Prepared for:

DELAWARE SOLID WASTE AUTHORITY
1128 South Bradford Street
Dover, Delaware 19903-0455

SLOPE STABILITY EVALUATION

PIGEON POINT LANDFILL
WILMINGTON, DELAWARE

Contract No. S-03-512-NC

Prepared by:

GEOSYNTEC CONSULTANTS
10015 Old Columbia Road, Suite A-200
Columbia, Maryland 21046

GeoSyntec Project Number: ME0414

10 January 2005

GEOSYNTEC CONSULTANTS

10015 Old Columbia Road, Suite A-200
Columbia, Maryland 21046 • USA
Tel. (410) 381-4133 • Fax (410) 381-4499

10 January 2005

Delaware Solid Waste Authority
1128 South Bradford Street
Dover, Delaware 19903

Attention: Ms. Anne M. Germain, P.E., DEE
Project Manager

Subject: Slope Stability Evaluation for Pigeon Point Landfill
Wilmington, Delaware
Contract No. S-03-512-NC

Dear Ms. Germain:

GeoSyntec Consultants (GeoSyntec) is pleased to present the results of a slope stability evaluation conducted by GeoSyntec for the Pigeon Point Landfill (PPL), which is owned by the Delaware Solid Waste Authority (DSWA). The results are contained in a calculation package included in Attachment 1. The evaluation consisted of the following tasks: (a) perform a field investigation using Cone Penetration Testing (CPT); (b) review stability analyses previously performed by others [SEA, 1999]; (c) review available liquid level monitoring records; (d) develop estimates of the current strength of foundation soils from the CPT investigation; (e) perform slope stability analyses; and (f) make recommendations based on results of the stability analysis. In the next paragraphs, a brief summary of the work performed and recommendations are presented.

GeoSyntec completed a field investigation in November 2004 that included ten CPTs at PPL. This information is presented in Attachment 2. Results from these CPTs, along with supplementary data from SEA [1999], were used to evaluate the stratigraphy and undrained shear strength of the foundation soils. Monitoring data provided by DSWA was reviewed and subsequently used to model the liquid levels inside and outside the waste footprint. Using this information, a slope stability analysis was performed on two cross-sections at the site for short-term conditions (undrained strength parameters in the alluvium) and long-term conditions (drained strengths in the alluvium).

The results of the stability analysis show that: (a) for short-term conditions, the calculated factors of safety are around 1.1 and less than the minimum recommended of 1.25; (b) these results are sensitive to the assumptions made; (c) some degree of

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conservatism may exist in the assumptions made concerning the liquid level in waste and the strength of the alluvium; if the assumptions are correct, the calculated factors of safety are also conservative and too low; (d) if the elevation of the liquid level elevation in the waste is changed from the observed value of 45 ft-msl to 30 ft-msl, supplementary analyses show that adequate factors of safety for short-term conditions are obtained; and (e) the calculated factors of safety for long-term conditions are adequate.

In order to verify assumptions made in the analyses presented in Attachment 1, GeoSyntec recommends the following action items:

a) review the grading plan and tonnage records over time to ascertain the loading rate and determine if the recently observed elevated liquid levels may be with the rate of loading;

b) perform additional CPTs at selected locations at the top of the waste slope and inside the waste footprint to quantify the undrained shear strength of the alluvium in these areas;

c) evaluate in more detail the liquid levels in the waste and liquid level elevations;

d) review records of the leachate collection system, if available;

e) perform a limited consolidation-strength analysis to characterize more accurately the gain of undrained shear strength due to consolidation; and

f) perform additional slope stability analysis along other cross sections to assess whether the low safety factors that were calculated are generalized or localized.

This additional information should provide the basis to verify assumptions made in the analyses presented herein. Additional data may show that previous assumptions are too conservative. However, if the assumptions are confirmed, other action items will be recommended in the future. These action items may include:

- installation of monitoring instruments (e.g., inclinometers, piezometers);
- modification to the grading plan;
- installation additional leachate observation wells closer to the landfill crest; and
- stability measures.

REFERENCE

Schnabel Engineering Associates (1999). "*Geotechnical Study, Northern Solid Waste Management Center-1, Pigeon Point Disposal Area, Wilmington, Delaware*". Submitted to the Delaware Solid Waste Authority, 10 December.

CLOSING

GeoSyntec appreciates the opportunity to work with you on this project. We will call you in the next few days to discuss this report and the recommendations provided. Should you require additional information, please contact either of the undersigned.

Sincerely,

GeoSyntec Consultants

Shana M. Opdyke
Senior Staff Engineer

Carlos A. Lazarte, Ph.D., P.E.
Senior Engineer

Enclosures

Copies to: M. Houliban, GeoSyntec
R.D. Espinoza, GeoSyntec

GEOSYNTEC CONSULTANTS

COMPUTATION COVER SHEET

Client: DSWA **Project:** Pigeon Point Landfill **Project/Proposal #:** ME0414 **Task #:** 2

TITLE OF COMPUTATIONS Slope Stability Analysis of Existing Conditions and Proposed Grades

COMPUTATIONS BY:
Signature _____ 1/10/05 DATE
Printed Name and Title: Shana Opdyke, Senior Staff Engineer

ASSUMPTIONS AND PROCEDURES CHECKED BY:
(Peer Reviewer)
Signature _____ 01/10/05 DATE
Printed Name and Title: Carlos Lazarte, Senior Engineer

COMPUTATIONS CHECKED BY:
Signature _____ 01/10/05 DATE
Printed Name and Title: Joo Chai Wong, Senior Staff Engineer

COMPUTATIONS BACKCHECKED BY:
(Originator)
Signature _____ 1/10/05 DATE
Printed Name and Title: Shana Opdyke, Senior Staff Engineer

APPROVED BY:
(PM or Designate)
Signature _____ 01/10/05 DATE
Printed Name and Title: Carlos Lazarte, Senior Engineer

APPROVAL NOTES:

REVISIONS (Number and initial all revisions)

NO.	SHEET	DATE	BY	CHECKED BY	APPROVAL

SLOPE STABILITY ANALYSIS OF EXISTING CONDITIONS AND PROPOSED FINAL GRADES

1. INTRODUCTION

The purpose of this analysis is to evaluate the overall slope stability of the existing and proposed final grades for the Pigeon Point Landfill (PPL). In the slope stability analysis, it was considered that, as the landfill is underlain by soft soils and additional cover material is placed, the relatively low undrained shear strength of these soils may have a negative impact on the slope stability of the landfill. This condition was considered for of both the existing and final grades. The analysis is based on the results of a field investigation using Cone Penetration Test (CPT) performed by GeoSyntec in November 2004 at PPL and takes into account existing information developed by Schnabel Engineers Associates (SEA) of West Chester, Pennsylvania [SEA, 1999].

2. BACKGROUND

The Pigeon Point Landfill (PPL), located in New Castle County, outside Wilmington, Delaware, was originally owned and operated by the county. When the Delaware Solid Waste Authority (DSWA) was created, PPL was transferred to DSWA. Built over a naturally occurring soil liner, the PPL accepted a variety of waste, including municipal solid waste (MSW) from approximately 1971 to 1985. After the closure of the PPL, the landfill was capped. More recently, stabilized sludge has been placed over the cap to increase the cap's thickness. The PPL does not have a modern type of leachate collection system because the landfill construction predates the onset of leachate collection systems use. A system of pipes and manholes was installed in the 1980's to collect the leachate along the perimeter of the landfill. However, a continuous layer of granular material underlying the waste, a key element for lowering liquid levels in waste, is not present.

The PPL was constructed over soft alluvial sediments. The alluvial sediments are geologically recent (e.g., deposited approximately during the last 8,000 years). Apparently, the material of this alluvial deposit is similar to the recent deposits encountered at the DSWA's Cherry Island Landfill (CIL), which is located to the north of the PPL site. SEA (1999) reports that the alluvium under PPL consists of elastic silt and contains some organics. Occasionally, the alluvium contains lenses of peat and fine sand. Along the PPL perimeter, the alluvium is covered by fill that ranges from clay, elastic silt, and gravel, and has a thickness varying between

30 ft to about 3 ft. Under the waste, the alluvium thickness varies from approximately 30 and 40 ft.

As mentioned above, the soft alluvium under PPL has relatively low undrained shear strengths. The ongoing placement of cover soil at the PPL generates excess pore pressure. As the alluvium typically exhibits a low hydraulic conductivity, it takes a long time for the excess pore pressures to dissipate. Under these conditions, the short-term stability of the system is the most critical, and it is directly affected by the low undrained shear strength of the alluvium. In order to assess this situation (as well as long-term stability conditions), the DSWA requested SEA to perform a field investigation and slope stability analysis of the PPL in 1998 and 1999.

The SEA analyses were based on the then-existing undrained shear strength. The proposed filling plan apparently had no restriction on the rate of waste placement. Currently, it is not known how the rate of fill placement affects the overall stability of the landfill. No evidence of instability has been noticed at the PPL. However, it is noted that no geotechnical instruments (e.g., inclinometers or piezometers) are installed at the PPL; therefore, subsurface displacements that may be indicative of increasing potential of slope instability cannot be adequately measured or monitored.

Over twenty groundwater-monitoring wells exist at the site. These wells have been in operation since approximately 1981. In the last two and half years, DSWA has noticed a trend of increased groundwater elevation in one cluster of wells. It is not known whether the rate of fill placement is directly related to the measured increase in groundwater elevation.

To evaluate whether the nature of the filling plan and/or the filling rate at the site are compromising the stability of PPL, DSWA requested GeoSyntec to: (i) perform a limited field investigation to evaluate the current strength of foundation soils; (ii) review of groundwater monitoring data and; (iii) evaluate stability; and (iv) make recommendations, including whether there is a need for installing geotechnical instruments to monitor the performance of the facility.

The next few sections present the results of GeoSyntec's work. Results of GeoSyntec CPT tests are provided in Appendix A. Selected results from previous investigations are provided in Appendix B. Records of groundwater monitoring wells provided by DSWA are presented in Appendix C. Results of the stability analysis are provided in Appendices D through H.

3. CPT INVESTIGATION

A field investigation using CPT was performed on 15 and 16 November 2004 by ConeTec of West Berlin, New Jersey under GeoSyntec's supervision. ConeTec used a 20-ton track-

mounted rig to perform the CPTs to obtain results that would allow estimating the strength parameters of the alluvium for stability analysis.

The CPT uses a probe (cone penetrometer) that is attached to a series of pipe segments, which are pushed into the ground. This assembly is pushed by the weight of the CPT rig, which contains a cabin and recording instruments. The CPT probe contains electronic devices that indirectly measure the soil resistance to penetration and the soil friction and transmits the electric signal captured by the device through cables housed in the pipe segments. Soil penetration measurements are obtained every few inches and are automatically recorded and monitored in the rig cabin. The piezo cone used in these tests was a model that has a tip area of 15 cm^2 and a friction sleeve lateral area of 225 cm^2.

CPT testing was performed at ten locations, which are shown as points CPT-04-001 through CPT-04-010 on Figure 1. The locations of the CPTs performed in 2004 were selected so tests would be performed at the same location of or close to the SEA CPTs conducted in 1998. The objective was to test areas where low strength had been previously measured. Apex Engineering Inc. of Newport, DE surveyed the location of CPTs performed in 2004. Five 2005 CPTs were performed at locations at or near 1998 CPTs, while five 2005 CPTs were performed no more than 200 ft away from 1998 CPTs. GeoSyntec performed two CPTs (i.e., CPT-04-05 and CPT-04-09) within the perimeter of the PPL. The remainder of the CPTs were carried out along the perimeter, where stability is more critical.

Results of the CPT tests are provided in Appendix A for each of the ten CPT tests performed. Records and results of the CPT investigation developed by ConeTec are provided in a separate report [ConeTec, 2004]. As presented in Appendix A, the stratigraphy outside the waste, based on results of the 2004 investigation, consists of 15 to 30 ft of recent alluvium, which is underlain by sand deposits. Within the landfill perimeter, the alluvium is covered by fill, waste and stabilized sludge. Based on its characteristics, the alluvium deposit is differentiated herein as an upper layer and a lower layer. The upper layer of alluvium is approximately 10 to 20 ft thick; the lower layer is approximately 10 to 15 ft thick. A deposit of sand that occurs at various elevations underlies the alluvium. In this calculation package, the sand below the recent alluvium is referred to only as "sand". However, in the SEA report this layer is referred to as the Columbia Formation. It is likely that the upper part of this deposit is not the Columbia Formation, which tends to be deeper regionally. In general, the stratigraphy encountered in the 2004 CPT investigation is similar to that described by SEA in 1999.

The undrained shear strength of the alluvium was estimated along the perimeter of the PPL and under the waste from the CPT results. The undrained shear strength S_u was calculated as:

$$S_u = \frac{q_t - \sigma_{vo}}{N_k}$$

where q_t is the corrected cone tip resistance, σ_{vo}= is the total overburden pressure, and N_k is a factor referred to as the cone factor, which was considered equal to 15.

For the alluvium outside the waste, the undrained shear strength along the southern and northwestern perimeter of the PPL varies from approximately 280 pounds per square feet (psf) to 520 psf in the uppermost layer of alluvium, and from 460 to 720 psf in the lower layer. Along the northeastern perimeter of the landfill, the alluvium is generally stronger (i.e., 420 psf for the upper portion of alluvium and 880 psf for the lower portion). For the alluvium under the waste, the undrained shear strength is approximately 1,000 psf. These values are generally comparable with slightly lower than those reported in 1999 by SEA.

4. PREVIOUS FIELD INVESTIGATIONS

Previously, SEA [1999] performed a geotechnical investigation that included a series of in-situ and laboratory geotechnical tests. That field investigation employed nine CPTs, two Dilatometer Tests (DMTs), two Field Vane Shear Tests (FVSTs), and three boring Standard Penetration Tests (SPT). Selected results of that field investigation are presented in Appendix B. The laboratory portion of this work included the following test: i) natural moisture content; ii) natural density; iii) grain size analysis; iv) Atterberg Limits; v) consolidation; vi) unconfined compression tests; and vii) consolidated undrained triaxial shear strength tests. GeoSyntec reviewed the 1999 results to complement the 2004 CPT investigation.

5. GEOMETRY AND SECTIONS SELECTED FOR ANALYSIS

The existing grades used in this calculation are based on survey data obtained from DSWA on 14 November 2004 (see Figure 1). For the current grade, the elevation of existing waste is approximately 60 ft-msl and the bottom of waste, based on the results of the 2004 CPT investigation, is at elevation of approximately 15 to 12 ft-msl [SEA, 1999], resulting in an average waste thickness of approximately 45 ft. SEA [1999] also reports that the bottom of existing waste is at elevation 15 ft-msl.

The final grades used in this calculation were obtained from SEA [1999], descriptions based on a 29 December 2004 phone conversation with Anne Germain of DSWA and a 5 January 2005 phone conversation with Robin Roddy of DSWA. The final grade consists of the current slope, which starts at the toe of the landfill slope, extends at variable slopes from 4H:1V

(horizontal to vertical) to elevation 60 ft-msl. At elevation 60 ft-msl, the slope flattens to a 5-percent slope and extends up to elevation 90 ft-msl, which is the maximum elevation planned for the PPL.

As discussed previously, the stratigraphy at the PPL site includes stabilized sludge (within landfill perimeter only), waste (within landfill perimeter only), alluvium, and sand. For each cross section, the stratigraphy is based upon the results of the 2004 CPT investigation and complemented with information collected previously [SEA, 1999]. Four cross-sections (Sections A through D) at various locations around the site were previously analyzed for stability by SEA. GeoSyntec took the results of these analyses into consideration when choosing cross-sections to analyze for this work.

GeoSyntec selected two sections (Section A-A and B-B) for analysis considering landfill geometry, foundation stratigraphy (thickness of alluvium), and undrained shear strengths of the underlying soft alluvial soils based mainly on the results of the 2004 CPT investigation and, when additional information was required, from SEA [1999]. Figures 2a and 2b show the geometric and stratigraphic characteristics of Section A-A for existing and final grades, respectively. Figures 3a and 3b show the geometric and stratigraphic characteristics of Section B-B for existing and final grades, respectively. Section A-A was chosen because of the relatively low undrained shear strength obtained in this area during the 2004 CPT investigation. Section A-A had not been previously analyzed by SEA. Section B-B was also chosen because of the relatively low undrained shear strength in this area. Section B-B corresponds to SEA's cross-section C, which was the most critical case (i.e., with the lowest calculated factor of safety) analyzed previously by SEA. However, it must be noted that GeoSyntec's developed Section B-B independently. Although the stratigraphy used in Sections B-B is comparable to that of SEA's Section C, there are some differences.

6. STABILITY CRITERIA

The slope stability analysis was performed to evaluate whether the short- and long-term configurations of the PPL has an adequate factor of safety (FS) against failure under static loading conditions. Seismic conditions were not considered. According to the technical manual published by the USEPA titled, "Solid Waste Disposal Facility Criteria" [USEPA, 1993], the minimum recommended factor of safety against slope stability failure for temporary and long-term conditions is 1.25 and 1.5, respectively.

7. MATERIAL PARAMETERS

Based on previous experience at CIL [e.g., see GeoSyntec, 2004], the waste is assumed to have an average density of 75 pounds per cubic feet (pcf). The stabilized sludge is assumed to have an average density of 70 pcf. The stabilized sludge is considered a free-draining material with an angle of internal friction assumed to be 30 degrees. The waste is considered free draining with a drained strength characterized by a internal friction angle, $\phi'=33°$ and no cohesion for both moist/dry and wet waste. As these materials can be considered to be free draining, their strength properties are considered to be the same for short- and long-term conditions.

The total dry and saturated unit weights for the alluvium are assumed to be 85 pcf and 97 pcf, respectively, based on GeoSyntec's experience at CIL [GeoSyntec, 2004]. The strength of the alluvium varies for drained and undrained analyses. For the short- to long-term conditions, the alluvium is assumed to be partially consolidated. As mentioned earlier, the undrained shear strength parameters are based on the results of the 2004 CPT investigation and complemented with existing data [SEA, 1999]. The alluvium stratum was divided into five layers to model more accurately the variation of the undrained shear strength obtained form the CPT. For long-term conditions, the alluvium and other materials are assumed drained. The drained shear strength of alluvium is modeled with an envelope of shear strength based on effective strength parameters as presented in the table below, which was derived from GeoSyntec [2004].

Drained Shear Strength Envelope

Effective Normal Stress, σ_n' (psf)	Shear Strength envelope variation (psf)
0 – 1,000	0 – 1,000
1,000 – 3,000	1,000 – 2,678
> 3,000	σ_n' tan 34

where σ'_n is the effective normal pressure acting at the base of a slice.

The sand deposit is assumed to have an effective friction angle of 40 degrees and no cohesion. The unit weight for this deposit is assumed to be 125 pcf [GeoSyntec, 2003]. These properties are considered to be the same for both intermediate and long-term conditions.

Written by: S. Opdyke Date: 1/3/05 Reviewed by: C. Lazarte Date: 1/6/05

Client: DSWA Project: PPL Project/Proposal No.: ME0418 Task No.: 3

Material properties are summarized in the Table below:

Summary of Material Properties

Material	Label in SLIDE Output (1)	Cross-Section	Total Unit Weight (pcf)	Saturated Unit Weight (pcf)	Short-Term Conditions		Long-Term Conditions	
					c, S_u (2) (psf)	ϕ' (2) (deg)	c, S_u (2) (psf)	ϕ' (2) (deg)
Stabilized Sludge	Stabilized Sludge	A-A/B-B	70	100	0	30	0	30
Waste	Waste	A-A/B-B	75	100	0	33	0	33
Alluvium	Recent Alluvium Layer 1	A-A/B-B	85	97	320 (3)	0	See strength envelope above	
	Recent Alluvium Layer 2	A-A/B-B			400 (3)	0		
	Recent Alluvium Layer 3	A-A/B-B			1,000 (3)	0		
	Recent Alluvium Layer 4	A-A			400 + 14.7d (3)(6)	0		
		B-B			400 + 5 (3)(6)	0		
	Recent Alluvium Layer 5	A-A			320 + 20d (3)(6)	0		
		B-B			320 + 11.67d (3)(6)	0		
Sand	Sand	A-A/B-B	125	125	0	40		40

Notes: (1) See Figures 2a through 3b

(2) c is cohesion, S_u is the undrained shear strength, and ϕ' is the effective angle of internal friction

(3) Interpreted based on CPT-04-002 and CPT-04-003 (Section A-A) and CPT-04-006 (Section B-B)

(4) Interpreted based on 2004 CPT and previous investigations

(5) Interpreted based on CPT-04-009

(6) S_u is equal to the strength in Layer 3 plus an increase proportional to the depth, d, below Layer 3

For long-term conditions, it was assumed that the undrained shear strength obtained in 2004 would remain constant when the final grades are achieved. In addition, as the in-situ undrained shear strength under the waste side slopes (i.e., Recent Alluvium Layer 3) has never been field measured, its value was estimated. The strength under the waste side slopes was conservatively estimated to be 400 psf based on interpolation between adjacent locations, as obtained during the 1999 and 2004 CPT investigations. It is likely that the alluvium under the waste side slopes is partially consolidated and thereby has a higher undrained shear strength than that assumed in this calculation. GeoSyntec recommends performing additional CPT tests both

inside the waste footprint and along the side slopes to verify the strength of the underlying alluvium layers.

Generally, the undrained shear strength of the alluvium obtained during this investigation is similar to those obtained previously by SEA using CPT. The similarity of SEA and GeoSyntec strengths indicate that significant strength gain has not occurred in the last four years. It must be noted that SEA based their estimate of the undrained shear strength of alluvium not only from CPT but also from DMTs and FVSTs. The values selected by SEA for analysis are based on the average of shear strength derived from all types of tests. In general, this average is larger than the CPT-based values in some critical cross sections.

8. LIQUID LEVELS

A review of historic liquid level monitoring data was performed based on data obtained from Dan Fluman of DSWA. The data included recorded liquid levels from groundwater monitoring wells (MW) and leachate observation wells (LOW). The locations of these wells are presented in Figure 1 and the data is presented in Appendix C. Generally, the liquid level outside the waste footprint varies from 10 to 12 ft-msl on the south and southeast portion of the site and from 10 to 15 ft for the remaining portion of the site. The liquid level inside the waste footprint ranges from 40 to 50 ft-msl. For this analysis the liquid level in the waste was considered to be at elevation 45 ft-msl, and outside the waste was considered to be at elevation 12 ft-msl for Section A-A and 14 ft-msl for Section B-B. This level of liquid appears to be high for typical conditions of modern landfills. It is noted that the landfill does not have a continuous layer of granular material underlying the waste. Therefore, a key element to drop liquid levels in landfills is not present, and this may explain the high levels of liquids in the landfill.

GeoSyntec assumed the elevation of liquid elevation in the waste at 45 ft-msl based on the elevations recorded in leachate observations wells LOW-46, LOW-48 and LOW-49 (see time graph of leachate observation wells in Appendix C). For Section A-A, the record of LOW-46, which is located approximately 400 ft from Section A-A, was inspected. For Section B-B, the records of LOW-48 and LOW-49, which are located approximately 350 ft from Section B-B, were used. Historic records for LOW-46 records since about 1999 are available. For wells LOW-48 and LOW-49, historic records are available between 1982 through 1992 and then from 1998 through the present. Well LOW-46 shows liquid levels at elevations between approximately 45 to 50 ft-msl in the 1982-1992 period, and between approximate elevations 40 to 45 ft-msl in the period 1998-todate. Well LOW-48 exhibits liquid levels at elevations between approximately 45 to 50 ft-msl in the 1982-1992 period, and between approximate elevations 40 to 45 ft-msl in the period 1998-todate. The liquid levels in Well LOW-49 vary between

approximate elevations 20 to 28 ft-msl between 1982-1990, increased rapidly to approximate elevation 50 ft-msl in two to three years, and remained approximately at 40 to 45 ft-msl in 1990-todate. Based on the trends observed in the last few years, the elevation of liquid in the waste was assumed at 45 ft-msl. In addition, it is noted that the recorded liquid levels occur between 200 and 450 ft away from the current crest of the landfill. It is possible the near the crest of the landfill, the liquid level actually decreases in elevation. However, since this information was not available, the elevation of 45 ft-msl was assigned to the liquid level in the waste up to the crest in Section A-A and less than 50 ft from the crest Section B-B. The installation of additional leachate observation wells would provide data to help confirm these assumptions.

9. METHOD OF ANALYSIS

The stability of the selected cross sections was evaluated based on limit equilibrium theory using the method of slices. The computer program SLIDE [Rocscience, 2002] was used to perform the analyses. SLIDE is a two-dimensional slope stability program for evaluating the factor of safety of circular and non-circular (also referred to as block) failure (or slip) surfaces in soils. The procedure consisted of analyzing numerous potential failure surfaces for each cross section to find the critical failure surface that renders the minimum factor of safety for the slope. Circular and non-circular failure surfaces were analyzed using the same material parameters. In all analyses, the failure surfaces were allowed to pass through the alluvium, a scenario that would lead to more critical conditions. For both circular and non-circular failure surfaces, the Spencer method [Spencer, 1967] was used. In the Spencer method, both force and moment equilibrium are satisfied in each slice and the slope of the inter slice forces is assumed constant and parallel to each other.

Hundreds of potential failure surfaces were analyzed to find the critical failure surface that results in the minimum factor of safety for the slope. The program was set to search for the most critical surfaces within the entire cross section to ensure that the most critical surface was captured. This iterative process ensured that a global, not a local minimum, factor of safety was calculated.

Fifty slices were considered within each sliding block. For the circular search, a search grid with 20 horizontal increments and 20 vertical increments was used to find the minimum factor of safety. SLIDE provides both the minimum factor of safety and contours of the calculated factors of safety. For the non-circular failure analysis, a minimum of two search windows were used to search for each section. These windows were iteratively placed to obtain the minimum factor of safety.

10. RESULTS

10.1 Short-Term Conditions

Current conditions with existing grades are represented by short-term conditions because loading continues at the PPL and it is assumed that undrained conditions are prevalent. For final grades, it is assumed that undrained conditions are present immediately after the last loading.

The table below presents a summary of the results of the stability analyses performed for short-term conditions:

Calculated Factor of Safety for Short-Term Conditions

Section	Condition	Type of Failure	Factor of Safety	Location of Results
A-A	Existing Grades	Circular	1.08	Appendix D
		Non-Circular	1.10	
	Final Grades	Circular	1.08	
		Non-Circular	1.11	
B-B	Existing Grades	Circular	1.13	Appendix E
		Non-Circular	1.21	
	Final Grades	Circular	1.04	
		Non-Circular	1.09	

Analysis output files for the cross sections analyzed are provided in Appendices D and E for Sections A-A and B-B, respectively. The calculated factors of safety for Sections A-A and B-B for both existing and final grade configurations are less than the recommended minimum value of 1.25 presented in Section 5 of this calculation package. These results are discussed in the next section.

10.2 Long-Term Conditions

The table below presents a summary of the results of the stability analyses performed for Long-term conditions:

Calculated Factor of Safety for Long-Term Conditions

Section	Condition	Type of Failure	Factor of Safety	Location of Results
A-A	Final Grades	Circular	4.25	Appendix F
		Non-Circular	4.61	
B-B	Final Grades	Circular	2.90	Appendix G
		Non-Circular	3.78	

The calculated factors of safety for both circular and non-circular failure surfaces are greater than 1.5 in both Section A-A and B-B for long-term conditions. This indicates that the final grades are adequate in the long-term. The above safety factors are about 20 percent larger than those calculated by SEA because their long-term estimates of strength are more conservative.

11. DISCUSSION OF RESULTS

The analyses indicate that the calculated safety factors decrease with the additional loading that will be applied when the final grades are achieved. The effect of additional loading is not significant in Section A-A. For Section B-B, the calculated safety factors for the final grades are approximately 10 percent smaller than those for the existing grades.

It is possible that some of the assumptions of strength and liquid levels adopted in the present analysis are slightly conservative. Therefore, the calculated relatively low factors of safety are not necessarily an accurate representation of actual landfill conditions. Based on GeoSyntec's experience with slope stability analysis at CIL, it is known that relatively small changes in the assumed parameters have a relatively large impact on the calculated factors of safety, particularly. As a result, if some parameters are slightly conservative, the calculated relatively low factors of safety above are not necessarily an accurate representation of the actual landfill conditions. Some examples of potential sources of over-conservatism are discussed in the next paragraphs.

For long-term conditions, it was assumed that the undrained shear strength obtained in 2004 would remain constant when the final grades are achieved. The consolidation of the alluvium under the waste takes a long time for two reasons: a) low hydraulic conductivity of the alluvium; and b) the alluvium deposit is mostly a single-drained layer under the waste. Under the waste, this deposit is non-drained at the top, because no leachate layer exists, and it is drained at the bottom where sand deposits are encountered. The general similarity of SEA and

GeoSyntec CPT-based strengths after four years appears to confirm the long duration of the consolidation process at the site. However, despite its duration, ongoing consolidation is taking place and the alluvium becomes stronger at a rate that has not determined. In order to represent any strength gain more accurately and include this beneficial effect in the stability analysis, it is recommended that the rate at which the stabilized sludge is placed be assessed and the consolidation-strength gain analysis is conducted.

In addition, as mentioned earlier, the strength under the waste side slopes was not available and was conservatively estimated to be 400 psf based on the interpolation between adjacent locations. It is possible that the alluvium under the waste side slopes is partially consolidated and thereby has a higher undrained shear strength than assumed in this calculation. However, this effect was not considered until further evidence is available.

A comparison of analysis results in this calculation package with those conducted by SEA indicate that the GeoSyntec analysis for short-term provide smaller safety factors. At the same section (i.e., GeoSyntec Section B-B and SEA Section C), the lowest safety factor is 1.33, as calculated by SEA, and 1.13 and 1.04 (for existing and final grades, respectively), as calculated by GeoSyntec. The characterization of strength and its distribution under the slope in GeoSyntec's analyses is more conservative than SEA's. SEA based their estimate on the undrained shear strength of alluvium not only from CPT but also from DMTs and FVSTs. The lowest value selected by SEA for analysis in this section and in the upper alluvium is 400 psf, which is apparently based on the average derived from all tests. In general, this average appears to be larger than the CPT-based values obtained by both SEA and GeoSyntec at this section. GeoSyntec based the undrained shear strength of alluvium only on the CPT and adopted a minimum undrained shear strength of 320 psf instead for the upper layer of alluvium. In addition, SEA used a constant value of 700 psf at the lower layer of alluvium in their analyses. For the lower layer of alluvium, GeoSyntec used a strength that increases with depth from 320 psf to a maximum value close to 700 psf, to represent what had been indicated by the CPTs at this section.

Also, as mentioned earlier, the liquid level inside the waste footprint is assumed to be 45 ft-msl in GeoSyntec's analysis up to the crest of the existing landfill slope. This level is approximately 0.75 H, where H is the waste total thickness. A second analysis was performed for the critical failure surface (i.e., circular surface) for each cross-section to determine the maximum liquid level that would result in a factor of safety equal to or greater than 1.25. This analysis is presented in Appendix H. The results show that for both cross-sections, the maximum liquid level corresponding to a factor of safety of at least 1.25 is approximately 30 ft-msl, or about 0.5H. Therefore, this complementary analysis illustrates that when the liquid level

is dropped from 0.75 H to 0.5H, the safety factor improves considerably. This trend is an illustration of the sensitivity of results to the change level of liquids in the landfill. It is also noted that the characterization of liquid levels in GeoSyntec's analyses is more conservative than SEA's. SEA selected for analysis an elevation of 30 ft-msl for the liquid in the waste.

12. CONCLUSIONS

The analysis presented in this calculation package shows that for existing and final grades and for undrained, temporary, conditions, the calculated factors of safety at the PPL are around 1.1, less than the minimum recommended value of 1.25. Several assumptions were made regarding the undrained shear strength of the alluvial deposits and the level of liquid in the waste because not enough information is available. In general, the analysis presented in this package has assumptions that are more conservative than those made by SEA in their 1999 analyses. As a consequence, the factors of safety of GeoSyntec analyses yield smaller safety factors than SEA's analyses. It is possible that some of the assumptions made in GeoSyntec's analysis compound to a somewhat excessive level of conservatism. Preliminary analyses indicate that if the liquid level elevation in the waste used in the analysis is lowered from 45 ft-msl to 30 ft-msl, adequate factors of safety can be achieved for short-term conditions. However, until further information is available, GeoSyntec considers that the assumptions made in these analyses to be appropriate. Factors of safety for long-term conditions are adequate.

In order to reduce some of the factors that were identified to contributed uncertainty in the results, GeoSyntec recommends the following actions items: (a) review the grading plan to ascertain the loading rate and evaluate if the recently observed elevated groundwater levels are related to the rate of filling; (b) perform additional CPTs along the waste slope and inside the waste footprint to quantify the undrained shear strength of the alluvium in these areas; (c) evaluate in more detail the liquid levels; (d) review records of the leachate collection system, if available; (e) perform a consolidation-strength gain analysis to characterize more accurately the gain of undrained shear strength due to consolidation; and (f) perform additional slope stability analysis along other cross sections to assess whether the low safety factors are generalized or localized. This additional information should provide the basis to confirm the assumptions made in the analyses presented herein. If the elevation of liquid level in the waste used in the analysis is changed from 45 ft-msl to 30 ft-msl an adequate factor of safety is obtained for short-term conditions. If the assumptions are verified, other action items, including installation of monitoring instruments (e.g., inclinometers, piezometers), modification to the grading plan, installation of additional leachate observation wells, or additional stability measures may be recommended in the future

13. REFERENCES

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FIGURES

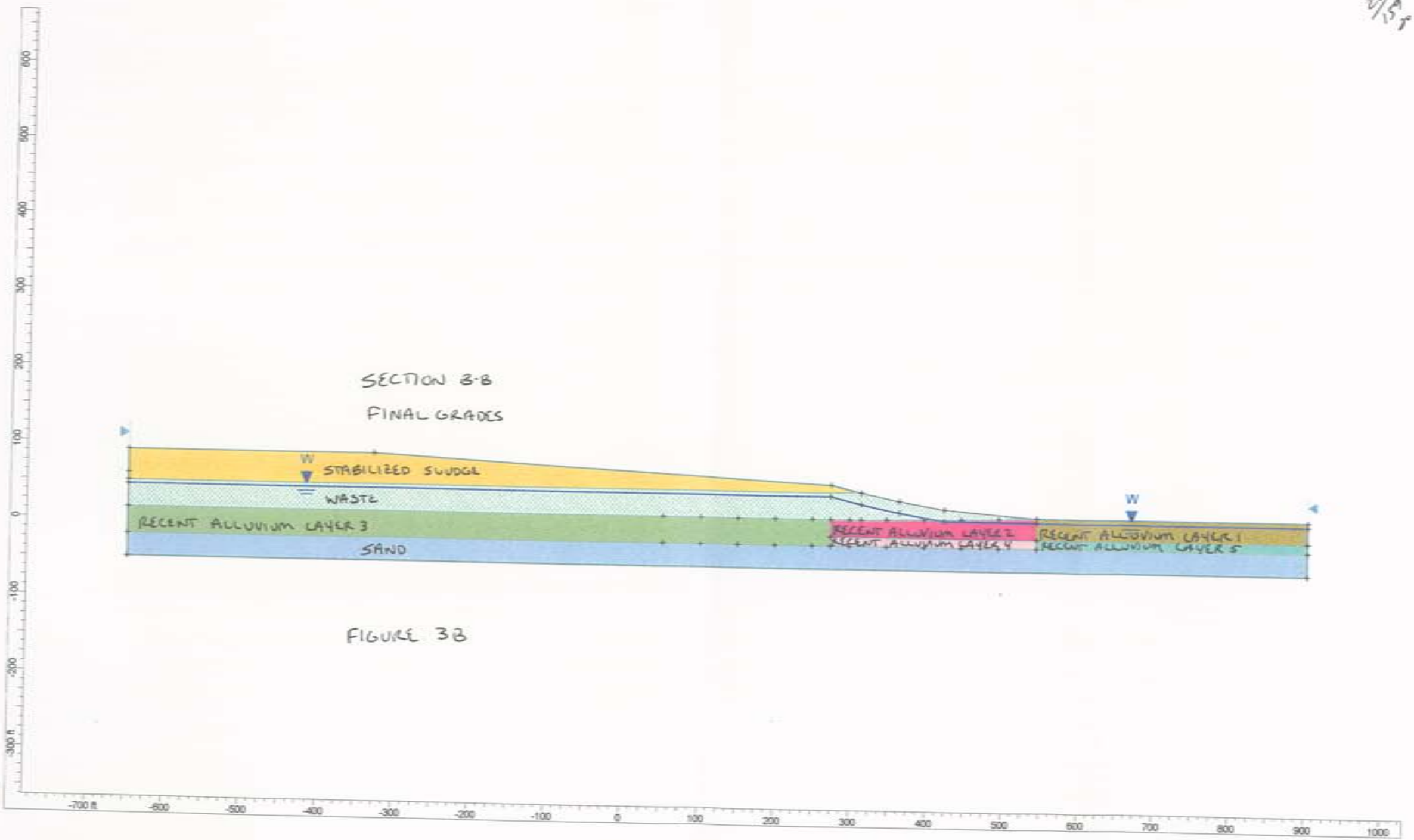

SECTION B-B
FINAL GRADES
W
STABILIZED SLUDGE
WASTE
RECENT ALLUVIUM LAYER 3
SAND
RECENT ALLUVIUM LAYER 2
RECENT ALLUVIUM LAYER 4
W
RECENT ALLUVIUM LAYER 1
RECENT ALLUVIUM LAYER 5
-700 ft
-600
-500
-400
-300
-200
-100
0
100
200
300
400
500
600
700
800
900
1000
-300 ft
-200
-100
0
100
200
300
400
500
600

FIGURE 3B

SECTION B-B

EXISTING CONDITIONS

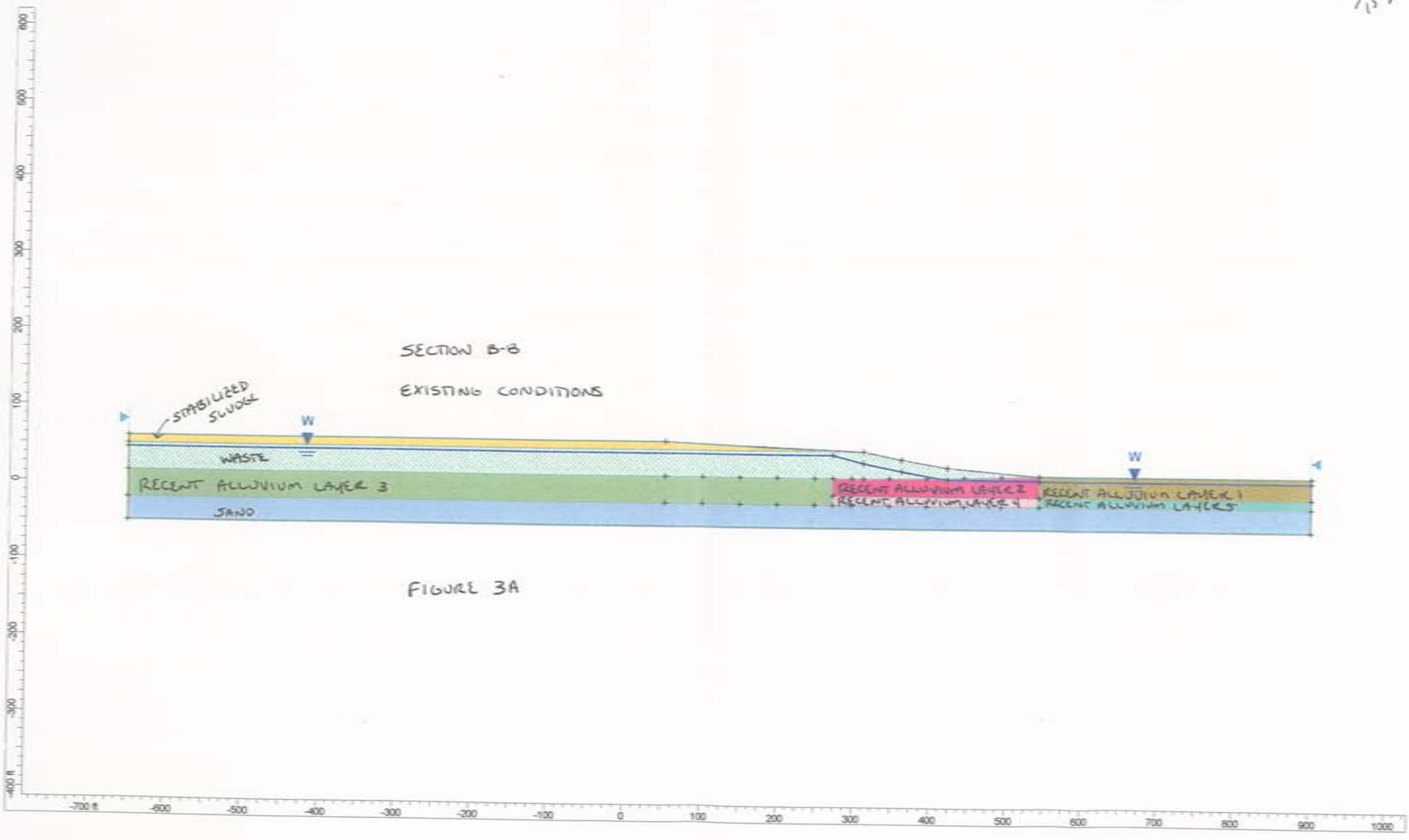
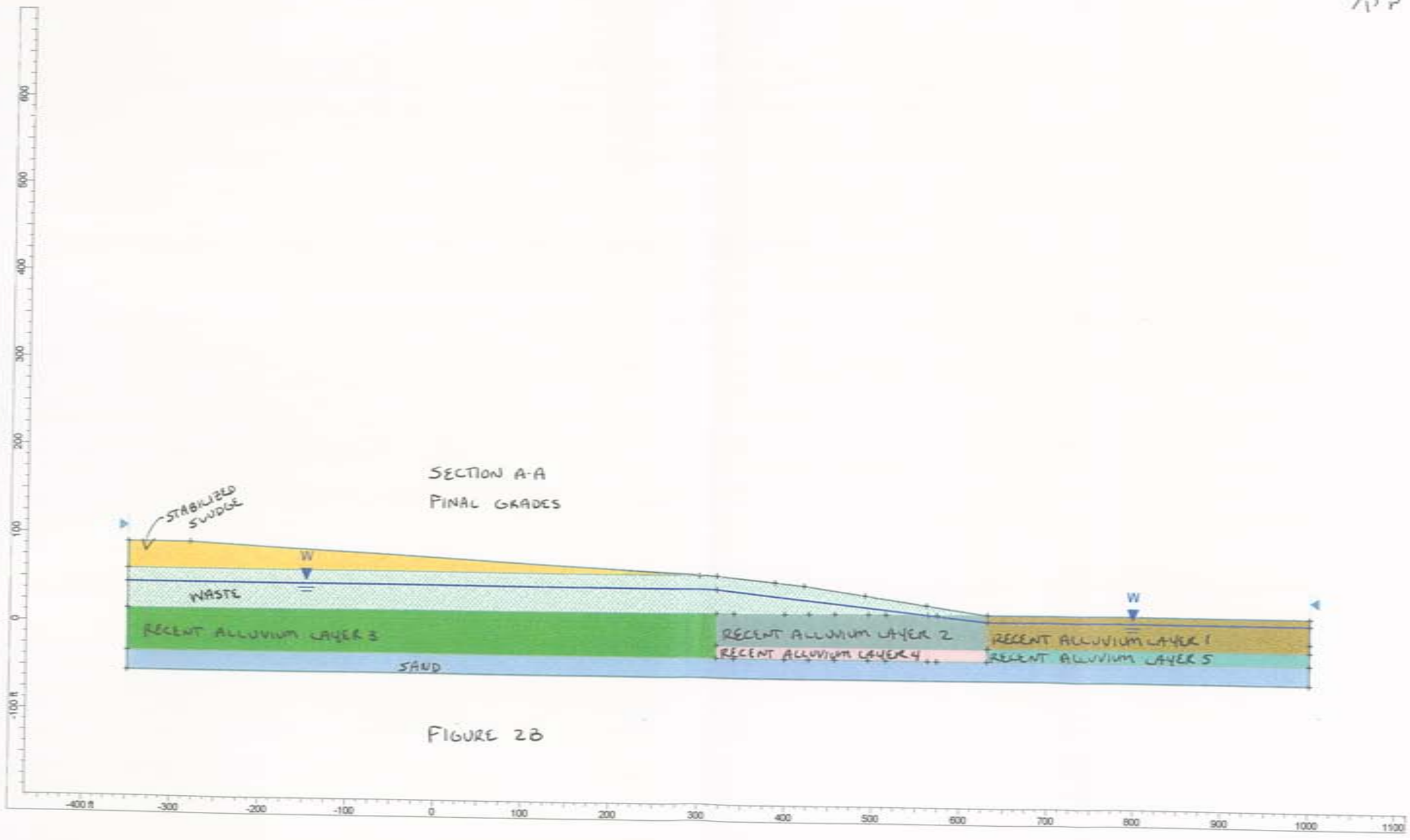


FIGURE 3A



SECTION A-A
FINAL GRADES

FIGURE 28

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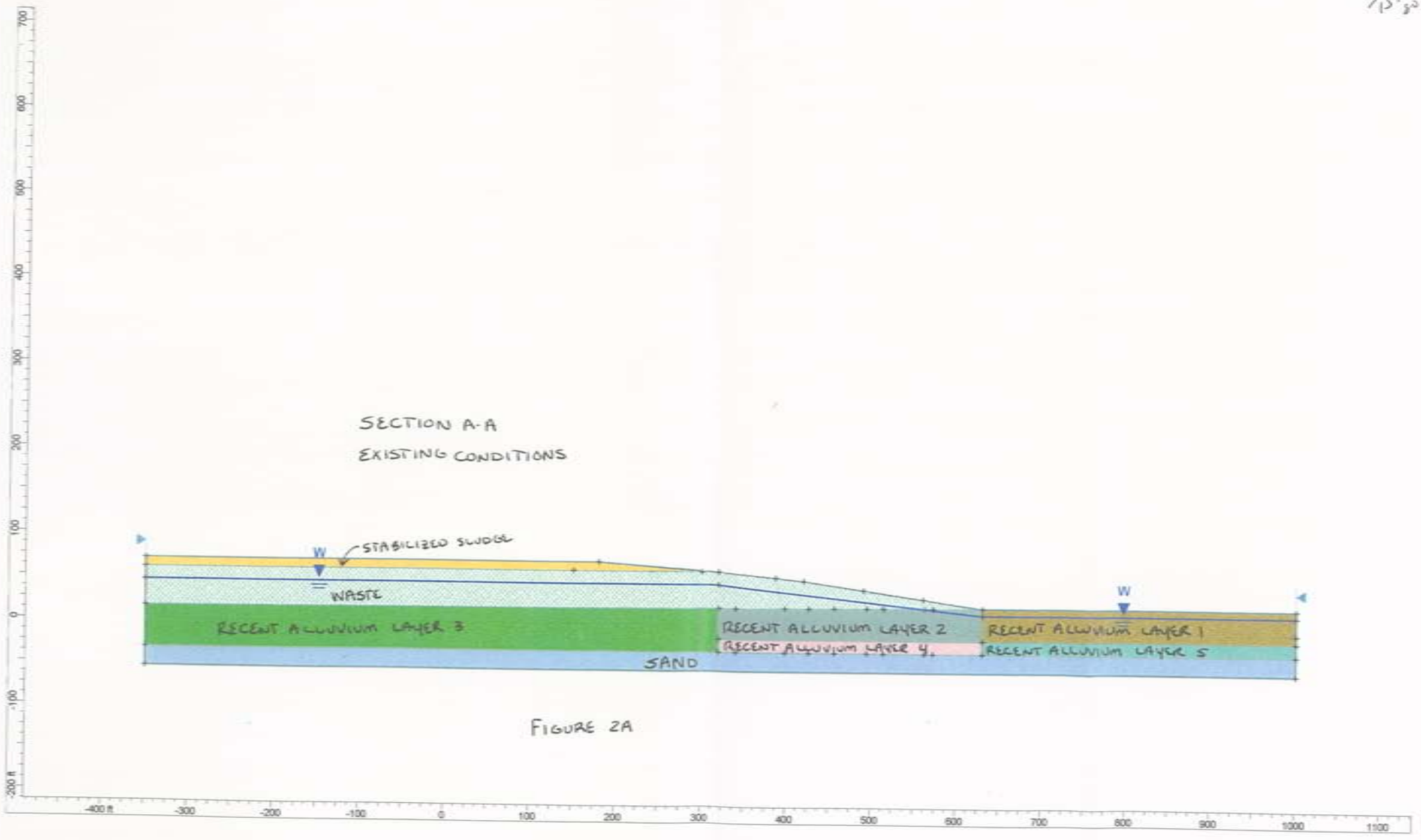
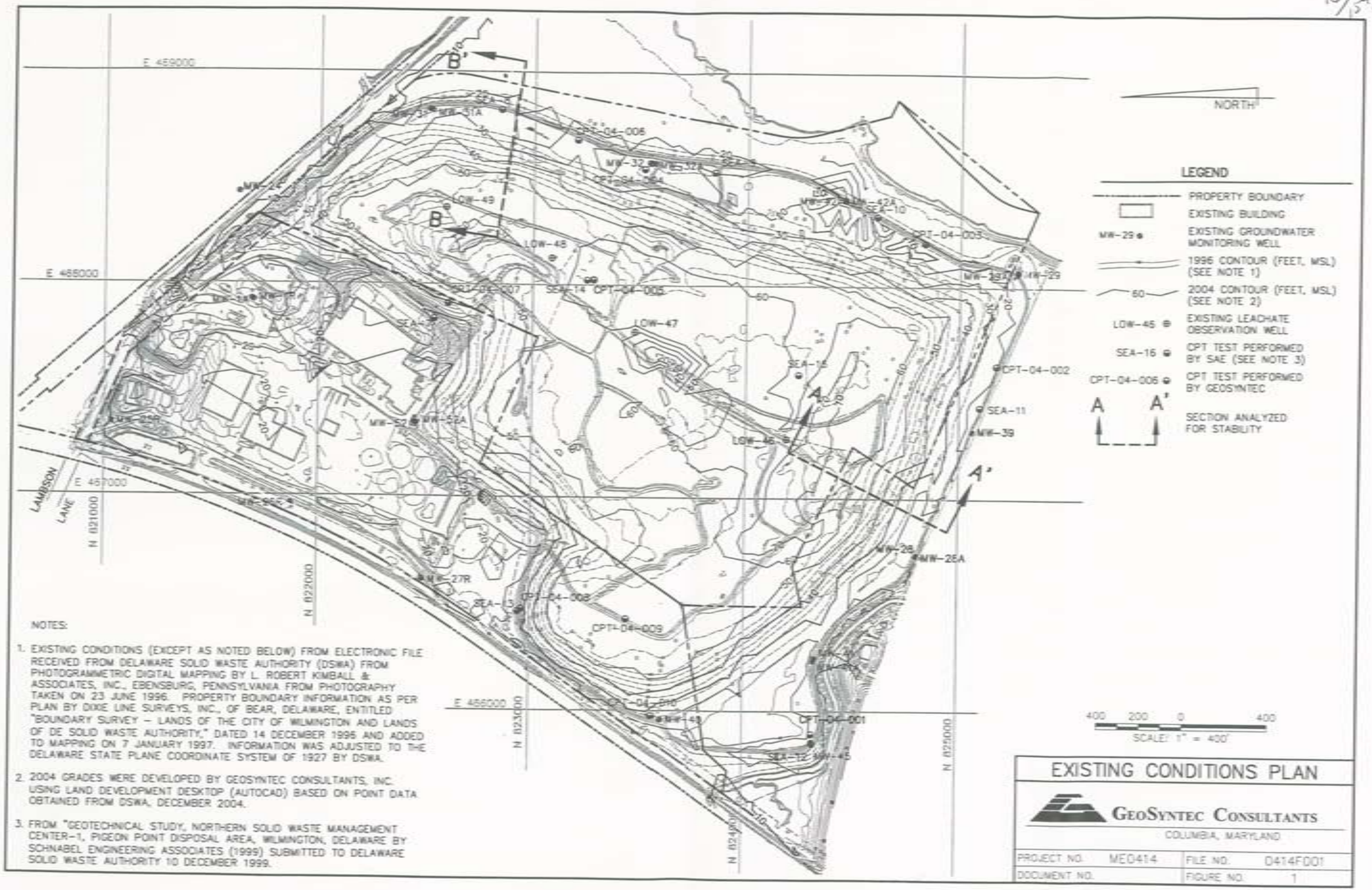
SECTION A-A

EXISTING CONDITIONS

FIGURE 2A





NOTES:

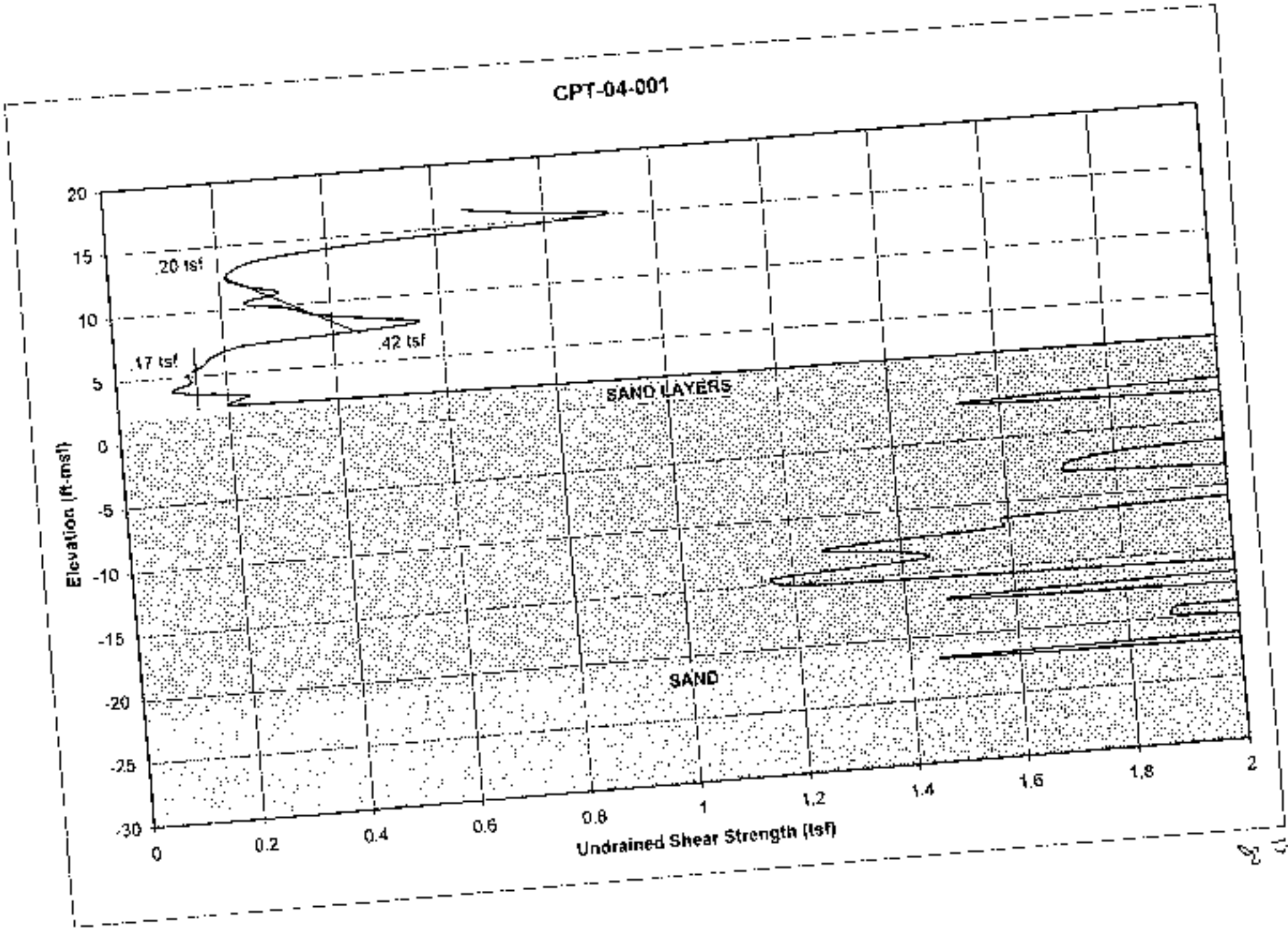
1. EXISTING CONDITIONS (EXCEPT AS NOTED BELOW) FROM ELECTRONIC FILE RECEIVED FROM DELAWARE SOLID WASTE AUTHORITY (DSWA) FROM PHOTOGRAMMETRIC DIGITAL MAPPING BY L. ROBERT KIMBALL & ASSOCIATES, INC., EBENSBURG, PENNSYLVANIA FROM PHOTOGRAPHY TAKEN ON 23 JUNE 1996. PROPERTY BOUNDARY INFORMATION AS PER PLAN BY DIXIE LINE SURVEYS, INC., OF BEAR, DELAWARE, ENTITLED "BOUNDARY SURVEY – LANDS OF THE CITY OF WILMINGTON AND LANDS OF DE SOLID WASTE AUTHORITY," DATED 14 DECEMBER 1996 AND ADDED TO MAPPING ON 7 JANUARY 1997. INFORMATION WAS ADJUSTED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM OF 1927 BY DSWA.
2. 2004 GRADES WERE DEVELOPED BY GEOSYNTEC CONSULTANTS, INC. USING LAND DEVELOPMENT DESKTOP (AUTOCAD) BASED ON POINT DATA OBTAINED FROM DSWA, DECEMBER 2004.
3. FROM "GEOTECHNICAL STUDY, NORTHERN SOLID WASTE MANAGEMENT CENTER-1, PIGEON POINT DISPOSAL AREA, WILMINGTON, DELAWARE BY SCHNABEL ENGINEERING ASSOCIATES (1999) SUBMITTED TO DELAWARE SOLID WASTE AUTHORITY 10 DECEMBER 1999.

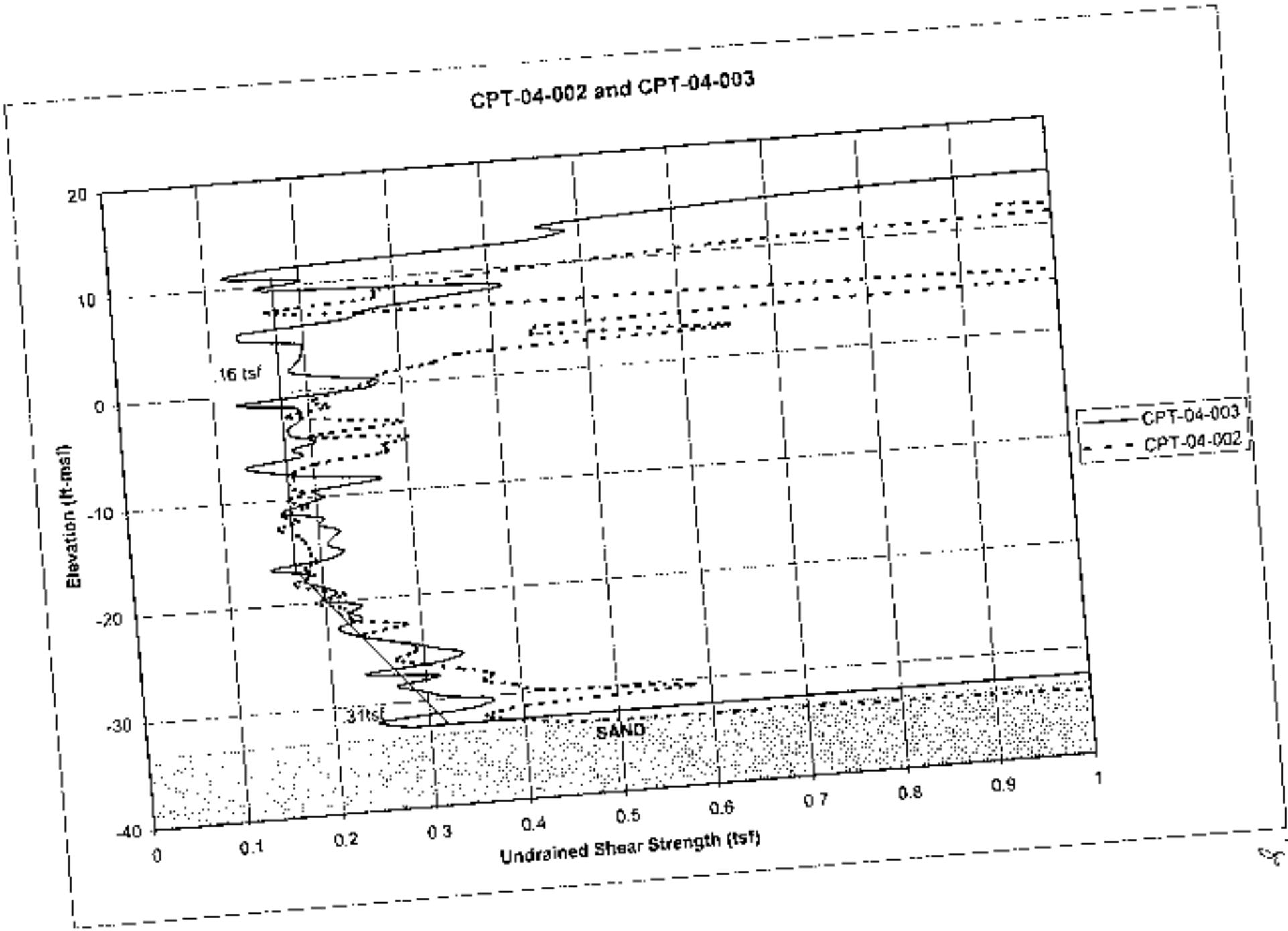
EXISTING CONDITIONS PLAN

GEOSYNTEC CONSULTANTS
COLUMBIA, MARYLAND

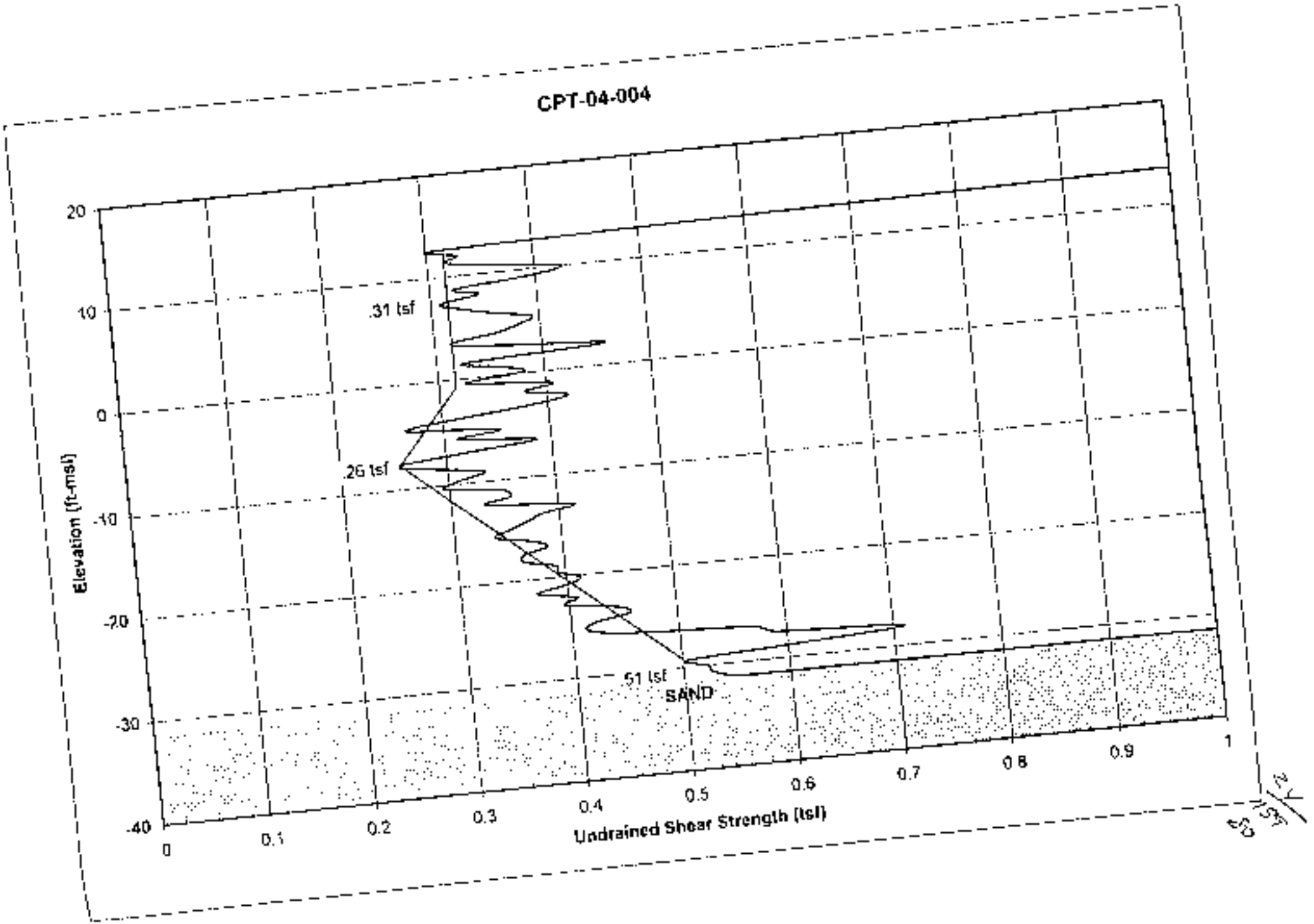
PROJECT NO.	ME0414	FILE NO.	0414F001
DOCUMENT NO.		FIGURE NO.	1

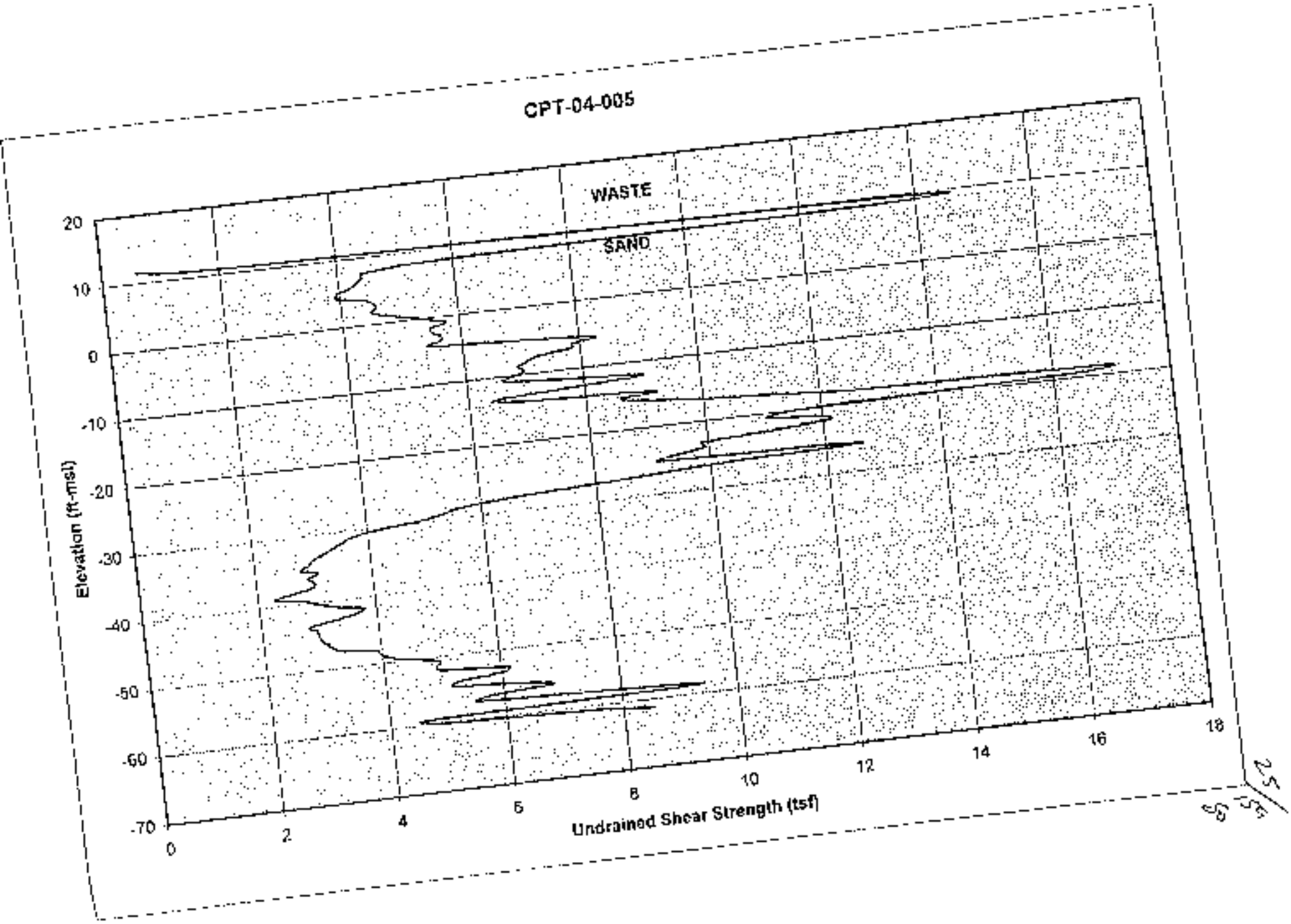
Appendix A

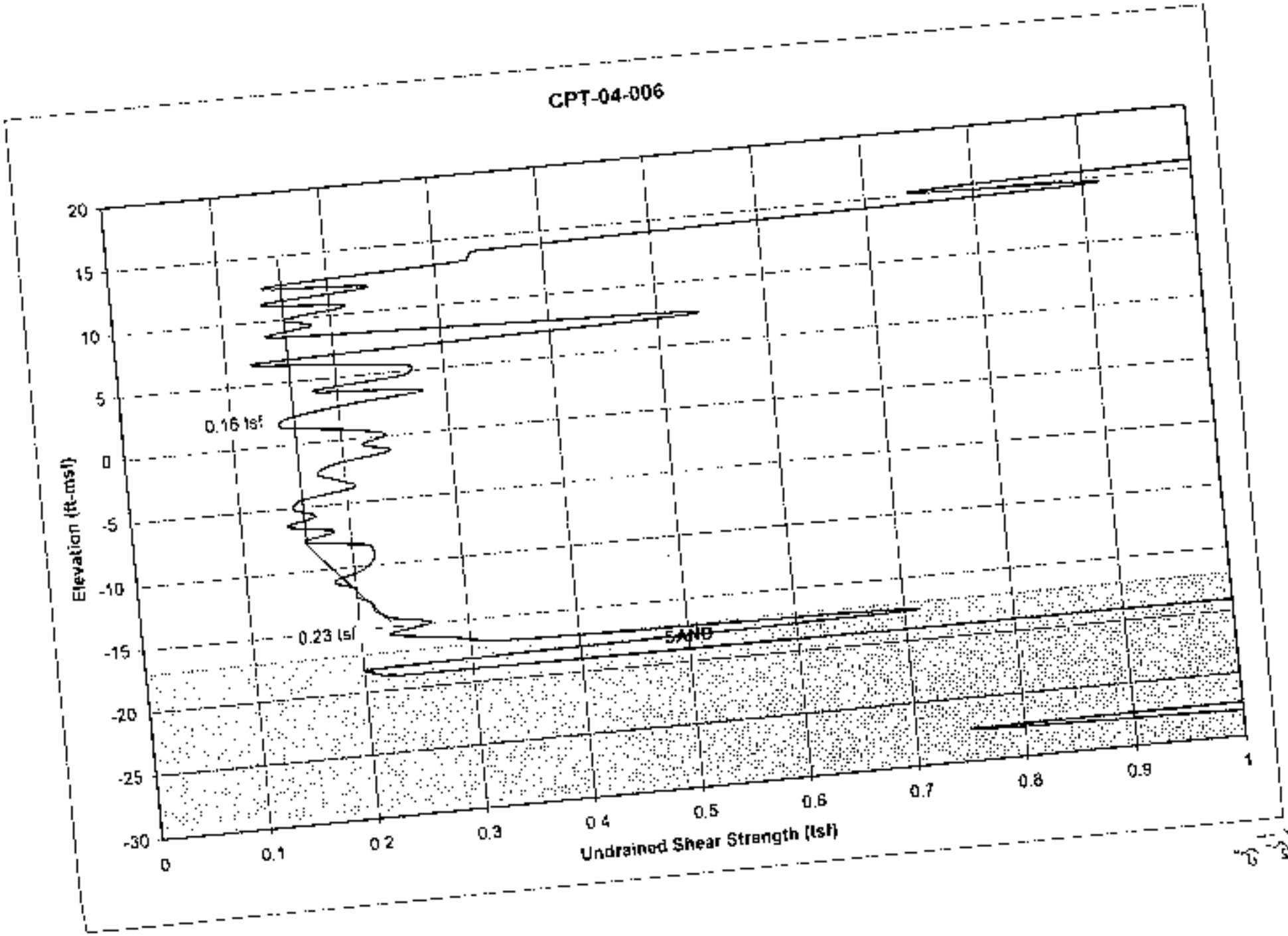

CPT-04-001
20
15
10
5
0
-5
-10
-15
-20
-25
-30
Elevation (ft-msl)
.20 tsf
.42 tsf
.17 tsf
SAND LAYERS
SAND
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
Undrained Shear Strength (tsf)

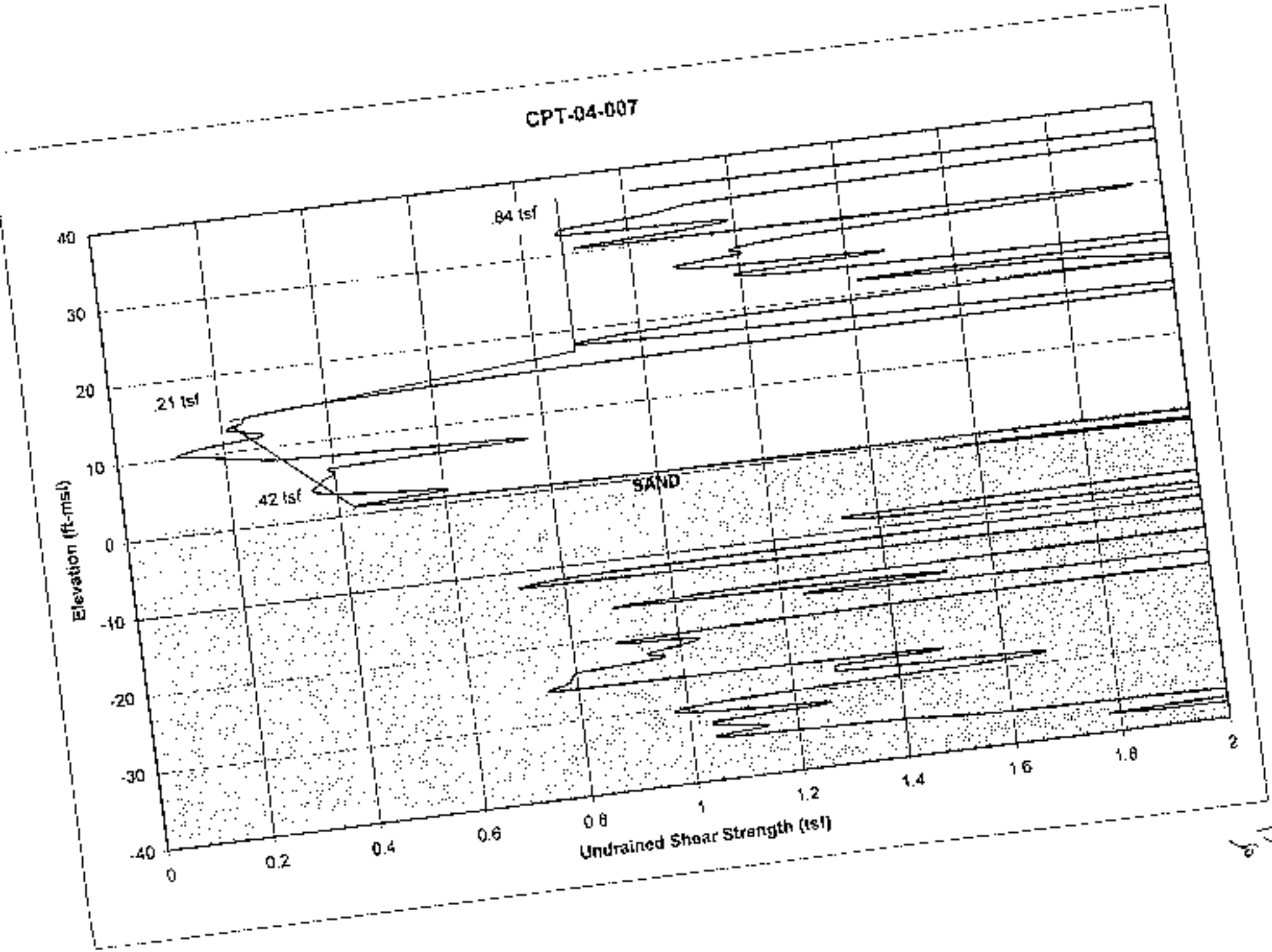

CPT-04-002 and CPT-04-003
Elevation (ft-msl)
20
10
0
-10
-20
-30
-40
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Undrained Shear Strength (tsf)
.16 tsf
.31tsf
SAND
CPT-04-003
CPT-04-002

23/54

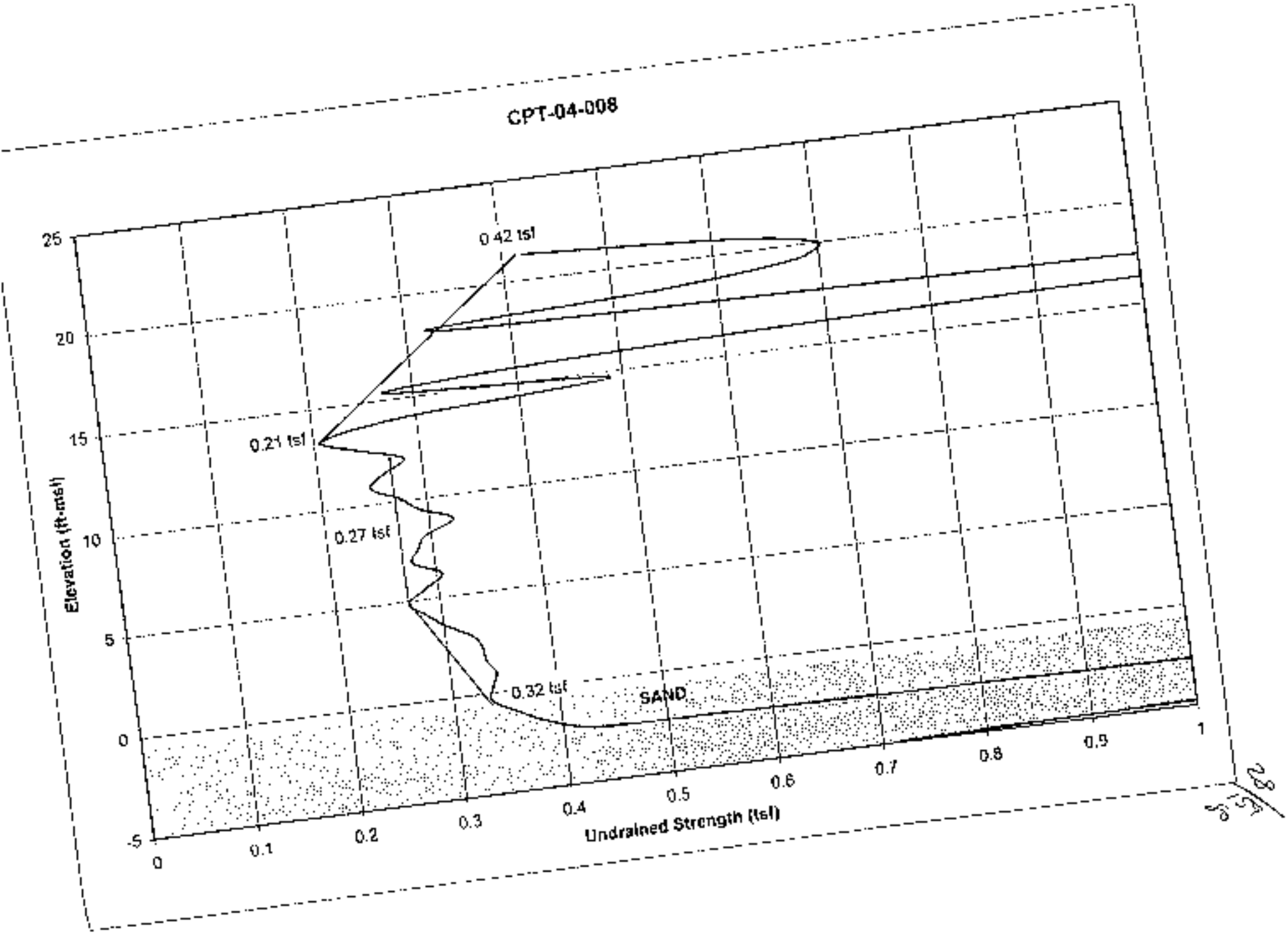

CPT-04-004
Elevation (ft-msl)
20
10
0
-10
-20
-30
-40
.31 tsf
.26 tsf
.51 tsf
SAND
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Undrained Shear Strength (tsf)

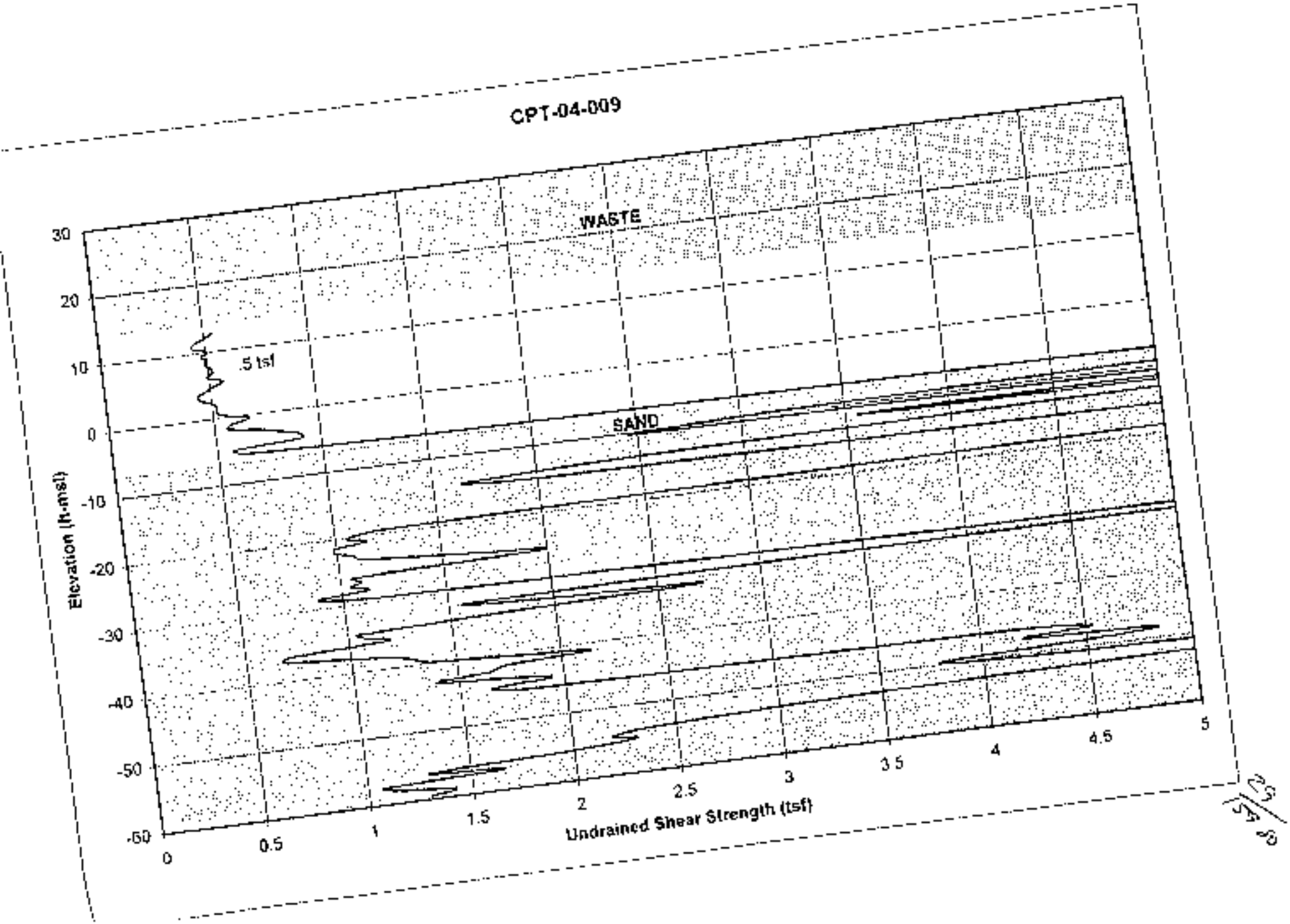

CPT-04-005
WASTE
SAND
Elevation (ft-msl)
20
10
0
-10
-20
-30
-40
-50
-60
-70
0
2
4
6
8
10
12
14
16
18
Undrained Shear Strength (tsf)

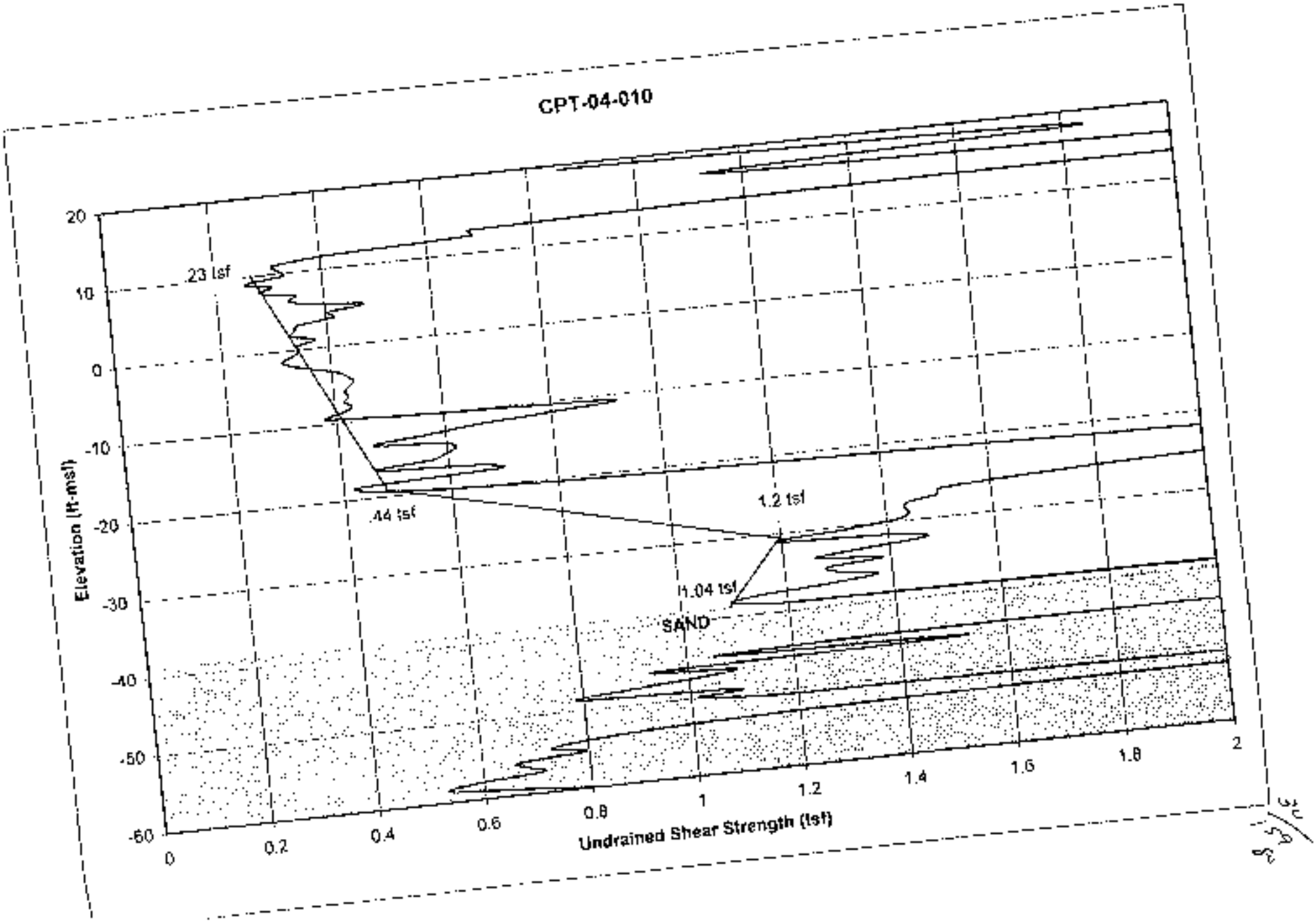

CPT-04-006
Elevation (ft-msl)
20
15
10
5
0
-5
-10
-15
-20
-25
-30
0.16 tsf
0.23 tsf
SAND
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Undrained Shear Strength (tsf)


CPT-04-007
.84 tsf
.21 tsf
.42 tsf
SAND
Elevation (ft-msl)
40
30
20
10
0
-10
-20
-30
-40
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
Undrained Shear Strength (tsf)

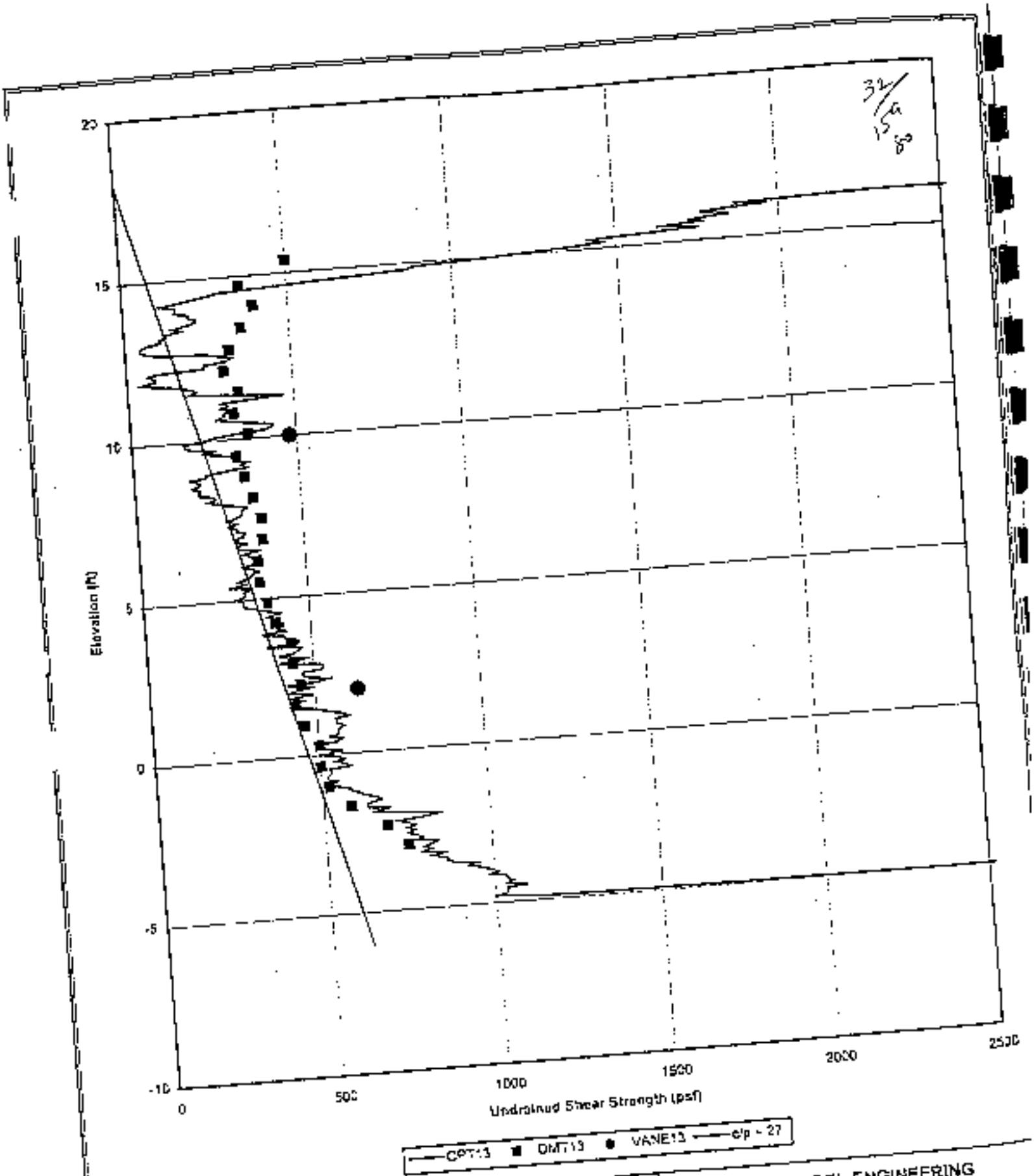
23/29


CPT-04-008
0.42 tsf
0.21 tsf
0.27 tsf
0.32 tsf
SAND
Elevation (ft-msl)
25
20
15
10
5
0
-5
Undrained Strength (tsf)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1


CPT-04-009
WASTE
SAND
.5 tsf
Elevation (ft-msl)
30
20
10
0
-10
-20
-30
-40
-50
-60
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
Undrained Shear Strength (tsf)


CPT-04-010
Elevation (ft-msl)
20
10
0
-10
-20
-30
-40
-50
-60
Undrained Shear Strength (tsf)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
.23 tsf
.44 tsf
1.2 tsf
1.04 tsf
SAND

Appendix B



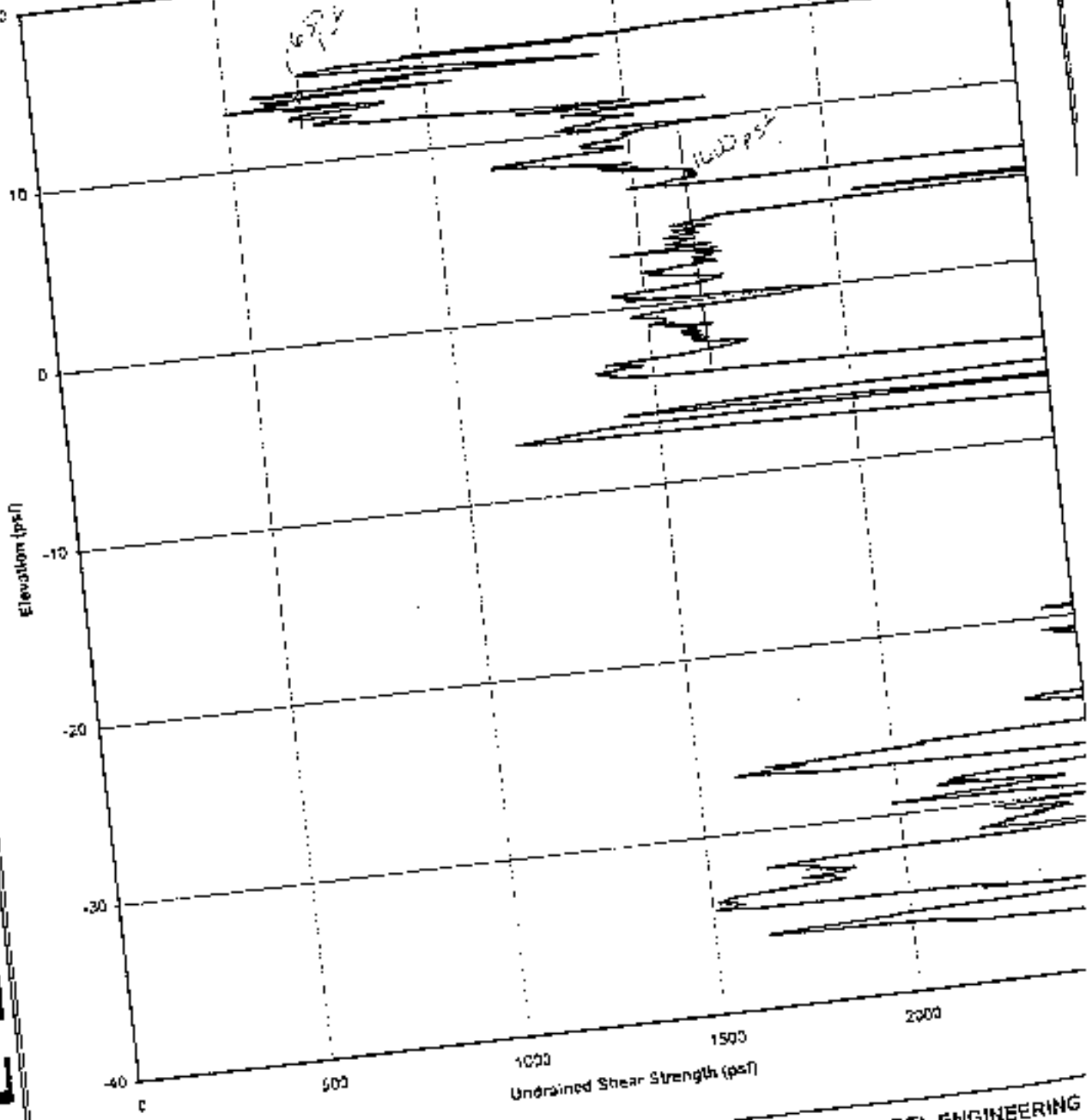
Undrained Shear Strength vs. Elevation for SEA-13
Pigeon Point

SCHNABEL ENGINEERING ASSOCIATES, INC.

Pigeon Point Disposal Area
Wilmington, Delaware

DATE:

CONTRACT NO. 985176



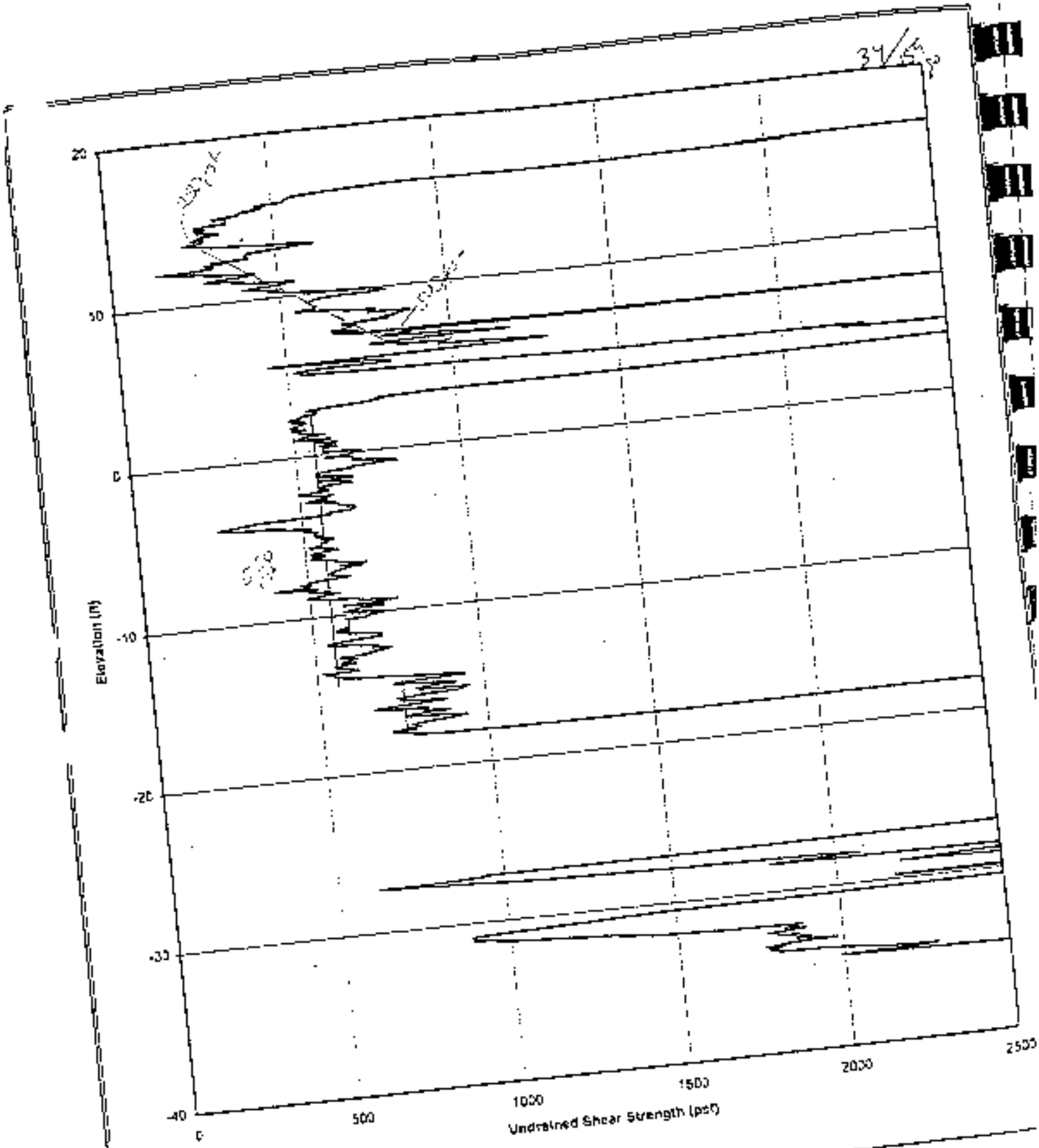
Undrained Shear Strength vs. Elevation for SEA-7
Pigeon Point

SCHNABEL ENGINEERING ASSOCIATES, INC.

Pigeon Point Disposal Area
Wilmington, Delaware

DATE

CONTRACT NO.



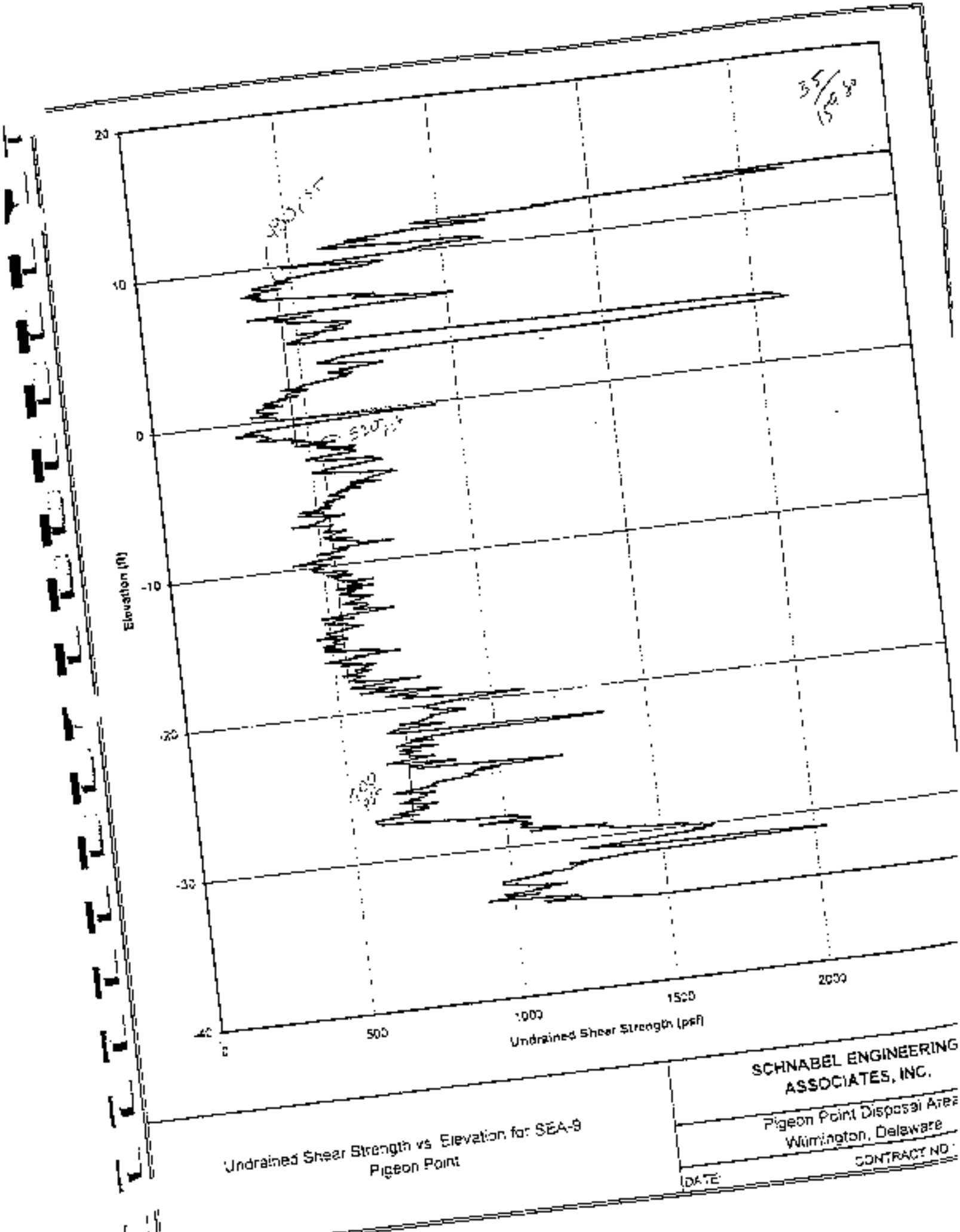
Undrained Shear Strength vs. Elevation for SEA-8
Pigeon Point

SCHNABEL ENGINEERING ASSOCIATES, INC.

Pigeon Point Disposal Area
Wilmington, Delaware

CONTRACT NO. 985

DATE:



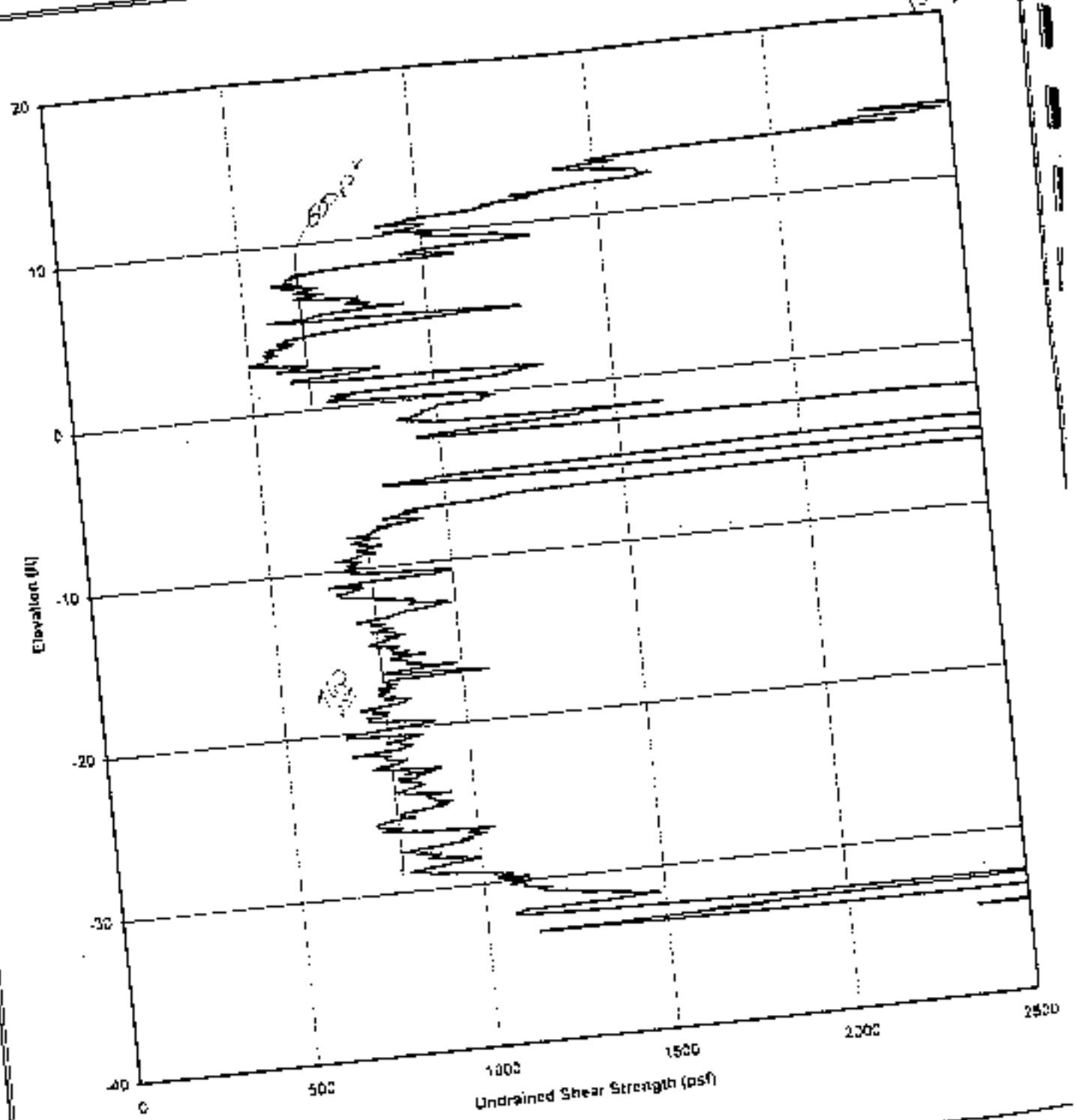
Undrained Shear Strength vs. Elevation for SEA-9
Pigeon Point

SCHNABEL ENGINEERING ASSOCIATES, INC.

Pigeon Point Disposal Area
Wilmington, Delaware

DATE

CONTRACT NO.



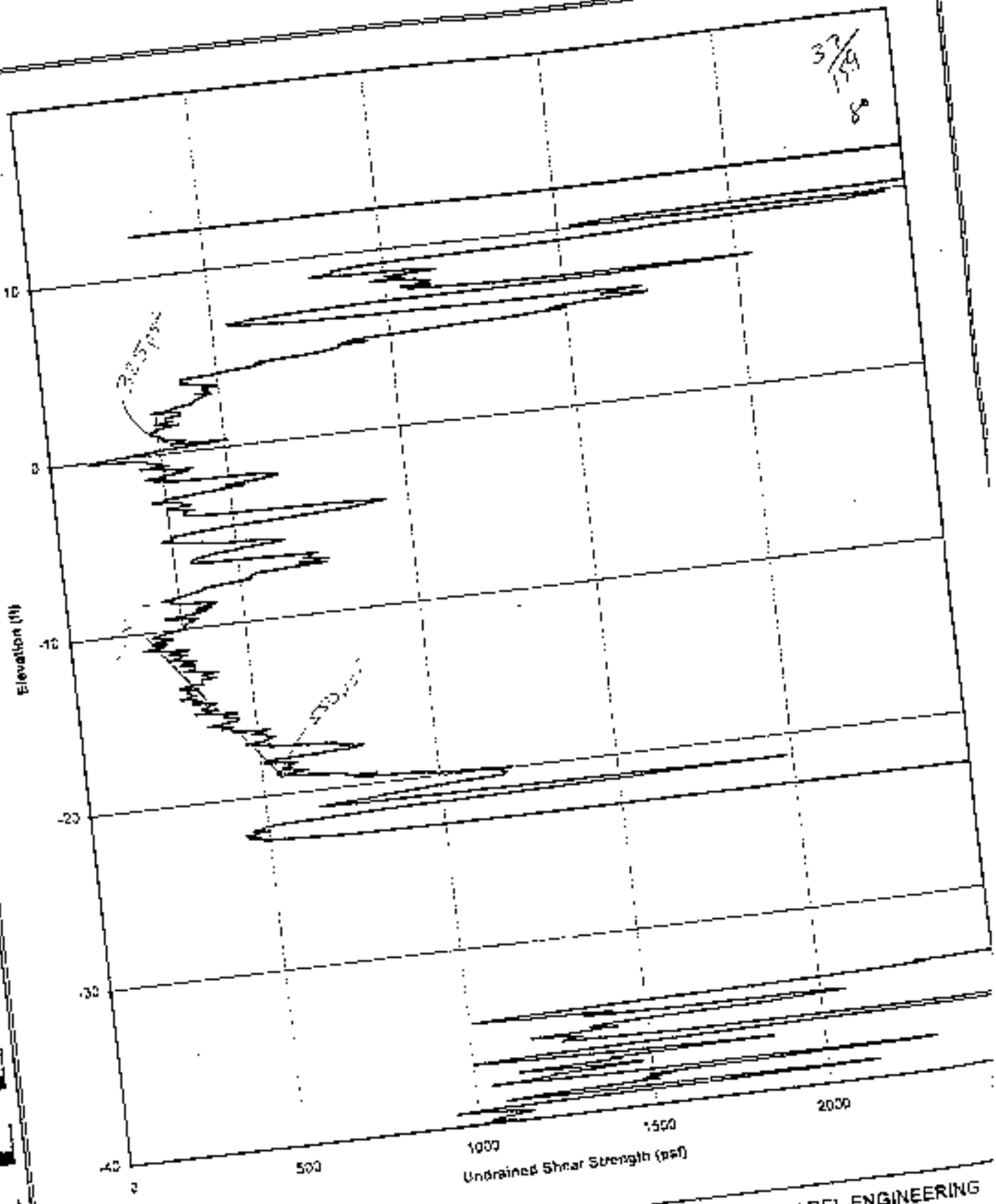
Undrained Shear Strength vs.Elevation for SEA-10
Pigeon Point

SCHNABEL ENGINEERING ASSOCIATES, INC.

Pigeon Point Disposal Area
Wilmington, Delaware

DATE:

CONTRACT NO.: 98



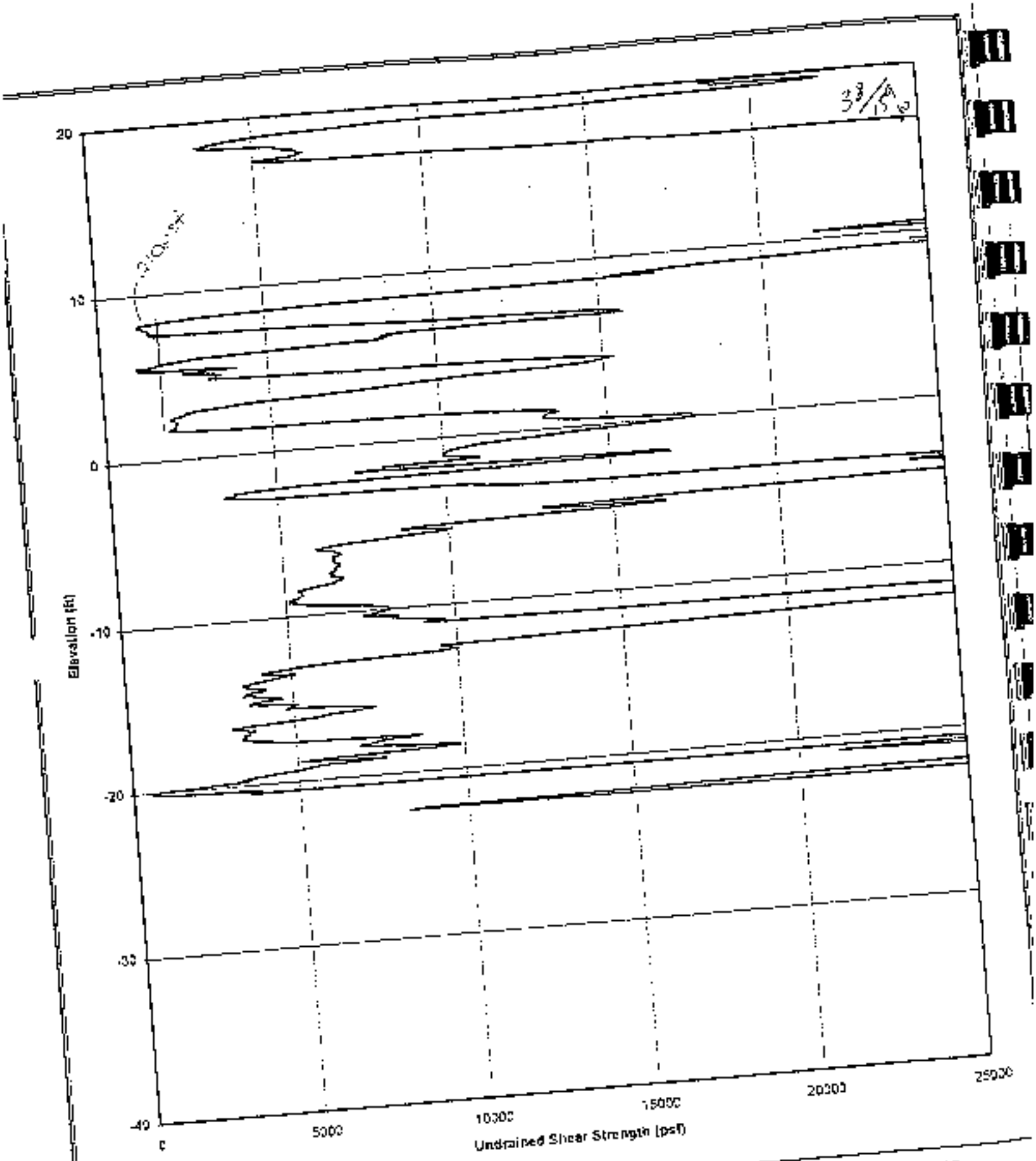
Undrained Shear Strength vs. Elevation for: SEA-11
Pigeon Point

SCHNABEL ENGINEERING ASSOCIATES, INC.

Pigeon Point Disposal Area
Wilmington, Delaware

CONTRACT NO.:

DATE:



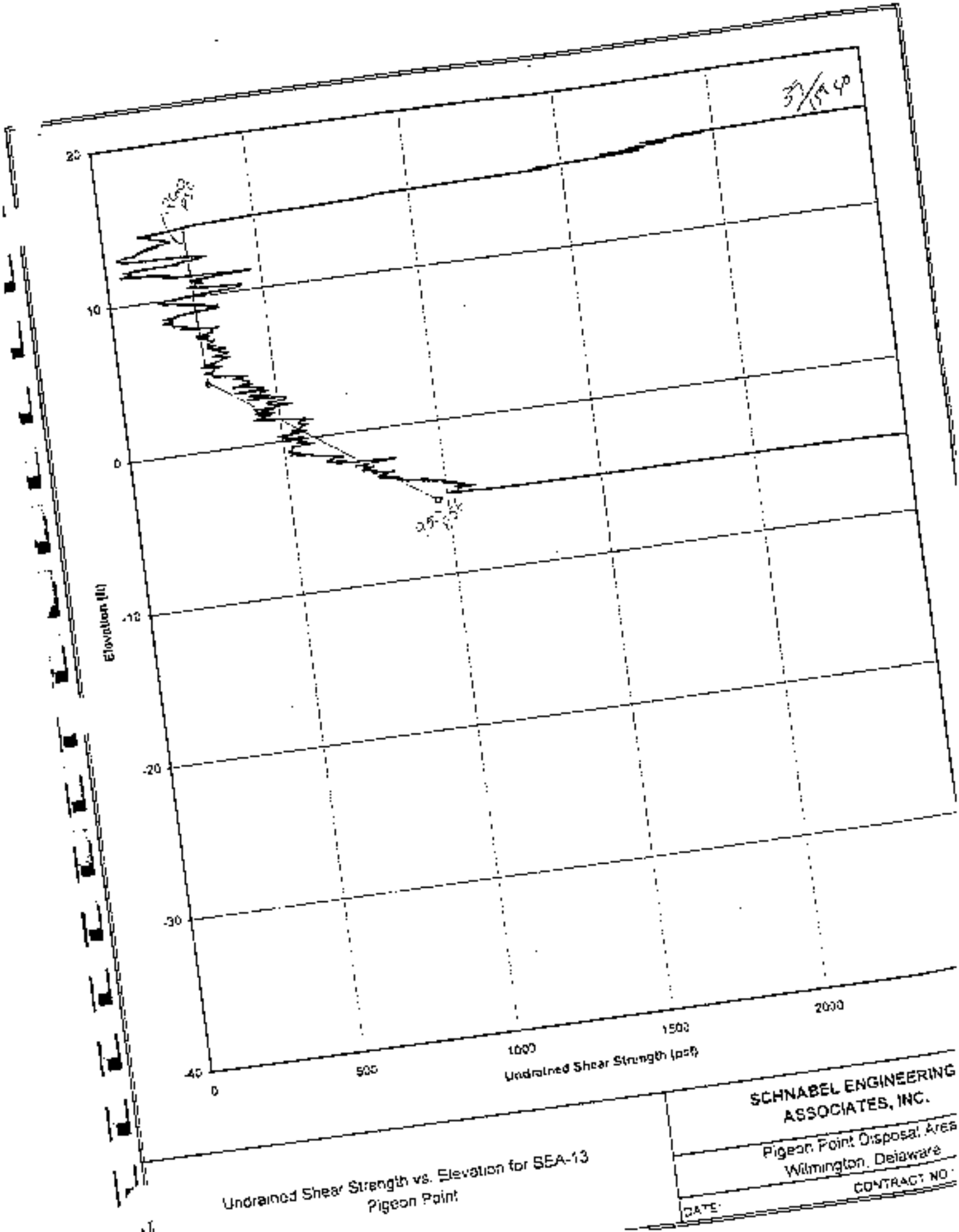
SCHNABEL ENGINEERING ASSOCIATES, INC.

Undrained Shear Strength vs. Elevation for SEA-12
Pigeon Point

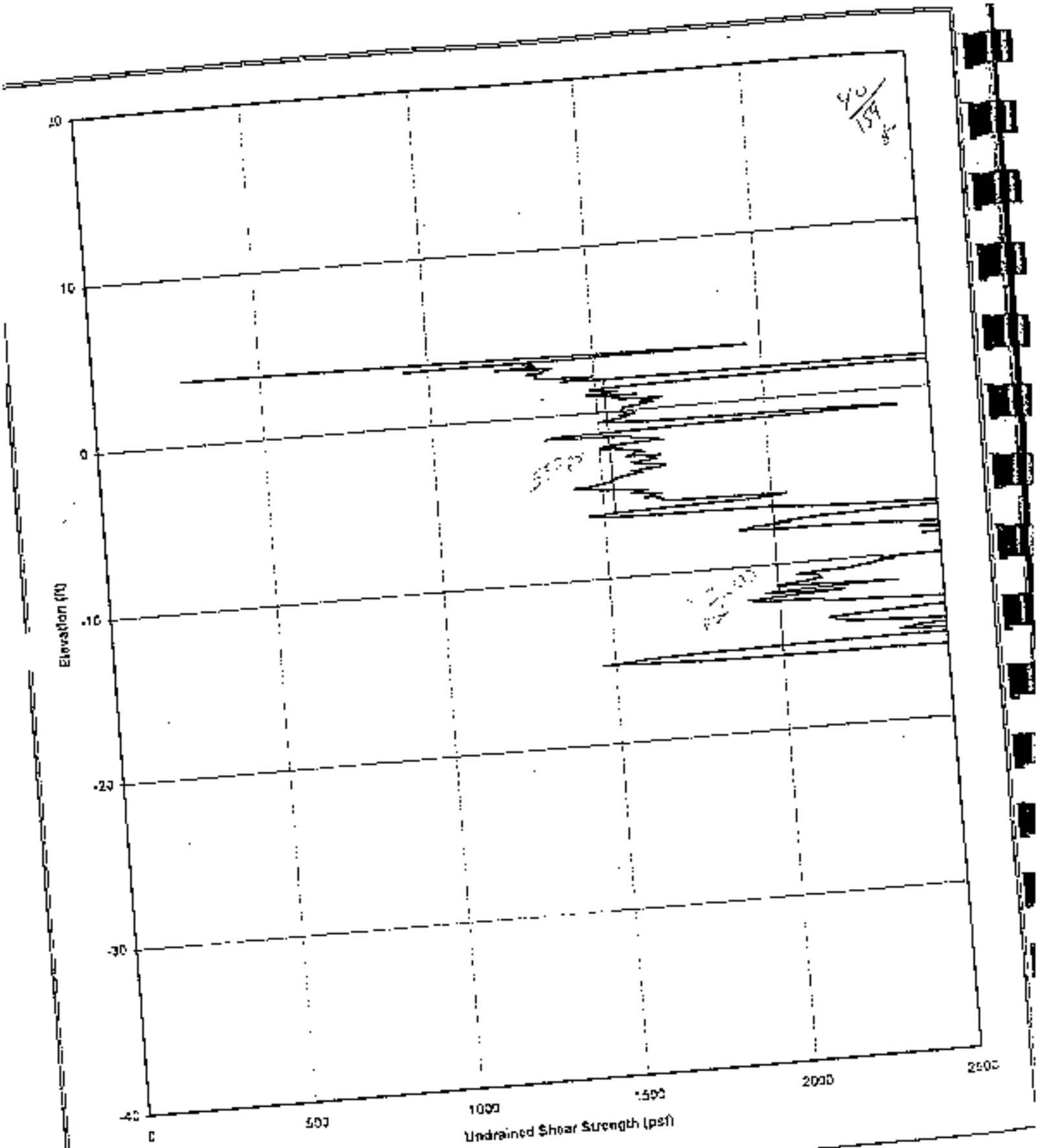
Pigeon Point Disposal Area
Wilmington, Delaware

DATE

CONTRACT NO.. 985176



Undrained Shear Strength vs. Elevation for SEA-13
Pigeon Point



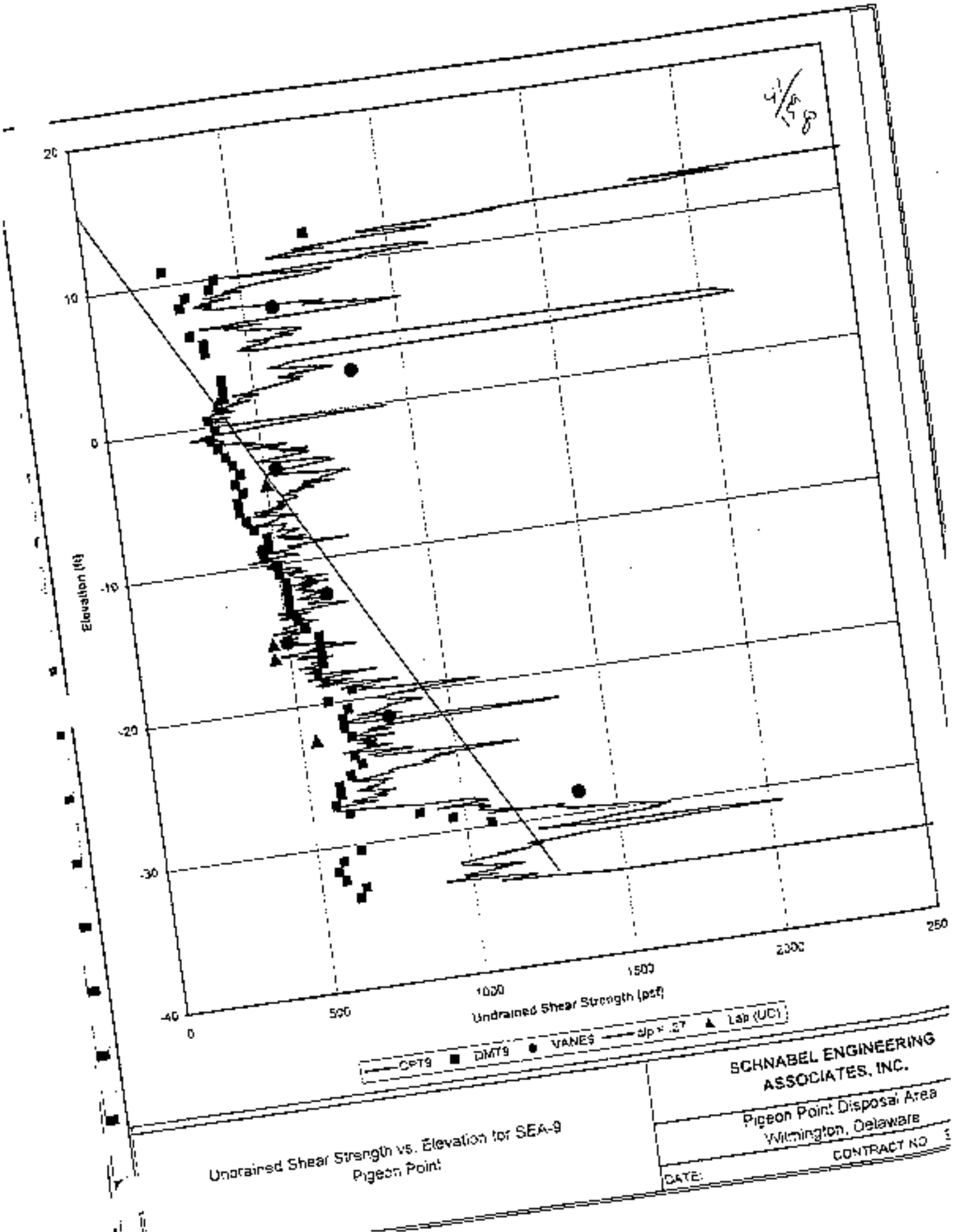
SCHNABEL ENGINEERING ASSOCIATES, INC.

Undrained Shear Strength vs. Elevation for SEA-14
Pigeon Point

Pigeon Point Disposal Area
Wilmington, Delaware

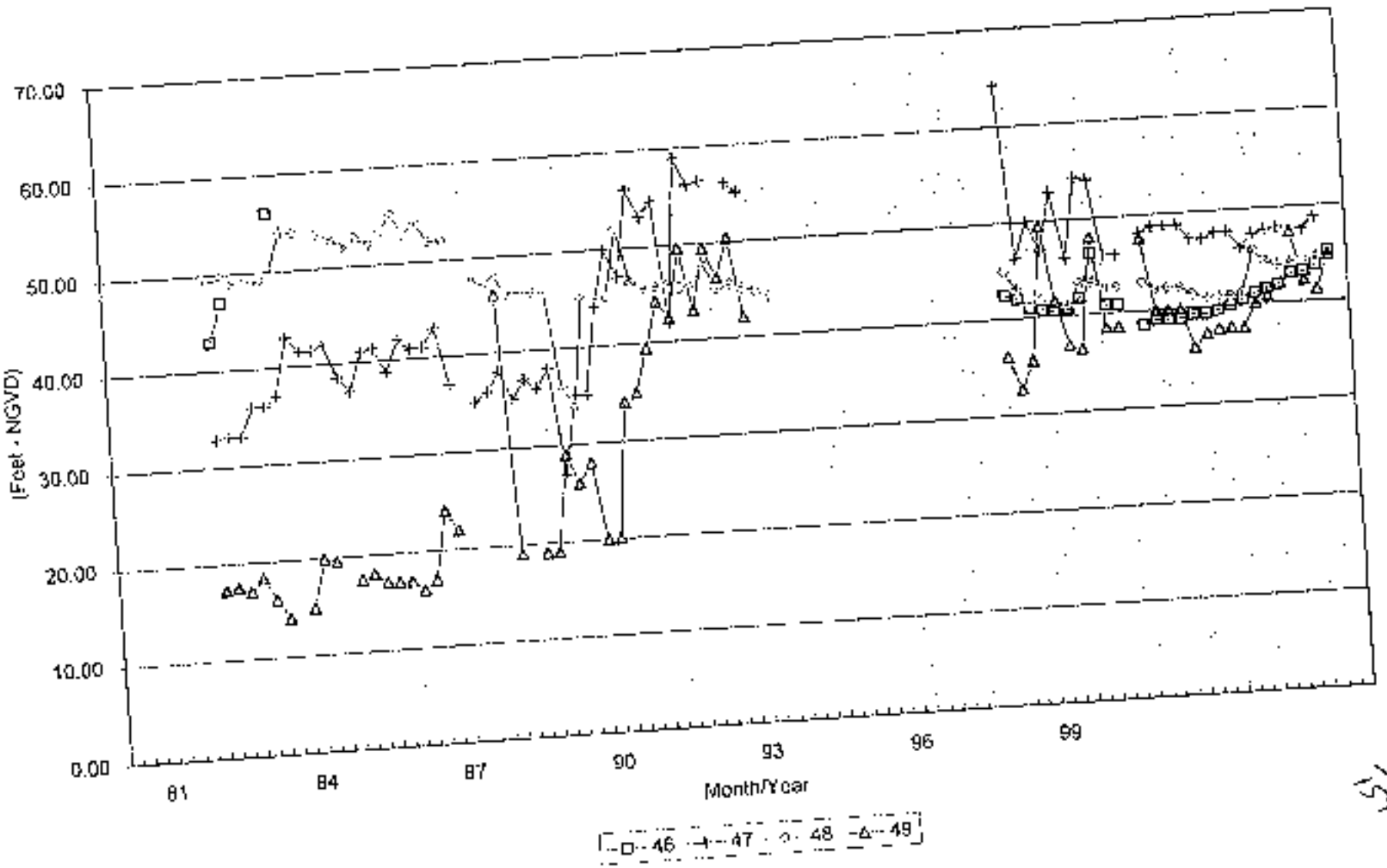
DATE:

CONTRACT NO. 985175


4/8
20
10
0
-10
-20
-30
-40
Elevation (ft)
0
500
1000
1500
2000
250
Undrained Shear Strength (psf)
CPT9
DMT9
VANES
Lab (UC)
SCHNABEL ENGINEERING ASSOCIATES, INC.
Pigeon Point Disposal Area
Wilmington, Delaware
CONTRACT NO
DATE:
Undrained Shear Strength vs. Elevation for SEA-9
Pigeon Point

Appendix C

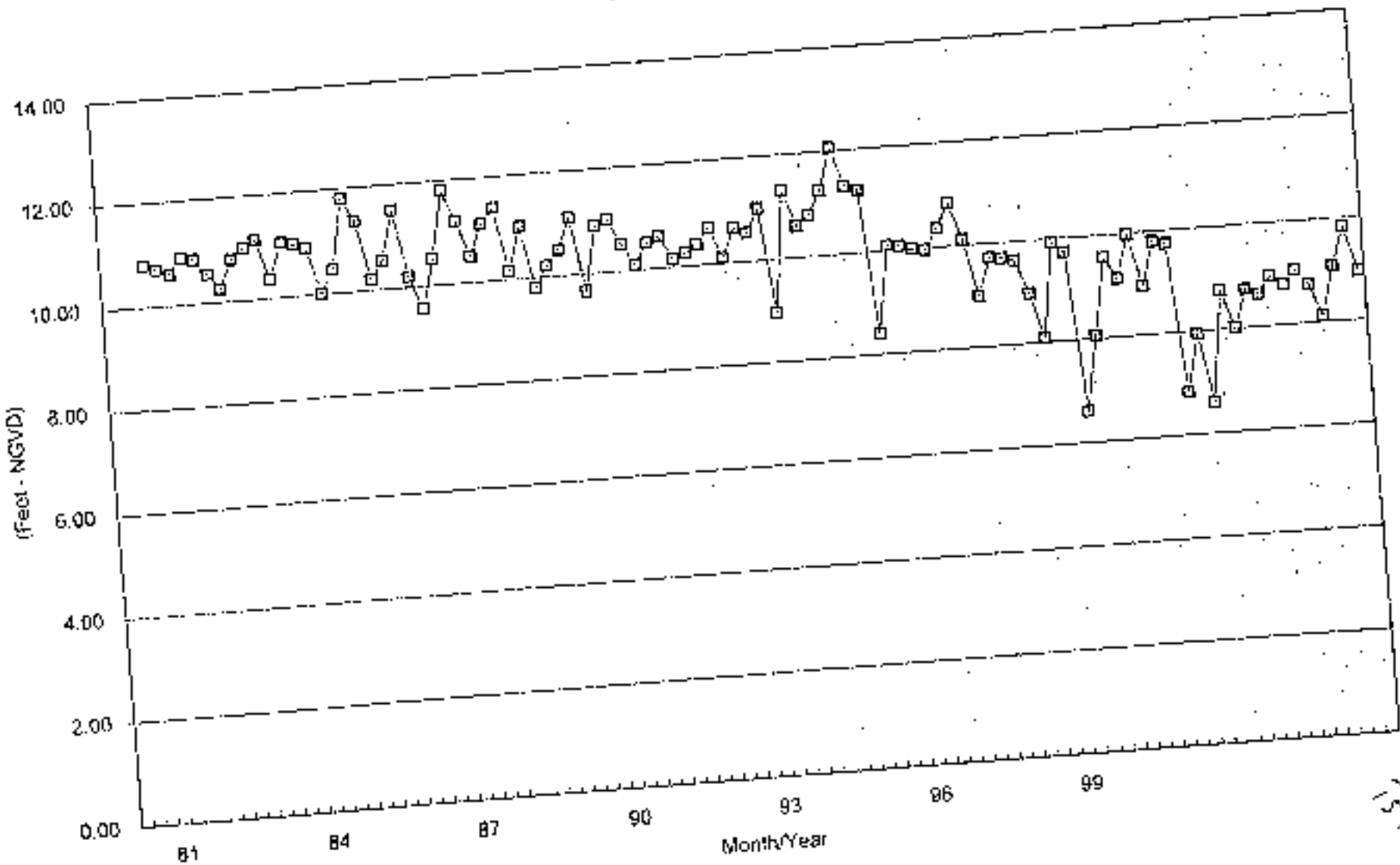
NSWMC-1 Pigeon Point. Historical Elevation Data
Leachate Observation Wells



Provided by Dan Fluman of the Delaware Solid Waste Authority on 5 January, 2005

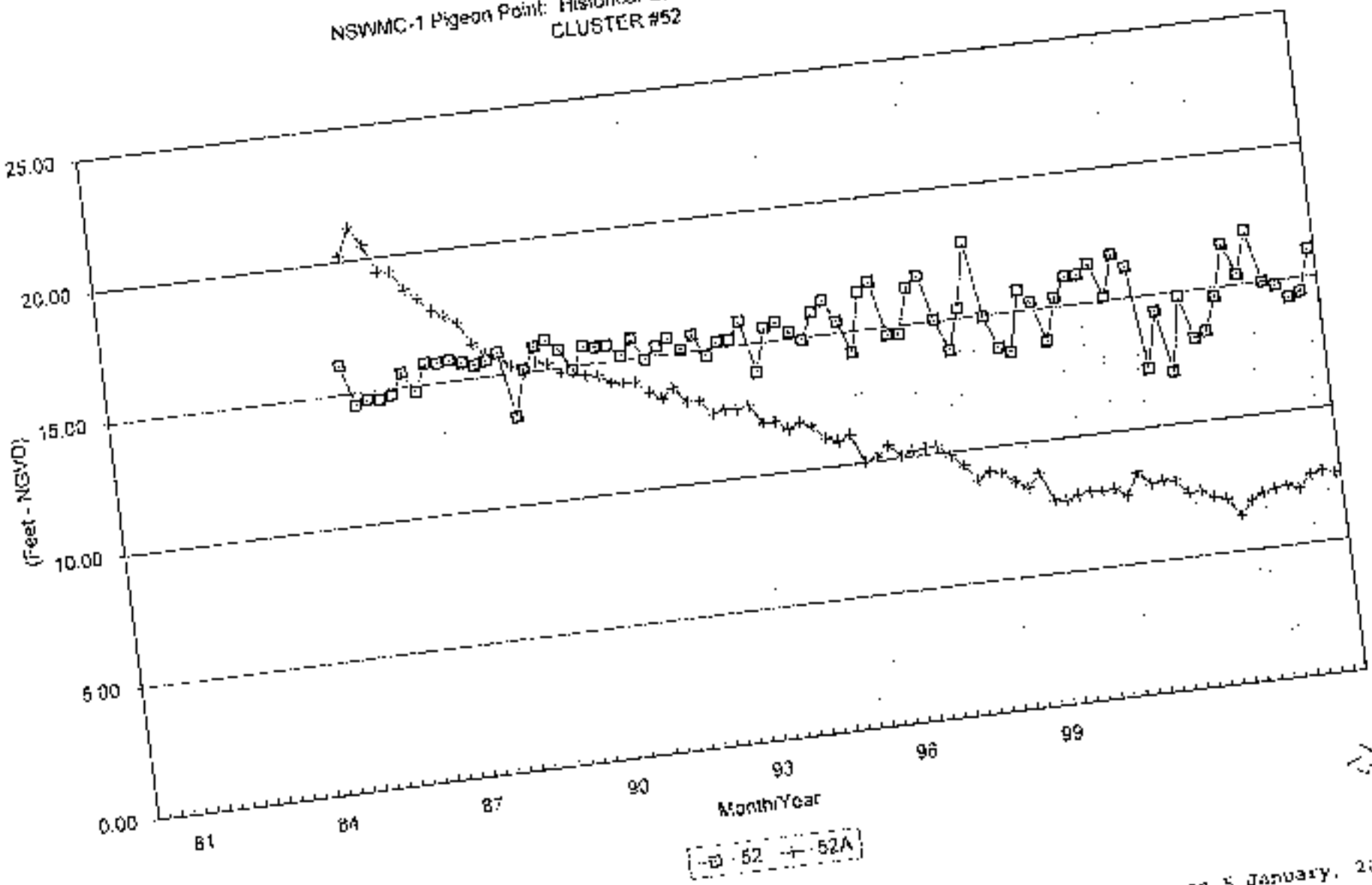
43/159 80

NSWMC-1 Pigeon Point: Historical Groundwater Elevation Data
WELL 39



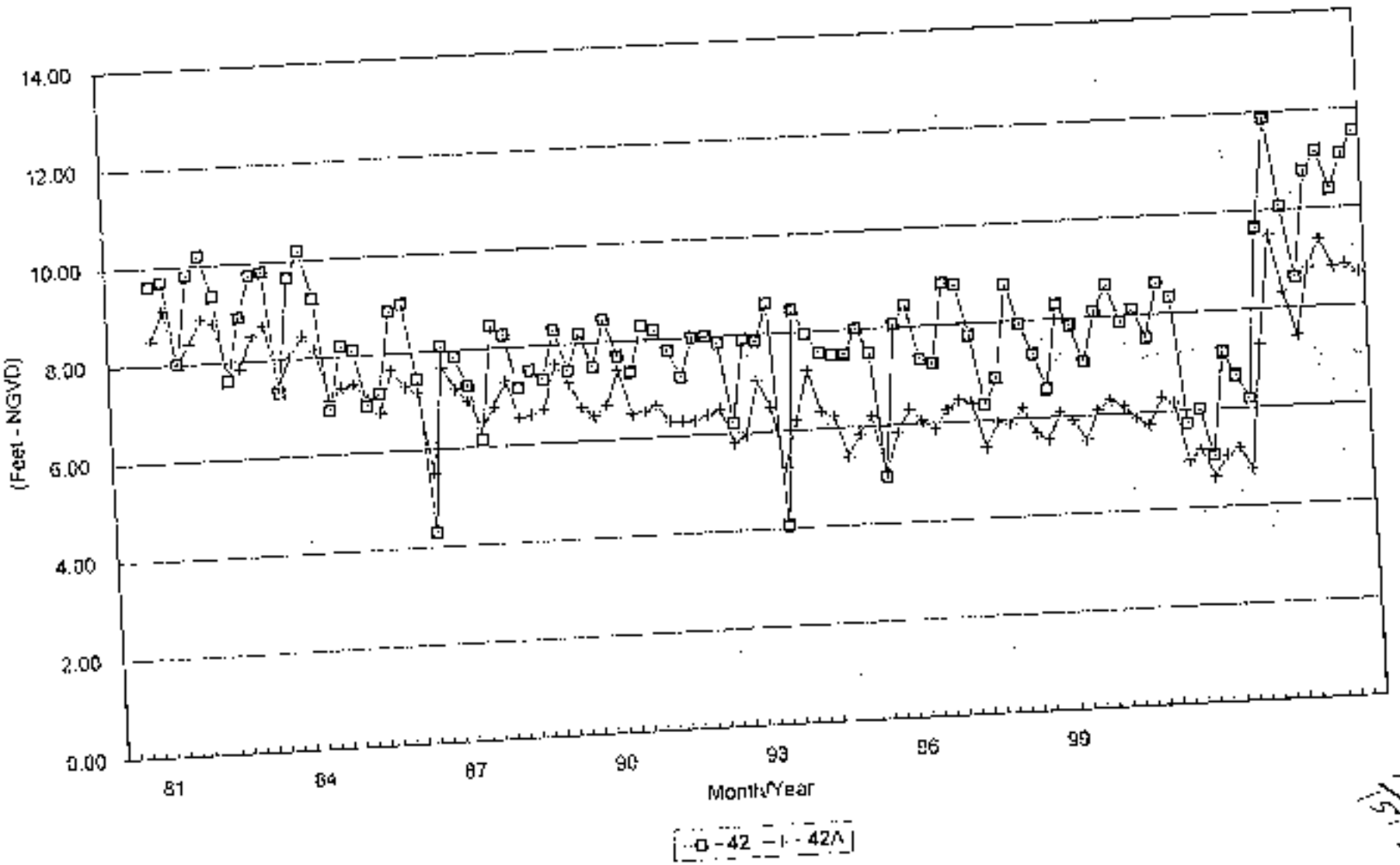
Provided by Dan Fluman of the Delaware Solid Waste Authority on 5 January, 2005

NSWMC-1 Pigeon Point: Historical Groundwater Elevation Data
CLUSTER #52



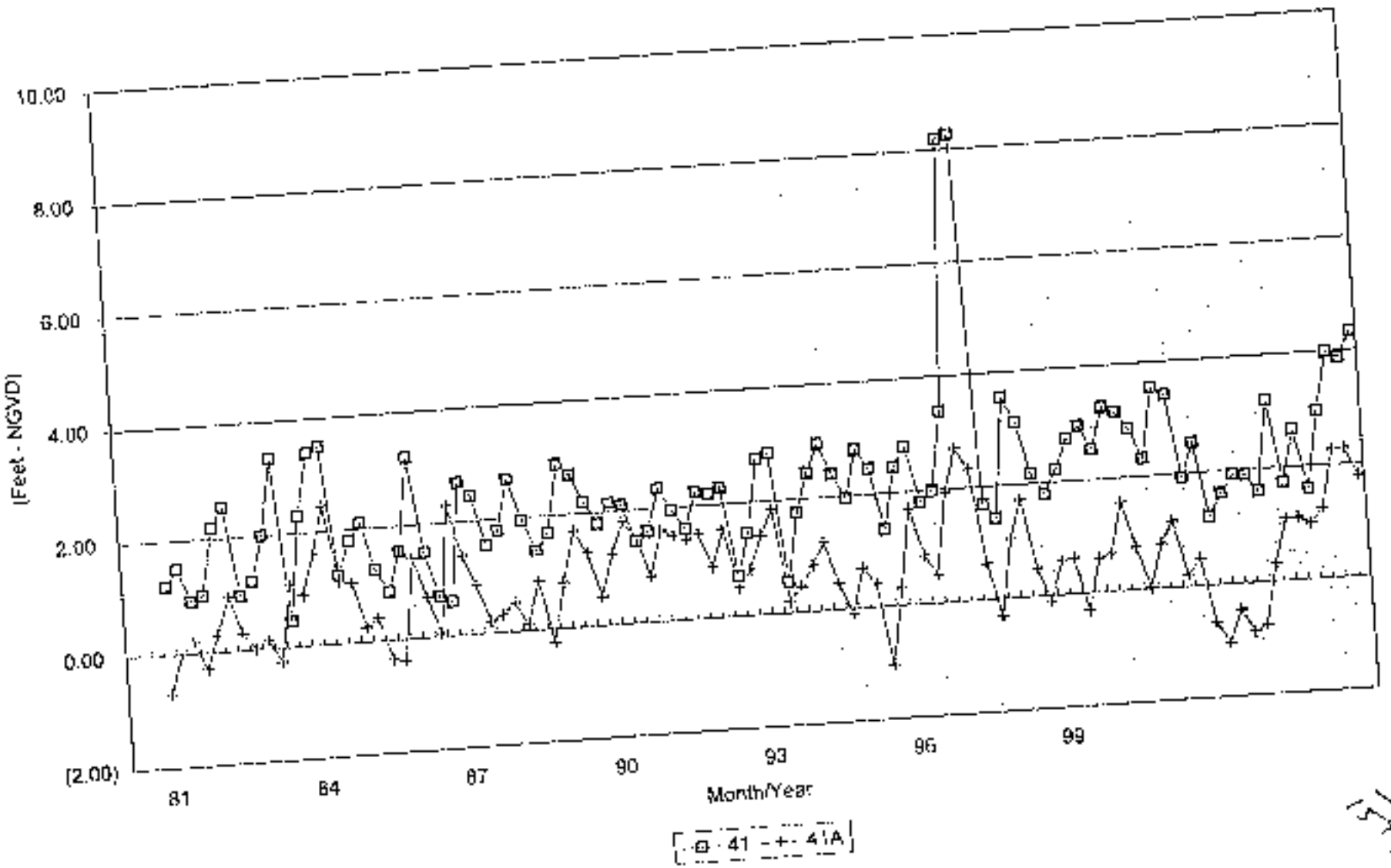
Provided by Dan Fluman of the Delaware Solid Waste Authority on 5 January, 2005

NSWMC-1 Pigeon Point. Historical Groundwater Elevation Data
CLUSTER #42



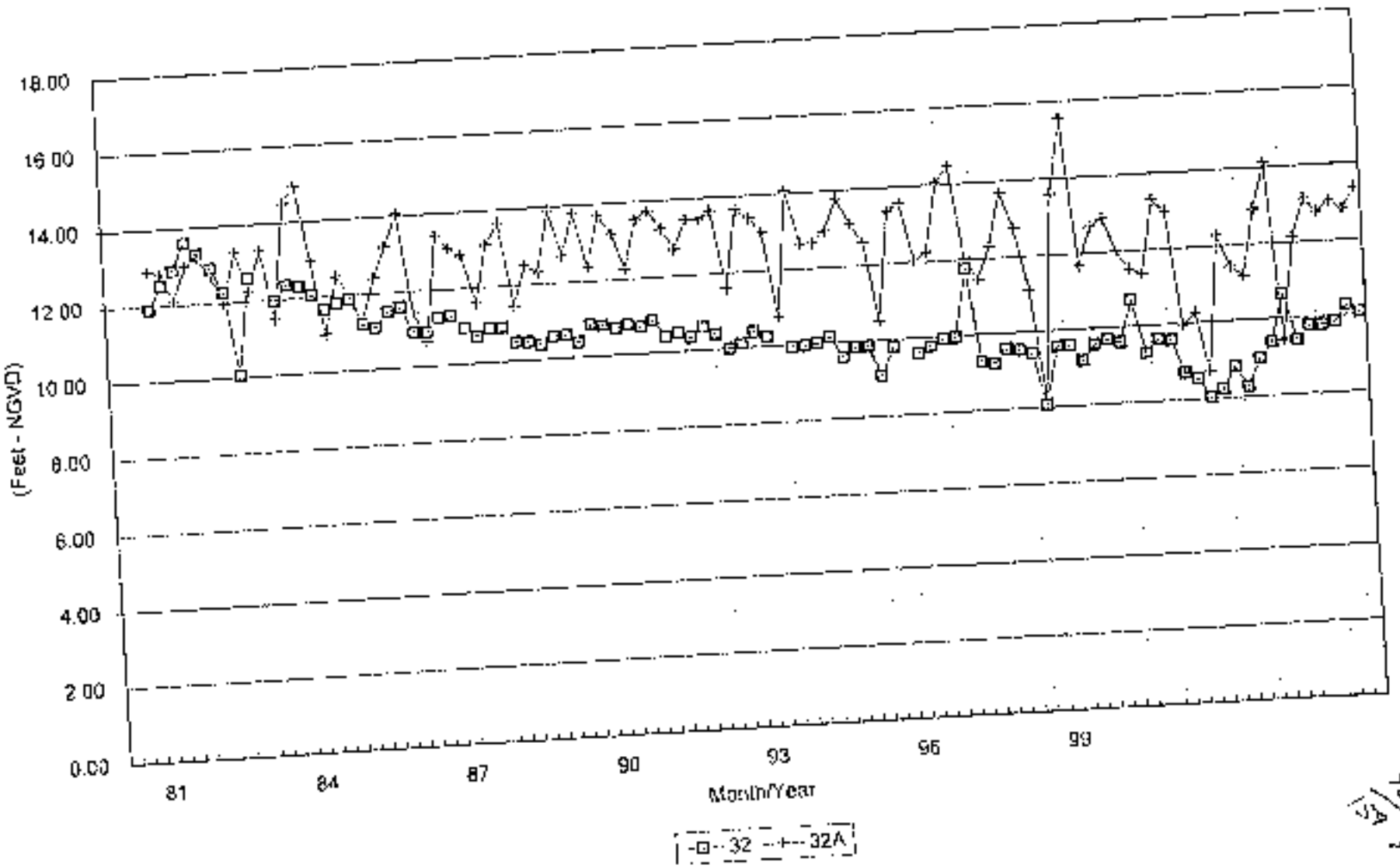
Provided by Dan Fleman of the Delaware Solid Waste Authority on 5 January, 2005

NSWMC-1 Pigeon Point Historical Groundwater Elevation Data
CLUSTER #41



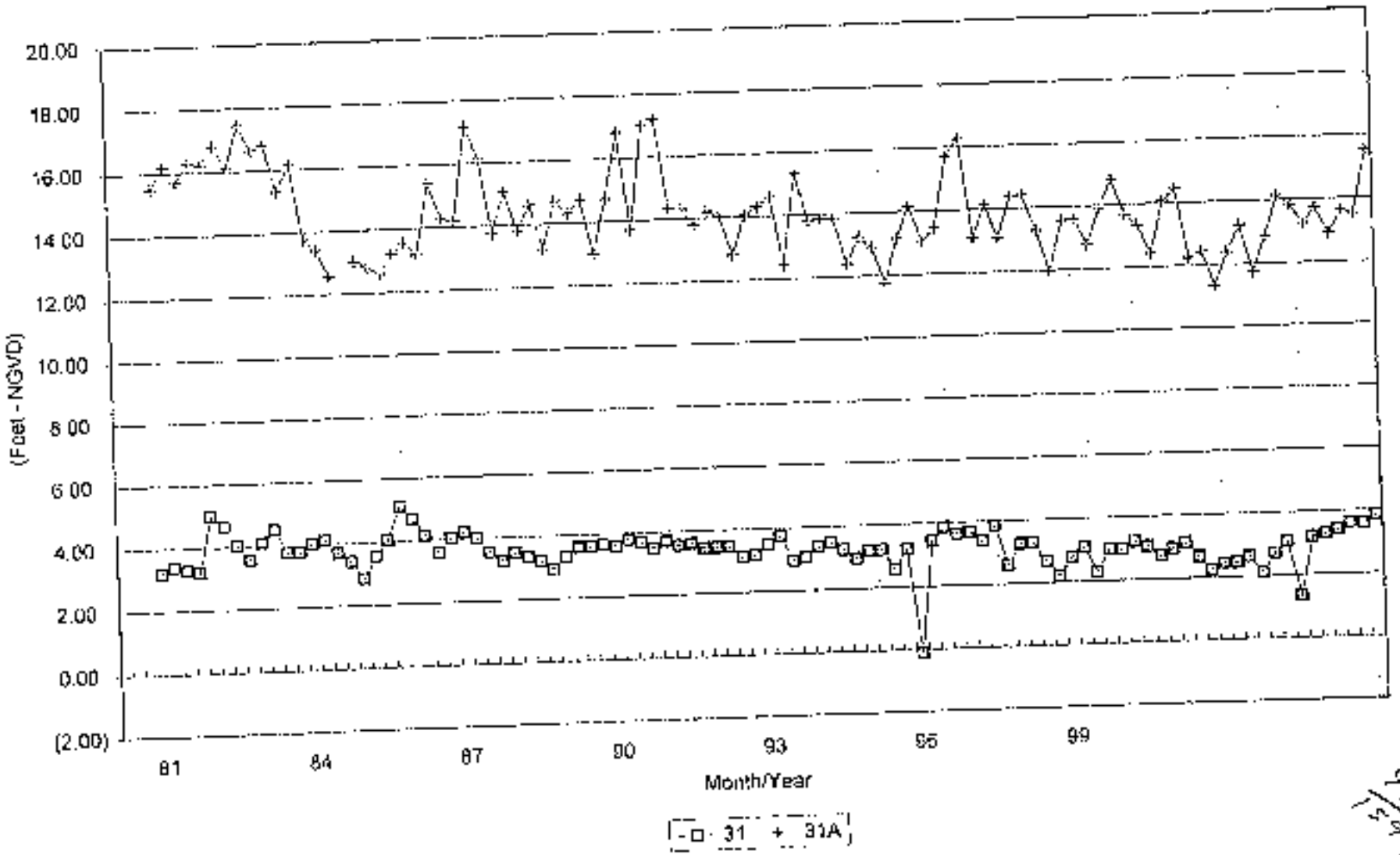
Provided by Dan Flaman of the Delaware Solid Waste Authority on 5 January, 2005

NSWMC-1 Pigeon Point: Historical Groundwater Elevation Data
CLUSTER #32



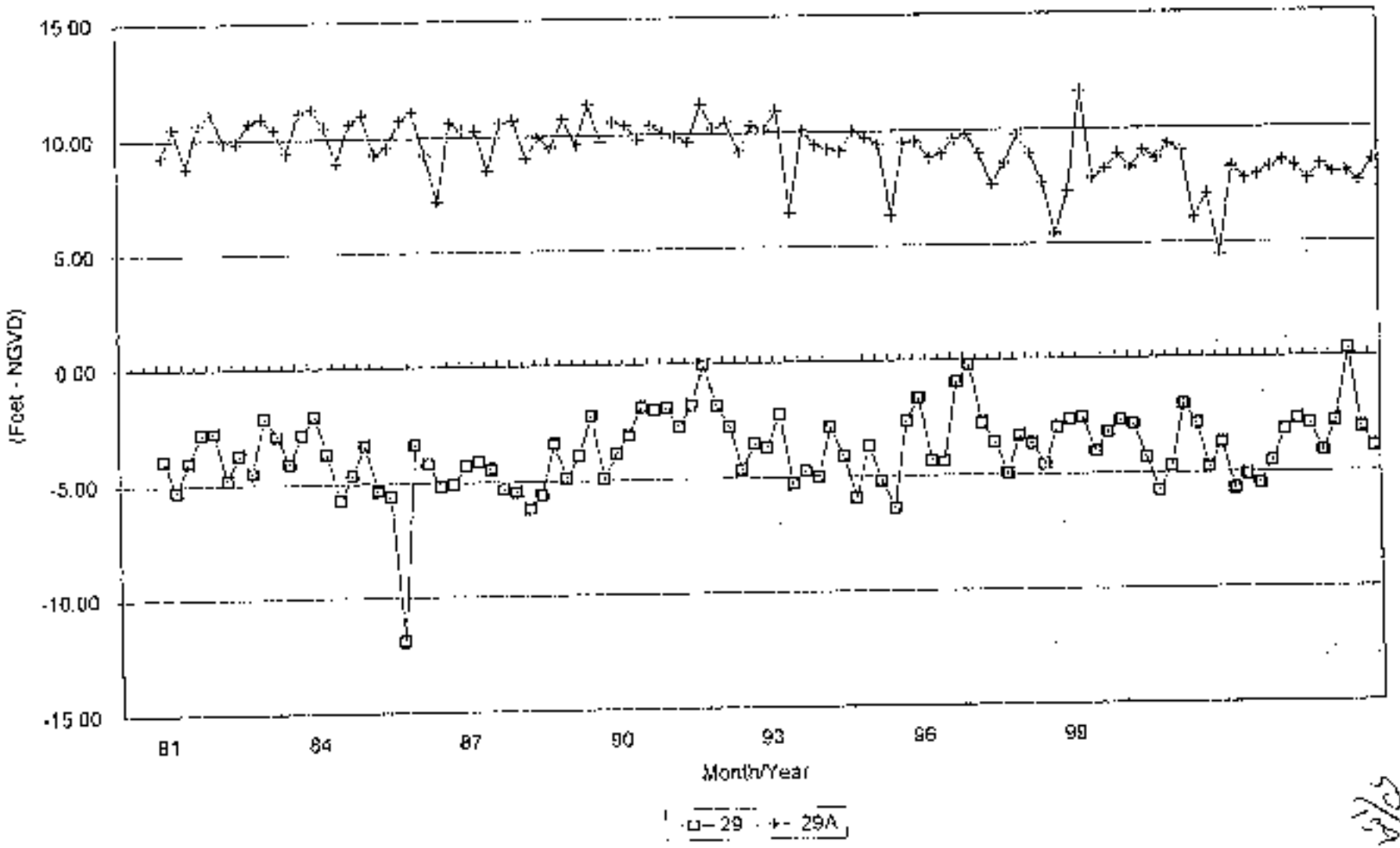
Provided by Dan Fluman of the Delaware Solid Waste Authority on 5 January, 2005

NSWMC-1 Pigeon Point: Historical Groundwater Elevation Data
CLUSTER #31



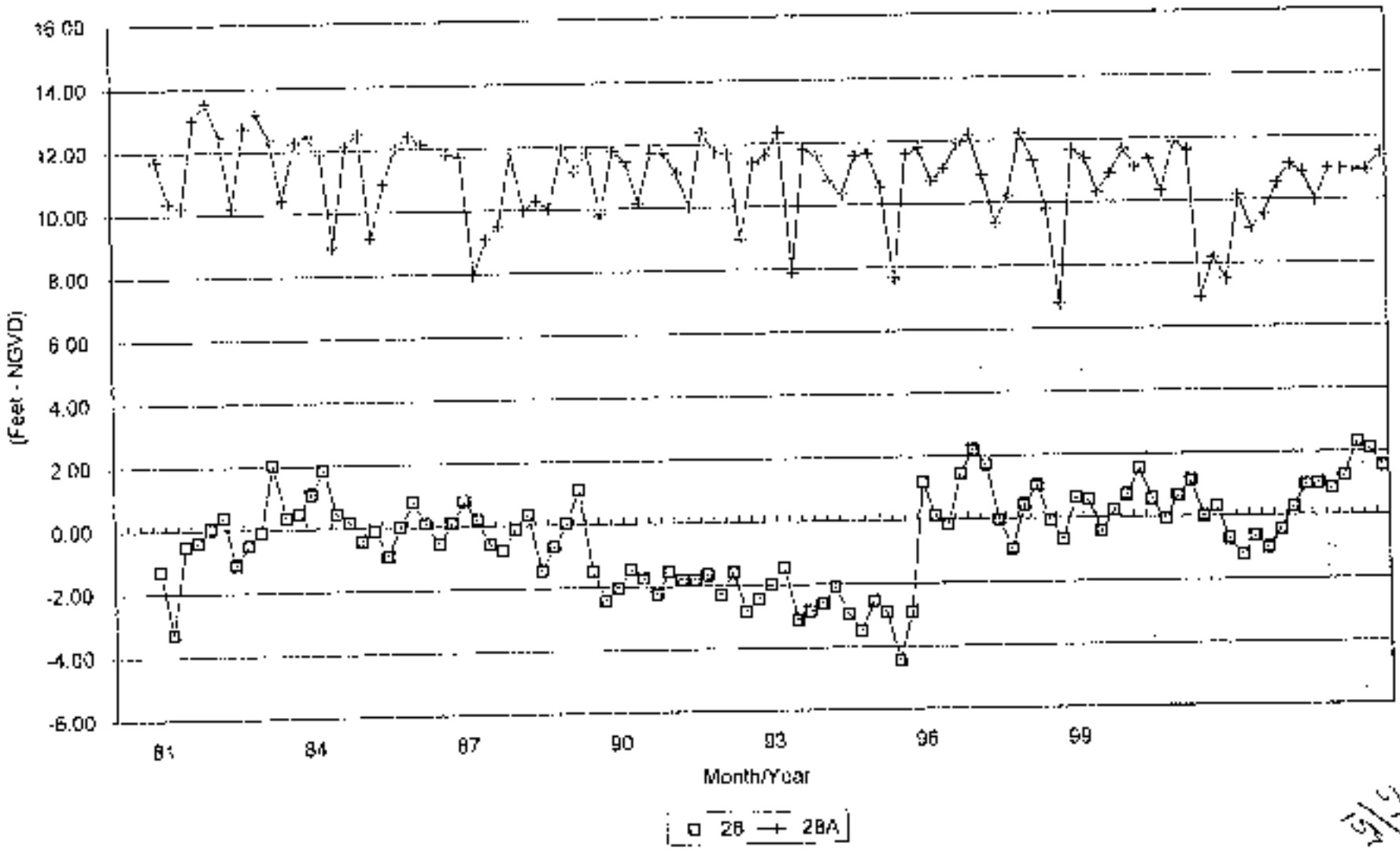
Provided by Dan Fluman of the Delaware Solid Waste Authority on 5 January, 2005

NSWMC-1 Pigeon Point: Historical Groundwater Elevation Data
CLUSTER #29



Provided by Dan Plumap of the Delaware Solid Waste Authority on 5 January, 2005

NSWMC-1 Pigeon Point: Historical Groundwater Elevation Data
CLUSTER #28



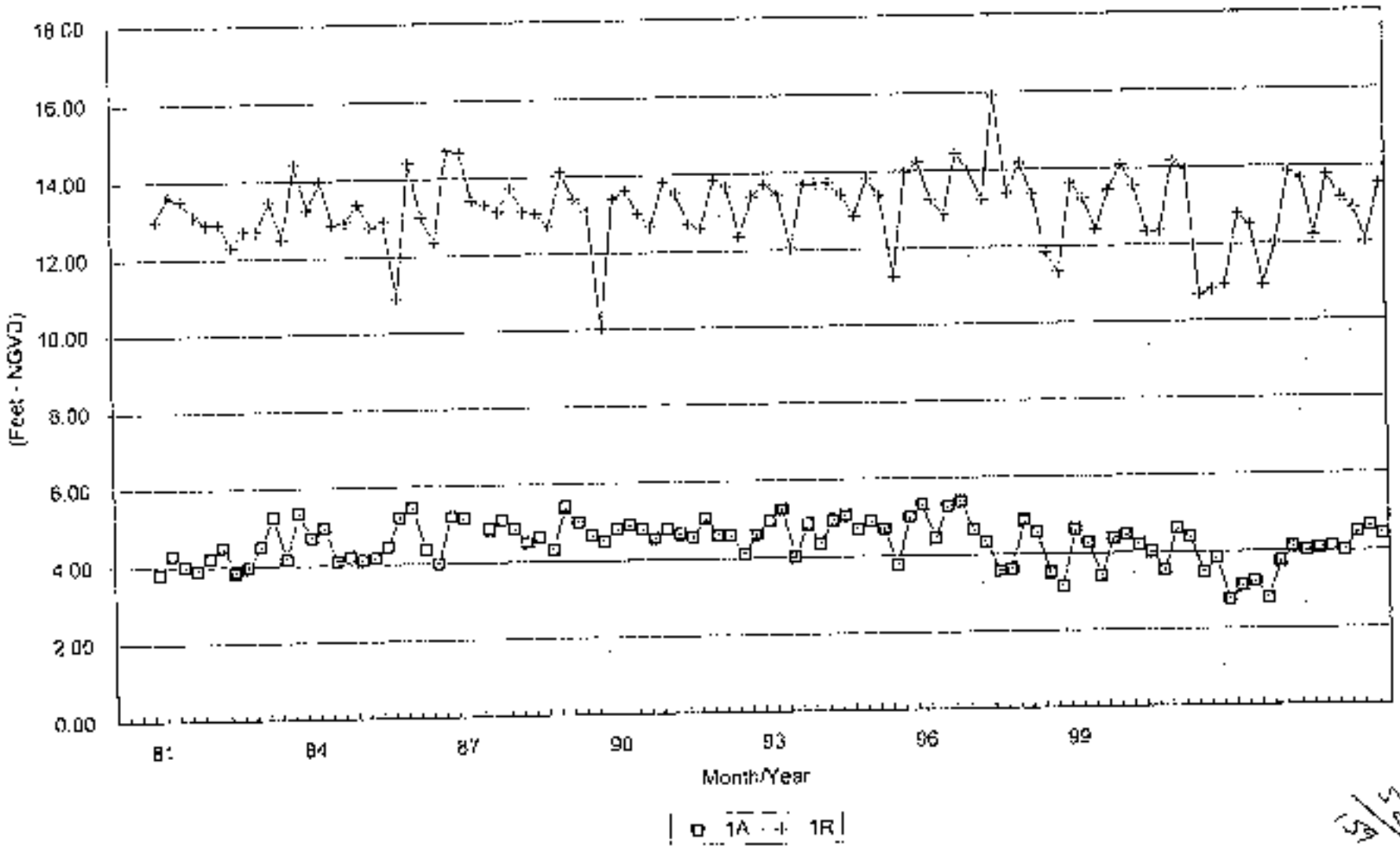
Provided by Dan Fluman of the Delaware Solid Waste Authority on 5 January, 2005

OUTSIDE WASTE
FOOTPRINT

#1A IN COLUMBIA

#1R IN DREDGE

NSWMC-1 Pigeon Point: Historical Groundwater Elevation Data
CLUSTER #1



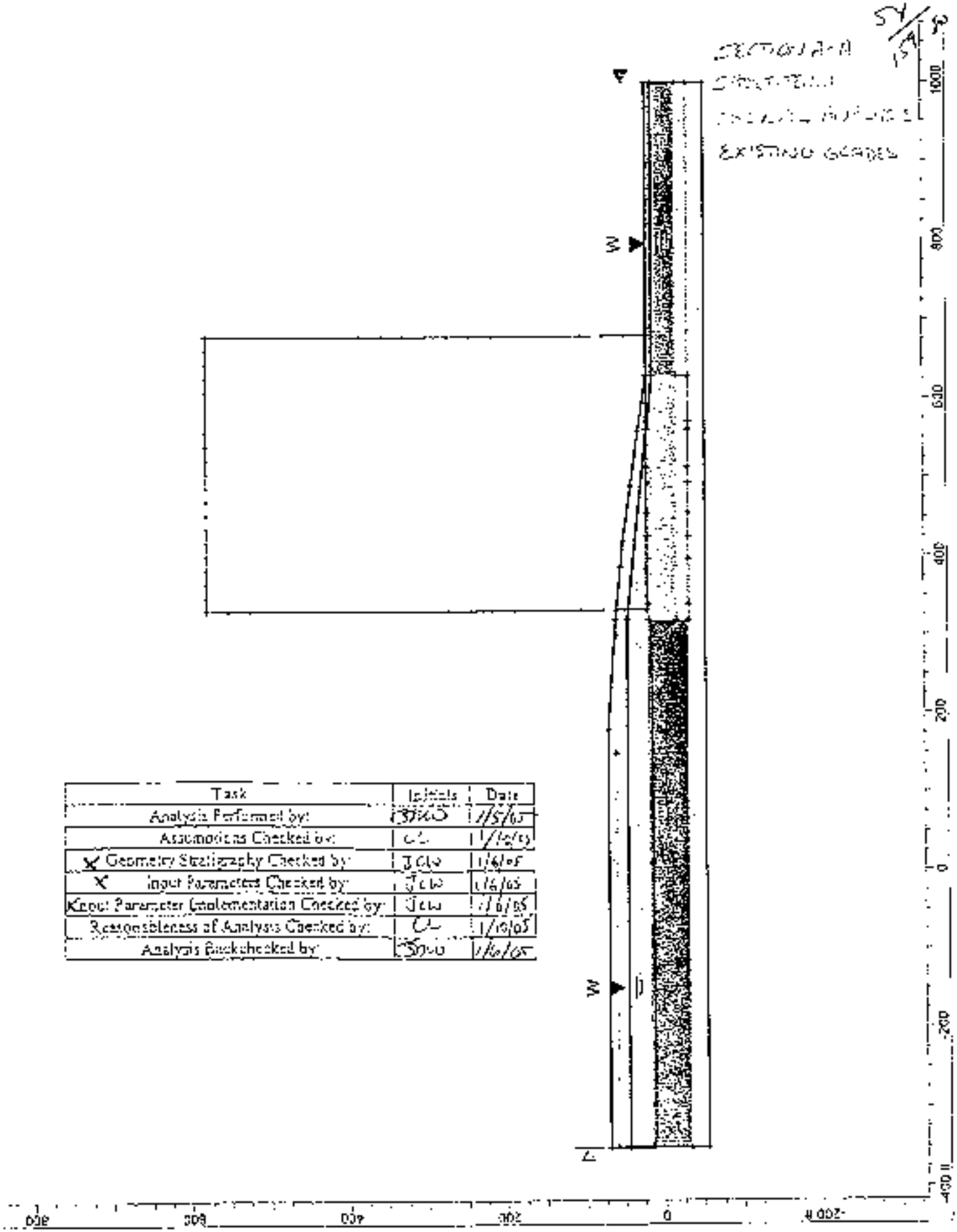
52/59/80

Electronic Data Provided by Dan Fluman of the Delaware Solid Waste Authority on 5 January, 2005

Written by: S. Opdyke Date: 1/5/05 Reviewed by: C. Lazarte Date: 1/5/05

Client: DSWA Project: PPL Project/Proposal No.: ME0414 Task No.: 3

Appendix D



Task	Initials	Date
Analysis Performed by:	[illegible]	1/5/05
Assumptions Checked by:	[illegible]	1/10/05
X Geometry Stratigraphy Checked by:	JCW	1/6/05
X Input Parameters Checked by:	JCW	1/6/05
Input Parameter Implementation Checked by:	JCW	1/6/05
Reasonableness of Analysis Checked by:	[illegible]	1/10/05
Analysis Backchecked by:	[illegible]	1/6/05

Scenario Number 1

Material Name: Clayey Silt (Layer 2)
Strength Type: Undrained
Unit Moist Unit Weight: 55 kN/m3
Saturated Unit Weight: 97 kN/m3
Cohesion Type: Constant
Cohesion: 1000 psf
Water Surface: None

List of Coordinates

Material Boundary

-350.000	-33.000
320.000	-33.000
340.000	-33.000
358.000	-33.000
420.000	-33.000
456.000	-33.000
494.000	-33.000
514.000	-33.000
567.000	-33.000
572.000	-33.000
610.000	-33.000
1050.000	-33.000

Material Boundary

320.000	60.000
320.000	60.000

Material Boundary

-350.000	19.000
320.000	17.540
340.000	17.039
358.000	16.159
420.000	16.341
456.000	18.619
494.000	18.971
514.000	19.073
552.000	19.485
572.000	19.510
610.000	19.000

Material Boundary

320.000	-15.000
320.000	-18.000
320.000	17.540

Material Boundary

320.000	-15.000

630.000	-15.000
1000.000	-18.000

Material Boundary

320.000	-18.000
320.000	20.000

Material Boundary

630.000	-15.000
630.000	-18.000

Material Boundary

150.078	60.000
300.000	62.000

Material Boundary

-350.000	60.000
150.078	60.000

Material Boundary

-350.000	60.000
-350.000	15.000
-350.000	-33.000
350.000	-55.000
1000.000	-55.000
1000.000	-33.000
1000.000	-18.000
1000.000	-8.557
1000.000	20.000
930.000	20.000
900.000	30.000
495.000	40.000
420.000	50.000
388.567	53.333
320.000	60.000
180.000	70.000
-350.000	70.000

Water Level

-350.000	45.000
320.000	45.000
930.000	13.000
1000.000	12.000

Search Grid

313.000	20.000
681.519	20.000
681.519	579.129
313.000	579.129

Slide Analysis Information

Document Name

File Name: [illegible]

Project Settings

Project Title: SLIDE - An Interactive Slope Stability Program
Failure Direction: Left to Right
Units of Measurement: Imperial Units
Pore Fluid Unit Weight: 62.4 lb/ft3
Groundwater Method: Water Surfaces
Data Output: Standard

Analysis Methods

Analysis Methods used
Spencer

Number of Slices: 50
Tolerance: 0.005
Maximum number of iterations: 50

Surface Options

Surface Type: Circular
Radius Increment: 75
Minimum Elevation: Not Defined
Composite Surfaces: Disabled
Reverse Curvature: Create Tension Crack

Loading

Seismic Load Coefficient (Horizontal): 0
Seismic Load Coefficient (Vertical): 0

Material Properties

Material: Water
Strength Type: Mohr-Coulomb
Unit Weight: 15 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Stabilized Sludge
Strength Type: Mohr-Coulomb
Unit Weight: 30 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Recent Alluvium 1
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Constant
Cohesion: 320 psf
Water Surface: None

Material: Recent Alluvium 2
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Constant
Cohesion: 400 psf
Water Surface: None

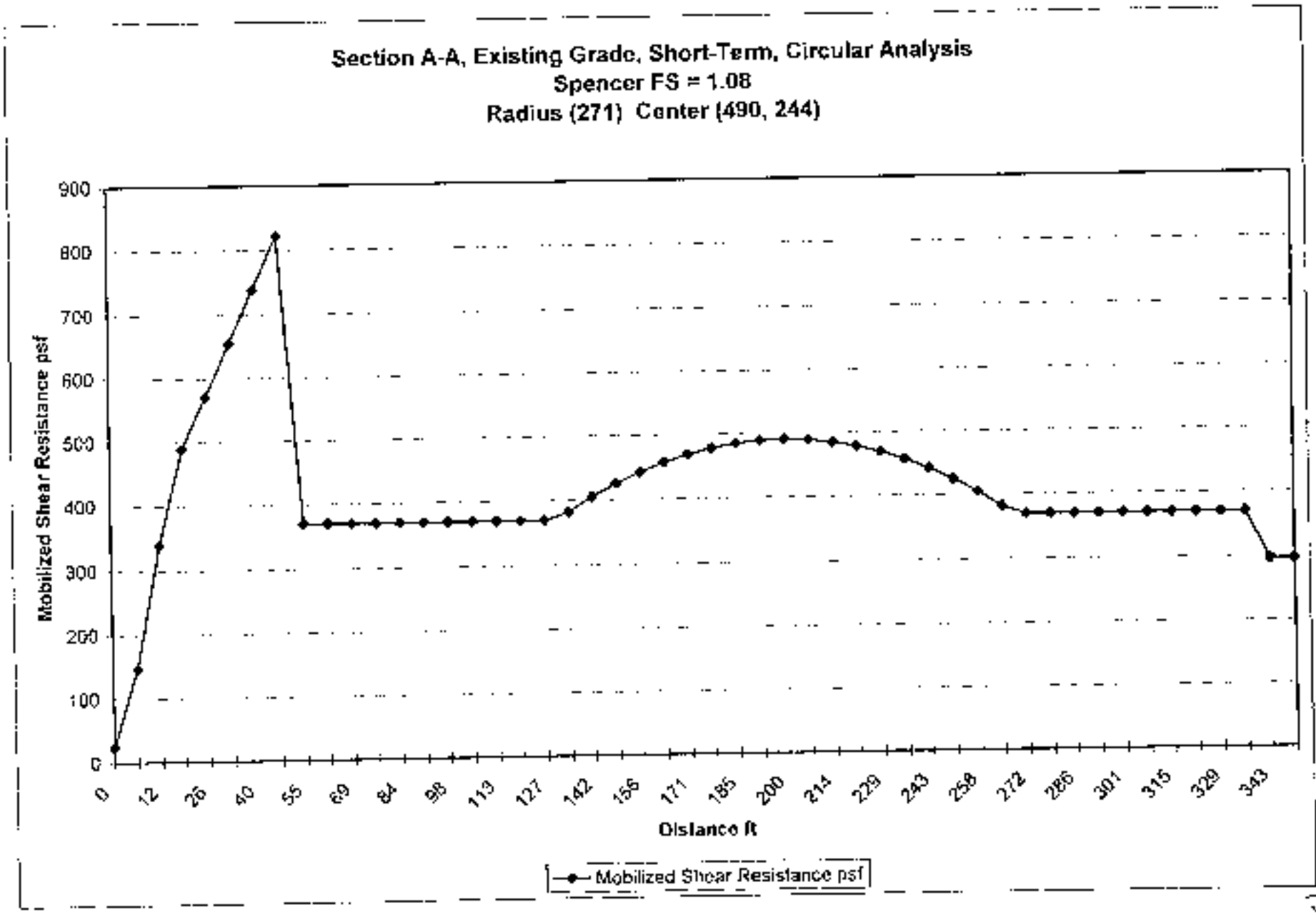
Material: Recent Alluvium 4
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 400 psf
Cohesion Change: 14.7 psf/ft
Datum: -15 ft
Water Surface: None

Material: Recent Alluvium 5
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 325 psf
Cohesion Change: 20 psf/ft
Datum: -15 ft
Water Surface: None

Material: Sand
Strength Type: Mohr-Coulomb
Unit Weight: 125 lb/ft3
Cohesion: 0 psf
Friction Angle: 40 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Recent Alluvium Layer 3
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Constant
Cohesion: 1200 psf
Water Surface: None

58
15.9
80


Section A-A, Existing Grade, Short-Term, Circular Analysis
Spencer FS = 1.08
Radius (271) Center (490, 244)
Mobilized Shear Resistance psf
900
800
700
600
500
400
300
200
100
0
0
12
26
40
55
69
84
98
113
127
142
156
171
185
200
214
229
243
258
272
286
301
315
329
343
Distance ft
Mobilized Shear Resistance psf

Slide Analysis Information

Document Name

File Name: A A Existing Grade WT of 45 block.sli

Project Settings

Project Title: SLIDE - An Interactive Slope Stability Program
Failure Direction: Left to Right
Units of Measurement: Imperial Units
Pore Fluid Unit Weight: 62.4 lb/ft3
Groundwater Method: Water Surfaces
Data Output: Standard
Calculate Excess Pore Pressure: Off
Allow Ru with Water Surfaces or Grids: Off
Random Numbers: Pseudo-random Seed
Random Number Seed: 10116
Random Number Generation Method: Park and Miller v.3

Analysis Methods

Analysis Methods used:
Spencer

Number of slices: 50
Tolerance: 0.005
Maximum Number of Iterations: 50

Surface Options

Surface Type: Non Circular Block Search
Number of Surfaces: 5000
Position-Random Surfaces: Enabled
Convex Surfaces Only: Disabled
Left Projection Angle (Start Angle): 120
Left Projection Angle (End Angle): 160
Right Projection Angle (Start Angle): 30
Right Projection Angle (End Angle): 60

Material Properties

Material: Waste
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 75 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table

Custom Hydraulic: 1

Material: Stabilized Sludge
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 70 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hydraulic: 1

Material: Recent Alluvium Layer 1
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Constant
Cohesion: 320 psf
Water Surface: None

Material: Recent Alluvium Layer 2
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Constant
Cohesion: 400 psf
Water Surface: None

Material: Recent Alluvium Layer 4
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 400 psf
Cohesion Change: 14 f psf/ft
Datum: -10 ft
Water Surface: None

Material: Recent Alluvium Layer 5
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 320 psf
Cohesion Change: 20 psf/ft
Datum: -10 ft
Water Surface: None

Material: Sand
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 125 lb/ft3
Saturated Unit Weight: 125 lb/ft3

62
159 80

502 000	-33 000
530 400	-1 937

Fan sillinck Scotch Window

530 404	-1 937
514 000	-33 000
725 100	-33 000
834 975	20 000

64/159 80

Slide Analysis Information

Document Name

File Name: [illegible]

Project Settings

Project Title: SLIDE - An Interactive Slope Stability Program
Failure Direction: Left to Right
Units of Measurement: Imperial Units
Pore Fluid Unit Weight: 62.4 lb/ft3
Groundwater Method: Water Surfaces
Data Output: Standard

Analysis Methods

Analysis Methods used
Spencer

Number of slices: 50
Tolerance: 0.005
Maximum number of iterations: 50

Surface Options

Surface Type: Non-Circular Block Search
Number of Surfaces: 5000
Pseudo-Random Surfaces: Enabled
Convex Surfaces Only: Disabled
Left Projection Angle (Start Angle): 150
Left Projection Angle (End Angle): 160
Right Projection Angle (Start Angle): 30
Right Projection Angle (End Angle): 60

Loading

Seismic Load Coefficient (Horizontal): 0
Seismic Load Coefficient (Vertical): 0

Material Properties

Material: Weight
Strength Type: Mohr-Coulomb
Unit Weight: 75 lb/ft3
Cohesion: 0 psf
Friction Angle: 33 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Stratified Sandstone
Strength Type: Mohr-Coulomb
Unit Weight: 70 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Recent Alluvium Layer 1
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Constant
Cohesion: 320 psf
Water Surface: None

Material: Recent Alluvium Layer 2
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Constant
Cohesion: 400 psf
Water Surface: None

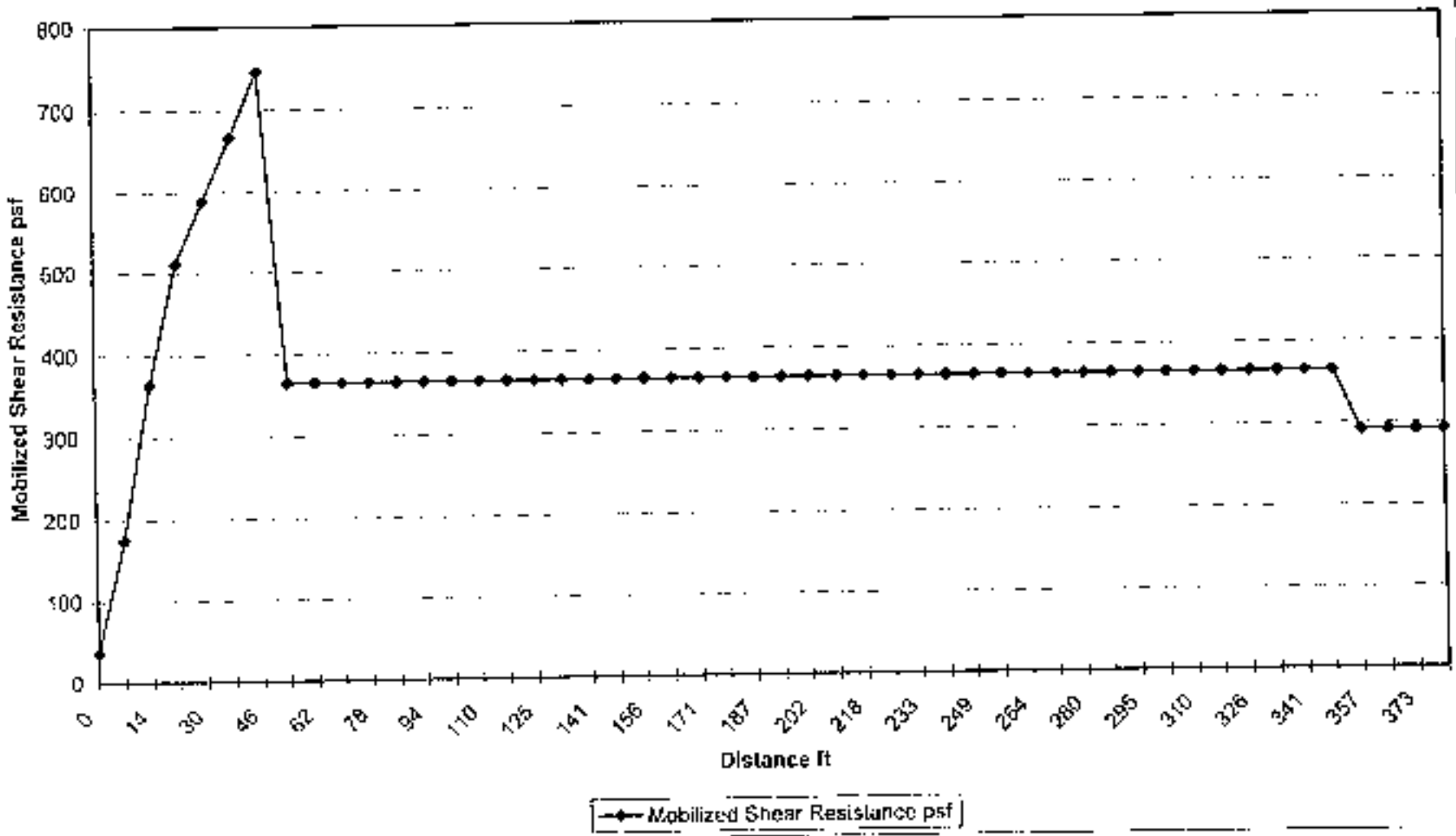
Material: Recent Alluvium Layer 4
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 400 psf
Cohesion Change: 14.7 psf/ft
Datum: -18 ft
Water Surface: None

Material: Recent Alluvium Layer 5
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 320 psf
Cohesion Change: 20 psf/ft
Datum: -18 ft
Water Surface: None

Material: Sand
Strength Type: Mohr-Coulomb
Unit Weight: 125 lb/ft3
Cohesion: 0 psf
Friction Angle: 40 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Recent Alluvium Layer 3
Strength Type: Undrained
Unit Weight: 85 lb/ft3

Section A-A, Existing Grade, Short-Term, Non-Circular Analysis
Spencer FS = 1.10
Radius (449) Center (512, 423)



Slide Analysis Information

Document Name

File Name: A-A Fatal Grade W2 at 45 [illegible]

Project Settings

Project Title: SLIDE - An Interactive Slope Stability Program
Failure Direction: Left to Right
Units of Measurement: Imperial Units
Pore Fluid Unit Weight: 62.4 lb/ft3
Groundwater Method: Water Surfaces
Data Output: Standard
Calculate Excess Pore Pressure: Off
Allow Rotation Water Surfaces of Grids: Off
Random Numbers: Pseudo-random Seed
Random Number Seed: 10116
Random Number Generation Method: Park and Miller v.3

Analysis Methods

Analysis Methods used
Spencer

Number of slices: 50
Tolerance: 0.005
Maximum number of iterations: 50

Surface Options

Surface Type: Circular
Radius Increment: 75
Minimum Elevation: Not Defined
Composite Surfaces: Disabled
Reverse Curvature: Create Tension Cracks

Material Properties

Material: Waste
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 75 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Stabilized Slurry

Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 70 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Recent Alluvium Layer 1
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Constant
Cohesion: 320 psf
Water Surface: None

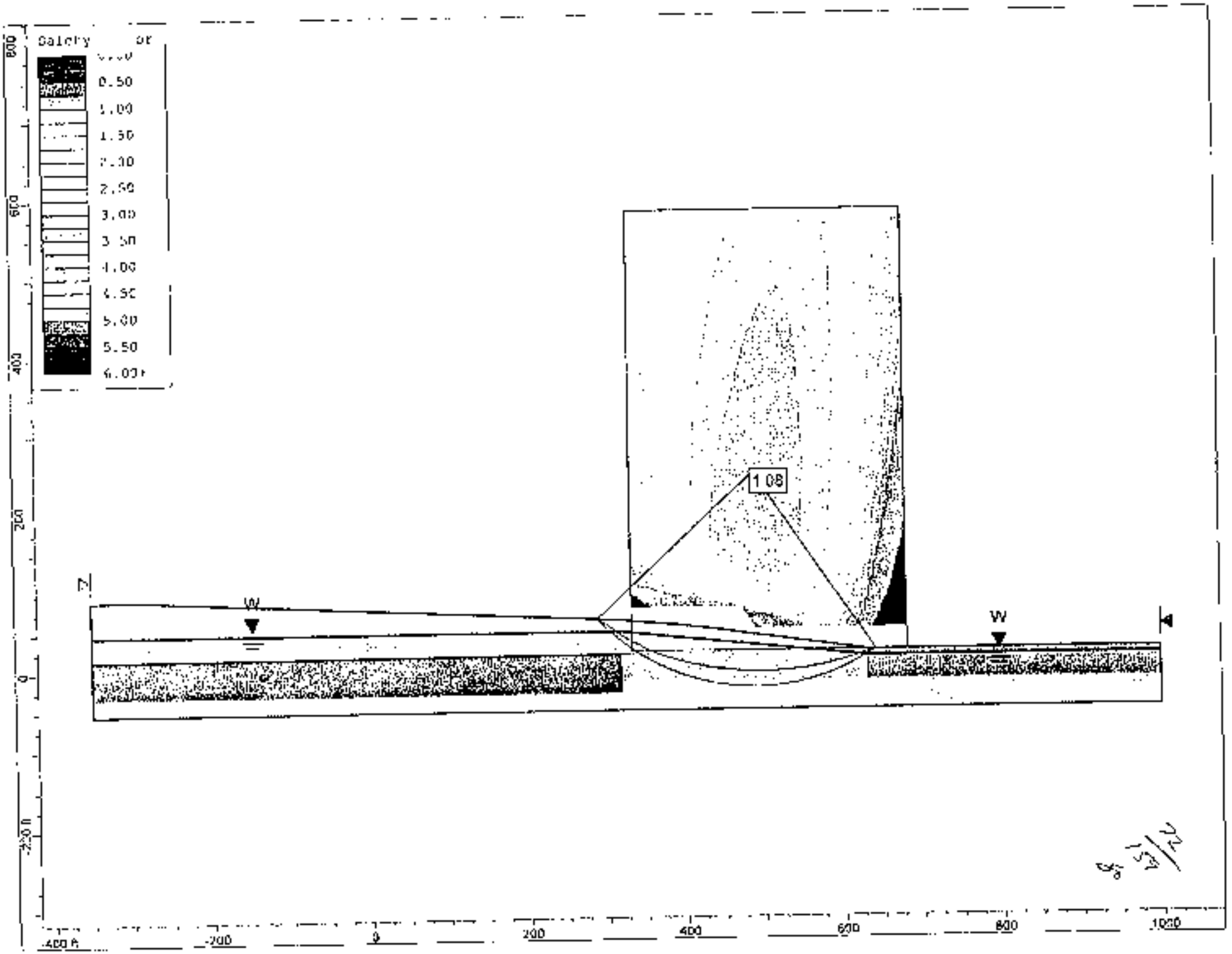
Material: Recent Alluvium Layer 2
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Constant
Cohesion: 400 psf
Water Surface: None

Material: Recent Alluvium Layer 4
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 400 psf
Cohesion Change: 14.2 psf/ft
Datum: -10 ft
Water Surface: None

Material: Recent Alluvium Layer 5
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 330 psf
Cohesion Change: 30 psf/ft
Datum: -10 ft
Water Surface: None

Material: Sand
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 125 lb/ft3
Saturated Unit Weight: 125 lb/ft3
Cohesion: 0 psf
Friction Angle: 40 degrees
Water Surface: Water Table

70/159 80


Safety factor
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00+
1.08
W
W
800
600
400
200
0
-200
-400 ft
-200
0
200
400
600
800
1000

Custom Horizontal

Material: Recent (Mercury) Layer 2
Strength Type: Undrained
Unsaturated Unit Weight: 65 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Constant
Cohesion: 1000 psf
Water Surface: None

Global Minimums

Method: spencer
FS: 1.684570
Center: 480.834, 243.532
Radius: 278.540
Left Slip Surface Endpoint: 289.793, 81.510
Right Slip Surface Endpoint: 642.066, 20.000
Resisting Moment: -4.73073e+007 ft, lb
Driving Moment: -4.36183e+007 ft, lb
Resisting Horizontal Force: 160.196 lb
Driving Horizontal Force: 147.704 lb

Valid / Invalid Surfaces

Method: spencer
Number of Valid Surfaces: 10313
Number of Invalid Surfaces: 23203
Error Codes:
Error Code -103 reported for 22806 surfaces
Error Code -107 reported for 2 surfaces
Error Code -108 reported for 42 surfaces
Error Code -111 reported for 13 surfaces
Error Code -112 reported for 340 surfaces

Error Codes

The following errors were encountered during the computation:

-103 = Two surface / slope intersections but one or more surface / nonslope external polygon intersections lie between them. This usually occurs when the two surface extends past the bottom of the soil region, but may also occur on a benched slope model with two sets of Slope Limits.

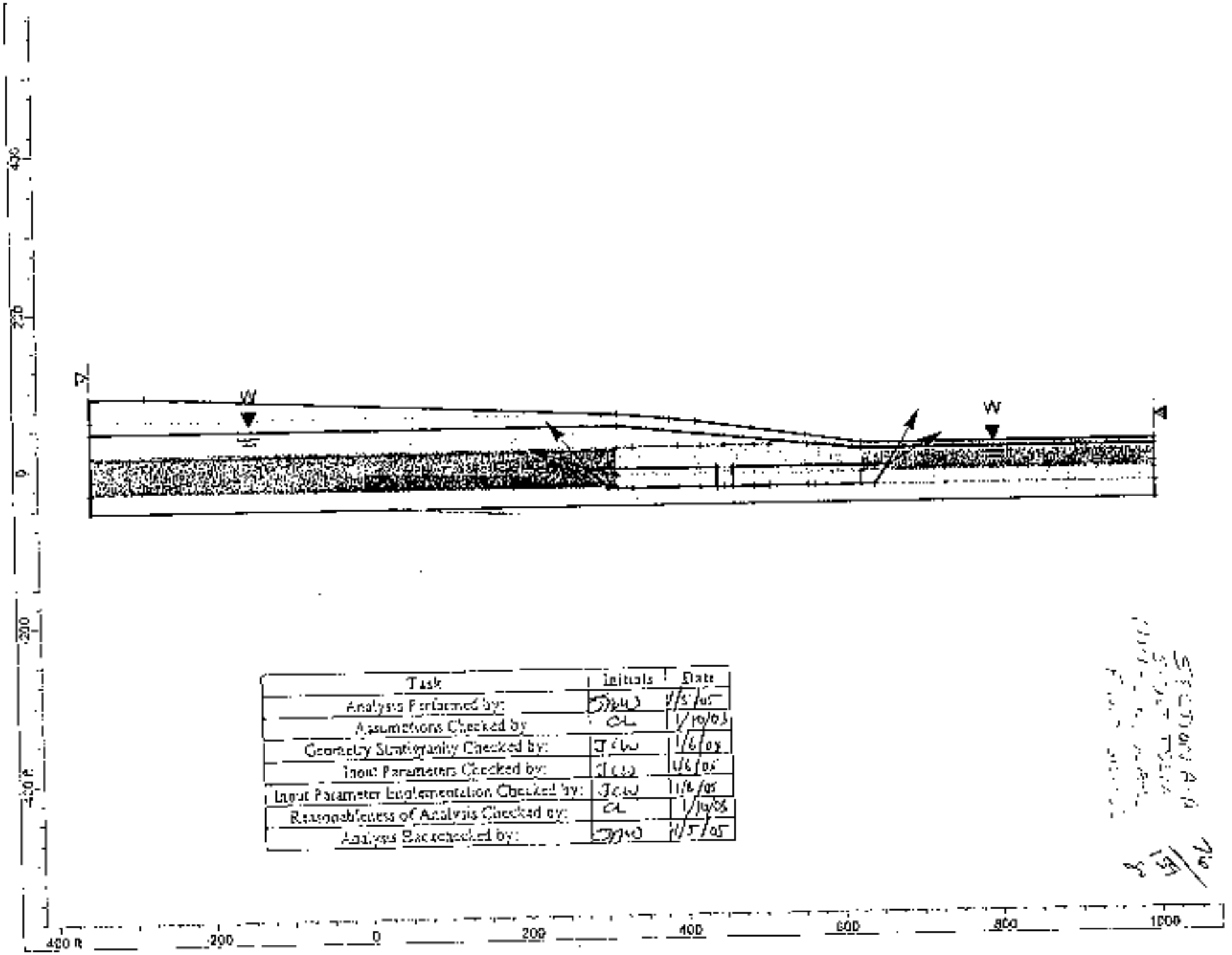
-107 = Total driving moment or total driving force is negative. This will occur if the wrong failure direction is specified, or if high external or anchor loads are applied against the failure direction.

-108 = Total driving moment or total driving force < 0.1. This is to limit the calculation of extremely high safety factors if the driving force is very small (0.1 is an arbitrary number).

-111 = safety factor equation did not converge.

-112 = The coefficient M-Alpha > cos(alpha)(1+tan(alpha)tan(phi)/F) < 0.2 for the final iteration of the safety factor calculation. This screens out some slip surfaces which may not be valid in the context of the analysis, in particular, deep seated slip surfaces with many high negative base angle areas in the passive zone.

2/5/14



Task	Initials	Date
Analysis Performed by:	[illegible]	1/5/05
Assumptions Checked by:	CL	1/10/05
Geometry Stratigraphy Checked by:	J [illegible]	1/6/05
Input Parameters Checked by:	J [illegible]	1/6/05
Input Parameter Implementation Checked by:	J [illegible]	1/6/05
Reasonableness of Analysis Checked by:	CL	1/10/05
Analysis Backchecked by:	[illegible]	1/5/05

Cohesion: 0 psf
Friction Angle: 40 degrees
Water Surface: Water Table
Customing value: 1

Material: Recent Alluvium Layer 3
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Condition Type: Constant
Cohesion: 1000 psf
Water Surface: None

List of Coordinates

Material Boundary
-350 000 50 000
300 000 50 000

Material Boundary
-350 000 -33 000
370 000 31 000
340 000 33 000
390 000 -33 000
420 000 -33 000
450 000 -33 000
494 000 -33 000
514 000 -33 000
562 000 -33 000
572 000 31 000
630 000 31 000
1000 000 -33 000

Material Boundary
320 000 60 000
320 000 60 000

Material Boundary
-350 000 15 000
370 000 17 540
340 000 17 690
390 000 18 159
420 000 18 381
450 000 18 610
494 000 18 521
514 000 19 075
562 000 19 460
572 000 19 540
630 000 20 000

Material Boundary
320 000 -33 000
320 000 18 000
320 000 17 540

Material Boundary
320 000 19 000
820 000 19 500
1000 000 -18 000

Material Boundary
532 000 -18 000
630 000 20 000

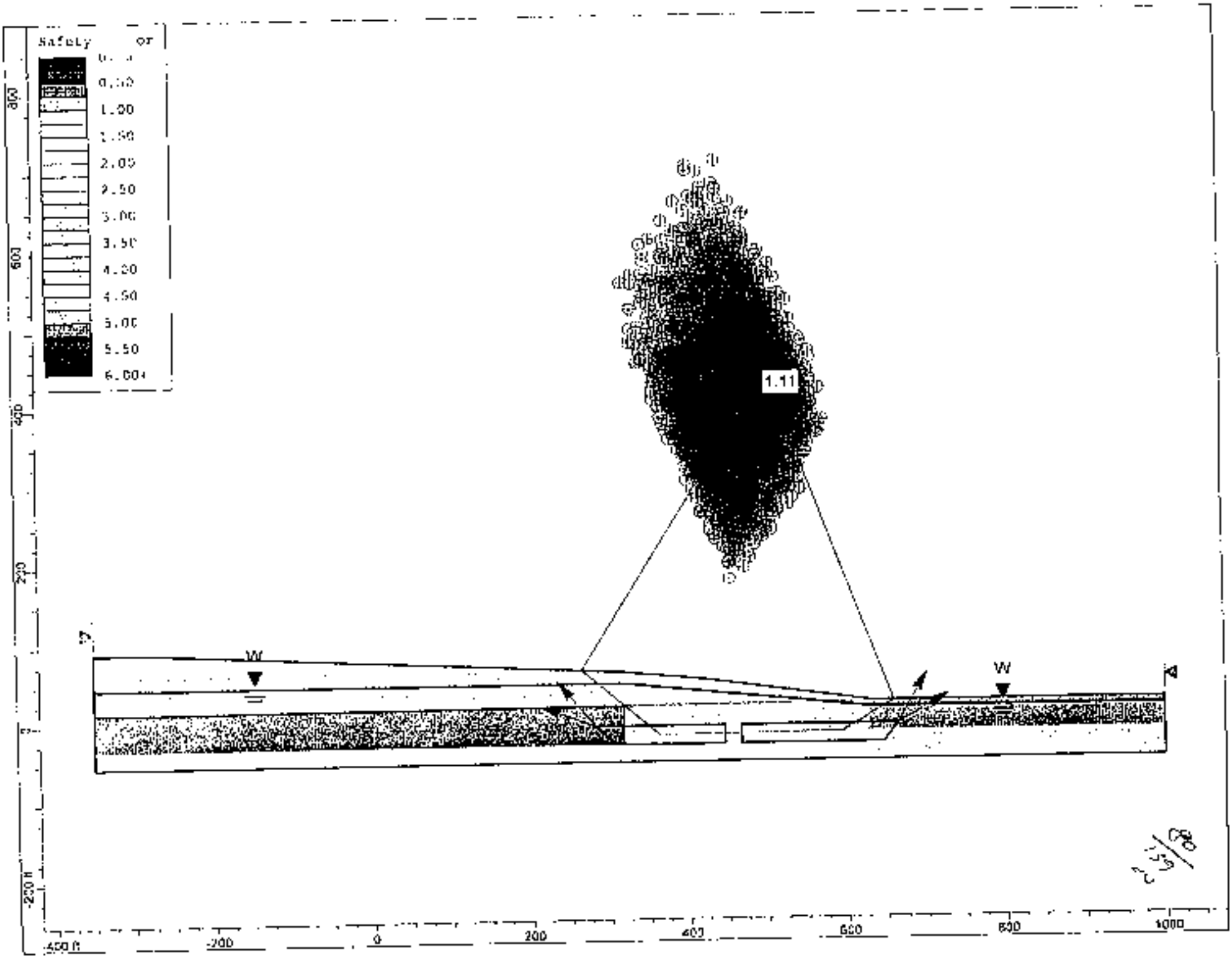
Material Boundary
630 000 -33 000
630 000 -18 000

Material Boundary
1000 000 -33 000
1000 000 -18 000
1000 000 -8 557
1000 000 20 000
530 000 20 000
560 000 20 000
400 000 40 000
420 000 50 000
386 667 53 333
320 000 60 000
280 000 90 000
-350 000 90 000
-350 000 60 000
-350 000 15 000
-350 000 30 000
-350 000 55 000
1000 000 -55 000

Water Table
-350 000 45 000
320 000 45 000
630 000 12 000
1000 000 12 000

Focus/Block Search Window
282 507 -9 110
308 510 -33 000
446 307 -33 000
448 387 -9 110

Focus/Block Search Window



Safety or
0.00
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00+
1.11
W
W
800
600
400
200
0
-200 ft
-400 ft
-200
0
200
400
600
800
1000

Cohesion Type: Constant
Cohesion: 1000 psf
Water Surface: None

Global Minimums

Method: spencer
SF: 1.10573
Axis Location: 502.968, 422.030
Left Slip Surface Endpoint: 475.895, 62.2053
Right Slip Surface Endpoint: 657.431, 80

Method Statistics

Method: spencer
Number of Valid Surfaces: 4292
Number of Invalid Surfaces: 729
Error Codes:
Error Code -101 reported for 30 surfaces
Error Code -108 reported for 5 surfaces
Error Code -111 reported for 94 surfaces
Error Code -112 reported for 574 surfaces

Error Codes

The following errors were encountered during the computation:

-101 = Total driving moment or total driving force is negative. This will occur if the wrong failure direction is specified, or if high external or anchor loads are opposed against the failure direction.

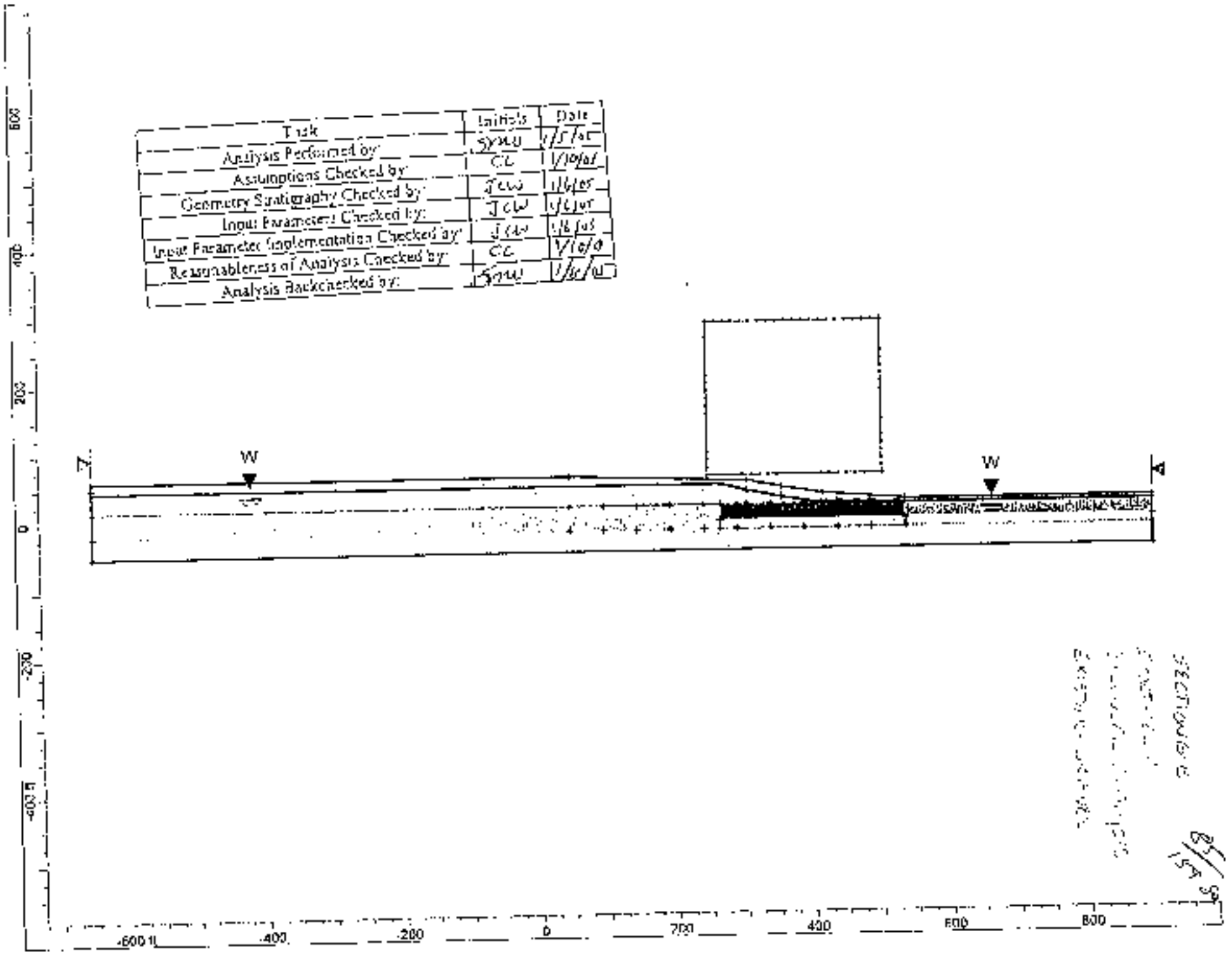
-108 = Total driving moment or total driving force < 0.1. This is to limit the calculation of extremely high safety factors if the driving force is very small (0.1 is an arbitrary number).

-111 = safety factor equation did not converge.

-112 = The coefficient M Alpha = cos(alpha)(1+tan(alpha)/sqrt(ph)) < 0.2 for the final iteration of the safety factor calculation. This screens out some slip surfaces which may not be valid in the context of the analysis, in particular, deep seated slip surfaces with many high negative base angle slices in the passive zone.

Appendix E

Task	Initials	Date
Analysis Performed by:	SMW	1/5/06
Assumptions Checked by:	CC	1/10/06
Geometry Stratigraphy Checked by:	JCW	1/6/06
Input Parameters Checked by:	JCW	1/6/06
Input Parameter Implementation Checked by:	JCW	1/6/06
Reasonableness of Analysis Checked by:	CC	1/10/06
Analysis Backchecked by:	SMW	1/12/06



Cutter Hole Job 1

Material Heavy Alluvium (Mat_1)
Strength Type Undrained
Unsaturated Unit Weight 85 lb/ft3
Saturated Unit Weight 92 lb/ft3
Cohesion Type Constant
Cohesion 1000 psf
Water Surface None

List of Coordinates

Material Boundary

656.000	15.000
10.000	15.000
89.000	15.000
148.000	15.000
197.000	15.000
246.000	15.000
270.000	15.000
295.000	15.000
310.000	15.000
344.000	15.730
393.000	16.707
442.000	17.687
491.000	18.918
541.000	20.000

Material Boundary

-650.000	-20.000
50.000	-20.000
99.000	-20.000
148.000	-20.000
197.000	-20.000
246.000	-20.000
270.000	-20.000
295.000	-20.000
344.000	-20.000
393.000	-20.000
442.000	-20.000
491.000	-20.000
541.000	20.000
900.000	-20.000

Material Boundary

541.000	-20.000
541.000	-8.000
541.000	20.000

Material Boundary

270.000	-20.000
270.000	-5.000
270.000	15.000

Material Boundary

270.000	-8.000
541.000	-8.000
900.000	-8.000

Material Boundary

-650.000	50.000
310.000	50.000

External Boundary

900.000	-20.000
900.000	-8.000
900.000	20.000
541.000	20.000
420.000	30.000
390.000	40.000
315.000	50.000
50.000	50.000
-650.000	50.000
650.000	50.000
650.000	15.000
650.000	20.000
650.000	50.000
900.000	-50.000

Water Table

-650.000	45.000
310.000	45.000
310.000	35.000
390.000	35.000
420.000	15.000
541.000	14.000
900.000	14.000

Search Grid

252.036	56.628
507.521	56.628
507.521	284.204
252.036	284.204

8/15/08

Slide Analysis Information

Document Name

File Name: [illegible] grade with 45 [illegible]

Project Settings

Project Title: SLIDE - An Interactive Slope Stability Program
Failure Direction: Left to Right
Units of Measurement: Imperial Units
Pore Fluid Unit Weight: 62.4 lb/ft3
Groundwater Method: Water Surfaces
Data Output: Standard

Analysis Methods

Analysis Methods Used
Spencer

Number of slices: 50
Tolerance: 0.005
Maximum number of iterations: 50

Surface Options

Surface Type: Circular
Radius Increment: 75
Minimum Elevation: Not Defined
Composite Surfaces: Disabled
Reverse Curvature: Create Tension Crack

Loading

Seismic Load Coefficient (Horizontal): 0
Seismic Load Coefficient (Vertical): 0

Material Properties

Material: Weight
Strength Type: Mohr-Coulomb
Unit Weight: 75 lb/ft3
Cohesion: 0 psf
Friction Angle: 33 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Stratified Sludge
Strength Type: Mohr-Coulomb
Unit Weight: 70 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Recent Alluvium Layer 1
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Constant
Cohesion: 320 psf
Water Surface: None

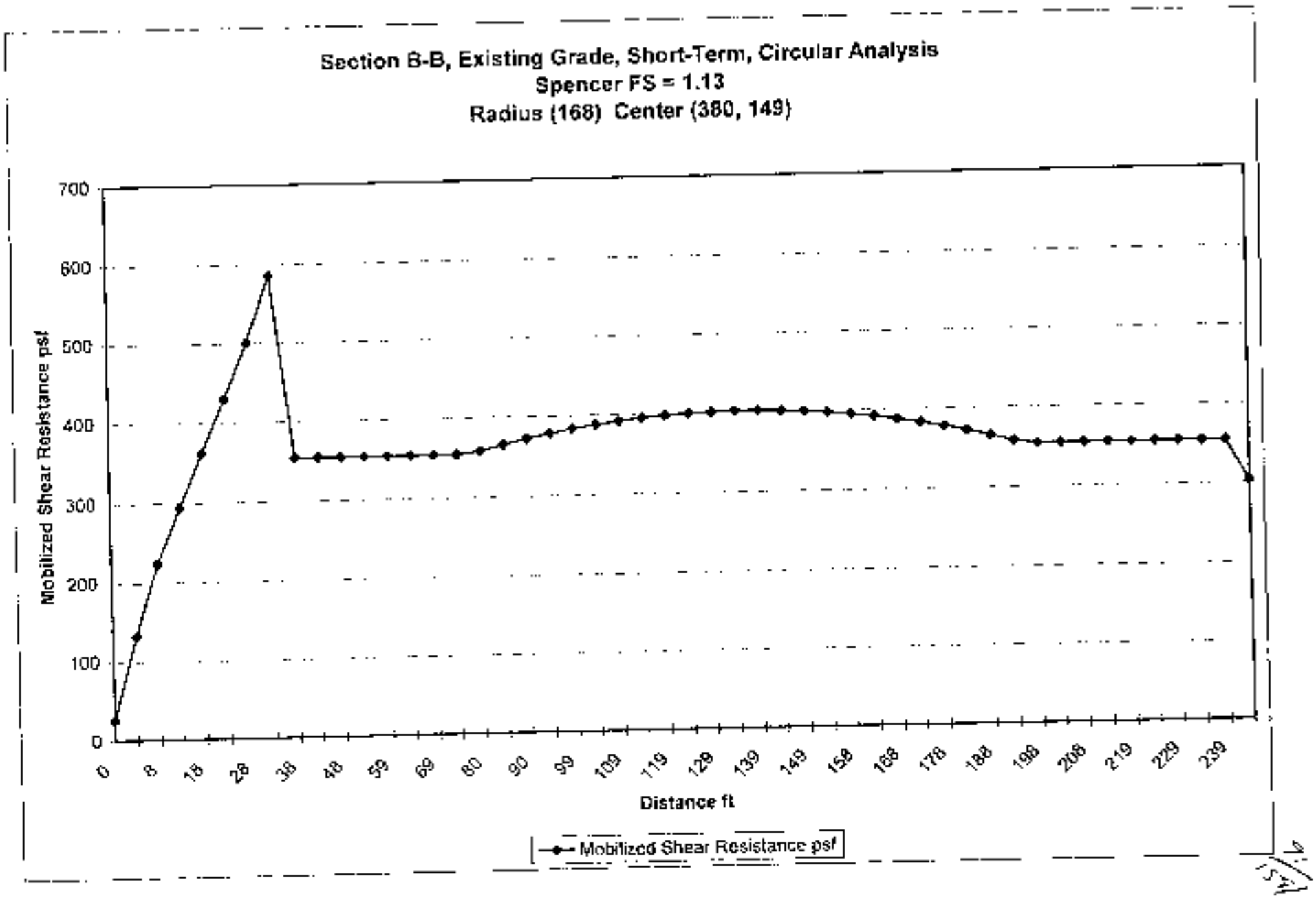
Material: Recent Alluvium Layer 2
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Constant
Cohesion: 400 psf
Water Surface: None

Material: Recent Alluvium Layer 4
Strength Type: Undrained
Unit Weight: 75 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 450 psf
Cohesion Change: 5 psf/ft
Datum: -8 ft
Water Surface: None

Material: Recent Alluvium Layer 5
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 320 psf
Cohesion Change: 11.67 psf/ft
Datum: -8 ft
Water Surface: None

Material: Sand
Strength Type: Mohr-Coulomb
Unit Weight: 125 lb/ft3
Cohesion: 0 psf
Friction Angle: 40 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Recent Alluvium Layer 3
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Constant
Cohesion: 1000 psf
Water Surface: None



1/6/2005

ME0414\Mobilized Shear Stress ST.xls

Slide Analysis Information

Document Name

File Name: II-B Existing Grade W1 at 45 blocks.sl

Project Settings

Project Title: SHDL - An Interactive Slope Stability Program
Failure Direction: Left to Right
Units of Measurement: Imperial Units
Pore Fluid Unit Weight: 62.4 lb/ft3
Groundwater Method: Water Surfaces
Data Output: Standard
Calculate Excess Pore Pressure: Off
Allow Ru with Water Surfaces or Grids: Off
Random Numbers: Pseudo-random Seed
Random Number Seed: 10115
Random Number Generation Method: Park and Miller v.3

Analysis Methods

Analysis Methods Used
Spencer

Number of Slices: 50
Tolerance: 0.005
Maximum number of iterations: 50

Surface Options

Surface Type: Non-Circular Block Search
Number of Surfaces: 5000
Pseudo-Random Surfaces: Enabled
Convex Surfaces Only: Disabled
Left Projection Angle (Start Angle): 130
Left Projection Angle (End Angle): 100
Right Projection Angle (Start Angle): 30
Right Projection Angle (End Angle): 60

Material Properties

Material: Waste
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 75 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table

Custom Hydraulic: 1

Material: Stabilized Surface
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 70 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hydraulic: 1

Material: Recent Alluvium Layer 1
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Constant
Cohesion: 320 psf
Water Surface: None

Material: Recent Alluvium Layer 2
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Constant
Cohesion: 400 psf
Water Surface: None

Material: Recent Alluvium Layer 4
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 400 psf
Cohesion Change: 5 psf/ft
Datum: -8 ft
Water Surface: None

Material: Recent Alluvium Layer 5
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 320 psf
Cohesion Change: 11.67 psf/ft
Datum: -8 ft
Water Surface: None

Material: Sand
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 125 lb/ft3
Saturated Unit Weight: 125 lb/ft3

95/59
1.5
yo

Slide Analysis Information

Document Name

File Name: [illegible] grade wl at 45 stock st

Project Settings

Project Title: Slide - An Interactive Slope Stability Program
Failure Direction: Left to Right
Units of Measurement: Imperial Units
Pore Fluid Unit Weight: 62.4 lb/ft3
Groundwater Method: Water Surfaces
Data Output: Standard

Analysis Methods

Analysis Methods used
Spencer

Number of slices: 50
Tolerance: 0.005
Maximum number of iterations: 50

Surface Options

Surface Type: Non-Circular Brick Search
Number of Surfaces: 5000
Pseudo-Random Surfaces: Enabled
Convex Surfaces Only: Disabled
Left Projection Angle (Start Angle): 110
Left Projection Angle (End Angle): 110
Right Projection Angle (Start Angle): 30
Right Projection Angle (End Angle): 60

Loading

Seismic Load Coefficient (Horizontal): 0
Seismic Load Coefficient (Vertical): 0

Material Properties

Material: Waste
Strength Type: Mohr-Coulomb
Unit Weight: 75 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Nu value: 1

Material: Stabilized Slides
Strength Type: Mohr-Coulomb
Unit Weight: 70 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Nu value: 1

Material: Recent Alluvium Layer 1
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Constant
Cohesion: 320 psf
Water Surface: None

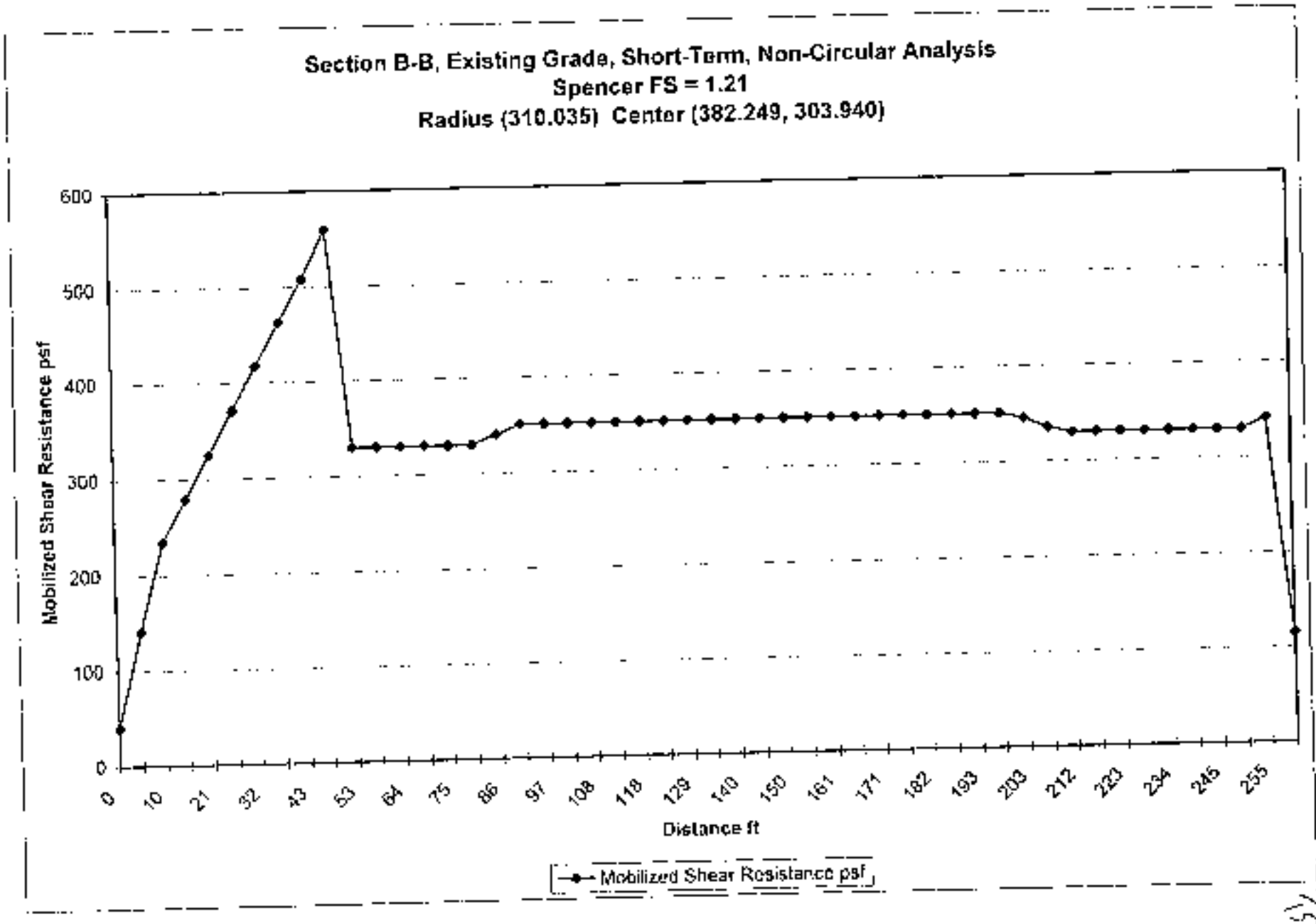
Material: Recent Alluvium Layer 2
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Constant
Cohesion: 400 psf
Water Surface: None

Material: Recent Alluvium Layer 4
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 400 psf
Cohesion Change: 5 psf/ft
Datum: 4 ft
Water Surface: None

Material: Recent Alluvium Layer 5
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 320 psf
Cohesion Change: 11.67 psf/ft
Datum: -0 ft
Water Surface: None

Material: Sand
Strength Type: Mohr-Coulomb
Unit Weight: 135 lb/ft3
Cohesion: 0 psf
Friction Angle: 40 degrees
Water Surface: Water Table
Custom Nu value: 1

Material: Recent Alluvium Layer 3
Strength Type: Undrained
Unit Weight: 85 lb/ft3


Section B-B, Existing Grade, Short-Term, Non-Circular Analysis
Spencer FS = 1.21
Radius (310.035) Center (382.249, 303.940)
Mobilized Shear Resistance psf
600
500
400
300
200
100
0
0
10
21
32
43
53
64
75
86
97
108
118
129
140
150
161
171
182
193
203
212
223
234
245
255
Distance ft
Mobilized Shear Resistance psf

Slide Analysis Information

Document Name

File Name: [illegible] Grade [illegible] at 45 [illegible]

Project Settings

Project Title: SLIDE - An interactive Slope Stability Program
Failure Direction: Left to Right
Units of Measurement: Imperial Units
Pore Fluid Unit Weight: 62.4 lb/ft3
Groundwater Method: Water Surfaces
Data Output: Standard
Calculate Excess Pore Pressure: Off
Allow Rib with Water Surfaces or Grids: Off
Random Numbers: Pseudo-random Seed
Random Number Seed: 10116
Random Number Generation Method: Park and Miller v.3

Analysis Methods

Analysis Methods used:
Spencer

Number of slices: 50
Tolerance: 0.005
Maximum number of iterations: 50

Surface Options

Surface Type: Circular
Radius Increment: 15
Minimum Elevation: Not Defined
Composite Surfaces: Disabled
Reverse Curvature: Create Tension Crack

Material Properties

Material: Waste
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 75 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Stabilized Sludge
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 70 lb/ft3
Saturated Unit Weight: 105 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hu value: 1

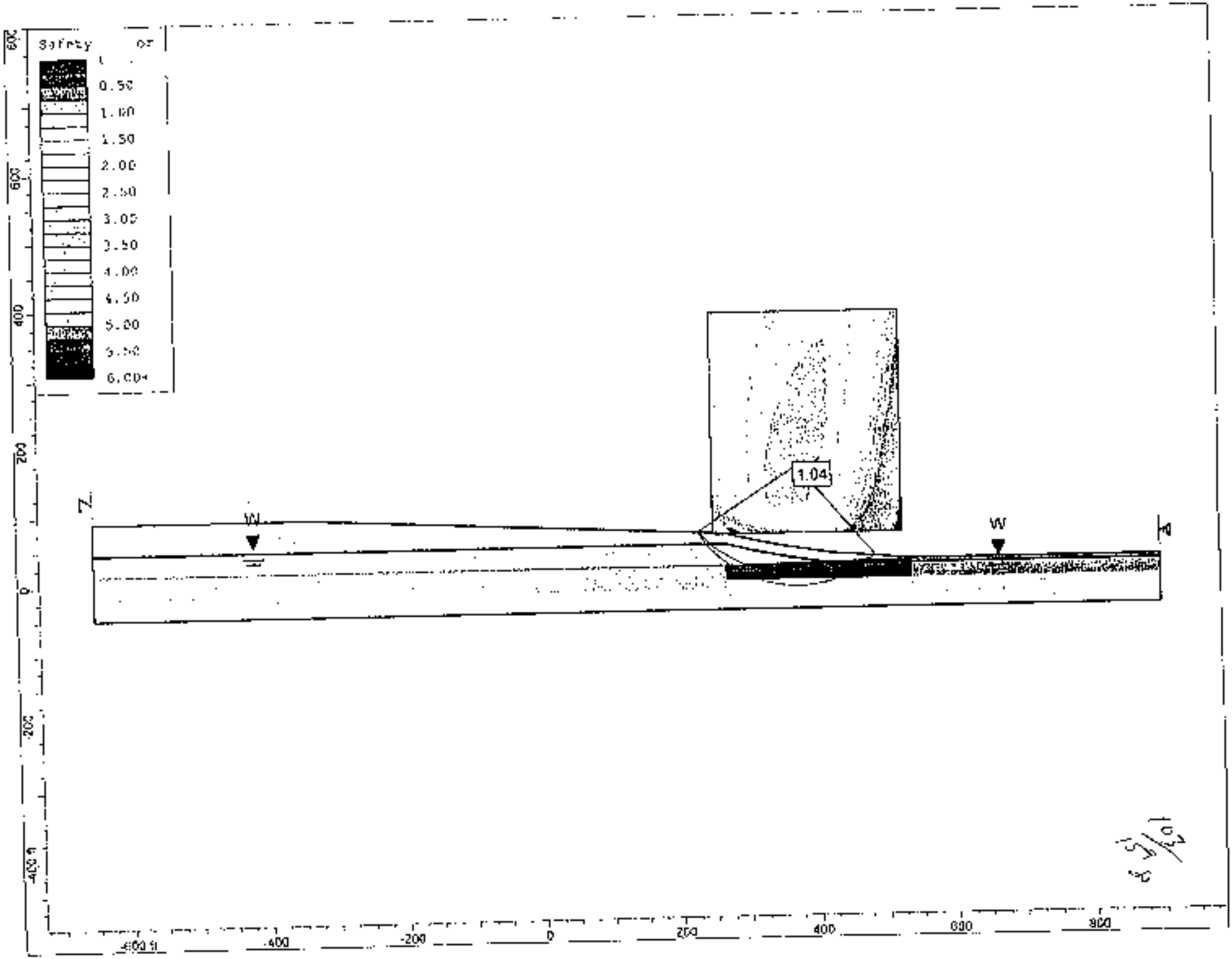
Material: Recent Alluvium Layer 1
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Constant
Cohesion: 320 psf
Water Surface: None

Material: Recent Alluvium Layer 2
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Constant
Cohesion: 400 psf
Water Surface: None

Material: Recent Alluvium Layer 4
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 400 psf
Cohesion Change: 5 psf/ft
Datum: -8 ft
Water Surface: None

Material: Recent Alluvium Layer 5
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 320 psf
Cohesion Change: 11.67 psf/ft
Datum: -8 ft
Water Surface: None

Material: Sand
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 125 lb/ft3
Saturated Unit Weight: 135 lb/ft3
Cohesion: 0 psf
Friction Angle: 40 degrees
Water Surface: Water Table


Safety
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00+
1.04
W
W
Z
E
600
400
200
0
-200
-400
-600
-400
-200
0
200
400
600
800

Global Minimums

Method: spencer
SF: 1.03029
Center: 376.237, 156.07
Radius: 173.039
Left Slip Surface Endpoint: 230.243, 91.9570
Right Slip Surface Endpoint: 409.404, 24.2575

Method Statistics

Method: spencer
Number of Valid Surfaces: 7539
Number of Invalid Surfaces: 25977
Error Codes:
Error Code -103 reported for 2581 surfaces
Error Code -108 reported for 8 surfaces
Error Code -111 reported for 14 surfaces
Error Code -112 reported for 133 surfaces

Error Codes

The following errors were encountered during the computation:

-103 = Two surfaces / slope intersections. No one or more surfaces / nonslope external polygon intersections lie between them. This usually occurs when the slip surface extends past the bottom of the soil region, but may also occur on a bounded slope model with two sets of Slope Limits.

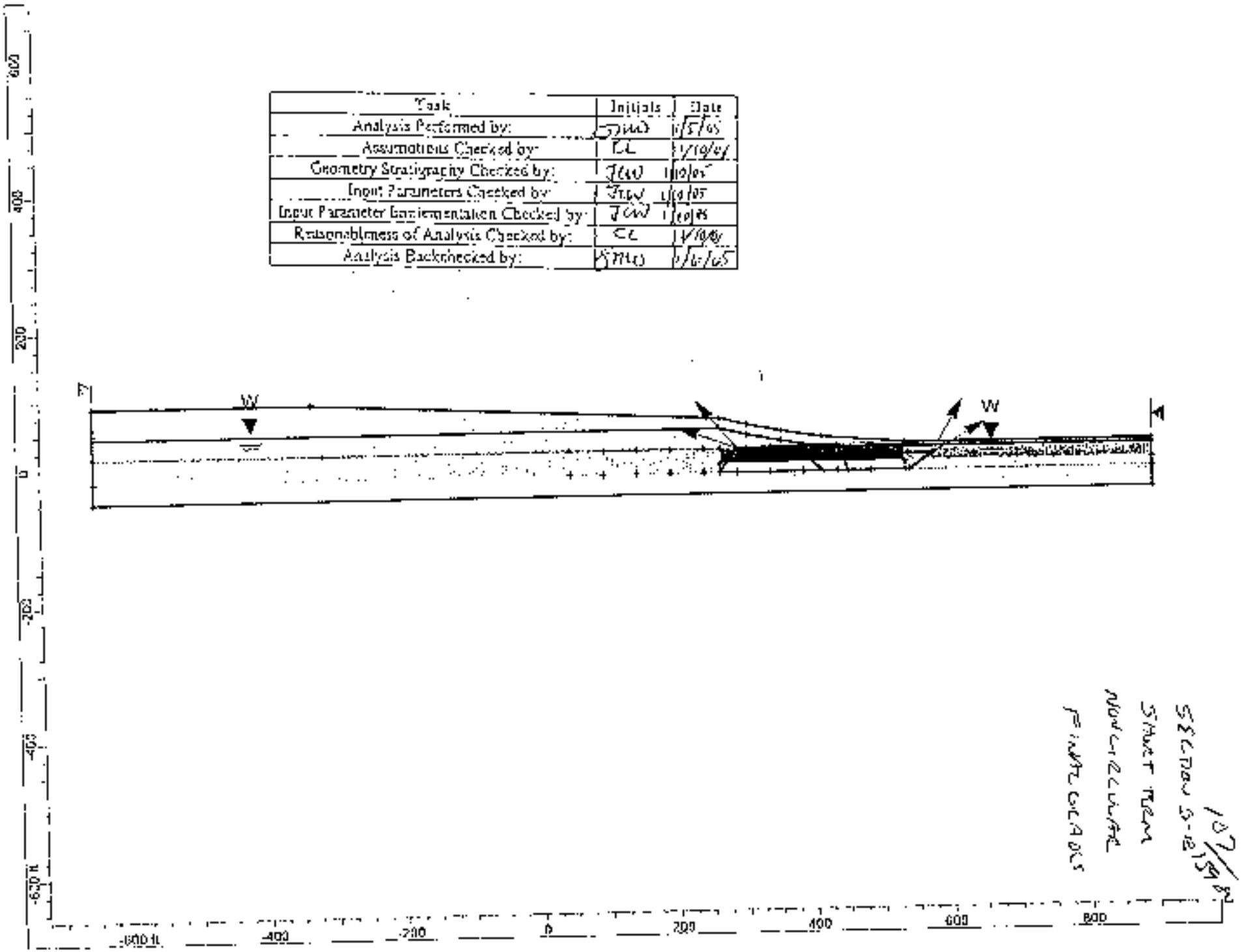
-105 = Total driving moment or total driving force < 0.1. This is to limit the calculation of extremely high safety factors if the driving force is very small (0.1 is an arbitrary number).

-111 = safety factor equation did not converge.

-112 = The coefficient M Alpha = cos(alpha)(1+tan(alpha)*tan(phi)/F) < 0.2 for the new iteration of the safety factor calculation. This screens out some slip surfaces which may not be valid in the context of the analysis, in particular, deep seated slip surfaces with many high negative base angle slices in the passive zone.

105
154

Task	Initials	Date
Analysis Performed by:	JMW	1/5/05
Assumptions Checked by:	CL	1/10/05
Geometry Stratigraphy Checked by:	JCW	1/10/05
Input Parameters Checked by:	JCW	1/10/05
Input Parameter Implementation Checked by:	JCW	1/10/05
Reasonableness of Analysis Checked by:	CL	1/10/05
Analysis Backchecked by:	JMW	1/6/05



107/
SECTION D-B
SHORT TERM
NONCIRCULAR
FINAL GRADES

Cohesion: 0 psf
Friction Angle: 40 degrees
Water Surface: Water Table 0
Custom Hu=0.00 1

Material: Recent/Fault Layer 2
Strength Type: Unbonded
Unsaturated Unit Weight: 95 pcf
Saturated Unit Weight: 97 pcf
Cohesion Type: Constant
Cohesion: 1000 psf
Water Surface: None

List of Coordinates

Material Boundary:

-650.000	15.000
50.000	15.000
90.000	15.000
145.000	15.000
197.000	15.000
246.000	15.000
270.000	15.000
295.000	15.000
310.000	15.000
344.000	15.729
393.000	16.797
442.000	17.857
491.000	18.910
541.000	20.000

Material Boundary:

-650.000	-20.000
50.000	-20.000
90.000	-20.000
145.000	-20.000
197.000	-20.000
246.000	-20.000
270.000	-20.000
295.000	-20.000
344.000	-20.000
393.000	-20.000
442.000	-20.000
491.000	-20.000
541.000	-20.000
900.000	-20.000

Material Boundary:

541.000	-20.000
541.000	-0.000
541.000	20.000

Material Boundary:

270.000	-20.000
270.000	-8.000
270.000	15.000

Material Boundary:

270.000	-8.000
344.000	-8.000
900.000	-8.000

Material Boundary:

-650.000	50.000
310.000	50.000

External Boundary:

-650.000	60.000
-650.000	50.000
-650.000	15.000
-650.000	-95.000
-650.000	-50.000
900.000	-50.000
900.000	-20.000
900.000	-0.000
900.000	20.000
341.000	20.000
425.000	30.000
500.000	40.000
310.000	50.000
270.000	60.000
300.000	90.000
-650.000	90.000

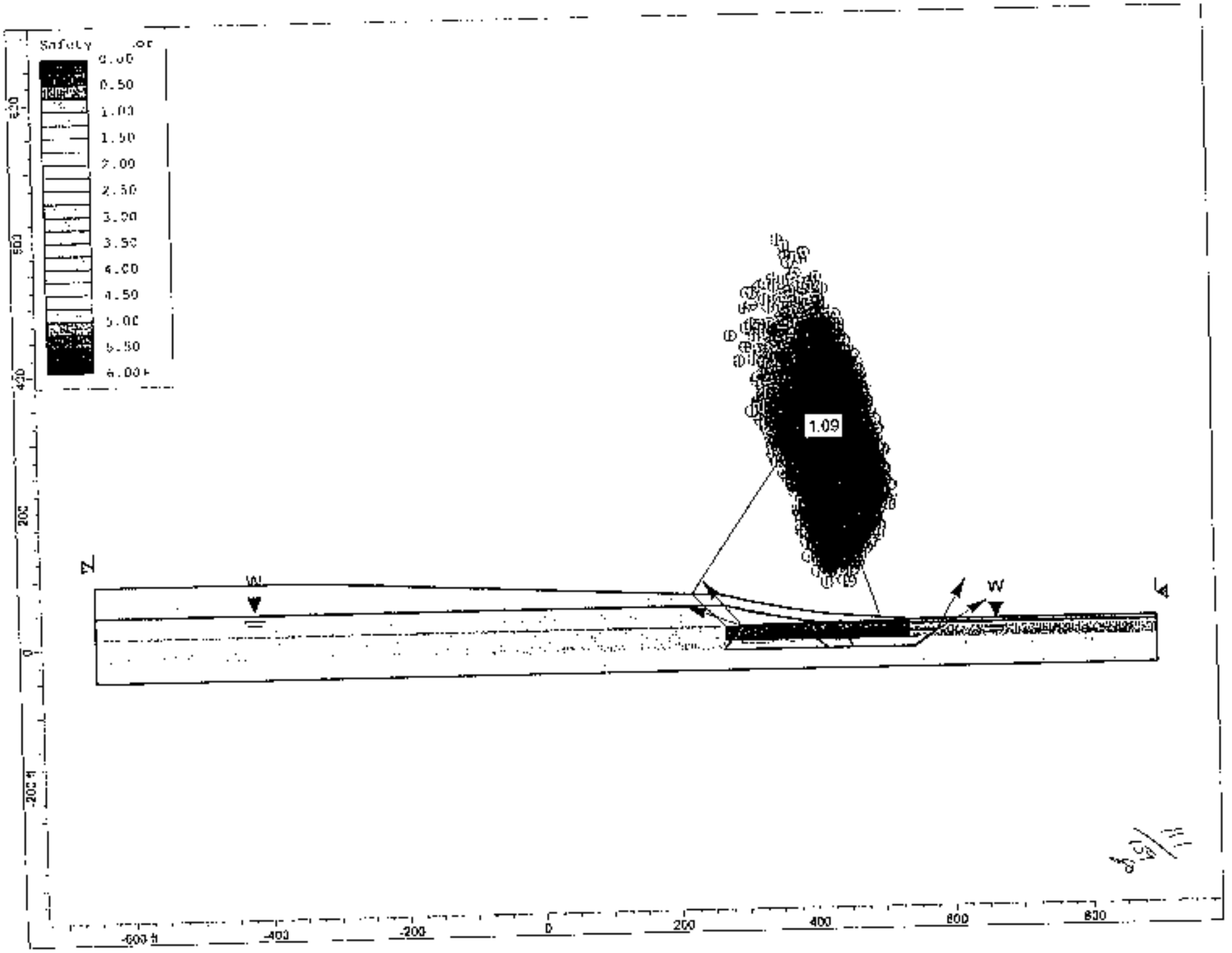
Water Table:

-650.000	45.000
270.000	45.000
310.000	35.000
360.000	25.000
470.000	15.000
541.000	14.000
900.000	14.000

Excavation/Block Search Window:

395.000	15.000
310.000	-20.000
457.000	-30.000
442.000	11.857

Excavation/Block Search Window:



Safety
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00+
1.09
W
W
-600 ft
-400
-200
0
200
400
600
800

Cohesion Type: Constant
Cohesion: 1000 psf
Water Surface: None

Global Minimums

Method: [illegible]
Sf: 1.08911
Axis Location: 353.964, 311.575
Left Slip Surface Endpoint: 212.022, 67.8839
Right Slip Surface Endpoint: 479.932, 25.6409

Method Statistics

Method: [illegible]
Number of Valid Surfaces: 4006
Number of Invalid Surfaces: 992
Error Codes:
Error Code -107 reported for 35 surfaces
Error Code -108 reported for 586 surfaces
Error Code -111 reported for 91 surfaces
Error Code -112 reported for 280 surfaces

Error Codes

The following errors were encountered during the computation:

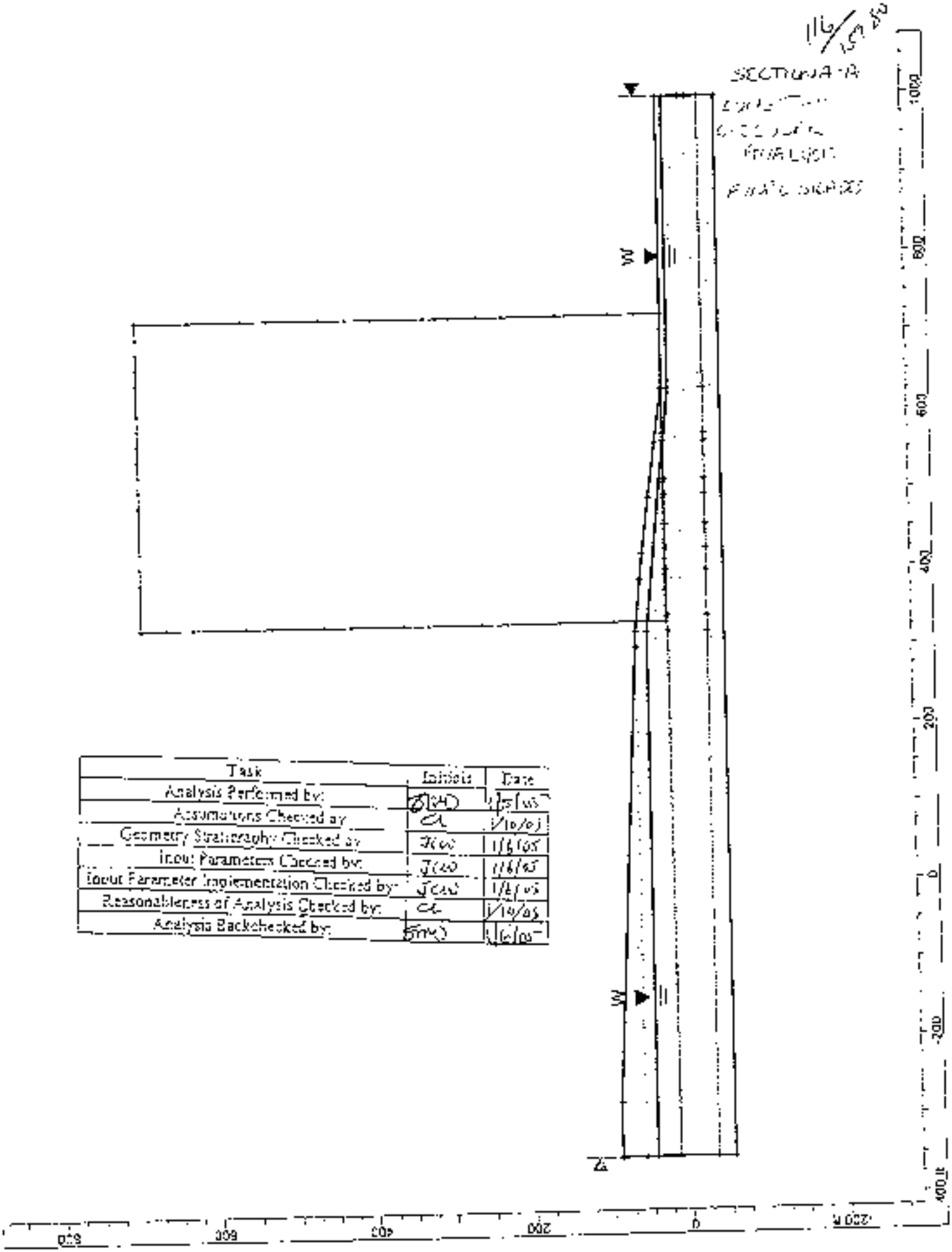
-107 = Total driving moment or total driving force is negative. This will occur if the wrong failure direction is specified, or if high external or anchor loads are applied against the failure direction.

-108 = Total driving moment or total driving force = 0.1. This is to [illegible] the calculation of extremely high safety factors if the driving force is very small. (0.1 is an arbitrary number)

-111 = safety factor equation did not converge.

-112 = The cuetic and M. Alpha = cos(mpha)/(1+tan(alpha)tan(phi)/[illegible]) < 0.2 for the final iteration of the safety factor calculation. This occurs out some slip surfaces which may not be valid in the context of the analysis, in particular, deep seated slip surfaces with many high negative pore angle slices in the passive zone.

Appendix F



Task	Initials	Date
Analysis Performed by:	[illegible]	1/5/05
Assumptions Checked by	CL	1/10/05
Geometry Stratigraphy Checked by	[illegible]	1/6/05
Input Parameters Checked by:	[illegible]	1/6/05
Input Parameter Implementation Checked by:	[illegible]	1/6/05
Reasonableness of Analysis Checked by:	CL	1/10/05
Analysis Backchecked by:	[illegible]	1/6/05

340 000	11 650
395 000	10 150
425 000	10 385
455 000	10 619
434 000	15 921
514 000	19 079
562 000	19 400
512 000	19 540
600 000	20 000

Lateral Boundary

1600 000	33 000
1500 000	-18 000
1300 000	-6 657
1000 000	20 000
600 000	20 000
550 000	30 000
490 000	40 000
420 000	50 000
380 000	52 300
320 000	60 000
280 000	90 000
-350 000	90 000
-350 000	60 500
-350 000	15 000
-350 000	-30 000
-350 000	-55 000
1000 000	-55 000

Water Table

-350 000	45 000
350 000	45 000
600 000	12 000
1000 000	12 000

Search Grid

333 000	20 000
724 740	20 000
724 740	690 037
333 000	690 037

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Slide Analysis Information

Document Name

File Name: [illegible]

Project Settings

Project Title: SLIDE - An Interactive Slope Stability Program
Failure Direction: Left to Right
Units of Measurement: Imperial Units
Pore Fluid Unit Weight: 62.4 lb/ft3
Groundwater Method: Water Surfaces
Data Output: Standard
Calculate Excess Pore Pressure: Off
Allow Ru with Water Surfaces or Grids: Off
Random Numbers: Pseudo-random Seed
Random Number Seed: 10116
Random Number Generation Method: Pore and Water 3

Analysis Methods

Analysis Methods Used
Spencer

Number of Slices: 50
Tolerance: 0.005
Maximum number of iterations: 50

Surface Options

Surface Type: Circular
Hyperbola Increments: 25
Minimum Elevation: Not Defined
Composite Surfaces: Disabled
Reverse Curvature: Circular Tension Crack

Material Properties

Material: Wind
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 15 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 33 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Stockpile Shale

Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 70 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Gravel Alluvium
Strength Type: Shear Normal function
Unsaturated Unit Weight: 95 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Water Surface: Water Table
Custom Hu value: 1

Material: Sand
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 125 lb/ft3
Saturated Unit Weight: 125 lb/ft3
Cohesion: 0 psf
Friction Angle: 40 degrees
Water Surface: Water Table
Custom Hu value: 1

Global Minimums

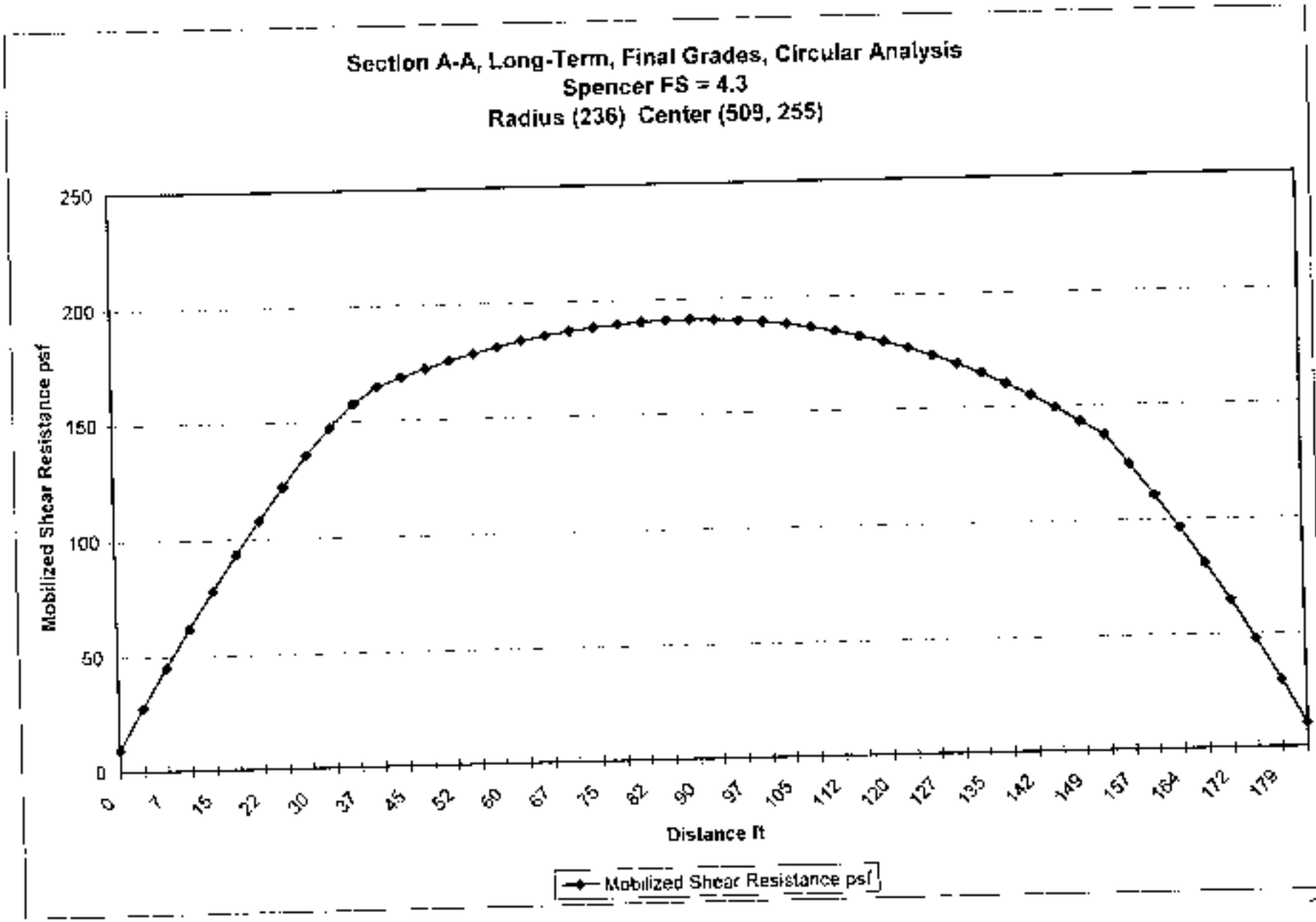
Method: spencer
FS: 4.240910
Center: 509.253, 254.793
Radius: 235.707
Left Slip Surface Endpoint: 380.606, 53.370
Right Slip Surface Endpoint: 533.734, 25.038
Resisting Moment=7.014E+007 lb-ft
Driving Moment=3.345E+006 lb-ft
Resisting Horizontal Force=1.127E+0[illegible] lb
Driving Horizontal Force=2.6203E+0[illegible] lb

Valid / Invalid Surfaces

Method: spencer
Number of Valid Surfaces: 12475
Number of Invalid Surfaces: 2104
Error Codes:
Error Code -103 reported for 20291 surfaces
Error Code -107 reported for 3 surfaces
Error Code -108 reported for 354 surfaces
Error Code -111 reported for 350 surfaces
Error Code -112 reported for 25 surfaces

Error Codes

120/159



1/6/2005

ME0414\Mobilized Shear Stress LT.xls

Slide Analysis Information

Document Name

File Name: A A Final Grade W/1 at 45 block.sl

Project Settings

Project Title: SLIDE - An Interactive Slope Stability Program
Failure Direction: Left to Right
Units of Measurement: Imperial Units
Pore Fluid Unit Weight: 62.4 lb/ft3
Groundwater Method: Water Surfaces
Data Output: Standard
Calculate Excess Pore Pressure: Off
Allow Numerical Water Surfaces to Grid: Off
Random Numbers: Pseudo-random Seed
Random Number Seed: 10516
Random Number Generation Method: Park and Miller v.3

Analysis Methods

Analysis Methods used
Spencer

Number of slices: 50
Tolerance: 0.005
Maximum number of iterations: 50

Surface Options

Surface Type: Non-Circular Block Search
Number of Surfaces: 5000
Pseudo Random Surfaces: Enabled
Convex Surfaces Only: Disabled
Left Projection Angle (Start Angle): 100
Left Projection Angle (End Angle): 160
Right Projection Angle (Start Angle): 30
Right Projection Angle (End Angle): 60

Material Properties

Material: Waste
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 75 lb/ft3
Saturated Unit Weight: 120 lb/ft3
Cohesion: 0 psf
Friction Angle: 35 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Sand and Sludge
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 70 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Recent Alluvium
Strength Type: Shear Normal Function
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Water Surface: Water Table
Custom Hu value: 1

Material: Sand
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 125 lb/ft3
Saturated Unit Weight: 125 lb/ft3
Cohesion: 0 psf
Friction Angle: 40 degrees
Water Surface: Water Table
Custom Hu value: 1

List of Coordinates

Material Boundary

-350.000	60.000
300.000	60.000

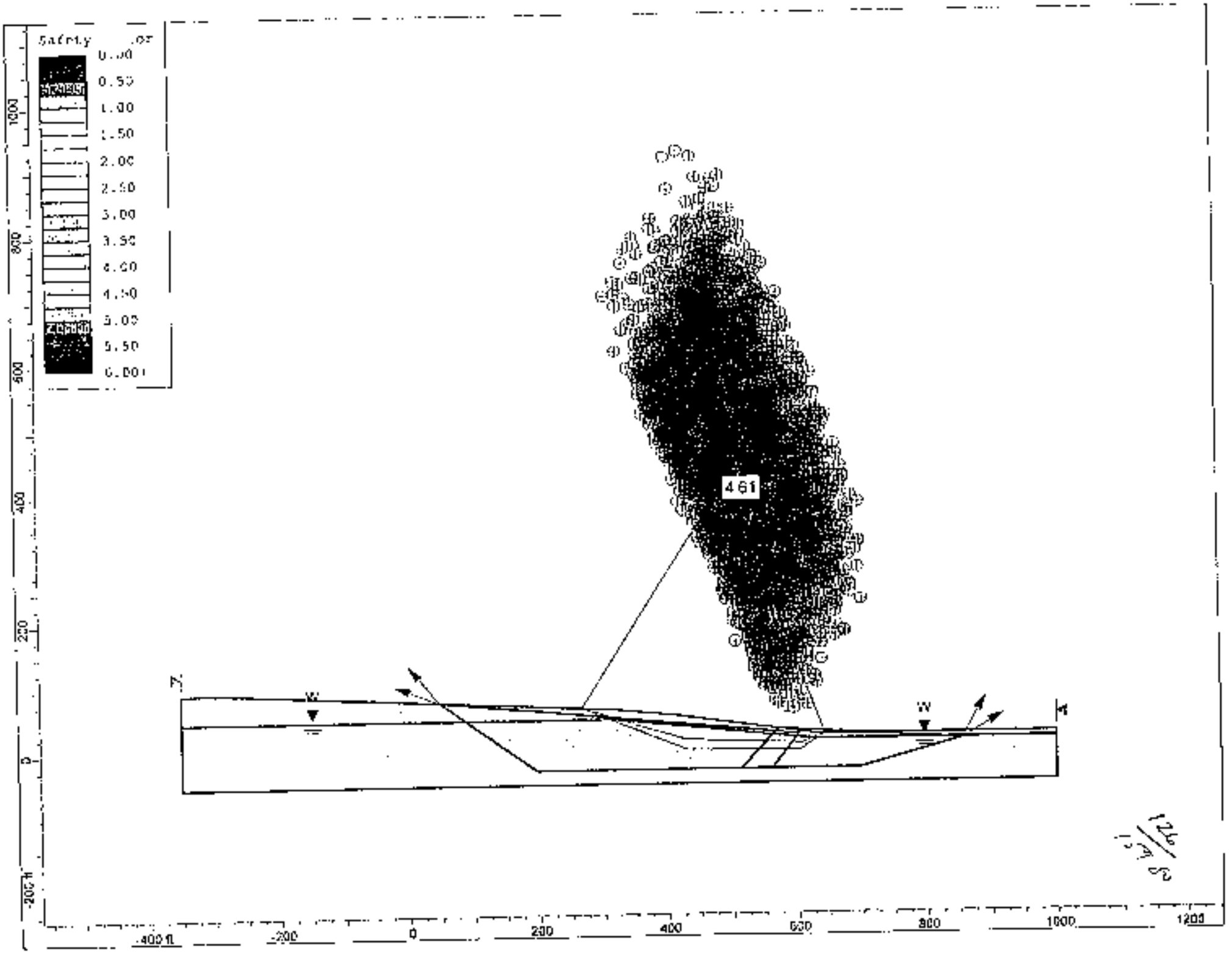
Material Boundary

350.000	-33.000
370.000	-33.000
340.000	-33.000
368.000	-33.000
430.000	-33.000
456.000	-33.000
494.000	-33.000
514.000	-33.000
582.000	-33.000
577.000	-33.000
630.000	-33.000
1000.000	-33.000

Material Boundary

350.000	60.000
320.000	60.000

124
15/4 89



Safety
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00
4 61
W
W
1000
800
600
400
200
0
-200 ft
-400 ft
-200
0
200
400
600
800
1000
1200

The following errors were encountered during the computation

-105 = More than two surfaces of slope intersections with no valid slip surface

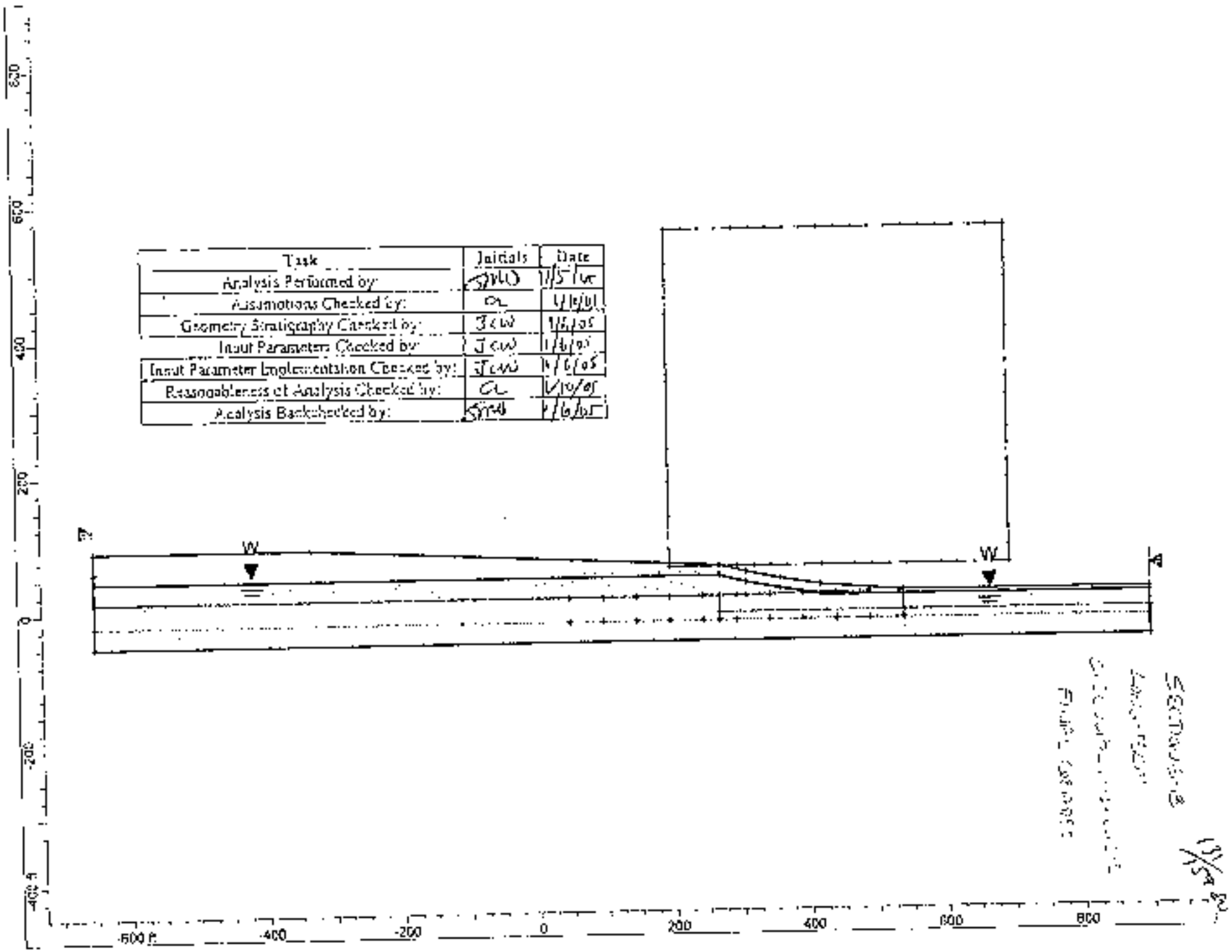
-107 = Total driving moment or total driving force is negative. This will occur if the wrong failure direction is specified or if high external or anchor loads are applied against the failure direction

-108 = Total driving moment or total driving force = 0.1. This is to limit the calculation of extremely high safety factors if the driving force is very small (0.1 is an arbitrary number)

-111 = safety factor equation did not converge

128

Appendix G



Task	Initials	Date
Analysis Performed by:	[illegible]	1/5/05
Assumptions Checked by:	CL	1/6/05
Geometry Stratigraphy Checked by:	JCW	1/6/05
Input Parameters Checked by:	JCW	1/6/05
Input Parameter Implementation Checked by:	JCW	1/6/05
Reasonableness of Analysis Checked by:	CL	1/10/05
Analysis Backchecked by:	[illegible]	1/6/05

344 000	20 000
393 000	20 000
442 000	20 000
491 000	20 000
541 000	20 000
960 000	-20 000

Material Boundary

541 000	-20 000
541 000	-8 000
541 000	20 000

Material Boundary

270 000	-20 000
270 000	-8 000
270 000	15 000

Material Boundary

270 000	-8 000
541 000	-8 000
960 000	-8 000

Material Boundary

650 000	50 000
310 000	50 000

Material Boundary

-650 000	50 000
-650 000	50 000
-650 000	15 000
650 000	-20 000
650 000	-50 000
900 000	-50 000
900 000	-20 000
900 000	0 000
900 000	20 000
541 000	20 000
420 000	20 000
360 000	40 000
310 000	50 000
270 000	60 000
-270 000	20 000
-650 000	90 000

Water Table

-650 000	45 000
270 000	45 000
310 000	35 000
360 000	25 000
420 000	15 000
541 000	14 000

960 000	14 000

Search GIH

197 673	58 620
696 385	58 623
696 386	554 554
197 673	554 554

133/159

Slide Analysis Information

Document Name.

File Name: [illegible]

Project Settings.

Project Title: SLOPE - An Interactive Slope Stability Program
Failure Direction: Left to Right
Units of Measurement: Imperial Units
Pore Fluid Unit Weight: 62.4 lb/ft3
Groundwater Method: Water Surfaces
Data Output: Standard
Calculate Excess Pore Pressure: Off
Allow Tension Water Surfaces in Slide: Off
Random Numbers: Pseudo-random Seed
Random Number Seed: 10115
Random Number Generation Method: Park and Miller v.3

Analysis Methods.

Analysis Methods Used
Spencer

Number of slices: 50
Tolerance: 0.005
Maximum number of iterations: 50

Surface Options.

Surface Type: Circular
Ropes Increment: 75
Tension Crack: Not Defined
Composite Surfaces: Disabled
Reverse Curvature: Create Tension Crack

Material Properties.

Material: Water
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 75 lb/ft3
Saturated Unit Weight: 120 lb/ft3
Cohesion: 0 psf
Friction Angle: 33 degrees
Water Surface: Water Table
Custom Ru Value: 1

Material: Silty Sand SS/SGL

Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 70 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Ru Value: 1

Material: Barrel Alluvial
Strength Type: Shear Normal Function
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Water Surface: Water Table
Custom Ru Value: 1

Material: Sand
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 125 lb/ft3
Saturated Unit Weight: 135 lb/ft3
Cohesion: 0 psf
Friction Angle: 40 degrees
Water Surface: Water Table
Custom Ru Value: 1

Global Minimums.

Method: spencer
FS: 2.695750
Center: 247.267, 157.013
Radius: 141.341
Left Slip Surface Endpoint: 244.020, 01.999
Right Slip Surface Endpoint: 410.701, 31.936
Resisting Moment=1.03020e+007 lb-ft
Driving Moment=6.0601e+006 lb-ft
Resisting Horizontal Force=139.80 lb
Driving Horizontal Force=44574.8 lb

Valid / Invalid Surfaces.

Method: spencer
Number of Valid Surfaces: 10531
Number of Invalid Surfaces: 22505
Error Codes:
Error Code -103 reported for 20453 surfaces
Error Code -107 reported for 58 surfaces
Error Code -108 reported for 2265 surfaces
Error Code -111 reported for 160 surfaces
Error Code -112 reported for 30 surfaces

Error Codes.

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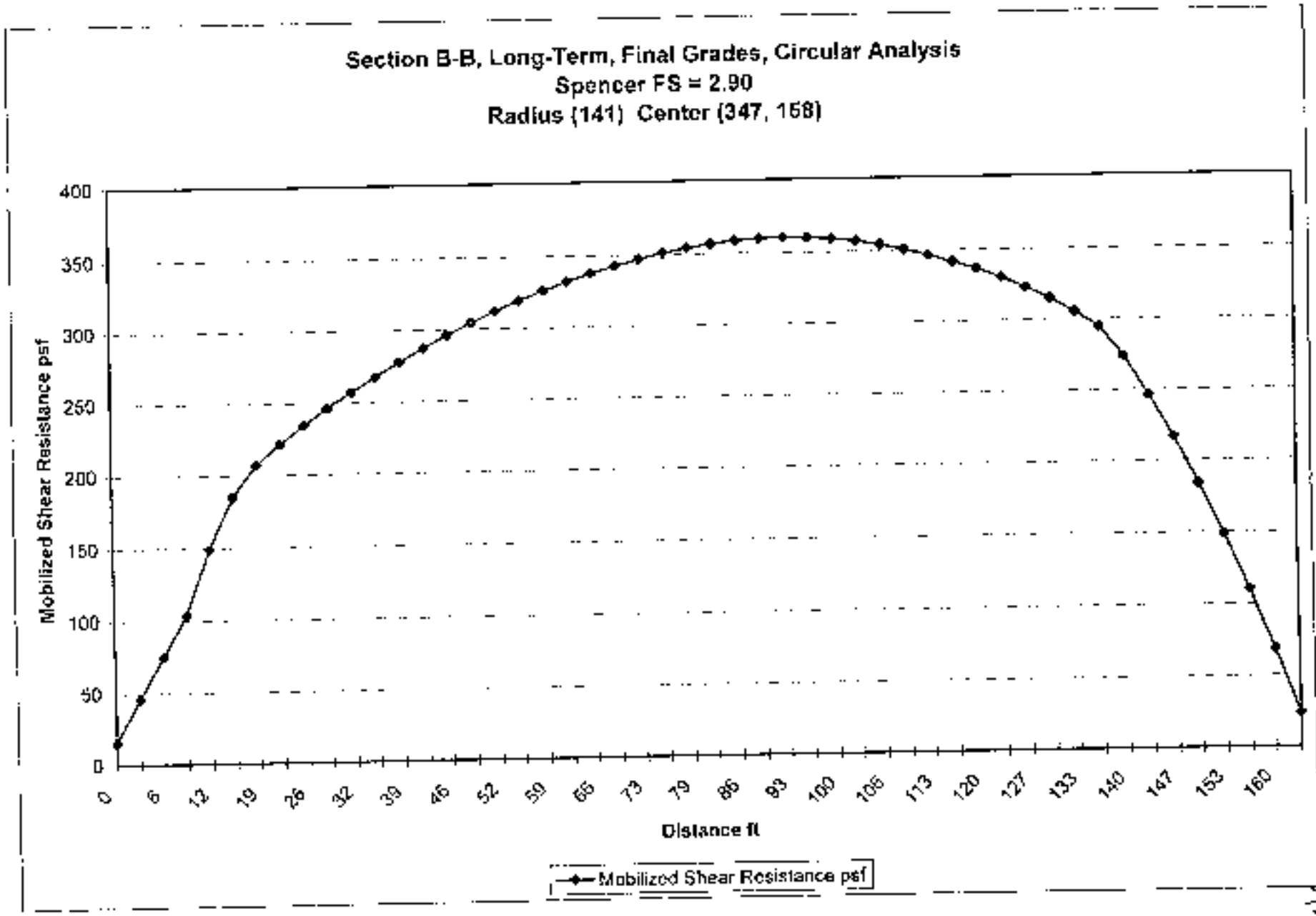


1/6/2005

ME0414\Mobilized Shear Stress LT.xls

Slide Analysis Information

Document Name

File Name: B R Final Grade WT of 45 block ss

Project Settings

Project Title: SLIDE - An Interactive Slope Stability Program
Failure Direction: Left to Right
Units of Measurement: Imperial Units
Pore Fluid Unit Weight: 62.4 lb/ft3
Groundwater Method: Water Surfaces
Data Output: Standard
Calculate Excess Pore Pressure: Off
Allow Rapid Water Surfaces or Grids: Off
Random Numbers: Pseudo-random Seed
Random Number Seed: 10116
Random Number Generation Method: Pore and Miller + 3

Analysis Methods

Analysis Methods used:
Spencer

Number of slices: 50
Tolerance: 0.005
Maximum number of iterations: 50

Surface Options

Surface Type: Non Circular Block Search
Number of Surfaces: 5000
Pseudo-Random Surfaces: Enabled
Convex Surfaces Only: Disabled
Left Projection Angle (Start Angle): 130
Left Projection Angle (End Angle): 160
Right Projection Angle (Start Angle): 30
Right Projection Angle (End Angle): 60

Material Properties

Material Wrap
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 75 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hu value: 1

Material Stabilized Slope
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 70 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hu value: 1

Material Recent Alluvium
Strength Type: Shear Normal Function
Unsaturated Unit Weight: 81 lb/ft3
Saturated Unit Weight: 87 lb/ft3
Water Surface: Water Table
Custom Hu value: 1

Material Seed
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 125 lb/ft3
Saturated Unit Weight: 125 lb/ft3
Cohesion: 0 psf
Friction Angle: 45 degrees
Water Surface: Water Table
Custom Hu value: 1

List of Coordinates

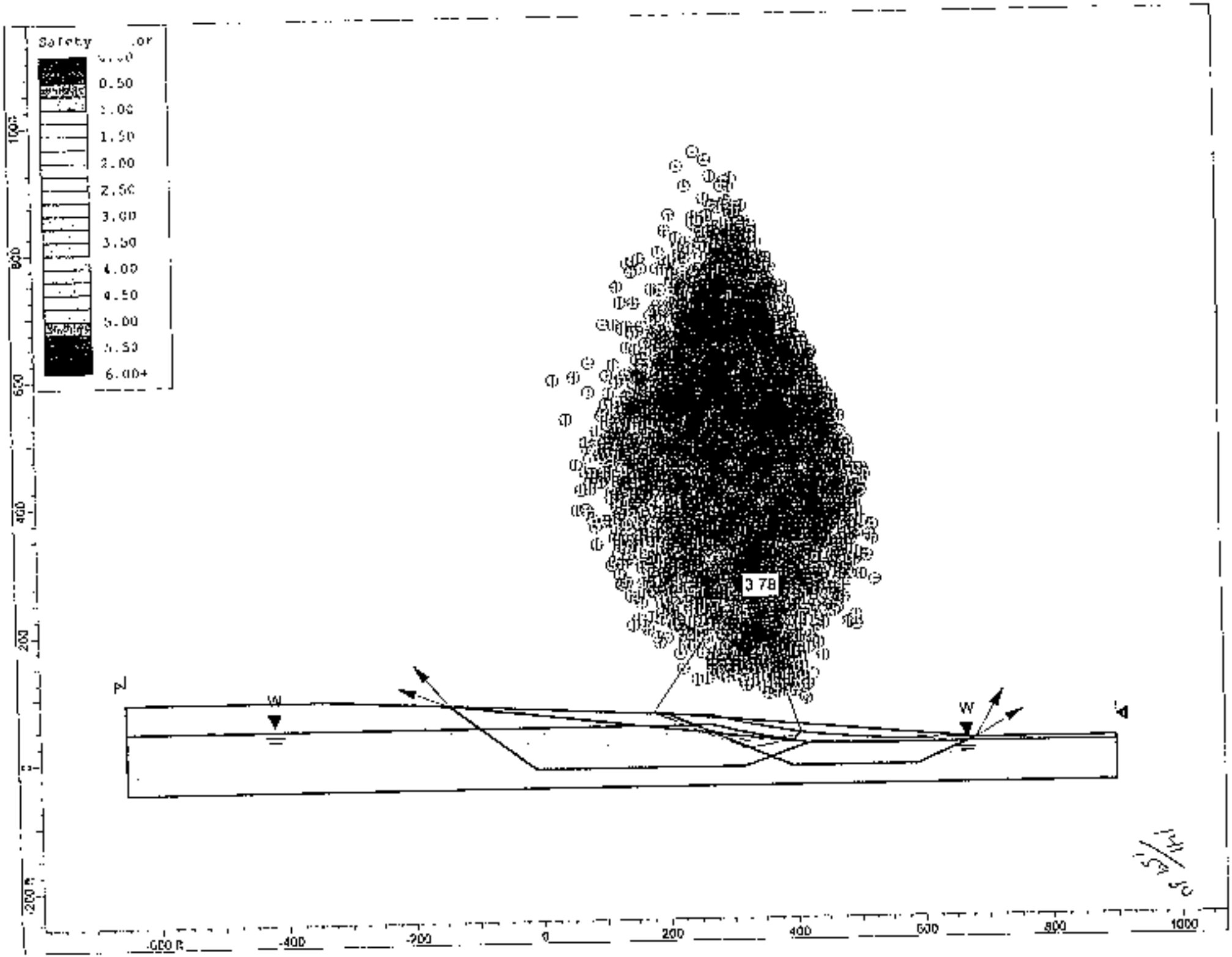
Material Boundary

-450.000	15.000
50.000	15.000
99.000	15.000
148.000	15.000
197.000	15.000
245.000	15.000
270.000	15.000
295.000	15.000
310.000	15.000
344.000	15.730
393.000	16.797
442.000	17.857
491.000	18.915
541.000	20.000

Material Boundary

-450.000	-20.000
50.000	-20.000
99.000	-20.000
148.000	-20.000
197.000	-20.000

139
159 80


Safety
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00+
3.78
W
W
1000
800
600
400
200
-200
-400
-200
0
200
400
600
800
1000

The following errors were encountered during the computation

-105 = More than two surface failure intersections with no valid slip surface

-107 = Total driving moment or total driving force is negative. This will occur if the wrong failure direction is specified, or if high external or anchor loads are applied against the failure direction

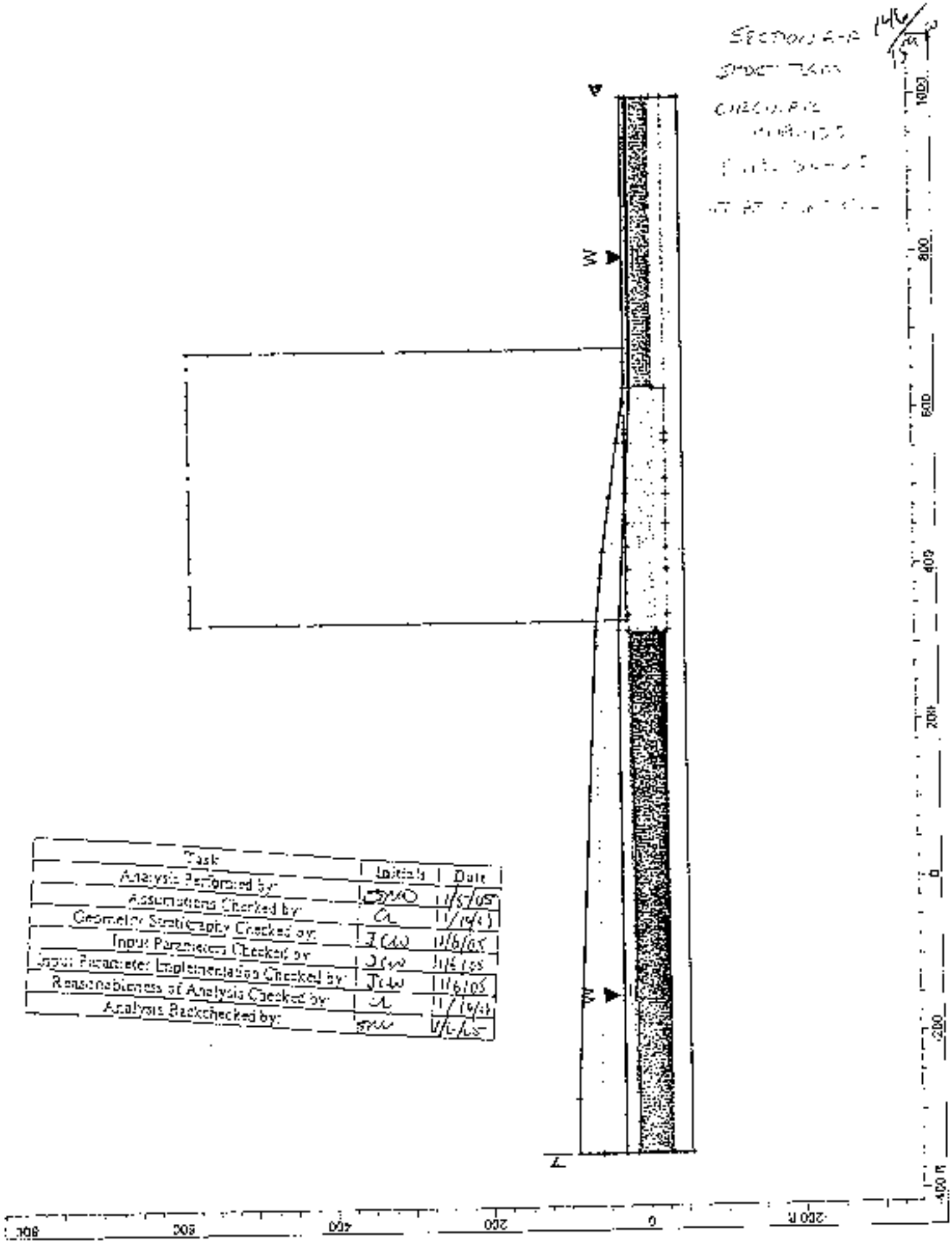
-108 = Total driving moment or total driving force = 0.1. This is to limit the calculation of extremely high safety factors if the driving force is very small (0.1 is an arbitrary number)

-111 = safety factor equation did not converge

Written by: S. Opdyke Date: 03/15/04 Reviewed by: C. Lazarte Date: 3/19/04

Client: DSWA Project: Cherry Island Project/Proposal No.: ME0250 Task No.: 7.7

Appendix H



Task	Initials	Date
Analysis Performed by:	[illegible]	11/5/05
Assumptions Checked by:	[illegible]	11/10/05
Geometry Stratigraphy Checked by:	[illegible]	11/6/05
Input Parameters Checked by:	[illegible]	11/6/05
Input Parameter Implementation Checked by:	[illegible]	11/6/05
Reasonableness of Analysis Checked by:	[illegible]	11/10/05
Analysis Backchecked by:	[illegible]	11/10/05

Cuatro Hondas 1

Material: Weak Alluvium Layer 1
Strength Type: Undrained
Unsaturated Unit Weight: 85 pcf
Saturated Unit Weight: 87 pcf
Cohesion Type: Constant
Cohesion: 1000 psf
Water Surface: None

List of Coordinates

Material Boundary

340.000	50.000
320.000	66.200

Material Boundary

-350.000	-33.000
320.000	-33.000
340.000	-33.000
365.000	-33.000
425.000	-33.000
456.000	-33.000
494.000	-33.000
514.000	-33.000
562.000	-33.000
572.000	33.000
630.000	-33.000
1000.000	-33.000

Material Boundary

365.000	66.000
320.000	66.000

Material Boundary

-350.000	15.000
320.000	17.540
340.000	17.694
365.000	14.159
420.000	16.541
456.000	18.619
494.000	18.921
514.000	19.019
562.000	19.260
572.000	19.143
630.000	20.000

Material Boundary

320.000	-33.000
320.000	-16.000
320.000	17.540

Material Boundary

320.000	-16.000
630.000	-16.000
1000.000	-16.000

Material Boundary

630.000	-16.000
630.000	20.000

Material Boundary

630.000	-33.000
630.000	-16.000

External Boundary

1000.000	-33.000
1000.000	-10.000
1000.000	-8.557
1000.000	20.000
630.000	20.000
590.000	30.000
490.000	40.000
420.000	50.000
306.667	53.333
320.000	60.000
-320.000	80.000
-350.000	80.000
-350.000	60.000
-350.000	15.000
-350.000	-33.000
-350.000	-33.000
1000.000	55.000

Water Table

-350.000	30.000
320.000	30.000
630.000	30.000
1000.000	30.000

Search Grid

330.000	20.000
601.619	20.000
601.619	579.129
330.000	579.129

Slide Analysis Information

Document Name

File Name: [illegible]

Project Settings

Project Title: SLIDE - An Interactive Slope Stability Program
Failure Direction: Left to Right
Units of Measurement: Imperial Units
Pore Fluid Unit Weight: 62.4 lb/ft3
Groundwater Method: Water Surface
Data Output: Standard

Analysis Methods

Analysis Methods used
Spencer

Number of slices: 50
Tolerance: 0.005
Maximum number of iterations: 50

Surface Options

Surface Type: Circular
Radius Increment: 15
Minimum Elevation: Not Defined
Composite Surfaces: Disabled
Negative Curvature: Create Tension Crack

Loading

Seismic Load Coefficient (Horizontal): 0
Seismic Load Coefficient (Vertical): 0

Material Properties

Material: [illegible]
Strength Type: Mohr-Coulomb
Unit Weight: 115 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Stabilized Slope
Strength Type: Mohr-Coulomb
Unit Weight: 70 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Recent Alluvium Unit 1
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Constant
Cohesion: 320 psf
Water Surface: None

Material: Recent Alluvium Unit 2
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Constant
Cohesion: 400 psf
Water Surface: None

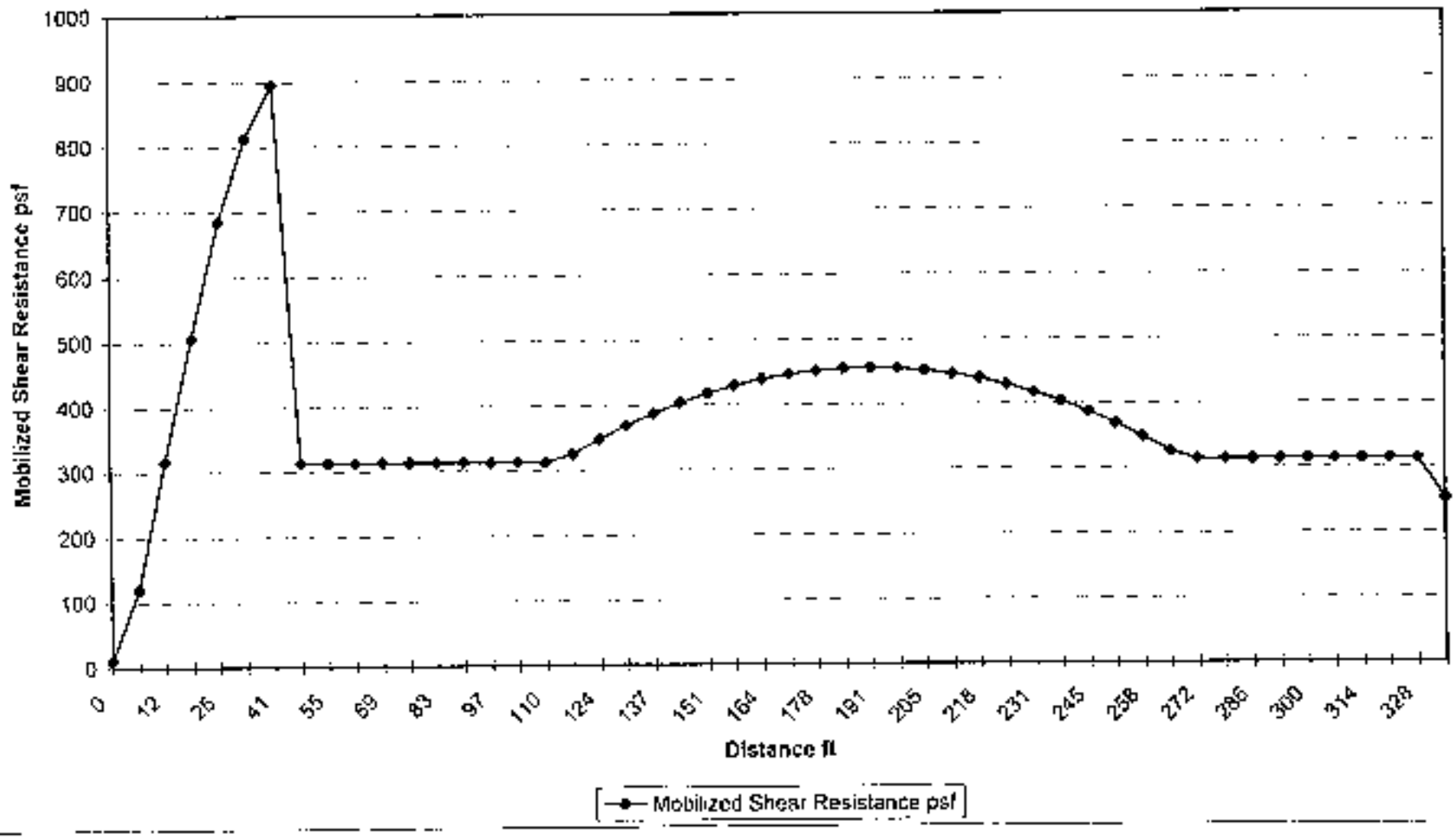
Material: Recent Alluvium Unit 4
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 400 psf
Cohesion Change: 14.7 psf/ft
Datum: [illegible]
Water Surface: None

Material: Recent Alluvium Unit 5
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 320 psf
Cohesion Change: 20 psf/ft
Datum: [illegible]
Water Surface: None

Material: Sand
Strength Type: Mohr-Coulomb
Unit Weight: 125 lb/ft3
Cohesion: 0 psf
Friction Angle: 40 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Recent Alluvium Unit 3
Strength Type: Undrained
Unit Weight: 85 lb/ft3
Cohesion Type: Constant
Cohesion: 1000 psf
Water Surface: None

Section A-A, Final Grade, Short-Term, Circular Analysis, Water Table at Elevation 30 ft-msl
Spencer FS = 1.28
Radius (246) Center (490, 216)



ML0414\Mobilized Shear Stress ST.xls

1/6/2005

Slide Analysis Information

Document Name

File Name: 8-B Final Grade WT cl 20 for FS cl 1.5 sh

Project Settings

Project Title: SLIDE - An Interactive Slope Stability Program
Failure Direction: Left to Right
Units of Measurement: Imperial Units
Pore Fluid Unit Weight: 62.4 lb/ft3
Groundwater Method: Water Surfaces
Data Output: Standard
Calculate Excess Pore Pressure: Off
Allow Rule of Water Surfaces to Grade: Off
Random Numbers: Pseudo-random Seed
Random Number Seed: 101 10
Random Number Generation Method: Park and Miller v 3

Analysis Methods

Analysis Methods used
Spencer

Number of slices: 50
Tolerance: 0.005
Maximum number of iterations: 50

Surface Options

Surface Type: Circular
Radius Increment: 15
Minimum Elevation: Not Defined
Composite Surfaces: Disabled
Reverse Curvature: Create Tension Crack

Material Properties

Material: Waste
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 75 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Stretched Sludge
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 70 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Hu value: 1

Material: Recent Alluvium Layer 1
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Constant
Cohesion: 320 psf
Water Surface: None

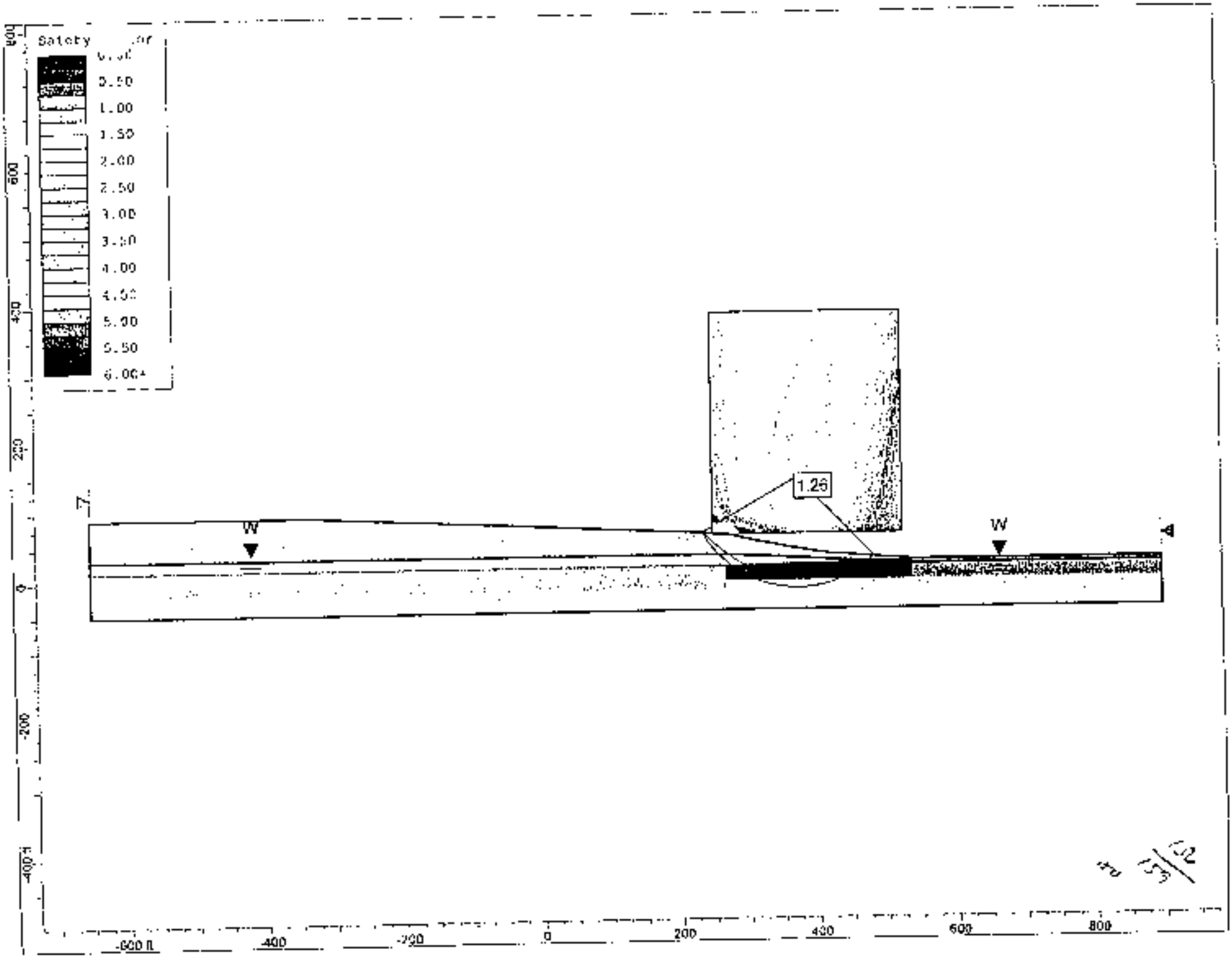
Material: Recent Alluvium Layer 2
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Constant
Cohesion: 400 psf
Water Surface: None

Material: Recent Alluvium Layer 4
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 400 psf
Cohesion Change: 5 psf/ft
Datum: -8 ft
Water Surface: None

Material: Recent Alluvium Layer 5
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 320 psf
Cohesion Change: 11.67 psf/ft
Datum: -8 ft
Water Surface: None

Material: Sand
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 125 lb/ft3
Saturated Unit Weight: 125 lb/ft3
Cohesion: 0 psf
Friction Angle: 40 degrees
Water Surface: Water Table

154
159
82


Safety
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00+
1.26
W
W
600
400
200
0
-200
-400
-600 ft
-400
-200
0
200
400
600
800

Global Minimums

Method: spencer
SF: 1.26477
Center: 370.237, 439.455
Radius: 150.2
Left Slip Surface Endpoint: 217.355, 61.6322
Right Slip Surface Endpoint: 466.387, 74.5435

Method Statistics

Method: spencer
Number of Valid Surfaces: 3557
Number of Invalid Surfaces: 25959
Error Codes
Error Code -103 reported for 25819 surfaces
Error Code -108 reported for 13 surfaces
Error Code -111 reported for 15 surfaces
Error Code -112 reported for 112 surfaces

Error Codes

The following errors were encountered during the computation:

-103 = Two surface / slope intersections, but one or more surface / nonslope external polygon intersections to between them. This usually occurs when the slip surface extends past the bottom of the soil region, but may also occur on a benched slope model with two sets of Slope Limits.

-108 = Total driving moment or total driving force < 0.1. This is to limit the calculation of extremely high safety factors if the driving force is very small (0.1 is an arbitrary number).

-111 = Safety factor equation did not converge.

-112 = The coefficient M Alpha = cos(alpha)(1+tan(alpha)tan(phi)/F) < 0.2 for the final iteration of the safety factor calculation. This screens out some slip surfaces which may not be valid in the context of the analysis. In particular, deep seated slip surfaces with many high negative base angle slices in the passive zone.

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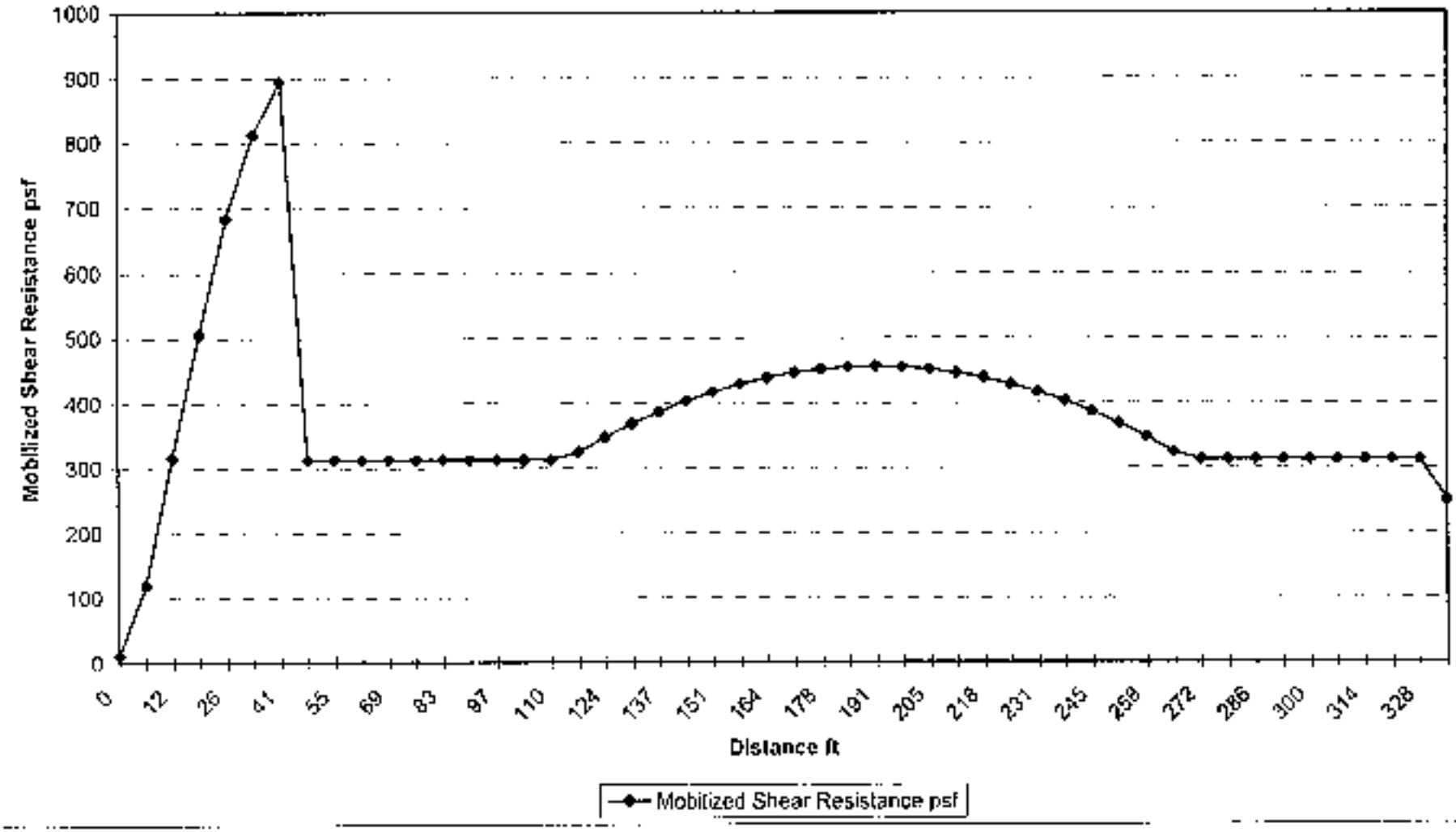
/
159 80

Section A-A, Final Grade, Short-Term, Circular Analysis, Water Table at Elevation 30 ft-msl
Spencer FS = 1.28
Radius (246) Center (490, 216)



Slide Analysis Information

Document Name

File Name: B-II Final Grade WT at 30 for FS of 1.5 c3

Project Settings

Project Title: SLIDE - An Interactive Slope Stability Program
Failure Direction: Left to Right
Units of Measurement: Imperial Units
Pore Fluid Unit Weight: 62.4 lb/ft3
Groundwater Method: Water Surfaces
Data Output: Standard
Calculate Excess Pore Pressure: Off
Allow Pu with Water Surfaces or Grids: Off
Random Numbers: Pseudo-random Seed
Random Number Seed: 10116
Random Number Generation Method: Pure and Unique 3

Analysis Methods

Analysis Methods used:
Spencer

Number of slices: 50
Tolerance: 0.005
Maximum number of iterations: 50

Surface Options

Surface Type: Circular
Radius Increment: 75
Minimum Elevation: Not Defined
Composite Surfaces: Disabled
Reverse Curvature: Create Tension Crack

Material Properties

Material: Water
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 75 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Iru value: 1

Material: Stabilized Sludge
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 70 lb/ft3
Saturated Unit Weight: 100 lb/ft3
Cohesion: 0 psf
Friction Angle: 30 degrees
Water Surface: Water Table
Custom Iru value: 1

Material: Recent Alluvium Layer 1
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Constant
Cohesion: 320 psf
Water Surface: None

Material: Recent Alluvium Layer 2
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Constant
Cohesion: 400 psf
Water Surface: None

Material: Recent Alluvium Layer 3
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 400 psf
Cohesion Change: 5 psf/ft
Datum: -5 ft
Water Surface: None

Material: Recent Alluvium Layer 5
Strength Type: Undrained
Unsaturated Unit Weight: 85 lb/ft3
Saturated Unit Weight: 97 lb/ft3
Cohesion Type: Function of Depth Below a Datum
Cohesion (Datum): 320 psf
Cohesion Change: 11.67 psf/ft
Datum: -8 ft
Water Surface: None

Material: Sand
Strength Type: Mohr-Coulomb
Unsaturated Unit Weight: 125 lb/ft3
Saturated Unit Weight: 125 lb/ft3
Cohesion: 0 psf
Friction Angle: 40 degrees
Water Surface: Water Table

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154

PRESENTATION OF IN SITU TESTING PROGRAM RESULTS

Pigeon Point Landfill
Wilmington, Delaware

November 15 & 16, 2004

Prepared for:

GeoSyntec Consultants
Columbia, Maryland

Prepared by:

ConeTec Inc.
West Berlin, NJ

November 29, 2004

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2.2 PORE PRESSURE DISSIPATION TESTS 6

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FIGURES

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FIGURE 2 Typical Dissipation Tests

APPENDICES

APPENDIX A CPT Plots (non-normalized & 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 at the Pigeon Point Landfill in Wilmington, Delaware. The program was completed for GeoSyntec Consultants of Columbia, Maryland. The CPT program took place over a two day period from November 15th, 2004 to November 16th, 2004 when a total of 11 soundings were completed at 10 different sounding locations. A few dissipation tests were taken during the program.

CPT sounding locations were selected and numbered under the direction and supervision of GeoSyntec Consultants 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 for a slope stability analysis.

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.

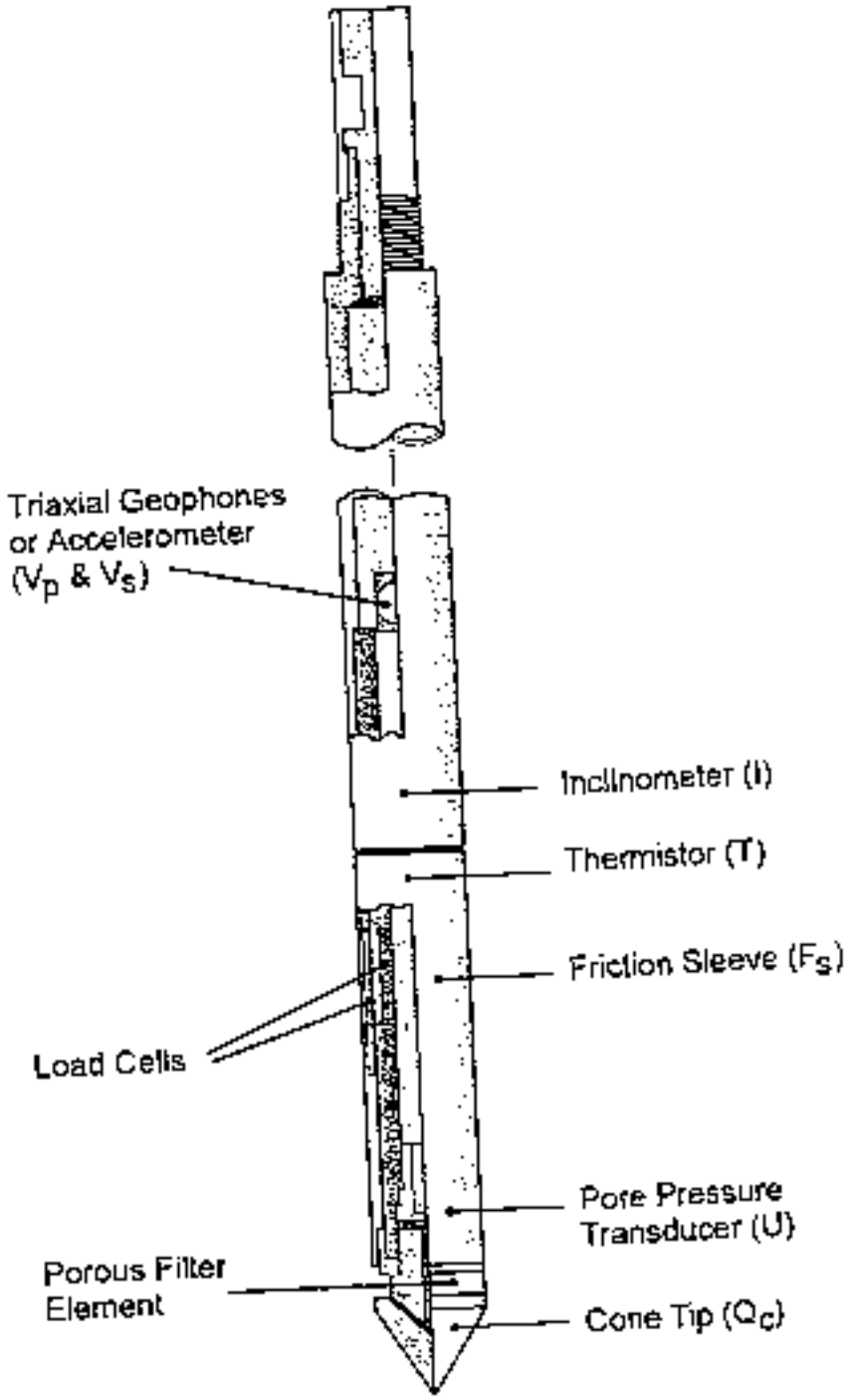


FIGURE 1 - TYPICAL CONE PENETROMETER

2.2 PORE PRESSURE DISSIPATION TESTS

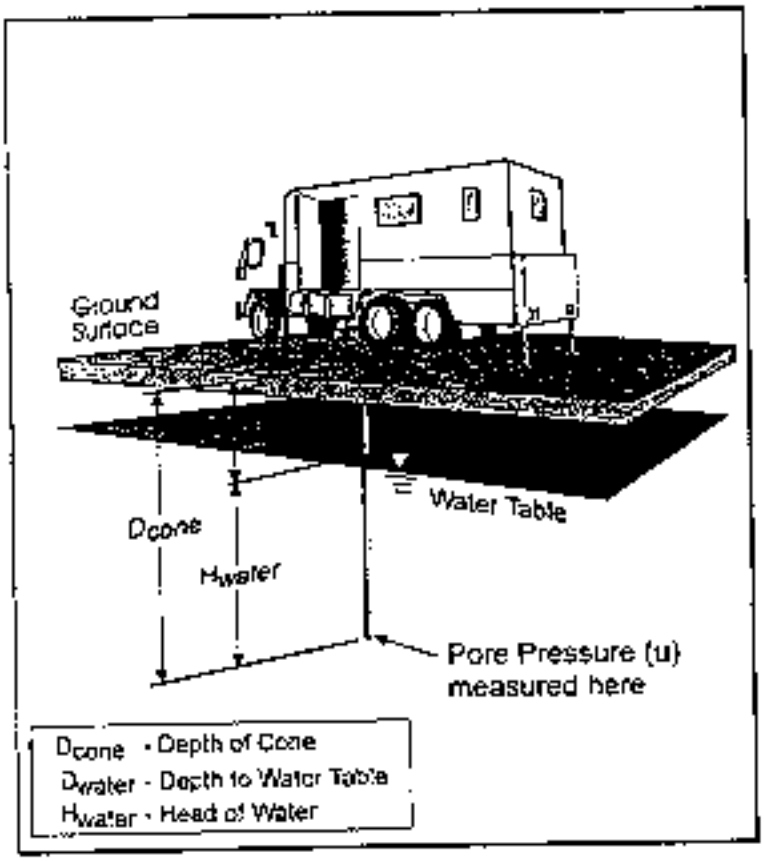
When cone penetration is stopped, the piezo cone essentially becomes a piezometer. While stopped, pore water pressures are automatically recorded at five-second intervals and the readings are stored in a dissipation file (.ppd). Dissipation data can then be plotted onto a dissipation curve consisting 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.

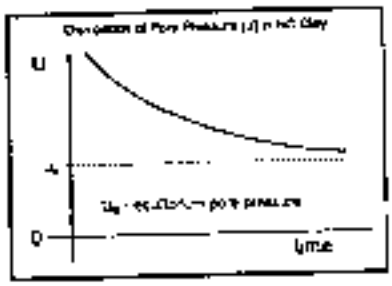
A flat curve that stabilizes quickly (i.e. less than 30 seconds) is typical of a free draining sand. In this case, the final measured pore water pressure is the static in situ water pressure.

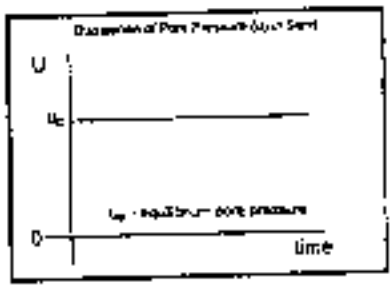
Soils that generate excess dynamic pore water pressure during penetration will dissipate this excess pressure when penetration stops. The shape of the dissipation curve and the time of dissipation can be used to estimate C_h, the coefficient of consolidation that can in turn be used to calculate K_h,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

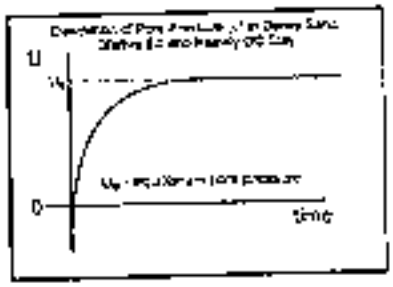
Figure 3 shows some idealized shapes of various pore water pressure dissipation curves. The reader is referred Robertson et. al., 1990 to reference dissipation test data analytical techniques.

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 863.49 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. A few 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. Each calculation is derived according to the referenced article. The water table used can be found in the header of each CPTSUMM file. The water tables used were derived from the dissipation data where possible.

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.: 04-809
Location: Pigeon Point LandFill – Wilmington, Delaware
Client: GeoSyntec Consultants
Date: November 15, 16, 2004

Date	CPTU Sounding	File Name	Total Depth (ft)	Estimated Thickness of Waste (ft)	Comments
November 15, 2004	CPT-1	809cp01.cor	63.48	none	
November 15, 2004	CPT-2	809cp02.cor	72.83	none	
November 16, 2004	CPT-3	809cp03.cor	62.01	none	
November 16, 2004	CPT-4	809cp04.cor	57.58	none	
November 16, 2004	CPT-5	809cp05.cor	118.11	44.00	
November 16, 2004	CPT-6	809cp06.cor	99.24	none	
November 16, 2004	CPT-7	809cp07.cor	84.15	22.00	
November 15, 2004	CPT-8	809cp08.cor	47.24	none	
November 15, 2004	CPT-9	809cp09.cor	38.71	38.71	refusal in waste
November 15, 2004	CPT-9A	809cp09a.cor	130.90	58.00	
November 15, 2004	CPT-10	809cp10.cor	89.24	none	
Totals:	11 soundings	11 files	863.49		

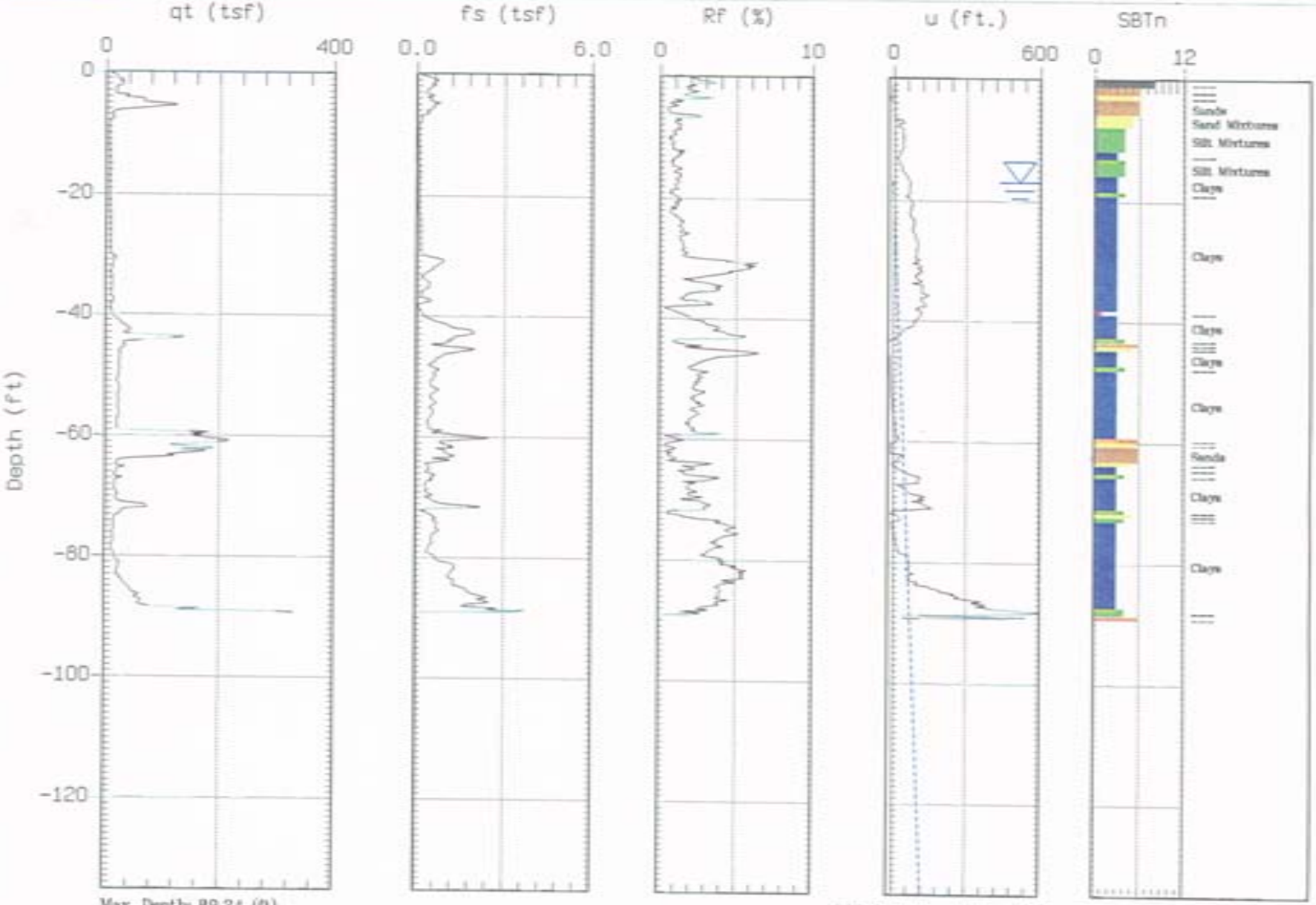
Non-normalized CPT plots

CONETEC

GeoSyntec Consultants

Site:CPT-10
Location:Pigeon Point

Cone:20 TON AD066
Date:11:15:04 10:32



Max. Depth: 89.24 (ft)
Depth Inc.: 0.164 (ft)

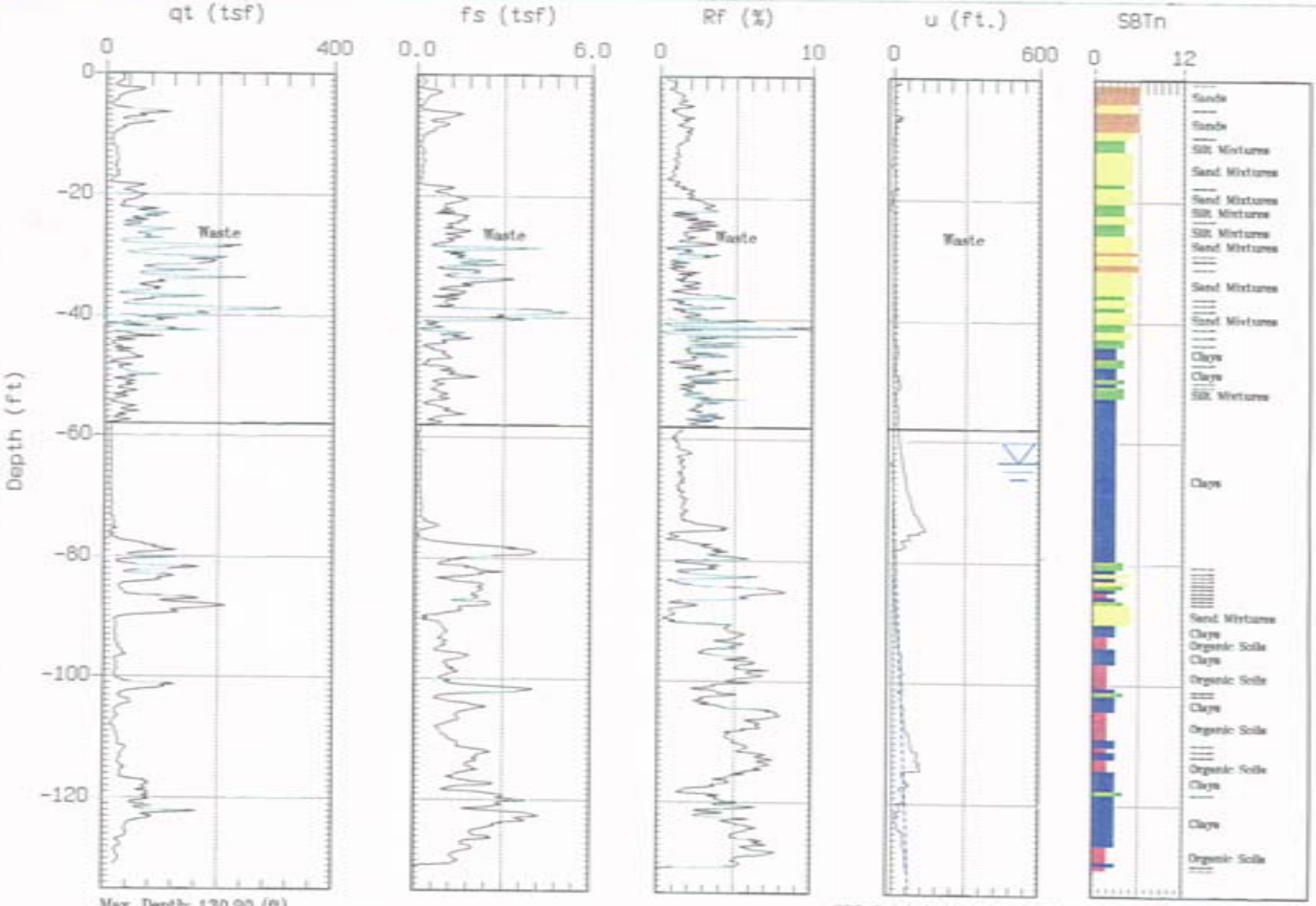
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-9A
Location:Pigeon Point

Cone:20 TON AD066
Date:11:15:04 12:30



Max. Depth: 130.90 (ft)
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-9
Location:Pigeon Point

Cone:20 TON AD066
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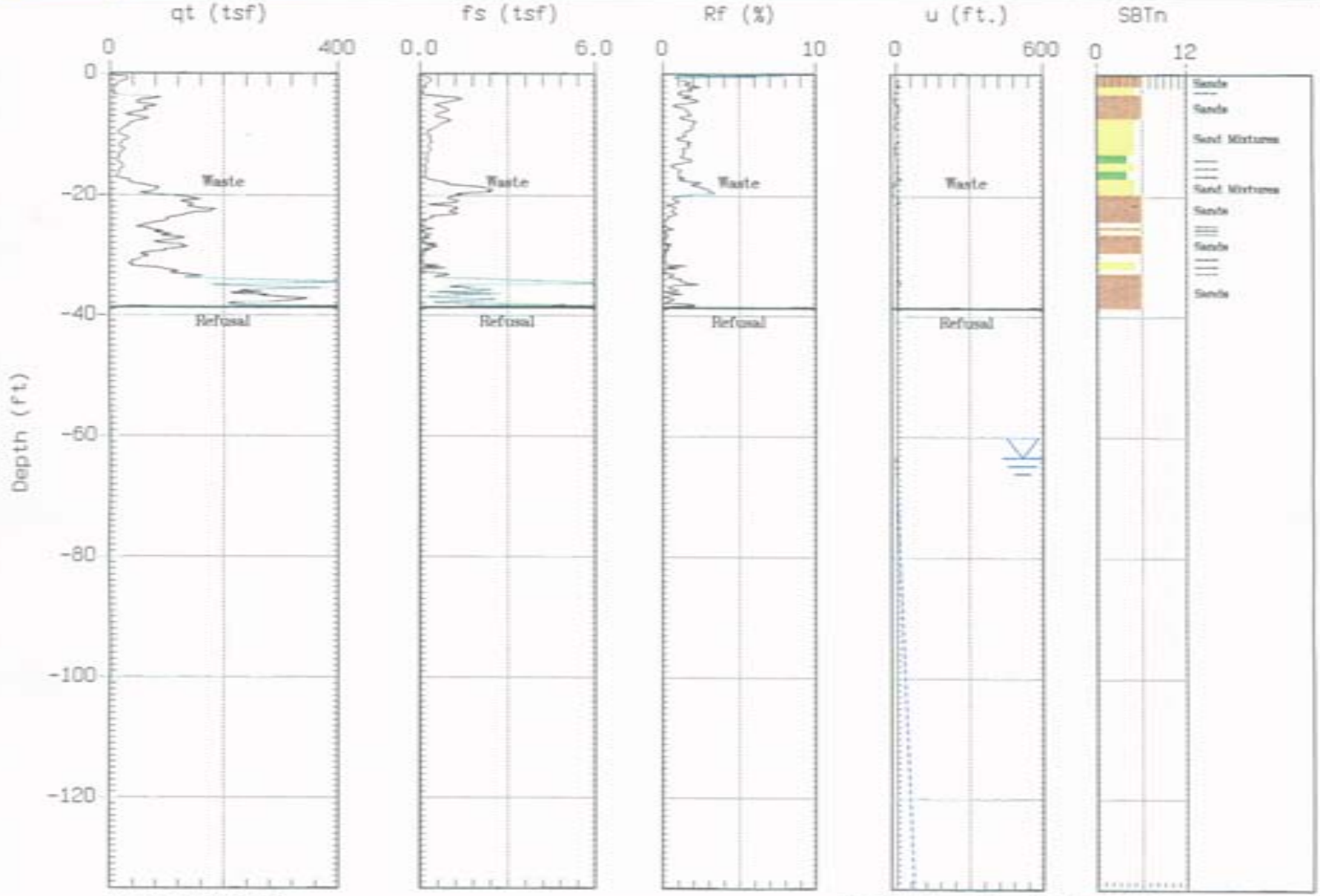


Max. Depth: 38.71 (ft)
Depth Inc.: 0.164 (ft)

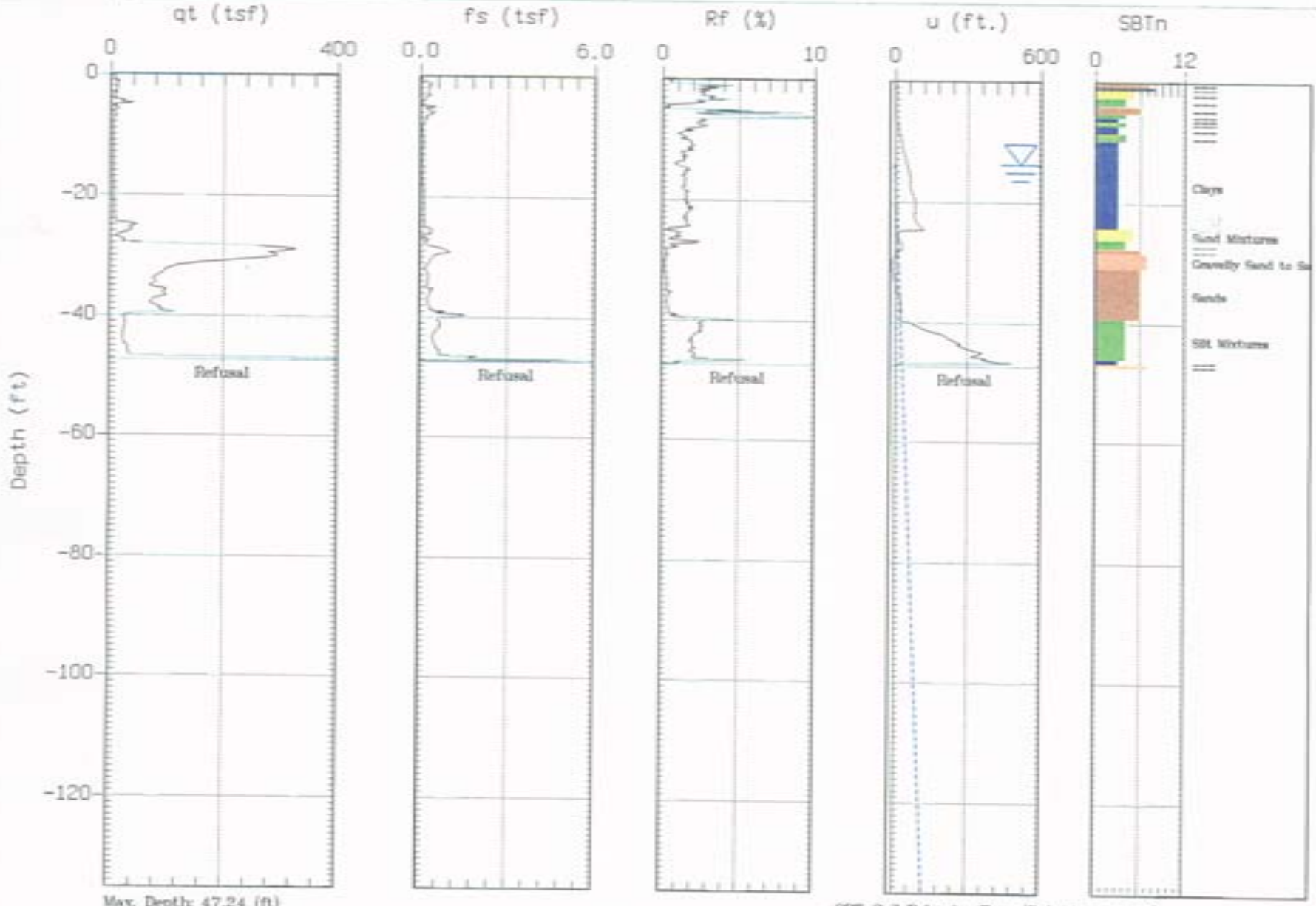
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-8
Location:Pigeon Point

Cone:20 TON AD066
Date:11:15:04 09:36



Max. Depth: 47.24 (ft)
Depth Inc.: 0.164 (ft)

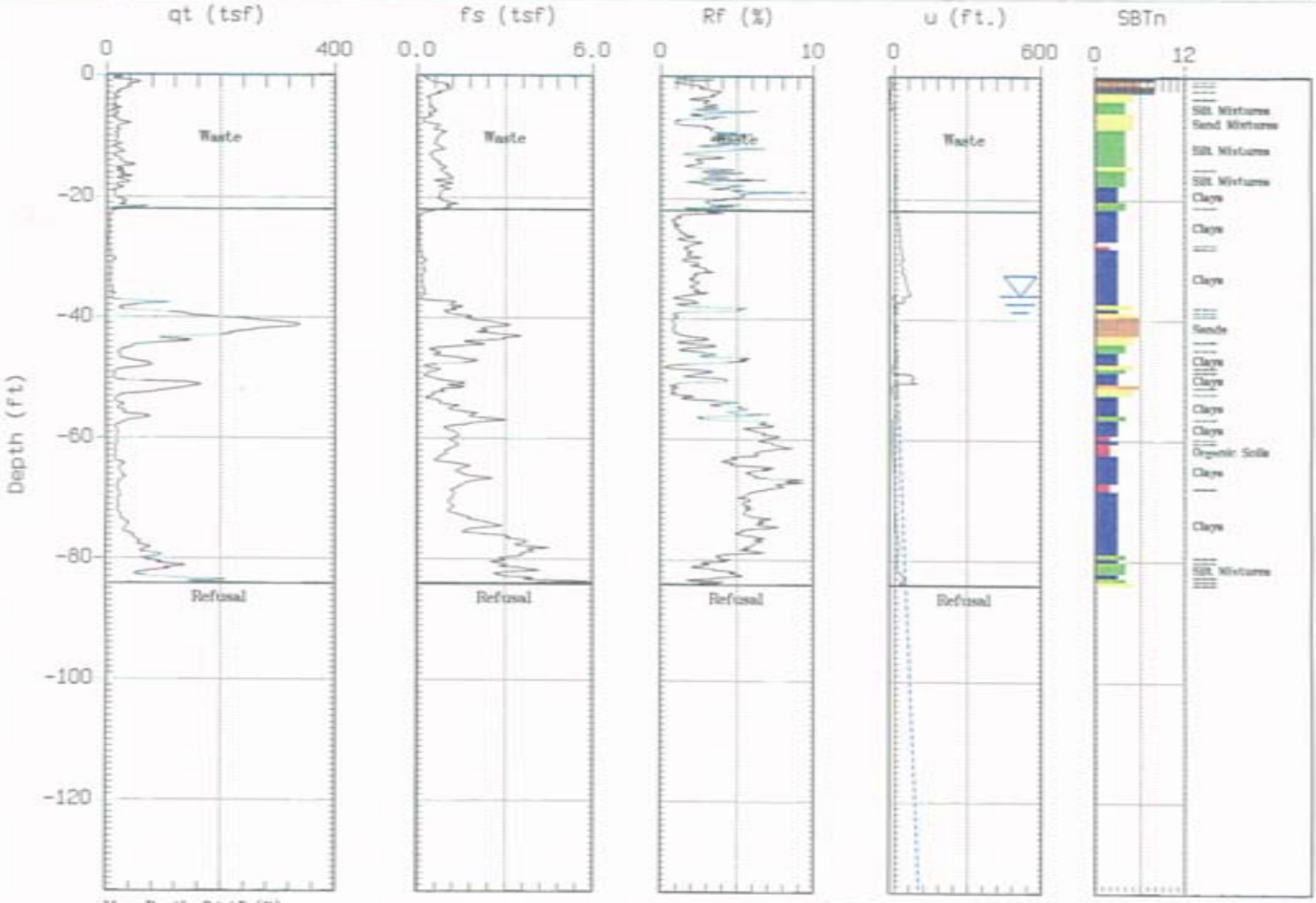
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-7
Location:Pigeon Point

Cone:20 TON AD066
Date:11:16:04 14:01



Max. Depth: 84.15 (ft)
Depth Inc.: 0.164 (ft)

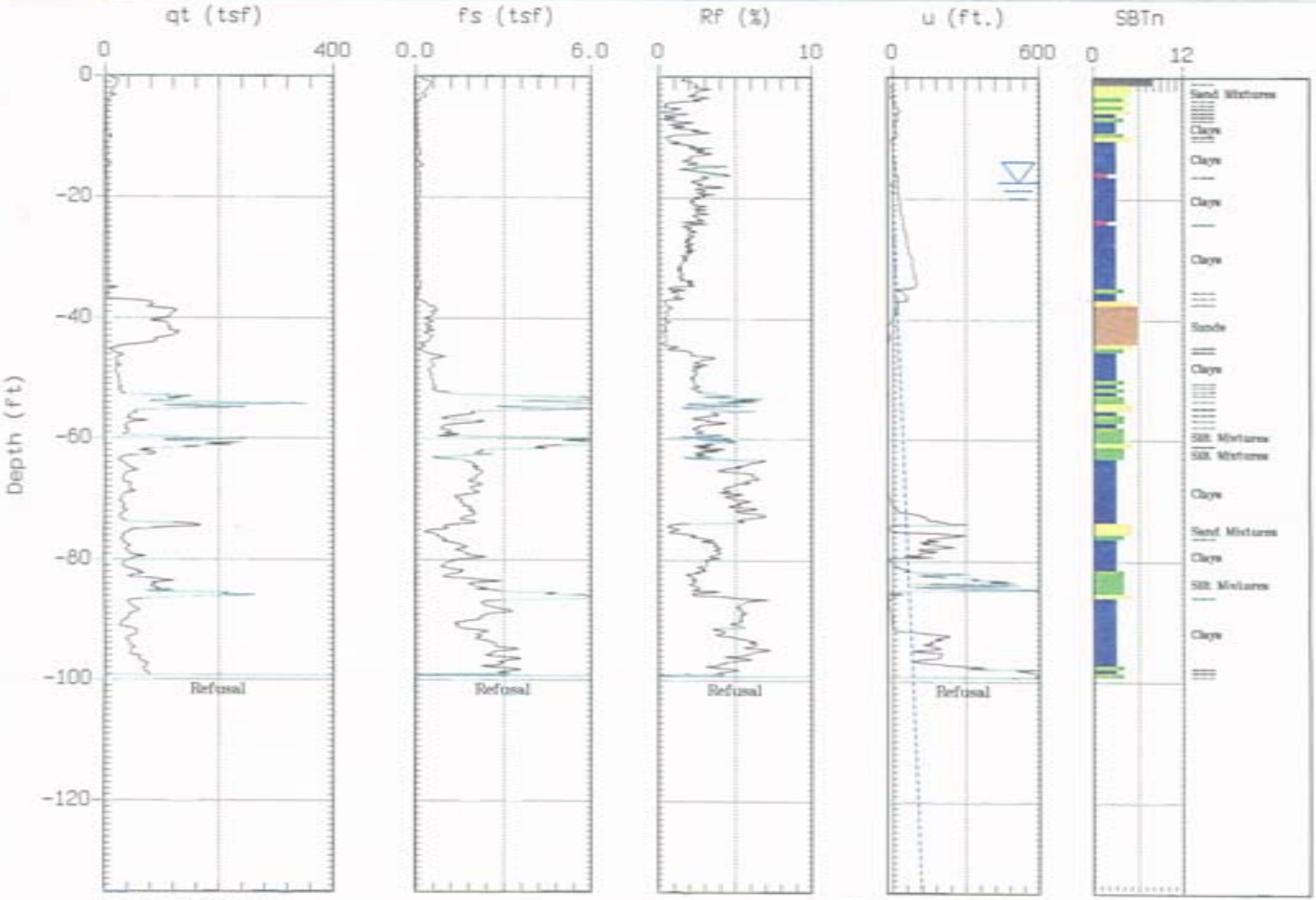
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-6
Location:Pigeon Point

Cone:20 TON AD066
Date:11:16:04 11:01



Max. Depth: 99.24 (ft)
Depth Inc.: 0.164 (ft)

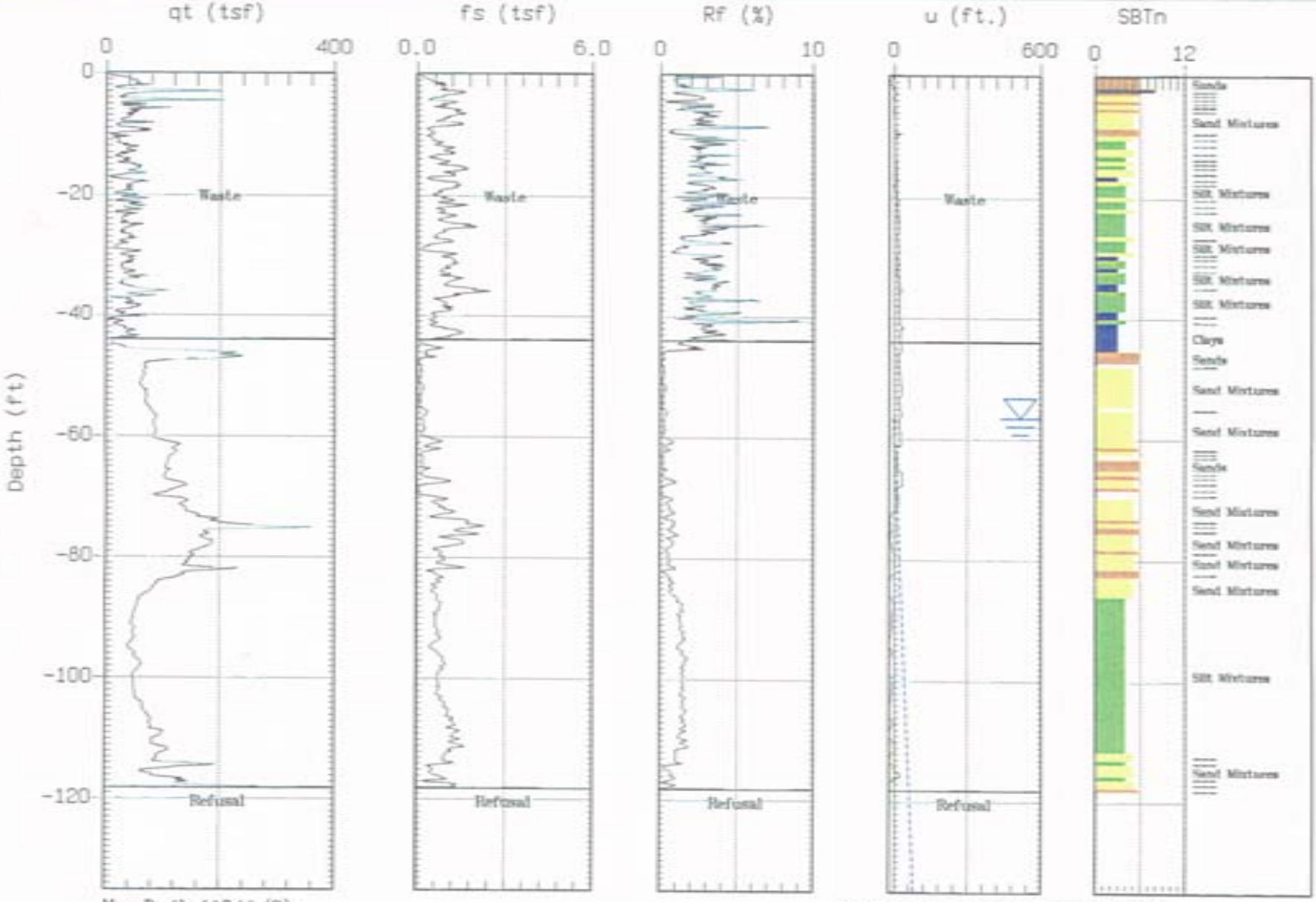
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-5
Location:Pigeon Point

Cone:20 TON AD066
Date:11:16:04 12:18



Max. Depth: 118.11 (ft)
Depth Inc.: 0.164 (ft)

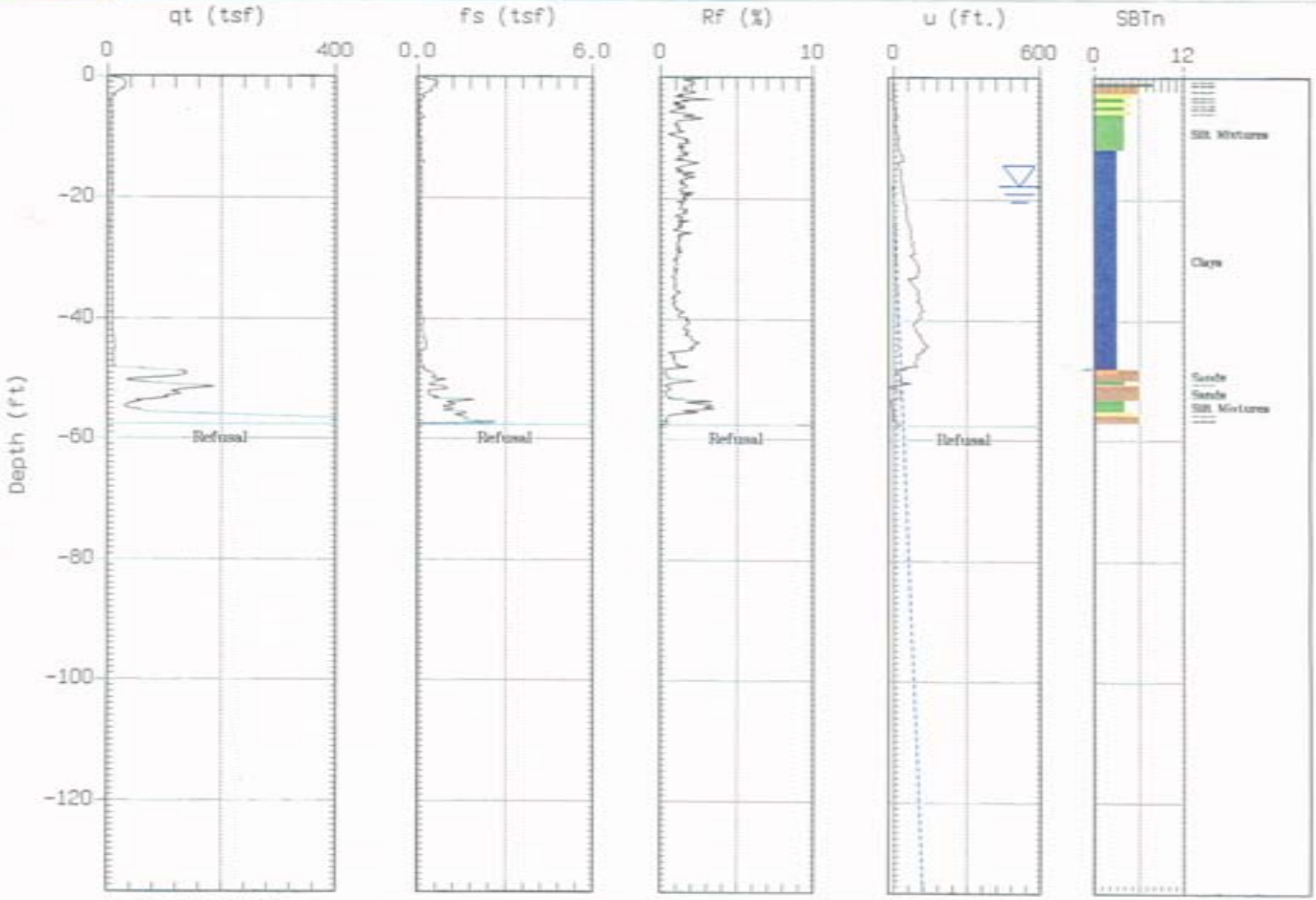
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-4
Location:Pigeon Point

Cone:20 TON AD066
Date:11:16:04 10:01



Max. Depth: 57.58 (ft)
Depth Inc.: 0.164 (ft)

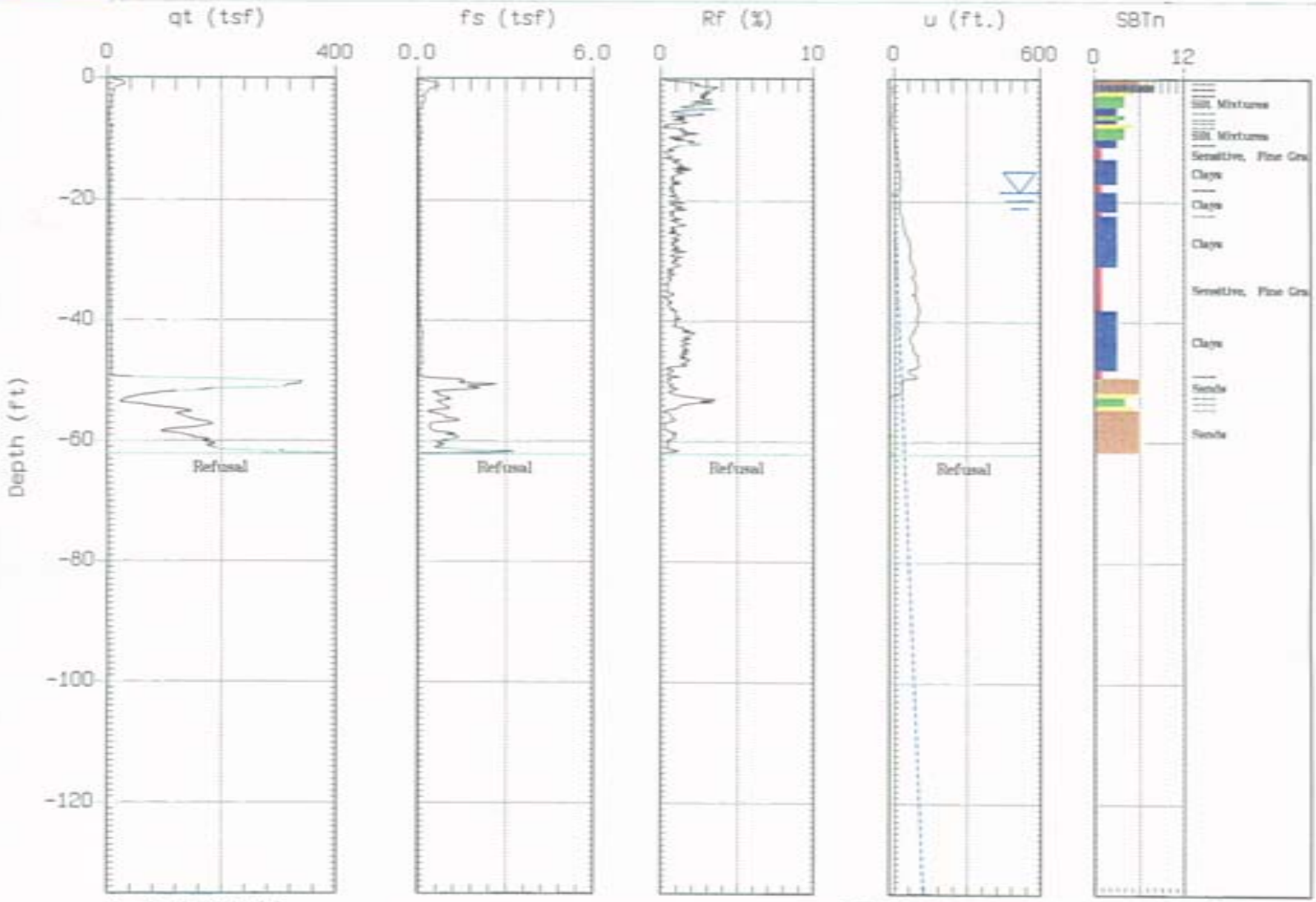
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-3
Location:Pigeon Point

Cone:20 TON AD066
Date:11:16:04 08:31



Max. Depth: 62.01 (ft)
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-2
Location:Pigeon Point

Cone:20 TON AD066
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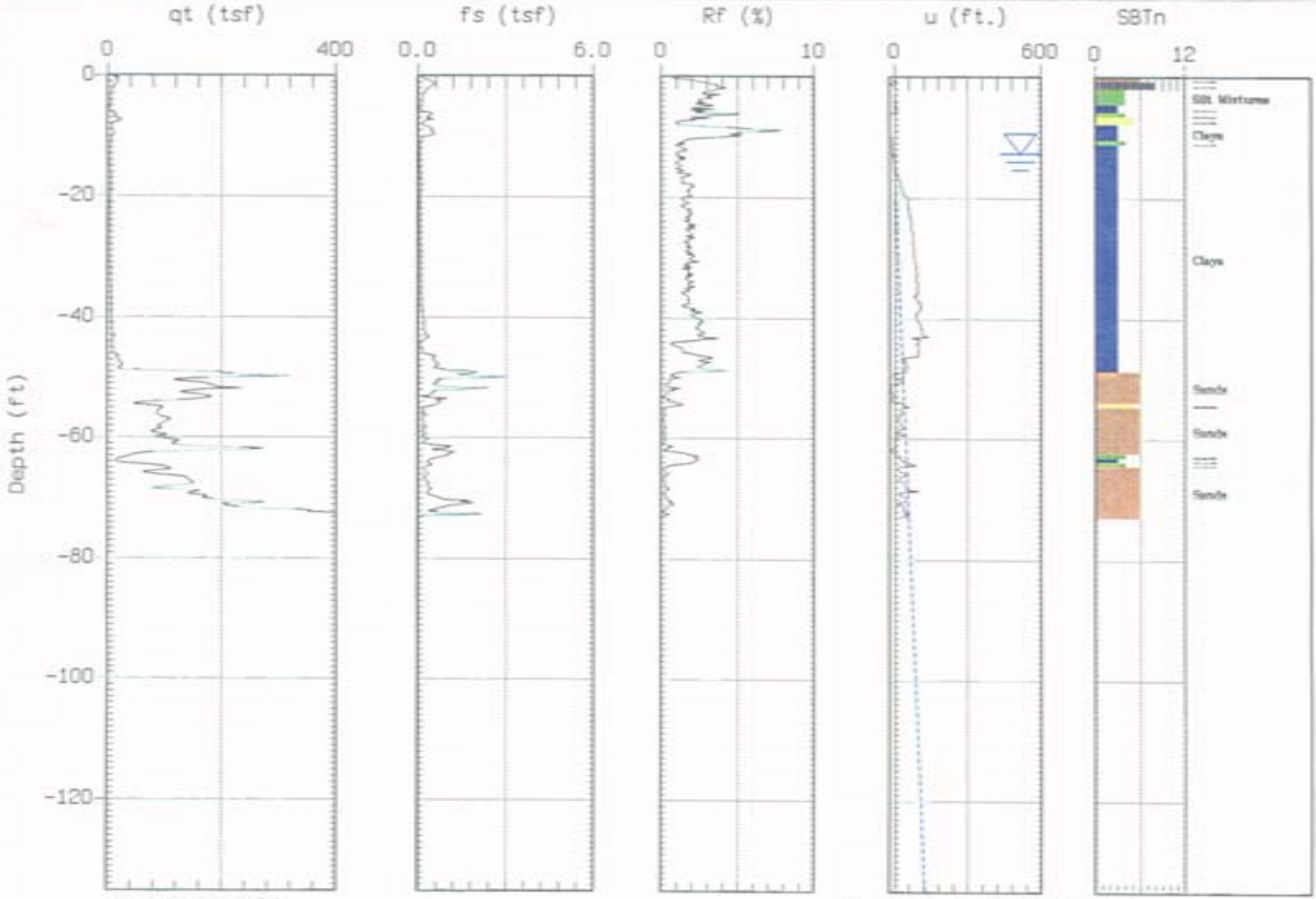


Max. Depth: 72.83 (ft)
Depth Inc.: 0.164 (ft)

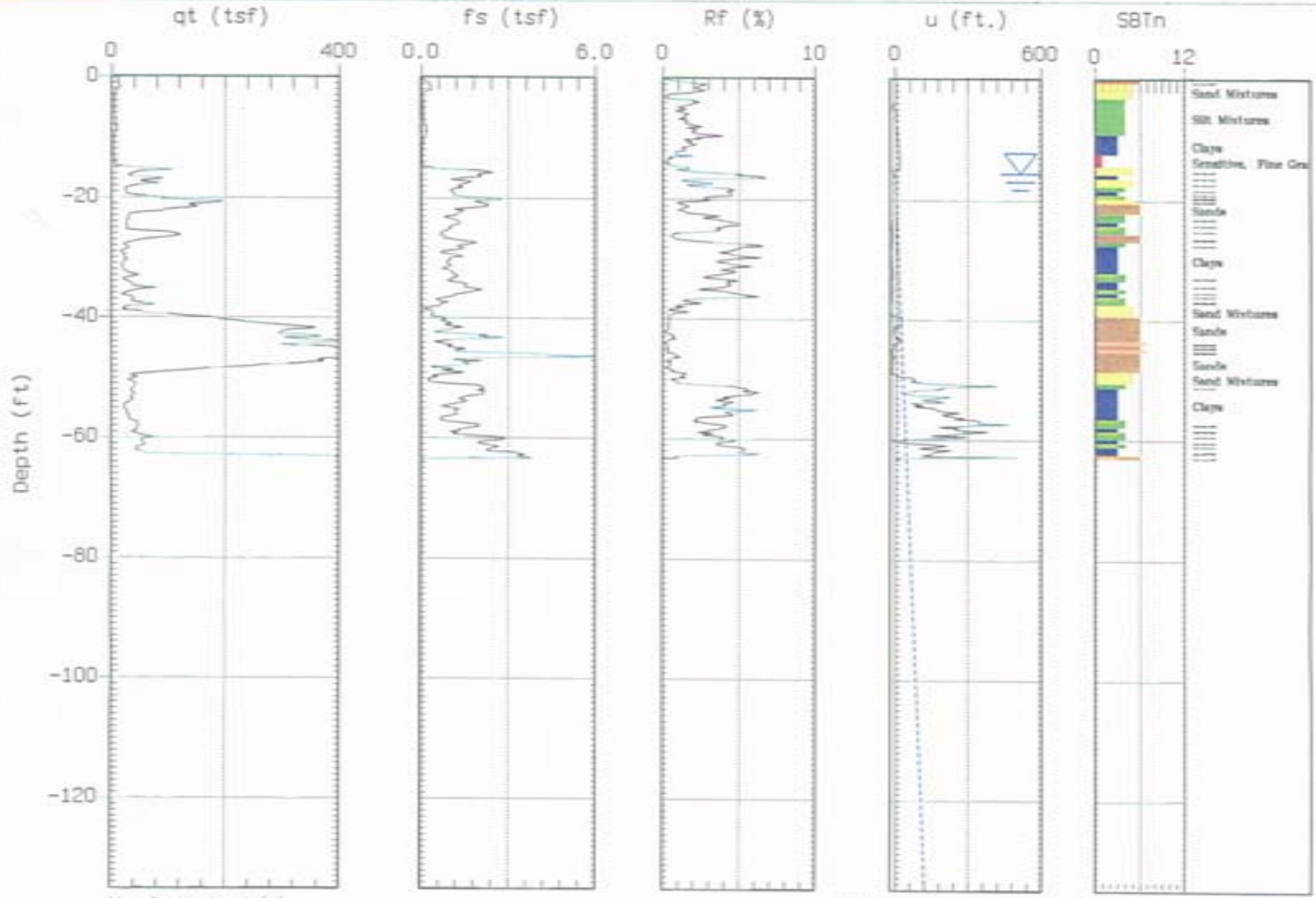
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-1
Location:Pigeon Point

Cone:20 TON AD066
Date:11:15:04 14:15



Max. Depth: 63.48 (ft)
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

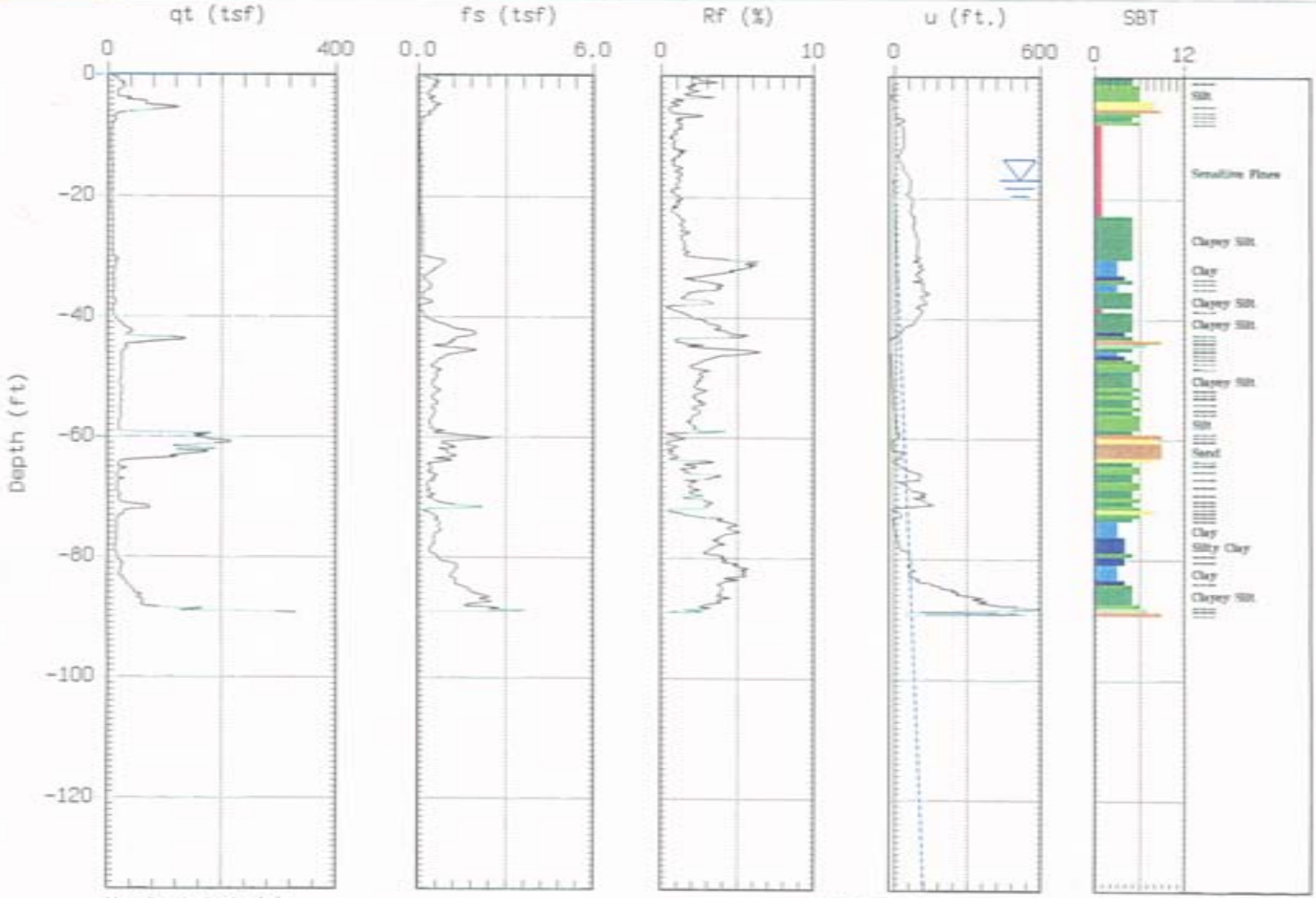
Normalized CPT plots

CONETEC

GeoSyntec Consultants

Site:CPT-10
Location:Pigeon Point

Cone:20 TON AD066
Date:11:15:04 10:32



Max. Depth: 89.24 (ft)
Depth Inc.: 0.164 (ft)

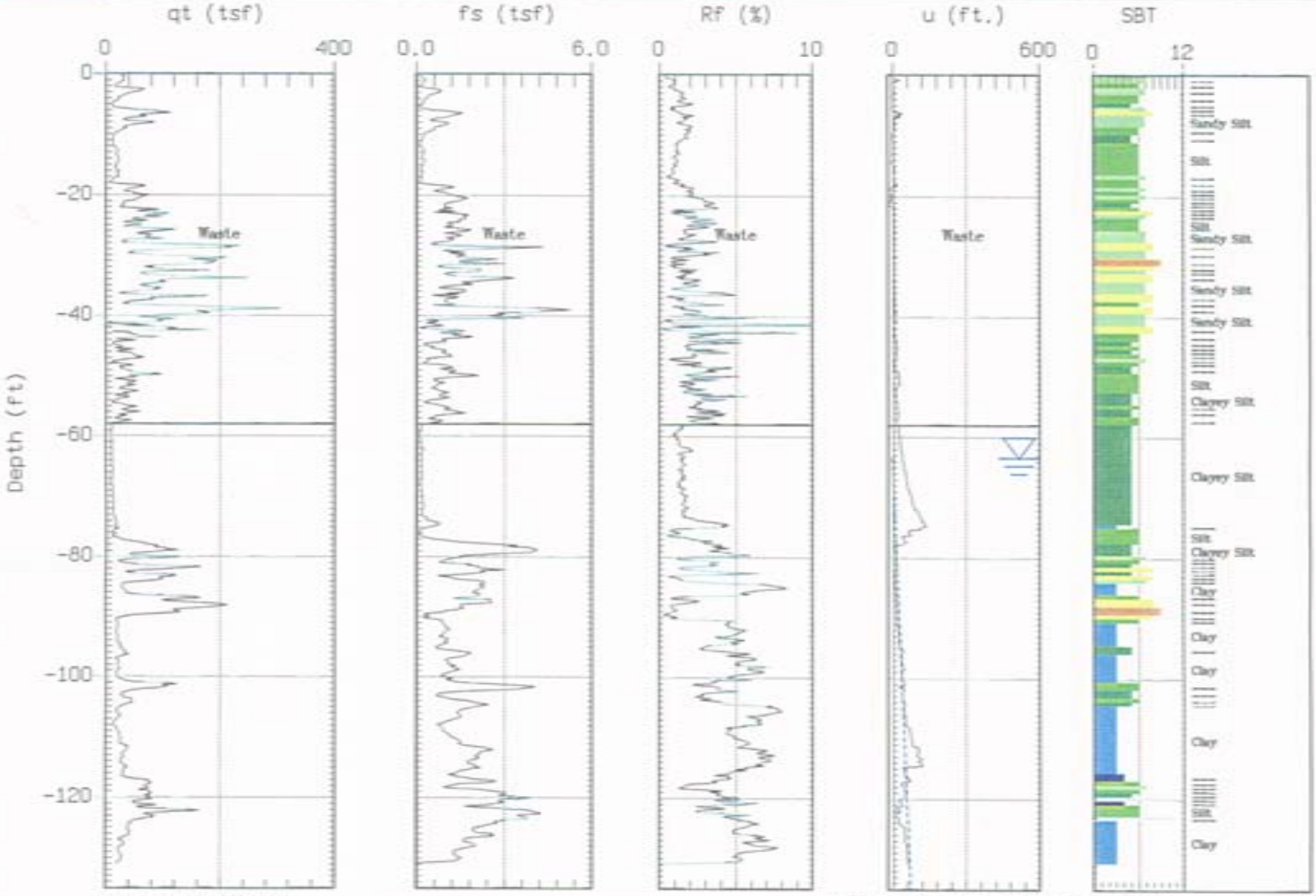
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-9A
Location:Pigeon Point

Cone:20 TON AD066
Date:11:15:04 12:30



Max. Depth: 130.90 (ft)
Depth Inc.: 0.164 (ft)

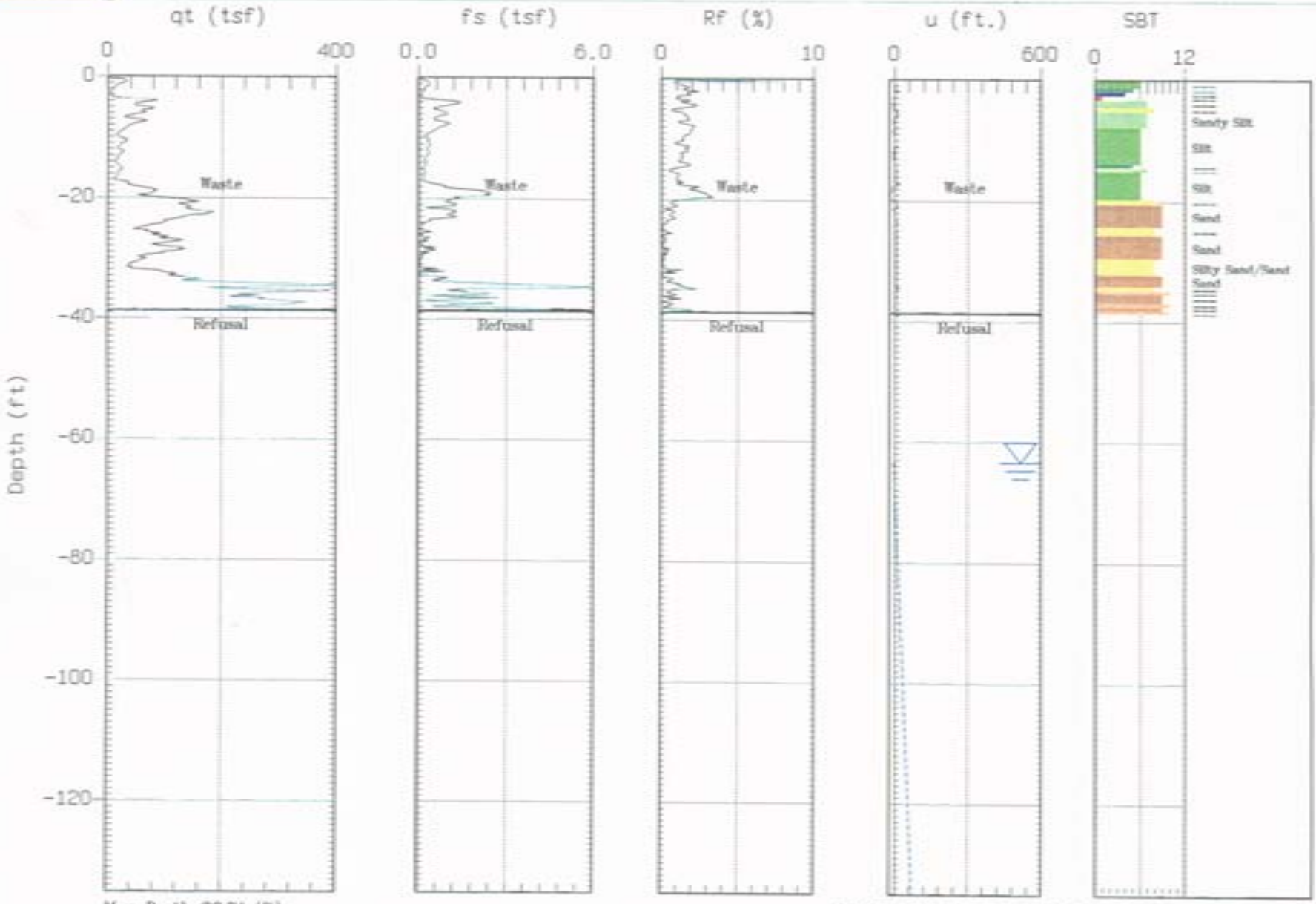
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-9
Location:Pigeon Point

Cone:20 TON AD066
Date:11:15:04 11:58



Max. Depth: 38.71 (ft)
Depth Inc.: 0.164 (ft)

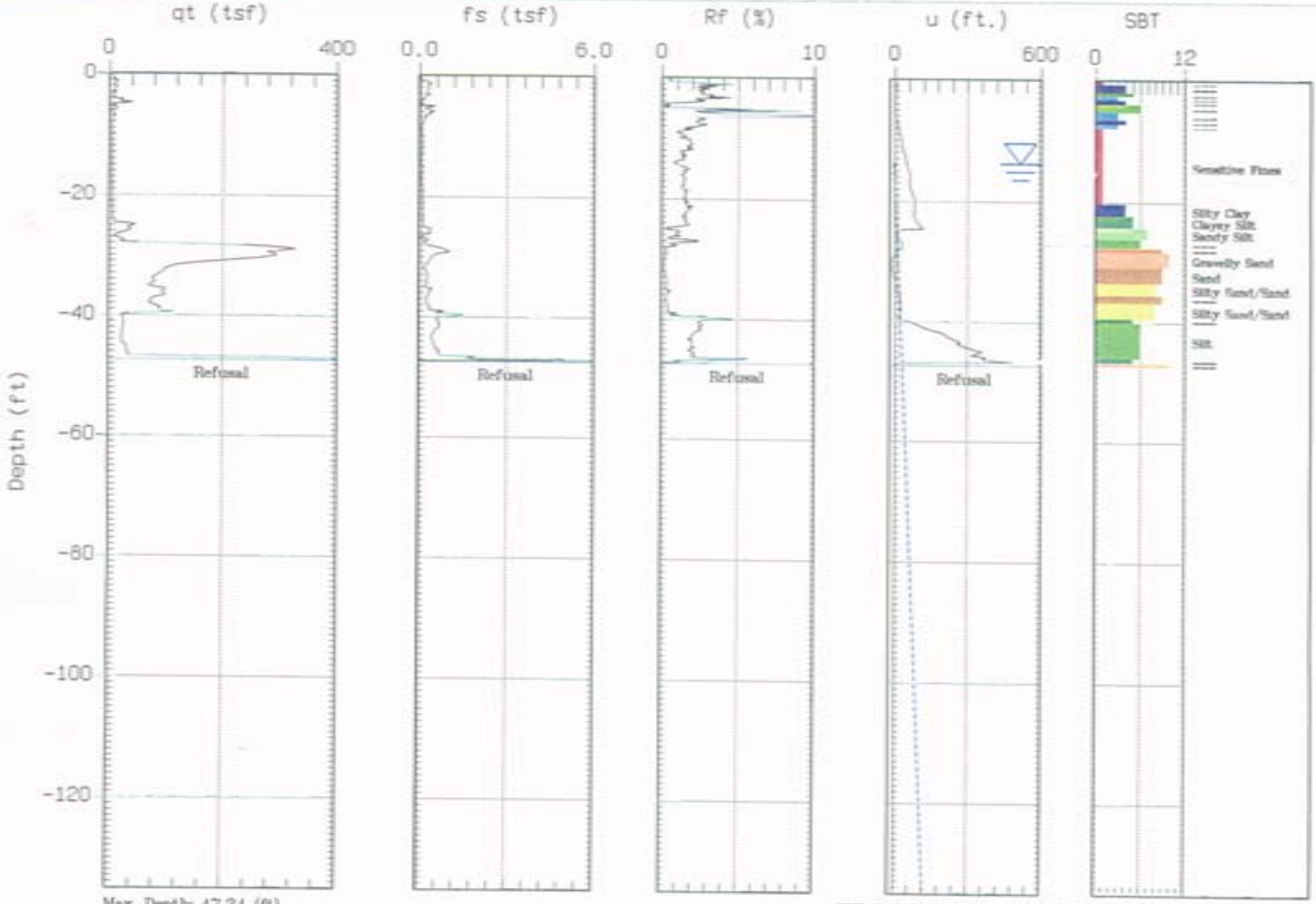
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-8
Location:Pigeon Point

Cone:20 TON AD066
Date:11:15:04 09:36



Max. Depth: 47.24 (ft)
Depth Inc.: 0.164 (ft)

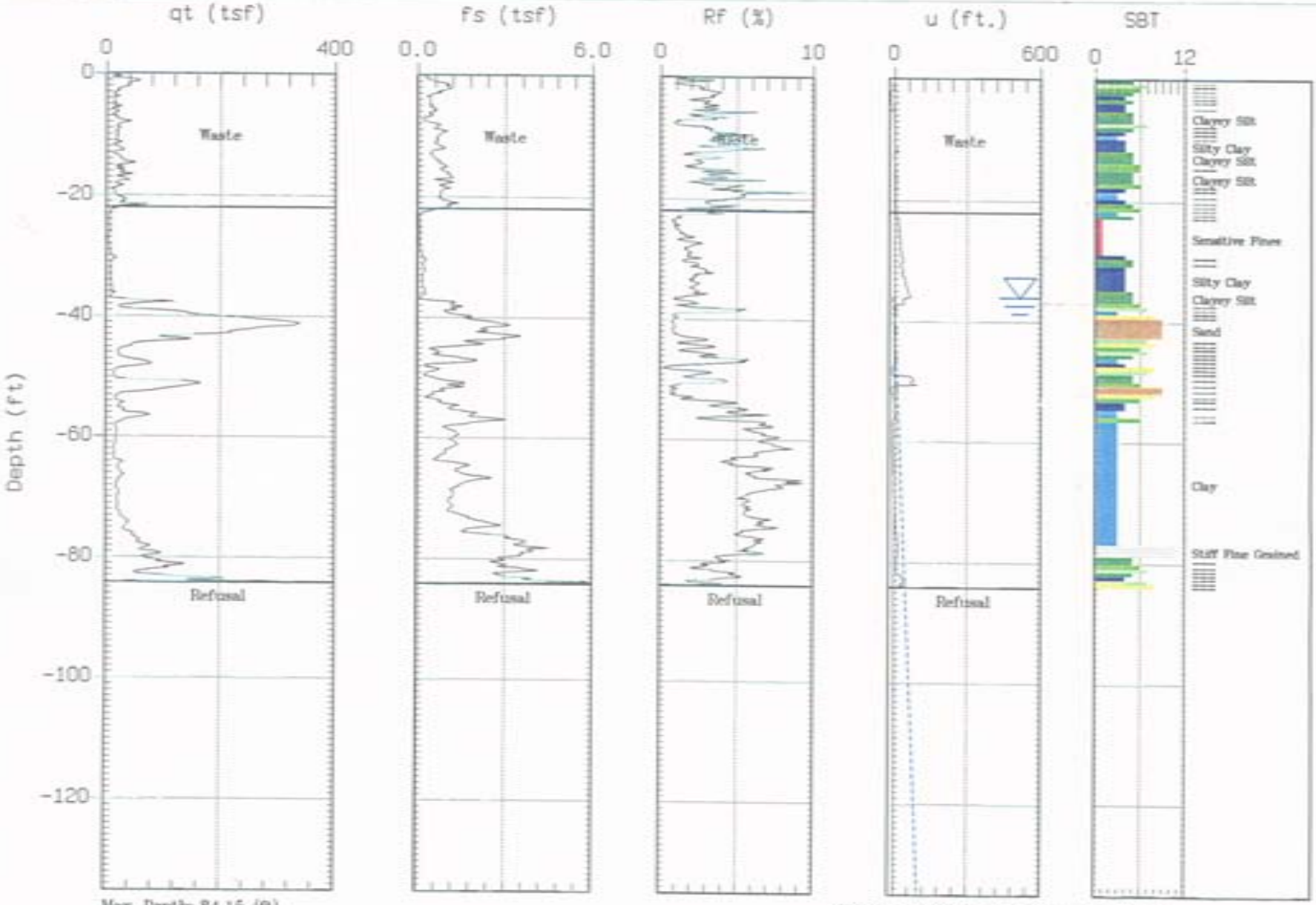
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-7
Location:Pigeon Point

Cone:20 TON AD066
Date:11:16:04 14:01



Max. Depth: 84.15 (ft)
Depth Inc.: 0.164 (ft)

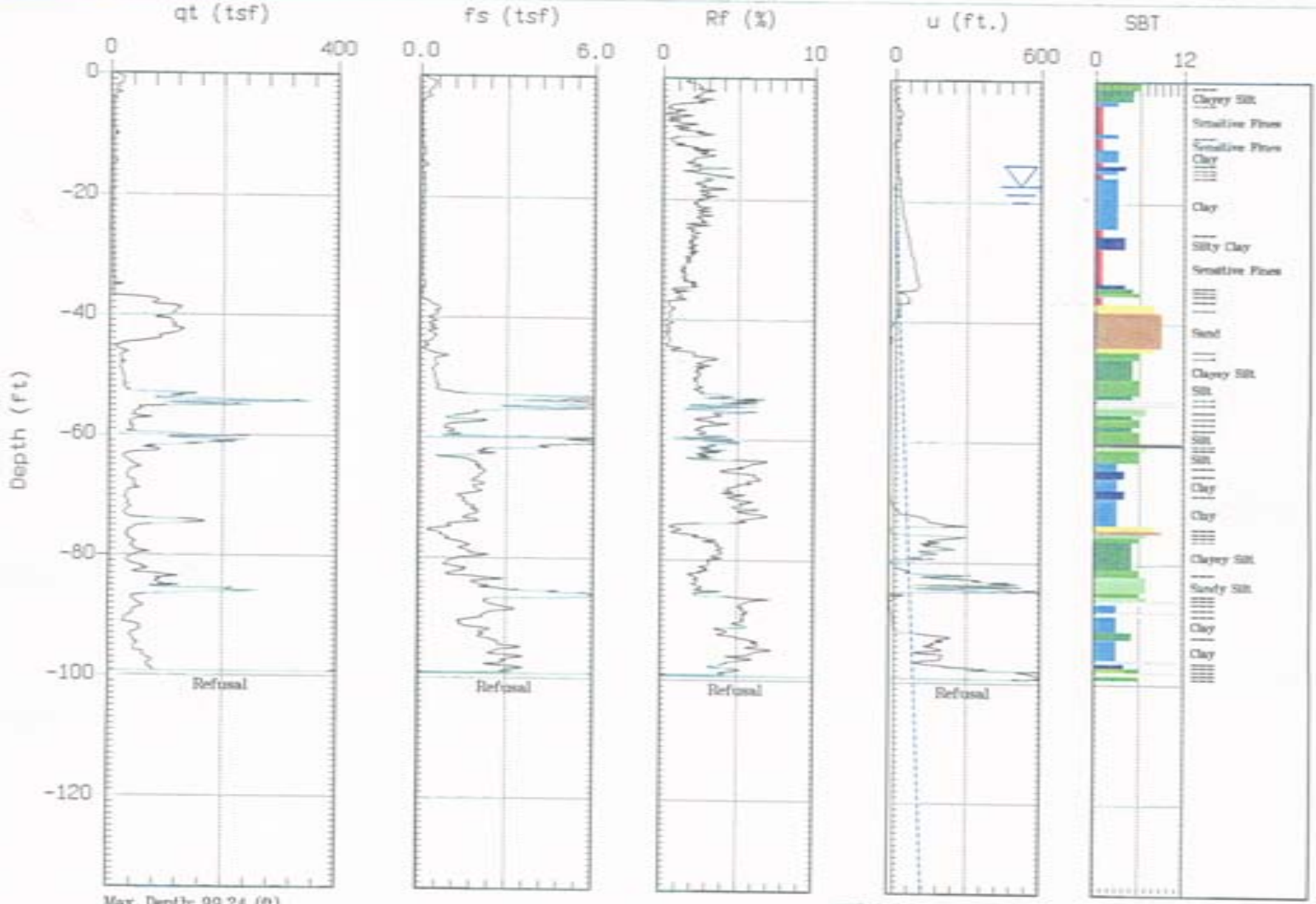
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-6
Location:Pigeon Point

Cone:20 TON AD066
Date:11:16:04 11:01



Max. Depth: 99.24 (ft)
Depth Inc.: 0.164 (ft)

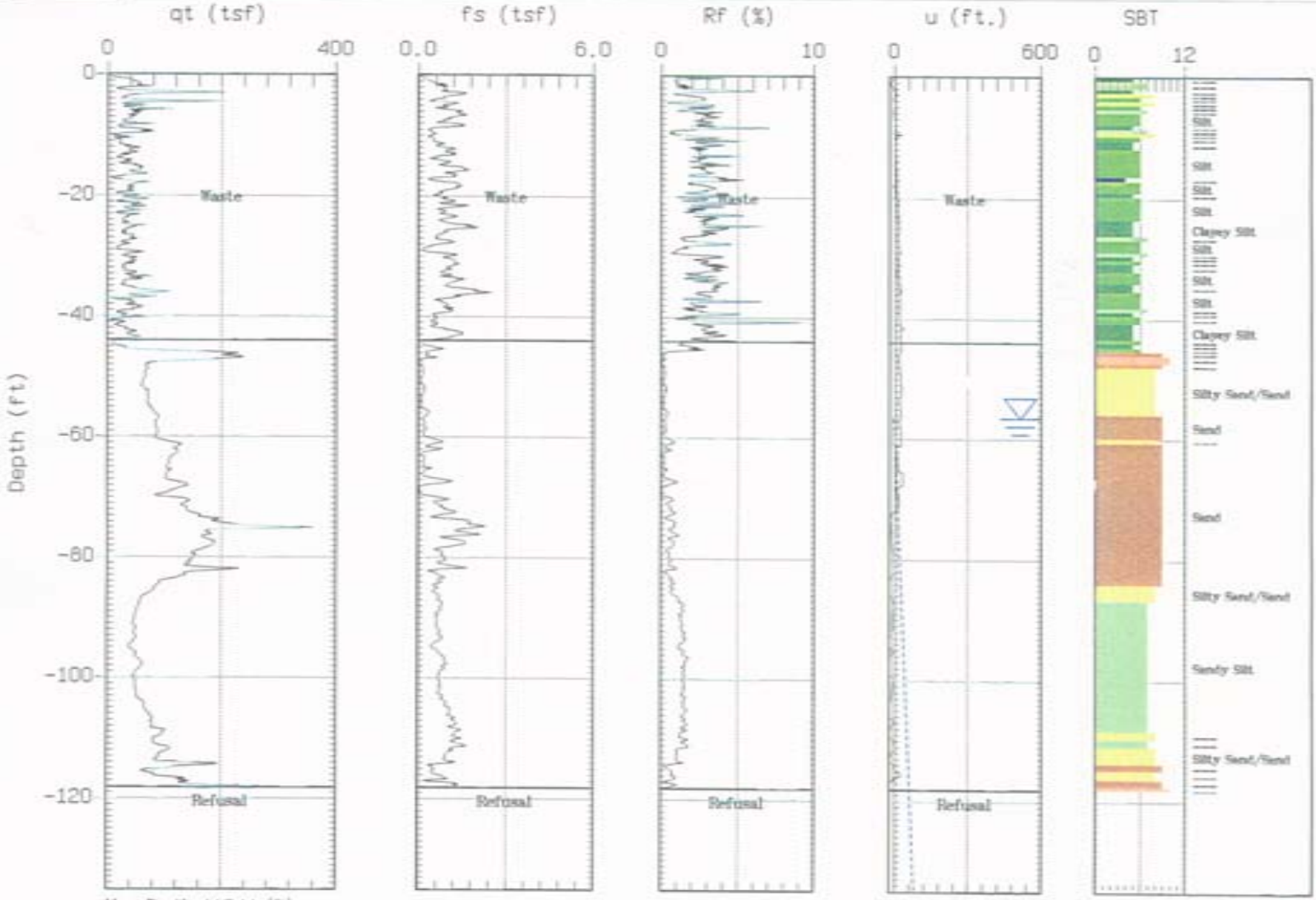
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-5
Location:Pigeon Point

Cone:20 TON AD066
Date:11:16:04 12:18



Max. Depth: 118.11 (ft)
Depth Inc.: 0.164 (ft)

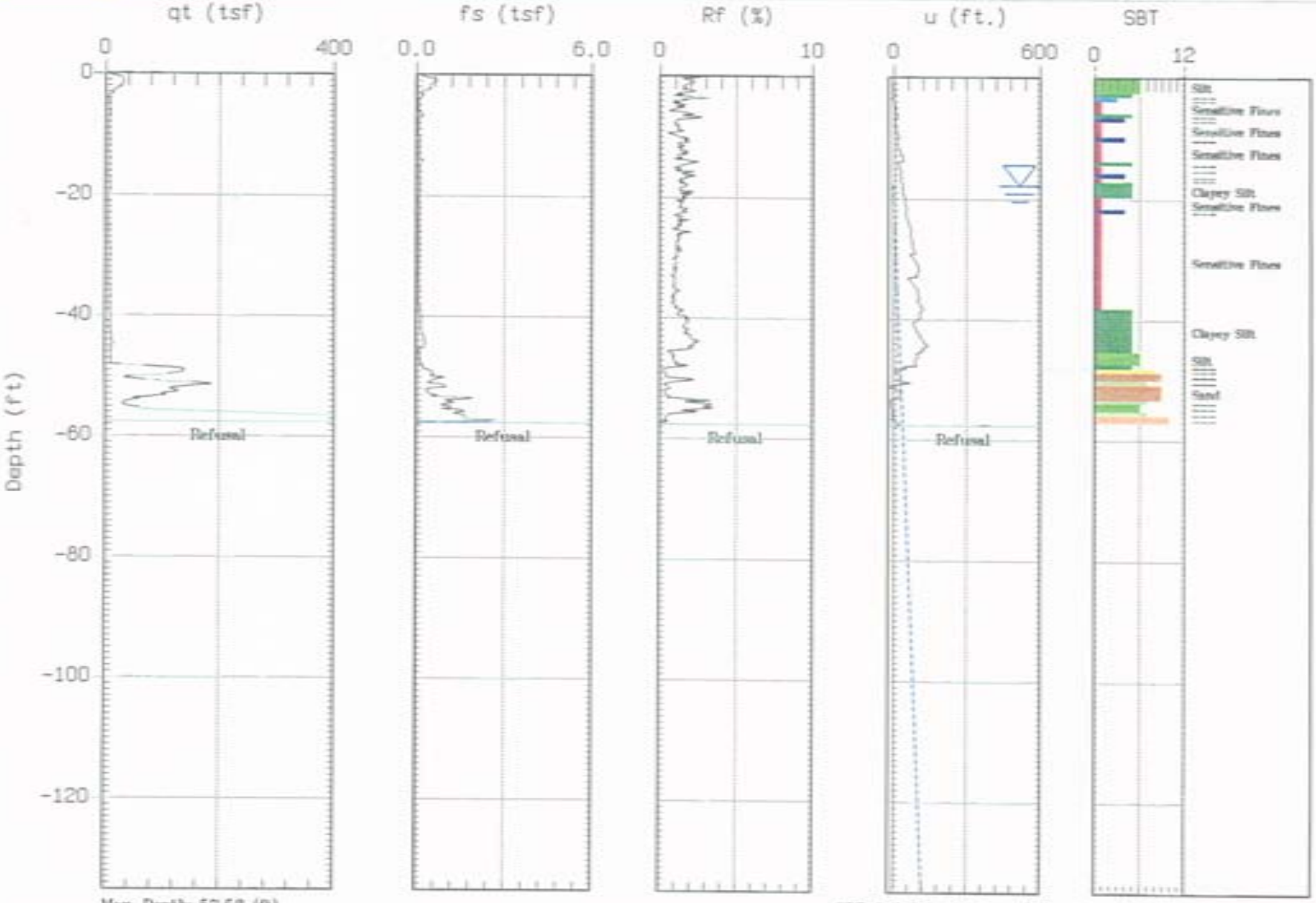
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-4
Location:Pigeon Point

Cone:20 TON AD066
Date:11:16:04 10:01



Max. Depth: 57.58 (ft)
Depth Inc.: 0.164 (ft)

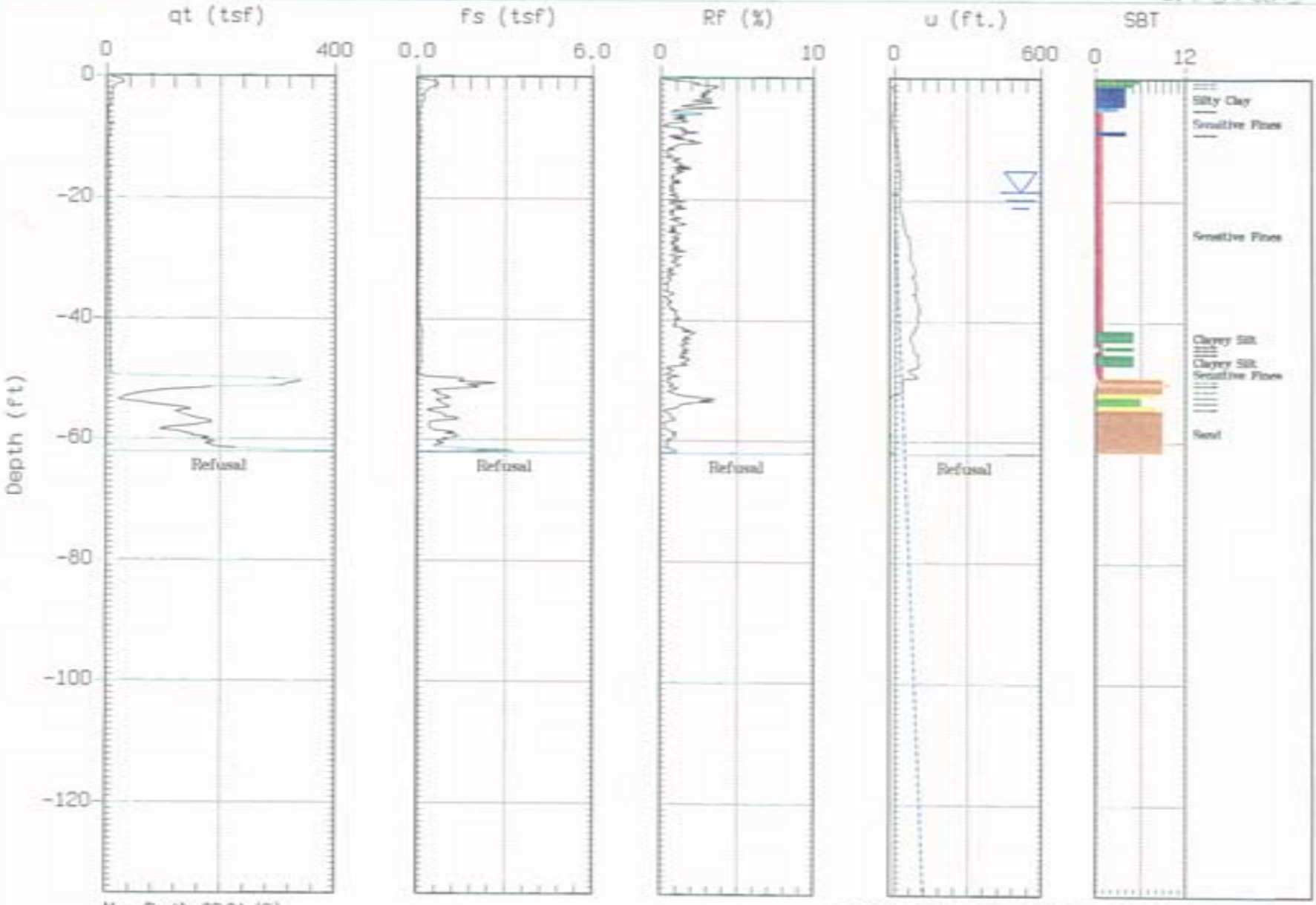
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-3
Location:Pigeon Point

Cone:20 TON AD066
Date:11:16:04 08:31



Max. Depth: 62.01 (ft)
Depth Inc.: 0.164 (ft)

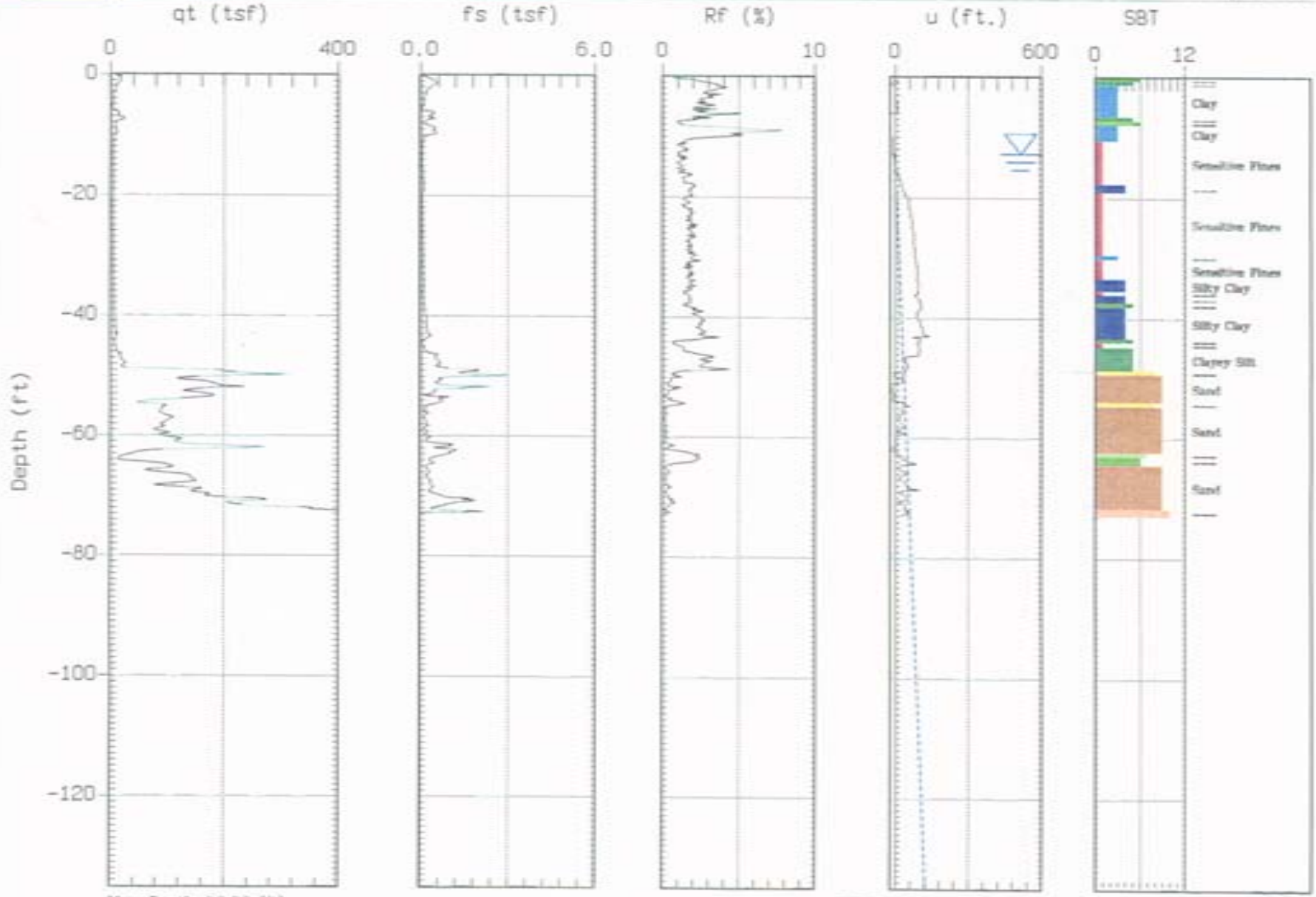
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-2
Location:Pigeon Point

Cone:20 TON AD066
Date:11:15:04 15:24



Max. Depth: 72.83 (ft)
Depth Inc.: 0.164 (ft)

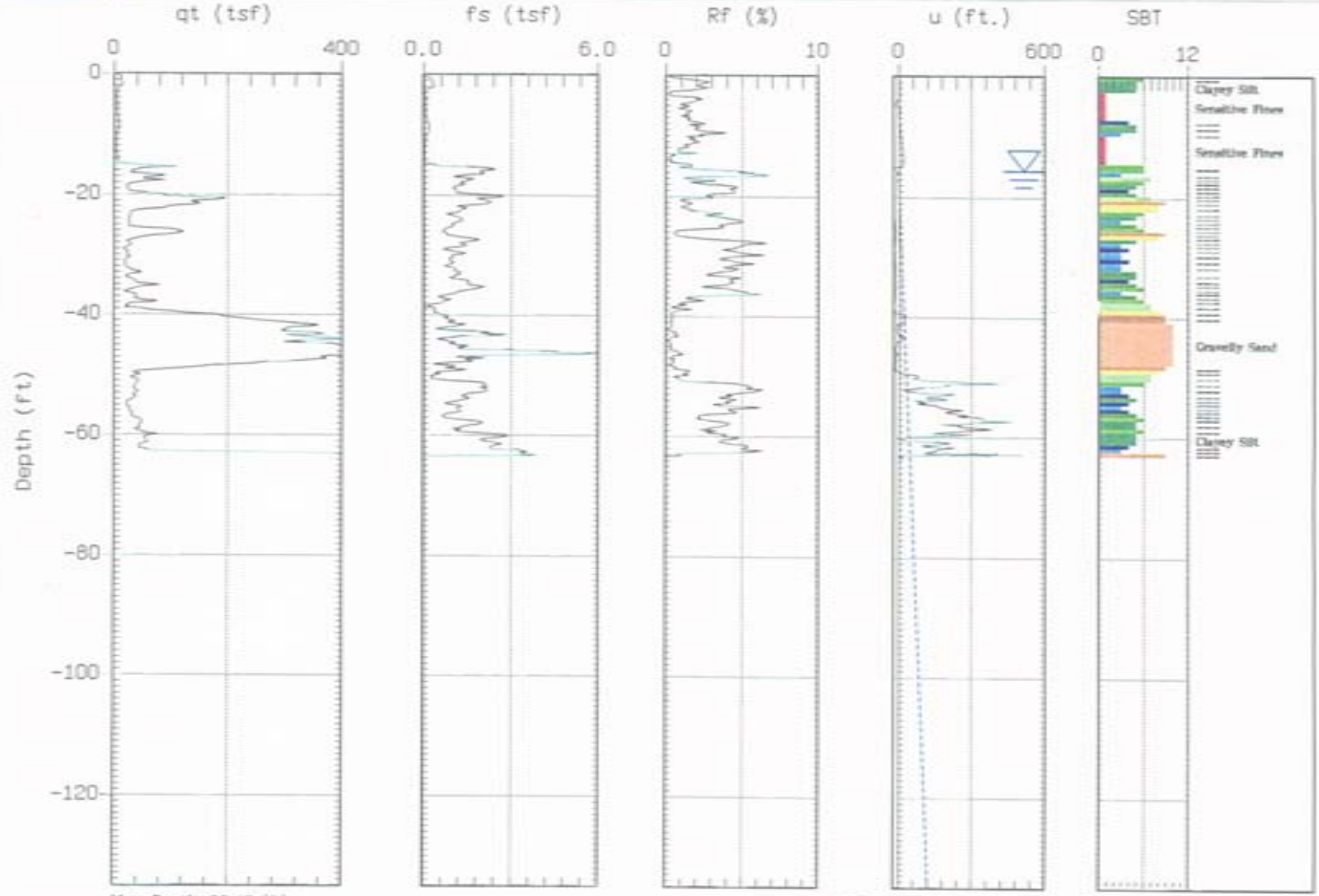
SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

CONETEC

GeoSyntec Consultants

Site:CPT-1
Location:Pigeon Point

Cone:20 TON AD066
Date:11:15:04 14:15



Max. Depth: 63.48 (ft)
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson 1990)
Estimated Phreatic Surface

APPENDIX B

ConeTec Interpretations as of June 30, 2004 (Release 1.22A)

ConeTec's interpretation routine provides a tabular output of geotechnical parameters based on 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. ConeTec does not warranty the correctness or the applicability of any of the geotechnical parameters interpreted by the program and does not assume liability for any use of the results in any design or review. Representative hand calculations should be made for any parameter that is critical for design purposes. The end user of the interpreted output should also be fully aware of the techniques and the limitations of any method used in this program. The purpose of this document is to inform the user as to which methods were used and what the appropriate papers and/or publications are for further reference.

The CPT interpretations are based on values of tip, sleeve friction and pore pressure averaged over a user specified interval (e.g. 0.20m). Note that q_t is the tip resistance corrected for pore pressure effects and q_c is the recorded tip resistance. Since all ConeTec cones have equal end area friction sleeves, pore pressure corrections to sleeve friction, f_s, are not required.

The tip correction is: $q_t = q_c + (1-a) * u_2$

where: q_t is the corrected tip resistance
q_c is the recorded tip resistance
u_2 is the recorded dynamic pore pressure behind the tip (u_2 position)
a is the Net Area Ratio for the cone (typically 0.85 for ConeTec cones)

The total stress calculations are based on soil unit weights that have been assigned to the Soil Behavior Type zones, from a user defined unit weight profile or by using a single value throughout the profile. 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). For over water projects the effects of the column of water have been taken into account as has the appropriate unit weight of water. How this is done depends on where the instruments were zeroed (i.e. on deck or at mud line).

Details regarding the interpretation methods for all of the interpreted parameters are provided in Table 1. The appropriate references cited in Table 1 are listed in Table 2. Where methods are based on charts or techniques that are too complex to describe in this summary the user should refer to the cited material.

The estimated Soil Behavior Types (normalized and non-normalized) are based on the charts developed by Robertson and Campanella shown in Figures 1 and 2. The Bq classification charts are not reproduced in this document but can be reviewed in Lunne, Robertson and Powell (1997) or Robertson (1990).

Where the results of a calculation/interpretation are declared 'invalid' the value will be represented by the text strings "-9999" or "-9999.0". In some cases the value 0 will be used. Invalid results will occur because of (and not limited to) one or a combination of:

1. Invalid or undefined CPT data (e.g. drilled out section or data gap).
2. Where the interpretation method is inappropriate, for example, drained parameters in an undrained material (and vice versa).
3. Where interpretation input values are beyond the range of the referenced charts or specified limitations of the interpretation method.
4. Where pre-requisite or intermediate interpretation calculations are invalid.

The parameters selected for output from the program are often specific to a particular project. As such, not all of the interpreted parameters listed in Table 1 may be included in the output files delivered with this report.

The output files are often delivered in one (or more) of the following three formats:

File Type	Typical Extensions	Description
Printable	IFP, NLP	ASCII files formatted for direct printing either by copying to a printer port, through a text editor or through a dedicated printing routine (such as Cone Tec's CTPRINT). Typically formatted for 132 columns wide and 70 lines per page. Any printer would need to be set to have a compressed font (16cpi) as its default.
Importable	IFI, NLI	Tab delimited ASCII files (not for use with text editors) meant for importing into spreadsheet and database applications (e.g. Excel, Lotus, Quattro, Access). Some column and cell formatting maybe required depending on the quality of the application's import utility.
Spreadsheet	XLS	IFI, NLI files exported directly to Excel format. Column and cell formatting has been done. Header information is exported to start in Column C allowing the depth columns A and/or B to be duplicated on each printed page without repetition of part of the header information.

Table 1
CPT Interpretation Methods

Interpreted Parameter	Description	Equation	Ref
Depth	Mid Layer Depth (when interpretations are done at each point then *Mid Layer Depth = Recorded Depth*)	Depth (Layer Top) + Depth (Layer Bottom) / 2.0	
Elevation	Elevation of Mid Layer based on sounding collar elevation supplied by client	Elevation = Collar Elevation - Depth	
Avgqc	Averaged recorded tip value (q_c)	$Avgqc = \frac{1}{n}\sum_{i=1}^{n} q_c$ n=1 when interpretations are done at each point	
Avgqt	Averaged corrected tip (q_t) where: $q_t = q_c + (1 - a) * u$	$Avgqt = \frac{1}{n}\sum_{i=1}^{n} q_t$ n=1 when interpretations are done at each point	
Avgfs	Averaged sleeve friction (f_s)	$Avgfs = \frac{1}{n}\sum_{i=1}^{n} f_s$ n=1 when interpretations are done at each point	
AvgRf	Averaged friction ratio (Rf) where friction ratio is defined as: $R_f = 100\% * \frac{f_s}{q_t}$	$AvgRf = 100\% * \frac{Avgfs}{Avgqt}$ n=1 when interpretations are done at each point	
Avgu	Averaged dynamic pore pressure (u)	$Avgu = \frac{1}{n}\sum_{i=1}^{n} u_i$ n=1 when interpretations are done at each point	
AvgRes	Averaged Resistivity (this data is not always available since it is a specialized test requiring an additional module)	$Avgr = \frac{1}{n}\sum_{i=1}^{n} RESISTIVITY_i$ n=1 when interpretations are done at each point	

CPT Interpretations

Interpreted Parameter	Description	Equation	Ref
AvgUVIF	Averaged UVIF ultra-violet induced fluorescence (this data is not always available since it is a specialized test requiring an additional module)	$Avgu = \frac{1}{n}\sum_{i=1}^{n} UVIF_i$ n=1 when interpretations are done at each point	
AvgTemp	Averaged Temperature (this data is not always available since it is a specialized test)	$Avgu = \frac{1}{n}\sum_{i=1}^{n} TEMPERATURE_i$ n=1 when interpretations are done at each point	
AvgGamma	Averaged Gamma Counts (this data is not always available since it is a specialized test requiring an additional module)	$Avgu = \frac{1}{n}\sum_{i=1}^{n} GAMMA_i$ n=1 when interpretations are done at each point	
SBT	Soil Behavior Type as defined by Robertson and Campanella	See Figure 1	2, 5
U.Wt	Unit Weight of soil determined from one of the following user selectable options: 1) uniform value 2) value assigned to each SBT zone 3) user supplied unit weight profile	See references	5
T. Stress σ_v	Total vertical overburden stress at Mid Layer Depth. *A layer is defined as the averaging interval specified by the user. For data interpreted at each point the Mid Layer Depth is the same as the recorded depth.*	$Tstress = \sum_{i=1}^{n} \gamma_i h_i$ where γ_i is layer unit weight h_i is layer thickness	
E. Stress σ_v'	Effective vertical overburden stress at Mid Layer Depth	$Estress = Tstress - u_{eq}$	
Ueq	Equilibrium pore pressure determined from one of the following user selectable options: 1) hydrostatic from water table depth 2) user supplied profile	For hydrostatic option: $u_{eq} = \gamma_w \cdot (D - D_{wt})$ where u_{eq} is equilibrium pore pressure γ_w is unit weight of water D is the current depth D_{wt} is the depth to the water table	
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 q/N ratios assigned to each SBT zone. This method has abrupt N value changes at zone boundaries.	See Figure 1	4, 5
$(N_1)_{60}$	SPT N_{60} value corrected for overburden pressure	$(N_1)_{60} = Cn * N_{60}$	4
N_{60}/c	SPT N_{60} values based on the Ic parameter	$(q/pa)/N_{60} = 8.5\,(1 - Ic/4.6)$	5
$(N_1)_{60}/c$	SPT N_{60} value corrected for overburden pressure (using N_{60}/c). User has 2 options.	1) $(N_1)_{60}/c = Cn * (N_{60}/c)$ 2) $q_{c-n}/(N_1)_{60}/c = 8.5\,(1 - Ic/4.6)$	4 5
$(N_1)_{60cs}/c$	Clean sand equivalent SPT $(N_1)_{60}/c$. User has 3 options.	1) $(N_1)_{60cs}/c = \alpha + \beta((N_1)_{60}/c)$ 2) $(N_1)_{60cs}/c = K_{SPT} * ((N_1)_{60}/c)$ 3) $q_{c-n}/(N_1)_{60cs}/c = 8.5\,(1 - Ic/4.6)$ FC ≤ 5%: $\alpha = 0$, $\beta = 1.0$ FC ≥ 35%: $\alpha = 5.0$, $\beta = 1.2$ 5% < FC < 35%: $\alpha = \exp[1.76 - (190/FC^2)]$ $\beta = [0.99 + (FC^{1.5}/1000)]$	10 10 5
Su	Undrained shear strength - N_{kt} is user selectable	$Su = \frac{q_t - \sigma_v}{N_{kt}}$	4, 5
k	Coefficient of permeability (assigned to each SBT zone)		5

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Interpreted Parameter	Description	Equation	Ref
Bq	Pore pressure parameter	$Bq = \frac{\Delta u}{qt - \sigma_v}$ where: $\Delta u = u - u_{eq}$ and u = dynamic pore pressure u_{eq} = equilibrium pore pressure	1, 5
Q_t	Normalized q_t for Soil Behavior Type classification as defined by Robertson, 1990	$Qt = \frac{qt - \sigma_v}{\sigma_v}$	2, 5
F_r	Normalized Friction Ratio for Soil Behavior Type classification as defined by Robertson, 1990	$Fr = 100\% * \frac{fs}{qt - \sigma_v}$	2, 5
SBTn	Normalized Soil Behavior Type as defined by Robertson and Campanella	See Figure 2	2, 5
SBT-BQ	Non normalized soil behavior type based on the Bq parameter	See Figure 5.7 (reference 5)	2, 5
SBT-BQn	Normalized Soil Behavior base on the Bq parameter	See Figure 5.8 (reference 5) or Figure 3 (reference 2)	2, 5
I_c	Soil index for estimating grain characteristics	$Ic = [(3.47 - \log_{10}Q)^2 + (\log_{10} Fr + 1.22)^2]^{0.5}$ Where: $Q = \left(\frac{qt - \sigma_v}{P_a}\right)\left(\frac{P_a}{\sigma_v}\right)^n$ And Fr is in percent P_a = atmospheric pressure P_a = atmospheric pressure n varies from 0.5 to 1.0 and is selected in an iterative manner based on the resulting I_c	3, 8
FC	Apparent 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 $Fr < 0.5$	3
Ic Zone	This parameter is the Soil Behavior Type zone based on the Ic parameter (valid for zones 2 through 7 on SBTn chart)	Ic < 1.31 Zone – 7 1.31 < Ic < 2.05 Zone – 6 2.05 < Ic < 2.60 Zone – 5 2.60 < Ic < 2.95 Zone – 4 2.95 < Ic < 3.60 Zone – 3 Ic > 3.60 Zone – 2	3
PHI ϕ	Friction Angle determined from one of the following user selectable options: a) Campanella and Robertson b) Durgunoglu and Mitchel c) Janbu	See reference	5
Dr	Relative Density determined from one of the following user selectable options: a) Ticino Sand b) Hokksund Sand c) Schmertmann 1976 d) Jamiolkowski - All Sands	See reference	5

Interpreted Parameter	Description	Equation	Rpt
OCR	Over Consolidation Ratio	a) Based on Schmertmann's method involving a plot of S_u/σ_v' / $(S_u/\sigma_v')_{nc}$ and OCR where the S_u/p' ratio for NC clay is user selectable	9
State Parameter	The state parameter is used to describe whether a soil is contractive (SP is positive) or dilative (SP is negative) at large strains based on the work by Been and Jefferies	See reference	8, 6, 5
E_s/q_c	Intermediate parameter for calculating Youngs Modulus, E, in sands. It is the Y axis of the reference chart.	Based on Figure 5.56 in the reference	5
Youngs Modulus E	Youngs Modulus based on the work by Baldi. There are three types of sands considered in this technique. The user selects the appropriate type for the site from: a) OC Sands b) Aged NC Sands c) Recent NC Sands Each sand type has a family of curves that depend on mean normal stress. The program calculates mean normal stress and linearly interpolates between the two extremes provided in Baldi's chart.	Mean normal stress is evaluated from: $\sigma_m = \frac{1}{3} * (\sigma_v' + \sigma_h + \sigma_h')$ where σ_v' = vertical effective stress σ_h' = horizontal effective stress and $\sigma_h = K_o * \sigma_v'$ with Ko assumed to be 0.5	5
q_{c1}	q_c normalized for overburden stress used for seismic analysis	$q_{c1} = q_c * (Pa/\sigma_v')^{0.5}$ where: Pa = atm. Pressure q_c is in Mpa	3
q_{c1N}	q_{c1} in dimensionless form used for seismic analysis	$q_{c1N} = (q_{c1} / Pa)(Pa/\sigma_v')$ where: Pa = atm. Pressure and n ranges from 0.5 to 0.75 based on Ic	3
K_{corr}	Equivalent clean sand factor for $(N_1)60$	$K_{corr} = 1 + ((0.75/30) * (FC - 5))$	10
K_{qc1}	Equivalent clean sand correction for q_{c1N}	$K_{qc1} = 1.0$ for $I_c \le 1.64$ $K_{qc1} = f(I_c)$ for $I_c > 1.64$ (see reference)	10
q_{c1Ncs}	Clean sand equivalent q_{c1N}	$q_{c1Ncs} = q_{c1N} * K_{qc1}$	3
CRR	Cyclic Resistance Ratio (for Magnitude 7.5)	$q_{c1Ncs} < 50$: $CRR_{7.5} = 0.833 [(q_{c1Ncs}/1000)] + 0.05$ $50 \le q_{c1Ncs} < 160$: $CRR_{7.5} = 93 [(q_{c1Ncs}/1000)]^3 + 0.08$	10
CSR	Cyclic Stress Ratio	$CSR = [\tau_{av}/\sigma_v'] = 0.65 (a_{max} / g) (\sigma_v / \sigma_v') r_d$ $r_d = 1.0 - 0.00765 z$ $z \le 9.15m$ $r_d = 1.174 - 0.0267 z$ $9.15 < z \le 23m$ $r_d = 0.744 - 0.008 z$ $23 < z \le 30m$ $r_d = 0.50$ $z > 30m$	10

CPT Interpretations

Interpreted Parameter	Description	Equation	Ref
MSF	Magnitude Scaling Factor	See Reference	10
FoIS	Factor of Safety against Liquefaction	FS = (CRR$_{FS}$ / CSR) MSF	10
Liquefaction Status	Statement indicating possible liquefaction	Takes into account FoIS and limitations based I_c and q_{c1ncs}	10

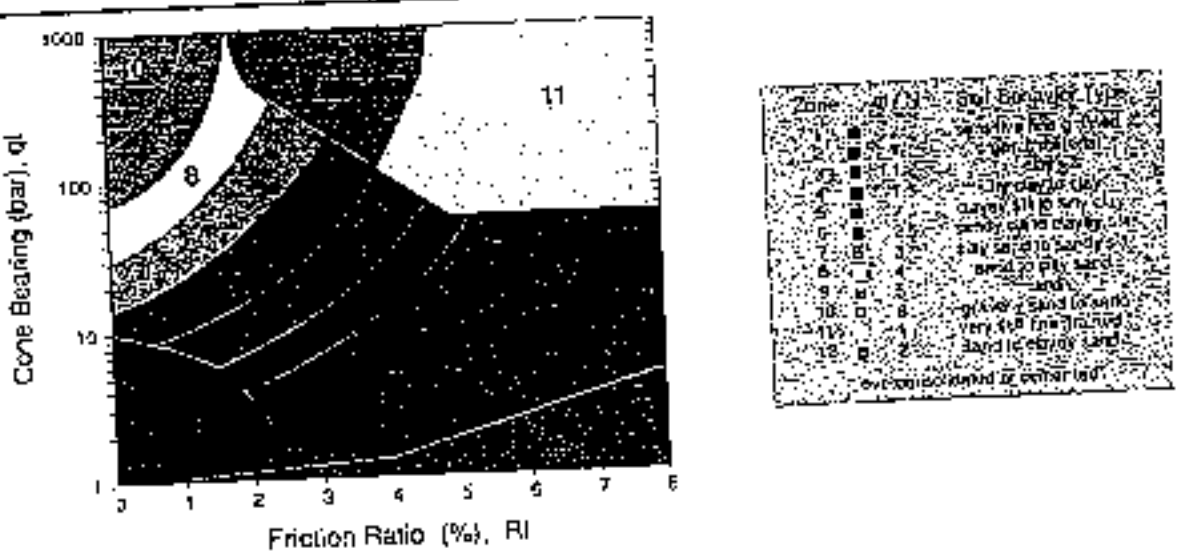


Figure 1 Non-Normalized Behavior Type Classification Chart

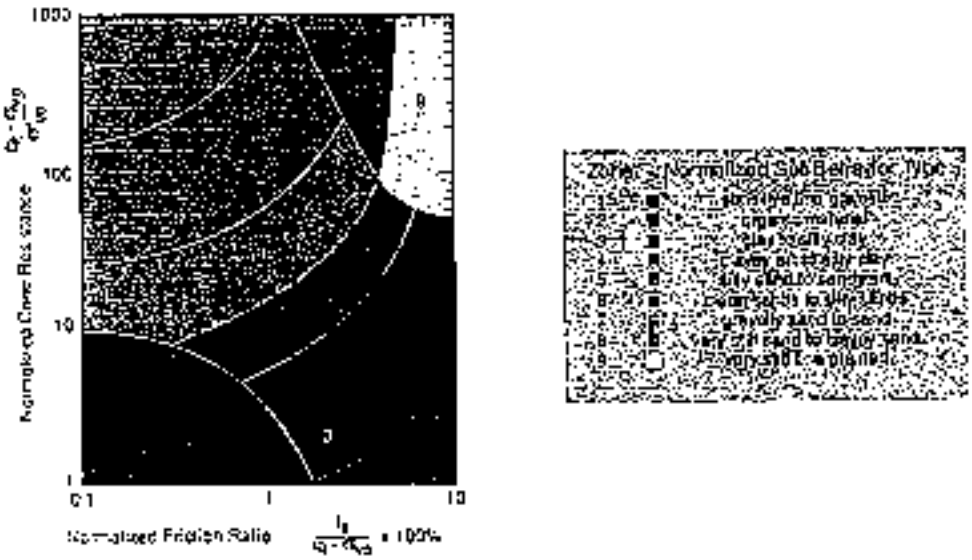


Figure 2 Normalized Behavior Type Classification Chart

Table 2 References

No.	References
1	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.
2	Robertson, P.K., 1990, "Soil Classification Using the Cone Penetration Test", Canadian Geotechnical Journal, Volume 27.
3	Robertson, P.K. and Fear, C.E., 1998, "Evaluating cyclic liquefaction potential using the cone penetration test", Canadian Geotechnical Journal, 35: 442-459.
4	Robertson, P.K. and Wride, C.E., 1998, "Cyclic Liquefaction and its Evaluation Based on SPT and CPT", NCEER Workshop Paper, January 22, 1997
5	Lunne, T., Robertson, P.K. and Powell, J. J. M., 1997, " Cone Penetration Testing in Geotechnical Practice," Blackie Academic and Professional.
6	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.
7	Jefferies, M.G. and Davies, M.P., 1993, "Use of CPTu to Estimate equivalent N_{60}", Geotechnical Testing Journal, 16(4): 458-467.
8	Been, K. and Jefferies, M.P., 1985, "A state parameter for sands", Geotechnique, 35(2), 99-112.
9	Schmertmann, 1977, "Guidelines for Cone Penetration Test Performance and Design", Federal Highway Administration Report FHWA-TS-78-209, U.S. Department of Transportation
10	Proceedings of the NCEER Workshop on Evaluation of Liquefaction Resistance of Soils, Salt Lake City, 1996. Chaired by Leslie Youd

Conetec Inc - CPT Interpretation
Interpretation Output - Release 1.23 Rev. A - Build 5 Format: DLP Imperial
Run No: 04-1124-1337-0475
Job No: 04-805
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site CPT-1
Location Pigeon Point
Cone 20 TON AD066
CPT Date: 04/15/11
CPT Time: 14:15
CPT File: E05CP01.DCR
Nominal Int: 0.050000
Zeroing Int: 0.000100
Elevation Int: 0.000000

Water Table (ft): 4.76 (ft): 15.7
Unit Weight of Water (lbf/ft3) 62.40 pcf
Averaging Increment (ft) 0.30
Nc Nkt used 15.00 Su/P' (ft): 0.30
Qc Method Jamiolkowski - All Sands
State Parameter M 1.20
Used Unit Weights Assigned to Soil Zones
Ic101c Calculated using qcln
Ic102c Calculated using qclnqs

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (MPa)	Col-06 qc (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (ft)	Col-10 Ic101 (Zone)	Col-11 Ic102 (Zone)
0.010	0.033	-0.010	-0.033	0.79	5.84	0.03	0.54	3.47	6	6
0.020	0.066	-0.020	-0.066	11.60	13.53	0.28	2.46	7.56	5	5
0.030	0.098	-0.030	-0.098	11.71	11.73	0.32	2.54	8.16	5	5
0.040	0.131	-0.040	-0.131	7.25	7.70	0.14	1.89	6.16	5	5
0.050	0.163	-0.050	0.163	4.27	4.28	0.09	2.23	2.57	3	5
0.060	0.196	-0.060	0.196	3.66	3.65	0.07	1.84	0.06	3	4
0.070	0.229	-0.070	-0.229	1.44	1.40	0.05	3.77	-0.80	3	4
0.080	0.262	-0.080	-0.262	1.91	1.87	0.05	3.20	-0.36	3	4
0.090	0.295	-0.090	-0.295	4.04	4.06	0.08	1.79	0.86	3	4
0.100	0.328	-0.100	-0.328	3.93	3.94	0.06	1.60	3.37	3	4
0.110	0.361	-0.110	-0.361	5.18	5.15	0.07	1.35	2.43	3	4
0.120	0.394	-0.120	-0.394	5.91	5.92	0.11	1.87	1.74	4	4
0.130	0.427	-0.130	-0.427	7.43	7.51	0.15	2.00	4.24	5	4
0.140	0.459	-0.140	-0.459	8.64	8.68	0.18	2.05	7.17	5	4
0.150	0.492	-0.150	-0.492	6.05	6.09	0.13	2.12	6.65	5	4
0.160	0.525	-0.160	-0.525	3.11	3.19	0.06	1.81	11.39	3	3
0.170	0.558	-0.170	-0.558	2.68	2.94	0.06	1.83	12.66	3	3
0.180	0.591	-0.180	-0.591	2.42	2.50	0.04	1.60	14.23	3	3
0.190	0.624	-0.190	-0.624	2.46	2.53	0.03	1.35	16.20	3	3
0.200	0.656	-0.200	-0.656	2.10	2.17	0.02	0.81	16.93	3	3
0.210	0.689	-0.210	-0.689	4.19	4.08	0.01	0.23	15.29	3	3
0.220	0.722	-0.220	-0.722	3.55	3.74	0.02	0.65	17.62	3	3
0.230	0.755	-0.230	-0.755	22.50	22.02	0.26	1.16	4.25	5	5
0.240	0.787	-0.240	-0.787	75.07	78.96	2.05	2.63	-24.17	5	5
0.250	0.820	-0.250	-0.820	33.11	33.32	1.98	5.97	-25.35	3	3
0.260	0.853	-0.260	-0.853	76.14	75.31	1.97	2.59	-23.71	3	5
0.270	0.886	-0.270	-0.886	63.82	63.59	1.51	2.37	-27.87	5	5
0.280	0.919	-0.280	-0.919	35.19	35.26	1.28	3.64	-27.45	5	4
0.290	0.951	-0.290	-0.951	23.85	23.76	1.04	4.39	-26.09	4	3
0.300	0.984	-0.300	-0.984	36.15	36.98	1.21	3.65	26.14	5	4
0.310	1.017	-0.310	-1.017	97.32	97.22	2.50	2.57	33.21	3	5
0.320	1.050	-0.320	-1.050	175.26	176.16	2.06	1.17	-21.56	3	6

Run No. 04-1114-1317-3476
CPT File: 8090P01.CPT

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (zone)	Col-11 SBTn (zone)
6.500	21.325	-6.500	-21.325	142.74	143.65	1.55	1.35	-21.71	8	6
6.700	21.981	-6.700	-21.981	94.45	95.74	1.11	1.16	-22.47	8	6
6.900	22.638	-6.900	-22.638	35.37	35.25	1.16	2.50	-22.37	6	4
7.100	23.294	-7.100	-23.294	25.91	23.83	0.67	3.28	-18.17	5	4
7.300	23.950	-7.300	-23.950	25.93	22.85	1.38	4.77	-16.61	3	3
7.500	24.606	-7.500	-24.606	26.88	26.01	1.32	1.83	-15.95	5	4
7.700	25.262	-7.700	-25.262	35.23	35.17	0.85	2.45	-14.45	6	4
7.900	25.918	-7.900	-25.918	113.11	113.04	3.69	0.61	-13.43	9	6
8.100	26.574	-8.100	-26.574	87.95	87.85	2.34	1.26	-14.73	8	6
8.300	27.231	-8.300	-27.231	40.17	40.05	1.67	4.16	16.44	5	4
8.500	27.887	-8.500	-27.887	25.24	25.15	1.05	5.36	-17.33	3	3
8.700	28.543	-8.700	-28.543	25.36	25.23	1.09	4.30	-18.84	4	3
8.900	29.199	-8.900	-29.199	20.42	20.32	1.08	4.35	-17.36	3	3
9.100	29.855	-9.100	-29.855	22.45	22.41	1.21	4.33	-17.32	3	3
9.300	30.511	-9.300	-30.511	23.24	23.11	0.93	1.14	-16.97	4	3
9.500	31.168	-9.500	-31.168	18.94	18.87	0.95	5.05	-15.68	3	3
9.700	31.824	-9.700	-31.824	15.61	15.55	0.86	5.18	-14.31	3	3
9.900	32.480	-9.900	-32.480	35.18	35.11	1.11	3.58	-13.28	5	4
10.100	33.136	-10.100	-33.136	35.61	35.76	1.16	3.23	-15.36	5	4
10.300	33.792	-10.300	-33.792	23.82	23.74	1.04	4.38	-16.78	4	3
10.500	34.448	-10.500	-34.448	16.96	16.59	1.32	4.11	13.52	2	3
10.700	35.105	-10.700	-35.105	51.83	51.57	1.85	3.05	13.42	4	4
10.900	35.761	-10.900	-35.761	30.19	30.11	1.48	4.92	-16.46	3	3
11.100	36.417	-11.100	-36.417	30.01	29.93	0.91	3.06	-16.83	1	4
11.300	37.073	-11.300	-37.073	37.25	37.16	0.84	2.23	-17.97	4	4
11.500	37.729	-11.500	-37.729	59.52	59.52	0.84	1.07	-20.88	7	5
11.700	38.385	-11.700	-38.385	23.77	23.67	0.10	0.76	-13.97	7	5
11.900	39.042	-11.900	-39.042	53.29	53.12	0.16	0.68	-14.71	6	5
12.100	39.698	-12.100	-39.698	141.69	141.81	0.97	0.40	15.96	5	6
12.300	40.354	-12.300	-40.354	265.51	265.02	0.70	0.26	22.98	5	5
12.500	41.010	-12.500	-41.010	283.56	283.67	0.96	0.34	3.23	19	4
12.700	41.666	-12.700	-41.666	342.59	342.57	1.11	0.32	-6.02	19	6
12.900	42.322	-12.900	-42.322	300.21	300.19	1.04	0.35	-4.04	19	6
13.100	42.978	-13.100	-42.978	245.87	245.55	2.40	0.64	12.03	19	6
13.300	43.635	-13.300	-43.635	327.52	327.96	0.68	0.21	7.21	18	3
13.500	44.291	-13.500	-44.291	328.58	328.97	0.87	0.26	-1.51	19	4
13.700	44.947	-13.700	-44.947	400.19	400.19	1.23	0.31	-13.95	19	3
13.900	45.603	-13.900	-45.603	510.66	510.50	2.69	0.53	13.11	19	4
14.100	46.259	-14.100	-46.259	509.49	509.44	4.51	0.89	10.23	19	4
14.300	46.915	-14.300	-46.915	372.76	372.70	1.50	0.40	-22.02	19	6
14.500	47.572	-14.500	-47.572	300.39	300.22	1.27	0.42	-24.94	19	6
14.700	48.228	-14.700	-48.228	193.80	193.73	0.77	0.40	-25.77	9	6
14.900	48.884	-14.900	-48.884	103.78	103.36	1.05	1.02	-4.39	8	5
15.100	49.540	-15.100	-49.540	35.58	35.15	0.47	1.22	59.36	7	5
15.300	50.196	-15.300	-50.196	34.63	35.05	0.26	0.73	90.61	7	5
15.500	50.852	-15.500	-50.852	37.80	41.26	1.23	2.98	276.69	4	6
15.700	51.509	-15.700	-51.509	38.43	39.04	2.10	5.37	131.87	3	2
15.900	52.165	-15.900	-52.165	35.60	35.53	2.09	5.83	68.34	3	2
16.100	52.821	-16.100	-52.821	37.38	38.71	1.73	4.47	176.56	4	1
16.300	53.477	-16.300	-53.477	35.39	35.65	1.43	4.08	141.27	5	1
16.500	54.133	-16.500	-54.133	21.69	21.91	1.14	4.97	56.80	4	3
16.700	54.789	-16.700	-54.789	21.62	22.25	1.00	4.49	265.59	3	3
16.900	55.446	-16.900	-55.446	25.63	26.57	1.17	4.42	219.16	4	3
17.100	56.102	-17.100	-56.102	28.27	29.43	1.02	3.46	267.46	5	3
17.300	56.758	-17.300	-56.758	30.17	31.74	0.63	2.15	235.24	5	4
17.500	57.414	-17.500	-57.414	44.00	45.43	1.45	3.41	204.56	5	4
17.700	58.070	-17.700	-58.070	44.07	45.94	1.73	3.74	271.63	5	3
17.900	58.726	-17.900	-58.726	41.09	42.46	1.20	2.82	292.16	6	4
18.100	59.382	-18.100	-59.382	49.80	50.70	1.70	3.35	193.45	5	4
18.300	60.039	-18.300	-60.039	52.46	52.52	2.74	4.32	12.75	5	3

T No: 04-1124-1317 3416
P File: 809CP01.COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (ft)	Col-10 Rsf (Zone)	Col-11 Rufm (Zone)
16.500	50.595	-16.500	-62.695	54.68	56.14	2.11	3.73	141.02	5	4
16.700	62.361	-16.700	-61.351	49.21	50.51	2.32	4.98	148.75	4	3
18.500	53.027	-16.900	-62.007	44.65	46.40	2.54	5.47	157.55	3	3
19.300	62.183	-19.100	-63.663	259.42	270.33	1.47	1.19	151.53	9	6

Conetec Inc. - CPT Interpretation Page 1b
Interpretation Output - Release 1.22 Rev. A - Build 6 Version SI/U Imperial
Run No. 04-1104-1117-1676
Job No: 04-209
Client: GeoSyntec Consultants
Project Pigeon Point Landfill - Wilmington Delaware
Site: CPT-1
Location. Pigeon Point
Cone: 20 TCN AD066
CPT Date: 04/15/21
CPT Time: 14:24
CPT File. AC0020J.CPA
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 4.78 (ft) 15.7
Unit Weight of Water (default) 62.42 pcf
Averaging Increment (m): 0.20
Su Nkt used 15.00 Su/P' (Nc): 0.30
Dr Method Jamiolkowski - All Sands
State Parameter M 1.20
Used Unit Weights Assigned to Soil Zones
Kinetic Calculated using qcin
Fitting Calculated using qcinss

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 SBT-BQ (Zone)	Col-13 SBT-BQn (Zone)	Col-14 Density (gm/cc)	Col-15 Unit Wt (pcf)	Col-16 T Stress (csf)	Col-17 U Stress (csf)	Col-18 S Stress (csf)	Col-19 Cn	Col-20 NEC (ft/ft)
0.200	0.656	3	7	5.00E-05	124.6	0.019	0.000	0.019	2.00	5.8
0.400	0.984	6	7	1.00E-04	124.6	0.036	0.000	0.036	2.00	5.1
0.600	1.640	6	6	5.00E-05	124.6	0.054	0.000	0.054	2.00	6.6
0.800	2.297	5	6	5.00E-05	124.6	0.132	0.000	0.132	2.00	3.5
1.000	2.953	4	5	1.00E-03	111.4	0.169	0.000	0.169	2.00	2.5
1.200	3.609	4	5	1.00E-03	111.4	0.205	0.000	0.205	2.00	1.7
1.400	4.265	3	6	1.00E-03	111.4	0.242	0.000	0.242	2.00	1.6
1.600	4.921	4	5	1.00E-03	111.4	0.278	0.000	0.278	1.99	1.9
1.800	5.577	4	5	1.00E-03	111.4	0.315	0.000	0.315	1.98	2.1
2.000	6.234	4	4	1.00E-03	111.4	0.351	0.000	0.351	1.96	1.9
2.200	6.890	4	5	1.00E-03	111.4	0.388	0.000	0.388	1.94	2.5
2.400	7.546	5	6	5.00E-03	114.6	0.425	0.000	0.425	1.93	2.8
2.600	8.202	5	5	5.00E-06	114.6	0.461	0.000	0.461	1.47	2.6
2.800	8.858	5	5	5.00E-06	114.6	0.500	0.000	0.500	1.41	4.2
3.000	9.514	4	4	5.00E-06	111.4	0.537	0.000	0.537	1.38	3.9
3.200	10.170	3	3	1.00E-03	111.4	0.574	0.000	0.574	1.32	1.6
3.400	10.827	3	3	1.00E-03	111.4	0.610	0.000	0.610	1.25	1.4
3.600	11.483	3	3	1.00E-03	111.4	0.647	0.000	0.647	1.25	1.2
3.800	12.139	3	3	1.00E-03	111.4	0.683	0.000	0.683	1.23	1.1
4.000	12.795	3	3	1.00E-03	111.4	0.720	0.000	0.720	1.18	1.0
4.200	13.451	3	3	1.00E-03	111.4	0.757	0.000	0.757	1.15	2.0
4.400	14.107	3	3	1.00E-03	111.4	0.793	0.000	0.793	1.12	1.8
4.600	14.764	7	8	5.00E-05	114.6	0.830	0.000	0.830	1.15	6.4
4.800	15.420	8	6	5.00E-05	114.6	0.866	0.000	0.866	1.01	30.2
5.000	16.076	7	5	5.00E-06	111.4	0.903	0.000	0.903	1.06	31.8
5.200	16.732	8	6	5.00E-05	117.3	0.940	0.000	0.940	1.03	23.6
5.400	17.388	8	6	5.00E-05	114.6	0.961	0.059	0.977	1.04	26.4
5.600	18.044	7	5	5.00E-06	114.6	1.012	0.074	1.045	1.03	16.5
5.800	18.701	7	5	5.00E-07	114.6	1.056	0.094	0.962	1.02	15.2
5.900	19.357	7	5	5.00E-01	114.6	1.093	0.114	0.979	1.01	18.6
6.000	21.013	3	5	5.00E-04	117.7	1.131	0.114	0.991	1.00	51.0
6.100	20.669	3	5	5.00E-07	124.1	1.171	0.155	1.011	0.99	51.6

Job No: 06-1126-1317-3476
CPT File: EMSCP01.CGR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 SBT-BQ (Zone)	Col-13 SBT-DCM (Zone)	Col-14 Perm-k (cm/s)	Col-15 Unit Wt (pcf)	Col-16 Σ Stress (tsf)	Col-17 U Stress (ksf)	Col-18 Σ Stress (tsf)	Col-19 Cn	Col-20 NSP (b/ft)
0.500	21.325	5	6	5.0E-03	120.9	1.311	0.176	1.035	0.98	14.4
0.700	21.581	5	6	5.0E-03	120.9	1.351	0.196	1.055	0.97	21.1
0.900	22.638	6	5	5.0E-05	114.6	1.290	0.217	1.073	0.97	15.0
1.100	23.294	7	5	5.0E-05	114.6	1.327	0.237	1.092	0.96	11.8
1.300	23.950	7	5	5.0E-06	111.4	1.366	0.153	1.106	0.95	25.7
1.500	24.605	7	5	5.0E-06	114.6	1.401	0.275	1.123	0.94	12.8
1.700	25.262	7	5	5.0E-06	114.6	1.433	0.299	1.143	0.94	12.5
1.900	25.918	9	6	5.0E-02	124.1	1.478	0.315	1.159	0.93	21.7
2.100	26.574	9	4	5.0E-03	120.9	1.536	0.340	1.178	0.92	21.0
2.300	27.231	8	5	5.0E-06	114.6	1.591	0.360	1.197	0.91	19.2
2.500	27.887	7	5	5.0E-08	111.4	1.694	0.383	1.233	0.91	26.1
2.700	28.543	7	5	5.0E-07	114.6	1.631	0.403	1.230	0.90	16.1
2.900	29.199	6	4	5.0E-06	111.4	1.665	0.422	1.246	0.90	19.5
3.100	29.855	7	5	5.0E-02	111.4	1.705	0.442	1.262	0.89	21.5
3.300	30.511	7	5	5.0E-07	114.6	1.742	0.463	1.279	0.88	14.8
3.500	31.168	6	4	5.0E-08	111.4	1.779	0.482	1.296	0.86	18.1
3.700	31.824	6	4	5.0E-06	111.4	1.815	0.504	1.312	0.87	18.7
3.900	32.480	7	5	5.0E-06	114.6	1.852	0.524	1.328	0.87	14.3
4.100	33.136	7	5	5.0E-06	114.6	1.890	0.545	1.345	0.86	17.1
4.300	33.792	7	4	5.0E-07	114.6	1.928	0.569	1.362	0.85	15.2
4.500	34.448	7	5	5.0E-05	114.6	1.965	0.586	1.379	0.85	17.7
4.700	35.105	6	6	5.0E-06	114.6	2.003	0.105	1.397	0.85	23.6
4.900	35.761	7	5	5.0E-08	111.4	2.040	0.627	1.413	0.84	18.1
5.100	36.417	7	5	5.0E-06	114.6	2.077	0.147	1.430	0.84	16.3
5.300	37.073	7	5	5.0E-06	114.6	2.115	0.663	1.447	0.83	16.2
5.500	37.729	8	5	5.0E-05	117.7	2.153	0.655	1.464	0.83	19.0
5.700	38.385	7	4	5.0E-06	117.7	2.191	0.709	1.483	0.82	7.6
5.900	39.047	8	5	5.0E-03	120.9	2.230	0.725	1.502	0.81	12.7
6.100	39.696	5	1	5.0E-02	124.1	2.271	0.750	1.521	0.81	27.2
6.300	40.354	5	6	5.0E-02	124.1	2.311	0.776	1.541	0.80	59.4
6.500	41.011	16	1	5.0E+00	127.3	2.353	0.791	1.562	0.80	65.3
6.700	41.668	10	7	5.0E+00	127.3	2.394	0.831	1.583	0.79	54.7
6.900	42.322	10	7	5.0E+00	127.3	2.436	0.857	1.605	0.79	47.9
7.100	42.978	10	7	5.0E+00	127.3	2.478	0.882	1.626	0.78	55.3
7.300	43.636	10	1	5.0E+00	127.3	2.520	0.870	1.647	0.78	61.9
7.500	44.291	10	1	5.0E+00	127.3	2.561	0.892	1.668	0.77	53.5
7.700	44.947	10	7	5.0E+00	127.3	2.603	0.913	1.690	0.77	62.9
7.900	45.603	10	7	5.0E+00	127.3	2.645	0.934	1.711	0.76	31.5
8.100	46.259	10	7	5.0E+00	127.3	2.687	0.954	1.732	0.76	64.5
8.300	46.915	10	7	5.0E+00	127.3	2.728	0.975	1.754	0.76	59.5
8.500	47.573	10	6	5.0E+01	127.3	2.770	0.995	1.775	0.75	47.9
8.700	48.229	9	6	5.0E-02	124.1	2.812	1.016	1.796	0.75	27.1
8.900	48.884	9	5	5.0E-03	120.9	2.852	1.016	1.815	0.74	24.7
9.100	49.540	7	5	5.0E-05	117.7	2.891	1.037	1.836	0.74	12.5
9.300	50.196	7	5	5.0E-04	117.7	2.930	1.057	1.852	0.73	11.2
9.500	50.852	5	4	5.0E-05	114.6	2.968	1.078	1.870	0.73	15.8
9.700	51.509	5	5	5.0E-06	111.4	3.005	1.118	1.886	0.73	11.4
9.900	52.165	7	5	5.0E-06	111.4	3.041	1.139	1.902	0.73	14.1
10.100	52.821	6	4	5.0E-07	114.6	3.078	1.155	1.919	0.72	14.7
10.300	53.477	6	4	5.0E-06	114.6	3.116	1.180	1.936	0.72	17.4
10.500	54.133	6	4	5.0E-07	114.6	3.151	1.200	1.953	0.72	17.8
10.700	54.789	5	5	5.0E-06	111.4	3.191	1.221	1.970	0.71	21.1
10.900	55.445	5	3	5.0E-07	114.6	3.228	1.241	1.986	0.71	16.9
11.100	56.102	5	4	5.0E-06	114.6	3.265	1.262	2.003	0.71	14.1
11.300	56.758	5	3	5.0E-05	117.7	3.303	1.282	2.021	0.70	12.2
11.500	57.414	5	4	5.0E-06	114.6	3.342	1.303	2.038	0.70	21.8
11.700	58.070	6	4	5.0E-06	114.6	3.378	1.323	2.054	0.70	12.0
11.900	58.726	5	4	5.0E-05	114.5	3.416	1.344	2.072	0.69	11.3
12.100	59.383	7	5	5.0E-06	114.6	3.453	1.364	2.089	0.69	24.1
12.300	60.039	6	5	5.0E-06	114.6	3.493	1.385	2.106	0.69	25.9

Run No: 04-1124-1317-1476
CPT File: 509CPC1.CPS

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 SBT-BQ (Zone)	Col-13 SBT-BQn (Zone)	Col-14 Perm-k (mm/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (tsf)	Col-17 U Stress (tsf)	Col-18 E Stress (tsf)	Col-19 Cn	Col-20 N60 (b/ft)
18.500	60.695	7	5	5.0E-06	114.4	3.328	1.405	2.123	0.59	37.0
18.700	61.351	7	5	5.0E-07	114.4	3.366	1.426	2.140	0.58	32.2
18.900	62.027	7	5	5.0E-08	111.4	3.603	1.446	2.157	0.56	44.4
19.100	62.653	6	6	5.0E-02	124.1	3.642	1.467	2.175	0.59	51.7

Interpretation Output - Release 1.22 Rev. A - Build 5 Format: NOS Imperial

Run No.: 04-1124-1127-3476

Job No.: 04-605

Client: GeoSyntec Consultants

Project: Pigeon Point Landfill Wilmington Delaware

Site: CPT-1

Location: Pigeon Point

Cone: 20 TON ADMAC

CPT Date: 04/15/11

CPT Time: 14:16

CPT File: 8050P01.COR

Northing (m): 0.000000

Easting (m): 0.000000

Elevation (m): 0.000000

Water Table (m): 4.76 (ft) 15.7

Unit Weight of Water (default): 62.40 pcf

Averaging Increment (ft): 0.20

Su Not used. 15.00 Su/P' (ncl) 0.30

Dr Method : Zhang&Kovski - All Sands

Scale Parameter M: 1.20

Used Unit Weights Assigned to Soil Zones

Nkt=10 Calculated using qc1n

Nkt=nx Calculated using qc1ncs

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 Sl(lbs) (lb/ft)	Col-22 Nlbs(lbs (lb/ft)	Col-23 Sl(kN)(m (kN/m)	Col-24 Qt	Col-25 Fr (%)	Col-26 Bq	Col-27 Ic	Col-28 FS (%)	Col-29 InZone (Count)
0.100	0.329	0.6	1.9	14.5	520.30	0.64	0.01	1.59	37.6	6
0.200	0.984	11.0	2.7	11.7	213.21	2.43	0.01	2.41	21.3	5
0.300	1.640	13.1	3.3	15.5	144.97	2.56	0.01	2.42	27.6	5
0.400	2.297	7.0	1.8	8.4	54.46	1.92	0.02	2.46	29.1	5
0.500	2.953	4.1	1.1	2.7	24.37	1.26	0.02	2.54	33.3	5
0.600	3.609	3.4	1.0	4.7	16.26	1.96	0.06	2.57	43.3	4
0.700	4.265	3.5	1.0	3.3	13.65	1.91	-0.09	2.79	45.5	4
0.800	4.921	7.6	1.1	1.8	13.27	1.25	-0.04	2.78	43.4	4
0.900	5.577	4.1	1.3	4.0	14.44	1.27	0.03	2.56	36.3	4
1.000	6.234	3.2	1.2	3.1	10.21	1.44	0.01	2.83	46.3	4
1.100	6.890	4.0	1.6	3.6	12.37	1.44	0.02	2.75	43.3	4
1.200	7.546	3.8	1.7	3.3	12.93	1.41	0.01	2.80	46.3	4
1.300	8.202	5.3	2.1	4.3	15.24	1.11	0.02	2.76	43.8	4
1.400	8.858	5.9	2.4	4.8	16.35	1.18	0.03	2.74	42.7	4
1.500	9.514	5.3	1.6	2.5	4.61	3.15	0.05	3.13	72.2	3
1.600	10.170	2.3	1.2	1.6	4.59	2.21	0.14	3.22	74.4	3
1.700	10.827	1.4	1.7	1.5	3.82	2.37	0.17	3.35	81.1	3
1.800	11.483	1.5	1.2	1.3	2.66	1.90	0.14	3.37	85.6	3
1.900	12.139	1.5	1.0	1.2	2.45	1.29	0.16	3.38	88.7	3
2.000	12.795	1.2	-9999.0	-9999.0	2.07	1.21	0.16	-9999.0	-9999.0	0
2.100	13.451	2.4	9999.0	9999.0	4.45	0.28	0.17	-9999.0	-9999.0	0
2.200	14.107	2.0	-9999.0	-9999.0	3.72	0.51	0.18	9999.0	9999.0	0
2.300	14.764	9.2	5.4	4.0	25.32	1.21	0.01	2.47	29.2	5
2.400	15.420	22.5	17.5	14.2	89.97	3.63	-0.01	2.26	21.2	5
2.500	16.076	23.7	9.4	11.7	36.20	5.13	-0.03	2.77	44.4	4
2.600	16.732	26.1	25.9	17.0	81.60	1.71	-0.01	2.15	17.3	5
2.700	17.388	25.1	14.4	15.5	67.62	2.42	-0.01	2.33	22.8	5
2.800	18.044	17.4	9.2	9.9	30.25	3.75	-0.03	2.62	36.4	4
2.900	18.701	15.5	8.3	7.2	23.55	4.00	0.04	2.52	47.1	4
3.000	19.357	16.9	9.2	9.5	34.62	3.16	0.03	2.42	35.1	4
3.100	20.013	31.1	21.1	21.6	96.43	2.60	-0.01	2.21	19.6	5
3.200	20.669	33.3	22.3	12.6	171.32	1.19	0.00	1.79	7.9	6

Run No: 04-1194-1110-0496
CPT File: 6CVCP01.COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 N1(60) (m/ft)	Col-22 N1(60)cs (m/ft)	Col-23 N1(60)cs (b/ft)	Col-24 Qc	Col-25 Fs (%)	Col-26 Sq	Col-27 Ic	Col-28 FC (%)	Col-29 IcZone (Zone)
6.500	21.325	33.8	27.5	27.7	171.53	1.37	-0.01	1.90	10.4	6
6.700	21.981	22.5	19.4	19.5	56.17	1.28	-0.01	2.05	13.6	6
6.900	22.636	16.5	9.9	9.6	32.40	1.00	-0.02	2.55	22.9	5
7.100	23.294	13.7	6.9	7.3	25.23	3.55	-0.03	2.72	43.6	4
7.300	23.953	26.4	6.9	7.1	23.04	5.07	-0.04	2.85	49.0	4
7.500	24.606	13.1	7.7	6.6	22.07	4.01	-0.04	2.79	45.6	4
7.700	25.262	12.6	8.5	8.5	25.58	2.56	-0.02	2.55	32.9	5
7.900	25.918	20.1	20.7	19.7	96.22	0.62	-0.01	1.77	9.6	6
8.100	26.574	15.4	17.5	16.6	71.25	1.09	-0.01	2.01	11.3	6
8.300	27.231	17.6	10.4	5.2	32.20	4.32	-0.02	2.70	40.5	4
8.500	27.887	21.9	7.9	6.3	19.42	5.74	-0.04	2.95	54.9	4
8.700	28.543	14.6	7.0	6.1	15.23	4.60	-0.04	2.89	51.3	4
8.900	29.199	17.4	6.6	5.1	14.95	5.19	-0.05	3.01	59.3	3
9.100	29.855	19.1	7.2	5.5	14.40	5.34	-0.05	2.90	57.1	3
9.300	30.513	13.1	7.1	5.4	14.75	4.25	-0.05	2.81	52.5	4
9.500	31.168	15.9	6.4	4.0	12.15	5.56	-0.06	3.06	62.8	3
9.700	31.824	18.4	6.4	4.6	12.52	4.83	-0.05	3.02	59.5	3
9.900	32.480	12.9	8.9	6.6	22.03	3.80	-0.03	2.79	45.2	4
10.100	33.136	16.8	8.8	7.2	25.15	3.41	-0.03	2.71	41.1	4
10.300	33.792	13.0	7.5	5.3	16.63	4.71	-0.05	2.96	55.6	3
10.500	34.448	15.0	11.5	7.5	25.32	4.14	-0.03	2.78	44.8	4
10.700	35.105	20.5	14.9	12.5	42.65	1.10	-0.03	2.46	23.6	5
10.900	35.761	24.2	5.7	6.4	19.86	5.22	-0.04	2.91	52.9	4
11.100	36.417	12.5	8.6	5.8	19.48	3.22	-0.04	2.79	45.3	4
11.300	37.073	13.8	7.1	7.6	24.22	1.89	-0.04	2.49	30.2	5
11.500	37.729	15.7	12.6	15.8	39.17	1.11	-0.02	2.13	18.7	5
11.700	38.385	5.2	5.7	4.8	14.43	2.82	-0.06	2.47	25.2	5
11.900	39.042	13.4	11.1	8.3	33.93	2.71	-0.02	2.13	16.8	5
12.100	39.698	22.3	24.9	25.6	81.74	2.41	0.00	1.65	5.0	6
12.300	40.354	31.1	34.9	28.2	111.91	2.38	0.00	1.49	2.8	6
12.500	41.010	36.2	45.9	37.0	150.04	2.34	0.00	1.35	1.6	6
12.700	41.666	43.5	51.4	43.4	215.86	2.32	0.00	1.28	0.2	9
12.900	42.322	37.8	47.0	38.5	166.57	2.35	0.00	1.34	0.9	6
13.100	42.978	43.3	57.7	46.2	213.24	2.22	0.00	1.29	0.7	6
13.300	43.635	48.3	53.4	45.5	214.03	2.21	0.01	1.15	0.0	7
13.500	44.291	40.7	50.0	40.3	156.64	2.27	0.05	1.25	0.6	7
13.700	44.947	49.2	61.3	48.2	235.20	2.31	0.00	1.22	0.0	7
13.900	45.603	62.5	80.1	52.4	296.82	2.63	0.00	1.30	0.8	7
14.100	46.259	54.2	67.0	57.1	324.08	2.36	0.05	1.45	2.1	6
14.300	46.916	44.9	58.3	45.5	230.59	2.43	0.00	1.32	0.6	6
14.500	47.572	36.5	46.8	37.4	187.80	2.43	0.00	1.41	1.7	6
14.700	48.228	27.7	33.0	25.2	106.35	2.43	-0.00	1.54	3.1	6
14.900	48.884	18.4	25.6	15.7	55.37	2.05	-0.03	2.07	13.5	6
15.100	49.540	9.2	5.3	7.2	29.37	2.29	0.02	2.42	27.2	5
15.300	50.196	8.2	5.2	5.1	17.34	3.30	0.05	2.39	24.3	5
15.500	50.852	11.5	11.6	5.0	20.41	3.22	0.20	2.77	44.6	4
15.700	51.509	27.2	32.3	5.3	19.11	5.81	0.08	2.95	55.5	3
15.900	52.165	20.9	31.7	5.9	21.21	6.33	0.01	3.01	59.4	3
16.100	52.821	19.8	21.9	6.0	18.53	4.85	0.22	2.93	52.7	4
16.300	53.477	22.4	11.1	5.4	17.01	4.15	0.10	2.91	52.6	4
16.500	54.133	22.8	9.2	4.4	12.59	4.59	0.07	3.02	60.1	3
16.700	54.789	25.1	7.5	3.0	9.05	5.25	0.21	3.15	65.4	3
16.900	55.446	12.0	9.2	4.2	11.72	5.54	0.24	3.06	63.7	3
17.100	56.102	10.0	9.4	4.3	13.06	3.59	0.25	2.87	56.4	3
17.300	56.758	8.6	9.2	4.1	14.07	2.40	0.32	2.47	47.1	4
17.500	57.414	15.2	13.1	6.7	20.55	3.40	0.19	2.83	65.0	4
17.700	58.070	14.3	13.4	6.3	20.71	4.27	0.17	2.63	49.5	4
17.900	58.726	11.3	11.5	5.5	18.85	3.27	0.20	2.78	44.9	4
18.100	59.382	10.8	14.1	6.7	22.62	3.60	0.10	2.76	43.9	4
18.300	60.039	18.6	17.7	8.3	28.59	4.84	0.02	2.97	46.0	4

Run No: 04-1124-0117-3476
CPT File: [illegible]

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 N1(60) (b/ft)	Col-22 N1(60)Ic (b/ft)	Col-23 N1(60)Ic (b/ft)	Col-24 Qc	Col-25 Fr (%)	Col-26 Mq	Col-27 Ic	Col-28 FC (%)	Col-29 IcZone (Zone)
13.500	62.635	28.5	15.3	7.3	24.67	3.97	0.04	2.76	43.7	4
15.700	61.351	22.0	15.1	6.9	21.93	5.16	0.07	2.87	51.2	4
18.950	62.017	30.3	14.8	6.5	15.64	5.93	0.05	2.95	55.0	4
19.100	62.653	35.1	50.5	14.7	122.52	1.10	0.01	1.81	8.3	6

Interpretation Output - Release 1.22 Rev. A - Build 1 Format: NLP Imperial

Run No: 04-1124-1117-3475

Job No: 04-809

Client: GeoSystems Consultants

Project: Pigeon Point Landfill - Wilmington Delaware

Site CPT-1

Location Pigeon Point

Cone: 20 TON AD066

CPT Date: 04/15/11

CPT Time: 14:15

CPT File: 3092001.CPA

Northing (m): 0.000000

Easting (m): 0.000000

Elevation (m): 0.000000

Water Table (m): 4.18 (ft): 13.7

Unit Weight of Water (default): 62.40 pcf

Averaging Increment (m): 0.20

Su Dkt used: 15.00 Su/P' (m): 1.50

Su Method: Jamiolkowski - All Soils

State Parameter M: 1.20

Sand Unit Weights Assigned to Soil Zones

Nkt&Qc Calculated using qc1n

Nk&Qcs Calculated using qc1ncs

Col-01 Depth (m)	Col-02 Depth (ft)	Col-30 Qc (ft)	Col-31 Phi (deg)	Col-32 State Par	Col-33 Su/p'	Col-34 Young's (tsf)	Col-35 Su (tsf)	Col-36 OCR
0.100	0.328	57.1	48.0	-0.32	2.404	24.4	0.459	10.0
0.200	0.656	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.764	10.0
0.300	1.640	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.976	10.0
0.400	2.297	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.476	10.0
0.500	3.953	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.214	9.7
0.600	1.609	-9999.0	9999.0	-9999.0	9999.0	-9999.0	0.223	8.2
0.700	4.265	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.210	3.7
0.800	4.921	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.265	3.8
0.900	5.577	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.303	4.3
1.000	6.234	9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.219	2.4
1.100	6.890	9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.320	1.4
1.200	7.546	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.366	1.7
1.300	8.202	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.470	4.7
1.400	8.858	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.565	5.2
1.500	9.514	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.217	1.5
1.600	10.170	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.174	1.0
1.700	10.827	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.155	0.9
1.800	11.483	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.123	0.7
1.900	12.139	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.120	0.7
2.000	12.795	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.097	0.4
2.100	13.451	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.215	1.0
2.200	14.107	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.136	0.8
2.300	14.764	31.0	34.0	-0.57	-9999.0	-9999.0	1.412	10.0
2.400	15.420	61.9	42.0	-0.35	2.421	193.2	5.305	10.0
2.500	16.076	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	2.255	10.0
2.600	16.732	59.6	42.0	-0.22	2.404	195.1	-9999.0	-9999.0
2.700	17.388	54.6	40.0	-0.25	2.510	164.2	4.181	10.0
2.800	18.044	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	2.253	10.0
2.900	18.701	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.312	9.2
3.000	19.357	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.249	10.0
3.100	20.013	61.7	42.0	-0.30	2.227	216.5	-9999.0	-9999.0
3.200	20.669	63.1	44.0	-0.36	1.707	133.1	-9999.0	-9999.0

Test No 04-1114-1017 1675
CPT File: 209CH01.CPT

Col-01 Depth (m)	Col-02 Depth (ft)	Col-10 Qc (MPa)	Col-31 Phi (deg)	Col-32 State Par	Col-33 Rf/Qc	Col-34 Young (MPa)	Col-35 Su (kPa)	Col-36 OCR
5.500	21.325	16.5	45.0	-0.26	1.550	235.9	-9999.0	-9999.0
6.700	21.981	64.6	42.9	-0.21	2.260	216.5	-9999.0	-9999.0
6.900	22.638	38.5	38.0	-0.32	1.683	156.8	7.532	10.3
7.100	23.294	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.033	12.0
7.300	23.950	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.499	5.5
7.500	24.606	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.694	6.6
7.700	25.262	34.8	36.0	-0.16	1.720	113.1	2.246	11.0
7.900	25.918	58.3	42.0	-0.19	2.201	260.8	-9999.0	9999.0
8.100	26.575	60.6	43.0	-0.17	2.425	213.4	-9999.0	-9999.0
8.300	27.231	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.669	10.0
8.500	27.887	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.571	6.8
8.700	28.543	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.675	6.7
8.900	29.199	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.263	4.7
9.100	29.855	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	1.282	5.2
9.300	30.511	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.623	5.4
9.500	31.168	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.139	3.4
9.700	31.824	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.182	3.9
9.900	32.480	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.031	3.2
10.100	33.136	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.206	10.0
10.300	33.792	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	1.456	5.0
10.500	34.448	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.323	10.0
10.700	35.105	48.0	38.0	-0.24	3.563	186.0	3.571	10.0
10.900	35.761	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.871	7.0
11.100	36.417	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	1.057	6.8
11.300	37.073	53.0	34.0	-0.11	3.734	145.5	2.316	5.6
11.500	37.729	46.3	36.0	-0.31	3.353	188.0	-9999.0	-9999.0
11.700	38.385	30.0	32.0	0.00	-9999.0	-9999.0	9999.0	-9999.0
11.900	39.042	42.7	36.0	-0.06	3.372	179.1	9999.0	-9999.0
12.100	39.698	70.7	47.0	-0.20	2.102	212.5	-9999.0	-9999.0
12.300	40.354	82.1	44.0	-0.13	1.970	405.0	-9999.0	-9999.0
12.500	41.010	92.1	44.0	-0.15	-9999.0	-9999.0	-9999.0	-9999.0
12.700	41.666	95.0	45.0	-0.16	-9999.0	-9999.0	-9999.0	-9999.0
12.900	42.322	91.6	44.0	-0.15	-9999.0	-9999.0	-9999.0	-9999.0
13.100	42.978	95.0	44.0	-0.12	-9999.0	-9999.0	-9999.0	-9999.0
13.300	43.635	95.0	46.0	-0.14	-9999.0	-9999.0	-9999.0	-9999.0
13.500	44.291	93.0	44.0	-0.12	-9999.0	-9999.0	9999.0	-9999.0
13.700	44.947	95.0	45.0	-0.16	-9999.0	-9999.0	9999.0	-9999.0
13.900	45.603	95.0	46.0	-0.27	-9999.0	-9999.0	-9999.0	-9999.0
14.100	46.259	95.0	46.0	-0.28	-9999.0	-9999.0	-9999.0	-9999.0
14.300	46.915	95.0	45.0	-0.18	-9999.0	-9999.0	-9999.0	-9999.0
14.500	47.572	89.9	44.0	-0.16	-9999.0	-9999.0	9999.0	-9999.0
14.700	48.228	77.2	42.0	-0.12	2.015	402.5	9999.0	-9999.0
14.900	48.884	53.1	40.0	-0.14	2.626	270.4	-9999.0	-9999.0
15.100	49.540	31.1	34.0	-0.05	-9999.0	-9999.0	-9999.0	-9999.0
15.300	50.196	30.0	32.0	0.00	-9999.0	-9999.0	2.540	7.3
15.500	50.852	32.2	34.0	0.12	-9999.0	-9999.0	1.603	6.5
15.700	51.509	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.156	5.6
15.900	52.165	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	2.335	4.3
16.100	52.821	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.196	5.5
16.300	53.477	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	1.652	3.6
16.500	54.133	-9999.0	-9999.0	9999.0	-9999.0	9999.0	1.267	2.4
16.700	54.789	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.553	3.2
16.900	55.446	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.764	3.7
17.100	56.102	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.995	4.1
17.300	56.758	30.0	32.0	-0.02	-9999.0	-9999.0	2.926	7.5
17.500	57.414	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.871	7.5
17.700	58.070	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.623	1.5
17.900	58.726	31.7	32.0	-0.10	-9999.0	-9999.0	1.150	8.6
18.100	59.382	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	3.056	12.0
18.300	60.039	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0		

Run No: [illegible]
CPT File: [illegible].COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-30 Dr (%)	Col-31 Phi (deg)	Col-32 State Par	Col-33 Rp/qc	Col-34 YoungE (tsf)	Col-35 Sc (tsf)	Col-36 OCR
18.500	60.695	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	3.520	16.0
18.700	61.351	-9999.0	9999.0	-9999.0	-9999.0	9999.0	3.130	0.2
18.900	62.007	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	2.853	7.0
19.100	62.663	84.0	40.0	-0.23	2.017	545.0	-9999.0	-9999.0

Interpretation Output - Release 1.22 Rev. A - Build 4 Format: SLP Imperial
Job No: 06-1374-1317-3142
Job Nu: 06-509
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-2
Location Pigeon Point
Cone: 20 TON ADIA
CPT Date: 06/15/11
CPT Time. 16:26
CPT File. 8190P02.COR
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m) 0.000000

Water Table (m): 3.80 [El]: 12.8
Unit Weight of Water [default]: 62.40 pcf
Averaging Increment (m) 0.20
Su Nkt used 15.00 Su/P' (min): 0.32
Dr Method Jamiolkowski - All Sands
State Parameter M 1.10
Used Unit Weights Assigned to Soil Zones
Hydric Calculated using qclm
Hifiev Calculated using qclncs

Col 01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
1.100	3.326	-0.100	-0.326	14.15	14.19	0.21	1.45	7.29	6	6
1.200	3.936	-0.200	-0.936	17.09	17.04	0.52	3.05	-11.13	5	6
1.300	4.246	-0.300	-1.246	11.32	11.32	0.42	3.80	-0.02	5	6
1.400	4.597	-0.400	-1.597	7.34	7.84	0.25	3.19	0.51	5	6
1.500	4.955	-0.500	-1.955	5.30	5.80	0.16	3.11	-0.05	5	6
1.600	5.609	-0.600	-2.609	4.36	4.35	0.12	2.67	1.70	5	6
1.700	6.265	-0.700	-3.265	4.36	4.38	0.11	2.57	5.63	5	6
1.800	6.921	-0.800	-3.921	2.55	2.61	0.07	2.67	4.76	5	5
1.900	7.577	-0.900	-4.577	4.18	4.21	0.10	2.44	5.43	5	5
2.000	8.234	-1.000	-5.234	11.60	11.69	0.44	3.75	-73.12	5	6
2.100	8.890	-1.100	-5.890	16.13	16.00	0.36	2.27	-27.18	5	5
2.200	9.546	-1.200	-6.546	16.79	16.66	0.18	1.08	-27.70	6	5
2.300	10.202	-1.300	-7.202	7.22	7.10	0.23	3.21	-19.15	5	5
2.400	10.858	-1.400	-7.858	7.11	7.05	0.43	6.03	-25.27	5	5
2.500	11.514	-1.500	-8.514	10.35	10.23	0.52	4.92	-25.59	5	5
2.600	12.170	-1.600	-9.170	5.89	5.74	0.17	2.76	-10.44	5	5
2.700	12.827	-1.700	-9.827	5.53	5.35	0.08	1.40	-10.48	5	4
2.800	13.483	-1.800	-10.483	4.71	4.71	0.05	1.12	-5.79	5	3
2.900	14.139	-1.900	-11.139	4.51	4.55	0.07	1.47	-1.31	5	3
3.000	14.795	-2.000	-11.795	4.17	4.13	0.04	1.03	-3.02	5	3
3.100	15.451	-2.100	-12.451	3.35	3.73	0.05	1.34	-4.44	5	3
3.200	16.107	-2.200	-13.107	3.95	3.99	0.04	1.07	1.91	5	3
3.300	16.764	-2.300	-13.764	3.11	3.17	0.04	1.19	0.68	5	3
3.400	17.420	-2.400	-14.420	4.35	4.37	0.05	1.22	4.20	5	3
3.500	18.076	-2.500	-15.076	5.15	5.23	0.03	1.53	8.46	5	3
3.600	18.732	-2.600	-15.732	3.72	3.80	0.03	1.36	17.22	5	3
3.700	19.388	-2.700	-16.388	5.24	5.35	0.03	1.50	23.16	5	3
3.800	20.044	-2.800	-17.044	4.91	5.02	0.11	2.26	24.43	4	3
3.900	20.701	-2.900	-17.701	4.94	5.10	0.09	1.77	31.34	4	3
4.000	21.357	-3.000	-18.357	3.80	3.90	0.07	1.83	38.80	5	3
4.100	22.013	-3.100	-19.013	3.43	3.55	0.05	1.44	52.29	5	3
4.200	22.669	-3.200	-19.669	3.42	3.64	0.06	1.65	54.00	5	3

Run No: 06 1126-1317-1543
CPT File: 0612010.CPT

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qc (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (kPa)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
6.600	21.325	-5.500	-21.325	2.35	3.61	0.05	1.19	55.37	1	3
6.700	21.983	-5.700	-21.983	2.61	3.60	0.07	1.16	56.38	1	3
6.800	22.638	-5.800	-22.635	2.37	3.66	0.07	1.92	62.75	1	3
7.000	23.294	-7.000	-23.294	3.65	3.90	0.07	1.76	63.30	1	3
7.100	23.950	-7.100	-23.950	3.91	3.62	0.06	1.73	65.28	1	3
7.200	24.606	-7.200	-24.606	3.55	3.82	0.06	1.54	66.51	1	3
7.300	25.262	-7.300	-25.262	3.27	3.60	0.07	1.81	69.39	1	3
7.500	25.918	-7.500	-25.918	3.50	3.91	0.08	1.92	74.18	1	3
8.100	26.574	-8.100	-26.574	3.69	4.04	0.08	1.86	75.24	1	3
8.200	27.231	-8.200	-27.231	3.80	4.15	0.07	1.69	73.30	1	3
8.300	27.887	-8.300	-27.887	3.85	4.20	0.07	1.73	75.54	1	3
8.400	28.543	-8.400	-28.543	3.95	4.31	0.08	1.80	78.50	1	3
8.600	29.199	-8.600	-29.199	3.70	4.15	0.08	1.67	77.92	1	3
8.800	29.855	-8.800	-29.855	3.94	4.31	0.09	1.98	79.12	1	3
9.000	30.511	-9.000	-30.511	3.54	4.02	0.06	1.83	81.87	1	3
9.200	31.168	-9.200	-31.168	3.98	4.36	0.07	1.66	86.61	1	3
9.400	31.824	-9.400	-31.824	4.35	4.47	0.08	1.90	88.68	1	3
9.600	32.480	-9.600	-32.480	4.31	4.41	0.08	1.89	89.49	1	3
10.100	33.136	-10.100	-33.136	4.49	4.59	0.08	1.84	87.58	1	3
10.300	33.792	-10.300	-33.792	4.60	5.03	0.09	1.95	89.07	4	3
10.500	34.448	-10.500	-34.448	4.68	5.30	0.10	1.87	93.83	4	3
10.700	35.105	-10.700	-35.105	4.34	5.07	0.10	1.72	91.12	4	3
10.900	35.761	-10.900	-35.761	4.39	5.29	0.08	1.52	96.79	4	3
11.100	36.417	-11.100	-36.417	4.72	5.62	0.10	1.74	95.45	4	3
11.300	37.073	-11.300	-37.073	5.68	5.14	0.11	1.76	97.02	4	3
11.500	37.729	-11.500	-37.729	5.72	6.20	0.10	1.54	103.46	5	3
11.700	38.385	-11.700	-38.385	5.45	5.92	0.12	1.95	191.22	6	3
11.900	39.042	-11.900	-39.042	6.00	6.42	0.14	2.22	59.00	6	3
12.100	39.698	-12.100	-39.698	6.58	6.58	0.16	2.24	86.67	4	3
12.300	40.354	-12.300	-40.354	7.07	7.52	0.20	2.63	95.82	4	3
12.500	41.010	-12.500	-41.010	6.93	7.41	0.18	2.43	100.37	4	3
12.700	41.666	-12.700	-41.666	7.44	7.95	0.19	2.39	103.84	4	3
12.900	42.322	-12.900	-42.322	7.85	8.36	0.22	2.62	112.79	4	3
13.100	42.978	-13.100	-42.978	17.32	10.62	0.31	3.85	105.14	4	3
13.300	43.635	-13.300	-43.635	7.71	8.19	0.27	3.29	91.63	5	3
13.500	44.291	-13.500	-44.291	7.14	7.56	0.06	0.75	90.60	1	4
13.700	44.947	-13.700	-44.947	7.73	8.25	0.13	1.72	95.72	5	3
13.900	45.603	-13.900	-45.603	9.02	9.49	0.30	3.69	95.56	5	3
14.100	46.259	-14.100	-46.259	15.13	16.46	0.50	3.02	97.12	5	3
14.300	46.915	-14.300	-46.915	18.37	20.07	0.51	2.74	41.75	5	3
14.500	47.572	-14.500	-47.572	24.07	24.29	0.64	2.64	47.00	5	3
14.700	48.228	-14.700	-48.228	19.77	17.98	0.63	3.16	45.45	5	3
14.900	48.884	-14.900	-48.884	140.07	140.73	1.63	1.16	16.45	8	6
15.100	49.540	-15.100	-49.540	255.04	255.87	2.26	0.88	5.95	9	6
15.300	50.196	-15.300	-50.196	144.01	144.15	0.77	0.54	30.30	9	6
15.500	50.852	-15.500	-50.852	143.92	143.57	0.59	0.41	-9.62	9	6
15.700	51.509	-15.700	-51.509	201.21	201.13	1.42	0.70	-19.69	9	6
15.900	52.165	-15.900	-52.165	149.54	149.39	0.76	0.51	-12.10	9	6
16.100	52.821	-16.100	-52.821	144.33	144.11	0.31	0.19	-5.64	9	6
16.300	53.477	-16.300	-53.477	151.03	150.58	0.65	0.41	-10.05	9	6
16.500	54.133	-16.500	-54.133	62.35	62.91	0.56	1.05	33.56	8	5
16.700	54.789	-16.700	-54.789	56.97	27.14	0.26	0.92	24.90	9	6
16.900	55.446	-16.900	-55.446	59.94	30.29	0.14	0.46	26.71	9	6
17.100	56.102	-17.100	-56.102	89.39	49.48	0.21	0.42	20.35	9	6
17.300	56.758	-17.300	-56.758	104.74	105.32	0.13	0.12	25.93	9	6
17.500	57.414	-17.500	-57.414	100.35	100.45	0.18	0.18	25.31	9	6
17.700	58.070	-17.700	-58.070	91.51	91.65	0.33	0.25	23.40	9	6
17.900	58.726	-17.900	-58.726	54.37	35.44	0.14	0.37	15.01	9	6
18.100	59.382	-18.100	-59.382	55.92	35.59	0.16	0.45	15.95	9	6
18.300	60.039	-18.300	-60.039	59.10	59.13	0.77	0.28	2.17	9	6

Run No: 04 1124-1317-3542
INT File: 6090P02 COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col 03 Elev. (m)	Col 04 Elev. (ft)	Col 05 qc (tsf)	Col 06 qt (tsf)	Col-07 Fs (tsf)	Col-08 Rf (%)	Col-09 u (ft)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
12.500	40.694	-16.600	62.695	115.35	115.60	0.23	0.19	1.56	5	5
12.700	41.345	-16.700	-61.351	176.87	176.26	0.31	0.17	2.47	5	5
12.900	42.007	-16.800	-61.507	151.14	151.11	0.78	0.50	-8.04	5	6
13.100	42.657	-16.900	-62.663	53.82	53.09	1.03	1.93	26.90	7	4
13.300	43.319	-17.000	-63.335	34.47	34.60	0.57	2.50	27.44	6	3
13.500	43.978	-17.100	-63.978	24.03	24.34	0.36	1.47	56.94	6	4
13.700	44.632	-17.200	-64.632	92.15	92.24	0.30	0.33	26.82	9	6
13.900	45.286	-17.300	-65.286	97.04	97.15	0.30	0.31	24.38	9	6
14.100	45.944	-17.400	-65.944	64.55	65.12	0.29	0.34	36.74	9	6
14.300	46.600	-17.500	-66.600	137.85	137.65	0.22	0.15	19.68	9	6
14.500	47.216	-17.600	-67.256	147.37	147.55	0.31	0.21	37.46	9	6
14.700	47.913	-17.700	-67.913	106.84	107.06	0.36	0.33	44.70	9	6
14.900	48.569	-17.800	-68.569	152.25	152.61	0.38	0.25	54.92	9	6
15.100	49.225	-17.900	-69.225	152.98	153.32	0.39	0.25	50.30	9	6
15.300	49.881	-18.000	-69.881	175.11	175.34	0.74	0.42	45.27	9	6
15.500	50.537	-18.100	-70.537	248.17	248.48	1.67	0.67	23.60	9	6
15.700	51.193	-18.200	-71.193	217.37	217.56	2.03	0.45	33.94	9	5
15.900	51.850	-18.300	-71.850	333.47	333.13	3.45	0.15	44.16	10	8

Interpretation Output - Release 1.22 Rev. A - Build 5 Format: NGP Imperial
Run No: 04-1124-1117-3642
Job No: 04-809
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-2
Location: Pigeon Point
Cone: 20 TON AC066
CPT Date: 04/15/11
CPT Time: 15:24
CPT File: 809CP02.CCA
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 3.89 (ft): 12.8
Unit Weight of Water (default): 62.43 pcf
Averaging Increment (m): 0.30
Nk Not used: 15.00 Kb/P' (m): 0.05
Su Method Jamiolkowski - All Soils
Strain Parameter M: 1.20
Dual Unit Weights Assigned to Soil Zones
N60cs Calculated using qc1n
N60cs Calculated using qcincs

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 SBT-BQ (Zone)	Col-13 SBT-BQn (Zone)	Col-14 Perm-k (cm/s)	Col 15 Unit Wt (pcf)	Col-16 V Stress (tsf)	Col-17 U Stress (tsf)	Col-18 E Stress (tsf)	Col-19 Cn	Col-20 Psu (lb/ft)
0.100	0.328	6	7	5.0E-05	114.6	0.019	0.000	0.019	2.00	5.4
0.200	0.656	6	7	5.0E-05	114.6	0.056	0.000	0.056	2.00	5.2
0.300	1.640	6	6	5.0E-05	111.6	0.093	0.000	0.093	2.00	10.6
0.400	2.297	5	6	5.0E-05	111.6	0.130	0.000	0.130	2.00	5.5
0.500	2.953	5	6	5.0E-05	111.6	0.167	0.000	0.167	2.00	5.6
0.600	3.609	4	5	5.0E-05	111.6	0.203	0.000	0.203	2.00	6.2
0.700	4.265	4	5	5.0E-05	111.6	0.240	0.000	0.240	2.00	4.2
0.800	4.921	3	4	5.0E-05	111.6	0.276	0.000	0.276	1.95	2.6
0.900	5.577	4	4	5.0E-05	111.6	0.313	0.000	0.313	1.75	4.0
1.000	6.234	6	5	5.0E-06	114.6	0.349	0.000	0.349	1.65	11.2
1.100	6.890	6	5	5.0E-06	114.6	0.386	0.000	0.386	1.62	7.7
1.200	7.546	6	5	5.0E-06	114.6	0.424	0.000	0.424	1.55	6.4
1.300	8.202	-9999 0	6	5.0E-08	111.6	0.461	0.000	0.461	1.47	6.3
1.400	8.858	-9999 0	6	5.0E-08	111.6	0.498	0.000	0.498	1.42	6.3
1.500	9.514	-9999 0	6	5.0E-08	111.6	0.534	0.000	0.534	1.37	6.3
1.600	10.170	4	4	5.0E-08	111.6	0.571	0.000	0.571	1.32	5.7
1.700	10.827	4	4	1.0E-07	111.6	0.607	0.000	0.607	1.26	5.7
1.800	11.483	4	4	1.0E-07	111.6	0.644	0.000	0.644	1.21	5.1
1.900	12.139	4	3	1.0E-07	111.6	0.680	0.000	0.680	1.21	2.2
1.900	12.795	4	3	1.0E-07	111.6	0.717	0.000	0.717	1.18	2.0
2.100	13.451	4	3	1.0E-07	111.6	0.753	0.022	0.732	1.17	1.9
2.200	14.107	4	3	1.0E-07	111.6	0.790	0.042	0.748	1.16	1.9
2.300	14.764	3	3	1.0E-07	111.6	0.826	0.063	0.763	1.14	1.6
2.400	15.420	4	3	1.0E-07	111.6	0.863	0.083	0.780	1.13	2.1
2.500	16.076	4	3	1.0E-07	111.6	0.900	0.104	0.796	1.12	2.5
2.600	16.732	3	3	1.0E-07	111.6	0.936	0.124	0.812	1.11	1.8
2.700	17.388	4	3	1.0E-07	111.6	0.973	0.145	0.828	1.10	2.6
2.800	18.044	4	3	5.0E-07	114.6	1.010	0.165	0.845	1.09	3.2
2.900	18.701	1	3	5.0E-07	114.6	1.043	0.185	0.862	1.06	4.1
3.000	19.357	3	3	1.0E-07	111.6	1.046	0.206	0.875	1.07	1.9
3.100	20.013	3	3	1.0E-07	111.6	1.123	0.226	0.896	1.06	1.7
3.200	20.669	3	3	1.0E-07	111.6	1.157	0.247	0.911	1.05	1.8

Run No: 04 1124 1217-3542
CPT File: [illegible]

Col 01 Depth (m)	Col-02 Depth (ft)	Col-12 SBT-NO (Robr)	Col-13 SBT-AGR (Robr)	Col-14 Rezn-A (cm/s)	Col-15 Unit Wt (pcf)	Col-16 I Stress (ksf)	Col-17 E Stress (ksf)	Col-18 E Stress (ksf)	Col-19 Cn	Col-20 N60 (B/ft)
6.500	21.325	3	3	1.0E-07	111.4	1.134	0.257	0.921	1.04	1.7
6.700	21.982	3	3	1.0E-07	111.4	1.201	0.280	0.943	1.03	1.9
6.900	22.638	3	3	1.0E-07	111.4	1.267	0.300	0.959	1.02	1.8
7.100	23.294	3	3	1.0E-07	111.4	1.334	0.323	0.975	1.01	1.7
7.300	23.950	3	3	1.0E-07	111.4	1.340	0.343	0.991	1.00	1.7
7.500	24.606	3	3	1.0E-07	111.4	1.377	0.372	1.007	1.00	1.5
7.700	25.262	3	3	1.0E-07	111.4	1.413	0.396	1.023	0.99	1.7
7.900	25.918	3	3	1.0E-07	111.4	1.450	0.411	1.039	0.98	1.9
8.100	26.574	3	3	1.0E-07	111.4	1.486	0.431	1.055	0.97	1.9
8.300	27.231	3	3	1.0E-07	111.4	1.523	0.452	1.071	0.97	2.0
8.500	27.887	3	3	1.0E-07	111.4	1.560	0.472	1.087	0.96	2.0
8.700	28.543	3	3	1.0E-07	111.4	1.596	0.493	1.103	0.95	2.1
8.900	29.199	3	3	1.0E-07	111.4	1.633	0.513	1.119	0.95	2.0
9.100	29.855	3	3	1.0E-07	111.4	1.669	0.534	1.135	0.94	2.1
9.300	30.511	3	3	1.0E-07	111.4	1.706	0.554	1.151	0.93	2.3
9.500	31.168	3	3	1.0E-07	111.4	1.742	0.575	1.168	0.93	2.2
9.700	31.824	3	3	1.0E-07	111.4	1.779	0.595	1.184	0.92	2.1
9.900	32.480	3	3	1.0E-07	111.4	1.815	0.616	1.200	0.91	2.3
10.100	33.136	3	3	1.0E-07	111.4	1.852	0.636	1.216	0.91	2.1
10.300	33.792	3	3	1.0E-07	114.6	1.889	0.657	1.232	0.90	3.2
10.500	34.448	3	3	1.0E-07	114.6	1.927	0.677	1.249	0.89	3.3
10.700	35.105	3	3	1.0E-07	114.6	1.964	0.698	1.266	0.89	3.9
10.900	35.761	3	3	1.0E-07	114.6	2.001	0.718	1.283	0.88	2.6
11.100	36.417	3	3	1.0E-07	114.6	2.038	0.739	1.300	0.88	3.6
11.300	37.073	3	3	1.0E-07	114.6	2.076	0.759	1.317	0.87	3.5
11.500	37.729	3	3	1.0E-06	114.6	2.113	0.780	1.334	0.87	3.0
11.700	38.386	3	3	1.0E-07	114.6	2.151	0.800	1.353	0.86	3.5
11.900	39.042	3	3	1.0E-07	114.6	2.189	0.821	1.376	0.86	4.3
12.100	39.698	3	3	1.0E-07	114.6	2.226	0.841	1.395	0.85	4.5
12.300	40.354	3	3	1.0E-07	114.6	2.264	0.862	1.412	0.84	4.6
12.500	41.010	3	3	1.0E-07	114.6	2.301	0.882	1.429	0.84	4.7
12.700	41.666	3	3	1.0E-07	114.6	2.339	0.903	1.446	0.83	5.1
12.900	42.322	3	3	1.0E-07	114.6	2.377	0.924	1.464	0.83	5.0
13.100	42.978	4	3	1.0E-07	114.6	2.414	0.944	1.481	0.82	6.5
13.300	43.635	3	3	1.0E-06	114.6	2.452	0.964	1.498	0.82	5.9
13.500	44.291	3	3	1.0E-07	114.6	2.489	0.984	1.514	0.82	5.6
13.700	44.947	3	3	1.0E-06	114.6	2.526	1.004	1.531	0.81	5.9
13.900	45.603	4	3	1.0E-06	114.6	2.564	1.024	1.548	0.81	4.5
14.100	46.259	6	4	1.0E-06	114.6	2.601	1.044	1.565	0.80	7.9
14.300	46.916	5	4	1.0E-06	114.6	2.639	1.064	1.582	0.80	8.9
14.500	47.572	7	5	1.0E-06	114.6	2.676	1.087	1.599	0.79	11.6
14.700	48.228	6	4	1.0E-06	114.6	2.714	1.107	1.616	0.79	9.6
14.900	48.884	9	4	1.0E-01	120.7	2.753	1.128	1.633	0.78	33.9
15.100	49.540	10	5	1.0E-01	126.1	2.793	1.148	1.649	0.78	49.0
15.300	50.196	9	5	1.0E-01	124.1	2.833	1.169	1.665	0.77	27.6
15.500	50.852	9	6	1.0E-02	124.1	2.874	1.189	1.682	0.77	31.4
15.700	51.509	9	5	1.0E-02	124.1	2.915	1.210	1.702	0.77	30.5
15.900	52.165	9	5	1.0E-02	124.1	2.956	1.230	1.725	0.76	28.7
16.100	52.821	9	5	1.0E-02	124.1	2.996	1.251	1.748	0.76	31.5
16.300	53.477	9	6	1.0E-02	124.1	3.037	1.271	1.768	0.75	30.5
16.500	54.134	8	6	1.0E-02	120.9	3.077	1.292	1.785	0.75	25.0
16.700	54.789	9	6	1.0E-02	124.1	3.117	1.312	1.805	0.74	26.7
16.950	55.446	9	6	1.0E-02	124.1	3.158	1.333	1.826	0.74	27.3
17.100	56.102	8	6	1.0E-02	124.1	3.195	1.353	1.846	0.74	21.1
17.300	56.758	7	6	1.0E-02	124.1	3.240	1.374	1.866	0.73	20.8
17.500	57.414	9	6	1.0E-02	124.1	3.280	1.394	1.885	0.73	19.2
17.700	58.070	9	6	1.0E-02	124.1	3.321	1.415	1.905	0.72	17.6
17.900	58.726	9	6	1.0E-02	124.1	3.362	1.435	1.925	0.72	16.2
18.100	59.382	9	6	1.0E-02	124.1	3.403	1.455	1.945	0.72	15.4
18.300	60.039	9	6	1.0E-02	124.1	3.443	1.475	1.965	0.71	19.5

Run No 04-1124-1117-2542
CPT File: 639CPT2.CGR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 SBT-BQ (Zone)	Col-13 SBT-BQn (Zone)	Col-14 Perm-k (cm/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (tsf)	Col-17 U Stress (tsf)	Col-18 E Stress (tsf)	Col-19 Cu	Col-20 N60 (b/ft)
18.500	60.595	9	6	5.0E-02	124.1	3.484	1.497	1.957	0.71	22.9
18.700	61.351	9	6	5.0E-02	124.1	3.525	1.517	2.008	0.71	33.9
18.900	62.007	9	6	5.0E-02	124.1	3.565	1.538	2.028	0.70	37.1
19.100	62.663	8	5	5.0E-04	117.7	3.605	1.558	2.047	0.70	16.5
19.300	63.319	7	4	5.0E-05	114.6	3.643	1.579	2.065	0.70	9.4
19.500	63.971	7	4	5.0E-05	114.6	3.681	1.599	2.082	0.59	9.3
19.700	64.632	9	6	5.0E-02	124.1	3.720	1.620	2.100	0.69	17.7
19.900	65.263	9	6	5.0E-02	124.1	3.761	1.640	2.121	0.69	18.6
20.100	65.944	9	6	5.0E-02	124.1	3.801	1.661	2.141	0.68	26.3
20.300	66.600	9	6	5.0E-02	124.1	3.842	1.681	2.161	0.68	26.4
20.500	67.256	9	6	5.0E-02	124.1	3.883	1.702	2.181	0.68	28.3
20.700	67.913	9	6	5.0E-02	124.1	3.924	1.722	2.202	0.67	26.5
20.900	68.569	9	6	5.0E-02	124.1	3.944	1.743	2.222	0.67	25.4
21.100	69.225	9	6	5.0E-02	124.1	4.005	1.763	2.242	0.67	29.3
21.300	69.881	9	6	5.0E-02	124.1	4.046	1.783	2.212	0.66	33.6
21.500	70.530	10	6	5.0E-02	124.1	4.086	1.804	2.283	0.56	47.8
21.700	71.193	9	6	5.0E-02	124.1	4.127	1.824	2.303	0.56	41.7
21.900	71.850	10	6	5.0E-02	121.3	4.168	1.845	2.324	0.56	52.9

Interpretation Output - Release 1.22 Rev. A - Build 5 Format: MLF Imperial

Run No: 04-2114-2317-3842

Job No: 04-R19

Client: GeoSyntec Consultants

Project: Pigeon Point Landfill - Wilmington Delaware

Site: CPT-2

Location: Pigeon Point

Cone: 20 CAV AD065

CPT Date: 04/15/11

CPT Time: 15:24

CPT File: R19CP02.DAT

Northing (m): 0.000000

Easting (m): 0.000000

Elevation (m): 0.000000

Water Table (m): 3.59 (ft): 12.3

Unit Weight of Water (default): 62.40 pcf

Averaging Increment (m): 0.20

Su (Nk cone): 15.00 Su/P' (Nm): 0.30

Dr Method: Jamiolkowski - All Kandu

Scale Parameter M: 1.25

Used Unit Weights Assigned to Soil Zones

Rf(%) Calculated using qc/fs

Rf(%) Calculated using qc(max)

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 Su(kPa) (lb/ft2)	Col-22 Su(ksf) (lb/ft2)	Col-23 Nk(kPa)(m (lb/ft2)	Col-24 DR	Col-25 Fr (%)	Col-26 Hq	Col 27 Ic	Col-28 FC (%)	Col-29 Soil Zone (Code)
0.100	0.328	10.5	0.8	21.2	251.27	1.45	0.03	2.61	13.2	5
0.300	0.984	16.3	-9999.0	-9999.0	103.04	7.04	-0.02	-9999.0	-9999.0	0
0.500	1.640	22.1	9999.0	-9999.0	116.91	1.01	0.00	9999.0	9999.0	0
0.700	2.297	15.0	2.0	9.6	59.34	1.24	0.00	2.58	35.5	5
0.900	2.953	11.2	1.5	6.4	33.80	1.21	0.00	2.74	42.9	4
1.100	3.609	8.3	1.2	5.0	20.42	1.31	0.01	2.74	42.3	4
1.300	4.265	3.4	1.2	5.1	27.30	2.72	0.04	2.78	54.3	4
1.500	4.921	4.9	0.9	3.9	8.68	7.91	1.06	3.64	61.3	3
1.700	5.577	7.2	1.5	3.9	12.44	2.54	0.54	2.89	51.2	4
1.900	6.234	13.9	3.3	9.1	32.43	3.57	-0.04	2.66	38.6	4
2.100	6.890	12.3	4.0	8.4	40.42	2.33	-0.05	2.52	32.7	5
2.300	7.546	9.8	4.0	6.2	38.35	1.11	-0.15	2.43	27.5	5
2.500	8.202	10.0	2.2	4.6	14.40	3.54	-0.12	2.90	52.2	4
2.700	8.858	9.5	2.5	4.8	13.17	6.92	-0.12	3.37	67.7	3
2.900	9.514	11.4	3.2	5.9	18.15	5.26	-0.15	2.74	54.4	4
3.100	10.170	7.3	2.0	3.2	9.42	3.08	0.15	3.01	62.2	3
3.300	10.827	3.4	1.7	2.6	6.15	1.67	0.07	2.92	53.5	4
3.500	11.483	2.8	1.6	2.1	6.03	1.29	-0.15	2.93	57.3	3
3.700	12.139	2.9	1.6	2.0	5.74	1.73	-0.07	3.05	63.9	3
3.900	12.795	3.3	1.4	1.7	4.77	1.25	-0.07	3.01	64.5	3
4.100	13.451	2.1	1.4	1.6	4.07	1.68	-0.15	3.21	73.4	2
4.300	14.107	2.2	1.4	1.6	4.27	1.33	-0.53	3.14	68.5	4
4.500	14.764	1.8	1.5	1.4	3.11	1.58	-0.52	3.27	75.9	3
4.700	15.420	2.4	1.6	1.7	4.45	1.50	0.02	3.14	65.6	3
4.900	16.076	2.8	1.8	2.0	5.44	1.65	0.04	3.11	65.4	3
5.100	16.732	3.0	1.5	1.4	3.53	1.83	0.14	3.28	79.2	2
5.300	17.388	2.8	1.9	1.9	5.24	1.63	0.13	3.13	67.1	3
5.500	18.044	3.5	1.9	1.9	4.75	2.56	0.15	3.23	75.7	3
5.700	18.701	3.5	1.9	1.8	4.39	2.23	0.10	3.21	73.6	3
5.900	19.357	2.0	1.9	1.4	3.70	3.51	0.15	3.37	86.8	3
6.100	20.013	1.3	1.4	1.3	2.83	2.03	0.56	4.19	88.7	1
6.300	20.669	1.8	1.5	1.3	2.78	2.35	0.67	3.42	91.6	3

Run No: 04-1124-1117-1542
DAT File: 859CP02.CDB

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 N1(60) (b/ft)	Col-22 N1(60)Ic (b/ft)	Col-25 N1(60)Ic (b/ft)	Col-26 Qt	Col-25 Fr (%)	Col 26 Rq	Col-27 Ic	Col-28 FC (%)	Col-29 Ic2cho (zone)
6.100	21.325	1.8	1.8	1.2	2.61	2.07	0.61	3.62	51.3	3
6.200	21.981	1.9	1.7	1.2	2.81	2.56	0.56	3.61	52.0	3
6.300	22.636	1.8	1.7	1.1	2.49	2.34	0.62	3.51	100.0	3
6.400	23.292	1.9	1.8	1.3	2.75	2.62	0.61	3.44	95.8	3
6.500	23.950	1.1	1.7	1.2	2.31	2.04	0.73	3.52	100.0	3
6.600	24.606	1.8	1.8	1.2	2.46	2.01	0.68	3.51	100.0	3
6.700	25.262	1.7	1.8	1.1	2.14	2.58	0.83	3.57	100.0	3
6.800	25.918	1.8	1.9	1.2	2.17	3.08	0.77	3.53	100.0	3
6.900	26.574	1.9	1.9	1.2	2.42	2.55	0.75	3.52	100.0	3
7.000	27.231	1.9	1.9	1.2	2.45	2.48	0.70	3.49	98.4	3
7.100	27.887	1.9	2.0	1.2	2.43	2.76	0.71	3.50	100.0	3
7.200	28.543	2.0	2.0	1.2	2.46	2.80	0.72	3.51	100.0	3
7.300	29.199	1.9	2.1	1.2	2.25	3.19	0.76	3.56	100.0	3
7.400	29.856	1.9	2.1	1.2	2.33	3.22	0.73	3.55	100.0	3
7.500	30.511	1.8	2.1	1.1	2.01	3.35	0.86	3.62	100.0	3
7.600	31.168	1.9	2.1	1.1	2.26	3.15	0.81	3.53	100.0	3
7.700	31.824	2.1	2.1	1.2	2.61	2.68	0.70	3.47	96.0	3
7.800	32.480	1.9	2.1	1.1	2.18	3.17	0.81	3.57	100.0	3
7.900	33.136	2.1	2.1	1.2	2.51	3.01	0.69	3.49	99.6	3
8.000	33.792	2.1	2.4	1.2	2.54	3.47	0.68	3.50	100.0	3
8.100	34.448	1.9	2.6	1.3	2.54	3.60	0.72	3.50	100.0	3
8.200	35.105	2.4	2.6	1.4	3.14	2.47	0.54	3.39	88.6	3
8.300	35.761	2.1	2.4	1.2	2.67	2.44	0.63	3.40	94.5	3
8.400	36.417	2.1	2.5	1.3	2.76	2.32	0.54	3.45	94.4	3
8.500	37.073	2.4	2.7	1.4	3.01	2.85	0.56	3.40	90.0	3
8.600	37.729	2.6	2.6	1.4	3.06	2.73	0.50	3.38	87.5	3
8.700	38.385	2.3	2.7	1.3	2.77	3.06	0.65	3.47	95.3	3
8.800	39.042	2.5	2.9	1.5	3.03	3.37	0.46	3.45	94.7	3
8.900	39.698	2.8	3.0	1.5	3.64	3.32	0.39	3.41	90.7	3
9.000	40.354	4.1	3.3	1.7	3.95	3.70	0.40	3.43	99.4	3
9.100	41.010	4.0	3.2	1.5	3.43	3.53	0.46	3.41	99.4	3
9.200	41.666	4.2	3.3	1.7	3.92	3.39	0.45	3.37	85.5	3
9.300	42.322	4.4	3.5	1.8	4.13	3.56	0.44	3.37	85.5	3
9.400	42.996	5.7	4.1	2.1	5.71	3.57	0.28	3.25	76.7	3
9.500	43.645	1.2	3.4	1.7	3.85	2.68	0.36	3.36	86.2	3
9.600	44.291	1.0	2.8	1.3	3.37	1.14	0.36	3.21	33.5	3
9.700	44.947	1.7	3.2	1.5	3.70	1.92	0.36	3.22	18.4	3
9.800	45.603	3.7	3.6	1.8	4.49	2.22	0.28	3.24	75.6	3
9.900	46.259	6.3	5.6	3.2	8.02	3.59	0.35	3.08	64.2	3
10.000	46.915	7.1	6.0	3.4	10.13	3.29	0.32	3.01	55.0	3
10.100	47.572	8.2	7.1	4.3	13.60	2.97	0.22	2.89	51.1	4
10.200	48.228	7.5	6.6	3.7	10.75	3.46	0.32	3.02	55.9	3
10.300	48.884	26.4	27.3	21.9	54.93	3.16	0.20	1.55	11.2	6
10.400	49.540	36.2	45.3	36.9	153.78	0.89	0.10	1.56	5.4	6
10.500	50.196	21.6	26.0	20.6	84.90	0.55	0.10	1.72	6.5	6
10.600	50.852	24.3	28.2	22.2	95.56	0.37	-0.01	1.59	6.1	6
10.700	51.509	29.5	35.7	27.9	116.25	0.32	-0.01	1.48	5.9	6
10.800	52.165	21.8	26.8	21.0	84.09	0.32	-0.01	1.70	5.2	6
10.900	52.821	23.8	27.7	21.1	92.41	0.29	-0.01	1.47	2.5	6
11.000	53.477	23.2	28.1	21.6	89.45	0.41	-0.01	1.53	4.8	6
11.100	54.133	21.3	23.6	19.4	39.24	1.15	0.10	2.22	19.6	5
11.200	54.789	17.4	16.3	12.4	16.54	0.33	0.10	1.82	5.0	6
11.300	55.446	12.8	16.2	12.2	47.62	0.16	-0.01	1.71	5.0	6
11.400	56.102	12.6	16.4	12.4	48.75	0.24	-0.01	1.76	5.2	6
11.500	56.758	14.8	18.4	13.8	54.97	0.12	-0.01	1.62	4.7	6
11.600	57.414	14.0	17.9	13.3	51.53	0.19	-0.01	1.69	5.0	6
11.700	58.070	12.7	16.8	12.4	46.23	0.21	-0.01	1.77	5.0	6
11.800	58.726	11.7	15.4	11.3	42.98	0.18	-0.01	1.76	5.0	6
11.900	59.382	11.2	17.1	12.6	47.56	0.15	0.01	1.72	5.0	6
12.000	60.039	11.5	18.1	13.3	45.63	0.23	0.01	1.75	5.0	6

Run No: 04 1124-1117-3542
CPT File: 805CD12.CDR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 N1(60) (b/ft)	Col-22 N1(60)Ic (b/ft)	Col-23 N1(60)Ic (b/ft)	Col-24 Qt	Col-25 Fr (%)	Col-26 Bq	Col-27 Tc	Col-28 FC (%)	Col-29 IdZone (Zone)
18.500	60.695	16.2	20.9	15.1	55.33	0.20	-0.01	1.54	5.0	6
18.700	61.351	23.5	31.3	22.6	65.34	0.53	-0.01	1.67	5.6	6
18.900	62.007	26.9	33.3	23.9	93.67	0.41	-0.01	1.58	4.1	5
19.100	62.663	21.5	13.4	5.4	23.69	2.10	0.02	2.60	15.8	4
19.300	63.319	6.0	7.8	3.4	10.15	2.70	-0.03	2.97	56.2	3
19.500	63.976	5.5	7.3	3.1	9.52	1.73	0.02	2.69	50.3	4
19.700	64.632	12.2	17.3	12.2	42.14	0.34	-0.01	1.64	5.0	6
19.900	65.288	12.8	17.5	12.4	44.24	0.21	-0.01	1.74	5.0	6
20.100	65.944	11.1	16.2	11.3	37.98	0.35	0.01	1.69	5.0	6
20.300	66.600	13.0	25.5	15.4	62.24	0.16	-0.01	1.57	3.3	6
20.500	67.256	23.2	25.1	17.5	65.98	0.22	0.00	1.58	4.5	6
20.700	67.833	23.6	29.7	13.6	46.35	0.35	0.00	1.79	5.5	6
20.900	68.559	27.0	23.5	15.1	57.76	0.30	0.00	1.68	5.5	6
21.100	69.725	29.6	26.5	18.1	86.51	0.26	-0.01	1.60	4.4	6
21.300	69.881	22.7	40.8	20.5	75.75	0.45	0.00	1.65	5.0	6
21.500	70.537	31.5	47.6	29.3	107.57	0.68	0.00	1.65	5.1	6
21.700	71.193	27.5	37.5	25.2	92.69	0.45	0.00	1.53	4.3	6
21.900	71.550	34.7	52.6	33.5	140.72	0.15	0.00	1.21	0.0	7

Interpretation Output Release 1.77 Rev. A - Build 5 Format: GLP Imperial
Run No: 24-1124-1117 1542
Job No: 24-109
Client: GeoSystems Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-2
Location: Pigeon Point
Cone: 20 TON AD166
CPT Date: 24/15/11
CPT Time: 15:24
CPT File: 000CP02.DOR
Northing (ft): 0.000000
Easting (ft): 0.000000
Elevation (ft): 0.000000

Water Table (ft): 3.59 (ft): 11.8
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (in): 0.20
Su Nkt used: 15.00 Su/P' (ratio): 0.30
Dr Method: Jamiolkowski - All Sands
Shape Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Fi60ic Calculated using qcin
Fi60cs Calculated using qcincs

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Dr (%)	Col-04 Fhi (deg)	Col-12 State Paz	Col-13 Es/qc	Col-14 YoungE (tsf)	Col-15 Su (tsf)	Col-16 OCR
0.000	0.000	47.6	50.0	-0.43	2.152	10.6	0.966	10.0
0.200	0.656	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.132	10.0
0.500	1.640	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.178	10.0
0.700	2.297	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.524	10.0
0.900	2.953	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.275	10.0
1.100	3.609	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.276	7.1
1.300	4.265	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.276	5.1
1.500	4.921	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.162	2.1
1.700	5.577	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.262	2.6
1.900	6.234	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.746	10.0
2.100	6.890	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.042	10.0
2.300	7.546	10.0	38.2	0.11	-9999.0	-9999.0	1.033	10.0
2.500	8.202	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.442	6.3
2.700	8.858	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.437	3.6
2.900	9.514	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.648	6.0
3.100	10.170	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.358	2.3
3.300	10.827	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.325	1.9
3.500	11.483	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.271	1.4
3.700	12.139	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.262	1.1
3.900	12.794	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.228	1.0
4.100	13.451	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.152	0.9
4.300	14.107	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.211	1.0
4.500	14.764	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.272	0.8
4.700	15.420	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.233	1.0
4.900	16.076	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.283	1.2
5.100	16.732	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.231	0.8
5.300	17.388	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.292	1.2
5.500	18.044	-9999.0	-9999.0	9999.0	-9999.0	9999.0	0.267	1.1
5.700	18.701	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.273	1.0
5.900	19.357	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.193	0.8
6.100	20.013	9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.268	0.7
6.300	20.669	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.267	0.7

Run No 04-1156-1217-1543
CPT File: 0690292 CPT

Col-21 Depth (m)	Col-22 Depth (ft)	Col-10 Dr (%)	Col-11 Phi (deg)	Col-32 State Par	Col-33 Rf/qc	Col-34 YoungE (tsf)	Col-35 Su (tsf)	Col-24 OCR
6.500	21.325	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.181	0.7
6.700	21.981	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.176	0.7
6.900	22.638	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.159	0.7
7.100	23.294	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.174	0.7
7.300	23.950	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.152	0.6
7.500	24.606	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.167	0.7
7.700	25.262	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.166	0.6
7.900	25.918	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.164	0.6
8.100	26.574	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.175	0.6
8.300	27.231	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.193	0.6
8.500	27.887	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.195	0.6
8.700	28.543	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.191	0.7
8.900	29.199	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.163	0.6
9.100	29.855	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.176	0.6
9.300	30.511	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.156	0.6
9.500	31.168	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.174	0.6
9.700	31.824	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.204	0.7
9.900	32.480	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.174	0.6
10.100	33.136	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.201	0.7
10.300	33.792	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.205	0.7
10.500	34.448	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.213	0.7
10.700	35.105	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.257	0.8
10.900	35.761	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.219	0.7
11.100	36.417	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.219	0.7
11.300	37.073	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.271	0.7
11.500	37.729	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.272	0.7
11.700	38.385	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.251	0.7
11.900	39.042	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.282	0.7
12.100	39.698	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.317	0.8
12.300	40.354	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.351	0.9
12.500	41.010	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.341	0.8
12.700	41.666	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.374	0.9
12.900	42.322	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.397	0.9
13.100	42.978	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.561	1.3
13.300	43.635	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.382	0.9
13.500	44.291	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.338	0.8
13.700	44.947	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.375	0.8
13.900	45.603	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.461	1.0
14.100	46.259	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.922	2.2
14.300	46.915	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.082	2.6
14.500	47.572	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.441	3.4
14.700	48.228	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.351	3.3
14.900	48.884	65.5	42.3	-0.19	2.290	317.4	-9999.0	-9999.0
15.100	49.540	65.4	44.5	-0.22	2.052	324.8	-9999.0	-9999.0
15.300	50.196	69.8	42.5	-0.12	2.266	324.1	-9999.0	-9999.0
15.500	50.852	73.0	42.0	-0.10	2.165	354.5	-9999.0	-9999.0
15.700	51.509	75.0	42.5	-0.17	2.029	428.3	-9999.0	-9999.0
15.900	52.165	70.4	42.5	-0.17	2.245	315.5	-9999.0	-9999.0
16.100	52.821	71.9	42.5	-0.04	2.156	359.2	-9999.0	-9999.0
16.300	53.477	72.2	42.0	-0.10	2.208	345.4	-9999.0	-9999.0
16.500	54.133	64.3	36.5	-0.09	2.335	237.7	-9999.0	-9999.0
16.700	54.789	56.2	36.5	-0.03	2.824	266.1	-9999.0	-9999.0
16.900	55.446	55.0	38.0	0.03	2.792	251.4	-9999.0	-9999.0
17.100	56.102	54.9	38.0	0.00	2.817	251.1	-9999.0	-9999.0
17.300	56.758	59.3	40.5	0.04	2.615	276.7	-9999.0	-9999.0
17.500	57.414	57.7	38.5	0.03	2.626	259.9	-9999.0	-9999.0
17.700	58.070	54.9	38.0	-0.03	2.816	257.3	-9999.0	-9999.0
17.900	58.726	52.4	36.0	0.03	2.960	245.2	-9999.0	-9999.0
18.100	59.382	55.9	38.0	0.21	2.736	260.4	-9999.0	-9999.0
18.300	60.039	56.7	39.0	-0.02	2.768	231.1	-9999.0	-9999.0

Run No 04-1174-1017-1547
CPT File 665CP07.CCR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-10 Sr (%)	Col-11 Phi (deg)	Col-12 State Par	Col-31 Es/qt	Col-34 YoungS (tsf)	Col-35 Su (tsf)	Col-36 CCR
16.500	60.695	61.5	41.0	0.01	2.545	193.6	-9999.0	-9999.0
16.700	61.351	73.0	42.0	-0.12	2.227	193.8	-9999.0	-9999.0
16.800	62.007	75.4	42.0	-0.11	2.156	419.1	-9999.0	-9999.0
19.100	62.663	17.5	34.0	-0.11	9999.0	-9999.0	9999.0	9999.0
19.300	63.215	30.0	32.0	0.04	9999.0	-9999.0	1.367	2.6
19.500	63.975	30.0	35.0	0.06	-9999.0	-9999.0	1.197	2.5
19.700	64.632	53.7	38.0	-0.02	2.913	258.7	-9999.0	-9999.0
19.800	65.288	55.5	38.0	0.01	2.853	277.2	-9999.0	-9999.0
20.100	65.944	51.1	38.0	-0.01	1.053	259.8	-9999.0	-9999.0
20.300	66.600	54.8	40.0	0.01	2.481	342.2	9999.0	-9999.0
20.400	67.256	56.6	40.0	-0.02	2.431	358.6	-9999.0	-9999.0
20.700	67.913	57.1	38.0	-0.03	2.769	296.4	9999.0	9999.0
20.800	68.569	63.3	40.0	-0.04	2.543	339.0	-9999.0	-9999.0
21.100	69.225	67.3	40.0	-0.04	2.423	370.9	-9999.0	-9999.0
21.300	69.881	71.3	40.0	-0.09	2.332	409.2	-9999.0	-9999.0
21.500	70.537	80.9	42.0	-0.16	2.050	511.4	-9999.0	-9999.0
21.700	71.193	77.0	42.0	0.11	2.164	472.9	-9999.0	-9999.0
21.900	71.850	88.9	44.0	-0.04	-9999.0	-9999.0	-9999.0	-9999.0

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.23 Rev. A - Build 3 Format: NLP Imperial
Job No: 04-1124/1517-1552
Job No: 04-A05
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT 3
Location: Pigeon Point
Cone: 20 TON AD186
CPT Date: 06/16/11
CPT Time: 08:31
CPT File: 8080155.CO3
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m) 5.64 (ft) 18.5
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m): 0.20
Su Not used: 15.00 Su/P' (min): 0.10
Cr Method: Jamiolkowski - All Sands
Alpha Parameter M: 1.20
Used Unit Weights Assigned on Soil Zones
Nitrogen Calculated using qc/N
Nkt=20 Calculated using qc/Nkt

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 Ndt (Zone)	Col-11 Qtn (Zone)
0.100	0.329	-0.100	-0.328	16.97	16.97	1.23	1.38	0.00	6	5
0.200	0.656	-0.200	-0.656	25.90	25.83	0.68	1.44	-2.26	5	8
0.300	1.000	-0.300	-0.984	22.15	22.07	0.43	1.93	-3.63	5	6
0.400	1.312	-0.400	-1.312	9.25	9.15	0.27	2.99	-5.36	5	5
0.500	1.640	-0.500	-1.640	7.01	7.01	0.17	2.75	0.12	4	4
0.600	1.968	-0.600	-1.968	7.46	7.45	0.20	2.72	0.09	4	4
0.700	2.297	-0.700	-2.297	6.74	6.73	0.17	2.94	-2.46	4	4
0.800	2.625	-0.800	-2.625	2.91	2.91	0.09	3.47	-1.62	3	3
0.900	2.953	-0.900	-2.953	2.26	2.05	0.03	1.31	-5.36	1	3
1.000	3.281	-1.000	-3.281	3.34	3.34	0.04	1.14	-10.42	1	4
1.100	3.609	-1.100	-3.609	2.66	2.66	0.04	1.32	-14.01	1	3
1.200	3.937	-1.200	-3.937	2.72	2.17	0.02	0.44	-6.57	1	5
1.300	4.265	-1.300	-4.265	5.21	5.17	0.07	0.90	-5.34	1	4
1.400	4.593	-1.400	-4.593	6.65	6.62	0.09	1.37	-0.72	4	4
1.500	4.921	-1.500	-4.921	5.54	5.54	0.15	1.06	5.30	1	4
1.600	5.249	-1.600	-5.249	4.48	4.48	0.06	1.45	5.93	1	3
1.700	5.577	-1.700	-5.577	4.13	4.15	0.04	1.05	6.24	1	3
1.800	5.905	-1.800	-5.905	2.47	2.50	0.04	1.49	8.53	1	2
1.900	6.233	-1.900	-6.233	2.53	2.56	0.03	1.15	11.05	1	1
2.000	6.561	-2.000	-6.561	1.49	1.55	0.02	1.43	13.66	1	1
2.100	6.889	-2.100	-6.889	1.51	1.54	0.02	0.98	15.31	1	1
2.200	7.217	-2.200	-7.217	3.50	3.56	0.04	1.23	15.87	1	1
2.300	7.545	-2.300	-7.545	3.52	3.55	0.04	1.23	19.17	1	1
2.400	7.873	-2.400	-7.873	1.44	1.47	0.04	1.36	21.98	1	1
2.500	8.201	-2.500	-8.201	1.36	1.42	0.05	0.76	25.51	1	1
2.600	8.529	-2.600	-8.529	4.61	4.63	0.04	0.84	21.69	1	1
2.700	8.857	-2.700	-8.857	4.57	4.57	0.04	0.87	24.20	1	1
2.800	9.185	-2.800	-9.185	2.57	2.73	0.02	0.78	23.52	1	1
2.900	9.513	-2.900	-9.513	1.57	1.46	0.03	0.92	15.93	1	1
3.000	9.841	-3.000	-9.841	3.19	3.16	0.03	0.91	21.23	1	1
3.100	10.169	-3.100	-10.169	3.37	3.37	0.04	0.90	22.43	1	1
3.200	10.497	-3.200	-10.497	3.51	3.42	0.03	0.95	22.92	1	1
3.300	10.825	-3.300	-10.825	3.60	3.72	0.04				

Run No. 04-1324-2017-3592
CPT File: E03F02.CPT

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
6.500	21.325	-6.500	-21.325	6.02	6.32	0.06	1.10	20.93	3	3
6.700	21.981	-6.700	-21.981	3.53	3.75	0.03	0.74	25.16	3	3
6.900	22.638	-6.900	-22.638	1.78	1.93	0.03	0.33	31.94	3	3
7.100	23.294	-7.100	-23.294	2.02	2.06	0.03	0.65	15.13	3	3
7.300	23.950	-7.300	-23.950	3.32	3.49	0.05	1.23	36.23	3	3
7.500	24.606	-7.500	-24.606	4.03	4.21	0.03	0.77	53.31	3	3
7.700	25.262	-7.700	-25.262	5.00	5.20	0.04	0.76	66.25	3	3
7.900	25.918	-7.900	-25.918	5.57	5.82	0.04	0.75	56.41	3	3
8.100	26.574	-8.100	-26.574	5.14	5.42	0.04	0.86	55.24	3	3
8.300	27.231	-8.300	-27.231	3.75	4.04	0.04	0.83	52.96	3	3
8.500	27.887	-8.500	-27.887	3.31	3.81	0.04	0.99	64.79	3	3
8.700	28.543	-8.700	-28.543	4.13	4.47	0.05	1.03	64.34	3	3
8.900	29.199	-8.900	-29.199	4.24	4.53	0.04	0.95	47.89	3	3
9.100	29.855	-9.100	-29.855	4.47	4.78	0.04	0.89	44.19	3	3
9.300	30.511	-9.300	-30.511	4.34	4.59	0.05	0.95	70.95	3	3
9.500	31.168	-9.500	-31.168	4.37	4.65	0.03	0.70	15.59	3	3
9.700	31.824	-9.700	-31.824	4.54	4.82	0.03	0.61	81.85	3	3
9.900	32.480	-9.900	-32.480	4.37	4.15	0.02	0.59	74.97	3	3
10.100	33.136	-10.100	-33.136	3.42	3.79	0.02	0.53	79.75	3	3
10.300	33.792	-10.300	-33.792	4.22	4.42	0.02	0.40	64.27	3	3
10.500	34.448	-10.500	-34.448	3.45	4.17	0.02	0.46	83.02	3	3
10.700	35.105	-10.700	-35.105	4.28	4.68	0.02	0.44	86.21	3	3
10.900	35.761	-10.900	-35.761	4.55	4.94	0.03	0.56	35.49	3	3
11.100	36.417	-11.100	-36.417	4.15	4.75	0.02	0.47	85.47	3	3
11.300	37.073	-11.300	-37.073	4.92	5.37	0.05	0.51	96.21	3	3
11.500	37.729	-11.500	-37.729	4.77	5.24	0.03	0.62	78.48	3	3
11.700	38.385	-11.700	-38.385	4.57	5.43	0.05	0.98	99.68	3	3
11.900	39.042	-11.900	-39.042	4.69	5.05	0.05	0.95	93.72	3	3
12.100	39.698	-12.100	-39.698	4.85	5.22	0.05	1.06	93.19	3	3
12.300	40.354	-12.300	-40.354	5.28	5.70	0.06	0.97	91.60	3	3
12.500	41.010	-12.500	-41.010	5.73	6.17	0.07	1.22	63.00	3	3
12.700	41.666	-12.700	-41.666	6.14	6.61	0.22	1.76	37.99	3	3
12.900	42.322	-12.900	-42.322	6.47	7.28	0.24	3.88	61.54	3	3
13.100	42.979	-13.100	-42.979	6.57	6.81	0.22	3.58	62.26	3	3
13.300	43.635	-13.300	-43.635	5.13	5.64	0.09	1.59	13.35	3	3
13.500	44.291	-13.500	-44.291	5.52	6.06	0.10	1.63	74.26	3	3
13.700	44.947	-13.700	-44.947	5.84	6.32	0.09	1.44	79.55	3	3
13.900	45.603	-13.900	-45.603	6.20	6.63	0.10	1.47	92.91	3	3
14.100	46.259	-14.100	-46.259	6.61	7.05	0.11	1.63	92.91	3	3
14.300	46.915	-14.300	-46.915	7.16	7.82	0.12	1.51	58.17	3	3
14.500	47.572	-14.500	-47.572	7.27	7.66	0.05	0.71	83.14	3	3
14.700	48.228	-14.700	-48.228	5.75	6.03	0.04	0.65	60.37	3	3
14.900	48.884	-14.900	-48.884	6.13	6.13	0.01	0.63	52.63	3	3
15.100	49.540	-15.100	-49.540	189.24	185.44	1.00	0.53	45.15	9	9
15.300	50.196	-15.300	-50.196	338.75	338.93	1.79	0.52	21.66	10	9
15.500	50.852	-15.500	-50.852	261.15	263.10	2.01	0.77	31.13	9	6
15.700	51.509	-15.700	-51.509	147.82	147.97	1.06	0.70	30.53	9	6
15.900	52.165	-15.900	-52.165	72.15	72.14	0.70	0.93	-1.93	8	4
16.100	52.821	-16.100	-52.821	35.19	35.30	1.02	2.93	-19.21	6	4
16.300	53.477	-16.300	-53.477	30.23	30.34	0.72	2.30	-19.62	6	4
16.500	54.133	-16.500	-54.133	84.15	84.35	0.97	1.15	-20.21	5	5
16.700	54.789	-16.700	-54.789	116.41	118.32	0.56	0.41	-21.44	9	6
16.900	55.446	-16.900	-55.446	127.78	127.28	0.32	0.51	-21.25	5	6
17.100	56.102	-17.100	-56.102	144.55	144.64	1.14	0.79	-22.19	3	6
17.300	56.758	-17.300	-56.758	174.71	174.60	0.83	0.48	-24.00	9	6
17.500	57.414	-17.500	-57.414	206.55	206.54	0.55	0.24	-25.40	9	6
17.700	58.070	-17.700	-58.070	205.41	206.30	0.49	0.46	-23.61	9	6
17.900	58.726	-17.900	-58.726	178.04	177.56	1.13	0.69	-17.18	9	6
18.100	59.382	-18.100	-59.382	144.15	144.01	1.20	0.73	-70.62	9	6
18.300	60.039	-18.300	-60.039	173.37	177.26	0.18	0.44	-72.61	9	6

No: 04-1124-1317-3692
LeT File: #092023.COM

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (ft)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
18.500	60.695	-18.500	-60.695	182.81	182.71	0.70	0.38	-21.19	9	1
18.700	61.351	-18.700	-61.351	249.43	249.33	0.28	0.01	-21.53	9	5

Counter Inc. - CPT Interpretation
Interpretation Output - Volcano 1.02 Rev. A - Build 5 Former, NLF Imperial Page 1

Run No: 06-1124-1317-3592
Job No: 54-80
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-2
Location: Pigeon Point
Cone: 10 TON RC166
CPT Date: 04/16/11
CPT Time: 08:11
CPT File: 809CP03.CO2
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 1.55 (ft): 18.5
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m) 0.20
Su Not used 15.0 Su/P' (ncl): 0.35
Dr Method Jamiolkowski - All Sands
Scale Parameter M 1.00
Used Unit Weights Assigned to Soil Zones
Dr60le Calculated using qc1n
N160cs Calculated using Qulnc

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 SBT-MO (Zone)	Col-13 SBT-BQm (Zone)	Col-14 Pore-x (m/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (tsf)	Col-17 U Stress (tsf)	Col-18 E Stress (tsf)	Col-19 Cn	Col-20 N60 (b/ft)
0.000	0.000	6	7	5.7E-05	114.6	0.015	0.000	0.015	2.00	6.5
0.100	0.344	7	3	3.0E-06	114.5	0.056	0.000	0.056	2.00	12.4
0.200	0.656	6	6	5.0E-07	114.6	0.094	0.000	0.094	2.01	8.1
0.300	0.297	5	5	5.0E-07	114.6	0.132	0.000	0.132	2.00	5.8
0.400	0.951	5	5	5.0E-07	114.6	0.169	0.000	0.169	2.00	4.6
0.500	1.640	5	6	5.0E-07	114.6	0.207	0.000	0.207	2.00	4.8
0.600	2.265	5	6	5.0E-07	114.6	0.244	0.000	0.244	2.00	4.1
0.700	2.921	5	5	5.0E-07	114.6	0.282	0.000	0.282	1.69	2.3
0.800	3.577	3	6	5.0E-08	111.4	0.318	0.000	0.318	1.77	1.0
0.900	4.216	-9999.0	3	1.0E-07	111.4	0.355	0.000	0.355	1.68	1.6
1.000	4.890	-9999.0	3	1.0E-07	111.4	0.391	0.000	0.391	1.50	1.5
1.100	5.546	-9999.0	4	1.0E-07	111.4	0.428	0.000	0.428	1.53	2.5
1.200	6.202	4	4	1.0E-07	111.4	0.464	0.000	0.464	1.47	3.2
1.300	6.858	5	4	1.0E-07	111.4	0.501	0.000	0.501	1.42	2.6
1.400	7.514	4	4	5.0E-08	114.6	0.538	0.000	0.538	1.36	2.1
1.500	8.170	4	5	1.0E-07	111.4	0.575	0.000	0.575	1.32	2.0
1.600	10.170	4	4	1.0E-07	111.4	0.611	0.000	0.611	1.28	1.8
1.700	10.827	3	3	1.0E-07	111.4	0.648	0.000	0.648	1.24	2.2
1.800	11.483	3	3	1.0E-07	111.4	0.684	0.000	0.684	1.21	1.7
1.900	12.139	3	3	1.0E-07	111.4	0.721	0.000	0.721	1.18	1.7
2.000	12.795	3	3	1.0E-07	111.4	0.758	0.000	0.758	1.15	1.7
2.100	13.451	4	3	1.0E-07	111.4	0.794	0.000	0.794	1.13	1.7
2.200	14.107	4	3	1.0E-07	111.4	0.831	0.000	0.831	1.10	1.7
2.300	14.764	3	3	1.0E-07	111.4	0.867	0.000	0.867	1.07	1.9
2.400	15.420	3	3	1.0E-07	111.4	0.904	0.000	0.904	1.05	2.0
2.500	16.076	3	4	1.0E-07	111.4	0.940	0.000	0.940	1.03	2.4
2.600	16.732	2	3	1.0E-07	111.4	0.977	0.000	0.977	1.01	2.1
2.700	17.388	4	3	1.0E-07	111.4	1.013	0.000	1.013	0.99	1.8
2.800	18.044	4	2	1.0E-07	111.4	1.050	0.004	1.046	0.98	1.3
2.900	18.701	3	4	1.0E-07	111.4	1.086	0.025	1.062	0.97	1.6
3.000	19.357	3	3	1.0E-07	111.4	1.123	0.045	1.078	0.95	1.7
3.100	20.013	3	3	1.0E-07	111.4	1.159	0.216	1.094	0.96	1.8
3.200	20.669	3	4	1.0E-07	111.4					

Job No: 26-1124-1313-1553
BOT Elev 839CH03 CDS

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 NBT-HQ (2000)	Col-13 Soil-Run (2000)	Col-14 Perm-K (cm/s)	Col-15 Drill WL (pcf)	Col-16 Z Stress (ksf)	Col-17 U Stress (ksf)	Col-18 E Stress (ksf)	Col-19 Cu	Col-20 RQD (%/ft)
6.000	21.325	3	0	1.0E-07	111.4	1.196	0.010	1.110	0.95	1.2
6.100	21.961	3	3	1.0E-07	111.4	1.131	0.107	1.126	0.94	1.8
6.200	22.426	4	3	1.0E-07	111.4	1.269	0.121	1.152	0.96	1.9
6.300	23.244	3	2	1.0E-07	111.4	1.336	0.168	1.158	0.93	1.5
6.400	23.995	3	2	1.0E-07	111.4	1.342	0.168	1.174	0.92	1.7
6.500	24.605	5	3	1.0E-07	111.4	1.379	0.189	1.190	0.91	1.0
6.600	25.242	3	3	1.0E-07	111.4	1.435	0.209	1.206	0.93	2.5
6.700	25.918	3	3	1.0E-07	111.4	1.451	0.230	1.222	0.90	2.1
6.800	26.574	3	3	1.0E-07	111.4	1.484	0.230	1.248	0.90	2.1
6.900	27.231	3	3	1.0E-07	111.4	1.525	0.251	1.264	0.89	1.9
7.000	27.557	3	3	1.0E-07	111.4	1.562	0.281	1.270	0.85	1.8
7.100	28.543	3	3	1.0E-07	111.4	1.596	0.317	1.296	0.83	2.1
7.200	29.199	3	3	1.0E-07	111.4	1.633	0.332	1.303	0.88	2.1
7.300	29.855	3	3	1.0E-07	111.4	1.671	0.353	1.319	0.87	2.3
7.400	30.511	3	3	1.0E-07	111.4	1.706	0.371	1.335	0.87	2.2
7.500	31.168	3	3	1.0E-07	111.4	1.744	0.394	1.351	0.86	2.2
7.600	31.824	3	3	1.0E-07	111.4	1.781	0.416	1.367	0.85	2.4
7.700	32.480	3	3	1.0E-07	111.4	1.817	0.435	1.383	0.85	2.2
7.800	33.136	3	3	1.0E-07	111.4	1.854	0.455	1.399	0.85	1.8
7.900	33.792	3	3	1.0E-07	111.4	1.891	0.476	1.415	0.84	2.1
8.000	34.448	3	3	1.0E-07	111.4	1.927	0.491	1.431	0.84	2.1
8.100	35.105	3	3	1.0E-07	111.4	1.964	0.517	1.447	0.83	2.2
8.200	35.761	3	3	1.0E-07	111.4	2.000	0.537	1.463	0.83	2.4
8.300	36.417	3	3	1.0E-07	111.4	2.037	0.558	1.479	0.82	2.5
8.400	37.073	3	3	1.0E-07	111.4	2.073	0.578	1.495	0.82	2.6
8.500	37.729	3	3	1.0E-07	111.4	2.110	0.599	1.511	0.81	2.5
8.600	38.385	3	3	1.0E-07	111.4	2.146	0.619	1.527	0.81	2.4
8.700	39.042	3	3	1.0E-07	111.4	2.183	0.639	1.543	0.80	1.5
8.800	39.698	3	3	1.0E-07	111.4	2.219	0.660	1.559	0.80	2.7
8.900	40.354	3	3	1.0E-07	111.4	2.254	0.680	1.576	0.79	2.8
9.000	41.010	3	3	1.0E-07	111.4	2.254	0.701	1.592	0.79	3.9
9.100	41.656	3	3	1.0E-07	111.4	2.319	0.721	1.608	0.78	3.4
9.200	42.323	3	3	1.0E-07	111.4	2.319	0.742	1.625	0.78	3.3
9.300	42.978	3	3	6.0E-06	114.6	2.367	0.762	1.642	0.78	3.7
9.400	43.635	3	3	6.0E-06	114.6	2.405	0.783	1.659	0.77	3.3
9.500	44.291	3	3	6.0E-06	114.6	2.442	0.803	1.676	0.77	3.5
9.600	44.947	3	3	1.0E-07	111.4	2.479	0.824	1.692	0.77	3.2
9.700	45.603	3	3	1.0E-07	111.4	2.516	0.844	1.709	0.76	3.4
9.800	46.259	3	3	1.0E-07	111.4	2.553	0.865	1.726	0.76	3.7
9.900	46.915	3	3	6.0E-06	114.6	2.591	0.885	1.743	0.75	3.6
10.000	47.572	3	3	6.0E-06	114.6	2.628	0.906	1.759	0.75	2.9
10.100	48.228	3	3	1.0E-07	111.4	2.665	0.926	1.776	0.75	3.2
10.200	48.884	3	3	1.0E-07	111.4	2.702	0.947	1.793	0.74	26.1
10.300	49.540	3	3	1.0E-07	111.4	2.739	0.967	1.810	0.74	54.1
10.400	50.196	3	6	5.0E-02	124.1	2.777	0.988	1.826	0.74	55.3
10.500	50.852	4	7	5.0E-02	124.1	2.814	1.009	1.843	0.73	29.3
10.600	51.509	9	6	5.0E-02	124.1	2.851	1.029	1.860	0.73	27.3
10.700	52.165	10	6	5.0E-02	124.1	2.888	1.050	1.876	0.72	22.5
10.800	52.821	17	4	5.0E-02	124.1	2.925	1.070	1.893	0.72	22.6
10.900	53.477	9	5	5.0E-02	124.1	2.962	1.090	1.909	0.71	20.2
11.000	54.133	5	5	5.0E-02	124.1	2.999	1.111	1.926	0.72	26.5
11.100	54.789	7	5	5.0E-02	124.1	3.037	1.131	1.943	0.71	24.4
11.200	55.446	9	6	5.0E-02	124.1	3.065	1.153	1.964	0.71	27.7
11.300	56.102	9	6	5.0E-02	124.1	3.096	1.173	1.985	0.71	30.6
11.400	56.758	9	6	5.0E-02	124.1	3.126	1.192	2.005	0.70	31.8
11.500	57.414	9	6	5.0E-02	124.1	3.157	1.212	2.025	0.70	30.4
11.600	58.070	9	5	5.0E-02	124.1	3.188	1.233	2.045	0.70	26.5
11.700	58.726	9	6	5.0E-02	124.1	3.218	1.253	2.065	0.69	31.4
11.800	59.382	9	6	5.0E-02	124.1	3.250	1.273	2.086	0.69	34.0
11.900	60.039	9	6	5.0E-02	124.1	3.281	1.294	2.106	0.69	
12.000		9	6	5.0E-02	124.1	3.311	1.314	2.126	0.69	
12.100		9	6	5.0E-02	124.1	3.342	1.334	2.146	0.69	
12.200		9	6	5.0E-02	124.1	3.373	1.355	2.166	0.69	
12.300		9	6	5.0E-02	124.1	3.404	1.375	2.186	0.69	
12.400		9	6	5.0E-02	124.1	3.435	1.395	2.206	0.69	
12.500		9	6	5.0E-02	124.1	3.466	1.416	2.226	0.69	
12.600		9	6	5.0E-02	124.1	3.497	1.436	2.246	0.69	
12.700		9	6	5.0E-02	124.1	3.528	1.456	2.266	0.69	
12.800		9	6	5.0E-02	124.1	3.559	1.477	2.286	0.69	
12.900		9	6	5.0E-02	124.1	3.590	1.497	2.306	0.69	
13.000		9	6	5.0E-02	124.1	3.621	1.517	2.326	0.69	
13.100		9	6	5.0E-02	124.1	3.652	1.538	2.346	0.69	
13.200		9	6	5.0E-02	124.1	3.683	1.558	2.366	0.69	
13.300		9	6	5.0E-02	124.1	3.714	1.578	2.386	0.69	
13.400		9	6	5.0E-02	124.1	3.745	1.599	2.406	0.69	
13.500		9	6	5.0E-02	124.1	3.776	1.619	2.426	0.69	
13.600		9	6	5.0E-02	124.1	3.807	1.639	2.446	0.69	
13.700		9	6	5.0E-02	124.1	3.838	1.659	2.466	0.69	
13.800		9	6	5.0E-02	124.1	3.869	1.680	2.486	0.69	
13.900		9	6	5.0E-02	124.1	3.900	1.700	2.506	0.69	
14.000		9	6	5.0E-02	124.1	3.931	1.720	2.526	0.69	
14.100		9	6	5.0E-02	124.1	3.962	1.740	2.546	0.69	
14.200		9	6	5.0E-02	124.1	3.993	1.761	2.566	0.69	
14.300		9	6	5.0E-02	124.1	4.024	1.781	2.586	0.69	
14.400		9	6	5.0E-02	124.1	4.055	1.801	2.606	0.69	
14.500		9	6	5.0E-02	124.1	4.086	1.821	2.626	0.69	
14.600		9	6	5.0E-02	124.1	4.117	1.842	2.646	0.69	
14.700		9	6	5.0E-02	124.1	4.148	1.862	2.666	0.69	
14.800		9	6	5.0E-02	124.1	4.179	1.882	2.686	0.69	
14.900		9	6	5.0E-02	124.1	4.210	1.902	2.706	0.69	
15.000		9	6	5.0E-02	124.1	4.241	1.923	2.726	0.69	
15.100		9	6	5.0E-02	124.1	4.272	1.943	2.746	0.69	
15.200		9	6	5.0E-02	124.1	4.303	1.963	2.766	0.69	
15.300		9	6	5.0E-02	124.1	4.334	1.983	2.786	0.69	
15.400		9	6	5.0E-02	124.1	4.365	2.004	2.806	0.69	
15.500		9	6	5.0E-02	124.1	4.396	2.024	2.826	0.69	
15.600		9	6	5.0E-02	124.1	4.427	2.044	2.846	0.69	
15.700		9	6	5.0E-02	124.1	4.458	2.064	2.866	0.69	
15.800		9	6	5.0E-02	124.1	4.489	2.085	2.886	0.69	
15.900		9	6	5.0E-02	124.1	4.520	2.105	2.906	0.69	
16.000		9	6	5.0E-02	124.1	4.551	2.125	2.926	0.69	
16.100		9	6	5.0E-02	124.1	4.582	2.145	2.946	0.69	
16.200		9	6	5.0E-02	124.1	4.613	2.166	2.966	0.69	
16.300		9	6	5.0E-02	124.1	4.644	2.186	2.986	0.69	
16.400		9	6	5.0E-02	124.1	4.675	2.206	3.006	0.69	
16.500		9	6	5.0E-02	124.1	4.706	2.226	3.026	0.69	
16.600		9	6	5.0E-02	124.1	4.737	2.247	3.046	0.69	
16.700		9	6	5.0E-02	124.1	4.768	2.267	3.066	0.69	
16.800		9	6	5.0E-02	124.1	4.799	2.287	3.086	0.69	
16.900		9	6	5.0E-02	124.1	4.830	2.307	3.106	0.69	
17.000		9	6	5.0E-02	124.1	4.861	2.328	3.126	0.69	
17.100		9	6	5.0E-02	124.1	4.892	2.348	3.146	0.69	
17.200		9	6	5.0E-02	124.1	4.923	2.368	3.166	0.69	
17.300		9	6	5.0E-02	124.1	4.954	2.388	3.186	0.69	
17.400		9	6	5.0E-02	124.1	4.985	2.409	3.206	0.69	
17.500		9	6	5.0E-02	124.1	5.016	2.429	3.226	0.69	
17.600		9	6	5.0E-02	124.1	5.047	2.449	3.246	0.69	
17.700		9	6	5.0E-02	124.1	5.078	2.469	3.266	0.69	
17.800		9	6	5.0E-02	124.1	5.109	2.490	3.286	0.69	
17.900		9	6	5.0E-02	124.1	5.140	2.510	3.306	0.69	
18.000		9	6	5.0E-02	124.1	5.171	2.530	3.326	0.69	
18.100		9	6	5.0E-02	124.1	5.202	2.550	3.346	0.69	
18.200		9	6	5.0E-02	124.1	5.233	2.571	3.366	0.69	

Run No 04-1124-1317.1592
CPT File: EDSCH03.CCR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 SBT-NO (Zone)	Col-13 SBT-EQn (Zone)	Col-14 Perm-k (cm/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (tsf)	Col-17 U Stress (tsf)	Col-18 R Stress (tsf)	Col-19 Cu	Col-20 Nfc (b/ft)
18.500	60.695	9	6	5.02-02	124.1	3.462	1.316	2.144	0.68	35.0
18.700	61.351	9	6	5.05-02	124.1	3.503	1.336	2.147	0.66	47.8

Geotech Inc. - CPT Interpretation
Interpretation Output - Release 1.32 Rev. A - Build 5 Format NGP Imperial

Job: 04-1124-1117-3592
Job No. 04-863
Client: Geosyntec Consultants
Project Pigeon Point Landfill - Wilmington Delaware
Site CPT-1
Location: Pigeon Point
Cone 10 TON AD066
CPT Date: 04/16/11
CPT Time: 08:31
CPT File: 6010P01.DAT
Northing (ft): 0.000000
Easting (ft): 0.000000
Elevation (ft) 0.000000

Water Table (m): 5.04 (ft): 16.5
Unit Weight of Water (default) 62.40 pcf
Nonsaturated Thickness (m): 0.00
Su Not used 15.00 Su/P' (Nc): 0.20
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Ic/Lic calculated using qcin
Ic/Lic calculated using qclnsu

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 N1(60) (n/ft)	Col-22 N1(60)Ic (n/ft)	Col-23 N1(60)Ic (b/ft)	Col-24 Qc	Col-25 Fr (%)	Col-26 Sq	Col-27 Ic	Col-28 FC (%)	Col-29 InZone (bool)
0.100	0.328	12.9	3.0	54.5	396.37	1.04	0.00	1.94	11.5	0
0.200	0.656	24.8	-9999.0	-1995.0	458.19	2.54	0.00	9999.0	-1999.0	0
0.300	1.640	19.1	-9999.0	-9999.0	133.63	3.42	-0.01	-9999.0	-9999.0	0
0.400	2.297	13.7	2.3	15.7	68.51	2.57	0.00	2.51	31.3	0
0.500	2.954	9.0	1.9	7.2	50.44	2.82	0.15	2.64	37.4	0
0.600	3.611	9.6	2.0	6.8	51.05	2.80	0.00	2.57	39.2	0
0.700	4.265	8.6	1.8	5.4	26.53	2.01	-0.01	2.67	53.7	0
0.800	4.921	5.2	1.0	3.2	5.53	2.15	-0.02	2.50	59.7	0
0.900	5.577	1.7	0.3	1.0	5.45	1.50	-0.17	3.08	64.2	0
1.000	6.234	2.7	1.0	2.6	6.41	1.26	-0.11	2.87	59.0	0
1.100	6.891	2.0	0.9	2.0	5.30	1.56	-0.10	3.05	62.9	0
1.200	7.546	3.8	1.4	2.7	11.08	0.48	-0.16	2.64	37.4	0
1.300	8.202	4.9	1.8	3.9	13.27	1.06	-0.03	2.66	39.2	0
1.400	8.856	5.0	1.7	3.3	10.05	1.64	0.00	2.28	50.8	0
1.500	9.514	2.9	1.4	2.0	7.32	1.21	0.04	2.91	52.0	0
1.600	10.170	2.0	1.4	2.2	6.24	1.68	0.04	3.04	62.1	0
1.700	10.827	1.5	1.1	1.4	3.19	2.35	0.13	3.37	67.0	0
1.800	11.483	1.5	-9999.0	-9999.0	2.94	0.91	0.36	-9999.0	-9999.0	0
1.900	12.139	2.1	-9999.0	-9999.0	4.28	0.64	0.13	-9999.0	-9999.0	0
2.000	12.795	2.0	-9999.0	-9999.0	3.96	0.41	0.16	-9999.0	-9999.0	0
2.100	13.451	2.0	1.3	1.4	3.73	1.24	0.20	3.28	41.4	0
2.200	14.107	1.9	1.4	1.4	3.42	1.57	0.28	3.26	37.7	0
2.300	14.764	1.8	1.4	1.3	3.18	1.62	0.71	3.19	30.5	0
2.400	15.420	2.3	1.5	1.6	3.15	1.46	0.22	3.21	33.8	0
2.500	16.076	2.3	1.3	1.4	4.45	0.93	0.20	3.04	62.0	0
2.600	16.732	2.4	1.7	1.5	4.57	1.05	0.18	3.12	56.1	0
2.700	17.388	1.3	-9999.0	-9999.0	1.80	1.26	0.41	-9999.0	-9999.0	0
2.800	18.044	1.7	-9999.0	-9999.0	2.02	1.95	0.25	-9999.0	-9999.0	0
2.900	18.701	1.8	1.6	1.1	2.06	1.11	0.38	3.31	81.7	0
3.000	19.357	1.2	1.5	1.1	2.53	1.31	0.26	3.34	86.9	0
3.100	20.013	1.7	1.5	1.0	2.31	1.31	0.26	3.18	50.0	0
3.200	20.669	1.7	1.4	1.0	2.32	1.26	0.27	3.34	88.0	0

Run No: [illegible]
[illegible] File: [illegible].COR

Col-21 Depth (m)	Col-22 Depth (ft)	Col-23 N(60)1c (b/ft)	Col-24 N(60)1c (b/ft)	Col-25 N1(60)cs (b/ft)	Col-26 Qt	Col-27 Fr (%)	Col-28 Bq	Col-29 Ic	Col-30 FC (%)	Col-31 [illegible] (zone)
6.500	21.325	1.9	1.7	1.1	1.63	1.65	0.19	3.36	85.1	3
6.700	21.981	1.7	-9999.0	9999.0	1.24	1.10	0.21	9999.0	9999.0	0
6.900	22.638	1.8	1.7	1.0	1.71	1.22	0.11	3.27	85.1	1
7.100	23.294	1.4	1.6	0.8	1.51	1.55	0.57	3.69	100.0	3
7.300	23.950	1.5	1.7	1.0	1.81	2.10	0.45	3.56	100.0	3
7.500	24.606	1.8	1.7	1.0	2.32	1.15	0.37	3.35	92.1	3
7.700	25.262	2.1	2.0	1.1	2.22	1.01	0.30	3.21	91.9	3
7.900	25.918	1.8	1.8	1.0	2.27	1.45	0.53	3.61	91.3	3
8.100	26.574	1.9	1.9	1.1	2.36	1.46	0.55	3.39	88.3	3
8.300	27.231	1.7	1.8	0.9	2.01	1.59	0.66	3.45	94.1	3
8.500	27.887	1.5	1.8	0.9	1.71	1.67	0.76	3.53	100.0	3
8.700	28.543	1.9	2.0	1.0	2.21	1.57	0.59	3.47	92.1	3
8.900	29.199	1.9	2.0	1.0	2.15	1.63	0.58	3.43	92.1	3
9.100	29.856	2.0	2.0	1.0	2.35	1.37	0.55	3.38	88.2	3
9.300	30.512	2.0	2.1	1.0	2.23	1.52	1.65	3.42	91.5	3
9.500	31.168	1.9	-9999.0	-9999.0	2.14	1.13	0.72	-9999.0	-9999.0	0
9.700	31.824	2.0	-9999.0	-9999.0	2.30	0.96	1.68	9999.0	9999.0	0
9.900	32.480	1.9	-9999.0	-9999.0	2.57	0.96	5.67	9999.0	-9999.0	0
10.100	33.136	1.5	-9999.0	-9999.0	1.29	1.16	2.05	-9999.0	-9999.0	0
10.300	33.792	1.8	-9999.0	-9999.0	1.79	0.69	0.35	-9999.0	-9999.0	0
10.500	34.448	1.8	-9999.0	-9999.0	1.71	0.87	0.01	-9999.0	-9999.0	0
10.700	35.105	1.8	-9999.0	9999.0	1.80	0.83	0.00	-9999.0	-9999.0	0
10.900	35.761	2.0	-9999.0	-9999.0	2.01	0.94	0.73	-9999.0	-9999.0	0
11.100	36.417	2.3	-9999.0	-9999.0	1.87	0.89	0.79	-9999.0	-9999.0	0
11.300	37.073	2.1	-9999.0	-9999.0	2.20	0.84	0.74	-9999.0	-9999.0	0
11.500	37.729	2.0	-9999.0	9999.0	2.07	1.04	0.79	-9999.0	-9999.0	0
11.700	38.385	2.1	2.4	1.0	2.35	1.45	0.70	3.43	92.2	3
11.900	39.042	2.0	2.4	0.9	1.60	1.73	0.79	3.51	120.0	3
12.100	39.698	2.0	2.5	1.0	1.96	1.72	0.72	3.42	98.4	3
12.300	40.354	2.2	2.5	1.0	2.10	1.60	0.45	3.64	95.1	3
12.500	41.010	2.4	2.7	1.1	2.50	1.77	0.44	3.40	99.1	3
12.700	41.666	2.5	3.0	1.3	2.72	2.69	0.35	3.45	94.7	3
12.900	42.322	2.9	3.2	1.4	2.96	2.81	0.28	3.41	92.5	3
13.100	42.978	2.4	3.0	1.3	2.68	2.45	0.27	3.44	95.4	3
13.300	43.635	2.1	2.5	1.0	1.94	2.80	0.44	3.59	120.0	3
13.500	44.291	2.5	3.1	1.2	2.61	2.35	0.35	3.44	95.5	3
13.700	44.947	2.3	3.0	1.1	2.10	2.51	0.66	3.52	120.0	3
13.900	45.603	2.4	3.1	1.2	2.30	2.40	0.50	3.48	97.2	3
14.100	46.259	2.6	3.2	1.2	2.58	2.53	0.46	3.46	96.3	3
14.300	46.915	2.8	3.5	1.3	2.98	2.29	0.45	3.36	88.3	3
14.500	47.572	2.7	2.9	1.1	2.72	1.10	0.24	3.29	79.9	3
14.700	48.228	2.2	-9999.0	-9999.0	1.88	1.20	0.39	-9999.0	-9999.0	0
14.900	48.884	2.5	-9999.0	-9999.0	2.22	1.14	0.41	-9999.0	-9999.0	0
15.100	49.540	26.8	40.0	25.5	102.60	0.54	0.00	1.53	5.0	6
15.300	50.196	40.0	55.5	41.5	161.02	0.53	0.00	1.43	2.0	6
15.500	50.852	39.9	48.7	38.6	151.48	0.73	0.00	1.59	4.1	6
15.700	51.509	29.7	37.6	29.5	117.51	0.72	0.00	1.80	8.2	6
15.900	52.165	12.6	15.1	11.9	36.50	1.02	-0.01	2.15	22.2	5
16.100	52.821	9.8	10.3	8.1	16.95	3.09	-0.05	2.82	47.1	5
16.300	53.477	8.4	8.5	6.3	14.09	2.84	0.05	2.84	38.5	4
16.500	54.133	14.4	17.7	13.0	41.45	1.20	0.02	2.15	17.0	5
16.700	54.785	18.9	24.8	18.1	58.84	0.47	-0.01	1.71	5.9	5
16.900	55.446	17.3	21.6	17.1	62.55	0.58	-0.01	1.61	6.3	5
17.100	56.102	19.5	27.2	19.7	73.45	0.61	-0.01	1.62	9.1	5
17.300	56.758	23.5	31.8	22.2	84.63	0.49	0.01	1.65	6.0	5
17.500	57.414	22.2	23.2	20.3	79.83	0.24	-0.01	1.54	3.4	5
17.700	58.070	16.2	25.0	16.2	49.97	0.48	-0.02	1.85	5.9	5
17.900	58.726	17.0	24.9	17.6	55.75	0.51	-0.01	1.93	13.2	6
18.100	59.382	21.7	32.3	21.4	76.70	0.76	-0.01	1.82	6.0	4
18.300	60.039	23.3	31.1	21.8	81.76	0.45	-0.01	1.62	5.0	5

n No: 04-1174-1117-3592
LST File 8090901.CDR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 N1(60) (b/ft)	Col-22 N(60)1c (b/ft)	Col-23 N1(60)1c (b/ft)	Col-24 Qt	Col-25 Yr (%)	Col-26 Eq	Col-27 Ia	Col-28 SC (%)	Col-29 IcZone (Zone)
16.100	60.095	21.9	11.6	22.0	87.51	0.79	-0.01	1.50	4.4	5
14.700	61.351	12.6	44.9	11.2	111.44	0.92	-0.01	1.02	4.9	5

Conetec Inc. - CPT Interpretation
Interpretation Output - Release 1.22 Rev. A - Build 5 Format: NDP Imperial Page: 1d

Run No: 06-1124-1317-3592
Job No: 16-609
Client GeoSyntec Consultants
Project Pigeon Point Landfill - Wilmington Delaware
Hole: CPT 1
Location Pigeon Point
Cone 20 TON AD16A
CPT Date: 04/16/12
CPT Time 14:31
CPT File: 6190705.COR
Northing (ft): 5.000000
Easting (m) 0.000000
Elevation (m) 0.000000

Water Table (m): 5.65 (ft): 18.5
Unit Weight of Water (default): 62.43 pcf
Averaging Increment (m) 0.20
Su Nkt used 15.05 Su/P' (min): 1.15
Dr Method Jamiolkowski - All Sands
State Parameter M. 1.26
Used Unit Weights Assigned to Soil Zones
Nkt=0 Calculated using qcin
Nkt=0 Calculated using qcincs

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Rf (%)	Col-11 Phi (deg)	Col-12 State Par	Col-32 Su/qc	Col-34 Young2 (tsf)	Col-35 Su (tsf)	Col-36 OCR
0.170	1.028	12.5	50.0	-0.55	7.032	34.1	1.323	10.0
0.187	0.964	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	3.722	10.1
0.500	1.640	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.635	10.0
0.700	2.297	-9999.0	-9999.0	-9999.0	-9999.0	9999.1	0.401	10.0
1.000	2.953	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	1.436	10.0
1.100	3.609	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	3.163	10.0
1.200	4.265	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.432	10.0
1.300	4.921	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.173	9.1
1.400	5.577	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.126	9.2
1.500	6.234	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.139	9.0
1.600	6.890	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.161	1.1
1.700	7.546	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.126	2.9
1.800	8.202	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.415	3.5
1.900	8.858	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.136	2.1
2.000	9.514	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.263	1.7
2.100	10.170	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.279	1.6
2.200	10.827	-9999.0	-9999.0	9999.0	-9999.0	9999.0	0.124	0.7
2.300	11.483	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.127	0.7
2.400	12.139	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.101	0.9
2.500	12.795	9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.090	0.5
2.600	13.451	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.148	1.1
2.700	14.107	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.161	0.6
2.800	14.764	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.176	0.8
2.900	15.420	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.217	0.9
3.000	16.076	9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.269	1.0
3.100	16.732	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.255	0.9
3.200	17.388	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.117	0.5
3.300	18.044	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.197	1.1
3.400	18.701	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.181	0.7
3.500	19.357	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.179	0.7
3.600	20.013	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.164	0.6
3.700	20.669	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.113	0.5

Job No: 06-1324-1317-1592
File: 8CEC003.CPT

Col-01 Depth (m)	Col-02 Depth (ft)	Col-31 Qc (kPa)	Col-32 Shi (deg)	Col-33 State Par	Col-34 Ko/qt	Col-35 Young's (kPa)	Col-36 Su (kPa)	Col-36 OCR
6.400	21.325	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.195	0.7
6.500	21.681	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.168	0.5
6.600	22.036	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.178	0.6
6.700	23.294	9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.215	0.5
6.800	23.950	9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.143	0.6
6.900	24.606	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.189	0.4
7.000	25.267	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.259	0.6
7.100	25.918	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.195	0.4
7.200	26.574	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.155	0.6
7.300	27.231	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.148	0.5
7.400	27.887	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.130	0.6
7.500	28.543	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.121	0.5
7.600	29.199	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.106	0.6
7.700	29.855	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.237	0.5
7.800	30.511	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.199	0.6
7.900	31.168	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.193	0.6
8.000	31.824	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.204	0.6
8.100	32.485	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.192	0.6
8.200	33.116	-9999.0	9999.0	-9999.0	9999.0	-9999.0	0.171	0.5
8.300	33.792	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.179	0.5
8.400	34.448	9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.163	0.6
8.500	35.105	9997.0	-9999.0	9999.0	-9999.0	-9999.0	0.181	0.5
8.600	35.761	-9999.0	9999.0	-9999.0	9999.0	-9999.0	0.196	0.6
8.700	36.417	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.182	0.6
8.800	37.073	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.220	0.6
8.900	37.729	9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.208	0.6
9.000	38.385	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.313	0.5
9.100	39.042	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.196	0.6
9.200	39.698	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.264	0.6
9.300	40.354	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.229	0.4
9.400	41.010	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.269	0.7
9.500	41.666	9997.0	-9999.0	-9999.0	-9999.0	-9999.0	0.252	0.7
9.600	42.322	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.321	0.9
9.700	42.978	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.256	0.7
9.800	43.635	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.215	0.6
9.900	44.293	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.252	0.7
10.000	44.967	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.247	0.9
10.100	45.603	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.272	0.6
10.200	46.259	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.237	0.7
10.300	46.915	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.266	0.7
10.400	47.572	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.319	0.7
10.500	48.228	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.722	0.6
10.600	48.884	-9999.0	-9999.0	9999.0	-9999.0	9999.0	0.244	0.6
10.700	49.540	76.2	42.0	-0.14	2.155	357.6	-1995.0	-9999.0
10.800	50.196	71.1	44.0	-0.19	-9999.0	-9999.0	-9999.0	-9999.0
10.900	50.852	67.7	44.0	0.09	-9999.0	-9999.0	9999.0	-9999.0
11.000	51.509	67.9	42.0	-0.17	2.010	341.6	9999.0	-9999.0
11.100	52.165	66.0	38.0	-0.20	3.154	327.7	-9999.0	-9999.0
11.200	52.821	60.0	32.0	-0.12	-9999.0	-9999.0	2.155	6.5
11.300	53.477	60.0	32.0	-0.02	9999.0	-9999.0	1.906	4.1
11.400	54.133	62.1	38.0	-0.12	2.957	246.5	-9999.0	-9999.0
11.500	54.789	60.1	40.0	-0.08	2.450	331.9	-9999.0	-9999.0
11.600	55.444	63.7	42.0	-0.10	2.483	315.5	9999.0	-9999.0
11.700	56.102	67.2	40.0	-0.14	2.160	263.4	-9999.0	-9999.0
11.800	56.758	72.5	41.0	-0.21	2.243	311.5	-9999.0	-9999.0
11.900	57.414	71.5	42.0	-0.05	2.265	385.6	-9999.0	-9999.0
12.000	58.070	59.0	38.0	-0.06	2.710	260.1	9999.0	-1995.0
12.100	58.726	53.9	40.0	-0.11	2.520	322.4	-9999.0	-9999.0
12.200	59.382	50.2	40.0	-0.14	2.316	320.4	-9999.0	9999.0
12.300	60.039	52.1	42.0	-0.19	2.267	401.8	-1995.0	-9999.0

Run No 04-1124-1117-3592
DPT File: 619CP03.CGR

Col-03 Depth (m)	Col-02 Depth (ft)	Col-10 Dr (%)	Col-01 Phi (deg)	Col-12 State Par	Col-13 Ss/qt	Col-24 YoungE (tsf)	Col-35 Su (tsf)	Col-36 OCR
18.100	65.695	73.0	42.0	-0.03	2.241	411.2	-9999.0	-9999.0
18.700	61.351	81.8	42.0	-0.11	2.023	506.0	-9999.0	-9999.0

Geotec Inc. - CPT Interpretation
Interpretation Output - Release 1.21 Rev. A - Build 5 Format: UID Imperial
Job No: 04-1124-1317-2612
Job No: 04-669
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-6
Location: Pigeon Point
Cone: 20 TON AD566
CPT Date: 04/16/21
CPT Time: 10:01
CPT File: 6CSCPT4.CGR
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 5.43 (ft): 17.8
Unit Weight of Water (default) 62.40 pcf
Averaging Increment (m): 0.20
Su Nkt used: 15.00 Su/P' (Nc): 0.30
Qc Method : Jamiolkowski All Sands
Beam Parameter B: 1.20
Used Unit Weights Averaged to Soil Zones
Kh60c Calculated using qc1n
Kh60s Calculated using qc1ncs

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (zone)	Col-11 SBTn (zone)
0.100	0.328	-0.100	-0.328	10.99	13.93	0.35	1.84	-0.93	6	-9999.5
0.200	0.656	-0.200	-0.656	10.10	30.68	0.63	2.04	-3.51	5	8
0.300	0.984	-0.300	-0.984	22.97	26.35	0.66	2.60	-2.92	6	6
0.400	1.640	-0.500	-1.640	20.79	20.95	0.39	1.88	-2.52	6	6
0.500	2.297	-0.700	-2.297	11.65	11.55	0.16	1.36	0.02	5	5
0.600	2.953	-0.800	-2.953	4.73	4.70	0.13	2.76	-4.67	3	4
0.700	3.609	-1.000	-3.609	5.13	5.14	0.06	1.01	2.59	3	5
0.800	4.265	-1.200	-4.265	4.96	5.07	0.07	1.36	5.08	3	4
0.900	4.921	-1.300	-4.921	5.65	5.69	0.09	0.56	5.69	5	4
1.000	5.577	-1.500	-5.577	6.21	6.23	0.12	2.70	10.85	4	4
1.100	6.234	-1.700	-6.234	6.61	6.62	0.13	2.14	1.38	5	4
1.200	6.890	-1.900	-6.890	6.11	5.22	0.03	1.01	3.16	1	4
1.300	7.546	-2.100	-7.546	5.15	5.21	0.06	1.12	8.55	1	4
1.400	8.202	-2.300	-8.202	5.57	5.56	0.06	1.15	11.02	1	4
1.500	8.858	-2.500	-8.858	5.02	5.06	0.06	0.74	18.36	4	4
1.600	9.514	-2.700	-9.514	5.30	5.35	0.05	1.59	17.27	1	4
1.700	10.170	-2.900	-10.170	5.77	5.85	0.09	1.54	14.91	1	4
1.800	10.827	-3.100	-10.827	6.35	6.42	0.09	1.34	15.53	1	3
1.900	11.483	-3.300	-11.483	5.33	6.21	0.09	1.69	24.41	1	3
2.000	12.139	-3.500	-12.139	5.83	5.94	0.09	1.26	25.46	1	3
2.100	12.795	-3.700	-12.795	5.37	5.33	0.08	1.52	37.32	1	3
2.200	13.451	-3.900	-13.451	6.05	6.21	0.08	2.06	18.66	5	3
2.300	14.107	-4.100	-14.107	7.47	7.56	0.14	1.91	23.79	1	3
2.400	14.764	-4.300	-14.764	5.69	5.80	0.07	1.41	29.79	1	3
2.500	15.420	-4.500	-15.420	6.30	6.34	0.09	1.74	30.82	1	3
2.600	16.076	-4.700	-16.076	6.70	6.66	0.11	1.50	31.27	1	3
2.700	16.732	-4.900	-16.732	5.54	5.59	0.09	1.61	33.32	5	3
2.800	17.388	-5.100	-17.388	6.17	6.03	0.10	1.66	16.73	5	3
2.900	18.044	-5.300	-18.044	6.41	6.57	0.10	1.56	30.65	5	3
3.000	18.701	-5.500	-18.701	7.01	7.20	0.11	1.57	41.67	5	3
3.100	19.357	-5.700	-19.357	6.50	6.75	0.11	1.69	44.21	5	3
3.200	20.013	-5.900	-20.013	5.43	5.62	0.09	1.66	46.86		
3.300	20.669	-6.100	-20.669	4.71	4.98	0.07	1.50			

Job No: 94-1124-1217.1035
CPT File: B19CP04 COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (zone)	Col-11 SBTn (zone)
6.500	21.325	-6.500	-21.325	6.08	6.33	0.06	1.11	52.21	5	3
6.700	21.981	-6.700	-21.981	5.53	5.75	0.09	1.65	50.56	4	3
6.900	22.638	-6.900	-22.638	6.65	6.85	0.08	1.20	52.27	3	3
7.100	23.294	-7.100	-23.294	5.07	5.95	0.05	1.02	54.27	3	3
7.300	23.950	-7.300	-23.950	6.65	6.95	0.07	1.42	60.62	3	3
7.500	24.606	-7.500	-24.606	5.34	5.55	0.07	1.22	65.73	3	3
7.700	25.262	-7.700	-25.262	5.92	6.25	0.07	1.08	71.05	3	3
7.900	25.918	-7.900	-25.918	5.55	5.91	0.08	1.36	67.57	3	3
8.100	26.574	-8.100	-26.574	5.38	5.72	0.07	1.23	73.56	3	3
8.300	27.231	-8.300	-27.231	6.23	6.58	0.08	1.14	75.50	3	3
8.500	27.887	-8.500	-27.887	6.35	6.71	0.08	1.26	75.96	3	3
8.700	28.543	-8.700	-28.543	6.00	6.19	0.06	1.22	82.15	3	3
8.900	29.199	-8.900	-29.199	7.26	7.62	0.08	1.08	72.79	3	3
9.100	29.856	-9.100	-29.856	6.86	7.23	0.07	1.00	81.18	3	3
9.300	30.512	-9.300	-30.512	6.43	7.06	0.07	1.03	91.96	3	3
9.500	31.168	-9.500	-31.168	6.35	6.82	0.06	0.92	99.33	3	3
9.700	31.824	-9.700	-31.824	6.33	6.60	0.07	0.99	98.95	3	3
9.900	32.481	-9.900	-32.481	5.46	7.12	0.07	0.95	94.62	3	3
10.100	33.136	-10.100	-33.136	5.87	7.39	0.07	0.98	61.77	3	3
10.300	33.792	-10.300	-33.792	6.72	7.77	0.07	0.96	71.35	3	3
10.500	34.448	-10.500	-34.448	6.71	7.11	0.03	0.52	55.53	3	3
10.700	35.105	-10.700	-35.105	7.12	7.58	0.08	1.03	97.32	3	3
10.900	35.761	-10.900	-35.761	7.17	7.63	0.08	1.05	97.72	3	3
11.100	36.417	-11.100	-36.417	7.59	7.97	0.07	0.95	101.98	3	3
11.300	37.073	-11.300	-37.073	7.32	7.76	0.07	0.90	95.63	3	3
11.500	37.729	-11.500	-37.729	6.88	7.60	0.07	0.95	110.92	3	3
11.700	38.385	-11.700	-38.385	7.46	7.96	0.10	1.19	114.07	3	3
11.900	39.042	-11.900	-39.042	7.35	7.86	0.10	1.26	105.36	3	3
12.100	39.698	-12.100	-39.698	6.31	6.60	0.06	1.53	103.69	3	3
12.300	40.354	-12.300	-40.354	6.42	6.81	0.06	1.39	84.15	3	3
12.500	41.010	-12.500	-41.010	7.96	8.32	0.13	1.63	83.59	3	3
12.700	41.666	-12.700	-41.666	7.81	8.24	0.14	1.71	49.35	3	3
12.900	42.322	-12.900	-42.322	8.26	8.72	0.11	1.34	102.94	3	3
13.100	42.978	-13.100	-42.978	10.65	10.62	0.21	2.01	111.50	4	3
13.300	43.635	-13.300	-43.635	10.60	10.99	0.26	2.32	127.13	3	3
13.500	44.291	-13.500	-44.291	12.18	12.60	0.27	2.13	131.32	3	3
13.700	44.947	-13.700	-44.947	10.91	11.46	0.21	1.84	116.16	3	3
13.900	45.603	-13.900	-45.603	9.31	9.77	0.07	0.69	57.58	3	3
14.100	46.259	-14.100	-46.259	9.65	10.15	0.05	0.54	93.17	3	3
14.300	46.915	-14.300	-46.915	9.79	10.39	0.10	0.53	85.61	3	3
14.500	47.572	-14.500	-47.572	10.33	10.64	0.25	1.37	66.46	3	3
14.700	48.228	-14.700	-48.228	69.01	69.11	0.20	0.29	27.35	8	6
14.900	48.884	-14.900	-48.884	135.55	137.05	0.66	0.31	23.32	9	6
15.100	49.540	-15.100	-49.540	106.55	108.69	0.56	0.51	-5.93	9	6
15.300	50.196	-15.300	-50.196	63.00	63.19	0.32	1.19	62.57	7	6
15.500	50.853	-15.500	-50.853	130.56	130.55	0.56	0.43	-2.51	9	6
15.700	51.509	-15.700	-51.509	136.76	136.46	0.25	0.55	15.30	9	6
15.900	52.165	-15.900	-52.165	120.91	121.04	0.35	0.25	29.67	9	6
16.100	52.821	-16.100	-52.821	107.45	107.52	0.53	0.49	15.52	9	6
16.300	53.477	-16.300	-53.477	69.47	69.41	1.50	2.15	-22.38	7	6
16.500	54.133	-16.500	-54.133	38.20	38.16	1.09	2.86	0.47	5	4
16.700	54.789	-16.700	-54.789	37.95	37.92	1.08	2.85	-5.20	6	4
16.900	55.446	-16.900	-55.446	79.09	79.63	1.39	1.76	-4.50	7	5
17.100	56.102	-17.100	-56.102	306.07	305.56	1.46	0.48	-0.44	10	4
17.300	56.758	-17.300	-56.758	521.69	521.73	1.95	0.36	3.35	10	6

Geotech Inc. - CPT Interpretation
Interpretation Output - Release 1.23 Rev. A - Build 5 Format: SLP Imperial

Job No. 04-1174-1117-3630
Job No: 04-805
Client: Deployment Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site CPT-4
Location: Pigeon Point
Cone: 20 TON ADHEE
CPT Date 04/16/11
CPT Time: 10:01
CPT File: E0320E4.CCR
Northing (m) 1.000000
Easting (m) 0.000000
Elevation (m) 0.000000

Water Table (m): 5.43 (ft): 17.8
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m): 0.20
Su Nkt used: 15.00 Sv/P' (min): 0.10
Qc Method Jamiolkowski - All Sands
Strain Parameter Ko: 1.20
Used Unit Weights Assigned to Soil Data
Sigmo Calculated using gamma
Kinocs Calculated using Gamma

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 SBT-BQ (zone)	Col-13 SBT-BQ (zone)	Col-14 Perm-K (cm/s)	Col-15 Unit Wt (pcf)	Col-16 Y Stress (tsf)	Col-17 U Stress (tsf)	Col-18 U Stress (ksf)	Col-19 Cu	Col-20 Cu (lb/ft2)
0.100	0.328	2	-9999.0	5.0E-05	114.5	0.019	0.000	0.010	2.01	7.1
0.200	0.656	1	1	5.0E-05	114.6	0.054	0.000	0.056	2.00	11.8
0.300	1.040	1	2	5.0E-05	114.6	0.094	0.000	0.094	2.00	11.1
0.400	1.297	1	5	5.0E-05	114.6	0.132	0.002	0.132	2.01	6.0
0.500	1.753	6	5	5.0E-06	114.5	0.169	0.000	0.169	2.00	5.1
0.600	1.969	4	5	5.0E-06	111.4	0.204	0.000	0.204	2.00	4.5
0.700	2.297	4	5	1.0E-07	111.4	0.243	0.000	0.243	2.01	2.5
0.800	2.625	4	5	1.0E-07	111.4	0.279	0.000	0.279	1.69	2.4
0.900	2.953	4	5	1.0E-07	111.4	0.316	0.000	0.315	1.78	2.8
1.000	3.281	4	5	1.0E-07	114.6	0.353	0.000	0.353	1.68	3.1
1.100	3.609	4	5	5.0E-05	114.5	0.391	0.000	0.391	1.60	4.0
1.200	3.937	4	5	5.0E-07	111.4	0.429	0.000	0.429	1.50	2.5
1.300	4.265	5	5	1.0E-07	111.4	0.464	0.000	0.464	1.47	2.7
1.400	4.593	4	5	1.0E-07	111.4	0.501	0.000	0.501	1.43	2.4
1.500	4.921	4	5	1.0E-07	111.4	0.537	0.000	0.537	1.35	2.6
1.600	5.249	4	5	1.0E-07	111.4	0.574	0.000	0.574	1.32	3.7
1.700	5.577	4	5	1.0E-07	114.6	0.611	0.000	0.611	1.26	3.1
1.800	5.905	4	5	5.0E-05	111.4	0.648	0.000	0.648	1.24	3.0
1.900	6.233	4	5	1.0E-07	111.4	0.686	0.000	0.686	1.21	2.8
2.000	6.561	4	5	1.0E-07	111.4	0.721	0.000	0.721	1.18	2.6
2.100	6.889	4	5	1.0E-07	111.4	0.758	0.000	0.758	1.15	3.0
2.200	7.217	4	5	1.0E-07	111.4	0.795	0.000	0.795	1.12	3.6
2.300	7.545	4	5	1.0E-07	111.4	0.832	0.000	0.832	1.10	2.7
2.400	7.873	4	5	1.0E-07	114.6	0.869	0.000	0.869	1.07	2.9
2.500	8.201	4	5	5.0E-05	111.4	0.905	0.000	0.905	1.05	4.3
2.600	8.529	4	5	1.0E-07	111.4	0.942	0.000	0.942	1.02	7.7
2.700	8.857	4	5	1.0E-07	111.4	0.979	0.000	0.979	1.01	9.3
2.800	9.185	4	5	1.0E-07	114.6	1.016	0.001	1.016	1.00	3.1
2.900	9.513	4	5	5.0E-05	114.6	1.017	0.027	1.027	0.95	3.4
3.000	9.841	4	5	5.0E-06	114.6	1.055	0.037	1.044	0.96	3.3
3.100	10.169	4	5	5.0E-06	114.6	1.092	0.048	1.141	0.97	3.7
3.200	10.497	4	5	5.0E-06	111.4	1.129	0.063	1.177	0.90	2.4
3.300	10.825	4	5	1.0E-07	111.4	1.164	0.079			
3.400	11.153	4	5	1.0E-07						

Run No: 04-1324-1117-7650
DAT File: 0290P04.CDK

Col-51 Depth (m)	Col-52 Depth (ft)	Col-12 SBT-BQ (Zone)	Col-13 SBT-RQ (Zone)	Col-14 Perm-k (cm/s)	Col-15 Unit Wt (pcf)	Col-16 V Stress (csf)	Col-17 U Stress (csf)	Col-18 E Stress (csf)	Col-19 Cn	Col-20 SPT (b/ft)
6.500	21.325	3	3	1.0E-07	111.4	1.202	0.109	1.033	0.96	4.5
6.700	21.981	3	3	5.5E-07	114.6	1.239	0.119	1.110	0.95	1.7
6.900	22.638	3	3	1.0E-07	111.4	1.277	0.130	1.126	0.94	5.3
7.100	23.294	3	3	1.0E-07	111.4	1.313	0.141	1.142	0.94	2.8
7.300	23.950	3	3	1.7E-07	111.4	1.350	0.151	1.158	0.93	2.4
7.500	24.606	3	3	1.0E-07	111.4	1.384	0.212	1.174	0.92	2.7
7.700	25.262	3	3	2.0E-07	111.4	1.423	0.223	1.190	0.92	3.0
7.900	25.918	3	3	1.0E-07	111.4	1.459	0.243	1.206	0.91	2.8
8.100	26.574	3	3	1.0E-07	111.4	1.496	0.273	1.222	0.90	2.7
8.300	27.231	3	3	1.0E-07	111.4	1.532	0.284	1.237	0.90	3.2
8.500	27.887	3	3	1.0E-07	111.4	1.569	0.324	1.253	0.89	2.2
8.700	28.543	3	3	1.0E-07	111.4	1.605	0.335	1.271	0.89	3.1
8.900	29.199	3	3	1.0E-07	111.4	1.642	0.355	1.287	0.88	3.7
9.100	29.856	3	3	1.0E-07	111.4	1.679	0.376	1.303	0.88	2.0
9.300	30.512	3	3	1.0E-07	111.4	1.711	0.396	1.319	0.87	3.4
9.500	31.168	3	3	1.0E-07	111.4	1.752	0.417	1.335	0.87	4.3
9.700	31.824	3	3	1.0E-07	111.4	1.788	0.437	1.351	0.86	1.2
9.900	32.480	3	3	1.0E-07	111.4	1.825	0.458	1.367	0.86	3.4
10.100	33.136	3	3	1.0E-07	111.4	1.861	0.478	1.383	0.85	3.5
10.300	33.792	3	3	1.0E-07	111.4	1.898	0.499	1.399	0.85	3.4
10.500	34.448	3	3	1.0E-07	111.4	1.934	0.519	1.415	0.84	3.6
10.700	35.105	3	3	1.0E-07	111.4	1.971	0.540	1.431	0.84	3.0
10.900	35.761	3	3	1.0E-07	111.4	2.017	0.560	1.447	0.83	3.7
11.100	36.417	3	3	1.0E-07	111.4	2.044	0.581	1.463	0.83	3.0
11.300	37.073	3	3	1.0E-07	111.4	2.081	0.601	1.479	0.82	3.7
11.500	37.729	3	3	1.0E-07	111.4	2.117	0.622	1.495	0.82	3.5
11.700	38.385	3	3	5.0E-06	114.6	2.154	0.642	1.512	0.82	3.8
11.900	39.042	3	3	5.5E-06	114.6	2.192	0.663	1.529	0.81	3.8
12.100	39.698	3	3	5.0E-06	114.6	2.229	0.683	1.546	0.80	4.1
12.300	40.354	4	3	5.0E-06	114.6	2.267	0.704	1.563	0.80	4.2
12.500	41.010	3	3	5.7E-06	114.6	2.305	0.724	1.580	0.80	4.0
12.700	41.666	3	3	5.0E-06	114.6	2.342	0.745	1.596	0.79	3.9
12.900	42.322	3	3	5.0E-06	114.6	2.380	0.765	1.613	0.79	4.2
13.100	42.978	4	3	5.0E-06	114.6	2.417	0.786	1.632	0.78	5.1
13.300	43.635	4	3	5.0E-06	114.6	2.455	0.806	1.649	0.78	5.3
13.500	44.291	4	3	5.0E-06	114.6	2.493	0.824	1.666	0.77	6.1
13.700	44.947	4	3	5.0E-05	114.6	2.530	0.847	1.683	0.77	5.5
13.900	45.603	4	3	5.0E-05	114.6	2.568	0.867	1.700	0.77	3.7
14.100	46.259	4	3	5.0E-05	114.6	2.605	0.888	1.717	0.76	3.9
14.300	46.915	4	3	5.0E-05	114.6	2.643	0.908	1.734	0.76	3.9
14.500	47.572	4	3	5.0E-05	114.6	2.680	0.929	1.752	0.76	5.1
14.700	48.228	4	3	5.0E-05	114.6	2.718	0.949	1.771	0.75	26.5
14.900	48.884	4	3	5.0E-05	120.9	2.759	0.970	1.789	0.75	25.3
15.100	49.540	4	3	5.0E-05	114.6	2.800	0.990	1.810	0.74	20.2
15.300	50.196	4	3	5.0E-05	117.7	2.840	1.011	1.833	0.74	15.5
15.500	50.853	4	3	5.0E-05	124.1	2.875	1.031	1.858	0.74	26.0
15.700	51.509	4	3	5.0E-05	124.1	2.920	1.052	1.883	0.73	30.0
15.900	52.165	4	3	5.0E-05	124.1	2.961	1.072	1.858	0.72	21.2
16.100	52.821	4	3	5.0E-05	124.1	3.002	1.093	1.903	0.71	20.6
16.300	53.477	4	3	5.0E-05	117.7	3.041	1.113	1.926	0.72	22.3
16.500	54.133	4	3	5.0E-05	114.6	3.079	1.134	1.945	0.72	24.6
16.700	54.789	4	3	5.0E-05	114.6	3.117	1.154	1.963	0.71	24.5
16.900	55.446	4	3	5.0E-05	117.7	3.156	1.175	1.985	0.71	25.4
17.100	56.102	5	3	5.0E-05	127.1	3.195	1.195	2.100	0.71	46.7
17.320	56.758	10	10	5.0E-05	127.3	3.237	1.216	2.021	0.70	41.3

Fre Inc. - CPT Interpretation
Operation Output - Release 3.29 Rev. A - Build 5 Format: NGP Imperial

Job No. 04-1126-1321 3132
Job No 04-609
Client GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site CPT-4
Location: Pigeon Point
Cone: 20 TON 20060
CPT Date 04/14/21
CPT Time 10:01
CPT File 0001006 CPT
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 5.49 (ft): 17.6
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m): 0.20
Su Nkt Used: 15.00 Su/P' Incl: 0.30
Qc Method : Jamiolkowski - All Sands
State Parameter M 1.20
Used Unit Weights Assigned to Soil Zones
Qt(Qc) Calculated using Qtn
Qt(Qm) Calculated using Qtnce

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Qt(Qc) (tsf)	Col-04 Qt(Qm) (tsf)	Col-05 Qt(Qe) (tsf)	Col-06 Qt(Qs) (tsf)	Col-07 Qt(Qf) (tsf)	Col-08 Qt(Qp) (tsf)	Col-09 Qt(Qr) (tsf)	Col-10 Qt(Qv) (tsf)	Col-11 Qt(Qm) (tsf)	Col-12 Qt(Qc) (tsf)	Col-13 Qt(Qm) (tsf)	Col-14 Qt(Qm) (tsf)	Col-15 Qt(Qm) (tsf)	Col-16 Qt(Qm) (tsf)	Col-17 Qt(Qm) (tsf)	Col-18 Qt(Qm) (tsf)	Col-19 Qt(Qm) (tsf)
0.100	0.328	24.5	-9999.0	-9999.0	1019.06	1.50	0.00	9999.0	-9999.0									0
0.200	0.656	25.6	-9999.0	-9999.0	543.11	1.04	0.00	9999.0	-9999.0									0
0.300	0.984	22.2	6.5	29.6	307.05	1.01	0.00	2.07	25.0									5
0.400	1.640	15.3	6.6	15.3	166.96	1.09	0.00	2.10	21.8									5
0.500	2.297	12.1	5.9	6.9	97.25	1.37	0.00	2.44	18.3									5
0.600	2.953	9.0	5.3	6.1	21.21	2.34	-0.03	2.66	16.3									4
0.700	3.609	4.5	5.4	6.0	20.17	3.17	0.07	2.63	16.9									4
0.800	4.265	4.5	3.3	4.6	15.92	3.43	0.07	2.61	36.6									4
0.900	4.921	5.0	2.6	3.6	17.64	3.03	0.05	2.64	37.2									5
1.000	5.577	5.4	1.0	5.0	17.95	3.86	0.07	2.67	38.5									4
1.100	6.234	6.4	1.8	4.5	14.97	3.38	0.01	7.79	45.2									4
1.200	6.890	3.8	1.4	3.2	13.17	3.11	0.02	7.77	42.1									4
1.300	7.546	3.9	1.6	3.2	11.07	3.22	0.05	2.76	43.6									4
1.400	8.202	3.4	1.5	3.5	9.10	3.32	0.06	2.35	48.1									4
1.500	8.858	3.5	1.5	3.3	9.03	0.88	0.12	2.77	44.3									4
1.600	9.514	4.3	1.9	2.9	8.29	3.74	0.10	2.92	52.2									6
1.700	10.170	7.9	1.9	2.5	9.51	3.59	0.04	2.67	51.3									4
1.800	10.827	3.7	1.9	2.9	8.66	3.52	0.11	2.89	51.8									3
1.900	11.483	3.5	1.9	2.5	7.68	3.57	0.15	2.46	56.8									3
2.000	12.139	3.0	1.7	2.3	6.59	3.58	0.23	2.52	55.7									3
2.100	12.795	3.4	2.0	2.4	7.22	3.51	0.21	2.96	56.0									3
2.200	13.451	3.4	2.4	2.3	8.53	2.30	0.03	2.97	54.0									3
2.300	14.107	4.3	2.9	2.0	5.76	3.42	0.16	3.04	51.3									3
2.400	14.764	2.9	2.1	2.1	5.08	3.46	0.16	3.05	61.8									3
2.500	15.420	3.2	2.2	2.2	6.16	3.07	0.15	3.03	56.3									3
2.600	16.076	4.4	2.0	1.9	5.04	3.39	0.21	3.14	48.1									3
2.700	16.732	2.8	2.3	2.1	6.07	1.69	0.17	3.05	52.0									3
2.800	17.388	3.4	2.1	2.0	5.50	1.86	0.14	3.11	69.1									3
2.900	18.044	4.3	2.4	2.1	5.05	1.71	0.16	3.26	62.1									3
3.000	18.701	3.5	2.3	2.5	5.37	1.83	0.22	3.32	47.3									3
3.100	19.357	3.1	2.1	2.7	4.23	1.95	0.29	3.22	74.5									3
3.200	20.013	2.6	1.9	2.4	3.55	1.70	0.36	3.20	77.6									3
3.300	20.669	2.4																

Run No: 09-1124 1317.2030
CPT File: E09CP04.DOR

Col-21 Depth (m)	Col-22 Depth (ft)	Col-23 N(60)Ic (b/ft)	Col-24 N(60)Ic (b/ft)	Col-25 Cb	Col-26 Fr (%)	Col-27 Rq	Col-28 Ic	Col-29 FC (%)	Col-29 IcZone (Zone)
6.500	21.326	2.4	2.2	2.7	4.59	1.51	0.10	3.34	58.6	3
6.700	21.981	4.5	2.2	1.6	4.05	2.05	0.22	1.24	76.0	2
6.900	22.638	1.1	2.4	1.2	4.98	2.47	0.25	3.10	65.5	1
7.100	23.294	2.7	2.2	1.6	4.04	1.65	0.30	3.21	71.6	3
7.300	23.950	2.2	2.6	1.1	1.10	1.95	0.67	3.34	84.4	2
7.500	24.606	2.6	2.1	3.4	3.54	1.55	0.64	3.15	77.2	3
7.700	25.262	2.7	2.3	2.5	4.04	1.40	0.40	1.17	70.8	2
7.900	25.918	1.6	2.3	1.5	3.19	1.60	0.42	3.76	77.5	2
8.100	26.574	2.5	2.2	1.4	3.46	1.05	0.47	3.27	78.2	3
8.300	27.231	2.2	2.4	2.6	4.08	1.43	0.41	1.18	71.5	3
8.500	27.887	2.9	2.5	1.6	4.10	1.51	0.40	3.46	71.5	3
8.700	28.543	2.7	2.4	1.4	3.76	1.62	0.47	3.21	75.3	3
8.900	29.199	1.2	2.7	1.7	4.45	1.18	0.32	1.22	66.6	2
9.100	29.855	4.0	2.6	1.4	4.26	1.51	0.39	1.14	68.4	2
9.300	30.511	1.5	2.5	1.5	4.04	1.26	0.45	1.17	70.5	3
9.500	31.168	2.8	2.6	1.4	3.80	1.24	0.53	1.17	71.0	3
9.700	31.824	2.7	2.5	1.4	3.56	1.35	0.56	1.22	74.2	3
9.900	32.480	2.9	2.4	1.5	3.47	1.26	0.61	0.57	75.3	2
10.100	33.136	3.0	2.6	1.5	4.00	1.13	0.19	1.15	68.9	2
10.300	33.792	2.5	2.6	1.4	3.59	1.32	0.36	1.20	72.6	3
10.500	34.448	2.9	2.4	1.4	1.65	1.26	0.42	3.19	72.4	3
10.700	35.105	3.0	2.0	1.5	3.92	1.39	0.45	1.18	71.7	3
10.900	35.761	3.5	2.6	1.5	3.58	1.43	0.44	1.24	72.4	2
11.100	36.417	1.2	2.8	1.5	4.05	1.14	0.44	1.14	68.1	3
11.300	37.073	3.2	2.0	1.3	3.65	1.20	0.44	1.27	70.5	3
11.500	37.729	2.3	2.3	1.4	3.56	1.31	0.54	1.22	74.2	2
11.700	38.385	3.1	2.0	1.5	3.86	1.61	0.59	1.23	74.5	3
11.900	39.042	1.6	2.0	1.5	3.69	1.73	0.66	1.25	74.8	2
12.100	39.698	2.3	2.2	1.7	4.12	2.20	0.60	1.26	77.6	2
12.300	40.354	2.4	2.4	2.0	4.29	2.71	0.30	1.23	76.4	2
12.500	41.010	2.2	2.3	1.6	1.81	2.21	0.31	1.29	75.6	3
12.700	41.666	2.3	2.3	1.4	4.69	2.38	0.36	1.31	82.4	3
12.900	42.322	2.3	1.6	1.6	2.93	2.37	0.39	1.29	82.1	3
13.100	42.978	4.2	4.0	2.0	5.02	2.60	0.15	1.23	76.2	3
13.300	43.635	4.1	4.2	2.1	5.15	2.63	0.35	1.34	74.9	3
13.500	44.291	4.7	4.5	2.1	5.19	2.60	0.32	2.14	56.3	2
13.700	44.947	4.2	4.3	2.0	5.30	2.19	0.31	1.17	73.5	3
13.900	45.603	7.9	3.9	1.5	4.21	0.94	0.30	1.08	66.3	2
14.100	46.259	3.0	3.5	1.6	4.36	1.34	0.37	1.10	65.8	3
14.300	46.915	3.0	1.6	1.6	4.35	1.25	0.24	1.12	67.2	3
14.500	47.572	3.9	3.9	1.7	4.65	1.53	0.14	1.18	71.3	2
14.700	48.228	32.6	13.2	32.2	37.42	0.30	0.05	1.90	5.5	6
14.900	48.884	15.0	26.1	16.4	75.05	0.34	0.00	1.55	6.0	6
15.100	49.540	15.5	19.8	15.1	56.65	0.52	0.59	1.94	9.0	6
15.300	50.196	10.0	10.3	3.8	23.52	1.02	0.01	2.48	29.6	5
15.500	50.852	16.4	23.6	17.7	61.08	0.44	-0.02	1.33	5.0	6
15.700	51.500	22.0	25.2	21.1	82.40	0.56	0.01	1.72	4.5	5
15.900	52.165	16.9	21.5	16.0	67.53	0.10	0.00	1.46	5.0	6
16.100	52.821	14.3	20.2	14.9	54.36	0.53	-0.02	1.86	9.0	6
16.300	53.477	10.0	16.2	11.9	34.41	2.30	-0.02	2.38	25.6	5
16.500	54.133	10.5	13.0	5.4	18.05	3.13	-0.04	2.60	65.9	4
16.700	54.789	10.4	10.9	5.2	17.73	3.31	0.04	1.30	46.3	4
16.900	55.446	14.1	17.7	13.9	38.64	1.41	-0.02	2.27	21.5	5
17.100	56.102	34.4	50.4	26.4	250.01	0.48	0.06	1.66	2.4	6
17.300	56.758	58.6	75.6	51.2	250.42	0.37	1.05	1.20	0.5	7

GeoTec Inc. - CPT Interpretation
Interpretation Output - Version 1.22 Rev. A - Build 5 Format: MKS Imperial
I.D.: 04-1124-1311-5630
Job No: 04-603
Client: GeoSystems Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-4
Location: Pigeon Point
Cone: 20 TON ADCMS
CPT Date: 04/16/11
CPT Time: 10:31
CPT File: 609CP04.CPT
Workhours (m): 0.000000
Washing (m): 0.000000
Elevation (m): 0.000001

Water Table (m): 6.41 (ft): 17.0
Unit Weight of Water (kN/m³): 62.49 pcf
Averaging Increment (m): 0.20
Su/P' (ncc): 0.10
Su Nkt Used: 15.00 Lunne/Kleven - All Soils
Cr Method: 1.00
State Parameter %: 1.00
Bard Unit Weights Assigned to Soil Zones
Gilbert Calculated using qc1n
Shakes Calculated using qc1ncs

Col-01 Depth (m)	Col-02 Depth (ft)	Col-31 Su (kPa)	Col-33 Phi (deg)	Col-32 State Par	Col-13 Rf (%)	Col-34 Young's (MPa)	Col-35 Su (kPa)	Col-36 OCR
0.100	0.328	76.0	50.0	-9999.0	1.964	37.3	1.264	10.0
0.200	0.656	76.0	50.0	-0.05	2.203	61.5	2.042	10.0
0.300	1.640	55.0	45.0	-0.15	2.210	64.0	1.334	10.0
0.400	2.297	50.0	44.0	-0.31	2.113	57.6	1.177	10.0
0.500	2.953	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.799	10.0
0.600	3.609	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.100	8.1
0.700	4.265	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.136	7.2
0.800	4.921	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.316	5.5
0.900	5.577	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.371	5.3
1.000	6.234	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.422	6.0
1.100	6.890	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.389	4.5
1.200	7.546	9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.319	3.5
1.300	8.202	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.361	2.9
1.400	8.858	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.324	2.2
1.500	9.514	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.321	2.3
1.600	10.170	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.352	2.3
1.700	10.827	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.386	2.4
1.800	11.483	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.379	1.7
1.900	12.139	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.351	1.9
2.000	12.795	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.357	1.4
2.100	13.451	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.365	1.7
2.200	14.107	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.457	2.0
2.300	14.764	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.318	1.3
2.400	15.420	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.352	1.4
2.500	16.076	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.312	1.4
2.600	16.732	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.317	1.1
2.700	17.388	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.199	1.4
2.800	18.044	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.173	1.2
2.900	18.701	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.410	1.3
3.000	19.357	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.304	1.2
3.100	20.013	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.299	0.5
3.200	20.669	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.254	1.4

Run No: 14-1374-1319-3630
CPT File: 6150204.CDR

Col 01 Depth (m)	Col-02 Depth (ft)	Col-03 Qt (kPa)	Col-31 Qbn (deg)	Col-32 Sleeve Fwr	Col-33 Fs (kPa)	Col-34 Young's (MPa)	Col-35 Su (kPa)	Col-36 OCR
6.500	21.325	9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.262	1.0
6.700	21.981	9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.361	0.9
6.900	22.638	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.176	1.1
7.100	23.294	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.107	0.3
7.300	23.950	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.240	0.7
7.500	24.606	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.271	0.8
7.700	25.262	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.322	0.5
7.900	25.918	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.257	0.8
8.100	26.574	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.282	0.8
8.300	27.231	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.157	0.9
8.500	27.887	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.145	0.8
8.700	28.543	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.119	0.9
8.900	29.199	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.199	1.0
9.100	29.855	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.370	1.0
9.300	30.511	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.355	0.9
9.500	31.168	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.136	0.9
9.700	31.824	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.321	0.8
9.900	32.480	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.363	0.9
10.100	33.136	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.364	0.9
10.300	33.792	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.365	0.9
10.500	34.448	-9999.0	-9999.0	-9999.0	9999.0	9999.0	0.345	0.8
10.700	35.105	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.324	0.9
10.900	35.761	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.376	0.9
11.100	36.417	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.365	0.9
11.300	37.073	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.385	0.9
11.500	37.729	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.362	0.8
11.700	38.385	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.369	0.9
11.900	39.042	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.377	0.8
12.100	39.698	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.425	0.9
12.300	40.354	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.436	0.9
12.500	41.010	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.402	0.9
12.700	41.666	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.399	0.8
12.900	42.322	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.421	0.9
13.100	42.978	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.547	1.1
13.300	43.634	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.567	1.1
13.500	44.291	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.687	1.4
13.700	44.947	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.655	1.2
13.900	45.603	30.0	30.0	0.15	-9999.0	-9999.0	0.632	1.0
14.100	46.259	30.0	30.0	0.11	-9999.0	-9999.0	0.584	1.0
14.300	46.915	30.0	30.0	0.12	-9999.0	-9999.0	0.513	1.0
14.500	47.572	9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.531	1.0
14.700	48.228	47.5	38.0	0.00	3.343	217.2	-9999.0	9999.0
14.900	48.884	57.4	40.0	-0.03	3.137	270.2	-9999.0	9999.0
15.100	49.540	59.3	40.0	-0.08	3.558	279.5	-9999.0	-9999.0
15.300	50.196	52.3	34.0	-0.09	4.002	168.5	-9999.0	-9999.0
15.500	50.852	55.5	40.0	-0.09	2.401	313.4	-9999.0	-9999.0
15.700	51.509	70.6	42.0	-0.12	2.265	356.3	-9999.0	-9999.0
15.900	52.165	60.0	40.0	-0.14	2.465	303.0	-9999.0	-9999.0
16.100	52.821	59.5	40.0	-0.09	2.619	301.6	-9999.0	-9999.0
16.300	53.477	46.6	39.0	-0.10	1.261	225.0	-9999.0	-9999.0
16.500	54.133	36.2	22.0	-0.13	-9999.0	-9999.0	2.334	6.3
16.700	54.789	30.0	12.0	-0.13	-9999.0	-9999.0	2.120	5.5
16.900	55.446	30.3	58.0	-0.15	1.056	245.5	-9999.0	-9999.0
17.100	56.102	22.3	44.0	-0.16	-9999.0	-9999.0	-9999.0	-9999.0
17.300	56.758	95.0	46.0	-0.18	-9999.0	-9999.0	9999.0	-9999.0

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.32 Rev. A - Build 5 Format USA Imperial

Job No: 24-309
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-5
Location: Pigeon Point
Cone: 20 TON 32016
CPT Date: 04/16/24
CPT Time: 12.18
CPT File: 109CPU5.CO3
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 17.25 (ft): 56.6
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m): 0.20
Sa Kar Used: 15.00 Sa/Sr (mel): 0.30
Sr Method: Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
N1(60)m Calculated using Qc(n)
N1(60)cs Calculated using Qc(n)cs

Col 01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
0.100	0.328	-0.100	-0.328	10.92	10.90	0.15	1.33	4.03	5	5
0.200	0.984	-0.200	-0.656	45.76	45.60	0.44	0.97	-14.52	7	6
0.300	1.640	-0.300	-0.984	59.54	59.41	0.84	1.40	-6.83	7	6
0.400	2.297	-0.400	-1.640	26.14	26.35	0.36	1.29	2.06	5	8
0.500	2.953	-0.500	-2.297	131.71	131.72	1.43	1.12	1.75	6	6
0.600	3.609	-0.600	-2.953	31.07	31.00	0.24	1.73	-4.02	5	5
0.700	4.265	-0.700	-3.609	100.12	100.32	0.91	0.67	0.72	6	6
0.800	4.921	-0.800	-4.265	19.12	19.12	0.46	1.45	-1.62	5	5
0.900	5.577	-0.900	-4.921	57.33	57.32	0.58	1.02	-2.96	7	5
1.000	6.234	-1.000	-5.577	51.49	51.49	1.43	2.70	-0.54	6	5
1.100	6.890	-1.100	-6.234	40.25	40.25	1.14	2.97	0.27	5	5
1.200	7.546	-1.200	-6.890	50.19	50.19	0.76	2.57	1.27	6	5
1.300	8.202	-1.300	-7.546	40.50	40.51	1.42	3.67	1.97	5	5
1.400	8.858	-1.400	-8.202	40.02	40.03	0.44	1.11	1.97	7	6
1.500	9.514	-1.500	-8.858	55.56	55.60	0.50	0.91	7.16	8	6
1.600	10.170	-1.600	-9.514	20.54	20.55	0.42	1.59	2.49	6	5
1.700	10.827	-1.700	-10.170	13.04	13.04	0.57	1.00	1.04	5	4
1.800	11.483	-1.800	-10.827	25.59	25.59	0.70	2.72	2.39	5	4
1.900	12.139	-1.900	-11.483	41.76	41.77	1.04	2.49	0.82	6	5
2.000	12.795	-2.000	-12.139	39.53	39.54	1.14	2.87	2.80	6	5
2.100	13.451	-2.100	-12.795	71.32	71.31	0.55	2.35	3.41	5	4
2.200	14.107	-2.200	-13.451	34.76	34.77	0.87	2.52	3.85	6	5
2.300	14.764	-2.300	-14.107	15.33	15.35	0.89	1.74	3.15	5	4
2.400	15.420	-2.400	-14.764	58.01	58.03	1.50	2.75	6.05	6	5
2.500	16.076	-2.500	-15.420	54.08	54.09	1.24	2.31	3.45	4	3
2.600	16.732	-2.600	-16.076	21.19	21.20	0.33	1.91	7.51	6	5
2.700	17.388	-2.700	-16.732	37.98	37.99	0.92	1.94	5.57	5	4
2.800	18.044	-2.800	-17.388	44.64	44.65	1.26	2.21	-1.21	6	4
2.900	18.699	-2.900	-18.044	38.23	38.27	1.13	2.91	1.62	5	4
3.000	19.355	-3.000	-18.701	25.41	25.45	0.70	2.53	7.94	6	5
3.100	20.011	-3.100	-19.357	41.37	41.21	0.16	1.84	9.00	6	5
3.200	20.669	-3.200	-20.013	44.06	45.10	1.02	2.32	11.24		

Run No. 04-1124-1317-1676
CPT File: RES0905.CPT

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev (ft)	Col-05 qc (tsf)	Col-06 qc (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
6.100	21.325	-6.500	-21.325	43.42	45.45	1.28	2.81	19.95	6	4
6.200	21.981	-6.600	-21.981	42.16	42.91	0.94	2.19	19.30	6	5
6.300	22.638	-6.700	-22.638	30.36	30.41	0.84	2.76	13.69	6	4
6.400	23.294	-6.800	-23.294	39.79	40.85	1.17	2.87	12.61	6	4
6.500	23.950	-6.900	-23.950	36.06	36.36	0.81	2.87	10.81	5	4
6.600	24.606	-7.000	-24.606	38.53	38.83	1.40	3.62	17.06	5	4
6.700	25.262	-7.100	-25.262	42.00	42.37	1.58	3.15	14.42	5	4
6.800	25.918	-7.200	-25.918	28.43	28.49	0.85	3.00	12.95	5	4
6.900	26.574	-7.300	-26.574	40.28	40.34	0.62	1.75	12.42	7	5
7.000	27.231	-7.400	-27.231	40.21	40.26	0.90	2.24	14.25	4	4
7.100	27.887	-7.500	-27.887	29.14	29.71	0.48	2.29	15.22	4	4
7.200	28.543	-7.600	-28.543	17.46	17.62	0.22	1.27	18.04	4	4
7.300	29.199	-7.700	-29.199	42.50	42.57	0.55	1.29	14.81	7	5
7.400	29.855	-7.800	-29.855	35.20	35.20	1.08	3.01	14.32	5	3
7.500	30.511	-7.900	-30.511	46.12	46.37	1.13	2.65	13.74	6	4
7.600	31.168	-8.000	-31.168	38.39	38.46	1.27	3.30	15.43	5	4
7.700	31.824	-8.100	-31.824	28.24	28.30	1.04	3.66	11.44	5	3
7.800	32.480	-8.200	-32.480	39.01	39.03	0.83	2.09	13.41	5	4
7.900	33.136	-8.300	-33.136	46.99	47.01	1.02	2.17	16.97	6	4
8.000	33.792	-8.400	-33.792	45.56	45.14	1.39	3.04	17.75	6	4
8.100	34.448	-8.500	-34.448	27.82	27.91	1.02	3.65	13.80	5	3
8.200	35.105	-8.600	-35.105	36.76	36.86	1.29	3.50	21.68	5	3
8.300	35.761	-8.700	-35.761	82.41	83.50	2.11	2.54	13.67	4	4
8.400	36.417	-8.800	-36.417	56.95	57.04	1.62	2.44	19.03	4	4
8.500	37.073	-8.900	-37.073	71.79	73.87	2.39	3.35	17.50	4	4
8.600	37.729	-9.000	-37.729	61.69	61.71	0.94	2.23	16.33	4	4
8.700	38.385	-9.100	-38.385	54.19	52.58	2.56	3.65	18.25	7	4
8.800	39.042	-9.200	-39.042	34.14	34.21	1.02	3.28	18.26	5	3
8.900	39.698	-9.300	-39.698	25.46	25.55	0.51	2.01	19.17	6	3
9.000	40.354	-9.400	-40.354	23.23	23.34	0.56	1.90	19.88	6	4
9.100	41.010	-9.500	-41.010	22.42	22.52	0.57	2.54	21.95	5	3
9.200	41.666	-9.600	-41.666	22.12	22.26	0.61	2.76	25.26	5	3
9.300	42.322	-9.700	-42.322	40.31	40.48	1.26	3.12	22.92	5	3
9.400	42.978	-9.800	-42.978	38.36	38.47	1.32	3.43	21.45	5	3
9.500	43.635	-9.900	-43.635	27.03	26.08	0.14	2.21	22.15	5	3
9.600	44.291	-10.000	-44.291	10.36	10.40	0.14	1.37	24.41	5	3
9.700	44.947	-10.100	-44.947	22.76	22.38	0.53	2.33	24.19	5	3
9.800	45.603	-10.200	-45.603	116.55	115.12	0.43	0.37	22.04	8	6
9.900	46.259	-10.300	-46.259	219.82	219.25	0.33	0.15	24.49	10	6
10.000	46.915	-10.400	-46.915	202.57	202.15	0.25	0.12	27.59	10	6
10.100	47.572	-10.500	-47.572	83.06	83.15	0.05	0.07	16.13	5	-9999.0
10.200	48.228	-10.600	-48.228	58.03	58.11	0.12	0.20	19.95	5	5
10.300	48.884	-10.700	-48.884	57.98	58.00	0.16	0.27	19.42	4	5
10.400	49.540	-10.800	-49.540	66.49	66.59	0.13	0.19	22.45	6	5
10.500	50.196	-10.900	-50.196	64.06	64.17	0.07	0.11	23.42	2	5
10.600	50.852	-11.000	-50.852	61.39	61.51	0.07	0.11	26.93	2	5
10.700	51.509	-11.100	-51.509	60.95	61.10	0.08	0.12	25.67	2	5
10.800	52.165	-11.200	-52.165	61.03	60.05	0.15	0.28	24.44	3	5
10.900	52.821	-11.300	-52.821	70.60	70.50	0.09	0.12	22.47	4	5
11.000	53.477	-11.400	-53.477	70.95	71.04	0.09	0.13	17.60	8	5
11.100	54.133	-11.500	-54.133	70.65	69.74	0.09	0.13	20.21	6	5
11.200	54.789	-11.600	-54.789	73.72	73.52	0.06	0.08	21.50	8	-9999.0
11.300	55.446	-11.700	-55.446	78.65	78.56	0.27	0.34	24.97	8	5
11.400	56.102	-11.800	-56.102	86.37	86.49	0.30	0.35	25.15	9	5
11.500	56.758	-11.900	-56.758	88.50	88.68	0.16	0.18	26.60	9	5
11.600	57.414	-12.000	-57.414	84.59	84.68	0.20	0.23	19.01	9	5
11.700	58.070	-12.100	-58.070	84.88	84.96	0.20	0.23	20.56	9	5
11.800	58.726	-12.200	-58.726	87.04	87.15	0.22	0.27	23.74	5	5
11.900	59.382	-12.300	-59.382	66.22	66.31	0.14	0.21	25.57	5	5
12.000	60.039	-12.400	-60.039	82.61	83.76	0.42	0.51	24.19	5	5

No: 24-1124-1127-3974
CPT File: 809CP05.COK

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev (m)	Col-04 Elev. (ft)	Col-05 Qc (MPa)	Col-06 Qf (MPa)	Col-07 Fs (MPa)	Col-08 Rf (%)	Col-09 U (kPa)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
15.500	60.695	-18.100	-60.635	106.73	106.83	0.72	0.68	24.92	9	5
16.000	61.151	-18.200	-61.353	124.49	124.49	0.34	0.27	1.34	9	6
16.500	62.007	-18.300	-62.007	120.24	120.22	0.49	0.50	0.80	9	5
17.000	62.663	-18.400	-62.667	120.64	120.68	0.12	0.10	0.74	9	5909.0
17.500	63.319	-18.500	-63.317	121.54	121.53	0.15	0.17	10.25	5	6
18.000	63.975	-18.600	-63.976	108.49	108.54	0.15	0.15	12.13	5	5
18.500	64.632	-18.700	-64.632	106.31	106.08	0.17	0.15	13.51	3	6
19.000	65.288	-18.800	-65.288	107.78	107.89	0.19	0.27	22.70	3	5
19.500	65.944	-18.900	-65.944	104.01	104.36	0.13	0.13	36.92	9	6
20.000	66.600	-19.000	-66.600	102.02	102.23	0.47	0.46	30.70	9	5
20.500	67.256	-19.100	-67.256	118.34	118.23	0.98	0.83	31.27	5	5
21.000	67.913	-19.200	-67.913	116.49	119.57	0.15	0.11	5.51	5	6
21.500	68.569	-19.300	-68.569	120.48	120.52	0.06	0.05	4.29	9	-9959.0
22.000	69.225	-19.400	-69.225	93.06	99.13	0.06	0.09	11.94	9	-9959.0
22.500	69.881	-19.500	-69.881	107.45	107.52	0.71	0.72	16.89	9	5
23.000	70.537	-19.600	-70.537	140.61	140.67	0.66	0.47	14.26	1	5
23.500	71.193	-19.700	-71.193	131.75	131.82	0.75	0.57	11.12	1	5
24.000	71.850	-19.800	-71.850	139.66	139.54	1.02	0.73	-5.40	9	5
24.500	72.506	-19.900	-72.506	154.73	152.10	1.20	0.66	-14.16	9	6
25.000	73.162	-20.000	-73.162	171.84	171.75	0.72	0.42	-18.89	9	5
25.500	73.818	-20.100	-73.818	191.71	191.63	1.40	0.69	-16.62	1	6
26.000	74.474	-20.200	-74.474	250.22	253.24	2.02	0.78	-16.23	4	6
26.500	75.130	-20.300	-75.130	249.44	249.37	1.48	0.59	-16.26	9	5
27.000	75.786	-20.400	-75.786	177.75	177.68	1.83	1.03	-15.45	9	5
27.500	76.443	-20.500	-76.443	166.57	164.69	0.99	0.59	-11.14	5	5
28.000	77.099	-20.600	-77.099	182.35	182.79	1.50	0.82	-11.66	5	5
28.500	77.755	-20.700	-77.755	185.72	184.27	1.13	0.72	-9.68	9	6
29.000	78.411	-20.800	-78.411	163.54	159.57	0.63	0.38	-6.25	5	5
29.500	79.067	-20.900	-79.067	151.75	151.77	0.81	0.53	-0.88	9	5
30.000	79.723	-21.000	-79.723	152.64	152.04	0.86	0.57	-1.25	9	5
30.500	80.380	-21.100	80.380	164.33	164.92	0.62	0.37	-1.04	6	5
31.000	81.036	-21.200	81.036	140.11	140.11	0.97	0.69	-0.17	9	6
31.500	81.692	-21.300	-81.692	193.21	193.21	1.12	0.58	1.15	5	5
32.000	82.348	-21.400	-82.348	154.74	155.71	0.92	0.53	-7.20	1	5
32.500	83.004	-21.500	-83.004	130.57	130.89	0.82	0.51	-11.10	9	5
33.000	83.660	-21.600	-83.660	103.87	103.18	0.72	0.70	-19.47	8	5
33.500	84.317	-21.700	84.317	89.09	85.75	0.38	0.43	-23.58	5	5
34.000	84.973	-21.800	-84.973	87.63	91.77	0.41	0.77	-22.50	5	5
34.500	85.629	-21.900	-85.629	77.30	77.20	0.54	0.72	-19.36	2	4
35.000	86.285	-22.000	-86.285	84.39	84.85	0.69	1.07	-6.90	1	4
35.500	86.941	-22.100	-86.941	59.18	59.35	0.69	1.17	-3.53	1	4
36.000	87.597	-22.200	-87.597	66.25	66.75	0.62	1.45	-1.12	1	4
36.500	88.254	-22.300	-88.254	64.05	64.04	0.75	1.39	-1.36	1	4
37.000	88.910	-22.400	-88.910	51.81	51.77	0.67	1.30	-1.65	2	5
37.500	89.566	-22.500	-89.566	49.08	47.04	0.44	1.31	-1.56	2	4
38.000	90.222	-22.600	-90.222	49.20	49.16	0.42	1.31	-0.59	1	4
38.500	90.878	-22.700	-90.878	45.79	45.75	0.42	1.37	-0.76	1	4
39.000	91.534	-22.800	-91.534	50.37	50.32	0.66	1.30	-11.65	1	4
39.500	92.190	-22.900	-92.190	47.61	47.53	0.73	1.30	-17.92	1	4
40.000	92.847	-23.000	-92.847	45.52	45.23	0.76	1.54	-15.54	1	5
40.500	93.503	-23.100	-93.503	48.87	48.77	0.73	1.60	-22.14	9	4
41.000	94.159	-23.200	-94.159	47.23	45.13	0.54	1.31	-21.16	7	4
41.500	94.815	-23.300	-94.815	46.74	48.70	0.48	1.35	-10.21	7	4
42.000	95.471	-23.400	-95.471	46.64	46.45	0.67	1.45	3.77	7	4
42.500	96.127	-23.500	-96.127	43.92	43.82	0.52	1.64	-21.59	1	5
43.000	96.784	-23.600	-96.784	54.31	54.20	0.55	1.64	-25.58	7	5
43.500	97.440	-23.700	-97.440	61.39	61.28	0.93	1.45	-26.31	7	4
44.000	98.096	-23.800	-98.096	59.12	59.11	0.96	1.46	-24.47	7	4
44.500	98.752	-23.900	-98.752	52.24	51.11	0.70	1.44	-23.74	7	4
45.000	99.408	-24.000	-99.408	46.80	46.83	0.71	1.51	-1.29		

Run No: 04-1124-1117-3576
CPT File: 8052205.CPR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qc (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (ft)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
30.500	100.064	-30.500	-100.064	48.72	48.72	0.70	1.44	-3.46	7	4
30.700	100.721	-30.700	-100.721	49.16	49.12	0.74	1.51	-7.88	7	4
30.900	101.377	-30.900	-101.377	45.68	45.65	0.74	1.45	-6.21	7	4
31.100	102.033	-31.100	-102.033	50.77	50.72	0.70	1.38	-11.66	7	4
31.300	102.689	-31.300	-102.689	52.22	52.16	0.78	1.49	-13.17	7	4
31.500	103.345	-31.500	-103.345	54.36	54.30	0.80	1.47	-17.34	7	4
31.700	104.001	-31.700	-104.001	63.72	63.63	0.94	1.48	-20.72	7	4
31.900	104.658	-31.900	-104.658	64.86	64.75	0.99	1.53	-21.28	7	4
32.100	105.314	-32.100	-105.314	67.63	67.72	1.08	1.59	-30.30	7	4
32.300	105.970	-32.300	-105.970	74.53	74.45	1.04	1.39	-15.39	7	4
32.500	106.626	-32.500	-106.626	75.82	75.81	1.20	1.59	-2.64	7	4
32.700	107.282	-32.700	-107.282	76.55	76.51	1.29	1.64	-9.21	7	4
32.900	107.938	-32.900	-107.938	75.47	75.35	1.14	1.43	-17.37	7	4
33.100	108.594	-33.100	-108.594	97.40	97.33	1.38	1.42	-20.55	8	4
33.300	109.251	-33.300	-109.251	95.08	95.98	1.20	1.25	-16.91	8	4
33.500	109.907	-33.500	-109.907	83.97	83.95	1.33	1.56	-4.62	7	4
33.700	110.563	-33.700	-110.563	82.52	82.52	1.29	1.57	3.05	7	4
33.900	111.219	-33.900	-111.219	100.25	100.25	1.40	1.39	3.25	8	4
34.100	111.875	-34.100	-111.875	108.25	108.19	1.11	1.01	-12.52	8	5
34.300	112.531	-34.300	-112.531	93.15	93.06	0.95	1.03	-16.91	8	5
34.500	113.188	-34.500	-113.188	86.70	85.60	0.50	0.59	-21.59	8	5
34.700	113.844	-34.700	-113.844	125.42	125.37	1.02	0.82	4.71	9	5
34.900	114.500	-34.900	-114.500	144.80	144.60	0.44	0.30	0.32	9	5
35.100	115.156	-35.100	-115.156	73.42	73.48	0.45	0.66	14.39	8	5
35.300	115.812	-35.300	-115.812	75.35	75.39	0.54	0.83	8.38	8	5
35.500	116.468	-35.500	-116.468	118.21	118.16	0.63	0.70	-12.43	9	5
35.700	117.125	-35.700	-117.125	111.87	111.77	0.75	0.64	-20.30	9	5

Geo Inc - CPT Interpretation
Interpretation Output - Release 1.22 Rev A . 02/16 A Format: NLE Imperial

Run No. 04-1124-1317-3674
Job No 06-609
Client: GeoSyntec Consultants
Project Pigeon Point Landfill - Wilmington Delaware
Site: CPT-5
Location: Pigeon Point
Team. 2C TCN AD166
CPT Date 06/16/11
CPT Time: 12:18
CPT File: 909CP05 COR
Northing (m) 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m). 10.24 (ft). 33.6
Unit Weight of Water (default) 62.43 pcf
Averaging Increment (m): 0.20
Sa Max used: 15.00 Sa/P (m): 0.10
Pc Method : Jamiolkowski - All Sands
State Parameter M. 1.20
Used Unit Weights Assigned to Soil Zones
Kt60in Calculated using Tcln
Kt60cm Calculated using Cnlnsd

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 SBT 8D (zone)	Col-13 SBT-9Dn (zone)	Col-14 Perm-K (cm/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (ksf)	Col-17 U Stress (ksf)	Col-18 E Stress (ksf)	Col-19 Cn	Col-20 SPT (b/ft)
0.100	0.328	4	7	5.0E-04	114.6	0.019	0.000	0.019	2.00	5.3
0.200	0.984	8	7	5.0E-04	117.7	0.057	0.000	0.057	2.00	16.6
0.300	1.640	8	7	5.0E-04	117.7	0.096	0.000	0.096	2.00	19.1
0.400	2.297	7	7	5.0E-04	114.6	0.134	0.000	0.134	2.00	17.5
0.500	2.953	9	7	5.0E-04	125.7	0.177	0.000	0.172	2.00	21.5
0.600	3.609	7	6	5.0E-05	114.6	0.211	0.000	0.211	2.00	21.9
0.700	4.265	5	7	5.0E-05	120.9	0.250	0.000	0.250	2.00	24.0
0.800	4.921	5	6	5.0E-05	114.6	0.288	0.000	0.288	1.86	15.9
0.900	5.577	8	7	5.0E-04	117.7	0.326	0.000	0.326	1.75	18.3
1.000	6.234	8	6	5.0E-05	114.6	0.364	0.000	0.364	1.61	19.7
1.100	6.890	8	6	5.0E-05	114.6	0.402	0.000	0.402	1.58	16.4
1.200	7.546	7	6	5.0E-05	114.6	0.440	0.000	0.440	1.51	11.6
1.300	8.202	9	6	5.0E-04	117.7	0.477	0.000	0.477	1.45	15.4
1.400	8.858	9	6	5.0E-04	117.7	0.515	0.000	0.515	1.39	17.6
1.500	9.514	8	6	5.0E-04	117.7	0.554	0.000	0.554	1.34	13.3
1.600	10.170	7	5	5.0E-05	114.6	0.593	0.000	0.593	1.30	7.9
1.700	10.827	6	5	5.0E-05	114.6	0.631	0.000	0.631	1.26	9.1
1.800	11.483	7	6	5.0E-05	114.6	0.668	0.000	0.668	1.22	10.3
1.900	12.139	5	6	5.0E-05	114.6	0.705	0.000	0.705	1.19	16.0
2.000	12.795	8	5	5.0E-05	114.6	0.742	0.000	0.742	1.16	15.1
2.100	13.451	7	5	5.0E-05	114.6	0.781	0.000	0.781	1.13	8.0
2.200	14.107	7	6	5.0E-05	114.6	0.819	0.000	0.819	1.11	13.3
2.300	14.764	7	6	5.0E-05	114.6	0.856	0.000	0.856	1.08	13.5
2.400	15.420	7	6	5.0E-05	114.6	0.894	0.000	0.894	1.06	22.2
2.500	16.076	8	6	5.0E-05	114.6	0.931	0.000	0.931	1.04	10.7
2.600	16.732	7	5	5.0E-07	114.6	0.969	0.000	0.969	1.02	13.5
2.700	17.388	8	1	5.0E-05	114.6	1.007	0.000	1.007	1.00	14.5
2.800	18.044	7	5	5.0E-05	114.6	1.044	0.000	1.044	0.98	17.1
2.900	18.701	8	6	5.0E-05	114.6	1.082	0.000	1.082	0.96	14.7
3.000	19.357	7	5	5.0E-05	114.6	1.119	0.000	1.119	0.95	12.7
3.100	20.013	8	6	5.0E-05	114.6	1.157	0.000	1.157	0.93	15.6
3.200	20.669	2	6	5.0E-05	114.6	1.195	0.000	1.195	0.92	16.4

Run No 24-1224-1137-3674
CPT File: 8050905.CPT

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 SBT-EQ (Zone)	Col-04 SBT-EQn (Zone)	Col-14 Perm-k (cm/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (ksf)	Col-17 U Stress (ksf)	Col-18 V Stress (ksf)	Col-19 Dr	Col-20 N60 (b/ft)
6.500	21.325	8	6	5.0E-05	114.6	1.212	0.000	1.212	0.91	37.6
6.700	21.982	8	5	5.0E-05	114.6	1.270	0.000	1.270	0.84	36.2
6.900	22.638	8	5	5.0E-05	114.6	1.307	0.000	1.307	0.81	31.6
7.100	23.294	8	5	5.0E-05	114.6	1.345	0.000	1.345	0.88	34.6
7.300	23.950	8	5	5.0E-05	114.6	1.383	0.000	1.383	0.85	33.5
7.500	24.606	8	5	5.0E-05	114.6	1.420	0.000	1.420	0.84	38.5
7.700	25.262	8	5	5.0E-05	114.6	1.458	0.000	1.458	0.83	39.3
7.900	25.918	8	5	5.0E-05	114.6	1.495	0.000	1.495	0.82	39.6
8.100	26.574	8	5	5.0E-05	114.6	1.533	0.000	1.533	0.81	39.9
8.300	27.231	8	5	5.0E-05	114.6	1.572	0.000	1.572	0.80	39.6
8.500	27.887	7	5	5.0E-05	114.6	1.609	0.000	1.609	0.79	13.4
8.700	28.543	6	5	5.0E-05	114.6	1.647	0.000	1.647	0.76	6.7
8.900	29.199	6	5	5.0E-05	114.6	1.685	0.000	1.685	0.73	13.4
9.100	29.855	7	5	5.0E-05	114.6	1.723	0.000	1.723	0.76	16.5
9.300	30.511	8	5	5.0E-05	114.6	1.761	0.000	1.761	0.75	17.4
9.500	31.168	7	5	5.0E-05	114.6	1.798	0.000	1.798	0.75	18.4
9.700	31.824	7	5	5.0E-05	114.6	1.836	0.000	1.836	0.74	13.5
9.900	32.480	7	5	5.0E-05	114.6	1.874	0.000	1.874	0.73	15.3
10.100	33.136	8	5	5.0E-05	114.6	1.911	0.000	1.911	0.72	16.0
10.300	33.792	8	5	5.0E-05	114.6	1.948	0.000	1.948	0.72	17.5
10.500	34.448	7	5	5.0E-05	114.6	1.986	0.000	1.986	0.71	15.4
10.700	35.104	7	5	5.0E-05	114.6	2.024	0.000	2.024	0.70	17.7
10.900	35.761	8	6	5.0E-05	114.6	2.061	0.000	2.061	0.70	11.6
11.100	36.417	8	5	5.0E-05	114.6	2.099	0.000	2.099	0.69	21.3
11.300	37.073	7	5	5.0E-05	114.6	2.136	0.000	2.136	0.68	23.0
11.500	37.729	7	5	5.0E-05	114.6	2.174	0.000	2.174	0.68	15.0
11.700	38.385	8	5	5.0E-05	114.6	2.212	0.000	2.212	0.67	20.7
11.900	39.042	7	5	5.0E-05	114.6	2.250	0.000	2.250	0.67	15.0
12.100	39.698	7	5	5.0E-05	114.6	2.288	0.000	2.288	0.66	9.8
12.300	40.354	7	5	5.0E-05	114.6	2.325	0.000	2.325	0.66	13.3
12.500	41.010	6	4	5.0E-05	114.6	2.363	0.000	2.363	0.65	10.8
12.700	41.666	6	4	5.0E-05	114.6	2.401	0.000	2.401	0.65	10.9
12.900	42.322	7	6	5.0E-05	114.6	2.438	0.000	2.438	0.64	22.4
13.100	42.976	7	5	5.0E-05	114.6	2.476	0.000	2.476	0.64	18.4
13.300	43.635	7	5	5.0E-05	114.6	2.513	0.000	2.513	0.63	20.8
13.500	44.291	5	3	5.0E-05	114.6	2.551	0.000	2.551	0.63	5.0
13.700	44.947	4	4	5.0E-05	114.6	2.589	0.000	2.589	0.63	8.1
13.900	45.603	4	4	5.0E-05	114.6	2.626	0.000	2.626	0.62	22.2
14.100	46.259	5	6	5.0E-05	117.2	2.665	0.000	2.665	0.61	15.1
14.300	46.915	5	5	5.0E-05	121.3	2.711	0.000	2.711	0.61	22.3
14.500	47.572	6	5	5.0E-02	124.1	2.752	0.000	2.752	0.60	15.9
14.700	48.228	6	5	5.0E-01	120.9	2.792	0.000	2.792	0.59	15.1
14.900	48.884	6	5	5.0E-03	120.9	2.832	0.000	2.832	0.59	16.3
15.100	49.540	5	5	5.0E-03	120.5	2.872	0.000	2.872	0.59	15.9
15.300	50.197	5	5	5.0E-03	120.9	2.911	0.000	2.911	0.59	17.5
15.500	50.852	5	5	5.0E-03	120.9	2.951	0.000	2.951	0.58	14.7
15.700	51.505	5	5	5.0E-03	120.9	2.991	0.000	2.991	0.58	16.6
15.900	52.165	5	5	5.0E-03	120.9	3.030	0.000	3.030	0.57	14.3
16.100	52.821	5	5	5.0E-03	120.9	3.070	0.000	3.070	0.57	16.9
16.300	53.477	5	5	5.0E-03	120.9	3.110	0.000	3.110	0.57	17.0
16.500	54.133	5	5	5.0E-03	120.9	3.149	0.000	3.149	0.56	16.7
16.700	54.789	5	5	5.0E-03	120.9	3.189	0.000	3.189	0.56	17.7
16.900	55.446	5	5	5.0E-03	120.9	3.229	0.000	3.229	0.56	18.9
17.100	56.102	5	5	5.0E-03	120.9	3.269	0.000	3.269	0.55	16.2
17.300	56.758	5	5	5.0E-03	120.9	3.309	0.000	3.309	0.55	17.0
17.500	57.414	5	5	5.0E-03	120.9	3.350	0.000	3.350	0.55	16.2
17.700	58.070	5	5	5.0E-03	120.9	3.391	0.000	3.391	0.55	16.7
17.900	58.726	5	5	5.0E-03	120.9	3.432	0.000	3.432	0.54	16.6
18.100	59.382	5	5	5.0E-03	120.9	3.473	0.000	3.473	0.54	20.1
18.300	60.039	5	5	5.0E-03	120.9	3.515	0.000	3.515	0.54	

ID: 04-1176-1117-3674
L/G File: 809C005.COA

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 SPT-BD (Zone)	Col-04 SPT-PDR (zone)	Col-05 Press-K (ks/ft)	Col-06 Crit WC (pcf)	Col-07 T Stress (ksf)	Col-08 U Stress (ksf)	Col-09 E Stress (ksf)	Col-10 OC	Col-20 SAO (g/ft)
18.500	60.695	5	5	5.0E-02	124.1	3.553	0.129	3.423	0.54	73.5
18.700	61.351	9	6	5.0E-02	124.1	3.594	0.260	3.464	0.54	24.2
18.900	62.007	9	6	5.0E-02	124.1	3.634	0.170	3.464	0.54	23.9
19.100	62.663	9	6	5.0E-02	124.1	3.675	0.191	3.484	0.53	23.3
19.300	63.319	9	6	5.0E-02	124.1	3.716	0.211	3.504	0.53	21.4
19.500	63.976	9	5	5.0E-02	124.1	3.757	0.232	3.525	0.53	20.8
19.700	64.632	9	5	5.0E-02	124.1	3.797	0.252	3.545	0.53	20.7
19.900	65.288	1	5	5.0E-02	124.1	3.838	0.273	3.565	0.53	20.7
20.100	65.944	9	5	5.0E-02	124.1	3.879	0.293	3.585	0.53	20.1
20.300	66.600	9	5	5.0E-02	124.1	3.919	0.314	3.624	0.53	19.6
20.500	67.256	9	6	5.0E-02	124.1	3.960	0.334	3.624	0.53	21.7
20.700	67.913	9	6	5.0E-02	124.1	4.001	0.355	3.644	0.52	24.5
20.900	68.569	5	6	5.0E-02	124.1	4.042	0.375	3.666	0.52	23.1
21.100	69.225	9	6	5.0E-02	124.1	4.082	0.396	3.687	0.52	19.5
21.300	69.881	9	5	5.0E-02	124.1	4.123	0.416	3.707	0.52	20.6
21.500	70.537	9	5	5.0E-02	124.1	4.164	0.437	3.727	0.52	26.9
21.700	71.193	9	5	5.0E-02	124.1	4.204	0.457	3.747	0.52	25.2
21.900	71.850	9	6	5.0E-02	124.1	4.245	0.478	3.767	0.52	26.7
22.100	72.506	5	6	5.0E-02	124.1	4.286	0.498	3.788	0.51	23.1
22.300	73.162	5	6	5.0E-02	124.1	4.327	0.519	3.808	0.51	32.9
22.500	73.818	9	4	5.0E-02	124.1	4.367	0.539	3.828	0.51	26.7
22.700	74.474	10	6	5.0E-02	124.1	4.408	0.560	3.848	0.51	49.4
22.900	75.130	10	6	5.0E-02	124.1	4.449	0.580	3.869	0.51	47.8
23.100	75.786	9	6	5.0E-02	124.1	4.490	0.601	3.889	0.51	24.9
23.300	76.443	9	6	5.0E-02	124.1	4.530	0.621	3.909	0.51	22.3
23.500	77.099	5	6	5.0E-02	124.1	4.571	0.642	3.929	0.50	25.0
23.700	77.755	9	5	5.0E-02	124.1	4.612	0.662	3.950	0.50	25.5
23.900	78.411	9	6	5.0E-02	124.1	4.652	0.683	3.970	0.50	22.5
24.100	79.067	9	6	5.0E-02	124.1	4.693	0.703	3.990	0.50	29.1
24.300	79.723	5	6	5.0E-02	124.1	4.734	0.724	4.010	0.50	27.2
24.500	80.380	9	5	5.0E-02	124.1	4.775	0.744	4.031	0.50	27.3
24.700	81.036	9	4	5.0E-02	124.1	4.815	0.765	4.051	0.50	26.4
24.900	81.692	5	6	5.0E-02	124.1	4.856	0.785	4.071	0.50	17.0
25.100	82.348	3	6	5.0E-02	124.1	4.897	0.806	4.091	0.50	29.8
25.300	83.004	9	5	5.0E-02	124.1	4.937	0.826	4.111	0.50	25.3
25.500	83.660	9	5	5.0E-02	124.1	4.978	0.846	4.132	0.50	25.9
25.700	84.317	9	5	5.0E-02	124.1	5.018	0.867	4.151	0.50	21.3
25.900	84.973	9	5	5.0E-03	120.9	5.058	0.887	4.171	0.50	20.3
26.100	85.629	5	5	5.0E-03	120.9	5.098	0.908	4.190	0.50	16.5
26.300	86.285	8	5	5.0E-03	120.9	5.137	0.928	4.209	0.50	15.5
26.500	86.941	6	5	5.0E-03	120.9	5.177	0.947	4.229	0.50	18.0
26.700	87.597	3	4	5.0E-04	117.7	5.215	0.967	4.246	0.50	16.3
26.900	88.254	9	4	5.0E-04	117.7	5.254	0.990	4.264	0.50	17.3
27.100	88.910	6	4	5.0E-04	117.7	5.293	1.010	4.282	0.50	16.5
27.300	89.566	3	4	5.0E-04	117.7	5.331	1.031	4.300	0.50	15.7
27.500	90.222	6	4	5.0E-04	117.7	5.370	1.051	4.318	0.50	16.4
27.700	90.879	6	4	5.0E-04	117.7	5.408	1.072	4.337	0.50	14.6
27.900	91.535	8	4	5.0E-04	117.7	5.447	1.092	4.355	0.50	14.1
28.100	92.191	8	4	5.0E-04	117.7	5.486	1.113	4.373	0.50	15.2
28.300	92.847	8	4	5.0E-04	117.7	5.524	1.133	4.391	0.50	15.7
28.500	93.503	8	4	5.0E-04	117.7	5.563	1.154	4.409	0.50	15.0
28.700	94.159	8	4	5.0E-04	117.7	5.602	1.174	4.427	0.50	13.5
28.900	94.815	7	4	5.0E-04	117.7	5.640	1.195	4.445	0.50	12.4
29.100	95.471	8	4	5.0E-04	117.7	5.679	1.215	4.464	0.50	14.8
29.300	96.127	5	4	5.0E-04	117.7	5.718	1.236	4.482	0.50	15.9
29.500	96.783	6	4	5.0E-04	117.7	5.756	1.256	4.500	0.50	17.1
29.700	97.440	5	4	5.0E-04	117.7	5.795	1.277	4.518	0.50	19.9
29.900	98.096	8	4	5.0E-04	117.7	5.833	1.297	4.536	0.50	16.8
30.100	98.752	6	4	5.0E-04	117.7	5.872	1.318	4.554	0.50	17.8
30.300	99.408	8	4	5.0E-04	117.7	5.911	1.338	4.573	0.50	15.3

Run No 04-1124-1317-1674
CPT File: 1090P05.COR

Col-01 Depth (ft)	Col-02 Depth (ft)	Col-12 SBT-MD (Zone)	Col-13 SBT-BQn (Zone)	Col-14 Perm-k (cm/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (tsf)	Col-17 U Stress (tsf)	Col-18 E Stress (tsf)	Col-19 Cn	Col-20 Nbd (ft/ft)
30.500	100.064	8	4	5.0E-04	117.7	5.949	1.355	4.551	0.50	15.5
30.700	100.721	8	4	5.0E-04	117.7	5.986	1.379	4.609	0.50	15.7
30.900	101.377	8	4	5.0E-04	117.7	6.027	1.400	4.627	0.50	15.8
31.100	102.033	8	4	5.0E-04	117.7	6.065	1.420	4.645	0.50	16.2
31.300	102.687	8	4	5.0E-04	117.7	6.104	1.441	4.663	0.50	16.7
31.500	103.345	8	4	5.0E-04	117.7	6.143	1.461	4.681	0.50	17.3
31.700	104.001	8	4	5.0E-04	117.7	6.181	1.482	4.709	0.50	20.3
31.900	104.658	8	4	5.0E-04	117.7	6.220	1.502	4.718	0.50	20.7
32.100	105.314	8	4	5.0E-04	117.7	6.258	1.523	4.716	0.50	21.6
32.300	105.570	8	5	5.0E-04	117.7	6.297	1.543	4.754	0.50	23.8
32.500	106.526	8	5	5.0E-04	117.7	6.336	1.564	4.772	0.50	25.5
32.700	107.282	8	5	5.0E-04	117.7	6.374	1.584	4.790	0.50	25.1
32.900	107.935	8	5	5.0E-04	117.7	6.413	1.604	4.808	0.50	25.3
33.100	108.596	9	5	5.0E-03	120.9	6.452	1.625	4.827	0.50	23.4
33.300	109.251	9	5	5.0E-03	120.9	6.492	1.645	4.846	0.50	23.0
33.500	109.907	9	5	5.0E-04	117.7	6.531	1.666	4.865	0.50	26.8
33.700	110.563	8	5	5.0E-04	117.7	6.570	1.685	4.883	0.50	26.3
33.900	111.219	9	5	5.0E-03	120.9	6.609	1.707	4.902	0.50	24.0
34.100	111.875	9	5	5.0E-03	120.9	6.649	1.727	4.921	0.50	25.5
34.300	112.531	9	5	5.0E-03	120.9	6.688	1.745	4.942	0.50	25.3
34.500	113.188	9	5	5.0E-03	120.9	6.728	1.768	4.959	0.50	21.2
34.700	113.844	9	5	5.0E-02	124.1	6.766	1.769	4.979	0.50	24.0
34.900	114.500	9	5	5.0E-02	124.1	6.809	1.809	4.995	0.50	27.7
35.100	115.156	8	5	5.0E-03	120.9	6.849	1.830	5.015	0.50	17.5
35.300	115.812	8	5	5.0E-03	120.9	6.889	1.850	5.038	0.50	18.9
35.500	116.468	9	5	5.0E-02	124.1	6.979	1.871	5.056	0.50	22.6
35.700	117.125	9	5	5.0E-02	124.1	6.970	1.891	5.078	0.50	25.6

Conetec Inc - CPT Interpretation
Interpretation Output - Release 3.22 Rev A - Build 5 Format: KLI Special
Job No: 04-1124 1717-1674
Job No: 04-A09
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-6
Location: Pigeon Point
Cone 20 TON AD206
CPT Date: 04/15/11
CPT Time 12 28
CPT File 100C001.COM
Northing (m) 0.000000
Easting (m) 0.000000
Elevation (m) 0.000000

Water Table (m): 17.26 (ft): 56.6
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m): 0.20
SG SCS used: 15.00 SG/F (m): 0.15
SG Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Dsrd Unit Weights Assigned to Soil Zones
Si60Tc Calculated using qc3n
Bluco Calculated using qc3nss

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 Si(Tc) (ft/sec)	Col-22 Si60Tc (ft/sec)	Col-23 Si(Bluco) (ft/sec)	Col-24 Qt	Col-25 Fr (%)	Col-26 Bq	Col-27 Ic	Col-28 Fs (ksf)	Col-29 Soil Zone (zone)
0.100	0.328	10.4	2.2	14.7	578.75	2.16	0.02	2.57	15.1	5
0.200	0.656	29.2	5.7	35.0	501.85	0.37	-0.01	1.70	6.3	6
0.300	0.984	28.4	11.1	16.8	626.07	1.40	0.00	1.81	8.4	6
0.400	1.640	25.0	-9999.0	-9999.0	194.67	3.30	0.00	-9999.0	-9999.0	6
0.500	2.297	63.1	22.7	56.3	769.48	1.22	0.00	1.65	4.5	6
0.600	2.953	23.7	7.1	15.0	245.96	5.73	0.00	2.34	24.2	6
0.700	3.609	41.9	17.5	31.9	303.17	0.84	0.02	1.84	9.0	5
0.800	4.265	27.9	3.3	16.7	134.70	2.47	0.00	2.28	21.9	5
0.900	4.921	32.0	11.0	22.1	174.65	1.70	0.00	2.04	15.1	5
1.000	5.577	31.5	15.6	25.4	261.23	2.80	0.02	2.20	21.6	5
1.100	6.234	42.7	9.4	15.1	55.21	2.90	0.00	1.26	25.4	5
1.200	6.890	24.7	9.0	11.2	57.67	2.67	0.00	2.44	26.2	5
1.300	7.546	27.4	9.6	14.5	91.93	3.51	0.00	2.69	26.5	5
1.400	8.202	26.1	8.5	17.0	95.83	1.12	0.00	2.15	27.7	5
1.500	8.858	17.3	11.2	15.2	99.27	0.92	0.00	1.39	12.8	4
1.600	9.514	17.9	5.2	6.9	33.15	2.05	0.00	2.64	33.5	5
1.700	10.170	10.2	5.0	7.0	29.39	3.10	0.00	2.64	37.1	4
1.800	10.827	11.5	6.6	8.3	30.36	1.93	0.00	2.59	34.9	5
1.900	11.483	15.0	5.9	12.0	56.17	2.57	0.00	2.41	26.9	5
2.000	12.139	19.0	9.7	11.5	37.18	2.93	0.00	2.48	29.9	5
2.100	12.795	17.6	6.0	7.3	28.84	7.44	0.00	1.59	34.7	5
2.200	13.451	10.7	8.6	3.7	42.47	2.58	0.00	2.50	30.1	5
2.300	14.107	13.7	8.3	9.5	42.19	2.80	0.00	2.53	31.7	5
2.400	14.764	14.6	13.5	14.6	63.32	2.80	0.00	2.38	25.4	5
2.500	15.420	23.5	12.3	15.0	57.04	2.16	0.00	2.12	23.6	4
2.600	16.076	21.5	6.2	6.4	28.91	4.03	0.01	2.42	27.4	5
2.700	16.732	13.8	9.1	9.3	36.65	1.99	0.00	2.41	27.8	5
2.800	17.388	14.5	11.1	11.1	41.76	1.13	0.00	2.51	31.3	5
2.900	18.044	16.7	9.7	9.6	34.30	2.91	0.01	2.36	33.3	5
3.000	18.701	14.1	7.1	6.4	23.63	2.75	0.01	2.49	29.6	6
3.100	19.357	12.5	4.3	3.2	34.62	1.89	0.01	2.42	27.2	5
3.200	20.013	14.7	10.7	10.2	36.92	2.38	0.01	2.46	25.0	5
3.300	20.669	16.5								

Run No: 04-1116-1319-5474
CPT File: 8050126.CPT

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 N1(60) (b/ft)	Col-22 N1(60)cs (b/ft)	Col-23 N1(60)f (b/ft)	Col-24 Qt	Col-25 Fr (%)	Col-26 Bq	Col-27 Ic	Col-28 Fc (%)	Col-29 Soil Behavior (Zone)
5.500	21.325	15.7	21.5	20.6	38.85	2.39	0.02	2.51	11.5	5
6.000	21.940	14.4	19.2	9.7	32.34	2.03	0.02	2.45	28.1	5
6.500	22.838	10.3	8.3	6.4	22.24	2.68	0.03	2.71	40.8	4
7.000	23.264	13.6	10.7	5.0	23.37	2.55	0.01	2.62	36.4	4
7.500	23.950	11.5	5.1	5.7	19.35	3.02	0.02	2.71	44.1	4
8.000	24.606	15.5	10.7	7.6	24.15	3.76	0.02	2.73	41.9	4
8.500	25.262	14.7	11.6	5.0	27.86	3.88	0.01	2.75	41.3	4
9.000	25.915	11.2	8.2	5.4	18.55	3.27	0.01	2.80	45.2	4
9.500	26.574	10.4	5.6	7.9	23.50	3.42	0.02	2.63	27.6	5
10.000	27.231	12.3	10.5	6.1	24.73	2.31	0.01	2.63	36.3	4
10.500	27.887	5.0	5.3	5.1	17.47	2.43	0.02	2.72	62.5	4
11.000	28.543	5.1	5.2	3.0	9.75	1.40	0.04	2.83	68.3	4
11.500	29.199	10.5	9.9	7.8	24.26	1.36	0.01	2.18	25.7	5
12.000	29.855	11.0	9.1	5.2	16.57	1.72	0.02	2.98	50.5	4
12.500	30.511	13.1	12.1	5.5	24.77	2.71	0.01	2.65	38.0	4
13.000	31.168	11.7	11.9	4.1	20.36	3.63	0.01	2.73	65.2	4
13.500	31.824	10.5	8.8	4.7	14.62	1.53	0.02	2.54	54.3	4
14.000	32.480	13.2	10.7	5.3	20.29	2.16	0.01	2.67	28.6	4
14.500	33.136	11.0	17.3	6.5	23.62	2.27	0.02	2.62	36.5	4
15.000	33.792	12.3	12.7	6.4	22.43	3.17	0.01	2.72	42.1	4
15.500	34.449	3.5	8.3	5.3	13.55	3.57	0.02	2.93	56.5	4
16.000	35.105	12.4	21.0	5.4	17.23	3.79	0.03	2.56	43.9	4
16.500	35.761	22.0	19.2	13.9	39.57	2.63	0.01	2.33	25.4	5
17.000	36.417	25.1	24.9	7.2	25.18	2.16	0.01	2.62	35.1	4
17.500	37.073	6.5	9.8	4.4	14.86	2.60	0.02	2.82	66.6	4
18.000	37.729	10.5	13.5	5.3	18.21	2.34	0.03	2.72	41.7	4
18.500	38.385	11.2	12.6	8.5	22.59	1.53	0.03	2.65	28.6	5
19.000	39.042	15.0	9.8	4.2	12.68	3.64	0.02	2.35	55.1	4
19.500	39.698	6.5	7.9	3.3	10.17	2.21	0.03	2.32	45.1	4
20.000	40.354	7.1	8.5	3.5	11.19	2.14	0.02	2.57	50.4	4
20.500	41.010	7.5	7.5	3.2	8.53	2.83	0.03	2.26	61.2	4
21.000	41.660	6.0	7.4	2.9	8.29	3.00	0.05	2.03	63.5	3
21.500	42.322	12.4	12.1	4.9	15.60	1.32	0.02	2.87	45.9	4
22.000	42.978	12.1	11.8	4.1	14.56	1.61	0.02	2.52	50.0	4
22.500	43.635	6.8	5.5	3.3	10.17	2.54	0.05	2.95	55.2	4
23.000	44.291	3.1	4.2	1.2	3.68	1.42	0.10	3.13	81.5	3
23.500	44.947	5.4	7.7	2.9	7.36	2.61	0.04	3.05	62.5	3
24.000	45.603	15.7	21.6	13.6	43.19	5.16	0.03	1.81	5.0	6
24.500	46.259	21.9	25.7	22.3	81.39	0.15	0.02	1.42	2.0	6
25.000	46.915	19.6	31.1	26.5	72.95	0.13	0.00	1.43	2.9	6
25.500	47.572	9.5	-9999.0	-9999.0	29.22	0.07	0.01	-9999.0	-9999.0	0
26.000	48.228	9.6	11.2	4.3	22.39	0.10	0.01	1.93	5.0	6
26.500	48.884	9.7	13.3	8.1	23.04	0.22	0.01	1.95	5.0	6
27.000	49.540	9.4	13.0	7.9	27.19	0.20	0.01	1.95	5.0	6
27.500	50.196	9.1	12.5	7.5	21.22	0.12	0.01	1.92	5.0	6
28.000	50.852	8.6	12.0	7.2	19.56	0.11	0.01	1.94	5.0	6
28.500	51.509	5.5	12.5	7.4	15.61	0.11	0.01	2.06	5.0	6
29.000	52.165	5.4	13.6	8.6	21.47	0.29	0.01	2.01	5.0	5
29.500	52.821	7.5	13.6	7.9	21.06	0.23	0.01	1.92	5.0	6
30.000	53.477	5.6	13.7	7.5	21.86	0.11	0.01	1.93	5.0	6
30.500	54.133	9.4	13.3	7.8	21.16	0.24	0.01	1.92	5.0	6
31.000	54.789	9.9	-9999.0	-9999.0	22.15	0.09	0.01	-9999.0	-9999.0	5
31.500	55.446	10.5	15.7	8.9	23.46	0.36	0.01	1.99	5.0	6
32.000	56.102	9.0	16.7	9.4	26.85	0.26	0.13	1.97	5.0	6
32.500	56.758	9.3	16.7	9.4	25.85	0.18	0.01	1.85	5.0	6
33.000	57.414	8.9	16.3	9.1	24.67	0.14	0.01	1.93	5.0	6
33.500	58.070	5.3	16.4	9.3	24.60	0.24	0.01	1.91	5.0	5
34.000	58.726	9.1	15.9	9.4	24.89	0.22	0.01	1.92	5.0	6
34.500	59.382	9.1	16.4	9.2	24.66	0.18	0.02	1.87	5.0	6
35.000	60.039	10.9	17.0	5.4	23.50	0.53	0.01	2.04	16.4	5

Run No: 04-1124-1117-2674
CPT File: 509CP05.CPA

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 N1(60) (b/ft)	Col-22 N1(60)cs (b/ft)	Col-23 N1(60)cs (b/ft)	Col-24 Qc	Col-25 Fr (%)	Col-26 Bq	Col-27 Ic	Col-28 FC (%)	Col-29 IcZone (Zone)
16.500	60.695	21.3	21.5	21.9	10.17	0.90	0.01	2.02	23.5	5
16.700	61.351	17.1	23.3	19.4	35.69	1.27	0.00	1.77	5.0	5
16.900	62.007	12.4	23.3	12.7	33.67	0.51	0.00	1.91	10.4	6
17.100	62.663	12.4	-9999.0	-9999.0	33.58	0.10	0.00	-9999.0	-9999.0	0
17.300	63.319	11.4	20.4	11.1	30.70	0.18	0.00	1.77	5.0	6
17.500	63.976	11.1	19.6	10.8	29.75	0.15	0.00	1.75	5.0	6
17.700	64.631	10.8	19.5	10.0	29.05	0.16	0.00	1.76	5.0	6
17.900	65.288	10.9	20.3	11.0	27.19	0.36	0.00	1.85	5.5	6
18.100	65.945	10.6	19.2	10.4	26.19	0.13	0.00	1.77	5.5	6
18.300	66.600	10.1	20.1	10.6	27.26	0.47	0.00	1.96	6.0	6
18.500	67.256	12.7	24.0	12.9	31.52	0.85	0.01	2.04	14.0	6
18.700	67.912	13.7	24.5	13.0	36.30	0.11	0.00	1.64	6.0	6
18.900	68.569	12.1	-9999.0	-9999.0	31.77	0.53	0.00	-9999.0	-9999.0	0
19.100	69.225	9.7	-9999.0	-9999.0	25.76	0.59	0.00	-9999.0	-9999.0	0
19.300	69.881	10.7	21.6	11.6	27.89	0.75	0.00	2.05	14.3	6
19.500	70.537	14.0	26.5	14.5	36.63	0.49	0.00	1.85	5.0	6
19.700	71.193	13.0	26.5	13.5	34.05	0.59	0.00	1.93	10.9	6
19.900	71.850	13.8	27.4	14.4	35.96	0.75	0.00	1.95	11.6	6
20.100	72.506	15.0	29.2	15.4	39.64	0.66	0.01	1.90	10.5	6
20.300	73.162	16.5	31.0	16.4	42.97	0.43	0.01	1.76	5.0	5
20.500	73.818	16.8	36.9	15.2	48.55	0.91	-0.01	1.50	10.4	5
20.700	74.474	25.2	47.2	24.6	45.54	0.00	0.00	1.76	7.3	5
20.900	75.130	24.5	44.6	23.2	59.32	0.60	0.00	1.70	6.2	5
21.100	75.786	17.9	35.0	16.1	44.53	1.05	-0.01	1.97	22.1	6
21.300	76.443	16.3	31.7	16.4	41.94	0.00	-0.01	1.84	9.1	6
21.500	77.099	17.7	35.1	16.1	45.36	0.84	-0.01	1.96	10.4	6
21.700	77.755	17.9	35.1	16.0	45.74	0.74	-0.01	1.86	5.5	6
21.900	78.411	16.3	30.8	15.7	41.53	0.39	-0.01	1.75	5.1	6
22.100	79.067	15.5	28.8	14.7	38.65	0.55	0.00	1.87	9.5	5
22.300	79.723	15.6	29.1	14.8	38.88	0.56	-0.01	1.88	9.5	6
22.500	80.380	15.5	27.8	14.2	34.79	0.19	-0.01	1.90	10.4	6
22.700	81.036	15.4	27.5	14.0	33.42	0.72	-0.01	1.95	11.8	6
22.900	81.692	16.5	35.7	18.1	46.27	0.50	0.00	1.90	8.3	5
23.100	82.348	14.4	28.5	14.4	36.86	0.24	-0.02	1.78	5.0	5
23.300	83.004	17.5	35.7	12.9	35.62	0.65	-0.03	1.98	11.8	5
23.500	83.660	9.1	21.1	10.7	21.91	0.73	-0.03	2.08	15.3	5
23.700	84.317	10.6	18.6	9.5	25.22	0.09	-0.03	2.12	16.5	5
23.900	84.973	10.0	17.9	8.9	21.83	0.78	-0.02	2.17	18.3	5
24.100	85.629	9.2	16.7	8.3	17.21	0.77	-0.02	2.20	13.0	5
24.300	86.285	7.8	13.2	3.9	14.19	1.36	-0.02	2.65	37.9	4
24.500	86.941	9.4	16.2	3.7	12.75	1.20	-0.02	2.71	41.1	4
24.700	87.597	9.1	15.2	3.6	12.11	1.51	-0.02	2.78	44.7	4
24.900	88.254	8.5	15.3	3.4	12.44	1.54	-0.02	2.77	43.5	4
25.100	88.910	8.3	14.9	3.1	10.85	1.44	-0.03	2.80	45.9	4
25.300	89.566	7.8	14.3	3.1	10.37	1.47	-0.03	2.83	47.9	4
25.500	90.222	7.7	14.1	3.0	9.51	1.43	-0.03	2.84	48.2	4
25.700	90.878	7.3	13.7	2.9	9.30	1.55	-0.03	2.87	53.3	4
25.900	91.534	8.0	14.7	3.1	10.30	1.45	-0.03	2.82	47.7	4
26.100	92.190	7.6	14.3	3.0	9.61	1.49	-0.04	2.83	50.5	4
26.300	92.847	7.9	14.7	3.1	9.95	1.53	-0.04	2.87	50.3	4
26.500	93.503	7.6	14.4	3.1	9.30	1.49	-0.04	2.87	50.3	4
26.700	94.159	6.9	13.0	2.7	8.48	1.39	-0.05	2.88	51.7	4
26.900	94.815	6.7	12.1	2.4	7.44	1.45	-0.05	2.94	54.8	4
27.100	95.471	7.4	14.1	2.8	9.24	1.43	-0.04	2.83	51.3	4
27.300	96.127	8.0	15.1	3.1	9.84	1.45	-0.04	2.87	51.1	4
27.500	96.784	6.7	14.1	3.3	10.77	1.83	-0.04	2.85	49.1	4
27.700	97.440	9.4	17.5	3.7	12.28	1.71	-0.04	2.79	45.4	4
27.900	98.096	9.4	16.9	3.5	11.12	1.61	-0.04	2.73	45.5	4
28.100	98.752	8.5	15.6	3.2	10.18	1.62	-0.04	2.84	46.2	4
28.300	99.408	7.5	14.4	3.4	8.56	1.73	-0.03	2.91	52.1	4

Run No: 06-1124-1317-3674
CPT File: 809CP05.COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 N1(60) (b/ft)	Col-22 N1(60)fc (b/ft)	Col-23 N1(60)fc (b/ft)	Col-24 Qc	Col-25 Fr (%)	Col-26 Rq	Col-27 Ic	Col-28 FC (%)	Col-29 IoZone (Zone)
10.500	100.064	7.8	14.1	2.9	9.31	1.64	-0.03	2.88	51.0	4
10.700	100.721	7.6	14.9	3.0	9.36	1.72	-0.04	2.89	51.5	4
10.900	101.377	7.9	15.0	3.0	9.41	1.59	-0.04	2.89	51.1	4
11.100	102.033	8.1	15.1	3.0	9.61	1.57	-0.04	2.85	49.7	4
11.300	102.689	8.3	15.8	3.1	9.88	1.60	-0.04	2.87	50.0	4
11.500	103.345	8.7	16.1	3.2	10.25	1.46	-0.04	2.85	48.5	4
11.700	104.001	10.2	18.1	3.5	12.72	1.64	-0.04	2.78	44.5	4
11.900	104.656	10.3	18.5	3.7	12.41	1.69	-0.04	2.78	45.0	4
12.100	105.314	10.6	19.2	3.8	12.55	1.75	-0.04	2.77	44.5	4
12.300	105.970	11.9	20.4	4.1	14.34	1.52	-0.03	2.73	40.7	4
12.500	106.626	12.7	22.1	4.4	15.40	1.53	-0.02	2.69	40.2	4
12.700	107.282	12.5	21.7	4.3	15.08	1.78	-0.03	2.72	41.7	4
12.900	107.938	12.7	21.5	4.3	15.18	1.56	-0.03	2.69	39.9	4
13.100	108.594	11.6	20.3	5.1	16.82	1.51	-0.02	1.60	35.6	4
13.300	109.252	11.5	21.5	10.0	18.47	1.34	-0.02	1.29	21.8	4
13.500	109.927	11.4	22.6	4.5	15.91	1.72	-0.02	2.59	40.2	4
13.700	110.583	13.2	22.5	4.4	15.55	1.70	-0.02	2.70	40.5	4
13.900	111.219	12.1	22.5	10.4	19.16	1.45	-0.02	2.30	22.4	5
14.100	111.875	13.5	23.3	10.7	20.63	1.10	-0.02	2.19	18.7	5
14.300	112.531	11.1	20.5	7.4	17.48	1.11	-0.03	2.25	20.6	5
14.500	113.188	10.4	18.6	5.0	16.51	1.10	-0.03	2.26	21.2	5
14.700	113.844	12.5	25.8	11.8	23.82	0.66	-0.02	2.08	15.2	5
14.900	114.500	13.9	23.0	10.3	27.60	0.32	-0.01	1.82	5.0	5
15.100	115.156	8.8	16.2	7.4	13.28	0.73	-0.02	2.24	20.4	5
15.300	115.812	9.4	17.4	7.9	14.27	0.85	-0.02	2.26	21.1	5
15.500	116.468	11.3	24.2	11.0	21.99	0.75	-0.02	2.07	14.9	5
15.700	117.175	12.8	26.4	12.0	24.97	0.53	-0.02	1.97	12.2	5

Conetec Inc. - CPT Interpretation
Interpretation Output - Release 1.27 Rev. A - Build 5 Format: NUP Imperial
Job No. 04-1124-1117-4974
Job No: 04 805
Client: NeoSystems Consultants
Project: Pigeon Point Landfill - Pelangeen Delaware
Site: CPT-5
Location: Pigeon Point
Cone 20 TON AD566
CPT Date 04/14/11
CPT Time 12:28
CPT File 805CP05.CON
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 17.24 (ft): 56.6
Unit Weight of Water (default) 62.45 pcf
Averaging Increment (m): 0.20
Su Not used: 15.00 Su/P' (m): 0.30
Su Method : Lunne/Kokusho - All Soils
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Plots Calculated Using Gamma
Plots Calculated Using Gamma

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Qc (MPa)	Col-04 Fs (kPa)	Col-05 State Par	Col-06 Es/q1	Col-07 Youngs (MPa)	Col-08 Su (kPa)	Col-09 OCR
0.100	0.328	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.726	10.0
0.200	0.656	85.1	55.0	-0.38	1.925	68.0	-9999.0	-9999.0
0.300	1.640	85.6	50.0	0.40	1.960	114.2	-9999.0	-9999.0
0.400	1.297	-9999.0	9999.0	-1299.0	-9999.0	-9999.0	1.736	10.0
0.500	2.953	95.0	50.0	-0.39	-9993.0	-9997.0	-9999.0	9999.0
0.600	1.609	55.4	44.0	-0.36	2.654	79.2	2.053	10.0
0.700	4.265	86.6	48.0	-0.35	1.886	193.6	-9999.0	-9997.0
0.800	4.921	57.5	44.0	-0.33	2.662	96.3	2.589	10.0
0.900	5.577	56.5	44.0	-0.30	2.165	124.5	-9997.0	-9997.0
1.000	6.234	62.3	46.0	-0.38	2.398	113.8	3.408	10.0
1.100	5.890	52.6	42.0	-0.35	2.183	106.0	2.616	10.0
1.200	7.546	44.5	40.0	-0.26	3.119	94.2	1.901	10.0
1.300	8.202	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.659	10.0
1.400	8.858	49.3	40.0	-0.17	2.612	112.1	-9999.0	-9999.0
1.500	9.514	58.3	42.0	-0.18	2.426	135.4	-9999.0	-9999.0
1.600	10.170	52.0	36.0	-0.15	-9999.0	-9999.0	1.321	10.0
1.700	10.827	9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.128	10.0
1.800	11.483	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.652	10.0
1.900	12.139	48.6	46.0	0.04	2.983	124.5	2.737	10.0
2.000	12.795	64.3	38.0	0.05	3.156	122.9	2.485	10.0
2.100	13.452	35.0	36.0	-0.15	9999.0	-9999.0	1.502	10.0
2.200	14.107	39.2	38.0	-0.20	3.057	119.1	2.261	10.0
2.300	14.764	37.1	38.0	-0.21	3.415	120.7	2.320	10.0
2.400	15.420	32.7	40.0	-0.29	2.722	146.5	3.509	10.0
2.500	16.075	50.1	40.0	-0.21	2.838	151.5	3.543	10.0
2.600	16.732	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	1.361	7.6
2.700	17.388	16.8	38.0	-0.15	3.472	131.0	2.669	10.0
2.800	18.044	42.9	38.0	-0.23	3.247	146.0	2.937	10.0
2.900	18.701	38.0	36.0	-0.20	3.634	134.2	2.479	10.0
3.000	19.357	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.649	8.6
3.100	20.013	39.2	36.0	-0.24	3.487	143.7	2.471	10.0
3.200	20.669	40.4	38.0	-0.19	3.413	152.5	2.861	10.0

Job No: 04-1124-1337-3474
CPT File: 0C9CP05.COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-10 Dr (%)	Col-11 Phi (deg)	Col-12 Strain Per	Col-13 kN/m²	Col-14 Youngs (ksf)	Col-15 Sc (kaf)	Col-16 OCR
6.500	21.325	41.2	38.0	-0.20	3.108	154.5	2.558	10.0
6.700	21.981	38.5	36.0	-0.14	7.452	150.0	2.429	10.0
6.800	22.638	30.0	34.0	-0.14	-9999.0	-9999.0	1.945	3.4
6.900	23.294	36.7	35.0	-0.10	-9999.0	9999.0	2.534	12.0
7.000	23.950	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.784	5.7
7.100	24.606	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.680	12.0
7.200	25.262	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.767	12.0
7.300	25.918	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	1.795	5.0
8.100	26.574	34.5	34.0	-0.03	3.652	155.4	-9999.0	-9999.0
8.200	27.231	34.0	34.0	-0.13	-9999.0	-9999.0	2.563	9.8
8.300	27.887	30.0	32.0	-0.09	-9999.0	-9999.0	1.874	5.7
8.400	28.543	30.0	30.0	0.02	9999.0	9999.0	1.065	2.4
8.500	29.199	24.7	31.0	-0.09	3.881	165.2	-9999.0	-9999.0
8.600	29.855	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.903	5.3
8.700	30.511	35.5	36.0	-0.14	-9999.0	-9999.0	2.008	6.3
8.800	31.168	9999.0	9999.0	-9999.0	-9999.0	-9999.0	2.442	7.3
8.900	31.824	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.765	4.3
9.000	32.480	31.3	34.0	-0.10	-9999.0	-9999.0	2.633	7.2
9.100	33.136	35.8	34.0	-0.11	-9999.0	-9999.0	3.038	9.1
9.200	33.792	34.6	34.0	-0.15	-9999.0	-9999.0	2.923	8.5
9.300	34.448	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	1.938	3.7
9.400	35.105	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	3.121	9.6
9.500	35.761	55.8	38.0	-0.20	3.819	251.0	5.168	22.0
9.600	36.417	39.3	34.0	-0.14	-9999.0	-9999.0	3.063	10.0
9.700	37.073	35.0	33.0	-0.03	-9999.0	-9999.0	2.116	4.5
9.800	37.729	30.5	33.0	-0.09	-9999.0	-9999.0	2.042	3.3
9.900	38.386	25.8	34.0	-0.13	1.936	207.9	-9999.0	-9999.0
10.000	39.042	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.977	3.6
10.100	39.698	30.0	30.0	-0.02	-9999.0	-9999.0	1.953	2.6
10.200	40.354	30.0	30.0	-0.03	-9999.0	-9999.0	1.935	2.0
10.300	41.010	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.944	2.0
10.400	41.666	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.924	2.0
10.500	42.322	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	2.538	4.4
10.600	42.978	9999.0	9999.0	-9999.0	-9999.0	-9999.0	2.600	4.3
10.700	43.635	30.0	30.0	-0.01	-9999.0	-9999.0	1.795	2.5
10.800	44.291	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.523	0.7
10.900	44.947	30.0	30.0	0.02	-9999.0	9999.0	1.353	1.3
11.000	45.603	57.1	36.0	-0.02	2.867	332.9	9999.0	9999.0
11.100	46.259	75.2	42.0	-0.01	1.273	492.9	-9999.0	-9999.0
11.200	46.915	72.5	40.0	0.01	2.154	476.4	-9999.0	-9999.0
11.300	47.572	46.5	36.0	0.03	3.424	285.1	-9999.0	-9999.0
11.400	48.228	40.9	34.0	0.06	3.774	258.5	-9999.0	-9999.0
11.500	48.884	40.7	34.0	0.07	3.819	260.0	-9999.0	-9999.0
11.600	49.540	39.9	34.0	0.08	3.880	258.4	-9999.0	-9999.0
11.700	50.196	39.0	34.0	0.12	3.952	256.0	-9999.0	-9999.0
11.800	50.853	37.7	34.0	0.13	4.066	250.1	9999.0	9999.0
11.900	51.509	36.6	32.0	0.15	4.100	250.5	-9999.0	-9999.0
12.000	52.165	38.7	34.0	0.25	3.929	269.5	-9999.0	-9999.0
12.100	52.821	40.6	34.0	0.21	3.886	274.1	-9999.0	-9999.0
12.200	53.477	40.6	34.0	0.21	3.850	276.8	-9999.0	-9999.0
12.300	54.133	39.9	34.0	0.11	3.950	275.5	-9999.0	-9999.0
12.400	54.789	43.1	34.0	0.14	3.869	285.0	-9999.0	-9999.0
12.500	55.446	43.2	34.0	0.15	3.779	287.7	-9999.0	-9999.0
12.600	56.102	44.8	34.0	0.02	3.672	310.1	-9999.0	-9999.0
12.700	56.758	45.5	34.0	0.07	3.802	319.5	-9999.0	-9999.0
12.800	57.414	44.7	34.0	0.05	3.894	312.8	-9999.0	-9999.0
12.900	58.070	44.7	34.0	0.05	3.895	314.1	-9999.0	-9999.0
13.000	58.726	45.3	34.0	0.04	3.864	318.3	-9999.0	-9999.0
13.100	59.382	45.2	34.0	0.08	3.878	318.7	-9999.0	-9999.0
13.200	60.039	44.2	34.0	0.10	3.754	314.5	9999.0	9999.0

Run No: 04-1124 1317-2676
Project File: 090C205.COR

Col 01 Depth (m)	Col 02 Depth (ft)	Col-30 Qc (MPa)	Col-31 Fs (kPa)	Col-32 Score Par	Col-33 Qc/Fs	Col-34 Pseudo Rf (kPa)	Col-35 Au (kPa)	Col-36 OCR
18.100	60.695	50.9	16.0	-0.05	3.189	357.8	-9999.0	-9999.0
18.200	61.353	55.7	36.0	0.31	3.104	392.1	-9999.0	-9999.0
18.300	61.697	54.1	36.0	-0.05	3.185	383.1	-9999.0	-9999.0
18.400	62.661	54.2	36.0	0.16	3.189	386.4	-9999.0	-9999.0
18.500	63.319	51.6	36.0	0.06	3.316	370.1	-9999.0	-9999.0
18.600	63.976	51.0	36.0	0.02	3.049	363.7	-9999.0	-9999.0
18.700	64.642	50.3	36.0	0.01	3.416	352.3	-9999.0	-9999.0
18.800	65.288	50.6	36.0	0.04	3.397	356.5	-9999.0	-9999.0
18.900	65.944	49.7	36.0	0.09	3.652	347.3	-9999.0	-9999.0
19.000	66.620	46.9	36.0	-0.01	3.505	328.1	-9999.0	-9999.0
19.100	67.256	51.0	36.0	-0.07	3.219	387.9	-9999.0	-9999.0
19.200	67.913	57.5	36.0	0.06	3.062	424.2	-9999.0	-9999.0
19.300	68.569	53.4	36.0	0.19	3.268	393.8	-9999.0	-9999.0
19.400	69.225	47.7	36.0	0.13	3.196	356.3	-9999.0	-9999.0
19.500	69.881	55.0	36.0	-0.04	3.461	372.7	-9999.0	-9999.0
19.600	70.537	57.4	36.0	-0.06	3.275	432.0	-9999.0	-9999.0
19.700	71.193	55.6	36.0	-0.06	3.170	417.3	-9999.0	-9999.0
19.800	71.850	57.2	36.0	-0.03	3.036	432.7	-9999.0	-9999.0
19.900	72.505	57.6	36.0	-0.03	2.596	435.3	-9999.0	-9999.0
20.000	73.162	67.0	36.0	-0.04	2.865	492.0	-9999.0	-9999.0
20.100	73.818	66.1	36.0	-0.11	2.760	525.0	-9999.0	-9999.0
20.200	74.474	74.5	40.0	-0.13	2.680	640.2	-9999.0	-9999.0
20.300	75.130	72.5	42.0	-0.10	2.571	628.7	-9999.0	-9999.0
20.400	75.786	63.1	36.0	-0.12	2.356	561.4	-9999.0	-9999.0
20.500	76.443	62.1	38.0	-0.16	2.920	492.0	-9999.0	-9999.0
20.600	77.099	64.3	38.0	-0.10	2.849	510.0	-9999.0	-9999.0
20.700	77.755	64.8	38.0	-0.09	2.752	526.9	-9999.0	-9999.0
20.800	78.411	62.0	38.0	-0.05	2.934	497.1	-9999.0	-9999.0
20.900	79.067	56.9	38.0	-0.09	2.573	462.9	-9999.0	-9999.0
21.000	79.723	58.9	38.0	-0.05	2.973	469.1	-9999.0	-9999.0
21.100	80.380	61.0	38.0	-0.05	2.345	456.3	-9999.0	-9999.0
21.200	81.036	56.1	36.0	0.06	3.203	448.7	-9999.0	-9999.0
21.300	81.692	65.4	38.0	-0.07	2.825	546.5	-9999.0	-9999.0
21.400	82.348	59.3	36.0	-0.01	3.077	473.2	-9999.0	-9999.0
21.500	83.004	54.1	36.0	0.04	3.326	435.2	-9999.0	-9999.0
21.600	83.662	47.4	34.0	-0.03	3.157	395.7	-9999.0	-9999.0
21.700	84.317	42.9	34.0	-0.01	4.007	356.4	-9999.0	-9999.0
21.800	84.973	43.1	32.0	-0.01	4.326	365.8	-9999.0	-9999.0
21.900	85.629	38.7	32.0	0.10	4.291	331.3	-9999.0	-9999.0
22.000	86.285	33.6	32.0	-0.02	-9999.0	-9999.0	-9999.0	-9999.0
22.100	86.941	30.9	30.0	-0.01	-9999.0	-9999.0	-9999.0	-9999.0
22.200	87.597	30.0	30.0	-0.02	-9999.0	-9999.0	-9999.0	-9999.0
22.300	88.254	30.0	30.0	-0.01	-9999.0	-9999.0	-9999.0	-9999.0
22.400	88.910	30.0	30.0	0.00	-9999.0	-9999.0	-9999.0	-9999.0
22.500	89.566	30.0	30.0	0.00	-9999.0	-9999.0	-9999.0	-9999.0
22.600	90.222	30.0	30.0	0.00	-9999.0	-9999.0	-9999.0	-9999.0
22.700	90.878	30.0	30.0	0.01	-9999.0	-9999.0	-9999.0	-9999.0
22.800	91.534	30.0	30.0	0.10	-9999.0	-9999.0	-9999.0	-9999.0
22.900	92.190	30.0	30.0	0.00	-9999.0	-9999.0	-9999.0	-9999.0
23.000	92.847	30.0	30.0	-0.01	-9999.0	-9999.0	-9999.0	-9999.0
23.100	93.503	30.0	30.0	0.01	-9999.0	-9999.0	-9999.0	-9999.0
23.200	94.159	30.0	30.0	0.02	-9999.0	-9999.0	-9999.0	-9999.0
23.300	94.815	30.0	30.0	0.02	-9999.0	-9999.0	-9999.0	-9999.0
23.400	95.472	30.0	30.0	0.00	-9999.0	-9999.0	-9999.0	-9999.0
23.500	96.127	30.0	30.0	0.01	-9999.0	-9999.0	-9999.0	-9999.0
23.600	96.784	30.0	30.0	-0.02	-9999.0	-9999.0	-9999.0	-9999.0
23.700	97.440	31.7	30.0	-0.03	-9999.0	-9999.0	-9999.0	-9999.0
23.800	98.096	30.0	30.0	-0.02	-9999.0	-9999.0	-9999.0	-9999.0
23.900	98.752	30.0	30.0	-0.01	-9999.0	-9999.0	-9999.0	-9999.0
24.000	99.408	30.0	30.0	0.00	-9999.0	-9999.0	-9999.0	-9999.0

Run No. 04-2124-1317-3674
CPT File #09CP05.CGR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-10 Dr (%)	Col-11 Phi (deg)	Col-12 State Par	Col-33 Es/qc	Col-34 YoungE (tsf)	Col-35 Su (tsf)	Col-36 OCR
30.500	100.084	10.0	10.0	0.00	-9999.0	-9999.0	-9999.0	-9999.0
30.700	100.721	10.0	10.0	0.00	-9999.0	-9999.0	-9999.0	-9999.0
30.900	101.377	10.0	10.0	0.00	-9999.0	-9999.0	-9999.0	-9999.0
31.100	102.011	10.0	30.0	0.00	-9999.0	-9999.0	-9999.0	-9999.0
31.300	102.649	10.0	30.0	0.01	-9999.0	-9999.0	-9999.0	-9999.0
31.500	103.345	30.0	30.0	0.01	-9999.0	-9999.0	-9999.0	-9999.0
31.700	104.015	31.5	30.0	-0.03	-9999.0	-9999.0	-9999.0	-9999.0
31.900	104.655	32.0	30.0	-0.03	-9999.0	-9999.0	-9999.0	-9999.0
32.100	105.314	33.2	30.0	-0.04	-9999.0	-9999.0	-9999.0	-9999.0
32.300	105.970	35.9	32.0	-0.04	-9999.0	-9999.0	-9999.0	-9999.0
32.500	106.624	37.8	32.0	-0.05	-9999.0	-9999.0	-9999.0	-9999.0
32.700	107.283	37.3	32.0	-0.05	-9999.0	-9999.0	-9999.0	-9999.0
32.900	107.938	37.5	32.0	-0.04	-9999.0	-9999.0	-9999.0	-9999.0
33.100	108.594	43.3	32.0	-0.06	-9999.0	-9999.0	-9999.0	-9999.0
33.300	109.251	42.9	32.0	-0.05	4.143	397.8	-9999.0	-9999.0
33.500	109.903	39.0	32.0	-0.06	-9999.0	-9999.0	-9999.0	-9999.0
33.700	110.567	38.4	32.0	-0.05	-9999.0	-9999.0	-9999.0	-9999.0
33.900	111.215	43.9	32.0	-0.06	4.071	408.1	-9999.0	-9999.0
34.100	111.875	46.1	34.0	-0.05	3.922	425.4	-9999.0	-9999.0
34.300	112.531	41.7	32.0	-0.03	4.220	392.7	-9999.0	-9999.0
34.500	113.168	40.2	32.0	-0.03	4.319	382.6	-9999.0	-9999.0
34.700	113.844	50.1	34.0	-0.04	3.679	461.3	-9999.0	-9999.0
34.900	114.500	54.2	36.0	-0.02	3.447	499.1	-9999.0	-9999.0
35.100	115.156	34.7	32.0	-0.07	4.592	354.8	-9999.0	-9999.0
35.300	115.812	36.6	32.0	-0.02	4.561	359.4	-9999.0	-9999.0
35.500	116.468	48.2	34.0	-0.07	3.797	448.6	-9999.0	-9999.0
35.700	117.125	51.7	34.0	-0.02	3.566	471.7	-9999.0	-9999.0

CensTec Inc. - CPT Interpretation
Interpretation Output - Kelman 1.20 Rev. A - Build 5 Format: TCP Imperial
Run No: 06-1124-1317-1735
No. 04-615
Client: Geotechnic Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-6
Location: Pigeon Point
Cone: 20 TON AD004
CPT Date: 06/16/11
CPT Time: 11:01
CPT File: P06CP06 CPT
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 5.30 (ft) 17.4
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m): 0.40
Sq Not used 15.00 Sm/2 (m): 0.30
Dr Method : Cambiakowski - All Sands
Space Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Qtotal Calculated using qsum
Qsfrm Calculated using qsfrcs

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 UST (zone)	Col-11 SBTn (Robertson)
0.100	0.328	-0.100	-0.328	15.35	15.35	0.25	1.60	1.25	6	3
0.200	0.656	0.200	-0.656	21.64	21.69	0.54	2.16	-2.14	6	6
0.300	0.984	0.300	-0.984	15.58	14.57	0.43	2.82	-2.55	5	5
0.400	1.312	0.400	-1.312	11.26	11.26	0.29	2.61	-2.01	5	5
0.500	1.640	0.500	-1.640	13.70	13.71	0.31	2.25	1.03	5	5
0.600	1.968	-0.500	-1.968	5.29	5.26	0.14	2.73	5.86	5	4
0.700	2.296	-0.700	-2.296	5.31	5.15	0.04	0.73	3.29	5	5
0.800	2.624	-0.800	-2.624	2.23	2.25	0.07	0.56	23.43	3	4
0.900	2.952	-0.900	-2.952	1.72	1.82	0.02	0.66	27.79	3	5
1.000	3.280	-1.000	-3.280	2.29	2.36	0.02	0.85	15.67	3	3
1.100	3.608	-1.100	-3.608	1.65	1.54	0.03	0.70	19.74	3	4
1.200	3.936	-1.200	-3.936	2.58	2.72	0.03	1.20	7.16	3	3
1.300	4.264	-1.300	-4.264	1.08	1.14	0.04	1.32	12.19	3	3
1.400	4.592	-1.400	-4.592	2.61	2.58	0.06	2.41	15.53	3	1
1.500	4.920	-1.500	-4.920	1.85	1.90	0.02	1.24	13.77	3	4
1.600	5.248	-1.600	-5.248	5.94	6.00	0.04	0.68	-3.07	3	5
1.700	5.576	-1.700	-5.576	6.48	6.47	0.04	0.61	-2.45	3	3
1.800	5.904	-1.800	-5.904	2.41	2.49	0.03	1.11	-0.14	3	3
1.900	6.232	-1.900	-6.232	3.58	3.57	0.06	2.11	-0.62	3	3
2.000	6.560	-2.000	-6.560	4.67	4.62	0.17	2.54	1.15	3	3
2.100	6.888	-2.100	-6.888	4.58	4.60	0.13	2.83	5.64	3	3
2.200	7.216	-2.200	-7.216	3.29	3.31	0.07	1.97	7.32	4	3
2.300	7.544	-2.300	-7.544	4.84	4.87	0.10	1.95	8.85	3	3
2.400	7.872	-2.400	-7.872	2.17	2.21	0.04	2.02	10.58	2	3
2.500	8.200	-2.500	-8.200	2.99	3.02	0.07	2.10	15.53	3	2
2.600	8.528	-2.600	-8.528	2.69	2.96	0.11	4.72	15.53	3	3
2.700	8.856	-2.700	-8.856	2.87	2.91	0.11	2.89	18.64	3	3
2.800	9.184	-2.800	-9.184	4.38	4.46	0.11	2.42	16.16	3	3
2.900	9.512	-2.900	-9.512	4.07	4.15	0.11	3.10	19.17	3	3
3.000	9.840	-3.000	-9.840	4.47	4.55	0.13	2.80	19.17	3	3
3.100	10.168	-3.100	-10.168	3.72	3.83	0.16	2.96	23.26	3	3
3.200	10.496	-3.200	-10.496	3.47	3.53	0.08	2.31	25.91	3	3
3.300	10.824	-3.300	-10.824	3.47	3.50	0.09	2.56	27.76	3	3

Run No: 94-1124-1517-3735
cpt File: 1092P01.CPT

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (Robe)	Col-11 SBTn (Robe)
6.500	21.325	-6.500	-21.325	4.01	4.15	0.11	2.60	28.71	3	3
6.700	21.981	-6.700	-21.981	3.27	3.42	0.09	2.65	36.69	3	3
6.900	22.638	-6.900	-22.638	3.18	3.34	0.08	2.64	36.25	3	3
7.100	23.294	-7.100	-23.294	3.48	3.67	0.09	2.57	39.91	3	3
7.300	23.950	-7.300	-23.950	3.12	3.31	0.08	2.34	42.36	3	2
7.500	24.606	-7.500	-24.606	3.37	3.55	0.07	1.83	45.74	3	3
7.700	25.262	-7.700	-25.262	3.37	3.55	0.07	2.02	48.20	3	3
7.900	25.918	-7.900	-25.918	4.22	4.48	0.09	2.03	53.70	4	3
8.100	26.574	-8.100	-26.574	4.35	4.59	0.09	1.97	55.96	4	3
8.300	27.231	-8.300	-27.231	4.32	4.56	0.09	1.46	57.42	4	3
8.500	27.887	-8.500	-27.887	4.16	4.44	0.08	1.86	63.42	3	3
8.700	28.543	-8.700	-28.543	3.80	4.10	0.08	1.90	64.02	3	3
8.900	29.199	-8.900	-29.199	4.09	4.42	0.08	1.82	70.10	3	3
9.100	29.855	-9.100	-29.855	4.09	4.45	0.07	1.63	77.32	3	3
9.300	30.511	-9.300	-30.511	4.31	4.58	0.08	1.81	78.41	3	3
9.500	31.168	-9.500	-31.168	4.38	4.75	0.07	1.37	79.56	3	3
9.700	31.824	-9.700	-31.824	4.61	5.00	0.07	1.30	82.91	3	3
9.900	32.480	-9.900	-32.480	5.14	5.56	0.08	1.44	89.12	3	3
10.100	33.136	-10.100	-33.136	4.60	5.01	0.07	1.40	86.45	3	3
10.300	33.792	-10.300	-33.792	5.45	5.89	0.12	1.57	85.71	4	3
10.500	34.448	-10.500	-34.448	6.24	6.65	0.12	1.75	86.14	5	3
10.700	35.105	-10.700	-35.105	13.28	12.41	0.10	0.81	27.59	6	4
10.900	35.761	-10.900	-35.761	4.50	4.74	0.05	1.11	49.65	3	3
11.100	36.417	-11.100	-36.417	5.01	5.28	0.06	1.19	55.70	3	3
11.300	37.073	-11.300	-37.073	57.94	53.07	0.20	0.38	27.39	6	5
11.500	37.729	-11.500	-37.729	91.45	81.53	0.45	0.55	18.59	6	5
11.700	38.386	-11.700	-38.386	107.34	107.40	0.60	0.52	13.31	6	6
11.900	39.042	-11.900	-39.042	119.08	119.13	0.66	0.47	10.57	6	6
12.100	39.698	-12.100	-39.698	110.76	110.76	0.41	0.29	3.49	6	6
12.300	40.354	-12.300	-40.354	91.81	91.72	0.43	0.52	-7.38	6	6
12.500	41.010	-12.500	-41.010	110.24	110.15	0.39	0.35	-19.61	6	6
12.700	41.666	-12.700	-41.666	114.15	114.05	0.46	0.40	-11.02	6	6
12.900	42.322	-12.900	-42.322	125.29	125.21	0.37	0.29	-13.60	6	6
13.100	42.978	-13.100	-42.978	106.82	106.75	0.53	0.48	-11.91	6	6
13.300	43.635	-13.300	-43.635	88.57	88.47	0.40	0.45	-20.45	6	6
13.500	44.291	-13.500	-44.291	67.83	67.93	0.23	0.43	-23.02	6	5
13.700	44.947	-13.700	-44.947	14.15	14.68	0.13	0.85	-21.87	6	4
13.900	45.603	-13.900	-45.603	18.85	18.78	0.39	2.07	-20.04	6	3
14.100	46.259	-14.100	-46.259	25.53	25.41	0.42	1.22	-20.46	6	3
14.300	46.915	-14.300	-46.915	20.27	20.12	0.55	2.53	20.35	5	3
14.500	47.572	-14.500	-47.572	22.17	22.07	0.55	2.63	-10.93	5	3
14.700	48.228	-14.700	-48.228	19.73	19.79	0.45	2.33	-13.74	5	3
14.900	48.884	-14.900	-48.884	19.85	19.73	0.43	2.41	-12.40	5	3
15.100	49.540	-15.100	-49.540	22.92	22.85	0.61	2.22	-11.52	5	3
15.300	50.196	-15.300	-50.196	25.04	24.96	0.55	2.21	-10.74	5	4
15.500	50.852	-15.500	-50.852	24.50	24.40	0.53	2.19	-10.53	5	3
15.700	51.509	-15.700	-51.509	26.41	26.34	0.65	2.28	10.30	5	4
15.900	52.165	-15.900	52.165	28.40	28.32	0.02	3.27	-18.87	5	3
16.100	52.821	-16.100	-52.821	115.61	116.51	5.13	4.42	-35.04	11	4
16.300	53.477	-16.300	-53.477	95.24	96.10	5.10	5.31	-30.14	11	4
16.500	54.133	-16.500	-54.133	212.35	212.75	6.03	2.84	-29.72	7	5
16.700	54.789	-16.700	-54.789	107.43	107.29	6.33	2.61	-30.32	7	5
16.900	55.446	-16.900	-55.446	53.75	53.65	2.24	4.17	-18.07	5	3
17.100	56.102	-17.100	-56.102	43.12	43.99	1.32	3.14	-29.03	5	4
17.300	56.758	-17.300	-56.758	54.28	54.15	1.55	2.87	28.42	6	4
17.500	57.414	-17.500	57.414	42.39	42.25	1.53	1.82	-29.91	5	3
17.700	58.070	-17.700	-58.070	36.97	36.85	0.87	2.37	-26.75	5	4
17.900	58.726	-17.900	-58.726	43.65	43.53	1.11	2.63	-24.53	5	4
18.100	59.382	-18.100	59.382	74.39	74.25	2.32	3.12	-22.54	6	4
18.300	60.039	-18.300	-60.039	143.48	143.36	3.93	1.97	-16.63	12	4

Run No: 24-1124-1317-2735
CPT File: 6050706.COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
15.500	65.695	-18.500	-60.695	207.30	202.77	6.33	3.32	-27.73	7	3
16.100	61.251	-19.100	-62.251	119.39	119.25	3.68	3.06	-18.27	5	4
16.300	62.007	-19.300	-63.007	75.50	75.60	2.14	2.82	-26.20	6	4
16.500	62.663	-19.500	-63.663	61.23	61.66	1.65	2.71	-26.23	6	4
16.700	63.319	-19.700	-64.319	25.73	25.51	1.31	5.13	-25.95	3	3
16.900	63.976	-19.900	-65.976	31.42	32.30	1.90	5.50	-25.19	3	3
17.100	64.632	-20.100	-66.632	42.64	42.93	2.01	4.74	-24.53	4	3
17.300	65.288	-20.300	-67.288	49.66	49.44	2.25	4.54	-23.60	4	3
17.500	65.944	-20.500	-67.944	34.06	33.07	2.10	6.18	-22.82	3	3
17.700	66.600	-20.700	-68.600	31.84	32.76	1.94	6.10	-22.93	3	3
17.900	67.255	-20.900	-69.255	28.76	26.65	2.05	5.31	-23.35	3	3
18.100	67.911	-21.100	-69.911	43.23	43.70	2.33	4.40	-21.73	4	3
18.300	68.567	-21.300	-70.567	47.14	47.29	2.04	4.34	-19.26	4	3
18.500	69.223	-21.500	-71.223	32.63	32.97	1.54	4.84	-25.68	3	3
18.700	69.880	-21.700	-71.880	26.32	26.29	1.45	5.26	-19.97	3	3
18.900	70.537	-21.900	-72.537	30.39	30.44	1.57	5.16	-21.84	3	3
19.100	71.193	-22.100	-73.193	31.61	31.38	1.81	5.67	-24.67	3	3
19.300	71.850	-22.300	-73.850	35.57	35.80	1.91	5.35	-50.82	3	3
19.500	72.506	-22.500	-74.506	26.50	27.43	1.84	6.84	-156.84	3	3
19.700	73.162	-22.700	-75.162	23.66	30.23	1.65	5.46	-163.75	3	3
19.900	73.818	-22.900	-75.818	110.45	111.04	3.55	3.20	-129.33	6	5
20.100	74.474	-23.100	-76.474	120.11	120.25	3.01	2.84	-131.79	5	5
20.300	75.130	-23.300	-77.130	45.62	45.07	2.45	5.49	-35.60	4	4
20.500	75.786	-23.500	-77.786	32.83	33.97	2.75	8.14	-221.47	3	3
20.700	76.443	-23.700	-78.443	29.73	30.46	2.96	9.99	-143.74	3	3
20.900	77.099	-23.900	-79.099	25.26	26.01	3.29	9.68	-150.39	3	3
21.100	77.755	-24.100	-79.755	41.30	42.22	3.62	8.86	-158.85	3	3
21.300	78.411	-24.300	-80.411	38.92	39.98	3.52	8.84	-241.05	3	3
21.500	79.067	-24.500	-81.067	55.53	55.95	3.36	7.51	-19.25	5	3
21.700	79.723	-24.700	-81.723	47.19	47.13	3.64	7.45	-5.42	5	3
21.900	80.380	-24.900	-82.380	33.79	33.52	3.04	9.25	8.65	5	3
22.100	81.036	-25.100	-83.036	33.94	33.22	2.55	7.81	37.79	6	3
22.300	81.692	-25.300	-83.692	53.94	54.65	3.49	6.73	147.79	5	4
22.500	82.348	-25.500	-84.348	55.79	56.66	3.34	6.03	191.21	7	4
22.700	83.004	-25.700	-85.004	77.63	79.61	3.85	4.78	330.79	7	4
22.900	83.660	-25.900	-85.660	97.65	99.53	4.22	4.24	354.76	7	4
23.100	84.317	-26.100	-86.317	84.74	86.42	4.17	4.95	295.42	7	4
23.300	84.973	-26.300	-86.973	93.20	93.61	4.65	4.96	44.53	6	4
23.500	85.629	-26.500	-87.629	210.56	209.52	5.86	2.68	-6.28	7	5
23.700	86.285	-26.700	-88.285	95.37	96.28	5.43	5.66	-15.15	11	3
23.900	86.941	-26.900	-88.941	41.17	41.03	2.10	5.10	-17.95	3	3
24.100	87.597	-27.100	-89.597	48.18	48.11	2.50	5.25	-19.47	3	3
24.300	88.254	-27.300	-90.254	58.15	58.19	3.15	5.42	-19.14	11	3
24.500	88.910	-27.500	-90.910	46.51	45.46	2.56	5.46	-4.50	3	3
24.700	89.566	-27.700	-91.566	40.69	40.47	2.10	5.16	-5.20	3	3
24.900	90.222	-27.900	-92.222	30.65	31.63	1.54	5.07	-5.14	3	3
25.100	90.878	-28.100	-92.878	28.64	28.56	1.44	5.01	-5.21	3	3
25.300	91.534	-28.300	-93.534	51.39	52.13	2.07	3.97	60.70	5	3
25.500	92.190	-28.500	-94.190	53.51	54.47	2.15	4.02	192.70	5	3
25.700	92.847	-28.700	-94.847	40.10	40.55	2.12	5.15	161.55	3	3
25.900	93.503	-28.900	-95.503	39.85	40.49	2.43	6.12	147.12	3	3
26.100	94.159	-29.100	-96.159	46.89	45.72	2.14	4.59	171.87	3	3
26.300	94.815	-29.300	-96.815	47.16	47.71	1.26	2.82	170.02	3	3
26.500	95.471	-29.500	-97.471	62.95	63.86	2.66	5.46	194.00	11	3
26.700	96.127	-29.700	-98.127	59.46	60.24	3.19	5.30	145.17	4	3
26.900	96.784	-29.900	-98.784	53.56	63.69	2.59	4.70	129.54	5	4
27.100	97.440	-30.100	-99.440	72.50	73.50	2.67	3.64	297.66	11	3
27.300	98.096	-30.300	-100.096	65.47	66.08	3.30	4.85	583.97	5	4
27.500	98.752	-30.500	-100.752	71.47	71.43	2.26	3.02	626.36		

Interpretation Output - Release 1.22 Rev. A - Build 5 Format: NAP Imperial

Run No: 04-1124-1117-1725

Job No: 04-800

Client: GeoSystems Consultants

Project: Pigeon Point Landfill - Wilmington Delaware

Site: CPT-6

Location: Pigeon Point

Cone: 20 TON AD566

CPT Date: 04/15/11

CPT Time: 11:01

CPT File: AD0CPT06.CPT

Northing (m): 0.000000

Easting (m): 0.000000

Elevation (m): 0.000000

Water Table (m): 5.00 (ft): 17.4

Unit Weight of Water (default): 62.40 pcf

Averaging Increment (m): 0.20

Su Not used 15.00 Su/P' (no): 1.50

Dr Method: Jamiolkowski - All Sands

State Parameter M: 1.20

Used Unit Weights Assigned to Soil Zones

N140fs Calculated using qcln

N140qs Calculated using qclnqs

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 SBT RO (zone)	Col-13 SBT-RGn (zone)	Col-14 Perm-k (cm/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (tsf)	Col-17 U Stress (tsf)	Col-18 E Stress (tsf)	Col-19 Dr	Col-20 N60 (blows/ft)
0.100	0.328	6	7	5.0E-05	114.6	0.010	0.000	0.010	2.00	5.3
0.200	0.656	7	7	5.0E-05	114.6	0.020	0.000	0.020	2.00	8.3
0.300	1.000	5	6	5.0E-06	114.6	0.030	0.000	0.030	2.00	7.5
0.400	1.312	6	6	5.0E-06	114.6	0.040	0.000	0.040	2.00	5.4
0.500	1.640	5	6	5.0E-06	114.6	0.050	0.000	0.050	2.00	6.6
0.600	1.968	4	5	5.0E-06	111.4	0.061	0.000	0.061	2.00	5.0
0.700	2.296	6	5	5.0E-07	111.4	0.071	0.000	0.071	2.00	2.5
0.800	2.624	3	3	5.0E-07	111.4	0.079	0.000	0.079	1.89	1.1
0.900	2.952	3	4	5.0E-07	111.4	0.086	0.000	0.086	1.76	1.8
1.000	3.280	3	3	1.0E-07	111.4	0.092	0.000	0.092	1.68	1.2
1.100	3.608	3	3	1.0E-07	111.4	0.098	0.000	0.098	1.60	1.7
1.200	3.936	2	3	1.0E-07	111.4	0.104	0.000	0.104	1.53	1.1
1.300	4.264	3	3	1.0E-07	111.4	0.110	0.000	0.110	1.47	1.5
1.400	4.592	3	3	1.0E-07	111.4	0.116	0.000	0.116	1.42	2.5
1.500	4.920	4	4	1.0E-07	111.4	0.122	0.000	0.122	1.37	2.9
1.600	5.248	5	5	1.0E-07	111.4	0.128	0.000	0.128	1.32	4.1
1.700	5.576	-9999 3	3	1.0E-07	111.4	0.134	0.000	0.134	1.28	1.9
1.800	5.904	4	3	5.0E-08	111.4	0.140	0.000	0.140	1.25	3.4
1.900	6.232	5	4	5.0E-08	111.4	0.146	0.000	0.146	1.21	4.4
2.000	6.560	4	3	5.0E-08	111.4	0.152	0.000	0.152	1.18	4.5
2.100	6.888	2	1	1.0E-07	111.4	0.158	0.000	0.158	1.15	1.5
2.200	7.216	4	2	5.0E-08	114.6	0.162	0.000	0.162	1.13	2.1
2.300	7.544	3	1	5.0E-08	111.4	0.167	0.000	0.167	1.10	1.6
2.400	7.872	3	1	5.0E-07	111.4	0.172	0.000	0.172	1.08	1.4
2.500	8.200	3	1	5.0E-08	111.4	0.177	0.000	0.177	1.05	1.3
2.600	8.528	3	1	5.0E-08	111.4	0.182	0.000	0.182	1.03	1.7
2.700	8.856	3	1	5.0E-08	111.4	0.187	0.000	0.187	1.01	4.3
2.800	9.184	3	1	5.0E-08	111.4	0.191	0.000	0.191	1.00	4.2
2.900	9.512	3	1	5.0E-08	111.4	0.196	0.000	0.196	1.00	4.4
3.000	9.840	3	1	5.0E-08	111.4	0.200	0.000	0.200	0.99	1.7
3.100	10.168	3	1	5.0E-08	111.4	0.205	0.000	0.205	0.98	1.4
3.200	10.496	3	1	5.0E-08	111.4	0.209	0.000	0.209	0.97	1.3

Run No: 04-1124-1317-4915
DAT File: U19C906.CDR

Col-11 Depth (ft)	Col-12 Depth (m)	Col-13 SBT-RG (Zone)	Col-13 SBT-SGN (Zone)	Col-14 Sect-# (m/s)	Col-15 Unit Wt (pcf)	Col-16 V Stress (ksf)	Col-17 U Stress (ksf)	Col-18 E Stress (ksf)	Col-19 OC	Col-20 RSD (ksf)
6.500	21.326	3	1	5.0E-06	111.4	1.394	0.123	1.071	0.97	5.7
6.700	21.991	3	1	5.0E-06	111.4	1.412	0.164	1.087	0.96	3.3
6.900	22.636	3	2	5.0E-08	111.4	1.267	0.164	1.103	0.95	1.2
7.100	23.294	3	3	5.0E-07	111.4	1.304	0.185	1.119	0.94	3.5
7.300	23.950	3	2	5.0E-08	111.4	1.340	0.206	1.135	0.94	3.2
7.500	24.606	3	2	1.0E-07	111.4	1.377	1.225	1.151	0.93	3.3
7.700	25.262	3	2	1.0E-07	111.4	1.413	0.266	1.167	0.93	1.7
7.900	25.918	3	3	5.0E-07	114.5	1.450	0.267	1.184	0.92	2.9
8.100	26.574	3	1	5.0E-07	114.6	1.484	0.287	1.203	0.92	2.3
8.300	27.231	3	3	5.0E-07	114.6	1.526	0.308	1.218	0.91	2.9
8.500	27.887	3	2	1.0E-07	111.4	1.563	1.328	1.235	0.90	2.1
8.700	28.543	3	3	1.0E-07	111.4	1.599	0.369	1.251	0.89	2.0
8.900	29.199	3	3	1.0E-07	111.4	1.636	0.169	1.267	0.89	2.3
9.100	29.855	3	3	1.0E-07	111.4	1.672	0.391	1.283	0.88	2.1
9.300	30.511	3	3	1.0E-07	111.4	1.709	0.410	1.299	0.88	2.2
9.500	31.168	4	3	1.0E-07	111.4	1.745	0.430	1.315	0.87	2.1
9.700	31.824	3	3	1.0E-07	111.4	1.782	0.451	1.331	0.87	2.4
9.900	32.480	3	3	1.0E-07	111.4	1.818	0.471	1.347	0.86	2.7
10.100	33.136	3	3	1.0E-07	111.4	1.855	0.492	1.363	0.86	2.4
10.300	33.792	3	3	5.0E-07	114.5	1.892	0.512	1.380	0.85	1.6
10.500	34.448	3	3	5.0E-06	114.6	1.930	2.532	1.397	0.85	1.2
10.700	35.105	6	4	5.0E-05	114.6	1.967	0.553	1.414	0.84	4.3
10.900	35.761	3	3	1.0E-07	111.4	2.004	0.574	1.430	0.84	2.3
11.100	36.417	3	3	1.0E-07	111.4	2.041	1.595	1.447	0.83	2.5
11.300	37.074	8	6	5.0E-05	120.9	2.079	0.615	1.464	0.83	12.7
11.500	37.730	5	4	5.0E-03	120.5	2.119	2.636	1.480	0.82	15.5
11.700	38.386	9	6	5.0E-01	124.1	2.159	2.656	1.503	0.82	20.6
11.900	39.042	9	5	5.0E-02	124.1	2.200	0.676	1.523	0.81	22.6
12.100	39.698	9	6	5.0E-03	124.1	2.240	2.697	1.544	0.81	21.2
12.300	40.354	9	6	5.0E-02	124.1	2.281	0.717	1.564	0.80	17.4
12.500	41.010	9	6	5.0E-02	124.1	2.322	0.738	1.584	0.79	21.1
12.700	41.665	9	6	5.0E-01	124.1	2.363	2.758	1.604	0.79	21.0
12.900	42.322	9	6	5.0E-02	124.1	2.403	0.779	1.624	0.78	24.5
13.100	42.978	9	5	5.0E-02	124.1	2.444	2.799	1.645	0.78	20.4
13.300	43.635	9	6	5.0E-02	124.1	2.485	0.820	1.665	0.78	30.0
13.500	44.291	8	5	5.0E-03	120.9	2.523	0.840	1.685	0.77	13.4
13.700	44.947	-9999.0	3	5.0E-05	114.6	2.554	0.861	1.700	0.77	5.4
13.900	45.603	-9999.0	4	5.0E-05	114.6	2.581	0.881	1.716	0.76	7.2
14.100	46.259	7	4	5.0E-06	114.6	2.639	0.902	1.717	0.76	12.7
14.300	46.915	-9999.0	4	5.0E-06	114.6	2.616	0.922	1.754	0.76	9.6
14.500	47.572	-9999.0	4	5.0E-05	114.6	2.724	0.941	1.771	0.75	10.6
14.700	48.228	-9999.0	4	5.0E-06	114.6	2.751	0.963	1.788	0.75	9.5
14.900	48.884	-9999.0	4	5.0E-06	114.6	2.779	0.984	1.805	0.74	9.5
15.100	49.540	-9999.0	4	5.0E-05	114.6	2.827	1.004	1.822	0.74	6.7
15.300	50.196	-9999.0	4	5.0E-05	114.6	2.864	1.025	1.840	0.74	9.6
15.500	50.852	-9999.0	4	5.0E-05	114.6	2.902	1.045	1.859	0.73	8.3
15.700	51.509	-9999.0	4	5.0E-05	114.6	2.939	1.065	1.876	0.73	10.1
15.900	52.165	1	4	5.0E-06	114.6	2.977	1.086	1.892	0.73	13.0
16.100	52.821	9	5	1.0E-15	120.5	3.017	1.109	1.907	0.72	111.6
16.300	53.477	5	5	1.0E+15	120.5	3.050	1.121	1.923	0.72	92.0
16.500	54.133	5	6	5.0E-03	117.7	3.201	1.146	1.933	0.72	57.5
16.700	54.789	3	6	5.0E-06	117.7	3.134	1.168	1.172	0.71	51.4
16.900	55.446	3	5	5.0E-06	114.6	3.178	1.189	1.903	0.71	35.1
17.100	56.102	5	5	5.0E-05	114.6	3.215	1.209	2.074	0.70	16.9
17.300	56.758	6	5	5.0E-05	114.6	3.253	1.229	1.523	0.70	20.7
17.500	57.414	8	5	5.0E-06	114.6	3.290	1.250	2.046	0.70	26.2
17.700	58.070	7	4	5.0E-05	114.6	3.328	1.270	2.057	0.71	14.1
17.900	58.726	6	5	5.0E-05	114.6	3.365	1.291	1.576	0.69	15.5
18.100	59.382	8	5	5.0E-05	114.6	3.403	1.311	2.092	0.69	28.5
18.300	60.039	9	6	1.0E-15	120.9	3.442	1.332	2.110	0.69	71.5

Run No: 24-1124-1517-7735
DST File: 8052P06.DSR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 SRT-RD (Zone)	Col-05 SRT-SCR (Zone)	Col-14 Perm-k (m/s)	Col-15 Bulk Wt (pcf)	Col-16 σ Stress (ksf)	Col-17 U Stress (ksf)	Col-18 E Stress (ksf)	Col-20 OM	Col-40 VSD (ft/sec)
16.500	54.135	9	6	5.0E-06	117.1	3.481	1.352	2.176	0.49	44.7
16.700	54.791	5	6	5.0E-05	114.6	3.529	1.373	2.146	0.56	45.1
16.900	55.447	8	5	5.0E-05	114.6	3.577	1.393	2.155	0.58	28.9
17.100	56.103	8	5	5.0E-05	114.6	3.624	1.414	2.180	0.58	33.4
17.300	56.759	-9999.0	4	5.0E-06	111.4	3.671	1.434	2.197	0.57	24.5
17.500	57.415	-9999.0	4	5.0E-06	111.4	3.718	1.455	2.213	0.57	30.9
17.700	58.072	8	4	5.0E-07	114.6	3.765	1.475	2.229	0.57	27.2
17.900	58.728	8	5	5.0E-07	114.6	3.742	1.496	2.247	0.57	31.6
18.100	59.384	-9999.0	4	5.0E-08	111.4	3.719	1.516	2.263	0.56	32.5
18.300	60.040	-9999.0	4	5.0E-06	111.4	3.816	1.537	2.279	0.56	30.6
18.500	60.696	-9999.0	4	5.0E-06	111.4	3.853	1.557	2.295	0.56	37.0
18.700	61.353	8	4	5.0E-07	114.6	3.890	1.578	2.312	0.56	27.9
18.900	62.009	6	5	5.0E-07	114.6	3.927	1.598	2.329	0.56	30.0
19.100	62.665	-9999.0	4	5.0E-08	111.4	3.964	1.619	2.346	0.55	39.5
19.300	63.321	-9999.0	4	5.0E-06	111.4	4.001	1.639	2.362	0.55	27.1
19.500	63.977	7	4	5.0E-06	111.4	4.037	1.660	2.378	0.55	29.2
19.700	64.633	7	4	5.0E-06	111.4	4.074	1.680	2.394	0.55	30.5
19.900	65.289	8	5	5.0E-08	114.6	4.110	1.701	2.410	0.54	34.3
20.100	65.945	6	4	5.0E-08	111.4	4.147	1.721	2.426	0.54	26.4
20.300	66.601	5	4	5.0E-08	111.4	4.184	1.742	2.442	0.54	25.7
20.500	67.257	8	4	5.0E-07	120.9	4.222	1.762	2.460	0.54	26.6
20.700	67.913	9	5	5.0E-07	124.2	4.262	1.783	2.475	0.54	21.0
20.900	68.569	7	5	5.0E-04	117.7	4.302	1.803	2.496	0.53	14.4
21.100	69.225	5	4	5.0E-05	114.6	4.340	1.824	2.516	0.53	11.0
21.300	69.881	6	4	5.0E-05	114.6	4.377	1.844	2.533	0.53	14.4
21.500	70.537	6	4	5.0E-05	114.6	4.415	1.865	2.555	0.53	17.3
21.700	71.193	7	4	5.0E-05	114.6	4.452	1.885	2.567	0.53	20.2
21.900	71.850	7	4	5.0E-05	114.6	4.490	1.906	2.584	0.53	19.0
22.100	72.506	6	4	5.0E-05	114.6	4.528	1.926	2.602	0.52	26.8
22.300	73.162	5	4	5.0E-05	114.6	4.565	1.947	2.619	0.52	22.1
22.500	73.818	8	4	5.0E-05	114.6	4.603	1.967	2.636	0.52	16.1
22.700	74.474	9	5	5.0E-05	114.6	4.640	1.988	2.652	0.52	13.5
22.900	75.130	7	5	5.0E-04	117.7	4.678	2.008	2.670	0.52	20.9
23.100	75.785	5	4	5.0E-05	114.6	4.715	2.028	2.684	0.52	16.1
23.300	76.443	6	4	5.0E-05	114.6	4.753	2.049	2.700	0.52	24.4
23.500	77.039	6	4	5.0E-05	114.6	4.790	2.069	2.716	0.52	31.6
23.700	77.755	7	4	5.0E-05	114.6	4.828	2.090	2.742	0.50	37.6
23.900	78.411	7	4	5.0E-05	114.6	4.870	2.110	2.760	0.50	35.8
24.100	79.067	6	4	5.0E-05	114.6	4.908	2.131	2.777	0.50	59.8
24.300	79.723	8	4	5.0E-05	114.6	4.949	2.151	2.798	0.50	32.2
24.500	80.380	7	4	5.0E-05	114.6	4.989	2.172	2.817	0.50	39.5
24.700	81.036	7	4	5.0E-05	114.6	5.025	2.192	2.833	0.59	66.1
24.900	81.692	7	5	5.0E-05	114.6	5.065	2.213	2.852	0.59	55.6
25.100	82.348	7	5	5.0E-04	117.7	5.105	2.233	2.871	0.59	44.5
25.300	83.004	7	5	5.0E-04	117.7	5.141	2.254	2.887	0.59	53.8
25.500	83.660	7	5	5.0E-04	117.7	5.178	2.274	2.909	0.59	25.0
25.700	84.317	7	5	5.0E-04	117.7	5.214	2.295	2.919	0.59	27.6
25.900	84.973	9	6	5.0E-05	114.6	5.251	2.315	2.936	0.58	25.0
26.100	85.629	9	5	5.0E-04	117.7	5.289	2.336	2.952	0.58	24.1
26.300	86.285	9	5	1.0E-15	120.5	5.326	2.356	2.970	0.58	39.2
26.500	86.941	-9999.0	4	5.0E-08	111.4	5.363	2.377	2.986	0.56	38.8
26.700	87.597	6	4	5.0E-08	111.4	5.399	2.397	3.002	0.56	43.6
26.900	88.254	6	5	1.0E-15	120.5	5.436	2.418	3.018	0.56	45.7
27.100	88.910	6	4	1.0E-08	111.4	5.472	2.438	3.034	0.57	42.0
27.300	89.566	-9999.0	4	5.0E-08	111.4	5.509	2.459	3.050	0.57	57.0
27.500	90.222	-9999.0	3	5.0E-05	111.4	5.546	2.479	3.066	0.57	40.7
27.700	90.878	-9999.0	3	5.0E-05	111.4	5.582	2.500	3.080	0.57	28.3
27.900	91.534	8	5	5.0E-05	114.6	5.619	2.520	3.096	0.57	56.2
28.100	92.190	7	5	5.0E-05	114.6	5.656	2.541	3.125	0.57	28.6
28.300	92.847	5	4	5.0E-05	111.4	5.693	2.561	3.141	0.57	28.1
28.500	93.503	7	4	5.0E-05	111.4	5.729	2.582	3.157	0.56	30.8
28.700	94.159	7	4	5.0E-08	111.4	5.766	2.602	3.173	0.56	43.6
28.900	94.815	7	5	5.0E-08	111.4	5.803	2.623	3.189	0.56	45.7
29.100	95.472	6	4	5.0E-08	111.4	5.839	2.643	3.205	0.56	42.0
29.300	96.128	8	5	1.0E-15	120.5	5.876	2.663	3.221	0.57	57.0
29.500	96.784	8	5	5.0E-07	114.6	5.913	2.684	3.237	0.57	40.7
29.700	97.440	7	5	5.0E-05	114.6	5.950	2.704	3.253	0.57	28.3
29.900	98.096	5	4	1.0E-15	120.5	5.986	2.724	3.269	0.57	56.2
30.100	98.752	6	4	5.0E-05	114.6	6.023	2.745	3.285	0.57	28.6

GeoTech Inc. - CPT Interpretation
Interpretation Output - Release 1.22 Rev A - Build 6 Format: NLP Imperial
Run No: 04/1124-1311-3735
Job No: 04-859
Client: GeoSystems Consultants
Project: Pigeon Point Lot#2111 - Wilmington Delaware
Site: CPT-4
Location: Pigeon Point
Cone: 20 TON AD066
CPT Date: 06/16/11
CPT Time: 11:01
CPT File: R060916.COR
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 5.00 (ft): 17.4
Unit Weight of Water (default) 62.46 pcf
Averaging Increment (m) 0.20
Su Net Used 15.00 Su/σ' (ncl) 0.30
Dr Method Jamiolkowski - All Sands
State Parameter M: 1.25
Used Unit Weights Assigned to Soil Zones
Nkt=10 Calculated using qc1n
Nitem Calculated using qc1ncs

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 Su(kPa) (lb/ft²)	Col-22 Su(kPa)Sc (lb/ft²)	Col-23 Su(kPa)Sc (lb/ft²)	Col-24 Qt	Col-25 Fr (%)	Col-26 Bq	Col-27 Ic	Col-28 FC (%)	Col-29 IzZone (Zone)
0.100	0.328	11.8	-9999.0	9999.0	815.84	1.40	0.00	-9999.0	-9999.0	0
0.200	0.656	14.6	-9999.0	-9999.0	352.63	2.34	0.01	-9999.0	-9999.0	0
0.300	1.000	15.5	1.9	13.0	176.28	3.63	0.00	2.40	76.5	5
0.400	1.297	20.6	2.9	8.1	84.60	3.64	-0.02	2.53	54.1	5
0.500	1.953	13.1	1.4	3.5	40.06	2.28	0.20	2.51	71.3	5
0.600	1.679	10.0	1.4	5.7	24.43	2.86	0.02	2.67	38.9	4
0.700	2.265	4.9	1.1	3.9	20.26	0.82	0.06	2.56	33.7	5
0.800	2.921	2.1	0.7	2.5	9.63	0.72	0.11	2.81	44.9	4
0.900	3.577	3.3	1.0	2.5	12.12	0.40	0.20	2.88	39.3	4
1.000	4.224	1.9	0.9	1.3	5.71	1.12	0.26	3.03	56.7	3
1.100	4.850	2.1	1.0	2.4	8.24	0.79	0.13	2.79	65.5	4
1.200	5.546	2.0	0.9	1.9	5.19	1.42	0.19	3.09	62.9	3
1.300	6.202	2.2	1.0	2.0	5.79	1.31	0.14	3.02	55.8	3
1.400	6.853	1.5	1.0	1.8	4.38	3.01	0.23	3.32	82.5	3
1.500	7.514	1.9	1.7	1.1	10.22	1.37	0.08	2.81	46.5	4
1.600	8.170	3.8	2.1	3.4	13.21	0.56	-0.01	2.55	32.9	5
1.700	8.859	1.5	1.0	1.1	3.10	1.46	-0.04	3.18	73.6	3
1.800	9.483	4.3	1.4	1.9	4.54	2.82	-0.02	3.27	78.3	3
1.900	10.137	5.4	1.7	2.2	5.79	2.93	0.10	3.13	72.5	3
2.000	10.799	5.2	1.8	2.2	5.41	3.31	0.05	3.25	76.7	3
2.100	11.451	1.8	1.4	1.5	1.33	2.55	0.07	3.36	56.1	3
2.200	12.107	3.5	1.8	2.5	5.11	2.23	0.06	3.16	71.5	3
2.300	12.764	4.0	1.7	1.7	3.50	4.53	0.09	3.47	95.2	3
2.400	13.430	1.6	1.4	1.2	2.69	1.02	0.15	3.61	102.0	3
2.500	14.070	3.0	1.7	1.3	2.23	3.15	0.24	3.47	100.0	2
2.600	14.732	1.9	1.8	1.6	3.14	3.80	0.20	3.47	56.4	3
2.700	15.355	4.0	1.5	2.4	3.55	4.09	0.15	3.36	88.0	3
2.800	15.044	4.0	1.9	1.5	3.16	4.34	0.18	3.49	93.0	3
2.900	16.701	6.4	2.0	1.6	3.49	3.04	0.16	3.43	92.1	3
3.000	19.167	7.6	1.9	1.4	2.03	5.02	0.24	3.55	100.0	3
3.100	21.013	3.4	1.8	1.2	2.37	3.35	0.25	3.35	100.0	3
3.200	22.649	3.6	1.9	1.1	2.50	3.20	0.28	3.51	100.0	4

Run No: 14-1126-1317 3735
DPT File: 5030015.CSV

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 [illegible] (lb/ft)	Col-22 [illegible] (lb/ft)	Col-23 [illegible] (lb/ft)	Col-24 Qt	Col-25 Fr (%)	Col-26 Bq	Col-27 Ic	Col-28 PG (%)	Col-29 Lithone (Zone)
4.500	21.325	3.5	2.0	1.4	2.76	3.65	0.46	3.11	100.1	3
4.700	21.581	3.1	1.9	1.1	2.01	3.96	0.37	3.55	100.0	2
4.900	22.838	3.5	1.9	1.0	1.82	3.99	0.45	3.58	100.0	2
5.100	23.104	3.3	2.0	1.2	2.11	3.92	0.55	3.63	100.0	2
5.300	23.960	3.0	1.9	1.1	1.74	3.94	0.57	3.70	100.0	2
5.500	24.604	1.6	1.9	1.1	2.25	3.93	0.44	3.53	100.0	3
5.700	25.262	1.6	1.9	1.1	1.87	3.33	0.58	3.44	100.0	2
5.900	25.918	2.6	2.1	1.3	2.56	2.98	0.47	3.52	96.8	3
6.100	26.574	2.7	2.1	1.3	2.56	2.91	0.47	3.49	98.0	3
6.300	27.231	2.7	2.1	1.2	2.53	2.75	0.49	3.45	98.2	3
6.500	27.887	1.6	2.1	1.2	2.13	2.88	0.54	3.53	100.0	3
6.700	28.543	1.8	2.1	1.2	2.00	3.11	0.66	3.65	100.0	3
6.900	29.199	1.9	2.2	1.1	1.29	2.84	0.66	3.55	100.0	3
7.100	29.856	1.9	2.2	1.1	2.17	2.61	0.73	3.56	100.0	3
7.300	30.512	2.0	2.2	1.1	2.26	2.53	0.63	3.51	100.0	3
7.500	31.168	2.0	2.2	1.1	2.28	2.17	0.67	3.48	96.5	3
7.700	31.824	2.3	2.2	1.1	2.62	2.03	0.66	3.44	93.6	3
7.900	32.480	2.5	2.4	1.3	2.98	2.14	0.62	3.40	89.8	3
8.100	33.136	2.3	2.5	1.2	3.13	2.22	0.72	3.48	96.8	3
8.300	33.793	2.2	2.6	1.3	3.59	2.29	0.62	3.44	92.5	3
8.500	34.449	2.7	2.8	1.5	3.38	2.44	0.46	3.35	85.5	3
8.700	35.105	4.0	3.7	2.1	7.39	0.96	1.03	2.67	49.5	4
8.900	35.761	1.3	2.3	1.0	3.53	1.93	0.56	3.53	100.0	3
9.100	36.417	2.1	2.6	1.1	2.74	1.94	0.38	3.47	96.7	3
9.300	37.073	10.5	10.5	7.0	16.83	0.60	0.00	2.01	5.0	6
9.500	37.729	15.0	15.8	11.2	55.54	0.57	0.00	1.92	10.9	6
9.700	38.385	16.8	20.2	15.3	70.92	0.53	0.00	1.85	9.1	6
9.900	39.042	16.5	21.5	17.9	76.76	0.48	0.10	1.75	5.0	6
10.100	39.698	17.3	20.0	16.5	70.29	0.49	-0.01	1.76	5.0	6
10.300	40.354	14.1	17.6	14.2	57.23	0.53	-0.01	1.87	5.7	6
10.500	41.010	16.8	19.5	16.1	68.07	0.36	-0.01	1.72	5.0	6
10.700	41.666	17.3	20.7	16.7	67.82	0.41	-0.01	1.74	5.0	6
10.900	42.322	18.8	21.9	17.5	75.60	0.30	-0.01	1.64	5.0	6
11.100	42.978	15.5	19.2	15.4	61.63	0.45	-0.01	1.90	5.0	6
11.300	43.635	11.1	16.5	11.4	51.65	0.47	-0.02	1.67	5.0	6
11.500	44.291	8.3	10.2	7.3	26.83	0.51	-0.03	2.12	16.6	5
11.700	44.947	4.1	4.6	2.2	6.76	1.09	0.13	2.92	53.5	4
11.900	45.603	5.5	5.0	3.1	8.41	1.45	0.09	2.91	56.7	3
12.100	46.259	5.2	5.0	4.3	13.11	1.61	-0.01	2.95	55.2	4
12.300	46.915	7.3	6.5	3.3	9.65	2.12	-0.09	2.95	57.9	3
12.500	47.572	7.9	7.0	3.6	10.93	1.03	-0.08	2.97	56.7	3
12.700	48.228	9.1	8.4	3.2	9.53	2.71	-0.10	2.95	57.6	3
12.900	48.884	7.0	5.6	3.2	9.41	2.80	-0.10	3.00	58.6	3
13.100	49.540	6.5	7.0	3.5	10.56	2.93	-0.08	2.92	53.4	4
13.300	50.196	7.0	7.5	3.8	12.10	2.30	0.16	2.85	51.2	4
13.500	50.852	6.9	7.5	3.7	11.58	2.72	-0.08	2.92	53.2	4
13.700	51.509	7.6	7.8	3.9	12.49	2.57	-0.07	2.88	50.7	4
13.900	52.165	8.9	8.3	4.6	15.40	2.55	-0.07	2.94	54.8	4
14.100	52.821	20.7	27.3	23.6	59.40	4.94	0.02	2.46	23.9	5
14.300	53.477	46.7	25.6	11.4	48.13	5.46	-0.02	2.65	19.7	4
14.500	54.133	43.5	44.4	32.5	107.68	2.68	-0.03	2.13	16.5	5
14.700	54.789	36.0	31.0	26.9	83.27	3.46	-0.03	2.25	17.7	5
14.900	55.446	18.2	15.0	7.6	24.38	4.63	-0.04	2.75	65.1	4
15.100	56.102	21.9	12.5	5.0	20.32	3.39	-0.05	2.76	46.1	4
15.300	56.758	14.6	14.6	7.1	25.16	3.05	-0.04	2.68	35.5	4
15.500	57.414	14.2	13.5	5.9	19.10	3.72	-0.05	2.54	38.5	4
15.700	58.070	9.8	10.5	4.9	15.79	2.62	0.06	2.79	46.3	4
15.900	58.726	11.0	11.8	5.5	18.42	2.92	-0.05	2.75	44.6	4
16.100	59.383	16.7	14.1	9.2	31.85	3.21	-0.07	2.40	35.5	4
16.300	60.039	19.3	16.3	14.3	63.16	4.03	-0.01	2.35	24.2	5

Run No 04-1174 1317-3735
Proj File 859CP06.CPT

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 RL(60) (N/m)	Col-22 (RL(60))Lo (N/m)	Col-23 (RL(60))Sc (N/m)	Col-24 QS	Col-25 Fr (%)	Col-21 FQ	Col-27 Lu	Col-28 gc (N)	Col-29 LeZone (Code)
18.500	60.695	46.4	41.4	30.4	93.63	3.13	-0.01	2.16	16.3	5
18.700	61.351	31.2	27.5	19.1	53.93	3.45	0.02	2.35	24.3	5
19.000	62.007	33.6	22.2	12.6	33.21	2.95	-0.01	2.45	26.4	5
19.100	62.663	35.3	16.2	7.1	26.17	2.26	-0.04	2.55	29.8	6
19.300	63.319	34.5	9.3	3.6	12.00	5.07	-0.13	1.20	71.2	3
19.500	63.975	20.8	11.3	4.9	12.94	6.65	-0.16	1.22	66.9	3
19.700	64.632	13.2	13.5	5.7	17.11	5.19	-0.06	2.15	55.3	3
19.900	65.288	21.3	14.9	6.4	20.34	6.81	-0.05	2.80	50.7	4
20.100	65.944	21.6	15.3	6.9	15.34	6.96	0.07	3.33	47.5	3
20.300	66.600	20.1	11.3	4.5	19.26	6.54	-0.08	3.15	50.2	3
20.500	67.256	24.4	13.0	5.2	15.15	5.90	-0.07	3.07	50.8	3
20.700	67.913	15.4	13.5	5.6	17.92	6.97	-0.06	2.94	54.3	4
20.900	68.569	19.1	14.4	5.9	18.52	6.74	-0.05	2.91	52.4	4
21.100	69.225	14.9	11.0	4.3	11.88	5.53	-0.08	3.19	65.3	3
21.300	69.881	17.5	10.1	3.9	10.78	5.15	-0.08	3.17	71.3	3
21.500	70.537	18.9	10.8	4.1	11.23	5.94	-0.05	3.14	69.3	3
21.700	71.193	19.7	11.4	4.3	11.62	6.59	-0.04	3.15	69.5	3
21.900	71.850	22.1	12.7	4.7	12.15	6.04	0.03	3.09	66.6	3
22.100	72.506	16.9	10.7	3.5	9.42	7.81	0.50	3.27	76.2	3
22.300	73.162	19.5	11.0	4.0	10.07	6.34	0.13	3.17	70.7	3
22.500	73.818	19.6	23.6	14.2	63.44	1.56	0.02	3.16	17.6	5
22.700	74.474	14.5	23.7	15.4	66.70	0.97	-0.02	1.37	17.2	6
22.900	75.130	1.1	10.4	6.7	15.33	0.90	0.03	2.36	24.6	5
23.100	75.786	8.2	10.1	3.7	11.76	2.45	0.18	2.95	93.4	4
23.300	76.443	9.2	10.7	3.6	10.30	3.60	0.10	3.03	60.7	3
23.500	77.099	11.8	11.7	4.2	12.43	4.07	0.10	3.00	54.5	3
23.700	77.755	12.5	13.3	4.8	14.77	4.29	0.08	2.95	55.5	3
23.900	78.411	11.6	12.7	4.5	13.58	4.35	0.07	2.58	53.5	3
24.100	79.047	16.6	17.3	5.2	19.76	3.82	0.11	3.62	47.4	4
24.300	79.723	13.3	14.3	5.3	16.35	3.85	-0.05	3.39	51.5	4
24.500	80.380	9.9	10.9	3.7	11.01	3.57	-0.06	3.01	53.9	3
24.700	81.036	5.1	11.1	3.8	11.49	3.24	-0.06	2.97	56.0	3
24.900	81.692	12.8	16.5	5.6	18.72	2.79	0.05	2.78	64.8	4
25.100	82.348	13.0	15.3	5.5	19.03	2.19	0.08	2.64	55.6	4
25.300	83.004	15.4	18.6	11.7	27.59	2.43	0.16	2.43	26.3	5
25.500	83.660	19.1	22.6	14.0	34.63	2.35	0.10	2.31	21.6	5
25.700	84.317	14.7	23.5	12.5	39.75	2.64	0.13	2.41	26.8	5
25.900	84.973	21.5	22.2	13.7	32.05	2.59	-0.01	2.42	27.3	5
26.100	85.629	41.9	46.1	23.3	78.93	2.74	-0.11	2.25	31.2	5
26.300	86.285	55.1	27.6	9.8	32.65	5.94	-0.03	2.79	45.8	6
26.500	86.941	23.4	14.3	4.7	12.02	6.37	-0.05	3.11	65.3	3
26.700	87.597	27.4	15.9	5.2	15.21	5.81	-0.06	3.03	60.5	3
26.900	88.254	31.0	18.5	6.2	13.60	5.53	-0.05	2.97	54.4	3
27.100	88.910	26.3	15.7	5.1	14.41	4.13	-0.16	3.05	42.1	3
27.300	89.566	22.5	14.1	4.5	12.24	6.16	-0.07	3.12	55.8	3
27.500	90.222	27.7	11.5	3.4	8.77	6.04	0.09	3.22	74.8	3
27.700	90.878	16.1	13.1	3.2	8.02	4.13	-0.10	3.25	77.0	3
27.900	91.534	16.4	16.2	5.2	15.97	4.41	-0.07	2.54	54.2	4
28.100	92.190	16.2	15.8	5.4	15.64	4.66	0.07	2.92	53.5	4
28.300	92.847	22.8	14.7	4.4	12.90	5.96	0.19	3.11	46.5	3
28.500	93.503	22.4	14.7	4.4	11.76	7.07	0.06	3.17	70.6	3
28.700	94.159	25.3	15.9	4.9	13.42	6.79	0.07	3.15	65.5	3
28.900	94.815	26.3	16.9	5.2	14.07	7.70	0.05	3.14	68.1	3
29.100	95.472	26.1	15.4	4.7	12.65	6.67	0.09	3.13	67.5	3
29.300	96.128	31.5	19.2	6.0	17.69	5.63	0.04	2.92	58.3	3
29.500	96.784	21.2	15.7	5.1	16.32	5.15	0.07	2.32	53.4	4
29.700	97.440	16.7	11.1	6.6	22.31	3.83	0.20	2.79	45.1	4
29.900	98.096	13.0	20.9	1.4	20.08	5.29	0.24	2.31	57.7	4
30.100	98.752	16.1	20.8	0.5	21.96	3.27	0.25	2.75	62.9	4

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.22 Rev. A - Build 6 Pennsylvania, NCP Temperate
Job No. 04-1124-1317-3335
Job No 04-839
Client GeoSystems Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site CPT-4
Location Pigeon Point
Cone. 30 TON AD066
CPT Date: 04/16/11
CPT Time: 11:01
CPT File: 656CP06.CPK
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 6.00 (ft) 19.6
Unit Weight of Water (default): 62.42 pcf
Averaging Increment (m) 0.20
Gs Unit used 11.00 Gs/Pt Inc): 0.30
Dr Method Jamiolkowski - All Sands
State Parameter Y 1.20
Used Unit Weights Assigned to Soil Zones
Nkt(s Calculated using qclm
Nk60s Calculated using qclnks

Col-01 Depth (m)	Col-02 Depth (ft)	Col-30 Dr (%)	Col-31 Dst (Deg)	Col-32 State Par	Col-33 Ds/qc	Col-34 YoungE (tsf)	Col-35 Su (tsf)	Col-36 OCR
0.100	0.328	69.9	52.0	-0.45	2.089	32.1	1.022	10.0
0.200	0.984	54.0	48.0	-0.64	2.240	48.5	1.438	10.0
0.500	1.640	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.058	10.0
0.700	2.297	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.740	10.0
0.900	2.953	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.903	10.0
1.100	3.609	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.336	9.7
1.300	4.265	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.321	3.2
1.500	4.921	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.338	2.7
1.700	5.577	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.234	2.9
1.900	6.234	9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.334	2.3
2.100	6.890	9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.231	1.9
2.300	7.546	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.353	2.2
2.500	8.202	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.173	2.1
2.700	8.858	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.317	2.5
2.900	9.514	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.365	2.4
3.100	10.170	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.326	4.0
3.300	10.827	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.126	2.7
3.500	11.481	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.195	1.0
3.700	12.135	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.263	1.3
3.900	12.795	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.264	1.2
4.100	13.451	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.171	0.8
4.300	14.107	9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.277	1.1
4.500	14.764	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.199	0.8
4.700	15.420	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.164	0.7
4.900	16.076	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.177	0.6
5.100	16.732	9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.198	0.8
5.300	17.388	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.232	0.8
5.500	18.044	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.230	0.5
5.700	18.701	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.314	0.8
5.900	19.357	9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.183	0.7
6.100	20.013	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.266	0.5
6.300	20.669	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.263	0.7

Run No: 04-1124-1517-1775
Job File: 20080905.DOR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-30 Qc (%)	Col-31 Phi (deg)	Col-32 Strain Rat	Col-33 Ss/Qc	Col-34 Young'E (ksf)	Col-35 Su (ksf)	Col-36 OCR
6.500	21.325	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.191	0.7
6.700	21.981	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.145	0.5
6.900	22.638	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.139	0.6
7.100	23.294	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.158	0.6
7.300	23.950	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.132	0.5
7.500	24.605	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.174	0.6
7.700	25.262	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.145	0.8
7.900	25.918	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.202	0.7
8.100	26.574	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.107	0.7
8.300	27.231	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.204	0.7
8.500	27.887	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.192	0.6
8.700	28.543	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.187	0.6
8.900	29.199	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.285	0.5
9.100	29.855	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.185	0.5
9.300	30.511	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.198	0.6
9.500	31.168	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.200	0.5
9.700	31.824	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.225	0.6
9.900	32.480	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.249	0.9
10.100	33.136	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.211	0.4
10.300	33.792	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.240	0.7
10.500	34.448	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.334	0.3
10.700	35.105	70.0	30.0	0.06	-9999.0	-9999.0	0.636	1.7
10.900	35.761	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.167	0.6
11.100	36.417	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.210	0.4
11.300	37.073	61.5	26.0	-0.02	3.343	177.4	-9999.0	-9999.0
11.500	37.729	55.2	42.0	-0.08	2.713	221.2	-9999.0	-9999.0
11.700	38.385	62.9	40.0	-0.11	2.616	259.5	-9999.0	-9999.0
11.900	39.042	55.5	50.0	-0.10	2.534	279.1	-9999.0	-9999.0
12.100	39.698	63.4	45.0	-0.08	2.456	285.5	-9999.0	-9999.0
12.300	40.354	57.4	40.0	-0.05	2.516	240.1	-9999.0	-9999.0
12.500	41.010	62.5	40.0	-0.07	2.433	267.9	-9999.0	-9999.0
12.700	41.666	63.7	40.0	-0.08	2.410	274.0	-9999.0	-9999.0
12.900	42.322	65.1	40.0	-0.06	2.339	292.5	-9999.0	-9999.0
13.100	42.979	61.4	40.0	-0.09	2.634	264.0	-9999.0	-9999.0
13.300	43.635	50.8	38.0	-0.06	2.721	245.0	-9999.0	-9999.0
13.500	44.291	38.0	35.0	-0.01	3.691	176.2	-9999.0	-9999.0
13.700	44.947	35.0	30.0	0.05	-9999.0	-9999.0	0.768	1.5
13.900	45.603	39.0	30.0	-0.05	-9999.0	-9999.0	1.079	2.1
14.100	46.260	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	1.616	3.2
14.300	46.916	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	1.163	2.5
14.500	47.572	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	1.250	2.4
14.700	48.228	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.130	2.4
14.900	48.884	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.233	2.3
15.100	49.540	30.0	31.0	0.04	-9999.0	-9999.0	1.432	2.9
15.300	50.196	30.0	30.0	0.06	9999.0	-9999.0	1.472	3.4
15.500	50.852	30.0	30.0	-0.06	-9999.0	9999.0	1.432	3.1
15.700	51.509	30.0	30.0	-0.01	-9999.0	-9999.0	1.550	3.5
15.900	52.165	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	1.585	3.6
16.100	52.821	61.5	39.0	-0.40	7.526	295.7	-9999.0	9999.0
16.300	53.477	56.1	33.0	-0.43	3.208	334.1	-9999.0	-9999.0
16.500	54.134	78.6	42.0	-0.34	2.072	439.6	-9999.0	-9999.0
16.700	54.790	71.1	42.0	-0.29	2.255	371.3	-9999.0	-9999.0
16.900	55.446	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	2.355	10.0
17.100	56.102	33.1	34.0	-0.24	-9999.0	-9999.0	2.718	7.3
17.300	56.758	39.0	34.0	-0.17	-9999.0	-9999.0	3.441	10.0
17.500	57.414	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.556	6.6
17.700	58.070	35.0	32.0	-0.16	-9999.0	-9999.0	2.235	5.2
17.900	58.726	31.0	32.0	-0.13	-9999.0	-9999.0	2.545	6.2
18.100	59.382	47.4	36.0	-0.22	3.859	249.6	4.725	10.0
18.300	60.039	67.5	40.0	-0.32	2.193	357.6	-9999.0	-9999.0

Run No.: 04-1124-1317 1735
CPT File: R0SEP06 DOR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Dr (%)	Col-31 Phi (deg)	Col-32 State Par	Col-33 Es/qc	Col-34 Young E (psf)	Col-35 Su (psf)	Col-36 OCR
18.500	60.695	76.1	42.0	-0.34	2.154	426.7	-9999.0	-9999.0
18.750	61.353	66.8	40.0	-0.28	3.617	322.2	7.716	10.0
19.000	62.007	47.5	36.0	-0.30	3.235	245.5	6.190	10.0
19.250	62.663	41.4	36.0	-0.37	-9999.0	-9999.0	5.833	10.0
19.500	63.316	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	3.465	2.5
19.750	63.971	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.909	1.9
20.000	64.632	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.584	5.7
20.250	65.288	-9999.0	-9999.0	9999.0	9999.0	-9999.0	3.047	7.1
20.500	66.944	9999.0	-9999.0	9999.0	-9999.0	-9999.0	2.913	3.8
20.750	66.600	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.861	2.4
21.000	67.256	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.325	4.6
21.250	67.913	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.864	5.6
21.500	68.569	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.675	5.1
21.750	69.225	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.857	4.2
22.000	69.881	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.618	2.6
22.250	70.537	-9999.0	-9999.0	-9999.0	9999.0	9999.0	1.753	2.9
22.500	71.193	-9999.0	-9999.0	-9999.0	9999.0	9999.0	1.854	3.1
22.750	71.850	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.113	3.7
23.000	72.504	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.556	2.4
23.250	73.163	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	1.736	2.8
23.500	73.818	56.6	36.0	-0.15	2.866	316.1	9999.0	-9999.0
23.750	74.474	58.9	38.0	-0.11	2.759	313.2	-9999.0	-9999.0
24.000	75.130	30.7	32.0	-0.51	-9999.0	-9999.0	-9999.0	-9999.0
24.250	75.786	10.0	30.0	-0.52	9999.0	-9999.0	1.972	3.2
24.500	76.443	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	1.929	2.6
24.750	77.099	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	2.108	3.4
25.000	77.755	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.622	4.4
25.250	78.412	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.119	3.9
25.500	79.067	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	3.625	6.0
25.750	79.723	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	3.838	5.1
26.000	80.380	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.934	2.9
26.250	81.036	20.0	30.0	-0.07	-9999.0	-9999.0	2.032	2.1
26.500	81.692	35.0	32.0	-0.12	-9999.0	-9999.0	2.331	6.4
26.750	82.348	45.7	34.0	0.09	-9999.0	-9999.0	-9999.0	-9999.0
27.000	83.004	45.8	36.0	0.13	3.481	276.4	-9999.0	-9999.0
27.250	83.660	52.0	38.0	-0.16	3.117	310.6	-9999.0	-9999.0
27.500	84.317	48.9	36.0	-0.15	3.359	290.3	-9999.0	-9999.0
27.750	84.973	50.2	36.0	-0.15	3.243	302.9	5.903	10.0
28.000	85.629	74.4	40.0	-0.25	2.313	505.4	-9999.0	-9999.0
28.250	86.285	50.3	36.0	-0.45	4.151	199.6	-9999.0	-9999.0
28.500	86.942	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.607	3.6
28.750	87.599	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	2.872	4.6
29.000	88.254	36.1	32.0	0.32	-9999.0	-9999.0	-9999.0	-9999.0
29.250	88.910	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.759	4.1
29.500	89.566	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.355	3.4
29.750	90.222	9999.0	-9999.0	-9999.0	9999.0	-9999.0	1.691	2.1
30.000	90.878	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.561	1.9
30.250	91.534	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	4.225	5.5
30.500	92.190	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	3.275	4.1
30.750	92.847	-9999.0	9999.0	-9999.0	-9999.0	9999.0	2.375	3.1
31.000	93.503	9999.0	9999.0	-9999.0	-9999.0	-9999.0	2.142	3.2
31.250	94.159	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.684	3.9
31.500	94.815	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	3.415	4.1
31.750	95.471	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.559	3.5
32.000	96.127	36.1	32.0	-0.28	-9999.0	-9999.0	-9999.0	-9999.0
32.250	96.784	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	3.576	4.5
32.500	97.440	43.8	34.0	-0.17	-9999.0	-9999.0	4.554	8.3
32.750	98.096	35.4	34.0	-0.21	-9999.0	-9999.0	-9999.0	-9999.0
33.000	98.752	43.8	34.0	-0.12	-9999.0	-9999.0	4.382	8.2

GeoTech Inc - CPT Interpretation
Interpretation Output - Release 1.00 Rev. A - Build 5 Format MLF Original
Job No: 04-1126-1117-3750
Job No: 04-839
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Hole: CPT-9
Location: Pigeon Point
Cone: 20 TON 30064
CPT Date 04/16/11
CPT Time. 14:03
CPT File. E01E777.DAT
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m) 0.000000

Water Table (ft). 11.00 (Est): 36.1
Unit Weight of Water (default). 62.40 pcf
Averaging Increment (ft). 0.20
Su Not used: 15.00 Su/P' (nc) 0.30
Dr Method : Jamiolkowski - All Sands
Sand Parameter N. 1.20
Used Unit Weights Assigned to Soil Zones
Sigsat Calculated using gsat
Sigvo Calculated using gsoils

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qc (MPa)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
0.100	0.328	-0.100	-0.328	15.20	15.20	0.30	1.94	-1.30	5	2
0.200	0.656	-0.200	-0.656	50.50	50.35	0.60	1.32	-1.00	6	6
0.300	1.000	-0.300	-1.000	38.81	38.77	1.02	2.64	-2.74	6	2
0.400	1.311	-0.400	-1.311	27.36	27.28	0.94	3.41	-11.39	5	6
0.500	1.653	-0.500	-1.653	17.17	17.09	0.55	3.43	-16.42	4	5
0.600	1.969	-0.600	-1.969	16.08	16.00	0.37	2.32	-16.95	5	5
0.700	2.297	-0.700	-2.297	13.11	13.03	0.51	3.13	-6.17	6	4
0.800	2.625	-0.800	-2.625	13.33	13.25	0.43	3.23	-6.74	6	4
0.900	2.953	-0.900	-2.953	13.30	13.26	0.62	3.22	-0.47	5	4
1.000	3.281	-1.000	-3.281	17.97	17.97	0.52	2.91	-0.99	5	5
1.100	3.609	-1.100	-3.609	16.75	16.75	0.42	2.10	-0.37	5	5
1.200	3.937	-1.200	-3.937	14.09	14.09	0.30	1.03	-0.31	5	5
1.300	4.264	-1.300	-4.264	29.15	29.14	0.49	2.64	1.06	5	5
1.400	4.592	-1.400	-4.592	25.36	25.03	0.73	3.70	3.13	4	4
1.500	4.920	-1.500	-4.920	19.04	19.35	0.79	4.31	0.92	3	5
1.600	5.248	-1.600	-5.248	18.27	18.27	0.56	1.53	1.22	4	4
1.700	5.576	-1.700	-5.576	15.58	15.59	0.67	3.71	3.31	4	4
1.800	5.904	-1.800	-5.904	16.69	16.70	0.73	4.11	4.94	4	4
1.900	6.232	-1.900	-6.232	17.68	17.70	0.75	3.73	5.24	5	4
2.000	6.560	-2.000	-6.560	22.66	22.69	0.44	2.40	0.65	5	4
2.100	6.888	-2.100	-6.888	14.45	14.46	0.53	2.64	-0.30	5	4
2.200	7.216	-2.200	-7.216	19.41	19.66	0.57	2.44	1.15	5	4
2.300	7.544	-2.300	-7.544	28.28	28.30	0.90	2.27	3.20	4	5
2.400	7.872	-2.400	-7.872	33.72	33.73	0.80	2.37	2.38	5	4
2.500	8.200	-2.500	-8.200	21.39	22.40	1.01	3.14	5.33	5	4
2.600	8.528	-2.600	-8.528	27.80	27.83	1.03	3.47	1.30	5	4
2.700	8.856	-2.700	-8.856	29.71	29.72	1.03	3.87	3.41	6	4
2.800	9.184	-2.800	-9.184	32.72	32.74	0.94	2.87	6.32	4	3
2.900	9.512	-2.900	-9.512	20.99	21.77	1.80	4.06	1.62	3	1
3.000	9.840	-3.000	-9.840	15.64	15.64	0.91	5.82	1.54	3	1
3.100	10.168	-3.100	-10.168	14.17	14.17	0.76	5.36	1.54	4	3
3.200	10.496	-3.200	-10.496	19.04	19.45	0.78	4.05	3.44	5	4
3.300	10.824	-3.300	-10.824	30.28	30.29	1.06	3.57	3.51		

Run No: 14-1124 1317 3190
CPT File: 80SCPC1.CDB

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
6.500	21.325	-6.500	-21.325	43.98	44.00	1.04	2.37	4.63	6	4
6.700	21.982	-6.700	-21.982	14.10	14.31	0.62	4.10	7.17	5	3
6.900	22.638	-6.900	-22.638	7.14	7.26	0.14	1.95	12.84	5	3
7.100	23.294	-7.100	-23.294	6.76	6.83	0.05	0.69	16.35	2	3
7.300	23.950	-7.300	-23.950	6.12	6.19	0.04	0.69	17.25	2	3
7.500	24.606	-7.500	-24.606	6.24	6.33	0.05	1.04	18.45	2	3
7.700	25.262	-7.700	-25.262	6.82	6.91	0.06	1.22	19.40	2	3
7.900	25.918	-7.900	-25.918	5.26	5.36	0.09	1.54	21.64	2	3
8.100	26.574	-8.100	-26.574	3.52	3.64	0.05	1.52	23.55	2	3
8.300	27.231	-8.300	-27.231	2.85	2.92	0.07	2.17	23.88	1	-9999 0
8.500	27.887	-8.500	-27.887	3.21	3.46	0.07	1.16	24.37	1	2
8.700	28.543	-8.700	-28.543	4.19	4.40	0.09	1.78	27.64	2	3
8.900	29.199	-8.900	-29.199	5.50	5.66	0.11	1.77	30.60	4	3
9.100	29.855	-9.100	-29.855	5.39	5.55	0.16	1.84	32.83	5	3
9.300	30.511	-9.300	-30.511	12.84	13.07	0.24	1.87	27.23	5	3
9.500	31.168	-9.500	-31.168	7.30	7.35	0.17	2.35	32.54	4	3
9.700	31.824	-9.700	-31.824	7.42	7.56	0.22	2.91	33.25	4	3
9.900	32.480	-9.900	-32.480	7.09	7.26	0.18	2.52	37.52	4	3
10.100	33.136	-10.100	-33.136	6.93	7.14	0.15	2.07	43.42	4	3
10.300	33.792	-10.300	-33.792	6.72	6.94	0.16	2.34	46.86	4	3
10.500	34.448	-10.500	-34.448	7.33	7.52	0.16	2.07	51.57	4	3
10.700	35.105	-10.700	-35.105	8.96	9.23	0.22	2.34	57.05	5	3
10.900	35.761	-10.900	-35.761	10.57	10.85	0.24	2.19	55.08	5	3
11.100	36.417	-11.100	-36.417	8.27	8.44	0.10	1.13	39.75	5	3
11.300	37.073	-11.300	-37.073	24.55	24.72	0.57	2.29	23.31	5	3
11.500	37.729	-11.500	-37.729	73.25	73.27	1.24	1.69	4.05	7	5
11.700	38.385	-11.700	-38.385	24.35	24.58	1.30	5.19	6.42	3	3
11.900	39.042	-11.900	-39.042	102.55	102.93	1.01	1.00	2.61	8	5
12.100	39.698	-12.100	-39.698	171.15	171.20	1.67	0.97	2.04	9	5
12.300	40.354	-12.300	-40.354	267.05	266.05	2.14	0.81	3.32	9	5
12.500	41.010	-12.500	-41.010	537.73	332.96	3.00	0.90	5.44	9	5
12.700	41.666	-12.700	-41.666	786.14	780.38	2.32	0.61	6.79	9	5
12.900	42.322	-12.900	-42.322	730.28	730.30	2.46	1.07	4.04	9	5
13.100	42.978	-13.100	-42.978	145.32	145.33	3.27	2.25	2.63	7	5
13.300	43.635	-13.300	-43.635	123.86	123.89	2.22	1.71	4.30	6	5
13.500	44.291	-13.500	-44.291	65.83	65.91	1.27	2.84	3.37	6	4
13.700	44.947	-13.700	-44.947	37.11	37.24	0.64	1.55	5.08	7	4
13.900	45.603	-13.900	-45.603	22.15	22.35	0.44	2.55	6.93	5	3
14.100	46.259	-14.100	-46.259	21.72	21.75	0.09	4.60	7.42	3	2
14.300	46.915	-14.300	-46.915	62.10	62.10	0.66	1.43	3.12	4	3
14.500	47.572	-14.500	-47.572	75.43	75.39	0.60	0.79	-8.16	8	5
14.700	48.228	-14.700	-48.228	42.53	42.39	0.37	1.10	-8.29	7	4
14.900	48.884	-14.900	-48.884	15.27	15.12	0.42	2.75	20.55	5	3
15.100	49.540	-15.100	-49.540	13.95	13.18	0.37	2.75	15.96	5	3
15.300	50.196	-15.300	-50.196	30.85	31.20	0.68	2.63	13.57	5	3
15.500	50.852	-15.500	-50.852	155.61	155.37	1.16	0.82	8.16	6	6
15.700	51.509	-15.700	-51.509	135.20	135.55	1.17	0.86	-13.52	5	5
15.900	52.165	-15.900	-52.165	53.17	53.15	0.70	0.84	-6.57	8	5
16.100	52.821	-16.100	-52.821	24.29	24.38	0.41	1.69	-2.89	4	3
16.300	53.477	-16.300	-53.477	16.32	15.64	0.63	3.91	0.39	4	3
16.500	54.133	-16.500	-54.133	25.42	25.43	1.03	3.56	0.35	4	3
16.700	54.789	-16.700	-54.789	21.57	21.51	1.13	5.25	-0.44	3	3
16.900	55.446	-16.900	-55.446	30.41	30.68	1.62	5.27	3.09	3	3
17.100	56.102	-17.100	-56.102	61.29	61.29	1.84	2.95	0.55	6	4
17.300	56.758	-17.300	-56.758	52.45	52.37	2.70	5.16	-1.12	3	3
17.500	57.414	-17.500	-57.414	25.75	25.32	1.74	6.88	-7.11	3	3
17.700	58.070	-17.700	-58.070	16.53	16.50	0.97	5.89	-5.72	3	3
17.900	58.726	-17.900	-58.726	13.62	13.59	1.22	8.98	-5.86	1	3
18.100	59.382	-18.100	-59.382	18.22	18.19	1.35	7.44	-6.82	3	2
18.300	60.039	-18.300	-60.039	17.21	17.24	1.19	6.69	-6.80	3	3

Run No 04-1106-1337-3733
Opt File 409CP09.CCR

Col 01 Depth (m)	Col 02 Depth (ft)	Col 03 Elev (m)	Col 04 Elev. (ft)	Col-05 qc (MPa)	Col-06 qc (tsf)	Col 07 fs (kPa)	Col-08 Rf (%)	Col-09 u (kPa)	Col-10 SBT (zone)	Col-11 SBTn (zone)
18.500	60.696	-13.500	-60.695	17.75	17.72	1.34	7.54	-0.06	2	2
18.700	61.351	-18.700	-61.351	15.27	15.24	1.20	7.86	-4.04	3	-9999.0
18.900	62.007	-18.900	-62.007	15.20	15.18	0.96	5.06	-5.11	3	2
19.100	62.663	-19.100	-62.663	15.06	15.04	0.82	5.43	-4.46	3	2
19.300	63.319	-19.300	-63.319	14.61	14.59	0.64	4.38	-3.55	3	3
19.500	63.976	-19.500	-63.976	25.40	25.44	1.20	5.51	-2.82	3	3
19.700	64.632	-19.700	-64.632	22.70	22.68	1.60	7.07	-2.93	3	3
19.900	65.288	-19.900	-65.288	22.78	21.71	1.34	3.50	-1.45	3	3
20.100	65.944	-20.100	-65.944	28.43	28.53	1.72	6.26	-0.35	3	3
20.300	66.600	-20.300	-66.600	25.65	25.84	2.39	8.52	-0.67	3	3
20.500	67.256	-20.500	-67.256	20.50	20.50	1.64	8.18	-0.67	3	-9999.0
20.700	67.913	-20.700	-67.913	18.24	18.24	1.14	7.33	-0.16	3	2
20.900	68.569	-20.900	-68.569	19.69	19.69	1.33	6.03	0.32	3	1
21.100	69.225	-21.100	-69.225	22.72	22.71	1.22	5.36	2.05	3	3
21.300	69.881	-21.300	-69.881	10.42	10.43	1.17	5.75	1.60	3	3
21.500	70.537	-21.500	-70.537	20.01	20.03	1.10	5.43	1.35	3	3
21.700	71.193	-21.700	-71.193	21.50	21.53	1.20	5.55	1.67	3	3
21.900	71.850	-21.900	-71.850	19.69	19.67	1.07	5.50	1.47	3	3
22.100	72.506	-22.100	-72.506	26.85	26.83	1.49	5.55	4.43	3	3
22.300	73.162	-22.300	-73.162	27.64	27.67	1.69	6.10	4.60	3	3
22.500	73.818	-22.500	-73.818	37.12	37.15	2.44	6.56	6.47	3	3
22.700	74.474	-22.700	-74.474	35.61	35.46	2.45	6.88	6.79	3	3
22.900	75.130	-22.900	-75.130	30.97	31.01	1.61	5.20	9.25	3	3
23.100	75.786	-23.100	-75.786	44.20	44.27	2.96	6.67	13.19	3	3
23.300	76.443	-23.300	-76.443	50.69	50.76	3.28	6.65	16.00	3	3
23.500	77.099	-23.500	-77.099	57.97	53.06	3.67	6.24	13.74	3	3
23.700	77.755	-23.700	-77.755	68.39	68.57	3.91	5.73	36.51	3	3
23.900	78.411	-23.900	-78.411	64.95	65.02	3.92	6.05	31.61	3	3
24.100	79.067	-24.100	-79.067	36.43	36.53	3.57	4.13	13.35	3	4
24.300	79.723	-24.300	-79.723	72.27	72.32	2.94	4.06	22.67	3	3
24.500	80.380	-24.500	-80.380	85.27	85.32	2.74	3.17	10.17	3	4
24.700	81.036	-24.700	-81.036	125.96	126.01	2.87	2.44	10.37	3	3
24.900	81.692	-24.900	-81.692	97.24	97.32	3.34	3.45	17.23	3	4
25.100	82.348	-25.100	-82.348	57.30	57.35	2.54	4.33	22.53	3	3
25.300	83.004	-25.300	-83.004	129.67	129.61	3.43	2.64	41.37	3	4
25.500	83.660	-25.500	-83.660	136.31	136.05	4.06	2.37	20.76	3	5

Geotec Inc. - CPT Interpretation
Interpretation Output - Version 1.27 Rev A - Build 5 Format: US Imperial
Run No: 04-2124-1217-1792
Job No: 14-805
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-9
Location: Pigeon Point
Cone: 20 TON AD164
CPT Date: 04/16/11
CPT Time: 14:01
CPT File: EC9CPT.CGA
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 11.00 (ft) 36.1
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m) 0.05
Su Neq used 15.00 Su/P' (ratio) 0.30
Dr Method : Jamiolkowski - All Sands
Stable Parameter M: 1.25
Hard Unit Weights Assigned on Soil Zones
Sigvo Calculated using gamma
Sigvoo Calculated using gamma

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 SBT-SQ (Zone)	Col-13 SBT DQn (Zone)	Col-14 Perm-k (cm/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (tsf)	Col-17 U Stress (tsf)	Col-18 E Stress (tsf)	Col-19 Cn	Col-20 N60 (b/ft)
0.100	0.328	5	7	5.0E-05	114.6	0.019	0.000	0.019	2.00	7.3
0.200	0.656	5	7	5.0E-05	117.7	0.057	0.000	0.057	2.00	16.1
0.300	0.984	5	7	5.0E-05	114.6	0.095	0.000	0.095	2.00	16.9
0.400	1.312	7	7	5.0E-05	114.6	0.133	0.000	0.133	2.00	17.1
0.500	1.640	5	6	5.0E-07	114.6	0.170	0.000	0.170	2.00	10.9
0.600	1.969	4	5	5.0E-05	114.6	0.208	0.000	0.208	2.00	7.7
0.700	2.297	5	5	5.0E-07	114.6	0.245	0.000	0.245	2.00	8.5
0.800	2.625	6	5	5.0E-07	114.6	0.283	0.000	0.283	1.86	8.5
0.900	2.953	6	5	5.0E-06	114.6	0.321	0.000	0.321	1.77	8.4
1.000	3.281	6	5	5.0E-06	114.6	0.358	0.000	0.358	1.67	8.0
1.100	3.609	6	6	5.0E-06	114.6	0.396	0.000	0.396	1.59	6.7
1.200	3.937	7	6	5.0E-06	117.7	0.434	0.000	0.434	1.52	5.0
1.300	4.265	7	6	5.0E-06	114.6	0.472	0.000	0.472	1.46	12.6
1.400	4.593	7	6	5.0E-06	114.6	0.510	0.000	0.510	1.40	12.9
1.500	4.921	6	6	5.0E-06	114.6	0.547	0.000	0.547	1.36	11.6
1.600	5.249	6	6	5.0E-06	114.6	0.584	0.000	0.584	1.31	11.5
1.700	5.577	6	6	5.0E-06	114.6	0.621	0.000	0.621	1.27	10.7
1.800	5.905	6	6	5.0E-06	114.6	0.659	0.000	0.659	1.23	11.3
1.900	6.233	7	6	5.0E-06	114.6	0.696	0.000	0.696	1.20	10.9
2.000	6.561	6	5	5.0E-06	114.6	0.734	0.000	0.734	1.17	8.2
2.100	6.889	7	6	5.0E-06	114.6	0.772	0.000	0.772	1.14	9.5
2.200	7.217	7	6	5.0E-05	114.6	0.809	0.000	0.809	1.11	10.8
2.300	7.545	6	6	5.0E-05	114.6	0.847	0.000	0.847	1.08	15.2
2.400	7.873	7	5	5.0E-06	114.6	0.884	0.000	0.884	1.05	10.7
2.500	8.201	7	5	5.0E-06	114.6	0.922	0.000	0.922	1.04	11.1
2.600	8.529	7	5	5.0E-06	114.6	0.960	0.000	0.960	1.02	14.2
2.700	8.857	7	6	5.0E-05	114.6	0.997	0.000	0.997	1.00	12.5
2.800	9.185	7	5	5.0E-07	114.6	1.035	0.000	1.035	0.98	11.4
2.900	9.513	5	5	5.0E-08	117.7	1.072	0.000	1.072	0.97	35.0
3.000	9.841	1	5	5.0E-08	117.7	1.108	0.000	1.108	0.96	31.5
3.100	10.169	5	5	5.0E-07	114.6	1.145	0.000	1.145	0.95	12.6
3.200	10.497	7	5	5.0E-06	114.6	1.183	0.000	1.183	0.92	14.5

Run No: 04-1124-1517-1750
CT File: P092901.COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-11 SBT-NO (Zone)	Col-13 SBT-BCN (Zone)	Col-14 Perm-K (cm/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (ksf)	Col-17 Q Stress (ksf)	Col-18 Z Stress (ksf)	Col-19 Cn	Col-20 N60 (b/ft)
1.500	21.325	3	6	5.0E-05	114.6	1.231	0.000	1.231	0.91	15.9
1.700	21.981	5	4	5.0E-05	114.6	1.254	0.000	1.254	0.89	16.7
1.900	22.638	4	3	5.0E-06	114.6	1.255	0.000	1.255	0.88	3.5
2.100	23.294	3	3	1.0E-07	111.4	1.332	0.000	1.332	0.87	2.3
2.300	23.950	3	3	1.0E-07	111.4	1.368	0.000	1.368	0.85	2.3
2.500	24.606	5	3	1.0E-07	111.4	1.405	0.000	1.405	0.84	2.1
2.700	25.262	3	3	1.0E-07	111.4	1.442	0.000	1.442	0.83	2.4
2.900	25.918	3	3	1.0E-07	111.4	1.478	0.000	1.478	0.82	2.6
3.100	26.574	3	2	1.0E-07	111.4	1.515	0.000	1.515	0.81	2.7
3.300	27.231	3	.9959 3	1.0E-07	111.4	1.551	0.000	1.551	0.80	3.4
3.500	27.887	3	2	1.0E-07	111.4	1.588	0.000	1.588	0.79	1.9
3.700	28.543	3	3	1.0E-07	111.4	1.624	0.000	1.624	0.78	2.4
3.900	29.199	3	3	5.0E-07	114.6	1.661	0.000	1.661	0.78	3.8
4.100	29.855	4	3	5.0E-06	114.6	1.699	0.000	1.699	0.77	4.6
4.300	30.511	5	3	5.0E-06	114.6	1.737	0.000	1.737	0.76	6.2
4.500	31.168	4	3	5.0E-07	114.6	1.775	0.000	1.774	0.75	4.7
4.700	31.824	4	3	5.0E-07	114.6	1.812	0.000	1.812	0.74	5.0
4.900	32.480	4	3	5.0E-07	114.6	1.849	0.000	1.849	0.74	6.5
5.100	33.136	1	3	5.0E-07	114.6	1.887	0.000	1.887	0.73	4.8
5.300	33.792	3	3	5.0E-07	114.6	1.924	0.000	1.924	0.72	4.4
5.500	34.448	3	3	5.0E-07	114.6	1.962	0.000	1.962	0.71	4.8
5.700	35.105	5	3	5.0E-06	114.6	2.000	0.000	2.000	0.70	4.4
5.900	35.761	4	3	5.0E-06	114.6	2.037	0.000	2.037	0.70	5.2
6.100	36.417	4	3	5.0E-06	114.6	2.075	0.000	2.075	0.69	4.9
6.300	37.073	6	4	5.0E-05	114.6	2.112	0.000	2.112	0.69	9.5
6.500	37.729	8	6	5.0E-04	117.7	2.151	0.061	2.150	0.65	23.4
6.700	38.385	7	6	5.0E-03	111.4	2.189	0.071	2.117	0.69	22.9
6.900	39.047	9	6	5.0E-03	120.9	2.225	0.092	2.144	0.68	34.8
7.100	39.698	9	5	5.0E-02	124.1	2.266	0.122	2.156	0.68	52.8
7.300	40.354	10	6	5.0E-02	124.1	2.307	0.133	2.174	0.68	55.0
7.500	41.010	10	6	5.0E-02	124.1	2.348	0.155	2.205	0.68	55.2
7.700	41.666	10	5	5.0E-02	124.1	2.389	0.174	2.215	0.67	55.2
7.900	42.322	9	6	5.0E-02	124.1	2.429	0.194	2.236	0.67	45.1
8.100	42.978	9	6	5.0E-04	117.7	2.469	0.215	2.254	0.67	56.4
8.300	43.635	7	6	5.0E-03	120.9	2.508	0.237	2.273	0.66	31.1
8.500	44.291	8	5	5.0E-05	114.6	2.547	0.256	2.291	0.66	25.1
8.700	44.947	5	5	5.0E-04	117.7	2.585	0.276	2.309	0.65	11.9
8.900	45.603	7	4	5.0E-06	114.6	2.623	0.297	2.326	0.65	10.7
9.100	46.259	7	4	5.0E-08	111.4	2.660	0.317	2.343	0.65	22.7
9.300	46.915	5	5	5.0E-07	114.6	2.697	0.338	2.358	0.65	26.5
9.500	47.572	8	5	5.0E-05	120.9	2.735	0.358	2.378	0.65	18.0
9.700	48.228	5	5	5.0E-04	117.7	2.775	0.379	2.396	0.65	13.7
9.900	48.884	6	5	5.0E-06	114.6	2.814	0.399	2.414	0.64	7.3
10.100	49.540	4	3	5.0E-06	114.6	2.853	0.420	2.431	0.64	8.4
10.300	50.196	4	4	5.0E-05	114.6	2.890	0.440	2.448	0.64	12.0
10.500	50.852	9	6	5.0E-02	124.1	2.927	0.461	2.467	0.64	24.8
10.700	51.509	9	5	5.0E-02	124.1	2.966	0.481	2.487	0.63	25.5
10.900	52.165	7	5	5.0E-03	120.9	3.008	0.503	2.507	0.63	19.7
11.100	52.821	7	4	5.0E-05	114.6	3.047	0.522	2.525	0.63	9.3
11.300	53.477	6	3	5.0E-07	114.6	3.085	0.543	2.542	0.63	15.2
11.500	54.133	7	4	5.0E-07	114.6	3.122	0.563	2.559	0.63	16.2
11.700	54.789	7	4	5.0E-08	111.4	3.159	0.584	2.576	0.62	20.7
11.900	55.446	7	4	5.0E-06	114.6	3.195	0.604	2.592	0.62	29.4
12.100	56.102	8	5	5.0E-05	114.6	3.233	0.625	2.608	0.62	24.2
12.300	56.758	8	5	5.0E-08	111.4	3.270	0.645	2.625	0.62	63.1
12.500	57.414	7	4	5.0E-08	111.4	3.306	0.665	2.641	0.62	24.2
12.700	58.070	4	3	5.0E-08	111.4	3.343	0.686	2.657	0.61	14.8
12.900	58.724	6	4	5.0E-06	114.6	3.380	0.706	2.673	0.61	17.8
13.100	59.382	5	3	5.0E-08	111.4	3.416	0.727	2.689	0.61	17.4
13.300	60.039	6	3	5.0E-08	111.4	3.453	0.747	2.705	0.61	15.8

Run No. 04-1194-1117-A790
CPT File: 8090907.POR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 Str-up (None)	Col-13 Str-dn (None)	Col-14 Perm-K (cm/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (ksf)	Col-17 U Stress (ksf)	Col-18 E Stress (ksf)	Col-19 Qn	Col-20 Su (lb/ft)
18.500	60.595	6	1	5.0E-08	111.4	3.489	0.765	2.721	5.61	17.0
18.700	61.351	-9999.0	3	5.0E-08	111.4	3.526	0.768	2.757	5.61	16.6
18.900	62.107	-9999.0	3	5.0E-08	111.4	3.562	0.809	2.753	5.60	16.5
19.100	62.863	-9999.0	3	5.0E-08	111.4	3.599	0.829	2.769	5.60	16.4
19.300	63.619	-9999.0	3	5.0E-08	111.4	3.635	0.850	2.784	5.60	16.0
19.500	64.376	7	4	5.0E-08	111.4	3.672	0.870	2.802	5.60	26.6
19.700	65.132	7	4	5.0E-08	111.4	3.708	0.891	2.818	5.60	21.7
19.900	65.888	7	4	5.0E-08	111.4	3.745	0.911	2.834	5.59	21.8
20.100	66.644	7	4	5.0E-08	111.4	3.781	0.932	2.850	5.59	27.4
20.300	67.400	7	4	-9999.0	62.7	3.813	0.952	2.861	5.59	-9999.0
20.500	67.956	6	3	-9999.0	62.7	3.841	0.970	2.868	5.59	-9999.0
20.700	67.913	6	3	5.0E-06	111.4	3.872	0.992	2.879	5.59	17.5
20.900	68.569	6	3	5.0E-06	111.4	3.909	1.014	2.895	5.59	16.9
21.100	69.225	7	3	5.0E-06	111.4	3.946	1.034	2.911	5.59	21.5
21.300	69.881	6	3	5.0E-06	111.4	3.982	1.055	2.927	5.58	18.6
21.500	70.537	6	3	5.0E-06	111.4	4.019	1.075	2.943	5.58	19.2
21.700	71.193	6	3	5.0E-06	111.4	4.055	1.096	2.959	5.58	20.1
21.900	71.850	6	3	5.0E-06	111.4	4.092	1.116	2.975	5.58	18.9
22.100	72.506	7	4	5.0E-08	111.4	4.128	1.137	2.991	5.58	21.8
22.300	73.162	7	4	5.0E-08	111.4	4.165	1.157	3.009	5.58	26.5
22.500	73.819	7	4	5.0E-08	111.4	4.201	1.178	3.024	5.58	35.5
22.700	74.474	7	4	5.0E-08	111.4	4.238	1.198	3.040	5.57	34.1
22.900	75.130	7	4	5.0E-08	111.4	4.274	1.219	3.056	5.57	29.7
23.100	75.786	8	4	5.0E-08	111.4	4.311	1.239	3.072	5.57	42.4
23.300	76.443	8	5	5.0E-08	111.4	4.348	1.260	3.088	5.57	48.8
23.500	77.099	6	5	1.0E-15	130.5	4.387	1.280	3.107	5.57	55.8
23.700	77.755	8	5	1.0E-15	130.5	4.430	1.301	3.129	5.57	65.8
23.900	78.411	6	5	1.0E-15	130.5	4.479	1.321	3.152	5.56	67.3
24.100	79.067	5	5	5.0E-06	114.6	4.513	1.342	3.171	5.56	51.4
24.300	79.723	3	5	5.0E-06	114.6	4.551	1.362	3.189	5.56	24.6
24.500	80.180	5	5	5.0E-06	114.6	4.588	1.383	3.206	5.56	28.1
24.700	81.016	9	5	5.0E-06	117.7	4.626	1.403	3.223	5.56	40.2
24.900	81.692	9	5	5.0E-06	114.6	4.664	1.424	3.241	5.56	46.6
25.100	82.348	2	5	5.0E-07	114.6	4.702	1.444	3.258	5.55	77.0
25.300	83.004	9	5	5.0E-06	117.7	4.740	1.464	3.276	5.55	41.1
25.500	83.660	5	5	5.0E-01	125.9	4.779	1.485	3.294	5.55	46.9

Cone Inc. - CPT Interpretation
Interpretation Output - Release 1.22 Rev. A - Build 5 Format: USP Imperial

Job No: 06-1126-1317-3750
S No: 06-E09
Client: GeoSystems Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-9
Location: Pigeon Point
Cone: 20 TON AD06E
CPT Date 06/16/11
CPT Time 14:05
CPT File B09CPT9.CPT
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 11.00 (ft): 36.1
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m): 0.20
Qc Net used: 15.00 Su/Pr (m): 0.10
Qc Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Dilate Calculated using qcin
Nkdes Calculated using qcinsc

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 Qt(kg) (lb/ft)	Col-22 N(kg)(lb) (lb/ft)	Col-23 N(kg)(lb) (lb/ft)	Col 24 Qc	Col-25 Fs (kg)	Col-26 Rf	Col-27 Ic	Col-28 Fr (%)	Col-29 Ic(zone) (zone)
0.100	0.328	14.6	-9999.0	-9999.0	807.55	1.96	0.00	-9999.0	-9999.0	0
0.200	0.984	32.2	9.2	39.6	363.87	1.42	0.00	1.77	7.5	6
0.300	1.640	27.7	-9999.0	-9999.0	601.01	2.05	-0.01	-9999.0	-9999.0	0
0.400	2.297	25.1	-9999.0	9999.0	706.59	1.68	-0.02	-9999.0	-9999.0	0
0.500	2.953	31.2	6.3	10.8	99.47	3.67	-0.03	3.56	37.5	5
0.600	3.609	26.3	4.0	6.9	76.01	2.35	-0.02	3.50	33.7	5
0.700	4.265	11.0	3.4	10.0	53.23	1.17	-0.11	2.64	35.4	5
0.800	4.921	16.5	3.4	9.2	45.87	1.10	-0.02	2.61	35.6	4
0.900	5.577	26.2	4.5	10.9	55.03	1.28	0.02	2.54	32.4	5
1.000	6.234	11.4	4.2	3.4	45.76	2.58	0.10	2.92	31.5	5
1.100	6.890	10.7	3.5	7.4	34.53	2.15	0.06	2.15	33.7	5
1.200	7.546	14.1	6.3	4.8	65.17	1.05	0.03	2.21	19.5	5
1.300	8.202	18.2	5.5	9.1	54.27	2.71	0.05	2.52	31.5	5
1.400	8.858	17.6	5.2	10.1	37.95	3.33	0.09	2.61	35.5	5
1.500	9.514	21.7	5.0	9.7	32.43	6.44	0.20	2.73	40.8	4
1.600	10.170	35.5	5.0	8.6	50.03	3.55	0.06	2.66	37.4	5
1.700	10.827	13.5	4.6	7.5	25.87	3.65	0.00	2.76	42.5	4
1.800	11.483	13.5	5.0	7.5	25.07	4.28	0.01	2.77	44.1	4
1.900	12.139	13.0	5.0	6.7	31.57	3.62	0.01	2.64	37.2	4
2.000	12.795	10.3	4.9	6.9	24.24	3.65	0.00	2.56	37.4	4
2.100	13.451	10.6	5.3	6.9	24.74	2.17	0.05	2.46	30.4	5
2.200	14.107	12.1	5.2	5.2	23.97	2.52	0.08	2.55	33.4	5
2.300	14.764	16.9	9.5	10.5	45.92	2.37	0.05	2.63	27.7	5
2.400	15.420	21.4	6.5	7.1	24.37	1.72	0.00	2.95	43.1	4
2.500	16.076	11.9	7.6	8.3	39.16	3.06	0.02	2.65	42.9	4
2.600	16.732	14.4	6.2	6.4	27.97	3.53	0.06	2.67	38.3	4
2.700	17.388	12.4	8.4	9.0	31.82	2.55	0.05	2.53	35.2	4
2.800	18.044	13.2	6.1	6.0	39.32	4.29	0.02	2.65	45.8	4
2.900	18.701	14.5	5.4	4.5	23.59	6.29	0.06	3.09	54.4	3
3.000	19.357	12.9	4.9	4.3	21.73	5.33	0.02	3.11	56.4	3
3.100	20.013	21.7	5.0	5.2	16.15	4.09	0.03	2.93	52.6	4
3.200	20.669	13.3	6.5	7.2	24.82	3.71	0.00	2.74	42.8	4

Run No: 04 1124-1317-596C
Opt File: 6692P09.CDS

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 Si/Ca (g/ft)	Col-22 Si/Ca Ic (g/ft)	Col-23 Si/Ca Ic (g/ft)	Col-24 Qt	Col-25 Fr (%)	Col-26 Sq	Col-27 Ir	Col-28 FC (%)	Col-29 Zone (Zone)
5.500	21.525	15.3	10.7	9.9	35.05	2.44	0.00	2.47	29.5	5
5.700	21.981	12.2	6.5	3.7	16.39	4.72	0.02	3.10	55.4	3
5.900	22.638	3.0	2.3	1.8	4.56	2.58	0.07	3.23	75.5	3
6.100	23.294	2.0	2.0	1.3	3.02	1.36	0.35	3.14	84.4	3
6.300	23.950	2.0	2.0	1.3	2.50	1.24	0.16	3.39	84.5	3
6.500	24.605	1.8	2.0	1.5	2.05	1.54	0.20	3.45	84.3	3
6.700	25.263	2.0	2.1	1.3	2.41	1.73	0.17	3.42	81.3	3
6.900	25.918	2.1	2.4	1.2	2.62	2.26	0.17	3.63	82.7	3
7.100	26.574	1.4	2.1	1.6	1.40	2.60	0.26	3.70	100.0	2
7.300	27.231	1.2	-9999.9	-9999.0	0.56	4.61	0.61	-9999.0	-9999.0	0
7.500	27.887	1.5	2.1	2.9	1.49	2.97	0.13	3.71	100.0	2
7.700	28.543	1.4	2.5	1.1	2.02	3.66	0.26	3.56	100.0	3
7.900	29.199	2.5	2.7	1.2	2.48	2.46	0.23	3.46	96.9	3
8.100	29.855	3.5	3.5	1.8	4.47	2.21	0.13	3.21	74.1	3
8.300	30.511	4.7	4.5	2.3	6.47	2.16	0.08	1.88	66.1	3
8.500	31.168	3.5	3.5	1.5	3.14	3.10	0.16	3.43	92.4	3
8.700	31.824	3.6	3.6	1.5	3.18	3.32	0.16	3.47	95.2	3
8.900	32.480	3.4	3.3	1.4	2.93	3.18	0.21	3.46	95.6	3
9.100	33.136	3.3	3.2	1.3	2.72	2.92	0.26	3.46	94.8	3
9.300	33.792	3.2	3.1	1.3	2.61	3.10	0.29	3.50	100.0	3
9.500	34.448	3.4	3.4	1.3	2.83	2.79	0.29	3.45	96.1	3
9.700	35.105	3.1	3.9	1.8	3.61	2.98	0.25	3.37	87.1	3
9.900	35.761	3.6	4.3	1.2	4.32	2.70	0.21	3.26	75.4	3
10.100	36.417	2.8	3.3	1.3	3.05	1.49	0.18	3.29	85.3	3
10.300	37.073	6.6	7.6	3.3	10.86	2.42	0.06	2.92	53.5	4
10.500	37.729	26.1	24.5	11.5	33.87	1.14	0.00	2.30	22.5	5
10.700	38.385	16.4	8.9	4.2	10.73	5.49	0.02	3.24	68.2	3
10.900	39.042	26.9	20.9	13.6	47.38	3.27	0.03	2.04	14.1	6
11.100	39.698	32.3	37.4	22.6	78.42	3.19	0.03	1.81	9.5	6
11.300	40.354	34.6	47.0	32.5	121.30	3.83	0.03	1.67	5.3	6
11.500	41.010	43.1	58.1	40.1	150.65	3.31	0.03	1.63	4.3	6
11.700	41.666	37.1	50.5	34.1	129.12	3.31	0.03	1.64	5.1	6
11.900	42.322	29.5	42.6	29.3	101.95	3.50	0.06	1.83	8.1	6
12.100	42.978	30.9	31.0	21.1	63.39	2.29	0.00	2.17	18.1	5
12.300	43.635	22.6	21.7	18.4	54.04	1.75	0.00	2.13	18.8	5
12.500	44.291	16.7	17.4	7.5	21.61	2.96	0.00	2.64	37.4	4
12.700	44.947	7.8	11.2	4.3	14.77	1.70	0.00	2.72	41.3	4
12.900	45.603	7.0	7.6	3.0	8.53	3.35	0.00	3.08	54.2	3
13.100	46.259	14.9	8.6	3.4	9.69	5.38	0.00	3.17	70.5	3
13.300	46.916	17.5	13.1	5.4	16.70	4.71	0.01	2.54	54.4	4
13.500	47.572	13.7	15.4	12.4	30.35	0.82	-0.01	2.12	26.4	5
13.700	48.228	8.9	13.3	4.6	15.75	1.42	-0.02	2.63	37.6	4
13.900	48.884	4.7	5.9	2.3	5.15	3.39	0.05	2.16	78.0	3
14.100	49.540	4.2	5.5	1.9	4.33	3.50	0.38	1.14	84.2	3
14.300	50.196	7.6	9.8	3.8	13.57	3.32	0.07	2.75	55.4	3
14.500	50.852	28.9	25.7	19.3	61.85	0.88	0.00	1.89	10.1	6
14.700	51.509	26.1	25.0	16.2	52.26	0.90	-0.01	1.95	11.5	6
14.900	52.165	22.6	17.3	13.3	31.97	0.87	-0.01	2.12	16.5	5
15.100	52.821	5.9	7.7	2.6	8.41	3.34	-0.03	2.36	55.7	3
15.300	53.477	6.4	6.7	2.2	5.09	4.84	-0.04	3.30	85.2	3
15.500	54.133	10.1	9.1	3.3	8.72	4.34	-0.02	3.15	65.2	3
15.700	54.789	12.9	6.5	3.0	7.15	6.15	-0.02	3.30	80.5	3
15.900	55.446	18.3	11.3	4.0	10.60	5.38	-0.01	3.14	69.1	3
16.100	56.102	15.3	17.4	6.6	23.03	3.10	-0.01	2.72	41.3	4
16.300	56.758	33.3	16.4	6.1	16.70	5.51	-0.02	2.95	54.3	4
16.500	57.414	14.9	10.2	3.5	8.33	7.51	-0.04	3.33	82.3	3
16.700	58.070	9.7	7.6	2.4	6.95	7.19	0.07	3.47	90.4	3
16.900	58.726	10.9	8.4	2.1	5.03	8.04	-0.00	3.45	94.0	3
17.100	59.382	10.0	8.5	2.9	5.50	9.16	-0.05	3.49	98.4	3
17.300	60.039	10.3	8.1	2.4	5.12	8.76	-0.07	3.50	98.0	3

Run No. 24-1124-1117-3750
WT File: 8010907.COR

Col-01 Depth (m)	Col-02 Depth (m)	Col-21 Si(160) (b/sec)	Col-22 Si(60)?? (b/sec)	Col-23 Si(66)?? (b/sec)	Col-24 Cr	Col-25 Fe (%)	Col-26 Mg	Col-27 Zn	Col-28 FC (%)	Col-29 IsZone (zone)
18.500	61.655	10.1	8.5	2.6	6.23	9.31	-0.07	3.52	110.2	3
18.700	61.351	9.8	-9999.0	-9999.0	6.26	-9999.0	-0.09	-9999.0	-9999.0	0
18.900	62.007	8.2	7.5	2.2	4.22	6.31	-0.03	3.56	100.0	3
19.100	62.614	8.7	9.3	2.3	4.11	9.24	0.08	3.51	110.0	3
19.300	63.219	8.4	8.9	1.9	3.97	6.82	-0.09	3.49	59.4	3
19.500	63.975	14.4	9.8	3.1	7.77	5.86	-0.04	3.26	77.5	3
19.700	64.632	12.9	9.0	3.0	8.03	8.45	-0.05	3.45	80.1	3
19.900	65.285	13.0	9.5	2.9	8.12	7.06	-0.05	3.36	85.9	3
20.100	65.944	16.2	11.2	3.4	8.72	7.16	-0.03	3.27	78.8	3
20.300	66.600	-9999.0	11.5	-9999.0	8.03	8.96	-0.06	3.19	56.8	3
20.500	67.251	-9999.0	-9999.0	-9999.0	5.63	-9999.0	0.05	-9999.0	9999.0	0
20.700	67.913	10.3	8.9	2.5	4.99	9.39	0.07	3.53	100.0	3
20.900	68.569	11.1	8.9	2.6	5.45	7.52	-0.06	3.44	95.8	3
21.100	69.225	11.2	9.4	2.8	6.45	1.46	-0.05	3.35	85.2	3
21.300	69.883	10.5	8.7	2.5	5.28	7.14	-0.04	3.45	92.9	3
21.500	70.519	11.1	9.8	2.5	5.44	6.87	0.06	3.42	91.7	3
21.700	71.191	11.7	5.2	2.6	5.71	7.05	0.06	3.43	90.7	3
21.900	71.850	10.9	6.8	2.4	5.74	6.94	-0.04	3.44	97.1	3
22.100	72.506	17.7	10.3	3.0	6.92	7.19	-0.05	3.38	84.2	3
22.300	73.162	15.3	11.3	3.3	7.81	7.85	-0.03	3.22	73.5	3
22.500	73.818	20.5	13.8	4.2	10.59	7.40	-0.03	3.24	96.1	3
22.700	74.474	19.5	13.6	4.1	10.33	7.91	-0.03	3.22	76.9	3
22.900	75.130	17.0	11.7	3.4	9.75	6.84	-0.03	3.11	66.2	3
23.100	75.781	24.2	15.4	4.7	13.03	6.45	-0.02	3.09	64.6	3
23.300	76.443	27.1	17.6	5.4	15.03	7.36	-0.02	3.09	60.5	3
23.500	77.099	31.5	19.2	6.0	17.27	4.79	-0.01	3.02	54.9	4
23.700	77.755	37.2	21.5	6.7	20.53	5.09	-0.01	2.96	57.3	3
23.900	78.411	35.2	20.8	6.4	19.21	6.44	-0.03	2.98	54.4	4
24.100	79.067	33.3	24.5	7.7	25.86	4.35	-0.01	2.17	44.1	4
24.300	79.753	36.4	22.2	6.5	21.75	4.34	0.02	2.54	48.1	4
24.500	80.380	39.5	23.6	7.3	29.50	3.36	-0.03	2.90	40.6	4
24.700	81.035	21.4	26.4	16.2	37.66	3.53	-0.01	2.30	32.5	4
24.900	81.692	16.9	26.9	8.3	26.59	4.15	-0.01	2.73	41.9	3
25.100	82.348	20.5	13.6	5.5	16.04	5.36	-0.01	2.98	57.3	3
25.300	83.004	22.7	29.5	14.7	37.41	2.91	0.00	2.34	24.1	5
25.500	83.660	25.3	30.3	21.4	56.36	2.12	0.01	2.22	15.3	5

Interpretation Output - Release 1.22 Rev. A - Build 5 Format: US Imperial
Run No: 04-1124-1119-4790
Job No 04-403
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-7
Location: Pigeon Point
Cone: DC TOR AD206
CPT Date. 04/16/11
CPT Time: 14 01
CPT File: E09CP07.CPT
Northing (m): C 000000
Easting (m): C 000000
Elevation (m): C 000000

Water Table (m): 11.00 (ft): 36.1
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m): 0.20
Su Fact used: 15.00 Su/σ' (no): 0.30
Dr Method : Jamiolkowski - All Sands
State Parameter ψ: 1.20
Used Unit Weights Assigned to Soil Zones
Phi(o)s Calculated using qc1n
Nk(cu) Calculated using qc1ncs

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Dr (%)	Col 31 Phi (deg)	Col-32 State Par	Col-33 Qs/qt	Col-34 YoungE (tsf)	Col-35 Su (tsf)	Col-36 OCR
0.100	0.328	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.012	10.0
0.200	0.656	20.3	50.0	-0.64	-9999.0	-9999.0	-9999.0	-9999.0
0.300	1.640	71.2	46.0	-0.63	0.028	79.3	2.578	10.0
0.400	2.297	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.510	10.0
0.500	2.953	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	1.120	10.0
0.600	3.609	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	1.053	10.0
0.700	4.265	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	3.871	10.0
0.800	4.921	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	1.855	10.0
0.900	5.577	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	1.176	10.0
1.000	6.234	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.093	10.0
1.100	6.890	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.913	10.0
1.200	7.546	43.3	41.0	-0.15	2.154	92.2	-9999.0	-9999.0
1.300	8.202	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	1.700	10.0
1.400	8.858	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	1.289	10.0
1.500	9.514	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.162	10.0
1.600	10.170	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.200	10.0
1.700	10.827	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.072	10.0
1.800	11.483	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.136	10.0
1.900	12.139	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	1.416	10.0
2.000	12.795	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.187	9.5
2.100	13.451	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	1.273	9.9
2.200	14.107	33.5	35.0	-0.17	3.711	105.0	1.213	10.0
2.300	14.764	42.8	38.0	-0.20	3.218	121.0	1.592	10.0
2.400	15.420	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	1.435	9.7
2.500	16.076	9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.753	10.0
2.600	16.732	9999.0	-9999.0	9999.0	-9999.0	-9999.0	1.916	10.0
2.700	17.388	14.0	36.0	-0.19	3.657	121.0	2.116	10.0
2.800	18.044	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	1.313	5.7
2.900	18.701	-9999.0	9999.0	-9999.0	9999.0	-9999.0	0.971	3.9
3.000	19.357	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.871	3.2
3.100	20.013	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.234	5.1
3.200	20.669	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	1.041	9.3

Run No: 04-1124-1317-1791
CPT File: 6092637.CDR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-30 Dr (%)	Col-31 Phi (deg)	Col-32 State Soil	Col-33 Es/qc	Col-34 Young's (tsf)	Col-35 Su (tsf)	Col-36 OCR
6.500	21.335	40.3	36.6	-0.17	3.441	351.4	2.152	10.0
6.700	21.981	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	2.672	2.7
6.900	22.638	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.194	1.5
7.100	23.294	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.237	0.7
7.300	23.950	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.228	0.7
7.500	24.606	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.195	0.6
7.700	25.262	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.241	0.6
7.900	25.919	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.259	0.7
8.100	26.574	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.242	0.5
8.300	27.231	-9999.0	9999.0	-9999.0	-9999.0	9999.0	0.097	1.5
8.500	27.887	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.157	0.5
8.700	28.543	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.226	0.5
8.900	29.199	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.225	0.7
9.100	29.855	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.323	1.0
9.300	30.511	-9999.0	-9999.0	9999.0	-9999.0	9999.0	0.749	1.5
9.500	31.168	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.372	0.8
9.700	31.824	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.165	0.5
9.900	32.480	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.361	0.7
10.100	33.136	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.350	0.7
10.300	33.792	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.334	0.7
10.500	34.448	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.371	0.7
10.700	35.105	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.452	0.8
10.900	35.761	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.587	1.0
11.100	36.417	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.625	0.7
11.300	37.073	30.0	30.9	-0.04	-9999.0	-9999.0	1.558	0.8
11.500	37.729	47.1	36.0	-0.11	1.252	239.3	-9999.0	9999.0
11.700	38.385	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.513	2.6
11.900	39.042	56.6	36.0	-0.22	2.985	296.6	-9999.0	-9999.0
12.100	39.698	71.1	42.0	-0.15	2.109	194.3	-9999.0	-9999.0
12.300	40.354	63.6	42.0	-0.19	2.015	504.2	-9999.0	-9999.0
12.500	41.010	39.9	44.0	-0.22	-9999.0	-9999.0	-9999.0	-9999.0
12.700	41.666	65.5	44.0	-0.10	2.056	597.0	-9999.0	-9999.0
12.900	42.323	73.0	42.0	-0.20	2.038	403.1	-9999.0	-9999.0
13.100	42.978	25.7	40.0	-0.23	2.471	359.2	-9999.0	-9999.0
13.300	43.635	62.4	40.5	-0.19	2.584	376.6	-9999.0	-9999.0
13.500	44.291	42.8	38.0	-0.17	-9999.0	-9999.0	4.224	10.0
13.700	44.947	20.9	37.0	-0.05	-9999.0	9999.0	-9999.0	-9999.0
13.900	45.603	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	1.313	2.0
14.100	46.259	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	1.404	2.2
14.300	46.916	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.627	5.4
14.500	47.572	46.1	36.0	-0.06	1.381	255.0	-9999.0	-9999.0
14.700	48.228	30.0	32.0	-0.05	-9999.0	-9999.0	-9999.0	-9999.0
14.900	48.884	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.834	1.3
15.100	49.540	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.702	1.0
15.300	50.196	30.0	30.0	-0.06	-9999.0	-9999.0	1.456	1.1
15.500	50.853	50.0	40.0	-0.11	2.491	387.3	-9999.0	-9999.0
15.700	51.509	11.8	38.0	0.12	2.669	352.2	9999.0	-9999.0
15.900	52.165	48.2	38.0	0.07	3.396	394.0	-9999.0	-9999.0
16.100	52.821	37.0	30.0	0.00	-9999.0	9999.0	1.416	1.1
16.300	53.477	-9999.0	9999.0	-9999.0	-9999.0	9999.0	0.367	1.1
16.500	54.133	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	1.487	2.1
16.700	54.789	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	1.926	1.5
16.900	55.446	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	1.632	2.7
17.100	56.102	39.6	34.0	-0.16	-9999.0	-9999.0	4.024	5.2
17.300	56.758	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	3.273	6.4
17.500	57.414	-9999.0	-9999.0	-9999.0	9999.0	9999.0	1.441	2.0
17.700	58.070	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.377	1.1
17.900	58.726	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.014	1.3
18.100	59.382	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.985	1.2
18.300	60.039	9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.719	1.1

Run No: 04-1124-1127-3930
CPT File: 6050P57.CCR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-30 Dr (%)	Col-31 Phi (deg)	Col-32 State Par	Col-33 Su/qt	Col-34 YoungE (tsf)	Col-35 Su (tsf)	Col-36 OCR
18.500	60.695	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.949	1.2
18.700	61.351	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.761	1.0
18.900	62.007	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.774	0.9
19.100	62.663	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.763	0.9
19.300	63.319	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.721	0.9
19.500	63.976	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.451	1.6
19.700	64.617	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.265	1.5
19.900	65.288	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.266	1.5
20.100	65.944	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.657	2.1
20.300	66.600	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0
20.500	67.256	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0
20.700	67.913	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.958	1.1
20.900	68.569	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.052	1.2
21.100	69.225	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.262	1.5
21.300	69.881	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.030	1.2
21.500	70.537	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.067	1.2
21.700	71.153	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.130	1.3
21.900	71.850	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.040	1.2
22.100	72.506	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.780	2.0
22.300	73.162	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.567	1.8
22.500	73.818	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.155	2.9
22.700	74.474	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.094	2.7
22.900	75.130	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.785	2.3
23.100	75.786	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.644	3.7
23.300	76.443	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	3.054	4.6
23.500	77.099	34.8	32.0	0.42	-9999.0	-9999.0	-9999.0	-9999.0
23.700	77.755	19.5	34.0	-1.36	-9999.0	-9999.0	-9999.0	-9999.0
23.900	78.411	17.9	32.0	-0.40	-9999.0	-9999.0	-9999.0	-9999.0
24.100	79.067	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	4.486	10.6
24.300	79.723	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	4.518	7.8
24.500	80.360	45.7	34.0	0.18	-9999.0	-9999.0	5.449	13.0
24.700	81.036	56.5	38.0	-0.19	1.020	180.3	-9999.0	-9999.0
24.900	81.692	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	6.177	10.0
25.100	82.348	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	3.550	9.2
25.300	83.004	56.9	44.0	-0.21	1.012	387.4	-9999.0	-9999.0
25.500	83.560	56.9	40.0	-0.21	2.573	503.9	-9999.0	-9999.0

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.72 Rev. A - Build 5 Format: NLF Imperial
A No: 04-1126 1111-5482
J No: 16.309
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-8
Location: Pigeon Point
Zone 20 NON AZIMUTH
CPT Date 04/19/21
CPT Time: 09.30
CPT File 8C8CP18.CDP
Northing (ft): 0.000000
Easting (ft): 0.000000
Elevation (ft): 0.000000

Water Table (ft): 4.22 (ft): 13.8
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (ft) 0.20
Su Nkt Used: 15.00 Sa/P' Incr. 0.10
Dr Method Jamiolkowski - All Sands
State Parameter M. 1.73
Used Unit Weights Assigned to Soil Zones
Stress Calculated using qc18
Stress Calculated using qc18CD

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (ft)	Col-10 SBT (zone)	Col-11 SBTn (zone)
0.100	0.328	-0.100	-0.328	6.29	6.30	0.03	0.48	2.34	1	7
0.200	0.656	-0.200	-0.656	3.49	3.49	0.29	8.36	0.53	4	8
0.300	0.984	-0.300	-0.984	10.55	10.63	0.29	2.70	4.02	6	5
0.400	1.312	-0.400	-1.312	10.17	10.23	0.26	2.56	3.00	5	5
0.500	1.640	-0.500	-1.640	8.48	8.75	0.30	3.50	0.17	3	4
0.600	1.968	-0.600	-1.968	5.27	5.29	0.11	2.08	-0.65	4	5
0.700	2.297	-0.700	-2.297	16.96	16.96	0.06	0.37	-0.55	6	6
0.800	2.625	-0.800	-2.625	21.37	21.37	0.04	0.16	-0.21	6	6
0.900	2.953	-0.900	-2.953	8.07	8.08	0.11	0.63	0.46	3	4
1.000	3.281	-1.000	-3.281	4.36	4.37	0.30	6.91	1.04	3	3
1.100	3.609	-1.100	-3.609	7.63	7.64	0.19	2.52	7.37	6	6
1.200	3.937	-1.200	-3.937	4.63	4.69	0.12	2.53	12.47	3	3
1.300	4.265	-1.300	-4.265	3.46	3.53	0.07	1.85	13.37	3	3
1.400	4.593	-1.400	-4.593	8.16	8.25	0.05	0.58	17.53	3	4
1.500	4.921	-1.500	-4.921	4.10	4.21	0.07	1.78	22.86	3	4
1.600	5.249	-1.600	-5.249	4.33	4.44	0.08	1.93	25.73	3	3
1.700	5.577	-1.700	-5.577	4.12	4.24	0.08	1.89	35.14	3	3
1.800	5.905	-1.800	-5.905	4.53	4.67	0.08	1.77	41.75	3	3
1.900	6.233	-1.900	-6.233	4.39	4.57	0.07	1.36	37.71	3	3
2.000	6.561	-2.000	-6.561	4.07	4.17	0.06	1.42	42.28	3	3
2.100	6.889	-2.100	-6.889	5.27	5.47	0.06	1.24	44.50	3	3
2.200	7.217	-2.200	-7.217	4.86	5.07	0.04	0.91	46.31	3	3
2.300	7.546	-2.300	-7.546	4.76	4.91	0.04	0.86	51.52	3	3
2.400	7.874	-2.400	-7.874	4.41	4.50	0.06	1.57	55.64	3	3
2.500	8.202	-2.500	-8.202	4.16	4.33	0.02	1.46	10.55	3	3
2.600	8.530	-2.600	-8.530	4.62	4.71	0.07	1.57	57.95	3	3
2.700	8.858	-2.700	-8.858	4.35	4.46	0.07	1.46	59.56	3	3
2.800	9.186	-2.800	-9.186	4.16	4.27	0.07	1.79	64.63	3	3
2.900	9.514	-2.900	-9.514	3.86	3.97	0.07	1.84	70.18	3	3
3.000	9.843	-3.000	-9.843	3.91	4.01	0.06	1.53	74.56	3	3
3.100	10.171	-3.100	-10.171	4.12	4.24	0.08	1.89	75.17	3	3
3.200	10.499	-3.200	-10.499	4.53	4.67	0.08	1.77	81.75	3	3
3.300	10.827	-3.300	-10.827	4.39	4.57	0.07	1.36	37.71	3	3
3.400	11.483	-3.400	-11.483	4.07	4.17	0.06	1.42	42.28	3	3
3.500	11.811	-3.500	-11.811	5.27	5.47	0.06	1.24	44.50	3	3
3.600	12.139	-3.600	-12.139	4.86	5.07	0.04	0.91	46.31	3	3
3.700	12.467	-3.700	-12.467	4.76	4.91	0.04	0.86	51.52	3	3
3.800	12.795	-3.800	-12.795	4.41	4.50	0.06	1.57	55.64	3	3
3.900	13.451	-3.900	-13.451	4.16	4.33	0.02	1.46	10.55	3	3
4.000	13.779	-4.000	-13.779	4.62	4.71	0.07	1.57	57.95	3	3
4.100	14.107	-4.100	-14.107	4.35	4.46	0.07	1.46	59.56	3	3
4.200	14.764	-4.200	-14.764	4.16	4.27	0.07	1.79	64.63	3	3
4.300	15.420	-4.300	-15.420	3.86	3.97	0.07	1.84	70.18	3	3
4.400	15.748	-4.400	-15.748	3.91	4.01	0.06	1.53	74.56	3	3
4.500	16.076	-4.500	-16.076	4.12	4.24	0.08	1.89	75.17	3	3
4.600	16.732	-4.600	-16.732	4.53	4.67	0.08	1.77	81.75	3	3
4.700	17.388	-4.700	-17.388	4.39	4.57	0.07	1.36	37.71	3	3
4.800	18.044	-4.800	-18.044	4.07	4.17	0.06	1.42	42.28	3	3
4.900	18.701	-4.900	-18.701	5.27	5.47	0.06	1.24	44.50	3	3
5.000	19.357	-5.000	-19.357	4.86	5.07	0.04	0.91	46.31	3	3
5.100	20.013	-5.100	-20.013	4.76	4.91	0.04	0.86	51.52	3	3
5.200	20.669	-5.200	-20.669	5.80	6.16	0.10	1.61	73.07	4	3

Run No: 16-1126-1117-2861
CPT File: 3DVCPM3.COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
6.500	21.325	-6.500	-21.325	5.75	6.12	0.11	1.80	74.14	6	3
6.700	21.981	-6.700	-21.981	5.74	6.11	0.10	1.64	76.65	6	3
6.900	22.638	-6.900	-22.638	6.10	6.47	0.10	1.67	75.19	5	3
7.100	23.294	-7.100	-23.294	6.52	6.92	0.11	1.62	86.49	5	3
7.300	23.950	-7.300	-23.950	7.25	7.72	0.13	1.62	98.35	5	3
7.500	24.606	-7.500	-24.606	25.37	26.14	0.12	1.44	65.13	7	5
7.700	25.262	-7.700	-25.262	31.13	32.15	0.32	1.35	12.68	7	5
7.900	25.918	-7.900	-25.918	31.37	32.01	0.26	0.82	11.29	7	5
8.100	26.574	-8.100	-26.574	21.61	22.02	0.12	1.00	23.47	6	4
8.300	27.231	-8.300	-27.231	20.51	20.63	0.22	1.04	26.42	6	4
8.500	27.887	-8.500	-27.887	91.80	91.65	0.25	0.31	20.23	5	6
8.700	28.543	-8.700	-28.543	301.28	301.32	0.97	0.26	5.39	10	7
8.900	29.199	-8.900	-29.199	294.75	294.91	0.87	0.29	-5.64	10	7
9.100	29.855	-9.100	-29.855	290.71	290.65	0.44	0.15	12.28	10	7
9.300	30.511	-9.300	-30.511	236.95	236.89	0.11	0.14	-13.86	10	7
9.500	31.168	-9.500	-31.168	151.61	151.18	0.24	0.16	-17.37	9	6
9.700	31.824	-9.700	-31.824	110.60	110.55	0.16	0.14	-7.14	9	6
9.900	32.480	-9.900	-32.480	96.60	96.38	0.23	0.24	-1.79	9	6
10.100	33.136	-10.100	-33.136	86.43	86.42	0.27	0.31	-1.09	9	6
10.300	33.792	-10.300	-33.792	77.76	77.79	0.26	0.34	1.14	8	6
10.500	34.448	-10.500	-34.448	78.57	78.62	0.25	0.28	5.30	8	6
10.700	35.105	-10.700	-35.105	76.43	76.45	0.31	0.40	13.71	8	6
10.900	35.761	-10.900	-35.761	56.16	56.24	0.32	0.56	18.20	9	6
11.100	36.417	-11.100	-36.417	56.19	56.33	0.28	0.29	22.24	9	6
11.300	37.073	-11.300	-37.073	59.16	59.87	0.25	0.31	23.10	8	6
11.500	37.729	-11.500	-37.729	75.16	75.40	0.27	0.36	24.41	8	6
11.700	38.385	-11.700	-38.385	84.20	84.92	0.32	0.39	23.56	8	6
11.900	39.042	-11.900	-39.042	69.26	37.35	0.69	0.71	21.85	8	6
12.100	39.698	-12.100	-39.698	36.79	39.35	1.18	3.28	38.09	5	4
12.300	40.354	-12.300	-40.354	24.30	24.69	0.62	2.50	22.17	5	4
12.500	41.010	-12.500	-41.010	26.07	26.44	0.66	2.54	121.62	5	4
12.700	41.666	-12.700	-41.666	25.67	26.29	0.64	2.44	173.37	5	4
12.900	42.322	-12.900	-42.322	23.98	24.36	0.50	2.09	203.86	5	4
13.100	42.978	-13.100	-42.978	21.93	23.27	0.45	1.87	243.72	4	4
13.300	43.635	-13.300	-43.635	21.77	23.10	0.45	1.96	261.52	4	4
13.500	44.291	-13.500	-44.291	23.11	24.51	0.49	2.01	269.54	5	4
13.700	44.947	-13.700	-44.947	28.75	30.35	0.46	1.64	343.91	5	4
13.900	45.603	-13.900	-45.603	30.37	31.95	0.46	2.04	122.64	4	4
14.100	46.259	-14.100	-46.259	32.40	34.12	1.33	3.90	459.05	5	3

Conetec Inc CPT Interpretation
Interpretation Output - Version 1.22 Rev. A - Build 5 Format: STP Imperial
Job No: 04-1124-1117-3413
Job No 04-809
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-5
Location: Pigeon Point
Cone: 20 TON RD065
CPT Date: 06/15/11
CPT Time 09:36
CPT File S09CP03.CCP
Borehole Dpt: 0.000000
Easting (m) 0.000000
Elevation (m): 0.000000

Water Table (m): 1.25 (ft): 11.8
Unit Weight of Water (Default): 62.40 pcf
Averaging Increment (m): 0.20
Su Skt Used: 15 Pc Su/P' (Def): 0.30
Dr Method : Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Hydric Calculated Using Qc1n
Hydric Calculated Using Qclnsa

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 SBT-RG (Zone)	Col-13 SBT-BQn (Zone)	Col-14 Perm-k (cm/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (tsf)	Col-17 C Stress (tsf)	Col-18 E Stress (tsf)	Col-19 Dr	Col-20 OCR (D/ED)
1.100	3.628	5	1	1.0E-07	111.4	0.038	0.000	0.018	2.00	3.0
1.300	4.264	6	6	5.0E-07	115.4	0.065	0.000	0.055	2.00	6.1
1.500	4.920	6	6	5.0E-07	114.6	0.093	0.000	0.091	2.00	6.8
1.700	5.577	6	6	5.0E-07	114.6	0.121	0.000	0.111	2.00	4.9
1.900	6.234	5	5	5.0E-08	113.4	0.162	0.000	0.148	2.00	4.0
2.100	6.890	4	4	5.0E-07	114.6	0.205	0.000	0.205	2.00	3.4
2.300	7.547	6	6	5.0E-07	114.6	0.242	0.000	0.242	2.00	6.5
2.500	8.203	7	6	5.0E-05	114.6	0.280	0.000	0.240	1.60	3.3
2.700	8.860	5	5	5.0E-06	111.4	0.317	0.000	0.317	1.78	6.6
2.900	9.516	4	4	5.0E-08	111.4	0.353	0.000	0.351	1.56	4.2
3.100	10.173	5	5	5.0E-07	114.4	0.391	0.000	0.391	1.60	4.3
3.300	10.829	4	4	5.0E-08	111.4	0.428	0.000	0.420	1.51	4.5
3.500	11.486	3	3	1.0E-07	111.4	0.464	0.000	0.464	1.47	3.7
3.700	12.142	3	3	1.0E-07	111.4	0.501	0.000	0.501	1.41	1.9
3.900	12.799	3	3	1.0E-07	111.4	0.537	0.000	0.537	1.36	2.7
4.100	13.455	3	3	1.0E-07	111.4	0.574	0.000	0.574	1.33	2.3
4.300	14.112	3	3	1.0E-07	111.4	0.610	0.000	0.610	1.28	2.0
4.500	14.768	3	3	1.0E-07	111.4	0.647	0.000	0.647	1.26	2.2
4.700	15.425	3	3	1.0E-07	111.4	0.683	0.000	0.683	1.23	2.4
4.900	16.081	3	3	1.0E-07	111.4	0.720	0.000	0.720	1.21	2.5
5.100	16.738	3	3	1.0E-07	111.4	0.757	0.000	0.757	1.18	2.5
5.300	17.394	3	3	1.0E-07	111.4	0.793	0.000	0.793	1.15	2.4
5.500	18.051	3	3	1.0E-07	111.4	0.830	0.000	0.831	1.12	2.3
5.700	18.707	3	3	1.0E-07	111.4	0.866	0.000	0.867	1.11	2.6
5.900	19.364	3	3	1.0E-07	111.4	0.903	0.000	0.931	1.10	2.4
6.100	20.020	3	3	1.0E-07	111.4	0.939	0.000	0.969	1.08	2.3
6.300	20.677	3	3	1.0E-07	111.4	0.976	0.000	0.965	1.08	2.5
6.500	21.333	3	3	1.0E-07	111.4	1.012	0.000	0.861	1.07	2.4
6.700	21.990	4	3	1.0E-07	111.4	1.049	0.000	0.837	1.06	2.8
6.900	22.646	3	3	1.0E-07	111.4	1.085	0.000	0.939	1.05	2.8
7.100	23.303	3	3	1.0E-07	111.4	1.122	0.000	0.925	1.04	2.5
7.300	23.959	3	3	1.0E-07	114.6	1.159	0.000	0.946	1.03	3.9

Run ID: 94 1124 1317-3083
DPT File: E0S2758.CDX

Col-11 Depth (m)	Col-12 Depth (ft)	Col-12 SBT-PO (Zone)	Col-13 SBT-PQn (Zone)	Col-14 Perm K (cm/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (tsf)	Col-17 U Stress (tsf)	Col-18 K Stress (tsf)	Col-19 Cn	Col-20 SNR (b/ft)
6.500	21.325	3	3	5.0E-07	114.5	1.199	0.234	0.963	1.02	3.9
6.700	21.981	3	3	5.0E-07	114.5	1.234	0.244	0.980	1.01	3.9
6.900	22.638	3	3	5.0E-06	114.5	1.272	0.275	0.997	1.00	3.1
7.100	23.294	3	3	5.0E-06	114.5	1.309	0.295	1.014	0.99	3.3
7.300	23.950	3	3	5.0E-06	114.5	1.349	0.316	1.031	0.98	3.7
7.500	24.606	4	5	5.0E-06	117.7	1.385	0.336	1.049	0.97	8.1
7.700	25.262	6	6	5.0E-06	117.7	1.424	0.357	1.067	0.97	11.9
7.900	25.919	7	5	5.0E-06	117.7	1.462	0.377	1.085	0.96	10.2
8.100	26.574	6	4	5.0E-06	114.6	1.501	0.398	1.103	0.95	6.6
8.300	27.231	6	5	5.0E-06	114.6	1.538	0.416	1.120	0.94	9.9
8.500	27.887	6	6	5.0E-06	124.1	1.577	0.438	1.139	0.94	19.6
8.700	28.543	10	7	5.0E-06	127.3	1.615	0.459	1.159	0.93	48.1
8.900	29.199	10	7	5.0E-06	127.3	1.656	0.480	1.181	0.92	47.0
9.100	29.855	10	7	5.0E-06	127.3	1.702	0.500	1.202	0.91	46.4
9.300	30.511	9	7	5.0E-06	127.3	1.744	0.521	1.223	0.90	37.8
9.500	31.168	9	6	5.0E-06	124.1	1.785	0.541	1.244	0.90	29.0
9.700	31.824	9	6	5.0E-06	124.1	1.826	0.562	1.264	0.89	21.2
9.900	32.480	9	6	5.0E-06	124.1	1.867	0.582	1.285	0.88	16.5
10.100	33.136	9	6	5.0E-06	124.1	1.907	0.602	1.301	0.86	15.6
10.300	33.792	8	6	5.0E-06	121.9	1.947	0.121	1.324	0.87	16.6
10.500	34.448	8	6	5.0E-06	121.9	1.987	0.143	1.344	0.86	15.8
10.700	35.105	8	6	5.0E-06	121.9	2.027	0.164	1.361	0.85	16.3
10.900	35.761	9	6	5.0E-06	124.1	2.047	0.184	1.381	0.85	15.6
11.100	36.417	9	6	5.0E-06	124.1	2.126	0.705	1.401	0.84	18.6
11.300	37.073	9	6	5.0E-06	124.1	2.146	0.725	1.421	0.84	15.1
11.500	37.729	8	6	5.0E-06	121.9	2.186	0.745	1.442	0.83	17.4
11.700	38.385	9	6	5.0E-06	124.1	2.227	0.766	1.461	0.83	25.3
11.900	39.042	9	6	5.0E-06	124.1	2.267	0.787	1.480	0.82	21.3
12.100	39.698	9	5	5.0E-06	124.1	2.306	0.807	1.499	0.82	17.2
12.300	40.354	6	4	5.0E-06	114.6	2.343	0.827	1.519	0.81	9.5
12.500	41.010	6	4	5.0E-06	114.6	2.381	0.848	1.538	0.81	10.2
12.700	41.666	6	4	5.0E-06	114.6	2.416	0.867	1.559	0.80	10.1
12.900	42.322	5	4	5.0E-06	114.6	2.456	0.886	1.577	0.80	9.2
13.100	42.978	6	3	5.0E-06	114.6	2.494	0.910	1.596	0.79	8.8
13.300	43.635	6	3	5.0E-06	114.6	2.531	0.931	1.615	0.79	8.8
13.500	44.291	6	3	5.0E-06	114.6	2.569	0.953	1.634	0.79	9.4
13.700	44.947	6	3	5.0E-06	114.6	2.606	0.973	1.635	0.78	11.0
13.900	45.603	6	3	5.0E-06	114.6	2.646	0.992	1.652	0.78	12.7
14.100	46.259	6	3	5.0E-06	114.6	2.682	1.012	1.669	0.77	16.4

Geotec Inc - CPT Interpretation
Interpretation Output - Release 1.22 Rev A - Build 5 Format: KLZ Imperial
Job No: 04-1124-1311-1882
No. 24-209
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site CPT-8
Location: Pigeon Point
Cone 10 TON ADOAG
CPT Date: 04/15/11
CPT Time: 10:26
CPT File: 8010726.CUR
Northing (m) 0.000000
Easting (m) 0.000000
Elevation (m) 0.000000

Water Table (m): 4.22 (El): 11.8
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m): 0.20
Su Fact used: 15.00 Su/P' (Inc): 0.15
Qc Method Jamiolkowski - All Sands
Grain Parameter M: 1.00
Used Unit Weights Assigned to Soil Zones
Nitrate Calculated using qc1N
Nitrate Calculated using qc1N2

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 Nitrate (g/ft)	Col-22 Nitrite (g/ft)	Col-23 Nitrite (g/ft)	Col-24 Qc	Col-25 Fs (%)	Col-26 Su	Col-27 Sc	Col-28 Sc (%)	Col-29 Zone (zone)
0.100	0.328	5.6	1.1	3.6	343.50	0.68	0.03	1.07	5.0	6
0.200	0.656	12.1	-9999.0	9999.0	170.69	1.03	0.00	-9999.0	-9999.0	0
0.300	1.000	13.5	2.7	7.0	113.34	2.70	0.01	2.56	33.3	5
0.400	1.312	9.8	2.5	11.1	17.74	2.59	0.01	2.49	37.7	5
0.500	1.640	15.0	2.2	8.7	42.83	3.46	0.00	2.64	37.4	4
0.600	1.968	6.1	1.4	6.8	24.76	2.47	0.00	2.43	30.3	4
0.700	2.296	10.0	3.5	7.3	69.00	0.37	0.00	2.10	5.0	5
0.800	2.624	15.8	4.3	3.3	76.79	1.18	0.00	2.91	23.4	5
0.900	2.952	15.3	2.4	7.3	27.32	2.54	0.00	2.70	50.3	4
1.000	3.280	7.0	1.4	4.4	11.39	2.17	0.01	2.37	72.4	3
1.100	3.608	7.4	2.3	5.4	18.44	2.65	0.03	2.75	62.5	4
1.200	3.936	6.9	1.5	3.3	9.97	2.76	0.09	2.98	53.0	3
1.300	4.264	7.5	1.2	2.3	5.54	2.33	0.12	3.07	43.3	3
1.400	4.592	2.7	1.3	2.3	7.24	1.35	0.16	2.55	15.3	4
1.500	4.920	3.3	1.5	2.5	1.76	1.56	0.17	2.94	54.7	4
1.600	5.248	2.8	1.5	2.4	6.72	1.66	0.21	1.24	42.5	3
1.700	5.576	2.8	1.5	2.3	5.97	2.20	0.24	1.11	46.6	3
1.800	5.904	2.6	1.5	2.3	6.21	2.06	0.25	1.26	44.4	3
1.900	6.232	2.8	1.5	2.2	6.17	1.65	0.27	1.03	42.3	3
2.000	6.560	1.5	1.6	2.2	4.57	1.04	0.28	1.01	59.4	3
2.100	6.888	3.1	1.8	2.2	4.53	1.45	0.35	3.06	67.6	3
2.200	7.216	3.8	1.7	2.0	5.10	1.60	0.36	3.02	53.4	3
2.300	7.544	2.1	1.6	1.5	5.32	1.91	0.40	3.14	59.8	3
2.400	7.872	2.6	1.7	1.9	5.07	1.76	0.46	3.16	65.1	3
2.500	8.200	2.6	1.8	2.3	5.67	1.69	0.44	3.12	72.0	3
2.600	8.528	2.7	1.9	1.6	5.05	1.63	0.44	3.11	70.6	3
2.700	8.856	2.5	1.8	1.7	4.02	1.75	0.40	3.04	58.7	3
2.800	9.184	2.6	1.5	1.8	4.71	1.59	0.43	3.37	67.1	3
2.900	9.512	2.8	1.9	1.6	4.99	1.65	0.42	3.13	67.5	3
3.000	9.840	2.5	2.0	1.3	5.30	1.50	0.46	3.12	69.1	3
3.100	10.168	3.0	2.1	1.9	5.32	1.66	0.49	3.32	67.1	3
3.200	10.496	3.2	2.3	2.3	5.26	1.54	0.49	3.14	68.4	3
3.300	10.824	4.0	2.2	2.2	5.23	1.90	0.44	3.14	68.4	3

Run No 04-1124-3317-2843
CPT File: 6095P08.CPT

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 N(60) (b/ft)	Col-22 N(60)/Cr (b/ft)	Col-23 (N1(60))Cn (b/ft)	Col-24 Qc	Col-25 Fr (%)	Col-26 Bq	Col-27 Ic	Col-28 FC (%)	Col-29 Ic Zone (Zone)
6.500	21.325	4.0	2.7	1.9	5.12	2.24	0.46	3.18	71.2	3
6.700	21.981	3.5	2.2	1.9	4.96	2.09	0.44	3.17	70.5	3
6.900	22.638	3.1	2.3	1.9	5.22	1.81	0.43	3.13	67.4	3
7.100	23.294	3.3	2.6	2.0	5.54	1.87	0.43	3.13	66.1	3
7.300	23.950	3.5	2.6	2.2	6.17	1.97	0.44	3.06	63.5	3
7.500	24.606	7.9	5.6	5.6	21.87	1.64	0.07	2.27	5.0	5
7.700	25.262	11.5	8.2	8.1	31.46	1.88	0.05	2.05	20.7	5
7.900	25.918	9.8	7.3	7.2	28.16	0.95	0.03	2.33	33.5	5
8.100	26.574	4.4	3.5	3.3	9.54	1.14	0.03	2.80	45.9	4
8.300	27.231	7.5	5.2	5.0	17.05	1.13	0.02	2.53	37.2	5
8.500	27.887	16.5	10.5	15.8	79.32	0.32	0.00	1.71	5.9	6
8.700	28.543	44.7	44.3	43.7	288.46	0.25	0.00	1.21	0.0	7
8.900	29.199	43.3	43.5	42.8	268.22	0.28	0.00	1.24	0.0	7
9.100	29.855	42.3	43.4	40.5	249.29	0.15	0.00	1.15	0.0	7
9.300	30.511	34.3	35.2	33.4	152.23	0.14	0.00	1.20	0.0	7
9.500	31.168	26.0	24.5	22.5	120.33	0.16	-0.01	1.41	1.7	5
9.700	31.824	18.8	16.7	17.5	90.01	0.15	-0.01	1.54	3.4	5
9.900	32.480	16.3	17.0	15.1	73.54	0.24	-0.01	1.56	5.0	5
10.100	33.136	14.5	15.7	14.1	64.70	0.17	-0.01	1.76	5.0	6
10.300	33.792	14.2	14.5	12.6	57.26	0.14	-0.01	1.81	5.0	6
10.500	34.448	15.2	14.5	12.6	57.02	0.24	-0.01	1.78	5.0	6
10.700	35.105	15.7	14.5	12.7	54.64	0.41	0.00	1.66	5.0	6
10.900	35.761	15.7	17.5	13.2	63.17	0.50	0.00	1.74	5.0	6
11.100	36.417	15.7	17.4	13.0	67.57	0.29	0.00	1.73	5.0	6
11.300	37.073	16.5	16.8	12.7	54.53	1.32	0.02	1.81	5.2	6
11.500	37.729	14.5	13.9	11.8	45.58	2.39	0.03	1.96	5.2	5
11.700	38.385	16.8	15.9	11.4	58.60	0.40	0.00	1.83	5.2	6
11.900	39.042	19.2	18.8	13.6	64.24	0.72	0.01	1.53	10.8	6
12.100	39.698	14.1	13.1	5.6	22.46	3.51	0.01	2.74	43.4	4
12.300	40.354	7.7	7.3	4.5	14.75	2.74	0.03	2.84	44.2	4
12.500	41.010	8.2	7.7	4.8	15.83	2.79	0.12	2.82	44.3	4
12.700	41.666	8.1	7.6	4.7	15.40	2.65	0.19	2.82	44.3	4
12.900	42.322	7.4	7.0	4.2	13.79	2.32	0.26	2.87	47.1	4
13.100	42.978	7.2	6.7	3.9	12.99	2.16	0.31	2.82	46.8	4
13.300	43.635	7.2	6.7	3.9	12.79	2.22	0.35	2.83	48.1	4
13.500	44.291	7.6	7.1	4.1	13.55	2.28	0.38	2.82	47.2	4
13.700	44.947	9.1	8.3	4.9	16.97	2.01	0.35	2.72	42.2	4
13.900	45.603	9.5	8.8	5.1	17.92	2.24	0.32	2.70	42.0	4
14.100	46.259	12.7	10.1	5.6	18.35	3.08	0.27	2.84	48.2	4

Interpretation Output - Release 1.21 Rev. A - Build 1 Format: NAD Imperial

Run No: 04-1124-1117-4861

Job No: 04-669

Client: GeoSyntec Consultants

Project: Pigeon Point Landfill - Wilmington Delaware

Site: CPT-4

Location: Pigeon Point

Cone: 20 TON ACONE

CPT Date: 04/15/11

CPT Time: 05:36

CPT File: 0190P06.COR

Northing (m): 0.000000

Easting (m): 0.000000

Elevation (m): 0.000000

Water Table (m): 4.22 (ft) 13.8

Unit Weight of Water (default) 62.40 pcf

Averaging Increment (m): 0.20

Nc Nkt used: 15.00 Su/P' (min): 0.10

Dr Method: Jamiolkowski - All Sands

State Parameter M: 1.20

Dead Unit Weights Assigned to Soil Zones

N1(60)s Calculated using qc1n

N1(60)cs Calculated using qc1ncs

Col-01 Depth (m)	Col-02 Depth (ft)	Col-30 Dr (%)	Col-31 Phi (deg)	Col-32 Shear Mod	Col-33 Ru/qt	Col-34 Young (mPa)	Col-35 Su (tsf)	Col-36 OCR
0.100	0.328	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.619	10.0
0.200	0.656	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.629	10.0
0.300	1.640	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.701	10.0
0.400	2.297	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.677	10.0
0.500	2.953	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.546	10.0
1.100	3.609	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.356	3.9
1.200	4.265	35.1	40.5	-0.01	1.561	10.6	1.114	10.0
1.600	4.921	45.2	40.0	-0.18	1.278	71.6	1.433	10.0
1.700	5.577	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.571	10.0
1.900	6.234	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.267	3.0
2.100	6.890	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.455	6.3
2.300	7.546	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.236	2.5
2.500	8.202	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.206	2.5
2.700	8.858	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.235	2.4
2.900	9.514	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.278	2.5
3.100	10.170	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.277	2.5
3.300	10.827	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.261	2.3
3.500	11.483	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.258	2.4
3.700	12.139	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.255	2.4
3.900	12.795	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.317	2.8
4.100	13.451	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.288	2.2
4.300	14.107	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.278	2.2
4.500	14.764	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.272	2.3
4.700	15.420	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.256	2.2
4.900	16.076	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.260	2.1
5.100	16.732	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.261	2.0
5.300	17.388	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.274	2.2
5.500	18.044	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.293	2.3
5.700	18.701	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.327	2.2
5.900	19.357	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.326	2.2
6.100	20.013	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.325	2.2
6.300	20.669	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.304	2.2

Run No: 96-1126-2117-3833
CPT File: 80SP26.CPT

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Qc (kg)	Col-04 Fs (kg)	Col-05 Rfrac Par	Col-06 Es/qc	Col-07 Vsuegt (m/s)	Col-08 SC (USF)	Col-09 CCR
5.520	21.125	9950.0	-9999.0	-9999.0	-9999.0	-9999.0	0.325	1.3
5.700	22.981	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.325	1.2
5.900	22.638	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.347	1.2
7.100	23.234	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.174	1.2
7.300	23.550	-9999.0	9956.0	-9999.0	-9999.0	-9999.0	0.425	1.4
7.500	24.626	36.0	24.0	0.03	-9999.0	-9999.0	-9999.0	-9999.0
7.700	25.252	39.0	16.0	-0.07	3.561	132.5	-9999.0	-9999.0
7.900	25.918	42.0	36.0	-0.06	3.822	122.4	-9999.0	9999.0
8.100	26.574	32.0	30.0	0.03	-9999.0	9999.0	5.702	2.4
8.300	27.231	32.0	37.0	-0.03	-9999.0	-9999.0	1.273	1.5
8.500	27.887	62.4	62.0	-0.07	2.262	211.4	-9999.0	-9999.0
8.700	28.543	95.0	46.0	-0.15	-9999.0	-9999.0	-9999.0	-9999.0
8.900	29.199	95.0	46.0	0.16	-9999.0	-9999.0	-9999.0	-9999.0
9.100	29.855	94.6	46.0	0.11	-9999.0	-9999.0	-9999.0	-9999.0
9.300	30.513	88.5	44.0	-0.18	-9999.0	-9999.0	-9999.0	-9999.0
9.500	31.166	75.4	42.0	-0.05	2.946	303.7	-9999.0	-9999.0
9.700	31.824	66.2	42.0	-0.03	2.770	251.0	-9999.0	-9999.0
9.900	32.480	62.0	40.0	-0.04	2.401	231.4	-9999.0	-9999.0
10.100	33.136	58.7	40.0	-0.05	2.527	218.4	-9999.0	-9999.0
10.300	33.792	55.4	40.0	-0.05	2.667	207.4	-9999.0	-9999.0
10.500	34.448	55.5	40.0	-0.05	2.667	208.6	-9999.0	9999.0
10.700	35.105	54.5	40.0	-0.06	2.715	201.0	9999.0	9999.0
10.900	35.761	60.5	40.0	-0.06	2.455	226.5	9999.0	-9999.0
11.100	36.417	60.5	40.0	-0.05	2.463	228.7	-9999.0	-9999.0
11.300	37.073	55.2	40.0	-0.04	2.700	215.5	9999.0	9999.0
11.500	37.729	52.3	38.0	-0.04	2.836	206.5	-9999.0	9999.0
11.700	38.385	56.5	40.0	-0.04	2.647	224.8	-9999.0	9999.0
11.900	39.042	60.3	40.0	-0.02	2.502	243.5	-9999.0	9999.0
12.100	39.696	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.243	8.5
12.300	40.354	30.0	32.0	-0.08	-9999.0	-9999.0	1.430	6.4
12.500	41.010	30.0	32.0	-0.08	-9999.0	9999.0	1.617	6.8
12.700	41.666	30.0	32.0	-0.08	-9999.0	-9999.0	1.595	6.7
12.900	42.323	30.0	32.0	-0.01	-9999.0	-9999.0	1.460	6.0
13.100	42.978	30.0	32.0	0.00	-9999.0	9999.0	1.332	5.7
13.300	43.634	30.0	32.0	0.01	-9999.0	-9999.0	1.364	5.6
13.500	44.291	30.0	32.0	0.01	-9999.0	-9999.0	1.462	5.9
13.700	44.947	30.0	32.0	-0.03	-9999.0	-9999.0	1.660	6.6
13.900	45.603	30.0	32.0	-0.04	-9999.0	-9999.0	1.951	6.9
14.100	46.259	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	2.203	8.6

Interpretation Output - Release 1.32 Rev A - Build 5 Format: ISP Imperial
Run No: 04-1224-1217-1932
Job No: 04-E03
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-9
Location: Pigeon Point
Cone: 20 TON AD266
CPT Date: 04/15/21
CPT Time: 11:58
CPT File: ad266r09.cpt
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m) 19.31 (ft): 63.4
Unit Weight of Water (default) 62.40 pcf
Averaging Increment (m): 0.20
Su Nkt used: 15.07 Su/P' (nc): 0.30
Dr Method Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
N160c Calculated using qc1n
N160cs Calculated using qc1ncs

Col 01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qc (ksf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
0.100	0.328	-0.110	-0.328	16.33	15.79	0.16	0.99	0.32	6	6
0.200	0.984	-0.300	-0.984	26.03	25.04	0.54	1.05	1.92	6	6
0.300	1.640	-0.500	-1.640	11.55	11.08	0.39	3.54	6.93	5	6
0.400	2.297	-0.700	-2.297	5.96	5.96	0.32	3.85	0.65	4	5
0.500	2.953	-0.900	-2.953	5.48	5.48	0.07	1.04	-1.02	1	6
1.000	3.609	-1.100	-3.609	49.43	48.43	0.70	1.48	-3.91	1	6
1.500	4.265	-1.300	-4.265	56.61	55.08	1.38	2.28	-4.88	1	6
2.000	4.921	-1.500	-4.921	66.09	64.91	0.61	0.93	0.83	8	6
2.500	5.577	-1.700	-5.577	66.43	65.69	0.66	1.33	11.66	7	6
3.000	6.234	-1.900	-6.234	45.99	45.33	0.76	1.69	2.54	7	6
3.500	6.890	-2.100	-6.890	43.76	43.15	0.55	1.34	-2.72	7	6
4.000	7.546	-2.300	-7.546	54.35	54.15	0.85	1.77	3.31	7	5
4.500	8.202	-2.500	-8.202	34.98	34.36	0.63	1.96	-1.55	6	5
5.000	8.858	-2.700	-8.858	24.51	24.50	0.45	1.88	-2.43	5	5
5.500	9.514	-2.900	-9.514	15.55	15.56	0.22	1.43	0.45	6	5
6.000	10.170	-3.100	-10.170	25.23	25.14	0.31	1.22	1.27	6	5
6.500	10.827	-3.300	-10.827	27.36	27.17	0.31	1.10	3.42	6	5
7.000	11.483	-3.500	-11.483	18.85	18.84	0.12	1.64	-0.63	6	5
7.500	12.139	-3.700	-12.139	20.29	19.27	0.32	1.63	-4.22	6	5
8.000	12.795	-3.900	-12.795	20.33	19.56	0.28	1.43	-3.72	6	5
8.500	13.451	-4.100	-13.451	15.86	15.36	0.20	1.25	0.33	6	4
9.000	14.107	-4.300	-14.107	13.67	13.65	0.24	1.72	1.71	5	4
9.500	14.764	-4.500	-14.764	20.52	20.04	0.18	0.92	2.89	7	5
9.700	15.420	-4.700	-15.420	21.14	21.18	0.19	0.88	3.63	6	5
9.900	16.076	-4.900	-16.076	15.78	15.78	0.16	1.03	0.61	6	4
10.100	16.732	-5.100	-16.732	12.60	12.67	0.15	1.17	4.75	6	4
10.300	17.388	-5.300	-17.388	30.96	31.55	0.50	1.42	1.94	7	5
10.500	18.044	-5.500	-18.044	52.96	52.90	1.16	2.07	-9.24	5	5
10.700	18.701	-5.700	-18.701	82.02	81.94	2.21	2.16	-15.68	5	5
10.900	19.357	-5.900	-19.357	66.21	64.13	1.92	2.91	-19.28	6	5
11.100	20.013	-6.100	-20.013	114.52	114.54	1.14	1.00	4.46	8	5
11.300	20.669	-6.300	-20.669	139.04	139.06	1.14	0.82	10.12	9	6

Run No: [illegible]
CPT File: [illegible]

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev (ft)	Col-05 qt (tsf)	Col-06 qc (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (ft)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
6.500	21.325	-6.500	-21.325	141.59	141.58	0.68	0.48	-2.75	5	6
6.700	21.951	-6.700	-21.951	157.20	157.21	1.19	0.75	0.42	5	6
6.900	22.636	-6.900	-22.636	160.28	160.29	1.13	0.70	2.86	5	6
7.100	23.254	-7.100	-23.254	173.17	173.40	0.67	0.54	6.12	5	6
7.300	23.950	-7.300	-23.950	99.37	99.39	0.23	0.23	5.77	5	6
7.500	24.606	-7.500	-24.606	59.36	59.37	0.04	0.06	3.10	8	-9999.0
7.700	25.262	-7.700	-25.262	59.28	59.30	0.27	0.16	1.88	8	6
7.900	25.918	-7.900	-25.918	62.31	62.33	0.08	0.09	4.00	5	-9999.0
8.100	26.574	-8.100	-26.574	103.77	103.79	0.22	0.21	3.83	5	6
8.300	27.231	-8.300	-27.231	115.83	115.83	0.14	0.12	1.30	5	6
8.500	27.887	-8.500	-27.887	97.03	97.05	0.24	0.24	4.37	5	6
8.700	28.543	-8.700	-28.543	126.57	126.54	0.34	0.27	4.04	5	6
8.900	29.199	-8.900	-29.199	84.85	84.87	0.16	0.19	1.60	5	6
9.100	29.655	-9.100	-29.655	60.65	60.67	0.14	0.07	1.58	5	-9999.0
9.300	30.511	-9.300	-30.511	51.84	51.86	0.05	0.09	1.83	5	-9999.0
9.500	31.168	-9.500	-31.168	36.57	36.59	0.05	0.13	1.70	8	5
9.700	31.824	-9.700	-31.824	58.82	58.84	0.46	0.78	1.46	8	5
9.900	32.480	-9.900	-32.480	107.21	107.24	0.06	0.08	1.95	9	-9999.0
10.100	33.136	-10.100	-33.136	135.17	136.17	0.17	0.56	1.89	9	6
10.300	33.792	-10.300	-33.792	175.84	176.86	1.57	0.89	4.55	9	6
10.500	34.448	-10.500	-34.448	341.41	341.45	5.50	1.61	8.27	8	6
10.700	35.105	-10.700	-35.105	271.44	271.43	1.33	0.49	2.75	10	6
10.900	35.761	-10.900	-35.761	264.34	264.36	1.60	0.60	4.02	5	6
11.100	36.417	-11.100	-36.417	242.91	242.90	1.57	0.55	3.86	5	6
11.300	37.073	-11.300	-37.073	321.87	321.88	1.45	0.45	2.23	10	6
11.500	37.729	-11.500	-37.729	258.15	258.16	1.37	0.53	2.50	5	6

Interpretation Output - Release 1.22 Rev. A - Build 1 Format NGP Imperial

Pin No 04-1134-1317-1932
Job No 04-809
Client GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site. CPT-3
Location Pigeon Point
Cone: 20 TON AZ661
CPT Date: 06/15/11
CPT Time: 11:58
CPT File: E095025.COR
Northing (m). 0.000000
Easting (m). 0.000000
Elevation (m). 0.000000

Water Table (m): 19.31 (ft): 63.4
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m): 0.20
Su Nkt used: 15.00 Su/P' (min) 0.20
Su Method . Zamolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Nitrite Calculated using qc1n
Nitrbus Calculated using qc1ncs

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 SBT-SZ (Zone)	Col-13 SBT-BQn (Zone)	Col-14 Perm-k (cm/s)	Col-15 Unit Wt (pcf)	Col-16 V Stress (ksf)	Col-17 U Stress (ksf)	Col 18 E Stress (ksf)	Col 19 Cu	Col 20 Nkt (N/A)
0.100	0.328	6	7	5.0E-06	114.6	0.019	0.000	0.019	2.02	6.5
0.200	0.656	7	7	5.0E-06	114.6	0.038	0.000	0.038	2.02	5.6
0.300	0.984	6	6	5.0E-06	114.6	0.058	0.000	0.058	2.02	5.5
0.400	1.312	6	6	5.0E-06	114.6	0.077	0.000	0.077	2.02	5.8
0.500	1.641	6	6	5.0E-06	114.6	0.097	0.000	0.097	2.02	5.1
0.600	1.969	6	6	5.0E-06	114.6	0.117	0.000	0.117	2.02	15.8
0.700	2.297	6	6	5.0E-06	114.6	0.136	0.000	0.136	2.02	13.1
0.800	2.625	6	6	5.0E-06	114.6	0.156	0.000	0.156	2.02	15.6
0.900	2.953	6	6	5.0E-06	114.6	0.176	0.000	0.176	2.02	25.9
1.000	3.281	6	7	5.0E-06	117.7	0.196	0.000	0.196	2.02	15.8
1.100	3.609	6	7	5.0E-06	117.7	0.216	0.000	0.216	2.02	13.1
1.200	3.937	6	7	5.0E-06	117.7	0.236	0.000	0.236	2.02	15.6
1.300	4.265	6	7	5.0E-06	117.7	0.256	0.000	0.256	2.02	25.9
1.400	4.593	6	7	5.0E-06	117.7	0.276	0.000	0.276	2.02	15.8
1.500	4.921	6	7	5.0E-06	117.7	0.296	0.000	0.296	2.02	13.1
1.600	5.249	6	7	5.0E-06	117.7	0.316	0.000	0.316	2.02	15.6
1.700	5.577	6	7	5.0E-06	117.7	0.336	0.000	0.336	2.02	25.9
1.800	5.905	6	7	5.0E-06	117.7	0.356	0.000	0.356	2.02	15.8
1.900	6.234	6	6	5.0E-06	117.7	0.376	0.000	0.376	2.02	13.1
2.000	6.562	6	6	5.0E-06	117.7	0.396	0.000	0.396	2.02	15.6
2.100	6.890	6	6	5.0E-06	117.7	0.416	0.000	0.416	2.02	25.9
2.200	7.218	6	6	5.0E-06	117.7	0.436	0.000	0.436	2.02	15.8
2.300	7.546	6	6	5.0E-06	117.7	0.456	0.000	0.456	2.02	13.1
2.400	7.874	6	6	5.0E-06	117.7	0.476	0.000	0.476	2.02	15.6
2.500	8.202	6	6	5.0E-06	117.7	0.496	0.000	0.496	2.02	25.9
2.600	8.530	6	6	5.0E-06	117.7	0.516	0.000	0.516	2.02	15.8
2.700	8.858	6	6	5.0E-06	117.7	0.536	0.000	0.536	2.02	13.1
2.800	9.186	6	6	5.0E-06	117.7	0.556	0.000	0.556	2.02	15.6
2.900	9.514	6	6	5.0E-06	117.7	0.576	0.000	0.576	2.02	25.9
3.000	9.843	6	6	5.0E-06	117.7	0.596	0.000	0.596	2.02	15.8
3.100	10.171	6	6	5.0E-06	117.7	0.616	0.000	0.616	2.02	13.1
3.200	10.499	6	6	5.0E-06	117.7	0.636	0.000	0.636	2.02	15.6
3.300	10.827	6	6	5.0E-06	117.7	0.656	0.000	0.656	2.02	25.9
3.400	11.155	6	6	5.0E-06	117.7	0.676	0.000	0.676	2.02	15.8
3.500	11.483	6	6	5.0E-06	117.7	0.696	0.000	0.696	2.02	13.1
3.600	11.811	6	6	5.0E-06	117.7	0.716	0.000	0.716	2.02	15.6
3.700	12.139	6	6	5.0E-06	117.7	0.736	0.000	0.736	2.02	25.9
3.800	12.467	6	6	5.0E-06	117.7	0.756	0.000	0.756	2.02	15.8
3.900	12.795	6	6	5.0E-06	117.7	0.776	0.000	0.776	2.02	13.1
4.000	13.123	6	6	5.0E-06	117.7	0.796	0.000	0.796	2.02	15.6
4.100	13.451	6	6	5.0E-06	117.7	0.816	0.000	0.816	2.02	25.9
4.200	13.779	6	6	5.0E-06	117.7	0.836	0.000	0.836	2.02	15.8
4.300	14.107	6	6	5.0E-06	117.7	0.856	0.000	0.856	2.02	13.1
4.400	14.436	6	6	5.0E-06	117.7	0.876	0.000	0.876	2.02	15.6
4.500	14.764	6	6	5.0E-06	117.7	0.896	0.000	0.896	2.02	25.9
4.600	15.092	6	6	5.0E-06	117.7	0.916	0.000	0.916	2.02	15.8
4.700	15.420	6	6	5.0E-06	117.7	0.936	0.000	0.936	2.02	13.1
4.800	15.748	6	6	5.0E-06	117.7	0.956	0.000	0.956	2.02	15.6
4.900	16.076	6	6	5.0E-06	117.7	0.976	0.000	0.976	2.02	25.9
5.000	16.404	6	6	5.0E-06	117.7	0.996	0.000	0.996	2.02	15.8
5.100	16.732	6	6	5.0E-06	117.7	1.016	0.000	1.016	2.02	13.1
5.200	17.060	6	6	5.0E-06	117.7	1.036	0.000	1.036	2.02	15.6
5.300	17.388	6	6	5.0E-06	117.7	1.056	0.000	1.056	2.02	25.9
5.400	17.716	6	6	5.0E-06	117.7	1.076	0.000	1.076	2.02	15.8
5.500	18.044	6	6	5.0E-06	117.7	1.096	0.000	1.096	2.02	13.1
5.600	18.372	6	6	5.0E-06	117.7	1.116	0.000	1.116	2.02	15.6
5.700	18.701	6	6	5.0E-06	117.7	1.136	0.000	1.136	2.02	25.9
5.800	19.029	6	6	5.0E-06	117.7	1.156	0.000	1.156	2.02	15.8
5.900	19.357	6	6	5.0E-06	117.7	1.176	0.000	1.176	2.02	13.1
6.000	19.685	6	6	5.0E-06	117.7	1.196	0.000	1.196	2.02	15.6
6.100	20.013	6	6	5.0E-06	117.7	1.216	0.000	1.216	2.02	25.9
6.200	20.341	6	6	5.0E-06	117.7	1.236	0.000	1.236	2.02	15.8
6.300	20.669	6	6	5.0E-06	117.7	1.256	0.000	1.256	2.02	13.1

Run No. 04-1124-1317-3332
CPT File 809CP09.DCR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 SBT-RZ (Zone)	Col-13 SBT-BQm (Zone)	Col-14 Perm-k (cm/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (tsf)	Col-17 U Stress (tsf)	Col-18 M Stress (tsf)	Col-19 Cn	Col-20 N60 (b/ft)
6.500	21.325	9	6	5.0E-02	124.1	1.237	0.000	1.237	0.90	27.1
6.700	21.981	9	6	5.0E-02	124.1	1.278	0.000	1.278	0.88	30.1
6.900	22.636	9	6	5.0E-02	124.1	1.318	0.000	1.318	0.87	30.7
7.100	23.294	9	6	5.0E-02	124.1	1.359	0.000	1.359	0.86	23.6
7.300	23.950	9	6	5.0E-02	124.1	1.400	0.000	1.400	0.85	19.5
7.500	24.606	8	6	5.0E-03	120.9	1.440	0.000	1.440	0.83	16.4
7.700	25.262	8	6	5.0E-03	120.9	1.480	0.000	1.480	0.82	14.2
7.900	25.916	9	6	5.0E-02	124.1	1.520	0.000	1.520	0.81	15.8
8.100	26.574	9	6	5.0E-02	124.1	1.561	0.000	1.561	0.82	19.9
8.300	27.231	9	6	5.0E-02	124.1	1.601	0.000	1.601	0.79	22.2
8.500	27.887	9	6	5.0E-02	124.1	1.642	0.000	1.642	0.78	16.9
8.700	28.543	9	6	5.0E-02	124.1	1.683	0.000	1.683	0.77	14.2
8.900	29.199	9	6	5.0E-03	124.1	1.721	0.000	1.721	0.76	16.3
9.100	29.855	8	6	5.0E-03	120.9	1.764	0.000	1.764	0.75	14.5
9.300	30.511	8	6	5.0E-03	120.9	1.803	0.000	1.803	0.74	12.4
9.500	31.168	8	6	5.0E-03	120.9	1.843	0.000	1.843	0.74	8.0
9.700	31.824	8	6	5.0E-03	120.9	1.883	0.000	1.883	0.73	14.1
9.900	32.480	9	6	5.0E-02	124.1	1.923	0.000	1.923	0.72	20.5
10.100	33.136	9	6	5.0E-02	124.1	1.964	0.000	1.964	0.71	25.1
10.300	33.792	9	6	5.0E-02	124.1	2.004	0.000	2.004	0.71	33.9
10.500	34.448	10	6	5.0E-03	120.9	2.045	0.000	2.045	0.70	81.7
10.700	35.105	10	6	5.0E-00	127.3	2.085	0.000	2.085	0.69	43.3
10.900	35.761	10	6	5.0E-02	124.1	2.127	0.000	2.127	0.69	50.6
11.100	36.417	9	6	5.0E-02	124.1	2.167	0.000	2.167	0.68	46.5
11.300	37.073	10	6	5.0E+00	127.3	2.208	0.000	2.208	0.67	51.4
11.500	37.729	10	6	5.0E-02	124.1	2.250	0.000	2.250	0.67	49.4

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.22 Rev. A - Build 5 Format: ENG Imperial

Job No: 04-1124-1317-3942
Job No: C4-909
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-5
Location: Pigeon Point
Cone 25 TON ADIEE
CPT Date: 04/15/11
CPT Time: 11:40
CPT File 0195706.CPT
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 10.31 (ft): 33.8
Unit Weight of Water (Default): 62.43 pcf
Averaging Increment (m): 0.10
Su Not used: 15.00 Su/P' (min): 0.15
Su Method: Jamiolkowski - All Soils
Cone Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Stress Calculated using Gamma
Stress Calculated using Gamma

Col-21 Depth (m)	Col-22 Depth (ft)	Col-23 Qt (bar)	Col-24 Qtnc (bar)	Col-25 Qtnc (ft/sec)	Col-26 Qt	Col-27 Sc (%)	Col-28 Rf	Col-29 Zone	Col-30 Zone
0.100	0.328	19.0	3.1	21.1	871.81	1.00	0.16	1.86	9.4	6
0.200	0.984	19.2	6.0	21.4	443.03	1.05	0.00	1.93	12.6	6
0.300	1.640	19.1	2.7	9.0	122.23	1.56	0.02	2.19	35.8	5
0.400	2.297	7.5	1.5	7.1	44.18	2.03	0.50	3.55	32.9	5
0.500	2.953	6.2	1.5	6.3	37.42	1.07	-0.01	2.42	27.6	5
0.600	3.609	32.5	9.5	23.2	278.60	1.40	0.00	2.10	15.1	6
0.700	4.265	36.2	11.7	24.1	233.83	2.00	0.00	2.00	19.4	5
0.800	4.921	32.2	12.2	25.1	227.10	0.54	0.00	1.83	8.3	6
0.900	5.577	30.8	12.8	23.0	201.63	1.32	0.01	3.15	11.7	6
1.000	6.234	24.5	9.6	16.4	124.21	1.70	0.00	2.16	17.7	5
1.100	6.890	22.1	9.2	14.3	106.26	1.39	0.00	2.13	16.9	5
1.200	7.546	25.2	11.5	17.7	122.14	1.76	0.01	2.15	17.2	5
1.300	8.202	19.1	8.0	11.8	77.06	1.99	0.00	2.34	21.3	5
1.400	8.858	13.1	6.0	8.4	46.42	1.92	0.00	2.46	28.3	5
1.500	9.514	9.0	4.0	5.5	27.16	1.69	0.01	2.57	31.5	5
1.600	10.170	12.6	5.5	7.0	41.78	1.26	0.00	2.36	25.1	5
1.700	10.827	15.9	4.3	8.2	62.42	1.13	0.00	2.35	21.8	5
1.800	11.483	8.9	4.0	4.0	27.33	1.70	0.02	2.56	33.7	5
1.900	12.139	16.2	5.4	5.6	39.35	1.45	-0.01	2.42	29.8	5
2.000	12.795	9.2	5.1	6.1	26.94	1.36	-0.01	2.50	33.7	5
2.100	13.451	8.4	5.1	4.6	19.55	1.31	0.00	2.40	35.7	5
2.200	14.107	7.3	3.8	4.5	15.77	1.83	0.00	2.71	41.2	4
2.300	14.764	7.1	4.0	4.3	23.06	0.74	0.02	2.60	26.3	5
2.400	15.420	8.5	5.1	5.5	27.93	0.91	0.01	2.42	27.3	5
2.500	16.076	6.1	4.1	4.3	15.58	1.10	0.00	2.59	35.0	5
2.600	16.732	4.9	3.5	3.5	12.05	1.27	0.01	2.73	42.1	4
2.700	17.388	13.7	7.4	9.5	29.42	1.63	0.00	2.44	29.1	5
2.800	18.044	19.5	12.2	17.2	49.16	2.11	-0.01	2.15	24.2	5
2.900	18.701	30.2	19.5	36.1	74.89	2.60	-0.01	2.10	22.5	5
3.000	19.357	24.0	16.9	18.0	65.25	2.95	-0.01	2.39	31.5	5
3.100	20.013	25.5	22.0	30.9	56.09	1.03	0.00	1.60	10.4	6
3.200	20.669	24.4	25.6	33.5	135.08	0.84	0.00	1.79	7.3	6

Run No: 04-1124-1017-1932
CPT File 829CP03.CGR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 N1(60) (b/ft)	Col-22 N1(60)Ic (b/ft)	Col-23 N1(60)Ic (b/ft)	Col-24 Qt	Col-25 Vs (%)	Col-26 Bq	Col-27 Ic	Col-28 FC (%)	Col-29 IcZone (Zone)
6.500	21.325	24.4	24.8	23.8	113.47	0.45	0.00	1.64	5.0	6
6.700	21.961	25.6	28.4	25.7	122.15	0.36	0.00	1.73	6.7	6
6.900	22.638	28.7	28.8	25.6	120.59	0.71	0.00	1.71	6.3	6
7.100	23.294	20.3	22.4	19.6	59.83	0.45	0.00	1.74	6.9	6
7.300	23.950	15.1	17.6	15.2	72.21	0.24	0.00	1.67	5.0	6
7.500	24.605	13.8	-9999.0	-9999.0	47.16	0.08	0.00	-9999.0	-9999.0	0
7.700	25.262	11.1	13.7	9.8	39.08	0.39	0.00	1.96	5.0	6
7.900	25.918	13.8	-9999.0	-9999.0	53.17	0.09	0.00	-9999.0	-9999.0	0
8.100	26.574	15.5	18.2	14.9	55.51	0.21	0.00	1.55	5.0	6
8.300	27.231	17.3	19.7	15.9	71.34	0.13	0.00	1.55	5.5	6
8.500	27.887	14.6	17.5	14.0	58.47	0.25	0.00	1.71	5.0	6
8.700	28.543	13.7	22.1	17.4	74.29	0.27	0.00	1.61	4.9	6
8.900	29.199	12.4	15.4	11.0	48.24	0.20	0.00	1.75	5.0	6
9.100	29.855	10.5	-9999.0	-9999.0	33.40	0.07	0.00	-9999.0	-9999.0	0
9.300	30.511	9.2	-9999.0	-9999.0	27.76	0.10	0.00	-9999.0	-9999.0	0
9.500	31.168	6.5	7.5	5.7	16.85	0.14	0.00	2.05	5.0	5
9.700	31.824	10.3	13.5	9.3	30.25	0.81	0.00	2.15	17.6	5
9.900	32.480	14.8	-9999.0	-9999.0	54.77	0.16	0.00	-9999.0	-9999.0	0
10.100	33.136	16.6	25.1	16.3	68.35	0.57	0.00	1.75	9.6	5
10.300	33.792	13.9	32.9	23.7	87.24	0.90	0.00	1.81	8.4	5
10.500	34.446	57.2	59.3	45.2	166.01	1.02	0.00	1.80	8.2	5
10.700	35.105	30.0	45.6	32.2	121.20	0.49	0.00	1.51	3.0	5
10.900	35.761	34.7	45.4	31.6	123.32	0.61	0.00	1.58	4.1	5
11.100	36.419	31.6	42.4	29.6	111.05	0.65	0.00	1.63	4.9	5
11.300	37.073	34.6	52.8	36.3	144.75	0.45	0.00	1.44	2.0	5
11.500	37.729	33.0	44.7	30.0	113.75	0.53	0.00	1.56	3.3	5

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.21 Rev. A - Build 5 Format: MLD Imperial

Run ID: 04-1124-1311-0332
Job No: 04 E09
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-9
Location: Pigeon Point
Cone: 20 TCN A0256
CPT Date: 04/16/11
CPT Time: 11:53
CPT File: B057E09.COR
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (ft): 19.31 (ft): 63.4
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (ft): 0.20
Su Ratio used: 15.00 Su/P' (cal): 0.30
Dr Method: Jamiolkowski - All Sands
Sands Parameters N: 1.20
Used Unit Weights Assigned to Soil Zones
Qtotal Calculated using qc/Nk
Qsleeve Calculated using qsleeve

Col-01 Depth (m)	Col-02 Depth (ft)	Col-10 Dr (%)	Col-31 Phi (deg)	Col-33 Stack Bar	Col-23 Su/QC	Col-24 Young (psf)	Col-35 Su (psf)	Col-16 OCR
0.100	0.328	71.8	55.0	-0.15	2.249	33.6	1.091	10.0
0.200	0.984	66.7	48.0	-0.36	2.229	55.3	1.165	10.0
0.300	1.640	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.766	10.0
0.400	2.297	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.336	10.0
0.500	2.953	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.424	10.0
0.600	1.609	49.3	46.5	-0.31	2.108	134.1	-9999.0	-9999.0
0.700	4.265	70.6	46.5	0.16	2.074	217.7	-9999.0	-9999.0
0.800	4.921	72.3	47.0	-0.25	2.037	192.3	-9999.0	-9999.0
0.900	5.577	70.7	46.0	-0.28	2.091	134.6	-9999.0	-9999.0
1.000	6.233	69.5	46.0	-0.27	2.425	109.9	-9999.0	-9999.0
1.100	6.890	68.3	46.0	-0.23	2.524	111.4	-9999.0	-9999.0
1.200	7.546	67.0	46.0	-0.27	2.335	129.0	-9999.0	-9999.0
1.300	8.203	67.3	46.0	-0.23	2.965	103.2	2.292	10.0
1.400	8.859	65.9	45.0	-0.15	3.575	87.6	1.669	10.0
1.500	9.516	65.0	45.0	-0.10	-9999.0	-9999.0	1.502	10.0
1.600	10.172	64.8	46.0	0.12	3.039	92.9	1.663	10.0
1.700	10.827	66.2	46.0	0.13	2.566	97.3	1.783	10.0
1.800	11.483	66.0	46.0	0.11	-9999.0	-9999.0	1.112	10.0
1.900	12.139	66.0	46.0	-0.11	3999.0	9999.0	1.416	10.0
2.000	12.795	66.0	46.0	-0.11	-9999.0	9999.0	1.325	10.0
2.100	13.451	66.0	46.0	-0.09	-9999.0	9999.0	1.106	6.7
2.200	14.107	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.857	4.0
2.300	14.764	66.0	46.0	-0.00	-9999.0	-9999.0	-9999.0	9999.0
2.400	15.420	66.0	46.0	0.04	-9999.0	-9999.0	1.351	6.7
2.500	16.076	66.0	46.0	-0.01	3995.0	9999.0	0.150	6.0
2.600	16.732	66.0	46.0	0.01	-9999.0	9999.0	1.711	7.3
2.700	17.388	66.4	46.0	-0.11	-9999.0	-9999.0	1.970	10.0
2.800	18.044	67.8	46.0	0.00	2.900	157.5	3.457	10.0
2.900	18.701	69.6	46.0	-0.25	2.436	139.6	3.150	11.0
3.000	19.357	71.2	46.0	-0.27	2.424	182.1	4.036	10.0
3.100	20.013	68.5	46.0	-0.19	2.150	240.9	-9999.0	-9999.0
3.200	20.669	73.5	46.0	-0.18	2.305	249.1	-9999.0	9999.0

Run Date: 04-1124 1317-3932
DPT File: 850CP05.DAT

Col-01 Depth (m)	Col-02 Depth (ft)	Col-30 Dr (%)	Col-31 Phi (deg)	Col-32 State Par	Col-33 Ratio	Col-34 Young's (tsf)	Col-35 Su (tsf)	Col-36 OCR
6.500	21.326	73.0	42.5	0.14	2.085	295.3	-9999.0	-9999.0
6.700	21.982	76.1	42.1	-0.18	2.056	320.0	9999.0	-9999.0
6.900	22.638	76.2	42.0	-0.17	2.019	326.5	-9999.0	-9999.0
7.100	23.294	68.1	42.0	-0.12	2.232	275.4	-9999.0	-9999.0
7.300	23.950	63.7	40.0	0.04	2.435	242.1	-9999.0	9999.0
7.500	24.606	60.9	38.0	0.09	2.906	202.0	-9999.0	-9999.0
7.700	25.262	46.1	38.0	-0.22	3.176	188.4	-9999.0	-9999.0
7.900	25.918	55.1	40.0	0.05	2.724	224.0	-9999.0	-9999.0
8.100	26.574	52.0	40.0	-0.02	2.419	257.5	-9999.0	-9999.0
8.300	27.231	64.1	40.0	0.02	2.405	277.4	-9999.0	-9999.0
8.500	27.887	58.9	40.0	-0.01	2.560	252.7	-9999.0	-9999.0
8.700	28.543	55.5	40.0	-0.02	2.356	258.1	-9999.0	-9999.0
8.900	29.199	54.2	38.0	0.01	2.811	238.5	-9999.0	-9999.0
9.100	29.855	44.2	36.0	0.07	3.349	203.1	-9999.0	-9999.0
9.300	30.511	39.4	35.0	0.13	3.639	186.3	-9999.0	-9999.0
9.500	31.168	30.0	32.0	0.32	-9999.0	-9999.0	-9999.0	-9999.0
9.700	31.824	42.4	16.0	-0.06	1.983	204.9	-9999.0	9999.0
9.900	32.480	55.3	60.0	0.08	2.829	251.9	-9999.0	9999.0
10.100	33.135	55.8	43.0	-0.15	2.413	328.5	9999.0	-9999.0
10.300	33.792	71.0	42.0	-0.16	2.326	391.6	-9999.0	-9999.0
10.500	34.448	91.6	44.0	-0.09	-9999.0	-9999.0	-9999.0	-9999.0
10.700	35.105	84.6	44.0	0.15	2.025	568.4	-9999.0	-9999.0
10.900	35.761	83.7	42.5	0.16	2.011	532.1	9999.0	-9999.0
11.100	36.417	81.0	42.0	-0.14	2.063	496.2	-9999.0	-9999.0
11.300	37.073	81.8	44.0	-0.15	-9999.0	-9999.0	-9999.0	-9999.0
11.500	37.729	82.2	42.0	0.16	2.031	524.5	-9999.0	-9999.0

Cantor Inc - CPT Interpretation
Interpretation Output - Release 1.22 Rev. A - Build 5 Format: NLP Imperial

Job No. 04-1136.1117.4014
Job Nm: C4-159
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-9A
Location Pigeon Point
Zone: 20 TEN X0366
CPT Date: 04/15/21
CPT Time: 12:21
CPT File: F0929015A.CPT
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 19.31 (ft): 63.4
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m) 0.20
Soil Unit Wgt: 15 pc Qc/Fs (min): 0.20
Qc Method - Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Middle Calculated using qclm
Lowest Calculated using qclmax

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 Qc (ref)	Col-06 Qt (tsf)	Col-07 Fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SPT (2mm)	Col-11 SBTn (Zone)
0.100	0.328	-0.100	-0.328	29.91	29.80	0.14	0.47	1.98	7	-3199.0
0.200	0.984	-0.200	-0.984	29.08	29.11	0.23	0.94	6.54	7	6
0.300	1.640	-0.300	-1.640	17.50	17.90	0.14	0.78	-0.07	6	6
0.400	2.297	-0.400	-2.297	45.74	45.74	0.48	1.04	1.04	7	6
0.500	2.953	-0.500	-2.953	46.55	46.94	0.69	1.46	2.15	7	6
0.600	3.609	-0.600	-3.609	25.50	25.67	0.36	1.40	1.54	6	6
0.700	4.265	-0.700	-4.265	17.55	17.98	0.24	1.35	0.12	4	5
0.800	4.921	-0.800	-4.921	9.76	9.75	0.10	1.04	1.51	5	5
0.900	5.577	-0.900	-5.577	27.04	27.45	0.25	0.97	2.45	7	6
1.000	6.234	-1.000	-6.234	95.50	95.72	1.00	1.06	25.47	8	4
1.100	6.890	-1.100	-6.890	60.76	60.81	1.12	1.84	16.54	7	6
1.200	7.546	-1.200	-7.546	44.43	44.56	0.62	1.40	6.20	7	5
1.300	8.202	-1.300	-8.202	62.91	62.94	1.00	1.60	6.15	7	6
1.400	8.858	-1.400	-8.858	32.21	32.29	0.61	1.92	5.56	6	5
1.500	9.514	-1.500	-9.514	19.84	19.83	0.36	1.83	-1.34	5	5
1.600	10.170	-1.600	-10.170	12.43	12.43	0.22	1.74	-3.65	5	4
1.700	10.827	-1.700	-10.827	10.81	10.80	0.15	1.37	-2.10	5	6
1.800	11.483	-1.800	-11.483	11.40	11.40	0.12	1.08	-0.71	4	4
1.900	12.139	-1.900	-12.139	15.67	15.67	0.18	1.14	0.15	6	5
2.000	12.795	-2.000	-12.795	19.26	19.27	0.24	1.26	1.85	6	5
2.100	13.451	-2.100	-13.451	18.73	18.78	0.19	0.95	-0.29	6	5
2.200	14.107	-2.200	-14.107	21.05	21.22	0.23	1.10	-6.05	6	5
2.300	14.764	-2.300	-14.764	18.40	18.41	0.19	1.01	1.75	6	5
2.400	15.420	-2.400	-15.420	16.72	16.74	0.14	0.84	0.64	6	5
2.500	16.076	-2.500	-16.076	20.14	20.16	0.13	0.65	0.46	6	5
2.600	16.732	-2.600	-16.732	20.54	20.54	0.15	0.72	1.74	7	5
2.700	17.389	-2.700	-17.389	20.92	20.95	0.22	1.08	5.56	6	4
2.800	18.045	-2.800	-18.045	26.76	26.91	0.40	1.26	11.62	5	5
2.900	18.701	-2.900	-18.701	53.58	53.53	1.08	2.02	-11.71	7	5
3.000	19.357	-3.000	-19.357	43.13	43.37	0.84	2.05	-2.87	6	5
3.100	20.013	-3.100	-20.013	65.02	65.06	1.34	2.06	-3.70	7	5
3.200	20.669	-3.200	-20.669	51.01	50.94	1.51	2.97	-11.79	6	4

Run No: 04-1124-1317-6024
CPT File: 8G5CP09A.COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qt (tsf)	Col-06 qc (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 qNT (Zone)	Col-11 SBTn (Zone)
5.600	21.326	-6.500	-21.326	11.79	11.16	0.93	1.18	-14.04	5	4
5.700	21.981	-6.700	-21.981	38.92	38.96	1.05	2.50	3.79	6	4
5.800	22.638	-6.900	-22.638	82.46	82.44	0.94	1.17	0.64	8	5
5.900	23.294	-7.100	-23.294	67.74	67.74	1.61	1.84	1.78	7	5
6.000	23.950	-7.300	-23.950	53.03	53.03	1.58	2.84	4.03	6	4
6.100	24.606	-7.500	-24.606	67.73	67.73	1.18	2.46	3.85	5	4
6.200	25.262	-7.700	-25.262	51.78	51.77	1.21	2.34	3.00	5	4
6.300	25.918	-7.900	-25.918	82.22	82.24	1.42	1.61	4.95	7	5
6.400	26.574	-8.100	-26.574	69.56	69.56	1.16	1.67	2.89	7	5
6.500	27.231	-8.300	-27.231	62.27	62.29	1.15	1.84	3.35	7	5
6.600	27.887	-8.500	-27.887	66.17	66.16	0.60	0.94	2.46	8	5
6.700	28.543	-8.700	-28.543	196.79	196.50	2.94	1.42	1.20	5	6
6.800	29.199	-8.900	-29.199	67.14	67.15	1.25	1.85	2.44	7	5
6.900	29.856	-9.100	-29.856	87.39	87.45	1.46	1.67	4.28	7	5
7.000	30.511	-9.300	-30.511	188.79	188.79	1.97	1.04	1.50	9	6
7.100	31.168	-9.500	-31.168	177.86	177.88	1.89	1.04	1.45	9	6
7.200	31.824	-9.700	-31.824	63.28	63.29	0.93	1.15	1.47	8	5
7.300	32.480	-9.900	-32.480	107.30	107.31	1.90	1.78	3.39	7	5
7.400	33.136	-10.100	-33.136	52.63	52.54	1.13	1.37	1.53	5	5
7.500	33.792	-10.300	-33.792	167.63	167.86	3.00	1.79	4.20	8	5
7.600	34.448	-10.500	-34.448	89.67	89.88	1.76	1.96	2.68	7	5
7.700	35.105	-10.700	-35.105	74.61	74.84	1.01	1.36	3.58	7	5
7.800	35.761	-10.900	-35.761	57.94	57.96	1.52	2.24	4.59	7	4
7.900	36.417	-11.100	-36.417	81.67	81.71	1.94	1.19	1.73	8	5
8.000	37.073	-11.300	-37.073	97.79	97.81	1.17	1.20	3.43	8	5
8.100	37.729	-11.500	-37.729	39.26	39.29	1.06	2.77	1.71	6	4
8.200	38.385	-11.700	-38.385	179.76	179.79	2.53	1.00	4.85	8	5
8.300	39.042	-11.900	-39.042	215.35	215.46	4.61	2.14	10.25	8	5
8.400	39.698	-12.100	-39.698	123.93	123.74	2.77	2.24	6.28	7	5
8.500	40.354	-12.300	-40.354	89.26	89.27	2.19	2.46	4.72	7	4
8.600	41.010	-12.500	-41.010	44.45	44.45	0.57	1.28	3.53	7	4
8.700	41.666	-12.700	-41.666	83.10	83.10	0.50	0.61	4.97	8	5
8.800	42.322	-12.900	-42.322	81.11	81.13	1.24	1.28	3.67	8	5
8.900	42.978	-13.100	-42.978	46.86	46.85	1.25	2.67	5.27	5	4
9.000	43.635	-13.300	-43.635	66.56	66.24	1.32	2.67	12.17	6	4
9.100	44.291	-13.500	-44.291	21.16	23.43	0.65	2.76	13.37	5	3
9.200	44.947	-13.700	-44.947	22.81	22.89	0.42	1.84	13.14	6	3
9.300	45.603	-13.900	-45.603	27.18	27.24	0.83	3.04	13.26	5	3
9.400	46.259	-14.100	-46.259	47.48	47.54	1.06	2.22	31.33	5	4
9.500	46.915	-14.300	-46.915	53.05	53.13	0.45	1.32	9.14	7	4
9.600	47.572	-14.500	-47.572	15.55	15.59	0.27	1.75	7.02	5	3
9.700	48.228	-14.700	-48.228	35.04	35.07	1.19	3.10	7.23	5	3
9.800	48.884	-14.900	-48.884	51.87	51.95	1.05	2.13	14.34	5	3
9.900	49.540	-15.100	-49.540	67.13	67.22	1.51	2.38	19.70	5	4
10.000	50.196	-15.300	-50.196	37.94	38.06	1.02	2.66	24.65	5	3
10.100	50.852	-15.500	50.852	40.69	40.71	0.71	1.58	23.61	5	4
10.200	51.509	-15.700	-51.509	38.17	38.23	0.64	1.68	12.61	5	4
10.300	52.165	-15.900	-52.165	37.18	37.23	1.48	3.82	10.23	5	4
10.400	52.821	-16.100	-52.821	30.71	30.76	0.92	2.39	10.83	5	3
10.500	53.477	-16.300	-53.477	30.50	30.54	0.93	3.04	11.78	5	3
10.600	54.133	-16.500	-54.133	13.62	13.70	0.34	2.51	16.03	5	3
10.700	54.789	-16.700	54.789	37.13	37.21	0.80	2.16	15.69	5	3
10.800	55.446	-16.900	-55.446	35.25	35.33	0.68	1.95	10.18	5	3
10.900	56.102	-17.100	-56.102	38.55	38.64	1.25	3.15	18.80	5	3
11.000	56.758	-17.300	-56.758	23.41	23.46	0.55	2.36	16.84	5	3
11.100	57.414	-17.500	-57.414	29.44	29.52	0.67	2.43	16.86	5	3
11.200	58.070	-17.700	-58.070	10.27	10.36	0.12	1.45	19.89	5	3
11.300	58.725	-17.900	-58.725	3.57	3.67	0.11	3.10	22.79	5	3
11.400	59.382	-18.100	-59.382	8.85	8.97	0.09	3.58	15.22	5	3
11.500	60.038	-18.300	-60.038	8.72	8.83	0.10	1.08	26.53	5	3

Run No: 06-1124-1317-4004
CPT File: E0909B9A.COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
18.500	61.695	-18.500	-60.695	9.77	9.91	0.13	1.27	26.05	5	3
18.700	61.351	-18.700	-61.351	9.35	9.50	0.12	1.25	29.14	5	3
18.900	62.007	-18.900	-62.007	9.65	9.80	0.20	1.95	32.55	5	3
19.100	62.663	-19.100	-62.663	9.50	9.75	0.14	1.39	35.90	5	3
19.300	63.319	-19.300	-63.319	9.98	10.16	0.15	1.48	39.99	5	3
19.500	63.976	-19.500	-63.976	10.06	10.27	0.15	1.41	40.26	5	3
19.700	64.632	-19.700	-64.632	9.86	9.83	0.16	1.67	42.47	5	3
19.900	65.288	-19.900	-65.288	10.79	11.01	0.15	1.39	44.17	5	3
20.100	65.944	-20.100	-65.944	10.21	10.35	0.15	1.45	50.58	5	3
20.300	66.600	-20.300	-66.600	9.62	9.77	0.15	1.56	52.93	5	3
20.500	67.256	-20.500	-67.256	8.93	9.14	0.12	1.36	54.63	5	3
20.700	67.913	-20.700	-67.913	9.28	9.45	0.12	1.27	57.60	5	3
20.900	68.569	-20.900	-68.569	10.06	10.36	0.16	1.60	63.26	5	3
21.100	69.225	-21.100	-69.225	10.39	10.51	0.15	1.45	69.53	5	3
21.300	69.881	-21.300	-69.881	10.39	10.54	0.18	1.73	74.18	5	3
21.500	70.537	-21.500	-70.537	10.92	11.25	0.16	1.42	77.72	5	3
21.700	71.193	-21.700	-71.193	12.48	12.85	0.20	1.58	81.06	5	3
21.900	71.850	-21.900	-71.850	11.16	11.60	0.29	1.44	82.21	5	3
22.100	72.506	-22.100	-72.506	10.64	11.13	0.17	1.55	104.11	5	3
22.300	73.162	-22.300	-73.162	13.14	13.47	0.25	1.83	117.45	5	3
22.500	73.818	-22.500	-73.818	14.62	15.19	0.46	2.94	123.83	5	3
22.700	74.474	-22.700	-74.474	15.31	16.50	0.71	4.28	126.40	5	3
22.900	75.130	-22.900	-75.130	16.30	16.72	0.25	1.48	89.79	6	3
23.100	75.786	-23.100	-75.786	11.36	11.67	0.12	0.95	87.58	6	3
23.300	76.443	-23.300	-76.443	12.46	12.64	0.16	1.25	39.72	5	3
23.500	77.099	-23.500	-77.099	28.72	28.94	0.83	2.72	68.66	6	3
23.700	77.755	-23.700	-77.755	70.59	75.68	2.60	3.67	15.87	5	3
23.900	78.411	-23.900	-78.411	96.96	97.05	3.76	3.88	0.88	5	3
24.100	79.067	-24.100	-79.067	89.60	85.74	3.70	4.32	12.57	5	3
24.300	79.723	-24.300	-79.723	80.78	85.85	1.80	2.07	14.67	7	4
24.500	80.380	-24.500	-80.380	49.70	49.75	1.20	2.42	20.42	5	4
24.700	81.036	-24.700	-81.036	41.05	41.16	1.26	3.33	24.78	5	3
24.900	81.692	-24.900	-81.692	142.43	142.47	2.19	1.54	33.95	8	5
25.100	82.348	-25.100	-82.348	57.08	57.05	2.17	4.16	2.61	7	3
25.300	83.004	-25.300	-83.004	109.24	109.27	1.16	1.06	6.63	8	4
25.500	83.660	-25.500	-83.660	94.67	94.72	1.53	1.61	4.63	7	4
25.700	84.317	-25.700	-84.317	40.08	40.11	2.24	5.59	4.21	7	3
25.900	84.973	-25.900	-84.973	28.07	28.11	2.25	8.01	7.45	8	2
26.100	85.629	-26.100	-85.629	34.16	34.21	2.00	5.85	5.95	7	3
26.300	86.285	-26.300	-86.285	78.46	78.51	2.08	2.64	10.69	6	4
26.500	86.941	-26.500	-86.941	139.25	139.30	1.96	1.37	11.18	8	5
26.700	87.597	-26.700	-87.597	158.11	158.17	2.22	1.40	13.25	8	5
26.900	88.254	-26.900	-88.254	189.63	189.70	1.51	0.80	13.31	8	5
27.100	88.910	-27.100	-88.910	125.50	125.57	1.15	0.91	15.14	8	5
27.300	89.566	-27.300	-89.566	70.51	70.57	0.35	0.50	13.72	8	5
27.500	90.222	-27.500	-90.222	22.04	22.11	0.49	2.23	16.90	8	3
27.700	90.878	-27.700	-90.878	19.60	19.68	0.88	4.46	17.53	3	3
27.900	91.534	-27.900	-91.534	21.08	21.18	0.39	1.63	20.56	3	3
28.100	92.190	-28.100	-92.190	18.72	18.87	1.02	5.41	22.61	3	2
28.300	92.847	-28.300	-92.847	18.80	18.91	0.85	4.55	23.76	3	2
28.500	93.503	-28.500	-93.503	20.07	20.19	0.98	4.87	24.55	3	2
28.700	94.159	-28.700	-94.159	20.70	20.82	0.91	4.65	25.06	3	3
28.900	94.815	-28.900	-94.815	24.86	25.03	0.93	2.62	31.16	5	3
29.100	95.471	-29.100	-95.471	29.53	29.63	1.13	3.81	38.66	5	3
29.300	96.127	-29.300	-96.127	33.08	33.63	1.74	5.15	42.77	1	3
29.500	96.784	-29.500	-96.784	19.95	20.11	1.22	6.07	33.70	3	2
29.700	97.440	-29.700	-97.440	20.67	20.84	1.05	5.03	37.55	3	2
29.900	98.096	-29.900	-98.096	19.77	19.97	1.21	6.07	42.84	3	3
30.100	98.752	-30.100	-98.752	21.14	21.32	1.35	6.31	37.85	3	2
30.300	99.408	-30.300	-99.408	17.42	17.60	0.94	5.35	37.58	3	2

Run No: 06 1124 1317 4506
CPT File: 8C9CP09A.CCR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (ft)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
30.500	100.064	-30.500	-100.064	21.25	21.44	1.04	4.55	39.23	3	2
30.700	100.721	-30.700	-100.721	55.25	54.44	1.57	3.19	44.60	5	3
30.900	101.377	-30.900	-101.377	205.04	204.21	5.85	3.17	13.50	4	4
31.100	102.033	-31.100	-102.033	63.44	63.62	2.83	4.44	38.29	5	3
31.300	102.689	-31.300	-102.689	28.40	28.55	0.80	2.82	35.80	5	3
31.500	103.345	-31.500	-103.345	33.13	33.35	0.94	2.85	39.50	5	3
31.700	104.002	-31.700	-104.002	65.25	65.63	1.81	1.58	55.71	3	3
31.900	104.658	-31.900	-104.658	31.02	31.23	2.20	7.05	42.62	3	3
32.100	105.314	-32.100	-105.314	20.25	20.46	1.00	7.80	43.63	3	-9999.0
32.300	105.970	-32.300	-105.970	20.24	20.07	1.41	6.71	48.01	3	2
32.500	106.626	-32.500	-106.626	22.47	22.70	1.43	6.38	49.91	3	2
32.700	107.282	-32.700	-107.282	15.36	15.53	1.01	6.49	49.97	3	-9999.0
32.900	107.938	-32.900	-107.938	14.72	15.00	0.76	5.10	58.24	3	2
33.100	108.594	-33.100	-108.594	18.94	19.26	0.67	4.54	68.20	3	2
33.300	109.251	-33.300	-109.251	22.64	22.99	1.06	4.60	72.57	3	3
33.500	109.907	-33.500	-109.907	24.16	24.51	1.23	5.02	74.11	3	3
33.700	110.563	-33.700	-110.563	25.09	25.45	1.45	5.70	75.65	3	2
33.900	111.219	-33.900	-111.219	31.32	31.73	1.69	5.34	90.41	3	3
34.100	111.875	-34.100	-111.875	36.86	37.34	2.46	6.59	101.52	3	3
34.300	112.531	-34.300	-112.531	30.65	31.11	1.14	3.87	97.60	3	3
34.500	113.188	-34.500	-113.188	29.54	30.07	1.64	5.75	109.16	3	2
34.700	113.844	-34.700	-113.844	25.61	26.12	1.40	5.45	107.68	3	2
34.900	114.500	-34.900	-114.500	30.93	31.36	1.41	4.56	97.76	3	3
35.100	115.156	-35.100	-115.156	34.26	34.66	1.45	4.27	101.56	3	3
35.300	115.812	-35.300	-115.812	29.85	30.08	1.27	4.23	99.96	4	3
35.500	116.468	-35.500	-116.468	32.73	33.05	1.50	4.53	103.38	4	3
35.700	117.125	-35.700	-117.125	69.76	69.98	3.41	4.87	97.78	6	3
35.900	117.781	-35.900	-117.781	73.35	73.63	3.26	4.71	98.29	7	4
36.100	118.437	-36.100	-118.437	68.46	68.82	3.43	5.34	97.76	6	3
36.300	119.093	-36.300	-119.093	77.93	78.16	3.88	4.97	99.76	5	3
36.500	119.749	-36.500	-119.749	72.93	73.15	3.42	4.67	98.57	11	3
36.700	120.405	-36.700	-120.405	62.33	62.53	3.38	5.41	98.81	4	3
36.900	121.062	-36.900	-121.062	67.84	67.99	3.27	4.84	98.71	6	3
37.100	121.718	-37.100	-121.718	83.61	83.78	2.38	3.20	99.40	5	3
37.300	122.374	-37.300	-122.374	103.41	103.68	4.05	3.94	14.46	5	3
37.500	123.030	-37.500	-123.030	81.08	81.17	3.42	4.46	18.69	11	3
37.700	123.686	-37.700	-123.686	54.83	54.92	3.12	5.50	22.51	3	3
37.900	124.342	-37.900	-124.342	41.76	41.94	2.32	5.61	34.92	3	3
38.100	124.998	-38.100	-124.998	38.57	38.73	2.19	5.13	53.61	3	3
38.300	125.655	-38.300	-125.655	40.36	40.51	2.13	5.24	66.51	3	3
38.500	126.311	-38.500	-126.311	35.52	35.74	2.09	5.42	68.04	3	3
38.700	126.967	-38.700	-126.967	25.35	25.47	1.61	6.33	66.47	3	2
38.900	127.623	-38.900	-127.623	30.81	31.05	1.54	5.01	54.62	3	2
39.100	128.279	-39.100	-128.279	22.02	22.25	1.43	6.10	54.71	3	-9999.0
39.300	128.935	-39.300	-128.935	21.43	21.63	1.27	5.91	55.71	3	2
39.500	129.592	-39.500	-129.592	27.21	27.44	1.39	5.05	57.50	3	3
39.700	130.248	-39.700	-130.248	25.31	25.55	1.34	5.25	59.22	3	2

Interpretation Output Release 1.22 Rev. A - Build 5 Format: HLP Imperial
Run No. 04-2124-1317-4006
Job No. 04-809
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-9A
Location: Pigeon Point
Cone: 20 TON RD061
CPT Date 04/15/11
CPT Time 12:00
CPT File: 809CP09A.COR
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m) 19.21 (ft): 63.0
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m) 0.20
Su Skt used 15.00 Su/P' (mc): 0.20
Dr Method - Jamiolkowski - All Sands
State Parameter % 1.00
Used Unit Weights Assigned to Soil Zones
Nkt60Ic Calculated using qcln
Nkt60s Calculated using qclncs

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 SBT-60 (Zone)	Col-04 SBT-60n (Zone)	Col-14 Perm-k (cm/s)	Col-15 Chat dc (pcf)	Col-16 T Stress (ksf)	Col-17 U Stress (ksf)	Col-18 E Stress (ksf)	Col-19 Cn	Col-20 N60 (b/ft)
0.100	0.328	7	-9999.2	5.0E-06	117.7	0.019	0.000	0.019	2.00	9.5
0.200	0.656	7	7	5.0E-06	117.7	0.055	0.000	0.055	2.00	9.3
0.300	1.000	1	7	5.0E-05	114.6	0.096	0.000	0.096	2.00	6.9
0.400	1.312	8	7	5.0E-04	117.7	0.136	0.000	0.136	2.00	24.0
0.500	1.640	8	7	5.0E-04	117.7	0.173	0.000	0.173	2.00	25.0
0.600	1.968	7	6	5.0E-05	114.6	0.211	0.000	0.211	2.00	9.0
0.700	2.296	1	6	5.0E-05	114.6	0.249	0.000	0.249	2.00	6.9
0.800	2.624	6	6	5.0E-06	114.4	0.286	0.000	0.286	1.97	4.7
0.900	2.952	7	6	5.0E-04	117.7	0.324	0.000	0.324	1.96	8.9
1.000	3.280	9	7	5.0E-03	120.3	0.363	0.000	0.363	1.46	22.0
1.100	3.608	8	6	5.0E-04	117.7	0.403	0.000	0.403	1.56	15.4
1.200	3.936	8	6	5.0E-04	117.7	0.441	0.000	0.441	1.53	14.2
1.300	4.264	7	6	5.0E-05	117.7	0.480	0.000	0.480	1.46	20.1
1.400	4.592	7	6	5.0E-05	114.6	0.518	0.000	0.518	1.39	12.3
1.500	4.920	7	6	5.0E-05	114.6	0.556	0.000	0.556	1.34	7.6
1.600	5.248	5	5	5.0E-06	114.5	0.593	0.000	0.593	1.30	5.5
1.700	5.576	5	5	5.0E-06	114.4	0.631	0.000	0.631	1.26	5.2
1.800	5.904	5	5	5.0E-06	114.4	0.668	0.000	0.668	1.22	4.9
1.900	6.232	5	5	5.0E-06	114.5	0.706	0.000	0.706	1.19	5.5
2.000	6.560	7	5	5.0E-05	114.6	0.743	0.000	0.743	1.16	7.4
2.100	6.888	6	5	5.0E-05	114.6	0.781	0.000	0.781	1.13	7.2
2.200	7.216	7	5	5.0E-05	114.6	0.818	0.000	0.818	1.11	8.2
2.300	7.544	6	5	5.0E-05	114.6	0.856	0.000	0.856	1.08	7.1
2.400	7.872	6	5	5.0E-05	114.6	0.894	0.000	0.894	1.06	6.3
2.500	8.200	7	5	5.0E-05	114.6	0.931	0.000	0.931	1.04	9.7
2.600	8.528	7	5	5.0E-05	117.7	0.970	0.000	0.970	1.02	6.6
2.700	8.856	6	4	5.0E-05	114.6	1.008	0.000	1.008	1.00	4.2
2.800	9.184	7	5	5.0E-05	114.6	1.045	0.000	1.045	0.98	11.1
2.900	9.512	8	6	5.0E-04	117.7	1.083	0.000	1.083	0.96	19.1
3.000	9.840	8	6	5.0E-05	114.6	1.121	0.000	1.121	0.94	15.8
3.100	10.168	8	6	5.0E-04	117.7	1.160	0.000	1.160	0.93	20.6
3.200	10.496	8	6	5.0E-05	114.6	1.198	0.000	1.198	0.91	19.5

Run No: 04-1124-1317 4504
CPT File: 309CP01A.CPT

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 SBT SQ (Zone)	Col-13 SBT BQn (Zone)	Col-14 Pwan-k (cm/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (tsf)	Col-17 U Stress (tsf)	Col-18 N Stress (tsf)	Col-19 Ds	Col-20 Min (D/Ec)
6.500	21.325	7	5	5.0E-06	114.6	1.233	0.000	1.233	0.39	14.3
6.700	21.981	8	5	5.0E-05	114.6	1.272	0.000	1.272	0.39	15.3
6.900	22.638	9	6	5.0E-05	120.9	1.312	0.000	1.312	0.37	15.7
7.100	23.294	7	6	5.0E-04	117.7	1.351	0.000	1.351	0.36	29.0
7.300	23.950	8	6	5.0E-05	114.6	1.389	0.000	1.389	0.35	22.6
7.500	24.606	8	5	5.0E-05	114.6	1.426	0.000	1.426	0.34	18.3
7.700	25.262	8	6	5.0E-05	114.5	1.464	0.000	1.464	0.33	15.8
7.900	25.918	9	6	5.0E-04	117.7	1.502	0.000	1.502	0.32	25.2
8.100	26.574	8	6	5.0E-04	117.7	1.541	0.000	1.541	0.31	22.0
8.300	27.231	8	6	5.0E-04	117.7	1.579	0.000	1.579	0.30	19.9
8.500	27.887	8	6	5.0E-03	120.9	1.619	0.000	1.619	0.29	34.4
8.700	28.543	7	6	5.0E-03	120.9	1.658	0.000	1.658	0.28	47.1
8.900	29.199	8	6	5.0E-04	117.7	1.697	0.000	1.697	0.27	21.4
9.100	29.856	9	6	5.0E-05	117.7	1.736	0.000	1.736	0.26	27.9
9.300	30.511	3	6	5.0E-02	124.1	1.776	0.000	1.776	0.25	36.7
9.500	31.168	3	5	5.0E-02	124.1	1.816	0.000	1.816	0.24	34.1
9.700	31.824	3	6	5.0E-03	120.9	1.857	0.000	1.857	0.23	15.4
9.900	32.480	7	5	5.0E-04	117.7	1.894	0.000	1.894	0.23	34.2
10.100	33.136	5	6	5.0E-03	120.9	1.935	0.000	1.935	0.22	19.8
10.300	33.793	9	6	5.0E-03	120.9	1.975	0.000	1.975	0.21	46.2
10.500	34.448	9	6	5.0E-04	117.7	2.014	0.000	2.014	0.20	26.1
10.700	35.105	8	6	5.0E-04	117.7	2.052	0.000	2.052	0.20	21.8
10.900	35.761	8	6	5.0E-04	117.7	2.091	0.000	2.091	0.19	22.7
11.100	36.417	9	6	5.0E-03	120.9	2.130	0.000	2.130	0.19	19.6
11.300	37.073	9	6	5.0E-03	120.9	2.170	0.000	2.170	0.18	23.4
11.500	37.729	8	5	5.0E-05	114.6	2.208	0.000	2.208	0.17	16.1
11.700	38.385	9	6	5.0E-03	120.9	2.247	0.000	2.247	0.17	43.0
11.900	39.042	9	6	5.0E-03	120.9	2.287	0.000	2.287	0.16	41.6
12.100	39.698	9	6	5.0E-04	117.7	2.326	0.000	2.326	0.16	19.6
12.300	40.354	9	6	5.0E-04	117.7	2.365	0.000	2.365	0.15	26.5
12.500	41.010	8	5	5.0E-04	117.7	2.403	0.000	2.403	0.15	14.2
12.700	41.666	5	6	5.0E-03	120.9	2.442	0.000	2.442	0.14	19.1
12.900	42.322	7	6	5.0E-03	120.9	2.482	0.000	2.482	0.13	19.4
13.100	42.978	8	5	5.0E-05	114.6	2.521	0.000	2.521	0.13	16.1
13.300	43.635	8	5	5.0E-05	114.6	2.561	0.000	2.561	0.13	17.6
13.500	44.291	7	5	5.0E-06	114.6	2.596	0.000	2.596	0.12	12.7
13.700	44.947	5	4	5.0E-05	114.6	2.631	0.000	2.631	0.12	6.8
13.900	45.603	7	4	5.0E-06	114.6	2.671	0.000	2.671	0.11	13.0
14.100	46.259	8	5	5.0E-05	114.6	2.709	0.000	2.709	0.11	16.2
14.300	46.915	8	5	5.0E-06	117.7	2.747	0.000	2.747	0.10	17.0
14.500	47.572	5	3	5.0E-05	114.6	2.785	0.000	2.785	0.10	6.0
14.700	48.228	7	4	5.0E-06	114.6	2.822	0.000	2.822	0.10	16.6
14.900	48.884	7	4	5.0E-06	114.6	2.860	0.000	2.860	0.09	16.3
15.100	49.540	8	5	5.0E-05	114.6	2.898	0.000	2.898	0.09	17.7
15.300	50.196	7	4	5.0E-05	114.6	2.935	0.000	2.935	0.09	14.6
15.500	50.852	7	5	5.0E-05	114.6	2.973	0.000	2.973	0.09	15.5
15.700	51.509	7	4	5.0E-05	114.6	3.010	0.000	3.010	0.08	14.5
15.900	52.165	3	4	5.0E-05	114.6	3.048	0.000	3.048	0.07	14.2
16.100	52.821	7	4	5.0E-05	114.6	3.086	0.000	3.086	0.07	14.7
16.300	53.477	7	5	5.0E-05	114.6	3.123	0.000	3.123	0.07	14.5
16.500	54.133	6	3	5.0E-05	114.6	3.161	0.000	3.161	0.06	5.6
16.700	54.789	7	4	5.0E-05	114.6	3.198	0.000	3.198	0.06	14.3
16.900	55.446	7	4	5.0E-06	114.6	3.236	0.000	3.236	0.06	16.3
17.100	56.102	7	4	5.0E-06	114.6	3.274	0.000	3.274	0.05	12.5
17.300	56.758	6	4	5.0E-05	114.6	3.311	0.000	3.311	0.05	5.0
17.500	57.414	7	4	5.0E-05	114.6	3.349	0.000	3.349	0.05	10.5
17.700	58.070	5	3	5.0E-06	114.6	3.386	0.000	3.386	0.04	5.0
17.900	58.726	4	3	5.0E-06	114.6	3.424	0.000	3.424	0.04	4.6
18.100	59.383	6	3	5.0E-06	114.6	3.462	0.000	3.462	0.04	6.3
18.300	60.039	4	3	5.0E-05	114.6	3.499	0.000	3.499	0.03	6.2

Run No: 94-1124-1317-4014
PT File: RC92256 C03

Col-01 Depth (ft)	Col-02 Depth (m)	Col-03 SBT-BQ (Zone)	Col-03 SBT-BQ (Zone)	Col-14 Vert-V (m/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (ksf)	Col-17 U Stress (ksf)	Col-18 E Stress (ksf)	Col-19 Cn	Col-20 N60 (b/ft)
18.500	60.496	4	1	5.0E-06	114.6	3.577	0.000	3.577	0.53	4.7
18.700	61.352	4	3	5.0E-06	114.6	3.574	0.000	3.574	0.53	4.5
18.900	62.077	4	3	5.0E-06	114.6	3.612	0.000	3.612	0.53	4.7
19.100	62.663	4	3	5.0E-06	114.6	3.649	0.000	3.649	0.52	4.7
19.300	63.315	4	3	5.0E-06	114.6	3.687	0.000	3.687	0.52	4.9
19.500	63.976	4	3	5.0E-06	114.6	3.725	0.000	3.725	0.52	4.9
19.700	64.632	4	3	5.0E-06	114.6	3.764	0.000	3.764	0.52	4.7
19.900	65.288	4	3	5.0E-06	114.6	3.800	0.000	3.800	0.52	5.0
20.100	65.944	4	3	5.0E-06	114.6	3.837	0.000	3.837	0.52	5.2
20.300	66.600	4	3	5.0E-06	114.6	3.875	0.000	3.875	0.52	4.7
20.500	67.256	4	2	5.0E-06	114.6	3.913	0.000	3.913	0.51	5.4
20.700	67.913	4	2	5.0E-06	114.6	3.955	0.142	3.856	0.51	4.5
20.900	68.569	4	3	5.0E-06	114.6	3.996	0.163	3.835	0.51	5.0
21.100	69.225	4	3	5.0E-06	114.6	4.036	0.183	3.852	0.51	5.2
21.300	69.881	4	3	5.0E-06	114.6	4.076	0.203	3.873	0.51	5.6
21.500	70.537	4	3	5.0E-06	114.6	4.101	0.224	3.876	0.51	5.4
21.700	71.193	4	3	5.0E-06	114.6	4.138	0.245	3.894	0.51	6.2
21.900	71.850	4	3	5.0E-06	114.6	4.175	0.267	3.911	0.51	5.5
22.100	72.506	3	2	5.0E-06	114.6	4.213	0.284	3.928	0.50	5.4
22.300	73.162	4	3	5.0E-06	114.6	4.252	0.306	3.946	0.50	6.5
22.500	73.818	4	3	5.0E-06	114.6	4.289	0.327	3.962	0.50	7.1
22.700	74.474	4	3	5.0E-05	111.4	4.336	0.347	3.979	0.50	15.8
22.900	75.130	5	3	5.0E-05	114.6	4.383	0.368	3.995	0.50	5.4
23.100	75.786	4	3	5.0E-05	114.6	4.400	0.388	4.012	0.50	4.5
23.300	76.443	5	3	5.0E-05	114.6	4.418	0.408	4.029	0.50	4.8
23.500	77.099	7	4	5.0E-05	114.6	4.475	0.429	4.046	0.50	11.5
23.700	77.755	8	5	5.0E-06	114.6	4.513	0.449	4.064	0.50	13.8
23.900	78.411	9	5	5.0E-05	114.6	4.551	0.470	4.081	0.50	46.4
24.100	79.067	9	5	5.0E-06	114.6	4.188	0.490	4.098	0.50	43.0
24.300	79.723	8	5	5.0E-04	117.7	4.625	0.511	4.115	0.50	27.7
24.500	80.380	6	4	5.0E-05	114.6	4.664	0.531	4.133	0.50	13.1
24.700	81.036	8	4	5.0E-06	114.6	4.702	0.552	4.150	0.50	19.7
24.900	81.692	9	6	5.0E-03	120.9	4.741	0.572	4.168	0.50	24.1
25.100	82.348	8	5	5.0E-05	114.6	4.779	0.593	4.186	0.50	21.3
25.300	83.004	5	5	5.0E-03	120.9	4.818	0.614	4.205	0.50	16.2
25.500	83.660	9	5	5.0E-04	117.7	4.857	0.634	4.223	0.50	16.2
25.700	84.317	8	4	5.0E-05	114.6	4.896	0.654	4.242	0.50	18.4
25.900	84.973	7	3	-9999.0	32.7	4.921	0.675	4.262	0.50	9999.0
26.100	85.629	7	4	5.0E-03	114.6	4.936	0.695	4.283	0.50	32.8
26.300	86.285	8	5	5.0E-05	114.6	4.975	0.716	4.260	0.50	30.1
26.500	86.943	9	5	5.0E-03	120.9	5.014	0.736	4.278	0.50	35.4
26.700	87.597	9	6	5.0E-03	120.9	5.054	0.757	4.297	0.50	37.9
26.900	88.254	9	6	5.0E-02	124.1	5.114	0.777	4.337	0.50	38.3
27.100	88.910	9	5	5.0E-02	124.1	5.155	0.798	4.357	0.50	24.3
27.300	89.566	8	5	5.0E-03	120.9	5.195	0.818	4.377	0.50	16.9
27.500	90.222	7	3	5.0E-05	114.6	5.234	0.839	4.395	0.50	8.5
27.700	90.878	6	3	5.0E-02	111.4	5.271	0.859	4.411	0.50	18.8
27.900	91.534	7	3	5.0E-08	111.4	5.307	0.880	4.427	0.50	20.3
28.100	92.190	6	3	5.0E-09	111.4	5.344	0.900	4.444	0.50	18.0
28.300	92.847	6	3	5.0E-03	111.4	5.380	0.921	4.460	0.50	30.1
28.500	93.503	7	1	5.0E-08	111.4	5.417	0.941	4.476	0.50	23.3
28.700	94.159	7	3	5.0E-08	111.4	5.453	0.962	4.492	0.50	19.3
28.900	94.815	7	3	5.0E-09	114.6	5.490	0.982	4.508	0.50	12.5
29.100	95.471	7	6	5.0E-08	114.6	5.528	1.003	4.525	0.50	14.2
29.300	96.127	7	4	5.0E-08	111.4	5.565	1.023	4.542	0.50	32.4
29.500	96.784	7	1	5.0E-08	111.4	5.602	1.044	4.558	0.50	19.1
29.700	97.440	7	3	5.0E-08	111.4	5.638	1.064	4.574	0.50	20.0
29.900	98.096	6	3	1.0E-08	111.4	5.675	1.085	4.592	0.50	19.1
30.100	98.752	7	3	5.0E-09	111.4	5.711	1.105	4.606	0.50	29.4
30.300	99.408	6	3	5.0E-08	111.4	5.748	1.126	4.622	0.50	16.7

Run No: 04-1104-1317-4064
CPT File: [illegible]

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 QSY-BQ (Zone)	Col-13 SBT BQn (Zone)	Col-14 Perm-K (cm/s)	Col-15 Unit Wt (pcf)	Col-16 Σ Stress (tsf)	Col-17 Σ Stress (tsf)	Col-18 Σ Stress (tsf)	Col-19 Cn	Col-20 SPT (N/ft)
30.500	100.064	7	5	5.0E-05	111.4	5.784	1.366	4.648	0.50	25.5
30.700	100.721	8	4	5.0E-05	114.6	5.821	1.367	4.154	0.50	71.6
30.900	101.377	6	5	5.0E-05	114.4	5.859	1.387	4.477	0.50	41.4
31.100	102.033	8	5	5.0E-05	114.5	5.897	1.407	4.489	0.50	30.5
31.300	102.689	7	3	5.0E-05	114.5	5.934	1.426	4.706	0.50	13.7
31.500	103.345	7	4	5.0E-05	114.5	5.972	1.248	4.721	0.50	12.8
31.700	104.001	6	4	5.0E-05	114.6	6.009	1.247	4.740	0.50	21.3
31.900	104.658	7	4	5.0E-05	111.4	6.046	1.267	4.757	0.50	29.5
32.100	105.314	7	3	5.0E-05	111.4	6.083	1.310	4.773	0.50	19.5
32.300	105.970	7	3	5.0E-05	111.4	6.120	1.330	4.789	0.50	20.2
32.500	106.626	7	3	5.0E-05	111.4	6.156	1.351	4.805	0.50	21.7
32.700	107.282	6	3	5.0E-05	111.4	6.193	1.371	4.821	0.50	14.9
32.900	107.938	6	3	5.0E-05	111.4	6.229	1.392	4.837	0.50	14.4
33.100	108.594	6	3	5.0E-05	111.4	6.266	1.412	4.853	0.50	16.4
33.300	109.251	6	3	5.0E-05	111.4	6.302	1.433	4.869	0.50	27.5
33.500	109.907	6	3	5.0E-05	111.4	6.339	1.453	4.885	0.50	23.5
33.700	110.563	6	3	5.0E-05	111.4	6.375	1.474	4.901	0.50	24.4
33.900	111.219	7	3	5.0E-05	111.4	6.412	1.494	4.918	0.50	10.4
34.100	111.875	7	4	5.0E-05	111.4	6.448	1.514	4.934	0.50	15.3
34.300	112.531	6	3	5.0E-05	111.4	6.485	1.535	4.950	0.50	29.6
34.500	113.186	6	3	5.0E-05	111.4	6.522	1.555	4.966	0.50	28.8
34.700	113.844	6	3	5.0E-05	111.4	6.558	1.576	4.982	0.50	25.9
34.900	114.500	7	3	5.0E-05	111.4	6.595	1.597	4.998	0.50	30.0
35.100	115.156	7	4	5.0E-05	111.4	6.631	1.617	5.014	0.50	33.0
35.300	115.812	7	3	5.0E-05	114.6	6.668	1.638	5.031	0.50	29.2
35.500	116.469	7	4	5.0E-05	114.6	6.705	1.658	5.048	0.50	21.1
35.700	117.125	8	5	5.0E-05	114.6	6.742	1.679	5.065	0.50	26.6
35.900	117.781	8	5	5.0E-05	117.7	6.782	1.699	5.082	0.50	23.5
36.100	118.437	5	5	5.0E-05	114.6	6.820	1.720	5.100	0.50	26.3
36.300	119.093	8	5	5.0E-05	114.6	6.857	1.740	5.117	0.50	37.4
36.500	119.749	8	5	1.0E-15	107.5	6.897	1.761	5.137	0.50	72.1
36.700	120.404	8	4	5.0E-05	114.6	6.935	1.781	5.157	0.50	35.8
36.900	121.060	8	4	5.0E-05	114.6	6.975	1.802	5.176	0.50	26.0
37.100	121.716	5	5	5.0E-05	114.6	7.012	1.822	5.196	0.50	34.4
37.300	122.372	9	5	5.0E-05	114.6	7.050	1.843	5.216	0.50	41.6
37.500	123.028	8	5	1.0E-15	107.5	7.091	1.863	5.236	0.50	71.9
37.700	123.684	8	6	5.0E-05	111.4	7.130	1.884	5.257	0.50	57.6
37.900	124.347	8	6	5.0E-05	111.4	7.167	1.904	5.263	0.50	49.2
38.100	125.398	6	4	5.0E-05	111.4	7.203	1.925	5.279	0.50	37.1
38.300	125.655	6	4	5.0E-05	111.4	7.240	1.945	5.295	0.50	32.9
38.500	126.311	7	3	5.0E-05	111.4	7.277	1.966	5.311	0.50	34.2
38.700	126.967	7	3	5.0E-05	111.4	7.313	1.986	5.327	0.50	24.4
38.900	127.623	7	3	5.0E-05	111.4	7.350	2.006	5.343	0.50	29.7
39.100	128.279	7	3	5.0E-05	111.4	7.386	2.027	5.359	0.50	25.3
39.300	128.935	7	3	5.0E-05	111.4	7.423	2.047	5.375	0.50	22.7
39.500	129.592	7	3	5.0E-05	111.4	7.459	2.068	5.391	0.50	26.3
39.700	130.248	7	3	5.0E-05	111.4	7.496	2.088	5.407	0.50	24.5

Conetec Inc. - CPT Interpretation
Interpretation Output - Release 1.32 Rev. A - Build 5 Format: NLF Imperial
Job No: 06-1124-1317 4004
Job No.: 06-899
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT 5A
Location: Pigeon Point
Cone: 20 TON AZCOE
CPT Date: 04/15/11
CPT Time: 12:39
CPT File: E0012599A.COR
Northing (m): 0.000100
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 19.31 (ft): 63.4
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m): 0.10
Sa Sht used: 15.00 ns/ft (ms): 0.10
Dr Method: Jamiolkowski - All Sands
Scale Parameter K: 1.20
Used Unit Weights Assigned to Soil Zones
Kiabic Calculated using qclm
Sigbeo Calculated using qclrco

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Sig(vo) (kPa)	Col-04 Sig(vo) (kg/cm2)	Col-05 Sig(vo) (lb/ft2)	Col-06 Qt	Col-07 Fr (%)	Col-08 Bq	Col-09 Ic	Col-10 Qc (%)	Col-11 Inzone (Zone)
0.100	0.325	13.0	-9999.0	-9999.0	1541.11	0.47	0.03	-9999.0	-9999.0	0
0.200	0.984	16.6	5.5	21.2	501.37	0.96	0.01	3.84	9.5	6
0.300	1.640	21.7	2.6	11.1	195.34	2.74	0.02	2.04	14.1	6
0.400	2.297	27.2	8.7	24.1	119.92	1.56	0.09	1.85	9.5	6
0.500	2.953	30.0	9.3	27.0	271.74	1.44	0.00	2.39	12.5	6
0.600	3.609	29.7	5.5	17.5	130.71	1.50	1.03	2.22	19.8	5
0.700	4.265	31.3	4.3	8.5	71.17	1.77	0.00	2.35	24.5	5
0.800	4.921	8.7	2.4	6.5	31.05	1.67	0.01	2.53	12.7	5
0.900	5.577	19.6	5.5	10.5	54.39	0.50	0.03	2.14	17.1	5
1.000	6.234	30.3	10.1	10.7	207.40	1.37	0.01	2.36	9.5	4
1.100	6.890	30.6	12.7	20.4	150.19	1.34	0.01	2.11	14.1	5
1.200	7.546	31.4	9.6	14.5	100.01	1.41	0.03	2.15	17.2	5
1.300	8.202	29.0	11.0	19.1	130.15	1.61	1.06	2.39	15.4	5
1.400	8.858	17.2	7.5	11.6	61.24	1.56	0.00	2.07	25.3	5
1.500	9.514	10.3	5.0	6.3	34.73	1.05	0.01	2.46	32.6	5
1.600	10.170	1.7	3.1	5.5	19.57	1.32	-0.11	2.53	36.7	4
1.700	10.827	6.5	2.0	4.5	16.11	1.45	-0.01	2.65	37.9	4
1.800	11.483	5.3	1.0	4.3	16.04	1.14	0.01	2.60	35.4	4
1.900	12.139	7.1	1.0	4.8	21.19	1.19	0.00	2.55	33.5	5
2.000	12.795	8.6	6.8	5.6	24.92	1.23	0.00	2.50	30.7	5
2.100	13.451	8.1	4.6	5.7	21.04	0.99	0.00	2.47	29.4	5
2.200	14.107	8.9	5.1	5.7	24.68	1.14	-0.03	2.47	29.3	5
2.300	14.764	7.4	4.4	5.0	20.50	1.06	0.00	2.51	33.2	5
2.400	15.420	6.2	4.2	4.5	17.73	0.89	0.01	2.52	33.5	5
2.500	16.076	8.0	4.9	5.2	25.62	0.94	0.03	2.49	29.7	5
2.600	16.732	4.7	4.8	5.0	20.25	0.65	0.00	2.60	36.2	4
2.700	17.388	4.7	3.1	3.0	5.87	1.13	0.02	2.79	45.6	4
2.800	18.044	10.9	7.2	7.5	26.76	1.43	0.01	2.46	28.5	5
2.900	18.701	12.4	12.3	12.1	48.61	2.06	0.01	2.34	24.1	5
3.000	19.357	14.5	9.9	9.6	35.93	2.10	0.00	2.44	20.5	5
3.100	20.013	15.7	14.0	13.9	55.00	2.10	0.00	2.26	27.3	5
3.200	20.669	17.8	12.5	12.7	41.54	1.04	-0.01	2.40	30.1	5

Run No. 94-1124-1117-4CD4
CPT File: 829CP09A.CCH

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 Nl160 (tsf)	Col-22 Nl60Ic (tsf)	Col-23 Nl60Ic (tsf)	Col-24 QA	Col-25 Fr (%)	Col-26 Bq	Col-27 Ic	Col-28 SC (%)	Col-29 Zone (Zone)
5.600	21.325	13.4	8.6	7.1	24.25	1.15	-0.01	2.72	61.3	4
5.700	21.981	11.6	10.0	9.1	30.28	2.39	0.00	2.52	37.0	5
5.800	22.638	17.2	16.9	15.1	53.87	1.19	0.00	2.00	15.1	5
5.900	23.294	24.1	26.0	21.6	63.97	1.27	0.00	2.15	18.6	5
7.000	23.950	19.2	19.1	19.2	61.49	2.71	0.00	2.45	27.6	5
7.100	24.606	15.3	11.7	10.0	32.46	2.54	0.00	2.48	29.9	5
7.200	25.262	19.4	12.5	10.5	34.39	2.41	0.00	2.45	24.8	5
7.300	25.918	23.0	15.0	15.7	50.05	1.54	0.00	2.17	11.9	5
7.400	26.574	18.0	15.8	15.0	44.42	2.03	0.00	2.10	23.7	5
7.500	27.231	15.6	14.2	11.6	38.44	1.69	0.00	2.19	23.4	5
7.600	27.887	12.1	13.6	10.9	34.66	0.97	0.00	2.15	17.2	5
7.700	28.543	36.6	27.3	20.0	117.62	1.51	0.00	1.91	12.5	6
7.800	29.199	16.6	16.2	17.0	38.55	1.90	0.00	2.32	23.2	5
7.900	29.856	21.2	18.3	14.7	49.05	1.70	0.00	2.24	19.1	5
8.000	30.511	27.1	35.2	27.0	109.32	1.05	0.00	1.62	8.5	6
8.100	31.168	25.3	33.5	25.4	95.91	1.07	0.00	1.65	9.1	6
8.200	31.824	14.5	17.1	17.0	42.71	1.38	0.00	2.14	17.0	5
8.300	32.480	24.0	22.8	24.9	55.45	1.61	0.00	2.17	18.0	5
8.400	33.136	14.2	17.3	13.0	41.71	1.40	0.00	2.39	18.5	5
8.500	33.792	26.6	32.3	24.7	64.01	1.61	0.00	2.04	14.0	6
8.600	34.448	20.2	23.0	24.4	43.63	2.01	0.00	2.27	21.1	5
8.700	35.105	16.6	11.3	11.6	35.37	1.40	0.00	2.13	23.0	5
8.800	35.761	15.0	10.0	11.3	31.55	2.11	0.00	2.40	26.5	5
8.900	36.417	13.4	17.6	17.2	27.35	1.38	0.00	2.36	17.7	5
9.000	37.073	15.3	23.4	14.1	44.05	1.22	0.00	2.21	16.1	5
9.100	37.729	10.1	13.4	5.1	14.75	2.04	0.01	2.82	40.5	4
9.200	38.385	22.7	35.0	23.3	75.01	1.31	0.00	1.94	11.3	6
9.300	39.042	34.1	42.7	29.5	91.16	2.16	0.00	2.24	14.3	6
9.400	39.698	25.9	27.5	28.1	52.20	2.28	0.00	2.23	19.5	5
9.500	40.354	18.5	20.1	13.7	35.76	2.52	0.00	2.35	24.8	5
9.600	41.012	9.2	11.5	4.7	17.50	1.35	0.00	2.00	15.8	4
9.700	41.665	12.3	16.7	13.3	33.52	1.62	0.01	2.03	13.7	6
9.800	42.327	12.3	19.7	11.5	31.19	1.31	0.00	2.22	19.7	5
9.900	42.978	13.3	13.4	5.2	17.40	2.82	0.00	2.78	45.5	4
10.000	43.635	11.0	13.5	5.1	15.39	3.04	0.01	2.81	46.2	4
10.100	44.291	7.3	8.5	2.3	8.52	3.12	0.02	3.08	44.3	3
10.200	44.947	5.4	7.4	2.6	7.69	2.00	0.00	3.01	39.9	3
10.300	45.603	5.0	9.1	3.2	9.29	3.58	0.02	3.05	62.3	3
10.400	46.259	11.1	11.4	4.9	15.55	2.36	0.01	2.76	43.5	4
10.500	46.915	10.2	12.4	7.6	18.34	1.29	0.01	2.38	25.8	5
10.600	47.572	3.6	5.8	1.8	4.69	2.13	0.02	3.21	73.5	3
10.700	48.228	10.0	11.2	3.6	11.42	3.37	0.01	2.95	57.1	3
10.800	48.884	9.6	11.0	3.7	10.87	3.42	0.01	2.90	56.5	3
10.900	49.540	15.1	19.0	6.2	22.23	2.49	0.01	2.67	38.8	4
11.000	50.196	8.5	11.8	3.9	11.91	2.90	0.02	2.92	51.8	4
11.100	50.852	9.0	11.8	3.9	12.47	2.03	0.02	2.82	47.5	4
11.200	51.505	8.4	11.1	3.5	11.70	1.23	0.01	2.82	47.3	4
11.300	52.165	8.2	11.1	3.5	11.21	1.98	0.01	2.66	46.3	4
11.400	52.821	8.4	10.4	3.2	8.90	3.12	0.01	2.96	62.7	3
11.500	53.477	8.3	10.4	3.1	8.78	3.19	0.01	2.97	63.8	3
11.600	54.133	3.7	6.0	1.5	1.57	3.26	0.15	3.42	33.6	3
11.700	54.789	8.0	11.5	3.4	10.63	2.36	0.11	2.92	53.5	4
11.800	55.446	9.4	11.6	3.4	3.02	3.26	0.12	2.81	60.4	3
11.900	56.102	10.2	12.7	3.7	10.80	3.16	0.02	2.82	59.8	3
12.000	56.758	4.9	8.4	2.3	4.19	2.74	0.55	3.26	69.6	3
12.100	57.414	5.8	8.5	2.6	7.22	2.77	0.52	3.20	65.3	3
12.200	58.070	2.7	5.0	1.3	2.06	2.25	0.29	3.52	100.0	3
12.300	58.726	2.5	4.8	0.9	1.02	2.01	0.11	3.55	100.0	3
12.400	59.382	2.1	4.5	0.8	1.55	1.59	0.14	3.56	100.0	3
12.500	60.039	2.3	4.6	0.8	1.52	1.19	0.15	3.56	100.0	3

Log Num: 06-1174-1317-6606
* File: RCSC209A.CPT

Col-21 Depth (m)	Col-22 Depth (ft)	Col-23 N1(60) (b/ft)	Col-24 N1(60)Ic (b/ft)	Col-25 N1(60)Ic (b/ft)	Col-26 Qc	Col-27 Fr (%)	Col 28 Bq	Col-29 Ic	Col-30 SC (%)	Col-31 IcZone (Zone)
16.800	60.695	2.5	4.9	0.9	1.60	1.97	0.14	3.59	100.0	3
17.000	61.351	2.4	4.5	0.9	1.66	2.07	0.15	3.60	100.0	3
17.200	62.007	2.5	5.4	1.0	1.71	1.56	0.17	1.65	100.0	2
17.400	62.663	2.4	5.1	0.9	1.67	2.22	0.18	3.10	100.0	3
17.600	63.319	2.5	5.2	0.9	1.75	2.32	0.16	3.53	100.0	3
17.800	63.975	2.6	5.3	0.9	1.77	2.30	0.19	3.39	100.0	3
18.000	64.632	2.5	5.3	0.9	1.64	2.04	0.21	3.64	100.0	3
18.200	65.288	2.7	5.6	1.0	1.96	2.12	0.19	3.54	100.0	3
18.400	65.944	2.6	5.4	0.9	1.73	2.31	0.23	3.50	100.0	3
18.600	66.600	2.6	5.4	0.9	1.70	2.55	0.25	3.66	100.0	3
18.800	67.256	2.3	5.2	0.8	1.39	2.13	0.30	3.66	100.0	3
19.000	67.913	2.3	5.2	0.8	1.45	2.19	0.30	3.66	100.0	3
19.200	68.569	2.5	5.5	0.9	1.65	2.46	0.25	3.62	100.0	3
19.400	69.225	2.6	5.5	0.9	1.69	2.26	0.21	3.61	100.0	3
19.600	69.881	2.6	5.7	1.0	1.68	2.23	0.23	3.15	100.0	3
19.800	70.537	2.7	5.6	1.0	1.85	2.55	0.31	3.59	100.0	3
20.000	71.193	3.1	5.3	1.1	2.24	2.53	0.27	3.40	59.9	3
20.200	71.850	2.6	5.9	1.0	1.90	2.67	0.35	3.58	100.0	3
20.400	72.506	2.9	5.8	1.0	1.81	2.43	0.42	3.53	100.0	3
20.600	73.162	3.3	6.5	1.2	2.35	2.66	0.34	3.50	100.0	3
20.800	73.818	3.7	7.4	1.4	2.75	4.09	0.32	3.54	100.0	3
21.000	74.474	3.9	8.4	1.6	3.05	5.85	0.30	3.58	100.0	3
21.200	75.130	4.2	8.9	1.3	3.09	2.61	0.20	3.35	85.0	3
21.400	75.786	2.2	5.4	0.9	1.61	1.69	0.24	3.53	100.0	3
21.600	76.443	2.4	6.0	1.0	2.04	1.89	0.16	3.51	100.0	3
21.800	77.099	5.1	10.7	2.4	4.29	3.20	0.04	3.15	71.4	3
22.000	77.755	16.5	31.5	5.2	16.78	3.92	0.03	2.70	33.8	5
22.200	78.411	22.2	37.9	6.6	22.66	4.07	0.00	2.60	65.8	4
22.400	79.067	21.5	36.5	6.4	20.73	4.35	0.00	2.95	67.6	4
22.600	79.723	13.9	23.3	5.8	19.58	2.19	0.02	2.59	39.0	4
22.800	80.380	9.5	15.1	3.5	10.91	2.23	0.50	2.83	51.6	4
23.000	81.036	9.9	14.2	3.2	8.78	3.70	0.00	3.10	65.5	3
23.200	81.692	17.1	20.3	15.2	11.04	1.55	0.02	2.17	17.5	5
23.400	82.348	13.7	23.8	4.3	12.50	4.54	-0.01	1.03	60.2	3
23.600	83.004	13.1	21.2	11.6	24.04	1.11	0.00	2.15	17.7	5
23.800	83.660	15.1	22.6	10.1	21.27	1.70	0.03	2.12	23.4	5
24.000	84.317	19.2	27.5	1.3	8.31	0.37	-0.01	1.26	21.5	3
24.200	84.973	-9999.0	11.5	-9999.0	5.45	7.71	-0.02	3.52	100.0	3
24.400	85.629	16.3	14.1	2.9	6.86	6.55	-0.01	1.34	86.5	3
24.600	86.285	15.0	22.5	5.1	11.18	2.62	-0.01	2.79	48.4	4
24.800	86.941	26.7	29.4	14.5	11.24	1.42	0.00	2.15	17.1	5
25.000	87.597	28.9	31.0	15.2	10.46	1.45	0.00	1.50	16.2	5
25.200	88.254	18.1	26.4	17.8	42.55	2.82	0.00	1.50	10.2	6
25.400	88.910	12.1	26.0	12.7	27.67	0.95	0.00	2.03	15.1	5
25.600	89.566	6.4	15.1	7.6	16.96	0.53	-0.01	2.17	16.1	5
25.800	90.222	4.7	9.1	1.7	3.84	2.57	-0.03	1.34	64.6	1
26.000	90.878	3.4	6.9	1.7	1.27	6.09	-0.02	1.57	100.0	3
26.200	91.535	10.1	18.5	1.8	3.58	2.25	-0.01	3.54	100.0	3
26.400	92.191	9.0	16.5	1.7	3.05	2.60	-0.01	3.65	101.0	2
26.600	92.847	9.1	9.9	1.7	1.02	6.25	0.01	3.52	100.0	2
26.800	93.503	9.1	10.4	1.8	1.20	8.65	-0.01	3.59	100.0	3
27.000	94.159	10.0	10.4	1.6	3.42	5.11	-0.11	3.55	101.0	3
27.200	94.816	6.0	12.4	1.9	4.37	3.76	0.20	3.35	65.6	3
27.400	95.472	7.1	12.1	1.3	4.34	4.44	0.01	3.39	53.6	3
27.600	96.127	16.7	24.0	2.1	6.22	6.17	0.00	3.39	86.0	3
27.800	96.784	9.0	11.1	1.6	3.18	8.41	0.00	3.46	100.0	2
28.000	97.440	10.0	10.8	1.8	2.32	4.97	0.01	3.60	100.0	3
28.200	98.096	9.5	11.1	1.6	1.11	6.49	0.12	3.47	100.0	2
28.400	98.752	10.2	11.9	1.9	1.39	8.62	0.00	3.54	100.0	2
28.600	99.408	8.4	10.4	1.6	2.65	7.95	0.00	3.72	100.0	2

Run No: 04-1124-1117-4006
CPT File: 209CP35A.CPT

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Nb (kN) (lb/ft)	Col-04 Nf(kN) (lb/ft)	Col-05 Nf(50%)c (lb/ft)	Col-06 Qt	Col-07 Fr (%)	Col-08 Bq	Col-09 Ic	Col-10 FC (%)	Col-11 IcZone (Zone)
20.500	105.084	11.4	15.5	1.6	3.35	6.64	0.01	3.50	100.0	3
20.700	105.351	10.8	19.1	3.6	15.88	1.11	0.00	2.98	56.3	3
20.900	105.477	20.9	30.5	6.5	21.05	3.56	0.00	2.79	44.3	2
21.100	102.635	15.2	25.1	4.3	17.31	4.90	0.00	3.05	62.0	3
21.300	107.689	6.8	13.4	2.0	4.81	3.55	0.00	3.30	81.3	3
21.500	101.345	6.4	12.6	2.3	5.82	3.45	0.00	3.23	75.2	3
21.700	104.001	16.6	16.5	3.1	5.33	6.59	0.00	3.17	35.6	3
21.900	104.658	15.0	14.6	2.6	5.29	8.75	0.00	1.50	98.5	1
22.100	105.124	5.8	-9999.0	-9999.0	1.61	-9999.0	0.00	-9999.0	-9999.0	0
22.300	105.970	11.3	12.1	1.9	1.19	3.46	0.01	3.70	100.0	2
22.500	106.626	10.9	12.1	1.9	1.44	3.63	0.01	3.64	100.0	2
22.700	107.262	7.4	-9999.0	9999.0	1.53	-9999.0	0.02	-9999.0	-9999.0	0
22.900	107.958	7.2	10.7	1.3	1.21	2.72	0.06	3.87	100.0	2
23.100	108.594	9.2	10.7	1.6	2.56	6.73	0.05	3.67	100.0	2
23.300	109.251	11.0	11.5	1.8	3.42	5.36	0.05	3.58	100.0	1
23.500	109.907	11.7	12.1	1.9	3.72	5.37	0.05	3.55	100.0	1
23.700	110.563	12.2	12.7	2.0	3.89	7.61	0.05	3.57	100.0	1
23.900	111.219	15.2	14.1	2.4	5.15	5.69	0.05	3.43	92.6	1
24.100	111.875	17.5	16.3	2.5	6.26	7.37	0.05	3.43	90.8	1
24.300	112.531	14.9	16.8	2.5	6.93	5.65	0.06	3.53	100.0	1
24.500	113.188	14.6	14.6	2.4	6.74	5.66	0.06	3.53	100.0	1
24.700	113.844	12.5	11.7	2.1	4.94	9.23	0.09	3.41	100.0	2
24.900	114.500	15.0	14.6	2.4	6.95	7.80	0.03	3.49	97.7	2
25.100	115.156	16.5	14.7	2.5	5.55	6.51	-0.01	3.45	89.6	1
25.300	115.812	9.6	13.2	2.1	4.65	5.44	0.05	3.63	91.2	1
25.500	116.468	10.4	14.3	2.3	5.52	5.69	0.01	3.79	88.6	1
25.700	117.125	15.4	22.4	4.2	12.49	1.84	0.01	2.98	57.2	2
25.900	117.781	11.3	21.0	3.9	15.13	1.85	-0.01	2.79	45.2	4
26.100	118.437	13.1	20.5	3.8	12.12	2.60	0.02	3.09	51.5	4
26.300	119.093	16.7	24.7	4.6	13.94	4.04	0.03	2.98	45.0	3
26.500	119.749	15.0	24.5	4.5	12.50	3.14	-0.02	3.05	51.9	3
26.700	120.405	20.0	21.8	3.5	10.78	5.18	-0.03	3.13	66.3	3
26.900	121.062	19.0	21.9	4.0	11.79	3.72	-0.02	2.99	58.0	3
27.100	121.718	17.2	26.9	5.0	16.04	1.46	-0.03	2.87	50.2	4
27.300	122.374	20.8	32.0	6.0	19.68	4.20	-0.03	2.84	43.4	4
27.500	123.030	18.9	26.4	4.8	16.27	4.88	-0.03	3.00	58.7	3
27.700	123.686	26.2	30.7	5.6	9.11	6.32	-0.02	3.22	74.8	3
27.900	124.342	20.2	27.7	5.6	9.61	7.25	-0.02	3.17	87.0	3
28.100	124.995	28.1	16.3	2.5	5.98	6.30	-0.02	3.17	84.7	3
28.300	125.655	29.4	16.8	2.7	5.30	6.27	0.03	3.35	85.4	3
28.500	126.311	27.3	16.4	2.5	5.36	6.26	0.02	3.47	94.0	3
28.700	126.967	17.2	13.9	1.9	3.41	6.88	-0.03	3.55	100.0	2
28.900	127.623	14.9	15.2	2.1	6.44	8.19	-0.03	3.64	100.0	3
29.100	128.279	10.7	-9999.0	-9999.0	2.78	-9999.0	-0.02	-9999.0	-9999.0	0
29.300	128.935	11.1	13.7	1.7	3.97	7.80	-0.02	3.56	100.0	2
29.500	129.592	13.2	15.7	1.9	5.71	6.93	-0.01	3.35	100.0	1
29.720	130.248	12.3	13.4	1.8	3.35	1.62	-0.01	3.62	100.0	2

ConeTec Inc. - CPT Interpretation
Interpretation Output - Release 1.22 Rev A - Build 5 Format: MLP Imperial
Job No: 04-1104 1517-6024
Job Nr: 14-809
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-9A
Location: Pigeon Point
Cone: 20 TON AD166
CPT Date: 04/15/11
CPT Time: 12:30
CPT File: 809CP09A.COR
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 19.11 (ft): 63.4
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m): 0.20
Su Rkt used: 15.00 Su/P' (m2): 0.39
Qc Method: Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Nitrate Calculated using Qtn
Nitrite Calculated using Qtnes

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Qc (ft)	Col-04 Qtn (deg)	Col-12 State Par	Col-13 Ic/qt	Col-14 Young's (csf)	Col-15 Su (psf)	Col-16 OCR
0.100	0.328	88.5	50.0	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0
0.200	0.656	77.1	49.0	-0.31	3.042	54.4	9959.0	-9999.0
0.300	0.984	50.9	44.0	-0.22	2.762	49.4	1.187	10.0
0.400	1.312	77.0	43.0	-0.31	2.822	57.5	-9999.0	9999.0
0.500	1.640	70.2	45.0	-0.33	2.823	37.8	-9999.0	-9999.0
0.600	1.969	50.0	42.0	0.05	2.802	72.3	1.607	11.0
0.700	2.297	47.4	43.0	-0.19	2.688	69.7	1.132	10.0
0.800	2.625	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.651	10.0
0.900	2.953	45.2	42.0	-0.16	2.058	83.8	-9999.0	-9999.0
1.000	3.281	49.5	46.0	0.11	1.897	131.6	-9999.0	-9999.0
1.100	3.609	65.5	44.0	0.30	2.198	133.6	-9999.0	-9999.0
1.200	3.937	55.7	42.0	-0.22	2.641	114.1	-9999.0	-9999.0
1.300	4.265	43.9	41.0	-0.26	2.242	141.1	-9999.0	-9999.0
1.400	4.593	41.6	40.0	-0.21	1.144	101.4	2.114	10.0
1.500	4.921	30.0	38.0	-0.14	-9999.0	-9999.0	1.265	10.0
1.600	5.249	9597.0	-9999.0	-9999.0	-9999.0	-9999.0	0.798	7.0
1.700	5.577	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.478	5.1
1.800	5.905	35.0	37.0	-0.02	-9999.0	-9999.0	0.715	5.2
1.900	6.234	35.0	34.0	-0.05	-9999.0	-9999.0	3.957	7.6
2.000	6.562	30.0	35.0	-0.02	-9999.0	-9999.0	1.235	10.0
2.100	6.890	30.0	34.0	-0.05	-9999.0	-9999.0	1.220	6.9
2.200	7.218	30.0	34.0	-0.07	-9999.0	-9999.0	1.147	3.9
2.300	7.546	30.0	34.0	-0.04	-9999.0	-9999.0	1.170	7.4
2.400	7.874	30.0	34.0	-0.04	-9999.0	-9999.0	1.107	5.9
2.500	8.202	30.0	32.0	-0.01	-9999.0	9999.0	1.280	7.4
2.600	8.530	30.0	34.0	-0.01	-9999.0	-9999.0	9999.0	-9999.0
2.700	8.858	30.0	34.0	0.02	-9999.0	-9999.0	0.661	2.5
2.800	9.186	30.0	30.0	0.02	9999.0	-9999.0	1.066	10.0
2.900	9.514	30.0	34.0	-0.05	-9999.0	-9999.0	150.6	-9999.0
3.000	9.842	47.6	35.0	-0.19	3.001	142.2	2.570	10.0
3.100	10.170	79.5	30.0	0.36	3.455	140.9	-9999.0	-9999.0
3.200	10.497	57.2	41.0	-0.33	2.765	162.2	3.417	10.5
3.300	10.825	66.1	38.0	-0.23	3.183			

Run No: 06-3134-1317-4004
CPT File: 6017999A.COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-30 Qc (Bar)	Col-31 Rbt (deg)	Col-32 Water Pwr	Col-33 Qs/qc	Col-34 YoungS (ksf)	Col-35 Sq (ksf)	Col-36 Cuk
5.500	21.525	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	3.497	9.6
5.700	21.983	32.9	31.0	-0.14	3.446	165.6	2.576	10.0
5.900	22.639	57.2	40.0	-0.15	2.584	213.2	9999.0	-9999.0
6.100	23.294	58.6	40.0	-0.21	2.539	222.8	-9999.0	-9999.0
6.300	23.950	46.6	38.0	-0.21	3.113	181.7	3.942	10.0
6.500	24.606	48.4	36.0	0.13	3.487	166.0	3.086	10.0
6.700	25.262	42.3	35.0	-0.19	3.384	175.2	3.354	10.0
6.900	25.918	57.2	45.0	-0.18	2.426	231.7	-9999.0	-9999.0
7.100	26.574	50.2	33.0	-0.14	2.346	207.5	-9999.0	-9999.0
7.300	27.231	46.5	35.0	-0.15	3.173	197.7	-9999.0	-9999.0
7.500	27.887	47.0	28.0	-0.03	3.154	202.5	9999.0	-9999.0
7.700	28.543	78.6	42.0	-0.25	2.028	299.1	-9999.0	-9999.0
7.900	29.199	47.7	48.0	-0.16	3.139	210.8	-9999.0	-9999.0
8.100	29.855	54.9	33.0	-0.17	2.772	242.0	9999.0	9999.0
8.300	30.511	76.6	42.0	-0.22	2.097	305.9	9999.0	9999.0
8.500	31.168	74.6	42.0	-0.19	2.156	363.2	-9999.0	-9999.0
8.700	31.824	51.8	38.0	-0.12	2.954	239.0	-9999.0	-9999.0
8.900	32.480	59.4	40.0	-0.15	2.618	280.1	-9999.0	-9999.0
9.100	33.136	51.9	38.0	-0.11	2.996	245.9	-9999.0	-9999.0
9.300	33.792	73.8	42.0	0.23	2.254	378.1	-9999.0	-9999.0
9.500	34.448	53.6	36.0	-0.17	2.933	260.8	-9999.0	-9999.0
9.700	35.105	48.0	38.0	-0.12	3.204	239.1	-9999.0	-9999.0
9.900	35.761	45.0	36.0	0.15	3.380	229.7	-9999.0	-9999.0
10.100	36.417	55.0	38.0	-0.31	3.109	254.0	-9999.0	-9999.0
10.300	37.073	54.9	38.0	0.13	2.870	230.7	-9999.0	-9999.0
10.500	37.729	30.0	37.0	-0.31	-9999.0	-9999.0	2.473	5.4
10.700	38.385	41.9	42.0	-0.39	2.298	411.1	-9999.0	-9999.0
10.900	39.042	76.8	42.0	-0.27	2.167	456.3	-9999.0	-9999.0
11.100	39.698	60.7	70.0	-0.21	2.657	328.4	-9999.0	-9999.0
11.300	40.354	53.1	38.0	-0.18	3.105	277.3	-9999.0	-9999.0
11.500	41.010	39.5	32.0	-0.04	-9999.0	-9999.0	-9999.0	-9999.0
11.700	41.666	65.6	36.0	-0.35	3.260	273.5	-9999.0	-9999.0
11.900	42.322	67.6	36.0	-0.10	3.321	269.5	-9999.0	-9999.0
12.100	42.978	33.9	32.0	-0.11	-9999.0	-9999.0	2.957	5.6
12.300	43.635	31.0	32.0	-0.11	-9999.0	-9999.0	2.893	5.5
12.500	44.291	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.389	1.9
12.700	44.947	32.0	30.0	0.02	-9999.0	-9999.0	1.350	1.8
12.900	45.603	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.638	2.3
13.100	46.259	33.1	32.0	-0.06	-9999.0	-9999.0	2.984	5.3
13.300	46.915	34.0	32.0	-0.05	4.207	223.6	-9999.0	-9999.0
13.500	47.572	30.0	30.0	0.07	-9999.0	9999.0	0.654	1.0
13.700	48.228	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.150	3.1
13.900	48.884	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.093	2.8
14.100	49.540	40.0	34.0	-0.12	3699.0	-9999.0	4.288	8.3
14.300	50.196	30.0	30.0	-0.06	3999.0	-9999.0	2.341	3.3
14.500	50.852	30.0	30.0	0.04	-3999.0	-9999.0	2.516	3.6
14.700	51.509	30.0	30.0	-0.02	-9999.0	-9999.0	2.348	3.2
14.900	52.165	30.0	30.0	-0.03	-9999.0	9999.0	2.279	3.0
15.100	52.821	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	1.645	2.2
15.300	53.477	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	1.821	2.1
15.500	54.133	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.702	0.8
15.700	54.789	30.0	32.0	-0.03	-9999.0	-9999.0	2.267	2.8
15.900	55.446	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	1.140	2.5
16.100	56.102	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	1.158	2.6
16.300	56.758	30.0	31.0	0.03	-9999.0	-9999.0	1.365	1.4
16.500	57.414	30.0	30.0	0.00	-9999.0	-9999.0	1.611	1.7
16.700	58.070	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.605	0.6
16.900	58.726	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.417	0.4
17.100	59.382	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.367	0.5
17.300	60.039	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.355	0.5

Run No 94-1124-1117-4204
File 0780709A.COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-30 DC (%)	Col-31 Dip (deg)	Col-32 State Dip	Col-33 Es/qc	Col-34 Ymum/S (psf)	Col-35 Sn (kPa)	Col-36 DOR
12.550	60.695	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.425	0.6
16.700	61.351	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.395	0.5
18.950	62.007	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.413	0.6
19.100	62.663	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.407	0.6
19.300	63.319	-9999.0	9999.0	-9999.0	9999.0	-9999.0	0.432	0.6
19.500	63.975	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.435	0.1
19.700	64.632	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.430	0.6
19.900	65.288	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.481	0.5
20.110	65.944	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.434	0.6
20.300	66.600	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.392	0.5
20.500	67.255	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.351	0.5
20.700	67.913	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.347	0.5
20.900	68.569	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.425	0.6
21.100	69.225	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.433	0.5
21.300	69.881	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.422	0.6
21.500	70.537	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.439	0.5
21.700	71.193	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.462	0.6
21.900	71.850	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.445	0.6
22.100	72.506	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.474	0.6
22.300	73.142	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.623	0.6
22.500	73.818	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.737	0.7
22.700	74.474	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.813	0.9
22.900	75.130	30.0	30.0	0.14	-9999.0	-9999.0	0.674	0.7
23.100	75.786	30.0	30.0	0.20	-9999.0	-9999.0	0.465	0.6
23.300	76.443	30.0	30.0	0.17	-9999.0	-9999.0	0.547	0.5
23.500	77.099	30.0	30.0	0.07	-9999.0	-9999.0	1.698	1.4
23.700	77.755	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	4.411	5.2
23.900	78.411	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	6.164	8.6
24.100	79.067	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	5.676	7.9
24.300	79.723	47.3	34.0	0.13	-9999.0	-9999.0	-9999.0	-9999.0
24.500	80.380	30.0	30.0	-0.00	-9999.0	-9999.0	1.015	1.9
24.700	81.035	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.430	2.2
24.900	81.692	56.3	36.0	0.32	3.224	459.0	-9999.0	-9999.0
25.100	82.348	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	3.408	7.5
25.300	83.004	48.6	34.0	-0.06	3.659	199.0	-9999.0	-9999.0
25.500	83.660	46.5	34.0	-0.08	3.975	471.4	-9999.0	-9999.0
25.700	84.317	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.348	3.0
25.900	84.973	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0
26.100	85.629	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.950	3.6
26.300	86.285	38.9	32.0	-0.11	-9999.0	-9999.0	4.301	5.6
26.500	86.941	55.4	36.0	-0.11	1.200	460.5	-9999.0	-9999.0
26.700	87.599	55.8	38.0	-0.12	3.138	496.3	-9999.0	-9999.0
26.900	88.254	64.0	32.0	-0.09	2.711	556.1	9999.0	-9999.0
27.100	88.910	52.3	36.0	-0.06	3.476	440.0	9999.0	9999.0
27.300	89.564	35.5	32.0	0.04	4.552	322.3	-9999.0	9999.0
27.500	90.222	30.0	30.0	0.07	-9999.0	-9999.0	1.325	0.9
27.700	90.879	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.960	0.4
27.900	91.535	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.053	0.8
28.100	92.190	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.899	0.1
28.300	92.847	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.907	0.7
28.500	93.503	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.935	0.8
28.700	94.159	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	1.524	1.0
28.900	94.815	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.303	1.0
29.100	95.471	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.525	1.2
29.300	96.127	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	1.055	1.4
29.500	96.784	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.941	0.8
29.700	97.440	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.014	0.8
29.900	98.096	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.552	0.7
30.100	98.752	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	1.041	0.5
30.300	99.408	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.791	0.7

Run No: 06-1196-1107-4036
CPT File: 6096P09A.CGR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Qc (t/m²)	Col-04 Fs (kPa)	Col-05 State Par	Col-06 Rf/Qc	Col-07 YoungE (kPa)	Col-08 Su (kPa)	Col-09 OCR
30.500	100.066	9999.0	-9999.0	-9999.0	-9999.0	9999.0	1.044	0.8
30.700	101.721	36.0	10.0	-0.08	-9999.0	-9999.0	3.376	2.8
30.900	101.177	44.8	14.0	-0.17	-9999.0	-9999.0	6.923	8.2
31.100	102.033	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	3.468	1.6
31.300	102.689	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.509	1.4
31.500	103.345	30.0	30.0	0.02	-9999.0	-9999.0	1.826	1.1
31.700	104.001	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.632	2.5
31.900	104.658	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	1.673	1.2
32.100	105.314	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.968	0.7
32.300	105.970	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.996	0.7
32.500	106.626	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.101	0.8
32.700	107.282	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.622	0.4
32.900	107.938	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.564	0.4
33.100	108.594	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.866	0.7
33.300	109.251	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.137	0.8
33.500	109.907	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.211	0.9
33.700	110.563	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.271	0.9
33.900	111.219	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.688	1.1
34.100	111.875	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.055	1.4
34.300	112.531	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.641	1.1
34.500	113.188	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.570	1.1
34.700	113.844	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	1.106	0.5
34.900	114.500	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.550	1.1
35.100	115.156	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.855	1.2
35.300	115.812	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	1.561	1.0
35.500	116.468	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	1.757	1.2
35.700	117.125	13.0	35.0	-0.10	-9999.0	-9999.0	4.215	3.5
35.900	117.781	34.5	32.0	-0.04	-9999.0	-9999.0	-9999.0	-9999.0
36.100	118.437	17.5	30.0	-0.06	-9999.0	9999.0	4.120	3.3
36.300	119.093	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	4.755	4.1
36.500	119.749	14.0	30.0	-0.17	-9999.0	-9999.0	-9999.0	9999.0
36.700	120.405	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	2.726	2.8
36.900	121.062	32.0	31.0	-0.09	-9999.0	-9999.0	4.067	3.2
37.100	121.718	60.0	32.0	-0.12	-9999.0	9999.0	5.518	5.0
37.300	122.374	45.1	36.0	-0.18	-9999.0	-9999.0	6.762	6.8
37.500	123.030	17.5	32.0	-0.17	-9999.0	-9999.0	-9999.0	-9999.0
37.700	123.686	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	3.364	2.3
37.900	124.342	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.374	1.5
38.100	124.998	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.105	1.3
38.300	125.655	9999.0	-9999.0	9999.0	-9999.0	-9999.0	2.222	1.4
38.500	126.311	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.596	1.2
38.700	126.967	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.210	0.8
38.900	127.623	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.581	1.0
39.100	128.279	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.093	0.7
39.300	128.935	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.081	0.7
39.500	129.592	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	1.135	0.8
39.700	130.248	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	1.204	0.8

CorrTest Inc. - CPT Interpretation
Interpretation Output - Release 1.02 Rev. A - Build 5 Format (ASP Imperial)

F No: 04-1124-1317-4075
J No: 04-309
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill Wilmington Delaware
Site: CPT-16
Location: Pigeon Point
Cone 20 TON X0045
CPT Date 04/15/11
CPT Time 10:37
CPT File: 309CP10.CCS
Northing (m): 0.000000
Easting (m): 0.000000
Elevation (m): 0.000000

Water Table (m): 5.18 (ft): 17.0
Unit Weight of Water (default): 62.40 pcf
Averaging Increment (m): 0.10
Sc Net Used: 15.00 Sc/Pc (max): 0.10
Dr Method: Jamiolkowski - All Sands
State Parameter M 1.20
Used Unit Weights Assigned to Soil Zones
Sigvo Calculated using qcin
Sigho Calculated using qcinc

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
0.100	0.328	-0.100	-0.328	12.69	12.88	0.33	2.57	-0.30	5	8
0.200	0.656	-0.200	-0.984	21.72	21.69	0.62	2.83	-1.02	5	8
0.300	1.640	-0.300	-1.640	27.66	27.55	0.52	1.87	-2.86	5	5
0.400	2.297	-0.400	-2.297	21.36	21.15	0.43	2.02	-2.03	5	6
0.500	2.953	-0.500	-2.953	17.28	17.23	0.32	1.85	-2.57	5	5
0.600	3.609	-0.600	-3.609	20.33	20.09	0.46	1.63	-3.13	6	5
0.700	4.265	-0.700	-4.265	54.31	52.77	0.50	0.95	0.76	9	6
0.800	4.921	-0.800	-4.921	89.13	89.13	0.62	0.69	-1.06	8	6
0.900	5.577	-0.900	-5.577	95.82	95.82	0.50	0.52	0.28	8	6
1.000	6.234	-1.000	-6.234	24.05	24.06	0.36	1.49	2.72	6	5
1.100	6.890	-1.100	-6.890	10.38	10.50	0.15	1.42	11.81	5	5
1.200	7.546	-1.200	-7.546	10.69	10.79	0.11	1.05	26.74	5	5
1.300	8.202	-1.300	-8.202	6.31	6.38	0.08	1.22	35.20	1	5
1.400	8.858	-1.400	-8.858	5.02	5.07	0.05	1.04	16.03	1	4
1.500	9.514	-1.500	-9.514	5.20	5.26	0.05	0.86	28.03	1	5
1.600	10.170	-1.600	-10.170	5.24	5.42	0.04	0.65	18.55	1	4
1.700	10.827	-1.700	-10.827	4.13	4.24	0.04	0.81	37.25	1	4
1.800	11.483	-1.800	-11.483	4.55	5.32	0.04	0.83	35.80	1	4
1.900	12.139	-1.900	-12.139	4.69	4.82	0.05	1.19	74.67	1	3
2.000	12.795	-2.000	-12.795	5.95	5.81	0.07	1.15	16.10	1	3
2.100	13.451	-2.100	-13.451	5.16	5.35	0.05	0.93	19.84	1	4
2.200	14.107	-2.200	-14.107	6.08	6.22	0.05	0.77	25.13	1	4
2.300	14.764	-2.300	-14.764	7.63	7.81	0.09	1.06	16.55	1	4
2.400	15.420	-2.400	-15.420	6.51	6.53	0.07	1.03	47.08	1	4
2.500	16.076	-2.500	-16.076	6.75	7.01	0.09	1.29	54.85	1	3
2.600	16.732	-2.600	-16.732	5.67	5.94	0.03	1.09	63.49	1	3
2.700	17.388	-2.700	-17.388	5.64	5.94	0.07	1.19	64.53	1	3
2.800	18.044	-2.800	-18.044	5.56	5.85	0.06	1.07	63.22	1	4
2.900	18.701	-2.900	-18.701	6.28	6.50	0.05	0.83	60.92	1	3
2.900	19.357	-2.900	-19.357	5.80	6.06	0.06	0.95	65.47	1	3
3.100	20.013	-3.100	-20.013	5.61	6.25	0.03	1.22	72.27	1	3
3.200	20.669	-3.200	-20.669	5.43	5.95	0.02	1.05	72.82	1	3

Run No: 04-1114-1117-4075
CPT File: 6090P10.COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev (ft)	Col-05 qc (tsf)	Col-06 qt (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
5.500	21.325	-5.500	-21.325	1.34	5.67	0.03	0.55	70.78	1	3
5.700	21.581	-5.700	-21.981	5.73	5.64	0.04	0.66	64.70	1	3
5.900	22.638	-5.900	-22.638	6.16	6.45	0.05	0.94	72.36	1	3
6.100	23.294	-6.100	-23.294	6.95	7.31	0.09	1.23	81.62	5	3
6.300	23.950	-6.300	-23.950	7.22	7.60	0.11	1.42	88.95	5	3
6.500	24.606	-6.500	-24.606	7.44	7.79	0.13	1.75	75.54	5	3
6.700	25.262	-6.700	-25.262	7.26	7.56	0.13	1.57	80.95	5	3
6.900	25.918	-6.900	-25.918	7.37	7.58	0.12	1.63	86.75	5	3
7.100	26.574	-7.100	-26.574	7.26	7.70	0.10	1.32	93.63	5	3
7.300	27.231	-7.300	-27.231	7.14	7.59	0.12	1.65	95.27	5	3
7.500	27.887	-7.500	-27.887	7.23	7.83	0.12	1.64	93.42	5	3
7.700	28.543	-7.700	-28.543	7.12	7.56	0.11	1.41	93.56	5	3
7.900	29.199	-7.900	-29.199	6.72	7.34	0.12	1.63	89.56	5	3
8.100	29.855	-8.100	-29.855	9.84	10.14	0.17	2.44	96.65	5	3
8.300	30.511	-8.300	-30.511	14.79	15.28	0.19	3.17	95.73	5	3
8.500	31.168	-8.500	-31.168	13.24	13.73	0.30	5.04	106.81	5	3
8.700	31.824	-8.700	-31.824	10.93	11.47	0.40	5.27	107.37	5	3
8.900	32.480	-8.900	-32.480	9.63	10.07	0.41	4.06	97.67	5	3
9.100	33.136	-9.100	-33.136	8.10	8.58	0.20	2.34	104.15	4	3
9.300	33.792	-9.300	-33.792	10.14	10.43	0.26	2.46	99.37	5	3
9.500	34.448	-9.500	-34.448	10.40	10.93	0.41	3.74	114.55	5	3
9.700	35.105	-9.700	-35.105	10.14	10.57	0.40	3.71	113.58	5	3
9.900	35.761	-9.900	-35.761	9.64	10.31	0.21	1.99	111.41	5	3
10.100	36.417	-10.100	-36.417	8.21	8.72	0.13	1.46	109.62	5	3
10.300	37.073	-10.300	-37.073	11.20	11.68	0.31	2.65	123.65	5	3
10.500	37.729	-10.500	-37.729	11.80	12.28	0.25	2.03	103.56	5	3
10.700	38.385	-10.700	-38.385	9.91	8.22	0.05	0.55	107.59	3	3
10.900	39.042	-10.900	-39.042	4.17	8.68	0.12	1.33	107.04	5	4
11.100	39.698	-11.100	-39.698	10.53	10.97	0.21	1.94	93.90	5	3
11.300	40.354	-11.300	-40.354	14.77	15.16	0.41	2.73	82.49	5	3
11.500	41.010	-11.500	-41.010	21.68	23.97	0.63	2.46	68.46	5	3
11.700	41.666	-11.700	-41.666	31.34	31.50	1.16	3.68	35.17	5	3
11.900	42.322	-11.900	-42.322	41.59	41.66	1.86	4.41	20.07	4	3
12.100	42.978	-12.100	-42.978	46.35	46.25	1.63	3.54	-4.47	5	4
12.300	43.635	-12.300	-43.635	126.87	126.87	1.20	0.95	20.25	9	6
12.500	44.291	-12.500	-44.291	50.58	50.47	0.91	1.80	-21.45	7	5
12.700	44.947	-12.700	-44.947	32.35	32.26	1.23	1.69	-22.24	5	3
12.900	45.603	-12.900	-45.603	27.60	27.71	1.07	3.92	-13.73	3	3
13.100	46.259	-13.100	-46.259	26.85	26.78	0.94	3.78	-15.27	4	3
13.300	46.915	-13.300	-46.915	24.86	26.29	0.70	2.83	-15.02	5	3
13.500	47.572	-13.500	-47.572	24.05	23.90	0.52	2.17	-14.53	6	4
13.700	48.228	-13.700	-48.228	23.96	23.67	0.54	2.25	-14.15	6	3
13.900	48.884	-13.900	-48.884	24.03	24.03	0.66	2.76	-12.22	5	3
14.100	49.540	-14.100	-49.540	23.80	23.75	0.62	2.63	-11.62	5	3
14.300	50.196	-14.300	-50.196	22.78	22.33	0.55	2.46	3.85	5	3
14.500	50.852	-14.500	-50.852	20.39	20.15	0.46	2.28	-7.71	5	3
14.700	51.509	-14.700	-51.509	23.94	23.90	0.54	2.26	-8.45	6	3
14.900	52.165	-14.900	-52.165	24.67	24.14	0.68	2.76	-7.09	5	3
15.100	52.821	-15.100	-52.821	22.85	22.65	0.49	2.14	-5.33	5	3
15.300	53.477	-15.300	-53.477	21.51	21.49	0.50	2.34	6.32	5	3
15.500	54.133	-15.500	-54.133	23.46	23.44	0.52	2.21	-1.85	5	3
15.700	54.789	-15.700	-54.789	21.87	21.86	0.46	2.12	-2.68	6	3
15.900	55.446	-15.900	-55.446	22.20	22.20	0.55	2.48	6.53	5	3
16.100	56.102	-16.100	-56.102	23.50	23.32	0.51	2.19	1.56	6	3
16.300	56.758	-16.300	-56.758	12.17	12.19	0.43	1.94	5.55	6	3
16.500	57.414	-16.500	-57.414	20.01	20.05	0.37	1.84	1.48	6	3
16.700	58.070	-16.700	-58.070	19.19	19.24	0.42	2.16	5.65	6	3
16.900	58.726	-16.900	-58.726	21.00	21.07	0.52	2.35	13.77	5	3
17.100	59.382	-17.100	-59.382	156.54	116.65	3.18	2.71	18.80	3	6
17.300	60.039	-17.300	-60.039	166.17	166.17	2.15	1.29	0.15	3	5

Run No 04-1124-1339.6975
- File 0090P36.DAT

Col-01 Depth (m)	Col-02 Depth (ft)	Col-03 Elev. (m)	Col-04 Elev. (ft)	Col-05 qc (tsf)	Col-06 qc (tsf)	Col-07 fs (tsf)	Col-08 Rf (%)	Col-09 u (psi)	Col-10 SBT (Zone)	Col-11 SBTn (Zone)
10.000	60.695	-16.600	-60.695	206.23	206.18	0.97	0.47	-4.75	5	6
10.200	61.353	-16.700	-61.353	114.25	114.22	1.18	1.05	-3.06	9	6
10.400	62.007	-16.800	-62.007	169.05	169.02	0.87	0.51	15.42	5	6
10.600	62.663	-16.900	-62.663	148.69	148.20	1.11	0.75	23.53	9	6
10.800	63.319	-17.000	-63.319	101.96	101.91	0.94	0.92	10.97	8	5
11.000	63.976	-17.100	-63.976	27.03	27.11	0.73	2.75	5.76	5	3
11.200	64.632	-17.200	-64.632	16.83	16.36	0.39	2.07	35.69	6	3
11.400	65.288	-17.300	-65.288	25.67	24.29	0.39	1.47	58.41	6	4
11.600	65.944	-17.400	-65.944	26.91	27.41	0.52	2.95	105.20	1	3
11.800	66.600	-17.500	-66.600	19.26	19.67	0.51	2.59	97.07	5	3
12.000	67.256	-17.600	-67.256	16.30	16.53	0.29	2.06	10.84	5	3
12.200	67.913	-17.700	-67.913	14.23	14.55	0.32	1.91	55.23	6	3
12.400	68.569	-17.800	-68.569	14.32	15.14	0.33	2.17	89.05	6	3
12.600	69.225	-17.900	-69.225	19.34	19.69	0.46	2.32	117.94	5	3
12.800	69.881	-18.000	-69.881	18.25	18.70	0.39	2.10	101.56	6	3
13.000	70.537	-18.100	-70.537	20.75	21.41	0.61	3.16	141.41	5	3
13.200	71.194	-18.200	-71.194	58.61	57.82	1.76	2.98	63.35	6	4
13.400	71.850	-18.300	-71.850	55.62	55.45	0.36	0.65	5.19	6	5
13.600	72.506	-18.400	-72.506	26.53	26.65	0.43	1.61	26.81	5	4
13.800	73.162	-18.500	-73.162	18.24	18.23	0.61	3.35	0.55	5	3
14.000	73.819	-18.600	-73.819	15.56	15.54	0.66	4.24	-3.54	3	3
14.200	74.475	-18.700	-74.475	14.74	14.73	0.60	4.06	-1.54	3	3
14.400	75.130	-18.800	-75.130	15.73	15.75	0.74	4.73	3.20	3	3
14.600	75.786	-18.900	-75.786	13.80	13.83	0.61	4.44	6.24	3	3
14.800	76.443	-19.000	-76.443	14.16	14.20	0.50	3.74	11.72	3	3
15.000	77.099	-19.100	-77.099	14.57	14.64	0.53	3.64	10.54	4	3
15.200	77.755	-19.200	-77.755	12.65	12.74	0.48	3.73	16.55	3	3
15.400	78.411	-19.300	-78.411	12.36	12.44	0.39	3.23	36.55	3	3
15.600	79.067	-19.400	-79.067	13.81	14.09	0.46	3.11	55.31	3	3
15.800	79.723	-19.500	-79.723	15.75	15.84	0.64	4.01	61.38	4	3
16.000	80.380	-19.600	-80.380	19.27	19.19	0.81	4.24	69.43	4	3
16.200	81.036	-19.700	-81.036	25.50	25.78	1.26	4.56	85.94	3	3
16.400	81.692	-19.800	-81.692	23.70	24.04	1.30	5.39	72.55	3	3
16.600	82.348	-19.900	-82.348	21.53	21.36	1.18	5.62	65.71	3	3
16.800	83.004	-20.000	-83.004	22.26	22.46	1.10	4.85	73.96	3	3
17.000	83.660	-20.100	-83.660	27.79	28.29	1.28	4.51	106.41	4	3
17.200	84.317	-20.200	-84.317	33.10	34.10	1.32	3.83	171.54	5	3
17.400	84.973	-20.300	-84.973	39.69	40.77	1.65	4.04	225.32	5	4
17.600	85.629	-20.400	-85.629	45.55	46.81	1.83	3.91	259.35	5	3
17.800	86.285	-20.500	-86.285	55.85	57.40	2.27	3.97	311.45	5	3
18.000	86.941	-20.600	-86.941	56.73	58.38	2.24	3.84	313.12	5	3
18.200	87.597	-20.700	-87.597	59.36	61.15	1.95	3.19	445.50	6	4
18.400	88.254	-20.800	-88.254	97.47	99.93	2.29	2.27	450.33	7	4

Interpretation Output - Release 1.22 Rev. A - Build 4 Format: UKP Imperial

Run No: 04-0124-1717-4071

Job No: 04-309

Client: GeoSyntec Consultants

Project: Pigeon Point Landfill - Wilmington Delaware

Site: CPT-10

Location: Pigeon Point

Cone: 20 TON X3046

CPT Date: 04/15/11

CPT Time: 15:12

CPT File: 809CPT1.COR

Northing (m): 0.000000

Easting (m): 0.000000

Elevation (m): 0.000000

Water Table (m): 5.18 (ft): 17.0

Unit Weight of Water (default): 62.40 pcf

Averaging Increment (m): 0.20

Su Net Used: 15.00 Su/P' (Nd): 0.10

Dr Method: Zarubkowski - All Zones

Shape Parameter M: 1.20

Hard Unit Weights Assigned to Soil Zones

Nitrite Calculated using qcin

Nitrden Calculated using qcinsn

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 Soil-eq (Zone)	Col-13 Soil-Mpa (Zone)	Col-14 Perm-K (cm/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (ksf)	Col-17 U Stress (ksf)	Col-18 E Stress (ksf)	Col-19 Cn	Col-20 N60 (b/ft)
0.100	0.328	6	7	5.0E-06	114.6	0.019	0.000	0.019	2.00	6.2
0.200	0.984	7	7	5.0E-06	114.6	0.056	0.000	0.056	2.00	11.5
0.300	1.640	9	7	5.0E-06	114.6	0.094	0.000	0.094	2.00	16.6
0.400	2.297	9	6	5.0E-06	114.6	0.132	0.000	0.132	2.00	8.1
0.500	2.953	6	6	5.0E-06	114.6	0.169	0.000	0.169	2.00	5.6
0.600	3.609	9	6	5.0E-06	114.6	0.207	0.000	0.207	2.00	15.8
0.700	4.265	8	7	5.0E-03	120.9	0.245	0.001	0.245	2.00	16.1
0.800	4.921	5	7	5.0E-03	120.9	0.285	0.001	0.285	1.87	21.3
0.900	5.577	9	7	5.0E-02	124.1	0.325	0.005	0.325	1.75	16.4
1.000	6.234	7	6	5.0E-05	114.6	0.364	0.000	0.364	1.65	9.2
1.100	6.890	5	5	5.0E-05	114.6	0.402	0.000	0.402	1.58	5.5
1.200	7.546	5	5	5.0E-05	114.6	0.440	0.000	0.440	1.52	4.1
1.300	8.202	4	4	1.0E-07	111.4	0.477	0.000	0.477	1.45	3.1
1.400	8.858	3	3	1.0E-07	111.4	0.513	0.000	0.513	1.40	2.4
1.500	9.514	3	3	1.0E-07	111.4	0.550	0.000	0.550	1.35	2.5
1.600	10.170	3	3	1.0E-07	111.4	0.586	0.000	0.586	1.31	2.6
1.700	10.827	3	3	1.0E-07	111.4	0.623	0.000	0.623	1.27	2.1
1.800	11.483	3	3	1.0E-07	111.4	0.659	0.000	0.659	1.23	2.5
1.900	12.139	3	3	1.0E-07	111.4	0.696	0.000	0.696	1.20	2.3
2.000	12.795	4	3	1.0E-07	111.4	0.732	0.000	0.732	1.17	2.8
2.100	13.451	4	3	1.0E-07	111.4	0.769	0.000	0.769	1.14	2.7
2.200	14.117	4	3	1.0E-07	111.4	0.806	0.000	0.806	1.12	3.0
2.300	14.764	4	3	1.0E-07	111.4	0.842	0.000	0.842	1.09	3.1
2.400	15.420	4	3	1.0E-07	111.4	0.879	0.000	0.879	1.07	3.3
2.500	16.076	3	3	1.0E-07	111.4	0.915	0.000	0.915	1.05	3.4
2.600	16.732	3	3	1.0E-07	111.4	0.952	0.000	0.952	1.03	2.9
2.700	17.388	3	3	1.0E-07	111.4	0.988	0.011	0.977	1.01	2.8
2.800	18.044	3	3	1.0E-07	111.4	1.025	0.032	0.993	1.00	2.8
2.900	18.701	3	3	1.0E-07	111.4	1.061	0.053	1.009	1.00	3.3
3.000	19.357	3	3	1.0E-07	111.4	1.098	0.073	1.025	0.99	2.9
3.100	20.013	1	3	1.0E-07	111.4	1.135	0.094	1.041	0.98	2.9
3.200	20.669	3	3	1.0E-07	111.4	1.171	0.114	1.057	0.97	2.8

Run No: 04-1104-1317-4035
Input File: 403CP10.COS

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 SST-RQ (Zone)	Col-13 SST-RQ (Zone)	Col-14 Perm-K (cm/s)	Col-15 Dry Wt (pcf)	Col-16 T Stress (ksf)	Col-17 U Stress (ksf)	Col-18 S Stress (ksf)	Col-19 Cn	Col-20 SRD (S/Cn)
6.500	21.325	3	3	1.0E-07	111.4	1.203	0.135	1.013	0.99	2.7
6.700	21.981	3	3	1.2E-07	111.4	1.244	0.155	1.069	0.98	3.0
6.900	22.636	3	3	1.0E-07	111.4	1.283	0.176	1.105	0.95	3.3
7.100	23.294	3	3	5.0E-08	114.6	1.325	0.196	1.122	0.94	3.5
7.300	23.950	3	3	5.0E-06	114.6	1.365	0.217	1.139	0.94	3.6
7.500	24.606	3	4	5.0E-05	114.6	1.193	0.237	1.155	0.96	3.7
7.700	25.263	3	3	5.0E-06	114.6	1.433	0.252	1.173	0.97	3.7
7.900	25.918	3	3	1.0E-06	114.6	1.468	0.278	1.190	0.92	3.5
8.100	26.574	3	3	5.0E-06	114.6	1.506	0.299	1.207	0.91	3.7
8.300	27.231	3	3	5.0E-06	114.6	1.543	0.319	1.224	0.90	3.6
8.500	27.887	3	3	5.0E-06	114.6	1.581	0.340	1.241	0.90	3.7
8.700	28.543	3	3	5.0E-06	114.6	1.619	0.360	1.258	0.89	3.6
8.900	29.199	3	3	5.0E-06	114.6	1.658	0.381	1.276	0.89	3.4
9.100	29.855	4	3	5.0E-06	114.6	1.696	0.402	1.293	0.88	4.3
9.300	30.511	5	4	1.0E-03	111.4	1.731	0.422	1.309	0.87	14.8
9.500	31.168	4	3	5.0E-06	111.4	1.767	0.442	1.325	0.87	11.1
9.700	31.824	4	3	5.0E-06	111.4	1.804	0.463	1.341	0.86	11.5
9.900	32.480	4	3	5.0E-06	111.4	1.840	0.483	1.357	0.86	9.6
10.100	33.136	3	3	5.0E-07	114.6	1.877	0.504	1.376	0.85	5.5
10.300	33.792	4	3	5.0E-06	114.6	1.915	0.524	1.391	0.85	5.1
10.500	34.448	4	3	5.0E-03	111.4	1.952	0.544	1.408	0.84	19.6
10.700	35.105	4	3	5.0E-06	111.4	1.989	0.565	1.424	0.84	19.2
10.900	35.761	3	3	5.0E-06	114.6	2.026	0.585	1.440	0.83	4.9
11.100	36.417	3	3	5.0E-06	114.6	2.063	0.606	1.457	0.83	4.2
11.300	37.073	5	3	5.0E-06	114.6	2.101	0.626	1.475	0.83	5.6
11.500	37.729	4	3	1.0E-04	114.6	2.139	0.647	1.492	0.82	5.0
11.700	38.386	3	3	1.0E-07	114.6	2.176	0.667	1.508	0.81	3.9
11.900	39.042	3	3	5.0E-04	114.6	2.213	0.688	1.525	0.81	4.2
12.100	39.698	4	3	5.0E-06	114.6	2.250	0.708	1.542	0.81	5.3
12.300	40.354	5	3	5.0E-04	114.6	2.288	0.729	1.559	0.80	7.7
12.500	41.010	6	4	1.0E-03	114.6	2.325	0.749	1.576	0.80	11.5
12.700	41.666	7	5	5.0E-06	114.6	2.363	0.770	1.593	0.79	19.1
12.900	42.322	8	5	5.0E-07	114.6	2.401	0.790	1.610	0.79	26.6
13.100	42.978	6	5	5.0E-04	114.6	2.438	0.811	1.627	0.78	22.2
13.300	43.635	5	4	5.0E-05	114.6	2.477	0.831	1.644	0.78	24.3
13.500	44.291	5	5	5.0E-04	117.7	2.517	0.852	1.663	0.77	18.1
13.700	44.947	7	5	5.0E-06	114.6	2.555	0.872	1.683	0.77	15.5
13.900	45.603	7	4	5.0E-04	114.6	2.592	0.893	1.699	0.77	25.5
14.100	46.259	7	4	5.0E-07	114.6	2.629	0.913	1.716	0.76	15.5
14.300	46.915	7	4	5.0E-06	114.6	2.667	0.934	1.733	0.76	11.5
14.500	47.572	7	4	5.0E-05	114.6	2.704	0.954	1.750	0.76	7.2
14.700	48.228	7	4	5.0E-05	114.6	2.742	0.975	1.767	0.75	9.1
14.900	48.884	7	4	5.0E-06	114.6	2.780	0.995	1.784	0.75	13.5
15.100	49.540	7	4	5.0E-06	114.6	2.817	1.015	1.803	0.75	11.4
15.300	50.196	4	4	5.0E-06	114.6	2.855	1.035	1.819	0.74	10.7
15.500	50.852	-9999.0	4	5.0E-06	114.6	2.892	1.057	1.836	0.74	9.7
15.700	51.509	7	4	5.0E-05	114.6	2.930	1.077	1.853	0.73	5.2
15.900	52.165	7	4	5.0E-06	114.6	2.968	1.098	1.870	0.73	11.3
16.100	52.821	7	5	5.0E-05	114.6	3.005	1.118	1.887	0.73	3.7
16.300	53.477	6	4	5.0E-06	114.6	3.043	1.139	1.904	0.73	10.3
16.500	54.133	7	4	5.0E-06	114.6	3.080	1.159	1.921	0.72	11.3
16.700	54.789	6	4	5.0E-05	114.6	3.118	1.180	1.938	0.72	5.4
16.900	55.446	6	4	5.0E-05	114.6	3.156	1.200	1.956	0.72	10.5
17.100	56.102	7	4	5.0E-05	114.6	3.193	1.221	1.973	0.71	8.9
17.300	56.758	7	4	5.0E-05	114.6	3.231	1.241	1.990	0.71	6.5
17.500	57.414	6	4	5.0E-05	114.6	3.268	1.262	2.007	0.71	7.1
17.700	58.070	6	4	5.0E-05	114.6	3.306	1.283	2.024	0.70	7.6
17.900	58.726	6	4	5.0E-06	114.6	3.344	1.303	2.041	0.70	10.1
18.100	59.382	9	6	5.0E-02	114.6	3.381	1.323	2.058	0.69	31.9
18.300	60.039	9	6	5.0E-07	109.9	3.422	1.343	2.079	0.69	39.8

Exp. No: 06-1114-1317-4093
CPT Value: BCSEPIE CPA

Col-01 Depth (m)	Col-02 Depth (ft)	Col-12 SBT BQ (Zone)	Col-13 SBT BQn (Zone)	Col-14 Perm-k (cm/s)	Col-15 Unit Wt (pcf)	Col-16 T Stress (tsf)	Col-17 N Normal (tsf)	Col-18 S Stress (tsf)	Col-19 Cn	Col-20 FSO (%/ft)
15.500	50.855	9	6	5.03-02	124.1	3.463	1.366	2.090	0.69	19.8
15.700	51.511	9	5	5.02-02	124.1	3.504	1.356	2.119	0.69	25.3
15.900	52.167	9	6	5.01-02	124.1	3.545	1.395	2.140	0.69	22.4
16.100	52.823	9	6	5.03-02	124.1	3.585	1.425	2.160	0.68	28.4
16.300	53.479	9	6	5.07-01	120.5	3.625	1.456	2.180	0.68	26.4
16.500	54.136	7	4	5.05-05	114.6	3.664	1.466	2.198	0.67	13.5
16.700	54.792	6	4	5.02-05	114.6	3.702	1.487	2.216	0.67	7.1
16.900	55.448	7	4	5.02-05	114.6	3.739	1.507	2.232	0.67	10.5
17.100	56.104	5	3	5.02-05	114.6	3.777	1.528	2.247	0.67	6.3
17.300	56.760	6	4	5.01-05	114.6	3.814	1.548	2.266	0.66	9.4
17.500	57.416	6	4	5.03-05	114.6	3.852	1.565	2.283	0.66	7.1
17.700	57.933	5	4	5.03-05	114.6	3.890	1.585	2.300	0.66	6.1
17.900	58.689	5	3	5.03-05	114.6	3.927	1.610	2.317	0.66	7.3
18.100	59.346	5	3	5.03-05	114.6	3.965	1.630	2.335	0.65	9.5
18.300	59.661	5	3	5.03-05	114.6	4.002	1.651	2.352	0.65	7.2
18.500	60.631	5	3	5.03-05	114.6	4.040	1.671	2.369	0.65	10.3
18.700	61.193	8	5	5.06-05	114.6	4.079	1.692	2.385	0.65	22.5
18.900	61.850	8	5	5.06-05	120.9	4.116	1.712	2.404	0.65	13.8
19.100	62.506	7	4	5.05-05	114.6	4.155	1.732	2.422	0.64	10.7
19.300	63.162	-9999.0	3	5.05-06	114.6	4.192	1.753	2.439	0.64	8.7
19.500	63.818	-9999.0	3	5.0E-08	111.4	4.230	1.774	2.456	0.64	14.9
19.700	64.474	-9999.0	3	5.0E-08	111.4	4.265	1.756	2.472	0.64	14.1
19.900	65.130	-9999.0	3	5.0E-08	111.4	4.301	1.615	2.488	0.63	15.1
20.100	65.786	-9999.0	3	5.0E-08	111.4	4.339	1.835	2.504	0.63	13.2
20.300	66.443	-9999.0	3	5.0E-07	114.6	4.376	1.856	2.523	0.63	5.1
20.500	67.099	-9999.0	3	5.0E-07	114.6	4.414	1.876	2.539	0.63	5.3
20.700	67.755	-9999.0	-9999.0	5.0E-07	114.6	4.451	1.897	2.555	0.63	8.1
20.900	68.411	-9999.0	3	5.0E-07	114.6	4.489	1.917	2.572	0.62	1.7
21.100	69.067	6	3	5.0E-06	114.6	4.527	1.936	2.589	0.62	6.3
21.300	69.723	6	3	5.0E-07	114.6	4.564	1.958	2.606	0.62	10.2
21.500	70.380	6	4	5.0E-07	114.6	4.602	1.979	2.623	0.62	12.4
21.700	71.036	7	4	5.0E-08	111.4	4.639	1.999	2.645	0.62	24.7
21.900	71.692	7	4	5.0E-08	111.4	4.675	2.020	2.646	0.61	21.0
22.100	72.348	7	4	5.0E-08	111.4	4.712	2.040	2.672	0.61	22.9
22.300	73.004	6	4	5.0E-08	111.4	4.748	2.061	2.690	0.61	21.7
22.500	73.660	6	4	5.0E-07	114.6	4.785	2.081	2.705	0.61	18.1
22.700	74.317	6	4	5.0E-06	114.6	4.823	2.102	2.722	0.61	15.3
22.900	74.973	6	4	5.0E-06	114.6	4.861	2.122	2.739	0.60	19.5
23.100	75.629	6	4	5.0E-06	114.6	4.898	2.142	2.756	0.60	22.4
23.300	76.285	6	4	5.0E-06	114.6	4.936	2.163	2.773	0.60	27.5
23.500	76.941	6	4	5.0E-06	114.6	4.974	2.183	2.790	0.60	28.0
23.700	77.597	6	4	5.0E-06	114.6	5.011	2.204	2.807	0.60	29.4
23.900	78.254	7	5	5.0E-06	117.7	5.049	2.224	2.825	0.60	31.8

Interpretation Output Release 1.22 Rev. X - Build 5 Format: NLP Imperial

Run No: 04 1124 1317-6095
Job No: 04-ECS
Client: GeoSyntec Consultants
Project: Pigeon Point Landfill - Wilmington Delaware
Site: CPT-11
Location: Pigeon Point
Cone: 20 TON A0166
CPT Date: 04/25/11
CPT Time: 10 32
CPT File: B09CP10.CG2
Northing (ft) 0.000000
Easting (ft) 0.000000
Elevation (ft) 0.000000

Water Table (ft): 5.15 (ft) 17.0
Unit Weight of Water: (default): 62.40 pcf
Averaging Increment (in): 0.20
Sq Wt used 15.00 Rw/Ry (inc) 0.30
Ir Method Jamiolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
N160Ic Calculated using qc1n
N160cs Calculated using qcincs

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 N160 (Bl) (b/ft)	Col-22 N160cIc (b/ft)	Col-23 N160cIcs (b/ft)	Col-24 QL	Col-25 Fr (%)	Col-26 Bq	Col-27 Ic	Col-28 FC (%)	Col-29 IsBeno (zone)
0.100	0.328	12.3	-9999.0	-9999.0	684.63	2.38	0.10	-9999.0	-9999.0	0
0.200	0.656	25.7	-9999.0	-9999.0	613.22	2.62	0.10	-9999.0	-9999.0	0
0.300	1.640	21.2	9.3	19.4	291.18	1.67	0.10	2.13	14.6	5
0.700	2.297	11.3	4.9	11.4	155.71	2.03	0.00	2.30	22.3	5
0.900	2.953	13.1	4.0	10.0	109.85	1.87	-0.01	2.38	25.7	5
1.100	3.609	31.5	6.1	13.7	135.85	1.63	-0.01	2.22	19.5	5
1.300	4.265	20.3	10.9	22.6	216.51	3.85	0.09	1.52	8.3	5
1.500	4.921	40.0	15.6	29.5	311.65	3.30	0.09	1.55	5.1	5
1.700	5.577	32.2	19.4	25.4	253.60	3.93	0.09	1.57	3.5	6
1.900	6.234	15.3	5.5	9.4	65.03	1.53	0.09	2.34	24.1	5
2.100	6.890	6.0	2.7	5.5	25.19	1.48	0.15	2.67	33.7	5
2.300	7.546	6.2	2.0	4.1	23.14	1.10	0.01	2.60	36.3	5
2.500	8.202	4.5	1.0	3.6	32.78	1.70	0.28	2.72	41.5	4
2.700	8.858	3.4	1.5	2.7	8.48	1.15	0.25	2.81	49.7	4
2.900	9.514	3.4	1.5	2.4	8.56	0.38	0.25	2.82	46.4	4
3.100	10.170	3.4	1.5	2.4	8.25	0.72	0.26	2.77	44.4	4
3.300	10.827	2.6	1.4	2.0	5.57	0.94	0.31	2.95	55.0	4
3.500	11.483	3.0	1.5	2.2	6.76	0.98	0.25	2.90	52.0	4
3.700	12.139	2.8	1.6	2.0	5.92	1.28	0.20	3.02	58.9	3
3.900	12.795	1.1	1.8	2.1	6.95	1.43	0.10	2.97	56.2	3
4.100	13.451	1.1	1.8	2.1	6.35	1.03	0.13	2.94	54.4	4
4.300	14.107	1.2	1.9	2.1	6.72	0.88	0.17	2.89	51.2	4
4.500	14.764	1.5	2.3	2.4	7.27	1.19	0.14	2.86	49.6	4
4.700	15.420	1.5	2.1	2.2	5.75	1.18	0.22	2.94	54.6	4
4.900	16.076	3.5	2.3	2.2	6.66	1.48	0.23	2.69	57.8	3
5.100	16.732	2.9	2.0	1.9	4.77	1.39	0.40	3.06	62.3	3
5.300	17.388	2.9	2.0	1.8	5.07	1.32	0.41	3.09	61.5	3
5.500	18.044	2.6	2.0	1.7	4.86	1.30	0.40	3.03	64.5	3
5.700	18.701	1.1	2.1	1.8	5.65	0.62	0.24	2.96	55.3	3
5.900	19.357	2.9	2.0	1.7	4.84	1.36	0.14	3.01	62.1	3
6.100	20.013	2.9	2.1	1.8	4.82	1.50	0.41	3.12	61.9	3
6.300	20.669	2.8	2.1	1.6	4.52	1.31	0.45	3.17	60.7	3

Run No: 04-1124-1317-4075
CRT File: 8093210.COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 (lb/ft)	Col-22 (lb/ft)	Col-23 (lb/ft)	Col-24 Cc	Col-25 Pc (%)	Col-26 Sq	Col-27 Cu	Col-28 PI (%)	Col-29 Lithone (Zone)
5.500	21.325	2.5	2.0	1.5	4.15	1.18	0.43	1.71	67.1	4
6.000	21.561	2.8	2.0	1.5	4.40	1.06	0.39	1.65	51.8	3
6.500	22.635	3.0	2.0	1.7	4.90	1.16	0.38	1.65	52.8	3
7.000	23.294	3.2	2.5	1.9	5.35	1.50	0.39	1.68	53.9	3
7.500	23.950	3.4	2.6	2.0	5.46	1.73	0.37	1.70	55.1	3
8.000	24.608	3.5	2.7	2.0	5.54	1.64	0.37	1.76	54.3	3
8.500	25.262	3.6	2.7	2.0	5.31	1.69	0.36	1.70	55.7	3
9.000	25.918	3.5	2.7	2.0	5.19	1.57	0.40	1.75	55.0	3
9.500	26.574	3.6	2.7	2.0	5.13	1.52	0.42	1.71	56.0	3
10.000	27.231	3.5	3.1	1.9	4.54	1.52	0.44	2.15	58.9	3
10.500	27.887	3.4	3.0	1.5	3.03	1.52	0.41	2.15	69.2	3
11.000	28.543	3.2	3.9	1.9	4.72	1.66	0.45	2.17	70.5	3
11.500	29.199	3.0	3.9	1.7	4.36	1.10	0.44	2.23	75.2	3
12.000	29.855	4.4	3.7	2.5	6.69	1.16	0.30	2.15	59.5	3
12.500	30.511	22.6	5.5	3.5	16.31	0.93	0.19	2.16	69.6	3
13.000	31.168	21.4	5.2	3.4	7.04	6.73	0.24	2.24	76.3	3
13.500	31.824	7.5	4.5	3.6	7.21	6.35	0.19	2.30	80.8	3
14.000	32.480	8.3	4.3	2.6	5.06	4.97	0.29	2.30	82.7	3
14.500	33.136	4.7	3.3	2.5	4.03	2.59	0.41	3.26	77.6	3
15.000	33.792	4.3	3.5	2.4	4.25	3.50	0.30	3.27	70.5	3
15.500	34.448	4.8	4.2	2.5	4.73	4.58	0.34	3.20	77.9	3
16.000	35.105	4.6	4.2	2.5	4.10	4.56	0.34	3.20	75.2	3
16.500	35.761	4.1	3.7	2.2	3.75	2.48	0.47	3.15	69.5	3
17.000	36.417	3.5	3.2	1.6	4.57	1.92	0.42	3.19	72.0	3
17.500	37.073	4.5	4.2	2.5	6.50	1.27	0.34	3.17	75.9	3
18.000	37.725	4.8	4.2	2.4	6.90	2.42	0.25	3.05	64.5	3
18.500	38.385	3.2	-9999.0	-9999.0	4.01	0.75	0.45	-9999.0	-9999.0	0
19.000	39.042	3.4	3.2	1.6	5.24	1.72	0.41	3.25	72.1	3
19.500	39.698	4.2	3.9	2.3	5.45	2.46	0.26	3.15	69.3	3
20.000	40.354	5.8	5.2	2.9	8.26	3.21	0.14	3.02	64.2	3
20.500	41.010	9.3	7.5	4.5	13.73	3.62	0.05	2.95	55.1	4
21.000	41.665	12.9	9.4	5.7	18.29	3.95	0.01	2.86	45.5	4
21.500	42.322	21.0	12.1	7.4	26.39	4.68	0.02	2.83	46.7	4
22.000	42.978	17.4	12.8	7.8	20.55	3.85	-0.02	2.72	41.7	4
22.500	43.636	18.9	24.5	13.5	75.57	2.91	-0.01	1.91	16.7	4
23.000	44.291	13.6	21.9	9.6	28.79	1.92	0.03	2.41	26.2	5
23.500	44.947	12.3	9.9	5.7	15.25	4.00	0.05	2.85	45.7	4
24.000	45.603	20.4	9.4	5.2	14.75	6.63	-0.06	1.83	41.3	3
24.500	46.259	12.1	8.8	4.3	12.91	4.71	-0.06	1.82	39.2	3
25.000	46.915	9.0	7.7	4.1	11.77	3.17	-0.06	2.97	53.5	4
25.500	47.572	8.3	7.2	3.8	12.16	2.45	-0.07	2.83	50.8	4
26.000	48.228	8.3	7.2	3.8	11.36	2.54	-0.07	2.89	51.5	4
26.500	48.884	8.6	7.5	3.9	11.51	3.13	-0.05	2.95	54.9	4
27.000	49.540	8.5	7.4	3.8	11.42	2.35	-0.06	2.94	54.7	4
27.500	50.196	7.9	7.0	3.5	10.71	2.92	-0.07	2.96	55.6	4
28.000	50.852	7.2	6.5	3.2	9.51	2.46	-0.08	2.94	57.5	3
28.500	51.509	6.7	6.4	3.6	11.12	2.54	-0.08	2.92	53.8	4
29.000	52.165	6.5	7.8	2.8	12.49	3.15	-0.06	2.98	55.6	3
29.500	52.821	6.4	7.2	3.4	10.50	2.47	-0.05	2.93	54.0	4
30.000	53.477	7.5	6.9	3.7	9.59	3.73	-0.07	2.99	57.5	4
30.500	54.133	8.1	9.5	3.5	10.50	3.01	-0.05	2.98	57.3	3
31.000	54.789	6.0	6.9	3.2	9.47	2.41	-0.07	2.98	56.0	3
31.500	55.446	7.5	7.2	3.3	9.74	2.89	-0.06	3.00	58.3	1
32.000	56.102	6.4	7.3	3.4	10.20	2.64	-0.06	2.95	56.2	4
32.500	56.758	6.2	7.0	3.1	9.53	2.27	-0.06	2.93	55.9	4
33.000	57.414	5.4	6.4	2.8	8.35	2.20	-0.06	2.95	57.7	3
33.500	58.070	5.2	6.4	2.7	7.87	2.61	0.06	3.03	43.5	1
34.000	58.726	7.1	7.2	3.3	5.68	3.51	-0.05	3.09	44.1	3
34.500	59.382	22.2	10.1	21.5	34.26	0.72	0.30	1.74	7.7	5
35.000	60.039	29.6	12.5	25.0	73.27	1.31	-0.02	1.95	13.8	5

Run No 54-1124 1317-4675
PT File# 825CP10.COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-21 [illegible] (D/ft)	Col-22 [illegible] (lb/ft)	Col-23 [illegible] (lb/ft)	Col-24 Gr	Col-25 Pr (%)	Col-26 Rg	Col-27 1c	Col-28 2c (%)	Col-29 1cZone (Zone)
18.500	60.596	27.1	15.7	25.1	96.57	0.48	0.02	1.60	6.5	6
18.600	61.391	17.7	26.6	16.2	61.66	0.88	-0.02	1.91	10.8	6
18.700	62.037	22.1	32.2	21.3	77.19	0.57	-0.01	1.70	8.5	5
18.800	62.669	19.3	27.9	19.4	65.96	0.76	0.00	1.84	9.1	6
18.900	63.329	16.5	20.6	14.2	45.09	0.96	-0.01	2.07	13.9	6
19.000	63.976	8.8	5.7	3.6	10.57	3.13	-0.05	2.58	57.4	3
19.100	64.632	4.7	6.5	2.5	6.85	2.76	-0.02	3.10	65.2	3
19.200	65.288	6.7	7.8	3.1	15.05	1.72	0.03	7.96	48.5	6
19.300	65.944	5.9	4.6	2.4	8.06	2.77	0.13	3.73	35.6	3
19.400	66.600	6.3	7.9	2.6	7.00	3.22	0.07	3.14	58.8	5
19.500	67.256	4.7	4.5	2.6	6.41	2.63	-0.04	3.13	61.4	7
19.600	67.913	4.2	6.5	2.1	5.50	3.49	0.01	3.17	70.9	3
19.700	68.569	4.5	5.9	2.0	6.97	2.92	0.10	3.24	76.9	3
19.800	69.225	6.2	7.5	2.5	6.82	3.85	0.13	3.33	61.4	3
19.900	69.881	4.7	6.7	2.3	5.23	2.57	0.15	3.34	68.2	3
20.000	70.537	6.7	7.3	2.8	7.13	3.85	0.16	3.37	72.6	3
20.100	71.193	14.6	16.4	5.6	22.94	1.20	-0.01	2.73	41.2	5
20.200	71.850	8.6	17.0	7.9	21.44	0.71	-0.03	2.20	19.0	5
20.300	72.506	5.6	6.7	1.0	9.29	1.95	-0.04	2.52	53.1	4
20.400	73.163	5.6	7.2	2.4	5.74	4.35	-0.11	2.27	79.5	3
20.500	73.838	5.5	4.5	2.1	4.51	5.81	-0.17	3.44	93.1	3
20.600	74.474	9.0	6.9	2.1	4.23	6.56	-0.17	3.50	76.7	3
20.700	75.130	9.5	7.2	2.2	4.53	6.46	-0.15	3.44	95.6	3
20.800	75.786	5.4	4.7	1.9	3.79	6.47	-0.17	3.53	100.0	3
20.900	76.443	5.7	6.6	1.5	3.91	5.46	-0.15	3.48	97.2	3
21.000	77.099	5.9	5.6	1.5	4.01	5.19	-0.13	3.46	96.9	3
21.100	77.755	5.1	6.3	1.7	3.95	5.31	-0.15	3.51	100.0	3
21.200	78.411	4.8	6.1	1.5	2.93	5.15	-0.11	3.57	100.0	3
21.300	79.067	4.2	6.4	1.2	3.69	4.55	-0.01	3.69	96.3	3
21.400	79.723	4.7	7.3	2.3	4.41	3.61	0.00	3.44	93.7	3
21.500	80.380	7.0	8.0	2.4	5.64	5.46	0.01	3.35	85.2	3
21.600	81.036	15.7	7.5	3.2	6.03	6.05	-0.02	3.25	77.3	3
21.700	81.692	14.1	5.7	3.3	7.20	5.69	0.01	3.32	82.2	3
21.800	82.343	12.6	9.2	2.6	8.45	6.52	0.06	3.37	86.8	3
21.900	83.056	13.2	5.2	2.5	6.66	6.15	0.02	3.32	92.5	3
22.000	83.660	17.0	10.5	3.4	8.03	5.43	0.05	3.20	72.2	3
22.100	84.317	9.9	11.6	3.5	10.70	4.46	0.13	3.07	63.5	3
22.200	84.973	11.9	12.3	4.5	13.09	4.55	0.18	3.01	55.2	3
22.300	85.629	13.5	14.2	5.1	15.21	4.37	0.24	2.95	56.1	4
22.400	86.286	16.5	17.3	5.6	18.92	4.32	0.20	2.87	50.3	4
22.500	86.943	16.7	17.4	6.0	19.14	4.20	0.17	2.86	49.1	4
22.600	87.597	14.0	17.5	6.2	19.35	3.40	0.23	2.95	45.7	4
22.700	88.254	17.9	22.9	11.9	31.52	2.39	0.24	2.16	24.2	5

Interpretation Output - Release 1.22 Rev. A - Build 4 Format: UNF Imperial
Run No. 04 1124-1317-4575
Job No: 04-005
Client GeoSyntec Consultants
Project Pigeon Point Landfill - Wilmington Delaware
Site. CPT-10
Location: Pigeon Point
Zone: 20 TCN Ab66
CPT Date: 04/15/11
CPT Time: 10:32
CPT File: 0004010.COR
Screening (ft): 0.500000
Casing (ft): 0.000000
Elevation (ft): 0.000000

Water Table (m): 5.18 (ft): 17.0
Unit Weight of Water (default) 62.40 pcf
Averaging Increment (ft): 0.20
Su Max used. 15.00 Su/P' (ncl): 0.20
Dr Method : Jaetolkowski - All Sands
State Parameter M: 1.20
Used Unit Weights Assigned to Soil Zones
Ic66fc Calculated using qtn
Ic66cs Calculated using qtnncs

Col 01 Depth (m)	Col 02 Depth (ft)	Col-30 Dr (%)	Col-31 Phi (deg)	Col-32 State Par	Col-33 Su/qt	Col-34 Youngs (ksf)	Col-35 Ko (ksf)	Col-36 OCR
1.190	3.920	-9999.0	9999.0	-9999.0	-9999.0	-9999.0	0.858	10.0
1.300	3.964	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.576	10.0
1.400	3.449	61.7	46.0	-0.37	2.249	62.2	1.837	10.0
1.500	4.297	51.2	44.0	-0.32	2.148	53.1	1.401	10.0
1.600	4.953	41.7	42.0	-0.26	3.250	55.0	1.137	10.0
1.700	5.605	52.3	44.0	-0.27	2.669	95.6	1.253	10.0
1.800	6.265	71.6	46.0	-0.25	2.153	120.0	-9999.0	9999.0
1.900	6.921	61.2	46.0	-0.28	1.862	167.0	-9999.0	9999.0
2.000	5.577	61.5	46.0	-0.23	1.881	180.2	-9999.0	9999.0
2.100	6.234	60.1	40.0	-0.15	1.129	60.1	1.580	10.0
2.200	6.890	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.675	10.0
2.300	7.546	20.0	34.0	-0.05	-9999.0	-9999.0	0.664	1.0
2.400	8.202	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.490	1.5
2.500	8.858	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.394	2.2
2.600	9.514	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.314	2.1
2.700	10.170	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.322	2.0
2.800	10.827	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.248	1.8
2.900	11.483	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.297	1.6
3.000	12.139	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.275	1.7
3.100	12.795	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.240	1.6
3.200	13.451	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.325	1.4
3.300	14.107	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.361	1.5
3.400	14.764	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.415	1.5
3.500	15.420	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.395	1.5
3.600	16.076	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.406	1.5
3.700	16.732	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.334	1.2
3.800	17.388	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.330	1.1
3.900	18.044	9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.327	1.1
4.000	18.700	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.357	1.2
4.100	19.357	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.331	1.1
4.200	20.013	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.314	1.1
4.300	20.669	9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.318	1.0

Run No: 06-1124-1117-4075
CPT File: 605CP10.CDR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-30 Qc (kPa)	Col-31 Phi (deg)	Col-32 State Pwa	Col-33 Qt/qc	Col-34 Sbung2 (kPa)	Col-35 Nm (cycl)	Col-36 OCR
6.500	21.326	9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.259	0.9
6.700	21.982	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	0.319	1.0
6.900	22.638	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.361	1.1
7.100	23.294	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.406	1.2
7.300	23.951	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.424	1.2
7.500	24.605	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.421	1.2
7.700	25.262	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.415	1.2
7.900	25.919	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.407	1.1
8.100	26.574	9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.411	1.1
8.300	27.231	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	0.402	1.1
8.500	27.887	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.411	1.1
8.700	28.543	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.395	1.0
8.900	29.199	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.366	1.0
9.100	29.855	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.376	1.0
9.300	30.511	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.900	2.6
9.500	31.168	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.797	2.3
9.700	31.824	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.645	1.7
9.900	32.480	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.546	1.4
10.100	33.136	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.497	1.3
10.300	33.792	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.579	1.4
10.500	34.448	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.599	1.6
10.700	35.105	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.579	1.6
10.900	35.761	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.552	1.3
11.100	36.417	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.445	1.0
11.300	37.073	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.619	1.5
11.500	37.729	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.615	1.5
11.700	38.385	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.404	0.9
11.900	39.042	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.431	0.9
12.100	39.698	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.581	1.3
12.300	40.354	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.958	2.0
12.500	41.010	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.664	4.0
12.700	41.666	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.343	6.2
12.900	42.322	9999.0	9999.0	9999.0	-9999.0	-9999.0	1.623	9.7
13.100	42.978	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.523	19.0
13.300	43.635	66.1	40.0	-0.16	2.588	216.4	-9999.0	-9999.0
13.500	44.291	35.7	36.0	-0.23	1.983	130.8	-9999.0	-9999.0
13.700	44.947	9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.043	6.1
13.900	45.603	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.675	4.5
14.100	46.258	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.675	3.9
14.300	46.915	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.476	3.4
14.500	47.571	30.0	30.0	-0.08	-9999.0	-9999.0	1.419	3.3
14.700	48.226	30.0	30.0	-0.06	-9999.0	-9999.0	1.429	3.3
14.900	48.884	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.419	3.2
15.100	49.540	-9999.0	-9999.0	-9999.0	9999.0	9999.0	1.395	3.3
15.300	50.196	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.398	3.0
15.500	50.852	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.184	2.4
15.700	51.508	30.0	30.0	-0.06	-9999.0	-9999.0	1.358	3.0
15.900	52.165	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.465	3.1
16.100	52.821	30.0	30.0	-0.04	-9999.0	-9999.0	1.321	2.7
16.300	53.477	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.306	2.6
16.500	54.133	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	1.258	2.7
16.700	54.789	30.0	30.0	-0.03	-9999.0	-9999.0	1.243	2.4
16.900	55.446	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.270	2.6
17.100	56.102	30.0	30.0	-0.04	-9999.0	-9999.0	1.242	2.6
17.300	56.758	30.0	30.0	-0.02	9999.0	-9999.0	1.264	2.4
17.500	57.414	30.0	30.0	-0.01	-9999.0	-9999.0	1.119	2.0
17.700	58.070	30.0	30.0	-0.01	-9999.0	-9999.0	1.062	1.8
17.900	58.726	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.182	2.1
18.100	59.382	70.8	42.0	0.24	2.095	361.5	-9999.0	-9999.0
18.300	60.039	70.7	42.0	0.19	2.099	352.0	9999.0	-9999.0

Run No: 74-3124-1317-6075
CPT File: 0032210.COR

Col-01 Depth (m)	Col-02 Depth (ft)	Col-30 Qc (kg)	Col-31 Fs (deg)	Col-32 State Par	Col-33 Es/qt	Col-34 YoungE (ksf)	Col-35 Su (ksf)	Col-36 OCR
18.500	60.655	74.8	42.0	-0.12	2.741	461.4	-9999.0	-9999.0
18.750	61.531	64.5	40.0	-0.13	2.485	335.0	-9999.0	-9999.0
19.000	62.667	70.0	42.0	-0.13	2.307	350.2	-9999.0	-9999.0
19.120	63.043	66.9	40.0	-0.15	2.610	358.5	-9999.0	-9999.0
19.300	63.319	56.0	38.0	-0.11	2.820	297.4	-9999.0	-9999.0
19.500	63.976	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.462	2.8
19.900	64.632	30.0	30.0	0.01	-9999.0	-9999.0	1.018	1.6
19.900	65.288	30.0	30.0	0.00	-9999.0	-9999.0	1.457	2.6
20.100	65.944	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.979	7.4
20.300	66.600	-9999.0	-9999.0	-9999.0	-9999.0	9999.0	1.057	1.6
20.400	67.256	30.0	30.0	0.01	-9999.0	-9999.0	0.976	1.4
20.700	67.917	30.0	30.0	0.04	-9999.0	-9999.0	0.866	1.2
20.900	68.569	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.761	1.1
21.100	69.225	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.062	1.6
21.300	69.881	30.0	30.0	0.02	9999.0	-9999.0	0.564	1.4
21.500	70.537	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	1.158	1.7
21.700	71.193	39.0	34.0	-0.16	-9999.0	-9999.0	1.169	3.8
21.900	71.850	37.3	34.0	-0.22	3.919	218.1	-9999.0	-9999.0
22.100	72.576	30.0	30.0	-0.22	-9999.0	-9999.0	1.100	2.3
22.300	73.142	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.926	1.3
22.500	73.818	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.756	1.0
22.700	74.474	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.890	0.8
22.900	75.130	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.760	1.0
23.100	75.786	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.653	0.8
23.300	76.443	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.655	0.8
23.500	77.099	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.682	0.9
23.700	77.755	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.554	0.8
23.900	78.411	-9999.0	-9999.0	9999.0	-9999.0	-9999.0	0.503	0.7
24.100	79.067	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.638	0.8
24.300	79.723	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.764	1.0
24.500	80.380	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	0.996	1.1
24.700	81.036	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.009	1.9
24.900	81.692	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.291	1.7
25.100	82.348	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.139	1.4
25.300	83.004	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.154	1.5
25.500	83.660	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.557	2.1
25.700	84.317	9999.0	-9999.0	-9999.0	-9999.0	9999.0	1.952	2.6
25.900	84.973	9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.359	3.7
26.100	85.629	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	2.194	4.6
26.300	86.285	-9999.0	-9999.0	-9999.0	-9999.0	-9999.0	1.498	4.4
26.500	86.941	-9999.0	-9999.0	-9999.0	9999.0	-9999.0	2.561	6.6
26.700	87.597	37.8	34.2	0.12	9999.0	-9999.0	1.741	9.1
26.900	88.254	51.7	35.2	-0.16	1.179	314.5	-9999.0	-9999.0

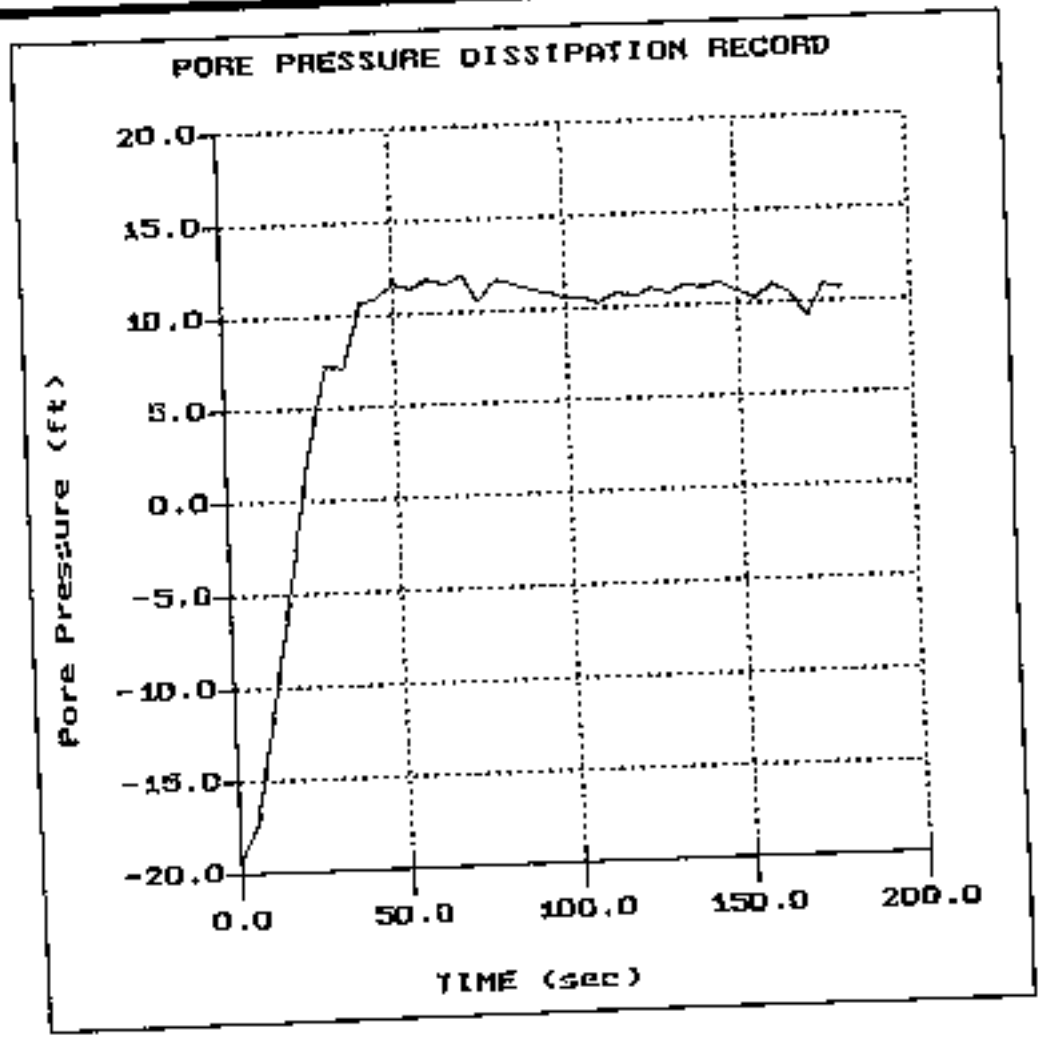
APPENDIX C

GeoSyntec

Hole:CPT-1
Location:Pigeon Point

Cone:20 TON AD066
Date:11:15:04 14:15

File: 809CP01.PPD
Depth (m): 8.00
(ft): 26.25
Duration : 180.0s
U-min: -19.33 0.0s
U-max: 12.01 70.0s

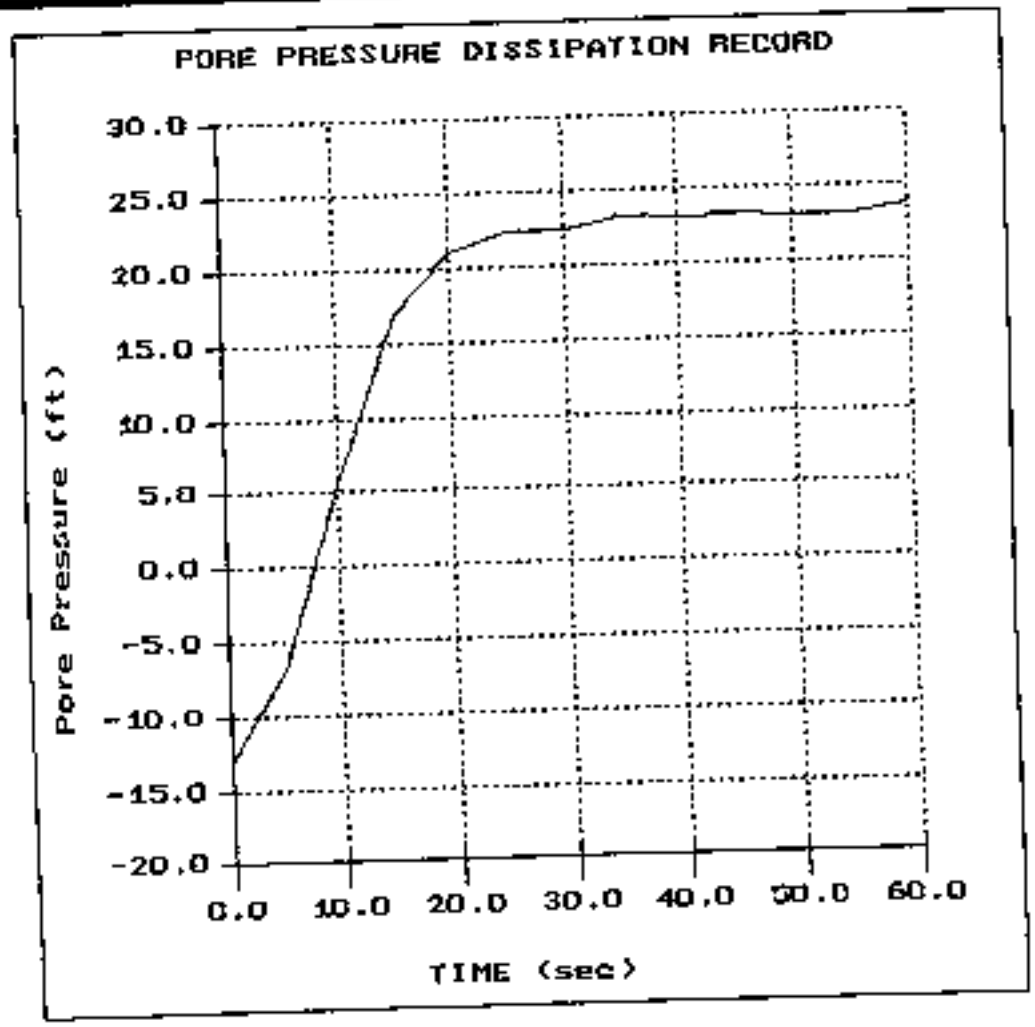


GeoSyntec

Hole:CPT-1
Location:Pigeon Point

Cone:20 TON AD066
Date:11:15:04 14:15

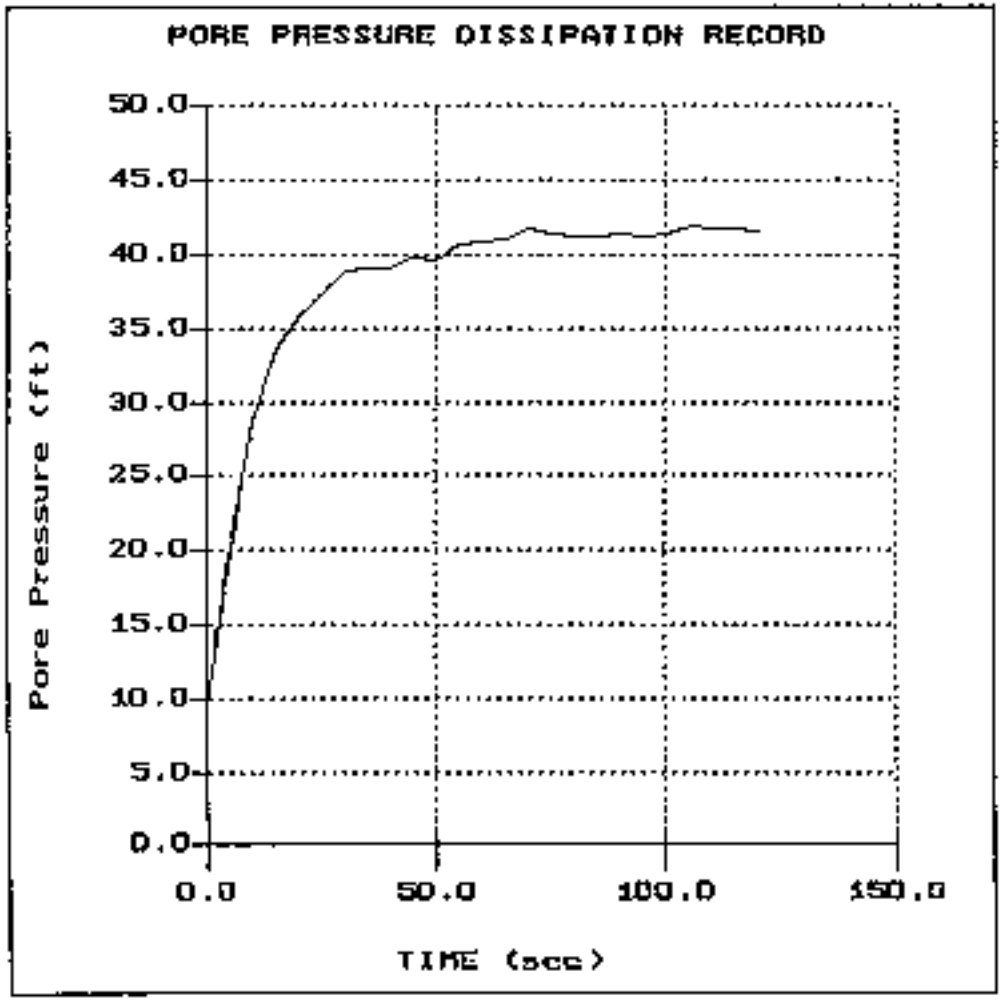
File: B09CPD1.PPD
Depth (m): 12.00
(ft): 39.37
Duration : 60.0s
U-min: -13.14 0.0s
U-max: 23.75 60.0s



GeoSyntec

Hole:CPT-1
Location:Pigeon Point

Cone:20 TON ADO66
Date:11:15:04 14:15

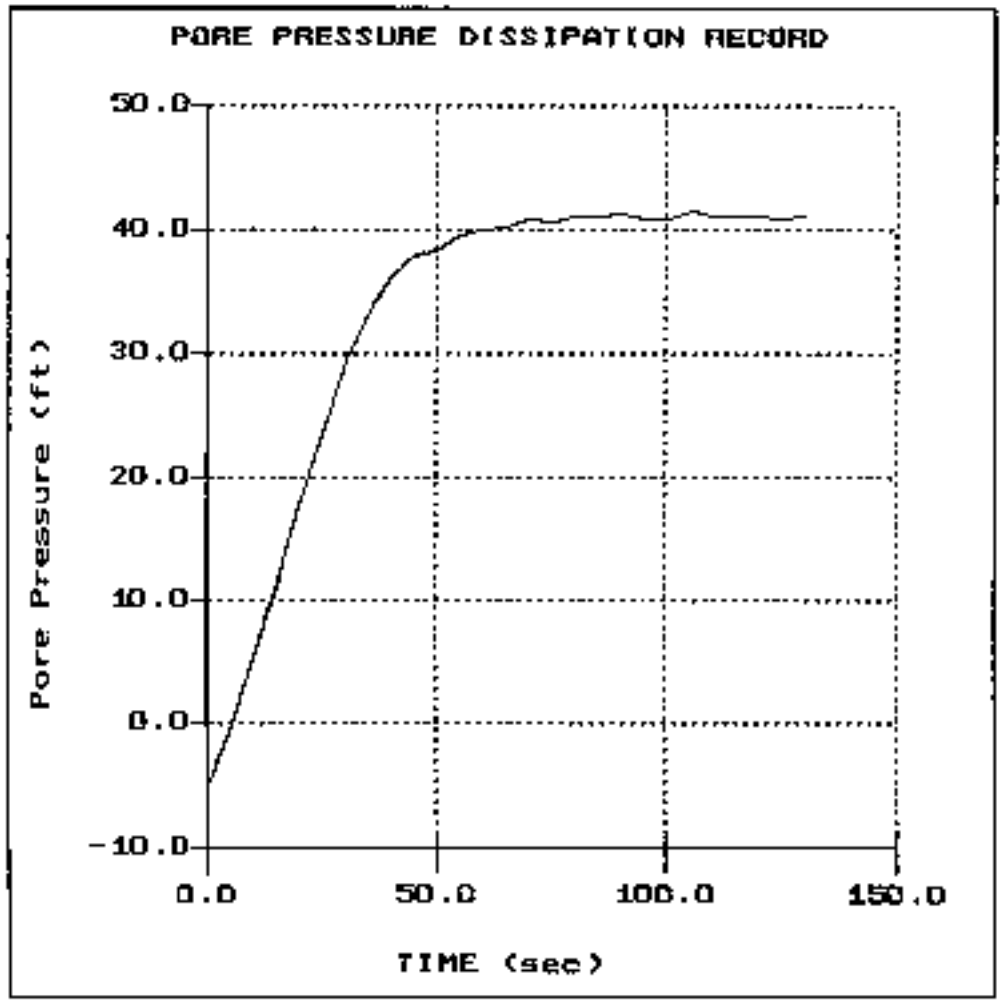


File: B09CP01.PPD
Depth (m): 19.35
(ft): 63.48
Duration : 120.0s
U-min: 9.29 0.0s
U-max: 41.86 105.0s

GeoSyntec

Hole:CPT-2
Location:Pigeon Point

Cone:20 TON AD066
Date:11:15:04 15:24



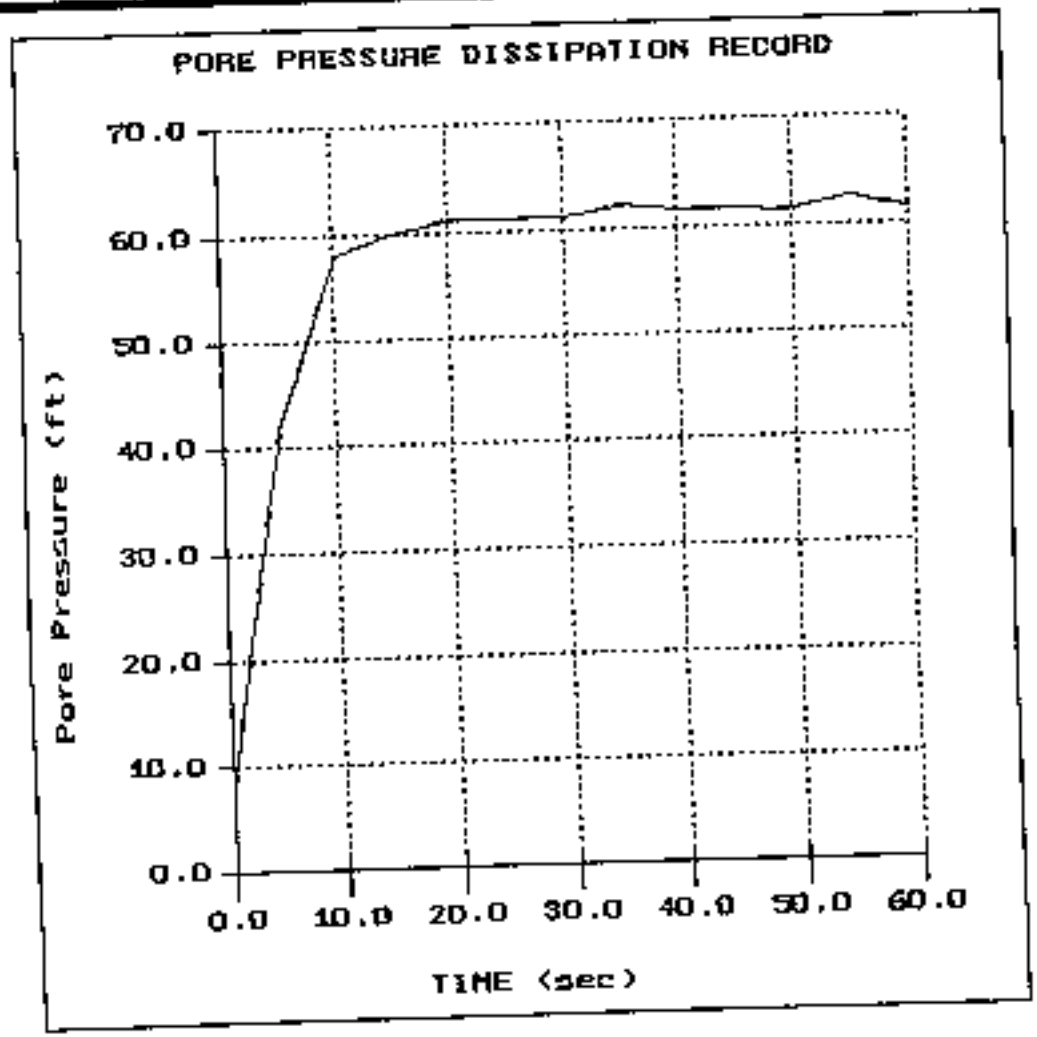
File: 809CP02.PPD
Depth (m): 16.40
(ft): 53.81
Duration : 130.0s
U-min: -5.26 0.0s
U-max: 41.39 105.0s

GeoSyntec

Hole:CPT-2
Location:Pigeon Point

Cone:20 TON A0066
Date:11:15:04 15:24

File: B09CP02.PPD
Depth (m): 22.20
(ft): 72.83
Duration : 60.0s
U-min: 7.70 0.0s
U-max: 62.42 55.0s

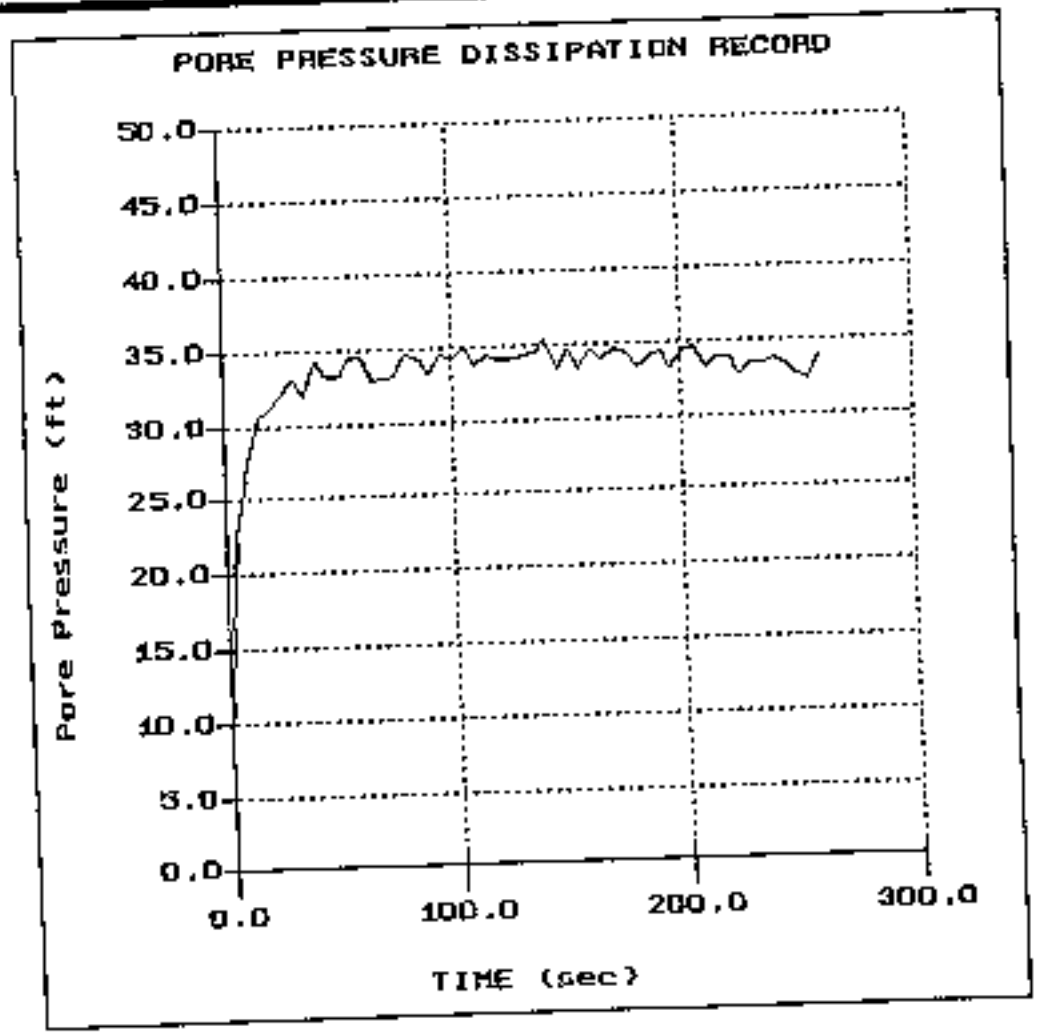


GeoSyntec

Hole:CPT-3
Location:Pigeon Point

Cone:20 TON AD066
Date:11:16:04 08:31

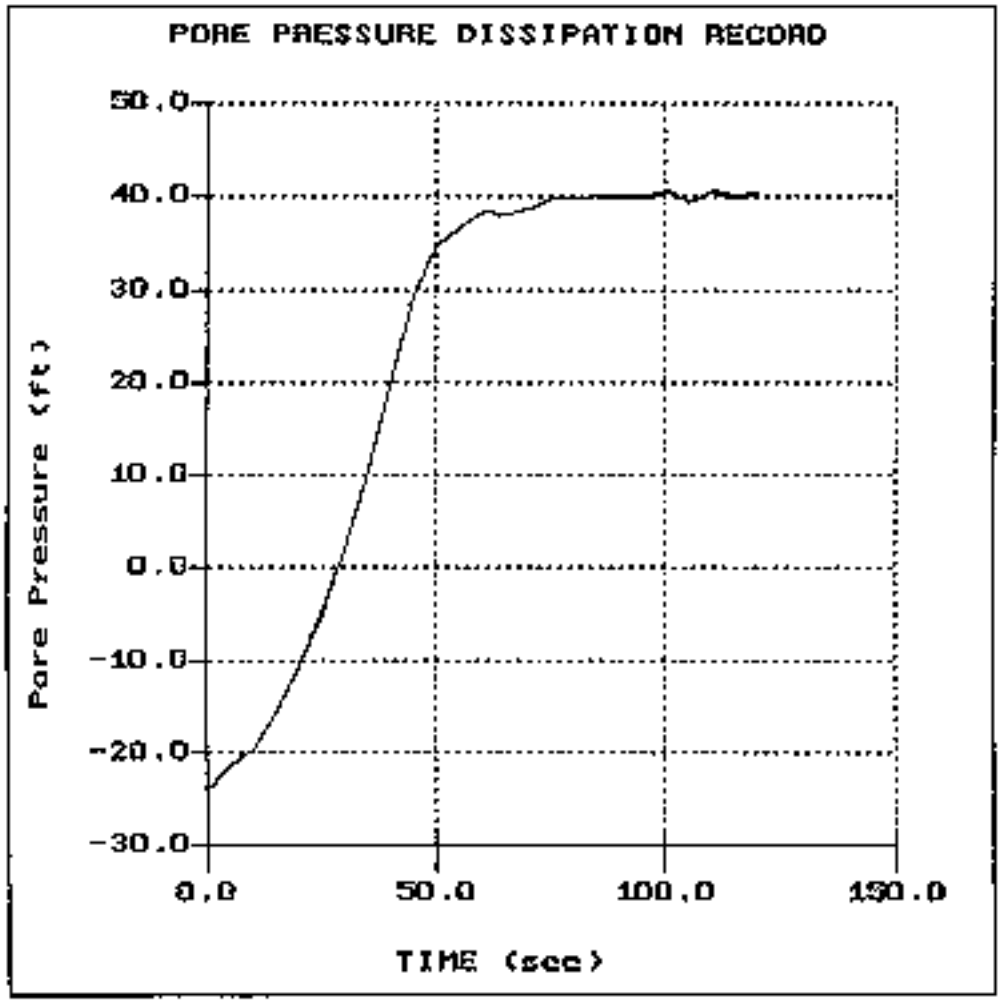
File: 809CP03.PPD
Depth (m): 15.85
(ft): 52.00
Duration : 260.0s
U-min: 8.54 0.0s
U-max: 35.29 140.0s



GeoSyntec

Hole:CPT-3
Location:Pigeon Point

Cone:20 TON ADD66
Date:11:16:04 08:31

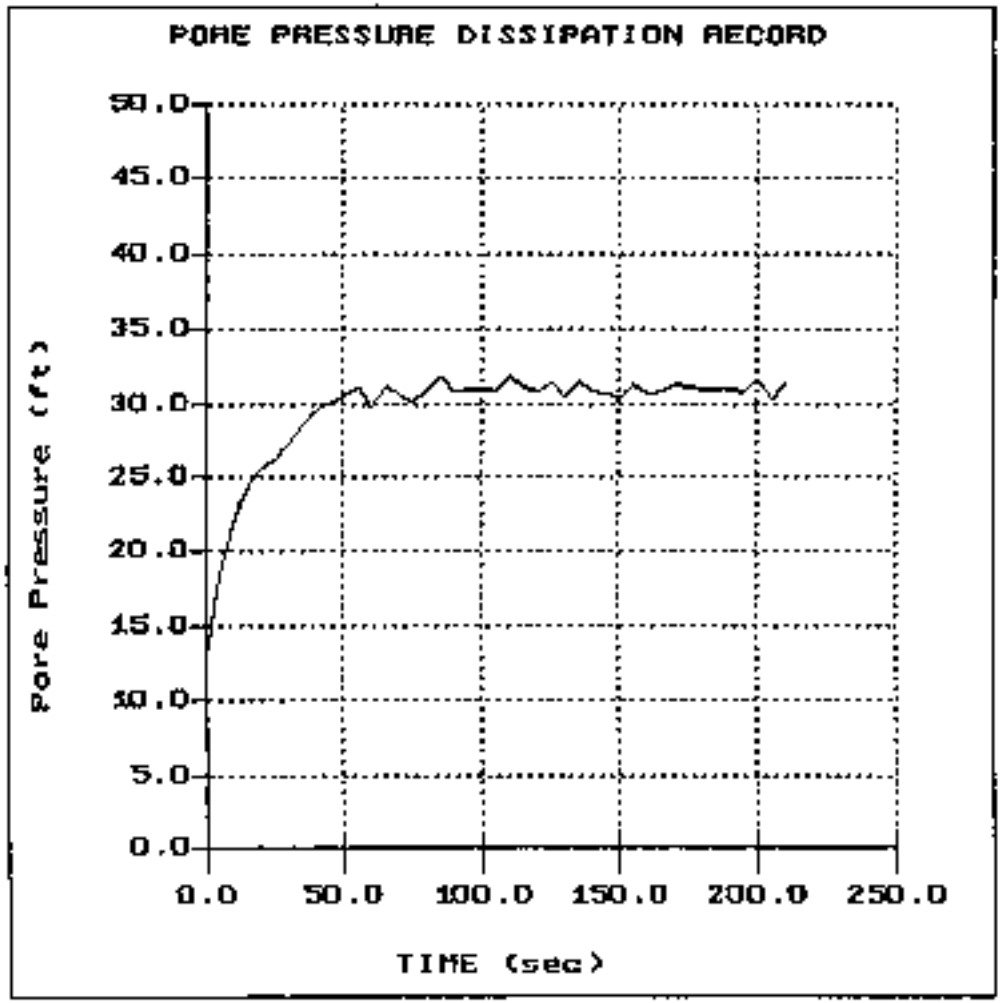


File: 80SCP03.PPD
Depth (m): 17.85
(ft): 58.56
Duration : 120.0s
U-min: -24.12 0.0s
U-max: 40.64 110.0s

GeoSyntec

Hole:CPT-4
Location:Pigeon Point

Cone:20 TON AD066
Date:11:16:04 10:01

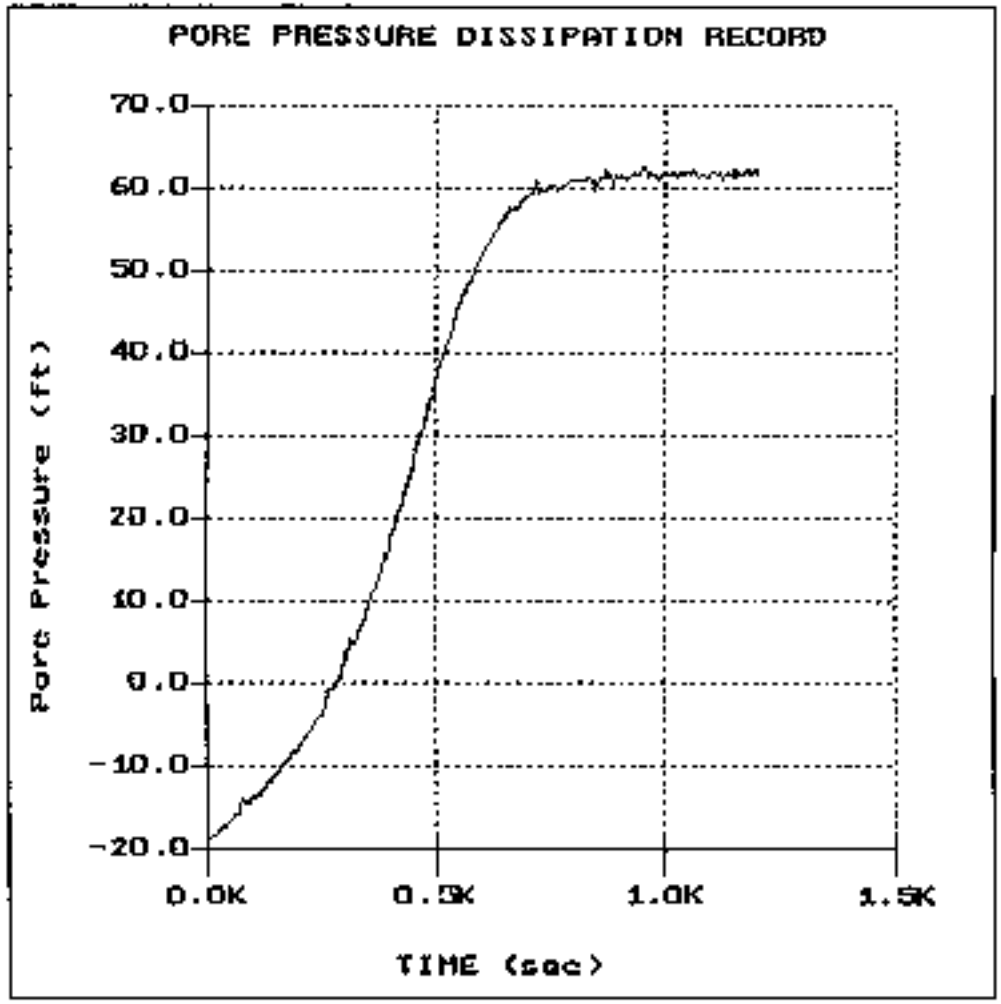


File: 809CP04.PPD
Depth (m): 14.85
(ft): 48.72
Duration : 210.0s
U-min: 12.67 0.0s
U-max: 31.82 85.0s

GeoSyntec

Hole:CPT-5
Location:Pigeon Point

Cone:20 TON AD066
Date:11:16:04 12:18

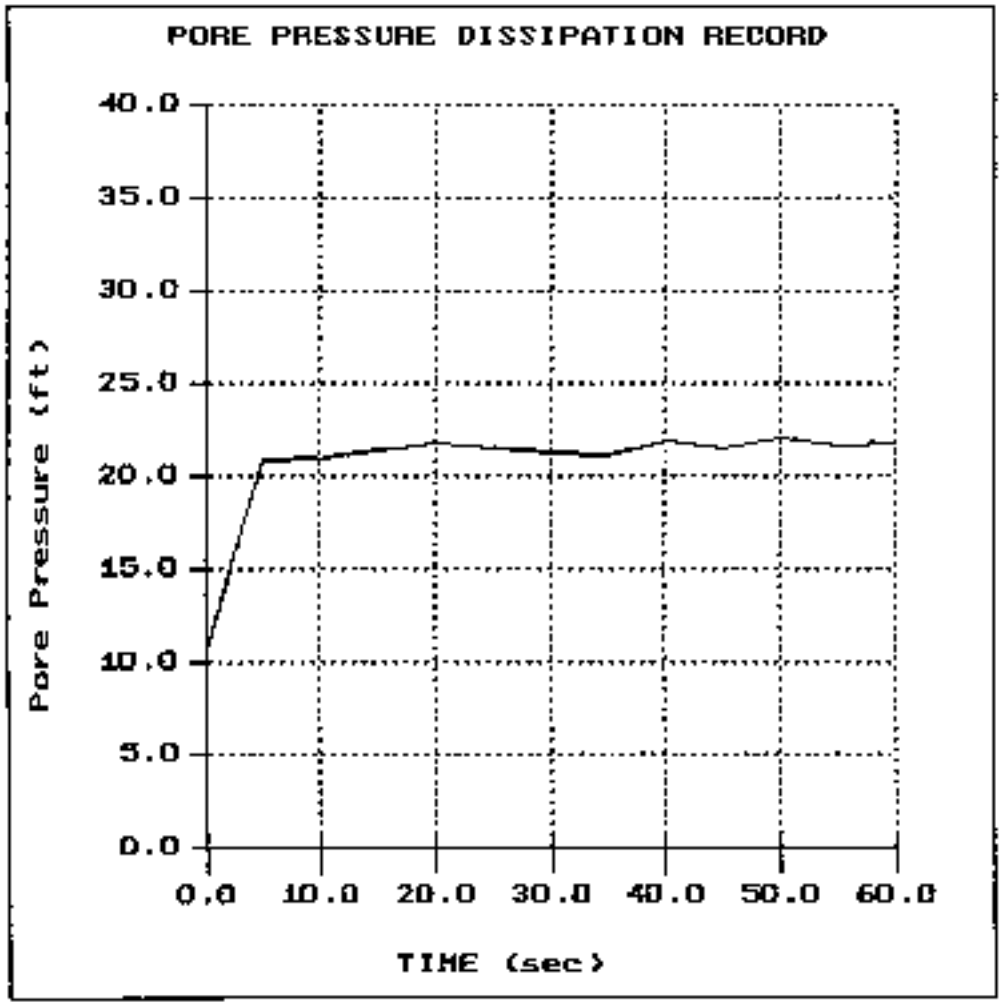


File: 809CP05.PPD
Depth (m): 36.00
(ft): 118.11
Duration : 1200.0s
U-min: -18.87 0.0s
U-max: 62.51 950.0s

GeoSyntec

Hole:CPT-6
Location:Pigeon Point

Cone:20 TON ADDGG
Date:11:16:04 11:01

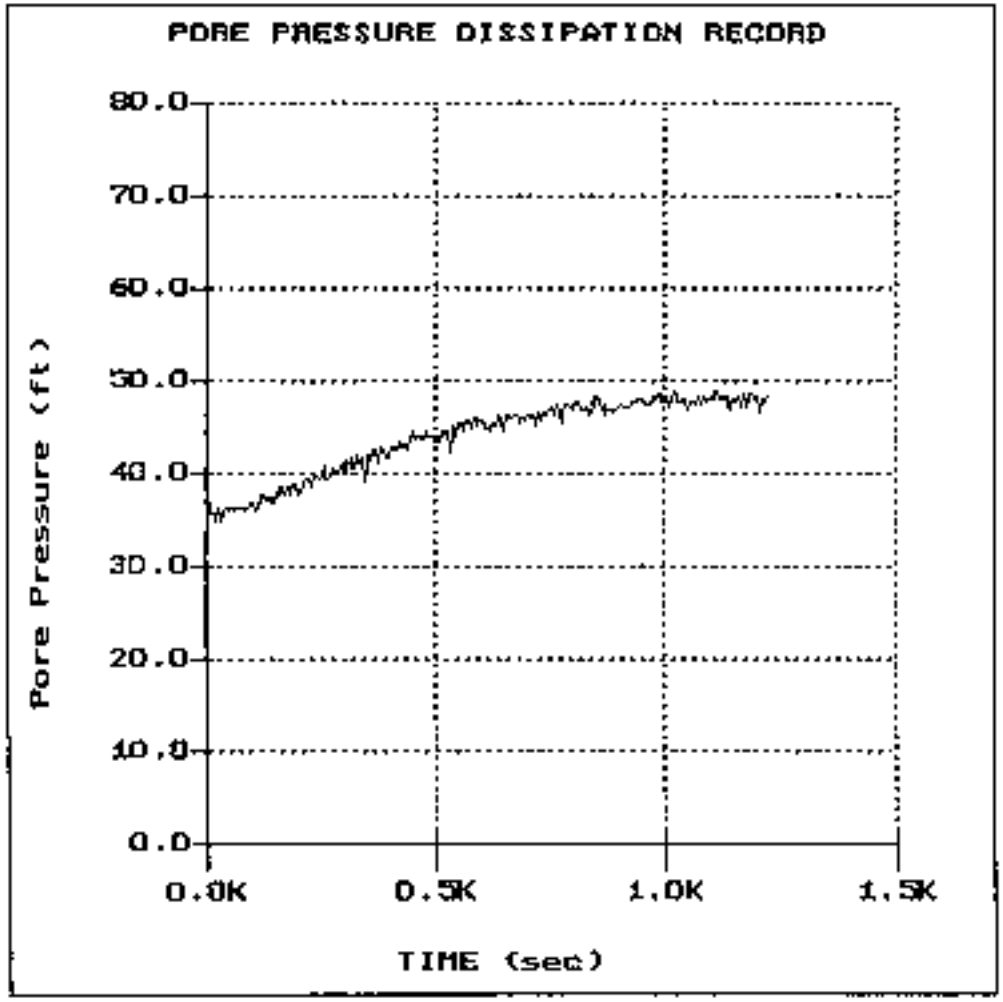


File: 809CP06.PPD
Depth (m): 11.90
(ft): 39.04
Duration : 60.0s
U-min: 10.70 0.0s
U-max: 22.15 50.0s

GeoSyntec

Hole:CPT-7
Location:Pigeon Point

Cone:20 TON AD066
Date:11:16:04 14:01

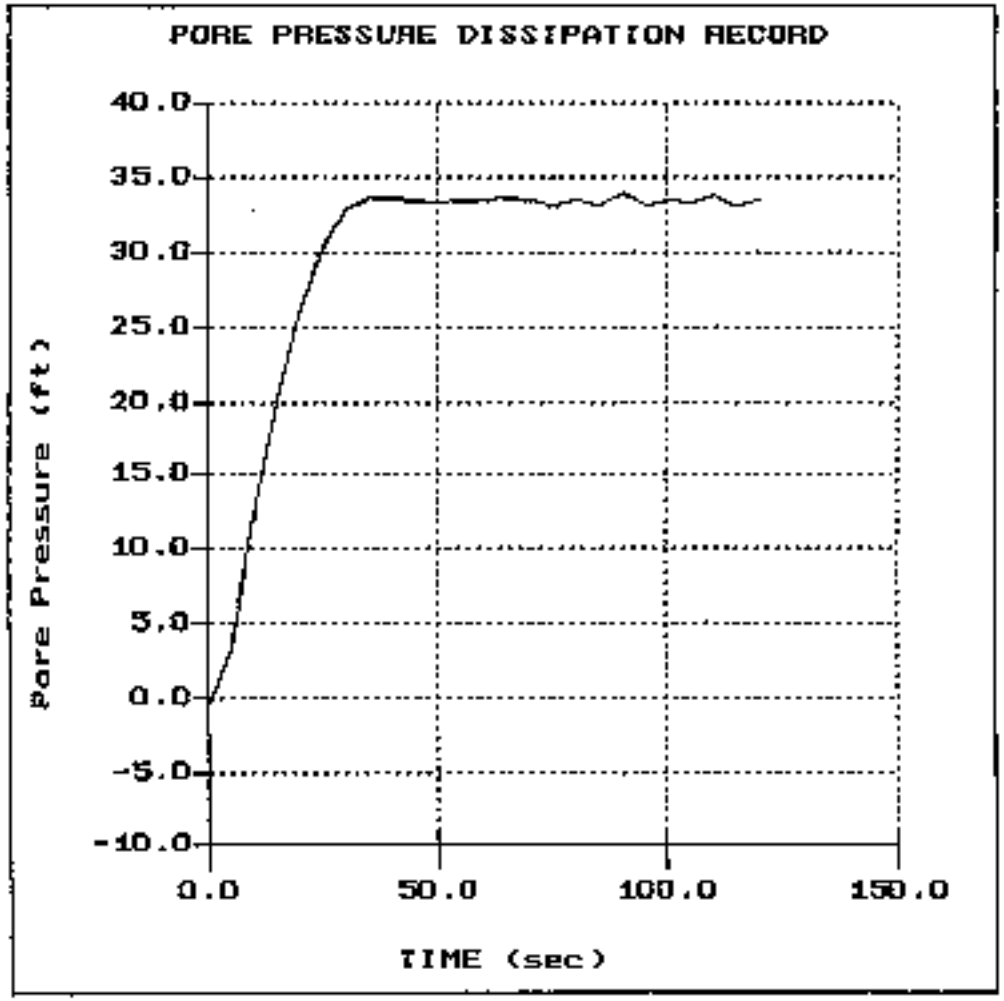


File: 809CP07.PPD
Depth (m): 25.65
(ft): 84.15
Duration : 1220.0s
U-min: 35.01 20.0s
U-max: 48.81 1110.0s

GeoSyntec

Hole:CPT-B
Location:Pigeon Point

Cone:20 TON A0066
Date:11:15:04 09:36



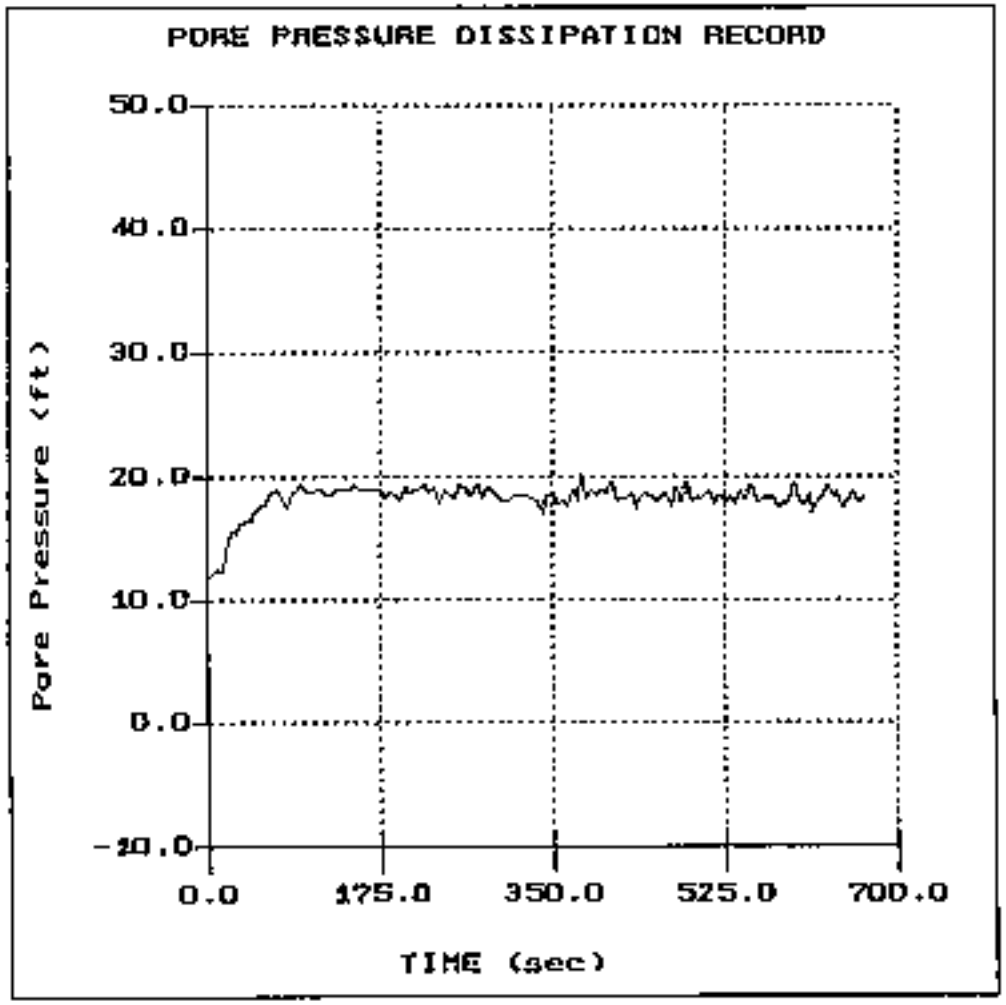
File: 809CP08.PPD
Depth (m): 14.40
(ft): 47.24
Duration : 120.0s
U-min: -0.75 0.0s
U-max: 33.88 90.0s

GeoSyntec

Hole:CPT-9A
Location:Pigeon Point

Cone:20 TON ADD66
Date:11:15:04 12:30

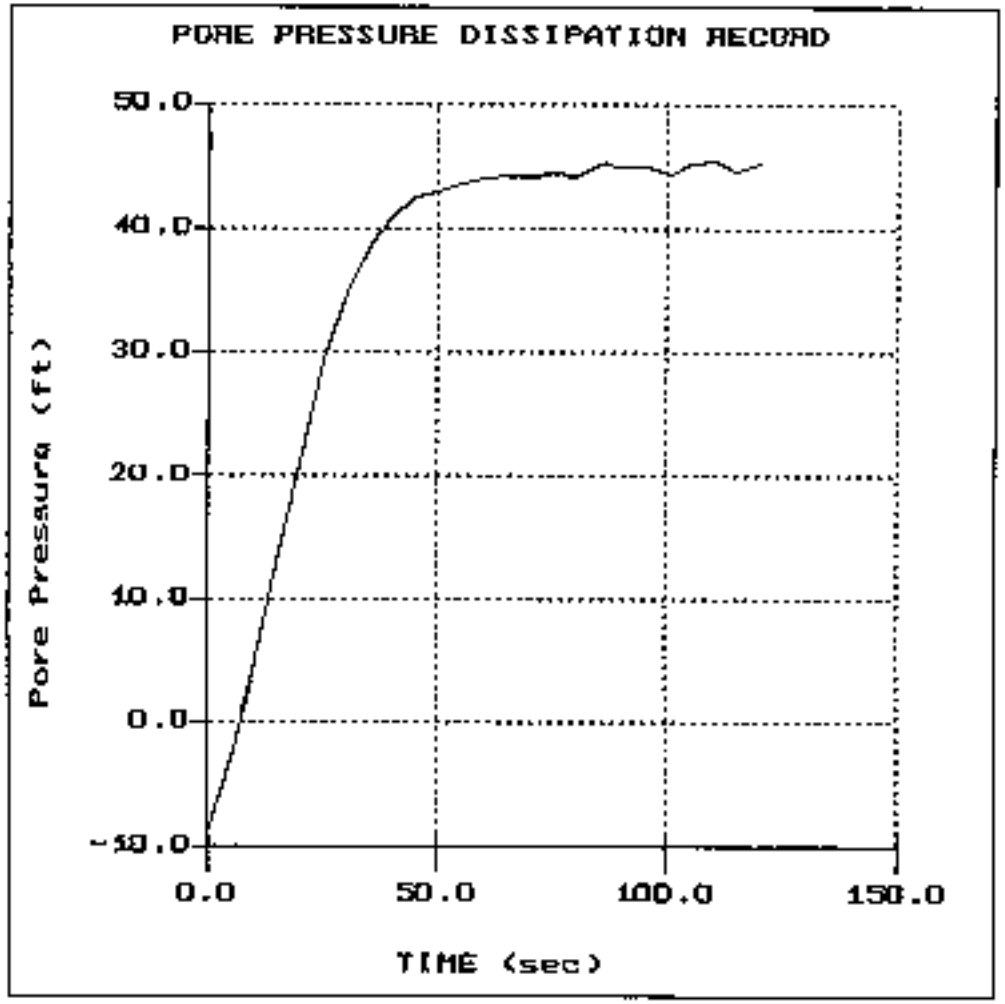
File: B09CP09A.PPD
Depth (m): 24.90
(ft): 81.69
Duration : 665.0s
U-min: 11.92 0.0s
U-max: 20.27 380.0s



GeoSyntec

Hole:CPT-10
Location:Pigeon Point

Cone:20 TON AD066
Date:11:15:04 10:32

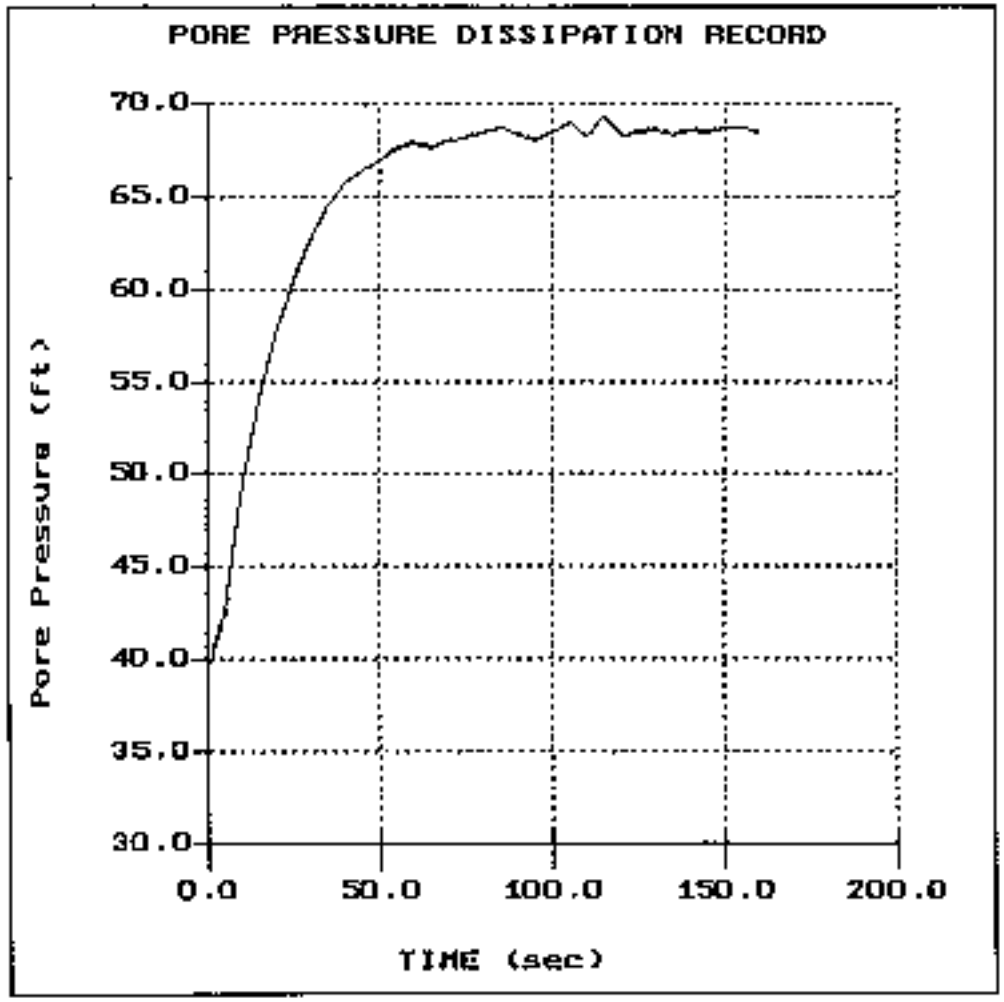


File: 809CP10.PPD
Depth (m): 18.90
(ft): 62.01
Duration : 120.0s
U-min: -8.92 0.0s
U-max: 45.43 110.0s

GeoSyntec

Hole:CPT-10
Location:Pigeon Point

Cone:20 TON AD066
Date:11:15:04 10:32



File: 809CP10.PPD
Depth (m): 27.20
(ft): 89.24
Duration : 160.0s
U-min: 39.42 0.0s
U-max: 69.27 115.0s