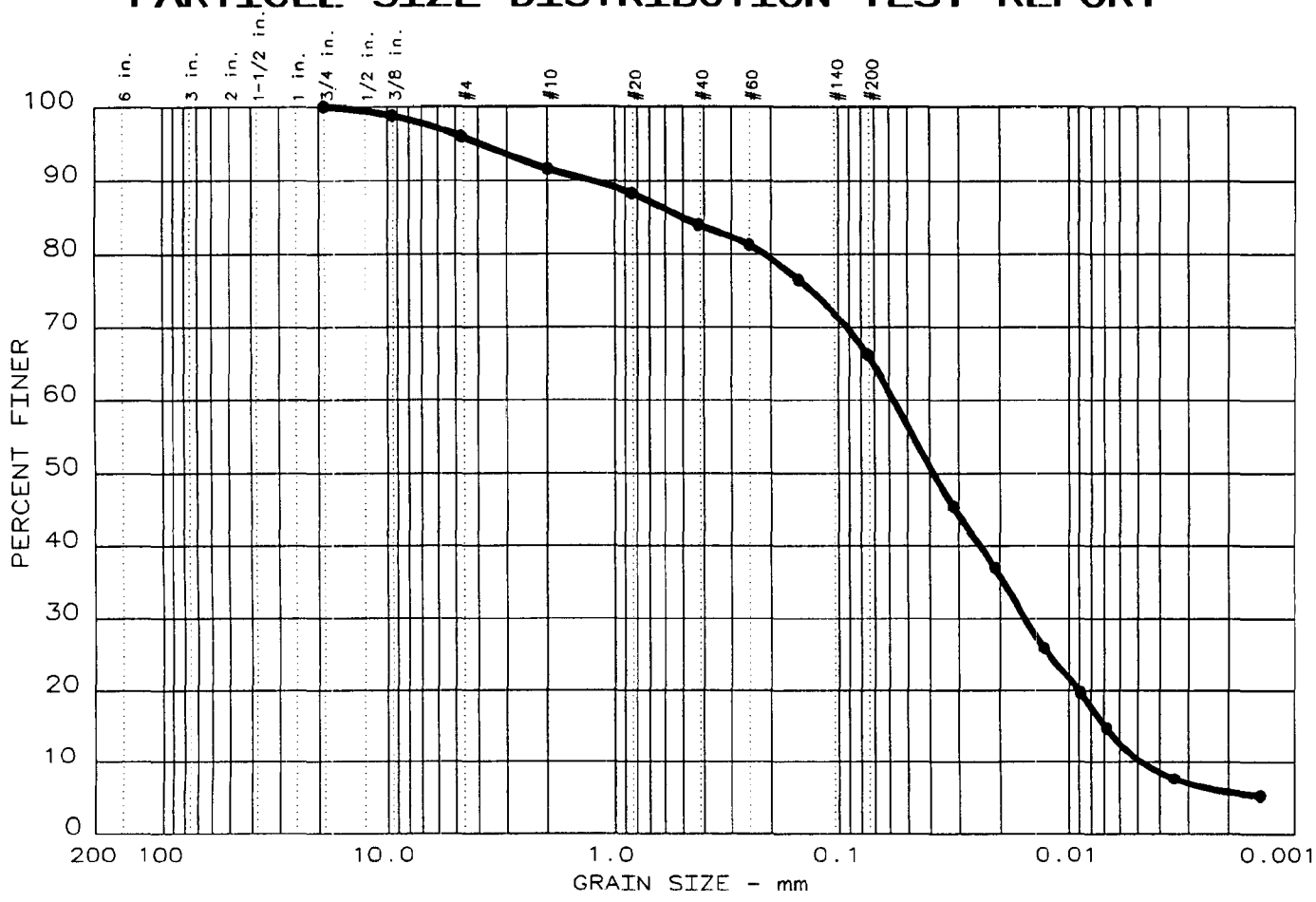
Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	5.70	98.0
# 4	19.46	93.2
# 10	36.46	87.3
# 20	57.98	79.7
# 40	74.33	74.0
# 60	86.56	69.8
# 140	117.55	58.9
# 200	130.91	54.3

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 6.8 % SAND = 38.9
% FINES = 54.3

D85= 1.51 D60= 0.114

PARTICLE SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	4	0.0	4.0	29.7	56.0	10.3	NT	NT	NT

SIEVE inches size	PERCENT FINER ●		
0.75	100.0		
0.375	98.8		
	GRAIN SIZE		
D_{60}	0.0569		
D_{30}			
D_{10}	0.0048		
	COEFFICIENTS		
C_c	0.89		
C_u	11.8		

SIEVE number size	PERCENT FINER ●
4	96.0
10	91.6
20	88.3
40	84.0
60	81.3
100	76.5
200	66.3

Sample information:
● B-3, 5-6.5' & 10-11.5'
Gray ash
SPT Samples

Remarks:
Methods: Particle Size: ASTM D 422-63(2002); Specific Gravity of Portion < No. 10: 2.40

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Project No.: 3043041009.0001
Project: TVA Kingston Ash

Date: April 21, 2004 Fig. No.: B3

GRAIN SIZE DISTRIBUTION TEST DATA — Test No.: 4

Date: April 15, 2004
Project No.: 3043041009.0001
Project: TVA Kingston Ash

Sample Data

Location of Sample: B-3, 5-6.5' & 10-11.5'
Sample Description 1: Gray bottom ash
Sample Description 2: SPT Samples
USCS Class: NT Liquid limit: NT Plasticity index: NT

Notes

Remarks: Methods: Particle Size: ASTM D 422-63(2002);
Specific Gravity of Portion < No. 10: 2.40
Fig. No.: B3

Mechanical Analysis Data

	Initial
Dry sample and tare=	411.94
Tare =	0.00
Dry sample weight =	411.94

Sample split on number 10 sieve
Split sample data:
Sample and tare = 79.23 Tare = 0 Sample weight = 79.23
Cumulative weight retained tare= 0
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	4.87	98.8
# 4	16.62	96.0
# 10	34.62	91.6
# 20	2.88	88.3
# 40	6.58	84.0
# 60	8.94	81.3
# 100	13.05	76.5
# 200	21.90	66.3

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 91.6
Weight of hydrometer sample: 83.51
Hygroscopic moisture correction:
Moist weight & tare = 56.54
Dry weight & tare = 54.78
Tare = 22.26

Hygroscopic moisture= 5.4 %
Calculated biased weight= 86.49
Table of composite correction values:

Temp, deg C:	21.0	22.0	23.0	23.5	24.0
Comp. corr:	- 5.2	- 5.0	- 4.6	- 4.5	- 4.4

Meniscus correction only= 0
Specific gravity of solids= 2.401
Specific gravity correction factor= 1.067
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

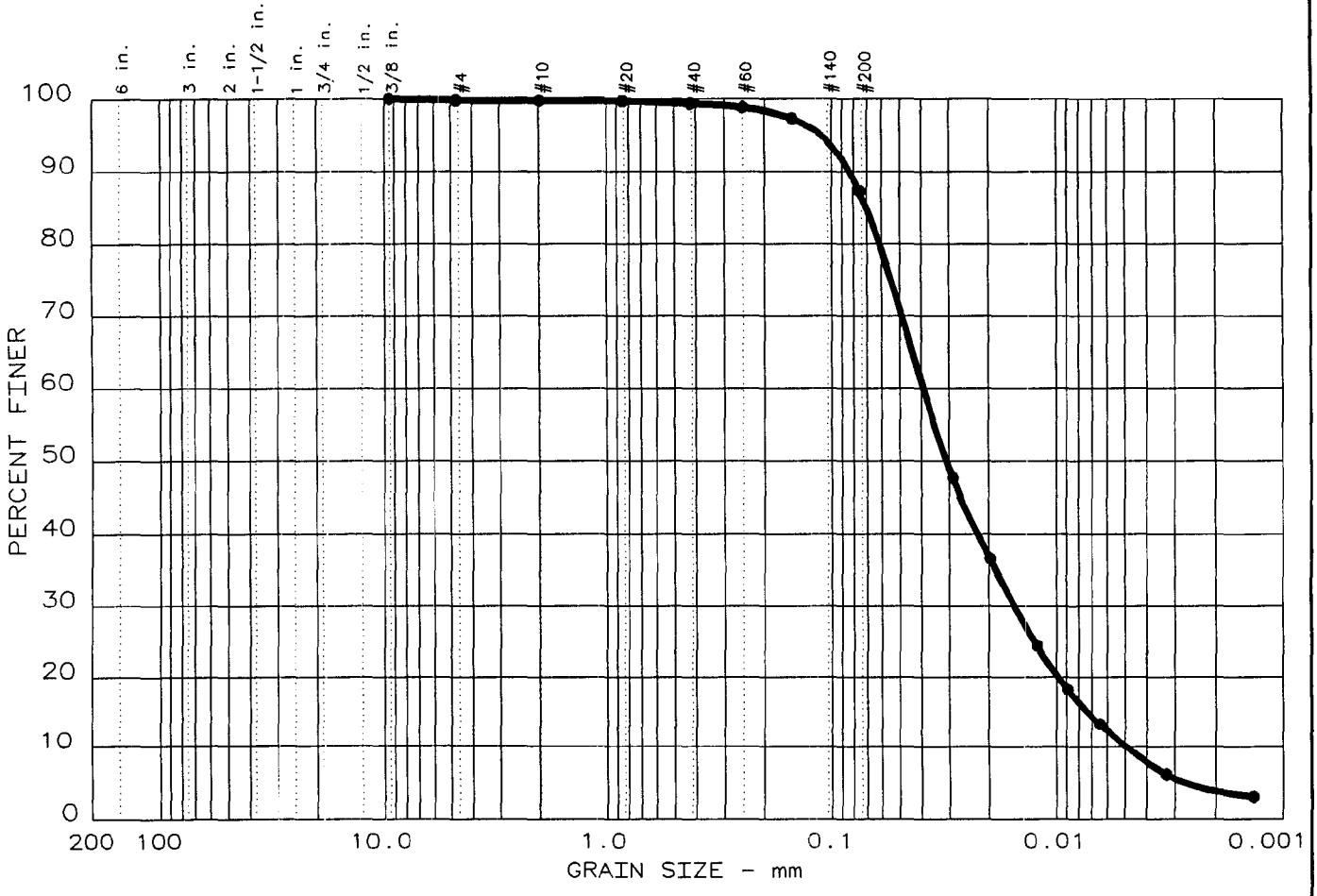
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	21.0	42.0	36.8	0.0146	42.0	9.4	0.0317	45.4
5.0	22.0	35.0	30.0	0.0144	35.0	10.6	0.0210	37.0
15.0	22.0	26.0	21.0	0.0144	26.0	12.0	0.0129	25.9
34.0	22.0	21.0	16.0	0.0144	21.0	12.9	0.0089	19.7
60.0	22.0	17.0	12.0	0.0144	17.0	13.5	0.0069	14.8
250.0	22.0	11.0	6.0	0.0144	11.0	14.5	0.0035	7.4
1440.0	23.5	8.5	4.0	0.0142	8.5	14.9	0.0014	4.9

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
+ 3 in. = 0.0 % GRAVEL = 4.0 % SAND = 29.7
% SILT = 56.0 % CLAY = 10.3

D85= 0.50 D60= 0.057 D50= 0.038
D30= 0.0156 D15= 0.00689 D10= 0.00483
Cc = 0.8882 Cu = 11.7896

PARTICLE SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	5	0.0	0.2	12.6	77.1	10.1	NT	NT	NT

SIEVE inches size	PERCENT FINER ●
0.375	100.0

	GRAIN SIZE
D_{60}	0.0391
D_{30}	
D_{10}	0.0049

	COEFFICIENTS
C_c	1.23
C_u	8.0

SIEVE number size	PERCENT FINER ●
4	99.8
10	99.7
20	99.7
40	99.4
60	98.9
100	97.3
200	87.2

Sample information:
● B-3, 15-16.5' & 20-21.5'
Gray ash
SPT Samples

Remarks:
Methods: Particle Size: ASTM D 422-63(2002); Specific Gravity of Portion < No. 10: 2.58

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Project No.: 3043041009.0001
Project: TVA Kingston Ash

Date: April 21, 2004 Fig. No.: B3

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 5

Date: April 15, 2004
Project No.: 3043041009.0001
Project: TVA Kingston Ash

Sample Data

Location of Sample: B-3,15-16.5' & 20-21.5'
Sample Description 1: Gray bottom ash
Sample Description 2: SPT Samples
USCS Class: NT Liquid limit: NT Plasticity index: NT

Notes

Remarks: Methods: Particle Size: ASTM D 422-63(2002);
Specific Gravity of Portion < No. 10: 2.58
Fig. No.: B3

Mechanical Analysis Data

	Initial
Dry sample and tare=	307.25
Tare =	0.00
Dry sample weight =	307.25

Sample split on number 10 sieve
Split sample data:
Sample and tare = 82.91 Tare = 0 Sample weight = 82.91
Cumulative weight retained tare= 0
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.68	99.8
# 10	0.82	99.7
# 20	0.04	99.7
# 40	0.31	99.4
# 60	0.73	98.9
# 100	2.01	97.3
# 200	10.42	87.2

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.7
Weight of hydrometer sample: 83.03
Hygroscopic moisture correction:
Moist weight & tare = 110.27
Dry weight & tare = 110.18
Tare = 44.37
Hygroscopic moisture= 0.1 %

Calculated biased weight= 83.14
Table of composite correction values:

Temp, deg C:	21.0	22.0	23.0	23.5	24.0
Comp. corr:	- 5.2	- 5.0	- 4.6	- 4.5	- 4.4

Meniscus correction only= 0
Specific gravity of solids= 2.584
Specific gravity correction factor= 1.016
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

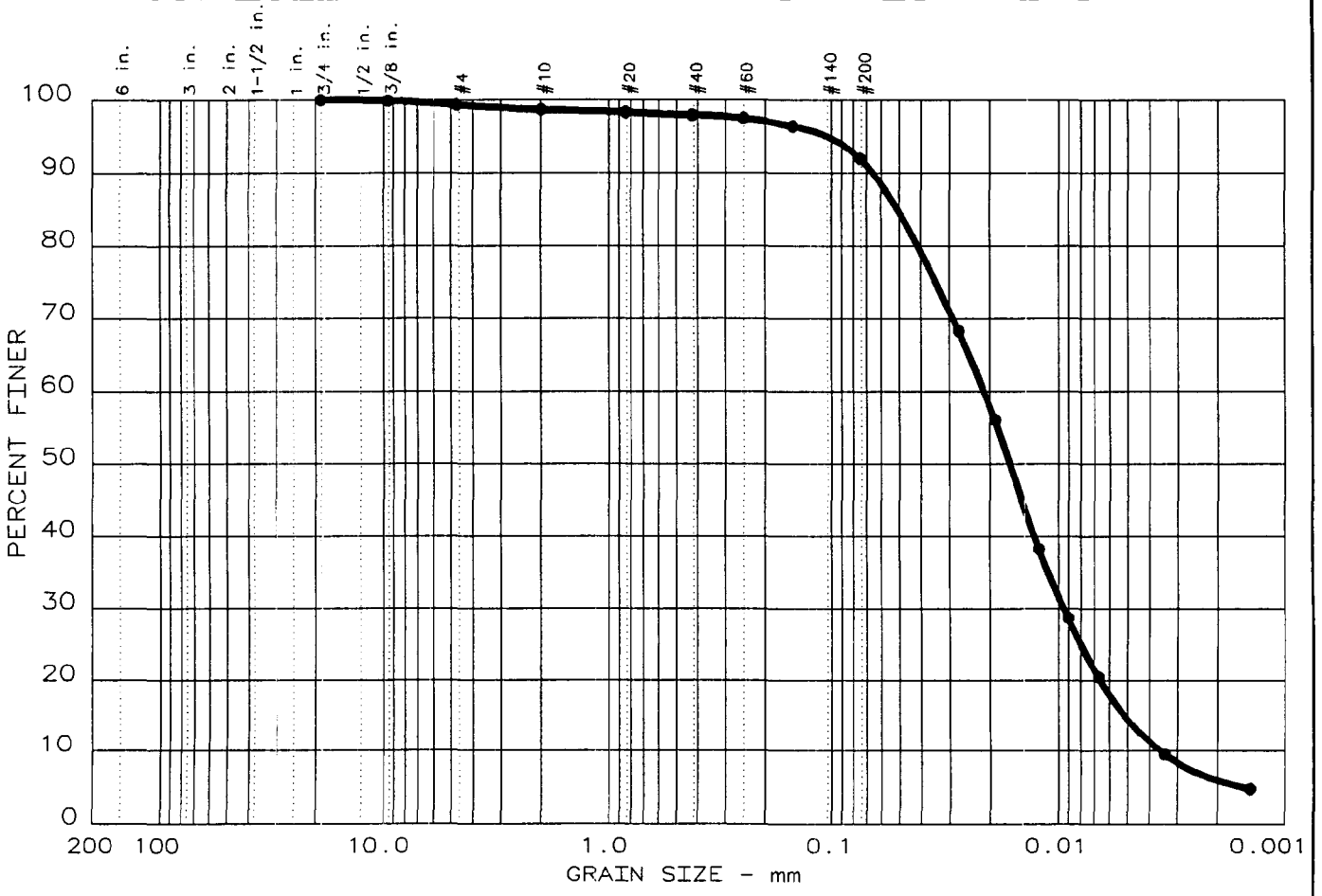
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.0	44.0	39.0	0.0136	44.0	9.1	0.0289	47.6
5.0	22.0	35.0	30.0	0.0136	35.0	10.6	0.0197	36.7
15.0	22.0	25.0	20.0	0.0136	25.0	12.2	0.0123	24.4
30.0	22.0	20.0	15.0	0.0136	20.0	13.0	0.0089	18.3
60.0	22.0	16.0	11.0	0.0136	16.0	13.7	0.0065	13.4
250.0	22.0	10.0	5.0	0.0136	10.0	14.7	0.0033	6.1
1440.0	23.5	7.0	2.5	0.0133	7.0	15.1	0.0014	3.1

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.2 % SAND = 12.6
% SILT = 77.1 % CLAY = 10.1

D85= 0.07 D60= 0.039 D50= 0.031
D30= 0.0154 D15= 0.00719 D10= 0.00491
Cc = 1.2274 Cu = 7.9616

PARTICLE SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	6	0.0	0.7	7.3	77.4	14.6	NT	NT	NT

SIEVE inches size	PERCENT FINER ●		
0.75	100.0		
0.375	99.9		
GRAIN SIZE			
D_{60}	0.0211		
D_{30}			
D_{10}	0.0036		
COEFFICIENTS			
C_c	1.20		
C_u	5.9		

SIEVE number size	PERCENT FINER ●		
4	99.3		
10	98.6		
20	98.3		
40	97.9		
60	97.5		
100	96.4		
200	92.0		

Sample information:
● B-3, 25-26.5' & 30-31.5'
Gray ash
SPT Samples

Remarks:
Methods: Particle Size: ASTM D 422-63(2002); Specific Gravity of Portion < No. 10: 2.42

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Project No.: 3043041009.0001
Project: TVA Kingston Ash
Date: April 21, 2004 Fig. No.: B3

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 6

Date: April 15, 2004
Project No.: 3043041009.0001
Project: TVA Kingston Ash

Sample Data

Location of Sample: B-3,25-26.5' & 30-31.5'
Sample Description 1: Gray bottom ash
Sample Description 2: SPT Samples
USCS Class: NT Liquid limit: NT Plasticity index: NT

Notes

Remarks: Methods: Particle Size: ASTM D 422-63(2002);
Specific Gravity of Portion < No. 10: 2.42
Fig. No.: B3

Mechanical Analysis Data

Initial
Dry sample and tare= 413.87
Tare = 0.00
Dry sample weight = 413.87
Sample split on number 10 sieve
Split sample data:
Sample and tare = 76.66 Tare = 0 Sample weight = 76.66
Cumulative weight retained tare= 0
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	0.59	99.9
# 4	2.87	99.3
# 10	5.60	98.6
# 20	0.28	98.3
# 40	0.58	97.9
# 60	0.89	97.5
# 100	1.73	96.4
# 200	5.14	92.0

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 98.6
Weight of hydrometer sample: 83.1
Hygroscopic moisture correction:
Moist weight & tare = 52.27
Dry weight & tare = 49.94
Tare = 22.13

Hygroscopic moisture= 8.4 %
Calculated biased weight= 77.73
Table of composite correction values:

Temp, deg C:	21.0	22.0	23.0	23.5	24.0
Comp. corr:	- 5.2	- 5.0	- 4.6	- 4.5	- 4.4

Meniscus correction only= 0
Specific gravity of solids= 2.416
Specific gravity correction factor= 1.062
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

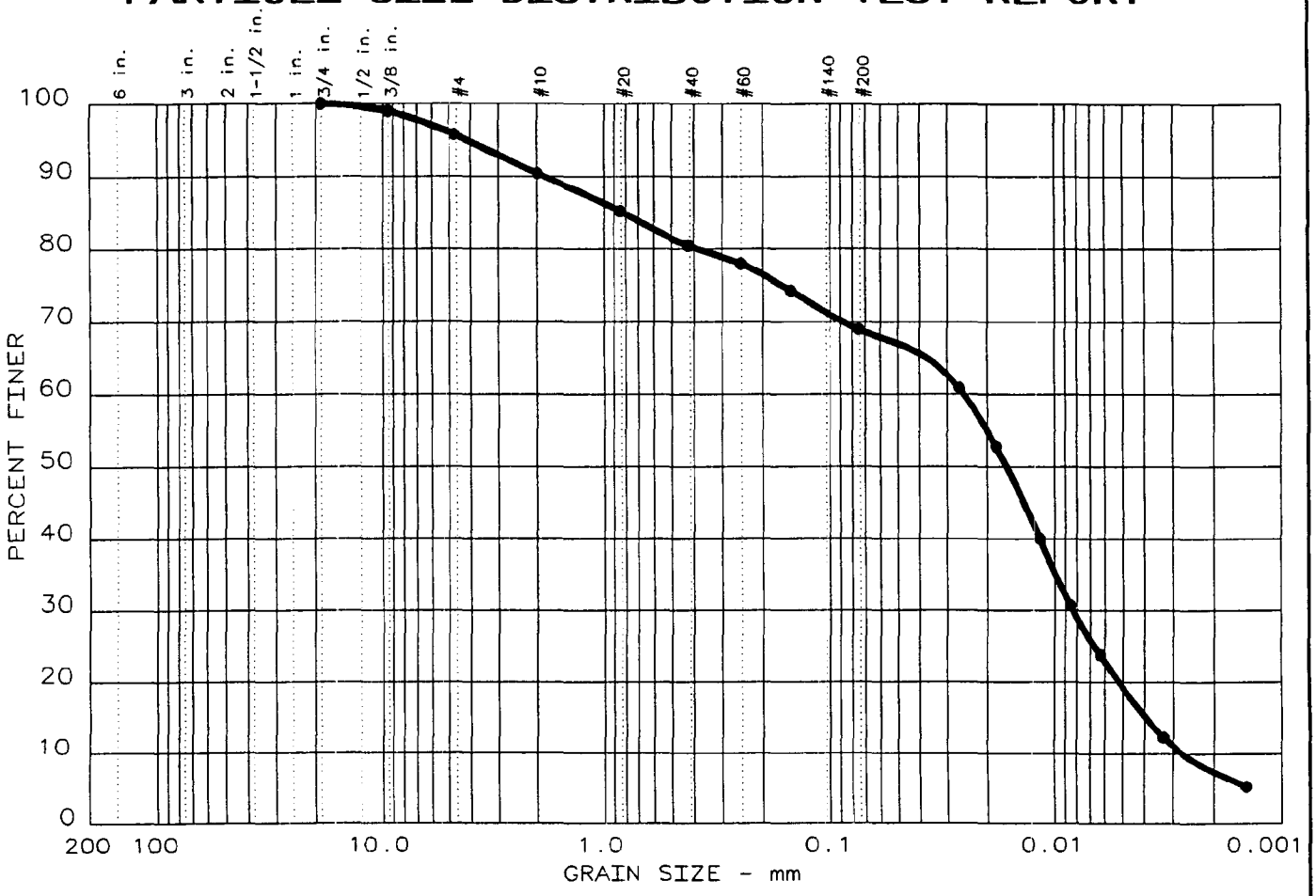
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	22.0	55.0	50.0	0.0144	55.0	7.3	0.0274	68.3
5.0	22.0	46.0	41.0	0.0144	46.0	8.8	0.0190	56.0
15.0	22.0	33.0	28.0	0.0144	33.0	10.9	0.0122	38.3
30.0	22.0	26.0	21.0	0.0144	26.0	12.0	0.0091	28.7
60.0	22.0	20.0	15.0	0.0144	20.0	13.0	0.0067	20.5
250.0	22.0	12.0	7.0	0.0144	12.0	14.3	0.0034	9.6
1440.0	23.5	8.0	3.5	0.0141	8.0	15.0	0.0014	4.8

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.7 % SAND = 7.3
% SILT = 77.4 % CLAY = 14.6

D85= 0.05 D60= 0.021 D50= 0.016
D30= 0.0095 D15= 0.00511 D10= 0.00357
Cc = 1.1981 Cu = 5.9088

PARTICLE SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	7	0.0	4.2	26.8	49.7	19.3	NT	NT	NT

SIEVE inches size	PERCENT FINER ●		
0.75	100.0		
0.375	99.0		
	GRAIN SIZE		
D_{60}	0.0251		
D_{30}			
D_{10}	0.0027		
	COEFFICIENTS		
C_c	1.01		
C_u	9.2		

SIEVE number size	PERCENT FINER ●		
4	95.8		
10	90.4		
20	85.2		
40	80.5		
60	78.0		
100	74.3		
200	69.0		

Sample information:
● B-3,40-41.5' & 45-46.5'
Gray ash
SPT Samples

Remarks:
Methods: Particle Size: ASTM D 422-63(2002); Specific Gravity of Portion < No. 10: 2.40

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Project No.: 3043041009.0001
Project: TVA Kingston Ash

Date: April 21, 2004 Fig. No.: B3

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 7

Date: April 15, 2004
Project No.: 3043041009.0001
Project: TVA Kingston Ash

Sample Data

Location of Sample: B-3,40-41.5' & 45-46.5'
Sample Description 1: Gray bottom ash
Sample Description 2: SPT Samples
USCS Class: NT Liquid limit: NT Plasticity index: NT

Notes

Remarks: Methods: Particle Size: ASTM D 422-63(2002);
Specific Gravity of Portion < No. 10: 2.40
Fig. No.: B3

Mechanical Analysis Data

	Initial
Dry sample and tare=	421.00
Tare =	0.00
Dry sample weight =	421.00

Sample split on number 10 sieve
Split sample data:
Sample and tare = 83.05 Tare = 0 Sample weight = 83.05
Cumulative weight retained tare= 0
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	4.21	99.0
# 4	17.64	95.8
# 10	40.37	90.4
# 20	4.78	85.2
# 40	9.13	80.5
# 60	11.43	78.0
# 100	14.84	74.3
# 200	19.67	69.0

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 90.4
Weight of hydrometer sample: 86.37
Hygroscopic moisture correction:
Moist weight & tare = 53.48
Dry weight & tare = 52.27
Tare = 22.13

Hygroscopic moisture= 4.0 %
Calculated biased weight= 91.84
Table of composite correction values:

Temp, deg C:	21.0	22.0	23.0	23.5	24.0
Comp. corr:	- 5.2	- 5.0	- 4.6	- 4.5	- 4.4

Meniscus correction only= 0
Specific gravity of solids= 2.399
Specific gravity correction factor= 1.068
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

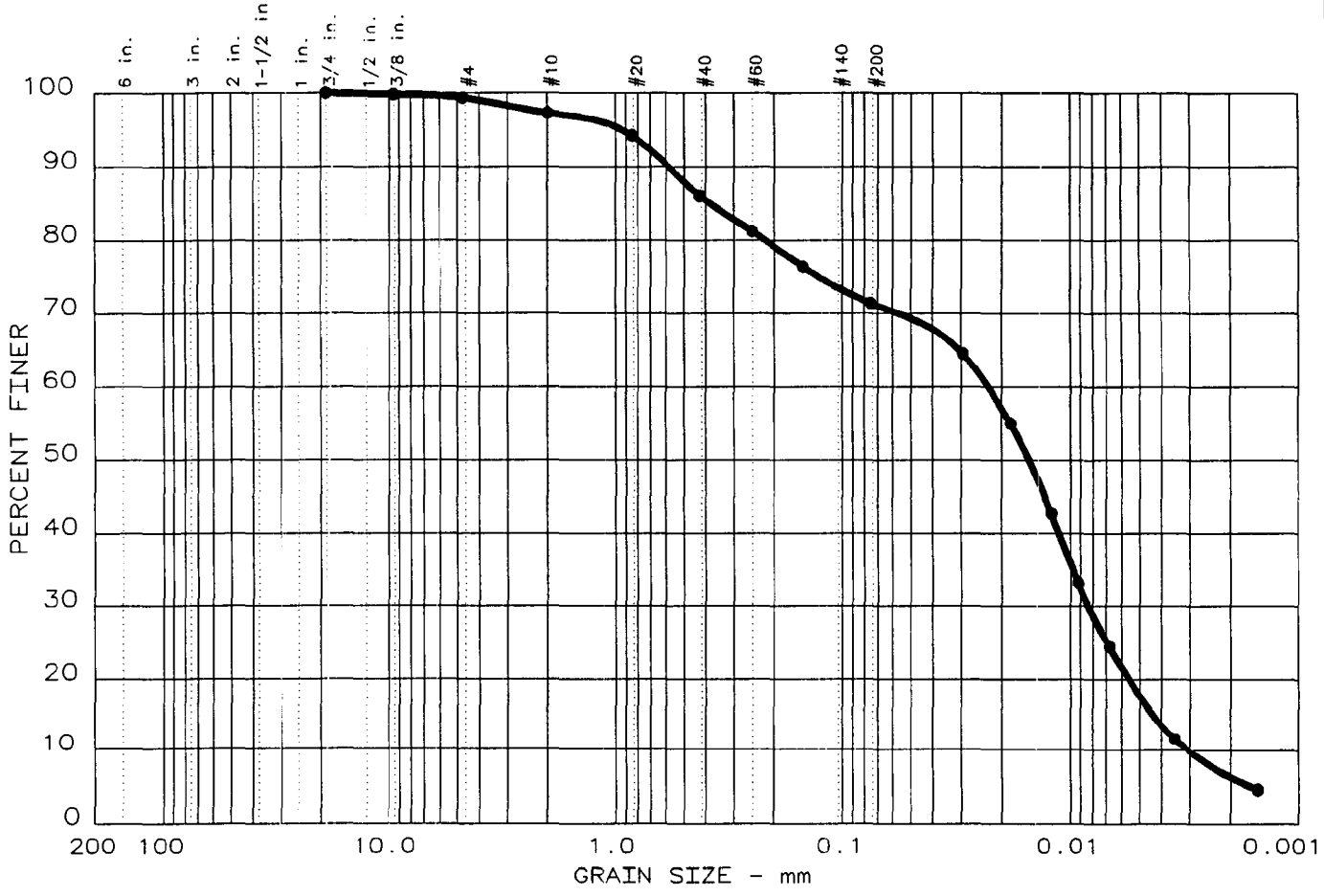
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	23.0	57.0	52.4	0.0143	57.0	6.9	0.0266	60.9
5.0	23.0	50.0	45.4	0.0143	50.0	8.1	0.0182	52.8
15.0	23.0	39.0	34.4	0.0143	39.0	9.9	0.0116	40.0
31.0	23.0	31.0	26.4	0.0143	31.0	11.2	0.0086	30.7
62.0	23.5	25.0	20.5	0.0142	25.0	12.2	0.0063	23.8
250.0	24.0	15.0	10.6	0.0141	15.0	13.8	0.0033	12.3
1449.0	23.0	9.0	4.4	0.0143	9.0	14.8	0.0014	5.1

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 4.2 % SAND = 26.8
% SILT = 49.7 % CLAY = 19.3

D85= 0.82 D60= 0.025 D50= 0.016
D30= 0.0083 D15= 0.00394 D10= 0.00272
Cc = 1.0116 Cu = 9.2257

PARTICLE SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	11	0.0	0.7	27.9	53.6	17.8	NT	NT	NT

SIEVE inches size	PERCENT FINER ●
0.75	100.0
0.375	99.8

GRAIN SIZE	
D_{60}	0.0226
D_{30}	
D_{10}	0.0031

COEFFICIENTS	
C_c	1.01
C_u	7.4

SIEVE number size	PERCENT FINER ●
4	99.3
10	97.3
20	94.3
40	86.0
60	81.3
100	76.4
200	71.4

Sample information:
● B-3, 50-51.5. & 55-56.5'
Gray ash
SPT Samples

Remarks:
Methods: Particle Size: ASTM D 422-63(2002); Specific Gravity of Portion < No. 10: 2.27

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Project No.: 3043041009.0001
Project: TVA Kingston Ash

Date: April 15, 2004 Fig. No.: B3

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 11

Date: April 15, 2004
Project No.: 3043041009.0001
Project: TVA Kingston Ash

Sample Data

Location of Sample: B-3,50-51.5. & 55-56.5'
Sample Description 1: Gray bottom ash
Sample Description 2: SPT Samples
USCS Class: NT Liquid limit: NT Plasticity index: NT

Notes

Remarks: Methods: Particle Size: ASTM D 422-63(2002);
Specific Gravity of Portion < No. 10: 2.27
Fig. No.: B3

Mechanical Analysis Data

	Initial
Dry sample and tare=	446.74
Tare =	0.00
Dry sample weight =	446.74

Sample split on number 10 sieve
Split sample data:
Sample and tare = 79.6 Tare = 0 Sample weight = 79.6
Cumulative weight retained tare= 0
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	0.98	99.8
# 4	3.02	99.3
# 10	12.12	97.3
# 20	2.48	94.3
# 40	9.21	86.0
# 60	13.12	81.3
# 100	17.08	76.4
# 200	21.21	71.4

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 97.3
Weight of hydrometer sample: 90.51
Hygroscopic moisture correction:
Moist weight & tare = 52.84
Dry weight & tare = 49.14
Tare = 22.27

Hygroscopic moisture= 13.8 %
Calculated biased weight= 81.77
Table of composite correction values:

Temp, deg C:	21.0	22.0	23.0	23.5	24.0
Comp. corr:	- 5.2	- 5.0	- 4.6	- 4.5	- 4.4

Meniscus correction only= 0
Specific gravity of solids= 2.27
Specific gravity correction factor= 1.113
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

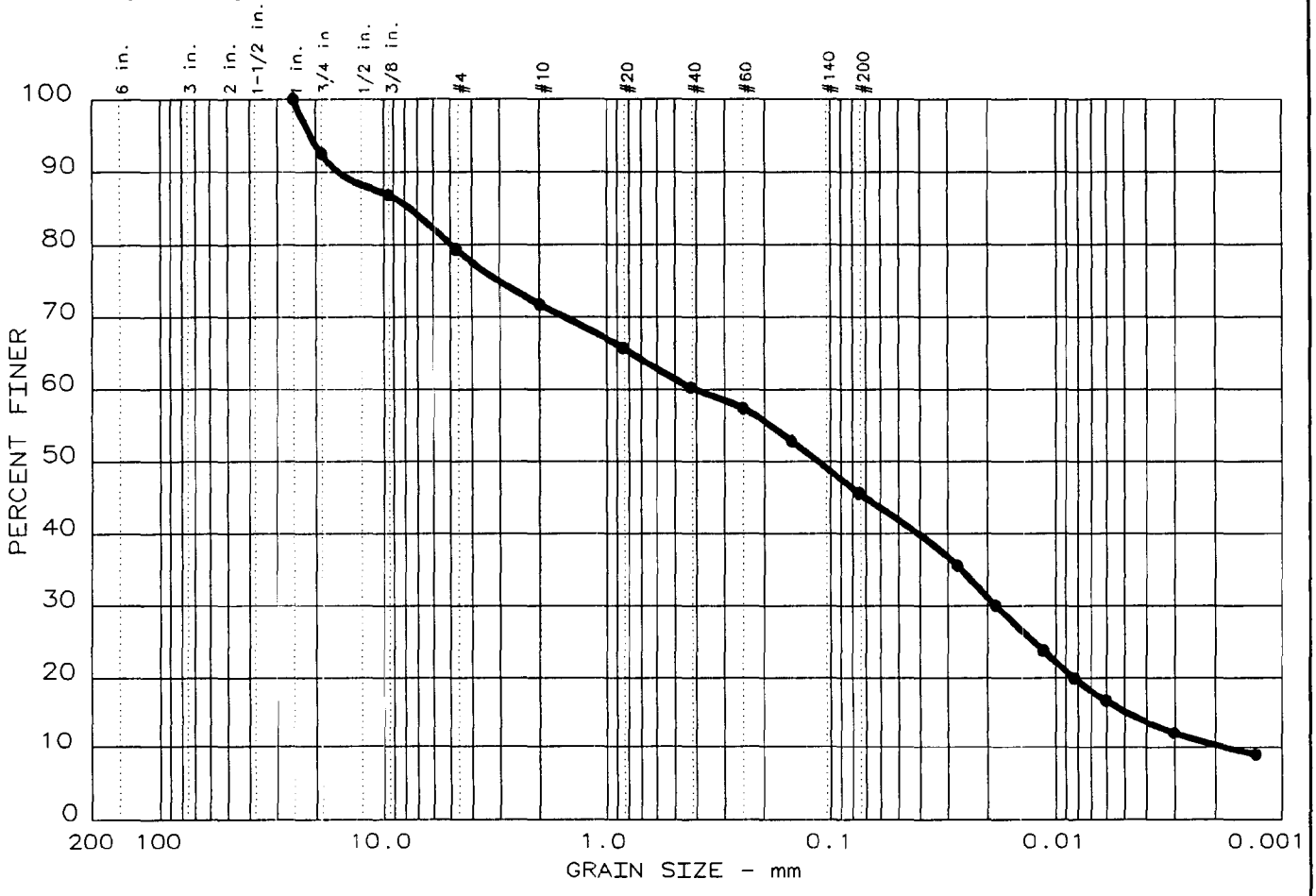
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	23.0	52.0	47.4	0.0150	52.0	7.8	0.0295	64.5
6.0	23.0	45.0	40.4	0.0150	45.0	8.9	0.0183	55.0
16.0	23.0	36.0	31.4	0.0150	36.0	10.4	0.0121	42.7
30.0	23.0	29.0	24.4	0.0150	29.0	11.5	0.0093	33.2
61.0	23.5	22.5	18.0	0.0149	22.5	12.6	0.0068	24.5
250.0	24.0	13.0	8.6	0.0148	13.0	14.2	0.0035	11.7
1440.0	23.0	8.0	3.4	0.0150	8.0	15.0	0.0015	4.6

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.7 % SAND = 27.9
% SILT = 53.6 % CLAY = 17.8

D85= 0.38 D60= 0.023 D50= 0.015
D30= 0.0084 D15= 0.00430 D10= 0.00308
Cc = 1.0069 Cu = 7.3621

PARTICLE SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	8	0.0	20.6	33.8	30.3	15.3	NT	NT	NT

SIEVE inches size	PERCENT FINER ●		
1	100.0		
0.75	92.5		
0.375	86.8		
	GRAIN SIZE		
D_{60}	0.403		
D_{30}			
D_{10}	0.0017		
	COEFFICIENTS		
C_c	0.48		
C_u	234.4		

SIEVE number size	PERCENT FINER ●		
4	79.4		
10	71.8		
20	65.7		
40	60.3		
60	57.4		
100	52.8		
200	45.6		

Sample information:
● B-3, 60-61.5' & 65-66.5'
Gray and brown ash
SPT Samples

Remarks:
Methods: Particle Size: ASTM D 422-63(2002); Specific Gravity of Portion < No. 10: 2.54

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Project No.: 3043041009.0001
Project: TVA Kingston Ash
Date: April 21, 2004 Fig. No.: B3

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 8

Date: April 15, 2004
Project No.: 3043041009.0001
Project: TVA Kingston Ash

Sample Data

Location of Sample: B-3,60-61.5' & 65-66.5'
Sample Description 1: Gray and brown bottom
Sample Description 2: ash - SPT Samples
USCS Class: NT Liquid limit: NT Plasticity index: NT

Notes

Remarks: Methods: Particle Size: ASTM D 422-63(2002);
Specific Gravity of Portion < No. 10: 2.54
Fig. No.: B3

Mechanical Analysis Data

	Initial
Dry sample and tare=	403.01
Tare =	0.00
Dry sample weight =	403.01

Sample split on number 10 sieve
Split sample data:
Sample and tare = 94.06 Tare = 0 Sample weight = 94.06
Cumulative weight retained tare= 0
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
1 inches	0.00	100.0
0.75 inches	30.06	92.5
0.375 inches	53.21	86.8
# 4	83.07	79.4
# 10	113.80	71.8
# 20	7.92	65.7
# 40	15.08	60.3
# 60	18.81	57.4
# 100	24.80	52.8
# 200	34.28	45.6

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 71.8
Weight of hydrometer sample: 95.66
Hygroscopic moisture correction:
Moist weight & tare = 59.10
Dry weight & tare = 58.47

Tare = 22.31
Hygroscopic moisture= 1.7 %
Calculated biased weight= 131.02
Table of composite correction values:

Temp, deg C:	21.0	22.0	23.0	23.5	24.0
Comp. corr:	- 5.2	- 5.0	- 4.6	- 4.5	- 4.4

Meniscus correction only= 0
Specific gravity of solids= 2.542
Specific gravity correction factor= 1.026
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

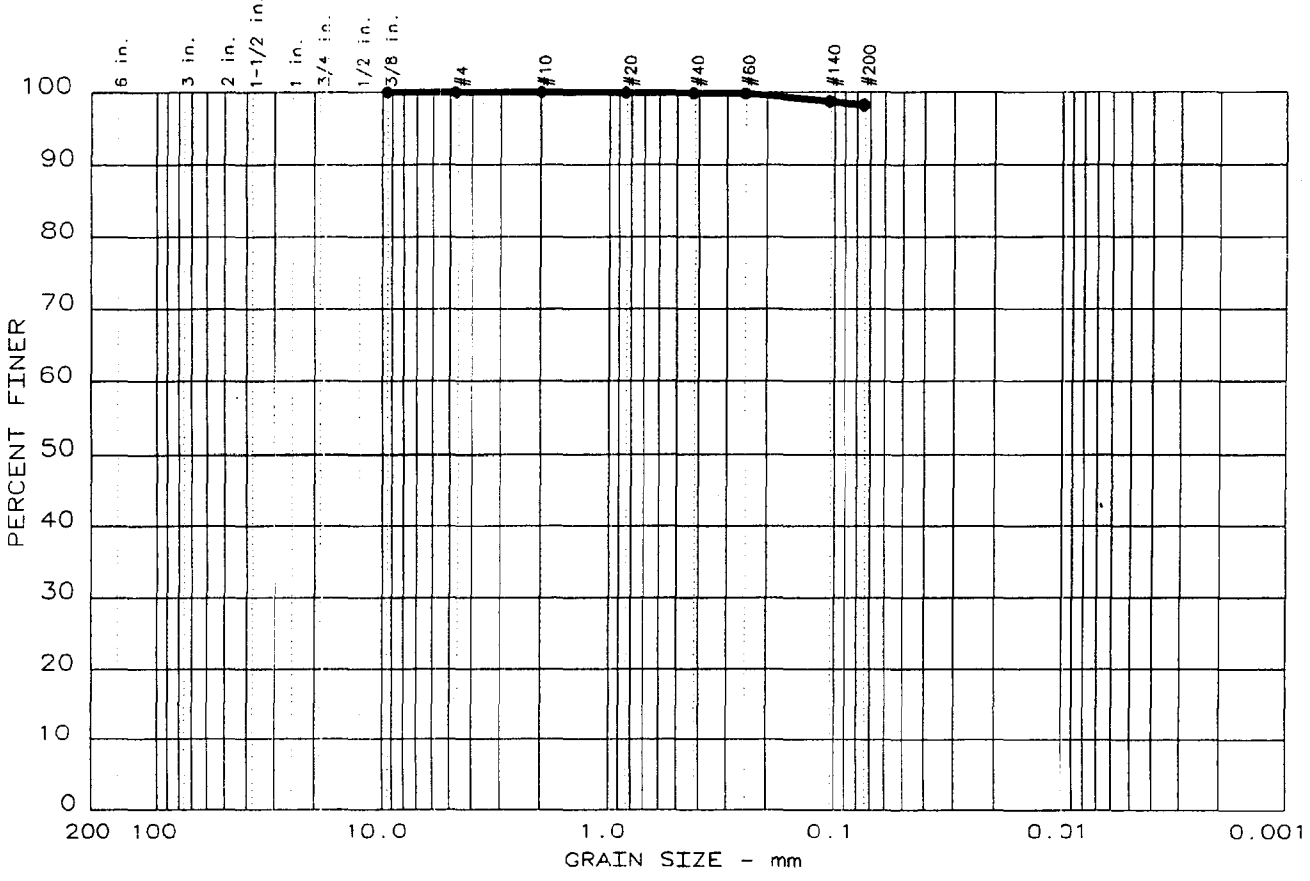
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	23.0	50.0	45.4	0.0136	50.0	8.1	0.0274	35.6
5.0	23.0	43.0	38.4	0.0136	43.0	9.2	0.0185	30.1
15.0	23.0	35.0	30.4	0.0136	35.0	10.6	0.0114	23.8
30.0	23.5	30.0	25.5	0.0135	30.0	11.4	0.0083	20.0
60.0	23.5	26.0	21.5	0.0135	26.0	12.0	0.0061	16.8
250.0	24.0	20.0	15.6	0.0134	20.0	13.0	0.0031	12.2
1440.0	23.0	16.0	11.4	0.0136	16.0	13.7	0.0013	8.9

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 20.6 % SAND = 33.8
% SILT = 30.3 % CLAY = 15.3

D85= 7.67 D60= 0.403 D50= 0.114
D30= 0.0182 D15= 0.00479 D10= 0.00172
Cc = 0.4786 Cu = 234.4229

PARTICLE SIZE ANALYSIS REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	7	0.0	0.0	1.8	98.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NV	NP								

MATERIAL DESCRIPTION	USCS	AASHTO
● Grey Fly Ash		

Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area
● Location: B-4A UD @ 15'-17'

Date: 04-19-04

Remarks:

Moisture Content: 37.2%

PARTICLE SIZE ANALYSIS REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Fig. No.: ———

GRAIN SIZE DISTRIBUTION TEST DATA — Test No.: 7

Date: 04-19-04
Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area

Sample Data

Location of Sample: B-4A UD @ 15'-17'
Sample Description: Grey Fly Ash
USCS Class: Liquid limit: NV
AASHTO Class: Plasticity index: NP

Notes

Remarks: Moisture Content: 37.2%

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	246.13
Tare =	0.00
Dry sample weight =	246.13

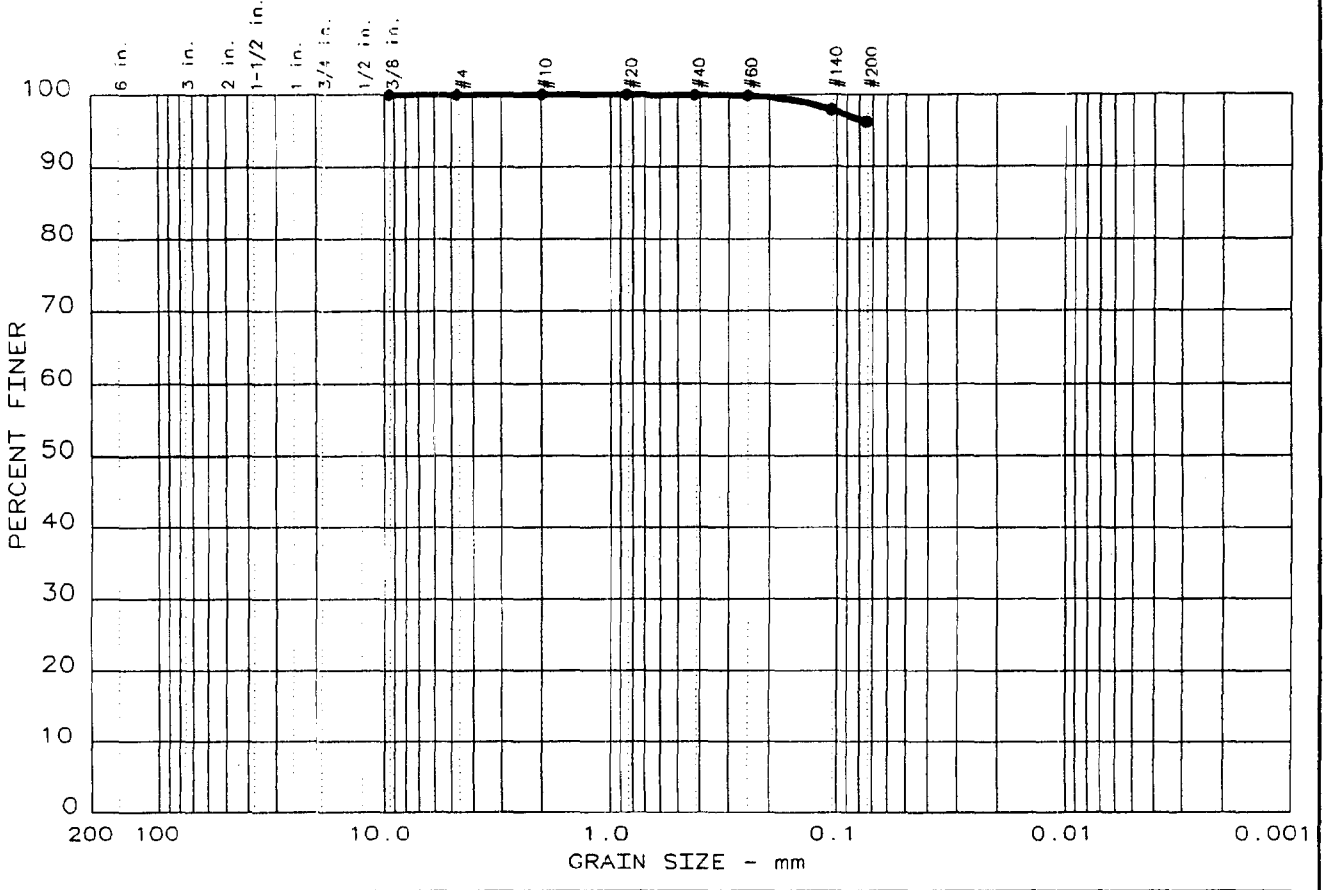
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.00	100.0
# 10	0.03	100.0
# 20	0.20	99.9
# 40	0.37	99.8
# 60	0.56	99.8
# 140	3.07	98.8
# 200	4.31	98.2

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 1.8
% FINES = 98.2

PARTICLE SIZE ANALYSIS REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	8	0.0	0.0	3.8	96.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NV	NP								

MATERIAL DESCRIPTION	USCS	AASHTO
● Grey Fly Ash		

Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area
● Location: B-4A UD @ 25'-27'

Date: 04-19-04

Remarks:
Moisture Content: 32.0%
Specific Gravity: 2.32

PARTICLE SIZE ANALYSIS REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Fig. No.: ———

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 8

Date: 04-19-04
Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area

Sample Data

Location of Sample: B-4A UD @ 25'-27'
Sample Description: Grey Fly Ash
USCS Class: Liquid limit: NV
AASHTO Class: Plasticity index: NP

Notes

Remarks: Moisture Content: 32.0% Specific Gravity: 2.32

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	130.03
Tare =	0.00
Dry sample weight =	130.03

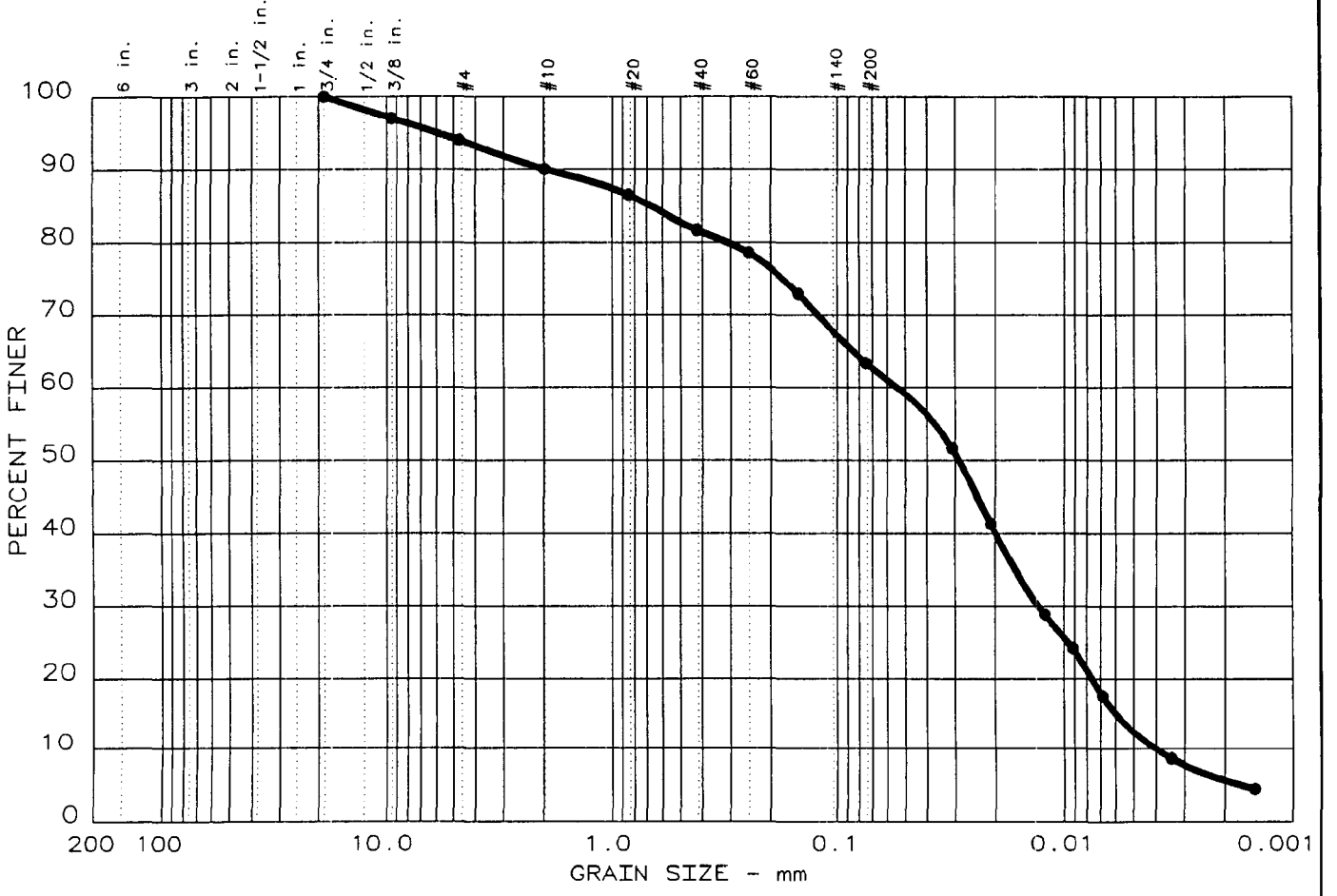
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.00	100.0
# 10	0.00	100.0
# 20	0.04	100.0
# 40	0.13	99.9
# 60	0.27	99.8
# 140	2.78	97.9
# 200	4.96	96.2

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 3.8
% FINES = 96.2

PARTICLE SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	9	0.0	6.0	30.6	51.0	12.4	NT	NT	NT

SIEVE inches size	PERCENT FINER ●		
0.75	100.0		
0.375	97.0		
GRAIN SIZE			
D_{60}	0.0543		
D_{30}			
D_{10}	0.0040		
COEFFICIENTS			
C_c	0.77		
C_u	13.6		

SIEVE number size	PERCENT FINER ●		
4	94.0		
10	90.0		
20	86.5		
40	81.7		
60	78.6		
100	73.0		
200	63.4		

Sample information:
● B-8, 0-1.5' & 5.8-7.3'
Gray ash
SPT Samples

Remarks:
Methods: Particle Size: ASTM D 422-63(2002); Specific Gravity of Portion < No. 10: 2.35

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Project No.: 3043041009.0001
Project: TVA Kingston Ash

Date: April 21, 2004 Fig. No.: B8

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 9

Date: April 15, 2004
Project No.: 3043041009.0001
Project: TVA Kingston Ash

Sample Data

Location of Sample: B-8, 0-1.5' & 5.8-7.3'
Sample Description 1: Gray bottom ash
Sample Description 2: SPT Samples
USCS Class: NT Liquid limit: NT Plasticity index: NT

Notes

Remarks: Methods: Particle Size: ASTM D 422-63(2002);
Specific Gravity of Portion < No. 10: 2.35
Fig. No.: B8

Mechanical Analysis Data

	Initial
Dry sample and tare=	326.24
Tare =	0.00
Dry sample weight =	326.24

Sample split on number 10 sieve
Split sample data:
Sample and tare = 74.53 Tare = 0 Sample weight = 74.53
Cumulative weight retained tare= 0
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	9.94	97.0
# 4	19.59	94.0
# 10	32.64	90.0
# 20	2.90	86.5
# 40	6.88	81.7
# 60	9.46	78.6
# 100	14.10	73.0
# 200	22.01	63.4

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 90.0
Weight of hydrometer sample: 89.58
Hygroscopic moisture correction:
Moist weight & tare = 56.12
Dry weight & tare = 50.43
Tare = 22.31

Hygroscopic moisture= 20.2 %
Calculated biased weight= 82.79
Table of composite correction values:

Temp, deg C:	21.0	22.0	23.0	23.5	24.0
Comp. corr:	- 5.2	- 5.0	- 4.6	- 4.5	- 4.4

Meniscus correction only= 0
Specific gravity of solids= 2.346
Specific gravity correction factor= 1.085
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

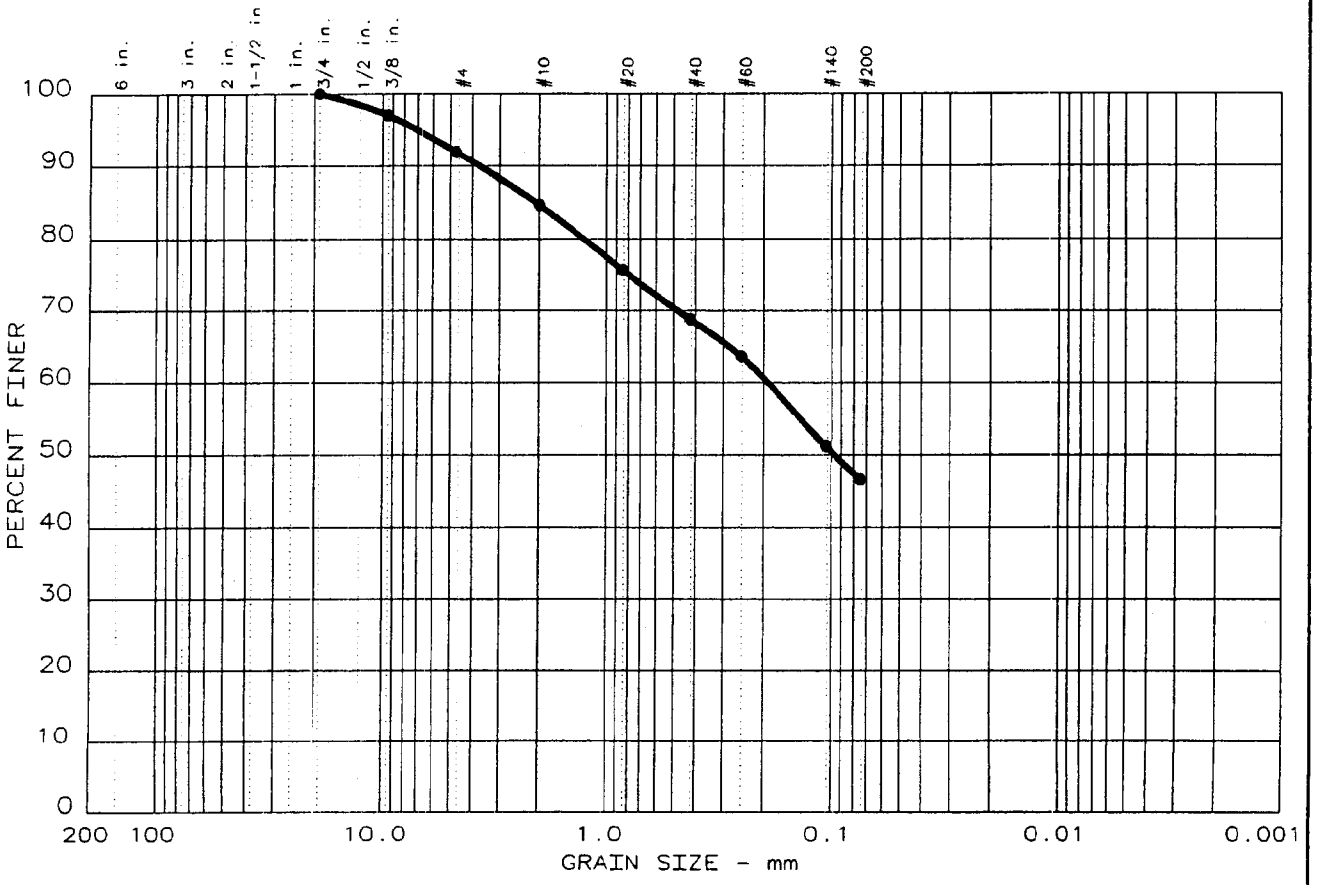
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	23.0	44.0	39.4	0.0146	44.0	9.1	0.0310	51.6
5.0	23.5	36.0	31.5	0.0145	36.0	10.4	0.0209	41.3
17.0	23.5	26.5	22.0	0.0145	26.5	11.9	0.0121	28.8
31.0	23.5	23.0	18.5	0.0145	23.0	12.5	0.0092	24.3
60.0	23.5	18.0	13.5	0.0145	18.0	13.3	0.0068	17.7
255.0	24.0	11.0	6.6	0.0144	11.0	14.5	0.0034	8.7
1440.0	23.0	8.0	3.4	0.0146	8.0	15.0	0.0015	4.5

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 6.0 % SAND = 30.6
% SILT = 51.0 % CLAY = 12.4

D85= 0.67 D60= 0.054 D50= 0.029
D30= 0.0129 D15= 0.00589 D10= 0.00398
Cc = 0.7674 Cu = 13.6458

PARTICLE SIZE ANALYSIS REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	8.1	45.3	46.6	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NV	NP	2.07	0.188	0.0966					

MATERIAL DESCRIPTION	USCS	AASHTO
● Grey Bottom Ash with Fly Ash		

Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area
● Location: B-8 UD @ 10'-12'

Date: 04-19-04

Remarks:

Moisture Content: 19.4%

PARTICLE SIZE ANALYSIS REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Fig. No.: _____

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 9

Date: 04-19-04
Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area

Sample Data

Location of Sample: B-8 UD @ 10'-12'
Sample Description: Grey Bottom Ash with Fly Ash
USCS Class: Liquid limit: NV
AASHTO Class: Plasticity index: NP

Notes

Remarks: Moisture Content: 19.4%

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	367.22
Tare =	0.00
Dry sample weight =	367.22

Tare for cumulative weight retained= 0

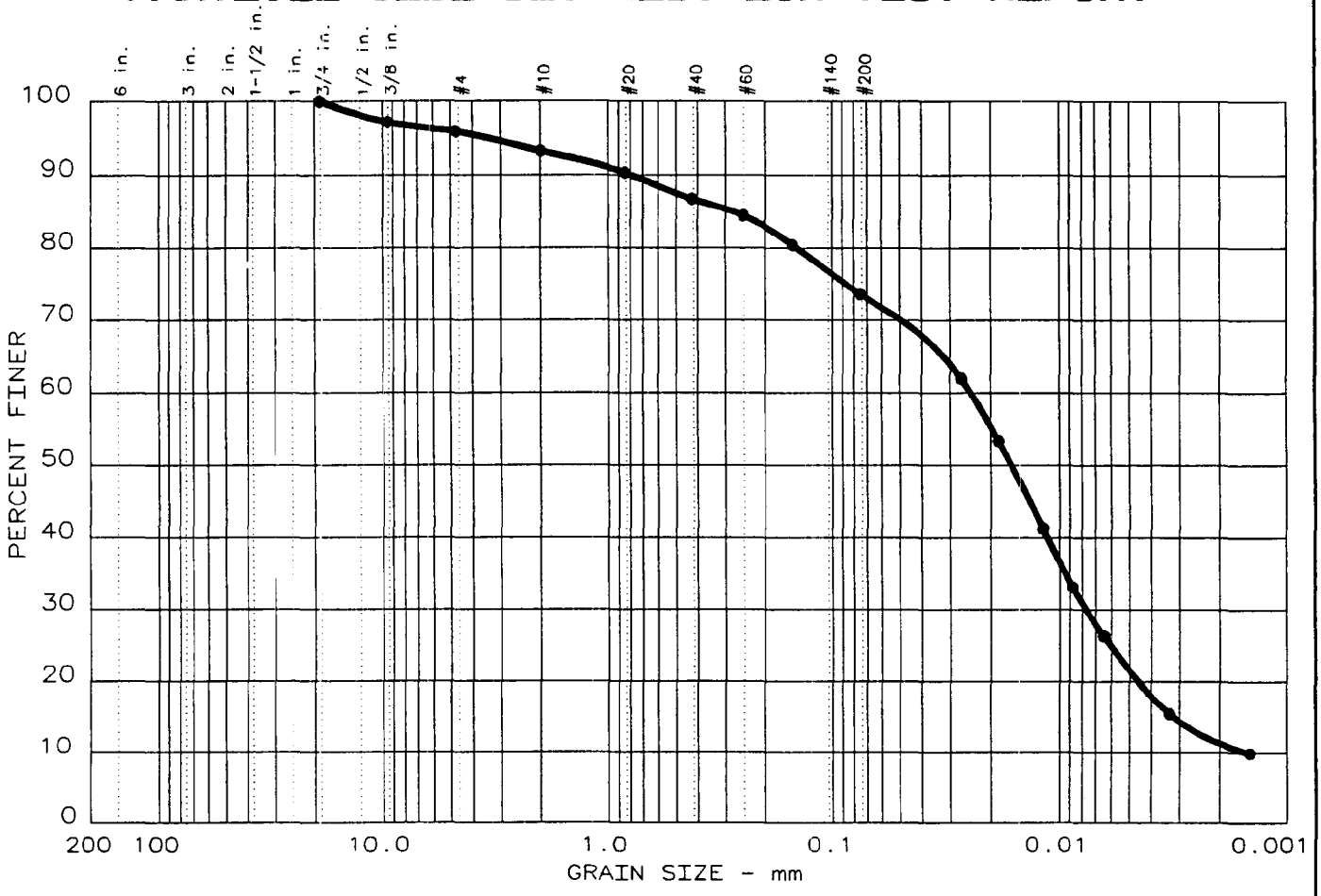
Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	11.07	97.0
# 4	29.76	91.9
# 10	56.36	84.7
# 20	89.13	75.7
# 40	114.32	68.9
# 60	133.47	63.7
# 140	179.11	51.2
# 200	196.14	46.6

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 8.1 % SAND = 45.3
% FINES = 46.6

D85= 2.07 D60= 0.188 D50= 0.097

PARTICLE SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	12	0.0	4.1	22.3	52.0	21.6	NT	NT	NT

SIEVE inches size	PERCENT FINER ●		
0.75	100.0		
0.375	97.2		
GRAIN SIZE			
D_{60}	0.0243		
D_{30}			
D_{10}	0.0015		
COEFFICIENTS			
C_c	1.62		
C_u	16.2		

SIEVE number size	PERCENT FINER ●		
4	95.9		
10	93.2		
20	90.3		
40	86.7		
60	84.5		
100	80.5		
200	73.6		

Sample information:
● B-8, 12-13.5' & 15-16.5'
Gray brown ash
SPT Samples

Remarks:
Methods: Particle Size: ASTM D 422-63(2002); Specific Gravity of Portion < No. 10: 2.38

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Project No.: 3043041009.0001
Project: TVA Kingston Ash

Date: April 21, 2004 Fig. No.: B8

GRAIN SIZE DISTRIBUTION TEST DATA — Test No.: 12

Date: April 16, 2004
Project No.: 3043041009.0001
Project: TVA Kingston Ash

Sample Data

Location of Sample: B-8,12-13.5' & 15-16.5'
Sample Description 1: Gray brown bottom ash
Sample Description 2: SPT Samples
USCS Class: NT Liquid limit: NT Plasticity index: NT

Notes

Remarks: Methods: Particle Size: ASTM D 422-63(2002);
Specific Gravity of Portion < No. 10: 2.38
Fig. No.: B8

Mechanical Analysis Data

	Initial
Dry sample and tare=	395.31
Tare =	0.00
Dry sample weight =	395.31

Sample split on number 10 sieve
Split sample data:
Sample and tare = 86.83 Tare = 0 Sample weight = 86.83
Cumulative weight retained tare= 0
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	11.15	97.2
# 4	16.22	95.9
# 10	26.70	93.2
# 20	2.71	90.3
# 40	6.10	86.7
# 60	8.17	84.5
# 100	11.91	80.5
# 200	18.31	73.6

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 93.2
Weight of hydrometer sample: 89.43
Hygroscopic moisture correction:
Moist weight & tare = 55.21
Dry weight & tare = 54.25
Tare = 22.00

Hygroscopic moisture= 3.0 %
Calculated biased weight= 93.14
Table of composite correction values:

Temp, deg C:	20.0	21.0	21.5	22.0	23.0
Comp. corr:	- 5.4	- 5.2	- 5.1	- 5.0	- 4.6

Meniscus correction only= 0
Specific gravity of solids= 2.381
Specific gravity correction factor= 1.074
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

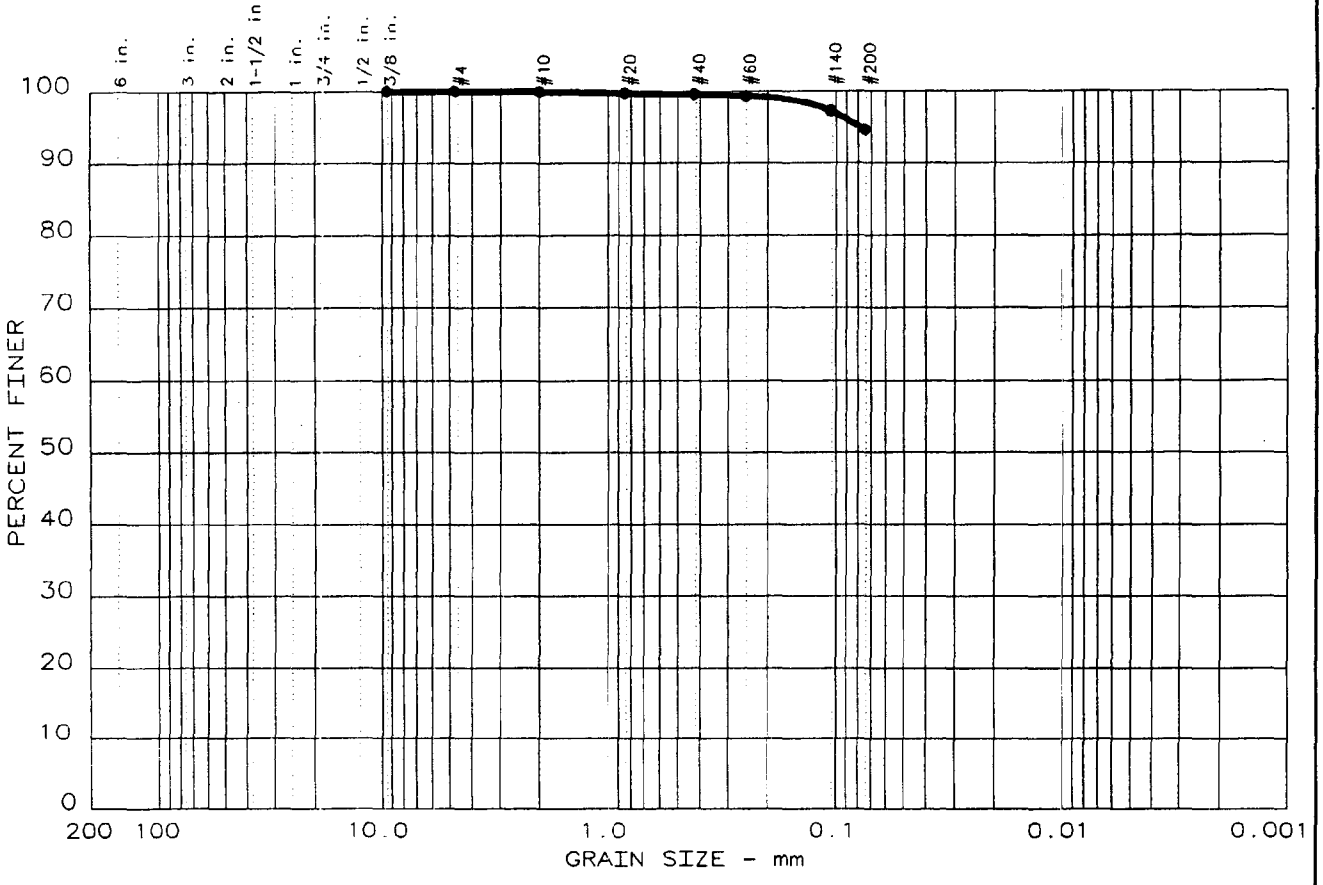
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	21.0	59.0	53.8	0.0147	59.0	6.6	0.0268	62.0
5.0	21.0	51.5	46.3	0.0147	51.5	7.8	0.0185	53.4
15.0	21.0	41.0	35.8	0.0147	41.0	9.6	0.0118	41.3
30.0	21.0	34.0	28.8	0.0147	34.0	10.7	0.0088	33.2
60.0	21.5	28.0	22.9	0.0146	28.0	11.7	0.0065	26.4
250.0	22.0	18.5	13.5	0.0145	18.5	13.3	0.0034	15.6
1440.0	20.0	14.0	8.6	0.0149	14.0	14.0	0.0015	9.9

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 4.1 % SAND = 22.3
% SILT = 52.0 % CLAY = 21.6

D85= 0.28 D60= 0.024 D50= 0.016
D30= 0.0077 D15= 0.00316 D10= 0.00149
Cc = 1.6199 Cu = 16.2368

PARTICLE SIZE ANALYSIS REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	10	0.0	0.0	5.3	94.7	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NV	NP								

MATERIAL DESCRIPTION	USCS	AASHTO
● Grey Fly Ash		

Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area
● Location: B-8 UD @ 20'-22'

Date: 04-19-04

Remarks:
Moisture Content: 32.2%

PARTICLE SIZE ANALYSIS REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Fig. No.: _____

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 10

Date: 04-19-04
Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area

Sample Data

Location of Sample: B-8 UD @ 20'-22'
Sample Description: Grey Fly Ash
USCS Class: Liquid limit: NV
AASHTO Class: Plasticity index: NP

Notes

Remarks: Moisture Content: 32.2%

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	192.93
Tare =	0.00
Dry sample weight =	192.93

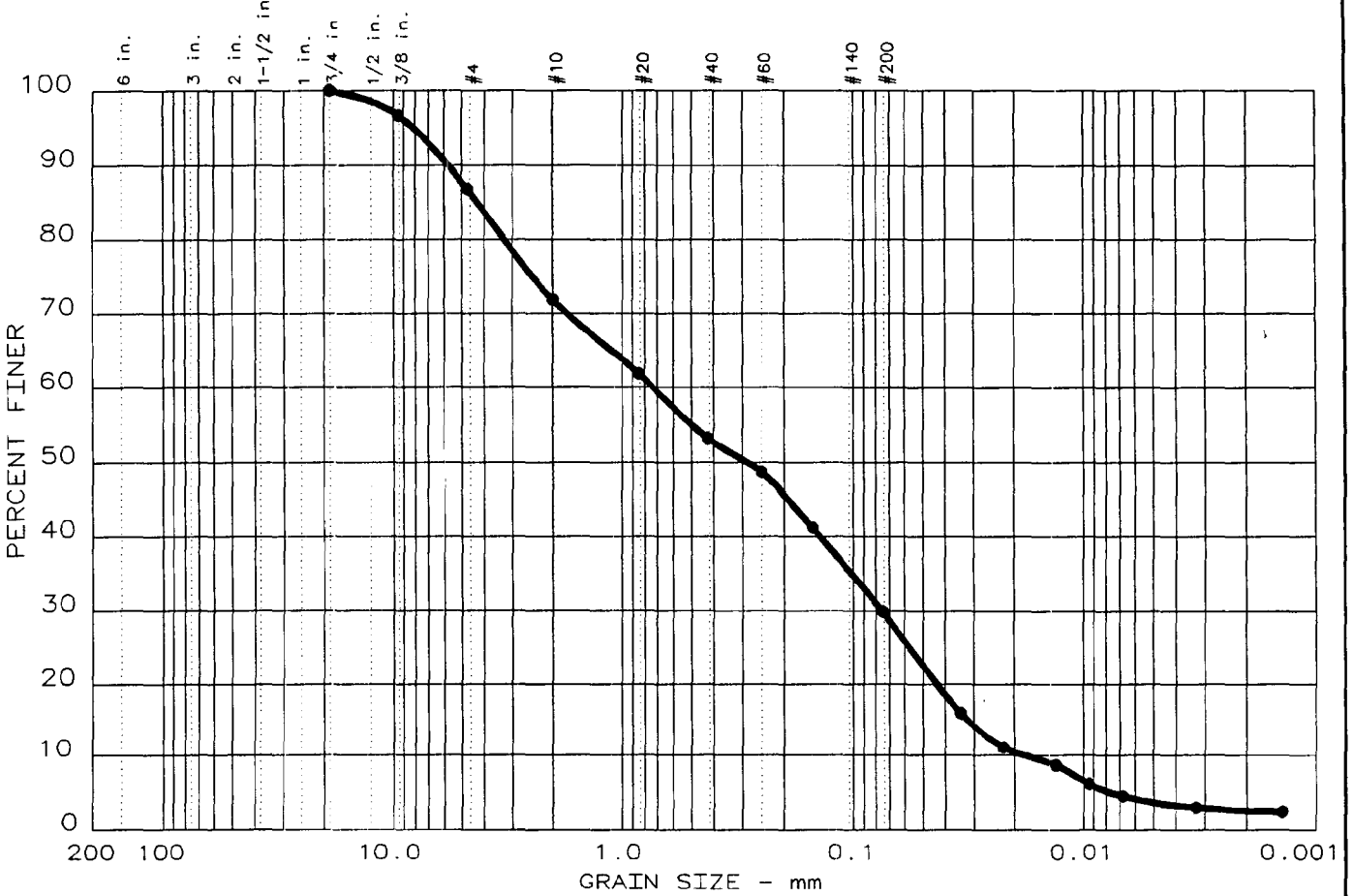
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.00	100.0
# 10	0.11	99.9
# 20	0.53	99.7
# 40	0.93	99.5
# 60	1.37	99.3
# 140	5.34	97.2
# 200	10.30	94.7

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 5.3
% FINES = 94.7

PARTICLE SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	10	0.0	13.2	56.9	26.2	3.7	NT	NT	NT

SIEVE inches size	PERCENT FINER ●		
0.75	100.0		
0.375	96.7		
	GRAIN SIZE		
D_{60}	0.733		
D_{30}			
D_{10}	0.0178		
	COEFFICIENTS		
C_c	0.43		
C_u	41.2		

SIEVE number size	PERCENT FINER ●		
4	86.8		
10	71.9		
20	61.9		
40	53.2		
60	48.7		
100	41.2		
200	29.9		

Sample information:
● B-8, 25.6-27.1' & 30-31.5'
Gray ash
SPT Samples

Remarks:
Methods: Particle Size: ASTM D 422-63(2002); Specific Gravity of Portion < No. 10: 2.49

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Project No.: 3043041009.0001
Project: TVA Kingston Ash

Date: April 21, 2004 Fig. No.: B8

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 10

Date: April 15, 2004
Project No.: 3043041009.0001
Project: TVA Kingston Ash

Sample Data

Location of Sample: B-8,25.6-27.1'&30-31.5'
Sample Description 1: Gray bottom ash
Sample Description 2: SPT Samples
USCS Class: NT Liquid limit: NT Plasticity index: NT

Notes

Remarks: Methods: Particle Size: ASTM D 422-63(2002);
Specific Gravity of Portion < No. 10: 2.49
Fig. No.: B8

Mechanical Analysis Data

	Initial
Dry sample and tare=	500.91
Tare =	0.00
Dry sample weight =	500.91

Sample split on number 10 sieve
Split sample data:
Sample and tare = 90.52 Tare = 0 Sample weight = 90.52
Cumulative weight retained tare= 0
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	16.74	96.7
# 4	66.06	86.8
# 10	140.95	71.9
# 20	12.53	61.9
# 40	23.53	53.2
# 60	29.21	48.7
# 100	38.61	41.2
# 200	52.82	29.9

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 71.9
Weight of hydrometer sample: 92.87
Hygroscopic moisture correction:
Moist weight & tare = 55.35
Dry weight & tare = 54.51
Tare = 22.21

Hygroscopic moisture= 2.6 %
Calculated biased weight= 125.96
Table of composite correction values:

Temp, deg C:	21.0	22.0	23.0	23.5	24.0
Comp. corr:	- 5.2	- 5.0	- 4.6	- 4.5	- 4.4

Meniscus correction only= 0
Specific gravity of solids= 2.491
Specific gravity correction factor= 1.040
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

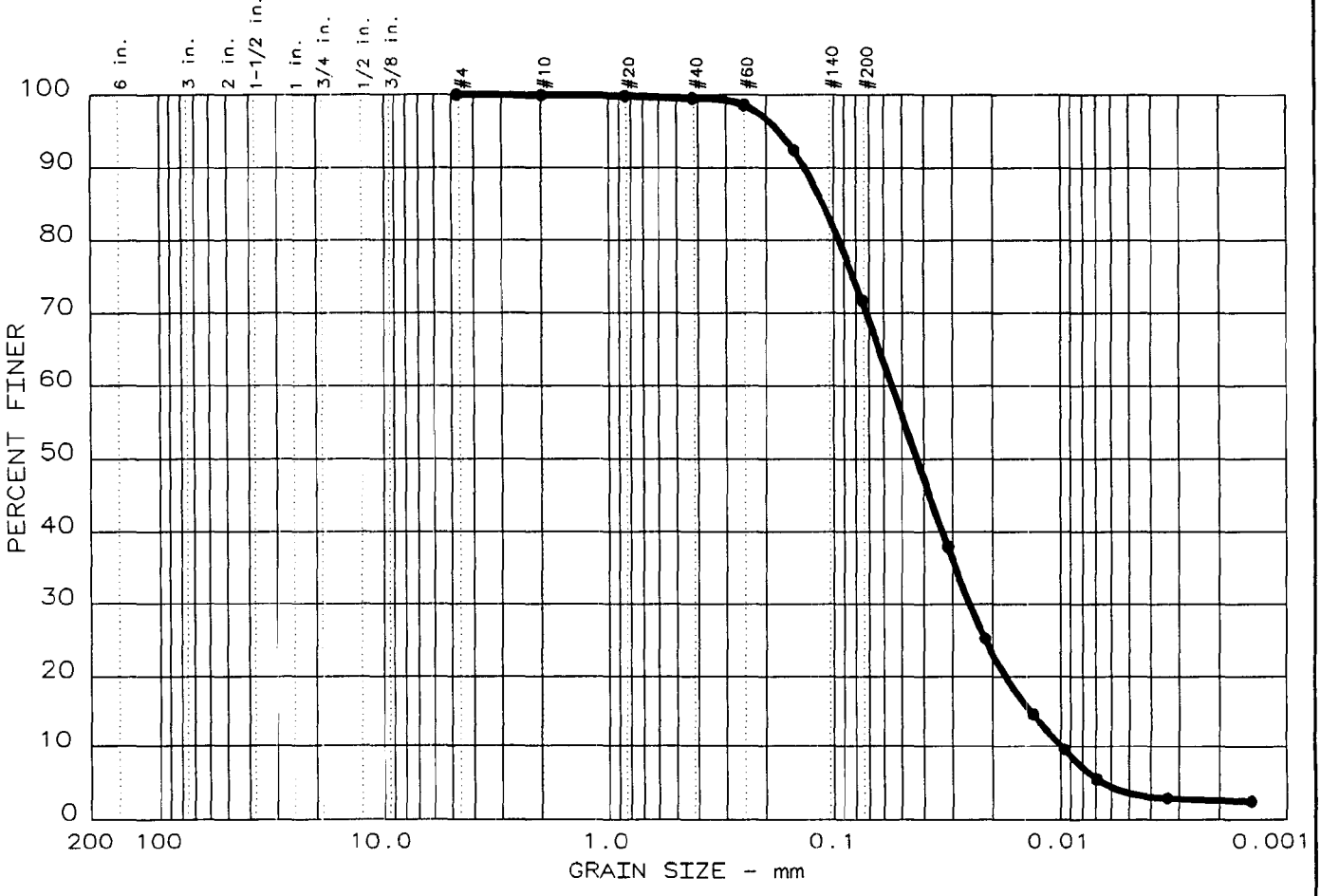
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	23.5	24.0	19.5	0.0138	24.0	12.4	0.0342	16.1
5.0	23.5	18.0	13.5	0.0138	18.0	13.3	0.0225	11.1
15.0	23.5	15.0	10.5	0.0138	15.0	13.8	0.0132	8.7
30.0	23.5	12.0	7.5	0.0138	12.0	14.3	0.0095	6.2
60.0	23.5	10.0	5.5	0.0138	10.0	14.7	0.0068	4.5
255.0	24.0	8.0	3.6	0.0137	8.0	15.0	0.0033	3.0
1440.0	23.0	7.5	2.9	0.0138	7.5	15.1	0.0014	2.4

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 13.2 % SAND = 56.9
% SILT = 26.2 % CLAY = 3.7

D85= 4.27 D60= 0.733 D50= 0.285
D30= 0.0750 D15= 0.03162 D10= 0.01778
Cc = 0.4315 Cu = 41.2098

PARTICLE SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	13	0.0	0.0	28.2	68.2	3.6	NT	NT	NT

SIEVE inches size	PERCENT FINER ●
GRAIN SIZE	
D_{60}	0.0550
D_{30}	
D_{10}	0.0098
COEFFICIENTS	
C_c	1.18
C_u	5.6

SIEVE number size	PERCENT FINER ●
4	100.0
10	99.9
20	99.8
40	99.5
60	98.6
100	92.4
200	71.8

Sample information:
● B-8A, 40-41.5' & 45-46.5'
Dark gray ash
SPT Samples

Remarks:
Methods: Particle Size: ASTM D 422-63(2002); Specific Gravity of Portion < No. 10: 2.52

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Project No.: 3043041009.0001
Project: TVA Kingston Ash

Date: April 21, 2004 Fig. No.: B8A

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 13

Date: April 16, 2004
Project No.: 3043041009.0001
Project: TVA Kingston Ash

Sample Data

Location of Sample: B-8A,40-41.5' &45-46.5'
Sample Description 1: Dark gray bottom ash
Sample Description 2: SPT Samples
USCS Class: NT Liquid limit: NT Plasticity index: NT

Notes

Remarks: Methods: Particle Size: ASTM D 422-63(2002);
Specific Gravity of Portion < No. 10: 2.52
Fig. No.: B8A

Mechanical Analysis Data

Initial
Dry sample and tare= 450.86
Tare = 0.00
Dry sample weight = 450.86
Sample split on number 10 sieve
Split sample data:
Sample and tare = 89.11 Tare = 0 Sample weight = 89.11
Cumulative weight retained tare= 0
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.00	100.0
# 10	0.37	99.9
# 20	0.10	99.8
# 40	0.37	99.5
# 60	1.16	98.6
# 100	6.68	92.4
# 200	25.10	71.8

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 99.9
Weight of hydrometer sample: 90.54
Hygroscopic moisture correction:
Moist weight & tare = 67.75
Dry weight & tare = 67.04
Tare = 22.16
Hygroscopic moisture= 1.6 %
Calculated biased weight= 89.20

Table of composite correction values:

Temp, deg C:	19.0	20.0	21.0	22.0	23.0
Comp. corr:	- 5.7	- 5.4	- 5.2	- 5.0	- 4.6

Meniscus correction only= 0
Specific gravity of solids= 2.517
Specific gravity correction factor= 1.033
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

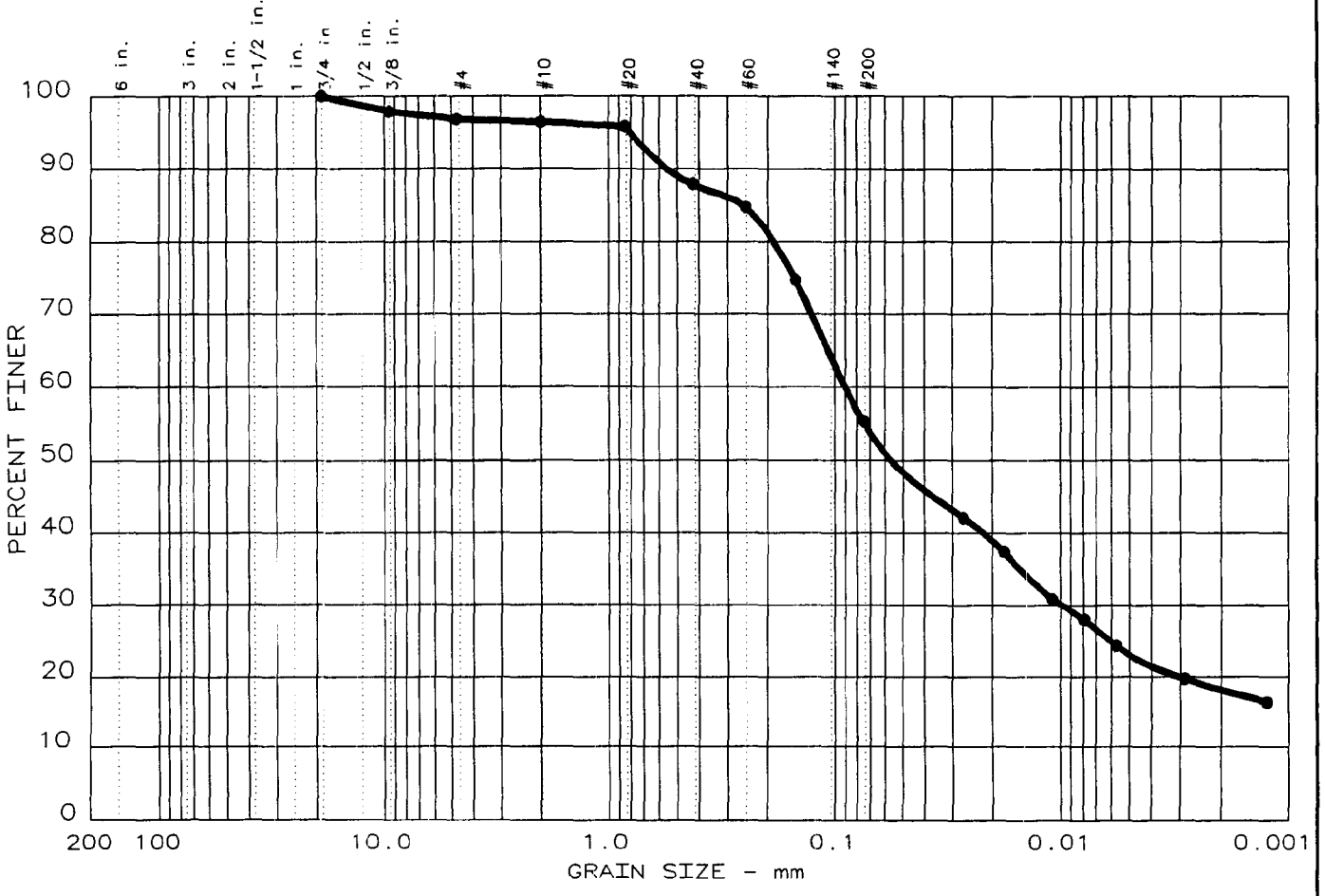
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	21.0	38.0	32.8	0.0141	38.0	10.1	0.0315	38.0
5.0	21.0	27.0	21.8	0.0141	27.0	11.9	0.0217	25.2
15.0	21.0	18.0	12.8	0.0141	18.0	13.3	0.0133	14.8
30.0	21.0	13.5	8.3	0.0141	13.5	14.1	0.0096	9.6
60.0	21.0	10.0	4.8	0.0141	10.0	14.7	0.0069	5.6
250.0	22.0	7.5	2.5	0.0139	7.5	15.1	0.0034	2.9
1450.0	20.0	7.5	2.1	0.0142	7.5	15.1	0.0015	2.4

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 28.2
% SILT = 68.2 % CLAY = 3.6

D85= 0.11 D60= 0.055 D50= 0.043
D30= 0.0252 D15= 0.01324 D10= 0.00982
Cc = 1.1803 Cu = 5.5976

PARTICLE SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	15	0.0	3.2	41.4	32.4	23.0	CL	25	11

SIEVE inches size	PERCENT FINER ●		
0.75	100.0		
0.375	97.9		
	GRAIN SIZE		
D_{60}	0.0901		
D_{30}			
D_{10}			
	COEFFICIENTS		
C_c			
C_u			

SIEVE number size	PERCENT FINER ●		
4	96.8		
10	96.4		
20	95.8		
40	87.9		
60	84.7		
100	74.7		
200	55.4		

Sample information:
● B-8A, 57-58.5' & 62-63.5'
Tan sandy lean clay
SPT Samples

Remarks:
Methods: Particle Size: ASTM D 422-63(2002); Specific Gravity of Portion < No. 40: 2.68

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Project No.: 3043041009.0001
Project: TVA Kingston Ash
Date: April 21, 2004 Fig. No.: B8A

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 15

Date: April 16, 2004
Project No.: 3043041009.0001
Project: TVA Kingston Ash

Sample Data

Location of Sample: B-8A,57-58.5' &62-63.5'
Sample Description 1: Tan sandy lean clay
Sample Description 2: SPT Samples
USCS Class: CL Liquid limit: ~~NT~~ REF 25 Plasticity index: ~~NT~~ REF 11

Notes

Remarks: Methods: Particle Size: ASTM D 422-63(2002);
Specific Gravity of Portion < No. 40: 2.68
Fig. No.: B8A

Mechanical Analysis Data

	Initial
Dry sample and tare=	489.63
Tare =	0.00
Dry sample weight =	489.63

Sample split on number 40 sieve
Split sample data:
Sample and tare = 92.84 Tare = 0 Sample weight = 92.84
Cumulative weight retained tare= 0
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	10.47	97.9
# 4	15.60	96.8
# 10	17.55	96.4
# 20	20.53	95.8
# 40	59.35	87.9
# 60	3.31	84.7
# 100	13.92	74.7
# 200	34.36	55.4

Hydrometer Analysis Data

Separation sieve is number 40
Percent -# 40 based on complete sample= 87.9
Weight of hydrometer sample: 93.58
Hygroscopic moisture correction:
Moist weight & tare = 55.12
Dry weight & tare = 54.85
Tare = 22.37

Hygroscopic moisture= 0.8 %
Calculated biased weight= 105.61
Table of composite correction values:

Temp, deg C:	20.0	21.0	21.5	22.0	23.0
Comp. corr:	- 5.4	- 5.2	- 5.1	- 5.0	- 4.6

Meniscus correction only= 0
Specific gravity of solids= 2.683
Specific gravity correction factor= 0.993
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

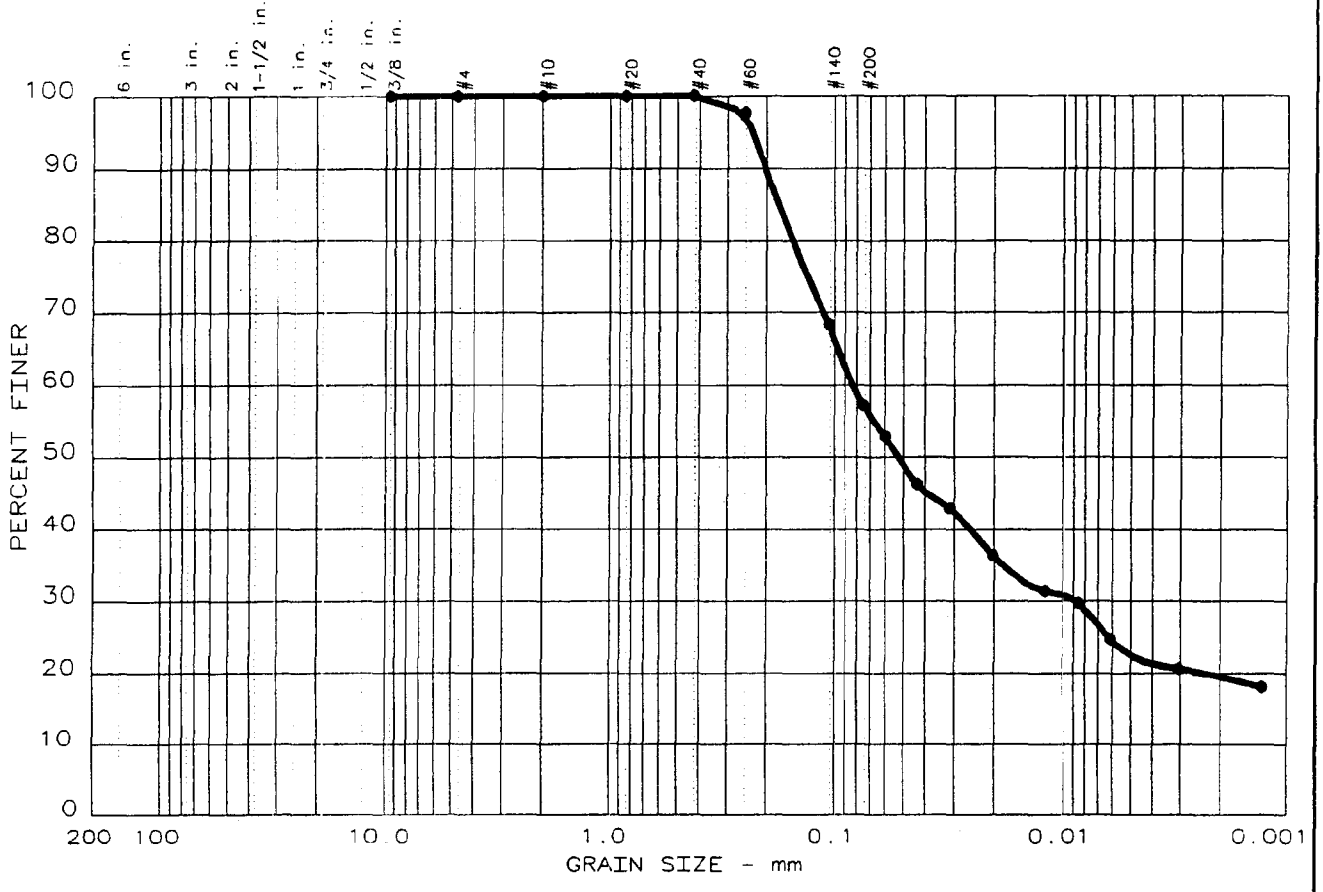
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	21.0	50.0	44.8	0.0133	50.0	8.1	0.0268	42.1
5.0	21.0	45.0	39.8	0.0133	45.0	8.9	0.0178	37.4
15.0	21.0	38.0	32.8	0.0133	38.0	10.1	0.0109	30.8
30.0	21.0	35.0	29.8	0.0133	35.0	10.6	0.0079	28.0
60.0	21.5	31.0	25.9	0.0133	31.0	11.2	0.0057	24.3
250.0	22.0	26.0	21.0	0.0132	26.0	12.0	0.0029	19.7
1449.0	20.0	23.0	17.6	0.0135	23.0	12.5	0.0013	16.5

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 3.2 % SAND = 41.4
% SILT = 32.4 % CLAY = 23.0

D85= 0.25 D60= 0.090 D50= 0.056
D30= 0.0100

PARTICLE SIZE ANALYSIS REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	4	0.0	0.0	42.8	34.7	22.5

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	26	10	0.176	0.0832	0.0524	0.0088				

MATERIAL DESCRIPTION	USCS	AASHTO
● Grey-Brown Sandy Lean Clay	CL	

Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area
● Location: B-8A UD @ 60'-62'

Date: 04-19-04

Remarks:
Moisture Content: 21.9%
Specific Gravity: 2.67

PARTICLE SIZE ANALYSIS REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Fig. No.: _____

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 4

Date: 04-19-04
Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area

Sample Data

Location of Sample: B-8A UD @ 60'-62'
Sample Description: Grey-Brown Sandy Lean Clay
USCS Class: CL Liquid limit: 26
AASHTO Class: Plasticity index: 10

Notes

Remarks: Moisture Content: 21.9% Specific Gravity: 2.67

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	293.68
Tare =	0.00
Dry sample weight =	293.68

Sample split on number 10 sieve
Split sample data:
Sample and tare = 60.13 Tare = 0 Sample weight = 60.13
Cumulative weight retained tare= 0
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.00	100.0
# 10	0.00	100.0
# 20	0.00	100.0
# 40	0.00	100.0
# 60	1.38	97.7
# 140	19.01	68.4
# 200	25.73	57.2

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 100.0
Weight of hydrometer sample: 60.13
Calculated biased weight= 60.13
Table of composite correction values:

Temp, deg C:	20.0	22.0	24.0

Comp. corr: - 5.5 - 4.8 - 4.0
Meniscus correction only= 1
Specific gravity of solids= 2.67
Specific gravity correction factor= 0.995
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

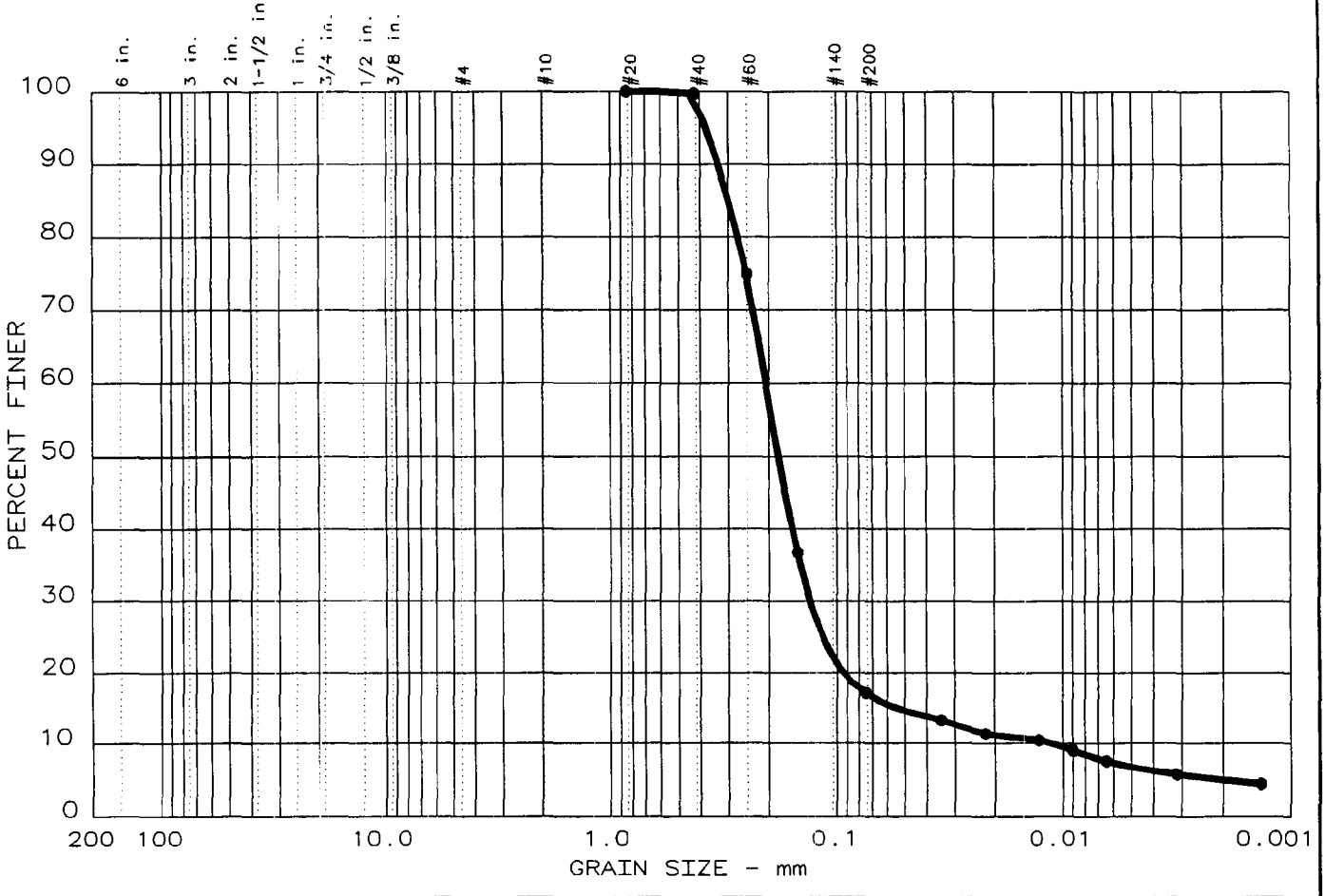
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
0.5	21.3	37.0	32.0	0.0133	38.0	10.1	0.0599	52.9
1.0	21.3	33.0	28.0	0.0133	34.0	10.7	0.0437	46.3
2.0	21.3	31.0	26.0	0.0133	32.0	11.0	0.0314	43.0
5.0	21.3	27.0	22.0	0.0133	28.0	11.7	0.0204	36.3
15.0	21.3	24.0	19.0	0.0133	25.0	12.2	0.0120	31.4
30.0	21.3	23.0	18.0	0.0133	24.0	12.4	0.0086	29.7
60.0	21.3	20.0	15.0	0.0133	21.0	12.9	0.0062	24.8
250.0	21.4	17.5	12.5	0.0133	18.5	13.3	0.0031	20.7
1440.0	21.3	16.0	11.0	0.0133	17.0	13.5	0.0013	18.1

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 42.8
% SILT = 34.7 % CLAY = 22.5

D85= 0.18 D60= 0.083 D50= 0.052
D30= 0.0088

PARTICLE SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	14	0.0	0.0	82.7	10.5	6.8	SM	NP	NP

SIEVE inches size	PERCENT FINER ●		
	GRAIN SIZE		
D_{60}	0.206		
D_{30}			
D_{10}	0.0111		
	COEFFICIENTS		
C_c	7.62		
C_u	18.5		

SIEVE number size	PERCENT FINER ●
20	100.0
40	99.7
60	75.0
100	36.7
200	17.3

Sample information:
● B-8A, 65-66.5' & 70-70.9'
Gray brown silty sand
SPT Samples

Remarks:
Methods: Particle Size: ASTM D 422-63(2002); Specific Gravity of Portion < No. 40: 2.67

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

Project No.: 3043041009.0001
Project: TVA Kingston Ash
Date: April 21, 2004
Fig. No.: B8A

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 14

Date: April 16, 2004
Project No.: 3043041009.0001
Project: TVA Kingston Ash

Sample Data

Location of Sample: B-8A,65-66.5' &70-70.9'
Sample Description 1: Gray brown silty sand
Sample Description 2: SPT Samples
USCS Class: SM Liquid limit: NP Plasticity index: NP

Notes

Remarks: Methods: Particle Size: ASTM D 422-63(2002);
Specific Gravity of Portion < No. 40: 2.67
Fig. No.: B8A

Mechanical Analysis Data

	Initial
Dry sample and tare=	490.74
Tare =	0.00
Dry sample weight =	490.74

Sample split on number 40 sieve
Split sample data:
Sample and tare = 102.48 Tare = 0 Sample weight = 102.48
Cumulative weight retained tare= 0
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 20	0.07	100.0
# 40	1.44	99.7
# 60	25.42	75.0
# 100	64.73	36.7
# 200	84.73	17.3

Hydrometer Analysis Data

Separation sieve is number 40
Percent -# 40 based on complete sample= 99.7
Weight of hydrometer sample: 102.79
Hygroscopic moisture correction:
Moist weight & tare = 53.06
Dry weight & tare = 52.98
Tare = 22.15
Hygroscopic moisture= 0.3 %
Calculated biased weight= 102.83
Table of composite correction values:

Temp, deg C:	20.0	21.0	21.5	22.0	23.0

Comp. corr: - 5.4 - 5.2 - 5.1 - 5.0 - 4.6
Meniscus correction only= 0
Specific gravity of solids= 2.671
Specific gravity correction factor= 0.995
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

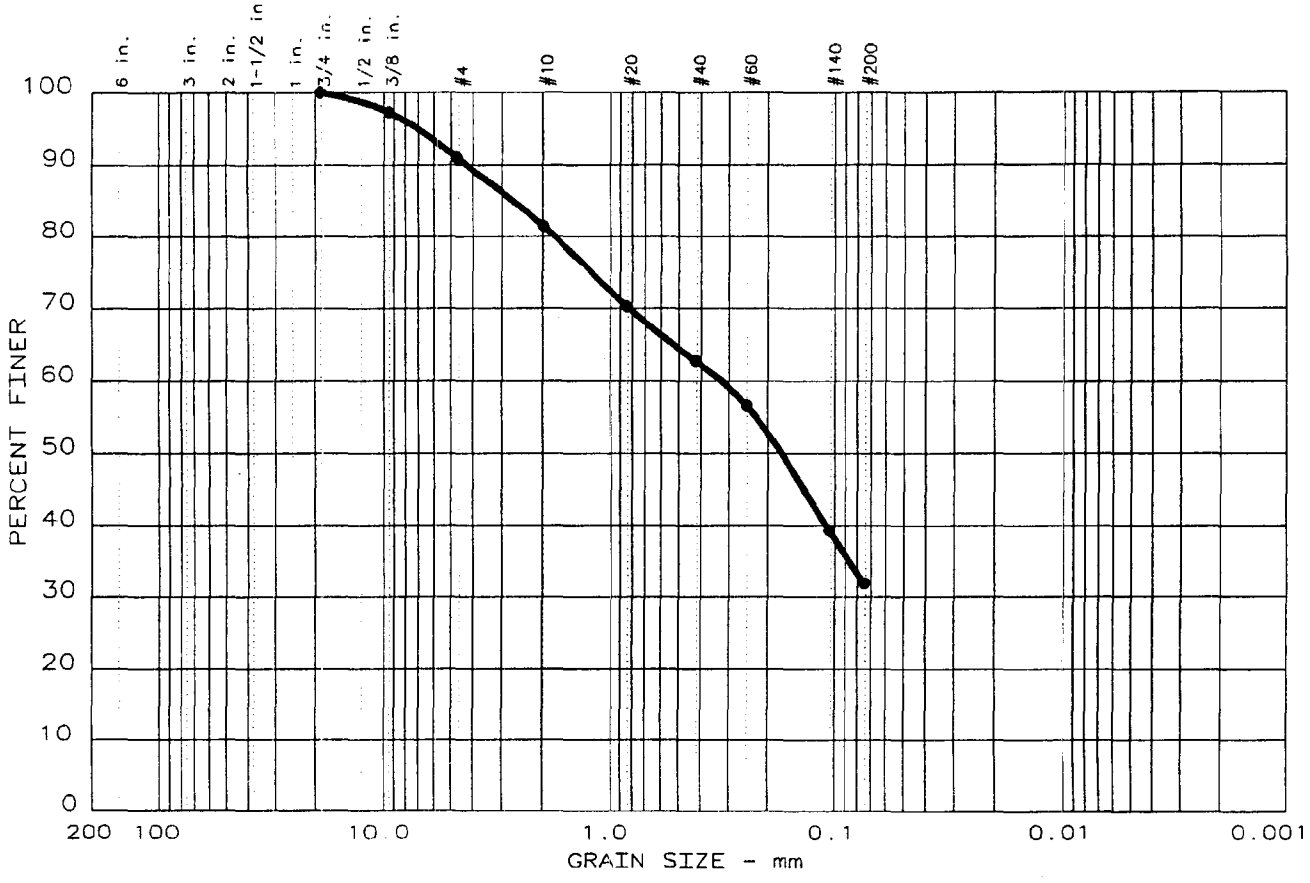
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
2.0	21.0	19.0	13.8	0.0134	19.0	13.2	0.0344	13.4
5.0	21.0	17.0	11.8	0.0134	17.0	13.5	0.0220	11.4
15.0	21.0	16.0	10.8	0.0134	16.0	13.7	0.0128	10.5
30.0	21.5	14.5	9.4	0.0133	14.5	13.9	0.0091	9.1
60.0	21.5	13.0	7.9	0.0133	13.0	14.2	0.0065	7.6
250.0	22.0	11.0	6.0	0.0132	11.0	14.5	0.0032	5.8
1440.0	20.0	10.0	4.6	0.0136	10.0	14.7	0.0014	4.5

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 82.7
% SILT = 10.5 % CLAY = 6.8

D85= 0.30 D60= 0.206 D50= 0.181
D30= 0.1318 D15= 0.05188 D10= 0.01109
Cc = 7.6208 Cu = 18.5353

PARTICLE SIZE ANALYSIS REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	11	0.0	9.0	59.1	31.9	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NV	NP	2.66	0.320	0.172					

MATERIAL DESCRIPTION	USCS	AASHTO
● Grey Fly Ash with Bottom Ash		

Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area
● Location: B-10 UD @ 5'-7'

Date: 04-19-04

Remarks:
Moisture Content: 24.7%
Specific Gravity: 2.29

PARTICLE SIZE ANALYSIS REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Fig. No.: _____

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 11

Date: 04-19-04
Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area

Sample Data

Location of Sample: B-10 UD @ 5'-7'
Sample Description: Grey Fly Ash with Bottom Ash
USCS Class: Liquid limit: NV
AASHTO Class: Plasticity index: NP

Notes

Remarks: Moisture Content: 24.7% Specific Gravity: 2.29

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	201.13
Tare =	0.00
Dry sample weight =	201.13

Tare for cumulative weight retained= 0

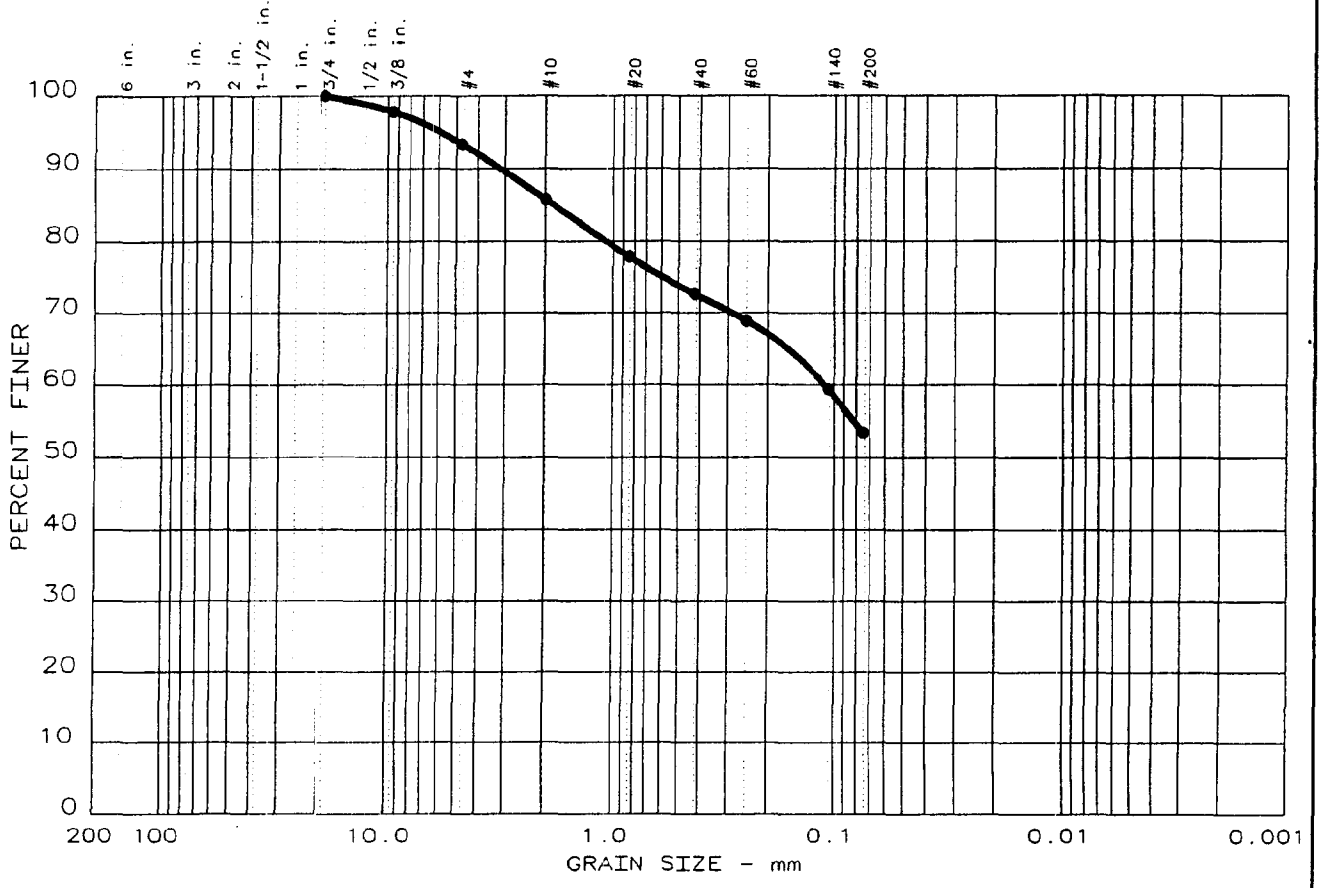
Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	5.42	97.3
# 4	18.03	91.0
# 10	37.27	81.5
# 20	59.67	70.3
# 40	74.70	62.9
# 60	87.18	56.7
# 140	121.98	39.4
# 200	136.94	31.9

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 9.0 % SAND = 59.1
% FINES = 31.9

D85= 2.66 D60= 0.320 D50= 0.172

PARTICLE SIZE ANALYSIS REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	12	0.0	6.6	40.0	53.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NV	NP	1.82	0.110						

MATERIAL DESCRIPTION	USCS	AASHTO
● Grey Fly Ash with Bottom Ash		

Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area
● Location: B-10 UD @ 10'-12'

Date: 04-19-04

Remarks:

Moisture Content: 24.5%

PARTICLE SIZE ANALYSIS REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Fig. No.: _____

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 12

Date: 04-19-04
Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area

Sample Data

Location of Sample: B-10 UD @ 10'-12'
Sample Description: Grey Fly Ash with Bottom Ash
USCS Class: Liquid limit: NV
AASHTO Class: Plasticity index: NP

Notes

Remarks: Moisture Content: 24.5%

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	208.99
Tare =	0.00
Dry sample weight =	208.99

Tare for cumulative weight retained= 0

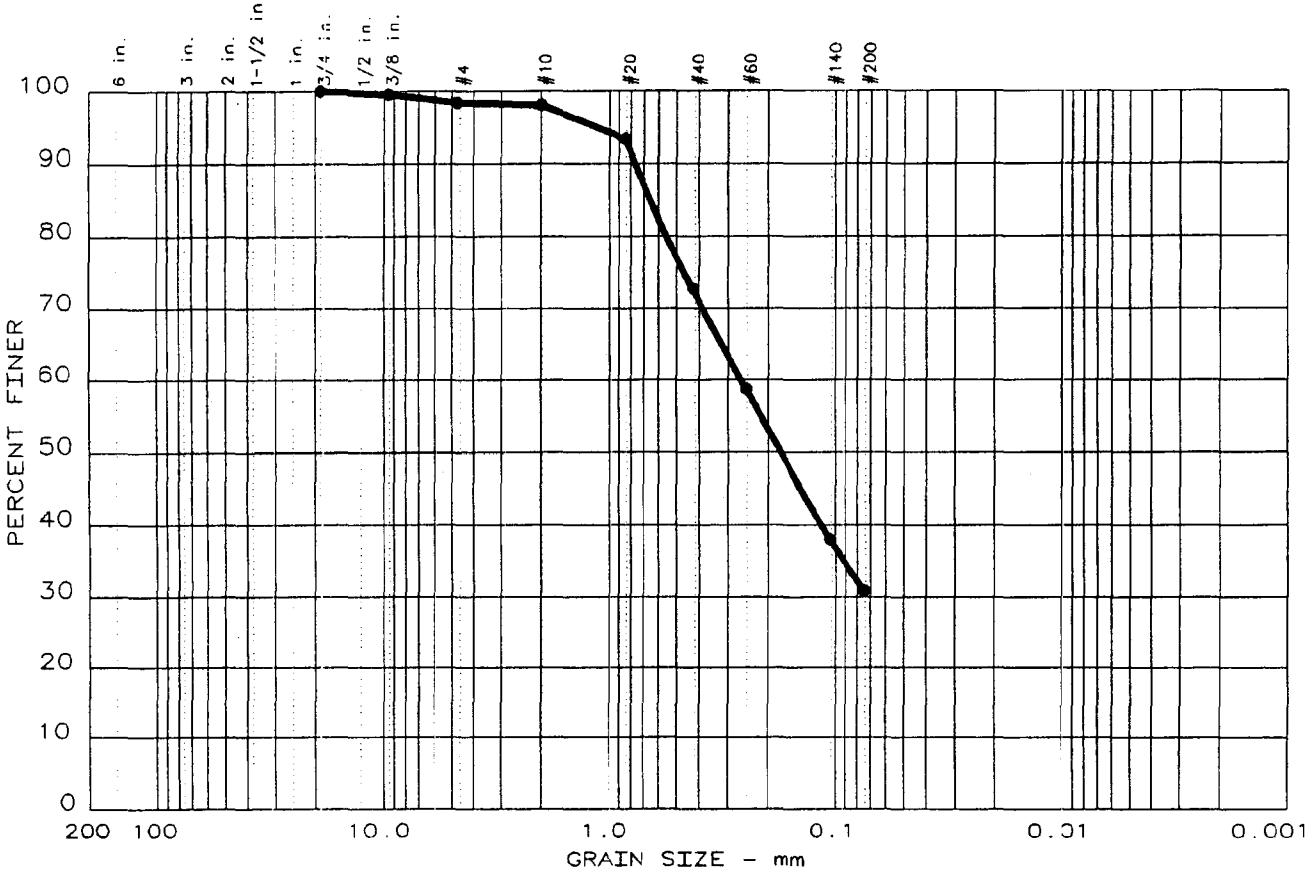
Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	4.54	97.8
# 4	13.87	93.4
# 10	29.69	85.8
# 20	46.29	77.9
# 40	57.16	72.6
# 60	64.98	68.9
# 140	84.81	59.4
# 200	97.45	53.4

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 6.6 % SAND = 40.0
% FINES = 53.4

D85= 1.82 D60= 0.110

PARTICLE SIZE ANALYSIS REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	13	0.0	1.5	67.6	30.9	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NV	NP	0.653	0.263	0.176					

MATERIAL DESCRIPTION	USCS	AASHTO
● Grey Fly Ash with Bottom Ash		

Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area
● Location: B-10 UD @ 15'-17'

Date: 04-19-04

Remarks:

Moisture Content: 38.1%

PARTICLE SIZE ANALYSIS REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Fig. No.: _____

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 13

Date: 04-19-04
Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area

Sample Data

Location of Sample: B-10 UD @ 15'-17'
Sample Description: Grey Fly Ash with Bottom Ash
USCS Class: Liquid limit: NV
AASHTO Class: Plasticity index: NP

Notes

Remarks: Moisture Content: 38.1%

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	304.01
Tare =	0.00
Dry sample weight =	304.01

Tare for cumulative weight retained= 0

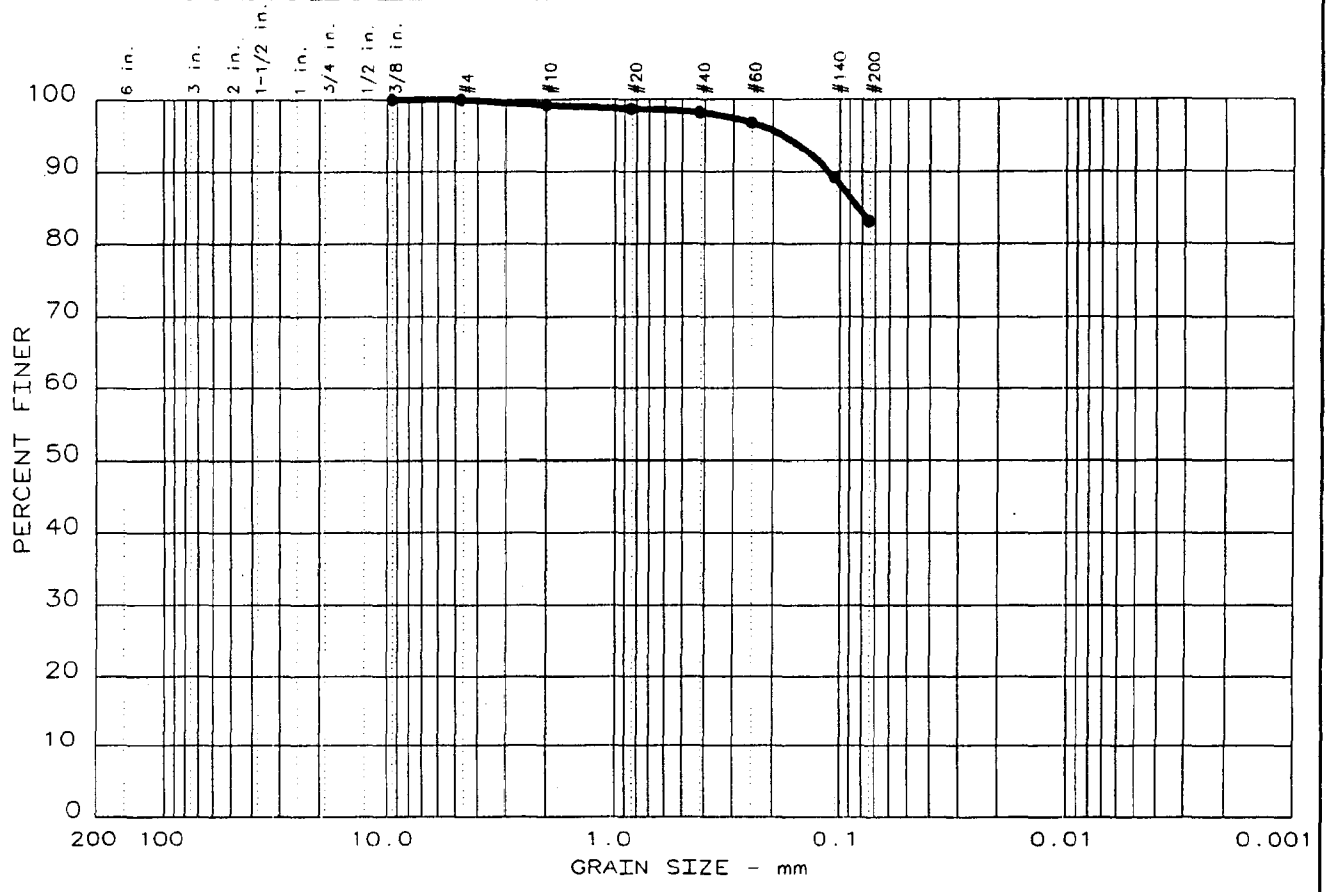
Sieve	Cumul. Wt. retained	Percent finer
0.75 inches	0.00	100.0
0.375 inches	1.45	99.5
# 4	4.68	98.5
# 10	5.70	98.1
# 20	19.94	93.4
# 40	82.79	72.8
# 60	125.53	58.7
# 140	188.39	38.0
# 200	210.22	30.9

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 1.5 % SAND = 67.6
% FINES = 30.9

D85= 0.65 D60= 0.263 D50= 0.176

PARTICLE SIZE ANALYSIS REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	14	0.0	0.0	16.9	83.1	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NV	NP	0.0832							

MATERIAL DESCRIPTION	USCS	AASHTO
● Grey Fly Ash		

Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area
● Location: B-10 UD @ 20'-22'

Date: 04-19-04

Remarks:
Moisture Content: 36.5%
Specific Gravity: 2.28

PARTICLE SIZE ANALYSIS REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Fig. No.: ———

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 14

Date: 04-19-04
Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area

Sample Data

Location of Sample: B-10 UD @ 20'-22'
Sample Description: Grey Fly Ash
USCS Class: Liquid limit: NV
AASHTO Class: Plasticity index: NP

Notes

Remarks: Moisture Content: 36.5% Specific Gravity: 2.28

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	369.56
Tare =	0.00
Dry sample weight =	369.56

Tare for cumulative weight retained= 0

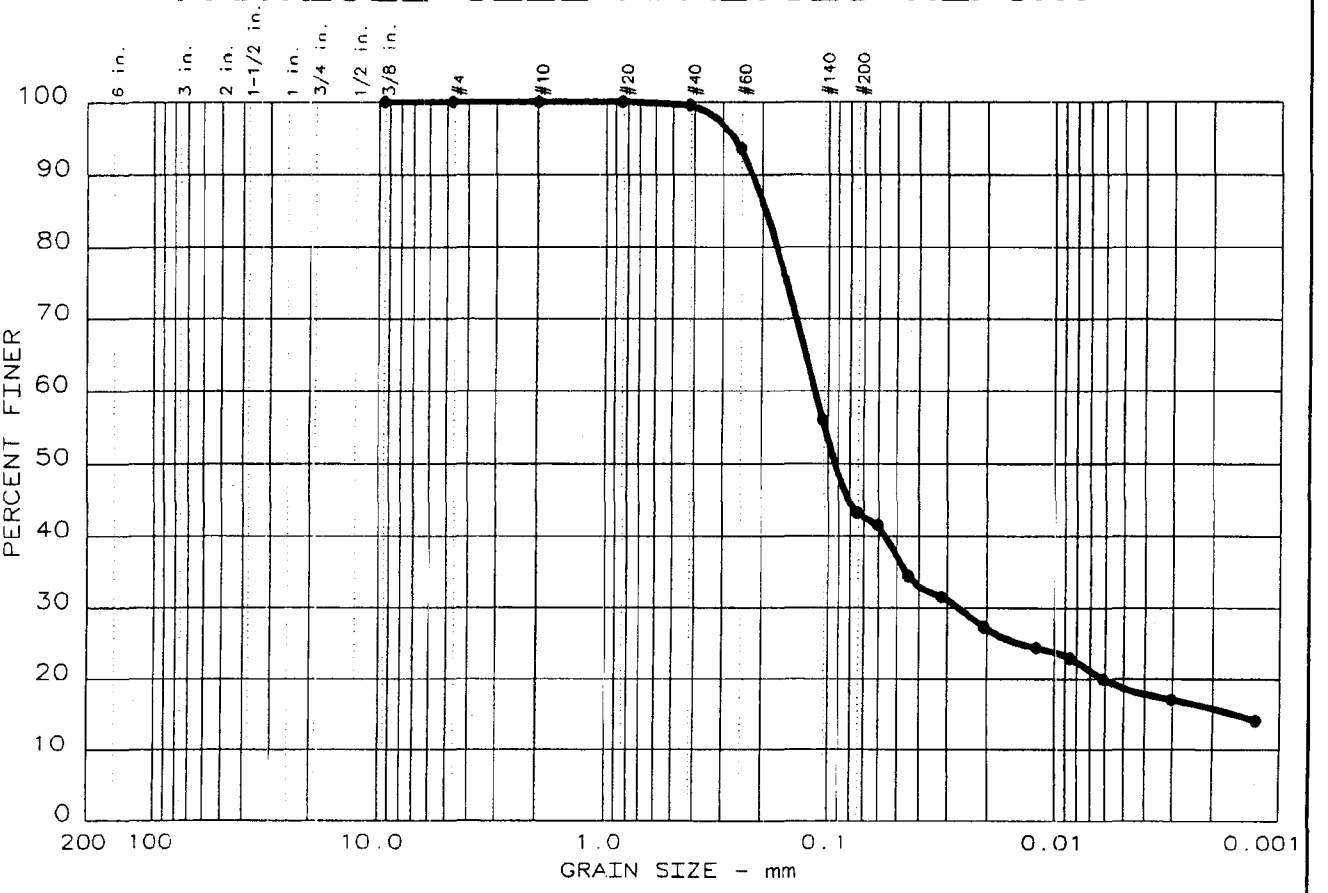
Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.00	100.0
# 10	2.84	99.2
# 20	4.82	98.7
# 40	6.68	98.2
# 60	12.02	96.7
# 140	40.10	89.1
# 200	62.54	83.1

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 16.9
% FINES = 83.1

D85= 0.08

PARTICLE SIZE ANALYSIS REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	3	0.0	0.0	56.7	24.6	18.7

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	NV	NP	0.193	0.115	0.0931	0.0265	0.0015			

MATERIAL DESCRIPTION	USCS	AASHTO
● Tan-Brown Silty Fine Sand	SM	

Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area
● Location: B-10 UD @ 35'-37'

Date: 04-19-04

Remarks:

Moisture Content: 21.9%

PARTICLE SIZE ANALYSIS REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Fig. No.: _____

GRAIN SIZE DISTRIBUTION TEST DATA Test No.: 3

Date: 04-19-04
Project No.: 3043-04-1009.0001
Project: TVA Kingston Ash Disposal Area

Sample Data

Location of Sample: B-10 UD @ 36'-37'
Sample Description: Tan-Brown Silty Fine Sand
USCS Class: SM Liquid limit: NV
AASHTO Class: Plasticity index: NP

Notes

Remarks: Moisture Content: 21.9%

Fig. No.:

Mechanical Analysis Data

	Initial
Dry sample and tare=	383.03
Tare =	0.00
Dry sample weight =	383.03

Sample split on number 10 sieve
Split sample data:
Sample and tare = 68.8 Tare = 0 Sample weight = 68.8
Cumulative weight retained tare= 0
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
0.375 inches	0.00	100.0
# 4	0.00	100.0
# 10	0.00	100.0
# 20	0.00	100.0
# 40	0.30	99.6
# 60	4.39	93.6
# 140	30.24	56.0
# 200	39.00	43.3

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 100.0
Weight of hydrometer sample: 68.8
Calculated biased weight= 68.80
Table of composite correction values:

Temp, deg C:	20.0	22.0	24.0

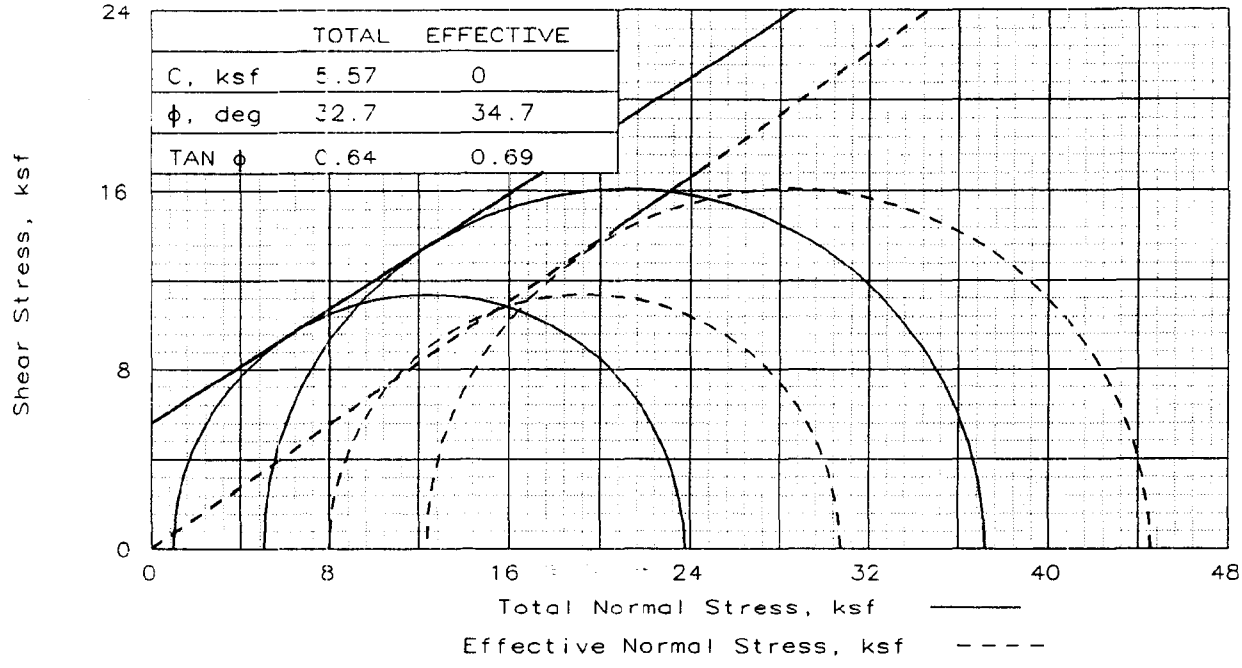
Comp. corr: - 5.5 - 4.8 - 4.0
Meniscus correction only= 1
Specific gravity of solids= 2.7
Specific gravity correction factor= 0.989
Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

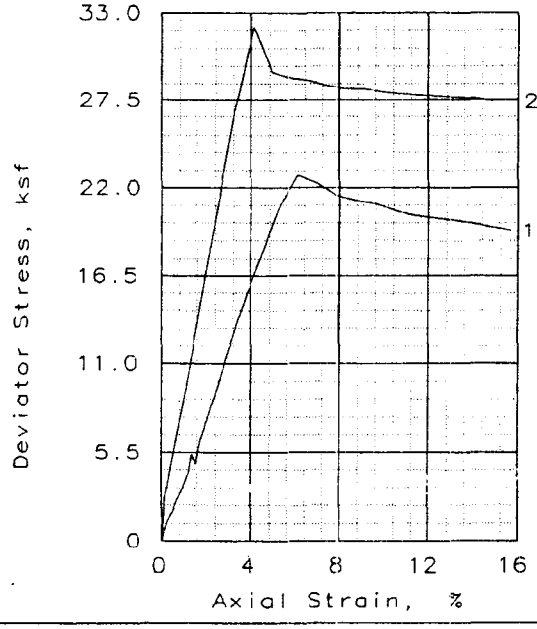
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
0.5	21.3	34.0	29.0	0.0132	35.0	10.6	0.0608	41.6
1.0	21.3	29.0	24.0	0.0132	30.0	11.4	0.0446	34.4
2.0	21.3	27.0	22.0	0.0132	28.0	11.7	0.0320	31.6
5.0	21.3	24.0	19.0	0.0132	25.0	12.2	0.0207	27.2
15.0	21.3	22.0	17.0	0.0132	23.0	12.5	0.0121	24.4
30.0	21.3	21.0	16.0	0.0132	22.0	12.7	0.0086	22.9
60.0	21.3	19.0	14.0	0.0132	20.0	13.0	0.0062	20.1
250.0	21.4	17.0	12.0	0.0132	18.0	13.3	0.0031	17.2
1440.0	21.3	15.0	10.0	0.0132	16.0	13.7	0.0013	14.3

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.0 % SAND = 56.7
% SILT = 24.6 % CLAY = 18.7

D85= 0.19 D60= 0.115 D50= 0.093
D30= 0.0265 D15= 0.00153





SAMPLE NO.:		1	2
INITIAL	WATER CONTENT, %	34.3	29.6
	DRY DENSITY, pcf	81.6	84.6
	SATURATION, %	102.9	96.5
	VOID RATIO	0.774	0.713
	DIAMETER, in	2.88	2.84
	HEIGHT, in	5.75	6.06
AT TEST	WATER CONTENT, %	30.7	27.3
	DRY DENSITY, pcf	84.6	88.7
	SATURATION, %	100.0	100.0
	VOID RATIO	0.712	0.633
	DIAMETER, in	2.83	2.77
	HEIGHT, in	5.76	6.06
Strain rate, %/min		0.17	0.17
BACK PRESSURE, ksf		7.2	7.2
CELL PRESSURE, ksf		8.2	12.2
FAIL. STRESS, ksf		22.8	32.2
TOTAL PORE PR., ksf		0.2	-0.1
ULT. STRESS, ksf			
TOTAL PORE PR., ksf			
$\bar{\sigma}_1$ FAILURE, ksf		30.7	44.5
$\bar{\sigma}_3$ FAILURE, ksf		8.0	12.3

TYPE OF TEST:
CU with Pore Pressures
SAMPLE TYPE: UD Tube Sample
DESCRIPTION: Grey Fly Ash

SPECIFIC GRAVITY= 2.32
REMARKS:

Fig. No.: _____

CLIENT: TVA

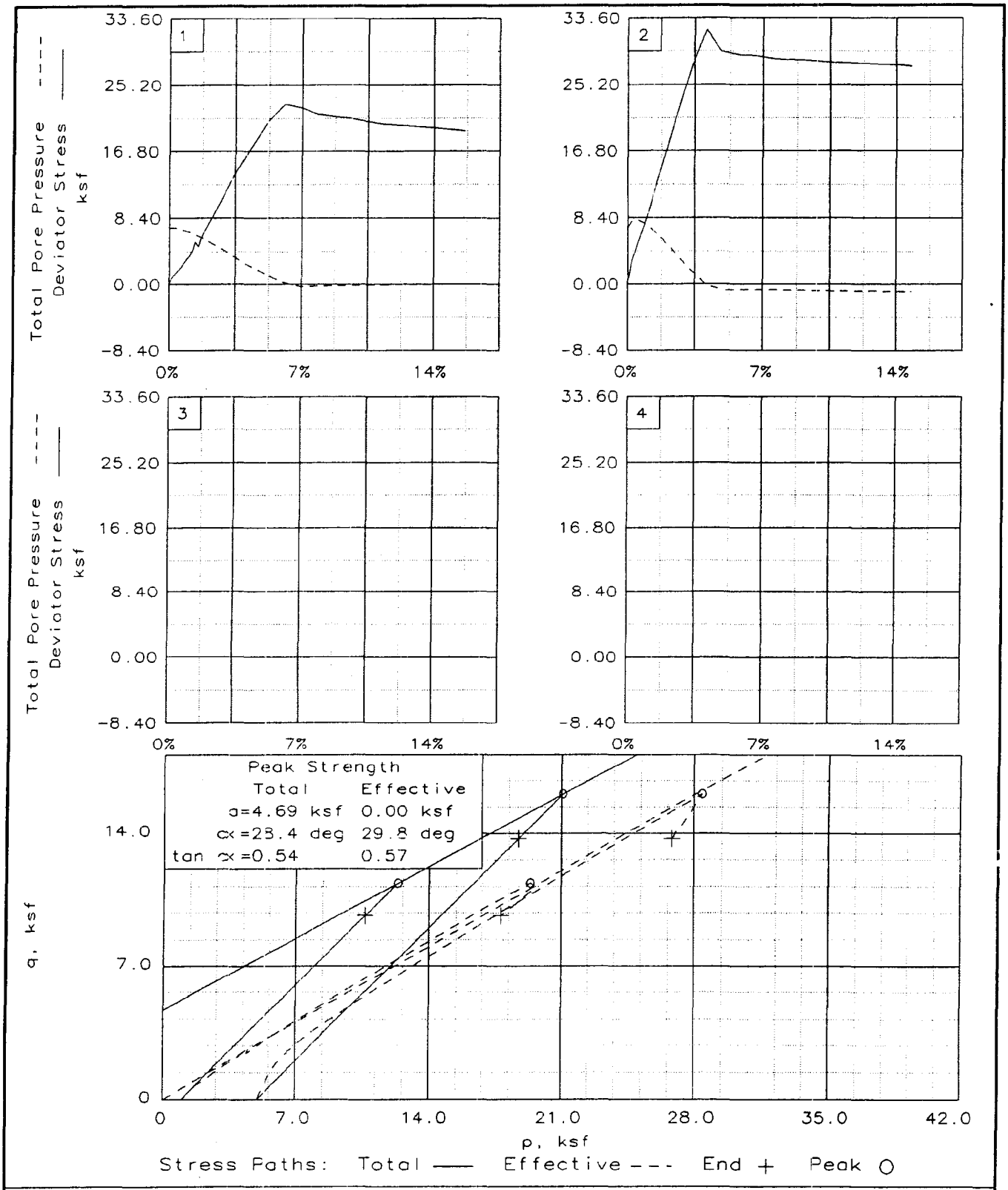
PROJECT: TVA Kingston Ash Disposal Area

SAMPLE LOCATION: B-4A UD @ 25'-27'

PROJ. NO.: 3043-04-1009/0001 DATE: 04-13-04

TRIAXIAL SHEAR TEST REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES



Client: TVA

Project: TVA Kingston Ash Disposal Area

Location: B-4A UD @ 25'-27'

File: TVA-ASH Project No.: 3043-04-1009/0001 Fig. No.: ____

Project and Sample Data

Date: 04-13-04
Client: TVA
Project: TVA Kingston Ash Disposal Area
Sample location: B-4A UD @ 25'-27'
Sample description: Grey Fly Ash
Remarks:

Fig no.: 2nd page Fig no. (if applicable):
Type of sample: Shelby Tube Sample
Specific gravity= 2.32 LL= PL= PI=
Test method: Corps of Eng. - saturation assumed

Specimen Parameters for Specimen No. 1

Specimen Parameter	Initial	Saturated	Consolidated	Final
Wt. moist soil and tare:	1076.110			1055.030
Wt. dry soil and tare:	801.090			801.090
Wt. of tare:	0.000			0.000
Weight, gms:	1076.1			
Diameter, in:	2.878	2.882	2.825	
Area, in²:	6.505	6.524	6.270	
Height, in:	5.746	5.746	5.755	
Net decrease in height, in:		0.000	-0.009	
Net decrease in water volume, cc:		6.000	23.000	
% Moisture:	34.3	33.6	30.7	31.7
Wet density, pcf:	109.7	108.7	110.5	
Dry density, pcf:	81.6	81.4	84.6	
Void ratio:	0.7740	0.7791	0.7125	
% Saturation:	102.9	100.0	100.0	

Test Readings Data for Specimen No. 1

Deformation dial constant= 1 in per input unit
Primary load ring constant= 0.72 lbs per input unit
Secondary load ring constant= 0 lbs per input unit
Crossover reading for secondary load ring= 0 input units
Membrane modulus = 0.14000 kN/cm²
Membrane thickness = 0.012 cm
Consolidation cell pressure = 56.90 psi = 8.19 ksf
Consolidation back pressure = 50.00 psi = 7.20 ksf
Consolidation effective confining stress = 0.99 ksf
Strain rate, %/min = 0.17
FAIL. STRESS = 22.75 ksf at reading no. 15
ULT. STRESS = not selected

Test Readings Data for Specimen No. 1

No.	Def. Dial Units	Def. in	Load Dial Units	Load lbs	Strain %	Deviator Stress ksf	Effective Stresses Minor ksf	Effective Stresses Major ksf	Effective Stresses 1:3 Ratio	Pore Pres. psi	P ksf	Q ksf
0	0.0000	0.000	0.0	0.0	0.0	0.00	0.99	0.99	1.00	50.00	0.99	0.00
1	0.0100	0.010	55.0	39.6	0.2	0.91	0.99	1.90	1.91	50.00	1.45	0.45
2	0.0200	0.020	88.0	63.4	0.3	1.45	1.02	2.47	2.42	49.80	1.75	0.73
3	0.0300	0.030	115.0	82.8	0.5	1.89	1.15	3.04	2.64	48.90	2.10	0.95
4	0.0400	0.040	150.0	108.0	0.7	2.46	1.28	3.74	2.92	48.00	2.51	1.23
5	0.0500	0.050	183.0	131.8	0.9	3.00	1.38	4.38	3.17	47.30	2.88	1.50
6	0.0600	0.060	218.0	157.0	1.0	3.57	1.53	5.09	3.34	46.30	3.31	1.78
7	0.0700	0.070	256.0	184.3	1.2	4.18	1.74	5.92	3.40	44.80	3.83	2.09
8	0.0800	0.080	330.0	237.6	1.4	5.38	1.90	7.28	3.83	43.70	4.59	2.69
9	0.0900	0.090	293.0	211.0	1.6	4.77	2.06	6.83	3.32	42.60	4.44	2.38
10	0.1000	0.100	370.0	266.4	1.7	6.01	2.29	8.30	3.63	41.00	5.30	3.01
11	0.1500	0.150	615.0	442.8	2.6	9.90	3.43	13.33	3.89	33.10	8.38	4.95
12	0.2000	0.200	872.0	627.8	3.5	13.92	4.74	18.66	3.94	24.00	11.70	6.96
13	0.2500	0.250	1094.0	787.7	4.3	17.30	5.95	23.25	3.91	15.60	14.60	8.65
14	0.3000	0.300	1319.0	949.7	5.2	20.67	7.08	27.76	3.92	7.70	17.42	10.34
15	0.3500	0.350	1465.0	1054.8	6.1	22.75	7.98	30.73	3.85	1.50	19.35	11.38
16	0.4000	0.400	1450.0	1044.0	7.0	22.31	8.47	30.78	3.63	-1.90	19.62	11.16
17	0.4500	0.450	1412.0	1016.6	7.8	21.52	8.41	29.93	3.56	-1.50	19.17	10.76
18	0.5000	0.500	1405.0	1011.6	8.7	21.21	8.37	29.58	3.54	-1.20	18.97	10.61
19	0.5500	0.550	1405.0	1011.6	9.6	21.01	8.35	29.36	3.52	-1.10	18.86	10.51
20	0.6000	0.600	1393.0	1003.0	10.4	20.63	8.31	28.94	3.48	-0.80	18.63	10.32
21	0.6500	0.650	1384.0	996.5	11.3	20.30	8.28	28.58	3.45	-0.60	18.43	10.15
22	0.7000	0.700	1386.0	997.9	12.2	20.13	8.25	28.38	3.44	-0.40	18.32	10.07
23	0.7500	0.750	1388.0	999.4	13.0	19.96	8.22	28.18	3.43	-0.20	18.20	9.98
24	0.8000	0.800	1390.0	1000.8	13.9	19.79	8.21	28.00	3.41	-0.10	18.10	9.89
25	0.8500	0.850	1388.0	999.4	14.8	19.56	8.19	27.76	3.39	0.00	17.97	9.78
26	0.9000	0.900	1385.0	997.2	15.6	19.32	8.18	27.50	3.36	0.10	17.84	9.66

Specimen Parameters for Specimen No. 2

Specimen Parameter	Initial	Saturated	Consolidated	Final
Wt. moist soil and tare:	1100.690			1082.530
Wt. dry soil and tare:	849.040			849.040
Wt. of tare:	0.000			0.000
Weight, gms:	1100.7			
Diameter, in:	2.835	2.807	2.768	
Area, in²:	6.312	6.189	6.019	
Height, in:	6.060	6.060	6.060	
Net decrease in height, in:		0.000	0.000	
Net decrease in water volume, cc:		3.000	16.900	
% Moisture:	29.6	29.3	27.3	27.5
Wet density, pcf:	109.6	111.5	112.9	
Dry density, pcf:	84.6	86.2	88.7	
Void ratio:	0.7129	0.6794	0.6333	
% Saturation:	96.5	100.0	100.0	

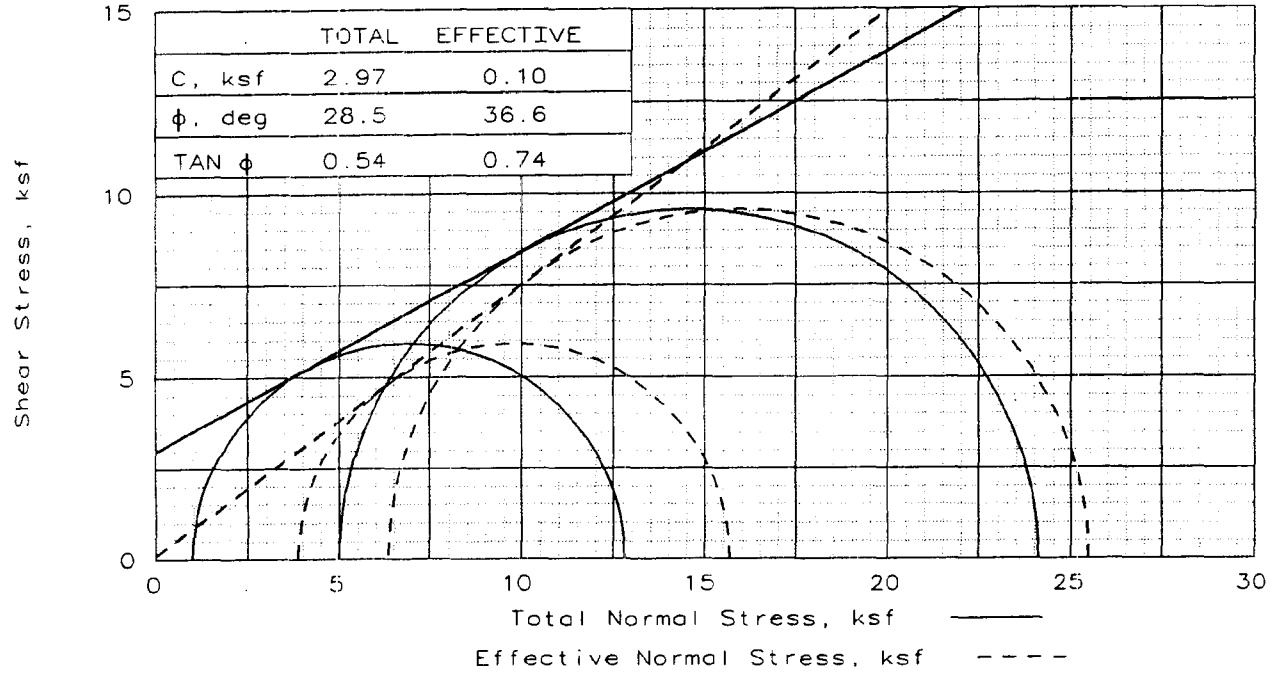
Test Readings Data for Specimen No. 2

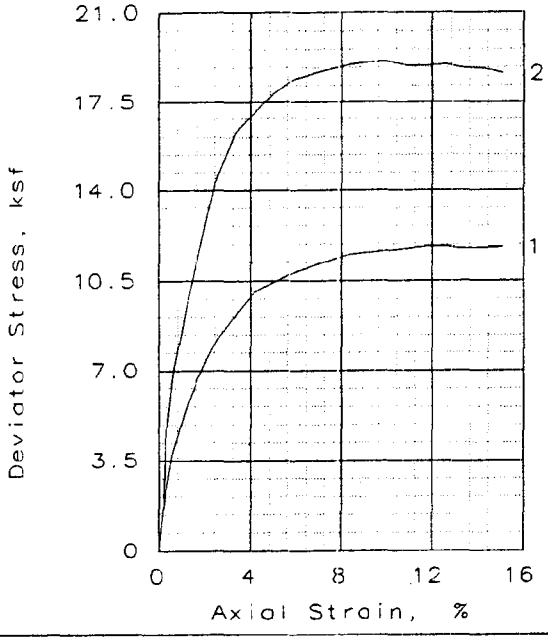
Deformation dial constant= 1 in per input unit
Primary load ring constant= 2.8 lbs per input unit
Secondary load ring constant= 0 lbs per input unit
Crossover reading for secondary load ring= 0 input units
Membrane modulus = 0.14000 kN/cm²
Membrane thickness = 0.012 cm
Consolidation cell pressure = 84.70 psi = 12.20 ksf
Consolidation back pressure = 50.00 psi = 7.20 ksf
Consolidation effective confining stress = 5.00 ksf
Strain rate, %/min = 0.17
FAIL. STRESS = 32.18 ksf at reading no. 13
ULT. STRESS = not selected

No.	Def. Dial Units	Def. in	Load Dial Units	Load lbs	Strain %	Deviator Stress ksf	Effective Stresses Minor ksf	Effective Stresses Major ksf	1:3 Ratio	Pore Pres. psi	P ksf	Q ksf
0	0.0000	0.000	0.00	0.0	0.0	0.00	5.00	5.00	1.00	50.00	5.00	0.00
1	0.0100	0.010	40.00	112.0	0.2	2.68	4.31	6.98	1.62	54.80	5.64	1.34
2	0.0200	0.020	58.00	162.4	0.3	3.87	4.10	7.98	1.94	56.20	6.04	1.94
3	0.0300	0.030	76.00	212.8	0.5	5.07	4.10	9.17	2.23	56.20	6.64	2.53
4	0.0400	0.040	93.00	260.4	0.7	6.19	4.22	10.41	2.47	55.40	7.31	3.09
5	0.0500	0.050	110.00	308.0	0.8	7.31	4.42	11.73	2.65	54.00	8.07	3.65
6	0.0600	0.060	128.00	358.4	1.0	8.49	4.69	13.18	2.81	52.10	8.94	4.24
7	0.0700	0.070	147.00	411.6	1.2	9.73	5.01	14.74	2.94	49.90	9.88	4.87
8	0.0800	0.080	167.00	467.6	1.3	11.04	5.33	16.37	3.07	47.70	10.85	5.52
9	0.0900	0.090	187.00	523.6	1.5	12.34	5.67	18.01	3.18	45.30	11.84	6.17
10	0.1000	0.100	208.00	582.4	1.7	13.70	6.06	19.77	3.26	42.60	12.91	6.85
11	0.1500	0.150	312.00	873.6	2.5	20.38	8.18	28.56	3.49	27.90	18.37	10.19
12	0.2000	0.200	415.00	1162.0	3.3	26.88	10.44	37.32	3.57	12.20	23.88	13.44
13	0.2500	0.250	501.00	1402.8	4.1	32.18	12.34	44.52	3.61	-1.00	28.43	16.09
14	0.3000	0.300	460.00	1288.0	5.0	29.29	12.87	42.16	3.28	-4.70	27.52	14.64
15	0.3500	0.350	458.00	1282.4	5.8	28.91	12.93	41.84	3.24	-5.10	27.39	14.45
16	0.4000	0.400	460.00	1288.0	6.6	28.78	12.92	41.70	3.23	-5.00	27.31	14.39
17	0.4500	0.450	459.00	1285.2	7.4	28.46	12.92	41.38	3.20	-5.00	27.15	14.23
18	0.5000	0.500	460.00	1288.0	8.3	28.27	12.95	41.22	3.18	-5.20	27.08	14.14
19	0.5500	0.550	464.00	1299.2	9.1	28.26	12.97	41.24	3.18	-5.40	27.11	14.13
20	0.6000	0.600	465.00	1302.0	9.9	28.07	13.00	41.07	3.16	-5.60	27.04	14.03

Test Readings Data for Specimen No. 2

No.	Def. Dial Units	Def. in	Load Dial Units	Load lbs	Strain %	Deviator Stress ksf	Effective Stresses Minor ksf	Effective Stresses Major ksf	Effective Stresses 1:3 Ratio	Pore Pres. psi	P ksf	Q ksf
21	0.6500	0.650	467.00	1307.6	10.7	27.93	13.05	40.97	3.14	-5.90	27.01	13.96
22	0.7000	0.700	470.00	1316.0	11.6	27.85	13.06	40.91	3.13	-6.00	26.98	13.92
23	0.7500	0.750	473.00	1324.4	12.4	27.76	13.08	40.84	3.12	-6.10	26.96	13.88
24	0.8000	0.800	476.00	1332.8	13.2	27.68	13.10	40.78	3.11	-6.30	26.94	13.84
25	0.8500	0.850	480.00	1344.0	14.0	27.64	13.12	40.76	3.11	-6.40	26.94	13.82
26	0.9000	0.900	481.00	1346.8	14.9	27.44	13.13	40.57	3.09	-6.50	26.85	13.72





SAMPLE NO.:		1	2
INITIAL	WATER CONTENT, %	24.7	24.7
	DRY DENSITY, pcf	89.4	89.4
	SATURATION, %	94.5	94.5
	VOID RATIO	0.599	0.599
	DIAMETER, in	2.84	2.84
	HEIGHT, in	6.00	6.00
AT TEST	WATER CONTENT, %	27.4	27.4
	DRY DENSITY, pcf	87.8	87.8
	SATURATION, %	100.0	100.0
	VOID RATIO	0.628	0.628
	DIAMETER, in	2.87	2.87
	HEIGHT, in	5.98	5.97
Strain rate, %/min		0.17	0.17
BACK PRESSURE, ksf		7.2	7.2
CELL PRESSURE, ksf		8.2	12.2
FAIL. STRESS, ksf		11.8	19.1
TOTAL PORE PR., ksf		4.3	5.8
ULT. STRESS, ksf			
TOTAL PORE PR., ksf			
$\bar{\sigma}_1$ FAILURE, ksf		15.7	25.5
$\bar{\sigma}_3$ FAILURE, ksf		3.9	6.4

TYPE OF TEST:
CU with Pore Pressures
SAMPLE TYPE: Remolded UD Sample
DESCRIPTION: Grey Fly Ash with Bottom Ash

SPECIFIC GRAVITY= 2.29
REMARKS: Sample was remolded to the wet unit weight of shelby tube

Fig. No.: _____

CLIENT: TVA

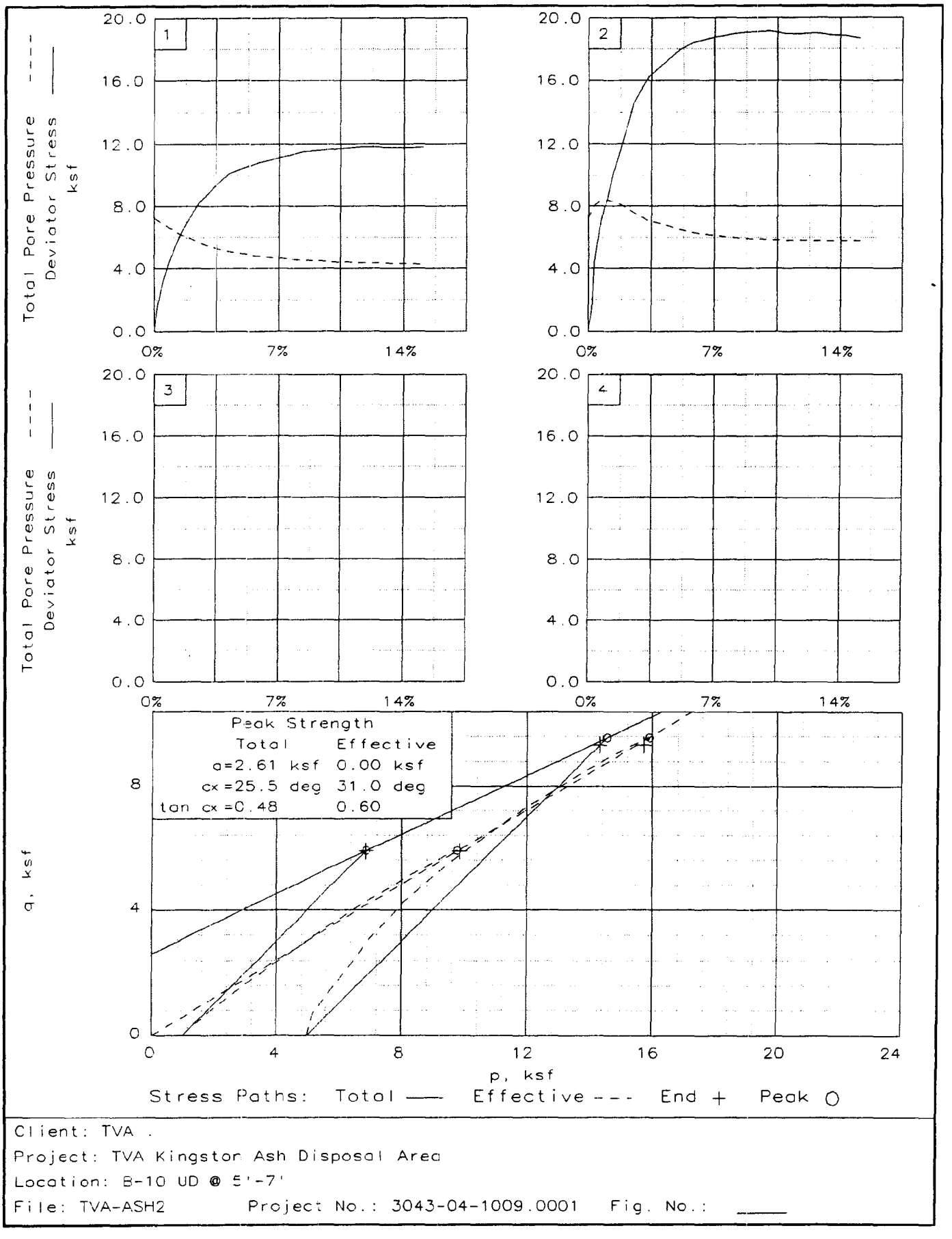
PROJECT: TVA Kingston Ash Disposal Area

SAMPLE LOCATION: B-10 UD @ 5'-7'

PROJ. NO.: 3043-04-1009.0001 DATE: 04-26-04

TRIAXIAL SHEAR TEST REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES



Client: TVA .

Project: TVA Kingstor Ash Disposal Area

Location: B-10 UD @ 5'-7'

File: TVA-ASH2 Project No.: 3043-04-1009.0001 Fig. No.: ____

Project and Sample Data

Date: 04-26-04
Client: TVA .
Project: TVA Kingston Ash Disposal Area
Sample location: B-10 UD @ 5'-7'
Sample description: Grey Fly Ash with Bottom Ash
Remarks: Sample was remolded to the wet unit weight of shelby tube
Fig no.: 2nd page Fig no. (if applicable):
Type of sample: Remolded UD Sample
Specific gravity= 2.29 LL= PL= PI=
Test method: Corps of Eng. - saturation assumed

Specimen Parameters for Specimen No. 1

Specimen Parameter	Initial	Saturated	Consolidated	Final
Wt. moist soil and tare:	1112.500			1113.400
Wt. dry soil and tare:	892.140			892.140
Wt. of tare:	0.000			0.000
Weight, gms:	1112.5			
Diameter, in:	2.840	2.869	2.871	
Area, in²:	6.335	6.466	6.476	
Height, in:	6.000	6.000	5.976	
Net decrease in height, in:		0.000	0.024	
Net decrease in water volume, cc:		-25.800	1.600	
% Moisture:	24.7	27.6	27.4	24.8
Wet density, pcf:	111.5	111.8	111.9	
Dry density, pcf:	89.4	87.6	87.8	
Void ratio:	0.5988	0.6319	0.6278	
% Saturation:	94.5	100.0	100.0	

Test Readings Data for Specimen No. 1

Deformation dial constant= 1 in per input unit
Primary load ring constant= 0.72 lbs per input unit
Secondary load ring constant= 0 lbs per input unit
Crossover reading for secondary load ring= 0 input units
Membrane modulus = 0.14000 kN/cm²
Membrane thickness = 0.012 cm
Consolidation cell pressure = 56.90 psi = 8.19 ksf
Consolidation back pressure = 50.00 psi = 7.20 ksf
Consolidation effective confining stress = 0.99 ksf
Strain rate, %/min = 0.17
FAIL. STRESS = 11.82 ksf at reading no. 23
ULT. STRESS = not selected

Test Readings Data for Specimen No. 1

No.	Def. Dial Units	Def. in	Load Dial Units	Load lbs	Strain %	Deviator Stress ksf	Effective Stresses Minor ksf	Effective Stresses Major ksf	Effective Stresses 1:3 Ratio	Pore Pres. psi	P ksf	Q ksf
0	0.0000	0.000	0.0	0.0	0.0	0.00	0.99	0.99	1.00	50.00	0.99	0.00
1	0.0100	0.010	93.0	67.0	0.2	1.49	1.08	2.57	2.38	49.40	1.82	0.74
2	0.0200	0.020	157.0	113.0	0.3	2.51	1.22	3.73	3.05	48.40	2.48	1.25
3	0.0300	0.030	205.0	147.6	0.5	3.27	1.34	4.61	3.44	47.60	2.97	1.63
4	0.0400	0.040	246.0	177.1	0.7	3.91	1.47	5.38	3.66	46.70	3.42	1.96
5	0.0500	0.050	282.0	203.0	0.8	4.48	1.60	6.08	3.80	45.80	3.84	2.24
6	0.0600	0.060	313.0	225.4	1.0	4.96	1.70	6.66	3.92	45.10	4.18	2.48
7	0.0700	0.070	343.0	247.0	1.2	5.43	1.81	7.24	3.99	44.30	4.53	2.71
8	0.0800	0.080	369.0	265.7	1.3	5.83	1.92	7.74	4.04	43.60	4.83	2.91
9	0.0900	0.090	397.0	285.8	1.5	6.26	2.03	8.29	4.08	42.80	5.16	3.13
10	0.1000	0.100	424.0	305.3	1.7	6.68	2.12	8.79	4.15	42.20	5.45	3.34
11	0.1500	0.150	526.0	378.7	2.5	8.21	2.53	10.74	4.24	39.30	6.64	4.11
12	0.2000	0.200	594.0	427.7	3.3	9.19	2.85	12.04	4.22	37.10	7.45	4.60
13	0.2500	0.250	658.0	473.8	4.2	10.09	3.11	13.21	4.25	35.30	8.16	5.05
14	0.3000	0.300	688.0	495.4	5.0	10.46	3.27	13.73	4.20	34.20	8.50	5.23
15	0.3500	0.350	717.0	516.2	5.9	10.81	3.41	14.22	4.17	33.20	8.82	5.40
16	0.4000	0.400	740.0	532.8	6.7	11.06	3.51	14.57	4.15	32.50	9.04	5.53
17	0.4500	0.450	762.0	548.6	7.5	11.28	3.60	14.88	4.13	31.90	9.24	5.64
18	0.5000	0.500	786.0	565.9	8.4	11.53	3.67	15.20	4.14	31.40	9.44	5.77
19	0.5500	0.550	798.0	574.6	9.2	11.60	3.72	15.32	4.12	31.10	9.52	5.80
20	0.6000	0.600	810.0	583.2	10.0	11.67	3.76	15.43	4.10	30.80	9.59	5.83
21	0.6500	0.650	822.0	591.8	10.9	11.73	3.80	15.53	4.09	30.50	9.67	5.86
22	0.7000	0.700	836.0	601.9	11.7	11.82	3.84	15.66	4.07	30.20	9.75	5.91
23	0.7500	0.750	844.0	607.7	12.6	11.82	3.87	15.69	4.05	30.00	9.78	5.91
24	0.8000	0.800	848.0	610.6	13.4	11.76	3.89	15.65	4.02	29.90	9.77	5.88
25	0.8500	0.850	856.0	616.3	14.2	11.76	3.90	15.66	4.01	29.80	9.78	5.88
26	0.9000	0.900	867.0	624.2	15.1	11.79	3.97	15.77	3.97	29.30	9.87	5.90

Specimen Parameters for Specimen No. 2

Specimen Parameter	Initial	Saturated	Consolidated	Final
Wt. moist soil and tare:	1112.500			1121.820
Wt. dry soil and tare:	892.140			892.140
Wt. of tare:	0.000			0.000
Weight, gms:	1112.5			
Diameter, in:	2.840	2.875	2.874	
Area, in²:	6.335	6.492	6.487	
Height, in:	6.000	6.000	5.965	
Net decrease in height, in:		0.000	0.035	
Net decrease in water volume, cc:		-28.400	4.200	
% Moisture:	24.7	27.9	27.4	25.7
Wet density, pcf:	111.5	111.6	111.9	
Dry density, pcf:	89.4	87.2	87.8	
Void ratio:	0.5988	0.6385	0.6278	
% Saturation:	94.5	100.0	100.0	

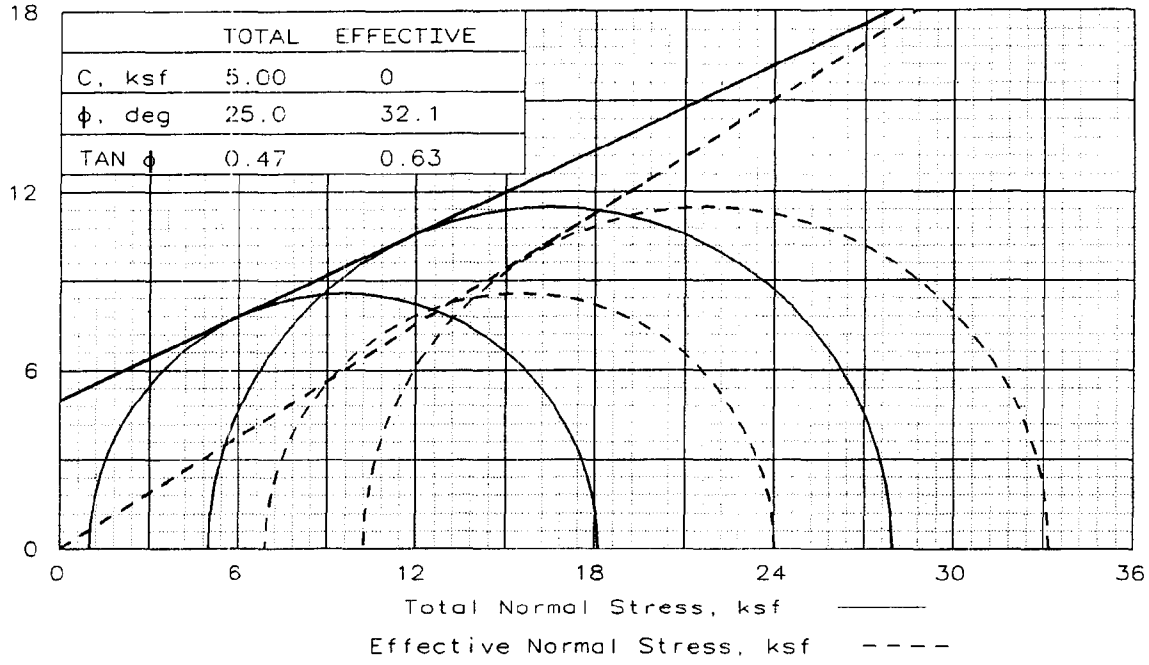
Test Readings Data for Specimen No. 2

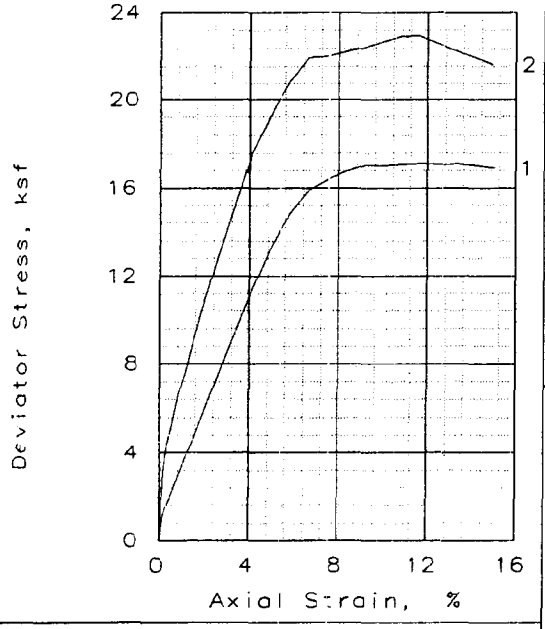
Deformation dial constant= 1 in per input unit
Primary load ring constant= 0.72 lbs per input unit
Secondary load ring constant= 0 lbs per input unit
Crossover reading for secondary load ring= 0 input units
Membrane modulus = 0.14000 kN/cm²
Membrane thickness = 0.012 cm
Consolidation cell pressure = 84.70 psi = 12.20 ksf
Consolidation back pressure = 50.00 psi = 7.20 ksf
Consolidation effective confining stress = 5.00 ksf
Strain rate, %/min = 0.17
FAIL. STRESS = 19.13 ksf at reading no. 20
ULT. STRESS = not selected

No.	Def. Dial Units	Def. in	Load Dial Units	Load lbs	Strain %	Deviator Stress ksf	Effective Stresses Minor ksf	Effective Stresses Major ksf	Effective Stresses 1:3 Ratio	Pore Pres. psi	P ksf	Q ksf
0	0.0000	0.000	0.0	0.0	0.0	0.00	5.00	5.00	1.00	50.00	5.00	0.00
1	0.0100	0.010	91.0	65.5	0.2	1.45	4.46	5.92	1.33	53.70	5.19	0.73
2	0.0200	0.020	295.0	212.4	0.3	4.70	4.12	8.82	2.14	56.10	6.47	2.35
3	0.0300	0.030	372.0	267.8	0.5	5.92	3.95	9.86	2.50	57.30	6.90	2.96
4	0.0400	0.040	440.0	316.8	0.7	6.98	3.87	10.86	2.80	57.80	7.37	3.49
5	0.0500	0.050	496.0	357.1	0.8	7.86	3.86	11.72	3.04	57.90	7.79	3.93
6	0.0600	0.060	533.0	383.8	1.0	8.43	3.83	12.26	3.20	58.10	8.05	4.22
7	0.0700	0.070	583.0	419.8	1.2	9.21	3.87	13.08	3.38	57.80	8.48	4.60
8	0.0800	0.080	636.0	457.9	1.3	10.03	3.92	13.94	3.56	57.50	8.93	5.01
9	0.0900	0.090	681.0	490.3	1.5	10.72	4.00	14.72	3.68	56.90	9.36	5.36
10	0.1000	0.100	723.0	520.6	1.7	11.36	4.08	15.44	3.79	56.40	9.76	5.68
11	0.1500	0.150	935.0	673.2	2.5	14.57	4.65	19.22	4.13	52.40	11.93	7.28
12	0.2000	0.200	1053.0	758.2	3.4	16.26	5.16	21.42	4.15	48.90	13.29	8.13
13	0.2500	0.250	1115.0	802.8	4.2	17.07	5.40	22.47	4.16	47.20	13.94	8.54
14	0.3000	0.300	1180.0	849.6	5.0	17.91	5.70	23.61	4.14	45.10	14.66	8.95
15	0.3500	0.350	1225.0	882.0	5.9	18.43	5.92	24.35	4.11	43.60	15.13	9.21
16	0.4000	0.400	1251.0	900.7	6.7	18.65	6.05	24.70	4.08	42.70	15.37	9.33
17	0.4500	0.450	1276.0	918.7	7.5	18.85	6.16	25.02	4.06	41.90	15.59	9.43
18	0.5000	0.500	1299.0	935.3	8.4	19.02	6.25	25.27	4.04	41.30	15.76	9.51
19	0.5500	0.550	1316.0	947.5	9.2	19.09	6.31	25.40	4.03	40.90	15.85	9.55
20	0.6000	0.600	1331.0	958.3	10.1	19.13	6.35	25.48	4.01	40.60	15.92	9.57

Test Readings Data for Specimen No. 2

No.	Def. Dial Units	Def. in	Load Dial Units	Load lbs	Strain %	Deviator Stress ksf	Effective Stresses Minor ksf	Effective Stresses Major ksf	Effective Stresses 1:3 Ratio	Pore Pres. psi	P ksf	Q ksf
21	0.6500	0.650	1332.0	959.0	10.9	18.97	6.38	25.35	3.97	40.40	15.86	9.48
22	0.7000	0.700	1344.0	967.7	11.7	18.96	6.39	25.35	3.97	40.30	15.87	9.48
23	0.7500	0.750	1360.0	979.2	12.6	19.00	6.41	25.41	3.97	40.20	15.91	9.50
24	0.8000	0.800	1365.0	982.8	13.4	18.89	6.41	25.30	3.95	40.20	15.85	9.44
25	0.8500	0.850	1376.0	990.7	14.2	18.86	6.41	25.27	3.94	40.20	15.84	9.43
26	0.9000	0.900	1375.0	990.0	15.1	18.66	6.41	25.07	3.91	40.20	15.74	9.33





SAMPLE NO.:		1	2
INITIAL	WATER CONTENT, %	37.0	35.9
	DRY DENSITY, pcf	78.2	80.1
	SATURATION, %	103.0	105.4
	VOID RATIO	0.820	0.778
	DIAMETER, in	2.85	2.84
	HEIGHT, in	6.01	6.03
AT TEST	WATER CONTENT, %	36.3	34.1
	DRY DENSITY, pcf	77.9	80.0
	SATURATION, %	100.0	100.0
	VOID RATIO	0.827	0.778
	DIAMETER, in	2.86	2.84
	HEIGHT, in	6.00	6.03
Strain rate, %/min		0.17	0.17
BACK PRESSURE, ksf		7.2	7.2
CELL PRESSURE, ksf		14.1	17.2
FAIL. STRESS, ksf		17.1	23.0
TOTAL PORE PR., ksf		1.3	2.0
ULT. STRESS, ksf			
TOTAL PORE PR., ksf			
$\bar{\sigma}_1$ FAILURE, ksf		24.0	33.2
$\bar{\sigma}_3$ FAILURE, ksf		6.9	10.2

TYPE OF TEST:
CU with Pore Pressures
SAMPLE TYPE: **UD** Tube Sample
DESCRIPTION: Grey Fly Ash

SPECIFIC GRAVITY= 2.28
REMARKS:

Fig. No.: _____

CLIENT: TVA

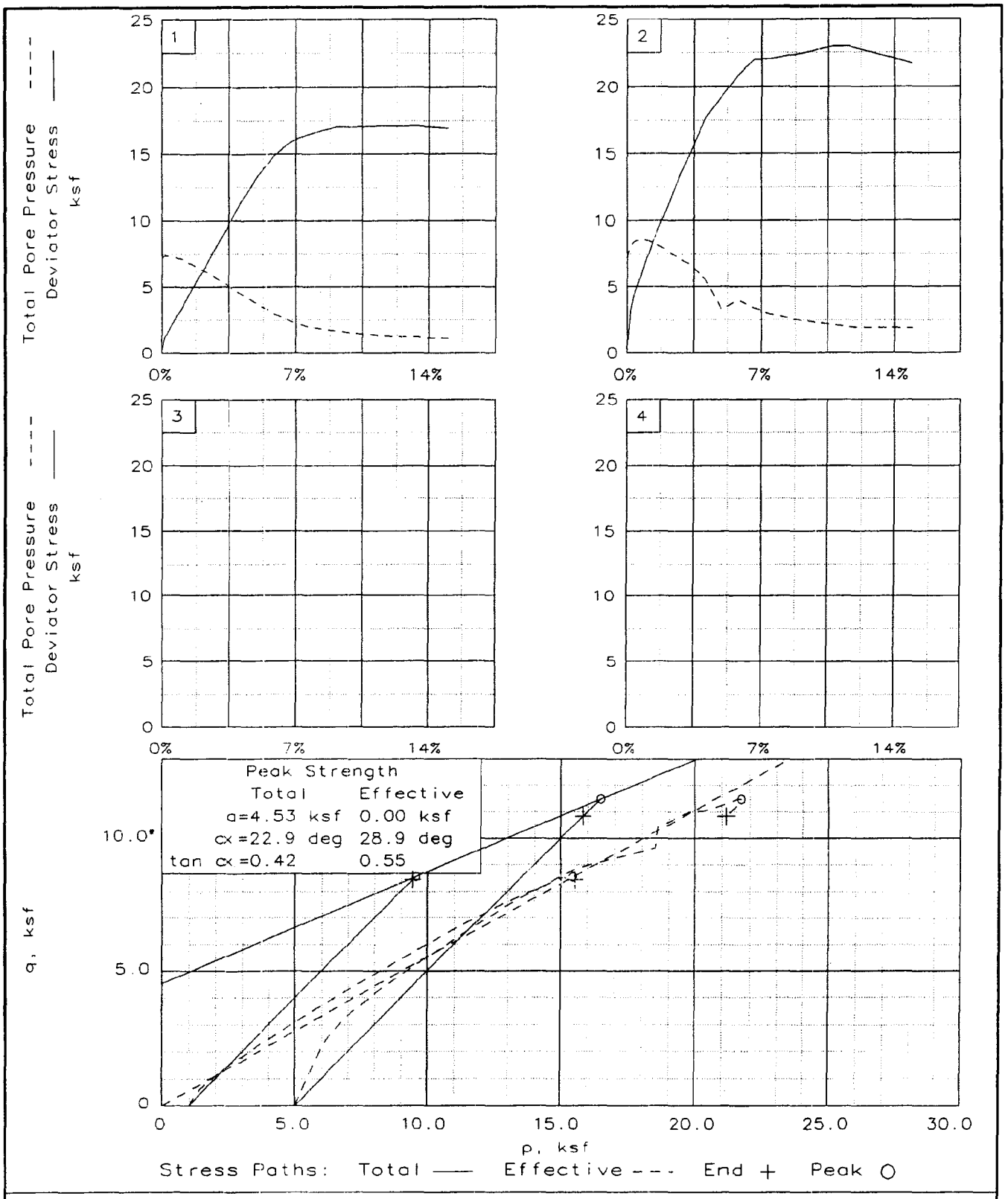
PROJECT: TVA Kingston Ash Disposal Area

SAMPLE LOCATION: B-10 UD @ 20'-22'

PROJ. NO.: 3043-04-1009/0001 DATE: 04-19-04

TRIAXIAL SHEAR TEST REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES



Client: TVA

Project: TVA Kingston Ash Disposal Area

Location: B-10 UD @ 20'-22'

File: TVA-ASH1 Project No.: 3043-04-1009/0001 Fig. No.: ____

Project and Sample Data

Date: 04-19-04
Client: TVA
Project: TVA Kingston Ash Disposal Area
Sample location: B-10 UD @ 20'-22'
Sample description: Grey Fly Ash
Remarks:

Fig no.: 2nd page Fig no. (if applicable):
Type of sample: Shelby Tube Sample
Specific gravity= 2.28 LL= PL= PI=
Test method: Corps of Eng. - saturation assumed

Specimen Parameters for Specimen No. 1

Specimen Parameter	Initial	Saturated	Consolidated	Final
Wt. moist soil and tare:	1080.370			1070.360
Wt. dry soil and tare:	788.510			788.510
Wt. of tare:	0.000			0.000
Weight, gms:	1080.4			
Diameter, in:	2.853	2.867	2.861	
Area, in²:	6.393	6.458	6.430	
Height, in:	6.007	6.007	5.996	
Net decrease in height, in:		0.000	0.011	
Net decrease in water volume, cc:		2.000	3.900	
% Moisture:	37.0	36.8	36.3	35.7
Wet density, pcf:	107.2	105.9	106.2	
Dry density, pcf:	78.2	77.4	77.9	
Void ratio:	0.8196	0.8381	0.8269	
% Saturation:	103.0	100.0	100.0	

Test Readings Data for Specimen No. 1

Deformation dial constant= 1 in per input unit
Primary load ring constant= 0.72 lbs per input unit
Secondary load ring constant= 0 lbs per input unit
Crossover reading for secondary load ring= 0 input units
Membrane modulus = 0.14000 kN/cm²
Membrane thickness = 0.012 cm
Consolidation cell pressure = 56.90 psi = 8.19 ksf
Consolidation back pressure = 50.00 psi = 7.20 ksf
Consolidation effective confining stress = 0.99 ksf
Strain rate, %/min = 0.17
FAIL. STRESS = 17.12 ksf at reading no. 22
ULT. STRESS = not selected

Test Readings Data for Specimen No. 1

No.	Def. Dial Units	Def. in	Load Dial Units	Load lbs	Strain %	Deviator Stress ksf	Effective Stresses Minor ksf	Major ksf	1:3 Ratio	Pore Pres. psi	P ksf	Q ksf
0	0.0000	0.000	0.0	0.0	0.0	0.00	0.99	0.99	1.00	50.00	0.99	0.00
1	0.0100	0.010	71.0	51.1	0.2	1.14	0.81	1.95	2.42	51.30	1.38	0.57
2	0.0200	0.020	101.0	72.7	0.3	1.62	0.84	2.46	2.94	51.10	1.65	0.81
3	0.0300	0.030	129.0	92.9	0.5	2.07	0.88	2.95	3.36	50.80	1.91	1.03
4	0.0400	0.040	157.0	113.0	0.7	2.51	0.92	3.44	3.73	50.50	2.18	1.26
5	0.0500	0.050	186.0	133.9	0.8	2.97	1.02	4.00	3.91	49.80	2.51	1.49
6	0.0600	0.060	211.0	151.9	1.0	3.37	1.07	4.43	4.16	49.50	2.75	1.68
7	0.0700	0.070	237.0	170.6	1.2	3.78	1.22	5.00	4.09	48.40	3.11	1.89
8	0.0800	0.080	263.0	189.4	1.3	4.18	1.34	5.52	4.12	47.60	3.43	2.09
9	0.0900	0.090	290.0	208.8	1.5	4.61	1.41	6.02	4.26	47.10	3.71	2.30
10	0.1000	0.100	316.0	227.5	1.7	5.01	1.57	6.58	4.19	46.00	4.07	2.51
11	0.1500	0.150	458.0	329.8	2.5	7.20	2.22	9.42	4.25	41.50	5.82	3.60
12	0.2000	0.200	596.0	429.1	3.3	9.29	2.98	12.27	4.12	36.20	7.63	4.64
13	0.2500	0.250	743.0	535.0	4.2	11.48	3.79	15.27	4.03	30.60	9.53	5.74
14	0.3000	0.300	871.0	627.1	5.0	13.34	4.51	17.85	3.96	25.60	11.18	6.67
15	0.3500	0.350	977.0	703.4	5.8	14.83	5.18	20.02	3.86	20.90	12.60	7.42
16	0.4000	0.400	1056.0	760.3	6.7	15.89	5.79	21.68	3.75	16.70	13.73	7.95
17	0.4500	0.450	1099.0	791.3	7.5	16.39	6.15	22.54	3.67	14.20	14.34	8.20
18	0.5000	0.500	1134.0	816.5	8.3	16.76	6.41	23.17	3.62	12.40	14.79	8.38
19	0.5500	0.550	1163.0	837.4	9.2	17.03	6.55	23.58	3.60	11.40	15.07	8.52
20	0.6000	0.600	1173.0	844.6	10.0	17.02	6.72	23.75	3.53	10.20	15.24	8.51
21	0.6500	0.650	1187.0	854.6	10.8	17.06	6.80	23.86	3.51	9.70	15.33	8.53
22	0.7000	0.700	1202.0	865.4	11.7	17.12	6.90	24.02	3.48	9.00	15.46	8.56
23	0.7500	0.750	1210.0	871.2	12.5	17.07	6.94	24.01	3.46	8.70	15.48	8.53
24	0.8000	0.800	1225.0	882.0	13.3	17.12	6.97	24.09	3.46	8.50	15.53	8.56
25	0.8500	0.850	1229.0	884.9	14.2	17.01	7.04	24.05	3.42	8.00	15.55	8.50
26	0.9000	0.900	1233.0	887.8	15.0	16.90	7.08	23.98	3.38	7.70	15.53	8.45

Specimen Parameters for Specimen No. 2

Specimen Parameter	Initial	Saturated	Consolidated	Final
Wt. moist soil and tare:	1091.230			1078.610
Wt. dry soil and tare:	802.680			802.680
Wt. of tare:	0.000			0.000
Weight, gms:	1091.2			
Diameter, in:	2.839	2.869	2.840	
Area, in²:	6.330	6.465	6.333	
Height, in:	6.033	6.033	6.033	
Net decrease in height, in:		0.000	0.000	
Net decrease in water volume, cc:		1.500	13.000	
% Moisture:	35.9	35.8	34.1	34.4
Wet density, pcf:	108.9	106.4	107.4	
Dry density, pcf:	80.1	78.4	80.0	
Void ratio:	0.7777	0.8154	0.7784	
% Saturation:	105.4	100.0	100.0	

Test Readings Data for Specimen No. 2

Deformation dial constant= 1 in per input unit
Primary load ring constant= 2.8 lbs per input unit
Secondary load ring constant= 0 lbs per input unit
Crossover reading for secondary load ring= 0 input units
Membrane modulus = 0.14000 kN/cm²
Membrane thickness = 0.012 cm
Consolidation cell pressure = 84.70 psi = 12.20 ksf
Consolidation back pressure = 50.00 psi = 7.20 ksf
Consolidation effective confining stress = 5.00 ksf
Strain rate, %/min = 0.17
FAIL. STRESS = 22.96 ksf at reading no. 22
ULT. STRESS = not selected

No.	Def. Dial Units	Def. in	Load Dial Units	Load lbs	Strain %	Deviator Stress ksf	Effective Stresses Minor ksf	Effective Stresses Major ksf	Effective Stresses 1:3 Ratio	Pore Pres. psi	P ksf	Q ksf
0	0.0000	0.000	0.00	0.0	0.0	0.00	5.00	5.00	1.00	50.00	5.00	0.00
1	0.0100	0.010	50.00	140.0	0.2	3.18	4.15	7.33	1.77	55.90	5.74	1.59
2	0.0200	0.020	68.00	190.4	0.3	4.31	3.83	8.15	2.13	58.10	5.99	2.16
3	0.0300	0.030	78.00	218.4	0.5	4.94	3.72	8.66	2.33	58.90	6.19	2.47
4	0.0400	0.040	90.00	252.0	0.7	5.69	3.70	9.39	2.54	59.00	6.55	2.85
5	0.0500	0.050	102.00	285.6	0.8	6.44	3.63	10.07	2.77	59.50	6.85	3.22
6	0.0600	0.060	113.00	316.4	1.0	7.12	3.70	10.82	2.92	59.00	7.26	3.56
7	0.0700	0.070	121.00	338.8	1.2	7.61	3.76	11.37	3.03	58.60	7.57	3.81
8	0.0800	0.080	132.00	369.6	1.3	8.29	3.87	12.17	3.14	57.80	8.02	4.15
9	0.0900	0.090	142.00	397.6	1.5	8.91	3.97	12.88	3.24	57.10	8.43	4.45
10	0.1000	0.100	152.00	425.6	1.7	9.52	4.12	13.64	3.31	56.10	8.88	4.76
11	0.1500	0.150	200.00	560.0	2.5	12.42	4.84	17.26	3.57	51.10	11.05	6.21
12	0.2000	0.200	245.00	686.0	3.3	15.08	5.56	20.64	3.71	46.10	13.10	7.54
13	0.2500	0.250	290.00	812.0	4.1	17.70	6.68	24.38	3.65	38.30	15.53	8.85
14	0.3000	0.300	319.00	893.2	5.0	19.30	8.88	28.18	3.17	23.00	18.53	9.65
15	0.3500	0.350	348.00	974.4	5.8	20.87	8.19	29.06	3.55	27.80	18.63	10.44
16	0.4000	0.400	370.00	1036.0	6.6	21.99	8.80	30.79	3.50	23.60	19.80	11.00
17	0.4500	0.450	374.00	1047.2	7.5	22.04	9.26	31.29	3.38	20.40	20.28	11.02
18	0.5000	0.500	381.00	1066.8	8.3	22.25	9.50	31.75	3.34	18.70	20.63	11.12
19	0.5500	0.550	388.00	1086.4	9.1	22.45	9.75	32.20	3.30	17.00	20.97	11.23
20	0.6000	0.600	396.00	1108.8	9.9	22.70	9.92	32.63	3.29	15.80	21.27	11.35

Test Readings Data for Specimen No. 2

No.	Def. Dial Units	Def. in	Load Dial Units	Load lbs	Strain %	Deviator Stress ksf	Effective Stresses Minor ksf	Effective Stresses Major ksf	Effective Stresses 1:3 Ratio	Pore Pres. psi	P ksf	Q ksf
21	0.6500	0.650	404.00	1131.2	10.8	22.95	10.08	33.03	3.28	14.70	21.56	11.48
22	0.7000	0.700	408.00	1142.4	11.6	22.96	10.22	33.19	3.25	13.70	21.70	11.48
23	0.7500	0.750	406.00	1136.8	12.4	22.64	10.28	32.92	3.20	13.30	21.60	11.32
24	0.8000	0.800	404.00	1131.2	13.3	22.31	10.30	32.61	3.17	13.20	21.45	11.16
25	0.8500	0.850	402.00	1125.6	14.1	21.99	10.31	32.30	3.13	13.10	21.30	10.99
26	0.9000	0.900	400.00	1120.0	14.9	21.67	10.32	31.99	3.10	13.00	21.16	10.83

PERMEABILITY TEST REPORT

TEST DATA:

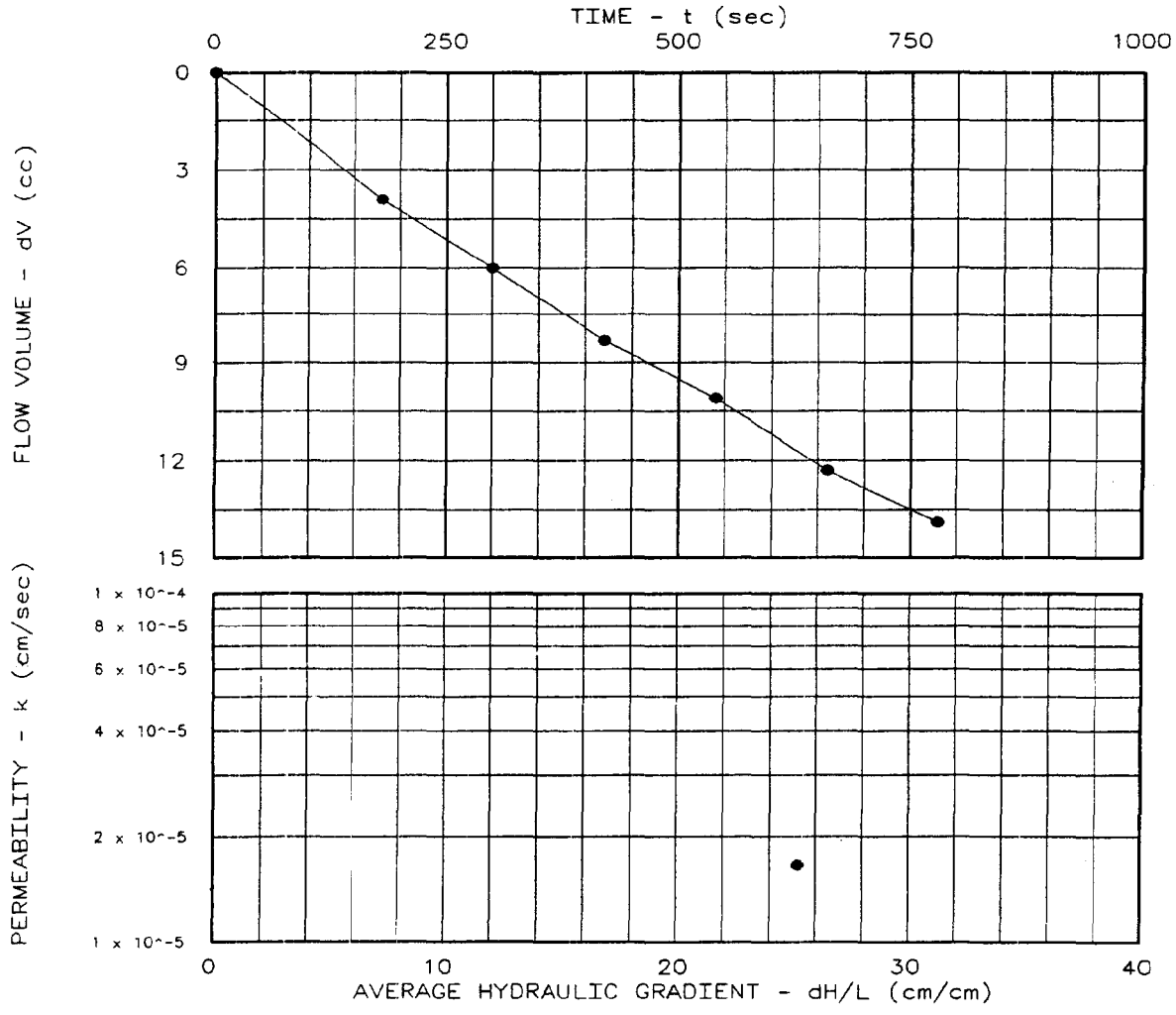
Specimen Height (cm): 4.96
Specimen Diameter (cm): 7.14
Dry Unit Weight (pcf): 90.9
Moisture Before Test (%): 19.4
Moisture After Test (%): 22.2
Run Number: 1 ● 2 ▲
Cell Pressure (psi): 57.0
Test Pressure(psi): 52.0
Back Pressure(psi): 50.2
Diff. Head (psi): 1.8
Flow Rate (cc/sec): 1.78 x 10^-2
Perm. (cm/sec): 1.67 x 10^-5

SAMPLE DATA:

Sample Identification: B-2A Bulk @ 0'-5'

Visual Description: Grey Bottom Ash with Fly Ash
Remarks: Remolded to Moisture and Density of B-1 @ 4'-4.5'
Maximum Dry Density (pcf):
Optimum Moisture Content (%):

Percent Compaction:
Permeameter type: Flexible Wall
Sample type: Remolded



Project: TVA Kingston Ash Disposal
Location:
Date: 04-19-04

PERMEABILITY TEST REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Project No.: 3043041009
File No.: As# 2640
Lab No.: 6226
Tested by: MH
Checked by: CPT
Test: CH - Constant head

PERMEABILITY TEST DATA

PROJECT DATA

Project Name:	TVA Kingston Ash Disposal
File No.:	As# 2640
Project Location:	
Project No.:	3043041009
Sample Identification:	B-2A Bulk @ 0'-5'
Lab No.:	6226
Description:	Grey Bottom Ash with Fly Ash
Sample Type:	Remolded
Max. Dry Dens.:	
Method (D1557/D698):	
Opt. Water Content:	
Date:	04-19-04
Remarks:	Remolded to Moisture and Density of B-1 @ 4'-4.5'
Permeameter Type:	Flexible Wall
Tested by:	MH
Checked by:	CPT
Test type:	CH - Constant head

PERMEABILITY TEST SPECIMEN DATA

	Before test:			After test:		
Diameter:	1	2		1	2	
Top:	2.811 in	in		2.811 in	in	
Middle:	in	in		in	in	
Bottom:	in	in		in	in	
Average:	2.81 in	7.14 cm		2.81 in	7.14 cm	
Length:	1	2	3	1	2	3
	1.953 in	in	in	1.953 in	in	in
Average:	1.95 in	4.96 cm		1.95 in	4.96 cm	

Moisture, Density and Sample Parameters:

Specific Gravity:	2.40	
Wet Wt. & Tare:	345.53	353.56
Dry Wt. & Tare:	289.27	289.27
Tare Wt.:	0.00	0.00
Moisture Content:	19.4 %	22.2 %
Dry Unit Weight:	90.9 pcf	90.9 pcf
Porosity:	0.3932	0.3932
Saturation:	72.0 %	82.3 %

CONSTANT HEAD PERMEABILITY TEST CONDITIONS DATA

Cell No.: 3 Panel No.: 15 Positions: 1

	Run Number: 1	2
Cell Pressure:	57.0 psi	0.0 psi
Saturation Pressure:	50.0 psi	0.0 psi
Inflow Corr. Factor:	1.00	1.00
Outflow Corr. Factor:	1.00	1.00
Test Temperature:	22.2 °C	0.0 °C

PERMEABILITY TEST READINGS DATA

CASE D X S R	DATE	TIME (24 hr)	ELAPSED TIME-sec	GAUGE PRESSURE-psi IN	GAUGE PRESSURE-psi OUT	BURET READING-cc IN	BURET READING-cc OUT	OUTFLOW/ INFLOW RATIO
S	4/13/ 4	7:51:00	0	52.0	50.0	30.00	30.00	0.00
	4/13/ 4	7:54:00	180	52.0	50.0	33.90	26.10	1.00
	4/13/ 4	7:56:00	300	52.0	50.0	36.00	24.00	1.00
	4/13/ 4	7:58:00	420	52.0	50.0	38.30	21.70	1.00
	4/13/ 4	8:00:00	540	52.0	50.0	40.10	19.90	1.00
	4/13/ 4	8:02:00	660	52.0	50.0	42.30	17.70	1.00
	4/13/ 4	8:04:00	780	52.0	50.0	43.90	16.10	1.00

Test Pressure = 52.0 psi Differential Head = 1.8 psi, 125.0 cm H2O
Gradient = 2.521E 01 Flow rate = 1.775E-02 cc/sec R squared = 0.99547
Permeability, K22.2° = 1.759E-05 cm/sec, K20° = 1.669E-05 cm/sec

PERMEABILITY TEST REPORT

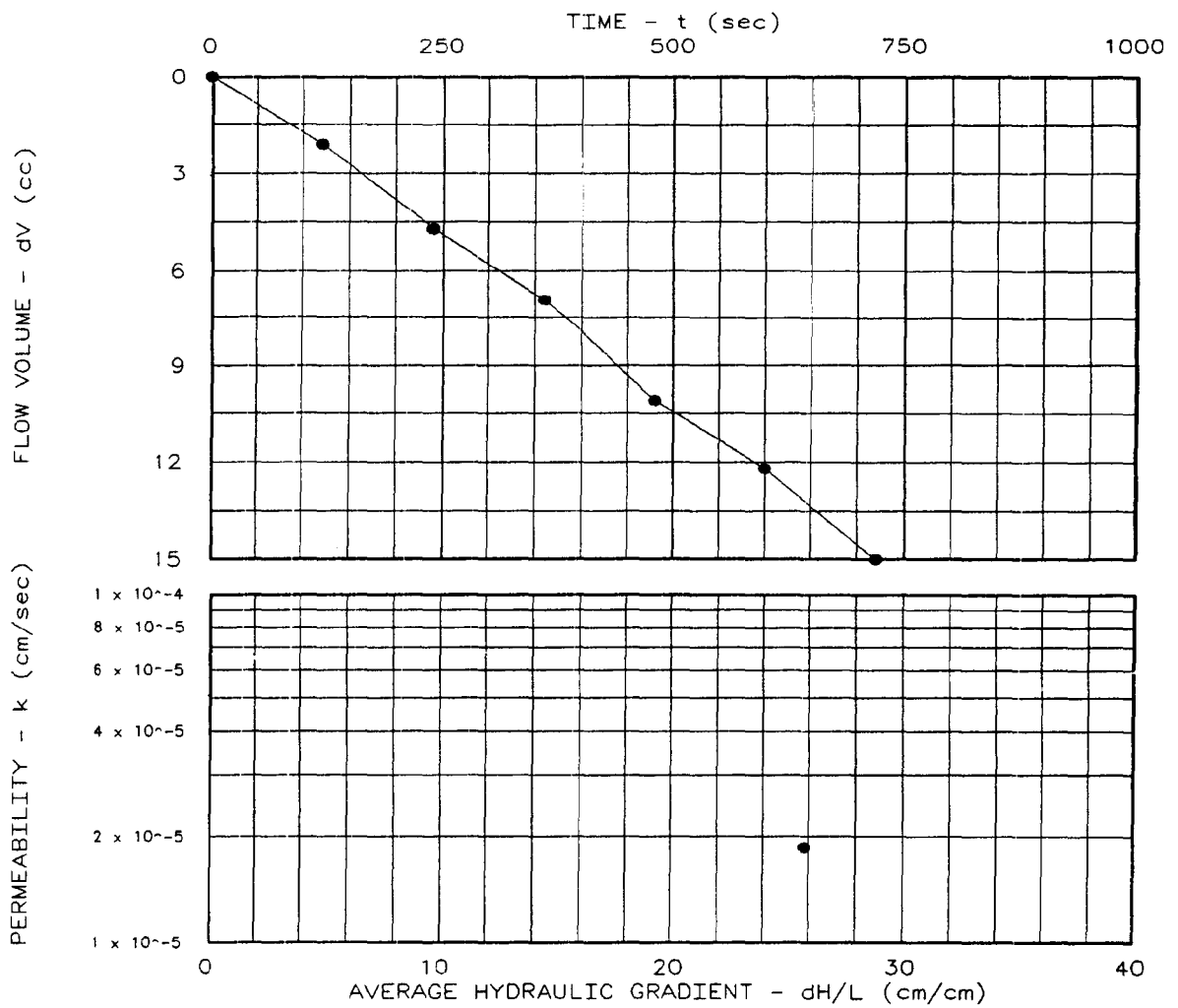
TEST DATA:

Specimen Height (cm): 4.88
Specimen Diameter (cm): 7.21
Dry Unit Weight (pcf): 87.8
Moisture Before Test (%): 21.4
Moisture After Test (%): 25.1
Run Number: 1 ● 2 ▲
Cell Pressure (psi): 57.0
Test Pressure(psi): 52.0
Back Pressure(psi): 50.2
Diff. Head (psi): 1.8
Flow Rate (cc/sec): 2.10 x 10^-2
Perm. (cm/sec): 1.87 x 10^-5

SAMPLE DATA:

Sample Identification: B-1A & 1B Bulk @ 0'-5'
Visual Description: Grey Bottom Ash with Fly Ash
Remarks: Remolded to Moisture and Density of B-1 @ 4'-4.5'
Maximum Dry Density (pcf):
Optimum Moisture Content (%):

Percent Compaction:
Permeameter type: Flexible Wall
Sample type: Remolded



Project: TVA Kingston Ash Disposal
Location:
Date: 04-19-04

PERMEABILITY TEST REPORT

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Project No.: 3043041009
File No.: As# 2640
Lab No.: 6226
Tested by: MH
Checked by: CPT
Test: CH - Constant head

PERMEABILITY TEST DATA

PROJECT DATA

Project Name:	TVA Kingston Ash Disposal
File No.:	As# 2640
Project Location:	
Project No.:	3043041009
Sample Identification:	B-1A & 1B Bulk @ 0'-5'
Lab No.:	6226
Description:	Grey Bottom Ash with Fly Ash
Sample Type:	Remolded
Max. Dry Dens.:	
Method (D1557/D698):	
Opt. Water Content:	
Date:	04-19-04
Remarks:	Remolded to Moisture and Density of B-1 @ 4'-4.5'
Permeameter Type:	Flexible Wall
Tested by:	MH
Checked by:	CPT
Test type:	CH - Constant head

PERMEABILITY TEST SPECIMEN DATA

	Before test:			After test:		
Diameter:	1	2		1	2	
Top:	2.838 in	in		2.838 in	in	
Middle:	in	in		in	in	
Bottom:	in	in		in	in	
Average:	2.84 in	7.21 cm		2.84 in	7.21 cm	
Length:	1	2	3	1	2	3
	1.923 in	in	in	1.923 in	in	in
Average:	1.92 in	4.88 cm		1.92 in	4.88 cm	

Moisture, Density and Sample Parameters:

Specific Gravity:	2.35	
Wet Wt. & Tare:	340.23	350.67
Dry Wt. & Tare:	280.30	280.30
Tare Wt.:	0.00	0.00
Moisture Content:	21.4 %	25.1 %
Dry Unit Weight:	87.8 pcf	87.8 pcf
Porosity:	0.4016	0.4016
Saturation:	74.9 %	87.9 %

CONSTANT HEAD PERMEABILITY TEST CONDITIONS DATA

Cell No.: 2 Panel No.: 13 Positions: 1

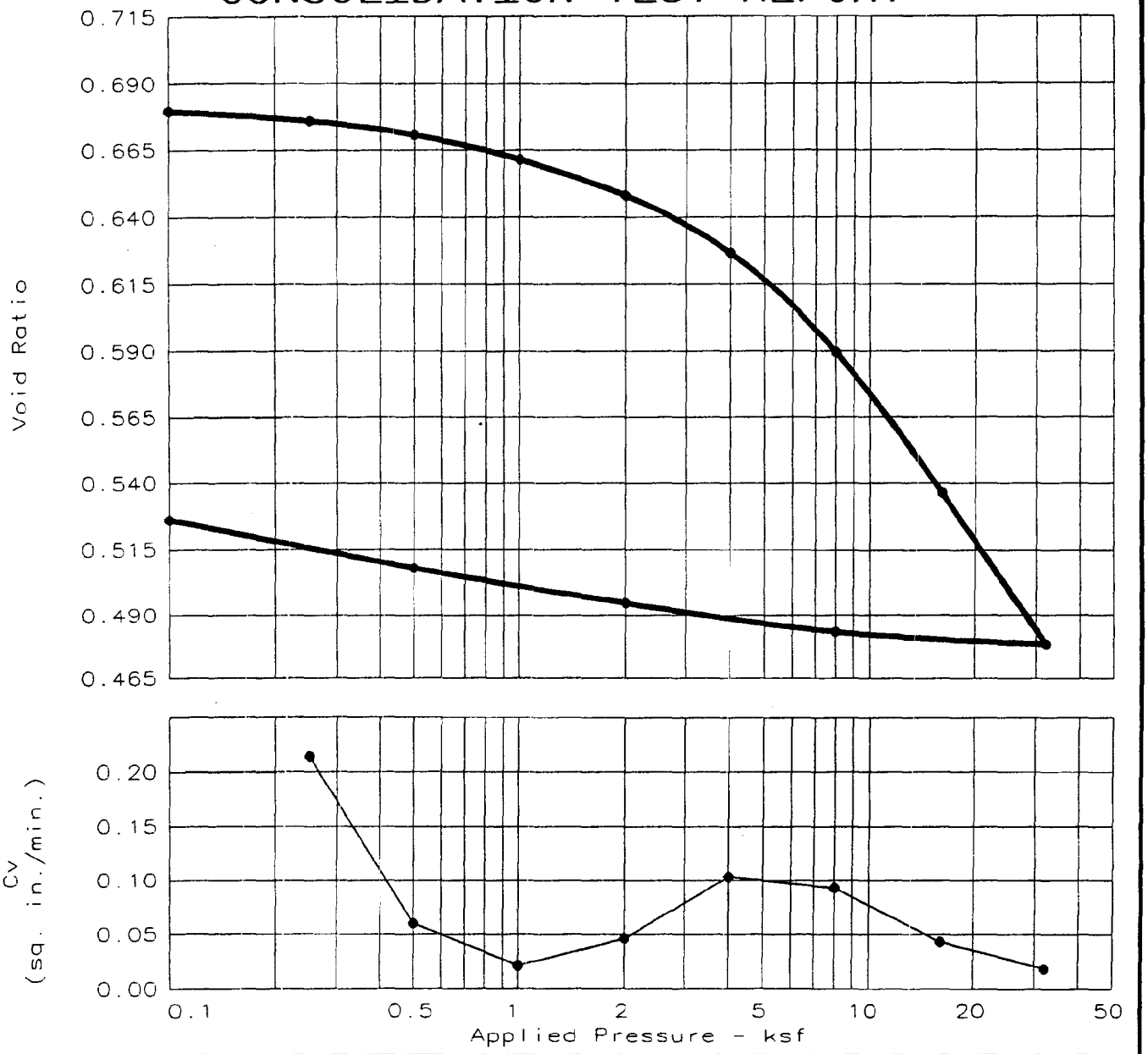
	Run Number: 1	2
Cell Pressure:	57.0 psi	0.0 psi
Saturation Pressure:	50.0 psi	0.0 psi
Inflow Corr. Factor:	1.00	1.00
Outflow Corr. Factor:	1.00	1.00
Test Temperature:	22.8 °C	0.0 °C

PERMEABILITY TEST READINGS DATA

CASE D X S R	DATE	TIME (24 hr)	ELAPSED TIME-sec	GAUGE PRESSURE-psi IN	GAUGE PRESSURE-psi OUT	BURET READING-cc IN	BURET READING-cc OUT	OUTFLOW/ INFLOW RATIO
S	4/13/ 4	7:55:00	0	52.0	50.0	30.00	30.00	0.00
	4/13/ 4	7:57:00	120	52.0	50.0	32.10	27.90	1.00
	4/13/ 4	7:59:00	240	52.0	50.0	34.70	25.30	1.00
	4/13/ 4	8:01:00	360	52.0	50.0	36.90	23.10	1.00
	4/13/ 4	8:03:00	480	52.0	50.0	40.10	19.90	1.00
	4/13/ 4	8:05:00	600	52.0	50.0	42.20	17.80	1.00
	4/13/ 4	8:07:00	720	52.0	50.0	45.00	15.00	1.00

Test Pressure = 52.0 psi Differential Head = 1.8 psi, 126.0 cm H2O
Gradient = 2.580E 01 Flow rate = 2.101E-02 cc/sec R squared = 0.99789
Permeability, K22.8° = 1.995E-05 cm/sec, K20° = 1.866E-05 cm/sec

CONSOLIDATION TEST REPORT



Wet Density	Natural Moisture	Dry Dens. (pcf)	LL	PI	Sp.Gr.	Precons. (ksf)	C_c	e_o
124.3	21.9 %	102.0	26	10	2.670	8.42	0.19	0.6795

TEST RESULTS	MATERIAL DESCRIPTION
Compression Index = 0.19	Grey-Brown Sandy Lean Clay Class: CL
Project No.: 3043-04-1009/0001 Project: TVA Kingston Ash Disposal Area Location: B-8A UD @ 60'-62' Date: 04-20-04	Remarks:
CONSOLIDATION TEST REPORT LAW ENGINEERING AND ENVIRONMENTAL SERVICES	Fig. No. _____

15:03, 4-26-1904 CONSOLIDATION TEST PROJECT DATA Test No. 222

Project Number: 3043-04-1009/0001
Project: TVA Kingston Ash Disposal Area
Date: 04-20-04
Location 1: B-8A UD @ 60'-62'
2:
Remarks 1:
2:
3:
4:
5:
Material description Grey-Brown Sandy Lean Clay
Classification: CL
Liquid limit: 26
Plasticity index: 10
Figure Number:

CONSOLIDATION TEST SPECIMEN DATA

TOTAL SAMPLE	BEFORE TEST	AFTER TEST
Wet w+t = 141.27 g.	Cedometer No. = 3	Wet w+t = 138.42 g.
Dry w+t = 115.90 g	Machine No. = 3	Dry w+t = 115.90 g.
Tare wt. = 0.00 g.	Spec. Gravity = 2.670	Tare wt. = 0.00 g.
Height = 2.9880 in.	Height = 0.9992 in.	
Diameter = 2.8850 in.	Diameter = 2.3810 in.	
Weight = 637.52 g.		
Moisture = 21.9 %	Ht. Solids = 0.5949 in.	Moisture = 19.4 %
Wet Den. = 124.3 pcf	Dry wt. = 119.13 g.	Dry wt. = 115.90 g. *
Dry Den. = 102.0 pcf	Void ratio = 0.6795	Void ratio = 0.5262
	Saturation = 86.0 %	

* Final dry weight used in calculations

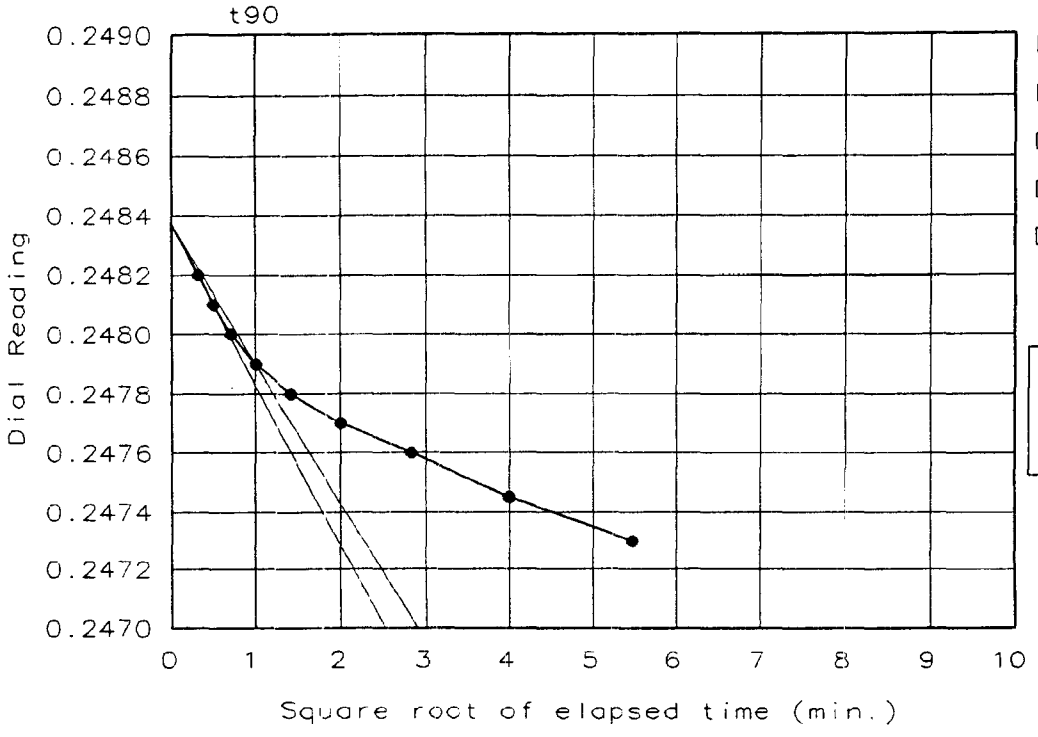
CONSOLIDATION TEST READINGS SUMMARY

LOAD (ksf)	DIAL (in.)	DEFLECTION (in.)	CORRECTED DIAL (in.)	VOID RATIO	% SWELL/COMPRS.
Initial	0.25000			0.6795	
0.10	0.25000	0.0000	0.25000	0.6795	0.0
0.25	0.24720	0.0001	0.24730	0.6759*	0.2 Comprs.*
0.50	0.24320	0.0002	0.24340	0.6707*	0.5 Comprs.*
1.00	0.23720	0.0004	0.23760	0.6613*	1.1 Comprs.*
2.00	0.22850	0.0007	0.22920	0.6479*	1.9 Comprs.*
4.00	0.21420	0.0011	0.21530	0.6266*	3.2 Comprs.*
8.00	0.19030	0.0018	0.19210	0.5895*	5.4 Comprs.*
16.00	0.15770	0.0029	0.16060	0.5365*	8.5 Comprs.*
32.00	0.12260	0.0046	0.12720	0.4790*	11.9 Comprs.*
8.00	0.12825	0.0018	0.13005	0.4837	11.7 Comprs.
2.00	0.13580	0.0007	0.13650	0.4946	11.0 Comprs.
0.50	0.14425	0.0002	0.14445	0.5080	10.2 Comprs.
0.10	0.15530	0.0000	0.15530	0.5262	9.1 Comprs.

Dial Reading vs. Time

Project No.: 3043-C4-1009/0001
Project: TVA Kingston Ash Disposal Area
Location: B-8A UD @ 60'-62'

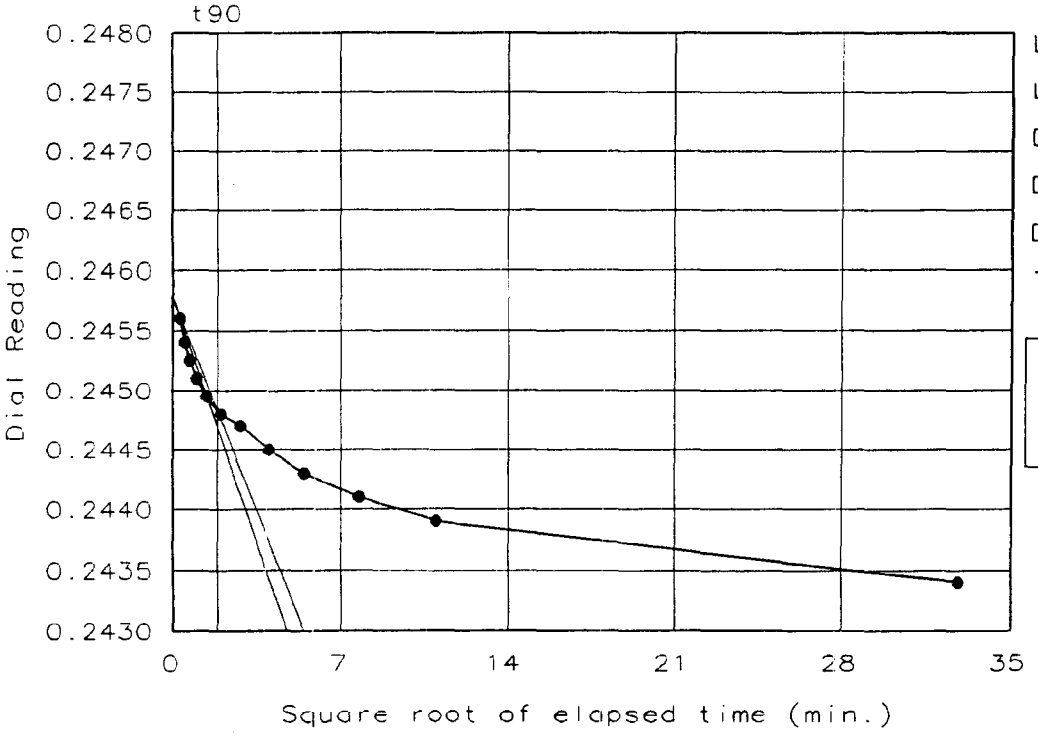
Date: 04-20-04



Load No.= 2
Load= 0.25 ksf
D_0 = 0.2484
D_{90} = 0.2479
D_{100}= 0.2479
T_{90}= 0.98 min.

C_v @ T_{90} = .214 $in.^2/min.$

I.C.=76.2 %



Load No.= 3
Load= 0.50 ksf
D_0 = 0.2458
D_{90} = 0.2448
D_{100}= 0.2447
T_{90}= 3.50 min.

C_v @ T_{90} = .060 $in.^2/min.$

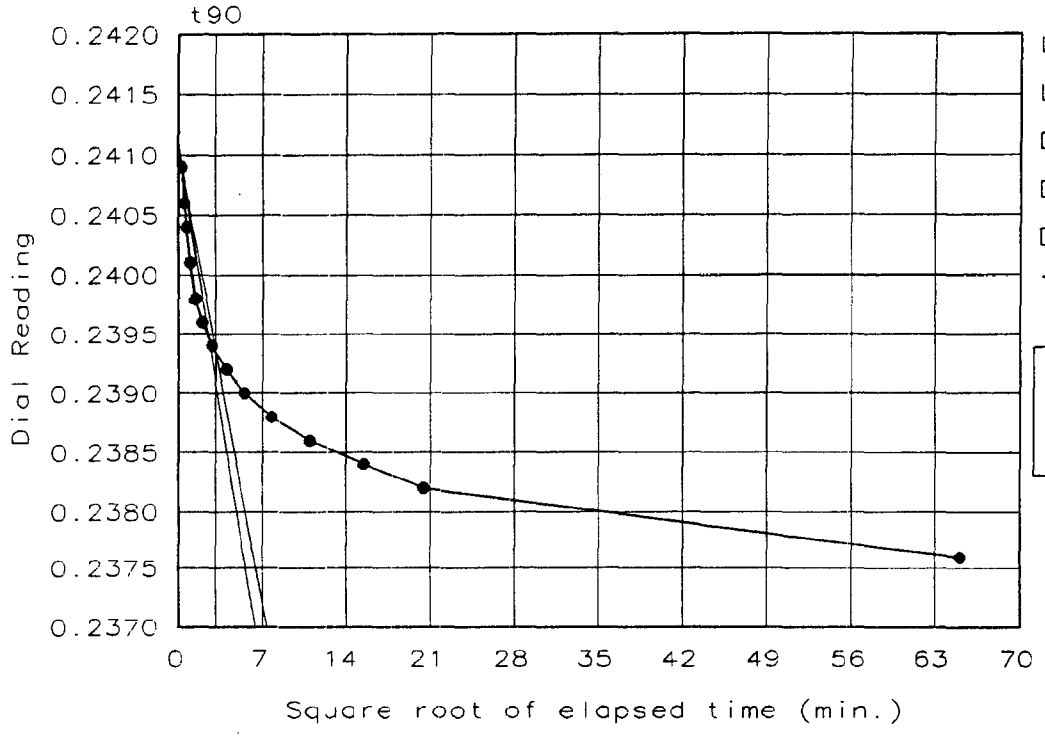
I.C.=57.7 %

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Dial Reading vs. Time

Project No.: 3043-04-1009/0001
Project: TVA Kingston Ash Disposal Area
Location: B-8A UD @ 60'-62'

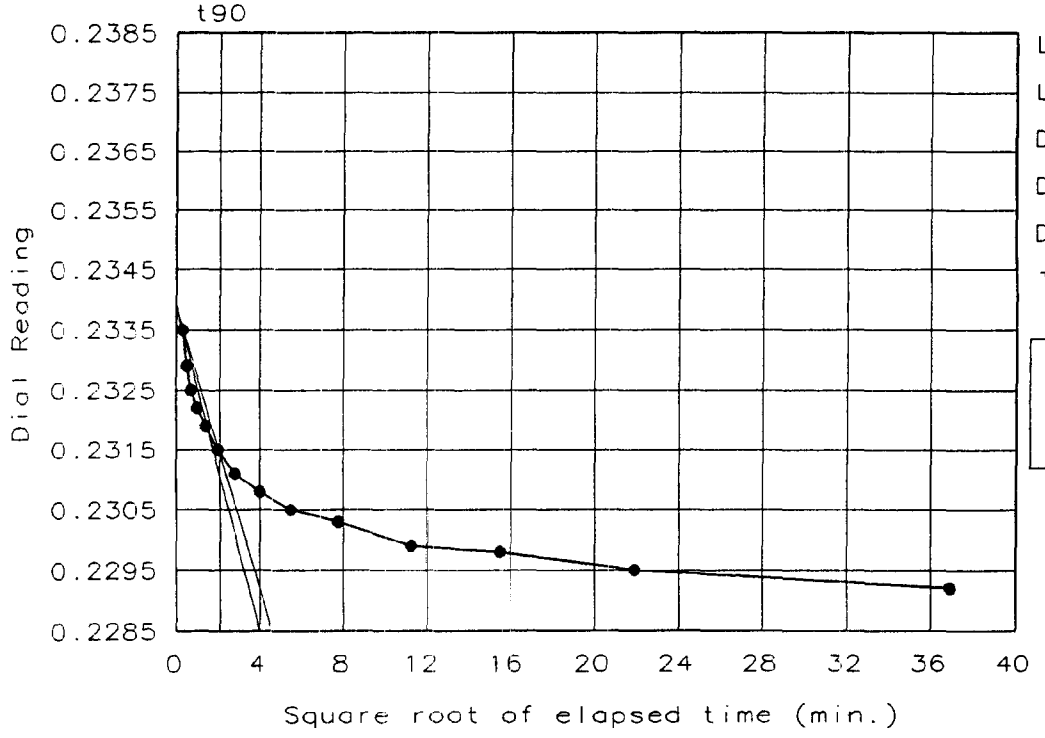
Date: 04-20-04



Load No.= 4
Load= 1.00 ksf
D_0 = 0.2411
D_{90} = 0.2393
D_{100}= 0.2392
T_{90}= 9.91 min.

C_v @ T_{90} = .021 $in.^2/min.$

I.C.=54.8 %



Load No.= 5
Load= 2.00 ksf
D_0 = 0.2339
D_{90} = 0.2315
D_{100}= 0.2312
T_{90}= 4.41 min.

C_v @ T_{90} = .046 $in.^2/min.$

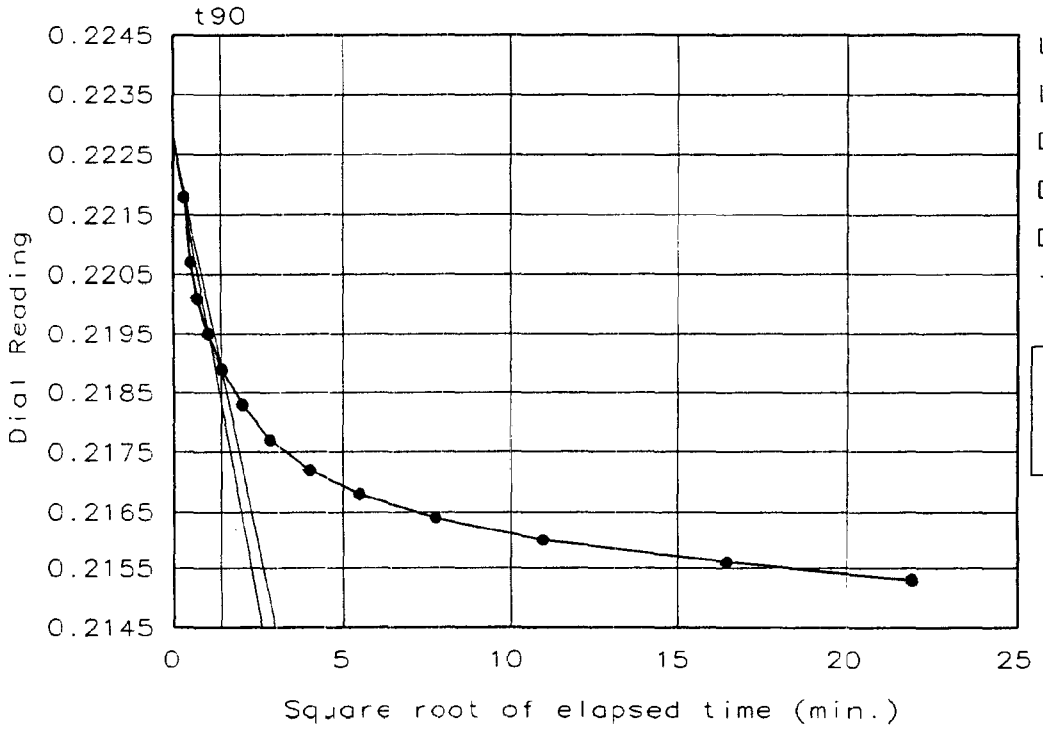
I.C.=57.8 %

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Dial Reading vs. Time

Project No.: 3043-04-1009/0001
Project: TVA Kingston Ash Disposal Area
Location: B-8A UD @ 60'-62'

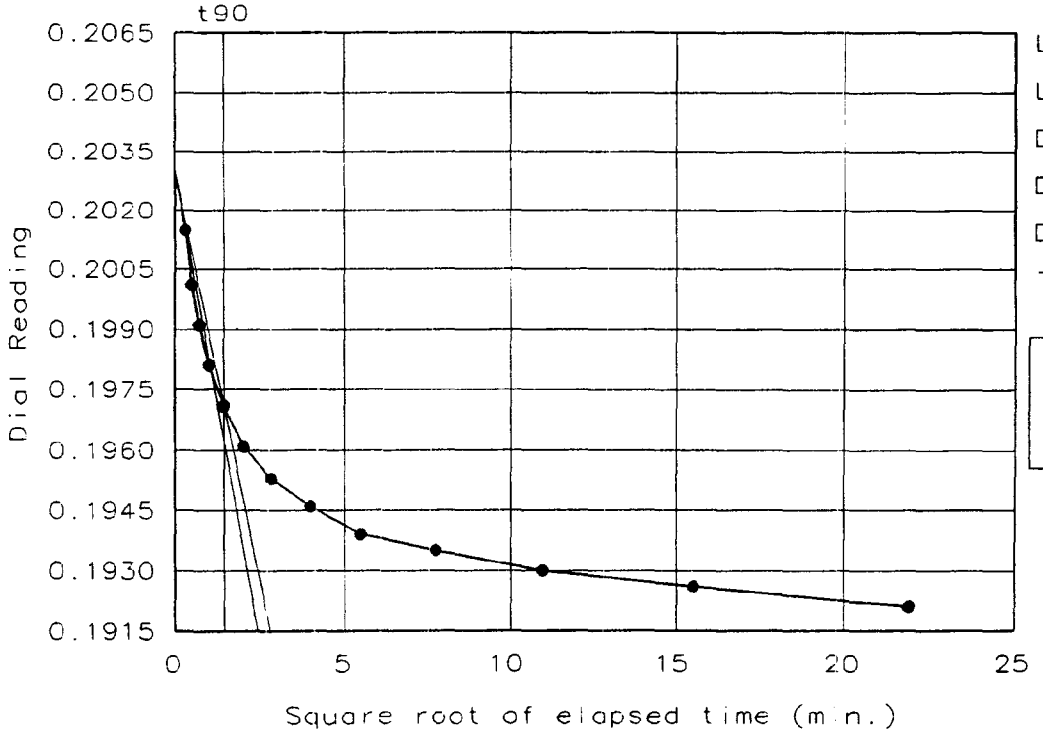
Date: 04-20-04



Load No.= 6
Load= 4.00 ksf
D_0 = 0.2228
D_{90} = 0.2189
D_{100}= 0.2185
T_{90}= 1.94 min.

C_v @ T_{90} =
.103 $in.^2/min.$

I.C.=59.8 %



Load No.= 7
Load= 8.00 ksf
D_0 = 0.2030
D_{90} = 0.1971
D_{100}= 0.1964
T_{90}= 2.06 min.

C_v @ T_{90} =
.093 $in.^2/min.$

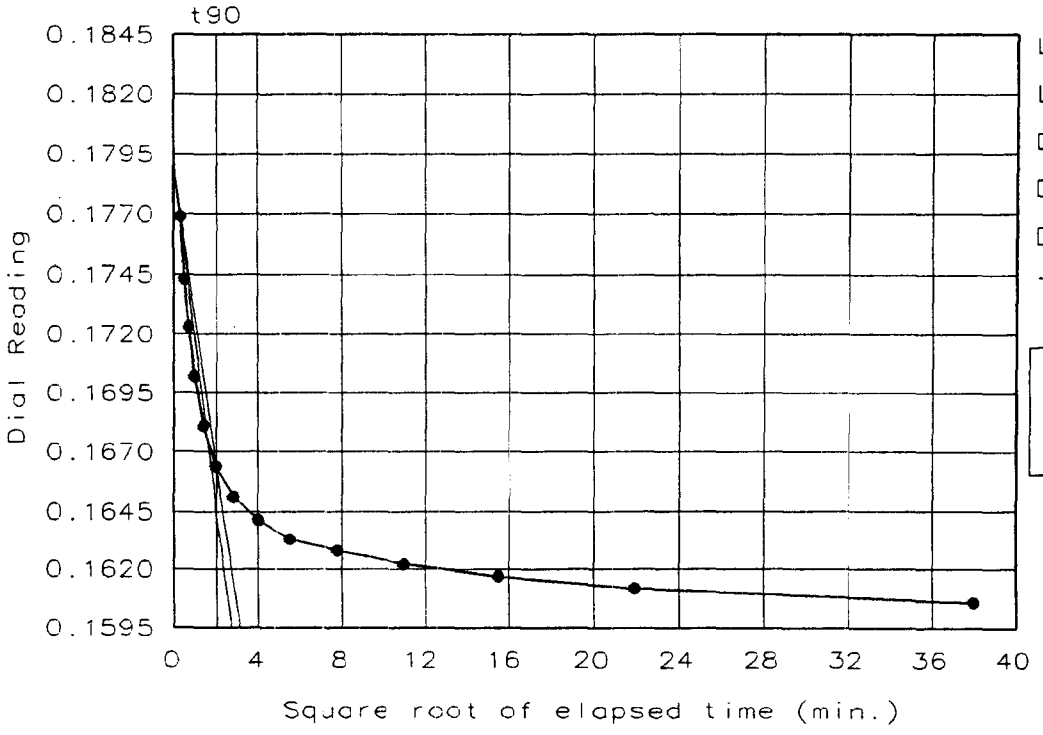
I.C.=65.1 %

LAW ENGINEERING AND ENVIRONMENTAL SERVICES

Dial Reading vs. Time

Project No.: 3043-04-1009/0001
Project: TVA Kingston Ash Disposal Area
Location: B-8A UD @ 60'-62'

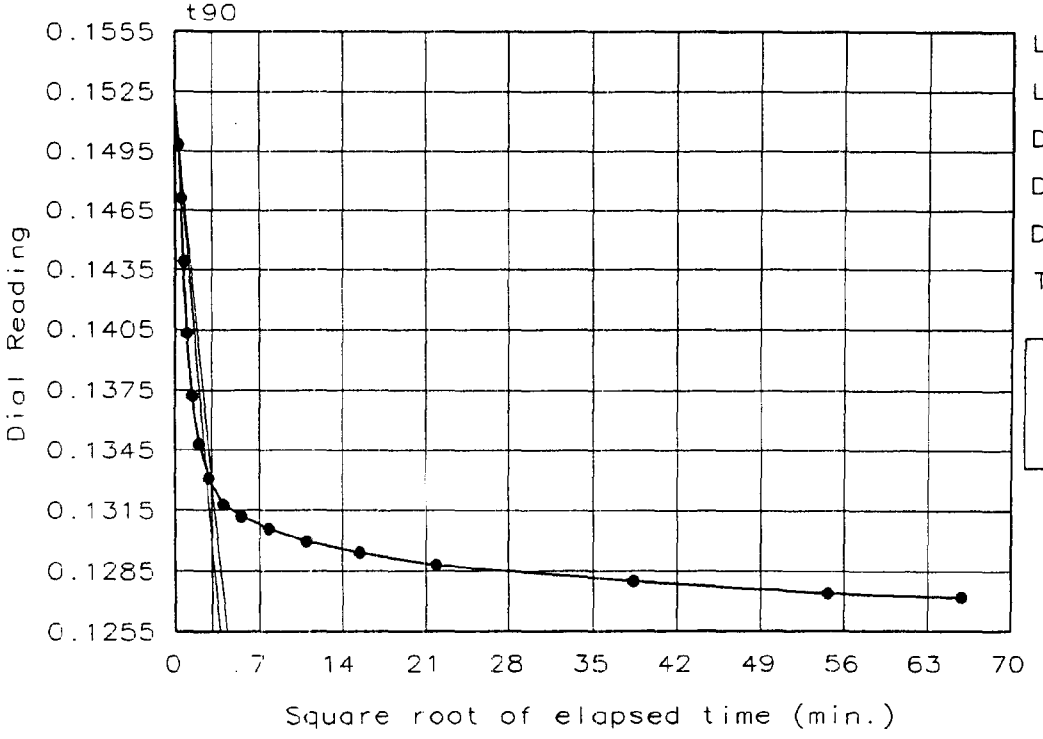
Date: 04-20-04



Load No.= 8
Load= 16.00 ksf
D_0 = 0.1792
D_{90} = 0.1663
D_{100}= 0.1649
T_{90}= 4.19 min.

C_v @ T_{90} =
.043 $in.^2/min.$

I.C.=47.4 %



Load No.= 9
Load= 32.00 ksf
D_0 = 0.1521
D_{90} = 0.1328
D_{100}= 0.1307
T_{90}= 9.56 min.

C_v @ T_{90} =
.018 $in.^2/min.$

I.C.=28.4 %

LAW ENGINEERING AND ENVIRONMENTAL SERVICES