Subsurface Investigation

Solar Farm Information and Welcome Center

Haywood County, Tennessee

February 8, 2011

Prepared For:

TDOT Go.



Prepared By:

Florence & Hutcheson

CONSULTING ENGINEERS

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CONSULTING ENGINEERS

February 8, 2011

Mr. Alan Durham
Tennessee Department of Transportation
Maintenance Division
James K. Polk Building, Suite 400
Nashville, TN 37243

RE: Subsurface Investigation for Solar Farm Information and Welcome Center
Haywood County, TN

Dear Mr. Durham:

We have completed the subsurface investigation and geotechnical report for the referenced project.

Please call at your convenience if you have questions or comments. Florence & Hutcheson appreciates the opportunity to provide engineering and geologic services to the Tennessee Department of Transportation.

Sincerely,

FLORENCE & HUTCHESON, INC.

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Geotechnical Engineer

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Geotechnical Designer

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Solar Farm Information & Welcome Center
P.E. No. 38001-1684-04
PIN No. 113823.00
Haywood County

Executive Summary

This report summarizes the results of a subsurface investigation for the proposed Solar Farm Information and Welcome Center, parking lots, approach ramps and bridge on I-40 between existing exit 42 and existing exit 47 in Haywood County. In general, the proposed project may be constructed using 2H:1V or flatter cut slopes and 4H:1V or flatter embankment slopes under static loading conditions.

All of the critical areas along the project alignment were also analyzed for pseudo-static seismic slope stability with a minimum required safety factor of 1.1. Based on this seismic slope analysis, the embankment and abutment slopes for the bridge have acceptable factors of safety, whereas some of the cut slopes along the alignment do not meet the minimum factor of safety requirements. Mitigation measures (flattening slopes, ground modification, etc.) could be utilized to reduce or eliminate the potential effects of seismic events on this project. However, these mitigation measures will increase the project construction cost.

The proposed bridge is a two span arrangement and will be located on new alignment with new approach ramps. Bedrock was not encountered during the investigation, however very dense sand and/or refusal were encountered within a few SPT sample intervals suggesting localized cementation of the Claiborne Formation sediments. It is recommended that the abutments of the proposed bridge be supported on driven piles and the interior bents be supported on either driven piles or drilled shafts.

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P.E. No. 38001-1684-04
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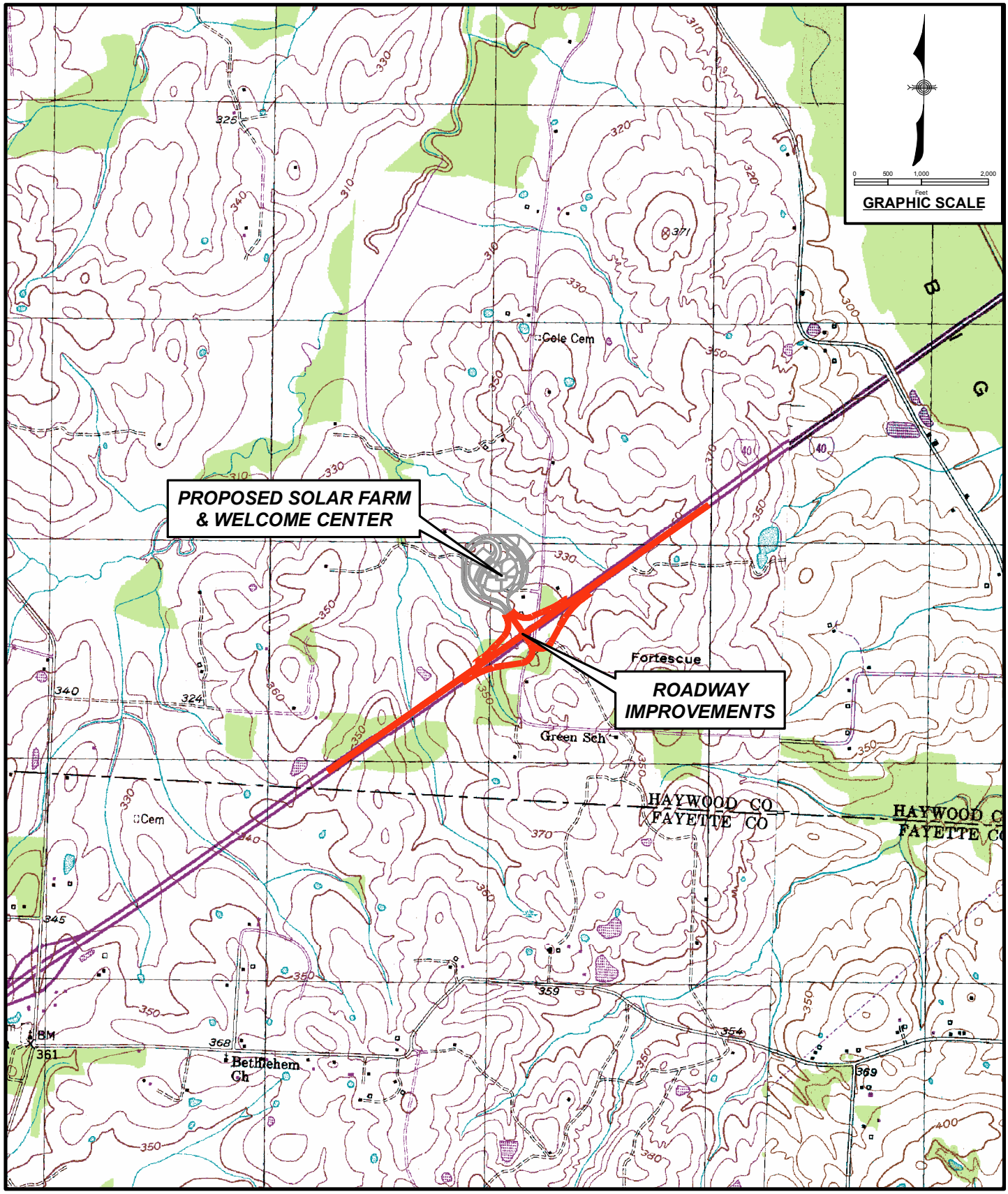
Introduction

This report defines subsurface conditions and provides geotechnical conclusions and recommendations for the design and construction of the proposed Solar Farm Information and Welcome Center to be located along Interstate 40, approximately 1.6 miles east of the Stanton Road interchange. The proposed interchange will be constructed in two (2) phases; Phase I will construct the westbound exit and entrance ramps and Phase II will construct a 2-span bridge over I-40 and the eastbound exit and entrance ramps. A site vicinity map, Page No. 2, indicates the location of the site.

Borings were advanced and soil samples were collected and delivered to the Florence & Hutcheson laboratory for further testing and analysis. Geotechnical parameters are provided in this report resulting from the evaluations of soil conditions beneath the proposed welcome center, beneath the proposed parking areas, along the proposed bridge alignment and along the proposed ramp alignments.

Geology, Soils, and Site Conditions

The proposed alignments and sites are located upon gently rolling to flat terrain of the West Tennessee Coastal Plain Physiographic Province as defined in Tennessee. Surface features of portions of the site have been altered by construction of I-40. The West Tennessee Coastal Plain, in the immediate area, is underlain by Quaternary Loess and Eocene age Claiborne Formation.



SOLAR FARM & WELCOME CENTER

STANTON QUADRANGLE
7.5 MINUTE SERIES (TOPOGRAPHIC)
TENNESSEE - HAYWOOD COUNTY

Florence & Hutcheson
CONSULTING ENGINEERS

The loess is dominantly composed of silt and clay while the Claiborne Formation is principally composed of sand with beds of silt and clay. The proximity of the site to the New Madrid Seismic Zone requires consideration of potential seismic risk for roadways and structures constructed at the proposed site.

Boreholes advanced during drilling operations produced soil samples for laboratory testing. Laboratory analysis of soil samples recovered from standard penetration testing, Shelby tube sampling and bulk sampling revealed low to medium plasticity clay and silt with varying fractions of fine grain sand, fine grain sand with sufficient clay and silt to exhibit low plasticity characteristics and non-plastic fine grain to medium grain sand with traces of silt and clay. Low plasticity silt and clay with some traces of fine grain sand composed loess deposits ranging from 4.2 feet to 15.0 feet in thickness but were absent within borings B-18, B-26, B-30 and B-31. Claiborne sediments were composed of bedded, low to medium plasticity clay and silt and low plasticity fine grain sand, silt and clay immediately underlying the loess then grading to massive, low plasticity to non-plastic fine grain to medium grain sand with depth.

The deepest borings, located at the bridge site, were advanced to maximum depths of 101.0 feet without completely penetrating the Claiborne. Fill material, encountered within borings B-12, B-19, B-20 and B-49, was composed of low plasticity silt and clay with traces of fine grain sand and ranged in thickness from 3.0 feet to 9.0 feet. Underlying rock was not encountered within any boring advanced however dense sand and/or SPT refusal was encountered within a few sample intervals suggesting localized cementation within the Claiborne sediments. This cementation is anticipated to be relatively thin vertically and not laterally extensive at any one particular elevation.

Faulting is not indicated on published mapping nor did examination of the recovered samples suggest the presence of faulting. The immediate project area is located near the New Madrid Seismic Region.

Surface and Subsurface Exploration

Drilling and sampling activities were performed in October and November 2010. Borings were advanced by CME 45-C track-mounted and CME 45-B trailer mounted drill rigs utilizing standard geotechnical procedures. Thirty-Six (36) borings were advanced along the proposed ramp alignments, six (6) borings were advanced at bridge bent locations, eight (8) borings were advanced along the welcome center building perimeter and fourteen (14) borings were advanced within the proposed parking lot limits. Auger refusal was not encountered in any of the borings, however some very dense sand layers and scattered instances of SPT refusal were encountered. All soil specimens were transported to the laboratory of Florence & Hutcheson for examination. Soil samples were subjected to laboratory analysis, including the following tests:

• Atterberg Limits	AASHTO T-89 and T-90
• Sieve Analysis	AASHTO T-27 and ASTM D-1140
• Natural Moisture Content	AASHTO T-265
• Moisture – Density Relationship	AASHTO T-99
• California Bearing Ratio	AASHTO T-193
• Unconfined Compression	AASHTO T-208
• Unconsolidated Undrained Triaxial	AASHTO T-296
• Consolidated Undrained Triaxial	AASHTO T-297
• Consolidation	AASHTO T-216

Recovered soil samples were composed of lean clay (A-6), sandy lean clay (A-6), lean clay with sand (A-7-6), silty clay (A-4), clayey to silty sand and poorly graded to well graded sand (A-2-4), poorly graded sand, (A-1-b), silty sand (A-4) and sandy, silty clay (A-4).

Groundwater elevations recorded from borings and inferred from drillers descriptions and natural moisture contents suggest a varied level ranging from 20.0 feet to 45.0 feet below existing ground level with corresponding elevation range of 327' to 297'. Due to the fine grain and cohesive characteristics of surface soils saturation during seasonal rainfall events may lead to perched water tables and/or surface pooling. Any excavation below the natural ground surface could encounter seepage water as a result.

Seismic Considerations

According to the U.S. Geological Survey ground motion contour maps, the peak ground acceleration having a 7% probability of exceedance in 75 years at the project site is equal to A=0.417g for an earthquake of moment magnitude equal to 7.7. The effect of seismic loading at the project site can then be investigated in terms of liquefaction potential of the native soil deposits. Based on the data obtained from the standard penetration tests conducted, a Soil Class D is recommended.

In general, the liquefaction potential of a soil is a function of two factors: the magnitude and duration of the strong ground motion and the susceptibility of the soil to liquefaction as expressed by the existing soil conditions. A suitable combination of in-situ conditions and earthquake-induced motion will result in the development of soil liquefaction. However, in order to be susceptible to liquefaction, potentially liquefiable soils must be saturated or nearly saturated. Based on these criteria, soil characteristics, and our knowledge of subsurface conditions within the project site, the potential for liquefaction for the analyzed event is low.

Recommendations and Discussion

Proposed Roadways Ramps and Acceleration/Deceleration Lanes

Static slope stability analysis was performed for the critical cut sections and embankment sections throughout the limits of the proposed alignments. A minimum safety factor of 1.3 was utilized to determine the final design slopes. The soil strength parameters were selected based on the results of the standard penetration testing (SPT), soil classification, unconfined compression testing, unconsolidated undrained triaxial testing, consolidated undrained triaxial testing and engineering judgment. Each critical design section is included within the soil sheets located in Appendix VI. A table summarizing the results of the static slope stability analysis is provided below:

Station	***Type***	***Short Term Safety Factor***	***Long Term Safety Factor***
Ramp A 22+00	FILL	4.0	4.0
Ramp B 34+00	CUT	2.6	1.6
Ramp C 41+50	CUT	2.2	1.7
Ramp C 52+00	FILL	2.4	2.7
Ramp D 61+50	FILL	3.2	2.8

In addition, pseudo-static seismic slope stability analysis with a minimum safety factor of 1.1 was performed on critical areas along the project alignment. A table summarizing the results of the seismic slope stability analysis follows. Based on this analysis, the embankment slopes on this project have acceptable factors of safety for seismic slope stability. However, based on the analysis, some of the cut slopes on this project do not meet the minimum factor of safety for seismic slope stability.

Station	*Type*	*Safety Factor*
Ramp A 22+00	FILL	1.4
Ramp B 34+00	CUT	0.8
Ramp C 41+50	CUT	0.7
Ramp C 52+00	FILL	1.1
Ramp D 61+50	FILL	1.1

The following is a summary of the recommendations for the proposed roadway ramps:

Ramp A – Station 20+00 to Station 29+32.89

This section of roadway consists of embankments that extend to heights of 21 feet and cuts that extend to depths of 13 feet. One (1) design cross section within the embankment was analyzed at Station 22+00. Borings advanced within this interval encountered lean clays and sandy lean clays. These materials produced "N" values ranging from 9 to 12 BPF with an average value of 13 BPF. Auger refusal was not encountered. The maximum depth of the advanced borings was 42 feet. We recommend embankment and cut slopes of 4H:1V or flatter for this interval. In addition, embankment benching is recommended within this interval from Station 23+50 to Station 27+50 where the proposed embankments tie into the existing I-40 embankment. The short term and long term factors of safety for the design section at Station 22+00 were 4.0 and 4.0, respectively.

Ramp B – Station 30+00 to Station 39+32.89

This section of roadway consists of embankments that extend to heights of 14 feet and cuts that extend to depths of 22 feet. One (1) design cross section within the cut was analyzed at Station 34+00. Borings advanced within this interval encountered lean clays, lean clays with sand, and sandy lean clays. These materials produced "N" values ranging from 13 to 23 BPF with an average value of 19 BPF. The maximum depth penetrated was 36.5 feet.

Auger refusal was not encountered within this interval. We recommend cut slopes of 2H:1V or flatter and embankment slopes of 4H:1V or flatter for this interval. The short term and long term factors of safety for the design section at Station 34+00 were 2.6 and 1.6, respectively.

Ramp C – Station 40+00 to Station 44+00

This section of roadway consists of cuts that extend to depths of 15 feet. One (1) design cross section was analyzed at Station 41+50. Borings advanced within this interval encountered lean clays, sandy lean clays, lean clays with sand, silty sand, and poorly graded sand with silt. These materials produced "N" values ranging from 20 to 26 BPF. Auger refusal was not encountered. The maximum depth of the advanced borings was 26.0 feet. We recommend cut slopes of 3H:1V or flatter for this interval. The short term and long term factors of safety for the design section at Station 41+50 were 2.2 and 1.7, respectively.

Ramp C – Station 44+00 to Station 53+11.07

This section of roadway consists of embankments that extend to heights of 26 feet. One (1) design cross section was analyzed at Station 52+00. Borings advanced within this interval encountered lean clays, sandy lean clays, and silty sand. These materials produced "N" values ranging from 6 to 25 BPF. Auger refusal was not encountered. The maximum depth of the advanced borings was 51.5 feet. We recommend embankment slopes of 3H:1V or flatter for this interval. In addition, we recommend that 3 feet of undercut and replacement with select granular material is required from Station 49+00 to Station 53+00. The short term and long term factors of safety for the design section at Station 52+00 were 2.4 and 2.7, respectively.

Ramp D – Station 60+00 to Station 73+11.07

This section of roadway consists of embankments that extend to heights of 31 feet and cuts that extend to depths of 8 feet. One (1) design cross section within the embankment was analyzed at Station 61+50. Borings advanced within this interval encountered lean clays, lean clay with sand, sandy lean clays, and silty sand. These materials produced "N" values ranging from 12 to 49 BPF with an average value of 26 BPF. Auger refusal was not encountered. The maximum depth of the advanced borings was 35.5 feet. We recommend embankment slopes of 3H:1V or flatter and cut slopes of 4H:1V or flatter for this interval. The short term and long term factors of safety for the design section at Station 61+50 were 3.2 and 2.8, respectively.

I-40 Widening (Ramp A Acceleration Lane) Station 66+15.00 to Station 79+15.94

This section of roadway consists of widening existing I-40 embankments that extend to heights of 16 feet and cuts that extend to depths of 14 feet. Borings advanced within this interval encountered lean clays and slity sands. Auger refusal was not encountered. We recommend embankment slopes of 3H:1V or flatter and cut slopes of 4H:1V or flatter for this interval. However, 2H:1V ditch back slopes may be utilized from Station 71+00 to Station 74+00 where cut depths are 10 feet or less in order to minimize impact to a pond. In addition, embankment benching is also recommended within this interval from Station 66+50 to Station 74+50.

I-40 Widening (Ramp B Deceleration Lane) Station 95+94.05 to Station 103+44.00

This section of roadway consists of widening existing I-40 embankments that extend to heights of 7 feet and cuts that extend to depths of 10 feet. Borings advanced within this interval encountered lean clays. Auger refusal was not encountered. We recommend embankment and cut slopes of 4H:1V or flatter for this interval. In addition, embankment benching is recommended within this interval from Station 99+50 to Station 102+50.

I-40 Widening (Ramp C Deceleration Lane) Station 68+47.00 to Station 75+96.88

This section of roadway consists of widening the existing I-40 embankments that extend to heights of 10 feet and cuts that extend to depths of 9 feet. Borings advanced within this interval encountered lean clays. Auger refusal was not encountered. We recommend embankment and cut slopes of 4H:1V or flatter for this interval. In addition, embankment benching is recommended within this interval from Station 68+47 to Station 74+50.

I-40 Widening (Ramp D Acceleration Lane) Station 99+13.12 to Station 113+52.99

This section of roadway consists of widening the existing I-40 embankments that extend to heights of 8 feet. Borings advanced within this interval encountered lean clays. Auger refusal was not encountered. We recommend embankment slopes of 4H:1V or flatter for this interval. In addition, embankment benching is recommended within this interval from Station 99+13.12 to Station 110+00.

Proposed Eastbound Access Bridge

In the absence of foundation loading, we have provided an array of foundation recommendations for use in supporting the two-span Eastbound Access Road bridge over I-40. Deep foundations will likely be required to support the bridge loads at this site. We have prepared nominal resistance (ultimate capacity) versus depth charts for 12x53 and 14x73 steel H-piles and for 14" Square and 16" Square concrete piles for each of the abutments and the interior bent locations. These charts were developed based upon the latest design procedures from the TDOT Geotechnical Section for West Tennessee bridges with significant depth to bedrock. The actual factored resistance for the driven piles will be determined by the method of driving criteria selected as per Table 10.5.5.2.3-1 of the 2010 AASHTO LRFD Bridge Design Specifications. It is also worth noting that the steel pile resistance charts in Appendix I will be limited by the structural capacity of the piles.

The advance borings encountered intervals of hard clays and dense sands which could result in difficult driving of the both the concrete and steel H-piles. If steel H-piles are selected, we recommend pile points be utilized to protect the pile tips through these dense sand intervals. If concrete piles are selected, five to ten feet of pre-drilling may be required to penetrate the hard clays which are present near the surface. Also, pre-drilling will be required for the concrete pile tips below approximate elevation 310' on Abutment 1 and Bent 1 and approximate elevation 305' on Abutment 2. The Nominal Resistance Charts for both steel H-piles and concrete piles are presented in Appendix I.

In addition to driven pile foundations, drilled shafts may also be utilized to support the interior bridge bent. Nominal and factored resistance versus depth charts have been provided for 4 foot, 5 foot, and 6 foot diameter drilled shafts for the interior Bent 1 location.

Applicable resistance factors for both side and tip resistance in the clay and sandy materials were applied based on 2010 AASHTO LRFD Bridge Design Specifications. The Nominal and Factored Resistance Charts are presented in Appendix II.

A static and seismic slope stability analysis was performed for the critical embankment section at Abutment 1. The section was taken perpendicular to the contours of the proposed abutment slope between the locations of Borings B-55 and B-56. A minimum safety factor of 1.3 was used to determine the final design slope for static conditions and a minimum safety factor of 1.1 was used for the seismic conditions. The short term and long term factors of safety for the critical design section were 2.0 and 2.3, respectively. The critical design section is included within the Foundation Data sheets in Appendix VII.

Subsurface conditions indicate the potential settlement for new embankment construction within the analyzed areas near the bridge abutments could range from approximately 2" to 6". Cohesive soils coupled with some amounts of sandy materials will allow the majority of the settlement to occur during a standard construction cycle. The estimated time for approximately 90% of the settlement to dissipate ranges from 30 to 60 days. However, the longer time frames are required for estimated settlements of an inch or less to dissipate. We further recommend that the larger proposed embankments on the project be constructed first so that there is not a potential time constraint during construction. If this cannot be accomplished or tolerated during construction, waiting periods along with settlement plates and monitoring may be required to allow the Engineer to determine when the primary settlement has dissipated. Additional fill materials are anticipated in some areas prior to paving operations due to the settlement that will occur after the initial embankment construction.

The location of the proposed site suggests the potential for moderate ground shaking during a seismic event. However, due to the clay materials encountered in the upper 30 to 40 feet overlying medium to dense sands, the potential for liquefaction and subsequent slope instability and soil deformations at roadway embankments and the bridge abutments are estimated to be negligible. Calculations indicate seismic induced settlement at the bridge abutments will not be of sufficient magnitude to impose dragdown forces on bridge foundations. In our opinion the seismic risk associated with this project is tolerable. Although damage to the roadway and structures may occur, it is likely that they will remain serviceable after the analyzed seismic event.

Proposed Information and Welcome Center

At the writing of this report, specific details for foundation loadings and locations are not available. Preliminary information suggests no below grade construction or possible retaining structures may be required. We request the opportunity to review and possibly revise our recommendations once the final design has been completed.

We recommend allowable bearing capacities of 1600 PSF for continuous foundations and 2000 PSF for square column foundations having footing depths of 2 feet. For footing depths of 4 feet, we recommend allowable capacities of 1700 PSF for continuous foundations and 2200 PSF for square column foundations. At these footing pressures above, we are estimating total and differential settlement at 1" or less. If these bearing capacities are inadequate, undercutting with crushed stone or dense graded aggregate, or lowering the bottom of footing elevations will further increase the allowable capacities.

For slab design, a sub-grade modulus of 120 PCI is recommended. We further recommend the exposed material at grade be proof-rolled prior to placing concrete. Any unstable areas exposed during construction will require undercut and backfill with approved, compacted fill. A moisture barrier system is also recommended for all interior slabs on grade.

Based upon the soils encountered at this site, a design CBR value of 3 which equates to a resilient modulus of 4500 PSI will be utilized for the pavement designs at this welcome center. We understand that a pavement design is needed for the service road and heavy truck road / new proposed ramps which include the heavy trucks. Based on an estimated 20-year design AADT of 2640, we have prepared the following pavement designs in accordance with the *AASHTO Guide for the Design of Pavement Structures (1993)*. We have included the pavement design calculation in Appendix III.

Service Road Only Alternate 1
1.25" Asphalt Concrete Surface Grading D
3.5" Asphalt Concrete Base
8" Crushed Stone
Total Thickness = 12.75"

Service Road Only Alternate 2
1.25" Asphalt Concrete Surface Grading D
2" Asphalt Concrete Binder
4" Asphalt Concrete Base
Total Thickness = 7.25"

Heavy Truck Road Alternate 1
1.25" Asphalt Concrete Surface Grading D
2.0" Asphalt Concrete Binder
3.5" Asphalt Concrete Base (A Mix)
3.5" Asphalt Concrete Base (A-S Mix)
10" Crushed Stone
Total Thickness = 20.25"

Heavy Truck Road Alternate 2
9" Portland Cement Concrete Pavement (JPCP)
8" Total Base (4" Treated Permeable Base + 4" Crushed Stone)
Total Thickness = 17"

Perched groundwater levels at the existing surface could occur if construction is staged during wet winter and spring months and/or following moderate to seasonal precipitation events. Groundwater seepage could occur during construction excavations and a temporary sump system may be required during construction to minimize the effects of seepage on excavation stability. The clayey and silty portions of the soils on site are susceptible to swelling and softening if exposed to excess moisture. Extra precaution should be taken to protect foundation materials. Final earth grading should be sloped away from the structures and backfilling of foundations should be compacted to the minimum requirements set forth in this report. Underground utility lines, landscaping and planting areas ***must be designed and constructed*** to prevent excess moisture from entering and collecting near foundations.

During construction, the excavation of foundation soils should not be left open to allow the accumulation of water. Once the foundation excavation begins, the backfill operation shall be completed as soon as possible. If this cannot be done, a 4" thick slab of lean concrete shall be placed to protect the foundation supporting soils. At no time shall backfill material be placed in excavations which contain water.

Natural moisture contents in the clayey and silty soils are near or above optimum levels. Earthmoving operations and soil compaction will likely require aeration of soils to reduce moisture contents. These activities are generally not practical in wet winter and early spring months for this geographic area. In addition, all foundation and sub-grade soils must be protected against unnecessary manipulation under construction equipment which could work them into an unstable condition.

All foundation excavation should be inspected by a qualified soils engineer prior to placing concrete to verify design assumptions and to prevent seating foundations on unstable materials. Any unstable material encountered during construction should be undercut to stable soils and replaced with approved, compacted fill.

Compaction of backfill materials should achieve ***95% of maximum dry density*** at optimum moisture content ±2% in accordance with ASTM D 698 or AASHTO T 99, standard proctor. Compaction shall be verified with field density tests performed by qualified soils technicians.

Special Notes and/or Specifications

1. The natural moisture contents of the overburden soils at the time of drilling are typically near or above the upper limit of the 95% compaction moisture range. Drying, handling, and manipulation of the soils is likely to be required in order to achieve the proper moisture content required to satisfy the compaction requirements.

2. Installation of erosion control matting and establishment of vegetation shall be conducted as soon as practical to prevent erosion of the reconfigured side-hill slope, bridge abutment slopes and construction staging areas.

3. 3 feet of undercut along with backfill consisting of Select Granular Material shall be placed beneath the embankment footprint from Station 49+00 to Station 53+00.

4. Compaction of backfill materials shall achieve 95% of maximum dry density at optimum moisture content ±2% in accordance with ASTM D 698 or AASHTO T 99, standard proctor. Compaction shall be verified with field density tests performed by qualified soil technicians.

5. The following station intervals shall require the use of embankment benching to construct the proposed embankments. Embankment benching shall be in accordance with Section 205 of the Standard Specifications for Road and Bridge Construction.

   I-40 Widening (Ramp A Acceleration Lane) Station 66+50 to Station 74+50
   I-40 Widening (Ramp B Deceleration Lane) Station 99+50 to Station 102+50
   I-40 Widening (Ramp C Deceleration Lane) Station 68+47 to Station 74+50
   I-40 Widening (Ramp D Acceleration Lane) Station 99+13.12 to Station 110+00

6. All drilled shafts to be constructed per the current version of TDOT Special Provisions 625 – "Special Provision Regarding Drilled Shaft Specifications."

7. Embankment sections near the proposed abutments shall be constructed first, or as soon as practical in the construction sequence. A waiting period ranging from 30 to 60 days is required prior to paving operations and pile driving operations in these areas to reduce the effects of settlement on pavement and to reduce the likelihood of dragdown forces on the piles. The indicated waiting period and initial fill construction shall be utilized within the following approximate limits, at the direction of the Engineer.

   Ramp A Station 20+00.00 to Station 25+00.00
   Ramp B Station 37+50.00 to Station 39+32.89
   Ramp C Station 49+50.00 to Station 53+11.07
   Ramp D Station 60+00.00 to Station 62+00.00
   Access Road Station 8+27.62 to Begin Bridge
   Access Road from End Bridge to Station 13+50.00

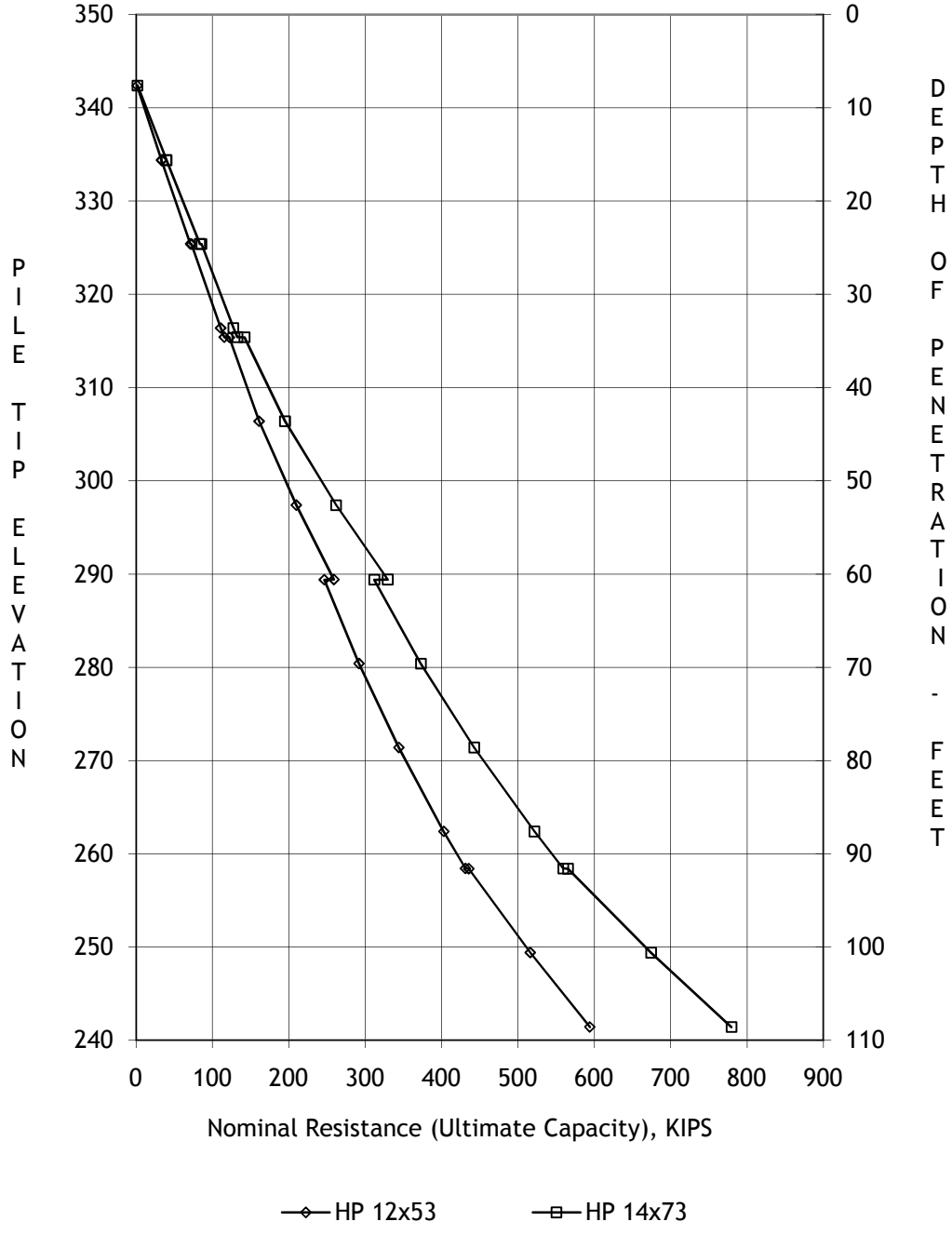
Appendix I
Nominal Resistance Versus Depth Charts for Driven Piles

Solar Farm Information & Welcome Center

EB Access Road Bridge over I-40

Abutment 1 - Boring No. 55

Nominal Resistance Chart



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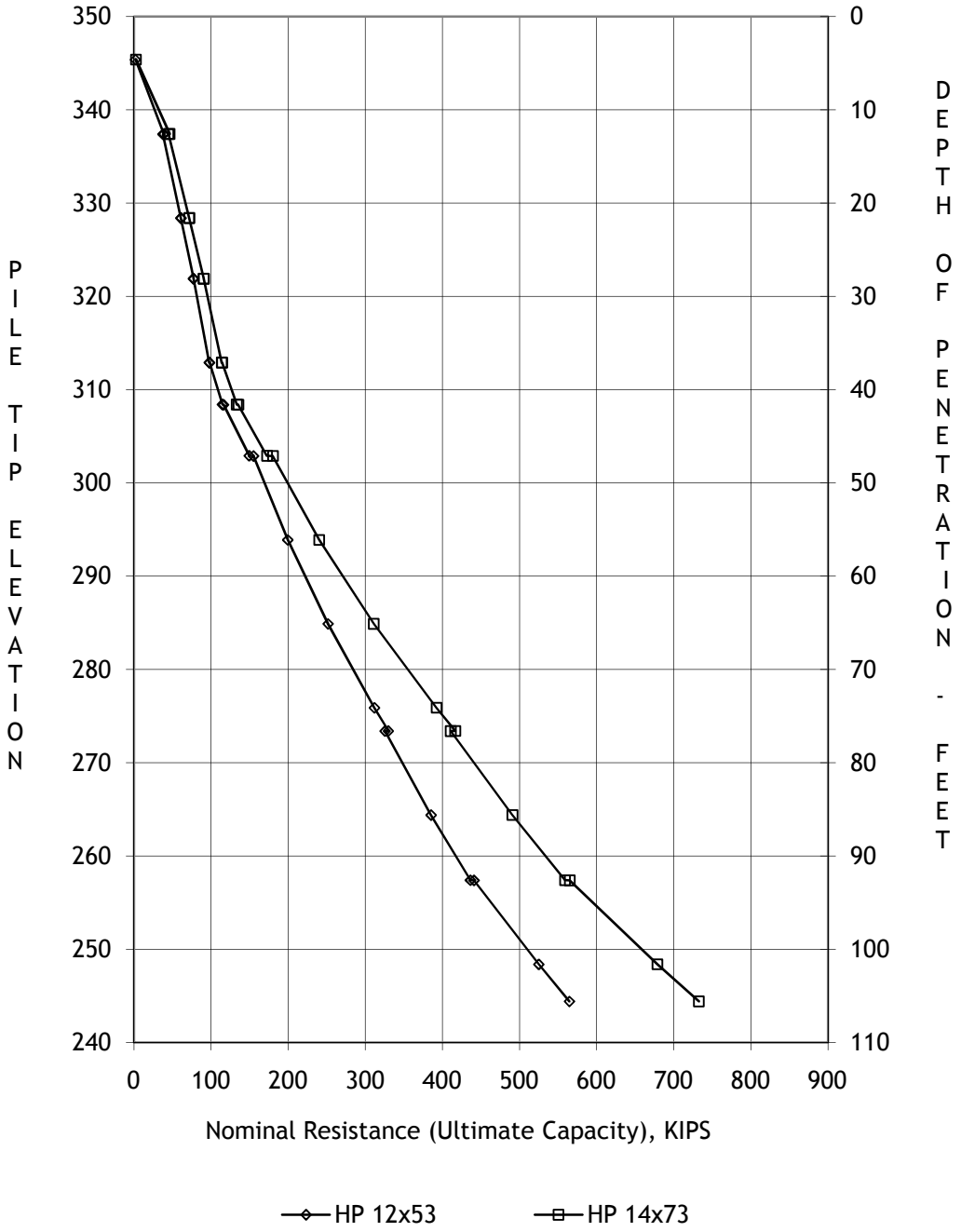
EB Access Road Bridge over I-40

Abutment 1 - Boring No. 56

Nominal Resistance Chart



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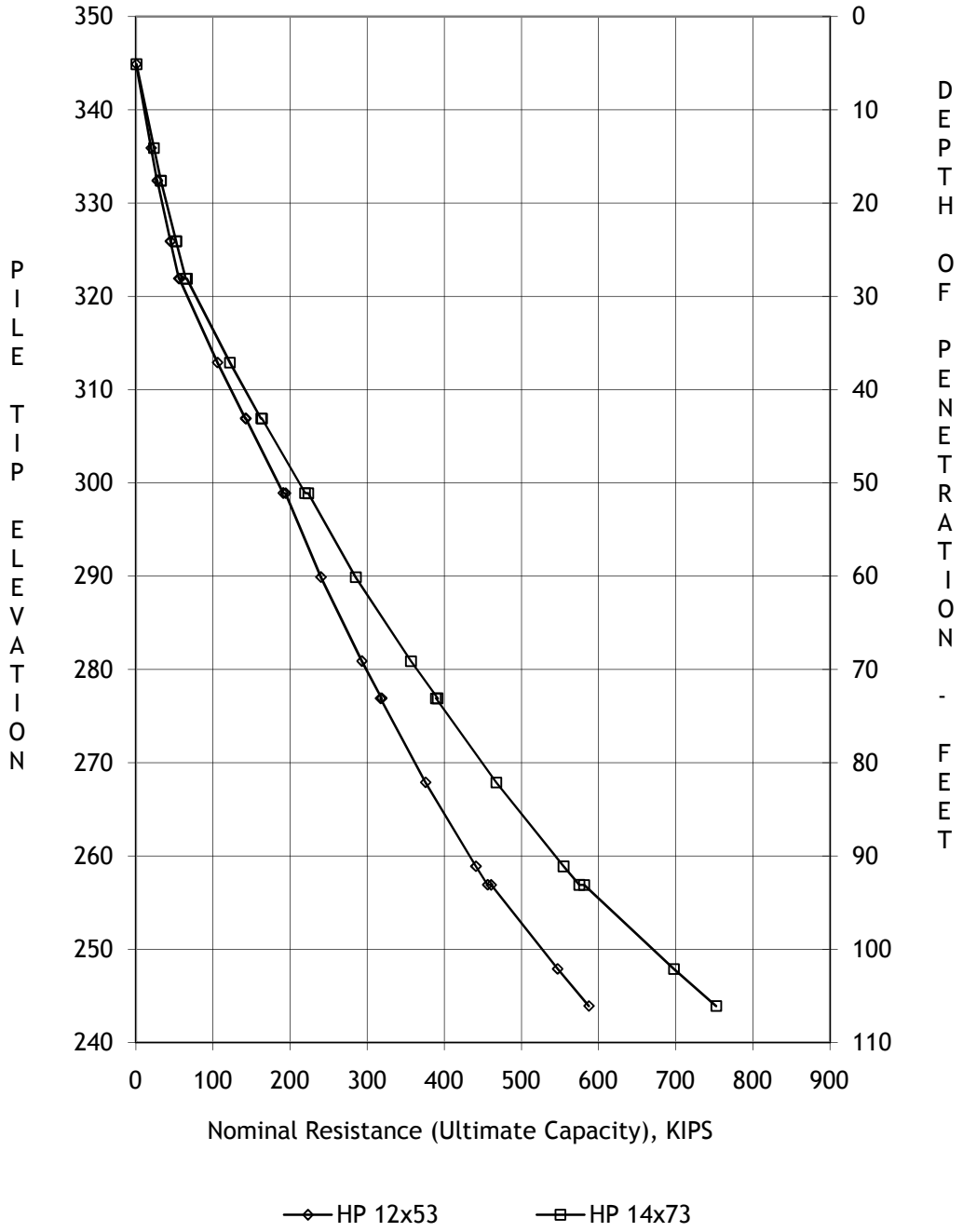
EB Access Road Bridge over I-40

Bent 1 - Boring No. 57

Nominal Resistance Chart



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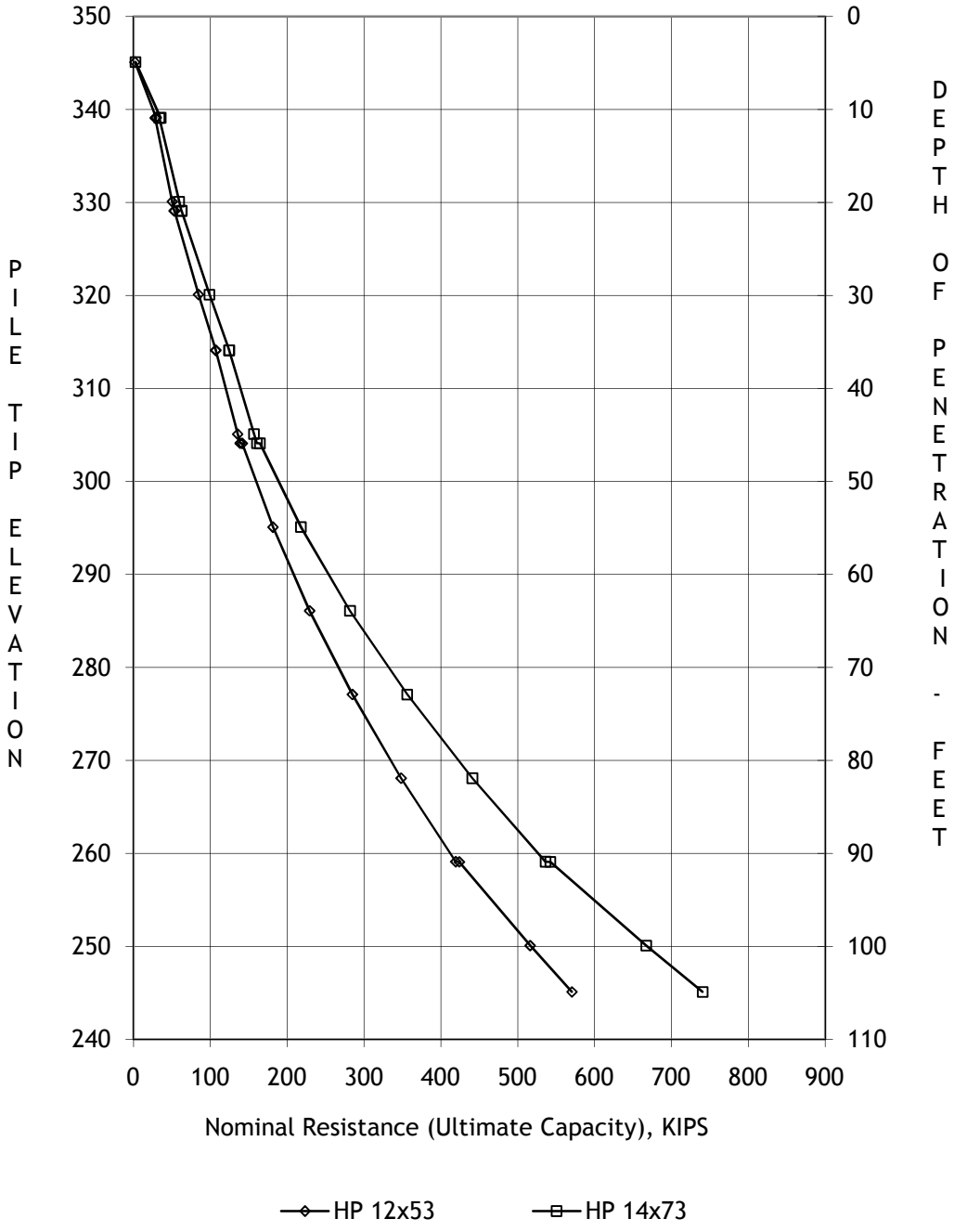
EB Access Road Bridge over I-40

Bent 1 - Boring No. 58

Nominal Resistance Chart

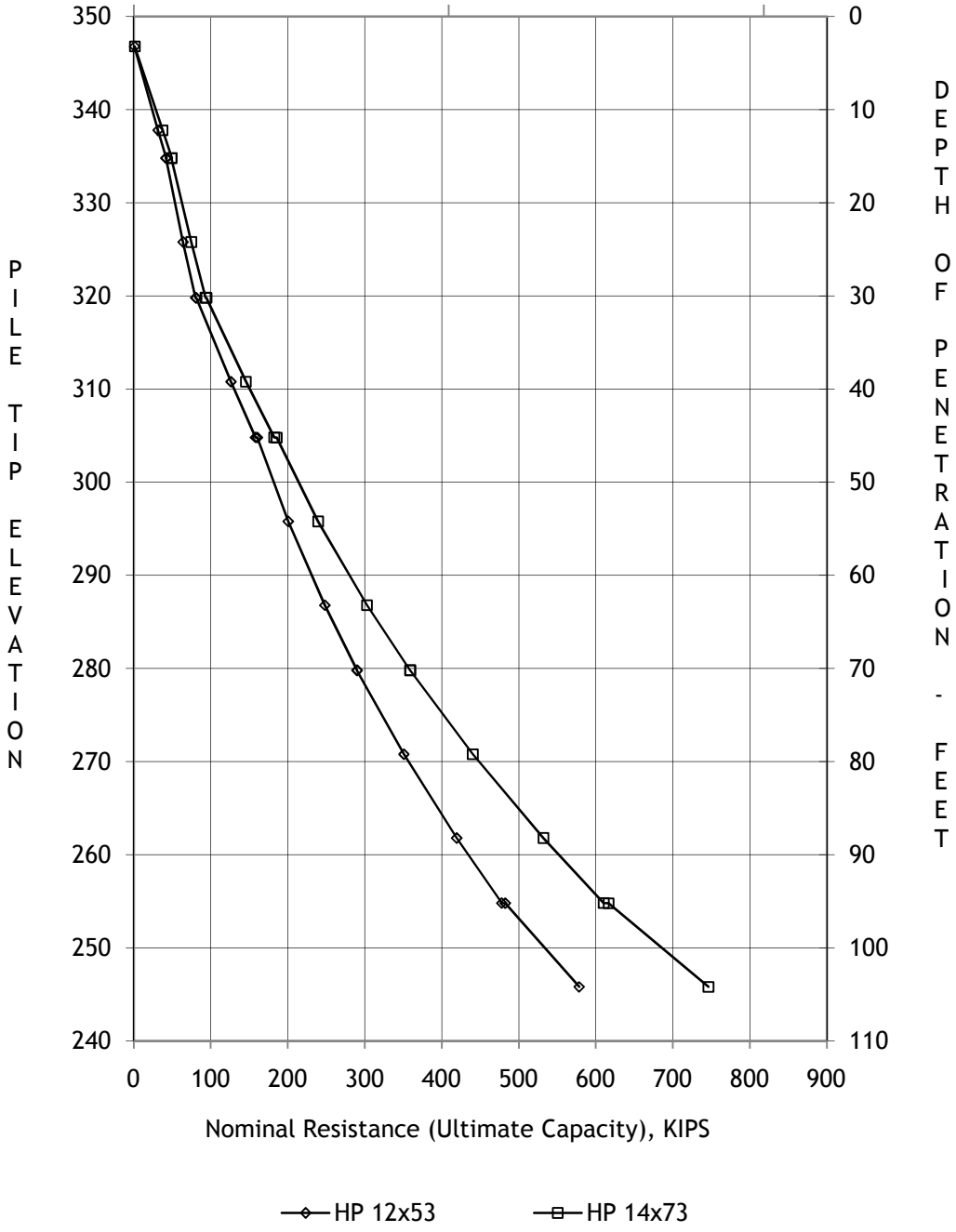


Solar Farm Information & Welcome Center

EB Access Road Bridge over I-40

Abutment 2 - Boring No. 59

Nominal Resistance Chart



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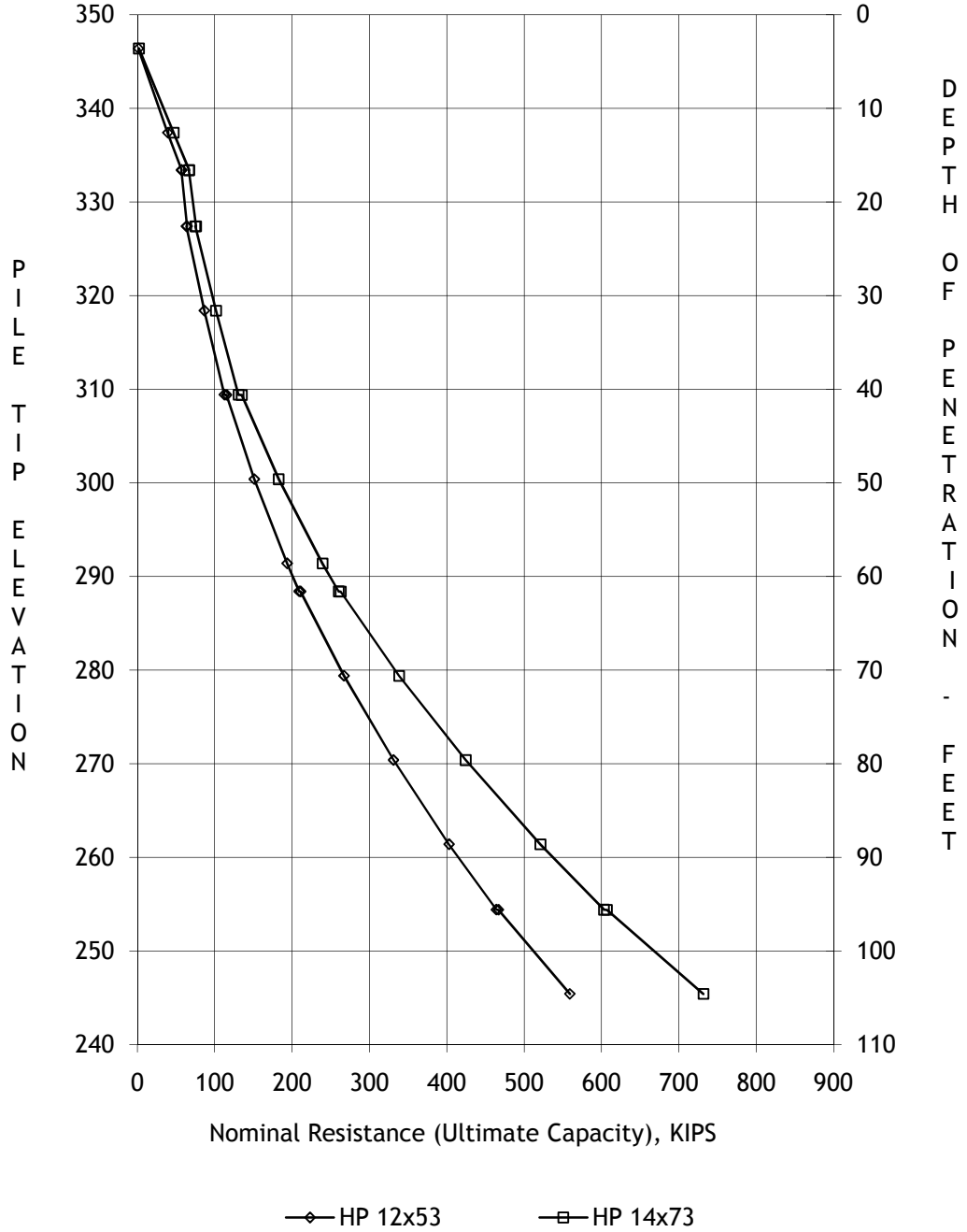
EB Access Road Bridge over I-40

Abutment 2 - Boring No. 60

Nominal Resistance Chart



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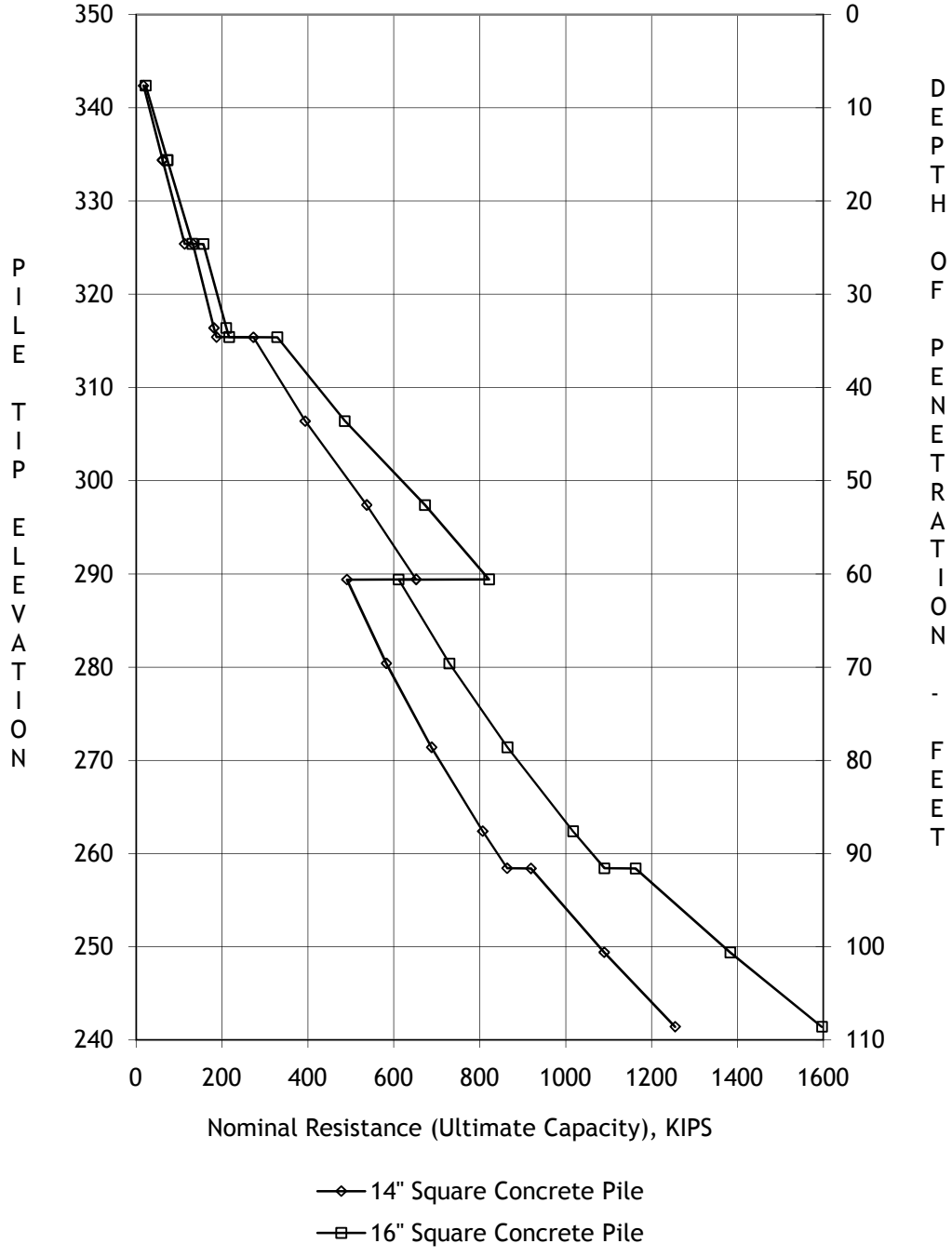
EB Access Road Bridge over I-40

Abutment 1 - Boring No. 55

Nominal Resistance Chart

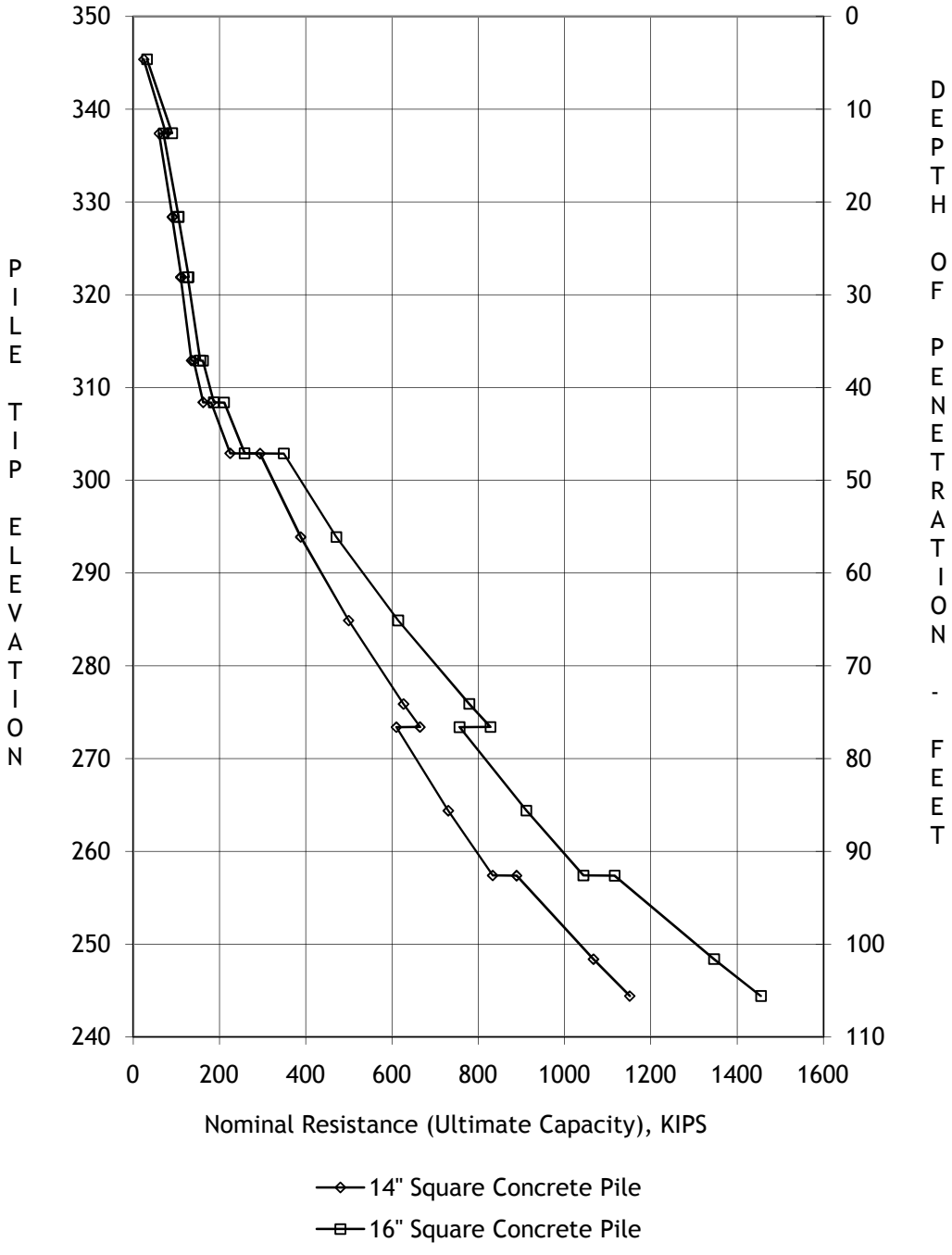


Solar Farm Information & Welcome Center

EB Access Road Bridge over I-40

Abutment 1 - Boring No. 56

Nominal Resistance Chart

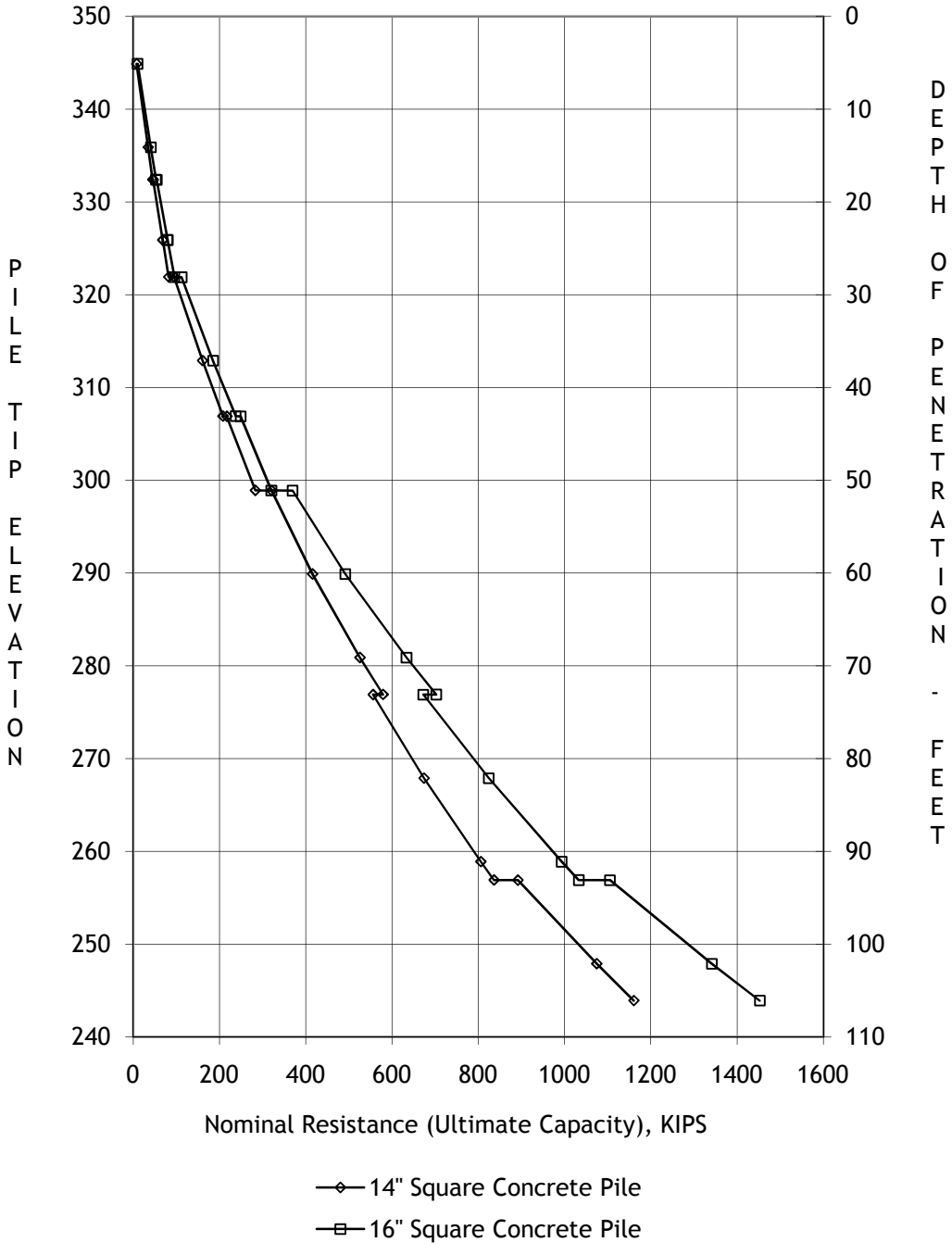


Solar Farm Information & Welcome Center

EB Access Road Bridge over I-40

Bent 1 - Boring No. 57

Nominal Resistance Chart

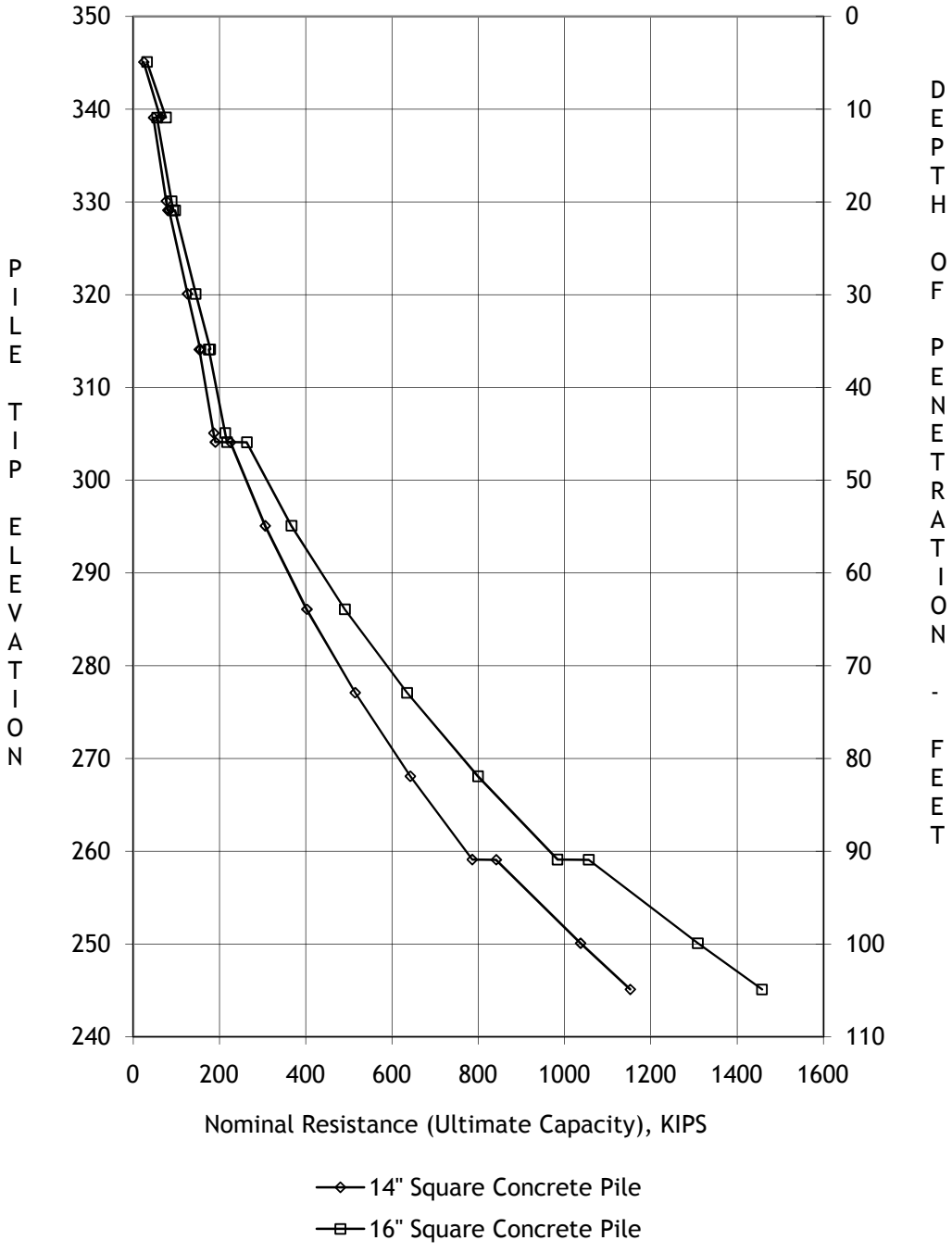


Solar Farm Information & Welcome Center

EB Access Road Bridge over I-40

Bent 1 - Boring No. 58

Nominal Resistance Chart

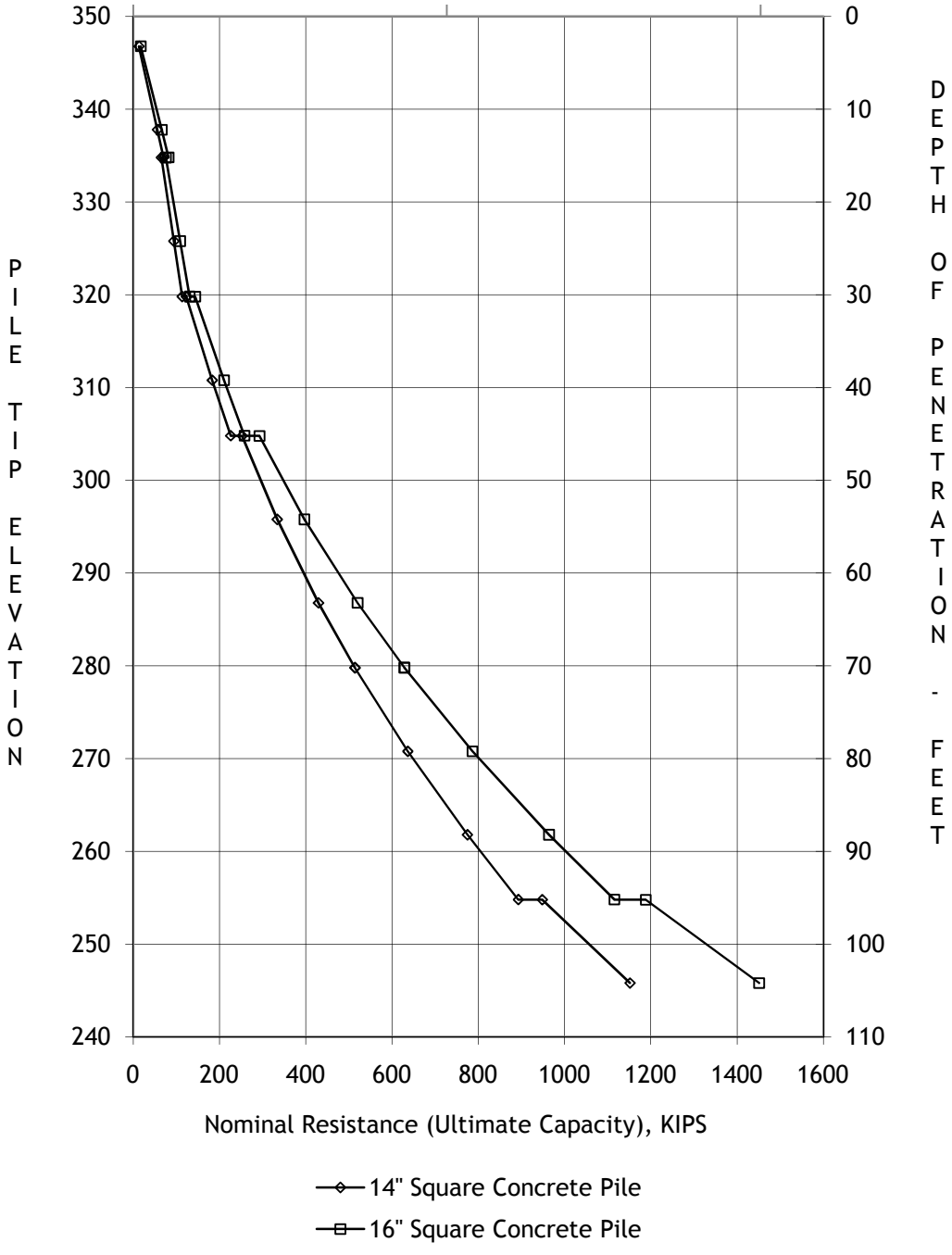


Solar Farm Information & Welcome Center

EB Access Road Bridge over I-40

Abutment 2 - Boring No. 59

Nominal Resistance Chart

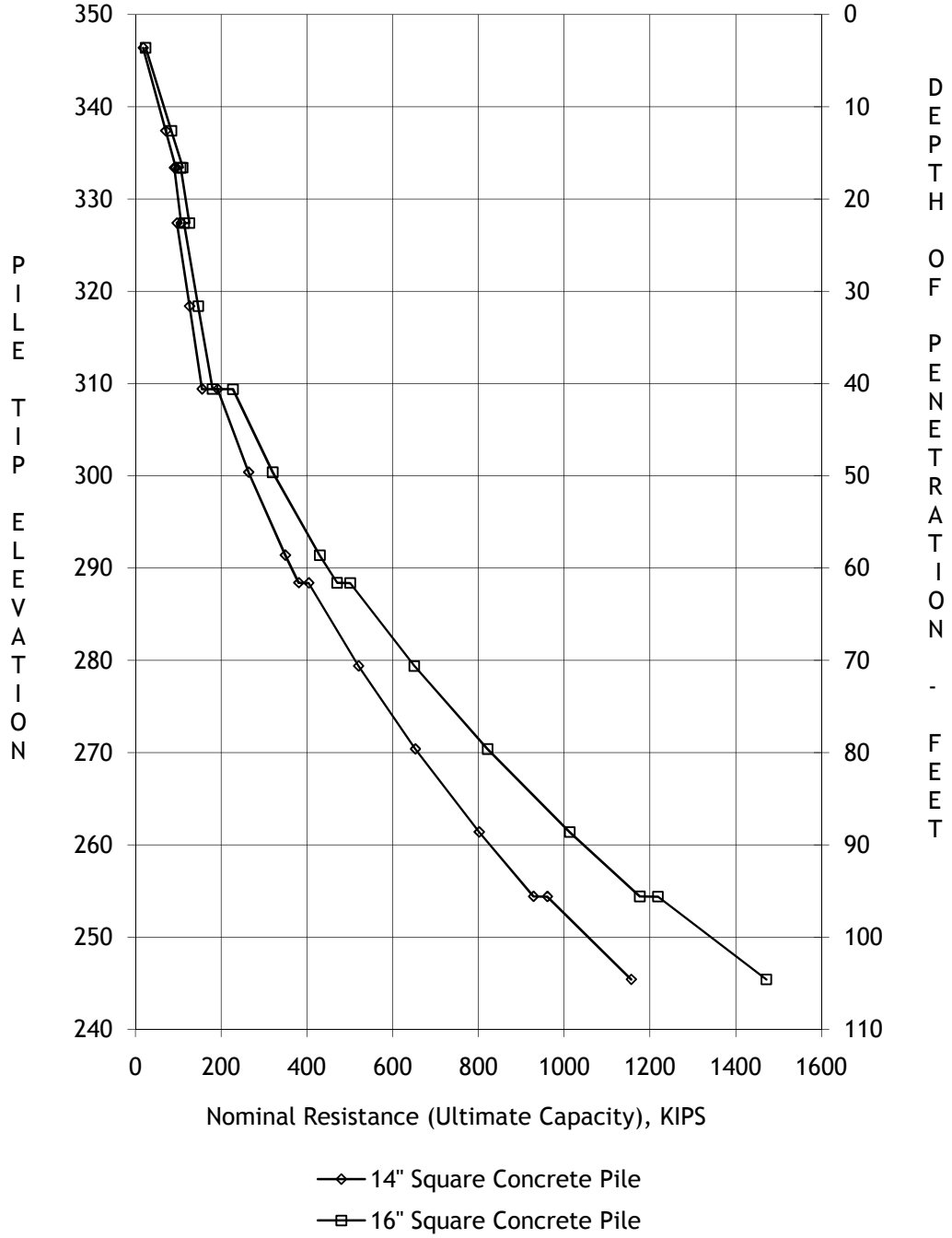


Solar Farm Information & Welcome Center

EB Access Road Bridge over I-40

Abutment 2 - Boring No. 60

Nominal Resistance Chart

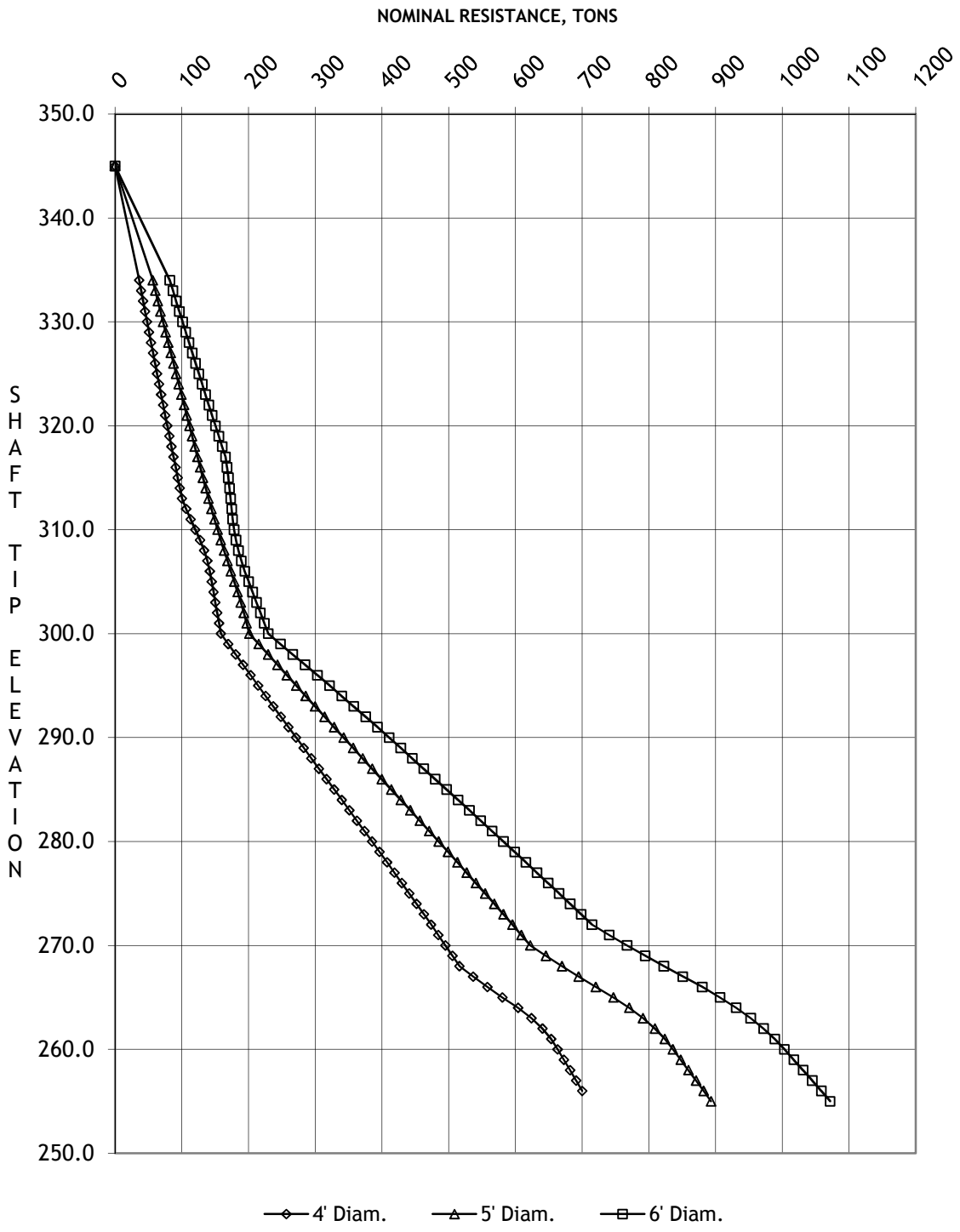


Appendix II
Nominal & Factored Resistance Charts Versus Depth for Drilled Shafts

Solar Farm Information & Welcome Center

EB Access Road Bridge over I-40

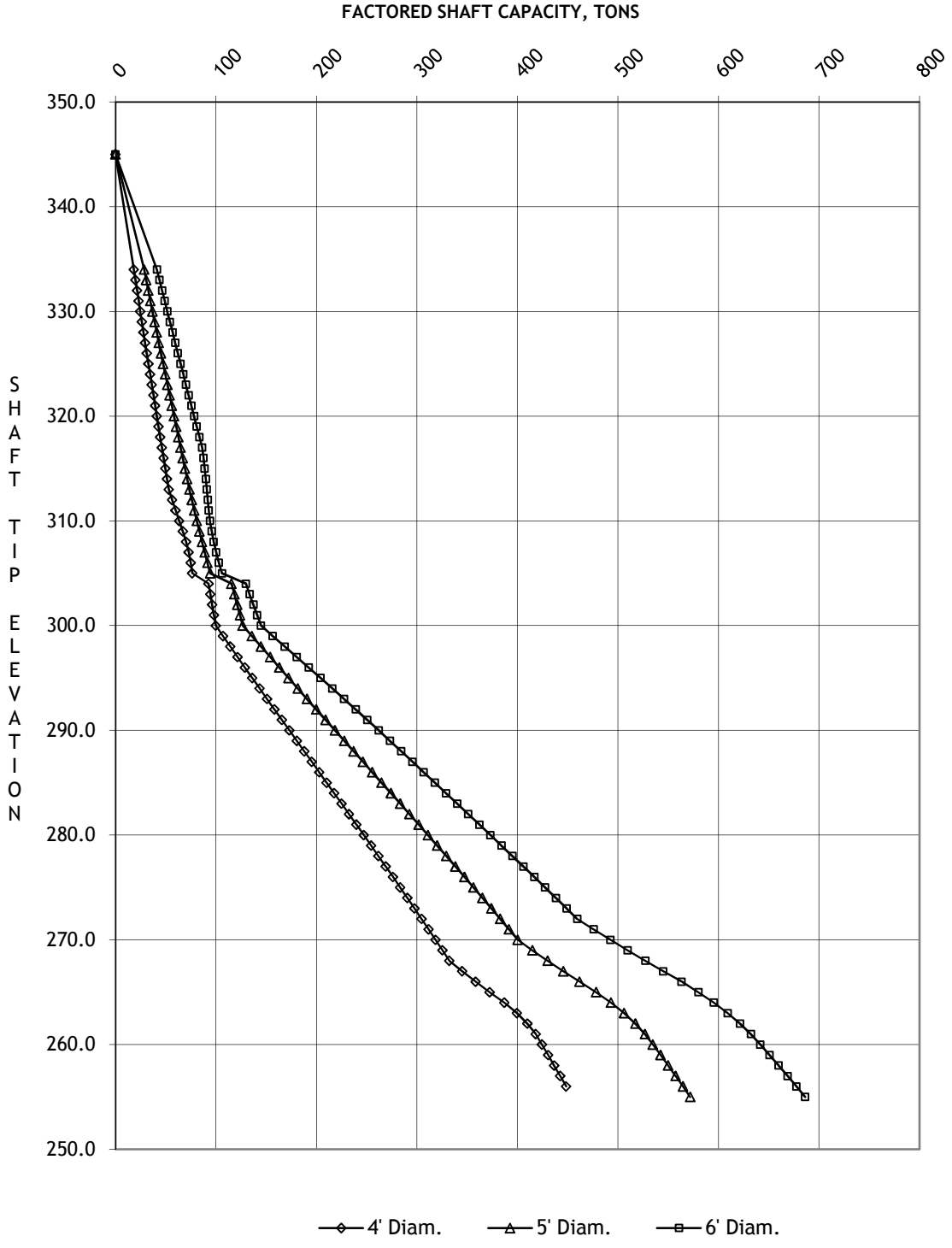
Bent 1 - Borings Nos. 57 & 58



Solar Farm Information & Welcome Center

EB Access Road Bridge over I-40

Bent 1 - Boring Nos. 57 & 58



Appendix III
Pavement Design Calculations

1993 AASHTO Pavement Design

DARWin Pavement Design and Analysis System

A Proprietary AASHTOWare
Computer Software Product

Flexible Structural Design Module

TDOT Solar Farm and Welcome Center
Haywood County
Service Road Only (No Class 5 or greater trucks)

Flexible Structural Design

18-kip ESALs Over Initial Performance Period	109,926
Initial Serviceability	4.5
Terminal Serviceability	2.5
Reliability Level	90 %
Overall Standard Deviation	0.45
Roadbed Soil Resilient Modulus	4,500 psi
Stage Construction	1
Calculated Design Structural Number	2.88 in

Simple ESAL Calculation

Performance Period (years)	20
Two-Way Traffic (ADT)	2,640
Number of Lanes in Design Direction	2
Percent of All Trucks in Design Lane	100 %
Percent Trucks in Design Direction	100 %
Percent Heavy Trucks (of ADT) FHWA Class 5 or Greater	1 %
Average Initial Truck Factor (ESALs/truck)	0.57
Annual Truck Factor Growth Rate	0 %
Annual Truck Volume Growth Rate	0 %
Growth	Simple
Total Calculated Cumulative ESALs	109,926

1993 AASHTO Pavement Design

DARWin Pavement Design and Analysis System

A Proprietary AASHTOWare
Computer Software Product

Flexible Structural Design Module

TDOT Solar Farm and Welcome Center
Haywood County
Heavy Truck Loading

Flexible Structural Design

18-kip ESALs Over Initial Performance Period	5,237,667
Initial Serviceability	4.5
Terminal Serviceability	2.5
Reliability Level	90 %
Overall Standard Deviation	0.45
Roadbed Soil Resilient Modulus	4,500 psi
Stage Construction	1
Calculated Design Structural Number	5.11 in

Simple ESAL Calculation

Performance Period (years)	20
Two-Way Traffic (ADT)	2,640
Number of Lanes in Design Direction	2
Percent of All Trucks in Design Lane	100 %
Percent Trucks in Design Direction	100 %
Percent Heavy Trucks (of ADT) FHWA Class 5 or Greater	33 %
Average Initial Truck Factor (ESALs/truck)	0.823
Annual Truck Factor Growth Rate	0 %
Annual Truck Volume Growth Rate	0 %
Growth	Simple
Total Calculated Cumulative ESALs	5,237,667

1993 AASHTO Pavement Design

DARWin Pavement Design and Analysis System

A Proprietary AASHTOWare Computer Software Product

Rigid Structural Design Module

TDOT Solar Farm and Welcome Center
Haywood County
Heavy Truck Loading Alternate

Rigid Structural Design

Pavement Type	JPCP
18-kip ESALs Over Initial Performance Period	7,617,847
Initial Serviceability	4.5
Terminal Serviceability	2.5
28-day Mean PCC Modulus of Rupture	750 psi
28-day Mean Elastic Modulus of Slab	3,600,000 psi
Mean Effective k-value	232 psi/in
Reliability Level	90 %
Overall Standard Deviation	0.35
Load Transfer Coefficient, J	3.2
Overall Drainage Coefficient, Cd	1
Calculated Design Thickness	8.59 in

Simple ESAL Calculation

Performance Period (years)	20
Two-Way Traffic (ADT)	2,640
Number of Lanes in Design Direction	1
Percent of All Trucks in Design Lane	100 %
Percent Trucks in Design Direction	100 %
Percent Heavy Trucks (of ADT) FHWA Class 5 or Greater	33 %
Average Initial Truck Factor (ESALs/truck)	1.197
Annual Truck Factor Growth Rate	0 %
Annual Truck Volume Growth Rate	0 %
Growth	Simple
Total Calculated Cumulative ESALs	7,617,847

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Project No. 10217 Sheet No. 1 Of 1
Project TDOT Solar Farm & Welcome Center
Calc. By DLC Date 12-9-10
Checked By _____ Date _____

1) Service Road (No Tractor Trailers) & Cars Only Parking:

From DARWin - SN REQ'D = 2.88

Pvmt. Design - 1.25" Asphalt Concrete Surface Grading D — 1.25(0.40) = 0.50
3.5" Asphalt Base — 3.5(0.40) = 1.40
8" Mineral Agg. Base — 8(0.14) = 1.12
3.02

3.02 > 2.88 OK ✓ OK

2) Heavy Truck Loading & Ramps To/From I-40 (Asphalt)

From DARWin - SN REQ'D = 5.11

Pvmt Design - 1.25" Asphalt Concrete Surface Grading D — 1.25(0.44) = 0.50
2" Asphalt Binder — 2(0.40) = 0.80
3.5" Asphalt Base (A Mix) — 3.5(0.40) = 1.40
3.5" Asphalt Base (A-S Mix) — 3.5(0.30) = 1.05
10" Mineral Agg. Base — 10(0.14) = 1.40
5.15

5.15 > 5.11 OK ✓

3) Heavy Truck Loading & Ramps Alternate To/From I-40 (Concrete)

From DARWin - Thickness Req'd = 8.59" - Use 9" of JPCP

So Pvmt Design - 9" JPCP Concrete Pvmt
8" Total Base (4" Treated Permeable Base + 4" Crushed Stone)

Another Alternate for #1 Above

1.25" Surface - 1.25(0.40) = 0.50
2" Binder - 2(0.40) = 0.80
4" Base - 4(0.40) = 1.60
2.90

2.90 > 2.88 OK ✓

Appendix IV
Boring Logs

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TDOT Go.

Sheet No. 1 of 1

State **Tennessee** Latitude **35.40743** ° Longitude **89.38899** °

County **Haywood** Location **21+00 CL Ramp A**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **345.6 ft**

Project Type **Subsurface Investigation** Dated Started **10/11/2010** Completed **10/11/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-1** Total Depth **36 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
345.6 ft	0		*Ground Line*						
345			Topsoil 0.6'						
			Brown, lean clay.		MC-1	3.0			MC/Bag
340	5				Bag #100	5.0			
			6.5' Dark brown, lean clay.						
					MC-2	8.0			MC/Bag
335	10				Bag #101	10.0			
			11.5' Reddish gray, lean clay with sand.						
					MC-3	13.0			MC/Bag
330	15				Bag #102	15.0			
			16.5' Gray, sandy lean clay.						
					MC-4	18.0			MC
325	20					20.0			
					MC-5	23.0			MC
320	25					25.0			
					Bag #103	28.0			Bag
					MC-6				MC
315	30					30.0			
					MC-7	34.0			MC
310	35		36.0'			36.0			
			No Refusal & Boring Terminated @ 36.0' (Elev. 309.6).						
305	40								
300	45								
295	50								
290	55								
	60								

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TDOT Go.

Sheet No. 1 of 1

State **Tennessee** Latitude **35.40662** ° Longitude **89.3897** °

County **Haywood** Location **25+00 80' Rt. Ramp A**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **333.5 ft**

Project Type **Subsurface Investigation** Dated Started **11/5/2010** Completed **11/5/2010**

Driller **D. Hertter** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-2** Total Depth **28 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
333.5 ft	0		*Ground Line*						
			Topsoil 0.5'			0.5			
330	5		Brown lean clay.						
325	10				MC-1				MC
320	15					15.0			
315	20		19.5' Gray, sandy lean clay.						
310	25					24.0			
					MC-2				MC
305	30		28.0' No Refusal & Boring Terminated @ 28.0' (Elev. 305.5).			28.0			
300	35								
295	40								
290	45								
285	50								
280	55								
275	60								

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TDOT Go.

Sheet No. 1 of 1

State **Tennessee** Latitude **35.40582** ° Longitude **89.39056** °

County **Haywood** Location **29+00 43' Rt. Ramp A**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **349.1 ft**

Project Type **Subsurface Investigation** Dated Started **11/5/2010** Completed **11/5/2010**

Driller **B. Williams** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-3** Total Depth **10 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
349.1 ft	0		*Ground Line*						
			Topsoil 0.5'			0.5			
			Brown, lean clay.		MC-1				MC
345	5		5.0'			5.0			
			Red, lean clay.		MC-2				MC
340	10		10.0'			10.0			
			No Refusal & Boring Terminated @ 10.0' (Elev. 339.1).						
335	15								
330	20								
325	25								
320	30								
315	35								
310	40								
305	45								
300	50								
295	55								
290	60								

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TDOT Go.

Sheet No. 1 of 1

State **Tennessee** Latitude **35.40835** ° Longitude **89.38639** °

County **Haywood** Location **31+00 33' Rt. Ramp B**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **346.1 ft**

Project Type **Subsurface Investigation** Dated Started **11/5/2010** Completed **11/5/2010**

Driller **D. Hertter** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-4** Total Depth **10 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
346.1 ft	0		*Ground Line*						
			Topsoil 0.5'						
			Brown & red, lean clay.		MC-1 Bag #300	3.0			MC/Bag
	5								
340									
	10		10.0'			10.0			
335			No Refusal & Boring Terminated @ 10.0' (Elev. 336.1).						
	15								
330									
	20								
325									
	25								
320									
	30								
315									
	35								
310									
	40								
305									
	45								
300									
	50								
295									
	55								
290									
	60								

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Sheet No. 1 of 1

State **Tennessee** Latitude **35.40807** ° Longitude **89.38695** °

County **Haywood** Location **33+00 33' Rt. Ramp B**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **349.7 ft**

Project Type **Subsurface Investigation** Dated Started **11/5/2010** Completed **11/5/2010**

Driller **D. Hertter** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-5** Total Depth **17 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
349.7 ft	0		*Ground Line*						
			Topsoil	0.5'		0.5			
			Brown, lean clay.		MC-1				MC
345	5			7.0'		7.0			
			Brown, lean clay.						
340	10				MC-2				MC
335	15			17.0'		17.0			
			No Refusal & Boring Terminated @ 17.0' (Elev. 332.7).						
330	20								
325	25								
320	30								
315	35								
310	40								
305	45								
300	50								
295	55								
290	60								

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TDOT Go.

Sheet No. 1 of 1

State **Tennessee** Latitude **35.40783** ° Longitude **89.38756** °

County **Haywood** Location **35+00 33' Rt. Ramp B**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **354.6 ft**

Project Type **Subsurface Investigation** Dated Started **10/20/2010** Completed **10/20/2010**

Driller **R. Cassell** Logged by **A. Bridges** Depth to Water: Immediate

Hole Number **B-6** Total Depth **17 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
354.6 ft	0		*Ground Line*						
			Brown, lean clay.		MC-1	0.0			MC/Bag
					Bag #202	2.5			
350	5				MC-2	5.0			MC
					MC-3				MC
345	10			10.0'		10.0			
			Brown, lean clay with sand.		MC-4				MC
340	15				MC-5	15.0			MC
				17.0'		17.0			
335	20		No Refusal & Boring Terminated @ 17.0' (Elev. 337.6).						
330	25								
325	30								
320	35								
315	40								
310	45								
305	50								
300	55								
295	60								

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TDOT Go.

Sheet No. 1 of 1

State **Tennessee** Latitude **35.40766** ° Longitude **89.38846** °

County **Haywood** Location **38+00 CL Ramp B**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **350.4 ft**

Project Type **Subsurface Investigation** Dated Started **10/10/2010** Completed **10/10/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-7** Total Depth **24 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
350	350.4 ft 0		*Ground Line*						
			Topsoil	0.6'					
			Brown, lean clay.		MC-1 Bag #104	2.0 – 4.0			MC/Bag
345	5			6.0'					
			Dark brown, lean clay.		MC-2 Bag #105	8.0 – 10.0			MC/Bag
340	10			11.5'					
			Reddish brown, lean clay with sand.		MC-3 Bag #106	13.0 – 15.0			MC/Bag
335	15			16.5'					
			Brownish gray & grayish brown, sandy lean clay.		MC-4 Bag #107	18.0 – 20.0			MC/Bag
330	20				MC-5 Bag #108	22.0 – 24.0			MC/Bag
325	25			24.0'					
			No Refusal & Boring Terminated @ 24.0' (Elev. 326.4).						
320	30								
315	35								
310	40								
305	45								
300	50								
295	55								
	60								

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TDOT Go.

Sheet No. 1 of 1

State **Tennessee** Latitude **35.40476 °** Longitude **89.39107 °**

County **Haywood** Location **40+00 33' Rt. Ramp C**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **348.2 ft**

Project Type **Subsurface Investigation** Dated Started **11/6/2010** Completed **11/6/2010**

Driller **B. Williams** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-8** Total Depth **10 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
348.2 ft	0		*Ground Line*						
			Topsoil 0.5'			0.5			
345	5		Brown, lean clay. 5.0'		MC-1 Bag #301	5.0			MC/Bag
340	10		Brown & red, lean clay. 10.0'		MC-2 Bag #302	10.0			MC/Bag
335	15		No Refusal & Boring Terminated @ 10.0' (Elev. 338.2).						
330	20								
325	25								
320	30								
315	35								
310	40								
305	45								
300	50								
295	55								
290	60								

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TDOT Go.

Sheet No. 1 of 1

State **Tennessee** Latitude **35.40509 °** Longitude **89.39054 °**

County **Haywood** Location **42+00 33' Rt. Ramp C**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **355 ft**

Project Type **Subsurface Investigation** Dated Started **11/6/2010** Completed **11/6/2010**

Driller **D. Hertter** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-9** Total Depth **19 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
355	0		*Ground Line*						
355.0 ft			Topsoil			0.5			
			0.5' Yellowish orange, lean clay.		MC-1				MC
350	5								
			8.0' Tan, lean clay.			8.0			
345	10				MC-2				MC
340	15								
			19.0' No Refusal & Boring Terminated @ 19.0' (Elev. 336.0).			19.0			
335	20								
330	25								
325	30								
320	35								
315	40								
310	45								
305	50								
300	55								
295	60								

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TDOT Go.

Sheet No. 1 of 1

State **Tennessee** Latitude **35.4054** ° Longitude **89.38999** °

County **Haywood** Location **44+00 CL Ramp C**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **343.2 ft**

Project Type **Subsurface Investigation** Dated Started **11/6/2010** Completed **11/6/2010**

Driller **B. Williams** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-10** Total Depth **10 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
343.2 ft	0		*Ground Line*						
			Topsoil 0.5'			0.5			
340	5		Brown, lean clay.		MC-1				MC
335	10		10.0'			10.0			
			No Refusal & Boring Terminated @ 10.0' (Elev. 333.2).						
330	15								
325	20								
320	25								
315	30								
310	35								
305	40								
300	45								
295	50								
290	55								
285	60								

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TDOT Go.

Sheet No. 1 of 1

State **Tennessee** Latitude **35.40566** ° Longitude **89.38869** °

County **Haywood** Location **48+00 CL Ramp C**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **348.4 ft**

Project Type **Subsurface Investigation** Dated Started **10/20/2010** Completed **10/20/2010**

Driller **S. Gower** Logged by **S. Gower** Depth to Water: Immediate

Hole Number **B-11** Total Depth **12 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
348.4 ft	0		*Ground Line*						
			Topsoil 0.4'			0.4			
345	5		Brown, lean clay.		MC-1 Bag #109				MC/Bag
340	10								
			12.0'			12.0			
335	15		No Refusal & Boring Terminated @ 12.0' (Elev. 336.4).						
330	20								
325	25								
320	30								
315	35								
310	40								
305	45								
300	50								
295	55								
290	60								

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TDOT Go.

Sheet No. 1 of 1

State **Tennessee** Latitude **35.40624** ° Longitude **89.38772** °

County **Haywood** Location **52+00 CL Ramp C**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **346.9 ft**

Project Type **Subsurface Investigation** Dated Started **10/20/2010** Completed **10/20/2010**

Driller **S. Gower** Logged by **S. Gower** Depth to Water: Immediate

Hole Number **B-12** Total Depth **38 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
346.9 ft	0		*Ground Line*						
			Topsoil	0.5'		0.5			
345			Brown, lean clay.						
	5								
340					MC-1 Bag #110				MC/Bag
	10								
335									
	15			15.0'		15.0			
330			Gray, sandy lean clay.						
	20								
325									
	25								
320					MC-2 Bag #111				MC/Bag
	30								
315									
	35								
310				38.0'		38.0			
	40		No Refusal & Boring Terminated @ 38.0' (Elev. 308.9).						
305									
	45								
300									
	50								
295									
	55								
290									
	60								

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TDOT Go.

Sheet No. 1 of 1

State **Tennessee** Latitude **35.40654** ° Longitude **89.38781** °

County **Haywood** Location **60+00 CL Ramp D**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **344.5 ft**

Project Type **Subsurface Investigation** Dated Started **10/22/2010** Completed **10/22/2010**

Driller **R. Cassell** Logged by **A. Bridges** Depth to Water: Immediate

Hole Number **B-13** Total Depth **50 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
344.5 ft	0		*Ground Line*						
			Brown, lean clay.		MC-1	0.0			MC
					MC-2	2.5			MC
340	5			5.0'		5.0			
			Gray, sandy lean clay.		MC-3				MC
335	10					10.0			
					MC-4				MC
330	15					15.0			
					MC-5				MC
325	20					20.0			
					MC-6 Bag #112				MC/Bag
320	25					25.0			
					MC-7				MC
315	30					30.0			
					MC-8				MC
310	35			35.0'		35.0			
			Orange, silty sand.		MC-9 Bag #113				MC/Bag
305	40					40.0			
					MC-10				MC
300	45					45.0			
					MC-11				MC
295	50			50.0'		50.0			
			No Refusal & Boring Terminated @ 50.0' (Elev. 294.5).						
290	55								
285	60								

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State **Tennessee** Latitude **35.40666** ° Longitude **89.38664** °

County **Haywood** Location **64+00 33' Rt. Ramp D**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **357.1 ft**

Project Type **Subsurface Investigation** Dated Started **10/20/2010** Completed **10/20/2010**

Driller **R. Cassell** Logged by **A. Bridges** Depth to Water: Immediate

Hole Number **B-14** Total Depth **10 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
357.1 ft	0		*Ground Line*						
			Light brown, lean clay.		MC-1	0.0			MC/Bag
					~~Bag #200~~	2.5			
355	5				MC-2	5.0			MC
			Dark brown, lean clay.						
350					MC-3 Bag #201				MC/Bag
	10			10.0'		10.0			
345			No Refusal & Boring Terminated @ 10.0' (Elev. 347.1).						
	15								
340									
	20								
335									
	25								
330									
	30								
325									
	35								
320									
	40								
315									
	45								
310									
	50								
305									
	55								
300									
	60								

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State **Tennessee** Latitude **35.40715** ° Longitude **89.38633** °

County **Haywood** Location **66+00** **33' Rt. Ramp D**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **353.7 ft**

Project Type **Subsurface Investigation** Dated Started **10/20/2010** Completed **10/20/2010**

Driller **R. Cassell** Logged by **A. Bridges** Depth to Water: Immediate

Hole Number **B-15** Total Depth **14 ft** Depth to Water Date Measured

Lithology				Overburden	Sample No.	Depth	Rec. (ft.)	Blows	Type
Elev.	Depth	Symbol	Description	Rock Core	Core No.	Run	Rec (ft.)	Rec. (%)	RQD (%)
353.7 ft	0		*Ground Line*						
			Light brown, lean clay.		MC-1	0.0			MC
					MC-2	2.5			MC
350	5			5.0'		5.0			
			Dark brown, lean clay.		MC-3				MC
345	10			10.0'		10.0			
			Dark brown, lean clay with sand.		MC-4				MC
340	15			14.0'		14.0			
			No Refusal & Boring Terminated @ 14.0' (Elev. 339.7).						
335	20								
330	25								
325	30								
320	35								
315	40								
310	45								
305	50								
300	55								
295	60								

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State **Tennessee** Latitude **35.40775 °** Longitude **89.38627 °**

County **Haywood** Location **68+00 49' Lt. Ramp D**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **344.6 ft**

Project Type **Subsurface Investigation** Dated Started **11/6/2010** Completed **11/6/2010**

Driller **D. Hertter** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-16** Total Depth **10 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
344.6 ft	0		*Ground Line*						
			Topsoil 0.5'			0.5			
			Gray & brown, lean clay.		MC-1 Bag #303	5.0			MC/Bag
340	5				MC-2 Bag #304				MC/Bag
335	10		10.0'			10.0			
			No Refusal & Boring Terminated @ 10.0' (Elev. 344.6).						
330	15								
325	20								
320	25								
315	30								
310	35								
305	40								
300	45								
295	50								
290	55								
285	60								

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State **Tennessee** Latitude **35.40804** ° Longitude **89.38563** °

County **Haywood** Location **70+00 33' Rt. Ramp D**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **339.2 ft**

Project Type **Subsurface Investigation** Dated Started **11/6/2010** Completed **11/6/2010**

Driller **B. Williams** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-17** Total Depth **10 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
339.2 ft	0		*Ground Line*						
			Brown, lean clay.		MC-1	0.5			MC
335	5								
330	10		No Refusal & Boring Terminated @ 10.0' (Elev. 329.2).			10.0			
325	15								
320	20								
315	25								
310	30								
305	35								
300	40								
295	45								
290	50								
285	55								
280	60								

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State **Tennessee** Latitude **35.40849** ° Longitude **89.38523** °

County **Haywood** Location **72+00 CL Ramp D**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **338.6 ft**

Project Type **Subsurface Investigation** Dated Started **11/6/2010** Completed **11/6/2010**

Driller **B. Williams** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-18** Total Depth **10 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
338.6 ft	0		*Ground Line*						
			Topsoil 0.5'			0.5			
335	5		Gray, lean clay.		MC-1 Bag #305				MC/Bag
330	10		10.0'			10.0			
325	15		No Refusal & Boring Terminated @ 10.0' (Elev. 328.6).						
320	20								
315	25								
310	30								
305	35								
300	40								
295	45								
290	50								
285	55								
280	60								

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State **Tennessee** Latitude **35.40417** ° Longitude **89.39303** °

County **Haywood** Location **70+00 75' Lt. WB Exit Ln.**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **328.8 ft**

Project Type **Subsurface Investigation** Dated Started **11/8/2010** Completed **11/8/2010**

Driller **B. Cayton** Logged by **B. Cayton** Depth to Water: Immediate

Hole Number **B-19** Total Depth **8 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
328.8 ft	0		*Ground Line*						
			Topsoil 1.0'			1.0			
			Brown, red & gray, lean clay.		MC-1 Bag #500				MC/Bag
325	5								
			8.0'			8.0			
320	10		No Refusal & Boring Terminated @ 8.0' (Elev. 320.8).						
315	15								
310	20								
305	25								
300	30								
295	35								
290	40								
285	45								
280	50								
275	55								
270	60								

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State **Tennessee** Latitude **35.40484** ° Longitude **89.39196** °

County **Haywood** Location **74+00 78' Lt. WB Exit Ln.**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **342.7 ft**

Project Type **Subsurface Investigation** Dated Started **11/8/2010** Completed **11/8/2010**

Driller **B. Cayton** Logged by **B. Cayton** Depth to Water: Immediate

Hole Number **B-20** Total Depth **10 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
342.7 ft	0		*Ground Line*						
			Topsoil 0.5'			0.5			
340			Brown & gray, lean clay.						
	5				MC-1				MC
335									
	10		10.0'			10.0			
330			No Refusal & Boring Terminated @ 10.0' (Elev. 332.7).						
	15								
325									
	20								
320									
	25								
315									
	30								
310									
	35								
305									
	40								
300									
	45								
295									
	50								
290									
	55								
285									
	60								

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State **Tennessee** Latitude **35.40528** ° Longitude **89.39153** °

County **Haywood** Location **76+00 128' Lt. WB Exit Ln.**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **351.2 ft**

Project Type **Subsurface Investigation** Dated Started **11/8/2010** Completed **11/8/2010**

Driller **D. Hertter** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-21** Total Depth **17 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
351.2 ft	0		*Ground Line*						
350			Topsoil 0.5'			0.5			
	5		Brown, lean clay.		MC-1				MC
345									
	10		10.0'			10.0			
340			Tan, silty sand.		MC-2				MC
	15								
335			17.0'			17.0			
	20		No Refusal & Boring Terminated @ 17.0' (Elev. 334.2).						
330									
	25								
325									
	30								
320									
	35								
315									
	40								
310									
	45								
305									
	50								
300									
	55								
295									
	60								

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State **Tennessee** Latitude **35.40564** ° Longitude **89.39102** °

County **Haywood** Location **78+00 141' Lt. WB Exit Ln.**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **357.7 ft**

Project Type **Subsurface Investigation** Dated Started **11/8/2010** Completed **11/8/2010**

Driller **D. Hertter** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-22** Total Depth **14 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
357.7 ft	0		*Ground Line*						
			Topsoil 0.5'			0.5			
355			Brown, lean clay.		MC-1				MC
	5								
350			8.0'			8.0			
	10		Red, silty sand.		MC-2 Bag #501				MC/Bag
345									
	15		15.0'			15.0			
340			Light brown, lean clay.		MC-3				MC
	20								
335									
	25		25.0'			25.0			
330			White, silty sand.		MC-4 Bag #502				MC/Bag
	30		30.0'			30.0			
325			No Refusal & Boring Terminated @ 30.0' (Elev. 327.7).						
	35								
320									
	40								
315									
	45								
310									
	50								
305									
	55								
300									
	60								

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State **Tennessee** Latitude **35.40853** ° Longitude **89.38611** °

County **Haywood** Location **96+00 100' Lt. WB Ent. Ln.**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **347.4 ft**

Project Type **Subsurface Investigation** Dated Started **11/8/2010** Completed **11/8/2010**

Driller **B. Cayton** Logged by **M. Quimby** Depth to Water: Immediate

Hole Number **B-23** Total Depth **10 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
347.4 ft	0		*Ground Line*						
			Topsoil 0.5'			0.5			
345			Brown, red & gray, lean clay.						
	5				MC-1 Bag #600				MC/Bag
340									
	10		10.0'			10.0			
335			No Refusal & Boring Terminated @ 10.0' (Elev. 337.4).						
	15								
330									
	20								
325									
	25								
320									
	30								
315									
	35								
310									
	40								
305									
	45								
300									
	50								
295									
	55								
290									
	60								

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State **Tennessee** Latitude **35.40883** ° Longitude **89.38555** °

County **Haywood** Location **98+00 88' Lt. WB Ent. Ln.**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **339.6 ft**

Project Type **Subsurface Investigation** Dated Started **11/8/2010** Completed **11/8/2010**

Driller **B. Cayton** Logged by **B. Cayton** Depth to Water: Immediate

Hole Number **B-24** Total Depth **10 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
339.6 ft	0		*Ground Line*						
			Topsoil 1.0'			1.0			
			Brown, lean clay.		MC-1				MC
335	5								
330	10		10.0'			10.0			
			No Refusal & Boring Terminated @ 10.0' (Elev. 329.6).						
325	15								
320	20								
315	25								
310	30								
305	35								
300	40								
295	45								
290	50								
285	55								
280	60								

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State **Tennessee** Latitude **35.40946** ° Longitude **89.38445** °

County **Haywood** Location **102+00 73' Lt. WB Ent. Ln.**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **329.9 ft**

Project Type **Subsurface Investigation** Dated Started **11/8/2010** Completed **11/8/2010**

Driller **B. Cayton** Logged by **B. Cayton** Depth to Water: Immediate

Hole Number **B-25** Total Depth **10 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
329.9 ft	0		*Ground Line*						
			Topsoil 0.5'			0.5			
			Gray, lean clay.		MC-1				MC
325	5								
320	10		10.0'			10.0			
			No Refusal & Boring Terminated @ 10.0' (Elev. 319.9).						
315	15								
310	20								
305	25								
300	30								
295	35								
290	40								
285	45								
280	50								
275	55								
270	60								

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State **Tennessee** Latitude **35.40874** ° Longitude **89.38484** °

County **Haywood** Location **99+50 65' Rt. EB Exit Ln.**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **334.4 ft**

Project Type **Subsurface Investigation** Dated Started **11/8/2010** Completed **11/8/2010**

Driller **M. Quimby** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-26** Total Depth **10 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
334.4 ft	0		*Ground Line*						
			Topsoil 0.5'			0.5			
			Brown, red & gray, lean clay.		MC-1 Bag #700				MC/Bag
330	5								
325	10		10.0'			10.0			
			No Refusal & Boring Terminated @ 10.0' (Elev. 324.4).						
320	15								
315	20								
310	25								
305	30								
300	35								
295	40								
290	45								
285	50								
280	55								
275	60								

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State **Tennessee** Latitude **35.4094** ° Longitude **89.38376** °

County **Haywood** Location **103+50 67' Rt. EB Exit Ln.**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **331.6 ft**

Project Type **Subsurface Investigation** Dated Started **11/9/2010** Completed **11/9/2010**

Driller **B. Cayton** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-27** Total Depth **10 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
331.6 ft	0		*Ground Line*						
330			Topsoil 1.0'			1.0			
	5		Brown, lean clay.		MC-1				MC
325			6.0' Gray, lean clay.			6.0			
	10		10.0' No Refusal & Boring Terminated @ 10.0' (Elev. 321.6).		MC-2 Bag #701	10.0			MC/Bag
320									
	15								
315									
	20								
310									
	25								
305									
	30								
300									
	35								
295									
	40								
290									
	45								
285									
	50								
280									
	55								
275									
	60								

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State **Tennessee** Latitude **35.41006** ° Longitude **89.38269** °

County **Haywood** Location **107+50 76' Rt. EB Exit Ln.**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **335.1 ft**

Project Type **Subsurface Investigation** Dated Started **11/9/2010** Completed **11/9/2010**

Driller **B. Cayton** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-28** Total Depth **10 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
335.1 ft	0		*Ground Line*						
			Topsoil 1.0'			1.0			
			Dark brown, lean clay.		MC-1				MC
330	5								
			8.0'			8.0			
			Gray, lean clay.		MC-2				MC
325	10		10.0'			10.0			
			No Refusal & Boring Terminated @ 10.0' (Elev. 325.1).						
320	15								
315	20								
310	25								
305	30								
300	35								
295	40								
290	45								
285	50								
280	55								
	60								

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State **Tennessee** Latitude **35.41074** ° Longitude **89.38164** °

County **Haywood** Location **111+50 58' Rt. EB Exit Ln.**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **341.6 ft**

Project Type **Subsurface Investigation** Dated Started **11/9/2010** Completed **11/9/2010**

Driller **B. Cayton** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-29** Total Depth **10 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
341.6 ft	0		*Ground Line*						
340			Topsoil 1.0'			1.0			
	5		Brown, lean clay.		MC-1 Bag #702				MC/Bag
335									
	10		10.0'			10.0			
330			No Refusal & Boring Terminated @ 10.0' (Elev. 331.6).						
	15								
325									
	20								
320									
	25								
315									
	30								
310									
	35								
305									
	40								
300									
	45								
295									
	50								
290									
	55								
285									
	60								

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State **Tennessee** Latitude **35.40372** ° Longitude **89.39303** °

County **Haywood** Location **69+00 70' Rt. EB Ent. Ln.**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **330.8 ft**

Project Type **Subsurface Investigation** Dated Started **11/9/2010** Completed **11/9/2010**

Driller **M. Quimby** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-30** Total Depth **10 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
330.8 ft	0		*Ground Line*						
330			Topsoil 0.5'			0.5			
			Brown & red, clayey sand.		MC-1 Bag #800				MC/Bag
325	5								
	10		10.0'			10.0			
320			No Refusal & Boring Terminated @ 10.0' (Elev. 320.8).						
315	15								
310	20								
305	25								
300	30								
295	35								
290	40								
285	45								
280	50								
275	55								
	60								

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State **Tennessee** Latitude **35.40419** ° Longitude **89.39221** °

County **Haywood** Location **72+00 65' Rt. EB Ent. Ln.**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **336.7 ft**

Project Type **Subsurface Investigation** Dated Started **11/9/2010** Completed **11/9/2010**

Driller **D. Hertter** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-31** Total Depth **10 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
336.7 ft	0		*Ground Line*						
			Topsoil	0.5'		0.5			
335			Brown, clayey sand.						
	5				MC-1				MC
330									
	10			10.0'		10.0			
325			No Refusal & Boring Terminated @ 10.0' (Elev. 326.7).						
	15								
320									
	20								
315									
	25								
310									
	30								
305									
	35								
300									
	40								
295									
	45								
290									
	50								
285									
	55								
280									
	60								

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CONSULTING ENGINEERS

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State **Tennessee** Latitude **35.40443** ° Longitude **89.39158** °

County **Haywood** Location **74+00 110' Rt. EB Ent. Ln.**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **342.4 ft**

Project Type **Subsurface Investigation** Dated Started **11/9/2010** Completed **11/9/2010**

Driller **M. Quimby** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-32** Total Depth **10 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
342.4 ft	0		*Ground Line*						
			Topsoil 0.5'			0.5			
340			Brown & gray, lean clay.						
	5				MC-1 Bag #801				MC/Bag
335									
	10		10.0'			10.0			
330			No Refusal & Boring Terminated @ 10.0' (Elev. 332.4).						
	15								
325									
	20								
320									
	25								
315									
	30								
310									
	35								
305									
	40								
300									
	45								
295									
	50								
290									
	55								
285									
	60								

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State **Tennessee** Latitude **35.40816** ° Longitude **89.3904** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **337 ft**

Project Type **Subsurface Investigation** Dated Started **10/9/2010** Completed **10/9/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-33** Total Depth **15 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
337.0 ft	0		*Ground Line*						
			Topsoil 0.7'						
335			Brownish tan, lean clay.		MC-1 Bag #1	2.0 4.0			MC/Bag
	5								
			6.0'						
330			Dark brown, lean clay.			8.0			
	10				MC-2 Bag #2	10.0			MC/Bag
325			11.5' Reddish brown, lean clay with sand.			13.0			
	15		15.0'		MC-3 Bag #3	15.0			MC/Bag
320			No Refusal & Boring Terminated @ 15.0' (Elev. 322.0).						
	20		Boring elevation estimated from Google Earth satellite imagery.						
315									
	25								
310									
	30								
305									
	35								
300									
	40								
295									
	45								
290									
	50								
285									
	55								
280									
	60								

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State **Tennessee** Latitude **35.40916** ° Longitude **89.39117** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **338 ft**

Project Type **Subsurface Investigation** Dated Started **10/10/2010** Completed **10/10/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-34** Total Depth **15 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
338.0 ft	0		*Ground Line*						
			Topsoil 0.5'						
335	5		Tannish brown, lean clay.		MC-1	2.0 4.0			MC
			6.0'						
330	10		Dark brown & reddish brown, lean clay.		MC-2	8.0 10.0			MC
325	15		15.0'		MC-3	13.0 15.0			MC
320	20		No Refusal & Boring Terminated @ 15.0' (Elev. 323.0). Boring elevation estimated from Google Earth satellite imagery.						
315	25								
310	30								
305	35								
300	40								
295	45								
290	50								
285	55								
280	60								

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State **Tennessee** Latitude **35.40914** ° Longitude **89.39026** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **345 ft**

Project Type **Subsurface Investigation** Dated Started **10/9/2010** Completed **10/9/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-35** Total Depth **15 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
345.0 ft	0		*Ground Line*						
			Topsoil 0.5'						
			Dark brown, lean clay.		MC-1 Bag #4	2.0 4.0			MC/Bag
340	5		6.0'						
			Dark brown, lean clay.		MC-2 Bag #5	8.0 10.0			MC/Bag
335	10		11.5'						
			Brown & orange, lean clay with sand.		MC-3 Bag #6	13.0 15.0			MC/Bag
330	15		15.0' No Refusal & Boring Terminated @ 15.0' (Elev. 330.0).						
325	20		Boring elevation estimated from Google Earth satellite imagery.						
320	25								
315	30								
310	35								
305	40								
300	45								
295	50								
290	55								
285	60								

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State **Tennessee** Latitude **35.40961** ° Longitude **89.38994** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **342 ft**

Project Type **Subsurface Investigation** Dated Started **10/9/2010** Completed **10/9/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-36** Total Depth **15 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
342.0 ft	0		*Ground Line*						
			Topsoil 0.7'						
340			Brownish tan, lean clay.		MC-1	2.0 4.0			MC
	5		6.0'						
335			Dark brown, lean clay.			8.0			
	10				MC-2	10.0			MC
330			11.5' Brown & red, clayey sand.			13.0			
	15		15.0'		MC-3	15.0			MC
325			No Refusal & Boring Terminated @ 15.0' (Elev. 327.0).						
	20		Boring elevation estimated from Google Earth satellite imagery.						
320									
	25								
315									
	30								
310									
	35								
305									
	40								
300									
	45								
295									
	50								
290									
	55								
285									
	60								

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State **Tennessee** Latitude **35.40986** ° Longitude **89.39057** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **344 ft**

Project Type **Subsurface Investigation** Dated Started **10/9/2010** Completed **10/9/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-37** Total Depth **15 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
344.0 ft	0		*Ground Line*						
			Topsoil 0.7'						
			Brownish tan, lean clay.		MC-1 Bag #7	2.0 – 4.0			MC/Bag
340	5		6.0'						
			Dark brown, lean clay.		MC-2 Bag #8	8.0 – 10.0			MC/Bag
335	10		11.5'						
			Brownish red, lean clay with sand.		MC-3 Bag #9	13.0 – 15.0			MC/Bag
330	15		15.0'						
			No Refusal & Boring Terminated @ 15.0' (Elev. 329.0).						
325	20		Boring elevation estimated from Google Earth satellite imagery.						
320	25								
315	30								
310	35								
305	40								
300	45								
295	50								
290	55								
285	60								

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State **Tennessee** Latitude **35.41013** ° Longitude **89.39029** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **340 ft**

Project Type **Subsurface Investigation** Dated Started **10/9/2010** Completed **10/9/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-38** Total Depth **15 ft** Depth to Water Date Measured

Lithology				Overburden	Sample No.	Depth	Rec. (ft.)	Blows	Type
Elev.	Depth	Symbol	Description	Rock Core	Core No.	Run	Rec (ft.)	Rec. (%)	RQD (%)
340.0 ft	0		*Ground Line*						
			Brownish tan, lean clay.			2.0			
					MC-1	4.0			MC
335	5								
				6.0'					
			Dark brown, lean clay.			8.0			
					MC-2	10.0			MC
330	10			11.5'					
			Brownish red, lean clay with sand.			13.0			
					MC-3	15.0			MC
325	15			15.0'					
			No Refusal & Boring Terminated @ 15.0' (Elev. 325.0).						
			Boring elevation estimated from Google Earth satellite imagery.						
320	20								
315	25								
310	30								
305	35								
300	40								
295	45								
290	50								
285	55								
280	60								

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State **Tennessee** Latitude **35.41034** ° Longitude **89.39121** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **348 ft**

Project Type **Subsurface Investigation** Dated Started **10/9/2010** Completed **10/9/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-39** Total Depth **15 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
348.0 ft	0		*Ground Line*						
			Brownish tan, lean clay.		MC-1	2.0			MC/Bag
345	5				Bag #10	4.0			
				6.0'					
			Dark brown, lean clay.			8.0			
340	10				MC-2	10.0			MC/Bag
				11.5'	Bag #11				
335			Brownish red, clayey sand.			13.0			
	15			15.0'	MC-3	15.0			MC/Bag
			No Refusal & Boring Terminated @ 15.0' (Elev. 333.0).		Bag #12				
330	20		Boring elevation estimated from Google Earth satellite imagery.						
325	25								
320	30								
315	35								
310	40								
305	45								
300	50								
295	55								
290	60								

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State **Tennessee** Latitude **35.41071** ° Longitude **89.38981** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **332 ft**

Project Type **Subsurface Investigation** Dated Started **10/10/2010** Completed **10/10/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-40** Total Depth **15 ft** Depth to Water Date Measured

Lithology				Overburden	Sample No.	Depth	Rec. (ft.)	Blows	Type
Elev.	Depth	Symbol	Description	Rock Core	Core No.	Run	Rec (ft.)	Rec. (%)	RQD (%)
332.0 ft	0		*Ground Line*						
			Brown, lean clay.			2.0			
					MC-1	4.0			MC
330	5								
				6.0'					
325			Brown, lean clay.			8.0			
	10				MC-2	10.0			MC
320				11.5'					
			Brownish orange, lean clay with sand.			13.0			
	15				MC-3	15.0			MC
315				15.0'					
			No Refusal & Boring Terminated @ 15.0' (Elev. 317.0).						
	20		Boring elevation estimated from Google Earth satellite imagery.						
310									
	25								
305									
	30								
300									
	35								
295									
	40								
290									
	45								
285									
	50								
280									
	55								
275									
	60								

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State **Tennessee** Latitude **35.41058** ° Longitude **89.38839** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **329 ft**

Project Type **Subsurface Investigation** Dated Started **10/10/2010** Completed **10/10/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-41** Total Depth **15 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
329.0 ft	0		*Ground Line*						
			Brown, lean clay.		MC-1 Bag #13	2.0 4.0			MC/Bag
325	5								
			6.0'						
			Dark brown, lean clay.		MC-2 Bag #14	8.0 10.0			MC/Bag
320	10								
			11.5'						
			Dark brown, lean clay with sand.		MC-3 Bag #15	13.0 15.0			MC/Bag
315	15		15.0'						
			No Refusal & Boring Terminated @ 15.0' (Elev. 314.0).						
310	20		Boring elevation estimated from Google Earth satellite imagery.						
305	25								
300	30								
295	35								
290	40								
285	45								
280	50								
275	55								
270	60								

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State **Tennessee** Latitude **35.41026** ° Longitude **89.38807** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **329 ft**

Project Type **Subsurface Investigation** Dated Started **10/10/2010** Completed **10/10/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-42** Total Depth **15 ft** Depth to Water Date Measured

Lithology				Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol	Description						
329.0 ft	0		*Ground Line*						
			Brownish tan, lean clay.			2.0			
					MC-1	4.0			MC
325	5								
				6.0'					
			Brown, lean clay.			8.0			
					MC-2	10.0			MC
320	10			11.5'					
			Brown, lean clay with sand.			13.0			
					MC-3	15.0			MC
315	15			15.0'					
			No Refusal & Boring Terminated @ 15.0' (Elev. 314.0).						
310	20		Boring elevation estimated from Google Earth satellite imagery.						
305	25								
300	30								
295	35								
290	40								
285	45								
280	50								
275	55								
270	60								

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State **Tennessee** Latitude **35.41015** ° Longitude **89.38883** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **339 ft**

Project Type **Subsurface Investigation** Dated Started **10/10/2010** Completed **10/10/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-43** Total Depth **15 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
339.0 ft	0		*Ground Line*						
			Brownish tan, lean clay.			2.0			
335	5				MC-1 Bag #16	4.0			MC/Bag
				5.0'		6.0			
			Reddish brown, lean clay.		MC-2 Bag #17	8.0			MC/Bag
330	10			10.5'					
			Brown, lean clay with sand.			13.0			
325	15			15.0'	MC-3 Bag #18	15.0			MC/Bag
			No Refusal & Boring Terminated @ 15.0' (Elev. 324.0).						
320	20		Boring elevation estimated from Google Earth satellite imagery.						
315	25								
310	30								
305	35								
300	40								
295	45								
290	50								
285	55								
280	60								

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State **Tennessee** Latitude **35.4097** ° Longitude **89.38853** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **341 ft**

Project Type **Subsurface Investigation** Dated Started **10/10/2010** Completed **10/10/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-44** Total Depth **15 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
341.0 ft	0		*Ground Line*						
340			Brownish tan, lean clay.		MC-1	0.7			MC
	5					4.0			
335			5.1' Dark brown, lean clay.		MC-2	6.1			MC
	10		10.0'			8.0			
330			Brown, lean clay with sand.			12.0			
	15		15.0'		MC-3	15.0			MC
325			No Refusal & Boring Terminated @ 15.0' (Elev. 326.0).						
	20		Boring elevation estimated from Google Earth satellite imagery.						
320									
	25								
315									
	30								
310									
	35								
305									
	40								
300									
	45								
295									
	50								
290									
	55								
285									
	60								

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State **Tennessee** Latitude **35.40918** ° Longitude **89.38856** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **348 ft**

Project Type **Subsurface Investigation** Dated Started **10/10/2010** Completed **10/10/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-45** Total Depth **15 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
348.0 ft	0		*Ground Line*						
			Brownish tan, lean clay.			0.7			
345					MC-1 Bag #19				MC/Bag
				3.9'		3.9			
	5		Dark brown, lean clay.		MC-2 Bag #20				MC/Bag
340						7.0			
				9.0'					
	10		Brownish orange, clayey sand.			11.0			
335					MC-3 Bag #21				MC/Bag
	15			15.0'		15.0			
			No Refusal & Boring Terminated @ 15.0' (Elev. 333.0).						
330			Boring elevation estimated from Google Earth satellite imagery.						
	20								
325									
	25								
320									
	30								
315									
	35								
310									
	40								
305									
	45								
300									
	50								
295									
	55								
290									
	60								

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State **Tennessee** Latitude **35.40868** ° Longitude **89.38869** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **351 ft**

Project Type **Subsurface Investigation** Dated Started **10/10/2010** Completed **10/10/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-46** Total Depth **15 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
351.0 ft	0		*Ground Line*						
350			Brownish tan, lean clay.		MC-1	0.7			MC
	5		3.9' Dark brown, lean clay.		MC-2	3.9 6.2			MC
345			9.1'						
340	10		Brownish orange, lean clay with sand.			12.0			
	15		15.0'		MC-3	15.0			MC
335			No Refusal & Boring Terminated @ 15.0' (Elev. 336.0).						
	20		Boring elevation estimated from Google Earth satellite imagery.						
330									
	25								
325									
	30								
320									
	35								
315									
	40								
310									
	45								
305									
	50								
300									
	55								
295									
	60								

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State **Tennessee** Latitude **35.40715** ° Longitude **89.38885** °

County **Haywood** Location **22+00 34' Lt. Ramp A**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **342.3 ft**

Project Type **Subsurface Investigation** Dated Started **10/11/2010** Completed **10/11/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-47** Total Depth **42 ft** Depth to Water Date Measured

Lithology				Overburden	Sample No.	Depth	Rec. (ft.)	Blows	Type
Elev.	Depth	Symbol	Description	Rock Core	Core No.	Run	Rec (ft.)	Rec. (%)	RQD (%)
342.3 ft	0		*Ground Line*						
			Brown & brownish red, lean clay.			2.5			
340					SS-1	4.0		4-5-6	SPT
	5					5.0			
					SS-2	6.5		4-5-8	SPT
335				8.3'					
			Brownish gray, lean clay.			10.0			
	10				SS-3	11.5		3-4-6	SPT
330				13.3'					
			Light gray & tan, sandy lean clay.			15.0			
	15				ST-1	17.0			ST
325				18.5'					
			Beige, yellowish orange & gray, lean clay with sand.			20.0			
	20				ST-2	22.0			ST
320									
	25					25.0			
					SS-4	26.5		4-4-8	SPT
315				28.3'					
			Gray, lean clay with sand.			30.0			
	30				SS-5	31.5		3-3-6	SPT
310									
	35					35.0			
					SS-6	36.5		2-3-6	SPT
305									
	40					40.0			
					ST-3	42.0			ST
300				42.0'					
	45		No Refusal & Boring Terminated @ 42.0' (Elev. 300.3).						
295									
	50								
290									
	55								
285									
	60								

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State **Tennessee** Latitude **35.40806** ° Longitude **89.38731** °

County **Haywood** Location **34+00 75' Rt. Ramp B**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **361.2 ft**

Project Type **Subsurface Investigation** Dated Started **10/21/2010** Completed **10/21/2010**

Driller **R. Cassell** Logged by **A. Bridges** Depth to Water: Immediate

Hole Number **B-49** Total Depth **36.5 ft** Depth to Water Date Measured

Lithology				Overburden	Sample No.	Depth	Rec. (ft.)	Blows	Type
Elev.	Depth	Symbol	Description	Rock Core	Core No.	Run	Rec (ft.)	Rec. (%)	RQD (%)
361.2 ft	0		*Ground Line*						
360			Brown, lean clay.						
					SS-1	2.5 4.0		7-11-12	SPT
	5								
355					SS-2	5.0 6.5		8-7-10	SPT
	10								
350					SS-3	10.0 11.5		5-6-9	SPT
				13.3'					
			Brown & gray, lean clay with sand.						
	15								
345					SS-4	15.0 16.5		6-7-11	SPT
340	20				SS-5	20.0 21.5		5-6-8	SPT
335	25				SS-6	25.0 26.5		4-5-8	SPT
330	30				SS-7	30.0 31.5		11-12-12	SPT
				33.3'					
	35		Gray & orange, lean clay with sand.						
325				36.5'	SS-8	35.0 36.5		7-9-18	SPT
			No Refusal & Boring Terminated @ 36.5' (Elev. 324.7).						
320	40								
315	45								
310	50								
305	55								
	60								

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Sheet No. 1 of 1

State	**Tennessee**	Latitude	**35.40489 °** Longitude **89.39057 °**
County	**Haywood**	Location	**41+50 88' Rt. Ramp C**
Project Name	**Solar Farm Information & Welcome Center**	Surface Elevation	**355.9 ft**
Project Type	**Subsurface Investigation**	Dated Started	**11/8/2010** Completed **11/8/2010**
Driller	**B. Cayton** Logged by **B. Williams**	Depth to Water: Immediate	
Hole Number	**B-51** Total Depth **26 ft**	Depth to Water	Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
355.9 ft	0		*Ground Line*						
355			Brown, lean clay.						
	5				SS-1	5.1 6.6		10-12-14	SPT
350			8.5'						
	10		Brown, black, red & reddish orange, silty sand.		ST-1	10.1 10.3	0.0		ST
345					SS-2	10.4 11.9		9-14-15	SPT
	15				SS-3	15.4 16.9		6-10-10	SPT
340									
	20				ST-2	20.4 22.4	2.0		ST
335			23.0' Reddish orange, poorly graded sand with silt.						
	25				ST-3	24.0 26.0	1.3		ST
330			26.0' No Refusal & Boring Terminated @ 26.0' (Elev. 329.9).						
325	30								
320	35								
315	40								
310	45								
305	50								
300	55								
	60								

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Sheet No. 1 of 1

State **Tennessee** Latitude **35.40624** ° Longitude **89.38783** °

County **Haywood** Location **52+00 35' Lt. Ramp C**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **341.6 ft**

Project Type **Subsurface Investigation** Dated Started **10/20/2010** Completed **10/20/2010**

Driller **S. Gower** Logged by **S. Gower** Depth to Water: Immediate

Hole Number **B-52** Total Depth **51.5 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
341.6 ft	0		*Ground Line*						
340			Topsoil 0.5'						
			Tan, brown & gray, lean clay.						
	5				SS-1	5.0 / 6.5		3-3-3	SPT
335									
	10				SS-2	10.0 / 11.5		3-6-6	SPT
330			13.3'						
	15		Tan, brown & orange, sandy lean clay.		SS-3	15.0 / 16.5		4-6-8	SPT
325									
	20				SS-4	20.0 / 21.5		4-6-8	SPT
320									
	25				SS-5	25.0 / 26.5		4-5-7	SPT
315									
	30				SS-6	30.0 / 31.5		7-10-14	SPT
310			33.3'						
	35		Tan & orange, silty sand.		SS-7	35.0 / 36.5		7-12-13	SPT
305									
	40				SS-8	40.0 / 41.5		9-12-12	SPT
300									
	45				SS-9	45.0 / 46.5		5-7-8	SPT
295									
	50				SS-10	50.0 / 51.5		4-6-9	SPT
290			51.5'						
			No Refusal & Boring Terminated @ 51.5' (Elev. 290.1).						
	55								
285									
	60								

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Sheet No. 1 of 1

State **Tennessee** Latitude **35.40626 °** Longitude **89.38739 °**

County **Haywood** Location **61+50 30' Rt. Ramp D**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **346.6 ft**

Project Type **Subsurface Investigation** Dated Started **10/20/2010** Completed **10/20/2010**

Driller **R. Cassell** Logged by **A. Bridges** Depth to Water: Immediate

Hole Number **B-53** Total Depth **35.5 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
346.6 ft	0		*Ground Line*						
			Brown, lean clay.			2.5			
					SS-1	4.0		6-6-6	SPT
	5				SS-2	5.5		7-7-14	SPT
340				7.3'					
			Brown & tan, lean clay with sand.			9.0			
	10				SS-3	10.5		16-21-28	SPT
335									
	15				SS-4	14.0 / 15.5		14-17-18	SPT
330				17.3'					
			Orange, gray & tan, sandy lean clay.			19.0			
	20				SS-5	20.5		11-12-23	SPT
325									
	25				SS-6	24.0 / 25.5		15-20-21	SPT
320				27.3'					
			Orange & tan, silty sand.			29.0			
	30				SS-7	30.5		8-9-11	SPT
315									
	35			35.5'	SS-8	34.0 / 35.5		9-11-15	SPT
310			No Refusal & Boring Terminated @ 35.5' (Elev. 311.1).						
	40								
305									
	45								
300									
	50								
295									
	55								
290									
	60								

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State **Tennessee** Latitude **35.40656 °** Longitude **89.38797 °**

County **Haywood** Location **8+62 29' Lt. EB Access**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **342.4 ft**

Project Type **Subsurface Investigation** Dated Started **10/22/2010** Completed **10/23/2010**

Driller **R. Cassell** Logged by **A. Bridges** Depth to Water: Immediate

Hole Number **B-55** Total Depth **101 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
342.4 ft	0		*Ground Line*						
			Brown & white, lean clay.						
					SS-1	2.5 / 4.0		10-9-8	SPT
340	5				SS-2	4.5 / 6.0		11-11-14	SPT
335			7.8'						
			Brown, white, orange & gray, lean clay with sand.						
	10				SS-3	9.5 / 11.0		7-11-15	SPT
330									
	15				SS-4	14.5 / 16.0		4-6-9	SPT
325			17.8'						
			Muticolor, gray & brown, sandy lean clay.						
	20				ST-1	19.5 / 21.5	2.0		ST
320									
	25				SS-5	24.5 / 26.0		6-8-9	SPT
315			27.8'						
			Orange, gray & pink, silty sand.						
	30				SS-6	29.5 / 30.9		15-40-50/0.4	SPT
310									
	35				SS-7	34.5 / 36.0		20-33-34	SPT
305									
	40				SS-8	39.5 / 41.0		13-22-25	SPT
300									
	45				SS-9	44.5 / 46.0		10-15-19	SPT
295									
	50				SS-10	49.5 / 51.0		7-12-18	SPT
290			52.8'						
			Orange, tan & red, well-graded sand with silt.						
	55				SS-11	54.5 / 56.0		7-12-18	SPT
285									
	60					59.5			

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TDOT Go.

State **Tennessee** Latitude **35.40656 °** Longitude **89.38797 °**

County **Haywood** Location **8+62 29' Lt. EB Access**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **342.4 ft**

Project Type **Subsurface Investigation** Dated Started **10/22/2010** Completed **10/23/2010**

Driller **R. Cassell** Logged by **A. Bridges** Depth to Water: Immediate

Hole Number **B-55** Total Depth **101 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
282.4 ft	60		*Continued from previous page*						
					SS-12	61.0		9-17-21	SPT
280									
	65				SS-13	64.5 66.0		8-10-14	SPT
275									
	70				SS-14	69.5 71.0		7-12-19	SPT
270									
	75				SS-15	74.5 76.0		4-9-12	SPT
265									
	80				SS-16	79.5 81.0		4-5-8	SPT
260									
	85				SS-17	84.5 86.0		5-9-13	SPT
255				87.8'					
	90		Tan & orange, poorly graded sand.		SS-18	89.5 91.0		11-15-18	SPT
250									
	95				SS-19	94.5 96.0		17-19-35	SPT
245									
	100				SS-20	99.5 101.0		13-26-24	SPT
240			No Refusal & Boring Terminated @ 101.0' (Elev. 241.4).	101.0'					
	105								
235									
	110								
230									
	115								
225									
	120								

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TDOT Go.

State **Tennessee** Latitude **35.40665 °** Longitude **89.38782 °**

County **Haywood** Location **8+62 29' Rt. EB Access**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **345.4 ft**

Project Type **Subsurface Investigation** Dated Started **10/23/2010** Completed **10/24/2010**

Driller **S. Gower** Logged by **A. Bridges** Depth to Water: Immediate

Hole Number **B-56** Total Depth **101 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
345.4 ft	0		*Ground Line*						
			Brown, lean clay.			2.5			
					SS-1	4.0		12-17-19	SPT
					SS-2	4.5 6.0		14-18-22	SPT
340	5								
				7.8'					
			Brown, gray & orange, silty clay.			9.5			
					SS-3	11.0		13-15-18	SPT
335	10								
						14.5			
					SS-4	16.0		4-4-5	SPT
330	15								
				17.8'					
			Orange, lean clay with sand.			19.5			
					ST-1	21.5	2.0		ST
325	20								
				22.5'					
			Light gray, reddish orange & gray, silty, clayey sand.			24.5			
					ST-2	26.5	2.0		ST
320	25								
						29.5			
					SS-5	31.0		2-2-4	SPT
315	30								
				32.8'					
			Light gray, silt with sand.			34.5			
					ST-3	36.5	2.0		ST
310	35								
				37.8'					
			Light gray, lean clay with sand.			39.5			
					ST-4	41.5	2.0		ST
305	40								
				42.9'					
			White, yellow orange, orange & tan, poorly graded sand with silt.			44.5			
					ST-5	46.5	1.0		ST
300	45								
						49.5			
					SS-6	51.0		11-15-19	SPT
295	50								
						54.5			
					SS-7	56.0		11-13-20	SPT
290	55								
						59.5			
	60								

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TDOT Go.

State **Tennessee** Latitude **35.40665** ° Longitude **89.38782** °

County **Haywood** Location **8+62 29' Rt. EB Access**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **345.4 ft**

Project Type **Subsurface Investigation** Dated Started **10/23/2010** Completed **10/24/2010**

Driller **S. Gower** Logged by **A. Bridges** Depth to Water: Immediate

Hole Number **B-56** Total Depth **101 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
285.4 ft	60		*Continued from previous page*						
285					SS-8	61.0		9-16-20	SPT
280	65				SS-9	64.5 66.0		12-16-18	SPT
275	70				SS-10	69.5 71.0		6-12-14	SPT
				72.8'					
270	75		Orange & tan, well-graded sand with silt.		SS-11	74.5 76.0		5-7-11	SPT
265	80				SS-12	79.5 81.0		2-4-8	SPT
260	85				SS-13	84.5 86.0		5-6-9	SPT
				87.8'					
255	90		Tan, orange & pink, poorly graded sand.		SS-14	89.5 91.0		25-42-42	SPT
250	95				SS-15	94.5 96.0		3-9-16	SPT
245	100				SS-16	99.5 101.0		21-28-33	SPT
				101.0'					
240	105		No Refusal & Boring Terminated @ 101.0' (Elev. 244.4).						
235	110								
230	115								
	120								

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State **Tennessee** Latitude **35.40687** ° Longitude **89.38824** °

County **Haywood** Location **10+00 25' Lt. EB Access**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **344.9 ft**

Project Type **Subsurface Investigation** Dated Started **11/7/2010** Completed **11/7/2010**

Driller **B. Cayton** Logged by **M. Quimby** Depth to Water: Immediate

Hole Number **B-57** Total Depth **101.4 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description (Overburden / Rock Core)	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
344.9 ft	0		*Ground Line*					
			Brown, lean clay.					
340	5			SS-1	4.9 6.4		2-4-5	SPT
335	10			SS-2	9.9 11.4		6-6-8	SPT
			13.2'					
			Brown, gray & black, silty clay.					
330	15			ST-1	14.9	0.8		ST
				SS-3	16.9 18.4		9-9-8	SPT
			19.2'					
325	20		Brown & gray, lean clay with sand.	SS-4	19.9 21.4		3-4-5	SPT
			23.2'					
			Light gray, brown, gray & red, silty, clayey sand.					
320	25			ST-2	24.9 26.9	2.0		ST
315	30			SS-5	29.9 31.4		3-4-9	SPT
310	35			ST-3	34.9	0.0		ST
				SS-6	35.5 37.0		19-23-26	SPT
			38.5'					
305	40		Red & gray, silt with sand.	SS-7	39.9 41.4		7-12-23	SPT
300	45		45.7'	SS-8	44.9 46.4		17-23-24	SPT
			Brown, gray, dark red & red, poorly graded sand with silt.					
295	50			SS-9	49.9 51.4		12-17-23	SPT
290	55			SS-10	54.9 56.4		14-16-19	SPT
285	60							

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TDOT Go.

State **Tennessee** Latitude **35.40687** ° Longitude **89.38824** °

County **Haywood** Location **10+00 25' Lt. EB Access**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **344.9 ft**

Project Type **Subsurface Investigation** Dated Started **11/7/2010** Completed **11/7/2010**

Driller **B. Cayton** Logged by **M. Quimby** Depth to Water: Immediate

Hole Number **B-57** Total Depth **101.4 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
284.9 ft	60		*Continued from previous page*						
					SS-11	59.9 61.4		9-11-11	SPT
280	65				SS-12	64.9 66.4		0-5-7	SPT
				68.2'					
275	70		Red & gray, well-graded sand with silt.		SS-13	69.9 71.4		7-9-12	SPT
270	75				SS-14	74.9 76.4		14-17-16	SPT
265	80				SS-15	79.9 81.6		7-8-9	SPT
260	85				SS-16	84.9 86.4		9-12-16	SPT
				88.2'					
255	90		Red & gray, poorly graded sand.		SS-17	89.9 91.4		21-26-26	SPT
250	95				SS-18	94.9 96.4		21-28-37	SPT
245	100				SS-19	99.9 101.4		23-41-41	SPT
				101.4'					
240	105		No Refusal & Boring Terminated @ 101.4' (Elev. 243.5).						
235	110								
230	115								
225	120								

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State **Tennessee** Latitude **35.40695** ° Longitude **89.38811** °

County **Haywood** Location **10+00 25' Rt. EB Access**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **345.1 ft**

Project Type **Subsurface Investigation** Dated Started **11/7/2010** Completed **11/7/2010**

Driller **D. Hertter** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-58** Total Depth **99.3 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
345.1 ft	0		*Ground Line*						
			Brown, lean clay.		SS-1	2.7 – 4.3		13-25-25	SPT
340	5								
				6.0'					
			Brown & red, silty clay.		SS-2	7.7 – 9.3		3-4-5	SPT
335	10								
					SS-3	12.7 – 14.3		4-5-8	SPT
330	15			16.0'					
			Light gray, brown & red, lean clay with sand.		ST-1	17.7 – 19.7	2.0		ST
325	20								
					SS-4	22.7 – 24.3		2-4-7	SPT
320	25								
					SS-5	27.7 – 29.3		6-7-9	SPT
315	30			31.0'					
			White & gray, sandy lean clay.		ST-2	32.7 – 34.7	1.8		ST
310	35								
					SS-6	37.7 – 39.3		6-6-8	SPT
305	40			41.0'					
			Brown & gray, well-graded sand with silt.		SS-7	42.7 – 44.3		23-32-33	SPT
300	45								
					SS-8	47.7 – 49.3		16-18-22	SPT
295	50								
					SS-9	52.7 – 54.3		16-18-19	SPT
290	55								
					SS-10	57.7 – 59.3		10-10-12	SPT
	60								

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TDOT Go.

State **Tennessee** Latitude **35.40695** ° Longitude **89.38811** °

County **Haywood** Location **10+00 25' Rt. EB Access**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **345.1 ft**

Project Type **Subsurface Investigation** Dated Started **11/7/2010** Completed **11/7/2010**

Driller **D. Hertter** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-58** Total Depth **99.3 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
285.1 ft	60		*Continued from previous page*						
280	65				SS-11	62.7 – 64.3		13-17-18	SPT
					SS-12	67.7 – 69.3		16-17-10	SPT
275	70				SS-13	72.7 – 74.3		3-6-12	SPT
270	75				SS-14	77.7 – 79.3		3-9-12	SPT
265	80				SS-15	82.7 – 84.3		7-8-11	SPT
260	85			86.0'					
			Gray, poorly graded sand.		SS-16	87.7 – 89.3		10-7-11	SPT
255	90				SS-17	92.7 – 94.3		10-10-10	SPT
250	95				SS-18	97.7 – 99.3		22-18-24	SPT
245	100			99.3'					
			No Refusal & Boring Terminated @ 99.3' (Elev. 245.8).						
240	105								
235	110								
230	115								
	120								

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TDOT Go.

State	**Tennessee**	Latitude	**35.40723 °** Longitude **89.38859 °**
County	**Haywood**	Location	**11+67 29' Lt. EB Access**
Project Name	**Solar Farm Information & Welcome Center**	Surface Elevation	**346.8 ft**
Project Type	**Subsurface Investigation**	Dated Started	**11/5/2010** Completed **11/5/2010**
Driller	**B. Cayton** Logged by **M. Quimby**	Depth to Water: Immediate	
Hole Number	**B-59** Total Depth **100.6 ft**	Depth to Water	Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
346.8 ft	0		*Ground Line*						
			Brown, lean clay.		SS-1	4.1 – 5.6		5-6-8	SPT
					SS-2	9.1 – 10.6		2-3-5	SPT
				12.4'					
			Gray, lean clay with sand.		SS-3	14.1 – 15.6		2-3-6	SPT
					ST-1	19.1 – 21.1	2.0		ST
					SS-4	24.1 – 25.6		2-3-3	SPT
				27.4'					
			Light gray & gray, sandy lean clay.		ST-2	29.1 – 31.1	2.0		ST
					SS-5	34.1 – 35.6		6-7-8	SPT
					SS-6	39.1 – 40.6		7-10-17	SPT
				42.4'					
			Red & brown, poorly graded sand with silt.		SS-7	44.1 – 45.6		13-21-23	SPT
					SS-8	49.1 – 50.6		13-15-9	SPT
					SS-9	54.1 – 55.6		14-22-25	SPT
						59.1			

345 340 335 330 325 320 315 310 305 300 295 290

0 5 10 15 20 25 30 35 40 45 50 55 60

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TDOT Go.

State **Tennessee** Latitude **35.40723** ° Longitude **89.38859** °

County **Haywood** Location **11+67 29' Lt. EB Access**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **346.8 ft**

Project Type **Subsurface Investigation** Dated Started **11/5/2010** Completed **11/5/2010**

Driller **B. Cayton** Logged by **M. Quimby** Depth to Water: Immediate

Hole Number **B-59** Total Depth **100.6 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
286.8 ft	60		*Continued from previous page*						
285					SS-10	60.6		10-10-10	SPT
	65				SS-11	64.1 65.6		5-7-10	SPT
280									
				67.4'					
			Red, brown & gray, well-graded sand with silt.						
	70				SS-12	69.1 70.6		0-2-5	SPT
275									
	75				SS-13	74.1 75.6		7-11-15	SPT
270									
	80				SS-14	79.1 80.6		15-17-37	SPT
265									
	85				SS-15	84.1 85.6		17-14-9	SPT
260									
	90				SS-16	89.1 90.6		15-24-25	SPT
255				92.4'					
			Red & gray, poorly graded sand.						
	95				SS-17	94.1 95.6		15-17-21	SPT
250									
	100				SS-18	99.1 100.6		22-34-50	SPT
245				100.6'					
			No Refusal & Boring Terminated @ 100.6' (Elev. 246.2).						
	105								
240									
	110								
235									
	115								
230									
	120								

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TDOT Go.

State **Tennessee** Latitude **35.40731** ° Longitude **89.38842** °

County **Haywood** Location **11+60 29' Rt. EB Access**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **346.4 ft**

Project Type **Subsurface Investigation** Dated Started **11/4/2010** Completed **11/4/2010**

Driller **B. Cayton** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-60** Total Depth **100.5 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
346.4 ft	0		*Ground Line*						
			Brown, lean clay.		SS-1	4.0 5.5		15-16-17	SPT
					SS-2	9.0 10.5		6-8-10	SPT
				13.3'					
			Brown & red, silty sand.		ST-1	14.0	0.0		ST
					SS-3	16.0 17.5		2-2-3	SPT
				19.3'					
			Red, white, gray & light gray, lean clay with sand.		ST-2	19.0	0.0		ST
					SS-4	21.0 22.5		2-3-4	SPT
					SS-5	24.0 25.5		2-4-5	SPT
					ST-3	29.0 31.0	2.0		ST
					SS-6	34.0 35.5		2-3-5	SPT
				37.3'					
			White, gray, reddish orange & red, sandy, silty clay.		ST-4	39.0 40.2	1.2		ST
					SS-7	44.0 45.5		7-12-17	SPT
					SS-8	49.0 50.5		9-8-10	SPT
					SS-9	54.0 55.5		9-14-21	SPT
				57.3'					
			Red & gray, well-graded sand with silt.			59.0			

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TDOT Go.

State **Tennessee** Latitude **35.40731** ° Longitude **89.38842** °

County **Haywood** Location **11+60 29' Rt. EB Access**

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **346.4 ft**

Project Type **Subsurface Investigation** Dated Started **11/4/2010** Completed **11/4/2010**

Driller **B. Cayton** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-60** Total Depth **100.5 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
286.4 ft	60		*Continued from previous page*						
285					~~SS-10~~	60.5		17-22-24	SPT
	65				SS-11	64.0 65.5		16-18-20	SPT
280									
	70				SS-12	69.0 70.5		6-17-19	SPT
275									
	75				SS-13	74.0 75.5		15-20-32	SPT
270									
	80				SS-14	79.0 80.5		9-10-16	SPT
265									
	85				SS-15	84.0 85.5		9-17-21	SPT
260									
	90				SS-16	89.0 90.5		13-18-20	SPT
255				92.3'					
			Gray & red, poorly graded sand.						
	95				SS-17	94.0 95.5		12-22-23	SPT
250									
	100				SS-18	99.0 100.5		12-33-27	SPT
245				100.5'					
			No Refusal & Boring Terminated @ 100.5' (Elev. 245.9).						
	105								
240									
	110								
235									
	115								
230									
	120								

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TDOT Go.

State **Tennessee** Latitude **35.40934** ° Longitude **89.38959** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **345 ft**

Project Type **Subsurface Investigation** Dated Started **10/9/2010** Completed **10/9/2010**

Driller **S. Gower** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-61** Total Depth **61.2 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
345.0 ft	0		*Ground Line*						
			Brown & gray, lean clay.		SS-1	2.0 3.5		3-4-4	SPT
340	5				SS-2	4.7 6.2		3-4-6	SPT
335	10				SS-3	9.7 11.2		2-3-5	SPT
				13.0'					
			Brown & gray, sandy lean clay.		SS-4	14.7 16.2		2-10-4	SPT
325	20				SS-5	19.7 21.2		2-3-5	SPT
				23.0'					
320	25		Gray, lean clay with sand.		SS-6	24.7 26.2		2-2-3	SPT
				28.0'					
315	30		Gray, lean clay with sand.		SS-7	29.7 31.2		2-4-5	SPT
				33.0'					
			Gray, sandy lean clay.		SS-8	34.7 36.2		3-4-7	SPT
305	40				SS-9	39.7 41.2		2-5-7	SPT
300	45				SS-10	44.7 46.2		4-6-8	SPT
295	50				SS-11	49.7 51.2		4-9-13	SPT
290	55				SS-12	54.7 56.2		10-13-16	SPT
285	60								

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TDOT Go.

State **Tennessee** Latitude **35.40934** ° Longitude **89.38959** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **345 ft**

Project Type **Subsurface Investigation** Dated Started **10/9/2010** Completed **10/9/2010**

Driller **S. Gower** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-61** Total Depth **61.2 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
285 (285.0 ft)	60		*Continued from previous page*						
				61.2'	SS-13	59.7 61.2		4-8-13	SPT
			No Refusal & Boring Terminated @ 61.2' (Elev. 283.8).						
280	65		Boring elevation estimated from Google Earth satellite imagery.						
275	70								
270	75								
265	80								
260	85								
255	90								
250	95								
245	100								
240	105								
235	110								
230	115								
225	120								

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TDOT Go.

State **Tennessee** Latitude **35.40934** ° Longitude **89.38938** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **346 ft**

Project Type **Subsurface Investigation** Dated Started **10/12/2010** Completed **10/12/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-62** Total Depth **61 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
346.0 ft	0		*Ground Line*						
345			Brown, lean clay.						
					SS-1	2.5 4.0		4-6-6	SPT
	5				SS-2	4.5 6.0		3-4-6	SPT
340									
	10				SS-3	9.5 11.0		3-4-5	SPT
335				12.8'					
			Light gray, lean clay with sand.						
	15				SS-4	14.5 16.0		3-4-6	SPT
330				17.8'					
			Brown, beige & yellowish orange, sandy lean clay.						
	20				SS-5	19.5 21.0		1-3-4	SPT
325									
	25				SS-6	24.5 26.0		3-4-6	SPT
320									
						28.5			
	30				ST-1	30.5			ST
315				32.7'					
			Gray, lean clay with sand.						
	35				SS-7	34.5 36.0		4-7-6	SPT
310				37.3'					
			Brown, lean clay with sand.						
	40				SS-8	39.5 41.0		3-5-8	SPT
305				42.8'					
			Gray, sandy lean clay.						
	45				SS-9	44.5 46.0		7-9-14	SPT
300									
	50				SS-10	48.5 51.0		10-12-19	SPT
295									
	55				SS-11	54.5 56.0		12-14-21	SPT
290									
	60					59.5			

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State **Tennessee** Latitude **35.40934** ° Longitude **89.38938** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **346 ft**

Project Type **Subsurface Investigation** Dated Started **10/12/2010** Completed **10/12/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-62** Total Depth **61 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
286.0 ft	60		*Continued from previous page*						
285			61.0' No Refusal & Boring Terminated @ 61.0' (Elev. 285.0).		SS-12	61.0		7-10-12	SPT
			Boring elevation estimated from Google Earth satellite imagery.						
280	65								
275	70								
270	75								
265	80								
260	85								
255	90								
250	95								
245	100								
240	105								
235	110								
230	115								
	120								

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TDOT Go.

State **Tennessee** Latitude **35.40935** ° Longitude **89.38918** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **347 ft**

Project Type **Subsurface Investigation** Dated Started **10/21/2010** Completed **10/21/2010**

Driller **R. Cassell** Logged by **A. Bridges** Depth to Water: Immediate

Hole Number **B-63** Total Depth **61.5 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
347.0 ft	0		*Ground Line*						
			Brown, lean clay.		SS-1	0.0 – 2.5		5-7-11	SPT
					SS-2	5.0 – 6.5		5-5-7	SPT
				8.3'					
			Brown, orange & gray, sandy lean clay.		SS-3	10.0 – 11.5		4-6-7	SPT
					SS-4	15.0 – 16.5		5-6-14	SPT
					SS-5	20.0 – 21.5		2-3-3	SPT
				23.3'					
			Light gray, yellowish orange, gray & brown, lean clay with sand.		ST-1	25.0 – 27.0			ST
					SS-6	30.0 – 31.5		4-7-9	SPT
				33.3'					
			Brown & dark gray, lean clay with sand.		ST-2	35.0 – 37.0			ST
					SS-7	40.0 – 41.5		7-11-17	SPT
				43.3'					
			Gray & dark gray, sandy lean clay.		ST-3	45.0 – 47.0			ST
					SS-8	50.0 – 51.5		7-9-16	SPT
					SS-9	55.0 – 56.5		12-27-33	SPT
290	60								

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TDOT Go.

State **Tennessee** Latitude **35.40935** ° Longitude **89.38918** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **347 ft**

Project Type **Subsurface Investigation** Dated Started **10/21/2010** Completed **10/21/2010**

Driller **R. Cassell** Logged by **A. Bridges** Depth to Water: Immediate

Hole Number **B-63** Total Depth **61.5 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
287.0 ft	60		*Continued from previous page*						
285				61.5'	SS-10	60.0 61.5		11-17-19	SPT
			No Refusal & Boring Terminated @ 61.5' (Elev. 285.5).						
	65		Boring elevation estimated from Google Earth satellite imagery.						
280									
	70								
275									
	75								
270									
	80								
265									
	85								
260									
	90								
255									
	95								
250									
	100								
245									
	105								
240									
	110								
235									
	115								
230									
	120								

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TDOT Go.

State **Tennessee** Latitude **35.40924** ° Longitude **89.38917** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **348 ft**

Project Type **Subsurface Investigation** Dated Started **10/11/2010** Completed **10/12/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-64** Total Depth **61.5 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
348.0 ft	0		*Ground Line*						
			Red & gray, lean clay.						
345					SS-1	2.5 4.0		6-7-8	SPT
	5				SS-2	5.0 6.5		5-5-7	SPT
340				8.3'					
			Red & gray, sandy lean clay.						
	10				SS-3	10.0 11.5		5-4-5	SPT
335				13.3'					
			Beige, tan, red & gray, lean clay with sand.						
	15				ST-1	15.0 17.0			ST
330									
	20				SS-4	20.0 21.5		2-3-4	SPT
325				23.3'					
			Light gray, lean clay with sand.						
	25				SS-5	25.0 26.5		5-8-10	SPT
320				28.3'					
			Light gray & gray, sandy lean clay.						
	30				SS-6	30.0 31.5		4-7-9	SPT
315									
	35				SS-7	35.0 36.5		6-8-9	SPT
310									
	40				SS-8	40.0 41.5		8-15-16	SPT
305									
	45				SS-9	45.0 46.5		8-10-13	SPT
300									
	50				SS-10	50.0 51.5		7-11-16	SPT
295									
	55				SS-11	55.0 56.5		7-15-15	SPT
290									
	60								

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TDOT Go.

State **Tennessee** Latitude **35.40924** ° Longitude **89.38917** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **348 ft**

Project Type **Subsurface Investigation** Dated Started **10/11/2010** Completed **10/12/2010**

Driller **R. Cassell** Logged by **B. Williams** Depth to Water: Immediate

Hole Number **B-64** Total Depth **61.5 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
288.0 ft	60		*Continued from previous page*						
				61.5'	SS-12	60.0 61.5		8-11-15	SPT
285	65		No Refusal & Boring Terminated @ 61.5' (Elev. 286.5). Boring elevation estimated from Google Earth satellite imagery.						
280	70								
275	75								
270	80								
265	85								
260	90								
255	95								
250	100								
245	105								
240	110								
235	115								
230	120								

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TDOT Go.

State **Tennessee** Latitude **35.40913 °** Longitude **89.38917 °**

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **349 ft**

Project Type **Subsurface Investigation** Dated Started **10/11/2010** Completed **10/12/2010**

Driller **S. Gower** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-65** Total Depth **61.2 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
349.0 ft	0		*Ground Line*						
			Brown & gray, lean clay.						
					SS-1	2.0 3.5		2-5-6	SPT
345	5				SS-2	4.7 6.2		2-3-5	SPT
340	10				SS-3	9.7 11.2		1-4-5	SPT
				13.0'					
335	15		Brown & gray, sandy lean clay.		SS-4	14.7 16.2		1-3-3	SPT
				18.0'					
330	20		Gray, lean clay with sand.		SS-5	19.7 21.2		1-3-5	SPT
325	25				SS-6	24.7 26.2		2-4-6	SPT
320	30				SS-7	29.7 31.2		2-6-10	SPT
				33.0'					
315	35		Dark gray, silty sand.		ST-1	34.7 36.7			ST
				38.0'					
310	40		Gray, sandy lean clay.		SS-8	39.7 41.2		4-8-10	SPT
305	45				SS-9	44.7 46.2		5-10-14	SPT
300	50				SS-10	49.7 51.2		8-14-17	SPT
295	55				SS-11	54.7 56.2		7-15-21	SPT
290	60								

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TDOT Go.

State **Tennessee** Latitude **35.40913** ° Longitude **89.38917** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **349 ft**

Project Type **Subsurface Investigation** Dated Started **10/11/2010** Completed **10/12/2010**

Driller **S. Gower** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-65** Total Depth **61.2 ft** Depth to Water Date Measured

Lithology				Overburden	Sample No.	Depth	Rec. (ft.)	Blows	Type
Elev.	Depth	Symbol	Description	Rock Core	Core No.	Run	Rec (ft.)	Rec. (%)	RQD (%)
289.0 ft	60		*Continued from previous page*						
				61.2'	SS-12	59.7 61.2		10-13-18	SPT
			No Refusal & Boring Terminated @ 61.2' (Elev. 287.8).						
285	65		Boring elevation estimated from Google Earth satellite imagery.						
280	70								
275	75								
270	80								
265	85								
260	90								
255	95								
250	100								
245	105								
240	110								
235	115								
230	120								

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TDOT Go.

State **Tennessee** Latitude **35.40912** ° Longitude **89.38938** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **348 ft**

Project Type **Subsurface Investigation** Dated Started **10/11/2010** Completed **10/11/2010**

Driller **S. Gower** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-66** Total Depth **61.2 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
348.0 ft	0		*Ground Line*						
			Brown, lean clay.						
					SS-1	2.0 3.5		3-5-6	SPT
345	5				SS-2	4.7 6.2		1-4-4	SPT
340	10				SS-3	9.7 11.2		1-3-5	SPT
335			13.0' Gray & yellowish orange, lean clay with sand.						
	15				SS-4	14.7 16.2		2-2-2	SPT
330	20		20.3' Gray & yellowish orange, sandy lean clay.		ST-1	19.7 21.7			ST
325			22.8' Dark gray, silty sand.						
	25				SS-5	24.7 26.2		3-6-10	SPT
320	30				SS-6	29.7 31.2		4-8-14	SPT
315	35				SS-7	34.7 36.2		4-8-16	SPT
310	40				SS-8	39.7 41.2		3-7-12	SPT
305	45				SS-9	44.7 46.2		4-10-14	SPT
300	50				SS-10	49.7 51.2		6-11-24	SPT
295	55				SS-11	54.7 56.2		5-11-23	SPT
290	60								

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TDOT Go.

State **Tennessee** Latitude **35.40912** ° Longitude **89.38938** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **348 ft**

Project Type **Subsurface Investigation** Dated Started **10/11/2010** Completed **10/11/2010**

Driller **S. Gower** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-66** Total Depth **61.2 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
288.0 ft	60		*Continued from previous page*						
				61.2'	SS-12	59.7 61.2		4-7-14	SPT
285	65		No Refusal & Boring Terminated @ 61.2' (Elev. 286.8).						
280	70		Boring elevation estimated from Google Earth satellite imagery.						
275	75								
270	80								
265	85								
260	90								
255	95								
250	100								
245	105								
240	110								
235	115								
230	120								

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TDOT Go.

State **Tennessee** Latitude **35.40912** ° Longitude **89.38959** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **347 ft**

Project Type **Subsurface Investigation** Dated Started **10/10/2010** Completed **10/10/2010**

Driller **S. Gower** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-67** Total Depth **61.3 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
347.0 ft	0		*Ground Line*						
			Brown, lean clay.		SS-1	2.0 3.5		5-6-6	SPT
345	5				SS-2	4.8 6.3		2-4-6	SPT
340				8.1'					
			Brown & gray, sandy lean clay.		SS-3	9.8 11.3		2-5-6	SPT
335	10								
	15				SS-4	14.8 16.3		3-5-7	SPT
330									
	20				SS-5	19.8 21.3		1-3-4	SPT
325									
	25				SS-6	24.8 26.3		1-3-4	SPT
320				28.1'					
			Gray, silty sand.		SS-7	29.8 31.3		2-4-5	SPT
315	30								
	35				ST-1	34.8 36.8			ST
310									
	40				SS-8	39.8 41.3		5-10-16	SPT
305									
	45				SS-9	44.8 46.3		5-12-18	SPT
300									
	50				SS-10	49.8 51.3		5-6-11	SPT
295									
	55				SS-11	54.8 56.3		3-8-11	SPT
290									
	60								

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TDOT Go.

State **Tennessee** Latitude **35.40912** ° Longitude **89.38959** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **347 ft**

Project Type **Subsurface Investigation** Dated Started **10/10/2010** Completed **10/10/2010**

Driller **S. Gower** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-67** Total Depth **61.3 ft** Depth to Water Date Measured

Lithology			Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
Elev.	Depth	Symbol							
287.0 ft	60		*Continued from previous page*						
				61.3'	SS-12	59.8 61.3		4-9-14	SPT
285			No Refusal & Boring Terminated @ 61.3' (Elev. 285.7).						
	65		Boring elevation estimated from Google Earth satellite imagery.						
280									
	70								
275									
	75								
270									
	80								
265									
	85								
260									
	90								
255									
	95								
250									
	100								
245									
	105								
240									
	110								
235									
	115								
230									
	120								

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TDOT Go.

State **Tennessee** Latitude **35.40923** ° Longitude **89.38959** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **347 ft**

Project Type **Subsurface Investigation** Dated Started **10/9/2010** Completed **10/9/2010**

Driller **S. Gower** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-68** Total Depth **61 ft** Depth to Water Date Measured

Lithology Elev.	Depth	Symbol	Description	Overburden / Rock Core	Sample No. / Core No.	Depth / Run	Rec. (ft.) / Rec (ft.)	Blows / Rec. (%)	Type / RQD (%)
347.0 ft	0		*Ground Line*						
			Brown, lean clay.						
					SS-1	2.0 – 3.5		6-6-7	SPT
					SS-2	4.5 – 6.0		3-4-5	SPT
					ST-1	9.5 – 11.5			ST
			Brown & gray, sandy lean clay.	10.3'					
					SS-3	14.5 – 16.0		3-4-6	SPT
					SS-4	19.5 – 21.0		4-9-9	SPT
			Gray, lean clay with sand.	22.8'					
					SS-5	24.5 – 26.0		1-3-5	SPT
					ST-2	29.5 – 31.5			ST
			Gray, silty sand.	32.4'					
					SS-7	34.5 – 36.0		4-6-8	SPT
					SS-8	39.5 – 41.0		4-6-9	SPT
					SS-9	44.5 – 46.0		4-5-10	SPT
					SS-10	49.5 – 51.0		5-8-11	SPT
					SS-11	54.5 – 56.0		6-8-18	SPT
						59.5			

345 340 335 330 325 320 315 310 305 300 295 290

0 5 10 15 20 25 30 35 40 45 50 55 60

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TDOT Go.

State **Tennessee** Latitude **35.40923** ° Longitude **89.38959** °

County **Haywood** Location

Project Name **Solar Farm Information & Welcome Center** Surface Elevation **347 ft**

Project Type **Subsurface Investigation** Dated Started **10/9/2010** Completed **10/9/2010**

Driller **S. Gower** Logged by **D. Hertter** Depth to Water: Immediate

Hole Number **B-68** Total Depth **61 ft** Depth to Water Date Measured

Lithology				Overburden	Sample No.	Depth	Rec. (ft.)	Blows	Type
Elev.	Depth	Symbol	Description	Rock Core	Core No.	Run	Rec (ft.)	Rec. (%)	RQD (%)
287.0 ft	60		*Continued from previous page*						
				61.0'	SS-12	61.0		5-10-16	SPT
285			No Refusal & Boring Terminated @ 61.0' (Elev. 286.0).						
	65		Boring elevation estimated from Google Earth satellite imagery.						
280									
	70								
275									
	75								
270									
	80								
265									
	85								
260									
	90								
255									
	95								
250									
	100								
245									
	105								
240									
	110								
235									
	115								
230									
	120								

Appendix V
Laboratory Results

Florence & Hutcheson
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Moisture Data

Project Name : Solar Farm Information & Welcome Center Site Design
Location : Haywood County, Tennessee
Job Number : 10217 (AASHTO T255-T265)
Project Job No. : 38001-1684-0438001-1684-04

Soil No.	Boring No.	Station & Offset	Sample No.	Depth		Description of Soil	pH	Natural Moisture Content (%)
	CONTROL BORINGS							
		RAMP A						
1	1	21+00 @ CL	MC-1	3.0	5.0	Brown Lean Clay		17.3
2			MC-2	8.0	10.0	Dark Brown Lean Clay		17.6
3			MC-3	13.0	15.0	Reddish Gray Lean Clay with Sand		19.2
5			MC-4	18.0	20.0	Gray Sandy Lean Clay		20.9
5			MC-5	23.0	25.0	Gray Sandy Lean Clay		22.3
5			MC-6	28.0	30.0	Gray Sandy Lean Clay		22.2
5			MC-7	34.0	36.0	Gray Sandy Lean Clay		22.0
2	2	25+00 @ 80' Rt.	MC-1	0.0	15.0	Brown Lean Clay		19.4
5			MC-2	24.0	28.0	Gray Sandy Lean Clay		25.3
1	3	29+00 @ 43' Rt.	MC-1	0.5	5.0	Brown Lean Clay		4.4
2			MC-2	5.0	10.0	Red Lean Clay		8.2
		RAMP B						
2	4	31+00 @ 33' Rt.	MC-1	3.0	10.0	Brown & Red Lean Clay		20.6
1	5	33+00 @ 33' Rt.	MC-1	0.5	7.0	Brown Lean Clay		19.5
2			MC-2	7.0	17.0	Brown Lean Clay		22.1
1	6	35+00 @ 33' Rt.	MC-1	0.0	2.5	Brown Lean Clay		12.2
1			MC-2	2.5	5.0	Brown Lean Clay		12.2
1			MC-3	5.0	10.0	Brown Lean Clay		12.6
3			MC-4	10.0	15.0	Brown Lean Clay with Sand		18.4
3			MC-5	15.0	17.0	Brown Lean Clay with Sand		21.9
1	7	38+00 @ CL	MC-1	2.0	4.0	Brown Lean Clay		16.8
2			MC-2	8.0	10.0	Dark Brown Lean Clay		22.4
3			MC-3	13.0	15.0	Reddish Brown Lean Clay with Sand		20.8
5			MC-4	18.0	20.0	Brownish Gray Sandy Lean Clay		18.1
5			MC-5	22.0	24.0	Grayish Brown Sandy Lean Clay		19.2
		RAMP C						
1	8	40+00 @ 33' Rt.	MC-1	0.5	5.0	Brown Lean Clay		11.5
2			MC-2	5.0	10.0	Brown & Red Lean Clay		15.0
1	9	42+00 @ 33' Rt.	MC-1	0.5	8.0	Yellowish Orange Lean Clay		7.2
2			MC-2	8.0	19.0	Tan Lean Clay		8.1
1	10	44+00 @ CL	MC-1	0.5	10.0	Brown Lean Clay		10.0
2	11	48+00 @ CL	MC-1	0.4	12.0	Brown Lean Clay		18.9
1	12	52+00 @ CL	MC-1	0.5	15.0	Brown Lean Clay		11.6
6			MC-2	15.0	38.0	Gray Sandy Lean Clay	5.6	10.2
		RAMP D						
1	13	60+00 @ CL	MC-1	0.0	2.5	Brown Lean Clay		11.7
1			MC-2	2.5	5.0	Brown Lean Clay		11.5
6			MC-3	5.0	10.0	Gray Sandy Lean Clay		11.2
6			MC-4	10.0	15.0	Gray Sandy Lean Clay		12.6
6			MC-5	15.0	20.0	Gray Sandy Lean Clay		12.8
6			MC-6	20.0	25.0	Gray Sandy Lean Clay		11.6
6			MC-7	25.0	30.0	Gray Sandy Lean Clay		10.4
6			MC-8	30.0	35.0	Gray Sandy Lean Clay		6.9
7			MC-9	35.0	40.0	Orange Silty Sand		7.0
7			MC-10	40.0	45.0	Orange Silty Sand		9.7

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Florence & Hutcheson
CONSULTING ENGINEERS

Moisture Data

Project Name : Solar Farm Information & Welcome Center Site Design
Location : Haywood County, Tennessee
Job Number : 10217
Project Job No. : 38001-1684-0438001-1684-04

(AASHTO T255-T265)

Soil No.	Boring No.	Station & Offset	Sample No.	Depth		Description of Soil	pH	Natural Moisture Content (%)
7			MC-11	45.0	50.0	Orange Silty Sand		10.9
1	14	64+00 @ 33' Rt.	MC-1	0.0	2.5	Light Brown Lean Clay		19.1
1			MC-2	2.5	5.0	Light Brown Lean Clay		19.9
2			MC-3	5.0	10.0	Dark Brown Lean Clay		22.3
1	15	66+00 @ 33' Rt.	MC-1	0.0	2.5	Light Brown Lean Clay		20.3
1			MC-2	2.5	5.0	Light Brown Lean Clay		18.5
2			MC-3	5.0	10.0	Dark Brown Lean Clay		20.9
3			MC-4	10.0	14.0	Dark Brown Lean Clay with Sand		21.1
1	16	68+00 @ 49' Lt.	MC-1	0.5	5.0	Gray Lean Clay		11.4
1			MC-2	5.0	10.0	Brown Lean Clay		13.9
1	17	70+00 @ 33' Rt.	MC-1	0.5	10.0	Brown Lean Clay		11.7
2	18	72+00 @ CL	MC-1	0.5	10.0	Gray Lean Clay		25.7
		WB EXIT LN						
2	19	70+00 @ 75' Lt.	MC-1	1.0	8.0	Brown, Red & Gray Lean Clay		16.2
2	20	74+00 @ 78' Lt.	MC-1	0.5	10.0	Brown & Gray Lean Clay		19.8
2	21	76+00 @ 128' Lt.	MC-1	0.5	10.0	Brown Lean Clay		10.1
7			MC-2	10.0	17.0	Tan Silty Sand		5.0
2	22	78+00 @ 141' Lt.	MC-1	0.5	8.0	Brrown Lean Clay		9.9
7			MC-2	8.0	15.0	Red Silty Sand		11.2
2			MC-3	15.0	25.0	Light Brown Lean Clay		11.8
7			MC-4	25.0	30.0	White Silty Sand		3.8
		WB ENT LN						
2	23	96+00 @ 100' Lt	MC-1	0.5	10.0	Brown, Red & Gray Lean Clay		19.6
2	24	98+00 @ 88' Lt.	MC-1	1.0	10.0	Brown Lean Clay		18.1
2	25	102+00 @ 73' Lt.	MC-1	0.5	10.0	Gray Lean Clay		18.1
		EB EXIT LN						
2	26	99+50 @ 65' Rt.	MC-1	0.5	10.0	Brown, Red, & Gray Lean Clay		21.9
2	27	103+50 @ 67' Rt.	MC-1	1.0	6.0	Brown Lean Clay		14.3
1			MC-2	6.0	10.0	Gray Lean Clay		21.2
2	28	107+50 @ 76' Rt.	MC-1	1.0	8.0	Dark Brown Lean Clay		21.4
1			MC-2	8.0	10.0	Gray Lean Clay		27.3
1	29	111+50 @ 58' Rt.	MC-1	1.0	10.0	Brown Lean Clay		20.9
		EB ENT LN						
4	30	69+00 @ 70' Rt.	MC-1	0.5	10.0	Brown & Red Clayey Sand		19.2
4	31	72+00 @ 65' Rt.	MC-1	0.5	10.0	Brown Clayey Sand		15.1
1	32	74+00 @ 110 Rt.	MC-1	0.5	10.0	Brown & Gray Lean Clay		8.3
		PARKING LOTS						
1	33		MC-1	2.0	4.0	Brownish Tan Lean Clay	4.3	13.6
2			MC-2	8.0	10.0	Dark Brown Lean Clay	5.16	19.5

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Florence & Hutcheson
CONSULTING ENGINEERS

Moisture Data

Project Name : Solar Farm Information & Welcome Center Site Design
Location : Haywood County, Tennessee
Job Number : 10217
Project Job No. : 38001-1684-0438001-1684-04

(AASHTO T255-T265)

Soil No.	Boring No.	Station & Offset	Sample No.	Depth		Description of Soil	pH	Natural Moisture Content (%)
3			MC-3	13.0	15.0	Reddish Brown Lean Clay with Sand	5.6	20.6
1	34		MC-1	2.0	4.0	Tannish Brown Lean Clay		13.3
2			MC-2	8.0	10.0	Dark Brown Lean Clay		17.9
2			MC-3	13.0	15.0	Reddish Brown Lean Clay		16.0
1	35		MC-1	2.0	4.0	Dark Brown Lean Clay		20.3
2			MC-2	8.0	10.0	Dark Brown Lean Clay		19.4
3			MC-3	13.0	15.0	Brown & Orange Lean Clay with Sand		20.5
1	36		MC-1	2.0	4.0	Brownish Tan Lean Clay		19.0
2			MC-2	8.0	10.0	Dark Brown Lean Clay		22.2
4			MC-3	13.0	15.0	Brown & Red Clayey Sand		16.3
1	37		MC-1	2.0	4.0	Brownish Tan Lean Clay		14.2
2			MC-2	8.0	10.0	Dark Brown Lean Clay		19.3
3			MC-3	13.0	15.0	Brownish Red Lean Clay with Sand		16.2
1	38		MC-1	2.0	4.0	Brownish Tan Lean Clay		16.9
2			MC-2	8.0	10.0	Dark Brown Lean Clay		21.4
3			MC-3	13.0	15.0	Brownish Red Lean Clay with Sand		17.7
1	39		MC-1	2.0	4.0	Brownish Tan Lean Clay		18.7
2			MC-2	8.0	10.0	Dark Brown Lean Clay		18.6
4			MC-3	13.0	15.0	Brownish Red Clayey Sand	5.24	15.6
1	40		MC-1	2.0	4.0	Brown Lean Clay		10.6
2			MC-2	8.0	10.0	Brown Lean Clay		19.2
3			MC-3	13.0	15.0	Brownish Orange Lean Clay with Sand		19.0
1	41		MC-1	2.0	4.0	Brown Lean Clay		10.0
2			MC-2	8.0	10.0	Dark Brown Lean Clay		19.6
3			MC-3	13.0	15.0	Dark Brown Lean Clay with Sand		20.7
1	42		MC-1	2.0	4.0	Brownish Tan Lean Clay		15.6
2			MC-2	8.0	10.0	Brown Lean Clay		20.8
3			MC-3	13.0	15.0	Brown Lean Clay with Sand		23.2
1	43		MC-1	2.0	4.0	Brownish Tan Lean Clay		15.6
2			MC-2	6.0	8.0	Reddish Brown Lean Clay		17.6
3			MC-3	13.0	15.0	Brown Lean Clay with Sand		20.9
1	44		MC-1	0.7	4.0	Brownish Tan Lean Clay		21.4
2			MC-2	6.1	8.0	Dark Brown Lean Clay		19.7
3			MC-3	12.0	15.0	Brown Lean Clay with Sand		21.6
1	45		MC-1	0.7	3.9	Brownish Tan Lean Clay		15.9
2			MC-2	3.9	7.0	Dark Brown Lean Clay		21.3
4			MC-3	11.0	15.0	Brownish Orange Clayey Sand		14.9
1	46		MC-1	0.7	3.9	Brownish Tan Lean Clay		12.6
2			MC-2	3.9	6.2	Dark Brown Lean Clay		20.5
3			MC-3	12.0	15.0	Brownish Orange Lean Clay with Sand		19.4
	VERIFICATION BORINGS							
	Ramp A							
1	47	22+00 @ 34' Lt	SS-1	2.5	4.0	Brown Lean Clay		18.7
1			SS-2	5.0	6.5	Brownish Red Lean Clay		15.4
2			SS-3	10.0	11.5	Brownish Gray Lean Clay		19.4

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CONSULTING ENGINEERS

Moisture Data

Project Name : Solar Farm Information & Welcome Center Site Design
Location : Haywood County, Tennessee
Job Number : 10217
Project Job No. : 38001-1684-0438001-1684-04

(AASHTO T255-T265)

Soil No.	Boring No.	Station & Offset	Sample No.	Depth		Description of Soil	pH	Natural Moisture Content (%)
8			ST-1	15.0	17.0	Light Gray & Tan Sandy Lean Clay		24.1
9			ST-2	20.0	21.7	Beige & Yellowish Orange Lean Clay with Sand		26.1
9			SS-4	25.0	26.5	Gray Lean Clay with Sand		24.6
10			SS-5	30.0	31.5	Gray Lean Clay with Sand		24.7
10			SS-6	35.0	36.5	Gray Lean Clay with Sand		22.4
10			ST-3	40.0	42.0	Gray Lean Clay with Sand		16.7
		Ramp B						
2	49	34+00 @ 75' Rt.	SS-1	2.5	4.0	Brown Lean Clay		17.9
2			SS-2	5.0	6.5	Brown Lean Clay		16.6
2			SS-3	10.0	11.5	Brown Lean Clay		17.3
9			SS-4	15.0	16.5	Brown & Gray Lean Clay with Sand		21.3
9			SS-5	20.0	21.5	Brown & Gray Lean Clay with Sand		20.6
9			SS-6	25.0	26.5	Brown & Gray Lean Clay with Sand		25.6
9			SS-7	30.0	31.5	Gray Lean Clay with Sand		26.9
10			SS-8	35.0	36.5	Gray & Orange Lean Clay with Sand		25.5
		Ramp C						
2	51	41+50 @ 88' Rt.	SS-1	5.1	6.6	Brown Lean Clay		10.3
11			SS-2	10.4	11.9	Brown & Black Silty Sand		7.9
11			SS-3	15.4	16.9	Brown, Red & Black Silty Sand		15.2
11			ST-2	20.4	21.9	Reddish Orange Silty Sand		12.7
12			ST-3	24.0	25.5	Reddish Orange Poorly Graded Sand with Silt		9.8
1	52	52+00 @ 35' Lt.	SS-1	5.0	6.5	Tan & Brown Lean Clay		10.1
1			SS-2	10.0	11.5	Gray & Brown Lean Clay		18.2
8			SS-3	15.0	16.5	Tan & Brown Sandy Lean Clay		14.5
8			SS-4	20.0	21.5	Tan & Brown Sandy Lean Clay		14.0
8			SS-5	25.0	26.5	Tan & Orange Sandy Lean Clay		15.6
8			SS-6	30.0	31.5	Tan & Orange Sandy Lean Clay		13.9
7			SS-7	35.0	36.5	Tan & Orange Silty Sand		7.6
7			SS-8	40.0	41.5	Tan & Orange Silty Sand		8.7
7			SS-9	45.0	46.5	Tan Silty Sand		20.4
7			SS-10	50.0	51.5	Tan Silty Sand		26.0
2	53	61+50 @ 30' Rt.	SS-1	2.5	4.0	Brown Lean Clay		13.8
2			SS-2	4.0	5.5	Brown Lean Clay		16.0
3			SS-3	9.0	10.5	Brown Lean Clay with Sand		14.0
3			SS-4	14.0	15.5	Brown & Tan Lean Clay with Sand		14.2
8			SS-5	19.0	20.5	Orange, Gray & Tan Sandy Lean Clay		12.7
8			SS-6	24.0	25.5	Orange, Gray & Tan Sandy Lean Clay		8.8
7			SS-7	29.0	30.5	Orange Silty Sand		9.4
7			SS-8	34.0	35.5	Orange & Tan Silty Sand		6.2
		BRIDGE (EB ACCESS)						
2	55	8+62 @ 29' Lt.	SS-1	2.5	4.0	Brown & White Lean Clay		17.0
2			SS-2	4.5	6.0	Brown & White Lean Clay		16.8
3			SS-3	9.5	11.0	Brown, White & Orange Lean Clay with Sand		18.0
3			SS-4	14.5	16.0	Orange, Gray & Brown Lean Clay with Sand		21.2
13			ST-1	19.5	21.3	Multicolor Sandy Lean Clay		14.5
13			SS-5	24.5	26.0	Gray & Brown Sandy Lean Clay		16.3
7			SS-6	29.5	30.9	Orange & Gray Silty Sand		9.6
7			SS-7	34.5	36.0	Orange Silty Sand		11.6
7			SS-8	39.5	41.0	Orange, Pink & Gray Silty Sand		11.1
7			SS-9	44.5	46.0	Orange, Pink & Gray Silty Sand		18.9
7			SS-10	49.5	51.0	Orange, Pink & Gray Silty Sand		21.2
14			SS-11	54.5	56.0	Orange & Tan Well-Graded Sand with Silt		21.4
14			SS-12	59.5	61.0	Tan Well-Graded Sand with Silt		21.2
14			SS-13	64.5	66.0	Tan Well-Graded Sand with Silt		23.3

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Florence & Hutcheson
CONSULTING ENGINEERS

Moisture Data

Project Name : Solar Farm Information & Welcome Center Site Design
Location : Haywood County, Tennessee
Job Number : 10217
Project Job No. : 38001-1684-0438001-1684-04

(AASHTO T255-T265)

Soil No.	Boring No.	Station & Offset	Sample No.	Depth		Description of Soil	pH	Natural Moisture Content (%)
14			SS-14	69.5	71.0	Tan Well-Graded Sand with Silt		22.4
14			SS-15	74.5	76.0	Tan & Orange Well-Graded Sand with Silt		22.0
14			SS-16	79.5	81.0	Tan & Orange Well-Graded Sand with Silt		23.7
14			SS-17	84.5	86.0	Tan, Red & Orange Well-Graded Sand with Silt		27.2
15			SS-18	89.5	91.0	Tan & Orange Poorly Graded Sand		20.4
15			SS-19	94.5	96.0	Tan Poorly Graded Sand		22.4
15			SS-20	99.5	101.0	Tan Poorly Graded Sand		20.1
16	56	8+62 @ 29' Rt.	SS-1	2.5	4.0	Brown Lean Clay		16.1
16			SS-2	4.5	6.0	Brown Lean Clay		10.0
22			SS-3	9.5	11.0	Brown, Gray & Orange Silty Clay		15.4
22			SS-4	14.5	16.0	Brown, Orange & Gray Silty Clay		20.4
17			ST-1	19.5	20.4	Orange Lean Clay with Sand		31.1
18			ST-2	24.5	26.0	Light Gray & Reddish Orange Silty, Clayey Sand		13.3
18			SS-5	29.5	31.0	Gray Silty, Clayey Sand		21.3
19			ST-3	34.5	36.1	Light Gray Silt with Sand		17.8
20			ST-4	39.5	41.2	Light Gray Lean Clay with Sand		17.4
21			ST-5	44.5	45.0	White & Yellow Orange Poorly Graded Sand with Silt		15.8
21			SS-6	49.5	51.0	Orange & Tan Poorly Graded Sand with Silt		21.9
21			SS-7	54.5	56.0	Orange & Tan Poorly Graded Sand with Silt		22.5
21			SS-8	59.5	61.0	Orange & Tan Poorly Graded Sand with Silt		22.0
21			SS-9	64.5	66.0	Tan Poorly Graded Sand with Silt		21.3
21			SS-10	69.5	71.0	Tan Poorly Graded Sand with Silt		23.7
14			SS-11	74.5	76.0	Orange & Tan Well-Graded Sand with Silt		23.3
14			SS-12	79.5	81.0	Orange & Tan Well-Graded Sand with Silt		25.2
14			SS-13	84.5	86.0	Tan Well-Graded Sand with Silt		24.7
15			SS-14	89.5	91.0	Tan Poorly Graded Sand		21.2
15			SS-15	94.5	96.0	Orange & Tan Poorly Graded Sand		23.2
15			SS-16	99.5	101.0	Pink & Tan Poorly Graded Sand		19.9
16	57	10+00 @ 25' Lt.	SS-1	4.9	6.4	Brown Lean Clay		25.2
16			SS-2	9.9	11.4	Brown Lean Clay		20.3
22			ST-1	14.9	15.5	Brown Silty Clay	5.93	22.2
22			SS-3	16.9	18.4	Gray & Black Silty Clay		19.0
17			SS-4	19.9	21.4	Brown & Gray Lean Clay with Sand		24.5
18			ST-2	24.9	26.5	Light Gray Silty, Clayey Sand		22.1
18			SS-5	29.4	31.4	Brown & Gray Silty, Clayey Sand		20.4
18			SS-6	35.5	37.0	Red & Gray Silty, Clayey Sand		14.3
19			SS-7	39.9	41.4	Red & Gray Silt with Sand		11.9
21			SS-9	49.9	51.4	Brown, Gray & Dark Red Poorly Graded Sand with Silt		19.5
21			SS-10	54.9	56.4	Gray Poorly Graded Sand with Silt		24.0
21			SS-11	59.9	61.4	Red & Gray Poorly Graded Sand with Silt		20.7
21			SS-12	64.9	66.4	Red & Gray Poorly Graded Sand with Silt		22.5
14			SS-13	69.9	71.4	Red & Gray Well-Graded Sand with Silt		21.5
14			SS-14	74.9	76.4	Red & Gray Well-Graded Sand with Silt		20.2
14			SS-15	79.9	81.6	Red & Gray Well-Graded Sand with Silt		23.8
14			SS-16	84.9	86.4	Red & Gray Well-Graded Sand with Silt		24.3
15			SS-17	89.9	91.4	Red & Gray Poorly Graded Sand		20.2
15			SS-18	94.9	96.4	Red & Gray Poorly Graded Sand		16.2
15			SS-19	99.9	100.4	Red & Gray Poorly Graded Sand		19.6
16	58	10+00 @ 25' Rt.	SS-1	2.7	4.3	Brown Lean Clay		19.7
22			SS-2	7.7	9.3	Brown Silty Clay		24.2
22			SS-3	12.7	14.3	Brown & Red Silty Clay		20.5
23			ST-1	17.7	19.5	Light Gray Lean Clay with Sand	6.44	24.5
23			SS-4	22.7	24.3	Brown & Red Lean Clay with Sand		29.5
23			SS-5	27.7	29.3	Gray Lean Clay with Sand		26.7
24			ST-2	32.7	34.2	White & Gray Sandy Lean Clay		20.8
24			SS-6	37.7	39.3	Gray Sandy Lean Clay		20.6

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e-mail: fhcorporate@flohut.com

Florence & Hutcheson
CONSULTING ENGINEERS

Moisture Data

Project Name : Solar Farm Information & Welcome Center Site Design
Location : Haywood County, Tennessee
Job Number : 10217
Project Job No. : 38001-1684-0438001-1684-04

(AASHTO T255-T265)

Soil No.	Boring No.	Station & Offset	Sample No.	Depth		Description of Soil	pH	Natural Moisture Content (%)
14			SS-7	42.7	44.3	Brown & Gray Well-Graded Sand with Silt		19.7
14			SS-8	47.7	49.3	Brown & Gray Well-Graded Sand with Silt		20.6
14			SS-9	52.7	54.3	Gray Well-Graded Sand with Silt		21.6
14			SS-10	57.7	59.3	Gray Well-Graded Sand with Silt		23.7
14			SS-11	62.7	64.3	Gray Well-Graded Sand with Silt		19.8
14			SS-12	67.7	69.3	Gray Well-Graded Sand with Silt		22.0
14			SS-13	72.7	74.3	Gray Well-Graded Sand with Silt		22.1
14			SS-14	77.7	79.3	Gray Well-Graded Sand with Silt		22.6
14			SS-15	82.7	84.3	Gray Well-Graded Sand with Silt		21.5
15			SS-16	87.7	88.3	Gray Poorly Graded Sand		21.3
15			SS-17	92.7	94.3	Gray Poorly Graded Sand		18.1
15			SS-18	97.7	99.3	Gray Poorly Graded Sand		23.3
16	59	11+67 @ 29' Lt.	SS-1	4.1	5.6	Brown Lean Clay	4.8	19.0
16			SS-2	9.1	10.6	Brown Lean Clay	4.8	22.5
25			SS-3	14.1	15.6	Gray Lean Clay with Sand		26.7
25			ST-1	19.1	20.9	Gray Lean Clay with Sand		26.6
25			SS-4	24.1	25.6	Gray Lean Clay with Sand		24.7
24			ST-2	29.1	30.8	Light Gray Sandy Lean Clay		20.3
24			SS-5	34.1	35.6	Gray Sandy Lean Clay		26.0
24			SS-6	39.1	40.6	Gray Sandy Lean Clay		18.2
21			SS-7	44.1	45.6	Red & Brown Poorly Graded Sand with Silt		17.9
21			SS-8	49.1	50.6	Red & Brown Poorly Graded Sand with Silt		19.8
21			SS-9	54.1	55.6	Red & Brown Poorly Graded Sand with Silt		21.3
21			SS-10	59.1	60.6	Red & Brown Poorly Graded Sand with Silt		23.3
21			SS-11	64.1	65.6	Red & Brown Poorly Graded Sand with Silt		23.0
14			SS-12	69.1	70.6	Red & Brown Well-Graded Sand with Silt		24.0
14			SS-13	74.1	75.6	Red & Brown Well-Graded Sand with Silt		5.2
14			SS-14	79.1	80.6	Gray Well-Graded Sand with Silt		21.9
14			SS-15	84.1	85.6	Gray Well-Graded Sand with Silt		22.2
14			SS-16	89.1	90.6	Gray Well-Graded Sand with Silt		21.7
15			SS-17	94.1	95.6	Red & Gray Poorly Graded Sand		15.5
15			SS-18	99.1	100.6	Red & Gray Poorly Graded Sand		19.0
16	60	11+60 @ 29' Rt.	SS-1	4.0	5.5	Brown Lean Clay		19.7
16			SS-2	9.0	10.5	Brown Lean Clay		18.0
11			SS-3	16.0	17.5	Brown & Red Silty Sand		21.3
23			SS-4	21.0	22.5	Red & White Lean Clay with Sand		25.3
23			SS-5	24.0	25.5	Gray Lean Clay with Sand		26.3
23			ST-3	29.0	30.6	Light Gray Lean Clay with Sand		23.3
23			SS-6	34.0	35.5	Gray Lean Clay with Sand		19.5
26			ST-4	39.0	40.4	White, Gray & Reddish Orange Sandy Silty Clay		16.4
26			SS-7	44.0	45.5	Gray Sandy Silty Clay		19.3
26			SS-8	49.0	50.5	Red & Gray Sandy Silty Clay		20.5
26			SS-9	54.0	55.5	Red & Gray Sandy Silty Clay		23.1
14			SS-10	59.0	60.5	Red & Gray Well-Graded Sand with Silt		20.9
14			SS-11	64.0	65.5	Gray Well-Graded Sand with Silt		20.1
14			SS-12	69.0	70.5	Gray & Red Well-Graded Sand with Silt		21.6
14			SS-13	74.0	75.5	Gray & Red Well-Graded Sand with Silt		21.0
14			SS-14	79.0	80.5	Gray & Red Well-Graded Sand with Silt		22.6
14			SS-15	84.0	85.5	Gray & Red Well-Graded Sand with Silt		21.5
14			SS-16	89.0	90.5	Gray & Red Well-Graded Sand with Silt		22.5
15			SS-17	94.0	95.5	Gray & Red Poorly Graded Sand		18.1
15			SS-18	99.0	100.5	Gray & Red Poorly Graded Sand		20.7
	WELCOME CENTER							
16	61		SS-1	2.0	3.5	Brown & Gray Lean Clay		22.7
16			SS-2	4.7	6.2	Brown Lean Clay		21.4
16			SS-3	9.7	11.2	Brown Lean Clay		19.9

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CONSULTING ENGINEERS

Moisture Data

Project Name : Solar Farm Information & Welcome Center Site Design
Location : Haywood County, Tennessee
Job Number : 10217
Project Job No. : 38001-1684-0438001-1684-04

(AASHTO T255-T265)

Soil No.	Boring No.	Station & Offset	Sample No.	Depth		Description of Soil	pH	Natural Moisture Content (%)
27			SS-4	14.7	16.2	Brown & Gray Sandy Lean Clay		28.5
27			SS-5	19.7	21.2	Brown & Gray Sandy Lean Clay		25.6
28			SS-6	24.7	26.2	Gray Lean Clay with Sand		28.5
29			SS-7	29.7	31.2	Gray Lean Clay with Sand		29.7
30			SS-8	34.7	36.2	Gray Sandy Lean Clay		29.1
30			SS-9	39.7	41.2	Gray Sandy Lean Clay		27.7
30			SS-10	44.7	46.2	Gray Sandy Lean Clay		27.3
30			SS-11	49.7	51.2	Gray Sandy Lean Clay		25.4
30			SS-12	54.7	56.2	Gray Sandy Lean Clay		26.7
30			SS-13	59.7	61.2	Gray Sandy Lean Clay		25.8
16	62		SS-1	2.5	4.0	Brown Lean Clay		24.3
16			SS-2	4.5	6.0	Brown Lean Clay		23.2
16			SS-3	9.5	11.0	Brown Lean Clay		19.5
23			SS-4	14.5	16.0	Light Gray Lean Clay with Sand		20.6
27			SS-5	19.5	21.0	Brown Sandy Lean Clay		26.4
27			SS-6	24.5	26.0	Brown Sandy Lean Clay		24.2
27			ST-1	29.5	30.9	Beige & Yellowish Orange Sandy Lean Clay		28.2
28			SS-7	34.5	36.0	Gray Lean Clay with Sand		27.5
29			SS-8	38.5	41.0	Brown Lean Clay with Sand		26.3
30			SS-9	44.5	46.0	Gray Sandy Lean Clay		23.7
30			SS-10	49.5	51.0	Gray Sandy Lean Clay		24.7
30			SS-11	54.5	56.0	Gray Sandy Lean Clay		25.2
30			SS-12	59.5	61.0	Gray Sandy Lean Clay		25.3
16	63		SS-1	0.0	2.5	Brown Lean Clay		20.8
16			SS-2	5.0	6.5	Brown Lean Clay		19.8
27			SS-3	10.0	11.5	Brown, Orange & Gray Sandy Lean Clay		13.9
27			SS-4	15.0	16.5	Brown, Orange & Gray Sandy Lean Clay		19.4
27			SS-5	20.0	21.5	Brown, Orange & Gray Sandy Lean Clay		19.7
28			ST-1	25.0	26.3	Light Gray & Yellowish Orange Lean Clay with Sand		23.4
28			SS-6	30.0	31.5	Gray & Brown Lean Clay with Sand		25.8
29			ST-2	35.0	36.1	Brown Lean Clay with Sand		26.7
29			SS-7	40.0	41.5	Dark Gray Lean Clay with Sand		26.8
30			ST-3	45.0	46.1	Gray Sandy Lean Clay		29.0
30			SS-8	50.0	51.5	Dark Gray Sandy Lean Clay		23.8
30			SS-9	55.0	56.5	Dark Gray Sandy Lean Clay		24.1
30			SS-10	60.0	61.5	Dark Gray Sandy Lean Clay		23.5
16	64		SS-1	2.5	4.0	Red & Gray Lean Clay		20.6
16			SS-2	5.0	6.5	Red & Gray Lean Clay		20.2
27			SS-3	10.0	11.5	Red & Gray Sandy Lean Clay		11.7
31			ST-1	15.0	16.6	Beige & Tan Lean Clay with Sand	6.27	23.5
31			SS-4	20.0	21.5	Red & Gray Lean Clay with Sand		24.8
28			SS-5	25.0	26.5	Light Gray Lean Clay with Sand		24.1
30			SS-6	30.0	31.5	Light Gray Sandy Lean Clay		23.8
30			SS-7	35.0	36.5	Light Gray Sandy Lean Clay		26.8
30			SS-8	40.0	41.5	Light Gray Sandy Lean Clay		23.7
30			SS-9	45.0	46.5	Light Gray Sandy Lean Clay		25.1
30			SS-10	50.0	51.5	Gray Sandy Lean Clay		24.6
30			SS-11	55.0	56.5	Gray Sandy Lean Clay		25.1
30			SS-12	60.0	61.5	Gray Sandy Lean Clay		26.6
16	65		SS-1	2.0	3.5	Brown Lean Clay		26.3
16			SS-2	4.7	6.2	Brown Lean Clay		25.3
16			SS-3	9.7	11.2	Brown & Gray Lean Clay		19.3
27			SS-4	14.7	16.2	Brown & Gray Sandy Lean Clay		24.9
31			SS-5	19.7	21.2	Gray Lean Clay with Sand		30.0
31			SS-6	24.7	26.2	Gray Lean Clay with Sand		26.2

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Florence & Hutcheson
CONSULTING ENGINEERS

Moisture Data

Project Name : Solar Farm Information & Welcome Center Site Design
Location : Haywood County, Tennessee
Job Number : 10217
Project Job No. : 38001-1684-0438001-1684-04

(AASHTO T255-T265)

Soil No.	Boring No.	Station & Offset	Sample No.	Depth		Description of Soil	pH	Natural Moisture Content (%)
31			SS-7	29.7	31.2	Gray Lean Clay with Sand		26.9
32			ST-1	34.7	35.6	Dark Gray Silty Sand		24.0
30			SS-8	39.7	41.2	Gray Sandy Lean Clay		23.2
30			SS-9	44.7	46.2	Gray Sandy Lean Clay		26.3
30			SS-10	49.7	51.2	Gray Sandy Lean Clay		26.7
30			SS-11	54.7	56.2	Gray Sandy Lean Clay		22.2
30			SS-12	59.7	61.2	Gray Sandy Lean Clay		26.6
16	66		SS-1	2.0	3.5	Brown Lean Clay		21.6
16			SS-2	4.7	6.2	Brown Lean Clay		23.9
16			SS-3	9.7	11.2	Brown Lean Clay		18.5
31			SS-4	14.7	16.2	Gray Lean Clay with Sand		22.7
31			ST-1	19.7	20.3	Gray & Yellowish Orange Lean Clay with Sand		25.1
27			ST-1	20.3	20.8	Gray & Yellowish Orange Sandy Lean Clay		25.1
32			SS-5	24.7	26.2	Dark Gray Silty Sand		23.2
32			SS-6	29.7	31.2	Dark Gray Silty Sand		22.8
32			SS-7	34.7	36.2	Dark Gray Silty Sand		23.8
32			SS-8	39.7	41.2	Dark Gray Silty Sand		24.6
32			SS-9	44.7	46.2	Dark Gray Silty Sand		23.2
32			SS-10	49.7	51.2	Dark Gray Silty Sand		23.9
32			SS-11	54.7	56.2	Dark Gray Silty Sand		22.2
32			SS-12	59.7	61.2	Dark Gray Silty Sand		24.3
16	67		SS-1	2.0	3.5	Brown Lean Clay		19.8
16			SS-2	4.8	6.3	Brown Lean Clay		21.2
27			SS-3	9.8	11.3	Brown Sandy Lean Clay		17.2
27			SS-4	14.8	16.3	Brown Sandy Lean Clay		19.9
27			SS-5	19.8	21.3	Brown Sandy Lean Clay		22.4
27			SS-6	24.8	26.3	Gray Sandy Lean Clay		23.4
32			SS-7	29.8	31.3	Gray Silty Sand		24.3
32			SS-8	39.8	41.3	Gray Silty Sand		26.5
32			SS-9	44.8	46.3	Gray Silty Sand		25.1
32			SS-10	49.8	51.3	Gray Silty Sand		25.9
32			SS-11	54.8	56.3	Gray Silty Sand		25.9
32			SS-12	59.8	61.3	Gray Silty Sand		25.6
16	68		SS-1	2.0	3.5	Brown Lean Clay		18.0
16			SS-2	4.5	6.0	Brown Lean Clay		24.3
27			SS-3	14.5	16.0	Brown & Gray Sandy Lean Clay		20.8
27			SS-4	19.5	21.0	Brown Sandy Lean Clay		24.4
33			SS-5	24.5	26.0	Gray Lean Clay with Sand		26.0
33			ST-2	29.5	30.3	Gray Lean Clay with Sand		25.6
32			SS-6	34.5	36.0	Gray Silty Sand		21.4
32			SS-7	39.5	41.0	Gray Silty Sand		24.3
32			SS-8	44.5	46.0	Gray Silty Sand		24.6
32			SS-9	49.5	51.0	Gray Silty Sand		24.3
32			SS-10	54.5	56.0	Gray Silty Sand		24.9
32			SS-11	59.5	61.0	Gray Silty Sand		24.2

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Florence & Hutcheson

CONSULTING ENGINEERS

SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 1
Project County	: Haywood	Sample Loc.	: Boring No. 33
Project State	: Tennessee	Sample Depth	: 0.7' to 4.9'
Laboratory No.	: 10217	Date Tested	: 10-19-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Brownish Tan Lean Clay		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.5
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	98.5
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0281	mm	76.2
Hyd. Rd.	# 2	0.0191	mm	58.7
Hyd. Rd.	# 3	0.0117	mm	40.0
Hyd. Rd.	# 4	0.0085	mm	32.9
Hyd. Rd.	# 5	0.0061	mm	26.8
Hyd. Rd.	# 6	0.0030	mm	20.7
Hyd. Rd.	# 7	0.0013	mm	16.8

D_{50} = 0.0152 mm

CBR (AASHTO: T-193) : 7
Dry Dens. (AASHTO: T-99; Method (A)) : 105 pcf
Opt. Moist. (AASHTO: T-99; Method (A)) : 18 %

Natural Moisture (%) (AASHTO T265) : 13.6
Liquid Limit (AASHTO T89) : 35
Plastic Limit (AASHTO T90) : 22
Plasticity Index : 13
Liquidity Index : -0.68
Activity : 0.69
Sp. Gr. (AASHTO T100) : 2.672
AASHTO Classification: M145 : A-6 (14)
ASTM Classification: D2487 : CL

AASHTO Composition of Total Sample: M145
Gravel (3in. + No.10) : 0.0
Coarse Sand (-No.10 + No.40) : 0.5
Fine Sand (-No.40 + No.200) : 1.0
Silt (-No.200 + 0.002mm) : 79.7
Clay (-0.002mm + 0.001mm) : 3.7
Colloids (-0.001mm) : 15.1

ASTM Composition of Total Sample: D2487
Coarse Gravel (3in. + 3/4in.) : 0.0
Fine Gravel (-3/4in. + No.4) : 0.0
Coarse Sand (-No.4 + No.10) : 0.0
Medium Sand (-No.10 + No.40) : 0.5
Fine Sand (-No.40 + No.200) : 1.0
Silt (-No.200 + 0.005mm) : 73.4
Clay (-0.005mm + 0.001mm) : 9.9
Colloids (-0.001mm) : 15.1

Approved By : DLC

Soil No. 1

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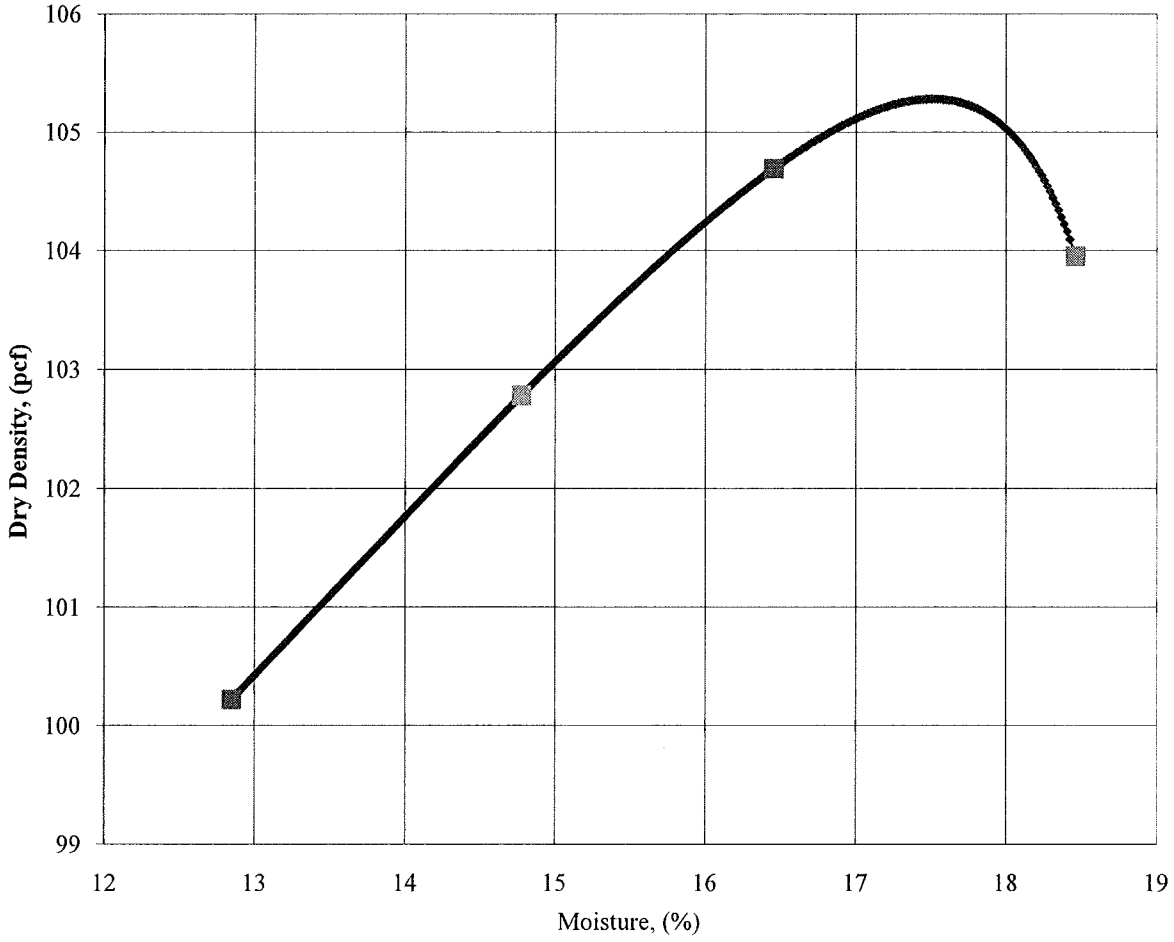
Florence & Hutcheson

CONSULTING ENGINEERS

MOISTURE-DENSITY RELATIONSHIP

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 1
Project County	: Haywood	Sample Loc.	: Boring No. 33
Project State	: Tennessee	Sample Depth	: 0.7' to 4.9'
Laboratory No.	: 10217	Date Tested	: 10-19-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Brownish Tan Lean Clay		



MAXIMUM DENSITY: 105 pcf

OPTIMUM MOISTURE: 18 %

COMMENTS: AASHTO: T-99; Method (A)

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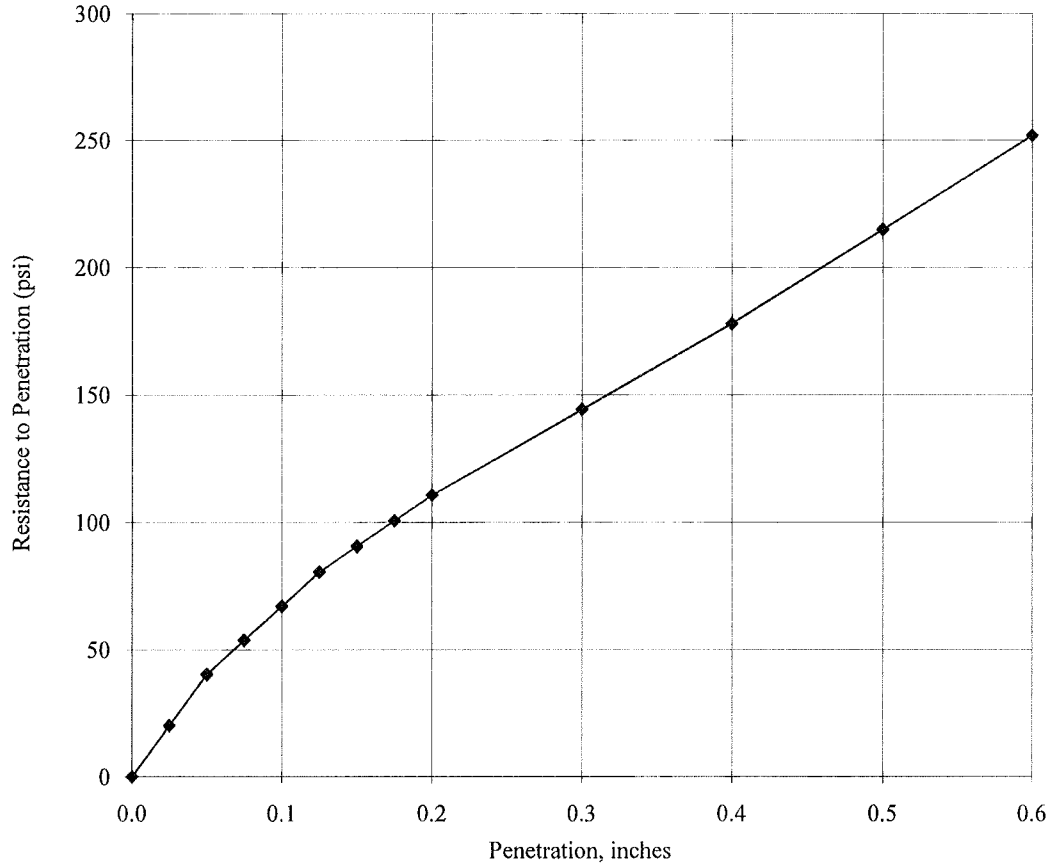
CALIFORNIA BEARING RATIO

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 1
Project County	: Haywood	Sample Loc.	: Boring No. 33
Project State	: Tennessee	Sample Depth	: 0.7' to 4.9'
Laboratory No.	: 10217	Date Tested	: 10-19-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Brownish Tan Lean Clay		



Compaction Effort = 65 Blows per layer
Percent Compacted = 100.1
Percent Swell = 0.63

C.B.R. @ 0.1 In. = 6.7
C.B.R. @ 0.2 In. = 7.4*

COMMENTS: AASHTO: T-193

APPROVED BY: DLC

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SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 2
Project County	: Haywood	Sample Loc.	: Boring No. 33
Project State	: Tennessee	Sample Depth	: 4.9' to 11.0'
Laboratory No.	: 10217	Date Tested	: 10-19-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Dark Brown Lean Clay		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.4
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	94.9
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0278	mm	76.6
Hyd. Rd.	# 2	0.0190	mm	57.0
Hyd. Rd.	# 3	0.0117	mm	39.5
Hyd. Rd.	# 4	0.0084	mm	32.7
Hyd. Rd.	# 5	0.0061	mm	26.4
Hyd. Rd.	# 6	0.0030	mm	20.3
Hyd. Rd.	# 7	0.0013	mm	16.4

D_{50} = 0.0157 mm

CBR (AASHTO: T-193)	: 6	Natural Moisture (%) (AASHTO T265)	: 19.5
Dry Dens. (AASHTO: T-99; Method (A))	: 108 pcf	Liquid Limit (AASHTO T89)	: 31
Opt. Moist. (AASHTO: T-99; Method (A))	: 16 %	Plastic Limit (AASHTO T90)	: 20
		Plasticity Index	: 11
AASHTO Composition of Total Sample: M145		Liquidity Index	: -0.09
Gravel (3in. + No.10)	: 0.0	Activity	: 0.60
Coarse Sand (-No.10 + No.40)	: 0.6	Sp. Gr. (AASHTO T100)	: 2.678
Fine Sand (-No.40 + No.200)	: 4.5	AASHTO Classification: M145	: A-6 (10)
Silt (-No.200 + 0.002mm)	: 76.5	ASTM Classification: D2487	: CL
Clay (-0.002mm + 0.001mm)	: 3.6		
Colloids (-0.001mm)	: 14.8		

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 0.6
Fine Sand (-No.40 + No.200)	: 4.5
Silt (-No.200 + 0.005mm)	: 70.2
Clay (-0.005mm + 0.001mm)	: 9.9
Colloids (-0.001mm)	: 14.8

Approved By : DLC

Soil No. 2

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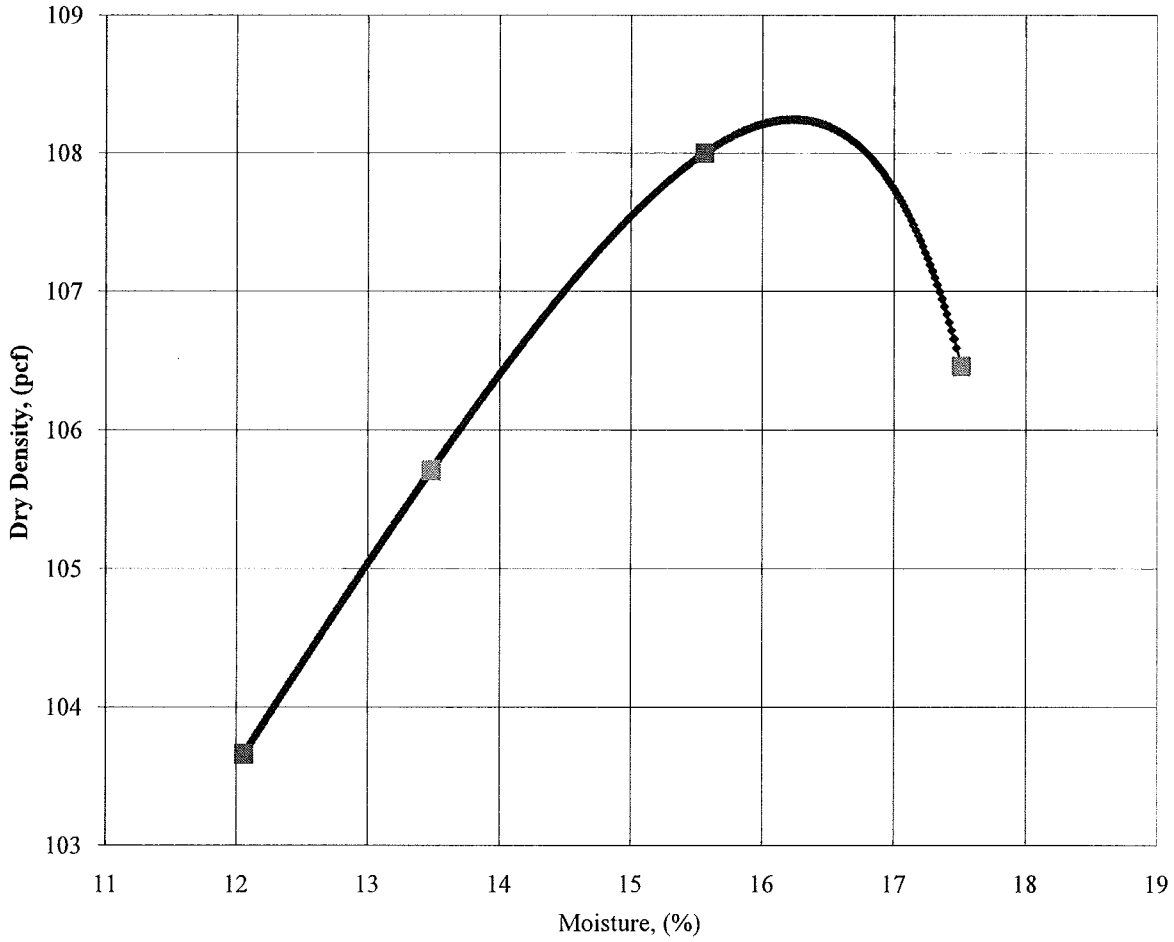
MOISTURE-DENSITY RELATIONSHIP

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 2
Project County	: Haywood	Sample Loc.	: Boring No. 33
Project State	: Tennessee	Sample Depth	: 4.9' to 11.0'
Laboratory No.	: 10217	Date Tested	: 10-19-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Dark Brown Lean Clay		



MAXIMUM DENSITY: 108 pcf

OPTIMUM MOISTURE: 16 %

COMMENTS: AASHTO: T-99; Method (A)

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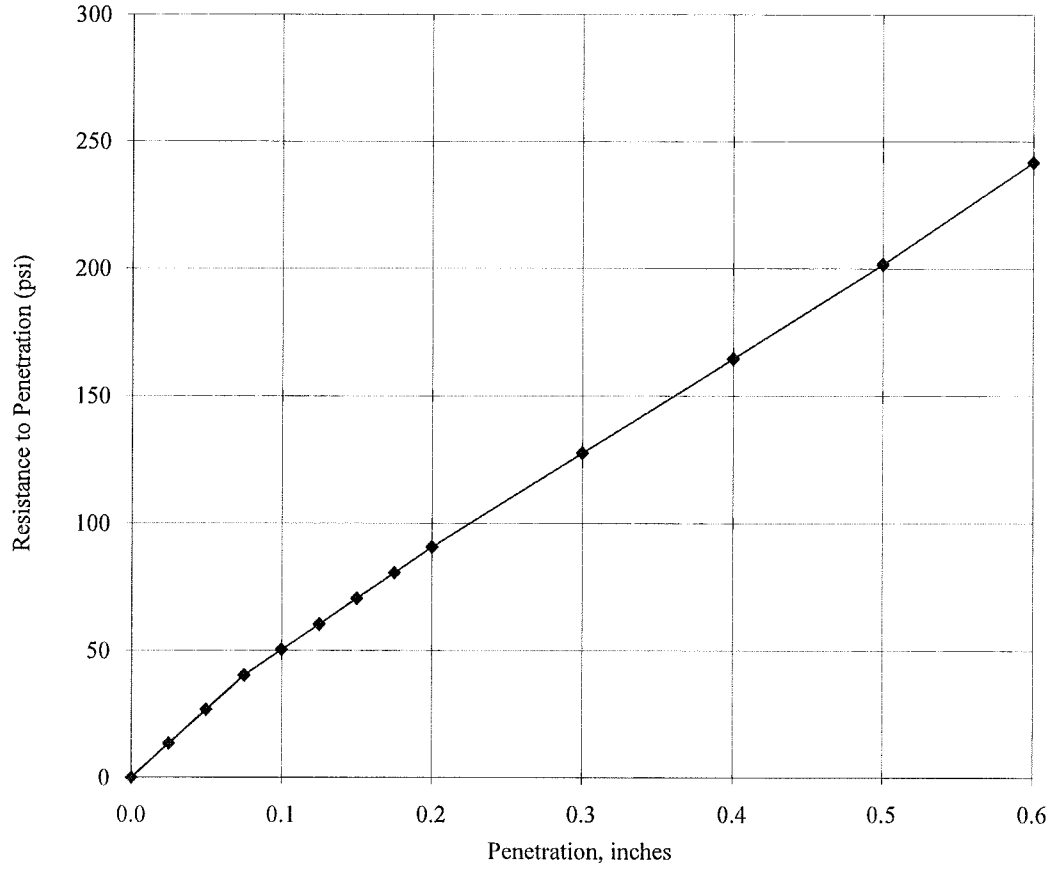
CALIFORNIA BEARING RATIO

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 2
Project County	: Haywood	Sample Loc.	: Boring No. 33
Project State	: Tennessee	Sample Depth	: 4.9' to 11.0'
Laboratory No.	: 10217	Date Tested	: 10-19-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Dark Brown Lean Clay		



Compaction Effort = 65 Blows per layer
Percent Compacted = 100.8
Percent Swell = 0.33

C.B.R. @ 0.1 In. = 5
C.B.R. @ 0.2 In. = 6*

COMMENTS: AASHTO: T-193

APPROVED BY: PLC

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SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 3
Project County	: Haywood	Sample Loc.	: Boring No. 33
Project State	: Tennessee	Sample Depth	: 11.0' to 15.0'
Laboratory No.	: 10217	Date Tested	: 10-19-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Reddish Brown Lean Clay with Sand		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.8
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	82.3
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0296	mm	65.5
Hyd. Rd.	# 2	0.0196	mm	53.3
Hyd. Rd.	# 3	0.0118	mm	41.0
Hyd. Rd.	# 4	0.0085	mm	35.0
Hyd. Rd.	# 5	0.0061	mm	29.8
Hyd. Rd.	# 6	0.0030	mm	25.9
Hyd. Rd.	# 7	0.0013	mm	22.9

D_{50} = 0.0171 mm

CBR (AASHTO: T-193) : 3
Dry Dens. (AASHTO: T-99; Method (A)) : 110 pcf
Opt. Moist. (AASHTO: T-99; Method (A)) : 16 %

Natural Moisture (%) (AASHTO T265) : 20.6
Liquid Limit (AASHTO T89) : 30
Plastic Limit (AASHTO T90) : 21
Plasticity Index : 9
Liquidity Index : -0.02
Activity : 0.37
Sp. Gr. (AASHTO T100) : 2.639
AASHTO Classification: M145 : A-4 (6)
ASTM Classification: D2487 : CL

AASHTO Composition of Total Sample: M145
Gravel (3in. + No.10) : 0.0
Coarse Sand (-No.10 + No.40) : 0.2
Fine Sand (-No.40 + No.200) : 17.5
Silt (-No.200 + 0.002mm) : 57.9
Clay (-0.002mm + 0.001mm) : 3.8
Colloids (-0.001mm) : 20.6

ASTM Composition of Total Sample: D2487
Coarse Gravel (3in. + 3/4in.) : 0.0
Fine Gravel (-3/4in. + No.4) : 0.0
Coarse Sand (-No.4 + No.10) : 0.0
Medium Sand (-No.10 + No.40) : 0.2
Fine Sand (-No.40 + No.200) : 17.5
Silt (-No.200 + 0.005mm) : 53.6
Clay (-0.005mm + 0.001mm) : 8.0
Colloids (-0.001mm) : 20.6

Approved By : bcc

Soil No. 3

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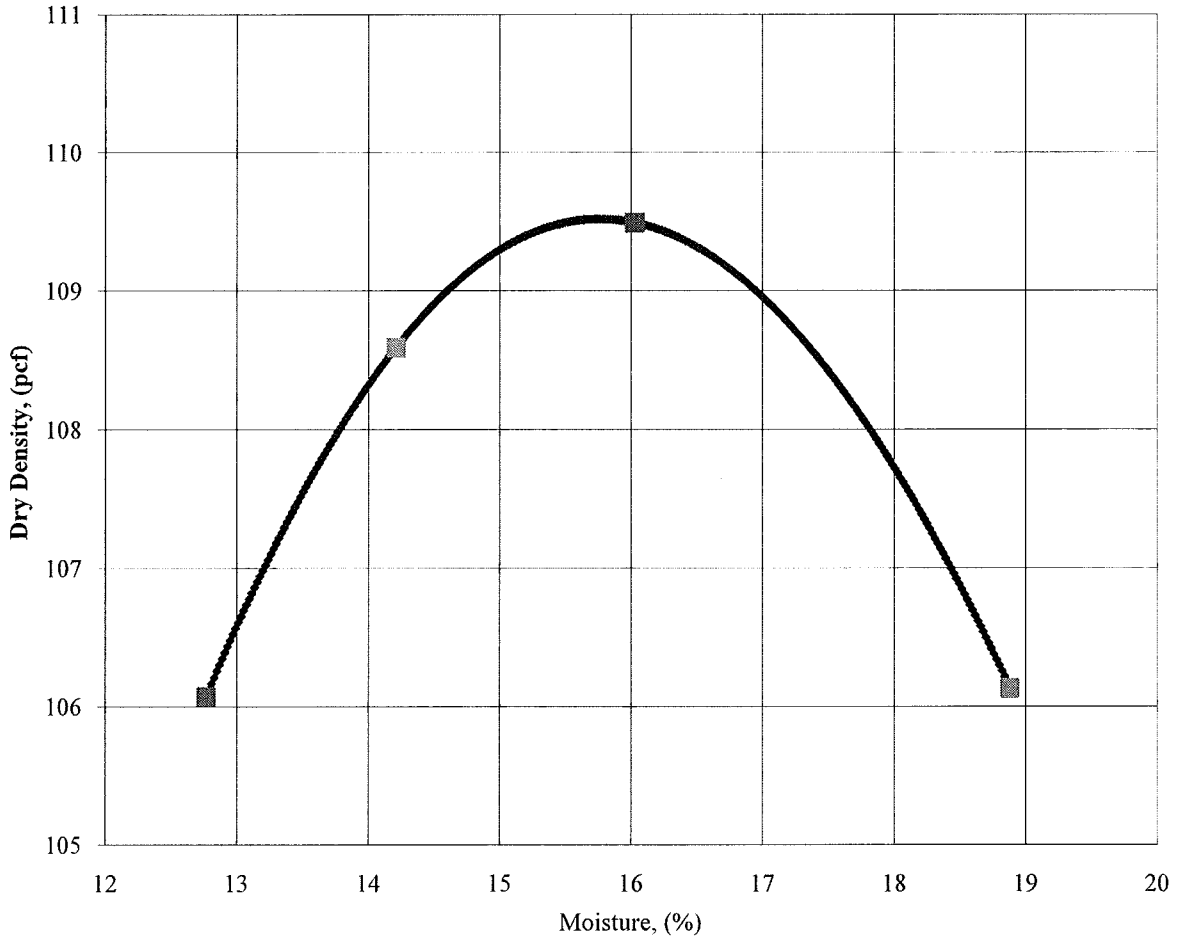
MOISTURE-DENSITY RELATIONSHIP

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 3
Project County	: Haywood	Sample Loc.	: Boring No. 33
Project State	: Tennessee	Sample Depth	: 11.0' to 15.0'
Laboratory No.	: 10217	Date Tested	: 10-19-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Reddish Brown Lean Clay with Sand		



MAXIMUM DENSITY: 110 pcf

OPTIMUM MOISTURE: 16 %

COMMENTS: AASHTO: T-99; Method (A)

APPROVED BY: DLC

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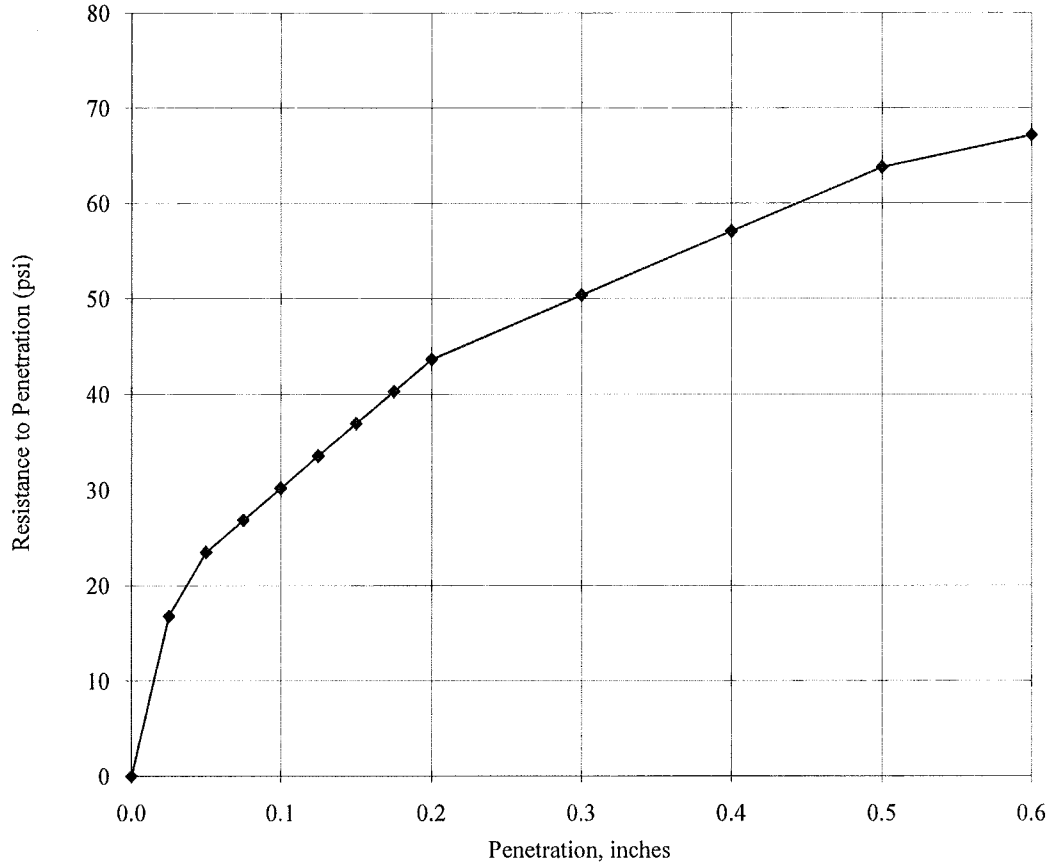
CALIFORNIA BEARING RATIO

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 3
Project County	: Haywood	Sample Loc.	: Boring No. 33
Project State	: Tennessee	Sample Depth	: 11.0' to 15.0'
Laboratory No.	: 10217	Date Tested	: 10-19-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Reddish Brown Lean Clay with Sand		



Compaction Effort = 65 Blows per layer
Percent Compacted = 100
Percent Swell = 0.61

C.B.R. @ 0.1 In. = 3*
C.B.R. @ 0.2 In. = 2.9

COMMENTS: AASHTO: T-193

APPROVED BY: DLC

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SOIL CLASSIFICATION

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Brownish Red Clayey Sand

Sample No. : Bag No. 4
Sample Loc. : Boring No. 39
Sample Depth : 10.5' to 15.0'
Date Tested : 10-19-10
Date Reported : 11-22-10

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.9
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	34.5
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0330	mm	32.4
Hyd. Rd.	# 2	0.0209	mm	31.5
Hyd. Rd.	# 3	0.0121	mm	28.5
Hyd. Rd.	# 4	0.0086	mm	27.4
Hyd. Rd.	# 5	0.0061	mm	24.4
Hyd. Rd.	# 6	0.0030	mm	23.2
Hyd. Rd.	# 7	0.0013	mm	19.3

D_{50} = 0.1131 mm

CBR (AASHTO: T-193) : 8
Dry Dens. (AASHTO: T-99; Method (A)) : 117 pcf
Opt. Moist. (AASHTO: T-99; Method (A)) : 14 %

Natural Moisture (%) (AASHTO T265) : 15.6
Liquid Limit (AASHTO T89) : 25
Plastic Limit (AASHTO T90) : 15
Plasticity Index : 10
Liquidity Index : 0.11
Activity : 0.47
Sp. Gr. (AASHTO T100) : 2.650
AASHTO Classification: M145 : A-2-4 (0)
ASTM Classification: D2487 : SC

AASHTO Composition of Total Sample: M145
Gravel (3in. + No.10) : 0.0
Coarse Sand (-No.10 + No.40) : 0.1
Fine Sand (-No.40 + No.200) : 65.4
Silt (-No.200 + 0.002mm) : 13.2
Clay (-0.002mm + 0.001mm) : 3.9
Colloids (-0.001mm) : 17.4

ASTM Composition of Total Sample: D2487
Coarse Gravel (3in. + 3/4in.) : 0.0
Fine Gravel (-3/4in. + No.4) : 0.0
Coarse Sand (-No.4 + No.10) : 0.0
Medium Sand (-No.10 + No.40) : 0.1
Fine Sand (-No.40 + No.200) : 65.4
Silt (-No.200 + 0.005mm) : 10.5
Clay (-0.005mm + 0.001mm) : 6.6
Colloids (-0.001mm) : 17.4

Approved By : DLC

Soil No. 4

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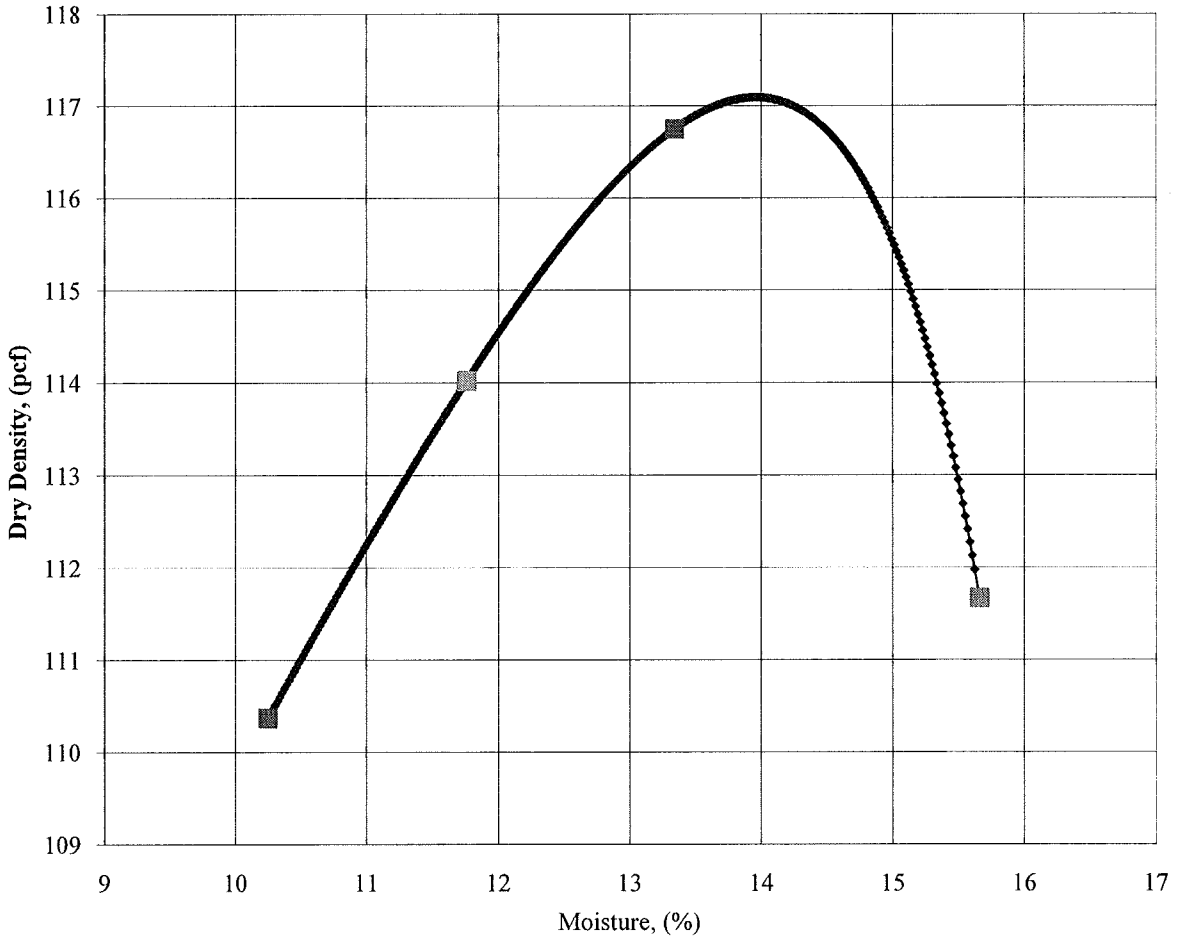
MOISTURE-DENSITY RELATIONSHIP

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 4
Project County	: Haywood	Sample Loc.	: Boring No. 39
Project State	: Tennessee	Sample Depth	: 10.5' to 15.0'
Laboratory No.	: 10217	Date Tested	: 10-19-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Brownish Red Clayey Sand		



MAXIMUM DENSITY: 117 pcf

OPTIMUM MOISTURE: 14 %

COMMENTS: AASHTO: T-99; Method (A)

APPROVED BY: DLC

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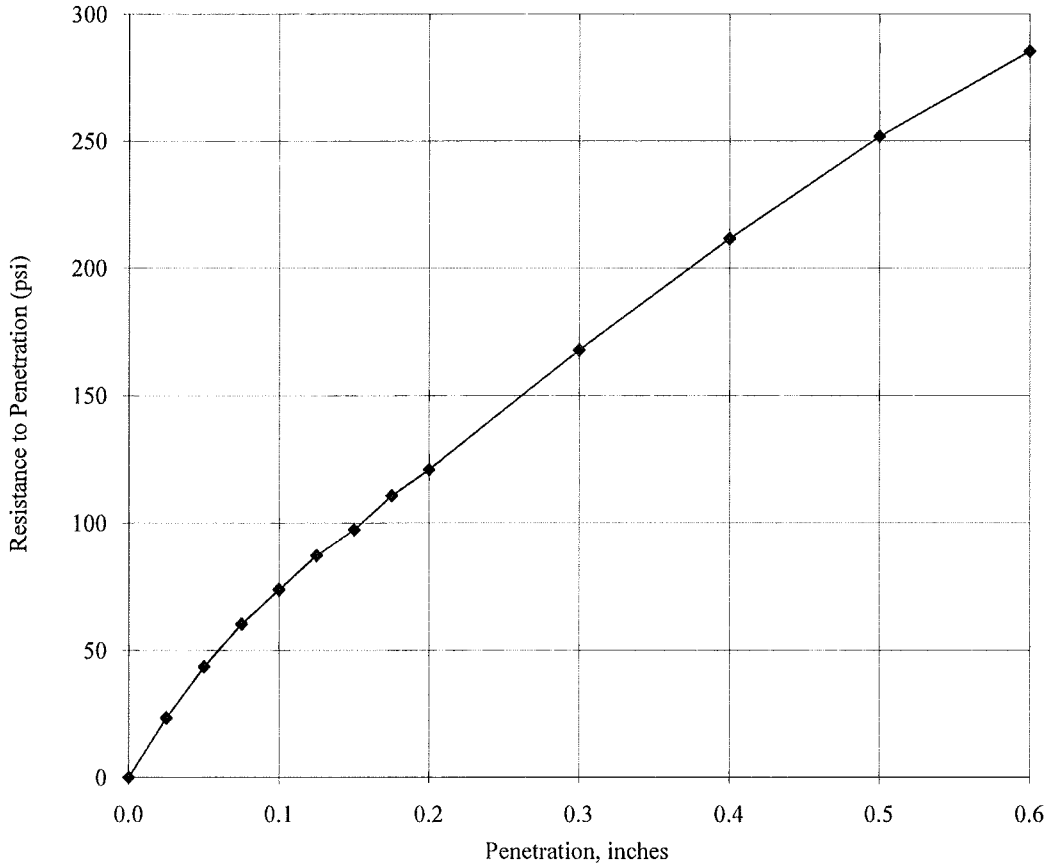
CALIFORNIA BEARING RATIO

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 4
Project County	: Haywood	Sample Loc.	: Boring No. 39
Project State	: Tennessee	Sample Depth	: 10.5' to 15.0'
Laboratory No.	: 10217	Date Tested	: 10-19-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Brownish Red Clayey Sand		



Compaction Effort = 65 Blows per layer
Percent Compacted = 99.3
Percent Swell = 0.48

C.B.R. @ 0.1 In. = 7.4
C.B.R. @ 0.2 In. = 8.1*

COMMENTS: AASHTO: T-193

APPROVED BY: DLC

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SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 5
Project County	: Haywood	Sample Loc.	: Boring No. 1
Project State	: Tennessee	Sample Depth	: 18.0' to 36.0'
Laboratory No.	: 10217	Date Tested	: 10-28-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Gray Sandy Lean Clay		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.9
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	67.9
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0307	mm	52.6
Hyd. Rd.	# 2	0.0199	mm	46.4
Hyd. Rd.	# 3	0.0116	mm	42.3
Hyd. Rd.	# 4	0.0083	mm	40.4
Hyd. Rd.	# 5	0.0059	mm	38.4
Hyd. Rd.	# 6	0.0029	mm	32.8
Hyd. Rd.	# 7	0.0012	mm	27.5

D_{50} = 0.0255 mm

CBR (AASHTO: T-193)	: 2	Natural Moisture (%) (AASHTO T265)	: 21.3
Dry Dens. (AASHTO: T-99; Method (A))	: 107 pcf	Liquid Limit (AASHTO T89)	: 31
Opt. Moist. (AASHTO: T-99; Method (A))	: 17 %	Plastic Limit (AASHTO T90)	: 16
		Plasticity Index	: 15
AASHTO Composition of Total Sample: M145		Liquidity Index	: 0.34
Gravel (3in. + No.10)	: 0.0	Activity	: 0.49
Coarse Sand (-No.10 + No.40)	: 0.1	Sp. Gr. (AASHTO T100)	: 2.654
Fine Sand (-No.40 + No.200)	: 32.0	AASHTO Classification: M145	: A-6 (8)
Silt (-No.200 + 0.002mm)	: 37.4	ASTM Classification: D2487	: CL
Clay (-0.002mm + 0.001mm)	: 5.3		
Colloids (-0.001mm)	: 25.2		

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 0.1
Fine Sand (-No.40 + No.200)	: 32.0
Silt (-No.200 + 0.005mm)	: 30.8
Clay (-0.005mm + 0.001mm)	: 11.9
Colloids (-0.001mm)	: 25.2

Approved By : DLC

Soil No. 5

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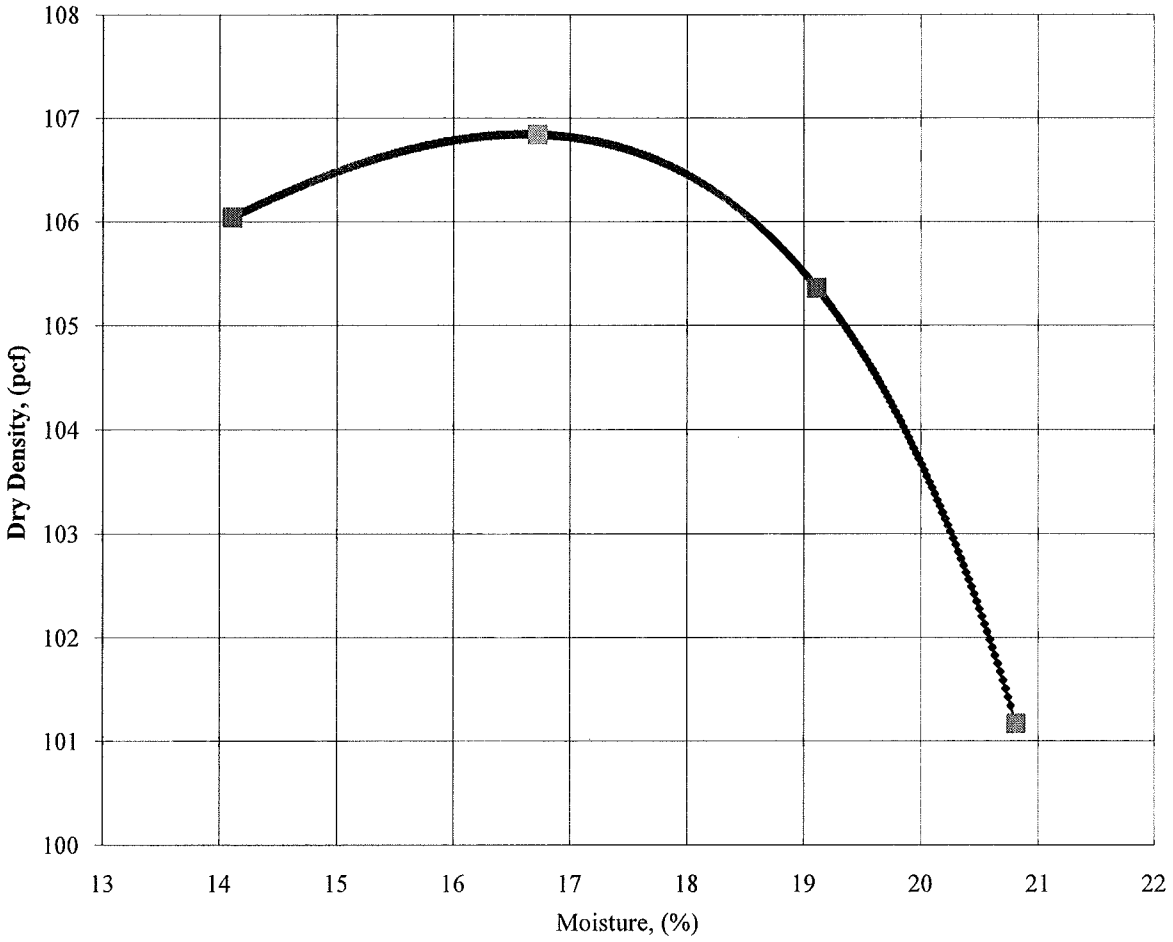
MOISTURE-DENSITY RELATIONSHIP

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 5
Project County	: Haywood	Sample Loc.	: Boring No. 1
Project State	: Tennessee	Sample Depth	: 18.0' to 36.0'
Laboratory No.	: 10217	Date Tested	: 10-28-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Gray Sandy Lean Clay		



MAXIMUM DENSITY: 107 pcf

OPTIMUM MOISTURE: 17 %

COMMENTS: AASHTO: T-99; Method (A)

APPROVED BY: DLC

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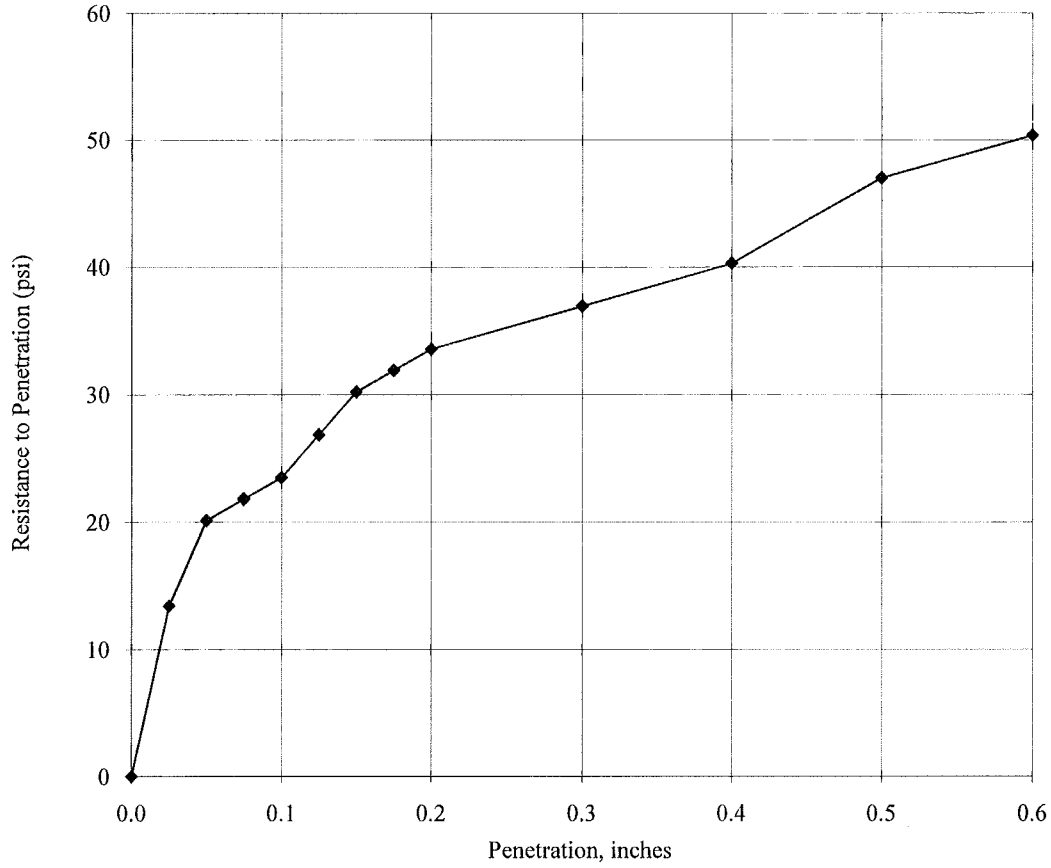
CONSULTING ENGINEERS

CALIFORNIA BEARING RATIO

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 5
Project County	: Haywood	Sample Loc.	: Boring No. 1
Project State	: Tennessee	Sample Depth	: 18.0' to 36.0'
Laboratory No.	: 10217	Date Tested	: 10-28-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Gray Sandy Lean Clay		



Compaction Effort = 65 Blows per layer
Percent Compacted = 99.8
Percent Swell = 0.96

C.B.R. @ 0.1 In. = 2.4*
C.B.R. @ 0.2 In. = 2.2

COMMENTS: AASHTO: T-193

APPROVED BY: DLC

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SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 6
Project County	: Haywood	Sample Loc.	: Boring No. 12
Project State	: Tennessee	Sample Depth	: 15.0' to 38.0'
Laboratory No.	: 10217	Date Tested	: 10-28-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Gray Sandy Lean Clay		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	99.8

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.6
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	65.1
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0306	mm	50.3
Hyd. Rd.	# 2	0.0198	mm	45.1
Hyd. Rd.	# 3	0.0116	mm	40.9
Hyd. Rd.	# 4	0.0082	mm	39.0
Hyd. Rd.	# 5	0.0058	mm	37.3
Hyd. Rd.	# 6	0.0029	mm	30.8
Hyd. Rd.	# 7	0.0012	mm	26.8

D_{50} = 0.0299 mm

CBR (AASHTO: T-193)	: 3	Natural Moisture (%) (AASHTO T265)	: 10.2
Dry Dens. (AASHTO: T-99; Method (A))	: 110 pcf	Liquid Limit (AASHTO T89)	: 30
Opt. Moist. (AASHTO: T-99; Method (A))	: 17 %	Plastic Limit (AASHTO T90)	: 15
		Plasticity Index	: 15
AASHTO Composition of Total Sample: M145		Liquidity Index	: -0.31
Gravel (3in. + No.10)	: 0.2	Activity	: 0.52
Coarse Sand (-No.10 + No.40)	: 0.2	Sp. Gr. (AASHTO T100)	: 2.679
Fine Sand (-No.40 + No.200)	: 34.5	AASHTO Classification: M145	: A-6 (7)
Silt (-No.200 + 0.002mm)	: 36.0	ASTM Classification: D2487	: CL
Clay (-0.002mm + 0.001mm)	: 4.5		
Colloids (-0.001mm)	: 24.6		

ASTM Composition of Total Sample: D2487	
Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.2
Medium Sand (-No.10 + No.40)	: 0.2
Fine Sand (-No.40 + No.200)	: 34.5
Silt (-No.200 + 0.005mm)	: 29.2
Clay (-0.005mm + 0.001mm)	: 11.3
Colloids (-0.001mm)	: 24.6

Approved By : DLC

Soil No. 6

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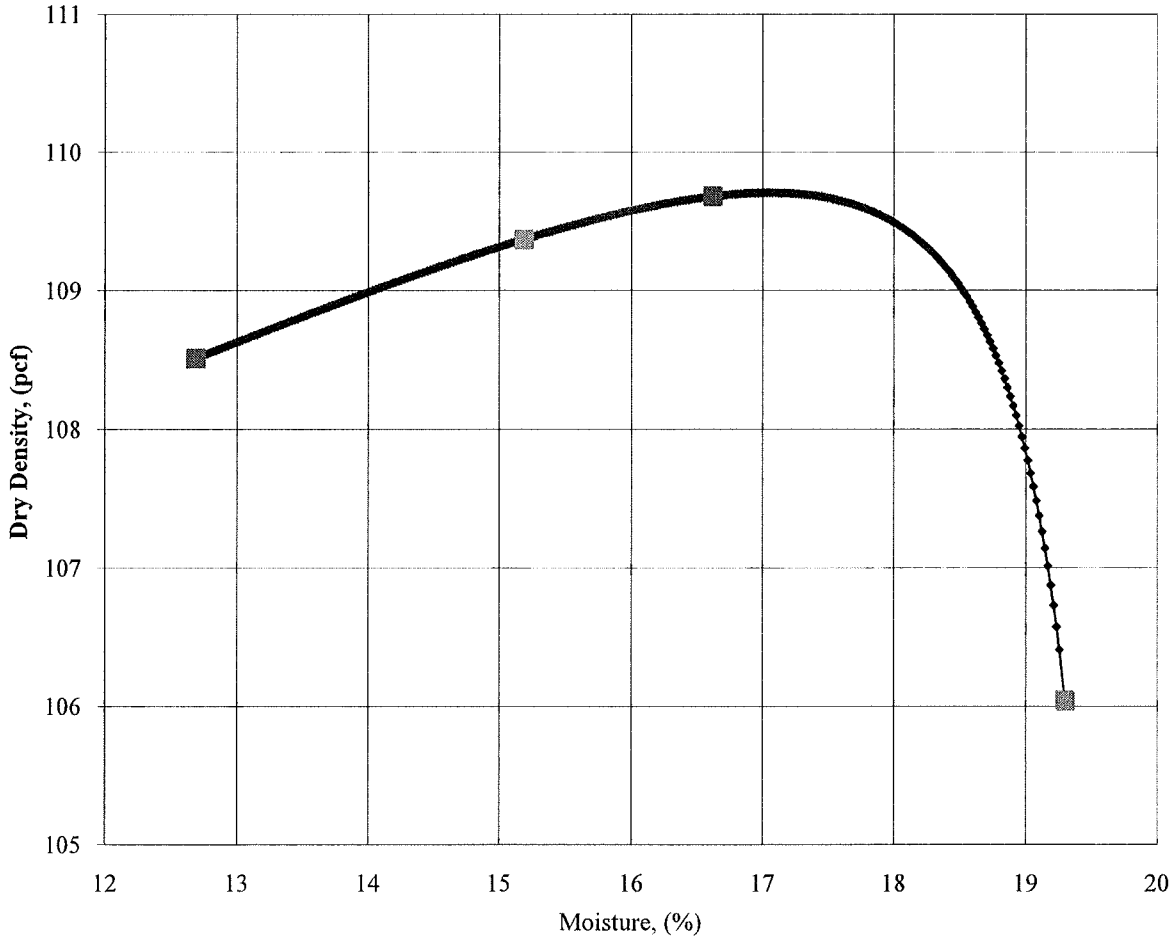
MOISTURE-DENSITY RELATIONSHIP

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 6
Project County	: Haywood	Sample Loc.	: Boring No. 12
Project State	: Tennessee	Sample Depth	: 15.0' to 38.0'
Laboratory No.	: 10217	Date Tested	: 10-28-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Gray Sandy Lean Clay		



MAXIMUM DENSITY: 110 pcf

OPTIMUM MOISTURE: 17 %

COMMENTS: AASHTO: T-99; Method (A)

APPROVED BY: DLC

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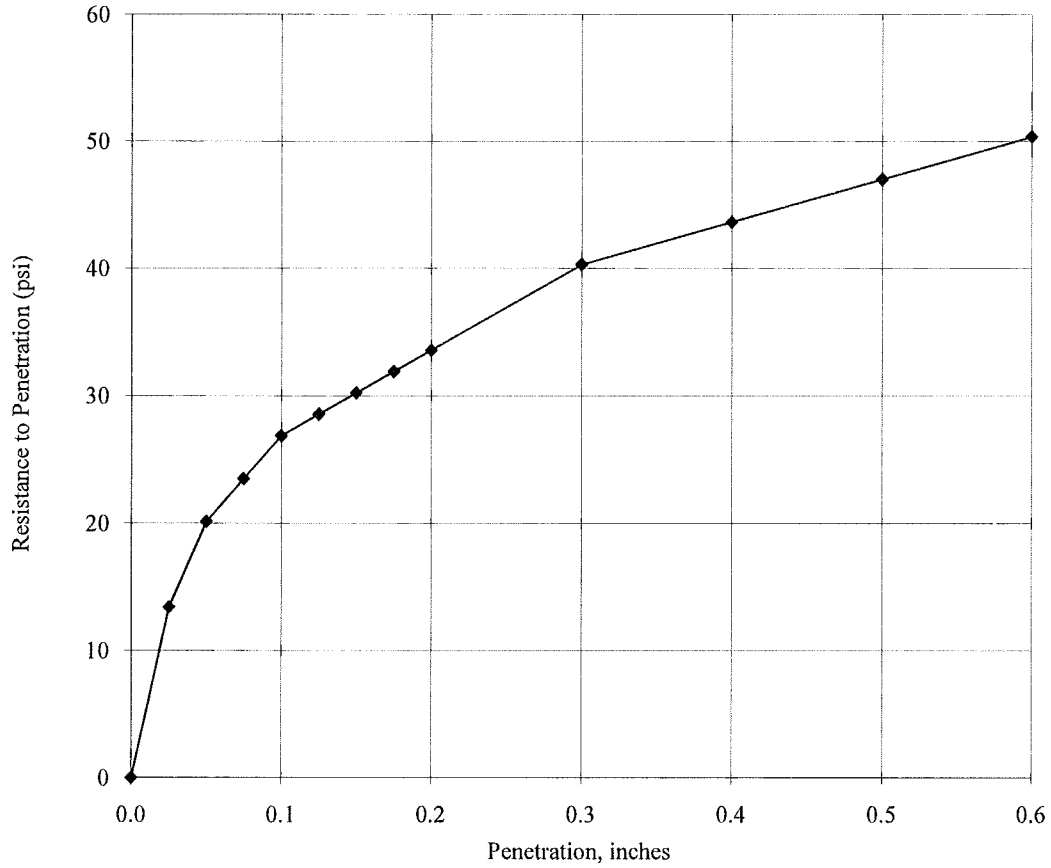
CALIFORNIA BEARING RATIO

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 6
Project County	: Haywood	Sample Loc.	: Boring No. 12
Project State	: Tennessee	Sample Depth	: 15.0' to 38.0'
Laboratory No.	: 10217	Date Tested	: 10-28-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Gray Sandy Lean Clay		



Compaction Effort = 65 Blows per layer
Percent Compacted = 99.3
Percent Swell = 0.61

C.B.R. @ 0.1 In. = 2.7*
C.B.R. @ 0.2 In. = 2.2

COMMENTS: AASHTO: T-193

APPROVED BY: DLC

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SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 7
Project County	: Haywood	Sample Loc.	: Boring No. 13
Project State	: Tennessee	Sample Depth	: 40.0' to 50.0'
Laboratory No.	: 10217	Date Tested	: 10-28-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Orange Silty Sand		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	100.0
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	99.3
1/4		6.3	mm	
No.4		4.75	mm	98.9
No.6		3.35	mm	
No.10		2	mm	98.5

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	98.2
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	16.8
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0332	mm	15.6
Hyd. Rd.	# 2	0.0211	mm	14.6
Hyd. Rd.	# 3	0.0122	mm	13.6
Hyd. Rd.	# 4	0.0087	mm	13.1
Hyd. Rd.	# 5	0.0062	mm	11.7
Hyd. Rd.	# 6	0.0030	mm	10.8
Hyd. Rd.	# 7	0.0013	mm	5.9

D_{50} = 0.1522 mm

CBR (AASHTO: T-193)	: 21	Natural Moisture (%) (AASHTO T265)	: 9.2
Dry Dens. (AASHTO: T-99; Method (C))	: 112 pcf	Liquid Limit (AASHTO T89)	: NP
Opt. Moist. (AASHTO: T-99; Method (C))	: 12 %	Plastic Limit (AASHTO T90)	: NP
		Plasticity Index	: NP
AASHTO Composition of Total Sample: M145		Liquidity Index	: NA
Gravel (3in. + No.10)	: 1.5	Activity	: NA
Coarse Sand (-No.10 + No.40)	: 0.3	Sp. Gr. (AASHTO T100)	: 2.620
Fine Sand (-No.40 + No.200)	: 81.4	AASHTO Classification: M145	: A-2-4 (0)
Silt (-No.200 + 0.002mm)	: 8.4	ASTM Classification: D2487	: SM
Clay (-0.002mm + 0.001mm)	: 3.1		
Colloids (-0.001mm)	: 5.3		

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 1.1
Coarse Sand (-No.4 + No.10)	: 0.4
Medium Sand (-No.10 + No.40)	: 0.3
Fine Sand (-No.40 + No.200)	: 81.4
Silt (-No.200 + 0.005mm)	: 5.3
Clay (-0.005mm + 0.001mm)	: 6.2
Colloids (-0.001mm)	: 5.3

Approved By : bc

Soil No. 7

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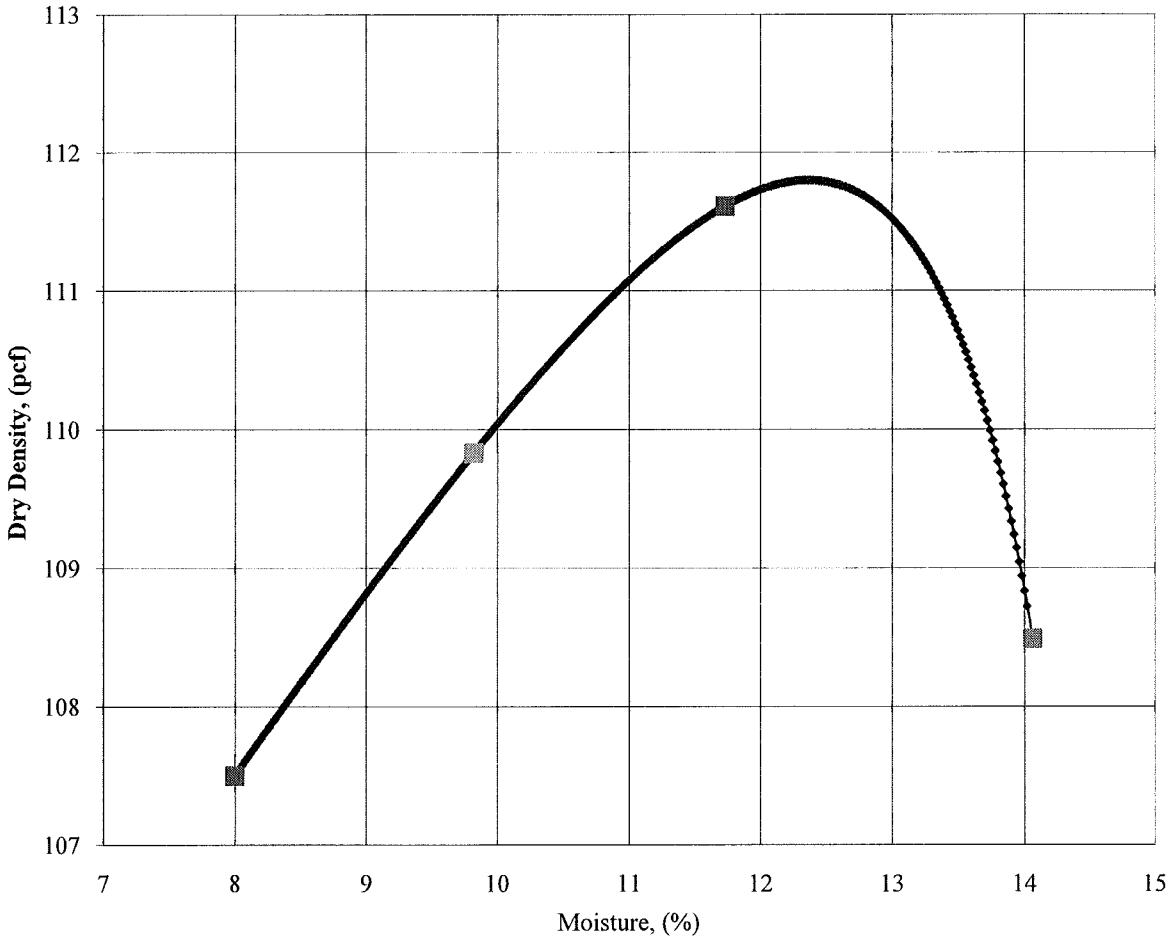
MOISTURE-DENSITY RELATIONSHIP

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 7
Project County	: Haywood	Sample Loc.	: Boring No. 13
Project State	: Tennessee	Sample Depth	: 40.0' to 50.0'
Laboratory No.	: 10217	Date Tested	: 10-28-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Orange Silty Sand		



MAXIMUM DENSITY: 112 pcf

OPTIMUM MOISTURE: 12 %

COMMENTS: AASHTO: T-99; Method (C)

APPROVED BY: DLC

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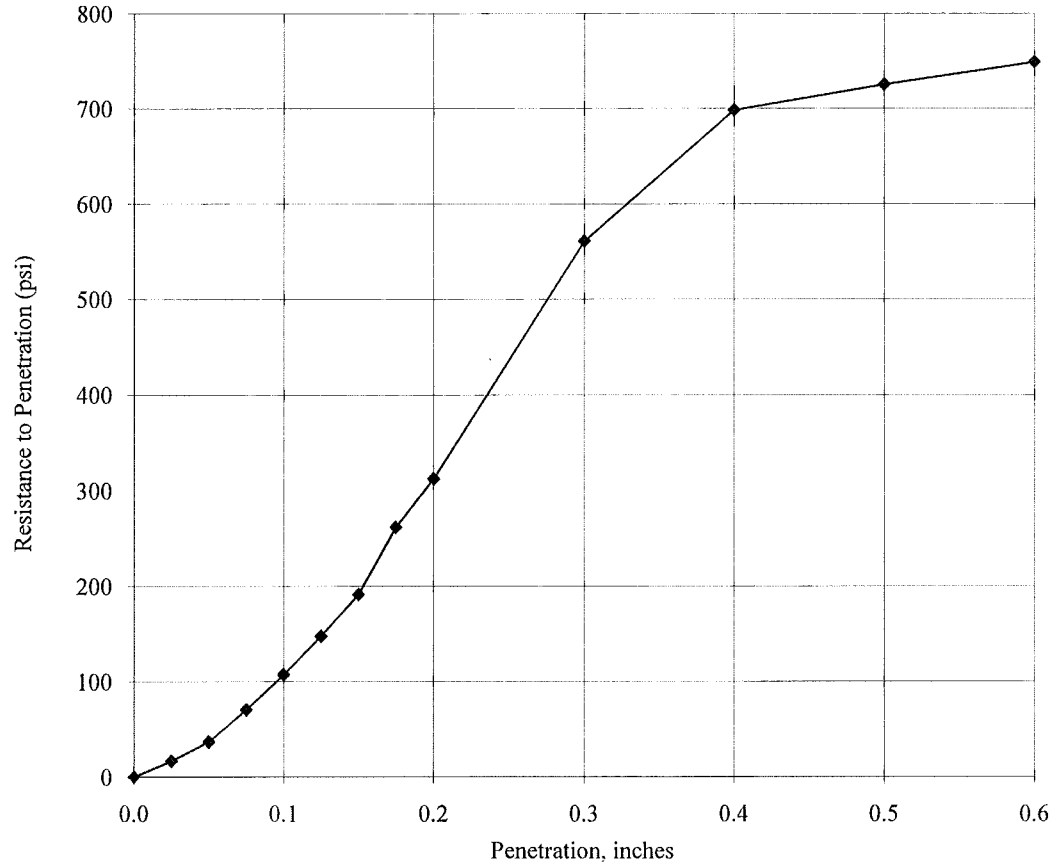
CALIFORNIA BEARING RATIO

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: Bag No. 7
Project County	: Haywood	Sample Loc.	: Boring No. 13
Project State	: Tennessee	Sample Depth	: 40.0' to 50.0'
Laboratory No.	: 10217	Date Tested	: 10-28-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-22-10
Soil Type	: Orange Silty Sand		



Compaction Effort = 65 Blows per layer
Percent Compacted = 100.6
Percent Swell = 0.02

C.B.R. @ 0.1 In. = 10.7
C.B.R. @ 0.2 In. = 20.8*

COMMENTS: AASHTO: T-193

APPROVED BY: DeC

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SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 1
Project County	: Haywood	Sample Loc.	: Boring No. 47
Project State	: Tennessee	Sample Depth	: 15.0' to 17.0'
Laboratory No.	: 10217	Date Tested	: 11-15-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Light Gray & Tan Sandy Lean Clay		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.8
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	58.8
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0319	mm	40.8
Hyd. Rd.	# 2	0.0203	mm	38.7
Hyd. Rd.	# 3	0.0119	mm	33.5
Hyd. Rd.	# 4	0.0085	mm	31.5
Hyd. Rd.	# 5	0.0060	mm	30.5
Hyd. Rd.	# 6	0.0030	mm	25.6
Hyd. Rd.	# 7	0.0013	mm	19.4

D_{50} = 0.0494 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 24.1
Liquid Limit (AASHTO T89) : 34
Plastic Limit (AASHTO T90) : 20
Plasticity Index : 14
Liquidity Index : 0.30
Activity : 0.62
Sp. Gr. (AASHTO T100) : 2.635
AASHTO Classification: M145 : A-6 (6)
ASTM Classification: D2487 : CL

AASHTO Composition of Total Sample: M145

Gravel (3in. + No.10)	: 0.0
Coarse Sand (-No.10 + No.40)	: 0.2
Fine Sand (-No.40 + No.200)	: 41.0
Silt (-No.200 + 0.002mm)	: 36.1
Clay (-0.002mm + 0.001mm)	: 5.2
Colloids (-0.001mm)	: 17.5

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 0.2
Fine Sand (-No.40 + No.200)	: 41.0
Silt (-No.200 + 0.005mm)	: 29.6
Clay (-0.005mm + 0.001mm)	: 11.8
Colloids (-0.001mm)	: 17.5

Approved By : DLC

Soil No. 8

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SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 2
Project County	: Haywood	Sample Loc.	: Boring No. 47
Project State	: Tennessee	Sample Depth	: 20.0' to 21.7'
Laboratory No.	: 10217	Date Tested	: 11-15-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Beige & Yellowish Orange Lean Clay with Sand		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	100.0
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	79.9
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0301	mm	60.1
Hyd. Rd.	# 2	0.0195	mm	54.0
Hyd. Rd.	# 3	0.0116	mm	46.7
Hyd. Rd.	# 4	0.0083	mm	42.6
Hyd. Rd.	# 5	0.0059	mm	39.8
Hyd. Rd.	# 6	0.0029	mm	34.3
Hyd. Rd.	# 7	0.0012	mm	27.8

D_{50} = 0.0146 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 26.1
Liquid Limit (AASHTO T89) : 42
Plastic Limit (AASHTO T90) : 20
Plasticity Index : 22
Liquidity Index : 0.29
Activity : 0.70
Sp. Gr. (AASHTO T100) : 2.618
AASHTO Classification: M145 : A-7-6 (17)
ASTM Classification: D2487 : CL

AASHTO Composition of Total Sample: M145

Gravel (3in. + No.10)	: 0.0
Coarse Sand (-No.10 + No.40)	: 0.0
Fine Sand (-No.40 + No.200)	: 20.1
Silt (-No.200 + 0.002mm)	: 48.5
Clay (-0.002mm + 0.001mm)	: 6.0
Colloids (-0.001mm)	: 25.4

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 0.0
Fine Sand (-No.40 + No.200)	: 20.1
Silt (-No.200 + 0.005mm)	: 41.4
Clay (-0.005mm + 0.001mm)	: 13.2
Colloids (-0.001mm)	: 25.4

Approved By : OLC

Soil No. 9

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Florence & Hutcheson

CONSULTING ENGINEERS

SOIL CLASSIFICATION

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Gray Lean Clay with Sand

Sample No. : ST - 3
Sample Loc. : Boring No. 47
Sample Depth : 40.0' to 42.0'
Date Tested : 11-15-10
Date Reported : 11-23-10

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.9
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	75.9
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0305	mm	56.1
Hyd. Rd.	# 2	0.0196	mm	51.0
Hyd. Rd.	# 3	0.0116	mm	45.9
Hyd. Rd.	# 4	0.0083	mm	40.8
Hyd. Rd.	# 5	0.0059	mm	37.0
Hyd. Rd.	# 6	0.0030	mm	30.2
Hyd. Rd.	# 7	0.0013	mm	22.0

D_{50} = 0.0176 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 16.7
Liquid Limit (AASHTO T89) : 29
Plastic Limit (AASHTO T90) : 15
Plasticity Index : 14
Liquidity Index : 0.14
Activity : 0.53
Sp. Gr. (AASHTO T100) : 2.632
AASHTO Classification: M145 : A-6 (8)
ASTM Classification: D2487 : CL

AASHTO Composition of Total Sample: M145
Gravel (3in. + No.10) : 0.0
Coarse Sand (-No.10 + No.40) : 0.1
Fine Sand (-No.40 + No.200) : 24.0
Silt (-No.200 + 0.002mm) : 49.5
Clay (-0.002mm + 0.001mm) : 6.4
Colloids (-0.001mm) : 20.0

ASTM Composition of Total Sample: D2487
Coarse Gravel (3in. + 3/4in.) : 0.0
Fine Gravel (-3/4in. + No.4) : 0.0
Coarse Sand (-No.4 + No.10) : 0.0
Medium Sand (-No.10 + No.40) : 0.1
Fine Sand (-No.40 + No.200) : 24.0
Silt (-No.200 + 0.005mm) : 40.6
Clay (-0.005mm + 0.001mm) : 15.3
Colloids (-0.001mm) : 20.0

Approved By : DLC

Soil No. 10

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Florence & Hutcheson

CONSULTING ENGINEERS

SOIL CLASSIFICATION

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Reddish Orange Silty Sand

Sample No. : ST - 2
Sample Loc. : Boring No. 51
Sample Depth : 20.4' to 21.9'
Date Tested : 11-13-10
Date Reported : 11-23-10

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.9
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	18.6
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0325	mm	17.0
Hyd. Rd.	# 2	0.0206	mm	16.5
Hyd. Rd.	# 3	0.0119	mm	16.5
Hyd. Rd.	# 4	0.0084	mm	16.0
Hyd. Rd.	# 5	0.0060	mm	15.0
Hyd. Rd.	# 6	0.0029	mm	14.2
Hyd. Rd.	# 7	0.0012	mm	13.8

D_{50} = 0.1466 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 12.7
Liquid Limit (AASHTO T89) : NP
Plastic Limit (AASHTO T90) : NP
Plasticity Index : NP
Liquidity Index : NA
Activity : NA
Sp. Gr. (AASHTO T100) : 2.652
AASHTO Classification: M145 : A-2-4 (0)
ASTM Classification: D2487 : SM

AASHTO Composition of Total Sample: M145
Gravel (3in. + No.10) : 0.0
Coarse Sand (-No.10 + No.40) : 0.1
Fine Sand (-No.40 + No.200) : 81.3
Silt (-No.200 + 0.002mm) : 4.6
Clay (-0.002mm + 0.001mm) : 1.4
Colloids (-0.001mm) : 12.7

ASTM Composition of Total Sample: D2487
Coarse Gravel (3in. + 3/4in.) : 0.0
Fine Gravel (-3/4in. + No.4) : 0.0
Coarse Sand (-No.4 + No.10) : 0.0
Medium Sand (-No.10 + No.40) : 0.1
Fine Sand (-No.40 + No.200) : 81.3
Silt (-No.200 + 0.005mm) : 3.8
Clay (-0.005mm + 0.001mm) : 2.1
Colloids (-0.001mm) : 12.7

Approved By : DLC

Soil No. 11

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CONSULTING ENGINEERS

SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 3
Project County	: Haywood	Sample Loc.	: Boring No. 51
Project State	: Tennessee	Sample Depth	: 24.0' to 25.5'
Laboratory No.	: 10217	Date Tested	: 11-13-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Reddish Orange Poorly Graded Sand with Silt		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	98.4
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	9.5
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0337	mm	9.7
Hyd. Rd.	# 2	0.0214	mm	9.2
Hyd. Rd.	# 3	0.0124	mm	9.2
Hyd. Rd.	# 4	0.0088	mm	8.7
Hyd. Rd.	# 5	0.0062	mm	8.3
Hyd. Rd.	# 6	0.0030	mm	7.3
Hyd. Rd.	# 7	0.0013	mm	6.5

D_{50} = 0.1649 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 9.8
Liquid Limit (AASHTO T89) : NP
Plastic Limit (AASHTO T90) : NP
Plasticity Index : NP
Liquidity Index : NA
Activity : NA
Sp. Gr. (AASHTO T100) : 2.656
AASHTO Classification: M145 : A-2-4 (0)
ASTM Classification: D2487 : SP-SM

AASHTO Composition of Total Sample: M145

Gravel (3in. + No.10)	: 0.0
Coarse Sand (-No.10 + No.40)	: 1.6
Fine Sand (-No.40 + No.200)	: 88.9
Silt (-No.200 + 0.002mm)	: 2.6
Clay (-0.002mm + 0.001mm)	: 1.1
Colloids (-0.001mm)	: 5.9

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 1.6
Fine Sand (-No.40 + No.200)	: 88.9
Silt (-No.200 + 0.005mm)	: 1.5
Clay (-0.005mm + 0.001mm)	: 2.1
Colloids (-0.001mm)	: 5.9

Approved By : DLC

Soil No. 12

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SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 1
Project County	: Haywood	Sample Loc.	: Boring No. 55
Project State	: Tennessee	Sample Depth	: 19.5' to 21.3'
Laboratory No.	: 10217	Date Tested	: 11-13-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Multicolor Sandy Lean Clay		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.8
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	54.8
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0316	mm	40.6
Hyd. Rd.	# 2	0.0202	mm	37.5
Hyd. Rd.	# 3	0.0118	mm	34.4
Hyd. Rd.	# 4	0.0084	mm	32.4
Hyd. Rd.	# 5	0.0060	mm	30.2
Hyd. Rd.	# 6	0.0029	mm	26.6
Hyd. Rd.	# 7	0.0012	mm	21.7

D_{50} = 0.056 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 14.5
Liquid Limit (AASHTO T89) : 31
Plastic Limit (AASHTO T90) : 19
Plasticity Index : 12
Liquidity Index : -0.34
Activity : 0.49
Sp. Gr. (AASHTO T100) : 2.659
AASHTO Classification: M145 : A-6 (4)
ASTM Classification: D2487 : CL

AASHTO Composition of Total Sample: M145

Gravel (3in. + No.10)	: 0.0
Coarse Sand (-No.10 + No.40)	: 0.2
Fine Sand (-No.40 + No.200)	: 45.0
Silt (-No.200 + 0.002mm)	: 30.4
Clay (-0.002mm + 0.001mm)	: 4.5
Colloids (-0.001mm)	: 19.9

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 0.2
Fine Sand (-No.40 + No.200)	: 45.0
Silt (-No.200 + 0.005mm)	: 25.5
Clay (-0.005mm + 0.001mm)	: 9.4
Colloids (-0.001mm)	: 19.9

Approved By : DLC

Soil No. 13

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SOIL CLASSIFICATION

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Tan & Beige Well-Graded Sand with Silt

Sample No. : SS - 11 thru 17
Sample Loc. : Boring No. 55
Sample Depth : 54.5' to 86.0'
Date Tested : 11-15-10
Date Reported : 11-23-10

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.6
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	11.8
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0352	mm	10.6
Hyd. Rd.	# 2	0.0223	mm	9.8
Hyd. Rd.	# 3	0.0130	mm	6.6
Hyd. Rd.	# 4	0.0092	mm	6.7
Hyd. Rd.	# 5	0.0065	mm	5.9
Hyd. Rd.	# 6	0.0032	mm	4.3
Hyd. Rd.	# 7	0.0013	mm	1.9

D_{50} = 0.1595 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 23
Liquid Limit (AASHTO T89) : NP
Plastic Limit (AASHTO T90) : NP
Plasticity Index : NP
Liquidity Index : NA
Activity : NA
Sp. Gr. (AASHTO T100) : 2.623
AASHTO Classification: M145 : A-2-4 (0)
ASTM Classification: D2487 : SW-SM

AASHTO Composition of Total Sample: M145
Gravel (3in. + No.10) : 0.0
Coarse Sand (-No.10 + No.40) : 0.4
Fine Sand (-No.40 + No.200) : 87.8
Silt (-No.200 + 0.002mm) : 8.8
Clay (-0.002mm + 0.001mm) : 1.3
Colloids (-0.001mm) : 1.7

ASTM Composition of Total Sample: D2487
Coarse Gravel (3in. + 3/4in.) : 0.0
Fine Gravel (-3/4in. + No.4) : 0.0
Coarse Sand (-No.4 + No.10) : 0.0
Medium Sand (-No.10 + No.40) : 0.4
Fine Sand (-No.40 + No.200) : 87.8
Silt (-No.200 + 0.005mm) : 6.5
Clay (-0.005mm + 0.001mm) : 3.6
Colloids (-0.001mm) : 1.7

Approved By : DLC

Soil No. 14

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SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: SS - 18, 19 & 20
Project County	: Haywood	Sample Loc.	: Boring No. 55
Project State	: Tennessee	Sample Depth	: 89.5' to 101.0'
Laboratory No.	: 10217	Date Tested	: 11-15-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Tan Poorly Graded Sand		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	99.9

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	44.4
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	4.3
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0357	mm	2.7
Hyd. Rd.	# 2	0.0225	mm	2.8
Hyd. Rd.	# 3	0.0130	mm	2.2
Hyd. Rd.	# 4	0.0092	mm	1.8
Hyd. Rd.	# 5	0.0065	mm	1.8
Hyd. Rd.	# 6	0.0032	mm	1.4
Hyd. Rd.	# 7	0.0013	mm	0.9

D_{50} = 0.4969 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 21
Liquid Limit (AASHTO T89) : NP
Plastic Limit (AASHTO T90) : NP
Plasticity Index : NP
Liquidity Index : NA
Activity : NA
Sp. Gr. (AASHTO T100) : 2.635
AASHTO Classification: M145 : A-1-b (0)
ASTM Classification: D2487 : SP

AASHTO Composition of Total Sample: M145

Gravel (3in. + No.10)	: 0.1
Coarse Sand (-No.10 + No.40)	: 55.5
Fine Sand (-No.40 + No.200)	: 40.1
Silt (-No.200 + 0.002mm)	: 3.2
Clay (-0.002mm + 0.001mm)	: 0.3
Colloids (-0.001mm)	: 0.8

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.1
Medium Sand (-No.10 + No.40)	: 55.5
Fine Sand (-No.40 + No.200)	: 40.1
Silt (-No.200 + 0.005mm)	: 2.6
Clay (-0.005mm + 0.001mm)	: 0.9
Colloids (-0.001mm)	: 0.8

Approved By : DLC

Soil No. 15

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Florence & Hutcheson

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SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: SS - 1 & 2
Project County	: Haywood	Sample Loc.	: Boring No. 59
Project State	: Tennessee	Sample Depth	: 4.1' to 10.6'
Laboratory No.	: 10217	Date Tested	: 11-16-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Brown Lean Clay		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	99.9

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	98.1
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	91.8
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0280	mm	72.2
Hyd. Rd.	# 2	0.0188	mm	58.0
Hyd. Rd.	# 3	0.0114	mm	42.8
Hyd. Rd.	# 4	0.0082	mm	36.8
Hyd. Rd.	# 5	0.0059	mm	32.5
Hyd. Rd.	# 6	0.0029	mm	25.7
Hyd. Rd.	# 7	0.0012	mm	22.2

D_{50} = 0.0145 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 30.3
Liquid Limit (AASHTO T89) : 34
Plastic Limit (AASHTO T90) : 21
Plasticity Index : 13
Liquidity Index : 0.68
Activity : 0.54
Sp. Gr. (AASHTO T100) : 2.673
AASHTO Classification: M145 : A-6 (12)
ASTM Classification: D2487 : CL

AASHTO Composition of Total Sample: M145

Gravel (3in. + No.10)	: 0.1
Coarse Sand (-No.10 + No.40)	: 1.8
Fine Sand (-No.40 + No.200)	: 6.3
Silt (-No.200 + 0.002mm)	: 67.7
Clay (-0.002mm + 0.001mm)	: 3.9
Colloids (-0.001mm)	: 20.2

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.1
Medium Sand (-No.10 + No.40)	: 1.8
Fine Sand (-No.40 + No.200)	: 6.3
Silt (-No.200 + 0.005mm)	: 60.9
Clay (-0.005mm + 0.001mm)	: 10.6
Colloids (-0.001mm)	: 20.2

Approved By : DLC

Soil No. 16

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CONSULTING ENGINEERS

SOIL CLASSIFICATION

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Orange Lean Clay with Sand

Sample No. : ST - 1
Sample Loc. : Boring No. 56
Sample Depth : 19.5' to 20.4'
Date Tested : 11-13-10
Date Reported : 11-23-10

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	97.0
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	72.7
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0288	mm	57.2
Hyd. Rd.	# 2	0.0185	mm	53.0
Hyd. Rd.	# 3	0.0109	mm	47.0
Hyd. Rd.	# 4	0.0078	mm	43.2
Hyd. Rd.	# 5	0.0056	mm	38.2
Hyd. Rd.	# 6	0.0028	mm	32.7
Hyd. Rd.	# 7	0.0012	mm	23.8

D_{50} = 0.0142 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 31.1
Liquid Limit (AASHTO T89) : 45
Plastic Limit (AASHTO T90) : 22
Plasticity Index : 23
Liquidity Index : 0.41
Activity : 0.79
Sp. Gr. (AASHTO T100) : 2.766
AASHTO Classification: M145 : A-7-6 (16)
ASTM Classification: D2487 : CL

AASHTO Composition of Total Sample: M145
Gravel (3in. + No.10) : 0.0
Coarse Sand (-No.10 + No.40) : 3.0
Fine Sand (-No.40 + No.200) : 24.3
Silt (-No.200 + 0.002mm) : 43.5
Clay (-0.002mm + 0.001mm) : 7.1
Colloids (-0.001mm) : 22.1

ASTM Composition of Total Sample: D2487
Coarse Gravel (3in. + 3/4in.) : 0.0
Fine Gravel (-3/4in. + No.4) : 0.0
Coarse Sand (-No.4 + No.10) : 0.0
Medium Sand (-No.10 + No.40) : 3.0
Fine Sand (-No.40 + No.200) : 24.3
Silt (-No.200 + 0.005mm) : 35.4
Clay (-0.005mm + 0.001mm) : 15.2
Colloids (-0.001mm) : 22.1

Approved By : DLC

Soil No. 17

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Florence & Hutcheson
CONSULTING ENGINEERS

SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 2
Project County	: Haywood	Sample Loc.	: Boring No. 56
Project State	: Tennessee	Sample Depth	: 24.5' to 26.0'
Laboratory No.	: 10217	Date Tested	: 11-13-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Light Gray & Reddish Orange Silty, Clayey Sand		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.9
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	42.9
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0329	mm	29.2
Hyd. Rd.	# 2	0.0209	mm	27.3
Hyd. Rd.	# 3	0.0122	mm	25.3
Hyd. Rd.	# 4	0.0087	mm	22.3
Hyd. Rd.	# 5	0.0062	mm	20.2
Hyd. Rd.	# 6	0.0030	mm	15.5
Hyd. Rd.	# 7	0.0013	mm	12.3

D_{50} = 0.0931 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 13.3
Liquid Limit (AASHTO T89) : 26
Plastic Limit (AASHTO T90) : 20
Plasticity Index : 6
Liquidity Index : -1.05
Activity : 0.43
Sp. Gr. (AASHTO T100) : 2.647
AASHTO Classification: M145 : A-4 (0)
ASTM Classification: D2487 : SC-SM

AASHTO Composition of Total Sample: M145

Gravel (3in. + No.10)	: 0.0
Coarse Sand (-No.10 + No.40)	: 0.1
Fine Sand (-No.40 + No.200)	: 57.0
Silt (-No.200 + 0.002mm)	: 29.0
Clay (-0.002mm + 0.001mm)	: 2.8
Colloids (-0.001mm)	: 11.1

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 0.1
Fine Sand (-No.40 + No.200)	: 57.0
Silt (-No.200 + 0.005mm)	: 24.1
Clay (-0.005mm + 0.001mm)	: 7.7
Colloids (-0.001mm)	: 11.1

Approved By : bzc

Soil No. 18

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SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 3
Project County	: Haywood	Sample Loc.	: Boring No. 56
Project State	: Tennessee	Sample Depth	: 34.5' to 36.1'
Laboratory No.	: 10217	Date Tested	: 11-13-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Light Gray Silt with Sand		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	100.0
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	78.0
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0294	mm	59.3
Hyd. Rd.	# 2	0.0191	mm	53.2
Hyd. Rd.	# 3	0.0114	mm	45.1
Hyd. Rd.	# 4	0.0081	mm	41.2
Hyd. Rd.	# 5	0.0058	mm	37.4
Hyd. Rd.	# 6	0.0029	mm	31.1
Hyd. Rd.	# 7	0.0012	mm	24.9

D_{50} = 0.0156 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 17.8
Liquid Limit (AASHTO T89) : 37
Plastic Limit (AASHTO T90) : 33
Plasticity Index : 4
Liquidity Index : -3.76
Activity : 0.14
Sp. Gr. (AASHTO T100) : 2.672
AASHTO Classification: M145 : A-4 (4)
ASTM Classification: D2487 : ML

AASHTO Composition of Total Sample: M145

Gravel (3in. + No.10)	: 0.0
Coarse Sand (-No.10 + No.40)	: 0.0
Fine Sand (-No.40 + No.200)	: 22.0
Silt (-No.200 + 0.002mm)	: 49.5
Clay (-0.002mm + 0.001mm)	: 5.5
Colloids (-0.001mm)	: 22.9

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 0.0
Fine Sand (-No.40 + No.200)	: 22.0
Silt (-No.200 + 0.005mm)	: 42.0
Clay (-0.005mm + 0.001mm)	: 13.1
Colloids (-0.001mm)	: 22.9

Approved By : DLC

Soil No. 19

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SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 4
Project County	: Haywood	Sample Loc.	: Boring No. 56
Project State	: Tennessee	Sample Depth	: 39.5' to 41.2'
Laboratory No.	: 10217	Date Tested	: 11-13-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Light Gray Lean Clay with Sand		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	100.0
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	81.8
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0298	mm	58.4
Hyd. Rd.	# 2	0.0192	mm	53.3
Hyd. Rd.	# 3	0.0114	mm	45.4
Hyd. Rd.	# 4	0.0082	mm	41.3
Hyd. Rd.	# 5	0.0058	mm	37.4
Hyd. Rd.	# 6	0.0030	mm	26.5
Hyd. Rd.	# 7	0.0013	mm	18.7

D_{50} = 0.0154 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 17.4
Liquid Limit (AASHTO T89) : 24
Plastic Limit (AASHTO T90) : 14
Plasticity Index : 10
Liquidity Index : 0.35
Activity : 0.44
Sp. Gr. (AASHTO T100) : 2.650
AASHTO Classification: M145 : A-4 (6)
ASTM Classification: D2487 : CL

AASHTO Composition of Total Sample: M145

Gravel (3in. + No.10)	: 0.0
Coarse Sand (-No.10 + No.40)	: 0.0
Fine Sand (-No.40 + No.200)	: 18.2
Silt (-No.200 + 0.002mm)	: 58.8
Clay (-0.002mm + 0.001mm)	: 5.9
Colloids (-0.001mm)	: 17.1

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 0.0
Fine Sand (-No.40 + No.200)	: 18.2
Silt (-No.200 + 0.005mm)	: 46.8
Clay (-0.005mm + 0.001mm)	: 17.9
Colloids (-0.001mm)	: 17.1

Approved By : DLC

Soil No. 20

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SOIL CLASSIFICATION

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : White & Yellowish Orange Poorly Graded Sand with Silt

Sample No. : ST - 5
Sample Loc. : Boring No. 56
Sample Depth : 44.5' to 45.0'
Date Tested : 11-13-10
Date Reported : 11-23-10

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	100.0
1/4		6.3	mm	
No.4		4.75	mm	99.9
No.6		3.35	mm	
No.10		2	mm	99.9

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.4
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	11.1
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0339	mm	9.6
Hyd. Rd.	# 2	0.0214	mm	9.6
Hyd. Rd.	# 3	0.0125	mm	8.2
Hyd. Rd.	# 4	0.0089	mm	6.6
Hyd. Rd.	# 5	0.0063	mm	6.2
Hyd. Rd.	# 6	0.0031	mm	4.9
Hyd. Rd.	# 7	0.0013	mm	2.9

D_{50} = 0.161 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 15.8
Liquid Limit (AASHTO T89) : NP
Plastic Limit (AASHTO T90) : NP
Plasticity Index : NP
Liquidity Index : NA
Activity : NA
Sp. Gr. (AASHTO T100) : 2.642
AASHTO Classification: M145 : A-2-4 (0)
ASTM Classification: D2487 : SP-SM

AASHTO Composition of Total Sample: M145
Gravel (3in. + No.10) : 0.1
Coarse Sand (-No.10 + No.40) : 0.5
Fine Sand (-No.40 + No.200) : 88.3
Silt (-No.200 + 0.002mm) : 7.2
Clay (-0.002mm + 0.001mm) : 1.3
Colloids (-0.001mm) : 2.6

ASTM Composition of Total Sample: D2487
Coarse Gravel (3in. + 3/4in.) : 0.0
Fine Gravel (-3/4in. + No.4) : 0.1
Coarse Sand (-No.4 + No.10) : 0.0
Medium Sand (-No.10 + No.40) : 0.5
Fine Sand (-No.40 + No.200) : 88.3
Silt (-No.200 + 0.005mm) : 5.3
Clay (-0.005mm + 0.001mm) : 3.2
Colloids (-0.001mm) : 2.6

Approved By : DLC

Soil No. 21

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SOIL CLASSIFICATION

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Brown Silty Clay

Sample No. : ST - 1
Sample Loc. : Boring No. 57
Sample Depth : 14.9' to 15.5'
Date Tested : 11-16-10
Date Reported : 11-23-10

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	98.9
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	91.7
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0286	mm	66.2
Hyd. Rd.	# 2	0.0193	mm	49.1
Hyd. Rd.	# 3	0.0118	mm	32.9
Hyd. Rd.	# 4	0.0085	mm	26.0
Hyd. Rd.	# 5	0.0061	mm	20.9
Hyd. Rd.	# 6	0.0030	mm	16.0
Hyd. Rd.	# 7	0.0013	mm	11.7

D_{50} = 0.0197 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 22.2
Liquid Limit (AASHTO T89) : 24
Plastic Limit (AASHTO T90) : 19
Plasticity Index : 5
Liquidity Index : 0.62
Activity : 0.36
Sp. Gr. (AASHTO T100) : 2.681
AASHTO Classification: M145 : A-4 (3)
ASTM Classification: D2487 : CL-ML

AASHTO Composition of Total Sample: M145
Gravel (3in. + No.10) : 0.0
Coarse Sand (-No.10 + No.40) : 1.1
Fine Sand (-No.40 + No.200) : 7.2
Silt (-No.200 + 0.002mm) : 77.8
Clay (-0.002mm + 0.001mm) : 3.4
Colloids (-0.001mm) : 10.6

ASTM Composition of Total Sample: D2487
Coarse Gravel (3in. + 3/4in.) : 0.0
Fine Gravel (-3/4in. + No.4) : 0.0
Coarse Sand (-No.4 + No.10) : 0.0
Medium Sand (-No.10 + No.40) : 1.1
Fine Sand (-No.40 + No.200) : 7.2
Silt (-No.200 + 0.005mm) : 72.2
Clay (-0.005mm + 0.001mm) : 8.9
Colloids (-0.001mm) : 10.6

Approved By : DLC

Soil No. 22

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Florence & Hutcheson

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SOIL CLASSIFICATION

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Light Gray Lean Clay with Sand

Sample No. : ST - 1
Sample Loc. : Boring No. 58
Sample Depth : 17.7' to 19.5'
Date Tested : 11-16-10
Date Reported : 11-23-10

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.9
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	78.5
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0299	mm	57.8
Hyd. Rd.	# 2	0.0192	mm	53.7
Hyd. Rd.	# 3	0.0113	mm	47.5
Hyd. Rd.	# 4	0.0081	mm	44.4
Hyd. Rd.	# 5	0.0058	mm	40.2
Hyd. Rd.	# 6	0.0029	mm	33.9
Hyd. Rd.	# 7	0.0012	mm	29.7

D_{50} = 0.014 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 24.5
Liquid Limit (AASHTO T89) : 41
Plastic Limit (AASHTO T90) : 18
Plasticity Index : 23
Liquidity Index : 0.27
Activity : 0.72
Sp. Gr. (AASHTO T100) : 2.655
AASHTO Classification: M145 : A-7-6 (17)
ASTM Classification: D2487 : CL

AASHTO Composition of Total Sample: M145
Gravel (3in. + No.10) : 0.0
Coarse Sand (-No.10 + No.40) : 0.1
Fine Sand (-No.40 + No.200) : 21.4
Silt (-No.200 + 0.002mm) : 46.4
Clay (-0.002mm + 0.001mm) : 4.8
Colloids (-0.001mm) : 27.3

ASTM Composition of Total Sample: D2487
Coarse Gravel (3in. + 3/4in.) : 0.0
Fine Gravel (-3/4in. + No.4) : 0.0
Coarse Sand (-No.4 + No.10) : 0.0
Medium Sand (-No.10 + No.40) : 0.1
Fine Sand (-No.40 + No.200) : 21.4
Silt (-No.200 + 0.005mm) : 39.7
Clay (-0.005mm + 0.001mm) : 11.5
Colloids (-0.001mm) : 27.3

Approved By : blc

Soil No. 23

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Florence & Hutcheson

CONSULTING ENGINEERS

SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 2
Project County	: Haywood	Sample Loc.	: Boring No. 58
Project State	: Tennessee	Sample Depth	: 32.7' to 34.2'
Laboratory No.	: 10217	Date Tested	: 11-13-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: White & Gray Sandy Lean Clay		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	100.0
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	66.0
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0304	mm	50.2
Hyd. Rd.	# 2	0.0196	mm	45.2
Hyd. Rd.	# 3	0.0115	mm	40.0
Hyd. Rd.	# 4	0.0082	mm	37.0
Hyd. Rd.	# 5	0.0059	mm	32.8
Hyd. Rd.	# 6	0.0029	mm	26.2
Hyd. Rd.	# 7	0.0012	mm	20.2

D_{50} = 0.03 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 20.8
Liquid Limit (AASHTO T89) : 28
Plastic Limit (AASHTO T90) : 16
Plasticity Index : 12
Liquidity Index : 0.36
Activity : 0.51
Sp. Gr. (AASHTO T100) : 2.675
AASHTO Classification: M145 : A-6 (5)
ASTM Classification: D2487 : CL

AASHTO Composition of Total Sample: M145

Gravel (3in. + No.10)	: 0.0
Coarse Sand (-No.10 + No.40)	: 0.0
Fine Sand (-No.40 + No.200)	: 34.0
Silt (-No.200 + 0.002mm)	: 42.5
Clay (-0.002mm + 0.001mm)	: 5.1
Colloids (-0.001mm)	: 18.4

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 0.0
Fine Sand (-No.40 + No.200)	: 34.0
Silt (-No.200 + 0.005mm)	: 34.8
Clay (-0.005mm + 0.001mm)	: 12.8
Colloids (-0.001mm)	: 18.4

Approved By : DLC

Soil No. 24

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Florence & Hutcheson

CONSULTING ENGINEERS

SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 1
Project County	: Haywood	Sample Loc.	: Boring No. 59
Project State	: Tennessee	Sample Depth	: 19.1' to 20.9'
Laboratory No.	: 10217	Date Tested	: 11-16-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Gray Lean Clay with Sand		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	100.0
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	80.5
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0297	mm	59.1
Hyd. Rd.	# 2	0.0192	mm	52.9
Hyd. Rd.	# 3	0.0113	mm	47.8
Hyd. Rd.	# 4	0.0081	mm	42.7
Hyd. Rd.	# 5	0.0058	mm	38.7
Hyd. Rd.	# 6	0.0029	mm	32.6
Hyd. Rd.	# 7	0.0012	mm	24.3

D_{50} = 0.0142 mm

CBR	: NA	Natural Moisture (%) (AASHTO T265)	: 26.6
Dry Dens.	: NA	Liquid Limit (AASHTO T89)	: 41
Opt. Moist.	: NA	Plastic Limit (AASHTO T90)	: 23
		Plasticity Index	: 18
AASHTO Composition of Total Sample: M145		Liquidity Index	: 0.20
Gravel (3in. + No.10)	: 0.0	Activity	: 0.62
Coarse Sand (-No.10 + No.40)	: 0.0	Sp. Gr. (AASHTO T100)	: 2.669
Fine Sand (-No.40 + No.200)	: 19.5	AASHTO Classification: M145	: A-7-6 (15)
Silt (-No.200 + 0.002mm)	: 51.6	ASTM Classification: D2487	: CL
Clay (-0.002mm + 0.001mm)	: 6.8		
Colloids (-0.001mm)	: 22.2		

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 0.0
Fine Sand (-No.40 + No.200)	: 19.5
Silt (-No.200 + 0.005mm)	: 43.1
Clay (-0.005mm + 0.001mm)	: 15.2
Colloids (-0.001mm)	: 22.2

Approved By : DLC

Soil No. 25

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CONSULTING ENGINEERS

SOIL CLASSIFICATION

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : White, Gray & Reddish Orange Sandy Silty Clay

Sample No. : ST - 4
Sample Loc. : Boring No. 60
Sample Depth : 39.2' to 40.4'
Date Tested : 11-13-10
Date Reported : 11-23-10

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	99.9

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.3
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	55.6
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0320	mm	39.1
Hyd. Rd.	# 2	0.0205	mm	36.0
Hyd. Rd.	# 3	0.0120	mm	30.8
Hyd. Rd.	# 4	0.0086	mm	27.0
Hyd. Rd.	# 5	0.0061	mm	23.8
Hyd. Rd.	# 6	0.0030	mm	18.9
Hyd. Rd.	# 7	0.0013	mm	12.6

D_{50} = 0.0562 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 16.4
Liquid Limit (AASHTO T89) : 21
Plastic Limit (AASHTO T90) : 15
Plasticity Index : 6
Liquidity Index : 0.28
Activity : 0.38
Sp. Gr. (AASHTO T100) : 2.643
AASHTO Classification: M145 : A-4 (1)
ASTM Classification: D2487 : CL-ML

AASHTO Composition of Total Sample: M145
Gravel (3in. + No.10) : 0.1
Coarse Sand (-No.10 + No.40) : 0.6
Fine Sand (-No.40 + No.200) : 43.7
Silt (-No.200 + 0.002mm) : 39.7
Clay (-0.002mm + 0.001mm) : 4.5
Colloids (-0.001mm) : 11.4

ASTM Composition of Total Sample: D2487
Coarse Gravel (3in. + 3/4in.) : 0.0
Fine Gravel (-3/4in. + No.4) : 0.0
Coarse Sand (-No.4 + No.10) : 0.1
Medium Sand (-No.10 + No.40) : 0.6
Fine Sand (-No.40 + No.200) : 43.7
Silt (-No.200 + 0.005mm) : 33.2
Clay (-0.005mm + 0.001mm) : 11.0
Colloids (-0.001mm) : 11.4

Approved By : BLC

Soil No. 26

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CONSULTING ENGINEERS

SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 1
Project County	: Haywood	Sample Loc.	: Boring No. 62
Project State	: Tennessee	Sample Depth	: 29.5' to 30.9'
Laboratory No.	: 10217	Date Tested	: 11-16-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Beige & Yellowish Orange Sandy Lean Clay		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	97.9
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	58.8
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0314	mm	42.8
Hyd. Rd.	# 2	0.0201	mm	39.9
Hyd. Rd.	# 3	0.0117	mm	35.9
Hyd. Rd.	# 4	0.0084	mm	31.7
Hyd. Rd.	# 5	0.0060	mm	28.7
Hyd. Rd.	# 6	0.0030	mm	25.4
Hyd. Rd.	# 7	0.0013	mm	20.4

D_{50} = 0.0464 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 28.2
Liquid Limit (AASHTO T89) : 36
Plastic Limit (AASHTO T90) : 20
Plasticity Index : 16
Liquidity Index : 0.50
Activity : 0.69
Sp. Gr. (AASHTO T100) : 2.653
AASHTO Classification: M145 : A-6 (7)
ASTM Classification: D2487 : CL

AASHTO Composition of Total Sample: M145

Gravel (3in. + No.10)	: 0.0
Coarse Sand (-No.10 + No.40)	: 2.1
Fine Sand (-No.40 + No.200)	: 39.1
Silt (-No.200 + 0.002mm)	: 35.7
Clay (-0.002mm + 0.001mm)	: 4.6
Colloids (-0.001mm)	: 18.5

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 2.1
Fine Sand (-No.40 + No.200)	: 39.1
Silt (-No.200 + 0.005mm)	: 31.0
Clay (-0.005mm + 0.001mm)	: 9.3
Colloids (-0.001mm)	: 18.5

Approved By : hcc

Soil No. 27

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CONSULTING ENGINEERS

SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 1
Project County	: Haywood	Sample Loc.	: Boring No. 63
Project State	: Tennessee	Sample Depth	: 25.0' to 26.3'
Laboratory No.	: 10217	Date Tested	: 11-13-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Beige & Yellowish Orange Lean Clay with Sand		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	100.0
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	78.3
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0300	mm	57.0
Hyd. Rd.	# 2	0.0193	mm	52.9
Hyd. Rd.	# 3	0.0112	mm	49.9
Hyd. Rd.	# 4	0.0081	mm	43.8
Hyd. Rd.	# 5	0.0058	mm	40.9
Hyd. Rd.	# 6	0.0029	mm	35.8
Hyd. Rd.	# 7	0.0012	mm	26.7

D_{50} = 0.0115 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 23.4
Liquid Limit (AASHTO T89) : 43
Plastic Limit (AASHTO T90) : 19
Plasticity Index : 24
Liquidity Index : 0.18
Activity : 0.75
Sp. Gr. (AASHTO T100) : 2.654
AASHTO Classification: M145 : A-7-6 (18)
ASTM Classification: D2487 : CL

AASHTO Composition of Total Sample: M145

Gravel (3in. + No.10)	: 0.0
Coarse Sand (-No.10 + No.40)	: 0.0
Fine Sand (-No.40 + No.200)	: 21.7
Silt (-No.200 + 0.002mm)	: 46.4
Clay (-0.002mm + 0.001mm)	: 7.4
Colloids (-0.001mm)	: 24.5

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 0.0
Fine Sand (-No.40 + No.200)	: 21.7
Silt (-No.200 + 0.005mm)	: 38.5
Clay (-0.005mm + 0.001mm)	: 15.3
Colloids (-0.001mm)	: 24.5

Approved By : DLL

Soil No. 28

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Florence & Hutcheson

CONSULTING ENGINEERS

SOIL CLASSIFICATION

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Brown Lean Clay with Sand

Sample No. : ST - 2
Sample Loc. : Boring No. 63
Sample Depth : 35.0' to 36.1'
Date Tested : 11-13-10
Date Reported : 11-23-10

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	100.0
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	78.9
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0300	mm	55.7
Hyd. Rd.	# 2	0.0193	mm	48.8
Hyd. Rd.	# 3	0.0113	mm	43.8
Hyd. Rd.	# 4	0.0082	mm	37.6
Hyd. Rd.	# 5	0.0059	mm	34.5
Hyd. Rd.	# 6	0.0030	mm	24.6
Hyd. Rd.	# 7	0.0013	mm	15.8

D_{50} = 0.0209 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 26.7
Liquid Limit (AASHTO T89) : 38
Plastic Limit (AASHTO T90) : 21
Plasticity Index : 17
Liquidity Index : 0.33
Activity : 0.83
Sp. Gr. (AASHTO T100) : 2.672
AASHTO Classification: M145 : A-6 (13)
ASTM Classification: D2487 : CL

AASHTO Composition of Total Sample: M145
Gravel (3in. + No.10) : 0.0
Coarse Sand (-No.10 + No.40) : 0.0
Fine Sand (-No.40 + No.200) : 21.1
Silt (-No.200 + 0.002mm) : 58.3
Clay (-0.002mm + 0.001mm) : 6.2
Colloids (-0.001mm) : 14.4

ASTM Composition of Total Sample: D2487
Coarse Gravel (3in. + 3/4in.) : 0.0
Fine Gravel (-3/4in. + No.4) : 0.0
Coarse Sand (-No.4 + No.10) : 0.0
Medium Sand (-No.10 + No.40) : 0.0
Fine Sand (-No.40 + No.200) : 21.1
Silt (-No.200 + 0.005mm) : 46.7
Clay (-0.005mm + 0.001mm) : 17.9
Colloids (-0.001mm) : 14.4

Approved By : DLC

Soil No. 29

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CONSULTING ENGINEERS

SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 3
Project County	: Haywood	Sample Loc.	: Boring No. 63
Project State	: Tennessee	Sample Depth	: 45.0' to 46.1'
Laboratory No.	: 10217	Date Tested	: 11-13-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Gray Sandy Lean Clay		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	91.5
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	58.4
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0329	mm	27.4
Hyd. Rd.	# 2	0.0212	mm	21.3
Hyd. Rd.	# 3	0.0124	mm	16.2
Hyd. Rd.	# 4	0.0089	mm	12.0
Hyd. Rd.	# 5	0.0063	mm	9.2
Hyd. Rd.	# 6	0.0031	mm	4.3
Hyd. Rd.	# 7	0.0013	mm	0.3

D_{50} = 0.06 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 29
Liquid Limit (AASHTO T89) : 30
Plastic Limit (AASHTO T90) : 16
Plasticity Index : 14
Liquidity Index : 0.95
Activity : 6.17
Sp. Gr. (AASHTO T100) : 2.668
AASHTO Classification: M145 : A-6 (5)
ASTM Classification: D2487 : CL

AASHTO Composition of Total Sample: M145

Gravel (3in. + No.10)	: 0.0
Coarse Sand (-No.10 + No.40)	: 8.5
Fine Sand (-No.40 + No.200)	: 33.1
Silt (-No.200 + 0.002mm)	: 56.1
Clay (-0.002mm + 0.001mm)	: 2.0
Colloids (-0.001mm)	: 0.3

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 8.5
Fine Sand (-No.40 + No.200)	: 33.1
Silt (-No.200 + 0.005mm)	: 50.8
Clay (-0.005mm + 0.001mm)	: 7.3
Colloids (-0.001mm)	: 0.3

Approved By : DLC

Soil No. 30

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CONSULTING ENGINEERS

SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 1
Project County	: Haywood	Sample Loc.	: Boring No. 64
Project State	: Tennessee	Sample Depth	: 15.0' to 16.6'
Laboratory No.	: 10217	Date Tested	: 11-16-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Beige & Tan Lean Clay with Sand		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.8
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	71.9
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0312	mm	50.4
Hyd. Rd.	# 2	0.0202	mm	44.1
Hyd. Rd.	# 3	0.0118	mm	39.9
Hyd. Rd.	# 4	0.0084	mm	36.9
Hyd. Rd.	# 5	0.0060	mm	33.7
Hyd. Rd.	# 6	0.0030	mm	28.3
Hyd. Rd.	# 7	0.0013	mm	24.5

D_{50} = 0.0304 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 23.5
Liquid Limit (AASHTO T89) : 36
Plastic Limit (AASHTO T90) : 19
Plasticity Index : 17
Liquidity Index : 0.25
Activity : 0.64
Sp. Gr. (AASHTO T100) : 2.604
AASHTO Classification: M145 : A-6 (11)
ASTM Classification: D2487 : CL

AASHTO Composition of Total Sample: M145

Gravel (3in. + No.10)	: 0.0
Coarse Sand (-No.10 + No.40)	: 0.2
Fine Sand (-No.40 + No.200)	: 27.9
Silt (-No.200 + 0.002mm)	: 45.4
Clay (-0.002mm + 0.001mm)	: 4.3
Colloids (-0.001mm)	: 22.2

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 0.2
Fine Sand (-No.40 + No.200)	: 27.9
Silt (-No.200 + 0.005mm)	: 39.7
Clay (-0.005mm + 0.001mm)	: 10.0
Colloids (-0.001mm)	: 22.2

Approved By : DLC

Soil No. 31

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SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 1
Project County	: Haywood	Sample Loc.	: Boring No. 65
Project State	: Tennessee	Sample Depth	: 34.7' to 35.6'
Laboratory No.	: 10217	Date Tested	: 11-16-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Dark Gray Silty Sand		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	99.8
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	35.9
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0343	mm	15.4
Hyd. Rd.	# 2	0.0220	mm	12.2
Hyd. Rd.	# 3	0.0129	mm	7.1
Hyd. Rd.	# 4	0.0091	mm	5.2
Hyd. Rd.	# 5	0.0065	mm	4.1
Hyd. Rd.	# 6	0.0032	mm	1.8
Hyd. Rd.	# 7	0.0013	mm	0.0

D_{50} = 0.11 mm

CBR : NA
Dry Dens. : NA
Opt. Moist. : NA

Natural Moisture (%) (AASHTO T265) : 24
Liquid Limit (AASHTO T89) : NP
Plastic Limit (AASHTO T90) : NP
Plasticity Index : NP
Liquidity Index : NA
Activity : NA
Sp. Gr. (AASHTO T100) : 2.638
AASHTO Classification: M145 : A-4 (0)
ASTM Classification: D2487 : SM

AASHTO Composition of Total Sample: M145

Gravel (3in. + No.10)	: 0.0
Coarse Sand (-No.10 + No.40)	: 0.2
Fine Sand (-No.40 + No.200)	: 63.9
Silt (-No.200 + 0.002mm)	: 35.1
Clay (-0.002mm + 0.001mm)	: 0.8
Colloids (-0.001mm)	: 0.0

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 0.2
Fine Sand (-No.40 + No.200)	: 63.9
Silt (-No.200 + 0.005mm)	: 32.6
Clay (-0.005mm + 0.001mm)	: 3.3
Colloids (-0.001mm)	: 0.0

Approved By : DJC

Soil No. 32

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SOIL CLASSIFICATION

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 2
Project County	: Haywood	Sample Loc.	: Boring No. 68
Project State	: Tennessee	Sample Depth	: 29.5' to 30.3'
Laboratory No.	: 10217	Date Tested	: 11-16-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Gray Lean Clay with Sand		

AASHTO T27 :

				% Passing
4	in.	101.6	mm	
3.5	in.	88.9	mm	
3	in.	76.2	mm	
2.5	in.	63.5	mm	
2	in.	50.8	mm	
1 3/4	in.	45	mm	
1 1/2	in.	38.1	mm	
1 1/4	in.	31.5	mm	
1	in.	25	mm	
3/4	in.	19	mm	
1/2	in.	12.5	mm	
3/8	in.	9.5	mm	
1/4		6.3	mm	
No.4		4.75	mm	100.0
No.6		3.35	mm	
No.10		2	mm	100.0

AASHTO T88

				% Passing
No.16		1.18	mm	
No.30		0.6	mm	
No.40		0.425	mm	95.3
No.50		0.3	mm	
No.60		0.25	mm	
No.80		0.18	mm	
No.100		0.15	mm	
No.200		0.075	mm	77.8
No.270		0.053	mm	
Hyd. Rd.	# 1	0.0303	mm	51.8
Hyd. Rd.	# 2	0.0196	mm	44.7
Hyd. Rd.	# 3	0.0116	mm	38.5
Hyd. Rd.	# 4	0.0083	mm	33.4
Hyd. Rd.	# 5	0.0060	mm	29.4
Hyd. Rd.	# 6	0.0030	mm	25.1
Hyd. Rd.	# 7	0.0013	mm	17.1

D_{50} = 0.0272 mm

CBR	: NA
Dry Dens.	: NA
Opt. Moist.	: NA

Natural Moisture (%) (AASHTO T265)	: 25.6
Liquid Limit (AASHTO T89)	: 41
Plastic Limit (AASHTO T90)	: 22
Plasticity Index	: 19
Liquidity Index	: 0.19
Activity	: 0.89
Sp. Gr. (AASHTO T100)	: 2.678
AASHTO Classification: M145	: A-7-6 (14)
ASTM Classification: D2487	: CL

AASHTO Composition of Total Sample: M145

Gravel (3in. + No.10)	: 0.0
Coarse Sand (-No.10 + No.40)	: 4.7
Fine Sand (-No.40 + No.200)	: 17.5
Silt (-No.200 + 0.002mm)	: 56.4
Clay (-0.002mm + 0.001mm)	: 5.9
Colloids (-0.001mm)	: 15.5

ASTM Composition of Total Sample: D2487

Coarse Gravel (3in. + 3/4in.)	: 0.0
Fine Gravel (-3/4in. + No.4)	: 0.0
Coarse Sand (-No.4 + No.10)	: 0.0
Medium Sand (-No.10 + No.40)	: 4.7
Fine Sand (-No.40 + No.200)	: 17.5
Silt (-No.200 + 0.005mm)	: 49.5
Clay (-0.005mm + 0.001mm)	: 12.8
Colloids (-0.001mm)	: 15.5

Approved By : DLC

Soil No. 33

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UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 1
Project County	: Haywood	Sample Loc.	: Boring No_47
Project State	: Tennessee	Sample Depth	: 15.0' to 17.0'
Laboratory No.	: 10217	Date Tested	: 10-30-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Light Gray Sandy Lean Clay		
Wet Density	: 120.9 pcf	Initial Height	: 5.89 in
Dry Density	: 97.4 pcf	Initial Diameter	: 2.82 in
Moisture	: 24.1 %	Proving Ring	: #22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	7.5	0.04	0.3	0.17
3	13.2	0.04	0.5	0.30
4	17.9	0.04	0.8	0.41
5	23.5	0.04	1.0	0.54
6	27.3	0.04	1.3	0.62
7	32.0	0.04	1.5	0.73
8	34.8	0.04	1.8	0.79
9	37.6	0.04	2.0	0.85
10	41.4	0.04	2.4	0.93
11	45.1	0.04	2.7	1.02
12	49.9	0.04	3.1	1.12
13	53.8	0.04	3.4	1.20
14	57.7	0.04	3.7	1.28
15	62.5	0.05	4.1	1.39
16	65.4	0.05	4.4	1.45
17	69.3	0.05	4.8	1.53
18	72.2	0.05	5.1	1.59
19	78.0	0.05	5.5	1.71
20	81.9	0.05	5.9	1.78
21	86.8	0.05	6.4	1.88
22	91.6	0.05	6.8	1.98
23	95.5	0.05	7.2	2.05
24	100.2	0.05	7.6	2.14
25	103.0	0.05	8.1	2.19
26	106.8	0.05	8.5	2.26
27	113.4	0.05	9.3	2.38
28	120.9	0.05	10.2	2.51
29	125.6	0.05	11.0	2.58
30	130.3	0.05	11.9	2.66
31	135.0	0.05	12.7	2.72
32	140.6	0.05	13.6	2.81
33	143.5	0.05	14.4	2.84
34	146.4	0.05	15.3	2.87
35	149.4	0.05	16.1	2.90
36	151.3	0.05	17.0	2.91
37	152.3	0.05	17.8	2.89
38	150.3	0.05	18.7	2.83

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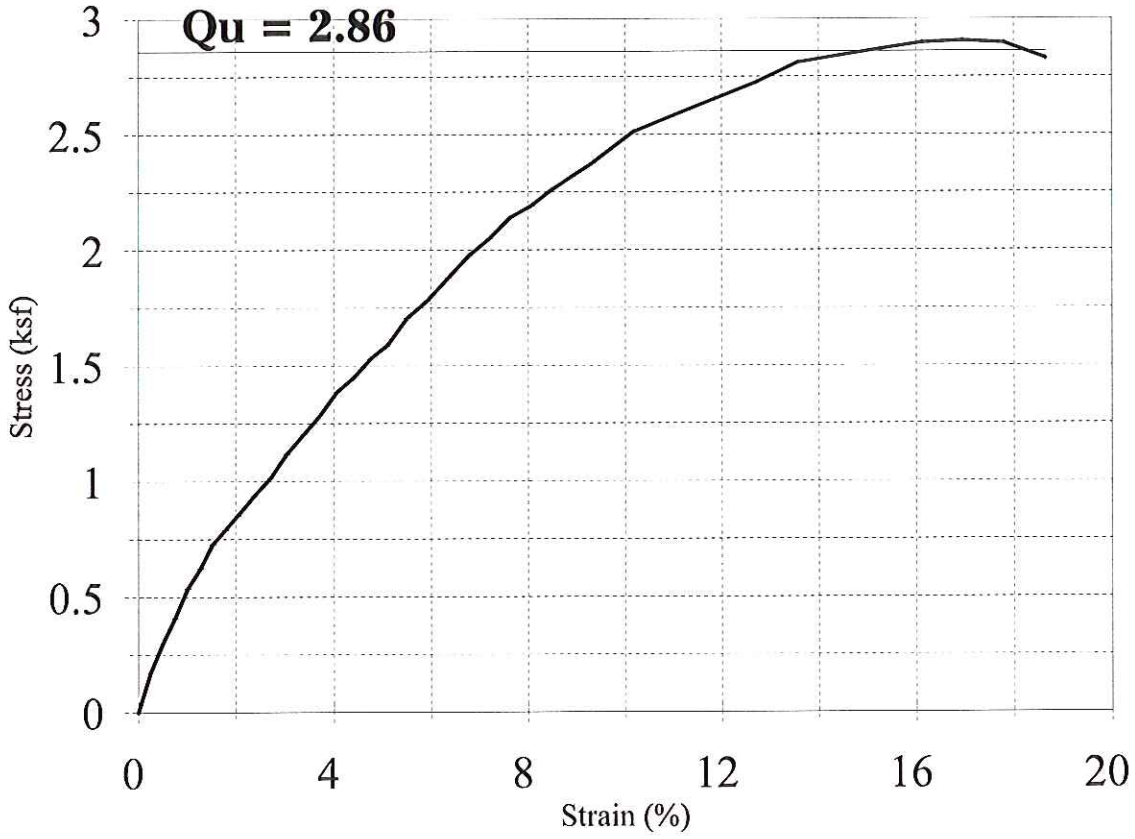
UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 1
Project County	: Haywood	Sample Loc.	: Boring No_47
Project State	: Tennessee	Sample Depth	: 15.0' to 17.0'
Laboratory No.	: 10217	Date Tested	: 10-30-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Light Gray Sandy Lean Clay		
Wet Density	: 120.9 pcf	Initial Height	: 5.89 in
Dry Density	: 97.4 pcf	Initial Diameter	: 2.82 in
Moisture	: 24.1 %	Proving Ring	: #22734
Deg. of Sat.	: 92.3 %	Specific Gravity	: 2.635
COMMENTS	: AASHTO: T-208		



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UNCONFINED COMPRESSION TEST

Project Name	:	Solar Farm Information & Welcome Center Site Design			
Project No.	:	38001-1684-0438001-1684-04	Sample No.	:	ST - 3
Project County	:	Haywood	Sample Loc.	:	Boring No_47
Project State	:	Tennessee	Sample Depth	:	40.0' to 42.0'
Laboratory No.	:	10217	Date Tested	:	10-30-10
Submitted By	:	Florence & Hutcheson	Date Reported	:	11-23-10
Soil Type	:	Gray Lean Clay with Sand			
Wet Density	:	134.4 pcf	Initial Height	:	5.82 in
Dry Density	:	115.1 pcf	Initial Diameter	:	2.83 in
Moisture	:	16.7 %	Proving Ring	:	#22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	12.2	0.04	0.3	0.28
3	21.6	0.04	0.5	0.49
4	31.0	0.04	0.8	0.71
5	41.4	0.04	1.0	0.94
6	49.9	0.04	1.3	1.13
7	60.6	0.04	1.5	1.37
8	73.2	0.04	1.8	1.65
9	84.8	0.04	2.1	1.91
10	103.0	0.04	2.4	2.31
11	118.1	0.04	2.8	2.63
12	133.1	0.04	3.1	2.96
13	148.4	0.05	3.4	3.29
14	164.1	0.05	3.8	3.62
15	177.8	0.05	4.1	3.91
16	196.2	0.05	4.5	4.30
17	216.6	0.05	4.8	4.73
18	238.0	0.05	5.2	5.18
19	263.2	0.05	5.6	5.70
20	285.5	0.05	6.0	6.16
21	303.0	0.05	6.4	6.50
22	312.3	0.05	6.9	6.67
23	315.3	0.05	7.3	6.71
24	304.0	0.05	7.7	6.43
25	270.0	0.05	8.2	5.69
26	233.4	0.05	8.6	4.89

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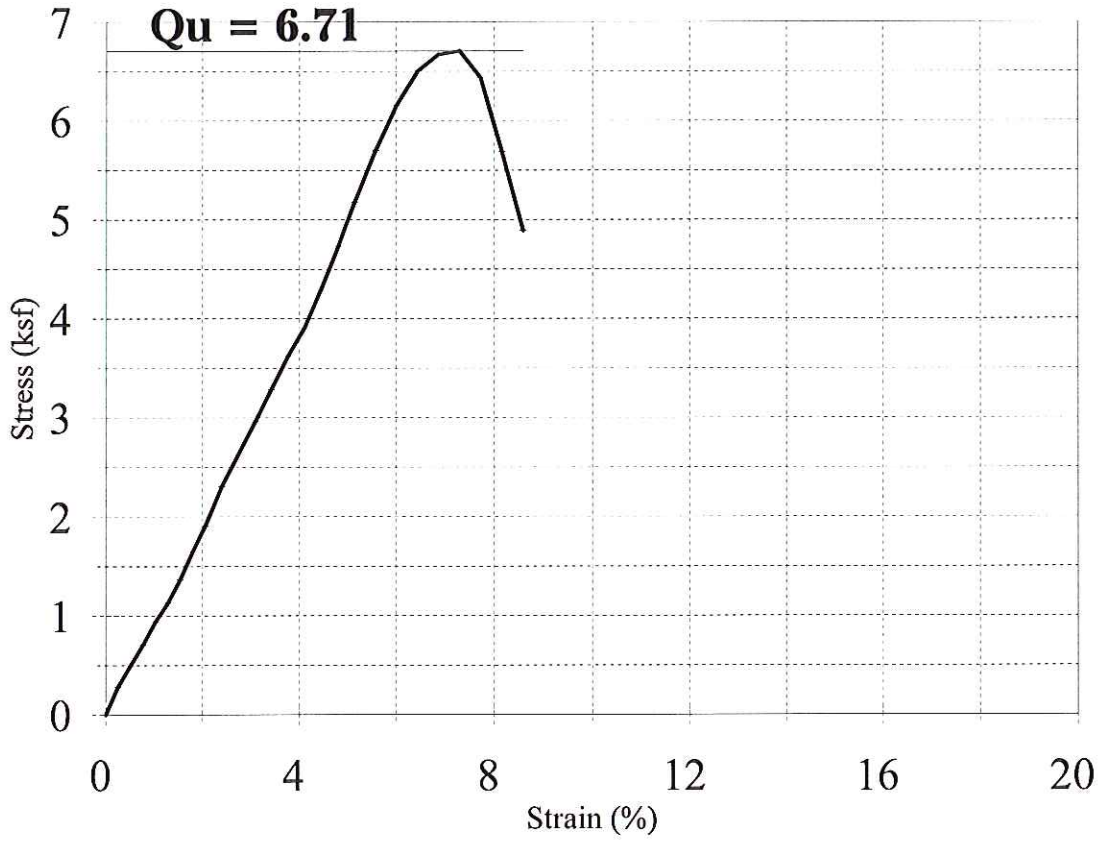
UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 3
Project County	: Haywood	Sample Loc.	: Boring No_47
Project State	: Tennessee	Sample Depth	: 40.0' to 42.0'
Laboratory No.	: 10217	Date Tested	: 10-30-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Gray Lean Clay with Sand		
Wet Density	: 134.4 pcf	Initial Height	: 5.82 in
Dry Density	: 115.1 pcf	Initial Diameter	: 2.83 in
Moisture	: 16.7 %	Proving Ring	: #22734
Deg. of Sat.	: 100.0 %	Specific Gravity	: 2.632
COMMENTS	: AASHTO: T-208		



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UNCONFINED COMPRESSION TEST

Project Name	:	Solar Farm Information & Welcome Center Site Design			
Project No.	:	38001-1684-0438001-1684-04	Sample No.	:	ST - 2
Project County	:	Haywood	Sample Loc.	:	Boring No_51
Project State	:	Tennessee	Sample Depth	:	20.4' to 21.9'
Laboratory No.	:	10217	Date Tested	:	11-11-10
Submitted By	:	Florence & Hutcheson	Date Reported	:	11-23-10
Soil Type	:	Reddish Orange Silty Sand			
Wet Density	:	123.2 pcf	Initial Height	:	5.80 in
Dry Density	:	109.3 pcf	Initial Diameter	:	2.82 in
Moisture	:	12.7 %	Proving Ring	:	#22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	4.7	0.04	0.3	0.11
3	6.6	0.04	0.5	0.15
4	8.5	0.04	0.8	0.19
5	9.4	0.04	1.0	0.21
6	11.3	0.04	1.3	0.26
7	13.2	0.04	1.6	0.30
8	16.0	0.04	1.8	0.36
9	17.9	0.04	2.1	0.40
10	21.6	0.04	2.4	0.49
11	25.4	0.04	2.8	0.57
12	27.3	0.04	3.1	0.61
13	30.1	0.04	3.5	0.67
14	31.0	0.05	3.8	0.69
15	32.0	0.05	4.1	0.71
16	32.0	0.05	4.5	0.70
17	29.1	0.05	4.8	0.64
18	24.4	0.05	5.2	0.53
19	16.9	0.05	5.6	0.37

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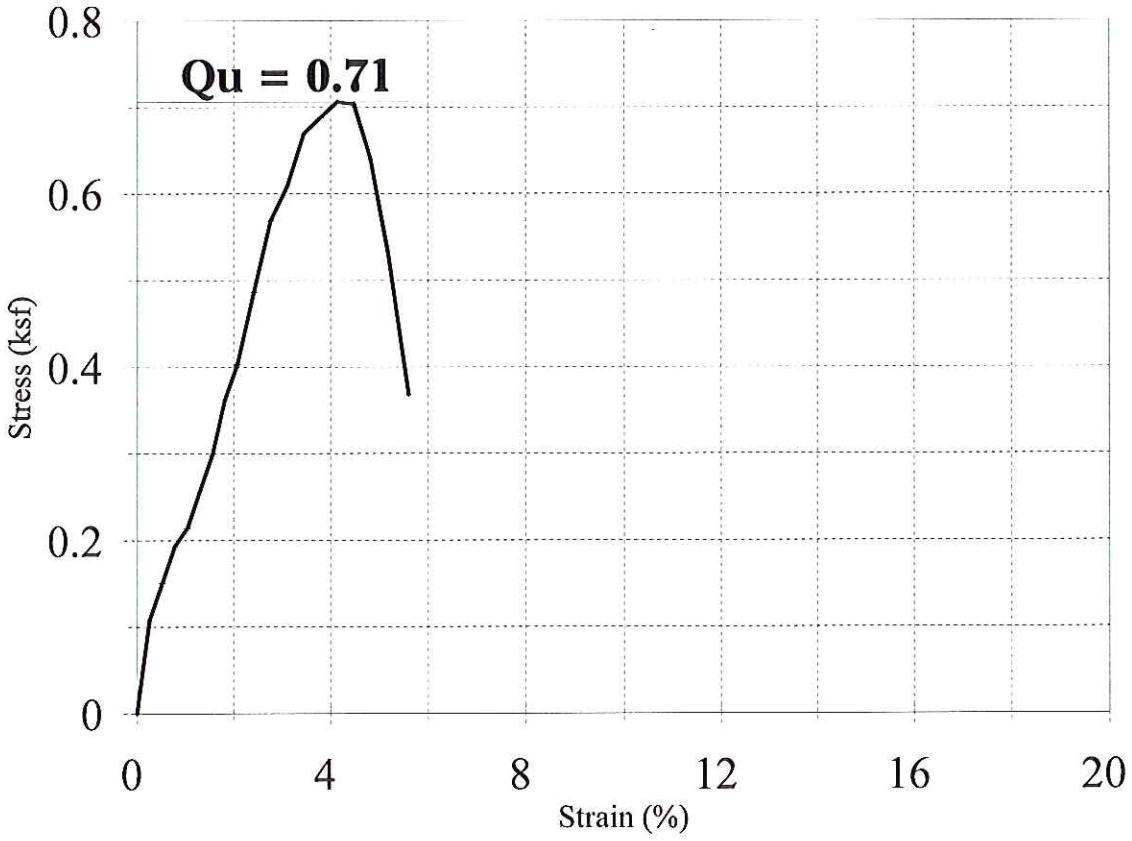
UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 2
Project County	: Haywood	Sample Loc.	: Boring No_51
Project State	: Tennessee	Sample Depth	: 20.4' to 21.9'
Laboratory No.	: 10217	Date Tested	: 11-11-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Reddish Orange Silty Sand		
Wet Density	: 123.2 pcf	Initial Height	: 5.80 in
Dry Density	: 109.3 pcf	Initial Diameter	: 2.82 in
Moisture	: 12.7 %	Proving Ring	: #22734
Deg. of Sat.	: 65.4 %	Specific Gravity	: 2.652
COMMENTS	: AASHTO: T-208		



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UNCONFINED COMPRESSION TEST

Project Name	:	Solar Farm Information & Welcome Center Site Design			
Project No.	:	38001-1684-0438001-1684-04	Sample No.	:	ST - 3
Project County	:	Haywood	Sample Loc.	:	Boring No_51
Project State	:	Tennessee	Sample Depth	:	24.0' to 25.5'
Laboratory No.	:	10217	Date Tested	:	11-11-10
Submitted By	:	Florence & Hutcheson	Date Reported	:	11-23-10
Soil Type	:	Reddish Orange Poorly Graded Sand with Silt			
Wet Density	:	112.7 pcf	Initial Height	:	5.86 in
Dry Density	:	102.6 pcf	Initial Diameter	:	2.82 in
Moisture	:	9.8 %	Proving Ring	:	#22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	4.7	0.04	0.3	0.11
3	5.6	0.04	0.5	0.13
4	7.5	0.04	0.8	0.17
5	8.5	0.04	1.0	0.19
6	9.4	0.04	1.3	0.21
7	10.3	0.04	1.5	0.23
8	11.3	0.04	1.8	0.25
9	12.2	0.04	2.0	0.28
10	12.2	0.04	2.4	0.27
11	12.2	0.04	2.7	0.27
12	12.2	0.04	3.1	0.27
13	12.2	0.05	3.4	0.27
14	11.3	0.05	3.8	0.25
15	10.3	0.05	4.1	0.23
16	9.4	0.05	4.4	0.21

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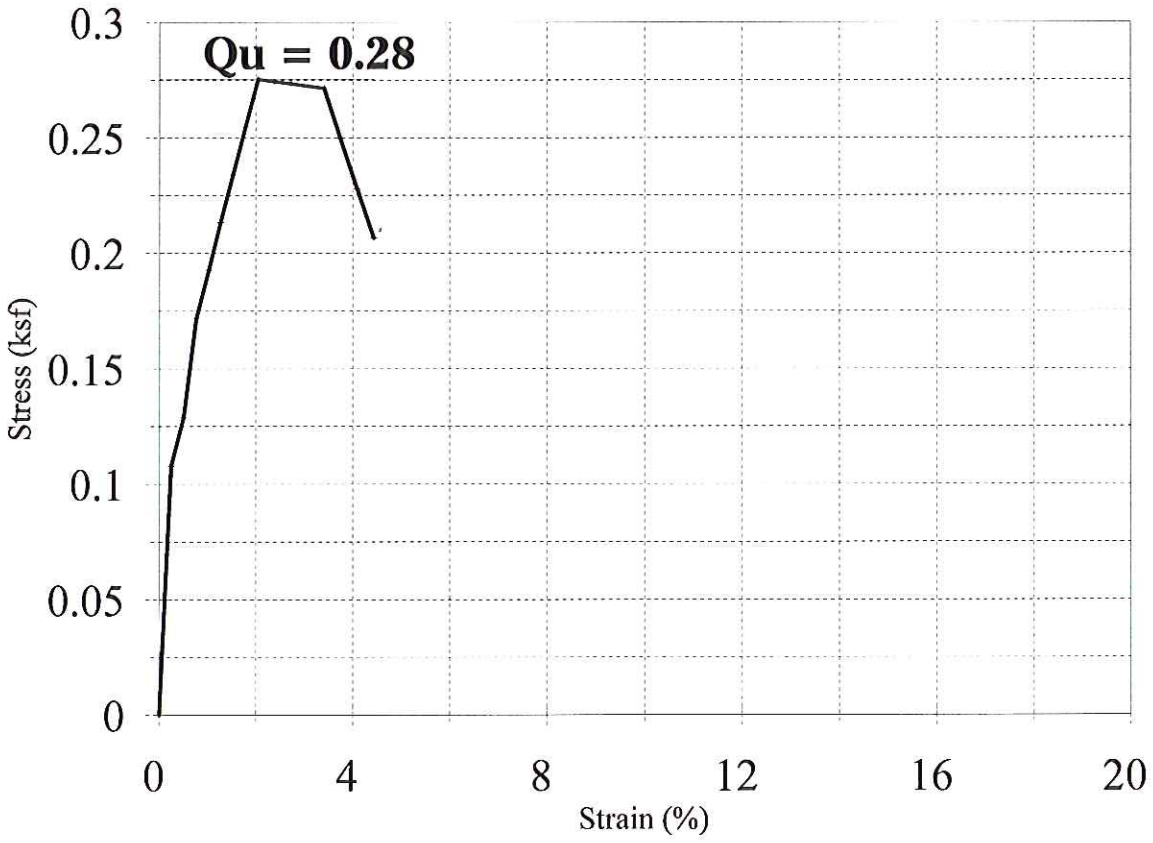
Project Name	:	Solar Farm Information & Welcome Center Site Design			
Project No.	:	38001-1684-0438001-1684-04	Sample No.	:	ST - 3
Project County	:	Haywood	Sample Loc.	:	Boring No_51
Project State	:	Tennessee	Sample Depth	:	24.0' to 25.5'
Laboratory No.	:	10217	Date Tested	:	11-11-10
Submitted By	:	Florence & Hutcheson	Date Reported	:	11-23-10
Soil Type	:	Reddish Orange Poorly Graded Sand with Silt			
Wet Density	:	112.7 pcf	Initial Height	:	5.86 in
Dry Density	:	102.6 pcf	Initial Diameter	:	2.82 in
Moisture	:	9.8 %	Proving Ring	:	#22734
Deg. of Sat.	:	42.4 %	Specific Gravity	:	2.656
COMMENTS	:	AASHTO: T-208			



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Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 1
Project County	: Haywood	Sample Loc.	: Boring No_55
Project State	: Tennessee	Sample Depth	: 19.5' to 21.3'
Laboratory No.	: 10217	Date Tested	: 11-04-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Multicolor Sandy Lean Clay		
Wet Density	: 124.4 pcf	Initial Height	: 5.85 in
Dry Density	: 108.7 pcf	Initial Diameter	: 2.82 in
Moisture	: 14.5 %	Proving Ring	: #22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	40.4	0.04	0.3	0.93
3	77.1	0.04	0.5	1.76
4	109.6	0.04	0.8	2.50
5	137.8	0.04	1.0	3.13
6	162.1	0.04	1.3	3.68
7	200.8	0.04	1.5	4.54
8	235.2	0.04	1.8	5.31
9	261.3	0.04	2.1	5.88
10	277.8	0.04	2.4	6.23
11	279.7	0.04	2.7	6.25
12	135.9	0.04	3.1	3.03
13	107.7	0.05	3.4	2.39
14	93.6	0.05	3.8	2.07

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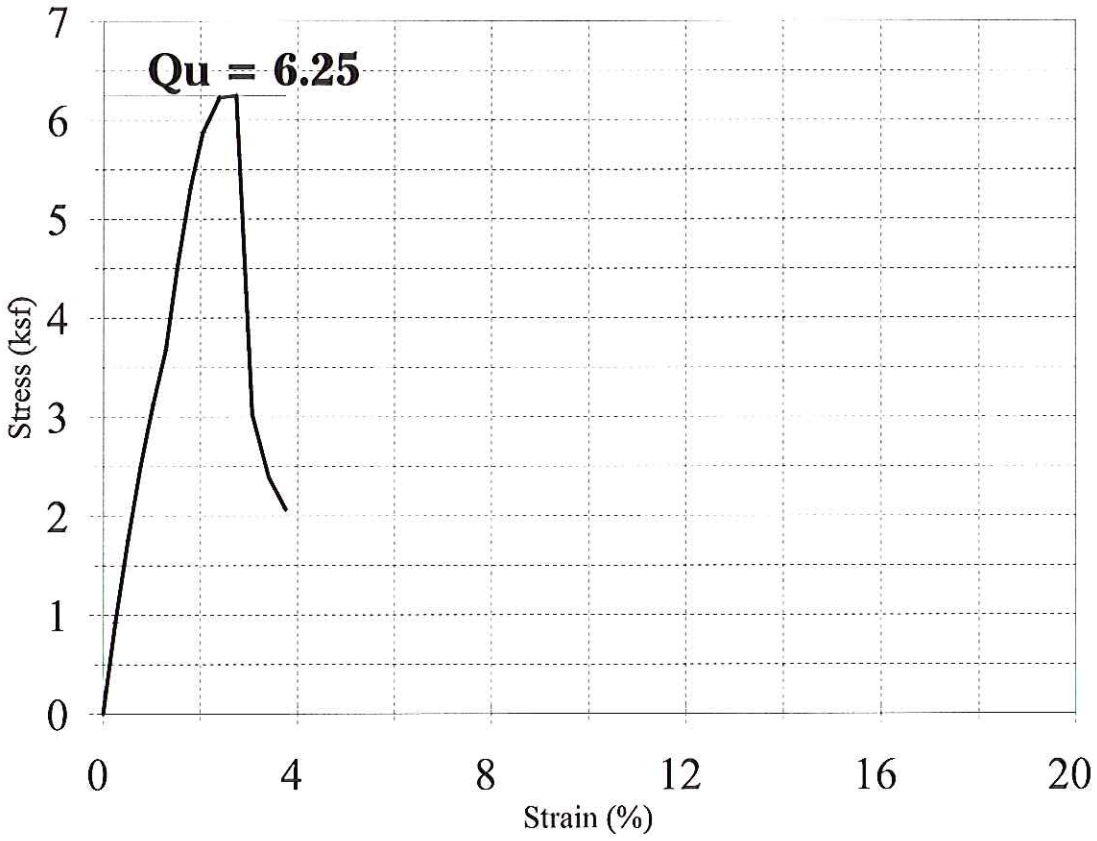
UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 1
Project County	: Haywood	Sample Loc.	: Boring No_55
Project State	: Tennessee	Sample Depth	: 19.5' to 21.3'
Laboratory No.	: 10217	Date Tested	: 11-04-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Multicolor Sandy Lean Clay		
Wet Density	: 124.4 pcf	Initial Height	: 5.85 in
Dry Density	: 108.7 pcf	Initial Diameter	: 2.82 in
Moisture	: 14.5 %	Proving Ring	: #22734
Deg. of Sat.	: 72.9 %	Specific Gravity	: 2.659
COMMENTS	: AASHTO: T-208		



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Project Name	:	Solar Farm Information & Welcome Center Site Design		
Project No.	:	38001-1684-0438001-1684-04	Sample No. :	ST - 2
Project County	:	Haywood	Sample Loc. :	Boring No_56
Project State	:	Tennessee	Sample Depth :	24.5' to 26.0'
Laboratory No.	:	10217	Date Tested :	11-02-10
Submitted By	:	Florence & Hutcheson	Date Reported :	11-23-10
Soil Type	:	Light Gray & Reddish Orange Silty, Clayey Sand		
Wet Density	:	111.1 pcf	Initial Height :	5.88 in
Dry Density	:	98.1 pcf	Initial Diameter :	2.82 in
Moisture	:	13.3 %	Proving Ring :	#22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	12.2	0.04	0.3	0.28
3	21.6	0.04	0.5	0.50
4	32.0	0.04	0.8	0.73
5	42.3	0.04	1.0	0.96
6	50.9	0.04	1.3	1.16
7	58.6	0.04	1.5	1.33
8	61.6	0.04	1.8	1.39
9	56.7	0.04	2.0	1.28
10	53.8	0.04	2.4	1.21
11	46.1	0.04	2.7	1.03

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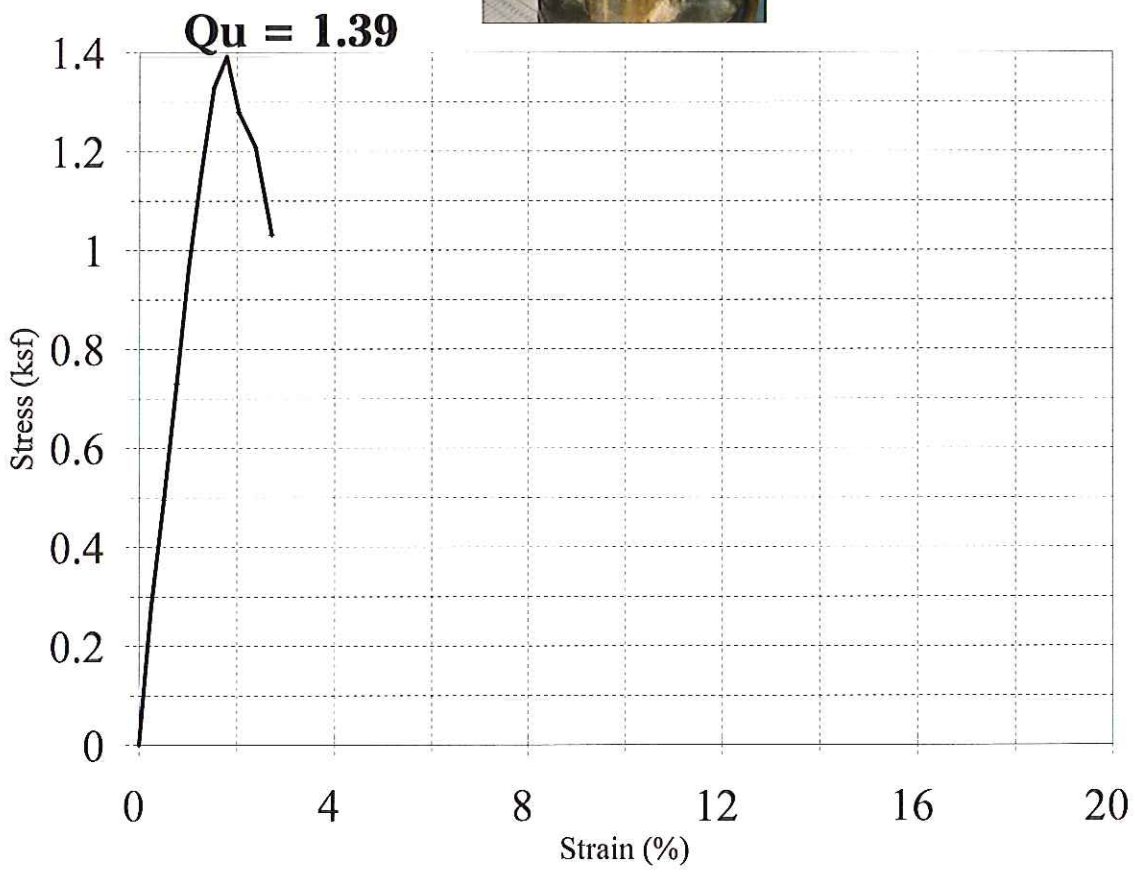
UNCONFINED COMPRESSION TEST

Project Name	:	Solar Farm Information & Welcome Center Site Design			
Project No.	:	38001-1684-0438001-1684-04	Sample No.	:	ST - 2
Project County	:	Haywood	Sample Loc.	:	Boring No_56
Project State	:	Tennessee	Sample Depth	:	24.5' to 26.0'
Laboratory No.	:	10217	Date Tested	:	11-02-10
Submitted By	:	Florence & Hutcheson	Date Reported	:	11-23-10
Soil Type	:	Light Gray & Reddish Orange Silty, Clayey Sand			
Wet Density	:	111.1 pcf	Initial Height	:	5.88 in
Dry Density	:	98.1 pcf	Initial Diameter	:	2.82 in
Moisture	:	13.3 %	Proving Ring	:	#22734
Deg. of Sat.	:	51.3 %	Specific Gravity	:	2.647
COMMENTS	:	AASHTO: T-208			



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UNCONFINED COMPRESSION TEST

Project Name	:	Solar Farm Information & Welcome Center Site Design			
Project No.	:	38001-1684-0438001-1684-04	Sample No.	:	ST - 4
Project County	:	Haywood	Sample Loc.	:	Boring No_56
Project State	:	Tennessee	Sample Depth	:	39.5' to 41.2'
Laboratory No.	:	10217	Date Tested	:	11-03-10
Submitted By	:	Florence & Hutcheson	Date Reported	:	11-23-10
Soil Type	:	Light Gray Lean Clay with Sand			
Wet Density	:	135.4 pcf	Initial Height	:	5.88 in
Dry Density	:	115.3 pcf	Initial Diameter	:	2.83 in
Moisture	:	17.4 %	Proving Ring	:	#22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	30.1	0.04	0.3	0.69
3	48.9	0.04	0.5	1.12
4	65.4	0.04	0.8	1.49
5	80.0	0.04	1.0	1.82
6	92.6	0.04	1.3	2.10
7	104.0	0.04	1.5	2.35
8	113.4	0.04	1.8	2.55
9	125.6	0.04	2.0	2.82
10	142.5	0.04	2.4	3.19
11	168.0	0.04	2.7	3.75
12	192.4	0.04	3.1	4.28
13	214.7	0.05	3.4	4.76
14	238.0	0.05	3.7	5.26
15	260.3	0.05	4.1	5.73
16	283.6	0.05	4.4	6.22
17	297.8	0.05	4.8	6.51
18	317.4	0.05	5.1	6.91
19	341.8	0.05	5.5	7.41
20	353.4	0.05	6.0	7.62
21	356.2	0.05	6.4	7.65
22	334.9	0.05	6.8	7.16
23	313.3	0.05	7.2	6.67
24	284.6	0.05	7.7	6.03

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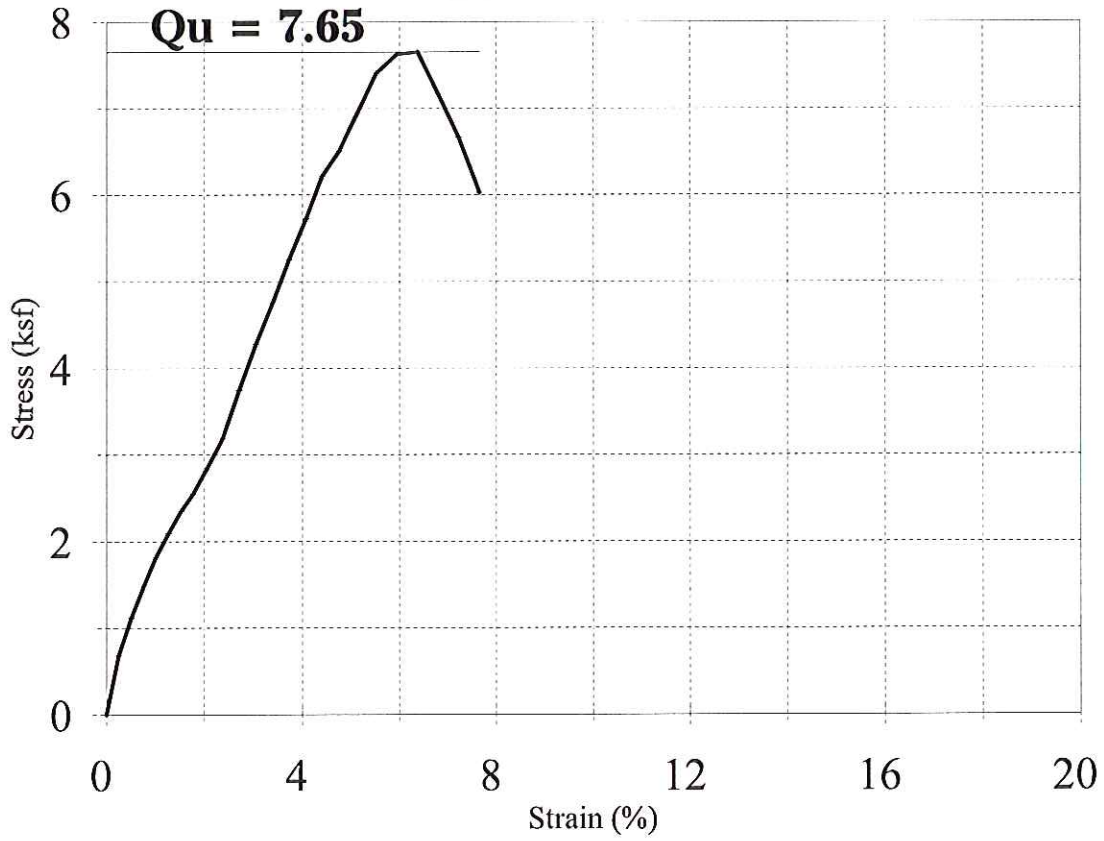
UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 4
Project County	: Haywood	Sample Loc.	: Boring No_56
Project State	: Tennessee	Sample Depth	: 39.5' to 41.2'
Laboratory No.	: 10217	Date Tested	: 11-03-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Light Gray Lean Clay with Sand		
Wet Density	: 135.4 pcf	Initial Height	: 5.88 in
Dry Density	: 115.3 pcf	Initial Diameter	: 2.83 in
Moisture	: 17.4 %	Proving Ring	: #22734
Deg. of Sat.	: 100.0 %	Specific Gravity	: 2.650
COMMENTS	: AASHTO: T-208		



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Project Name	:	Solar Farm Information & Welcome Center Site Design			
Project No.	:	38001-1684-0438001-1684-04	Sample No.	:	ST - 1
Project County	:	Haywood	Sample Loc.	:	Boring No_57
Project State	:	Tennessee	Sample Depth	:	14.9' to 15.5'
Laboratory No.	:	10217	Date Tested	:	11-12-10
Submitted By	:	Florence & Hutcheson	Date Reported	:	11-23-10
Soil Type	:	Brown Silty Clay			
Wet Density	:	130.9 pcf	Initial Height	:	5.80 in
Dry Density	:	107.1 pcf	Initial Diameter	:	2.82 in
Moisture	:	22.2 %	Proving Ring	:	#22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	3.8	0.04	0.3	0.09
3	6.6	0.04	0.5	0.15
4	11.3	0.04	0.8	0.26
5	15.0	0.04	1.0	0.34
6	19.7	0.04	1.3	0.45
7	26.3	0.04	1.6	0.60
8	32.9	0.04	1.8	0.74
9	39.5	0.04	2.1	0.89
10	48.0	0.04	2.4	1.08
11	55.7	0.04	2.8	1.25
12	62.5	0.04	3.1	1.40
13	65.4	0.04	3.4	1.46
14	67.4	0.05	3.8	1.49
15	66.4	0.05	4.1	1.47
16	64.5	0.05	4.5	1.42
17	62.5	0.05	4.8	1.37

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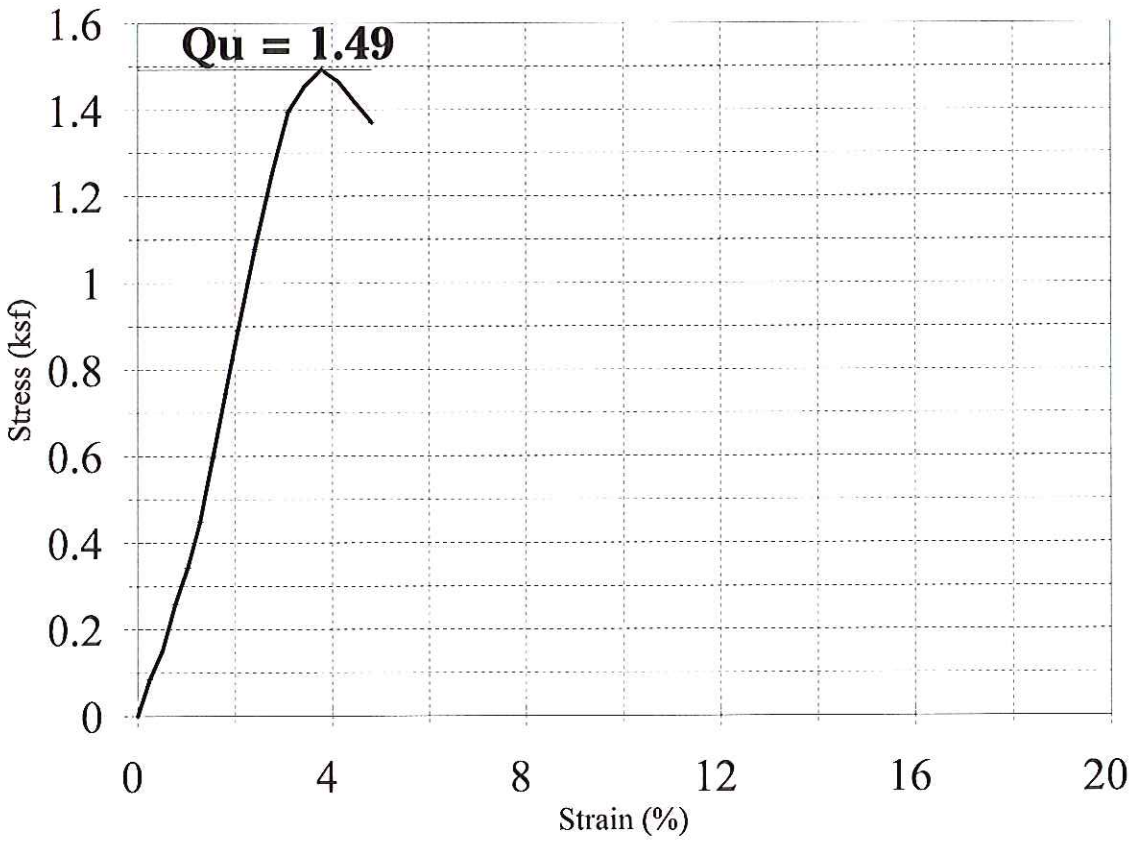
UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 1
Project County	: Haywood	Sample Loc.	: Boring No_57
Project State	: Tennessee	Sample Depth	: 14.9' to 15.5'
Laboratory No.	: 10217	Date Tested	: 11-12-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Brown Silty Clay		
Wet Density	: 130.9 pcf	Initial Height	: 5.80 in
Dry Density	: 107.1 pcf	Initial Diameter	: 2.82 in
Moisture	: 22.2 %	Proving Ring	: #22734
Deg. of Sat.	: 100.0 %	Specific Gravity	: 2.681
COMMENTS	: AASHTO: T-208		



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Project Name	:	Solar Farm Information & Welcome Center Site Design			
Project No.	:	38001-1684-0438001-1684-04	Sample No.	:	ST - 5
Project County	:	Haywood	Sample Loc.	:	Boring No_56
Project State	:	Tennessee	Sample Depth	:	44.5' to 45.0'
Laboratory No.	:	10217	Date Tested	:	11-03-10
Submitted By	:	Florence & Hutcheson	Date Reported	:	11-23-10
Soil Type	:	White & Yellow Orange Poorly Graded Sand with Silt			
Wet Density	:	115.0 pcf	Initial Height	:	5.75 in
Dry Density	:	99.2 pcf	Initial Diameter	:	2.72 in
Moisture	:	15.8 %	Proving Ring	:	#22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	0.9	0.04	0.3	0.02
3	1.9	0.04	0.5	0.05
4	1.9	0.04	0.8	0.05
5	2.8	0.04	1.0	0.07
6	2.8	0.04	1.3	0.07
7	2.8	0.04	1.6	0.07
8	2.8	0.04	1.8	0.07
9	1.9	0.04	2.1	0.05
10	1.9	0.04	2.4	0.05
11	0.9	0.04	2.8	0.02

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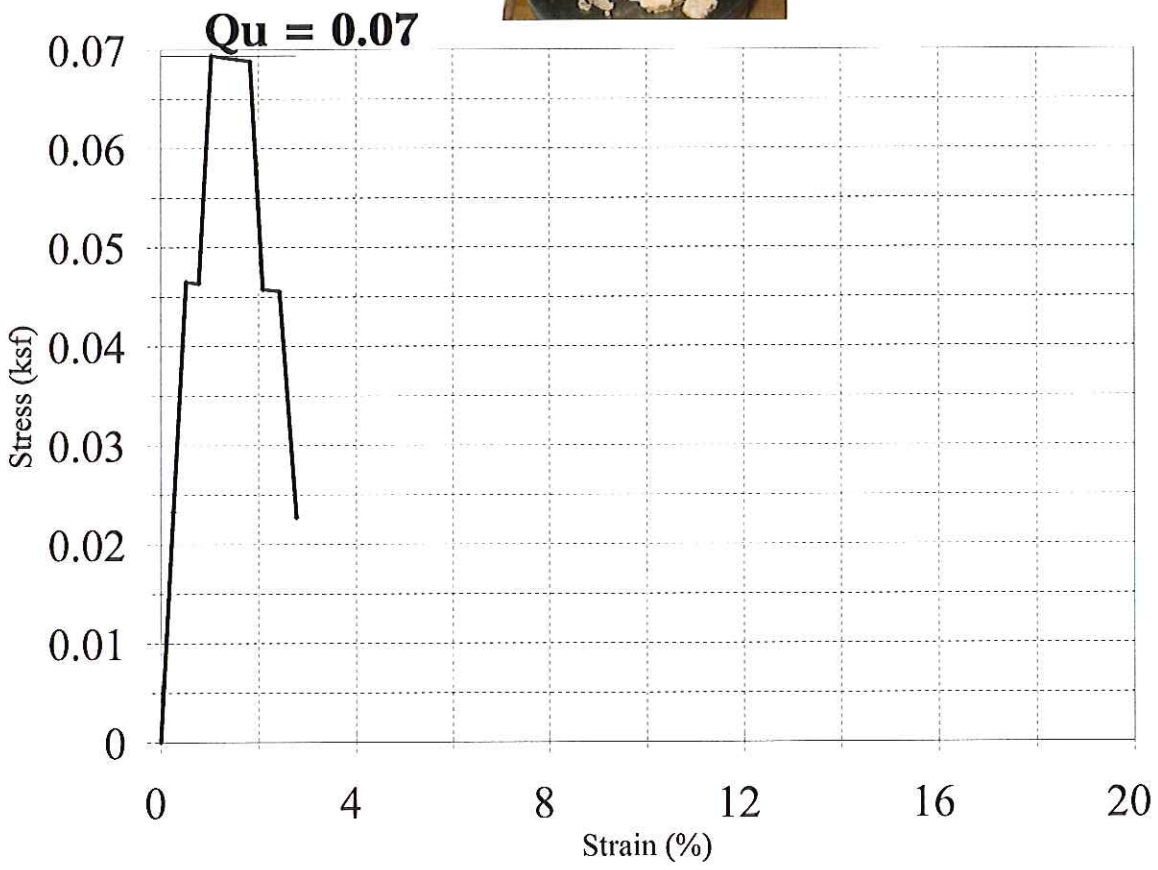
Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 5
Project County	: Haywood	Sample Loc.	: Boring No_56
Project State	: Tennessee	Sample Depth	: 44.5' to 45.0'
Laboratory No.	: 10217	Date Tested	: 11-03-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: White & Yellow Orange Poorly Graded Sand with Silt		
Wet Density	: 115.0 pcf	Initial Height	: 5.75 in
Dry Density	: 99.2 pcf	Initial Diameter	: 2.72 in
Moisture	: 15.8 %	Proving Ring	: #22734
Deg. of Sat.	: 63.3 %	Specific Gravity	: 2.642
COMMENTS	: AASHTO: T-208		



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Project Name	:	Solar Farm Information & Welcome Center Site Design			
Project No.	:	38001-1684-0438001-1684-04	Sample No.	:	ST - 2
Project County	:	Haywood	Sample Loc.	:	Boring No_58
Project State	:	Tennessee	Sample Depth	:	32.7' to 34.2'
Laboratory No.	:	10217	Date Tested	:	11-11-10
Submitted By	:	Florence & Hutcheson	Date Reported	:	11-23-10
Soil Type	:	White & Gray Sandy Lean Clay			
Wet Density	:	130.0 pcf	Initial Height	:	5.85 in
Dry Density	:	107.6 pcf	Initial Diameter	:	2.82 in
Moisture	:	20.8 %	Proving Ring	:	#22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	10.3	0.04	0.3	0.24
3	18.8	0.04	0.5	0.43
4	27.3	0.04	0.8	0.62
5	38.5	0.04	1.0	0.88
6	48.0	0.04	1.3	1.09
7	56.7	0.04	1.5	1.28
8	64.5	0.04	1.8	1.46
9	70.3	0.04	2.1	1.58
10	72.2	0.04	2.4	1.62
11	64.5	0.04	2.7	1.44
12	57.7	0.04	3.1	1.29
13	44.2	0.05	3.4	0.98

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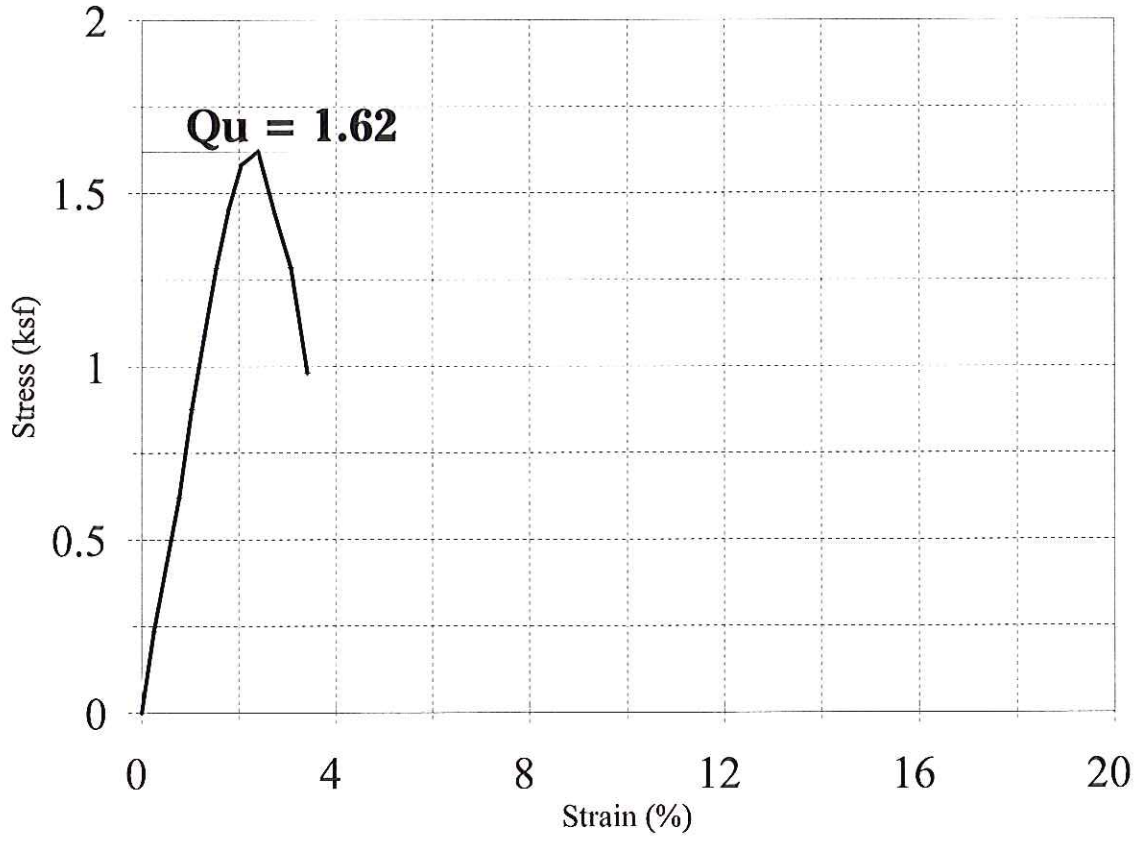
UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 2
Project County	: Haywood	Sample Loc.	: Boring No_58
Project State	: Tennessee	Sample Depth	: 32.7' to 34.2'
Laboratory No.	: 10217	Date Tested	: 11-11-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: White & Gray Sandy Lean Clay		
Wet Density	: 130.0 pcf	Initial Height	: 5.85 in
Dry Density	: 107.6 pcf	Initial Diameter	: 2.82 in
Moisture	: 20.8 %	Proving Ring	: #22734
Deg. of Sat.	: 100.0 %	Specific Gravity	: 2.675
COMMENTS	: AASHTO: T-208		



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Project Name	:	Solar Farm Information & Welcome Center Site Design			
Project No.	:	38001-1684-0438001-1684-04	Sample No.	:	ST - 1
Project County	:	Haywood	Sample Loc.	:	Boring No_59
Project State	:	Tennessee	Sample Depth	:	19.1' to 20.9'
Laboratory No.	:	10217	Date Tested	:	11-11-10
Submitted By	:	Florence & Hutcheson	Date Reported	:	11-23-10
Soil Type	:	Gray Lean Clay with Sand			
Wet Density	:	125.5 pcf	Initial Height	:	5.81 in
Dry Density	:	99.1 pcf	Initial Diameter	:	2.83 in
Moisture	:	26.6 %	Proving Ring	:	#22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	16.0	0.04	0.3	0.37
3	25.4	0.04	0.5	0.58
4	32.9	0.04	0.8	0.75
5	42.3	0.04	1.0	0.96
6	56.7	0.04	1.3	1.28
7	78.0	0.04	1.5	1.76
8	107.7	0.04	1.8	2.43
9	139.7	0.04	2.1	3.14
10	172.9	0.04	2.4	3.87
11	169.9	0.04	2.8	3.79
12	103.0	0.04	3.1	2.29
13	62.5	0.05	3.4	1.38

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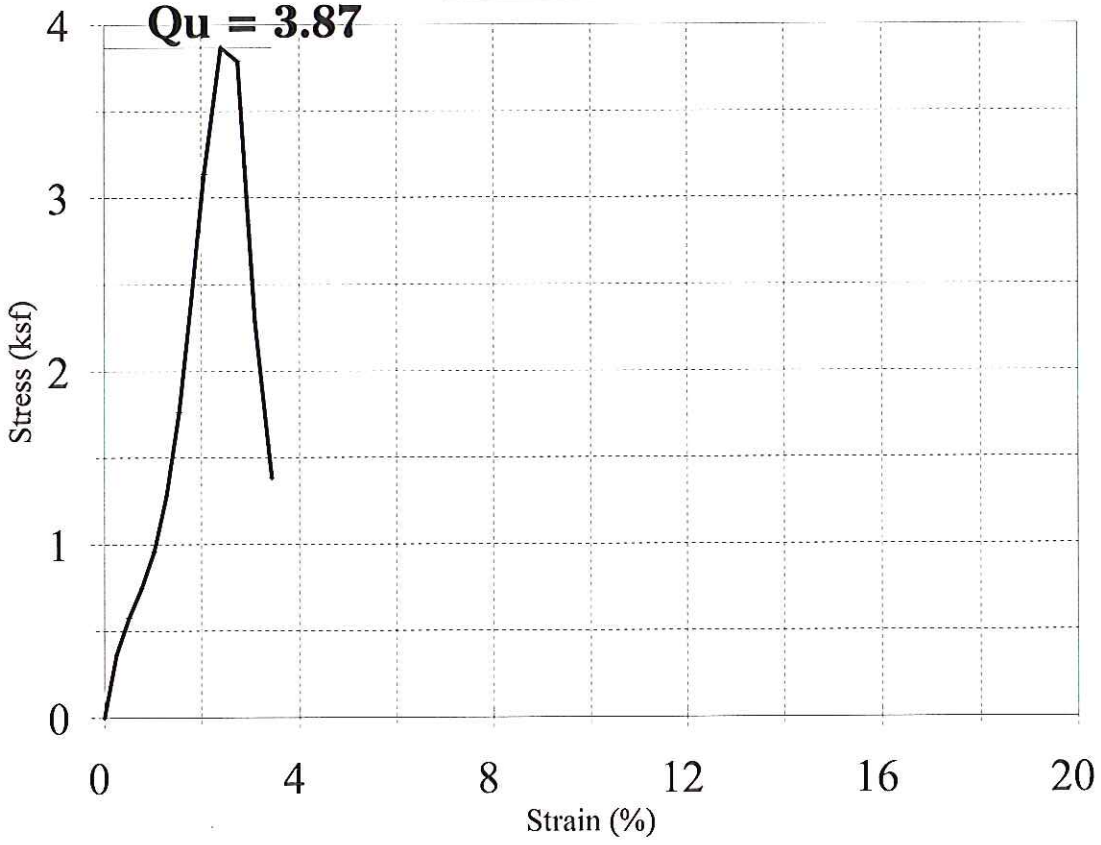
UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 1
Project County	: Haywood	Sample Loc.	: Boring No_59
Project State	: Tennessee	Sample Depth	: 19.1' to 20.9'
Laboratory No.	: 10217	Date Tested	: 11-11-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Gray Lean Clay with Sand		
Wet Density	: 125.5 pcf	Initial Height	: 5.81 in
Dry Density	: 99.1 pcf	Initial Diameter	: 2.83 in
Moisture	: 26.6 %	Proving Ring	: #22734
Deg. of Sat.	: 100.0 %	Specific Gravity	: 2.669
COMMENTS	: AASHTO: T-208		



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UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 4
Project County	: Haywood	Sample Loc.	: Boring No_60
Project State	: Tennessee	Sample Depth	: 39.2' to 40.4'
Laboratory No.	: 10217	Date Tested	: 11-12-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: White, Gray & Reddish Orange Sandy Silty Clay		
Wet Density	: 129.6 pcf	Initial Height	: 5.87 in
Dry Density	: 111.3 pcf	Initial Diameter	: 2.83 in
Moisture	: 16.4 %	Proving Ring	: #22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	10.3	0.04	0.3	0.24
3	15.0	0.04	0.5	0.34
4	20.7	0.04	0.8	0.47
5	25.4	0.04	1.0	0.58
6	29.1	0.04	1.3	0.66
7	33.8	0.04	1.5	0.76
8	36.7	0.04	1.8	0.83
9	40.4	0.04	2.0	0.91
10	47.0	0.04	2.4	1.05
11	54.8	0.04	2.7	1.22
12	64.5	0.04	3.1	1.43
13	68.3	0.05	3.4	1.51
14	77.1	0.05	3.7	1.70
15	85.8	0.05	4.1	1.89
16	94.5	0.05	4.4	2.07
17	103.0	0.05	4.8	2.25
18	111.5	0.05	5.1	2.43
19	121.8	0.05	5.5	2.64
20	136.9	0.05	6.0	2.95
21	149.4	0.05	6.4	3.21
22	155.2	0.05	6.8	3.32
23	156.2	0.05	7.2	3.32
24	148.4	0.05	7.7	3.14
25	127.5	0.05	8.1	2.69
26	107.7	0.05	8.5	2.26

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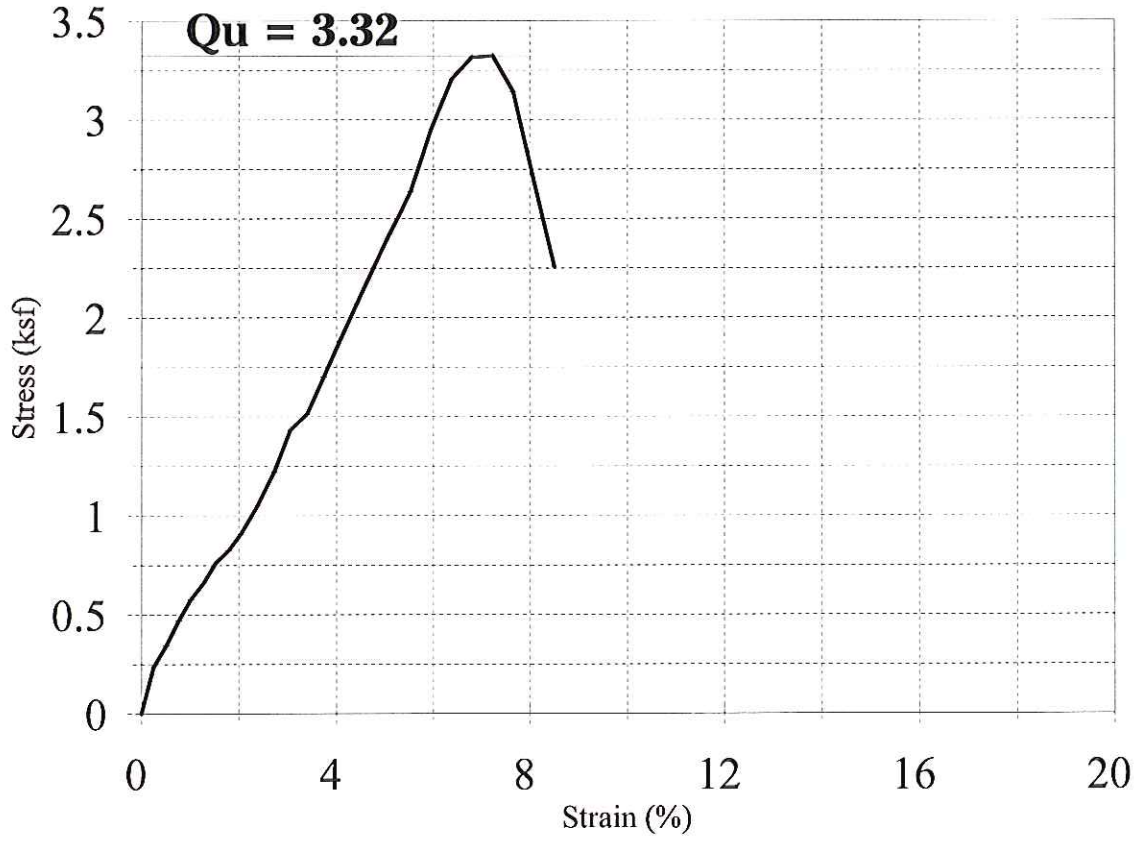
UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 4
Project County	: Haywood	Sample Loc.	: Boring No_60
Project State	: Tennessee	Sample Depth	: 39.2' to 40.4'
Laboratory No.	: 10217	Date Tested	: 11-12-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: White, Gray & Reddish Orange Sandy Silty Clay		
Wet Density	: 129.6 pcf	Initial Height	: 5.87 in
Dry Density	: 111.3 pcf	Initial Diameter	: 2.83 in
Moisture	: 16.4 %	Proving Ring	: #22734
Deg. of Sat.	: 90.0 %	Specific Gravity	: 2.643
COMMENTS	: AASHTO: T-208		



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Project Name	:	Solar Farm Information & Welcome Center Site Design			
Project No.	:	38001-1684-0438001-1684-04	Sample No.	:	ST - 2
Project County	:	Haywood	Sample Loc.	:	Boring No_63
Project State	:	Tennessee	Sample Depth	:	35.0' to 36.1'
Laboratory No.	:	10217	Date Tested	:	11-03-10
Submitted By	:	Florence & Hutcheson	Date Reported	:	11-23-10
Soil Type	:	Brown Lean Clay with Sand			
Wet Density	:	121.2 pcf	Initial Height	:	5.84 in
Dry Density	:	97.7 pcf	Initial Diameter	:	2.82 in
Moisture	:	24.1 %	Proving Ring	:	#22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	5.6	0.04	0.3	0.13
3	13.2	0.04	0.5	0.30
4	29.1	0.04	0.8	0.66
5	53.8	0.04	1.0	1.22
6	81.9	0.04	1.3	1.86
7	104.0	0.04	1.5	2.35
8	131.2	0.04	1.8	2.96
9	138.7	0.04	2.1	3.12
10	123.7	0.04	2.4	2.77
11	108.7	0.04	2.7	2.43
12	93.6	0.04	3.1	2.08

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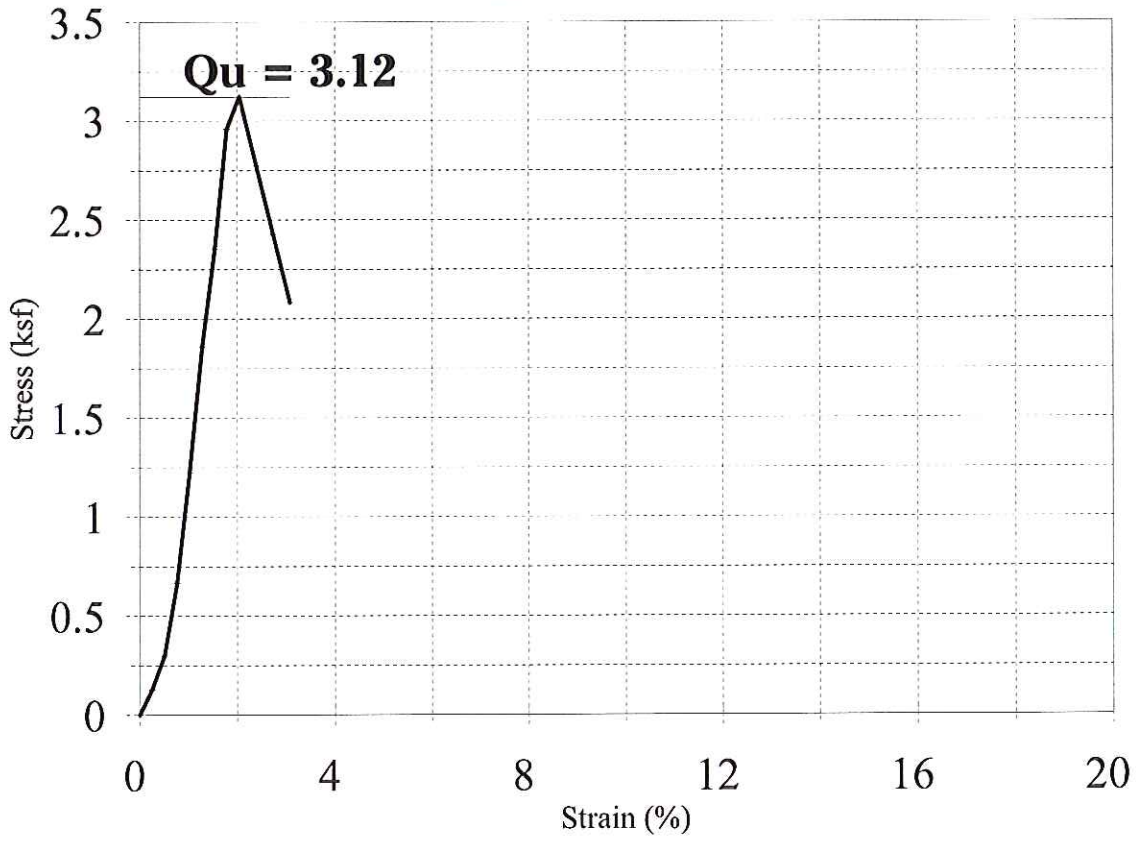
UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 2
Project County	: Haywood	Sample Loc.	: Boring No_63
Project State	: Tennessee	Sample Depth	: 35.0' to 36.1'
Laboratory No.	: 10217	Date Tested	: 11-03-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Brown Lean Clay with Sand		
Wet Density	: 121.2 pcf	Initial Height	: 5.84 in
Dry Density	: 97.7 pcf	Initial Diameter	: 2.82 in
Moisture	: 24.1 %	Proving Ring	: #22734
Deg. of Sat.	: 92.9 %	Specific Gravity	: 2.635
COMMENTS	: AASHTO: T-208		



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UNCONFINED COMPRESSION TEST

Project Name	:	Solar Farm Information & Welcome Center Site Design			
Project No.	:	38001-1684-0438001-1684-04	Sample No.	:	ST - 3
Project County	:	Haywood	Sample Loc.	:	Boring No_63
Project State	:	Tennessee	Sample Depth	:	45.0' to 46.1'
Laboratory No.	:	10217	Date Tested	:	11-03-10
Submitted By	:	Florence & Hutcheson	Date Reported	:	11-23-10
Soil Type	:	Gray Sandy Lean Clay			
Wet Density	:	124.7 pcf	Initial Height	:	5.87 in
Dry Density	:	96.7 pcf	Initial Diameter	:	2.82 in
Moisture	:	29.0 %	Proving Ring	:	#22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	13.2	0.04	0.3	0.30
3	27.3	0.04	0.5	0.62
4	42.3	0.04	0.8	0.97
5	56.7	0.04	1.0	1.29
6	70.3	0.04	1.3	1.60
7	82.9	0.04	1.5	1.88
8	92.6	0.04	1.8	2.09
9	102.1	0.04	2.0	2.30
10	113.4	0.04	2.4	2.55
11	125.6	0.04	2.7	2.81
12	135.0	0.04	3.1	3.01
13	143.5	0.04	3.4	3.19
14	150.3	0.05	3.7	3.33
15	156.2	0.05	4.1	3.45
16	161.1	0.05	4.4	3.54
17	165.0	0.05	4.8	3.62
18	169.0	0.05	5.1	3.69
19	173.9	0.05	5.5	3.78
20	179.7	0.05	6.0	3.89
21	182.7	0.05	6.4	3.93
22	186.6	0.05	6.8	4.00
23	188.6	0.05	7.2	4.02
24	189.5	0.05	7.7	4.03
25	189.5	0.05	8.1	4.01
26	189.5	0.05	8.5	3.99

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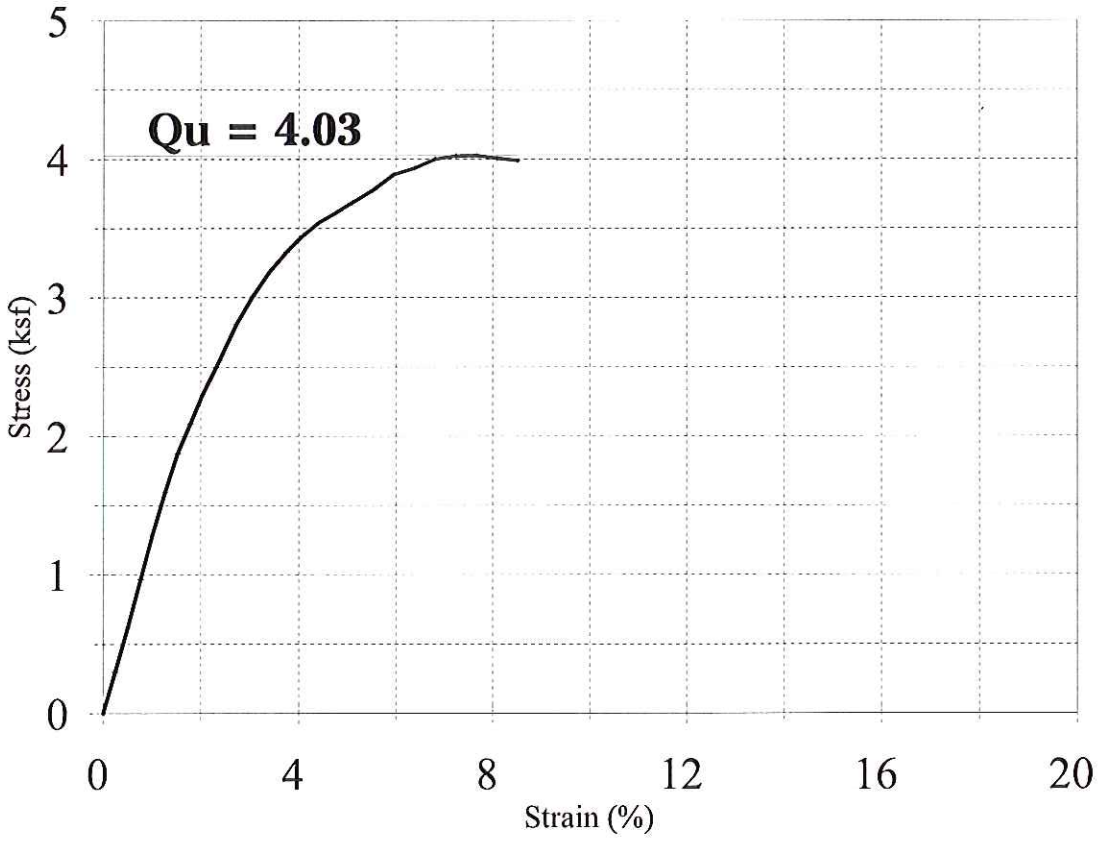
UNCONFINED COMPRESSION TEST

Project Name	:	Solar Farm Information & Welcome Center Site Design			
Project No.	:	38001-1684-0438001-1684-04	Sample No.	:	ST - 3
Project County	:	Haywood	Sample Loc.	:	Boring No_63
Project State	:	Tennessee	Sample Depth	:	45.0' to 46.1'
Laboratory No.	:	10217	Date Tested	:	11-03-10
Submitted By	:	Florence & Hutcheson	Date Reported	:	11-23-10
Soil Type	:	Gray Sandy Lean Clay			
Wet Density	:	124.7 pcf	Initial Height	:	5.87 in
Dry Density	:	96.7 pcf	Initial Diameter	:	2.82 in
Moisture	:	29.0 %	Proving Ring	:	#22734
Deg. of Sat.	:	100.0 %	Specific Gravity	:	2.668
COMMENTS	:	AASHTO: T-208			



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UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 1
Project County	: Haywood	Sample Loc.	: Boring No_64
Project State	: Tennessee	Sample Depth	: 15.0' to 16.6'
Laboratory No.	: 10217	Date Tested	: 10-31-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Beige & Tan Lean Clay with Sand		
Wet Density	: 122.3 pcf	Initial Height	: 5.83 in
Dry Density	: 99.0 pcf	Initial Diameter	: 2.82 in
Moisture	: 23.5 %	Proving Ring	: #22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	7.5	0.04	0.3	0.17
3	13.2	0.04	0.5	0.30
4	17.9	0.04	0.8	0.41
5	23.5	0.04	1.0	0.54
6	27.3	0.04	1.3	0.62
7	32.0	0.04	1.5	0.73
8	34.8	0.04	1.8	0.79
9	37.6	0.04	2.1	0.85
10	41.4	0.04	2.4	0.93
11	45.1	0.04	2.7	1.01
12	49.9	0.04	3.1	1.12
13	53.8	0.04	3.4	1.20
14	57.7	0.04	3.8	1.28
15	62.5	0.05	4.1	1.38
16	65.4	0.05	4.5	1.44
17	69.3	0.05	4.8	1.52
18	72.2	0.05	5.1	1.58
19	78.0	0.05	5.6	1.70
20	81.9	0.05	6.0	1.78
21	86.8	0.05	6.4	1.88
22	91.6	0.05	6.9	1.97
23	95.5	0.05	7.3	2.05
24	100.2	0.05	7.7	2.14
25	103.0	0.05	8.1	2.19
26	106.8	0.05	8.6	2.26
27	113.4	0.05	9.4	2.37
28	120.9	0.05	10.3	2.50
29	125.6	0.05	11.1	2.58
30	130.3	0.05	12.0	2.65
31	135.0	0.05	12.9	2.72
32	140.6	0.05	13.7	2.80
33	143.5	0.05	14.6	2.83
34	146.4	0.05	15.4	2.86
35	149.4	0.05	16.3	2.89
36	151.3	0.05	17.2	2.90
37	152.3	0.05	18.0	2.88
38	150.3	0.05	18.9	2.82

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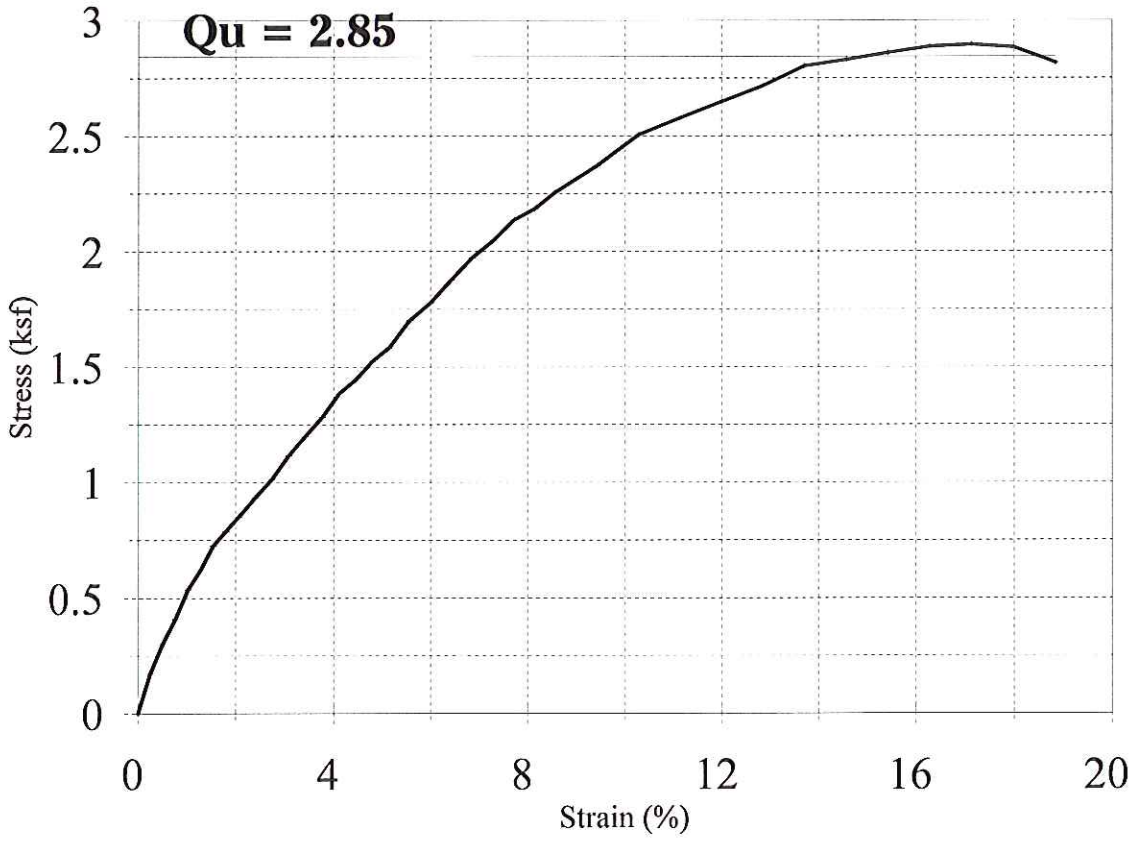
UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 1
Project County	: Haywood	Sample Loc.	: Boring No_64
Project State	: Tennessee	Sample Depth	: 15.0' to 16.6'
Laboratory No.	: 10217	Date Tested	: 10-31-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Beige & Tan Lean Clay with Sand		
Wet Density	: 122.3 pcf	Initial Height	: 5.83 in
Dry Density	: 99.0 pcf	Initial Diameter	: 2.82 in
Moisture	: 23.5 %	Proving Ring	: #22734
Deg. of Sat.	: 95.2 %	Specific Gravity	: 2.604
COMMENTS	: AASHTO: T-208		



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Project Name	:	Solar Farm Information & Welcome Center Site Design			
Project No.	:	38001-1684-0438001-1684-04	Sample No.	:	ST - 1
Project County	:	Haywood	Sample Loc.	:	Boring No_66
Project State	:	Tennessee	Sample Depth	:	19.7' to 20.8'
Laboratory No.	:	10217	Date Tested	:	10-31-10
Submitted By	:	Florence & Hutcheson	Date Reported	:	11-23-10
Soil Type	:	Gray & Yellowish Orange Lean Clay with Sand			
Wet Density	:	124.5 pcf	Initial Height	:	5.85 in
Dry Density	:	99.5 pcf	Initial Diameter	:	2.85 in
Moisture	:	25.1 %	Proving Ring	:	#22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	7.5	0.04	0.3	0.17
3	13.2	0.04	0.5	0.30
4	17.9	0.04	0.8	0.40
5	23.5	0.04	1.0	0.53
6	27.3	0.04	1.3	0.61
7	32.0	0.04	1.5	0.71
8	34.8	0.05	1.8	0.77
9	37.6	0.05	2.1	0.83
10	41.4	0.05	2.4	0.91
11	45.1	0.05	2.7	0.99
12	49.9	0.05	3.1	1.09
13	53.8	0.05	3.4	1.17
14	57.7	0.05	3.8	1.25
15	62.5	0.05	4.1	1.35
16	65.4	0.05	4.4	1.41
17	69.3	0.05	4.8	1.49
18	72.2	0.05	5.1	1.55
19	78.0	0.05	5.6	1.66
20	81.9	0.05	6.0	1.74
21	86.8	0.05	6.4	1.83
22	91.6	0.05	6.8	1.93
23	95.5	0.05	7.3	2.00
24	100.2	0.05	7.7	2.09
25	103.0	0.05	8.1	2.14
26	106.8	0.05	8.5	2.20
27	113.4	0.05	9.4	2.32
28	120.9	0.05	10.3	2.45
29	125.6	0.05	11.1	2.52
30	130.3	0.05	12.0	2.59
31	135.0	0.05	12.8	2.66
32	140.6	0.05	13.7	2.74
33	143.5	0.05	14.5	2.77
34	146.4	0.05	15.4	2.80
35	149.4	0.05	16.2	2.82
36	151.3	0.05	17.1	2.83
37	152.3	0.05	17.9	2.82
38	150.3	0.05	18.8	2.76

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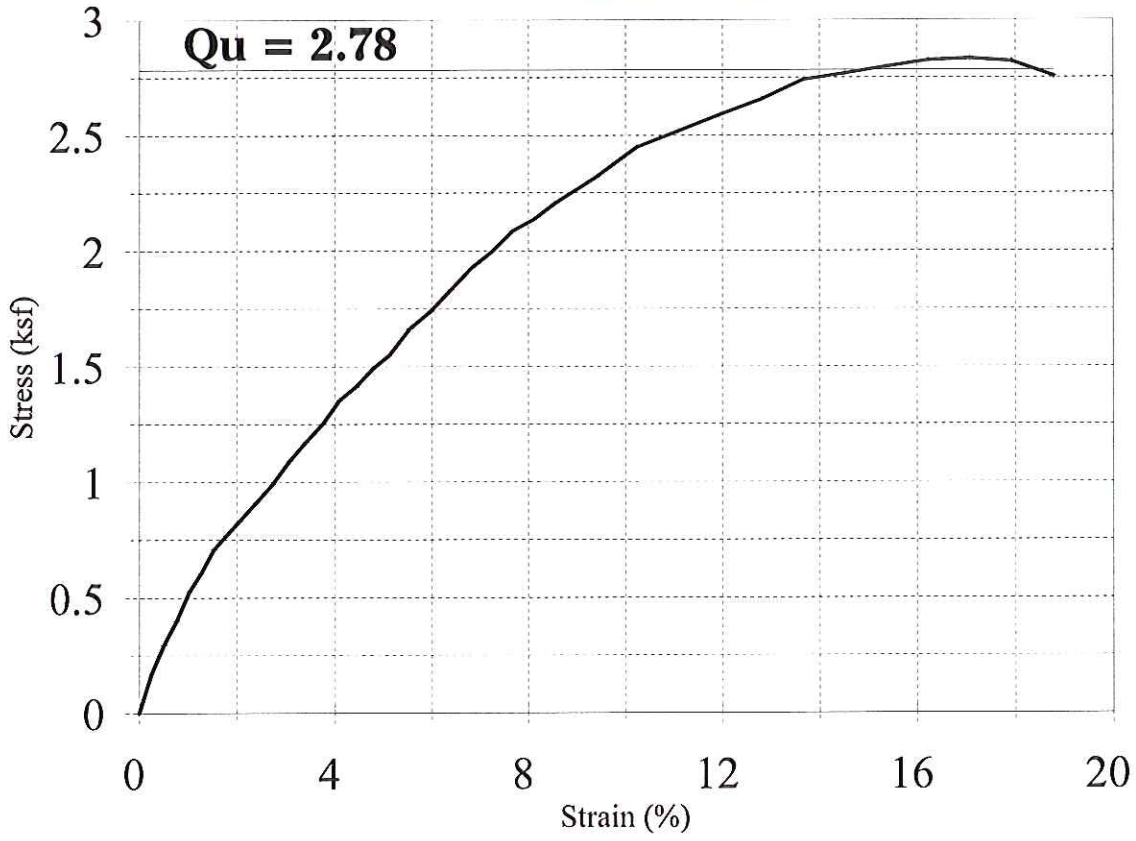
UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 1
Project County	: Haywood	Sample Loc.	: Boring No_66
Project State	: Tennessee	Sample Depth	: 19.7' to 20.8'
Laboratory No.	: 10217	Date Tested	: 10-31-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Gray & Yellowish Orange Lean Clay with Sand		
Wet Density	: 124.5 pcf	Initial Height	: 5.85 in
Dry Density	: 99.5 pcf	Initial Diameter	: 2.85 in
Moisture	: 25.1 %	Proving Ring	: #22734
Deg. of Sat.	: NA		
COMMENTS	: AASHTO: T-208		



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UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 2
Project County	: Haywood	Sample Loc.	: Boring No_68
Project State	: Tennessee	Sample Depth	: 29.5' to 30.3'
Laboratory No.	: 10217	Date Tested	: 10-31-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Light Gray Sandy Lean Clay		
Wet Density	: 120.9 pcf	Initial Height	: 5.89 in
Dry Density	: 97.4 pcf	Initial Diameter	: 2.82 in
Moisture	: 24.1 %	Proving Ring	: #22734

RESULTS:

#	Axial Load lbs	Corrected Area sf	Unit Strain %	Stress Ksf
1	0.0	0.04	0.0	0.00
2	16.9	0.04	0.3	0.39
3	28.2	0.04	0.5	0.65
4	43.2	0.04	0.8	0.99
5	59.6	0.04	1.0	1.36
6	73.2	0.04	1.3	1.67
7	85.8	0.04	1.5	1.95
8	98.3	0.04	1.8	2.23
9	115.2	0.04	2.0	2.61
10	128.4	0.04	2.4	2.90
11	140.6	0.04	2.7	3.16
12	152.3	0.04	3.1	3.41
13	162.1	0.04	3.4	3.62
14	170.9	0.04	3.7	3.81
15	177.8	0.05	4.1	3.94
16	181.7	0.05	4.4	4.02
17	186.6	0.05	4.8	4.11
18	191.5	0.05	5.1	4.20
19	196.2	0.05	5.5	4.29
20	197.1	0.05	5.9	4.29
21	194.3	0.05	6.4	4.21
22	189.5	0.05	6.8	4.09

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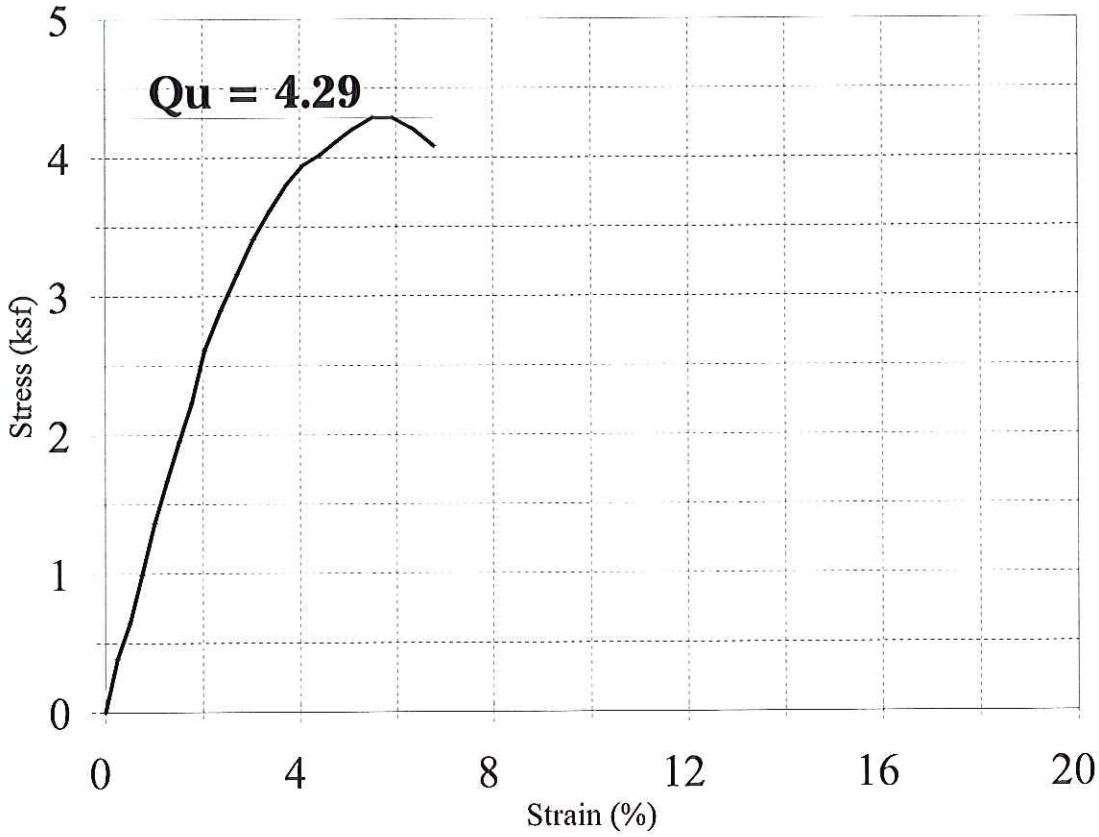
UNCONFINED COMPRESSION TEST

Project Name	: Solar Farm Information & Welcome Center Site Design		
Project No.	: 38001-1684-0438001-1684-04	Sample No.	: ST - 2
Project County	: Haywood	Sample Loc.	: Boring No_68
Project State	: Tennessee	Sample Depth	: 29.5' to 30.3'
Laboratory No.	: 10217	Date Tested	: 10-31-10
Submitted By	: Florence & Hutcheson	Date Reported	: 11-23-10
Soil Type	: Light Gray Sandy Lean Clay		
Wet Density	: 120.9 pcf	Initial Height	: 5.89 in
Dry Density	: 97.4 pcf	Initial Diameter	: 2.82 in
Moisture	: 24.1 %	Proving Ring	: #22734
Deg. of Sat.	: 92.3 %	Specific Gravity	: 2.635
COMMENTS	: AASHTO: T-208		



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mail@flohut.com

Florence & Hutcheson

CONSULTING ENGINEERS

TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Beige & Yellowish Orange Lean Clay with Sand

Point No. : 1
Sample Loc. : Boring No_47
Sample Depth : 20.0' to 21.7'
Date Tested : 10-31-10
Date Reported : 11-23-10

Wet Density : 125.3 pcf
Dry Density : 99.3 pcf
Moisture : 26.1 %

Delta Height : NA
Delta Volume : NA
Chamber Pressure. : 9.4 psi

Initial Height : 14.87 cm
Initial Diameter : 7.21 cm
Init. Pore Pres. : NA

RESULTS:

	ε a	σ 3 (psi)	σ 1 (psi)	σ1 / σ3
1	0.00	9.43	9.43	1.00
2	0.09	9.43	11.64	1.23
3	0.17	9.43	13.63	1.44
4	0.26	9.43	15.17	1.61
5	0.34	9.43	16.71	1.77
6	0.43	9.43	18.02	1.91
7	0.51	9.43	19.34	2.05
8	1.02	9.43	26.21	2.78
9	1.54	9.43	32.93	3.49
10	2.05	9.43	38.82	4.11
11	2.56	9.43	42.10	4.46
12	3.07	9.43	43.25	4.58
13	3.42	9.43	42.38	4.49
14	4.27	9.43	39.57	4.19

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CONSULTING ENGINEERS

TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson

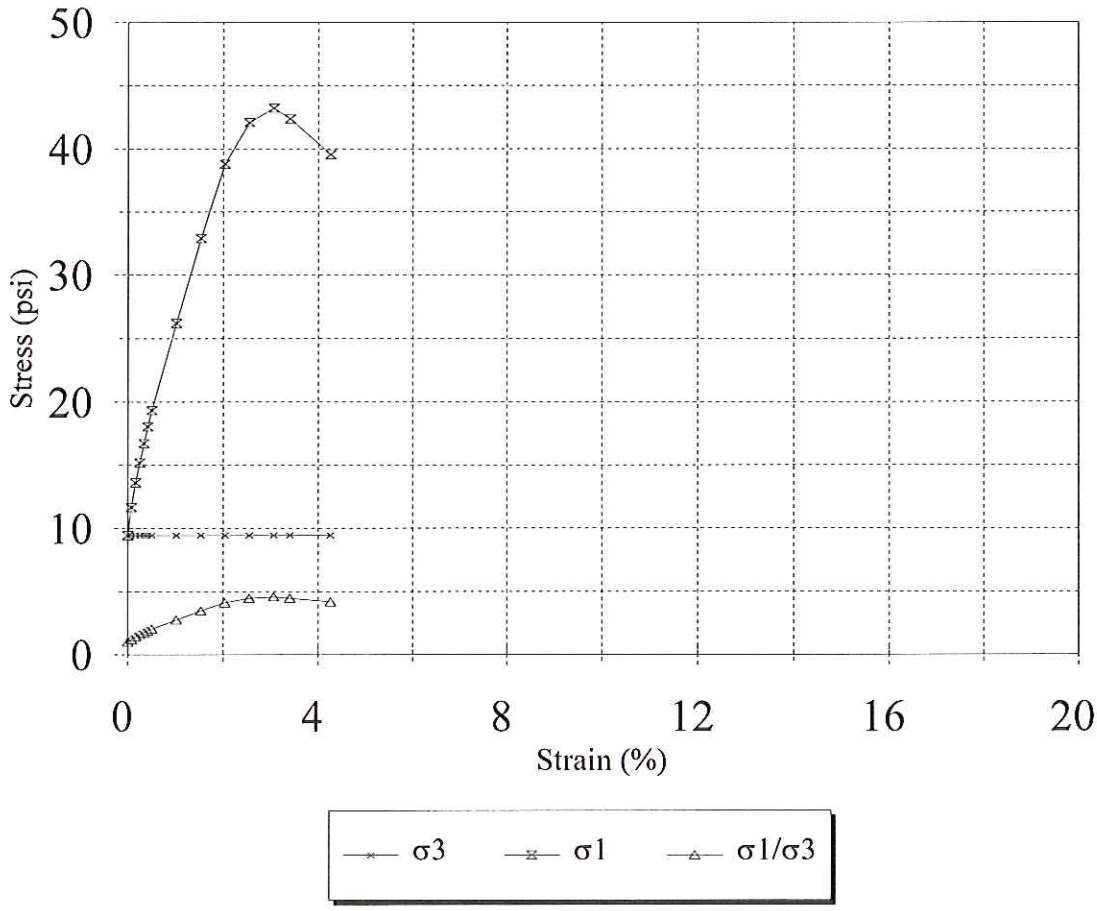
Point No. : 1
Sample Loc. : Boring No_47
Sample Depth : 20.0' to 21.7'
Date Tested : 10-31-10
Date Reported : 11-23-10

Final Moisture : 26.1 %
Final Height : 14.23 cm
Final Diameter : 7.37 cm
Initial Saturation : 100 %

Eff. Cons. Stress : 9.43 psi
Total Back Pressure : NA
Pore Pres. After Sat. : NA
Final Saturation : 100 %

Init.Void Ratio : 0.6455
Final Void Ratio : 0.6455
Specific Gravity : 2.618
Comments : AASHTO T-296

RESULTS:



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TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Sample Loc. : Boring No_47
Sample Depth : 20.0' to 21.7'
Date Tested : 10-31-10
Date Reported : 11-23-10

COEFFICIENT OF INTERNAL FRICTION AND COHESION BY THE METHOD OF LEAST SQUARES :

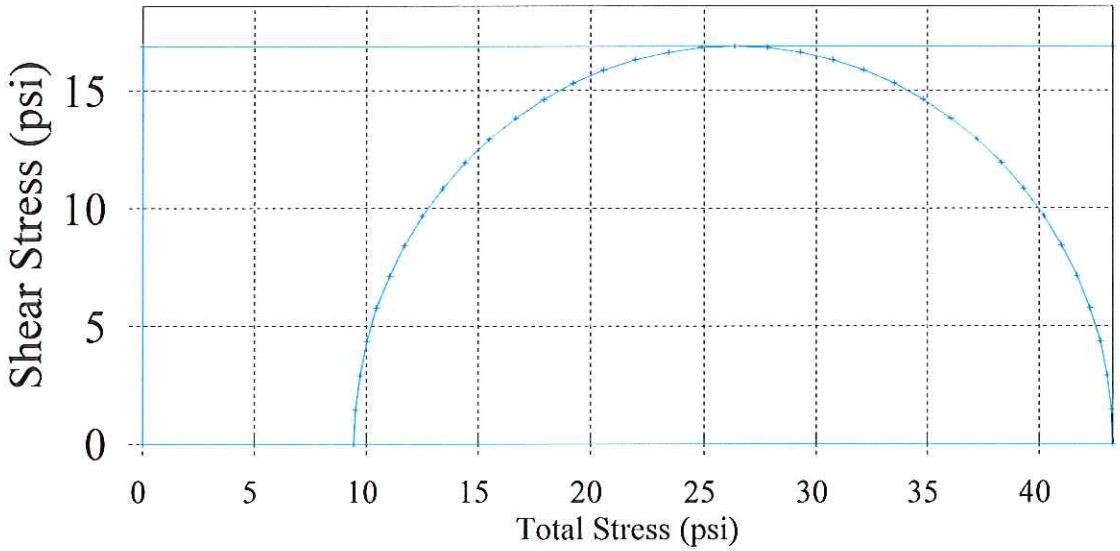
Test	Lateral	Total
1	9.43	43.25

Compressive Strength = 4870 psf
Cohesion = 2435 psf
Phi = 0.0 deg
Tan (Phi) = 0.0000

At Maximum Deviator Stress

Triaxial Mohr's Circles

Unconsolidated Undrained Triaxial Test



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Florence & Hutcheson

Consulting Engineers

TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Orange Lean Clay with Sand

Point No. : 1
Sample Loc. : Boring No_56
Sample Depth : 19.5' to 20.4'
Date Tested : 11-04-10
Date Reported : 11-24-10

Wet Density : 124.4 pcf
Dry Density : 94.9 pcf
Moisture : 31.1 %

Delta Height : NA
Delta Volume : NA
Chamber Pressure. : 8.6 psi

Initial Height : 14.92 cm
Initial Diameter : 7.18 cm
Init. Pore Pres. : NA

RESULTS:

	ε a	σ 3 (psi)	σ 1 (psi)	σ1 / σ3
1	0.00	8.64	8.64	1.00
2	0.09	8.64	9.98	1.16
3	0.17	8.64	10.42	1.21
4	0.26	8.64	11.09	1.28
5	0.34	8.64	11.53	1.34
6	0.43	8.64	11.97	1.39
7	0.51	8.64	12.42	1.44
8	1.02	8.64	15.27	1.77
9	1.53	8.64	17.44	2.02
10	2.04	8.64	19.14	2.22
11	2.55	8.64	20.17	2.33
12	3.06	8.64	20.53	2.38
13	3.41	8.64	20.92	2.42
14	4.26	8.64	21.65	2.51
15	5.11	8.64	22.16	2.57
16	5.96	8.64	22.25	2.58
17	6.81	8.64	22.74	2.63
18	7.66	8.64	23.02	2.66
19	8.51	8.64	23.29	2.70
20	9.36	8.64	23.35	2.70
21	10.22	8.64	23.81	2.76
22	11.07	8.64	24.05	2.78
23	11.92	8.64	24.29	2.81
24	12.77	8.64	24.34	2.82
25	13.62	8.64	24.75	2.87
26	14.47	8.64	24.97	2.89
27	15.32	8.64	25.18	2.92
28	16.17	8.64	25.38	2.94
29	17.03	8.64	25.58	2.96
30	17.88	8.64	25.77	2.98
31	18.73	8.64	25.95	3.00
32	19.58	8.64	25.94	3.00

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TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson

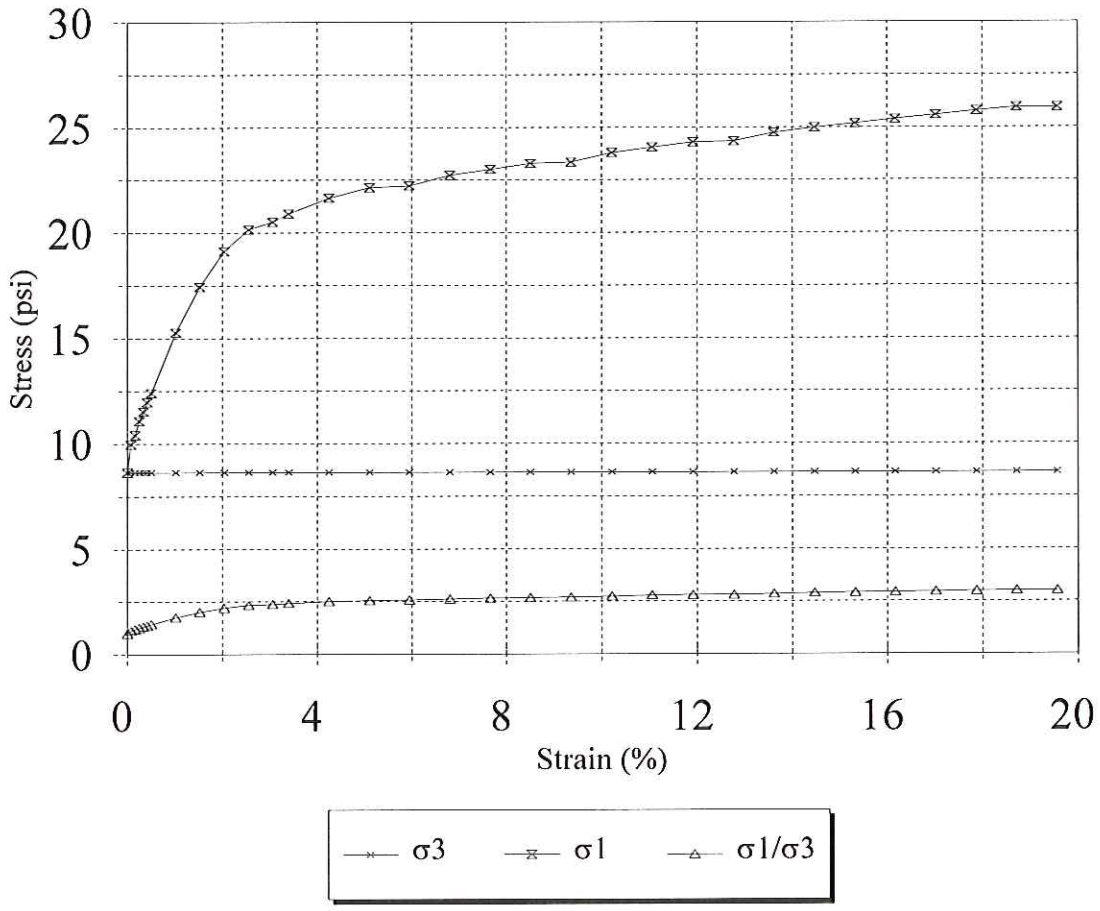
Point No. : 1
Sample Loc. : Boring No_56
Sample Depth : 19.5' to 20.4'
Date Tested : 11-04-10
Date Reported : 11-24-10

Final Moisture : 31.1 %
Final Height : 12.00 cm
Final Diameter : 8.00 cm
Initial Saturation : 100 %

Eff. Cons. Stress : 8.64 psi
Total Back Pressure : NA
Pore Pres. After Sat. : NA
Final Saturation : 100 %

Init.Void Ratio : 0.8197
Final Void Ratio : 0.8197
Specific Gravity : 2.766
Comments : AASHTO T-296

RESULTS:



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TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Sample Loc. : Boring No_56
Sample Depth : 19.5' to 20.4'
Date Tested : 11-04-10
Date Reported : 11-24-10

COEFFICIENT OF INTERNAL FRICTION AND COHESION BY THE METHOD OF LEAST SQUARES :

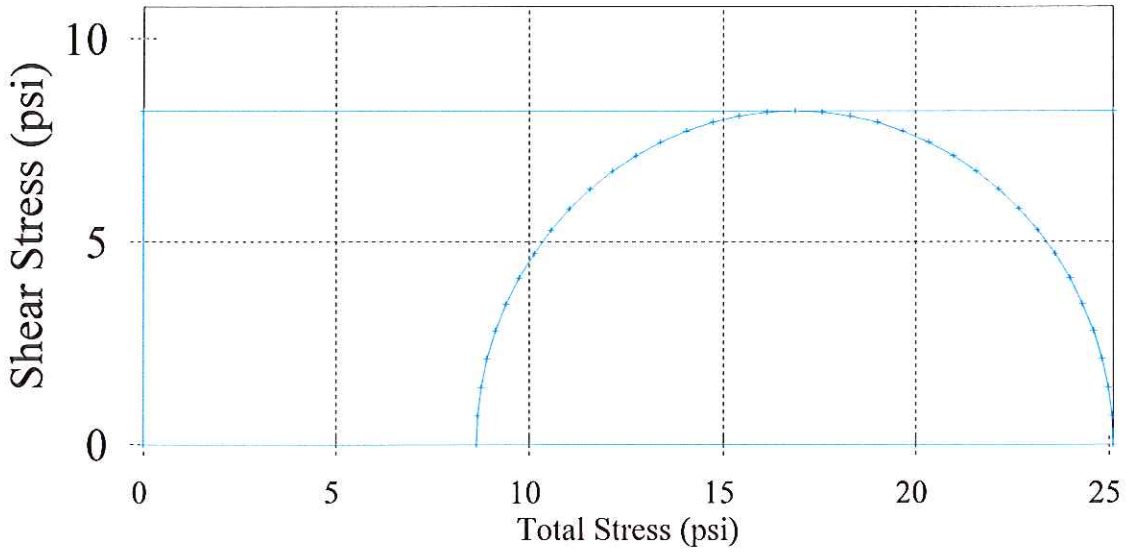
Test	Lateral	Total
1	8.64	25.10

Compressive Strength = 2371 psf
Cohesion = 1185 psf
Phi = 0.0 deg
Tan (Phi) = 0.0000

At Maximum Deviator Stress

Triaxial Mohr's Circles

Unconsolidated Undrained Triaxial Test



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Consulting Engineers

TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Light Gray Silt with Sand

Point No. : 1
Sample Loc. : Boring No_56
Sample Depth : 34.5' to 36.1'
Date Tested : 11-04-10
Date Reported : 11-24-10

Wet Density : 127.4 pcf
Dry Density : 108.2 pcf
Moisture : 17.8 %

Delta Height : NA
Delta Volume : NA
Chamber Pressure. : 15.5 psi

Initial Height : 14.84 cm
Initial Diameter : 7.17 cm
Init. Pore Pres. : NA

RESULTS:

	ε a	σ 3 (psi)	σ 1 (psi)	σ1 / σ3
1	0.00	15.51	15.51	1.00
2	0.09	15.51	17.75	1.14
3	0.17	15.51	20.65	1.33
4	0.26	15.51	23.54	1.52
5	0.34	15.51	26.21	1.69
6	0.43	15.51	29.06	1.87
7	0.51	15.51	31.68	2.04
8	1.03	15.51	47.44	3.06
9	1.54	15.51	58.98	3.80
10	2.05	15.51	64.23	4.14
11	2.57	15.51	65.28	4.21
12	3.08	15.51	65.11	4.20
13	3.42	15.51	64.75	4.17
14	4.28	15.51	63.86	4.12
15	5.13	15.51	63.06	4.07

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TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson

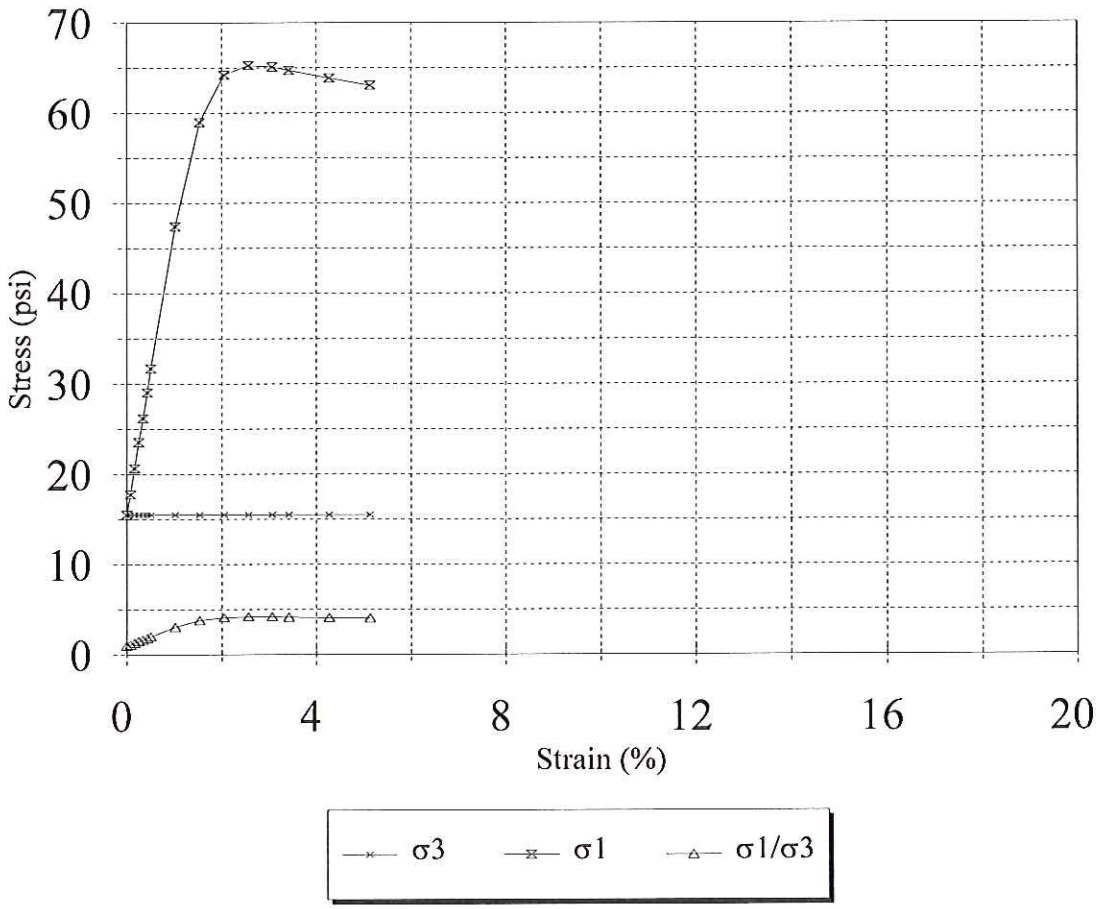
Point No. : 1
Sample Loc. : Boring No_56
Sample Depth : 34.5' to 36.1'
Date Tested : 11-04-10
Date Reported : 11-24-10

Final Moisture : 17.8 %
Final Height : 14.08 cm
Final Diameter : 7.36 cm
Initial Saturation : 88 %

Eff. Cons. Stress : 15.51 psi
Total Back Pressure : NA
Pore Pres. After Sat. : NA
Final Saturation : 88 %

Init.Void Ratio : 0.5421
Final Void Ratio : 0.5421
Specific Gravity : 2.672
Comments : AASHTO T-296

RESULTS:



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TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson

Sample Loc. : Boring No_56
Sample Depth : 34.5' to 36.1'
Date Tested : 11-04-10
Date Reported : 11-24-10

COEFFICIENT OF INTERNAL FRICTION AND COHESION BY THE METHOD OF LEAST SQUARES :

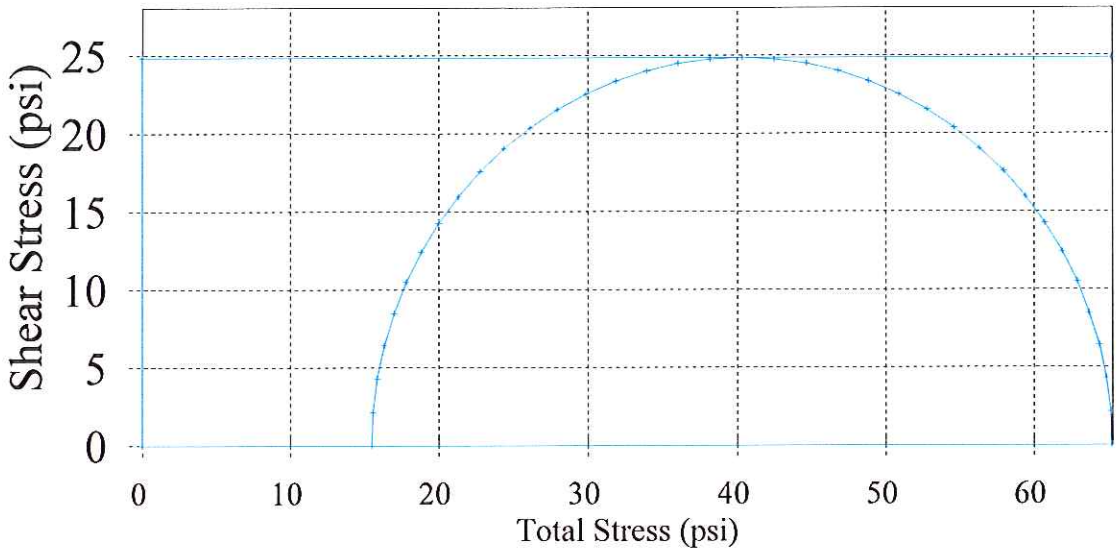
Test	Lateral	Total
1	15.51	65.28

Compressive Strength = 7167 psf
Cohesion = 3583 psf
Phi = 0.0 deg
Tan (Phi) = 0.0000

At Maximum Deviator Stress

Triaxial Mohr's Circles

Unconsolidated Undrained Triaxial Test



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Consulting Engineers

TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Light Gray Silty, Clayey Sand

Point No. : 1
Sample Loc. : Boring No_57
Sample Depth : 24.9' to 26.5'
Date Tested : 11-04-10
Date Reported : 11-24-10

Wet Density : 130.9 pcf
Dry Density : 107.3 pcf
Moisture : 22.1 %

Delta Height : NA
Delta Volume : NA
Chamber Pressure. : 16.7 psi

Initial Height : 14.81 cm
Initial Diameter : 7.18 cm
Init. Pore Pres. : NA

RESULTS:

	ε a	σ 3 (psi)	σ 1 (psi)	σ1 / σ3
1	0.00	16.71	16.71	1.00
2	0.09	16.71	18.94	1.13
3	0.17	16.71	20.72	1.24
4	0.26	16.71	22.28	1.33
5	0.34	16.71	23.61	1.41
6	0.43	16.71	24.49	1.47
7	0.51	16.71	26.04	1.56
8	1.03	16.71	33.43	2.00
9	1.54	16.71	39.59	2.37
10	2.06	16.71	44.08	2.64
11	2.57	16.71	47.27	2.83
12	3.09	16.71	49.13	2.94
13	3.43	16.71	50.16	3.00
14	4.29	16.71	51.38	3.08
15	5.15	16.71	52.01	3.11
16	6.00	16.71	52.25	3.13
17	6.86	16.71	52.11	3.12
18	7.72	16.71	49.77	2.98
19	8.58	16.71	47.66	2.85
20	9.44	16.71	46.08	2.76
21	10.29	16.71	45.04	2.70

Florence & Hutcheson

CONSULTING ENGINEERS

TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson

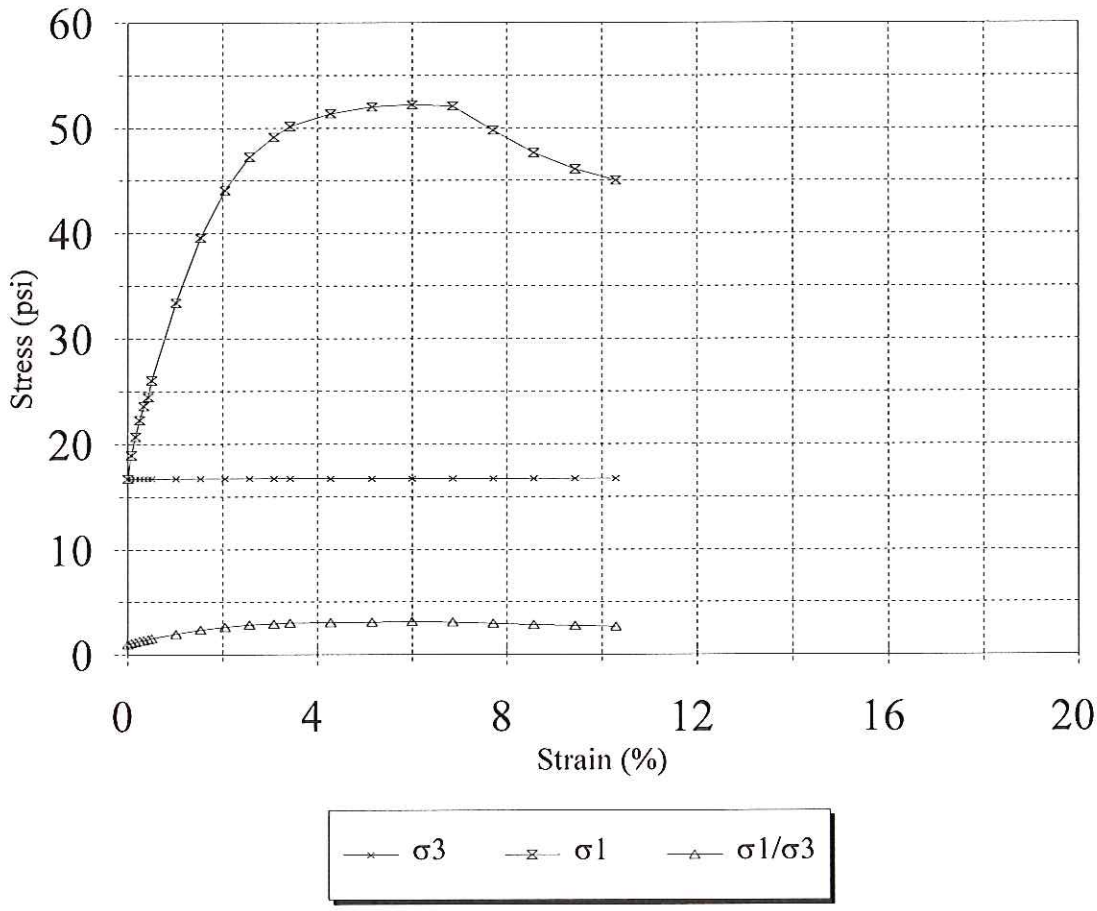
Point No. : 1
Sample Loc. : Boring No_57
Sample Depth : 24.9' to 26.5'
Date Tested : 11-04-10
Date Reported : 11-24-10

Final Moisture : 22.1 %
Final Height : 13.28 cm
Final Diameter : 7.58 cm
Initial Saturation : 100 %

Eff. Cons. Stress : 16.71 psi
Total Back Pressure : NA
Pore Pres. After Sat. : NA
Final Saturation : 100 %

Init.Void Ratio : 0.5407
Final Void Ratio : 0.5407
Specific Gravity : 2.647
Comments : AASHTO T-296

RESULTS:



Florence & Hutcheson
CONSULTING ENGINEERS

TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson

Sample Loc. : Boring No_57
Sample Depth : 24.9' to 26.5'
Date Tested : 11-04-10
Date Reported : 11-24-10

COEFFICIENT OF INTERNAL FRICTION AND COHESION BY THE METHOD OF LEAST SQUARES :

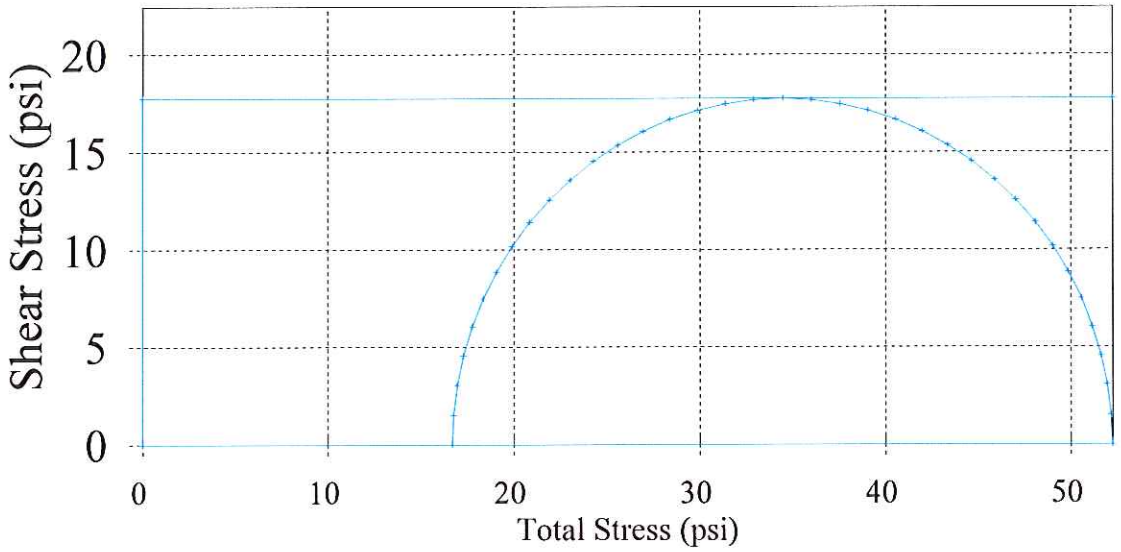
Test	Lateral	Total
1	16.71	52.25

Compressive Strength = 5118 psf
Cohesion = 2559 psf
Phi = 0.0 deg
Tan (Phi) = 0.0000

At Maximum Deviator Stress

Triaxial Mohr's Circles

Unconsolidated Undrained Triaxial Test



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Florence & Hutcheson

Consulting Engineers

TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Light Gray Sandy Lean Clay

Point No. : 1
Sample Loc. : Boring No_59
Sample Depth : 29.1' to 30.8'
Date Tested : 11-14-10
Date Reported : 11-24-10

Wet Density : 132.8 pcf
Dry Density : 110.4 pcf
Moisture : 20.3 %

Delta Height : NA
Delta Volume : NA
Chamber Pressure. : 19.1 psi

Initial Height : 14.86 cm
Initial Diameter : 7.17 cm
Init. Pore Pres. : NA

RESULTS:

	ε a	σ 3 (psi)	σ 1 (psi)	σ1 / σ3
1	0.00	19.10	19.10	1.00
2	0.09	19.10	21.78	1.14
3	0.17	19.10	24.45	1.28
4	0.26	19.10	28.46	1.49
5	0.34	19.10	31.99	1.67
6	0.43	19.10	35.27	1.85
7	0.51	19.10	38.54	2.02
8	1.03	19.10	57.32	3.00
9	1.54	19.10	69.55	3.64
10	2.05	19.10	75.49	3.95
11	2.56	19.10	77.66	4.07
12	3.08	19.10	78.17	4.09
13	3.42	19.10	77.96	4.08
14	4.27	19.10	74.62	3.91
15	5.13	19.10	69.92	3.66
16	5.98	19.10	67.81	3.55
17	6.84	19.10	65.94	3.45

Florence & Hutcheson

CONSULTING ENGINEERS

TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson

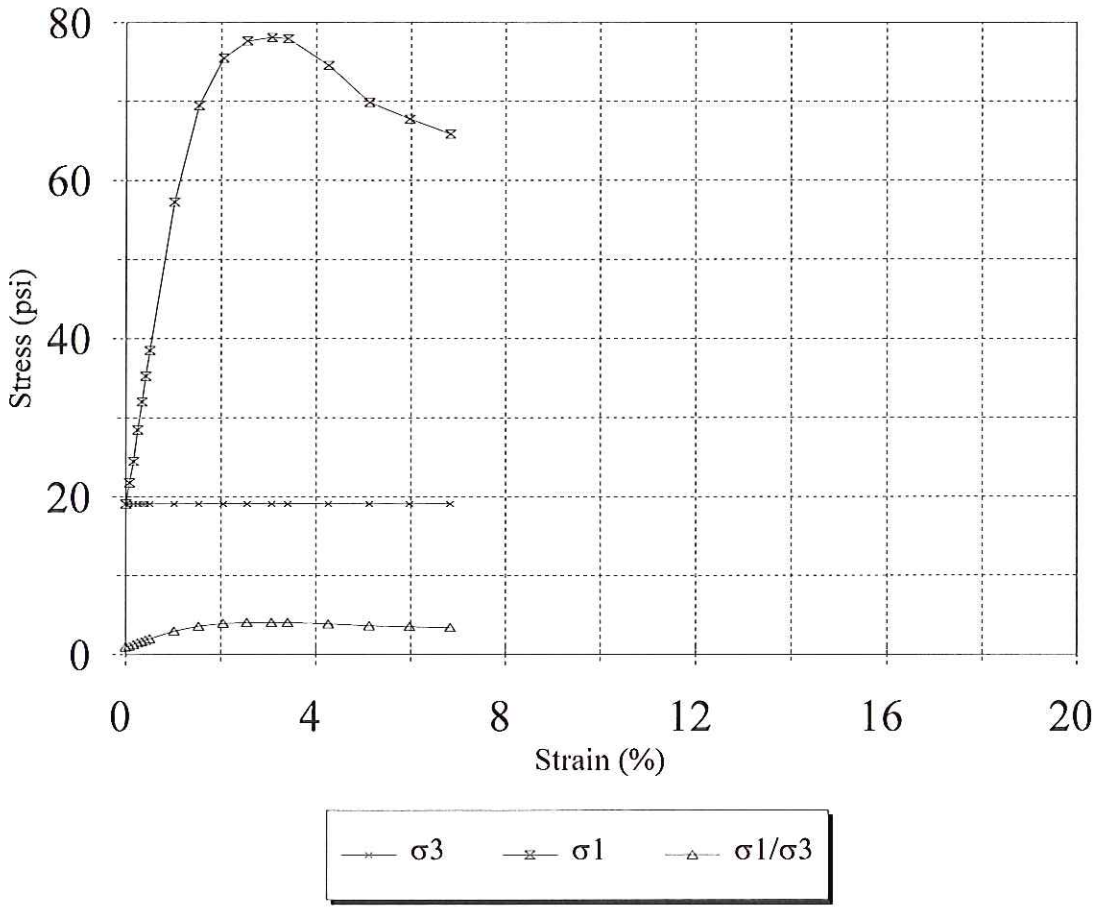
Point No. : 1
Sample Loc. : Boring No_59
Sample Depth : 29.1' to 30.8'
Date Tested : 11-14-10
Date Reported : 11-24-10

Final Moisture : 20.3 %
Final Height : 13.84 cm
Final Diameter : 7.43 cm
Initial Saturation : 100 %

Eff. Cons. Stress : 19.10 psi
Total Back Pressure : NA
Pore Pres. After Sat. : NA
Final Saturation : 100 %

Init.Void Ratio : 0.5130
Final Void Ratio : 0.5130
Specific Gravity : 2.675
Comments : AASHTO T-296

RESULTS:



Florence & Hutcheson
CONSULTING ENGINEERS

TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Sample Loc. : Boring No_59
Sample Depth : 29.1' to 30.8'
Date Tested : 11-14-10
Date Reported : 11-24-10

COEFFICIENT OF INTERNAL FRICTION AND COHESION BY THE METHOD OF LEAST SQUARES :

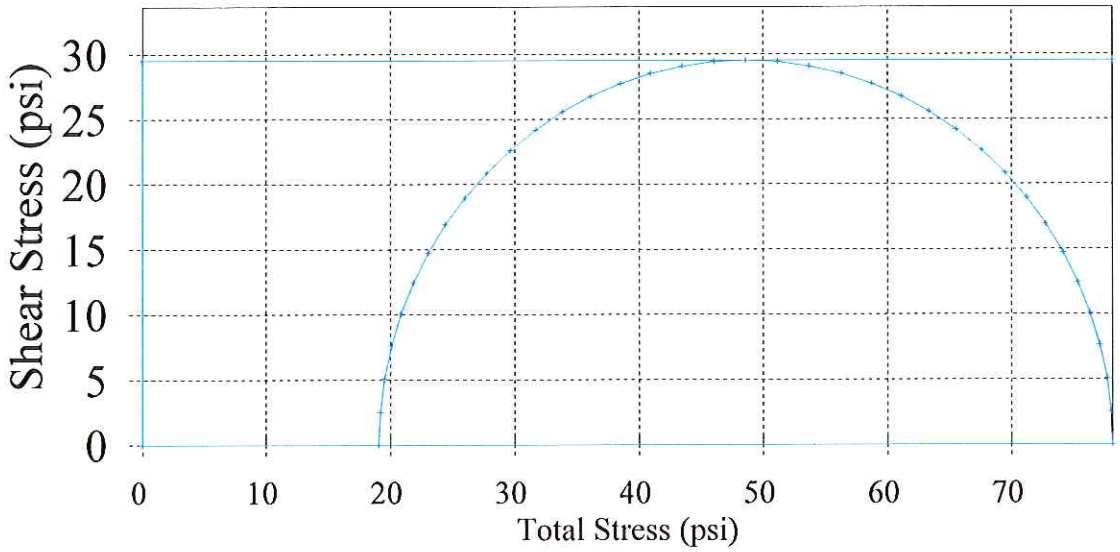
Test	Lateral	Total
1	19.10	78.17

Compressive Strength = 8506 psf
Cohesion = 4253 psf
Phi = 0.0 deg
Tan (Phi) = 0.0000

At Maximum Deviator Stress

Triaxial Mohr's Circles

Unconsolidated Undrained Triaxial Test



APPROVED BY: DLC

Florence & Hutcheson
CONSULTING ENGINEERS

TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Light Gray Lean Clay with Sand

Point No. : 1
Sample Loc. : Boring No_60
Sample Depth : 29.0' to 30.6'
Date Tested : 11-14-10
Date Reported : 11-24-10

Wet Density : 127.8 pcf
Dry Density : 103.7 pcf
Moisture : 23.3 %

Delta Height : NA
Delta Volume : NA
Chamber Pressure. : 18.0 psi

Initial Height : 14.81 cm
Initial Diameter : 7.17 cm
Init. Pore Pres. : NA

RESULTS:

	ε a	σ 3 (psi)	σ 1 (psi)	σ1 / σ3
1	0.00	18.00	18.00	1.00
2	0.09	18.00	20.46	1.14
3	0.17	18.00	22.46	1.25
4	0.26	18.00	24.02	1.33
5	0.34	18.00	25.57	1.42
6	0.43	18.00	26.90	1.49
7	0.51	18.00	28.23	1.57
8	1.03	18.00	36.03	2.00
9	1.54	18.00	43.42	2.41
10	2.06	18.00	48.74	2.71
11	2.57	18.00	51.96	2.89
12	3.09	18.00	53.51	2.97
13	3.43	18.00	53.96	3.00
14	4.29	18.00	54.02	3.00
15	5.15	18.00	51.82	2.88
16	6.00	18.00	52.07	2.89
17	6.86	18.00	52.13	2.90
18	7.72	18.00	52.18	2.90
19	8.58	18.00	51.86	2.88
20	9.43	18.00	52.26	2.90
21	10.29	18.00	52.29	2.90
22	11.15	18.00	52.14	2.90
23	12.01	18.00	52.16	2.90
24	12.86	18.00	52.34	2.91
25	13.72	18.00	52.34	2.91
26	14.58	18.00	52.17	2.90
27	15.44	18.00	52.16	2.90
28	16.29	18.00	52.31	2.91
29	17.15	18.00	52.29	2.90
30	18.01	18.00	52.10	2.89
31	18.87	18.00	51.90	2.88
32	19.72	18.00	52.02	2.89

Florence & Hutcheson

CONSULTING ENGINEERS

TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson

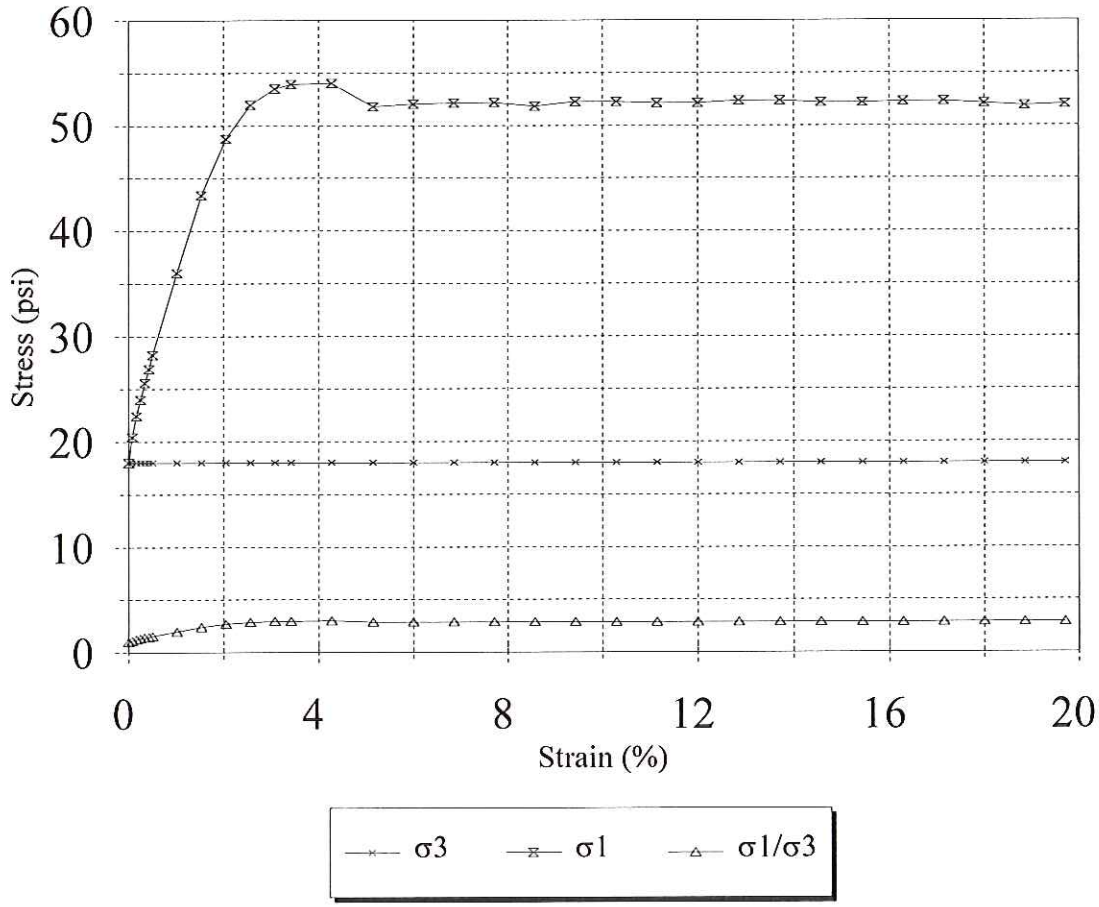
Point No. : 1
Sample Loc. : Boring No_60
Sample Depth : 29.0' to 30.6'
Date Tested : 11-14-10
Date Reported : 11-24-10

Final Moisture : 23.3 %
Final Height : 11.89 cm
Final Diameter : 8.01 cm
Initial Saturation : 100 %

Eff. Cons. Stress : 18.00 psi
Total Back Pressure : NA
Pore Pres. After Sat. : NA
Final Saturation : 100 %

Init.Void Ratio : 0.5982
Final Void Ratio : 0.5982
Specific Gravity : 2.655
Comments : AASHTO T-296

RESULTS:



Florence & Hutcheson

CONSULTING ENGINEERS

TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson

Sample Loc. : Boring No_60
Sample Depth : 29.0' to 30.6'
Date Tested : 11-14-10
Date Reported : 11-24-10

COEFFICIENT OF INTERNAL FRICTION AND COHESION BY THE METHOD OF LEAST SQUARES :

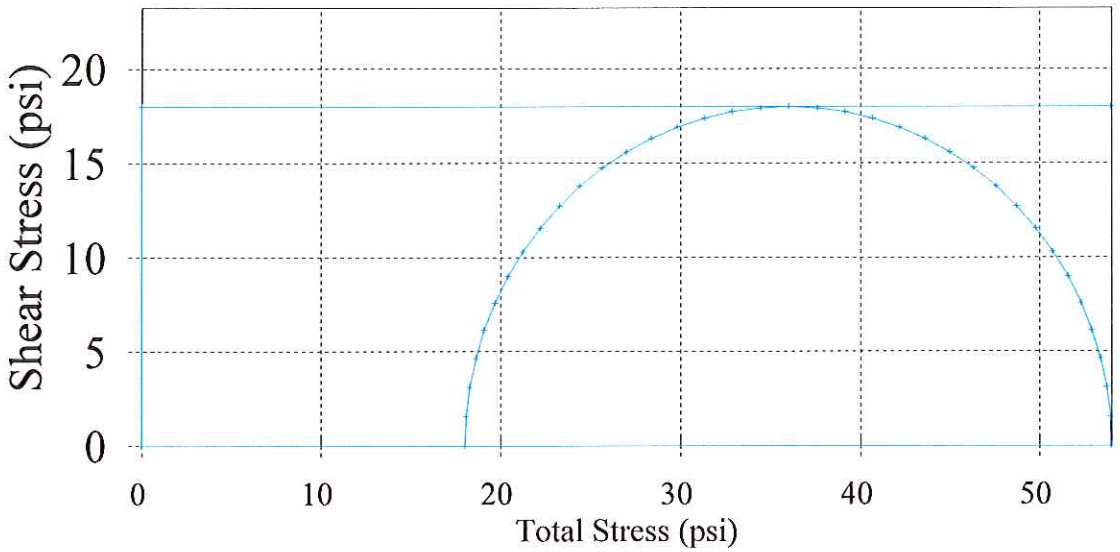
Test	Lateral	Total
1	18.00	54.02

Compressive Strength = 5186 psf
Cohesion = 2593 psf
Phi = 0.0 deg
Tan (Phi) = 0.0000

At Maximum Deviator Stress

Triaxial Mohr's Circles

Unconsolidated Undrained Triaxial Test



APPROVED BY: DLC

Florence & Hutcheson

CONSULTING ENGINEERS

TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Beige & Yellowish Orange Sandy Lean Clay

Point No. : 1
Sample Loc. : Boring No_62
Sample Depth : 29.5' to 30.9'
Date Tested : 10-31-10
Date Reported : 11-24-10

Wet Density : 121.5 pcf
Dry Density : 94.8 pcf
Moisture : 28.2 %

Delta Height : NA
Delta Volume : NA
Chamber Pressure. : 12.7 psi

Initial Height : 14.84 cm
Initial Diameter : 7.20 cm
Init. Pore Pres. : NA

RESULTS:

	ε a	σ 3 (psi)	σ 1 (psi)	σ1 / σ3
1	0.00	12.72	12.72	1.00
2	0.09	12.72	14.27	1.12
3	0.17	12.72	15.16	1.19
4	0.26	12.72	15.82	1.24
5	0.34	12.72	16.48	1.30
6	0.43	12.72	17.14	1.35
7	0.51	12.72	17.80	1.40
8	1.03	12.72	20.41	1.60
9	1.54	12.72	22.99	1.81
10	2.05	12.72	25.09	1.97
11	2.57	12.72	27.37	2.15
12	3.08	12.72	28.78	2.26
13	3.42	12.72	29.57	2.32
14	4.28	12.72	31.30	2.46
15	5.13	12.72	32.59	2.56
16	5.99	12.72	32.82	2.58
17	6.85	12.72	33.25	2.61
18	7.70	12.72	33.45	2.63
19	8.56	12.72	33.65	2.64
20	9.41	12.72	33.65	2.64
21	10.27	12.72	33.83	2.66
22	11.12	12.72	34.01	2.67
23	11.98	12.72	33.80	2.66
24	12.84	12.72	33.97	2.67
25	13.69	12.72	33.94	2.67
26	14.55	12.72	33.73	2.65
27	15.40	12.72	33.70	2.65
28	16.26	12.72	33.67	2.65
29	17.11	12.72	33.63	2.64
30	17.97	12.72	33.59	2.64
31	18.82	12.72	33.54	2.64
32	19.68	12.72	33.32	2.62

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TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson

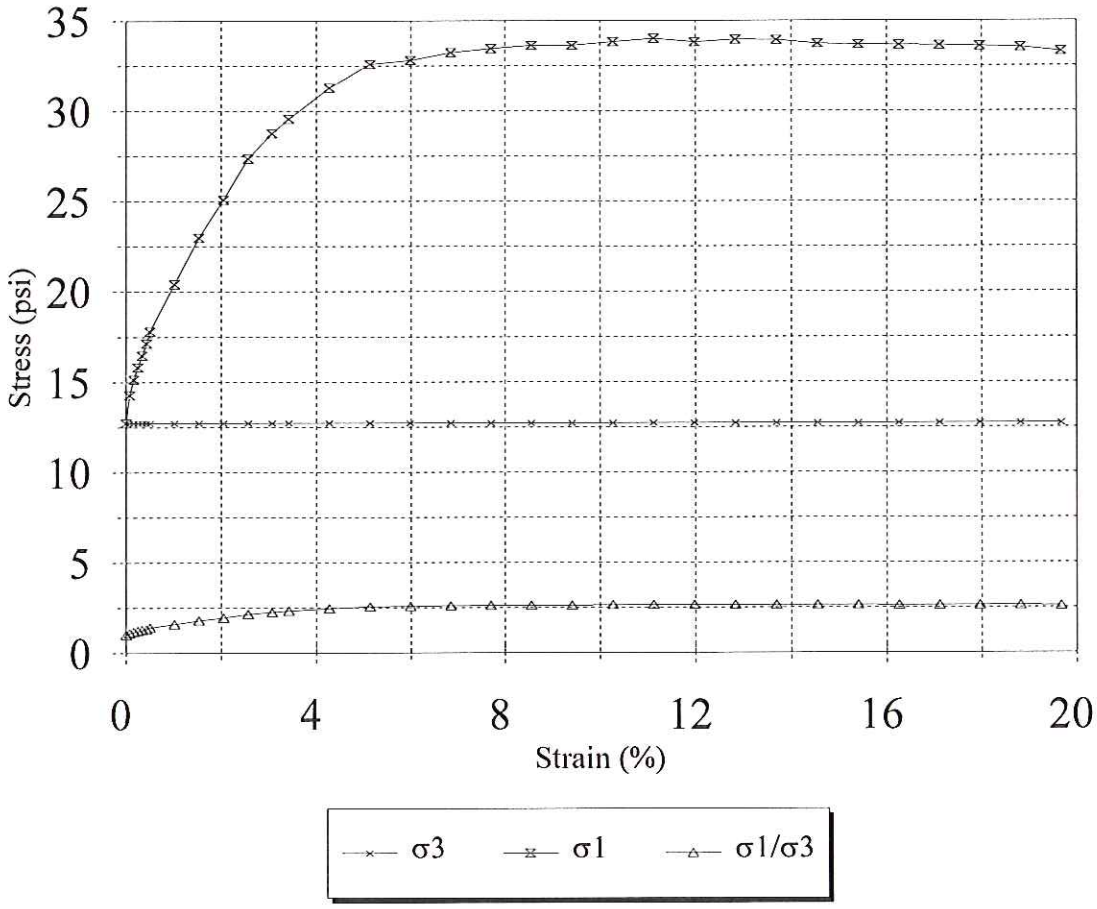
Point No. : 1
Sample Loc. : Boring No_62
Sample Depth : 29.5' to 30.9'
Date Tested : 10-31-10
Date Reported : 11-24-10

Final Moisture : 28.2 %
Final Height : 11.92 cm
Final Diameter : 8.03 cm
Initial Saturation : 100 %

Eff. Cons. Stress : 12.72 psi
Total Back Pressure : NA
Pore Pres. After Sat. : NA
Final Saturation : 100 %

Init.Void Ratio : 0.7477
Final Void Ratio : 0.7477
Specific Gravity : 2.653
Comments : AASHTO T-296

RESULTS:



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TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson

Sample Loc. : Boring No_62
Sample Depth : 29.5' to 30.9'
Date Tested : 10-31-10
Date Reported : 11-24-10

COEFFICIENT OF INTERNAL FRICTION AND COHESION BY THE METHOD OF LEAST SQUARES :

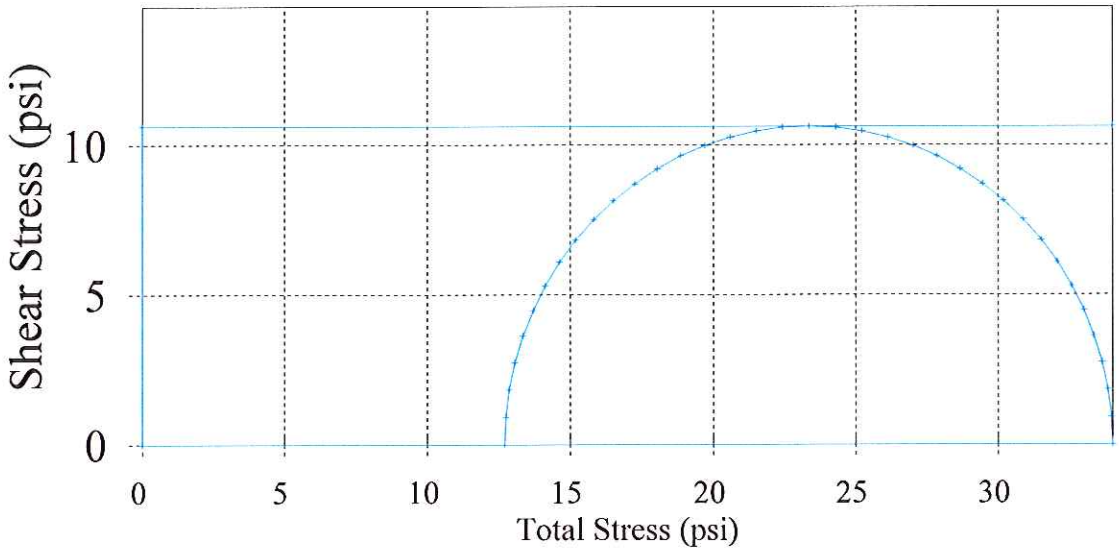
Test	Lateral	Total
1	12.72	34.01

Compressive Strength = 3065 psf
Cohesion = 1532 psf
Phi = 0.0 deg
Tan (Phi) = 0.0000

At Maximum Deviator Stress

Triaxial Mohr's Circles

Unconsolidated Undrained Triaxial Test



APPROVED BY: DLC

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TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Light Gray & Yellowish Orange Lean Clay with Sand

Point No. : 1
Sample Loc. : Boring No_63
Sample Depth : 25.0' to 26.3'
Date Tested : 11-04-10
Date Reported : 11-24-10

Wet Density : 128.4 pcf
Dry Density : 104.0 pcf
Moisture : 23.4 %

Delta Height : NA
Delta Volume : NA
Chamber Pressure. : 11.9 psi

Initial Height : 14.83 cm
Initial Diameter : 7.18 cm
Init. Pore Pres. : NA

RESULTS:

	ε a	σ 3 (psi)	σ 1 (psi)	σ1 / σ3
1	0.00	11.93	11.93	1.00
2	0.09	11.93	14.60	1.22
3	0.17	11.93	16.38	1.37
4	0.26	11.93	18.16	1.52
5	0.34	11.93	19.93	1.67
6	0.43	11.93	21.48	1.80
7	0.51	11.93	23.25	1.95
8	1.03	11.93	33.43	2.80
9	1.54	11.93	42.80	3.59
10	2.06	11.93	47.97	4.02
11	2.57	11.93	50.10	4.20
12	3.08	11.93	50.47	4.23
13	3.43	11.93	50.14	4.20
14	4.28	11.93	47.91	4.02
15	5.14	11.93	45.90	3.85

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TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson

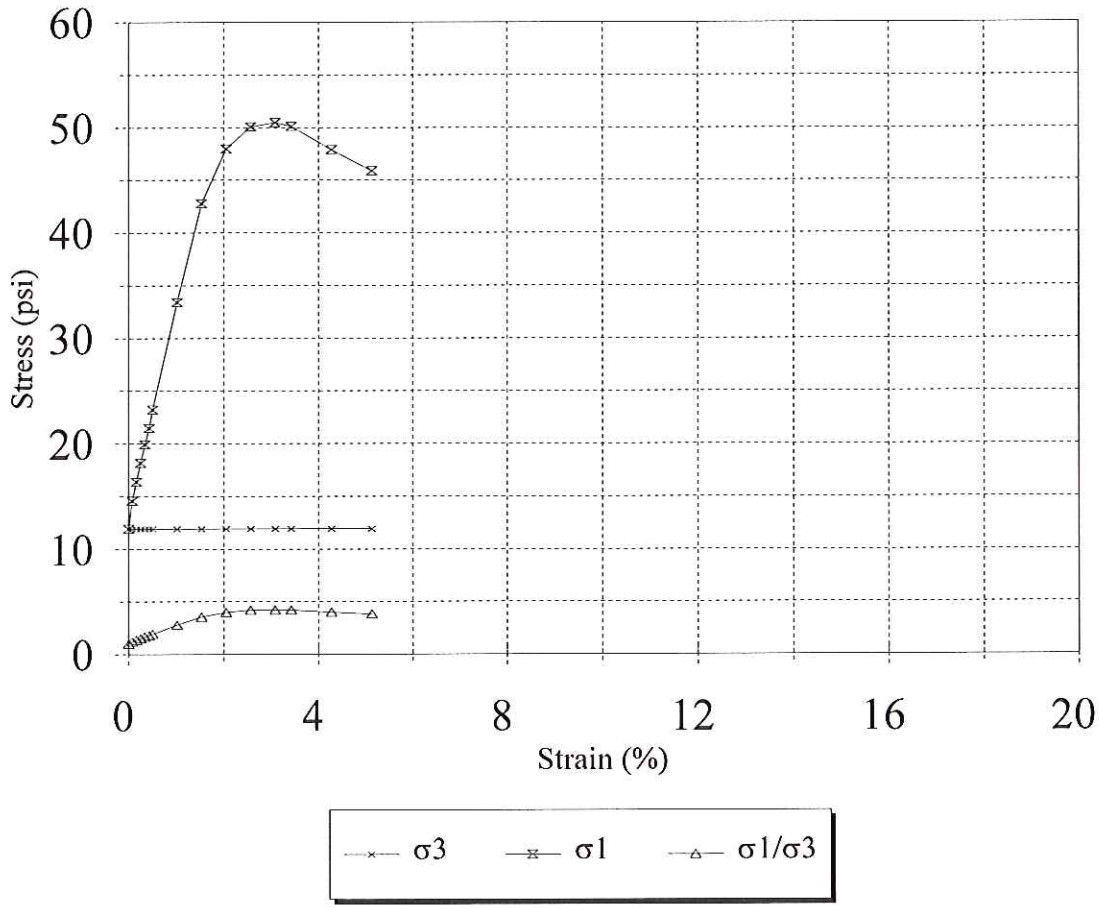
Point No. : 1
Sample Loc. : Boring No_63
Sample Depth : 25.0' to 26.3'
Date Tested : 11-04-10
Date Reported : 11-24-10

Final Moisture : 23.4 %
Final Height : 14.07 cm
Final Diameter : 7.37 cm
Initial Saturation : 100 %

Eff. Cons. Stress : 11.93 psi
Total Back Pressure : NA
Pore Pres. After Sat. : NA
Final Saturation : 100 %

Init.Void Ratio : 0.5930
Final Void Ratio : 0.5930
Specific Gravity : 2.654
Comments : AASHTO T-296

RESULTS:



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TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Sample Loc. : Boring No_63
Sample Depth : 25.0' to 26.3'
Date Tested : 11-04-10
Date Reported : 11-24-10

COEFFICIENT OF INTERNAL FRICTION AND COHESION BY THE METHOD OF LEAST SQUARES :

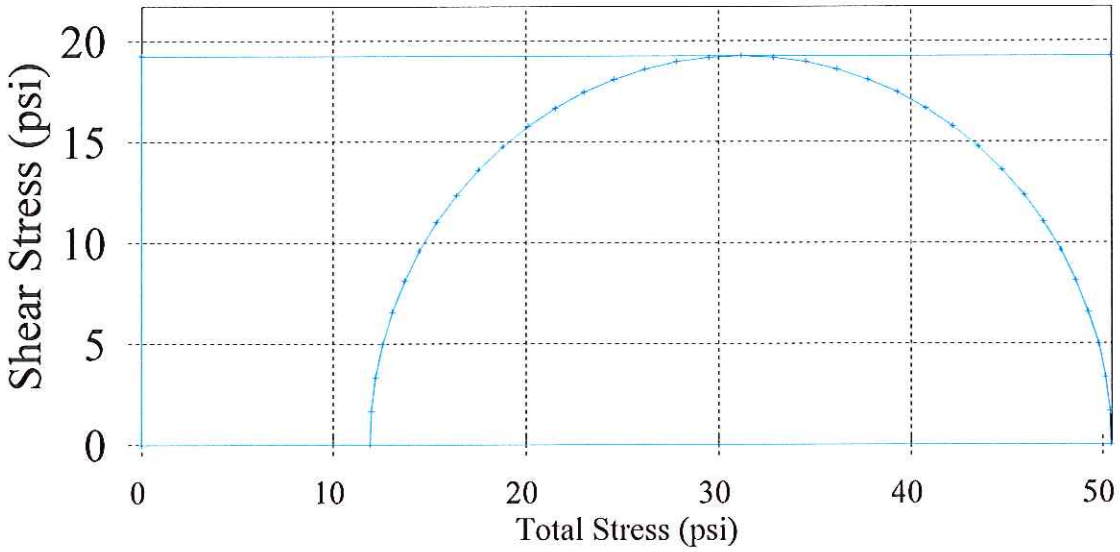
Test	Lateral	Total
1	11.93	50.47

Compressive Strength = 5550 psf
Cohesion = 2775 psf
Phi = 0.0 deg
Tan (Phi) = 0.0000

At Maximum Deviator Stress

Triaxial Mohr's Circles

Unconsolidated Undrained Triaxial Test



APPROVED BY: DLC

Florence & Hutcheson
CONSULTING ENGINEERS

TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Soil Type : Dark Gray Silty Sand

Point No. : 1
Sample Loc. : Boring No_65
Sample Depth : 34.7' to 35.6'
Date Tested : 101-31-10
Date Reported : 11-24-10

Wet Density : 123.3 pcf
Dry Density : 99.4 pcf
Moisture : 24.0 %

Delta Height : NA
Delta Volume : NA
Chamber Pressure. : 14.9 psi

Initial Height : 14.97 cm
Initial Diameter : 7.18 cm
Init. Pore Pres. : NA

RESULTS:

	ε a	σ 3 (psi)	σ 1 (psi)	σ1 / σ3
1	0.00	14.91	14.91	1.00
2	0.08	14.91	18.70	1.25
3	0.17	14.91	21.15	1.42
4	0.25	14.91	23.37	1.57
5	0.34	14.91	25.37	1.70
6	0.42	14.91	27.34	1.83
7	0.51	14.91	29.52	1.98
8	1.02	14.91	42.55	2.85
9	1.53	14.91	54.45	3.65
10	2.04	14.91	62.79	4.21
11	2.55	14.91	63.56	4.26
12	3.05	14.91	51.34	3.44
13	3.39	14.91	51.41	3.45
14	4.24	14.91	51.47	3.45
15	5.09	14.91	52.27	3.50
16	5.94	14.91	52.12	3.49
17	6.79	14.91	52.89	3.55
18	7.64	14.91	53.09	3.56
19	8.48	14.91	53.65	3.60
20	9.33	14.91	54.25	3.64
21	10.18	14.91	54.79	3.67
22	11.03	14.91	55.30	3.71
23	11.88	14.91	55.61	3.73
24	12.73	14.91	56.48	3.79
25	13.57	14.91	56.82	3.81
26	14.42	14.91	56.82	3.81
27	15.27	14.91	51.49	3.45
28	16.12	14.91	50.58	3.39
29	16.97	14.91	51.12	3.43
30	17.82	14.91	51.67	3.46
31	18.66	14.91	52.02	3.49
32	19.51	14.91	52.62	3.53

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TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson

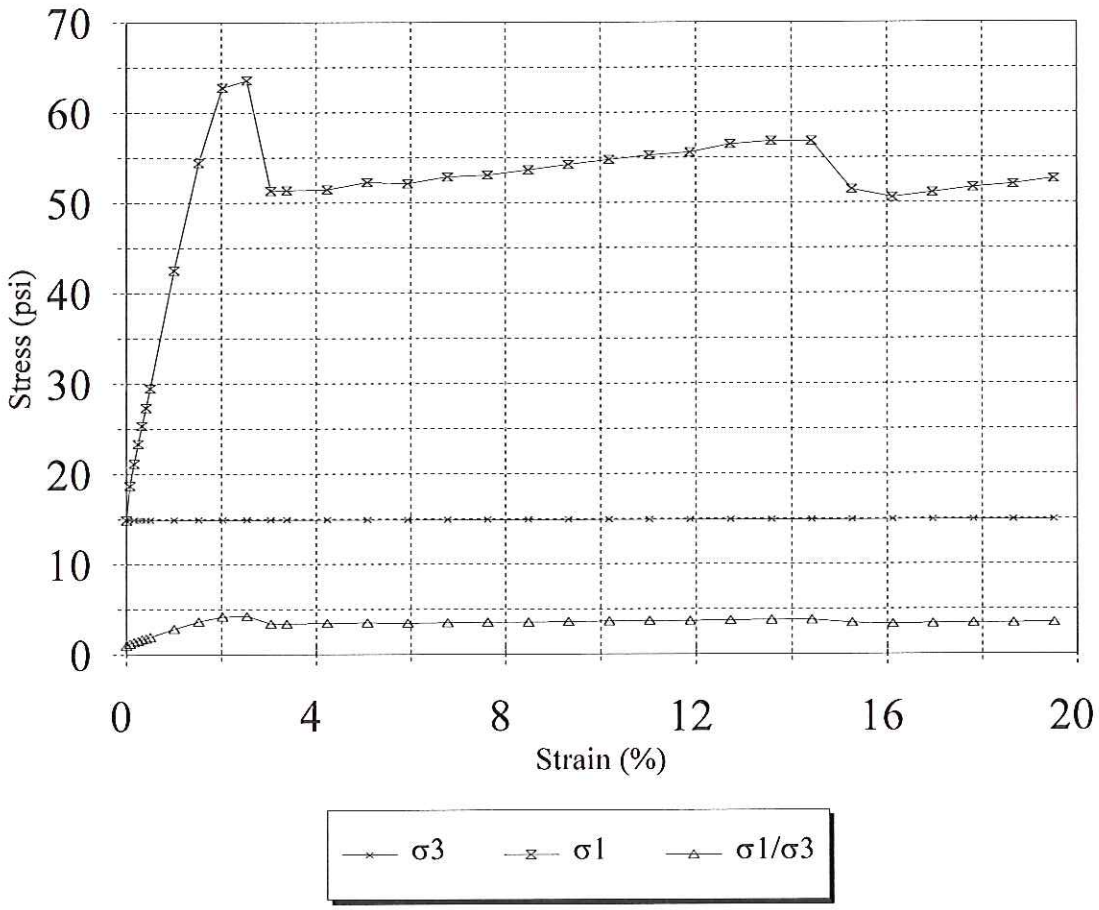
Point No. : 1
Sample Loc. : Boring No_65
Sample Depth : 34.7' to 35.6'
Date Tested : 101-31-10
Date Reported : 11-24-10

Final Moisture : 24.0 %
Final Height : 12.05 cm
Final Diameter : 8.00 cm
Initial Saturation : 97 %

Eff. Cons. Stress : 14.91 psi
Total Back Pressure : NA
Pore Pres. After Sat. : NA
Final Saturation : 97 %

Init.Void Ratio : 0.6561
Final Void Ratio : 0.6561
Specific Gravity : 2.638
Comments : AASHTO T-296

RESULTS:



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CONSULTING ENGINEERS

TRIAXIAL COMPRESSION TEST

Project Name : Solar Farm Information & Welcome Center Site Design
Project No. : 38001-1684-0438001-1684-04
Project County : Haywood
Project State : Tennessee
Laboratory No. : 10217
Submitted By : Florence & Hutcheson
Sample Loc. : Boring No_65
Sample Depth : 34.7' to 35.6'
Date Tested : 101-31-10
Date Reported : 11-24-10

COEFFICIENT OF INTERNAL FRICTION AND COHESION BY THE METHOD OF LEAST SQUARES :

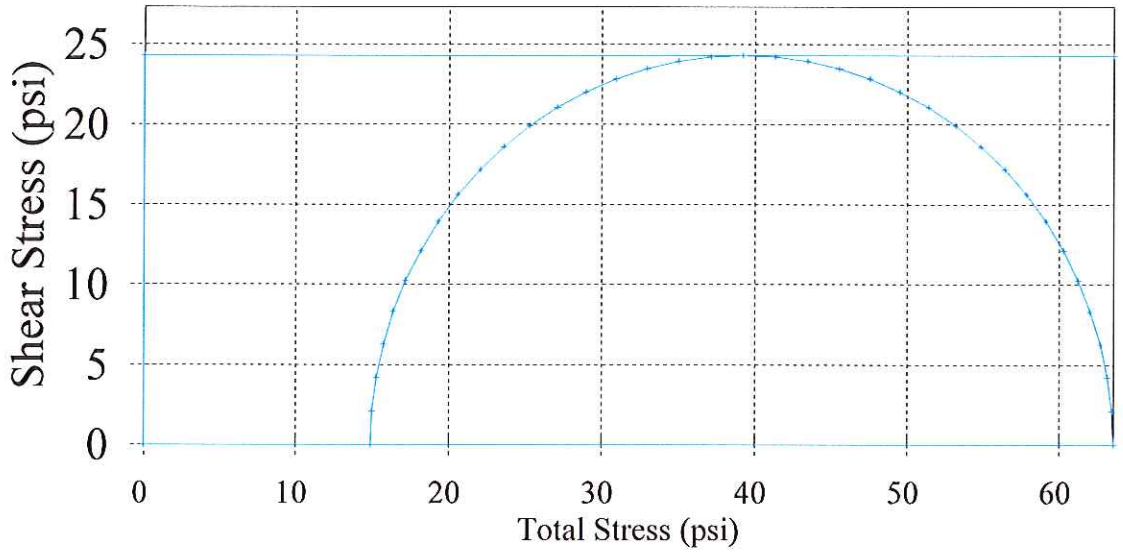
Test	Lateral	Total
1	14.91	63.56

Compressive Strength = 7006 psf
Cohesion = 3503 psf
Phi = 0.0 deg
Tan (Phi) = 0.0000

At Maximum Deviator Stress

Triaxial Mohr's Circles

Unconsolidated Undrained Triaxial Test



APPROVED BY: DLC

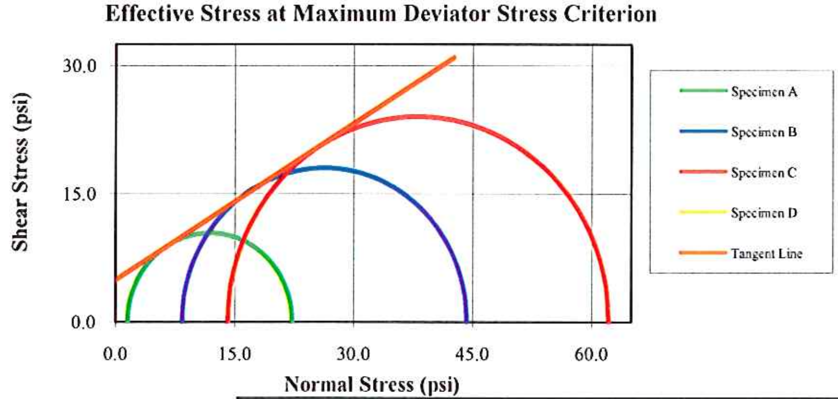
Consolidated Undrained Triaxial Test (ASTM D4767)

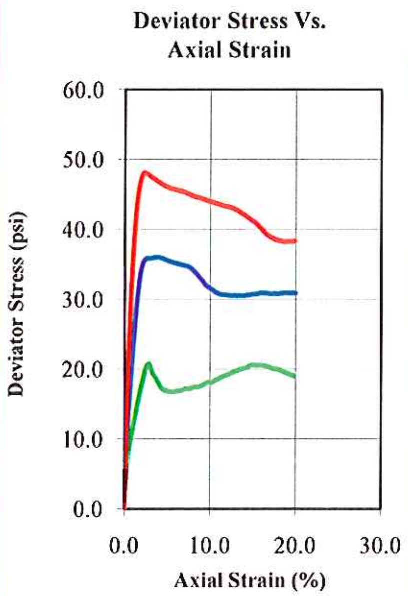
Date: 12/10/10

Checked By: DLC

Date: 12/10/10

Tested By:





Initial	Specimen A	Specimen B	Specimen C	Specimen D
Water Content (%)	25.4	24.5	25.4	
Dry Density (pcf)	101.8	102.7	101.9	
Saturation (%)	107.64	106.01	107.65	
Void Ratio	0.622	0.611	0.623	
Diameter (in)	2.822	2.825	2.823	
Height (in)	5.835	5.845	5.855	
Specific Gravity	2.65	2.65	2.65	
Liquid Limit	41	41	41	
Plastic Limit	18	18	18	
After Consolidation	**A**	**B**	**C**	**D**
B-Value	0.96	0.96	0.95	
Water Content (%)	24.7	23.3	23.2	
Dry Density (pcf)	102.97	104.72	105.74	
Saturation (%)	100.00	100.00	100.00	
Void Ratio	0.607	0.583	0.568	
Effective Stress (psi)	8.5	17.0	34.0	
Back Press. (psi)	38.2	38.7	38.9	
Rate of Strain	0.002222	0.002222	0.002222	

Maximum Deviator Stress Criterion	
C (psi)	5.0
C' (psi)	4.9
Ø (deg)	20.0
Ø' (deg)	31.4

After Shear	A	B	C	D
σ'1 at Failure (psi)	22.26	44.32	62.19	
σ'3 at Failure (psi)	1.53	8.33	14.13	

Project:	Solar Farm Information & Welcome Center Site Design
Location:	Haywood, TN
Project Number:	38001-1684-048001-1684-04
Boring Number:	58
Sample Number:	ST - 1
Depth:	17.7' to 19.5'
Sample Type:	Undisturbed
Description:	Light Gray Lean Clay with Sand
Test Type	Consolidated Undrained
Remarks	

Failure Photographs

Florence & Hutcheson
Consulting Engineers

Consolidated Undrained Triaxial Test (ASTM D4767)

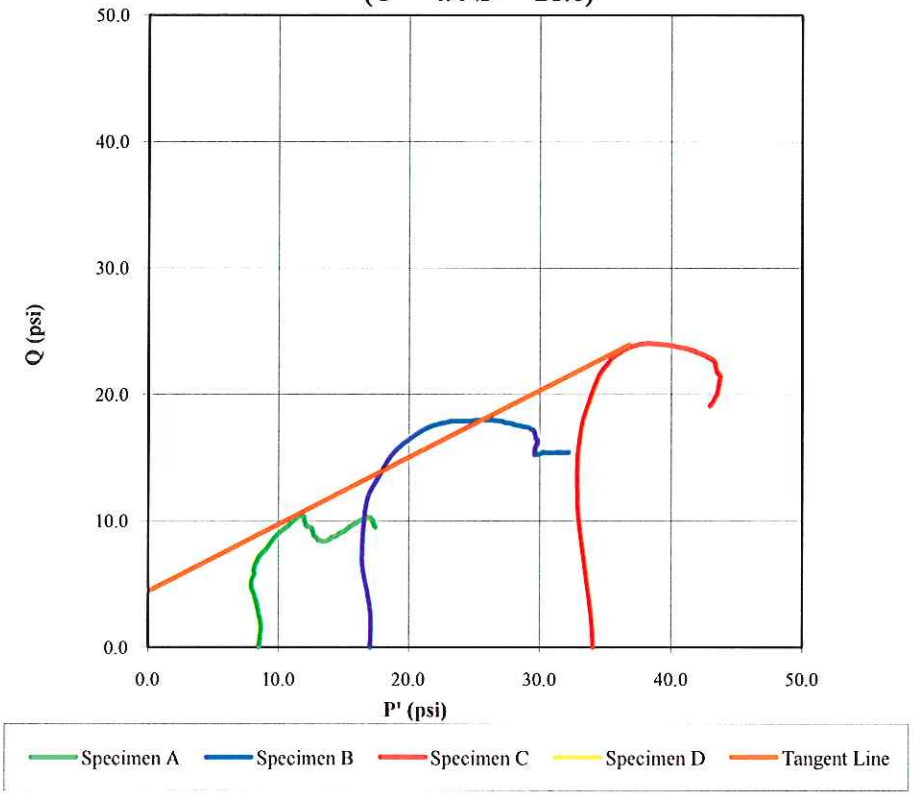
Date: 12/10/10

Checked By: RLC

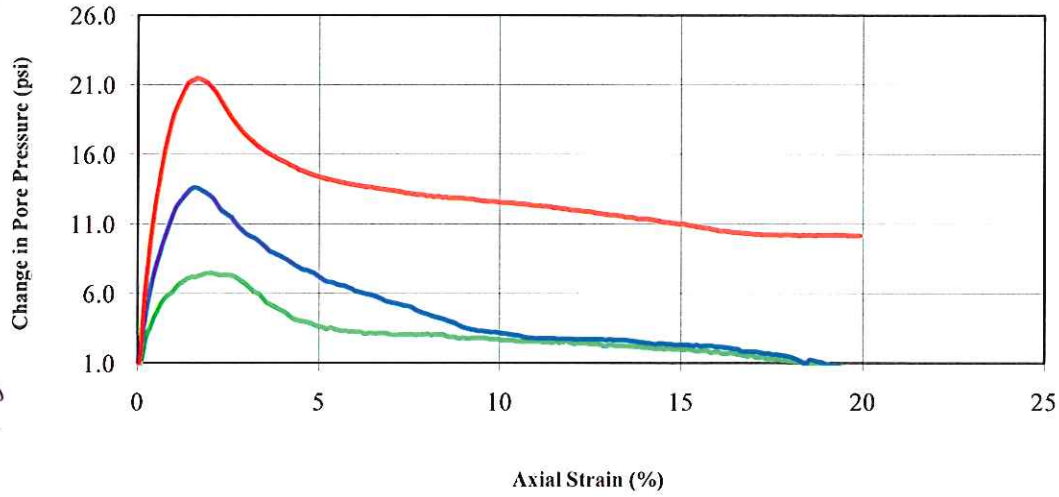
Date: 12/10/10

Tested By: A. Hagan

Stress Paths (Effective)
(C' = 4.4 Ø' = 28.0)



Change in Pore Pressure vs. Axial Strain



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email: fhcorporate@flohut.com

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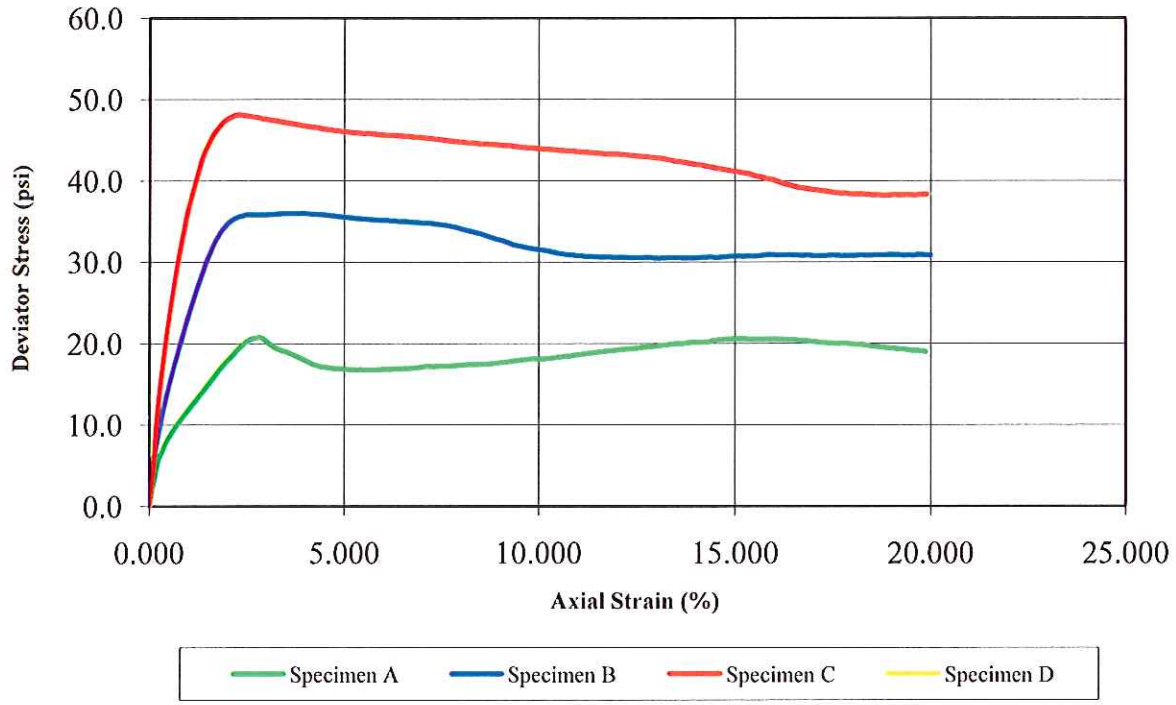
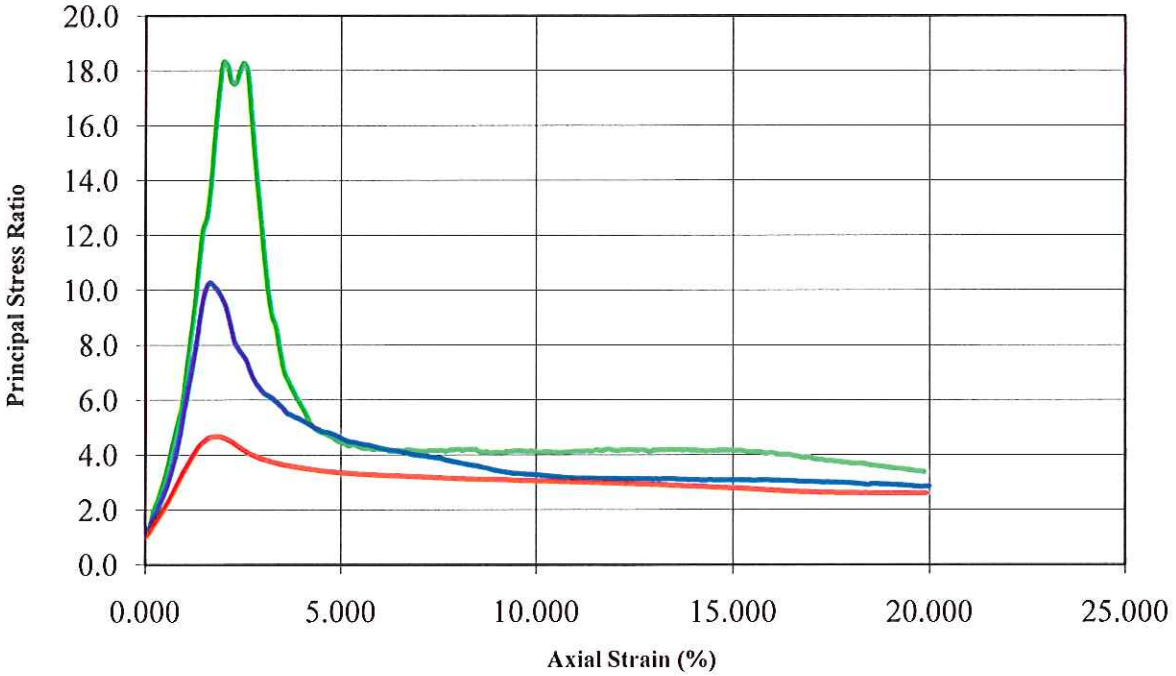
Deviator Stress vs. Axial Strain



Principal Stress Ratio vs. Axial Strain



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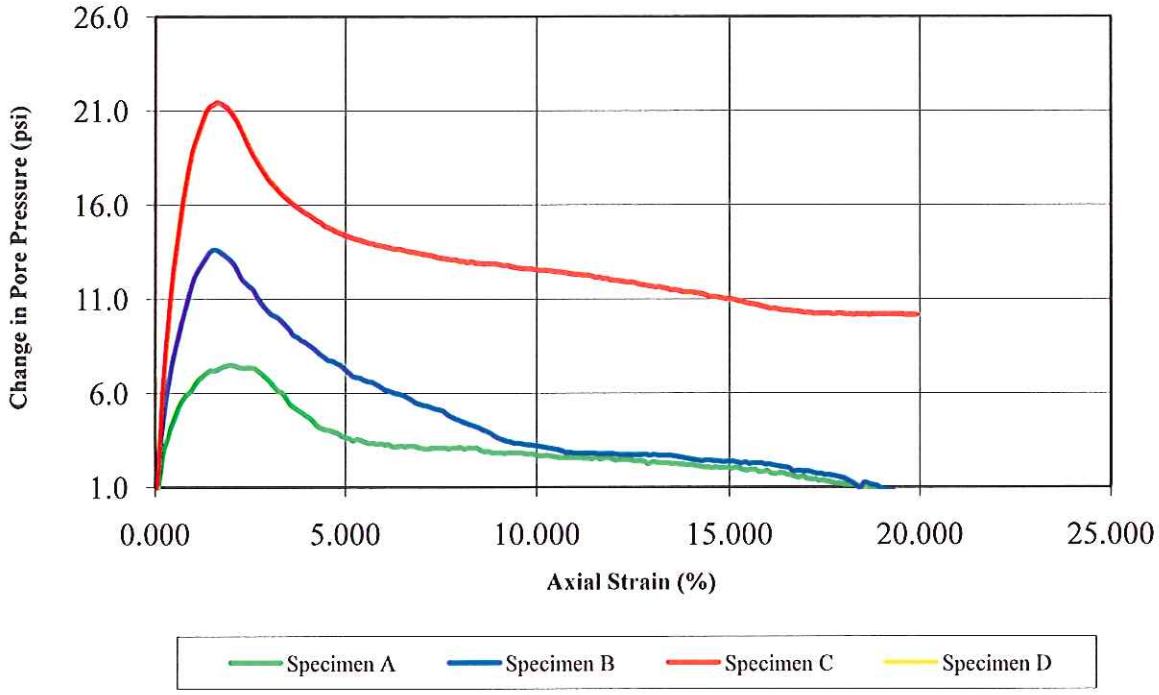
email: fhcorporate@flohut.com

Change in Pore Pressure vs. Axial Strain



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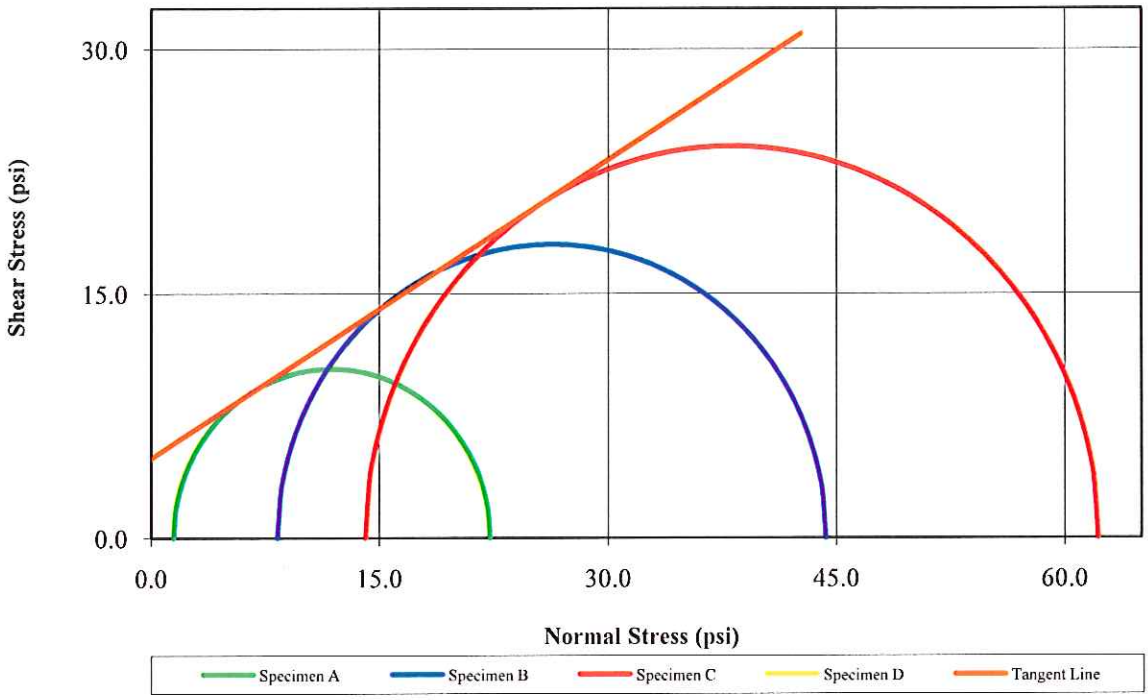
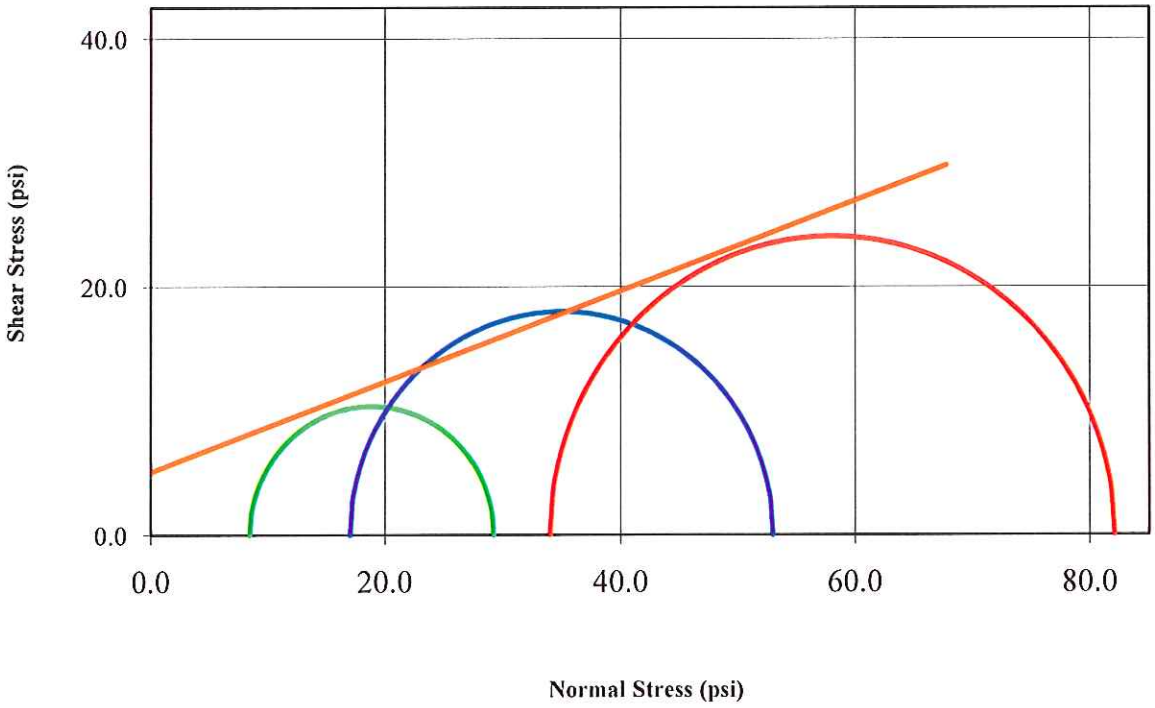
Mohr Stress Circles at Maximum Deviator Stress Criterion

Effective Stress
(C' = 4.9 Ø' = 31.4)



Total Stress
(C = 5.0 Ø = 20.0)



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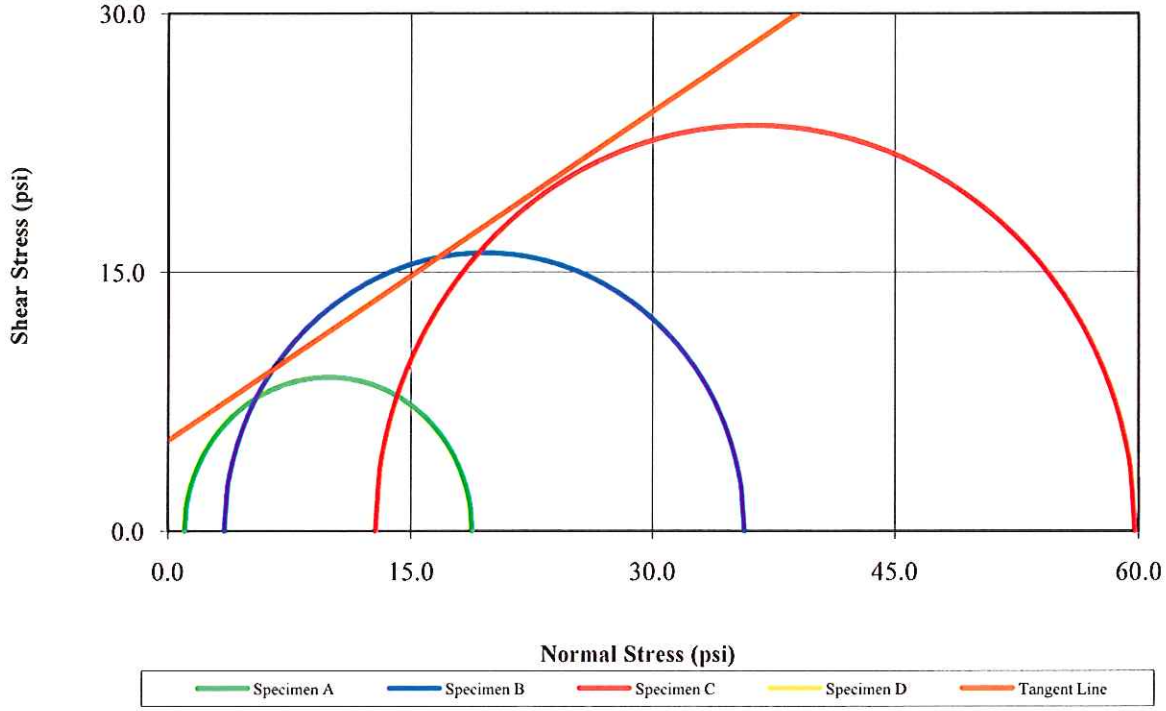
email: fhcorporate@flohut.com

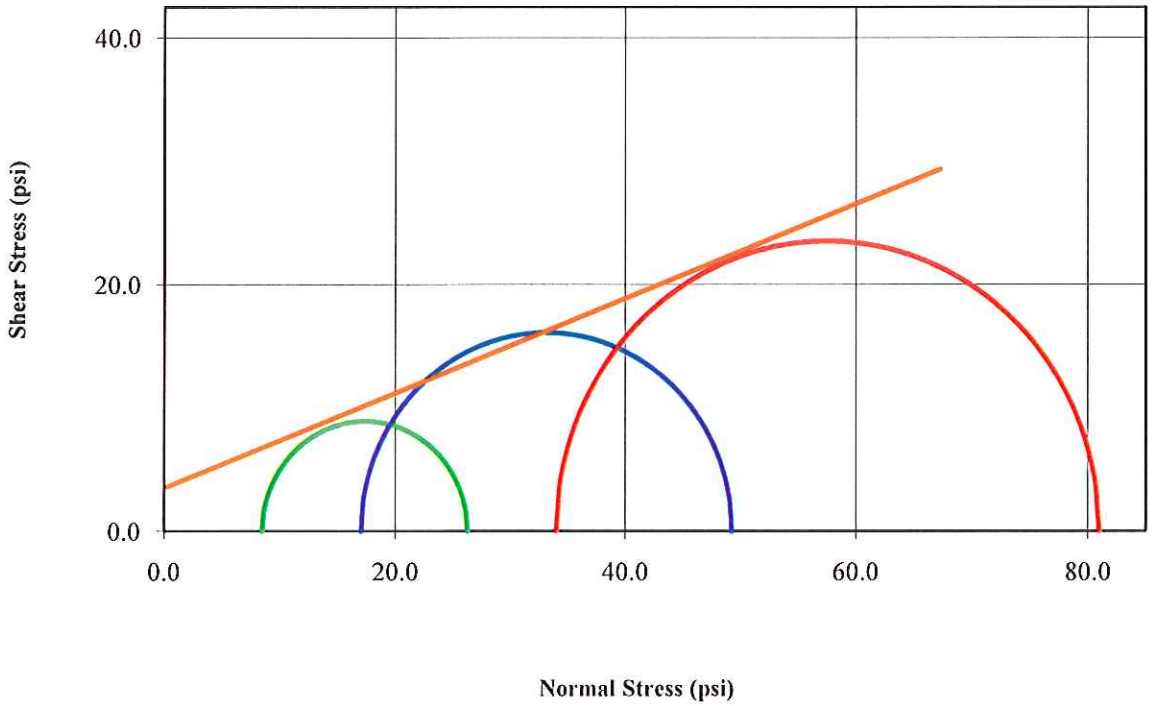
Florence & Hutcheson
Consulting Engineers

Mohr Stress Circles at Maximum Principal Stress Ratio Criterion

Effective Stress
(C' = 5.2 Ø' = 32.4)



Total Stress
(C = 3.5 Ø = 21.0)



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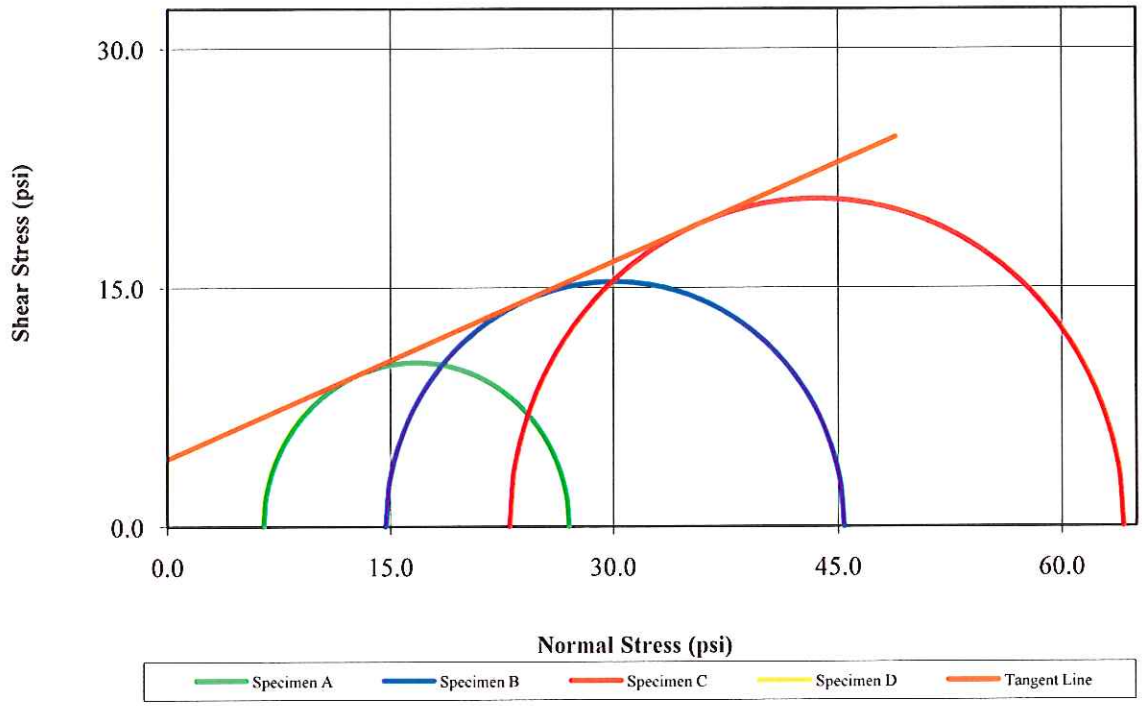
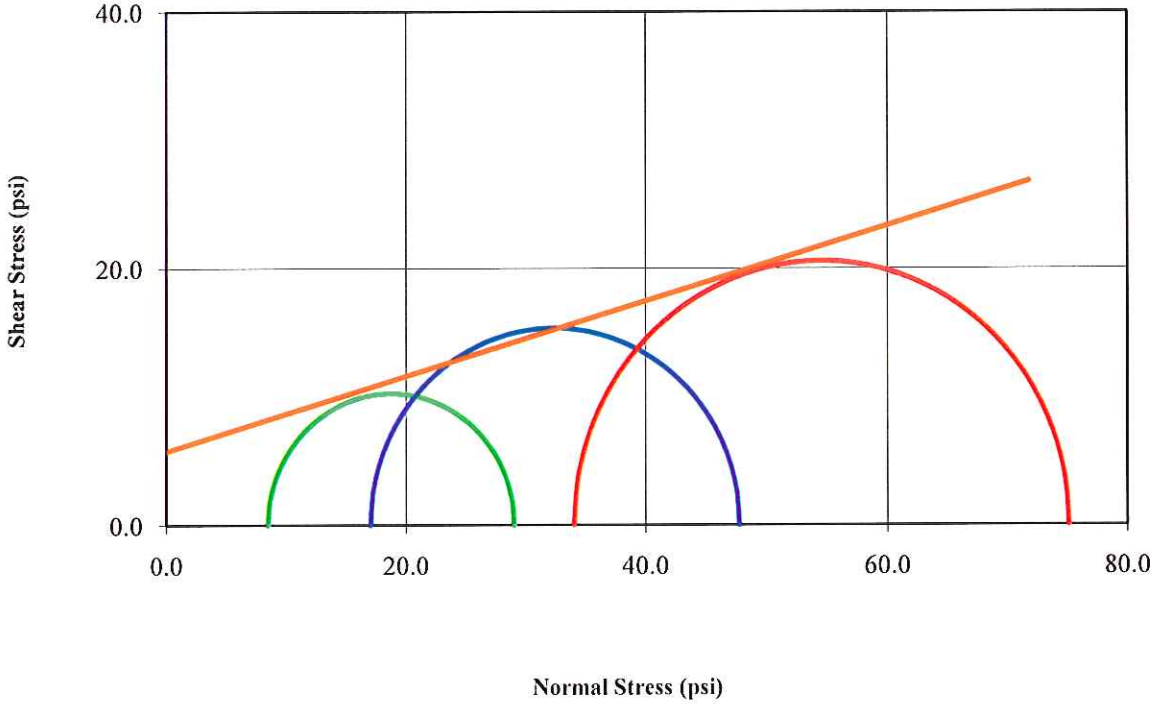
Mohr Stress Circles at 15% Axial Strain Criterion

Effective Stress
(C' = 4.2 Ø' = 22.5)



Total Stress
(C = 5.7 Ø = 16.3)



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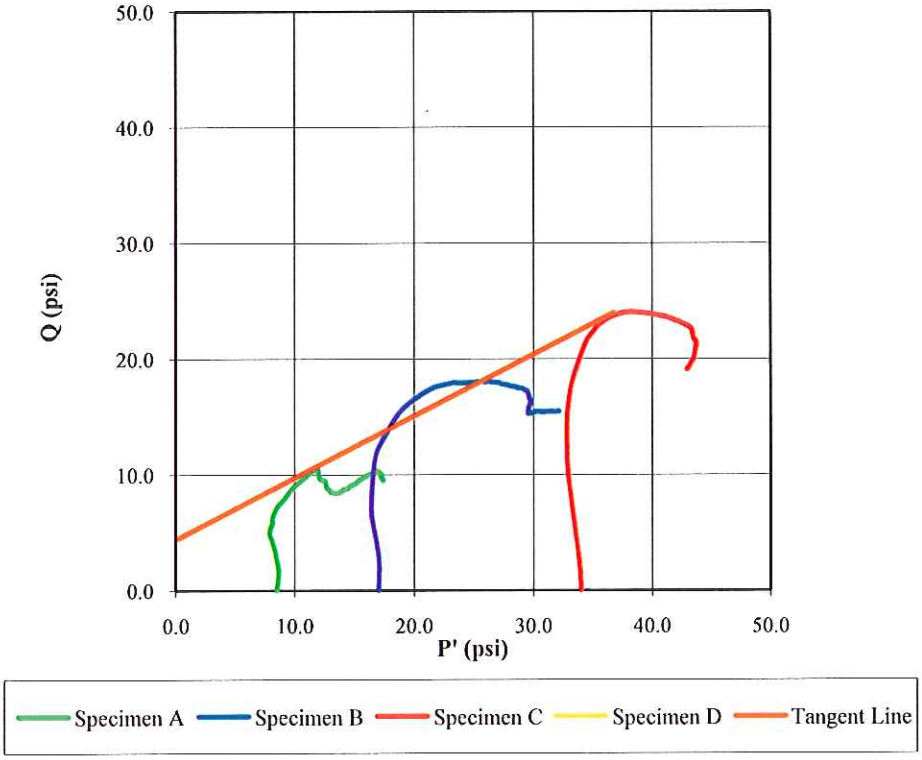
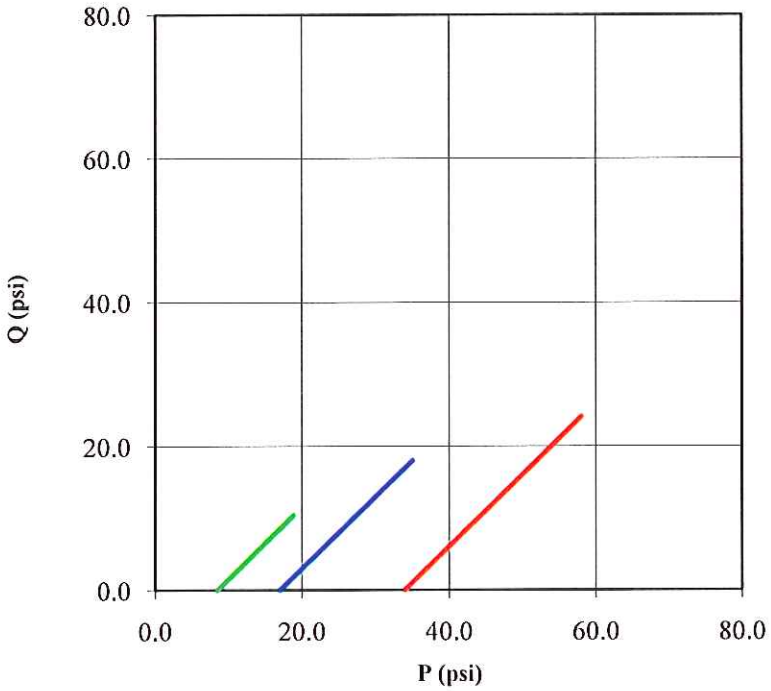
Stress Paths (Effective)
(C' = 4.4 Ø' = 28.0)



Stress Paths (Total)
(C' = 0.0 Ø' = 0.0)



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Specimen A Shear Data

CU Triaxial Test

File Location
Boring No_58_17.HSD

Project Information

Project No. 38001-1684-048001-1684-04
Project Name: Solar Farm Information & Welcome Center Site Design
Client:
Sample Location: Haywood, TN
Sample Description: Light Gray Lean Clay with Sand
Remarks:

Sample Data

Sample Type: Undisturbed
Specific Gravity: 2.6500001
LL: 41.000
PL: 18.000

Sample Parameters	Initial	After Consolidation	Final
Diameter (in)	2.822	2.818	
Height (in)	5.835	5.788	
Weight (grams)	1223.20		1232.30
Moisture (%)	25.39		26.32
Dry Density (pcf)	101.80	102.97	
Saturation (%)	107.64	100.00	
Void Ratio	0.622	0.607	

Test Data

Rate of Strain: 0.002222
Cell Pressure (psi): 46.700
Effective Confining Stress (psi): 8.5
Corrected Peak Deviator Stress (psi): 20.723 at reading number: 27

Specimen A

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in2)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P' (psi)
0	0.0	0.000	38.2	0.0	6.24	0.000	0.000	0.000	8.5	8.5	8.5	8.5	1.00	0.00	8.5	0.0	8.5
1	19.9	0.007	39.6	1.4	6.24	0.121	3.192	3.141	11.6	8.5	10.2	7.1	1.44	0.45	10.1	1.6	8.7
2	35.1	0.013	41.0	2.8	6.25	0.225	5.629	5.529	14.0	8.5	11.2	5.7	1.97	0.51	11.3	2.8	8.5
3	43.3	0.019	41.7	3.5	6.26	0.335	6.941	6.787	15.3	8.5	11.7	5.0	2.37	0.52	11.9	3.4	8.4
4	50.2	0.025	42.4	4.2	6.26	0.439	8.049	7.842	16.3	8.5	12.1	4.3	2.83	0.54	12.4	3.9	8.2
5	55.9	0.031	43.0	4.8	6.27	0.543	8.960	8.699	17.2	8.5	12.4	3.7	3.33	0.55	12.8	4.3	8.1
6	60.9	0.037	43.5	5.3	6.28	0.646	9.764	9.449	17.9	8.5	12.6	3.2	3.96	0.56	13.2	4.7	7.9
7	65.7	0.043	43.9	5.7	6.28	0.750	10.543	10.171	18.7	8.5	13.0	2.8	4.59	0.56	13.6	5.1	7.9
8	70.3	0.049	44.1	5.9	6.29	0.854	11.269	10.839	19.3	8.5	13.4	2.6	5.20	0.55	13.9	5.4	8.0
9	74.8	0.055	44.3	6.1	6.30	0.958	11.994	11.506	20.0	8.5	13.9	2.4	5.79	0.53	14.3	5.8	8.2
10	79.2	0.061	44.7	6.5	6.30	1.061	12.707	12.158	20.7	8.5	14.2	2.0	6.96	0.53	14.6	6.1	8.1
11	83.7	0.067	44.9	6.7	6.31	1.165	13.420	12.808	21.3	8.5	14.6	1.8	8.17	0.52	14.9	6.4	8.2
12	87.9	0.073	45.1	6.9	6.32	1.269	14.093	13.418	21.9	8.5	15.0	1.6	9.35	0.51	15.2	6.7	8.3
13	92.2	0.079	45.3	7.1	6.32	1.373	14.792	14.053	22.6	8.5	15.5	1.4	10.86	0.50	15.5	7.0	8.5
14	96.8	0.085	45.4	7.2	6.33	1.476	15.518	14.712	23.2	8.5	16.0	1.3	12.17	0.49	15.9	7.4	8.7
15	101.1	0.091	45.4	7.2	6.34	1.580	16.217	15.344	23.8	8.5	16.7	1.3	12.65	0.47	16.2	7.7	9.0
16	105.6	0.097	45.5	7.3	6.34	1.684	16.943	16.000	24.5	8.5	17.2	1.2	13.85	0.45	16.5	8.0	9.2
17	110.2	0.103	45.6	7.4	6.35	1.787	17.682	16.668	25.2	8.5	17.8	1.1	15.66	0.44	16.8	8.3	9.5
18	114.2	0.109	45.6	7.4	6.36	1.891	18.315	17.230	25.7	8.5	18.3	1.1	17.18	0.43	17.1	8.6	9.7
19	118.1	0.115	45.7	7.5	6.36	1.995	18.948	17.792	26.3	8.5	18.8	1.0	18.29	0.42	17.4	8.9	9.9
20	121.6	0.121	45.6	7.4	6.37	2.099	19.503	18.312	26.8	8.5	19.4	1.1	18.19	0.41	17.7	9.2	10.2
21	125.2	0.127	45.6	7.4	6.38	2.202	20.083	18.860	27.4	8.5	20.0	1.1	17.58	0.39	17.9	9.4	10.6

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Specimen A

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in2)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P' (psi)
22	128.8	0.133	45.5	7.3	6.38	2.306	20.651	19.394	27.9	8.5	20.6	1.2	17.53	0.38	18.2	9.7	10.9
23	131.8	0.139	45.5	7.3	6.39	2.410	21.139	19.849	28.3	8.5	21.0	1.2	17.92	0.37	18.4	9.9	11.1
24	134.6	0.145	45.5	7.3	6.40	2.514	21.587	20.264	28.8	8.5	21.4	1.2	18.27	0.36	18.6	10.1	11.3
25	136.4	0.152	45.5	7.3	6.40	2.617	21.878	20.524	29.0	8.5	21.7	1.2	17.97	0.36	18.8	10.3	11.5
26	137.3	0.158	45.3	7.1	6.41	2.721	22.023	20.643	29.1	8.5	22.0	1.4	16.25	0.35	18.8	10.3	11.7
27	138.0	0.164	45.2	7.0	6.42	2.825	22.128	20.723	29.2	8.5	22.3	1.5	14.51	0.34	18.9	10.4	11.9
28	137.0	0.170	45.0	6.8	6.42	2.929	21.970	20.546	29.0	8.5	22.3	1.7	12.98	0.33	18.8	10.3	12.0
29	134.3	0.176	44.8	6.6	6.43	3.032	21.535	20.101	28.6	8.5	22.0	1.9	11.41	0.33	18.6	10.1	12.0
30	132.0	0.182	44.5	6.3	6.44	3.136	21.165	19.721	28.2	8.5	21.9	2.2	10.03	0.32	18.4	9.9	12.0
31	130.1	0.188	44.3	6.1	6.44	3.240	20.862	19.405	27.9	8.5	21.8	2.4	9.09	0.31	18.2	9.7	12.1
32	128.8	0.194	44.2	6.0	6.45	3.344	20.664	19.192	27.7	8.5	21.7	2.5	8.65	0.31	18.1	9.6	12.1
33	127.9	0.200	43.9	5.7	6.46	3.447	20.505	19.018	27.5	8.5	21.8	2.8	7.80	0.30	18.0	9.5	12.3
34	127.0	0.206	43.6	5.4	6.46	3.551	20.373	18.869	27.4	8.5	22.0	3.1	7.05	0.29	17.9	9.4	12.6
35	125.8	0.212	43.4	5.2	6.47	3.655	20.176	18.657	27.2	8.5	21.9	3.3	6.71	0.28	17.8	9.3	12.6
36	124.4	0.218	43.3	5.1	6.48	3.758	19.951	18.421	26.9	8.5	21.8	3.4	6.40	0.28	17.7	9.2	12.6
37	123.1	0.224	43.1	4.9	6.49	3.862	19.740	18.197	26.7	8.5	21.8	3.6	6.12	0.27	17.6	9.1	12.7
38	121.8	0.230	43.0	4.8	6.49	3.966	19.529	17.974	26.5	8.5	21.7	3.7	5.86	0.27	17.5	9.0	12.7
39	120.2	0.236	42.9	4.7	6.50	4.070	19.278	17.713	26.2	8.5	21.6	3.8	5.61	0.26	17.4	8.9	12.7
40	118.7	0.242	42.6	4.4	6.51	4.173	19.041	17.465	26.0	8.5	21.5	4.1	5.30	0.25	17.2	8.7	12.8
41	117.8	0.248	42.4	4.2	6.51	4.277	18.896	17.307	25.8	8.5	21.6	4.3	5.05	0.24	17.2	8.7	12.9
42	117.1	0.254	42.3	4.1	6.52	4.381	18.777	17.173	25.7	8.5	21.6	4.4	4.92	0.24	17.1	8.6	13.0
43	116.7	0.260	42.2	4.0	6.53	4.485	18.711	17.091	25.6	8.5	21.5	4.5	4.84	0.24	17.0	8.5	13.0
44	116.3	0.266	42.2	4.0	6.53	4.588	18.658	17.021	25.5	8.5	21.5	4.5	4.79	0.24	17.0	8.5	13.0
45	115.8	0.272	42.1	3.9	6.54	4.692	18.579	16.926	25.4	8.5	21.5	4.6	4.71	0.23	17.0	8.5	13.0
46	115.7	0.278	42.1	3.9	6.55	4.796	18.553	16.882	25.4	8.5	21.5	4.6	4.64	0.23	16.9	8.4	13.1
47	115.8	0.284	41.9	3.7	6.56	4.900	18.566	16.875	25.4	8.5	21.7	4.8	4.53	0.22	16.9	8.4	13.2
48	115.4	0.290	41.8	3.6	6.56	5.003	18.513	16.806	25.3	8.5	21.7	4.9	4.46	0.22	16.9	8.4	13.3
49	115.4	0.296	41.8	3.6	6.57	5.107	18.513	16.787	25.3	8.5	21.7	4.9	4.41	0.21	16.9	8.4	13.3
50	115.4	0.302	41.7	3.5	6.58	5.211	18.513	16.767	25.3	8.5	21.8	5.0	4.33	0.21	16.9	8.4	13.4
51	115.4	0.308	41.7	3.5	6.59	5.315	18.513	16.748	25.2	8.5	21.7	5.0	4.38	0.21	16.9	8.4	13.3
52	115.6	0.314	41.7	3.5	6.59	5.418	18.539	16.754	25.3	8.5	21.8	5.0	4.33	0.21	16.9	8.4	13.4
53	115.5	0.320	41.6	3.4	6.60	5.522	18.526	16.722	25.2	8.5	21.8	5.1	4.28	0.20	16.9	8.4	13.5
54	115.7	0.326	41.5	3.3	6.61	5.626	18.553	16.728	25.2	8.5	21.9	5.2	4.23	0.20	16.9	8.4	13.5
55	115.8	0.332	41.5	3.3	6.61	5.729	18.566	16.721	25.2	8.5	21.9	5.2	4.23	0.20	16.9	8.4	13.5
56	116.0	0.338	41.5	3.3	6.62	5.833	18.605	16.739	25.2	8.5	22.0	5.2	4.21	0.20	16.9	8.4	13.6
57	116.3	0.344	41.5	3.3	6.63	5.937	18.658	16.770	25.3	8.5	22.0	5.2	4.22	0.20	16.9	8.4	13.6
58	116.7	0.350	41.5	3.3	6.64	6.041	18.711	16.800	25.3	8.5	22.0	5.2	4.20	0.19	16.9	8.4	13.6
59	116.9	0.356	41.5	3.3	6.64	6.144	18.750	16.818	25.3	8.5	22.1	5.2	4.20	0.19	16.9	8.4	13.7
60	117.0	0.362	41.3	3.1	6.65	6.248	18.764	16.810	25.3	8.5	22.2	5.4	4.14	0.19	16.9	8.4	13.8
61	117.4	0.368	41.3	3.1	6.66	6.352	18.830	16.853	25.4	8.5	22.2	5.4	4.15	0.19	16.9	8.4	13.8
62	117.6	0.374	41.4	3.2	6.67	6.456	18.856	16.858	25.4	8.5	22.2	5.3	4.17	0.19	16.9	8.4	13.8
63	118.0	0.380	41.3	3.1	6.67	6.559	18.922	16.900	25.4	8.5	22.3	5.4	4.15	0.19	17.0	8.5	13.8
64	118.1	0.386	41.4	3.2	6.68	6.663	18.948	16.905	25.4	8.5	22.2	5.3	4.18	0.19	17.0	8.5	13.8
65	118.4	0.392	41.4	3.2	6.69	6.767	18.988	16.922	25.4	8.5	22.2	5.3	4.18	0.19	17.0	8.5	13.8

Specimen A

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in2)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P' (psi)
66	119.0	0.398	41.3	3.1	6.70	6.871	19.080	16.989	25.5	8.5	22.3	5.4	4.17	0.18	17.0	8.5	13.9
67	119.5	0.404	41.3	3.1	6.70	6.974	19.160	17.042	25.5	8.5	22.5	5.4	4.14	0.18	17.0	8.5	14.0
68	120.4	0.410	41.2	3.0	6.71	7.078	19.305	17.157	25.7	8.5	22.6	5.5	4.14	0.18	17.1	8.6	14.0
69	120.5	0.416	41.2	3.0	6.72	7.182	19.331	17.162	25.7	8.5	22.6	5.5	4.14	0.18	17.1	8.6	14.0
70	120.5	0.422	41.3	3.1	6.73	7.286	19.331	17.142	25.6	8.5	22.6	5.4	4.16	0.18	17.1	8.6	14.0
71	120.7	0.428	41.3	3.1	6.73	7.389	19.357	17.146	25.6	8.5	22.6	5.4	4.16	0.18	17.1	8.6	14.0
72	121.1	0.434	41.3	3.1	6.74	7.493	19.423	17.187	25.7	8.5	22.6	5.4	4.17	0.18	17.1	8.6	14.0
73	121.3	0.440	41.3	3.1	6.75	7.597	19.450	17.191	25.7	8.5	22.6	5.4	4.17	0.18	17.1	8.6	14.0
74	121.6	0.446	41.2	3.0	6.76	7.700	19.503	17.220	25.7	8.5	22.7	5.5	4.15	0.18	17.1	8.6	14.1
75	122.0	0.452	41.3	3.1	6.76	7.804	19.569	17.261	25.8	8.5	22.7	5.4	4.18	0.18	17.1	8.6	14.1
76	122.3	0.458	41.3	3.1	6.77	7.908	19.621	17.289	25.8	8.5	22.7	5.4	4.18	0.18	17.1	8.6	14.1
77	122.8	0.464	41.3	3.1	6.78	8.012	19.687	17.329	25.8	8.5	22.7	5.4	4.21	0.18	17.2	8.7	14.1
78	123.2	0.470	41.2	3.0	6.79	8.115	19.753	17.369	25.9	8.5	22.8	5.5	4.18	0.17	17.2	8.7	14.2
79	123.4	0.476	41.3	3.1	6.79	8.219	19.793	17.385	25.9	8.5	22.8	5.4	4.20	0.18	17.2	8.7	14.1
80	123.7	0.482	41.3	3.1	6.80	8.323	19.832	17.401	25.9	8.5	22.8	5.4	4.20	0.18	17.2	8.7	14.1
81	123.8	0.488	41.3	3.1	6.81	8.427	19.859	17.405	25.9	8.5	22.8	5.4	4.21	0.18	17.2	8.7	14.1
82	124.2	0.494	41.2	3.0	6.82	8.530	19.912	17.432	25.9	8.5	23.0	5.5	4.15	0.17	17.2	8.7	14.3
83	124.3	0.500	41.1	2.9	6.82	8.634	19.938	17.436	25.9	8.5	23.0	5.6	4.11	0.17	17.2	8.7	14.3
84	124.7	0.506	41.1	2.9	6.83	8.738	20.004	17.475	26.0	8.5	23.1	5.6	4.11	0.17	17.2	8.7	14.3
85	125.1	0.512	41.0	2.8	6.84	8.842	20.057	17.503	26.0	8.5	23.2	5.7	4.08	0.16	17.3	8.8	14.4
86	125.7	0.518	41.0	2.8	6.85	8.945	20.162	17.578	26.1	8.5	23.3	5.7	4.09	0.16	17.3	8.8	14.5
87	126.2	0.524	41.0	2.8	6.86	9.049	20.242	17.629	26.1	8.5	23.3	5.7	4.10	0.16	17.3	8.8	14.5
88	126.7	0.530	41.0	2.8	6.86	9.153	20.321	17.680	26.2	8.5	23.4	5.7	4.09	0.16	17.3	8.8	14.6
89	127.4	0.536	41.0	2.8	6.87	9.257	20.426	17.755	26.3	8.5	23.4	5.7	4.12	0.16	17.4	8.9	14.6
90	127.9	0.542	41.0	2.8	6.88	9.360	20.519	17.817	26.3	8.5	23.5	5.7	4.14	0.16	17.4	8.9	14.6
91	128.4	0.548	41.0	2.8	6.89	9.464	20.598	17.868	26.4	8.5	23.6	5.7	4.14	0.16	17.4	8.9	14.6
92	129.1	0.554	41.0	2.8	6.89	9.568	20.703	17.942	26.4	8.5	23.6	5.7	4.16	0.16	17.5	9.0	14.7
93	129.6	0.560	41.0	2.8	6.90	9.671	20.783	17.992	26.5	8.5	23.7	5.7	4.15	0.15	17.5	9.0	14.7
94	130.2	0.566	40.9	2.7	6.91	9.775	20.875	18.054	26.6	8.5	23.8	5.8	4.14	0.15	17.5	9.0	14.8
95	130.7	0.572	40.9	2.7	6.92	9.879	20.954	18.103	26.6	8.5	23.9	5.8	4.15	0.15	17.6	9.1	14.8
96	130.5	0.578	40.9	2.7	6.93	9.983	20.928	18.058	26.6	8.5	23.8	5.8	4.12	0.15	17.5	9.0	14.8
97	130.7	0.584	40.9	2.7	6.93	10.086	20.954	18.060	26.6	8.5	23.9	5.8	4.10	0.15	17.5	9.0	14.9
98	131.1	0.590	40.9	2.7	6.94	10.190	21.033	18.109	26.6	8.5	23.9	5.8	4.11	0.15	17.6	9.1	14.9
99	131.6	0.596	40.9	2.7	6.95	10.294	21.112	18.158	26.7	8.5	24.0	5.8	4.12	0.15	17.6	9.1	14.9
100	132.1	0.602	40.8	2.6	6.96	10.398	21.192	18.207	26.7	8.5	24.1	5.9	4.11	0.14	17.6	9.1	15.0
101	132.9	0.608	40.8	2.6	6.97	10.501	21.310	18.292	26.8	8.5	24.2	5.9	4.10	0.14	17.6	9.1	15.0
102	133.3	0.614	40.8	2.6	6.97	10.605	21.376	18.329	26.8	8.5	24.3	5.9	4.09	0.14	17.7	9.2	15.1
103	134.0	0.620	40.8	2.6	6.98	10.709	21.495	18.412	26.9	8.5	24.3	5.9	4.10	0.14	17.7	9.2	15.1
104	134.4	0.626	40.8	2.6	6.99	10.813	21.548	18.437	26.9	8.5	24.4	5.9	4.11	0.14	17.7	9.2	15.2
105	135.2	0.632	40.8	2.6	7.00	10.916	21.680	18.532	27.0	8.5	24.5	5.9	4.12	0.14	17.8	9.3	15.2
106	135.8	0.638	40.8	2.6	7.01	11.020	21.772	18.592	27.1	8.5	24.5	5.9	4.13	0.14	17.8	9.3	15.2
107	136.3	0.644	40.8	2.6	7.02	11.124	21.865	18.652	27.2	8.5	24.6	5.9	4.14	0.14	17.8	9.3	15.3
108	137.2	0.650	40.7	2.5	7.02	11.228	22.010	18.758	27.3	8.5	24.7	6.0	4.14	0.13	17.9	9.4	15.4
109	137.6	0.656	40.7	2.5	7.03	11.331	22.062	18.782	27.3	8.5	24.8	6.0	4.15	0.13	17.9	9.4	15.4

Specimen A

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in2)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P' (psi)
110	138.2	0.662	40.7	2.5	7.04	11.435	22.168	18.852	27.4	8.5	24.9	6.0	4.14	0.13	17.9	9.4	15.4
111	138.9	0.668	40.8	2.6	7.05	11.539	22.274	18.923	27.4	8.5	24.9	5.9	4.19	0.14	18.0	9.5	15.4
112	139.4	0.674	40.7	2.5	7.06	11.643	22.353	18.970	27.5	8.5	25.0	6.0	4.16	0.13	18.0	9.5	15.5
113	140.0	0.680	40.7	2.5	7.06	11.746	22.458	19.040	27.5	8.5	25.0	6.0	4.19	0.13	18.0	9.5	15.5
114	140.4	0.686	40.8	2.6	7.07	11.850	22.524	19.074	27.6	8.5	25.0	5.9	4.21	0.13	18.0	9.5	15.5
115	140.9	0.692	40.7	2.5	7.08	11.954	22.603	19.121	27.6	8.5	25.1	6.0	4.18	0.13	18.1	9.6	15.6
116	141.6	0.698	40.6	2.4	7.09	12.057	22.709	19.190	27.7	8.5	25.3	6.1	4.16	0.13	18.1	9.6	15.7
117	142.1	0.704	40.7	2.5	7.10	12.161	22.788	19.236	27.7	8.5	25.3	6.0	4.18	0.13	18.1	9.6	15.7
118	142.5	0.710	40.7	2.5	7.11	12.265	22.854	19.270	27.8	8.5	25.3	6.0	4.19	0.13	18.1	9.6	15.7
119	143.1	0.716	40.7	2.5	7.12	12.369	22.947	19.328	27.8	8.5	25.4	6.0	4.20	0.13	18.2	9.7	15.7
120	143.6	0.722	40.6	2.4	7.12	12.472	23.026	19.373	27.9	8.5	25.5	6.1	4.19	0.12	18.2	9.7	15.8
121	144.1	0.728	40.6	2.4	7.13	12.576	23.118	19.430	27.9	8.5	25.5	6.1	4.18	0.12	18.2	9.7	15.8
122	144.9	0.734	40.6	2.4	7.14	12.680	23.237	19.510	28.0	8.5	25.6	6.1	4.19	0.12	18.3	9.8	15.9
123	145.3	0.740	40.5	2.3	7.15	12.784	23.303	19.543	28.0	8.5	25.7	6.2	4.18	0.12	18.3	9.8	15.9
124	145.9	0.746	40.4	2.2	7.16	12.887	23.395	19.599	28.1	8.5	25.9	6.3	4.13	0.11	18.3	9.8	16.1
125	146.4	0.752	40.5	2.3	7.17	12.991	23.488	19.655	28.2	8.5	25.8	6.2	4.18	0.12	18.3	9.8	16.0
126	147.0	0.758	40.5	2.3	7.17	13.095	23.580	19.711	28.2	8.5	25.9	6.2	4.19	0.12	18.4	9.9	16.0
127	147.7	0.764	40.5	2.3	7.18	13.199	23.686	19.779	28.3	8.5	26.0	6.2	4.18	0.12	18.4	9.9	16.1
128	148.3	0.770	40.5	2.3	7.19	13.302	23.778	19.834	28.3	8.5	26.1	6.2	4.19	0.11	18.4	9.9	16.1
129	148.8	0.776	40.5	2.3	7.20	13.406	23.857	19.878	28.4	8.5	26.1	6.2	4.19	0.11	18.4	9.9	16.2
130	149.4	0.782	40.4	2.2	7.21	13.510	23.963	19.944	28.4	8.5	26.2	6.3	4.19	0.11	18.5	10.0	16.2
131	149.7	0.788	40.4	2.2	7.22	13.614	24.002	19.954	28.5	8.5	26.2	6.3	4.19	0.11	18.5	10.0	16.2
132	150.1	0.794	40.4	2.2	7.23	13.717	24.068	19.986	28.5	8.5	26.3	6.3	4.17	0.11	18.5	10.0	16.3
133	150.8	0.800	40.4	2.2	7.24	13.821	24.187	20.063	28.6	8.5	26.4	6.3	4.19	0.11	18.5	10.0	16.3
134	151.3	0.806	40.4	2.2	7.24	13.925	24.266	20.106	28.6	8.5	26.4	6.3	4.18	0.11	18.6	10.1	16.4
135	151.5	0.812	40.4	2.2	7.25	14.028	24.306	20.115	28.6	8.5	26.4	6.3	4.18	0.11	18.6	10.1	16.4
136	151.8	0.818	40.3	2.1	7.26	14.132	24.345	20.124	28.6	8.5	26.5	6.4	4.16	0.11	18.6	10.1	16.4
137	152.2	0.824	40.3	2.1	7.27	14.236	24.411	20.155	28.7	8.5	26.6	6.4	4.15	0.10	18.6	10.1	16.5
138	152.6	0.830	40.3	2.1	7.28	14.340	24.477	20.186	28.7	8.5	26.6	6.4	4.13	0.10	18.6	10.1	16.5
139	153.6	0.836	40.3	2.1	7.29	14.443	24.636	20.297	28.8	8.5	26.7	6.4	4.15	0.10	18.6	10.1	16.6
140	154.6	0.842	40.2	2.0	7.30	14.547	24.794	20.406	28.9	8.5	26.9	6.5	4.15	0.10	18.7	10.2	16.7
141	155.0	0.848	40.3	2.1	7.31	14.651	24.860	20.437	28.9	8.5	26.9	6.4	4.17	0.10	18.7	10.2	16.7
142	155.7	0.854	40.2	2.0	7.31	14.755	24.979	20.512	29.0	8.5	27.0	6.5	4.17	0.10	18.8	10.3	16.7
143	156.0	0.860	40.2	2.0	7.32	14.858	25.018	20.520	29.0	8.5	27.0	6.5	4.17	0.10	18.8	10.3	16.7
144	156.3	0.866	40.2	2.0	7.33	14.962	25.071	20.539	29.0	8.5	27.0	6.5	4.17	0.10	18.8	10.3	16.7
145	156.6	0.872	40.2	2.0	7.34	15.066	25.111	20.547	29.0	8.5	27.1	6.5	4.16	0.10	18.8	10.3	16.8
146	156.7	0.878	40.2	2.0	7.35	15.170	25.137	20.543	29.0	8.5	27.0	6.5	4.17	0.10	18.8	10.3	16.7
147	156.8	0.884	40.2	2.0	7.36	15.273	25.150	20.528	29.0	8.5	27.0	6.5	4.15	0.10	18.8	10.3	16.8
148	156.7	0.890	40.1	1.9	7.37	15.377	25.137	20.491	29.0	8.5	27.1	6.6	4.11	0.09	18.7	10.2	16.8
149	157.0	0.896	40.1	1.9	7.38	15.481	25.177	20.498	29.0	8.5	27.1	6.6	4.10	0.09	18.7	10.2	16.9
150	157.1	0.902	40.1	1.9	7.39	15.585	25.203	20.494	29.0	8.5	27.1	6.6	4.11	0.09	18.7	10.2	16.8
151	157.4	0.908	40.1	1.9	7.40	15.688	25.243	20.502	29.0	8.5	27.1	6.6	4.11	0.09	18.8	10.3	16.8
152	157.6	0.914	40.0	1.8	7.40	15.792	25.282	20.509	29.0	8.5	27.2	6.7	4.06	0.09	18.8	10.3	16.9
153	157.8	0.920	40.0	1.8	7.41	15.896	25.309	20.505	29.0	8.5	27.2	6.7	4.06	0.09	18.8	10.3	16.9

Florence & Hutcheson
CONSULTING ENGINEERS

Specimen A

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in2)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P' (psi)
154	158.1	0.926	40.0	1.8	7.42	15.999	25.361	20.523	29.0	8.5	27.2	6.7	4.08	0.09	18.8	10.3	16.9
155	158.0	0.932	39.9	1.7	7.43	16.103	25.348	20.485	29.0	8.5	27.3	6.8	4.03	0.08	18.7	10.2	17.0
156	158.3	0.938	39.9	1.7	7.44	16.207	25.388	20.492	29.0	8.5	27.3	6.8	4.01	0.08	18.7	10.2	17.0
157	158.2	0.944	39.9	1.7	7.45	16.311	25.374	20.455	29.0	8.5	27.2	6.8	4.02	0.08	18.7	10.2	17.0
158	158.0	0.950	39.9	1.7	7.46	16.414	25.348	20.407	28.9	8.5	27.2	6.8	4.02	0.09	18.7	10.2	17.0
159	158.3	0.956	39.9	1.7	7.47	16.518	25.388	20.413	28.9	8.5	27.3	6.8	3.99	0.08	18.7	10.2	17.0
160	158.0	0.962	39.8	1.6	7.48	16.622	25.335	20.343	28.8	8.5	27.2	6.9	3.96	0.08	18.7	10.2	17.0
161	158.0	0.968	39.8	1.6	7.49	16.726	25.335	20.317	28.8	8.5	27.3	6.9	3.93	0.08	18.7	10.2	17.1
162	158.0	0.974	39.7	1.5	7.50	16.829	25.335	20.290	28.8	8.5	27.3	7.0	3.91	0.07	18.6	10.1	17.1
163	157.7	0.980	39.8	1.6	7.51	16.933	25.295	20.231	28.7	8.5	27.2	6.9	3.91	0.08	18.6	10.1	17.1
164	157.5	0.986	39.6	1.4	7.52	17.037	25.256	20.172	28.7	8.5	27.2	7.1	3.86	0.07	18.6	10.1	17.1
165	157.3	0.992	39.6	1.4	7.52	17.141	25.229	20.124	28.6	8.5	27.2	7.1	3.84	0.07	18.6	10.1	17.2
166	157.2	0.998	39.6	1.4	7.53	17.244	25.216	20.087	28.6	8.5	27.2	7.1	3.83	0.07	18.5	10.0	17.1
167	156.9	1.004	39.5	1.3	7.54	17.348	25.163	20.017	28.5	8.5	27.2	7.2	3.80	0.07	18.5	10.0	17.2
168	156.8	1.010	39.5	1.3	7.55	17.452	25.150	19.980	28.5	8.5	27.1	7.2	3.79	0.07	18.5	10.0	17.2
169	156.8	1.016	39.5	1.3	7.56	17.556	25.150	19.954	28.5	8.5	27.2	7.2	3.77	0.07	18.5	10.0	17.2
170	157.1	1.022	39.5	1.3	7.57	17.659	25.203	19.971	28.5	8.5	27.2	7.2	3.76	0.06	18.5	10.0	17.2
171	157.6	1.028	39.4	1.2	7.58	17.763	25.269	20.000	28.5	8.5	27.3	7.3	3.74	0.06	18.5	10.0	17.3
172	157.4	1.034	39.4	1.2	7.59	17.867	25.243	19.952	28.5	8.5	27.3	7.3	3.73	0.06	18.5	10.0	17.3
173	157.1	1.040	39.4	1.2	7.60	17.970	25.203	19.893	28.4	8.5	27.2	7.3	3.71	0.06	18.4	9.9	17.3
174	157.0	1.046	39.3	1.1	7.61	18.074	25.177	19.845	28.3	8.5	27.2	7.4	3.69	0.06	18.4	9.9	17.3
175	157.1	1.052	39.3	1.1	7.62	18.178	25.203	19.841	28.3	8.5	27.2	7.4	3.69	0.06	18.4	9.9	17.3
176	157.1	1.058	39.3	1.1	7.63	18.282	25.190	19.804	28.3	8.5	27.2	7.4	3.68	0.06	18.4	9.9	17.3
177	156.6	1.064	39.3	1.1	7.64	18.385	25.111	19.713	28.2	8.5	27.1	7.4	3.66	0.06	18.4	9.9	17.3
178	156.2	1.070	39.2	1.0	7.65	18.489	25.058	19.644	28.1	8.5	27.1	7.5	3.62	0.05	18.3	9.8	17.3
179	156.0	1.076	39.2	1.0	7.66	18.593	25.018	19.586	28.1	8.5	27.1	7.5	3.62	0.05	18.3	9.8	17.3
180	155.7	1.082	39.2	1.0	7.67	18.697	24.965	19.517	28.0	8.5	27.0	7.5	3.59	0.05	18.3	9.8	17.3
181	155.6	1.088	39.1	0.9	7.68	18.800	24.952	19.480	28.0	8.5	27.0	7.6	3.58	0.05	18.2	9.7	17.3
182	155.3	1.094	39.1	0.9	7.69	18.904	24.899	19.412	27.9	8.5	27.0	7.6	3.56	0.05	18.2	9.7	17.3
183	155.2	1.100	39.0	0.8	7.70	19.008	24.886	19.375	27.9	8.5	27.0	7.7	3.53	0.04	18.2	9.7	17.4
184	154.9	1.106	39.0	0.8	7.71	19.112	24.847	19.317	27.8	8.5	27.0	7.7	3.52	0.04	18.2	9.7	17.3
185	154.8	1.112	39.0	0.8	7.72	19.215	24.820	19.270	27.8	8.5	27.0	7.7	3.50	0.04	18.1	9.6	17.3
186	154.8	1.118	39.0	0.8	7.73	19.319	24.820	19.244	27.7	8.5	27.0	7.7	3.49	0.04	18.1	9.6	17.4
187	154.3	1.124	38.9	0.7	7.74	19.423	24.741	19.155	27.7	8.5	26.9	7.8	3.46	0.04	18.1	9.6	17.4
188	154.0	1.130	38.9	0.7	7.75	19.527	24.702	19.097	27.6	8.5	26.9	7.8	3.44	0.04	18.0	9.5	17.4
189	154.1	1.136	38.8	0.6	7.76	19.630	24.715	19.082	27.6	8.5	27.0	7.9	3.42	0.03	18.0	9.5	17.4
190	154.0	1.142	38.8	0.6	7.77	19.734	24.702	19.046	27.5	8.5	27.0	7.9	3.41	0.03	18.0	9.5	17.4
191	153.9	1.148	38.7	0.5	7.78	19.838	24.675	18.999	27.5	8.5	27.0	8.0	3.39	0.03	18.0	9.5	17.5
192	153.6	1.150	38.7	0.5	7.78	19.870	24.636	18.960	27.5	8.5	26.9	8.0	3.38	0.03	18.0	9.5	17.4

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Florence & Hutcheson

Consulting Engineers

Specimen B Shear Data

CU Triaxial Test

File Location

Boring No_58_17.HSD

Project Information

Project No. 38001-1684-048001-1684-04

Project Name: Solar Farm Information & Welcome Center Site Design

Client:

Sample Location: Haywood, TN

Sample Description: Light Gray Lean Clay with Sand

Remarks:

Sample Data

Sample Type: Undisturbed

Specific Gravity: 2.655

LL: 41.000

PL: 18.000

Sample Parameters	Initial	After Consolidation	Final
Diameter (in)	2.825	2.808	
Height (in)	5.845	5.799	
Weight (grams)	1229.30		1237.01
Moisture (%)	24.50		25.28
Dry Density (pcf)	102.72	104.72	
Saturation (%)	106.01	100.00	
Void Ratio	0.611	0.583	

Test Data

Rate of Strain: 0.002222

Cell Pressure (psi): 55.700

Effective Confining Stress (psi): 17.0

Corrected Peak Deviator Stress (psi): 35.983 at reading number: 38

Specimen B

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in2)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P' (psi)
0	1.2	0.000	38.7	0.0	6.19	0.000	0.000	0.000	17.0	17.0	17.0	17.0	1.00	0.00	17.0	0.0	17.0
1	30.7	0.006	41.0	2.3	6.20	0.104	4.769	4.724	21.8	17.0	19.4	14.7	1.32	0.49	19.4	2.4	17.1
2	53.1	0.012	43.0	4.3	6.21	0.207	8.396	8.297	25.3	17.0	21.0	12.7	1.65	0.52	21.2	4.1	16.9
3	69.0	0.018	44.5	5.8	6.21	0.311	10.959	10.804	27.8	17.0	22.0	11.2	1.96	0.54	22.4	5.4	16.6
4	83.0	0.024	45.8	7.1	6.22	0.414	13.218	13.001	30.0	17.0	22.9	9.9	2.31	0.55	23.5	6.5	16.4
5	95.7	0.030	46.8	8.1	6.23	0.518	15.264	14.982	32.0	17.0	23.9	8.9	2.68	0.54	24.5	7.5	16.4
6	107.7	0.036	47.7	9.0	6.23	0.621	17.203	16.853	33.9	17.0	24.9	8.0	3.10	0.53	25.5	8.4	16.5
7	119.5	0.042	48.5	9.9	6.24	0.725	19.103	18.680	35.7	17.0	25.9	7.2	3.60	0.53	26.4	9.3	16.5
8	130.7	0.048	49.3	10.6	6.25	0.828	20.909	20.412	37.4	17.0	26.8	6.4	4.19	0.52	27.2	10.2	16.6
9	142.0	0.055	50.1	11.4	6.25	0.932	22.743	22.166	39.2	17.0	27.8	5.6	4.95	0.52	28.1	11.1	16.7
10	153.2	0.061	50.8	12.1	6.26	1.035	24.549	23.889	40.9	17.0	28.8	4.9	5.84	0.51	29.0	11.9	16.9
11	163.6	0.067	51.2	12.5	6.26	1.139	26.223	25.478	42.5	17.0	30.0	4.5	6.63	0.49	29.8	12.7	17.3
12	173.7	0.073	51.5	12.9	6.27	1.242	27.857	27.024	44.1	17.0	31.2	4.2	7.45	0.48	30.5	13.5	17.7
13	183.1	0.079	51.8	13.2	6.28	1.346	29.371	28.449	45.5	17.0	32.3	3.9	8.39	0.46	31.3	14.2	18.1
14	192.5	0.085	52.1	13.5	6.28	1.450	30.899	29.883	46.9	17.0	33.4	3.6	9.41	0.45	32.0	14.9	18.5
15	200.6	0.091	52.3	13.6	6.29	1.553	32.201	31.092	48.1	17.0	34.5	3.4	10.04	0.44	32.6	15.5	19.0
16	208.2	0.097	52.2	13.6	6.30	1.657	33.423	32.220	49.3	17.0	35.7	3.5	10.27	0.42	33.1	16.1	19.6
17	214.3	0.103	52.1	13.4	6.30	1.760	34.419	33.124	50.2	17.0	36.8	3.6	10.13	0.40	33.6	16.6	20.2
18	219.7	0.109	51.9	13.3	6.31	1.864	35.283	33.895	50.9	17.0	37.7	3.8	9.98	0.39	34.0	16.9	20.7
20	227.3	0.121	51.5	12.9	6.32	2.071	36.518	34.979	52.0	17.0	39.2	4.2	9.35	0.37	34.5	17.5	21.7
22	231.3	0.133	50.7	12.1	6.34	2.278	37.156	35.526	52.6	17.0	40.5	5.0	8.15	0.34	34.8	17.8	22.7
23	232.3	0.139	50.5	11.8	6.34	2.381	37.329	35.656	52.7	17.0	40.9	5.2	7.86	0.33	34.9	17.8	23.0

Specimen B

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in2)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P' (psi)
24	233.5	0.145	50.3	11.7	6.35	2.485	37.515	35.799	52.8	17.0	41.2	5.4	7.65	0.33	34.9	17.9	23.3
25	233.7	0.151	50.1	11.5	6.36	2.588	37.554	35.799	52.8	17.0	41.4	5.6	7.43	0.32	34.9	17.9	23.5
26	234.0	0.157	49.8	11.1	6.36	2.692	37.594	35.799	52.8	17.0	41.7	5.9	7.02	0.31	34.9	17.9	23.8
27	234.2	0.163	49.4	10.8	6.37	2.795	37.621	35.786	52.8	17.0	42.1	6.3	6.70	0.30	34.9	17.9	24.2
29	234.8	0.175	48.9	10.3	6.39	3.003	37.727	35.811	52.8	17.0	42.6	6.8	6.29	0.29	34.9	17.9	24.7
30	235.3	0.181	48.8	10.1	6.39	3.106	37.807	35.849	52.9	17.0	42.8	6.9	6.18	0.28	35.0	17.9	24.8
31	235.7	0.187	48.7	10.0	6.40	3.210	37.873	35.874	52.9	17.0	42.9	7.0	6.11	0.28	35.0	17.9	25.0
32	236.2	0.193	48.5	9.8	6.41	3.313	37.953	35.912	52.9	17.0	43.1	7.2	5.98	0.27	35.0	18.0	25.2
34	237.1	0.205	48.0	9.4	6.42	3.520	38.099	35.974	53.0	17.0	43.6	7.7	5.70	0.26	35.0	18.0	25.6
35	237.2	0.211	47.7	9.1	6.43	3.624	38.112	35.948	53.0	17.0	43.9	8.0	5.52	0.25	35.0	18.0	25.9
36	237.6	0.217	47.6	9.0	6.43	3.727	38.179	35.972	53.0	17.0	44.0	8.1	5.46	0.25	35.0	18.0	26.1
37	237.9	0.223	47.5	8.8	6.44	3.831	38.219	35.971	53.0	17.0	44.2	8.2	5.38	0.25	35.0	18.0	26.2
38	238.2	0.229	47.4	8.7	6.45	3.934	38.272	35.983	53.0	17.0	44.3	8.3	5.32	0.24	35.0	18.0	26.3
40	238.1	0.241	47.1	8.4	6.46	4.141	38.258	35.891	52.9	17.0	44.5	8.6	5.16	0.23	35.0	17.9	26.6
41	238.3	0.247	46.9	8.2	6.47	4.245	38.285	35.876	52.9	17.0	44.7	8.8	5.07	0.23	35.0	17.9	26.8
42	238.3	0.253	46.7	8.0	6.47	4.349	38.298	35.849	52.9	17.0	44.9	9.0	4.98	0.22	35.0	17.9	26.9
43	238.3	0.259	46.5	7.9	6.48	4.452	38.298	35.810	52.8	17.0	45.0	9.2	4.91	0.22	34.9	17.9	27.1
44	238.3	0.265	46.4	7.7	6.49	4.556	38.285	35.757	52.8	17.0	45.1	9.3	4.84	0.22	34.9	17.9	27.2
45	238.1	0.271	46.4	7.7	6.50	4.659	38.258	35.692	52.7	17.0	45.0	9.3	4.82	0.22	34.9	17.8	27.2
46	238.0	0.277	46.2	7.6	6.50	4.763	38.245	35.640	52.7	17.0	45.1	9.5	4.77	0.21	34.9	17.8	27.3
47	237.8	0.283	46.1	7.5	6.51	4.866	38.205	35.563	52.6	17.0	45.1	9.6	4.72	0.21	34.8	17.8	27.3
48	237.9	0.289	45.9	7.3	6.52	4.970	38.219	35.536	52.6	17.0	45.3	9.8	4.64	0.20	34.8	17.8	27.5
49	237.7	0.295	45.8	7.1	6.52	5.073	38.192	35.471	52.5	17.0	45.4	9.9	4.57	0.20	34.8	17.7	27.7
50	237.8	0.301	45.6	6.9	6.53	5.177	38.205	35.444	52.5	17.0	45.6	10.1	4.50	0.19	34.8	17.7	27.8
51	237.6	0.307	45.5	6.8	6.54	5.280	38.179	35.379	52.4	17.0	45.6	10.2	4.47	0.19	34.7	17.7	27.9
52	237.4	0.313	45.5	6.8	6.55	5.384	38.152	35.315	52.4	17.0	45.6	10.2	4.45	0.19	34.7	17.7	27.9
53	237.6	0.319	45.3	6.7	6.55	5.487	38.179	35.300	52.3	17.0	45.7	10.4	4.41	0.19	34.7	17.7	28.0
54	237.6	0.325	45.3	6.6	6.56	5.591	38.179	35.261	52.3	17.0	45.7	10.4	4.38	0.19	34.7	17.6	28.1
55	237.6	0.331	45.2	6.6	6.57	5.695	38.179	35.221	52.3	17.0	45.7	10.5	4.37	0.19	34.6	17.6	28.1
56	237.6	0.337	45.1	6.5	6.57	5.798	38.179	35.182	52.2	17.0	45.8	10.6	4.33	0.18	34.6	17.6	28.2
57	237.6	0.343	45.0	6.4	6.58	5.902	38.179	35.142	52.2	17.0	45.8	10.7	4.29	0.18	34.6	17.6	28.3
58	237.9	0.349	44.9	6.2	6.59	6.005	38.219	35.140	52.2	17.0	46.0	10.8	4.24	0.18	34.6	17.6	28.4
59	237.9	0.355	44.8	6.1	6.60	6.109	38.232	35.113	52.2	17.0	46.0	10.9	4.22	0.17	34.6	17.6	28.5
60	237.7	0.361	44.7	6.1	6.60	6.212	38.192	35.036	52.1	17.0	46.0	11.0	4.19	0.17	34.6	17.5	28.5
61	237.9	0.367	44.6	6.0	6.61	6.316	38.232	35.034	52.1	17.0	46.1	11.1	4.17	0.17	34.6	17.5	28.6
62	237.7	0.373	44.6	5.9	6.62	6.419	38.192	34.957	52.0	17.0	46.1	11.1	4.15	0.17	34.5	17.5	28.6
63	238.1	0.379	44.5	5.9	6.63	6.523	38.258	34.979	52.0	17.0	46.2	11.2	4.13	0.17	34.5	17.5	28.7
64	238.0	0.385	44.4	5.8	6.63	6.626	38.245	34.927	52.0	17.0	46.2	11.3	4.10	0.16	34.5	17.5	28.7
65	238.0	0.391	44.3	5.6	6.64	6.730	38.245	34.888	51.9	17.0	46.3	11.4	4.06	0.16	34.5	17.4	28.8
66	238.0	0.397	44.2	5.5	6.65	6.833	38.245	34.848	51.9	17.0	46.4	11.5	4.02	0.16	34.5	17.4	29.0
67	238.2	0.403	44.1	5.4	6.66	6.937	38.272	34.833	51.9	17.0	46.5	11.6	4.00	0.16	34.5	17.4	29.0
68	238.2	0.409	44.0	5.3	6.66	7.041	38.272	34.794	51.8	17.0	46.5	11.7	3.97	0.15	34.4	17.4	29.1
69	238.3	0.415	44.0	5.3	6.67	7.144	38.298	34.779	51.8	17.0	46.5	11.7	3.96	0.15	34.4	17.4	29.1
71	238.1	0.427	43.8	5.2	6.68	7.351	38.258	34.663	51.7	17.0	46.5	11.9	3.92	0.15	34.4	17.3	29.2

Specimen B

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in2)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P' (psi)
72	237.9	0.433	43.8	5.1	6.69	7.455	38.232	34.598	51.6	17.0	46.5	11.9	3.90	0.15	34.3	17.3	29.2
73	237.9	0.439	43.7	5.0	6.70	7.558	38.219	34.547	51.6	17.0	46.5	12.0	3.88	0.15	34.3	17.3	29.3
74	237.7	0.445	43.5	4.9	6.71	7.662	38.192	34.482	51.5	17.0	46.7	12.2	3.83	0.14	34.3	17.2	29.4
75	237.2	0.451	43.4	4.7	6.71	7.765	38.112	34.369	51.4	17.0	46.7	12.3	3.80	0.14	34.2	17.2	29.5
76	236.7	0.457	43.3	4.6	6.72	7.869	38.033	34.256	51.3	17.0	46.7	12.4	3.76	0.14	34.2	17.1	29.5
77	236.0	0.463	43.2	4.6	6.73	7.972	37.926	34.119	51.2	17.0	46.6	12.5	3.73	0.13	34.1	17.1	29.5
79	234.8	0.475	43.0	4.4	6.75	8.179	37.727	33.858	50.9	17.0	46.5	12.7	3.67	0.13	34.0	16.9	29.6
80	234.2	0.481	43.0	4.3	6.75	8.283	37.634	33.733	50.8	17.0	46.5	12.7	3.65	0.13	33.9	16.9	29.6
81	233.6	0.487	42.9	4.2	6.76	8.386	37.528	33.597	50.6	17.0	46.4	12.8	3.62	0.13	33.8	16.8	29.6
82	233.1	0.493	42.8	4.1	6.77	8.490	37.448	33.485	50.5	17.0	46.4	12.9	3.60	0.12	33.8	16.7	29.6
83	232.1	0.499	42.7	4.0	6.78	8.594	37.289	33.301	50.3	17.0	46.3	13.0	3.56	0.12	33.7	16.7	29.7
84	231.4	0.505	42.6	4.0	6.78	8.697	37.169	33.153	50.2	17.0	46.2	13.1	3.54	0.12	33.6	16.6	29.7
85	230.4	0.511	42.5	3.8	6.79	8.801	37.023	32.981	50.0	17.0	46.2	13.2	3.50	0.12	33.5	16.5	29.7
86	229.7	0.517	42.4	3.7	6.80	8.904	36.903	32.834	49.9	17.0	46.2	13.3	3.46	0.11	33.5	16.4	29.8
87	229.1	0.523	42.2	3.6	6.81	9.008	36.810	32.711	49.7	17.0	46.2	13.5	3.43	0.11	33.4	16.4	29.8
89	227.3	0.535	42.1	3.4	6.82	9.215	36.518	32.370	49.4	17.0	46.0	13.6	3.38	0.11	33.2	16.2	29.8
90	226.2	0.541	42.1	3.4	6.83	9.318	36.332	32.163	49.2	17.0	45.8	13.6	3.36	0.11	33.1	16.1	29.7
91	225.6	0.547	42.0	3.3	6.84	9.422	36.239	32.041	49.1	17.0	45.8	13.7	3.34	0.10	33.1	16.0	29.7
92	225.2	0.553	42.0	3.3	6.85	9.525	36.173	31.944	49.0	17.0	45.7	13.7	3.33	0.10	33.0	16.0	29.7
94	224.2	0.565	41.9	3.2	6.86	9.732	36.013	31.725	48.8	17.0	45.5	13.8	3.30	0.10	32.9	15.9	29.6
95	223.9	0.571	41.9	3.2	6.87	9.836	35.974	31.652	48.7	17.0	45.4	13.8	3.30	0.10	32.9	15.8	29.6
96	223.6	0.577	41.9	3.2	6.88	9.940	35.920	31.567	48.6	17.0	45.4	13.8	3.28	0.10	32.8	15.8	29.6
97	223.5	0.583	41.8	3.2	6.88	10.043	35.894	31.506	48.5	17.0	45.4	13.9	3.27	0.10	32.8	15.8	29.6
98	223.2	0.589	41.8	3.1	6.89	10.147	35.854	31.433	48.5	17.0	45.3	13.9	3.26	0.10	32.8	15.7	29.6
100	222.3	0.601	41.7	3.1	6.91	10.354	35.708	31.227	48.3	17.0	45.2	14.0	3.23	0.10	32.7	15.6	29.6
101	221.7	0.607	41.7	3.0	6.92	10.457	35.615	31.107	48.1	17.0	45.1	14.0	3.22	0.10	32.6	15.6	29.6
102	221.5	0.613	41.7	3.0	6.92	10.561	35.575	31.035	48.1	17.0	45.1	14.0	3.21	0.10	32.6	15.5	29.6
103	221.2	0.619	41.6	2.9	6.93	10.664	35.522	30.950	48.0	17.0	45.1	14.1	3.19	0.09	32.5	15.5	29.6
104	221.0	0.625	41.5	2.8	6.94	10.768	35.495	30.890	47.9	17.0	45.1	14.2	3.18	0.09	32.5	15.4	29.6
105	221.1	0.631	41.5	2.8	6.95	10.871	35.509	30.865	47.9	17.0	45.1	14.2	3.17	0.09	32.5	15.4	29.6
106	220.6	0.637	41.5	2.8	6.96	10.975	35.429	30.757	47.8	17.0	45.0	14.2	3.16	0.09	32.4	15.4	29.6
107	220.8	0.643	41.5	2.8	6.96	11.078	35.469	30.756	47.8	17.0	45.0	14.2	3.16	0.09	32.4	15.4	29.6
108	220.6	0.649	41.5	2.8	6.97	11.182	35.429	30.684	47.7	17.0	44.9	14.2	3.16	0.09	32.4	15.3	29.6
109	220.8	0.655	41.5	2.8	6.98	11.286	35.469	30.683	47.7	17.0	44.9	14.2	3.16	0.09	32.4	15.3	29.6
111	221.0	0.667	41.5	2.8	7.00	11.493	35.495	30.633	47.7	17.0	44.9	14.2	3.15	0.09	32.4	15.3	29.6
112	221.2	0.673	41.4	2.8	7.01	11.596	35.522	30.619	47.7	17.0	44.9	14.3	3.15	0.09	32.3	15.3	29.6
113	221.4	0.679	41.4	2.8	7.01	11.700	35.562	30.618	47.7	17.0	44.9	14.3	3.15	0.09	32.3	15.3	29.6
114	221.6	0.685	41.4	2.8	7.02	11.803	35.602	30.616	47.7	17.0	44.9	14.3	3.15	0.09	32.3	15.3	29.6
115	221.7	0.691	41.4	2.8	7.03	11.907	35.615	30.591	47.6	17.0	44.9	14.3	3.14	0.09	32.3	15.3	29.6
116	221.7	0.697	41.4	2.8	7.04	12.010	35.615	30.554	47.6	17.0	44.8	14.3	3.14	0.09	32.3	15.3	29.6
117	222.1	0.703	41.4	2.7	7.05	12.114	35.681	30.576	47.6	17.0	44.9	14.3	3.14	0.09	32.3	15.3	29.6
118	222.3	0.709	41.4	2.7	7.06	12.217	35.708	30.562	47.6	17.0	44.9	14.3	3.14	0.09	32.3	15.3	29.6
119	222.4	0.715	41.4	2.7	7.06	12.321	35.721	30.537	47.6	17.0	44.8	14.3	3.13	0.09	32.3	15.3	29.6
120	222.6	0.721	41.4	2.7	7.07	12.424	35.748	30.523	47.6	17.0	44.8	14.3	3.13	0.09	32.3	15.3	29.6

Specimen B

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in2)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P' (psi)
121	222.8	0.727	41.4	2.7	7.08	12.528	35.788	30.521	47.6	17.0	44.8	14.3	3.13	0.09	32.3	15.3	29.6
122	223.2	0.733	41.4	2.7	7.09	12.631	35.854	30.542	47.6	17.0	44.9	14.3	3.13	0.09	32.3	15.3	29.6
123	223.6	0.739	41.4	2.7	7.10	12.735	35.920	30.563	47.6	17.0	44.9	14.3	3.14	0.09	32.3	15.3	29.6
124	223.9	0.745	41.4	2.7	7.11	12.839	35.960	30.560	47.6	17.0	44.9	14.3	3.14	0.09	32.3	15.3	29.6
125	223.8	0.751	41.4	2.7	7.11	12.942	35.947	30.511	47.5	17.0	44.9	14.3	3.13	0.09	32.3	15.3	29.6
126	223.8	0.757	41.4	2.7	7.12	13.046	35.947	30.474	47.5	17.0	44.8	14.3	3.13	0.09	32.3	15.2	29.5
127	224.1	0.763	41.4	2.7	7.13	13.149	36.000	30.483	47.5	17.0	44.8	14.3	3.12	0.09	32.3	15.2	29.6
128	224.8	0.769	41.4	2.7	7.14	13.253	36.106	30.538	47.6	17.0	44.9	14.3	3.13	0.09	32.3	15.3	29.6
129	225.1	0.775	41.4	2.7	7.15	13.356	36.160	30.547	47.6	17.0	44.9	14.3	3.13	0.09	32.3	15.3	29.6
130	225.3	0.781	41.4	2.7	7.16	13.460	36.186	30.532	47.6	17.0	44.9	14.3	3.13	0.09	32.3	15.3	29.6
131	225.4	0.787	41.3	2.7	7.17	13.563	36.213	30.518	47.6	17.0	44.9	14.4	3.12	0.09	32.3	15.3	29.6
132	225.6	0.793	41.3	2.6	7.17	13.667	36.239	30.503	47.5	17.0	44.9	14.4	3.11	0.09	32.3	15.3	29.7
133	225.9	0.799	41.2	2.6	7.18	13.770	36.292	30.511	47.5	17.0	45.0	14.5	3.11	0.08	32.3	15.3	29.7
134	226.2	0.805	41.2	2.5	7.19	13.874	36.332	30.508	47.5	17.0	45.0	14.5	3.10	0.08	32.3	15.3	29.8
135	226.4	0.811	41.2	2.5	7.20	13.977	36.372	30.505	47.5	17.0	45.0	14.5	3.10	0.08	32.3	15.3	29.8
136	227.0	0.817	41.1	2.5	7.21	14.081	36.465	30.547	47.6	17.0	45.1	14.6	3.10	0.08	32.3	15.3	29.8
137	227.4	0.823	41.1	2.4	7.22	14.185	36.532	30.566	47.6	17.0	45.2	14.6	3.09	0.08	32.3	15.3	29.9
138	227.7	0.829	41.1	2.4	7.23	14.288	36.585	30.574	47.6	17.0	45.2	14.6	3.09	0.08	32.3	15.3	29.9
139	228.2	0.835	41.1	2.4	7.23	14.392	36.664	30.604	47.6	17.0	45.2	14.6	3.09	0.08	32.3	15.3	29.9
140	228.0	0.841	41.1	2.4	7.24	14.495	36.625	30.532	47.6	17.0	45.1	14.6	3.09	0.08	32.3	15.3	29.9
141	228.5	0.847	41.1	2.4	7.25	14.599	36.704	30.562	47.6	17.0	45.2	14.6	3.09	0.08	32.3	15.3	29.9
142	229.1	0.853	41.1	2.4	7.26	14.702	36.810	30.615	47.7	17.0	45.3	14.6	3.09	0.08	32.3	15.3	30.0
143	229.7	0.859	41.0	2.4	7.27	14.806	36.903	30.656	47.7	17.0	45.3	14.7	3.09	0.08	32.4	15.3	30.0
144	230.4	0.865	41.0	2.4	7.28	14.909	37.010	30.708	47.7	17.0	45.4	14.7	3.09	0.08	32.4	15.4	30.0
145	230.6	0.871	41.0	2.4	7.29	15.013	37.050	30.704	47.7	17.0	45.4	14.7	3.09	0.08	32.4	15.4	30.0
146	230.9	0.877	41.0	2.4	7.30	15.116	37.103	30.711	47.7	17.0	45.4	14.7	3.09	0.08	32.4	15.4	30.0
147	231.1	0.883	41.0	2.3	7.31	15.220	37.129	30.695	47.7	17.0	45.4	14.7	3.09	0.08	32.4	15.3	30.1
148	231.7	0.889	40.9	2.3	7.31	15.323	37.222	30.735	47.8	17.0	45.5	14.8	3.08	0.07	32.4	15.4	30.1
149	231.8	0.895	41.0	2.3	7.32	15.427	37.236	30.708	47.7	17.0	45.4	14.7	3.09	0.08	32.4	15.4	30.1
150	232.2	0.901	40.9	2.2	7.33	15.531	37.302	30.725	47.8	17.0	45.5	14.8	3.08	0.07	32.4	15.4	30.2
151	232.8	0.907	40.9	2.3	7.34	15.634	37.408	30.776	47.8	17.0	45.5	14.8	3.09	0.07	32.4	15.4	30.1
152	233.7	0.913	40.9	2.3	7.35	15.738	37.541	30.850	47.9	17.0	45.6	14.8	3.09	0.07	32.5	15.4	30.2
153	234.2	0.919	40.9	2.3	7.36	15.841	37.621	30.878	47.9	17.0	45.6	14.8	3.09	0.07	32.5	15.4	30.2
154	234.4	0.925	40.9	2.2	7.37	15.945	37.661	30.872	47.9	17.0	45.7	14.8	3.08	0.07	32.5	15.4	30.3
155	234.6	0.931	40.9	2.2	7.38	16.048	37.687	30.856	47.9	17.0	45.7	14.8	3.08	0.07	32.5	15.4	30.3
156	234.8	0.937	40.8	2.2	7.39	16.152	37.727	30.850	47.9	17.0	45.7	14.9	3.07	0.07	32.5	15.4	30.3
157	235.0	0.943	40.8	2.1	7.40	16.255	37.754	30.833	47.9	17.0	45.7	14.9	3.07	0.07	32.5	15.4	30.3
158	235.6	0.949	40.8	2.1	7.40	16.359	37.847	30.872	47.9	17.0	45.8	14.9	3.07	0.07	32.5	15.4	30.4
159	235.6	0.955	40.7	2.1	7.41	16.462	37.860	30.844	47.9	17.0	45.8	15.0	3.06	0.07	32.5	15.4	30.4
160	236.0	0.961	40.7	2.0	7.42	16.566	37.913	30.849	47.9	17.0	45.9	15.0	3.05	0.07	32.5	15.4	30.4
161	236.0	0.967	40.5	1.9	7.43	16.669	37.913	30.810	47.8	17.0	46.0	15.2	3.03	0.06	32.4	15.4	30.6
163	236.7	0.979	40.5	1.9	7.45	16.877	38.033	30.831	47.9	17.0	46.0	15.2	3.03	0.06	32.5	15.4	30.6
164	236.5	0.985	40.5	1.8	7.46	16.980	38.006	30.769	47.8	17.0	46.0	15.2	3.02	0.06	32.4	15.4	30.6
165	236.8	0.991	40.5	1.8	7.47	17.084	38.046	30.763	47.8	17.0	46.0	15.2	3.02	0.06	32.4	15.4	30.6

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Specimen B

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in2)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P' (psi)
167	237.4	1.003	40.4	1.7	7.49	17.291	38.139	30.761	47.8	17.0	46.1	15.3	3.01	0.06	32.4	15.4	30.7
168	238.1	1.009	40.4	1.7	7.50	17.394	38.258	30.820	47.9	17.0	46.1	15.3	3.01	0.06	32.4	15.4	30.7
169	238.5	1.015	40.3	1.6	7.51	17.498	38.325	30.835	47.9	17.0	46.2	15.4	3.00	0.05	32.5	15.4	30.8
170	238.6	1.021	40.3	1.6	7.52	17.601	38.338	30.807	47.8	17.0	46.2	15.4	3.00	0.05	32.4	15.4	30.8
172	238.8	1.033	40.2	1.6	7.54	17.808	38.378	30.760	47.8	17.0	46.2	15.5	2.99	0.05	32.4	15.4	30.8
174	239.5	1.045	40.1	1.5	7.55	18.015	38.484	30.768	47.8	17.0	46.3	15.6	2.97	0.05	32.4	15.4	31.0
175	240.2	1.051	40.0	1.3	7.56	18.119	38.591	30.815	47.9	17.0	46.5	15.7	2.96	0.04	32.4	15.4	31.1
176	240.7	1.057	39.9	1.2	7.57	18.222	38.670	30.840	47.9	17.0	46.6	15.8	2.95	0.04	32.5	15.4	31.2
177	240.7	1.063	39.7	1.1	7.58	18.326	38.670	30.800	47.8	17.0	46.8	16.0	2.93	0.04	32.4	15.4	31.4
178	240.9	1.069	39.6	0.9	7.59	18.430	38.710	30.793	47.8	17.0	46.9	16.1	2.91	0.03	32.4	15.4	31.5
179	241.6	1.075	39.9	1.2	7.60	18.533	38.830	30.850	47.9	17.0	46.7	15.8	2.95	0.04	32.5	15.4	31.2
181	242.4	1.087	39.8	1.1	7.62	18.740	38.949	30.867	47.9	17.0	46.8	15.9	2.94	0.04	32.5	15.4	31.3
182	242.5	1.093	39.7	1.1	7.63	18.844	38.976	30.848	47.9	17.0	46.8	16.0	2.93	0.04	32.5	15.4	31.4
183	243.2	1.099	39.6	1.0	7.64	18.947	39.082	30.894	47.9	17.0	47.0	16.1	2.92	0.03	32.5	15.4	31.5
184	243.4	1.105	39.6	0.9	7.65	19.051	39.122	30.885	47.9	17.0	47.0	16.1	2.91	0.03	32.5	15.4	31.6
185	243.9	1.111	39.5	0.9	7.66	19.154	39.188	30.899	47.9	17.0	47.1	16.2	2.91	0.03	32.5	15.4	31.6
186	243.6	1.117	39.5	0.8	7.67	19.258	39.148	30.826	47.9	17.0	47.0	16.2	2.90	0.03	32.5	15.4	31.6
188	244.3	1.129	39.3	0.6	7.69	19.465	39.255	30.830	47.9	17.0	47.2	16.4	2.88	0.02	32.5	15.4	31.8
189	244.4	1.135	39.2	0.6	7.70	19.568	39.281	30.811	47.8	17.0	47.3	16.5	2.87	0.02	32.4	15.4	31.9
190	245.4	1.141	39.1	0.4	7.71	19.672	39.441	30.899	47.9	17.0	47.5	16.6	2.86	0.01	32.5	15.4	32.1
191	245.6	1.147	39.0	0.3	7.72	19.776	39.467	30.879	47.9	17.0	47.6	16.7	2.84	0.01	32.5	15.4	32.2
193	245.8	1.159	39.1	0.4	7.74	19.983	39.494	30.819	47.9	17.0	47.4	16.6	2.86	0.01	32.4	15.4	32.0
194	245.9	1.160	39.1	0.4	7.74	19.999	39.520	30.834	47.9	17.0	47.4	16.6	2.86	0.01	32.5	15.4	32.0

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Florence & Hutcheson

Consulting Engineers

Specimen C Shear Data

CU Triaxial Test

File Location
Boring No_58_17.HSD

Project Information

Project No. 38001-1684-048001-1684-04
Project Name: Solar Farm Information & Welcome Center Site Design
Client:
Sample Location: Haywood, TN
Sample Description: Light Gray Lean Clay with Sand
Remarks:

Sample Data

Sample Type: Undisturbed
Specific Gravity: 2.655
LL: 41.000
PL: 18.000

Sample Parameters	Initial	After Consolidation	Final
Diameter (in)	2.823	2.786	
Height (in)	5.854	5.792	
Weight (grams)	1229.10		1227.09
Moisture (%)	25.38		25.18
Dry Density (pcf)	101.94	105.74	
Saturation (%)	107.65	100.00	
Void Ratio	0.623	0.568	

Test Data

Rate of Strain: 0.002222
Cell Pressure (psi): 72.900
Effective Confining Stress (psi): 34.0
Corrected Peak Deviator Stress (psi): 48.056 at reading number: 22

Specimen C

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in2)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P' (psi)
0	0.2	0.000	38.9	0.0	6.10	0.000	0.000	0.000	34.0	34.0	34.0	34.0	1.00	0.00	34.0	0.0	34.0
1	28.6	0.006	41.3	2.5	6.10	0.104	4.668	4.622	38.7	34.0	36.2	31.6	1.15	0.53	36.4	2.3	33.9
2	67.7	0.012	44.9	6.0	6.11	0.207	11.076	10.972	45.0	34.0	39.0	28.0	1.39	0.55	39.5	5.5	33.5
3	96.7	0.018	47.5	8.7	6.12	0.311	15.825	15.653	49.7	34.0	41.0	25.4	1.62	0.55	41.9	7.8	33.2
4	121.7	0.024	49.8	10.9	6.12	0.415	19.927	19.680	53.7	34.0	42.8	23.1	1.85	0.55	43.9	9.8	33.0
5	143.9	0.030	51.7	12.8	6.13	0.518	23.569	23.243	57.3	34.0	44.5	21.2	2.09	0.55	45.7	11.6	32.8
7	182.5	0.042	54.8	15.9	6.14	0.726	29.897	29.393	63.4	34.0	47.5	18.1	2.62	0.54	48.7	14.7	32.8
8	199.9	0.048	56.0	17.2	6.15	0.829	32.757	32.158	66.2	34.0	49.0	16.9	2.90	0.53	50.1	16.1	33.0
9	216.2	0.055	57.1	18.3	6.16	0.933	35.428	34.729	68.8	34.0	50.5	15.8	3.20	0.53	51.4	17.4	33.1
10	230.8	0.061	58.0	19.1	6.16	1.037	37.816	37.015	71.1	34.0	51.9	14.9	3.48	0.52	52.6	18.5	33.4
13	265.9	0.079	59.8	20.9	6.18	1.348	43.577	42.458	76.5	34.0	55.6	13.1	4.23	0.49	55.3	21.2	34.4
14	274.5	0.085	60.1	21.2	6.19	1.452	44.994	43.768	77.8	34.0	56.6	12.8	4.41	0.48	55.9	21.9	34.7
15	281.5	0.091	60.2	21.3	6.19	1.555	46.141	44.809	78.9	34.0	57.5	12.7	4.52	0.48	56.4	22.4	35.1
16	287.7	0.097	60.3	21.4	6.20	1.659	47.152	45.715	79.8	34.0	58.3	12.6	4.63	0.47	56.9	22.9	35.5
18	296.7	0.109	60.1	21.2	6.21	1.866	48.623	46.979	81.0	34.0	59.8	12.8	4.66	0.45	57.5	23.5	36.3
19	299.9	0.115	59.8	21.0	6.22	1.970	49.149	47.403	81.4	34.0	60.5	13.1	4.63	0.44	57.7	23.7	36.8
20	302.2	0.121	59.5	20.7	6.23	2.074	49.527	47.710	81.8	34.0	61.1	13.4	4.57	0.43	57.9	23.9	37.2
21	304.1	0.127	59.2	20.4	6.23	2.177	49.837	47.963	82.0	34.0	61.7	13.7	4.50	0.42	58.0	24.0	37.7
22	305.0	0.133	58.8	19.9	6.24	2.281	49.986	48.056	82.1	34.0	62.2	14.1	4.40	0.41	58.1	24.0	38.2
23	305.2	0.139	58.3	19.5	6.25	2.385	50.013	48.030	82.1	34.0	62.6	14.6	4.29	0.41	58.1	24.0	38.6
24	305.1	0.145	57.9	19.0	6.25	2.488	49.999	47.965	82.0	34.0	63.0	15.0	4.19	0.40	58.0	24.0	39.0
25	304.9	0.151	57.5	18.6	6.26	2.592	49.972	47.887	81.9	34.0	63.3	15.4	4.10	0.39	58.0	23.9	39.4

Specimen C

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in2)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P' (psi)
26	304.7	0.157	57.1	18.2	6.27	2.696	49.945	47.809	81.9	34.0	63.6	15.8	4.02	0.38	57.9	23.9	39.7
27	304.6	0.163	56.8	17.9	6.27	2.799	49.918	47.731	81.8	34.0	63.9	16.1	3.96	0.38	57.9	23.9	40.0
28	304.0	0.169	56.4	17.6	6.28	2.903	49.824	47.588	81.6	34.0	64.1	16.5	3.89	0.37	57.8	23.8	40.3
29	303.8	0.175	56.1	17.3	6.29	3.007	49.797	47.510	81.6	34.0	64.3	16.8	3.83	0.36	57.8	23.8	40.5
30	303.6	0.181	55.9	17.1	6.29	3.110	49.756	47.419	81.5	34.0	64.4	17.0	3.79	0.36	57.8	23.7	40.7
32	303.3	0.193	55.4	16.6	6.31	3.318	49.716	47.277	81.3	34.0	64.8	17.5	3.71	0.35	57.7	23.6	41.1
33	303.0	0.199	55.2	16.4	6.31	3.421	49.662	47.173	81.2	34.0	64.8	17.7	3.67	0.35	57.6	23.6	41.2
34	302.9	0.205	55.1	16.2	6.32	3.525	49.635	47.096	81.1	34.0	64.9	17.8	3.64	0.34	57.6	23.5	41.4
35	302.5	0.211	54.9	16.0	6.33	3.629	49.581	46.992	81.0	34.0	65.0	18.0	3.61	0.34	57.5	23.5	41.5
36	302.4	0.217	54.7	15.9	6.33	3.732	49.567	46.928	81.0	34.0	65.1	18.2	3.58	0.34	57.5	23.5	41.6
37	302.3	0.223	54.6	15.7	6.34	3.836	49.540	46.850	80.9	34.0	65.2	18.3	3.56	0.34	57.5	23.4	41.8
38	301.9	0.229	54.4	15.6	6.35	3.940	49.473	46.734	80.8	34.0	65.2	18.5	3.53	0.33	57.4	23.4	41.8
39	301.7	0.235	54.3	15.5	6.36	4.044	49.446	46.657	80.7	34.0	65.2	18.6	3.51	0.33	57.4	23.3	41.9
40	301.4	0.241	54.2	15.3	6.36	4.147	49.392	46.554	80.6	34.0	65.3	18.7	3.48	0.33	57.3	23.3	42.0
41	301.5	0.247	54.0	15.2	6.37	4.251	49.419	46.529	80.6	34.0	65.4	18.9	3.46	0.33	57.3	23.3	42.2
42	301.4	0.253	53.9	15.0	6.38	4.355	49.392	46.452	80.5	34.0	65.5	19.0	3.44	0.32	57.3	23.2	42.2
43	301.0	0.259	53.7	14.9	6.38	4.458	49.338	46.349	80.4	34.0	65.5	19.2	3.42	0.32	57.2	23.2	42.4
44	300.8	0.265	53.6	14.8	6.39	4.562	49.298	46.259	80.3	34.0	65.5	19.3	3.40	0.32	57.2	23.1	42.4
45	300.8	0.271	53.5	14.7	6.40	4.666	49.298	46.208	80.3	34.0	65.6	19.4	3.39	0.32	57.1	23.1	42.5
46	300.5	0.277	53.4	14.6	6.40	4.769	49.257	46.118	80.2	34.0	65.6	19.5	3.37	0.32	57.1	23.1	42.5
47	300.7	0.283	53.3	14.5	6.41	4.873	49.284	46.093	80.1	34.0	65.6	19.6	3.36	0.31	57.1	23.0	42.6
48	300.5	0.289	53.2	14.4	6.42	4.977	49.244	46.003	80.0	34.0	65.7	19.7	3.34	0.31	57.0	23.0	42.7
49	300.6	0.295	53.2	14.3	6.42	5.080	49.271	45.978	80.0	34.0	65.7	19.7	3.33	0.31	57.0	23.0	42.7
50	300.4	0.301	53.1	14.2	6.43	5.184	49.230	45.888	79.9	34.0	65.7	19.8	3.32	0.31	57.0	22.9	42.8
51	300.4	0.307	53.0	14.2	6.44	5.288	49.230	45.837	79.9	34.0	65.7	19.9	3.30	0.31	57.0	22.9	42.8
52	300.6	0.313	53.0	14.1	6.45	5.391	49.271	45.825	79.9	34.0	65.8	19.9	3.30	0.31	57.0	22.9	42.8
53	300.5	0.319	52.9	14.0	6.45	5.495	49.257	45.761	79.8	34.0	65.8	20.0	3.29	0.31	56.9	22.9	42.9
54	301.0	0.325	52.8	14.0	6.46	5.599	49.325	45.773	79.8	34.0	65.9	20.1	3.28	0.31	56.9	22.9	43.0
55	301.1	0.331	52.8	13.9	6.47	5.702	49.352	45.748	79.8	34.0	65.9	20.1	3.27	0.30	56.9	22.9	43.0
56	301.1	0.337	52.7	13.9	6.47	5.806	49.352	45.697	79.7	34.0	65.9	20.2	3.26	0.30	56.9	22.8	43.0
58	301.0	0.349	52.6	13.8	6.49	6.013	49.338	45.582	79.6	34.0	65.8	20.3	3.25	0.30	56.8	22.8	43.1
60	301.5	0.361	52.5	13.7	6.50	6.221	49.419	45.555	79.6	34.0	65.9	20.4	3.24	0.30	56.8	22.8	43.2
61	301.6	0.367	52.5	13.6	6.51	6.324	49.432	45.517	79.6	34.0	65.9	20.4	3.23	0.30	56.8	22.8	43.2
62	301.6	0.373	52.5	13.6	6.52	6.428	49.432	45.465	79.5	34.0	65.9	20.4	3.23	0.30	56.8	22.7	43.1
64	302.1	0.385	52.4	13.5	6.53	6.636	49.513	45.438	79.5	34.0	66.0	20.5	3.21	0.30	56.8	22.7	43.2
65	302.0	0.391	52.3	13.5	6.54	6.739	49.500	45.375	79.4	34.0	65.9	20.6	3.21	0.30	56.7	22.7	43.2
66	302.1	0.397	52.3	13.4	6.55	6.843	49.513	45.336	79.4	34.0	65.9	20.6	3.20	0.30	56.7	22.7	43.3
67	302.3	0.403	52.3	13.4	6.55	6.947	49.540	45.310	79.4	34.0	65.9	20.6	3.20	0.30	56.7	22.7	43.3
68	302.2	0.409	52.2	13.4	6.56	7.050	49.527	45.246	79.3	34.0	65.9	20.7	3.19	0.30	56.7	22.6	43.3
69	302.2	0.415	52.2	13.3	6.57	7.154	49.527	45.194	79.2	34.0	65.9	20.7	3.18	0.30	56.6	22.6	43.3
70	302.2	0.421	52.2	13.3	6.58	7.258	49.527	45.143	79.2	34.0	65.9	20.7	3.18	0.29	56.6	22.6	43.3
71	302.2	0.427	52.1	13.2	6.58	7.361	49.527	45.092	79.1	34.0	65.9	20.8	3.17	0.29	56.6	22.5	43.4
72	302.3	0.433	52.0	13.2	6.59	7.465	49.540	45.053	79.1	34.0	65.9	20.9	3.16	0.29	56.6	22.5	43.4
73	302.1	0.439	52.0	13.2	6.60	7.569	49.513	44.976	79.0	34.0	65.9	20.9	3.15	0.29	56.5	22.5	43.4

Specimen C

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in2)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P' (psi)
74	301.9	0.445	52.0	13.1	6.61	7.672	49.486	44.900	78.9	34.0	65.8	20.9	3.15	0.29	56.5	22.5	43.4
75	302.0	0.451	51.9	13.1	6.61	7.776	49.500	44.861	78.9	34.0	65.8	21.0	3.14	0.29	56.5	22.4	43.4
76	301.7	0.457	51.9	13.1	6.62	7.880	49.446	44.760	78.8	34.0	65.7	21.0	3.13	0.29	56.4	22.4	43.3
77	301.9	0.463	51.9	13.0	6.63	7.983	49.486	44.746	78.8	34.0	65.8	21.0	3.13	0.29	56.4	22.4	43.4
78	301.9	0.469	51.9	13.0	6.63	8.087	49.473	44.683	78.7	34.0	65.7	21.0	3.12	0.29	56.4	22.3	43.4
79	301.9	0.475	51.8	12.9	6.64	8.191	49.473	44.631	78.7	34.0	65.7	21.1	3.11	0.29	56.4	22.3	43.4
80	302.0	0.481	51.8	13.0	6.65	8.294	49.500	44.605	78.6	34.0	65.7	21.1	3.12	0.29	56.3	22.3	43.4
81	302.2	0.487	51.7	12.9	6.66	8.398	49.527	44.578	78.6	34.0	65.7	21.2	3.11	0.29	56.3	22.3	43.4
82	302.0	0.493	51.7	12.9	6.66	8.502	49.500	44.502	78.5	34.0	65.7	21.2	3.10	0.29	56.3	22.3	43.4
83	302.4	0.499	51.7	12.9	6.67	8.605	49.567	44.512	78.6	34.0	65.7	21.2	3.10	0.29	56.3	22.3	43.4
84	302.4	0.505	51.7	12.9	6.68	8.709	49.554	44.449	78.5	34.0	65.6	21.2	3.10	0.29	56.3	22.2	43.4
85	302.7	0.511	51.7	12.9	6.69	8.813	49.608	44.446	78.5	34.0	65.6	21.2	3.10	0.29	56.3	22.2	43.4
86	302.8	0.517	51.7	12.9	6.70	8.916	49.621	44.407	78.5	34.0	65.6	21.2	3.10	0.29	56.2	22.2	43.4
87	302.8	0.523	51.7	12.8	6.70	9.020	49.621	44.356	78.4	34.0	65.6	21.2	3.09	0.29	56.2	22.2	43.4
88	302.7	0.529	51.6	12.8	6.71	9.124	49.608	44.292	78.3	34.0	65.6	21.3	3.08	0.29	56.2	22.1	43.4
89	303.0	0.535	51.6	12.8	6.72	9.228	49.662	44.290	78.3	34.0	65.6	21.3	3.08	0.29	56.2	22.1	43.4
90	302.9	0.541	51.6	12.7	6.73	9.331	49.635	44.214	78.3	34.0	65.6	21.3	3.07	0.29	56.2	22.1	43.4
91	302.9	0.547	51.5	12.7	6.73	9.435	49.648	44.175	78.2	34.0	65.6	21.4	3.07	0.29	56.1	22.1	43.5
92	302.8	0.553	51.5	12.6	6.74	9.539	49.621	44.099	78.1	34.0	65.5	21.4	3.06	0.29	56.1	22.0	43.5
94	302.9	0.565	51.4	12.6	6.76	9.746	49.648	44.020	78.1	34.0	65.5	21.5	3.05	0.29	56.1	22.0	43.5
95	303.1	0.571	51.4	12.6	6.76	9.850	49.675	43.993	78.0	34.0	65.4	21.5	3.05	0.29	56.0	22.0	43.4
97	303.1	0.583	51.4	12.5	6.78	10.057	49.675	43.890	77.9	34.0	65.4	21.5	3.04	0.29	56.0	21.9	43.5
98	303.3	0.589	51.4	12.5	6.79	10.161	49.716	43.875	77.9	34.0	65.4	21.5	3.04	0.29	56.0	21.9	43.5
100	303.6	0.601	51.3	12.5	6.80	10.368	49.756	43.808	77.9	34.0	65.4	21.6	3.03	0.28	55.9	21.9	43.5
101	303.5	0.607	51.3	12.4	6.81	10.472	49.743	43.744	77.8	34.0	65.3	21.6	3.03	0.28	55.9	21.9	43.5
103	303.8	0.619	51.3	12.4	6.83	10.679	49.783	43.677	77.7	34.0	65.3	21.6	3.02	0.28	55.9	21.8	43.5
104	303.8	0.625	51.2	12.4	6.84	10.783	49.797	43.638	77.7	34.0	65.3	21.7	3.01	0.28	55.9	21.8	43.5
105	304.0	0.631	51.2	12.3	6.84	10.886	49.824	43.610	77.7	34.0	65.3	21.7	3.01	0.28	55.8	21.8	43.5
106	304.0	0.637	51.2	12.3	6.85	10.990	49.824	43.559	77.6	34.0	65.3	21.7	3.00	0.28	55.8	21.8	43.5
107	304.0	0.643	51.2	12.3	6.86	11.094	49.824	43.507	77.6	34.0	65.3	21.7	3.00	0.28	55.8	21.8	43.5
108	304.0	0.649	51.1	12.3	6.87	11.197	49.824	43.455	77.5	34.0	65.2	21.8	2.99	0.28	55.8	21.7	43.5
109	304.3	0.655	51.1	12.3	6.88	11.301	49.878	43.451	77.5	34.0	65.2	21.8	2.99	0.28	55.8	21.7	43.5
110	304.2	0.661	51.1	12.2	6.88	11.405	49.864	43.388	77.4	34.0	65.2	21.8	2.99	0.28	55.7	21.7	43.5
111	304.3	0.667	51.0	12.1	6.89	11.508	49.878	43.348	77.4	34.0	65.2	21.9	2.98	0.28	55.7	21.7	43.6
112	304.5	0.673	51.0	12.1	6.90	11.612	49.905	43.320	77.4	34.0	65.2	21.9	2.98	0.28	55.7	21.7	43.6
113	304.4	0.679	50.9	12.1	6.91	11.716	49.891	43.256	77.3	34.0	65.2	22.0	2.97	0.28	55.7	21.6	43.6
114	304.7	0.685	50.9	12.1	6.92	11.820	49.945	43.252	77.3	34.0	65.2	22.0	2.97	0.28	55.7	21.6	43.6
115	304.9	0.691	50.9	12.0	6.92	11.923	49.972	43.224	77.3	34.0	65.3	22.0	2.96	0.28	55.7	21.6	43.7
117	305.5	0.703	50.8	12.0	6.94	12.131	50.067	43.204	77.2	34.0	65.3	22.1	2.96	0.28	55.6	21.6	43.7
119	305.4	0.715	50.7	11.9	6.96	12.338	50.053	43.088	77.1	34.0	65.2	22.2	2.94	0.28	55.6	21.5	43.7
120	305.6	0.721	50.7	11.9	6.96	12.442	50.080	43.060	77.1	34.0	65.2	22.2	2.94	0.28	55.6	21.5	43.7
121	305.6	0.727	50.7	11.8	6.97	12.545	50.080	43.008	77.1	34.0	65.2	22.2	2.94	0.28	55.5	21.5	43.7
122	305.6	0.733	50.6	11.8	6.98	12.649	50.080	42.956	77.0	34.0	65.2	22.3	2.93	0.27	55.5	21.5	43.7
123	305.6	0.739	50.6	11.7	6.99	12.753	50.094	42.916	77.0	34.0	65.2	22.3	2.92	0.27	55.5	21.5	43.8

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Specimen C

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in2)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P' (psi)
124	305.6	0.745	50.6	11.7	7.00	12.856	50.094	42.864	76.9	34.0	65.2	22.3	2.92	0.27	55.5	21.4	43.8
125	305.5	0.751	50.5	11.7	7.01	12.960	50.067	42.788	76.8	34.0	65.2	22.4	2.91	0.27	55.4	21.4	43.8
126	305.6	0.757	50.5	11.6	7.01	13.064	50.080	42.748	76.8	34.0	65.2	22.4	2.91	0.27	55.4	21.4	43.8
127	305.6	0.763	50.5	11.6	7.02	13.167	50.080	42.696	76.7	34.0	65.1	22.4	2.90	0.27	55.4	21.3	43.8
128	305.2	0.769	50.4	11.6	7.03	13.271	50.013	42.586	76.6	34.0	65.0	22.5	2.90	0.27	55.3	21.3	43.7
129	305.0	0.775	50.4	11.6	7.04	13.375	49.986	42.511	76.6	34.0	65.0	22.5	2.89	0.27	55.3	21.3	43.7
130	304.4	0.781	50.3	11.5	7.05	13.478	49.891	42.377	76.4	34.0	64.9	22.6	2.88	0.27	55.2	21.2	43.8
131	304.4	0.787	50.3	11.5	7.06	13.582	49.891	42.325	76.4	34.0	64.9	22.6	2.88	0.27	55.2	21.2	43.7
132	304.2	0.793	50.3	11.4	7.07	13.686	49.864	42.250	76.3	34.0	64.9	22.6	2.87	0.27	55.2	21.1	43.7
133	304.1	0.799	50.2	11.4	7.07	13.789	49.837	42.175	76.2	34.0	64.9	22.7	2.86	0.27	55.1	21.1	43.8
134	303.8	0.805	50.2	11.4	7.08	13.893	49.797	42.089	76.1	34.0	64.8	22.7	2.86	0.27	55.1	21.0	43.7
135	303.4	0.811	50.2	11.4	7.09	13.997	49.729	41.979	76.0	34.0	64.7	22.7	2.85	0.27	55.0	21.0	43.7
136	303.4	0.817	50.2	11.3	7.10	14.100	49.729	41.928	76.0	34.0	64.6	22.7	2.85	0.27	55.0	21.0	43.7
137	303.1	0.823	50.1	11.3	7.11	14.204	49.675	41.830	75.9	34.0	64.6	22.8	2.84	0.27	55.0	20.9	43.7
138	302.9	0.829	50.1	11.3	7.12	14.308	49.635	41.744	75.8	34.0	64.5	22.8	2.83	0.27	54.9	20.9	43.7
139	302.5	0.835	50.0	11.2	7.13	14.411	49.581	41.646	75.7	34.0	64.5	22.9	2.82	0.27	54.9	20.8	43.7
140	301.9	0.841	50.0	11.1	7.13	14.515	49.486	41.514	75.6	34.0	64.5	22.9	2.81	0.27	54.8	20.8	43.7
141	301.9	0.847	50.0	11.1	7.14	14.619	49.473	41.451	75.5	34.0	64.4	22.9	2.81	0.27	54.8	20.7	43.7
142	301.4	0.853	49.9	11.1	7.15	14.723	49.392	41.331	75.4	34.0	64.3	23.0	2.80	0.27	54.7	20.7	43.6
143	301.3	0.859	49.9	11.0	7.16	14.826	49.379	41.268	75.3	34.0	64.3	23.0	2.79	0.27	54.7	20.6	43.6
144	301.0	0.865	49.9	11.0	7.17	14.930	49.325	41.171	75.2	34.0	64.2	23.0	2.79	0.27	54.6	20.6	43.6
145	300.8	0.871	49.9	11.0	7.18	15.034	49.298	41.097	75.1	34.0	64.1	23.0	2.78	0.27	54.6	20.5	43.6
147	300.3	0.883	49.7	10.9	7.19	15.241	49.217	40.926	75.0	34.0	64.1	23.2	2.77	0.27	54.5	20.5	43.6
148	300.1	0.889	49.7	10.8	7.20	15.345	49.176	40.841	74.9	34.0	64.0	23.2	2.76	0.27	54.5	20.4	43.6
149	299.2	0.895	49.6	10.8	7.21	15.448	49.041	40.676	74.7	34.0	63.9	23.3	2.75	0.26	54.4	20.3	43.6
150	298.6	0.901	49.6	10.7	7.22	15.552	48.933	40.534	74.6	34.0	63.8	23.3	2.74	0.26	54.3	20.3	43.6
151	298.2	0.907	49.6	10.7	7.23	15.656	48.879	40.437	74.5	34.0	63.8	23.3	2.73	0.26	54.3	20.2	43.6
152	297.6	0.913	49.5	10.7	7.24	15.759	48.771	40.296	74.3	34.0	63.7	23.4	2.72	0.26	54.2	20.1	43.5
153	297.1	0.919	49.4	10.6	7.25	15.863	48.690	40.177	74.2	34.0	63.6	23.5	2.71	0.26	54.1	20.1	43.5
154	296.8	0.925	49.4	10.5	7.26	15.967	48.636	40.081	74.1	34.0	63.6	23.5	2.71	0.26	54.1	20.0	43.5
155	295.9	0.931	49.3	10.5	7.27	16.070	48.502	39.918	74.0	34.0	63.5	23.6	2.69	0.26	54.0	20.0	43.5
156	295.0	0.937	49.3	10.5	7.27	16.174	48.353	39.743	73.8	34.0	63.3	23.6	2.69	0.26	53.9	19.9	43.4
157	294.1	0.943	49.3	10.4	7.28	16.278	48.205	39.569	73.6	34.0	63.2	23.6	2.68	0.26	53.8	19.8	43.4
158	293.6	0.949	49.3	10.4	7.29	16.381	48.110	39.440	73.5	34.0	63.1	23.6	2.67	0.26	53.8	19.7	43.4
160	292.4	0.961	49.2	10.4	7.31	16.589	47.921	39.182	73.2	34.0	62.9	23.7	2.65	0.26	53.6	19.6	43.3
161	292.2	0.967	49.2	10.3	7.32	16.692	47.894	39.110	73.2	34.0	62.8	23.7	2.65	0.26	53.6	19.6	43.3
162	292.2	0.973	49.2	10.3	7.33	16.796	47.881	39.049	73.1	34.0	62.8	23.7	2.65	0.26	53.6	19.5	43.2
163	291.9	0.979	49.1	10.3	7.34	16.900	47.840	38.966	73.0	34.0	62.7	23.8	2.64	0.26	53.5	19.5	43.2
164	291.7	0.985	49.1	10.3	7.35	17.003	47.800	38.883	72.9	34.0	62.7	23.8	2.63	0.26	53.5	19.4	43.2
165	291.6	0.991	49.1	10.3	7.36	17.107	47.787	38.822	72.9	34.0	62.6	23.8	2.63	0.26	53.5	19.4	43.2
166	291.3	0.997	49.1	10.2	7.37	17.211	47.733	38.728	72.8	34.0	62.6	23.8	2.63	0.26	53.4	19.4	43.2
167	291.3	1.003	49.1	10.2	7.38	17.315	47.746	38.690	72.7	34.0	62.5	23.8	2.62	0.26	53.4	19.3	43.2
168	291.1	1.009	49.1	10.2	7.38	17.418	47.706	38.607	72.7	34.0	62.4	23.8	2.62	0.26	53.3	19.3	43.1
169	291.0	1.015	49.1	10.2	7.39	17.522	47.692	38.546	72.6	34.0	62.4	23.8	2.62	0.27	53.3	19.3	43.1

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Specimen C

Reading No.	Deviator Load (lbs)	Axial Deformation (in)	Pore Pressure (psi)	Change in Pore Pressure (psi)	Corrected Area (in2)	Axial Strain (%)	Deviator Stress (psi)	Corrected Deviator Stress (psi)	σ_1 (psi)	σ_3 (psi)	σ'_1 (psi)	σ'_3 (psi)	σ'_1/σ'_3	Abar	P (psi)	Q (psi)	P' (psi)
170	290.8	1.021	49.1	10.2	7.40	17.626	47.652	38.463	72.5	34.0	62.3	23.8	2.61	0.27	53.3	19.2	43.1
171	291.1	1.027	49.0	10.2	7.41	17.729	47.706	38.458	72.5	34.0	62.3	23.9	2.61	0.26	53.3	19.2	43.1
172	291.3	1.033	49.1	10.2	7.42	17.833	47.733	38.431	72.5	34.0	62.3	23.8	2.61	0.27	53.3	19.2	43.0
173	291.0	1.039	49.1	10.2	7.43	17.937	47.692	38.348	72.4	34.0	62.2	23.8	2.61	0.27	53.2	19.2	43.0
174	291.3	1.045	49.0	10.2	7.44	18.040	47.733	38.332	72.4	34.0	62.2	23.9	2.61	0.27	53.2	19.2	43.0
175	291.7	1.051	49.0	10.2	7.45	18.144	47.800	38.338	72.4	34.0	62.2	23.9	2.61	0.27	53.2	19.2	43.0
176	291.9	1.057	49.0	10.1	7.46	18.248	47.840	38.321	72.4	34.0	62.2	23.9	2.60	0.26	53.2	19.2	43.1
177	292.0	1.063	49.0	10.2	7.47	18.351	47.854	38.283	72.3	34.0	62.1	23.9	2.60	0.27	53.2	19.1	43.0
178	292.1	1.069	49.0	10.2	7.48	18.455	47.867	38.244	72.3	34.0	62.1	23.9	2.60	0.27	53.2	19.1	43.0
179	292.2	1.075	49.0	10.2	7.49	18.559	47.881	38.205	72.2	34.0	62.1	23.9	2.60	0.27	53.1	19.1	43.0
180	292.6	1.081	49.0	10.1	7.50	18.662	47.948	38.211	72.3	34.0	62.1	23.9	2.60	0.27	53.1	19.1	43.0
181	292.7	1.087	49.0	10.2	7.51	18.766	47.975	38.183	72.2	34.0	62.0	23.9	2.60	0.27	53.1	19.1	43.0
182	293.0	1.093	49.0	10.2	7.52	18.870	48.016	38.166	72.2	34.0	62.0	23.9	2.60	0.27	53.1	19.1	42.9
184	294.2	1.105	49.0	10.2	7.54	19.077	48.218	38.230	72.3	34.0	62.1	23.9	2.60	0.27	53.2	19.1	43.0
186	294.7	1.117	49.0	10.2	7.56	19.284	48.299	38.195	72.2	34.0	62.1	23.9	2.60	0.27	53.1	19.1	43.0
187	295.4	1.123	49.0	10.2	7.56	19.388	48.407	38.232	72.3	34.0	62.1	23.9	2.60	0.27	53.2	19.1	43.0
188	295.6	1.129	49.0	10.2	7.57	19.492	48.448	38.215	72.3	34.0	62.1	23.9	2.60	0.27	53.2	19.1	43.0
189	295.8	1.135	49.0	10.1	7.58	19.595	48.475	38.186	72.2	34.0	62.1	23.9	2.60	0.27	53.1	19.1	43.0
190	296.5	1.141	49.0	10.1	7.59	19.699	48.596	38.233	72.3	34.0	62.1	23.9	2.60	0.27	53.2	19.1	43.0
191	297.3	1.147	49.0	10.1	7.60	19.803	48.717	38.280	72.3	34.0	62.2	23.9	2.60	0.26	53.2	19.1	43.0
192	297.7	1.153	49.0	10.1	7.61	19.907	48.798	38.295	72.3	34.0	62.2	23.9	2.60	0.26	53.2	19.1	43.1
193	297.8	1.154	49.0	10.1	7.61	19.915	48.812	38.302	72.3	34.0	62.2	23.9	2.60	0.26	53.2	19.2	43.1

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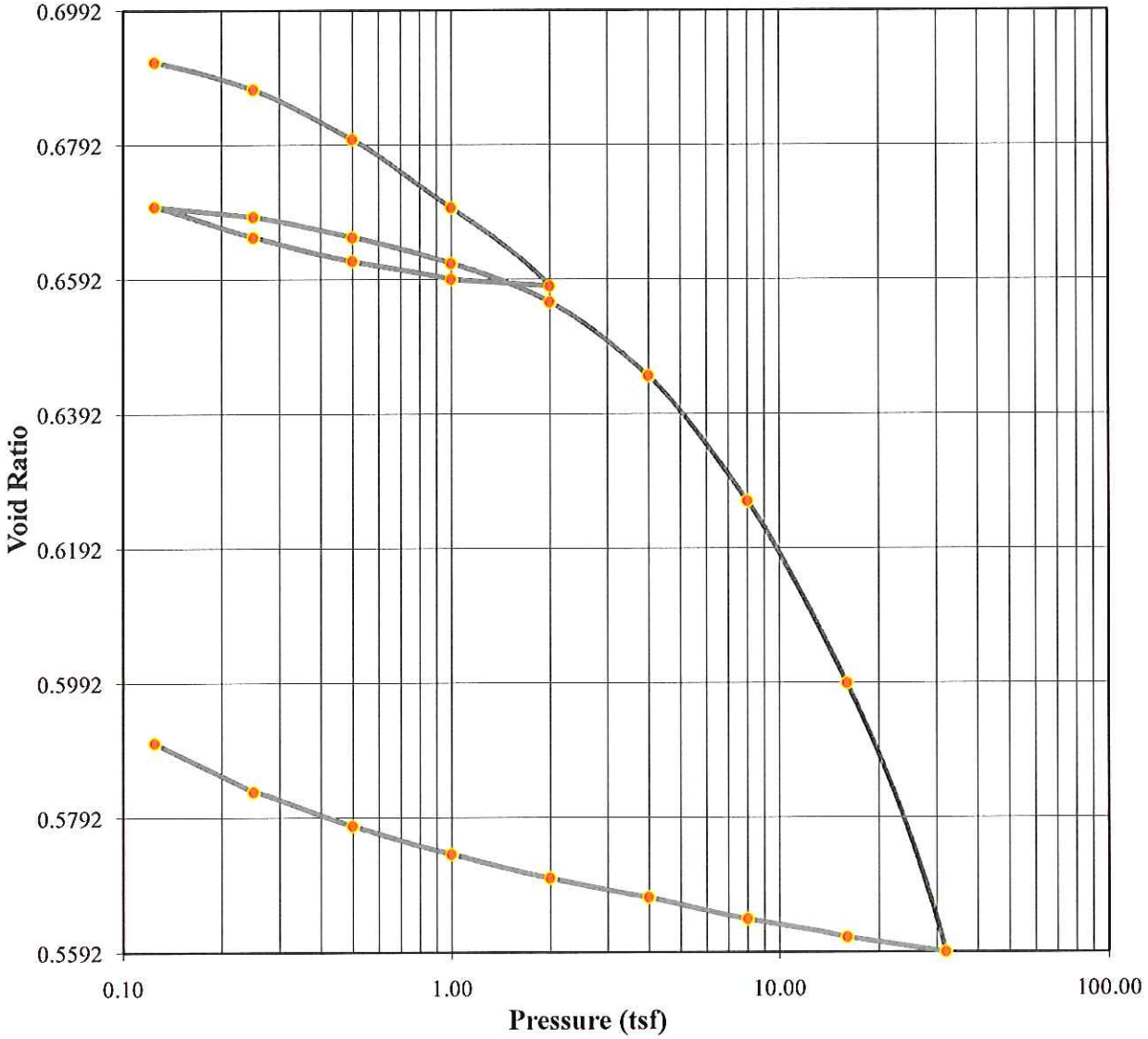
Consolidation Test

Test Results



	Before	After				
Moisture (%):	12.59	19.34	**Liquid Limits:**	26	**Test Date:**	11/08/10
Dry Density (pcf):	97.56	104.24	**Plastic Limits:**	20		
Saturation (%):	48.03	87.46	**Plasticity Index (%):**	6		
Void Ratio:	0.6934	0.5927	**Specific Gravity:**	2.647	Measured	

Soil Description: Light Gray & Reddish Orange Silty, Clayey Sand

Project Number: 38001-1684-0438001-1684 **Depth:** 25.0' to 25.3'

Sample Number: ST-2 **Boring Number:** 56

Project: Solar Farm Information & Welcome Center Site Design

Client:

Location: Haywood, TN

Remarks:

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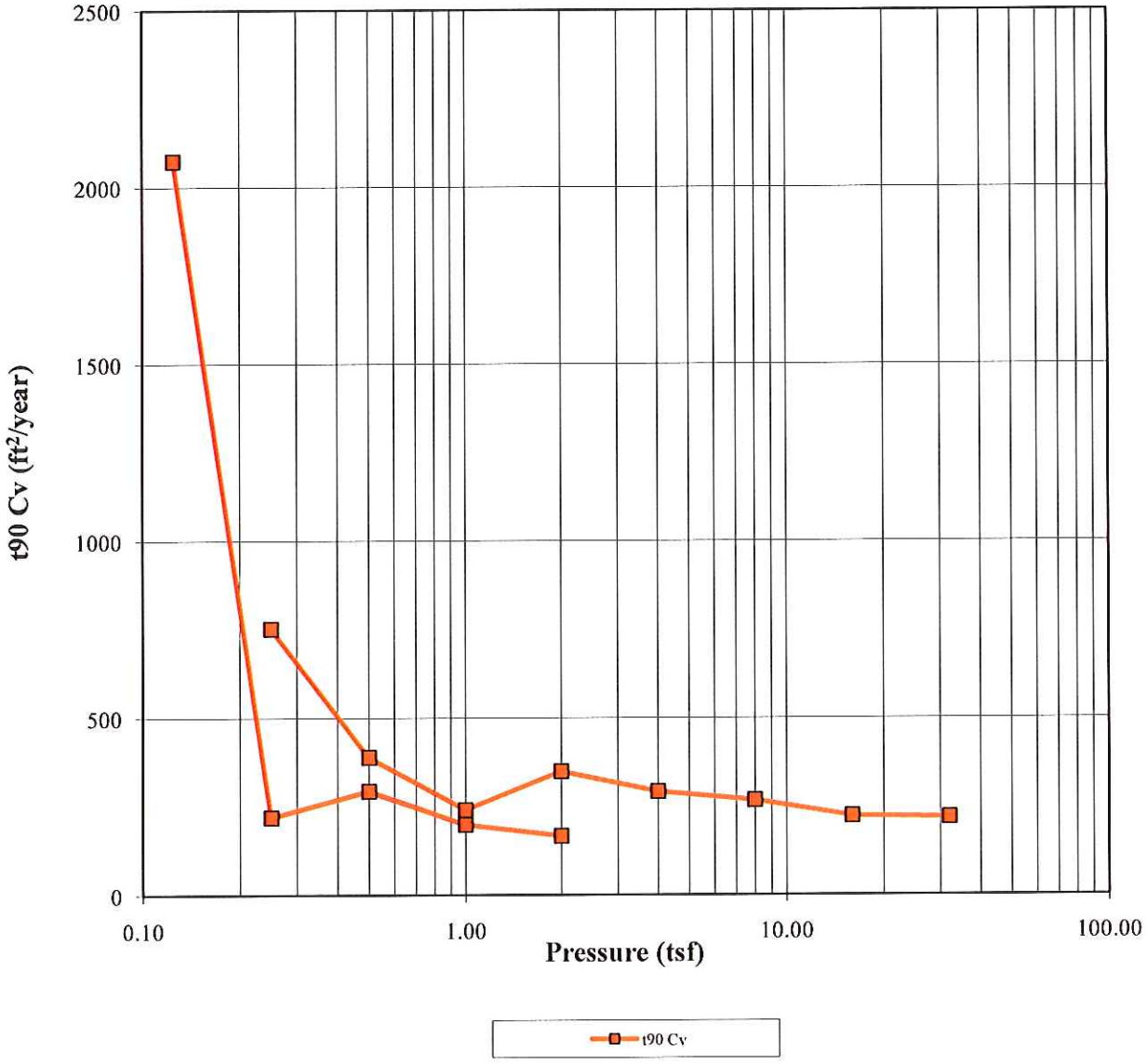
Consolidation Test
Test Results



	Before	After				
Moisture (%):	12.59	19.34	**Liquid Limits:**	26	**Test Date:**	11/08/10
Dry Density (pcf):	97.56	104.24	**Plastic Limits:**	20		
Saturation (%):	48.03	87.46	**Plasticity Index (%):**	6		
Void Ratio:	0.6934	0.5927	**Specific Gravity:**	2.647	Measured	

Soil Description:	Light Gray & Reddish Orange Silty, Clayey Sand		
Project Number:	38001-1684-0438001-1684	**Depth:** 25.0' to 25.3'	**Remarks:**
Sample Number:	ST-2	**Boring Number:** 56	
Project:	Solar Farm Information & Welcome Center Site Design		
Client:			
Location:	Haywood, TN		

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Consolidation Test Results
Summary

Project: Solar Farm Information & Welcome Center Site Design
Location: Haywood, TN
Job Number: 10217

Project Number: 38001-1684-0438001-1684-04

Sample Number: ST-2
Boring Number: 56
Depth: 25.0' to 25.3'
Sample Type: Undisturbed

Sample Description:
Light Gray & Reddish Orange Silty, Clayey Sand
Remarks:

Test Number:
Test Date: 11/08/10

Index	Load Sequence (tsf)	Cummulative Change in Height (in)	Specimen Height (in)	Height of Void (in)	Vertical Strain (%)	Void Ratio	t90 Fitting Time (min)	t50 Fitting Time (min)	t90 Cv (ft2/year)	t50 Cv (ft2/year)
0	0.000	0.0000	0.9995	0.4084	0.00	0.6908	0.000	0.000	0.000	0.000
1	0.125	-0.0004	0.9999	0.4088	-0.04	0.6915	0.373	* 0.2073	2073.716	866.988
2	0.250	0.0020	0.9975	0.4064	0.20	0.6874	3.512	* 1.9512	219.226	91.669
3	0.500	0.0064	0.9931	0.4020	0.64	0.6800	2.606	* 1.4477	292.871	122.463
4	1.000	0.0124	0.9871	0.3960	1.24	0.6698	3.813	* 2.1183	197.738	82.686
5	2.000	0.0193	0.9802	0.3891	1.93	0.6582	4.484	* 2.4913	165.792	69.327
6	1.000	0.0187	0.9808	0.3897	1.87	0.6592	0.000	0.000	0.000	0.000
7	0.500	0.0171	0.9824	0.3913	1.71	0.6619	0.000	0.000	0.000	0.000
8	0.250	0.0150	0.9845	0.3934	1.50	0.6655	0.000	0.000	0.000	0.000
9	0.125	0.0123	0.9872	0.3961	1.23	0.6700	0.000	0.000	0.000	0.000
10	0.250	0.0132	0.9863	0.3952	1.32	0.6685	1.000	* 0.5556	752.743	314.742
11	0.500	0.0150	0.9845	0.3934	1.50	0.6655	1.927	* 1.0706	389.200	162.743
12	1.000	0.0173	0.9822	0.3911	1.73	0.6616	3.106	* 1.7254	240.358	100.510
13	2.000	0.0207	0.9788	0.3877	2.07	0.6558	2.125	* 1.1806	348.854	145.876
14	4.000	0.0272	0.9723	0.3812	2.72	0.6448	2.512	* 1.3953	291.267	121.796
15	8.000	0.0382	0.9613	0.3702	3.82	0.6262	2.679	* 1.4880	266.969	111.639
16	16.000	0.0542	0.9453	0.3542	5.42	0.5991	3.106	* 1.7254	222.645	93.100
17	32.000	0.0778	0.9217	0.3306	7.78	0.5592	3.006	* 1.6700	218.684	91.445
18	16.000	0.0765	0.9230	0.3319	7.65	0.5614	0.000	0.000	0.000	0.000
19	8.000	0.0749	0.9246	0.3335	7.49	0.5641	0.000	0.000	0.000	0.000
20	4.000	0.0730	0.9265	0.3354	7.30	0.5673	0.000	0.000	0.000	0.000
21	2.000	0.0713	0.9282	0.3371	7.13	0.5702	0.000	0.000	0.000	0.000
22	1.000	0.0692	0.9303	0.3392	6.92	0.5738	0.000	0.000	0.000	0.000
23	0.500	0.0667	0.9328	0.3417	6.67	0.5780	0.000	0.000	0.000	0.000
24	0.250	0.0637	0.9358	0.3447	6.37	0.5831	0.000	0.000	0.000	0.000
25	0.125	0.0594	0.9401	0.3490	5.94	0.5903	0.000	0.000	0.000	0.000

Predicted value indicated with *

Tested By: CH Tyson

Checked By: QC

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Consolidation Test
Consolidation Specimen Information

Project: Solar Farm Information & Welcome Center Site Design **Project Number:** 8001-1684-0438001-1684-04
Location: Haywood, TN
Job Number: 10217 **Test Date:** 11/08/10

Sample Number: ST-2
Boring Number: 56
Depth: 25.0' to 25.3'
Sample Type: Undisturbed
Sample Description: Light Gray & Reddish Orange Silty, Clayey Sand
Remarks:

Test Number:
Liquid Limit: 26.0000
Plastic Limit: 20.0000
Specific Gravity: 2.6470 Measured
Initial Void Ratio: 0.6934
Plasticity Index (%): 6.0000
Weight of Ring (g): 109.2900
Initial Height (in): 0.9995
Initial Diameter (in): 2.4978

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	301.24	225.03
Dry Soil + Container (g)	275.70	200.69
Weight of Container (g)	72.88	74.85
Moisture Content (%)	12.59	19.34
Void Ratio	0.6934	0.5927
Saturation (%)	48.03	87.46
Dry Density (pcf)	97.56	104.24

Tested By: A. Fuzzer **Checked By:** DLC

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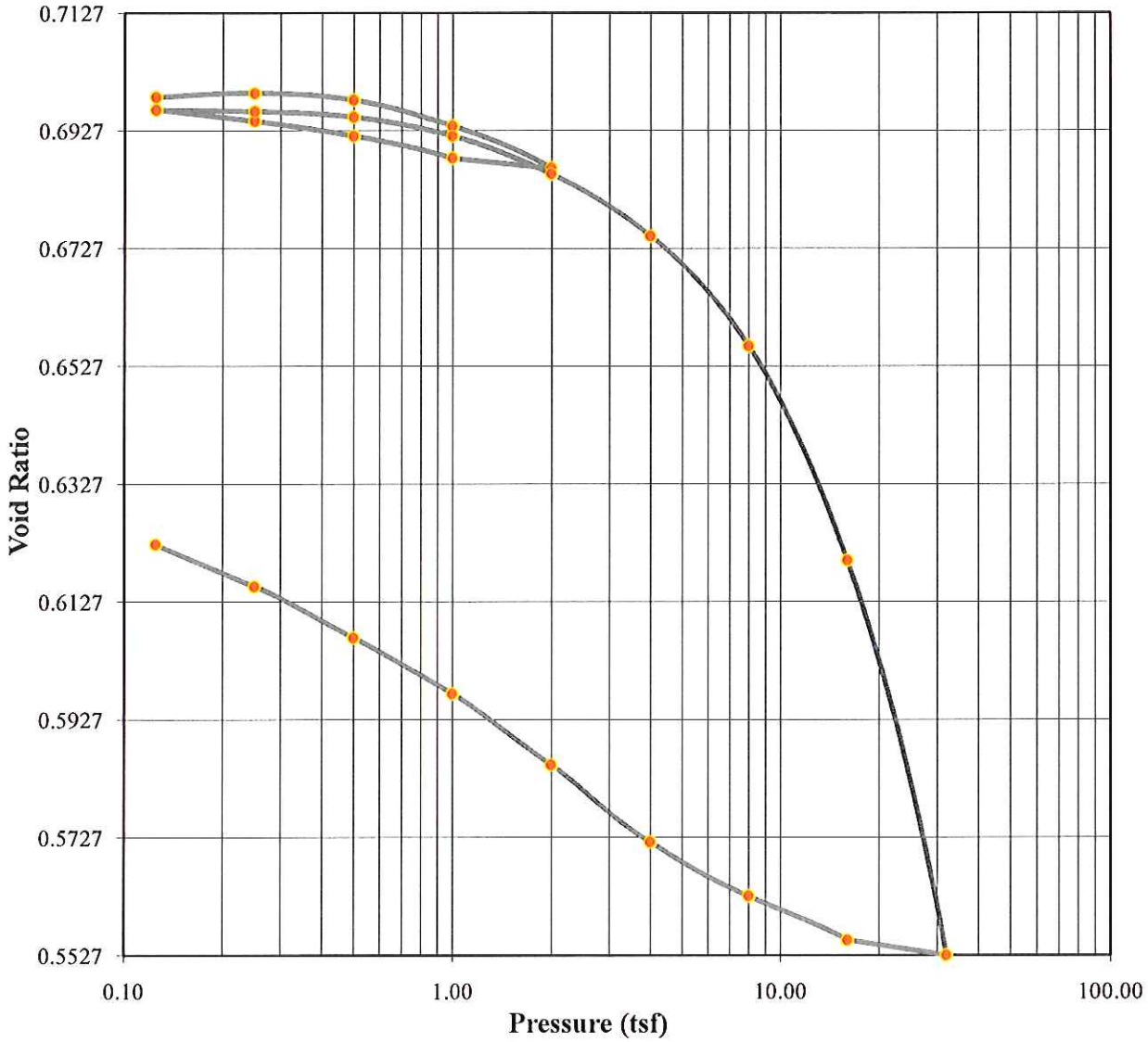
Consolidation Test
Test Results



	Before	After				
Moisture (%):	24.19	23.00	**Liquid Limits:**	41	**Test Date:**	11/19/10
Dry Density (pcf):	98.06	102.53	**Plastic Limits:**	23		
Saturation (%):	92.33	98.20	**Plasticity Index (%):**	18		
Void Ratio:	0.6974	0.6236	**Specific Gravity:**	2.669	Measured	

Soil Description:	Gray Lean Clay with Sand		
Project Number:	38001-1684-0438001-1684	**Depth:** 19.6' to 19.9'	**Remarks:**
Sample Number:	ST - 1	**Boring Number:** 59	
Project:	Solar Farm Information & Welcome Center Site Design		
Client:			
Location:	Haywood, TN		

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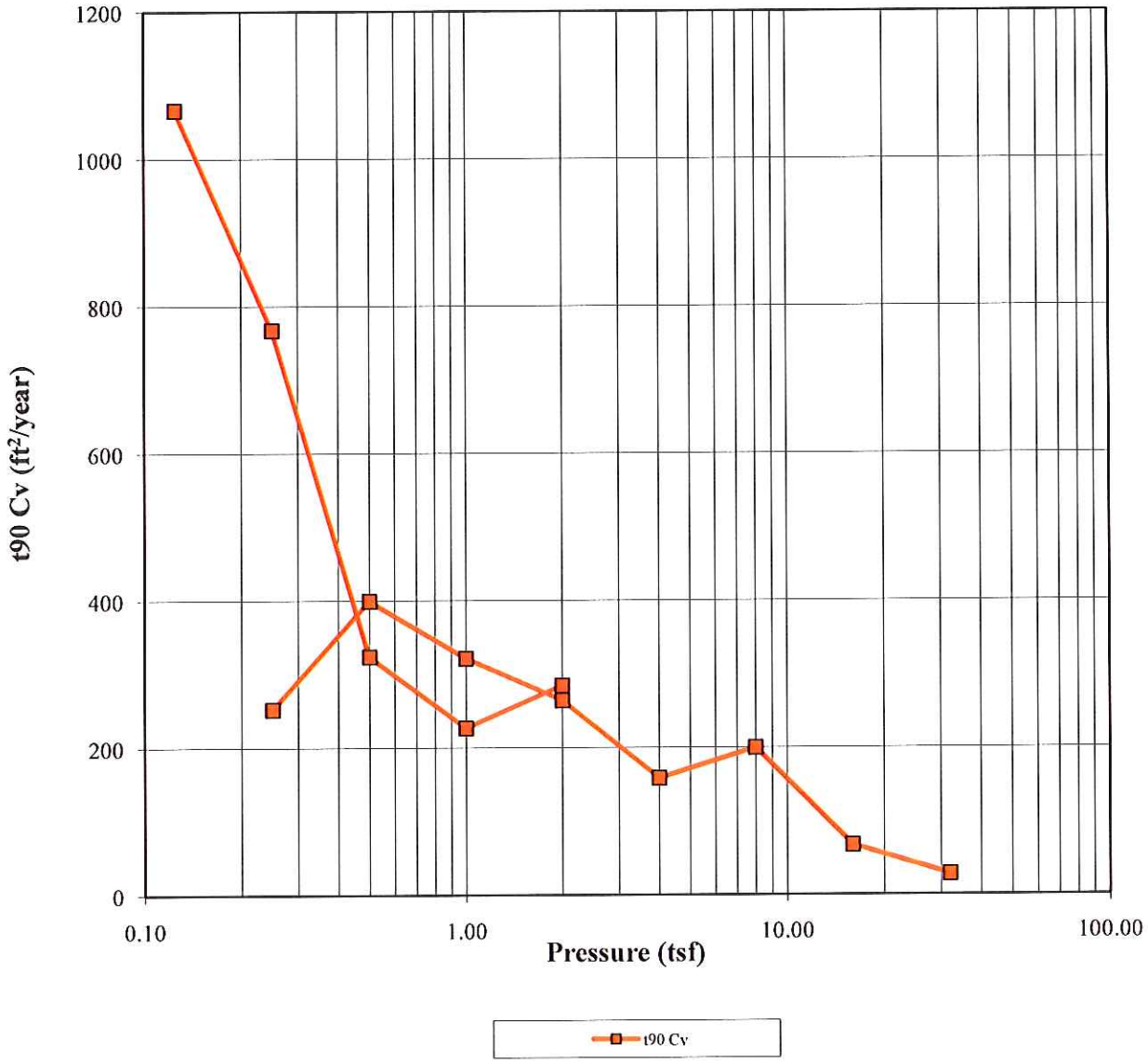
Consolidation Test
Test Results



	Before	After				
Moisture (%):	24.19	23.00	**Liquid Limits:**	41	**Test Date:**	11/19/10
Dry Density (pcf):	98.06	102.53	**Plastic Limits:**	23		
Saturation (%):	92.33	98.20	**Plasticity Index (%):**	18		
Void Ratio:	0.6974	0.6236	**Specific Gravity:**	2.669	Measured	

Soil Description:	Gray Lean Clay with Sand		
Project Number:	38001-1684-0438001-1684	**Depth:** 19.6' to 19.9'	**Remarks:**
Sample Number:	ST - 1	**Boring Number:** 59	
Project:	Solar Farm Information & Welcome Center Site Design		
Client:			
Location:	Haywood, TN		

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CONSULTING ENGINEERS

Consolidation Test Results
Summary

Project: Solar Farm Information & Welcome Center Site Design
Location: Haywood, TN
Job Number: 10217

Project Number: 38001-1684-0438001-1684

Sample Number: ST - 1
Boring Number: 59
Depth: 19.6' to 19.9'
Sample Type: Undisturbed

Sample Description: Gray Lean Clay with Sand
Remarks:

Test Number:
Test Date: 11/19/10

Index	Load Sequence (tsf)	Cummulative Change in Height (in)	Specimen Height (in)	Height of Void (in)	Vertical Strain (%)	Void Ratio	t90 Fitting Time (min)	t50 Fitting Time (min)	t90 Cv (ft2/year)	t50 Cv (ft2/year)
0	0.000	0.0000	0.9978	0.4095	0.00	0.6962	0.000	0.000	0.000	0.000
1	0.125	-0.0013	0.9991	0.4108	-0.13	0.6984	0.724	* 0.4025	1066.207	445.811
2	0.250	-0.0017	0.9995	0.4112	-0.17	0.6991	1.008	* 0.5598	767.164	320.798
3	0.500	-0.0010	0.9988	0.4105	-0.10	0.6979	2.384	* 1.3246	323.762	135.385
4	1.000	0.0016	0.9962	0.4079	0.16	0.6935	3.389	* 1.8829	226.575	94.747
5	2.000	0.0058	0.9920	0.4037	0.58	0.6863	2.678	* 1.4880	284.298	118.883
6	1.000	0.0048	0.9930	0.4047	0.48	0.6880	0.000	0.000	0.000	0.000
7	0.500	0.0026	0.9952	0.4069	0.26	0.6918	0.000	0.000	0.000	0.000
8	0.250	0.0011	0.9967	0.4084	0.11	0.6943	0.000	0.000	0.000	0.000
9	0.125	0.0000	0.9978	0.4095	0.00	0.6962	0.000	0.000	0.000	0.000
10	0.250	0.0001	0.9977	0.4094	0.01	0.6960	3.059	* 1.6995	251.790	105.288
11	0.500	0.0007	0.9971	0.4088	0.07	0.6950	1.927	* 1.0706	399.226	166.936
12	1.000	0.0026	0.9952	0.4069	0.26	0.6918	2.384	* 1.3246	321.432	134.411
13	2.000	0.0064	0.9914	0.4031	0.64	0.6853	2.883	* 1.6014	263.852	110.331
14	4.000	0.0126	0.9852	0.3969	1.26	0.6748	4.737	* 2.6315	158.565	66.305
15	8.000	0.0236	0.9742	0.3859	2.37	0.6561	3.677	* 2.0430	199.702	83.508
16	16.000	0.0450	0.9528	0.3645	4.51	0.6197	10.474	* 5.8188	67.069	28.046
17	32.000	0.0844	0.9134	0.3251	8.46	0.5527	23.150	* 12.8610	27.887	11.661
18	16.000	0.0829	0.9149	0.3266	8.31	0.5553	0.000	0.000	0.000	0.000
19	8.000	0.0785	0.9193	0.3310	7.87	0.5627	0.000	0.000	0.000	0.000
20	4.000	0.0731	0.9247	0.3364	7.33	0.5719	0.000	0.000	0.000	0.000
21	2.000	0.0654	0.9324	0.3441	6.55	0.5850	0.000	0.000	0.000	0.000
22	1.000	0.0583	0.9395	0.3512	5.84	0.5971	0.000	0.000	0.000	0.000
23	0.500	0.0527	0.9451	0.3568	5.28	0.6066	0.000	0.000	0.000	0.000
24	0.250	0.0476	0.9502	0.3619	4.77	0.6153	0.000	0.000	0.000	0.000
25	0.125	0.0434	0.9544	0.3661	4.35	0.6224	0.000	0.000	0.000	0.000

Predicted value indicated with *

Tested By: A. Logan

Checked By: bLC

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Florence & Hutcheson
CONSULTING ENGINEERS

Consolidation Test
Consolidation Specimen Information

Project: Solar Farm Information & Welcome Center Site Design **Project Number:** 8001-1684-0438001-1684-04
Location: Haywood, TN
Job Number: 10217 **Test Date:** 11/19/10

Sample Number: ST - 1
Boring Number: 59
Depth: 19.6' to 19.9'
Sample Type: Undisturbed
Sample Description: Gray Lean Clay with Sand
Remarks:

Test Number:
Liquid Limit: 41.0000
Plastic Limit: 23.0000
Specific Gravity: 2.6690 Measured
Initial Void Ratio: 0.6974
Plasticity Index (%): 18.0000
Weight of Ring (g): 109.2900
Initial Height (in): 0.9978
Initial Diameter (in): 2.4978

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	378.69	228.06
Dry Soil + Container (g)	319.11	199.16
Weight of Container (g)	72.84	73.52
Moisture Content (%)	24.19	23.00
Void Ratio	0.6974	0.6236
Saturation (%)	92.33	98.20
Dry Density (pcf)	98.06	102.53

Tested By: A. Lugo **Checked By:** DLS

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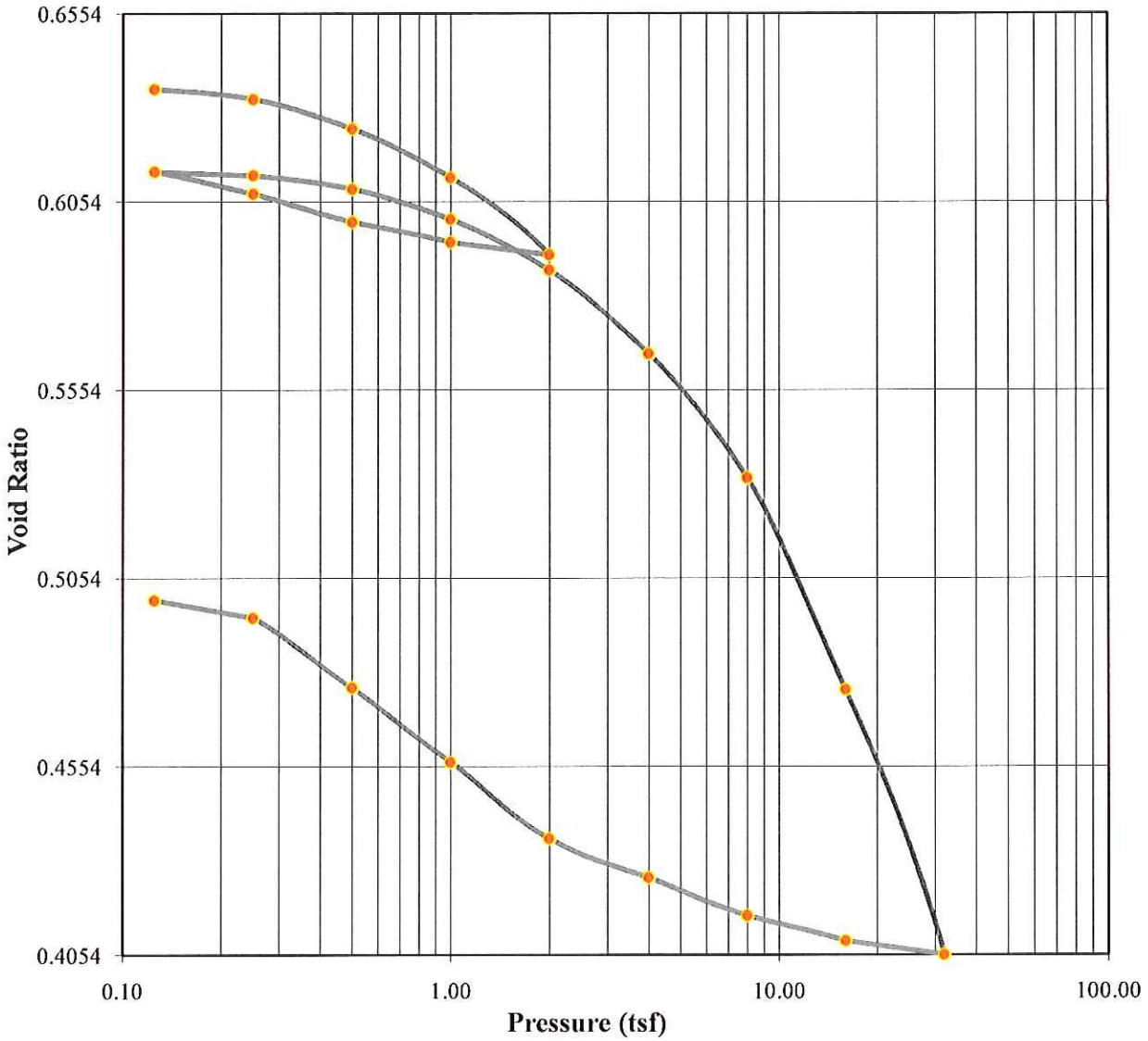
Florence & Hutcheson

Consulting Engineers

Consolidation Test

Test Results



	Before	After				
Moisture (%):	22.99	21.25	**Liquid Limits:**	36	**Test Date:**	11/02/10
Dry Density (pcf):	99.26	107.14	**Plastic Limits:**	19		
Saturation (%):	93.86	106.97	**Plasticity Index (%):**	17		
Void Ratio:	0.6329	0.4976	**Specific Gravity:**	2.604	Measured	

Soil Description:	Beige & Tan Lean Clay with Sand	
Project Number:	38001-1684-0438001-1684 **Depth:** 16.1' to 16.4'	**Remarks:**
Sample Number:	ST - 1 **Boring Number:** 64	
Project:	Solar Farm Information & Welcome Center Site Design	
Client:		
Location:	Haywood, TN	

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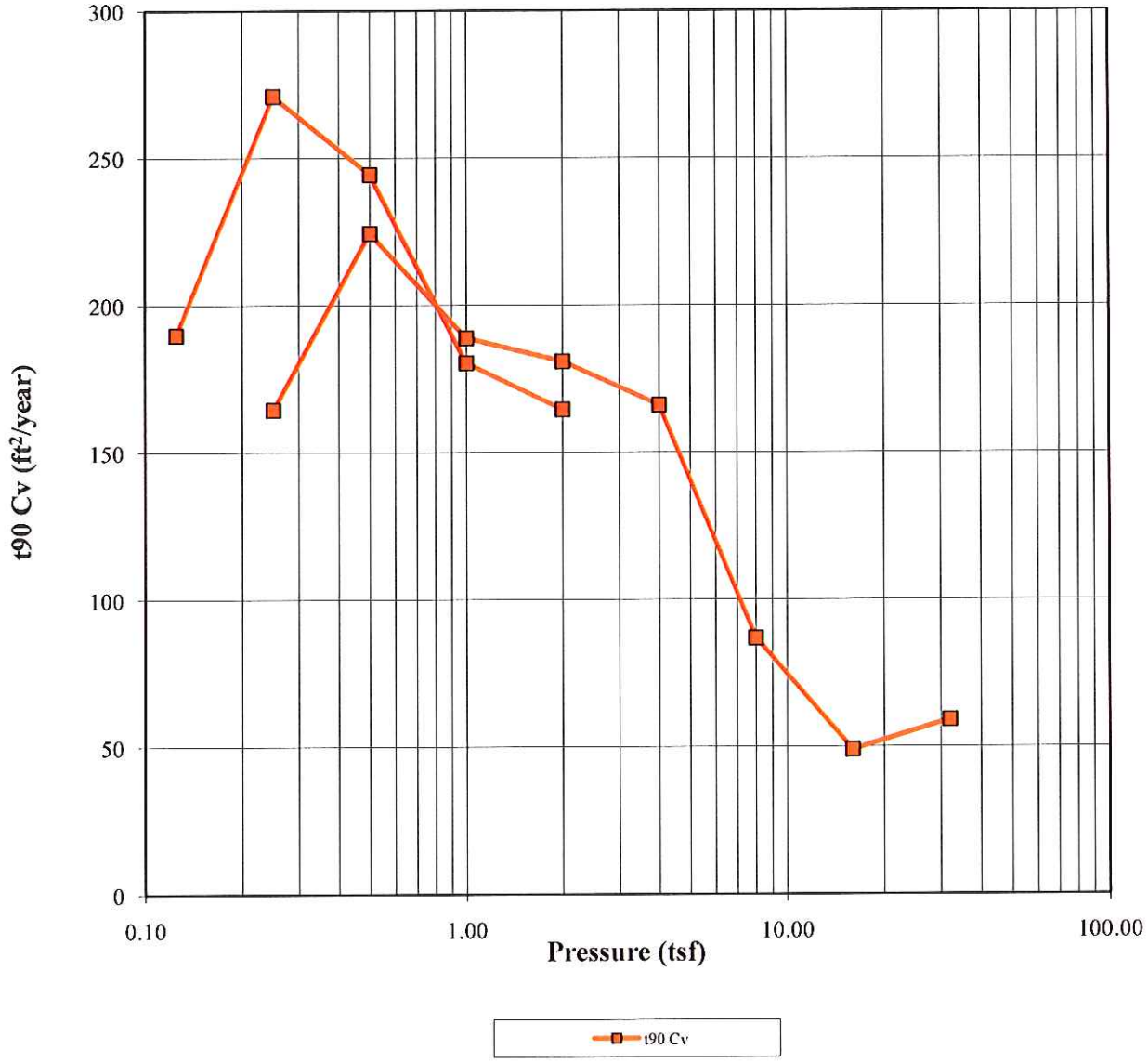
CONSULTING ENGINEERS

Consolidation Test
Test Results



	Before	After				
			Liquid Limits:	36	**Test Date:**	11/02/10
Moisture (%):	22.99	21.25	**Plastic Limits:**	19		
Dry Density (pcf):	99.26	107.14	**Plasticity Index (%):**	17		
Saturation (%):	93.86	106.97				
Void Ratio:	0.6329	0.4976	**Specific Gravity:**	2.604	Measured	

Soil Description: Beige & Tan Lean Clay with Sand

Project Number: 38001-1684-0438001-1684 **Depth:** 16.1' to 16.4'

Sample Number: ST - 1 **Boring Number:** 64

Project: Solar Farm Information & Welcome Center Site Design

Client:

Location: Haywood, TN

Remarks:

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Florence & Hutcheson
Consulting Engineers

Consolidation Test Results
Summary

Project: Solar Farm Information & Welcome Center Site Design
Location: Haywood, TN
Job Number: 10217

Project Number: 38001-1684-0438001-1684-04

Sample Number: ST - 1
Boring Number: 64
Depth: 16.1' to 16.4'
Sample Type: Undisturbed

Sample Description: Beige & Tan Lean Clay with Sand
Remarks:

Test Number:
Test Date: 11/02/10

Index	Load Sequence (tsf)	Cummulative Change in Height (in)	Specimen Height (in)	Height of Void (in)	Vertical Strain (%)	Void Ratio	t90 Fitting Time (min)	t50 Fitting Time (min)	t90 Cv (ft2/year)	t50 Cv (ft2/year)
0	0.000	0.0000	0.9923	0.3853	0.00	0.6349	0.000	0.000	0.000	0.000
1	0.125	-0.0002	0.9925	0.3855	-0.02	0.6352	4.015	* 2.2305	189.849	79.389
2	0.250	0.0014	0.9909	0.3839	0.14	0.6326	2.804	* 1.5579	270.933	113.297
3	0.500	0.0062	0.9861	0.3791	0.62	0.6247	3.079	* 1.7106	244.377	102.186
4	1.000	0.0141	0.9782	0.3712	1.42	0.6117	4.106	* 2.2810	180.339	75.410
5	2.000	0.0265	0.9658	0.3588	2.67	0.5912	4.387	* 2.4373	164.518	68.796
6	1.000	0.0245	0.9678	0.3608	2.47	0.5945	0.000	0.000	0.000	0.000
7	0.500	0.0212	0.9711	0.3641	2.14	0.6000	0.000	0.000	0.000	0.000
8	0.250	0.0167	0.9756	0.3686	1.68	0.6074	0.000	0.000	0.000	0.000
9	0.125	0.0131	0.9792	0.3722	1.32	0.6133	0.000	0.000	0.000	0.000
10	0.250	0.0137	0.9786	0.3716	1.38	0.6123	4.508	* 2.5044	164.384	68.739
11	0.500	0.0159	0.9764	0.3694	1.60	0.6087	3.287	* 1.8262	224.423	93.844
12	1.000	0.0208	0.9715	0.3645	2.10	0.6006	3.869	* 2.1496	188.750	78.927
13	2.000	0.0290	0.9633	0.3563	2.92	0.5871	3.972	* 2.2066	180.785	75.596
14	4.000	0.0425	0.9498	0.3428	4.28	0.5649	4.205	* 2.3359	166.022	69.424
15	8.000	0.0625	0.9298	0.3228	6.30	0.5319	7.699	* 4.2773	86.890	36.334
16	16.000	0.0966	0.8957	0.2887	9.73	0.4757	12.676	* 7.0420	48.976	20.480
17	32.000	0.1393	0.8530	0.2460	14.04	0.4054	9.538	* 5.2991	59.027	24.683
18	16.000	0.1371	0.8552	0.2482	13.82	0.4090	0.000	0.000	0.000	0.000
19	8.000	0.1330	0.8593	0.2523	13.40	0.4158	0.000	0.000	0.000	0.000
20	4.000	0.1269	0.8654	0.2584	12.79	0.4258	0.000	0.000	0.000	0.000
21	2.000	0.1206	0.8717	0.2647	12.15	0.4362	0.000	0.000	0.000	0.000
22	1.000	0.1083	0.8840	0.2770	10.91	0.4565	0.000	0.000	0.000	0.000
23	0.500	0.0963	0.8960	0.2890	9.70	0.4762	0.000	0.000	0.000	0.000
24	0.250	0.0850	0.9073	0.3003	8.57	0.4948	0.000	0.000	0.000	0.000
25	0.125	0.0822	0.9101	0.3031	8.28	0.4995	0.000	0.000	0.000	0.000

Predicted value indicated with *

Tested By: A. Hyson

Checked By: DLC

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Florence & Hutcheson
CONSULTING ENGINEERS

Consolidation Test
Consolidation Specimen Information

Project: Solar Farm Information & Welcome Center Site Design **Project Number:** 8001-1684-0438001-1684-04
Location: Haywood, TN
Job Number: 10217 **Test Date:** 11/02/10

Sample Number: ST - 1
Boring Number: 64
Depth: 16.1' to 16.4'
Sample Type: Undisturbed
Sample Description: Beige & Tan Lean Clay with Sand
Remarks:

Test Number:
Liquid Limit: 36.0000
Plastic Limit: 19.0000
Specific Gravity: 2.6040 Measured
Initial Void Ratio: 0.6329
Plasticity Index (%): 17.0000
Weight of Ring (g): 109.2900
Initial Height (in): 0.9923
Initial Diameter (in): 2.4978

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	287.63	224.72
Dry Soil + Container (g)	247.44	198.10
Weight of Container (g)	72.65	72.85
Moisture Content (%)	22.99	21.25
Void Ratio	0.6329	0.4976
Saturation (%)	93.86	106.97
Dry Density (pcf)	99.26	107.14

Tested By: A. Hughes **Checked By:** DLC

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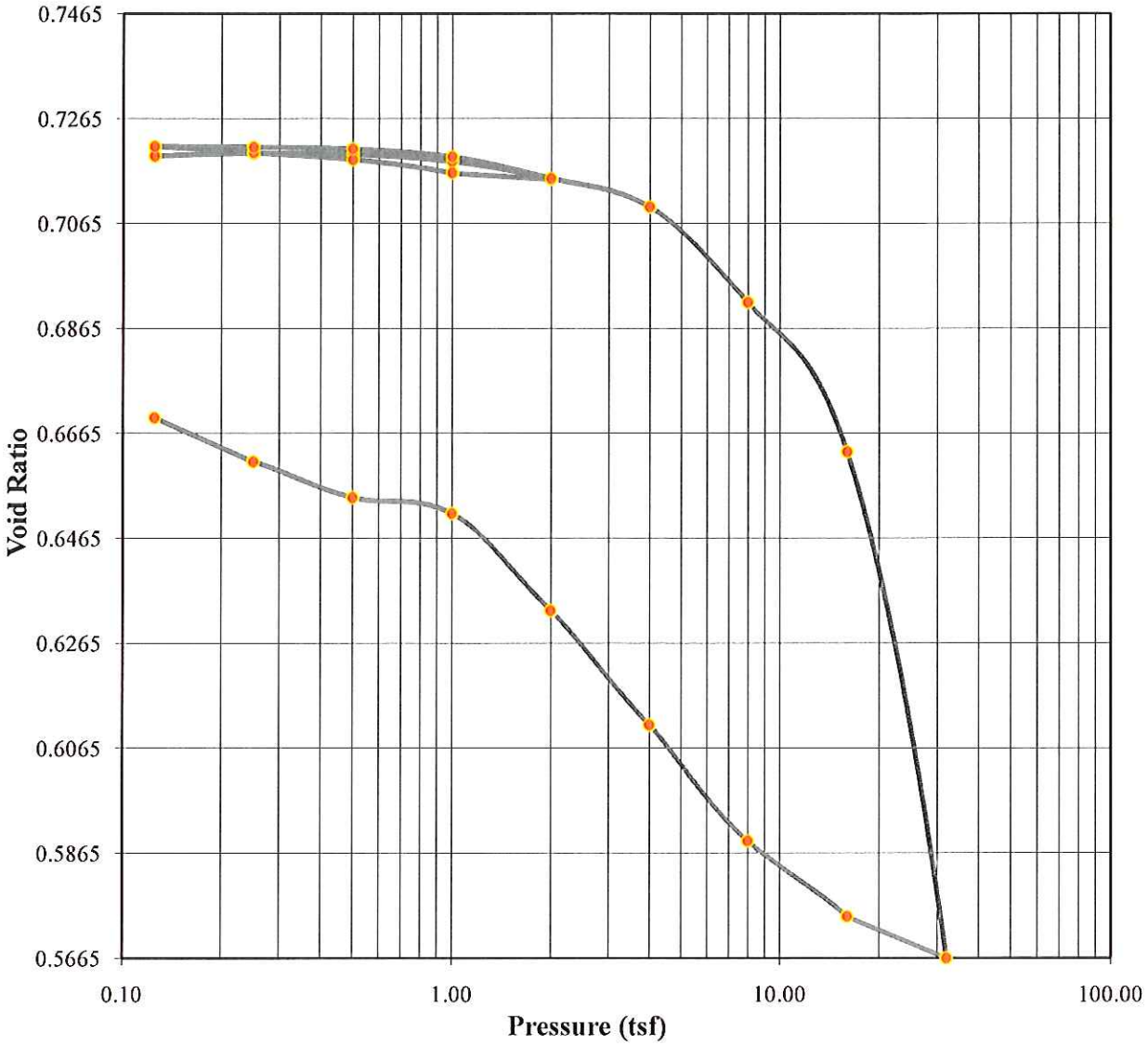
Consulting Engineers

Consolidation Test
Test Results



	Before	After				
Moisture (%):	25.80	26.03	**Liquid Limits:**	41	**Test Date:**	11/02/10
Dry Density (pcf):	97.26	99.03	**Plastic Limits:**	22		
Saturation (%):	96.12	101.29	**Plasticity Index (%):**	19		
Void Ratio:	0.7191	0.6727	**Specific Gravity:**	2.678	Measured	

Soil Description:	Gray Lean Clay with Sand		
Project Number:	38001-1684-0438001-1684	**Depth:** 30.0' to 30.3'	**Remarks:**
Sample Number:	ST - 2	**Boring Number:** 68	
Project:	Solar Farm Information & Welcome Center Site Design		
Client:			
Location:	Haywood, TN		

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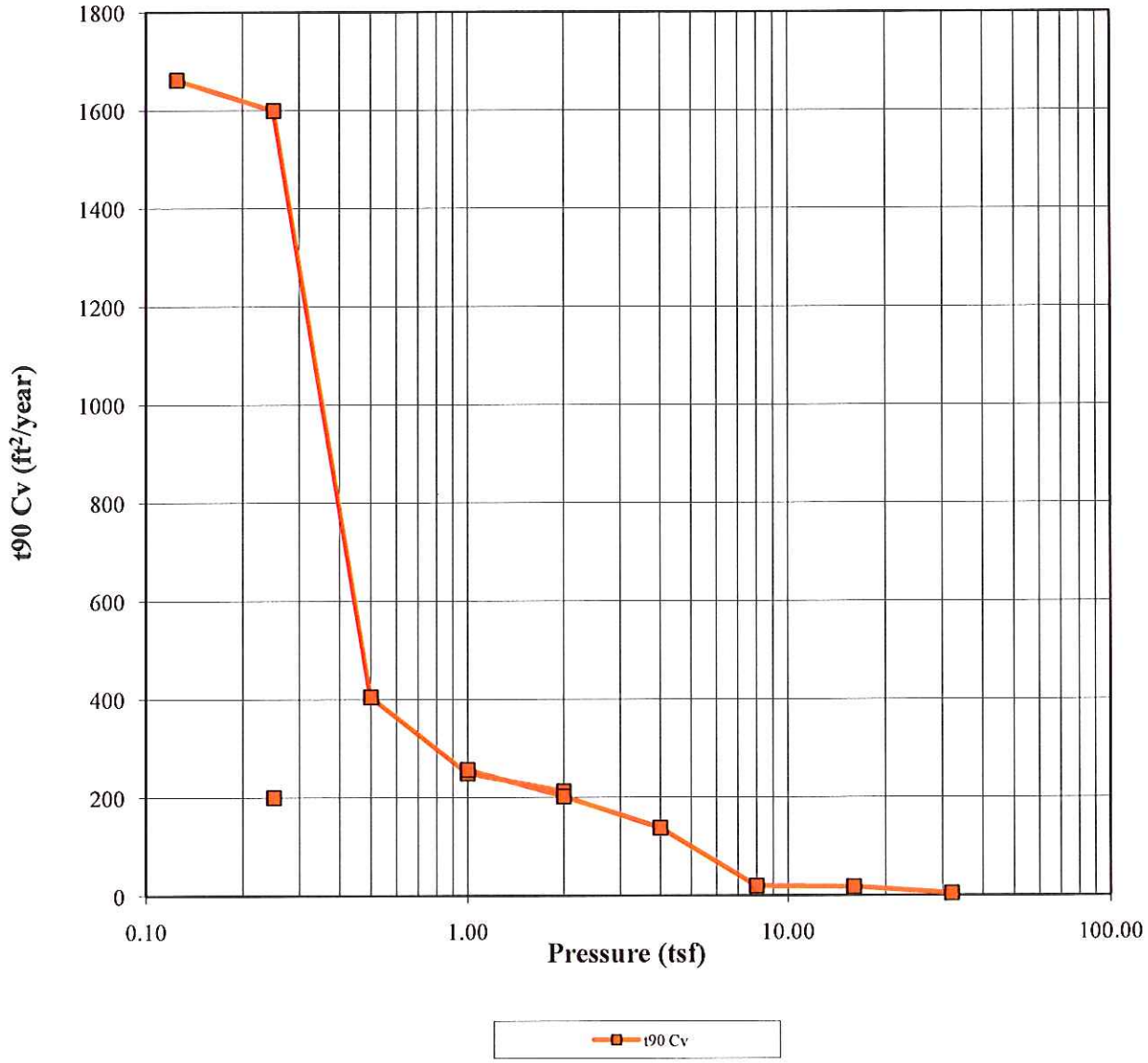
Consolidation Test

Test Results



	Before	After				
Moisture (%):	25.80	26.03	**Liquid Limits:**	41	**Test Date:**	11/02/10
Dry Density (pcf):	97.26	99.03	**Plastic Limits:**	22		
Saturation (%):	96.12	101.29	**Plasticity Index (%):**	19		
Void Ratio:	0.7191	0.6727	**Specific Gravity:**	2.678	Measured	

Soil Description: Gray Lean Clay with Sand

Project Number: 38001-1684-0438001-1684 **Depth:** 30.0' to 30.3' **Remarks:**

Sample Number: ST - 2 **Boring Number:** 68

Project: Solar Farm Information & Welcome Center Site Design

Client:

Location: Haywood, TN

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Florence & Hutcheson
CONSULTING ENGINEERS

Consolidation Test Results
Summary

Project: Solar Farm Information & Welcome Center Site Design
Location: Haywood, TN
Job Number: 10217

Project Number: 38001-1684-0438001-1684-04

Sample Number: ST - 2
Boring Number: 68
Depth: 30.0' to 30.3'
Sample Type: Undisturbed

Sample Description: Gray Lean Clay with Sand
Remarks:

Test Number:
Test Date: 11/02/10

Index	Load Sequence (tsf)	Cummulative Change in Height (in)	Specimen Height (in)	Height of Void (in)	Vertical Strain (%)	Void Ratio	t90 Fitting Time (min)	t50 Fitting Time (min)	t90 Cv (ft2/year)	t50 Cv (ft2/year)
0	0.000	0.0000	1.0015	0.4178	0.00	0.7158	0.000	0.000	0.000	0.000
1	0.125	-0.0021	1.0036	0.4199	-0.21	0.7194	0.469	* 0.2606	1661.388	694.778
2	0.250	-0.0024	1.0039	0.4202	-0.24	0.7199	0.488	* 0.2709	1599.029	668.761
3	0.500	-0.0023	1.0038	0.4201	-0.23	0.7197	1.927	* 1.0706	404.609	169.187
4	1.000	-0.0015	1.0030	0.4193	-0.15	0.7183	3.125	* 1.7362	249.094	104.160
5	2.000	0.0005	1.0010	0.4173	0.05	0.7149	3.649	* 2.0274	212.467	88.844
6	1.000	-0.0002	1.0017	0.4180	-0.02	0.7161	0.000	0.000	0.000	0.000
7	0.500	-0.0017	1.0032	0.4195	-0.17	0.7187	0.000	0.000	0.000	0.000
8	0.250	-0.0025	1.0040	0.4203	-0.25	0.7200	0.000	0.000	0.000	0.000
9	0.125	-0.0032	1.0047	0.4210	-0.32	0.7212	0.000	0.000	0.000	0.000
10	0.250	-0.0031	1.0046	0.4209	-0.31	0.7211	3.908	* 2.1713	199.812	83.554
11	0.500	-0.0029	1.0044	0.4207	-0.29	0.7207	0.000	0.000	0.000	0.000
12	1.000	-0.0020	1.0035	0.4198	-0.20	0.7192	3.043	* 1.6904	256.098	107.089
13	2.000	0.0004	1.0011	0.4174	0.04	0.7151	3.845	* 2.1363	201.678	84.332
14	4.000	0.0036	0.9979	0.4142	0.36	0.7096	5.582	* 3.1011	138.042	57.724
15	8.000	0.0142	0.9873	0.4036	1.42	0.6914	39.746	* 22.0810	18.977	7.936
16	16.000	0.0308	0.9707	0.3870	3.08	0.6630	41.798	* 23.2212	17.444	7.294
17	32.000	0.0871	0.9144	0.3307	8.70	0.5665	156.904	* 87.1691	4.124	1.724
18	16.000	0.0825	0.9190	0.3353	8.24	0.5744	0.000	0.000	0.000	0.000
19	8.000	0.0741	0.9274	0.3437	7.40	0.5888	0.000	0.000	0.000	0.000
20	4.000	0.0612	0.9403	0.3566	6.11	0.6109	0.000	0.000	0.000	0.000
21	2.000	0.0485	0.9530	0.3693	4.84	0.6327	0.000	0.000	0.000	0.000
22	1.000	0.0377	0.9638	0.3801	3.76	0.6512	0.000	0.000	0.000	0.000
23	0.500	0.0359	0.9656	0.3819	3.58	0.6543	0.000	0.000	0.000	0.000
24	0.250	0.0319	0.9696	0.3859	3.19	0.6611	0.000	0.000	0.000	0.000
25	0.125	0.0270	0.9745	0.3908	2.70	0.6695	0.000	0.000	0.000	0.000

Predicted value indicated with *

Tested By: A. Ryan

Checked By: DLC

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Florence & Hutcheson
CONSULTING ENGINEERS

Consolidation Test
Consolidation Specimen Information

Project: Solar Farm Information & Welcome Center Site Design **Project Number:** 8001-1684-0438001-1684-04
Location: Haywood, TN
Job Number: 10217 **Test Date:** 11/02/10

Sample Number: ST - 2
Boring Number: 68
Depth: 30.0' to 30.3'
Sample Type: Undisturbed
Sample Description: Gray Lean Clay with Sand
Remarks:

Test Number:
Liquid Limit: 41.0000
Plastic Limit: 22.0000
Specific Gravity: 2.6780 Measured
Initial Void Ratio: 0.7191
Plasticity Index (%): 19.0000
Weight of Ring (g): 110.8600
Initial Height (in): 1.0015
Initial Diameter (in): 2.4993

Parameters	Initial Specimen	Final Specimen
Moist Weight + Container (g)	252.34	229.45
Dry Soil + Container (g)	215.69	197.18
Weight of Container (g)	73.63	73.19
Moisture Content (%)	25.80	26.03
Void Ratio	0.7191	0.6727
Saturation (%)	96.12	101.29
Dry Density (pcf)	97.26	99.03

Tested By: A. Rigsby **Checked By:** DLC

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Appendix VI
Plan, Profile, & Cross Section Sheets

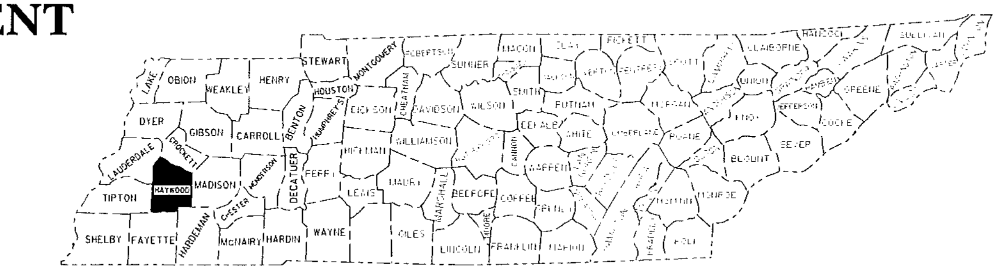
DESIGN DIVISION

FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.		38001-1684-04	

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING AND DEVELOPMENT

GEOTECHNICAL OPERATIONS SECTION
GEOLOGIC SYMBOLS



PROPOSED SOLAR FARM INFORMATION AND WELCOME CENTER

HAYWOOD COUNTY, TENNESSEE

SOIL LEGEND AND AASHTO CLASSIFICATION

GENERAL CLASS.	GRANULAR MATERIALS (≤35% PASSING #200)							SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS		
GROUP CLASS.	A-1		A-3	A-2				A-4	A-5	A-6	A-7	A-1,A-2 A-3	A-4,A-5 A-6,A-7	
	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7				A-7-5 A-7-6			
SYMBOL														
% PASSING #10	50 MX											GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT
#40	30 MX	50 MX	51 MN											
#200	15 MX	25 MX	10 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN			
(PASSING #40) LL				40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS
PI	6 MX		N.P.	10 MX	10 MX	11 MN	11 MN	10 MX	10 MX	11 MN	11 MN			
GROUP INDEX	0		0	0		4 MX		8 MX	12 MX	16 MX	NO MX			
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL & SAND		FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND				SILTY SOILS		CLAYEY SOILS				

• PI OF A-7-5 < (LL-30); PI OF A-7-6 > (LL-30)

ADDITIONAL ROCK SYMBOLS

SYMBOL	SHALE	LIMESTONE	SILTSTONE	WEATHERED SHALE	EXISTING ROADWAY FILL	RANDOM BACKFILL	WEATHERED LIMESTONE	GRADED SOLID ROCK

AI	Activity Index
LI	Liquidity Index
S+C	Silt + Clay (% finer than No.200 Sieve)
	Rockline Soundings
	Disturbed Sample Boring
	Undisturbed Sample Boring
	Undisturbed Sample Boring & Rock Core
	Rock Core
	Slope Inclinometer Installation typical applications:
	Cone Penetration Test Boring
OW	Observation Well
	Approximate Footing Elevation
(Date)	Water Elevation
VS (psf)	Field Vane Shear Strength
N	Penetration Resistance
Qu (psf)	Unconfined Compressive Strength
UU (psf)	Unconsolidated Undrained Triaxial Strength
w%	Moisture Content
RQD	Rock Quality Designation
REC	Core Recovery
ϕ	Angle of Internal Friction (Total Stress)
$\bar{\phi}$	Angle of Internal Friction (Effective Stress)
c (psf)	Cohesion (Total Stress)
$\bar{c}$ (psf)	Cohesion (Effective Stress)
γ (pcf)	Total Unit Weight
R	Refusal
NR	Refusal Not Encountered
(HA)	Hand Auger

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$$

GEOTECHNICAL CONSULTANT FLORENCE & HUTCHESON, INC.
ENGINEER J. SHANNON PROVANCE
P.E. NO. 38001-1684-04
GEOTECHNICAL ENGINEERING FILE NO. ______

Survey & Design Division

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.		38001-1684-04	

GEOTECHNICAL NOTES

1. The natural moisture contents of the overburden soils at the time of drilling are typically near or above the upper limit of the 95% compaction moisture range. Drying, handling, and manipulation of the soils is likely to be required in order to achieve the proper moisture content required to satisfy the compaction requirements.

2. Installation of erosion control matting and establishment of vegetation shall be conducted as soon as practical to prevent erosion of the reconfigured side-hill slope, bridge abutment slopes and construction staging areas.

3. 3 feet of undercut along with backfill consisting of Select Granular Material shall be placed beneath the embankment footprint from Station 49+00 to Station 53+00.

4. Compaction of backfill materials shall achieve 95% of maximum dry density at optimum moisture content +/- 2% in accordance with ASTM D 698 or AASHTO T 99, standard proctor. Compaction shall be verified with field density tests performed by qualified soil technicians.

5. The following station intervals shall require the use of embankment benching to construct the proposed embankments. Embankment benching shall be in accordance with Section 205 of the Standard Specifications for Road and Bridge Construction.

   I-40 Widening (Ramp A Acceleration Lane) Station 66+50 to Station 74+50
   I-40 Widening (Ramp B Deceleration Lane) Station 99+50 to Station 102+50
   I-40 Widening (Ramp C Deceleration Lane) Station 68+47 to Station 74+50
   I-40 Widening (Ramp D Acceleration Lane) Station 99+13.12 to Station 110+00

6. All drilled shafts to be constructed per the current version of TDOT Special Provisions 625 - "Special Provision Regarding Drilled Shaft Specifications."

7. Embankment sections near the proposed abutments shall be constructed first, or as soon as practical in the construction sequence. A waiting period ranging from 30 to 60 days is required prior to paving operations and pile driving operations in these areas to reduce the effects of settlement on pavement and to reduce likelihood of dragdown forces on the piles. The indicated waiting period and initial fill construction shall be utilized within the following approximate limits, at the direction of the Engineer.

   Ramp A Station 20+00.00 to Station 25+00.00
   Ramp B Station 37+50.00 to Station 39+32.89
   Ramp C Station 49+50.00 to Station 53+11.07
   Ramp D Station 60+00.00 to Station 62+00.00
   Access Road Station 8+27.62 to Begin Bridge
   Access Road Station End Bridge to Station 13+50.00

TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.		38001-1684-04	

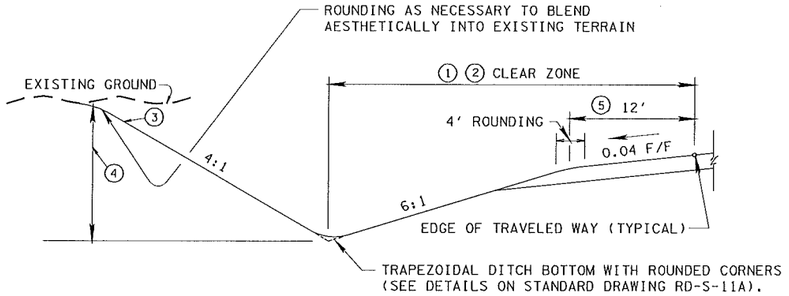
Sample No.	Description	Maximum Density, (pcf)	Moisture Range, (%)	L.L.	P.I.	AASHTO Class.	USCS Class	C.B.R.
1	Brownish Tan Lean Clay	105.0	12.7 - 18.9	35	13	A-6 (14)	CL	7
2	Dark Brown Lean Clay	108.0	11.5 - 18.1	31	11	A-6(10)	CL	6
3	Reddish Brown Lean Clay with Sand	110.0	12.0 - 19.8	30	9	A-4(6)	CL	3
4	Brownish Red Clayey Sand	117.0	10.6 - 15.7	25	10	A-2-4(0)	SC	8
5	Gray Sandy Lean Clay	107.0	8.5 - 20.7	31	15	A-6(8)	CL	2
6	Gray Sandy Lean Clay	110.0	2.1 - 19.5	30	15	A-6(7)	CL	3
7	Orange Silty Sand	112.0	7.1 - 14.4	NP	NP	A2-4(0)	SM	21
8	Light Gray & Tan Sandy Lean Clay	-	-	34	14	A-6(6)	CL	-
9	Beige & Yellowish Orange Lean Clay with Sand	-	-	42	22	A-7-6(17)	CL	-
10	Gray Lean Clay with Sand	-	-	29	14	A-6(8)	CL	-
11	Reddish Orange Silty Sand	-	-	NP	NP	A-2-4(0)	SM	-
12	Reddish Orange Poorly Graded Sand with Silt	-	-	NP	NP	A-2-4(0)	SP-SM	-
13	Multicolor Sandy Lean Clay	-	-	31	12	A-6(4)	CL	-
14	Tan & Beige Well-Graded Sand with Silt	-	-	NP	NP	A-2-4(0)	SW-SM	-
15	Tan Poorly Graded Sand	-	-	NP	NP	A-1-b(0)	SP	-
16	Brown Lean Clay	-	-	34	13	A-6(12)	CL	-
17	Orange Lean Clay with Sand	-	-	45	23	A-7-6(16)	CL	-
18	Light Gray & Reddish Orange Silty, Clayey Sand	-	-	26	6	A-4(0)	SC-SM	-
19	Light Gray Silt with Sand	-	-	37	4	A-4(4)	ML	-
20	Light Gray Lean Clay with Sand	-	-	24	10	A-4(6)	CL	-
21	White & Yellowish Orange Poorly Graded Sand with Silt	-	-	NP	NP	A-2-4-(0)	SP-SM	-
22	Brown Silty Clay	-	-	24	5	A-4(3)	CL-ML	-
23	Light Gray Lean Clay with Sand	-	-	41	23	A-7-6(17)	CL	-
24	White & Gray Sandy Lean Clay	-	-	28	12	A-6(5)	CL	-
25	Gray Lean Clay with Sand	-	-	41	18	A-7-6(15)	CL	-
26	White, Gray & Reddish Orange Sandy Silty Clay	-	-	21	6	A-4(1)	CL-ML	-
27	Beige & Yellowish Orange Sandy Lean Clay	-	-	36	16	A-6(7)	CL	-
28	Beige & Yellowish Orange Lean Clay with Sand	-	-	43	24	A-7-6(18)	CL	-
29	Brown Lean Clay with Sand	-	-	38	17	A-6(13)	CL	-
30	Gray Sandy Lean Clay	-	-	30	14	A-6(5)	CL	-
31	Beige & Tan Lean Clay with Sand	-	-	36	17	A-6(11)	CL	-
32	Dark Gray Silty Sand	-	-	NP	NP	A-4(0)	SM	-
33	Gray Lean Clay with Sand	-	-	41	19	A-7-6(14)	CL	-

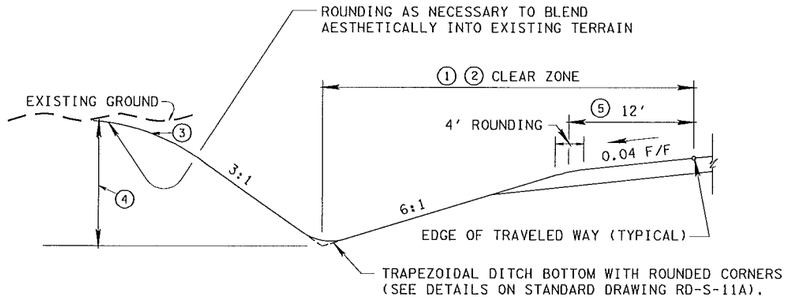
$$$$SYTIME$$$$$$$$
$$$$DONSPEC$$$$

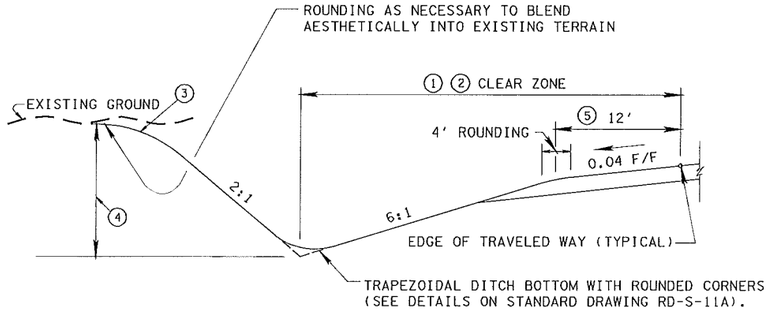
Survey & Design Division

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

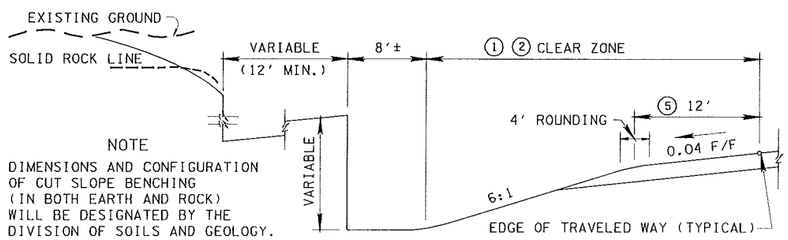
SOIL DESCRIPTION SHEET







CUT SLOPES IN EARTH



CUT SLOPE IN ROCK

(SHOWING PRE-SPLIT VERTICAL SLOPE)

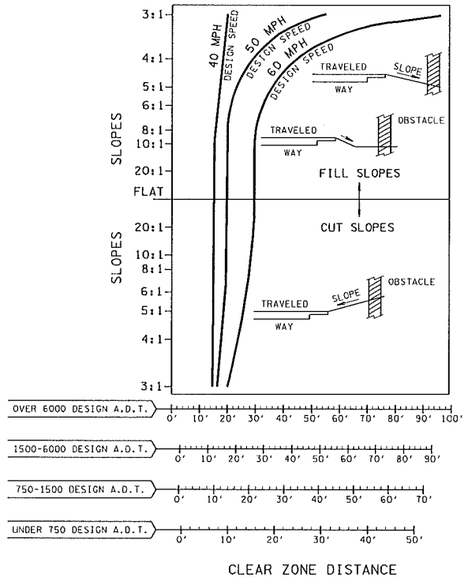
④ HEIGHT OF CUT AND FILL SHOWN IN GENERAL SLOPE TABLE.

⑤ THESE DISTANCES ARE FOR USE WITH CASE I SLOPE CHART. FOR CORRECT SHOULDER WIDTH SEE APPROPRIATE DRAWING IN THE RD-TS-SERIES.

GENERAL NOTES

① CLEAR ZONE IS DEFINED IN AASHTO'S "ROADSIDE DESIGN GUIDE" AS THE TOTAL ROADSIDE BORDER AREA, STARTING AT THE EDGE OF THE TRAVELED WAY, AVAILABLE FOR SAFE USE BY ERRANT VEHICLES. THIS AREA MAY CONSIST OF A SHOULDER, A RECOVERABLE SLOPE, A NON-RECOVERABLE SLOPE, AND/OR A CLEAR RUN-OUT AREA. THE DESIRED WIDTH IS DEPENDENT UPON THE TRAFFIC VOLUMES AND SPEEDS, AND ON THE ROADSIDE GEOMETRY. SEE "ROADSIDE DESIGN GUIDE" FOR MORE DETAILED INFORMATION.

② CLEAR ZONE DISTANCES ARE RELATED TO DESIGN SPEED AND TRAFFIC VOLUME AS SHOWN IN THE FOLLOWING CHART:



CLEAR ZONE DISTANCE

③ SLOPES AT THE TOE OF FILLS AND TOP OF CUTS SHALL BE ROUNDED TO BLEND INTO THE EXISTING TERRAIN IN SUCH A MANNER AS TO BE AESTHETICALLY PROPORTIONAL.

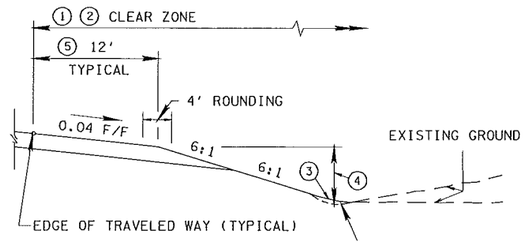
GENERAL SLOPE TABLE			
CASE I		CASE II	
FILL SLOPES	HEIGHT OF FILL ④	FILL SLOPES	HEIGHT OF FILL ④
6:1	0′-7′	4:1	0′-6′
4:1	7′-15′	3:1	6′-8′
3:1	15′-28′	2:1	8′-12′
2:1	OVER 28′	⑦ 1.5:1	OVER 12′
CUT SLOPES	DEPTH OF CUT ④	CUT SLOPES	DEPTH OF CUT ④
4:1	0′-15′	4:1	0′-6′
3:1	15′-20′	3:1	6′-8′
2:1	OVER 20′	2:1	8′-12′
		⑦ 1.5:1	OVER 12′

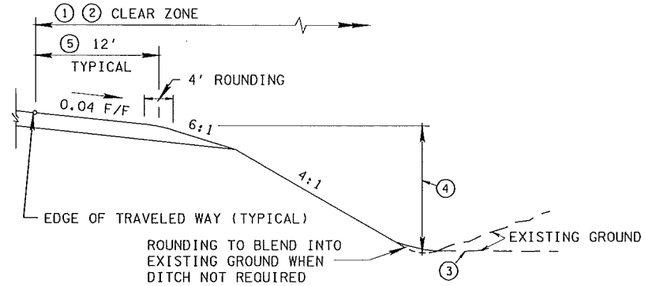
CASE I : FOR ALL INTERSTATE, ARTERIALS AND HIGH SPEED COLLECTORS (50 MILES PER HOUR OR GREATER) HIGH VOLUME (CURRENT ADT OVER 400).

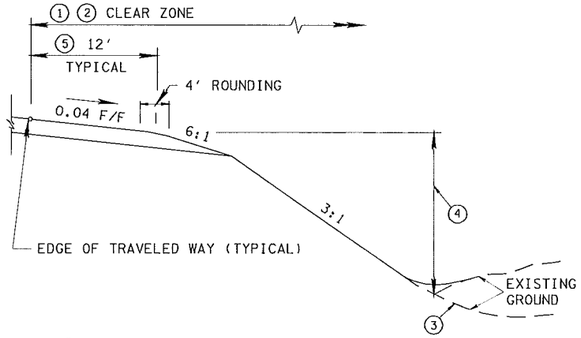
CASE II: FOR LOCAL ROADS AND STREETS AND COLLECTORS NOT COVERED IN CASE I.

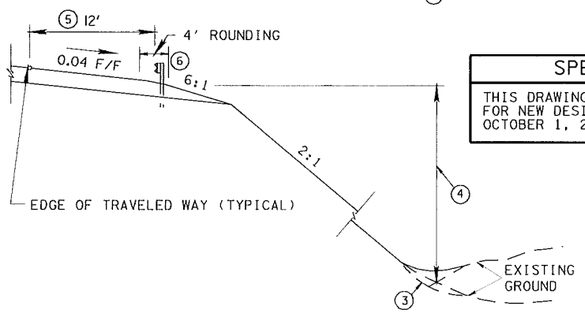
SPECIAL NOTE

SHOULDER DETAILS SHOWN ON THIS SHEET ARE APPLICABLE TO OUTSIDE SHOULDER ONLY, ON PROJECTS AS DESCRIBED IN CASE I ABOVE. FOR DETAILS OF INSIDE SHOULDERS ON MULTI-LANE ROADWAYS, SEE APPROPRIATE STANDARD DRAWINGS. SOME SHOULDERS MAY BE LESS THAN 12 FEET SHOWN. FOR OUTSIDE SHOULDER DETAILS APPLICABLE TO PROJECTS AS DESCRIBED IN CASE II, SEE STANDARD DRAWINGS RD-TS-1 OR RD-TS-2.









FILL SLOPES

⑥ GUARDRAIL IS REQUIRED ON ALL 2:1 SLOPES, AND ON ANY OTHER SLOPES WHERE UNREMOVABLE HAZARDS EXIST WITHIN THE CLEAR ZONE.

⑦ FILL AND/OR CUT SLOPES STEEPER THAN 2:1 ARE TO BE USED ONLY WHEN RECOMMENDED OR APPROVED BY THE SOILS AND GEOLOGY SECTION. WITHOUT THEIR APPROVAL OR RECOMMENDATION, USE 2:1 SLOPES FOR ALL FILL AND/OR CUT SLOPES GREATER THAN 12 FEET.

REV. 4-4-77: CHANGED DWG. NO. FROM RD-S-1 TO RD-S-11 AND CROSS-REFERENCE TO DWG. NOS. RD-S-12, RD-S-13 AND RD-S-15.

REV. 1-11-82: CHANGED SHOULDER WIDTHS IN FILL AREAS.

REV. 6-11-89: CHANGED CLEAR ZONE CHART AND SLOPE GUIDELINES.

REV. 9-10-90: REDREW SHEET AND UPDATED TO TO CURRENT STANDARDS.

☒ REV. 10-26-93: ADDED NOTE ⑦ REGARDING USE OF 1.5:1 SLOPES.

☒ REV. 3-20-02: ADDED SPECIAL NOTE.

☒ REV. 3-31-03: CHANGED EFFECTIVE DATE IN SPECIAL NOTE.

SPECIAL NOTE

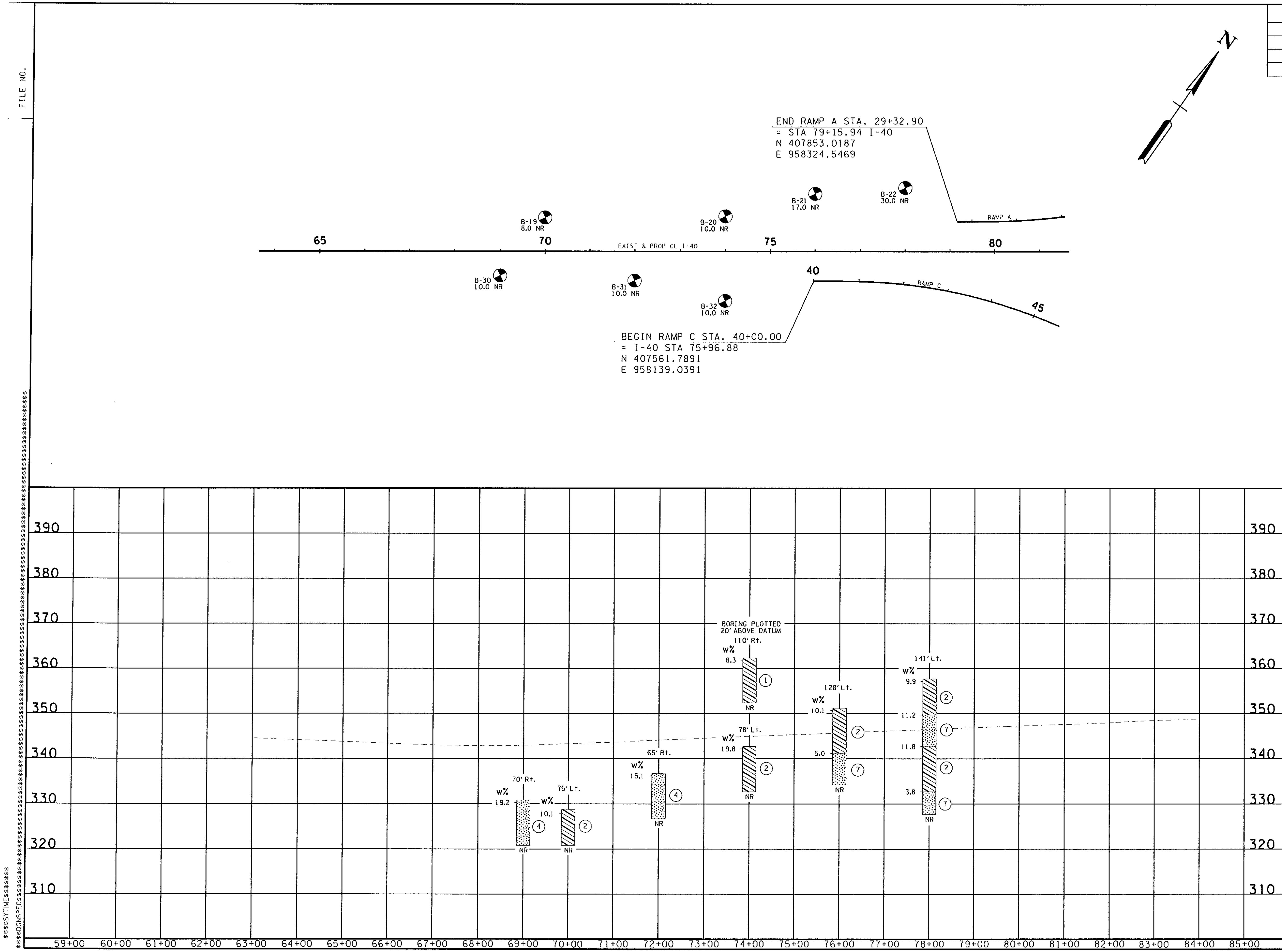
THIS DRAWING IS NOT TO BE UTILIZED FOR NEW DESIGN PROJECTS BEGUN AFTER OCTOBER 1, 2002.

☒ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DESIGN AND CONSTRUCTION DETAILS FOR ROADSIDE SLOPE DEVELOPMENT

RD-S-11



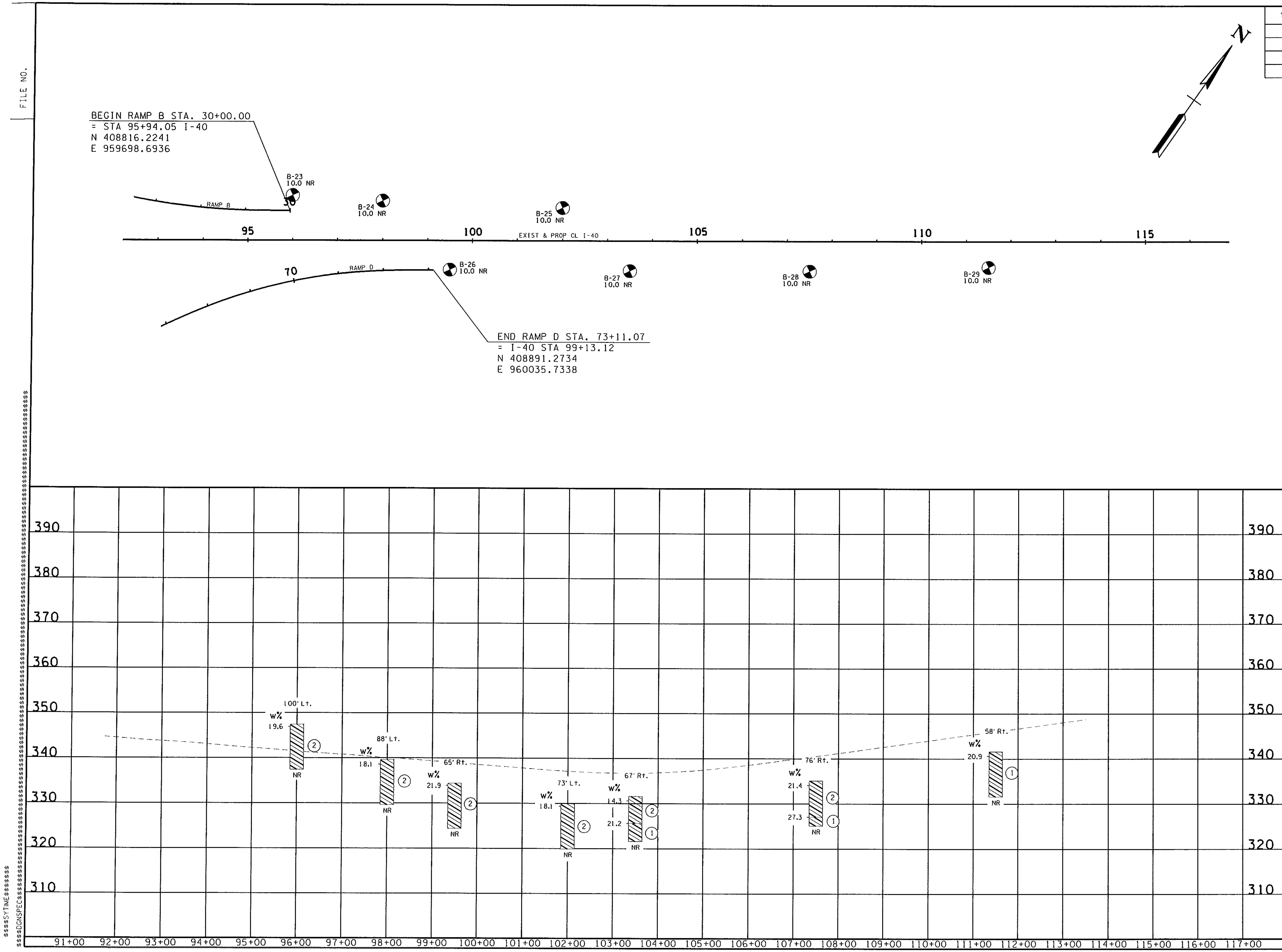
TYPE	YEAR	PROJECT NO.	SHEET NO.

PROPOSED LAYOUT AND PROFILE

STA. 66+15 TO STA. 79+15.94

SCALE: 1"=100'

TYPE	YEAR	PROJECT NO.	SHEET NO.



PROPOSED LAYOUT AND PROFILE

STA. 95+94.05 TO STA. 113+53

SCALE: 1"=100'

FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.

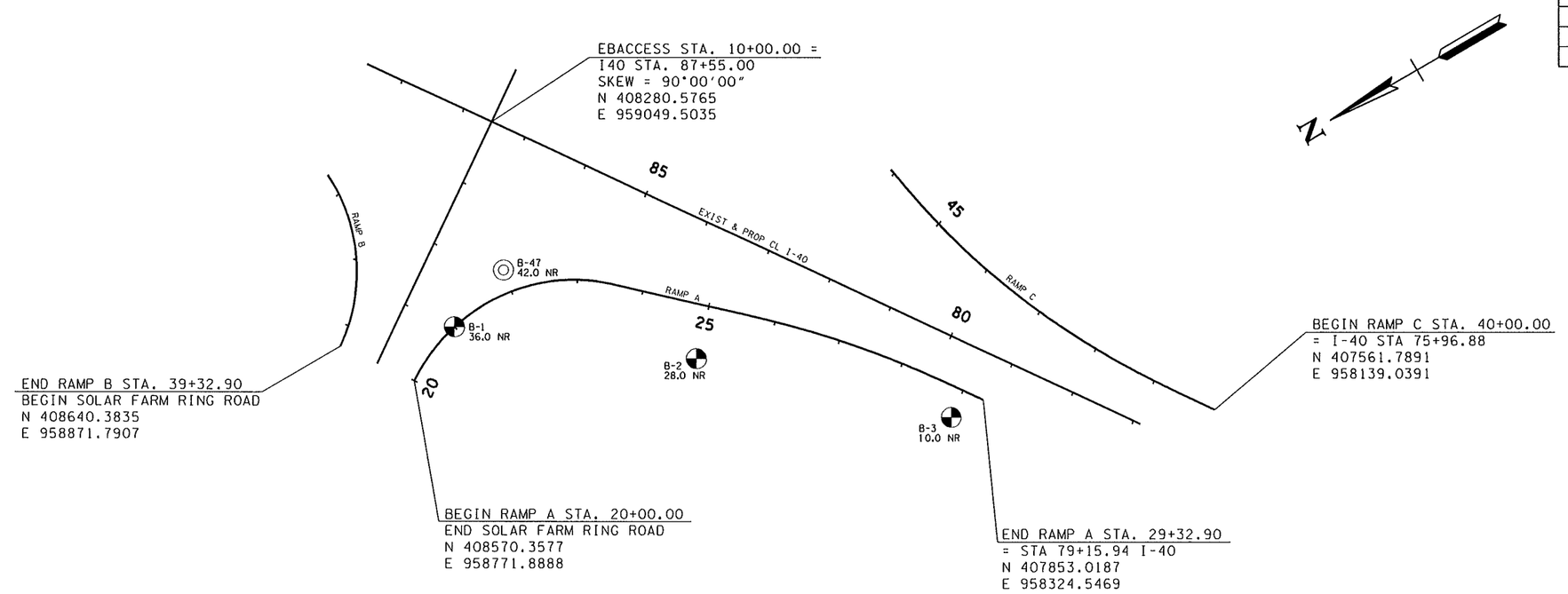
EBACCESS STA. 10+00.00 =
I40 STA. 87+55.00
SKEW = 90°00'00"
N 408280.5765
E 959049.5035

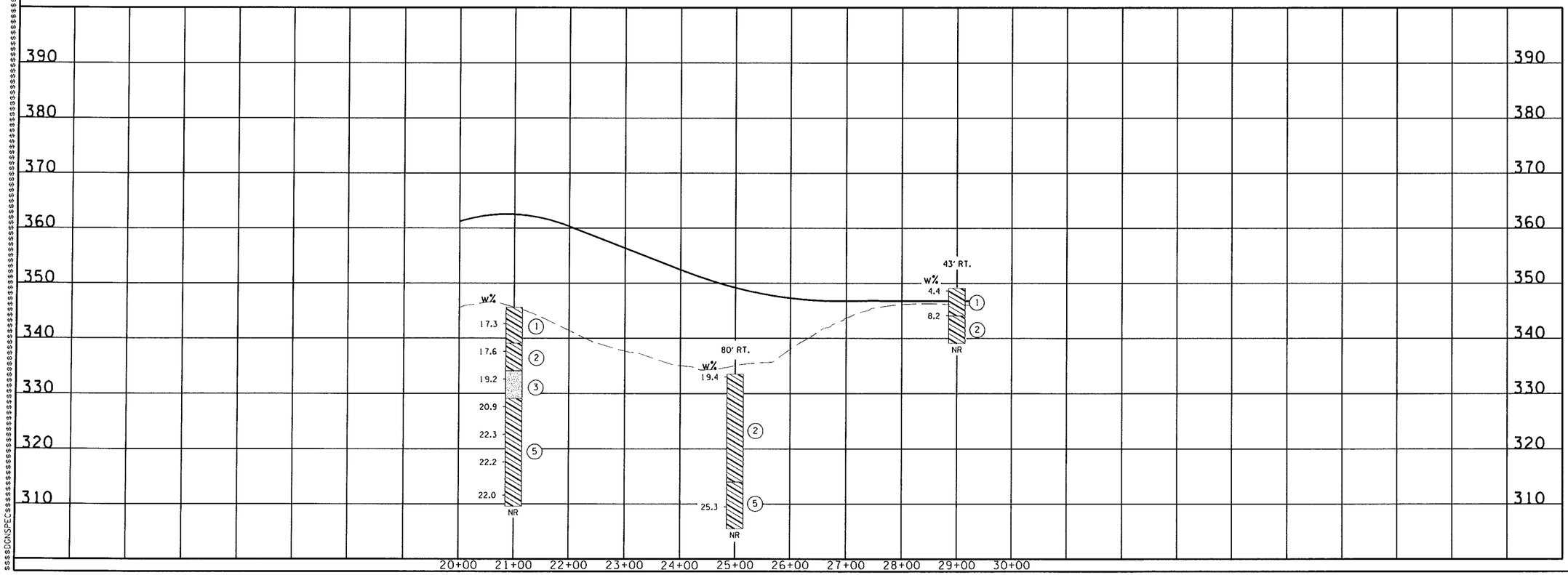
END RAMP B STA. 39+32.90
BEGIN SOLAR FARM RING ROAD
N 408640.3835
E 958871.7907

BEGIN RAMP A STA. 20+00.00
END SOLAR FARM RING ROAD
N 408570.3577
E 958771.8888

END RAMP A STA. 29+32.90
= STA 79+15.94 I-40
N 407853.0187
E 958324.5469

BEGIN RAMP C STA. 40+00.00
= I-40 STA 75+96.88
N 407561.7891
E 958139.0391





$$$$SYTIME$$$$$$$

$$$$DGNSPEC$$$$

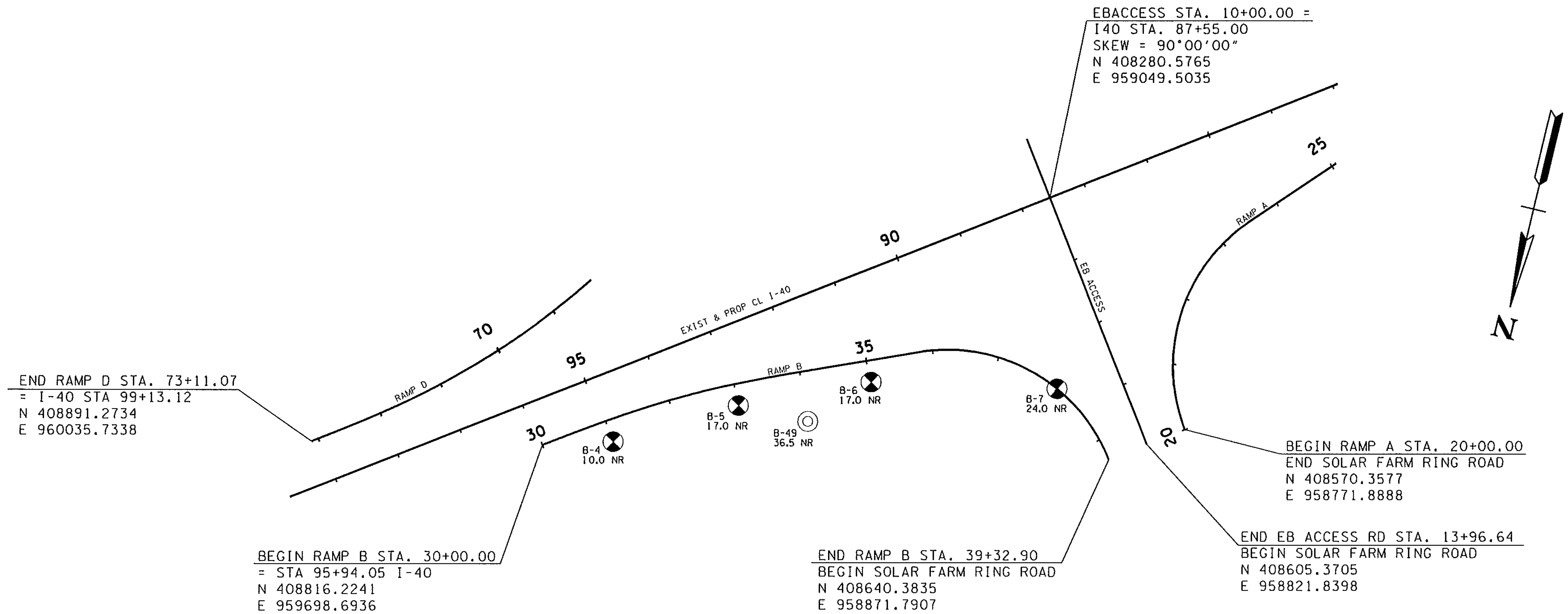
PROPOSED LAYOUT AND PROFILE

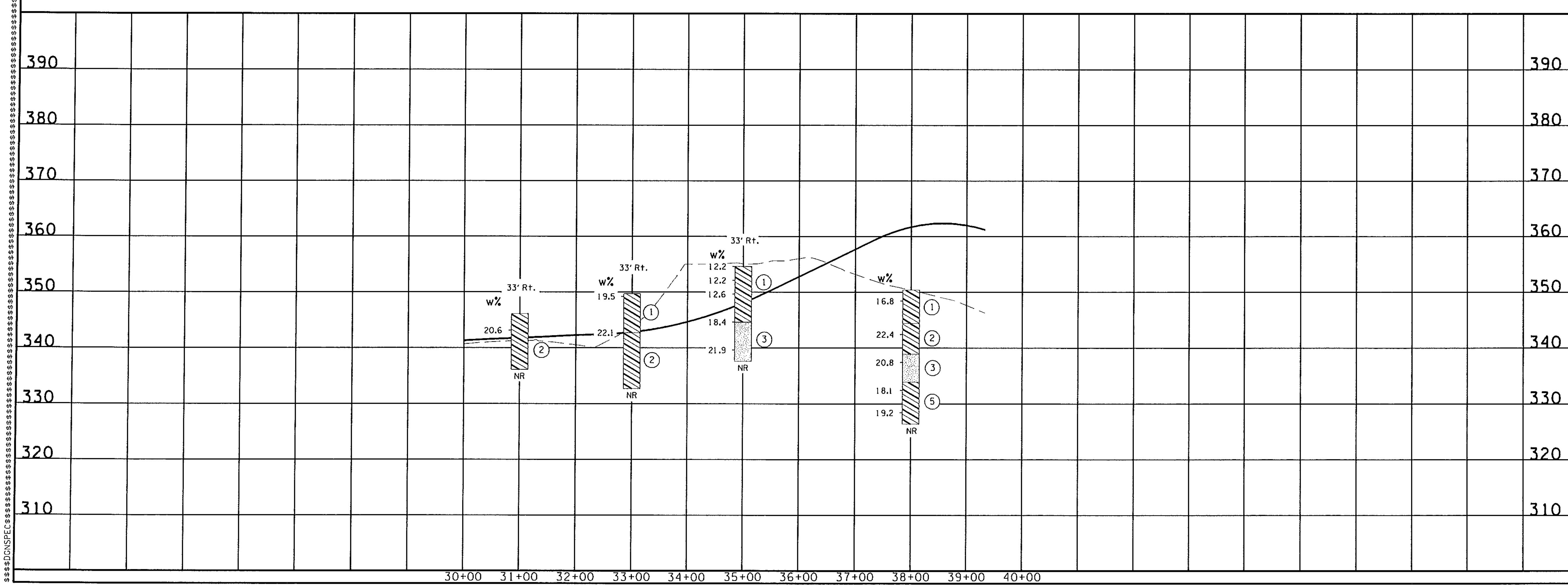
STA. 20+00 TO STA. 29+32.90

SCALE: 1"=100'

TYPE	YEAR	PROJECT NO.	SHEET NO.

FILE NO.





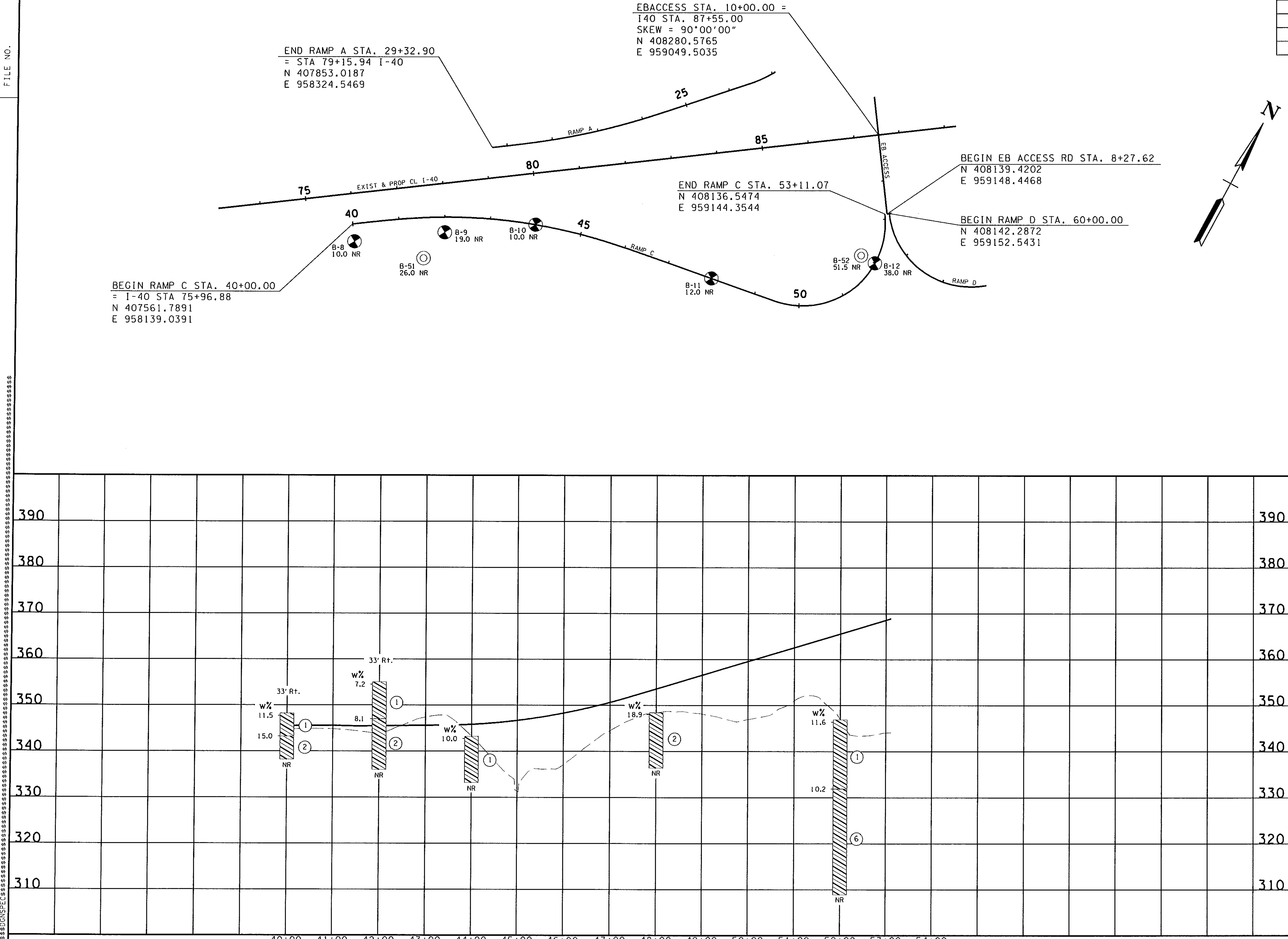
PROPOSED LAYOUT AND PROFILE

STA. 30+00 TO STA. 39+32.90

SCALE: 1"=100'

FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.



PROPOSED LAYOUT AND PROFILE

STA. 40+00 TO STA. 53+11.07

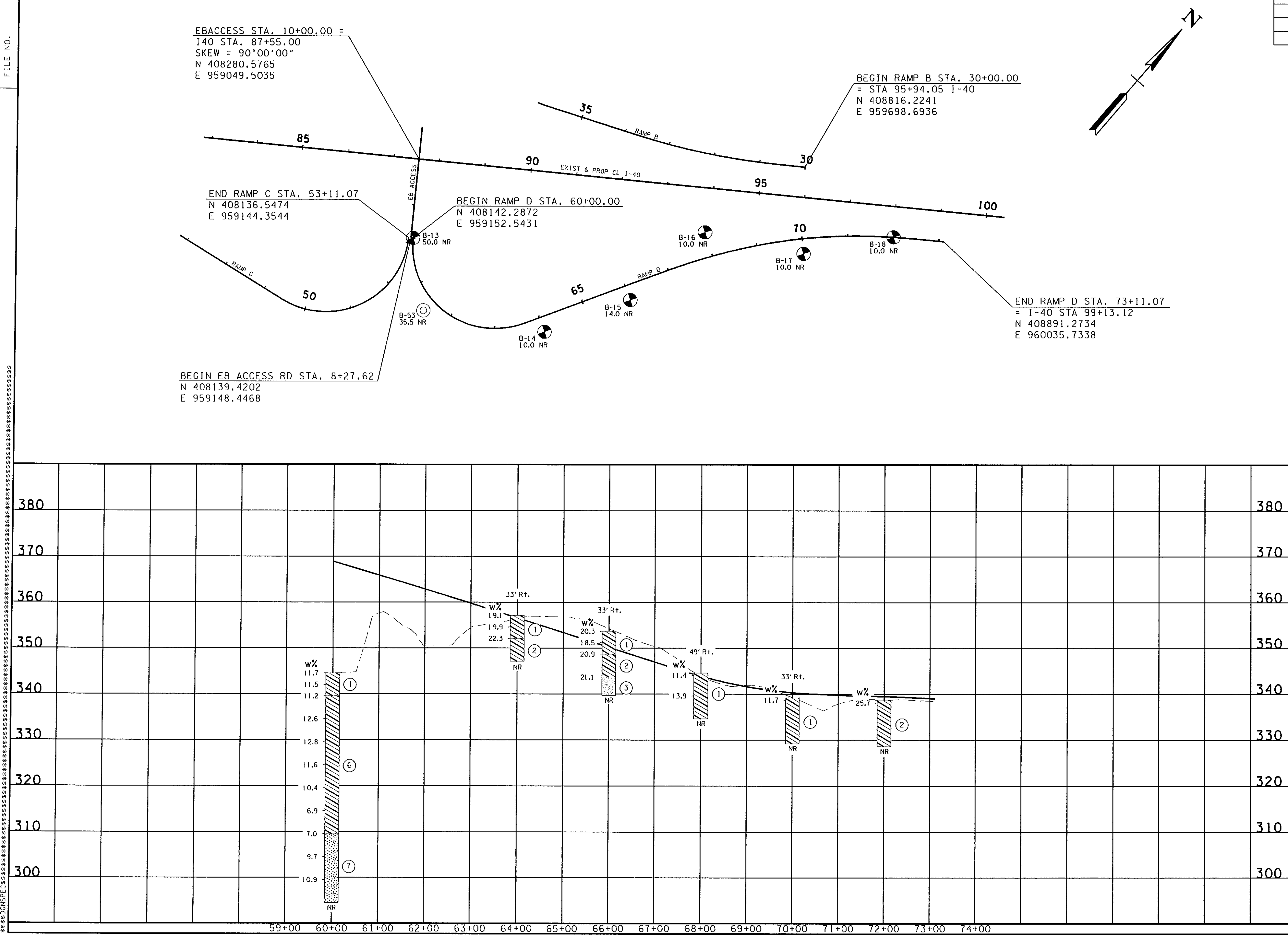
SCALE: 1"=100'

$$$$SYTIME$$$$$$

$$$DGNSPEC$$$

FILE NO.

TYPE	YEAR	PROJECT NO.	SHEET NO.

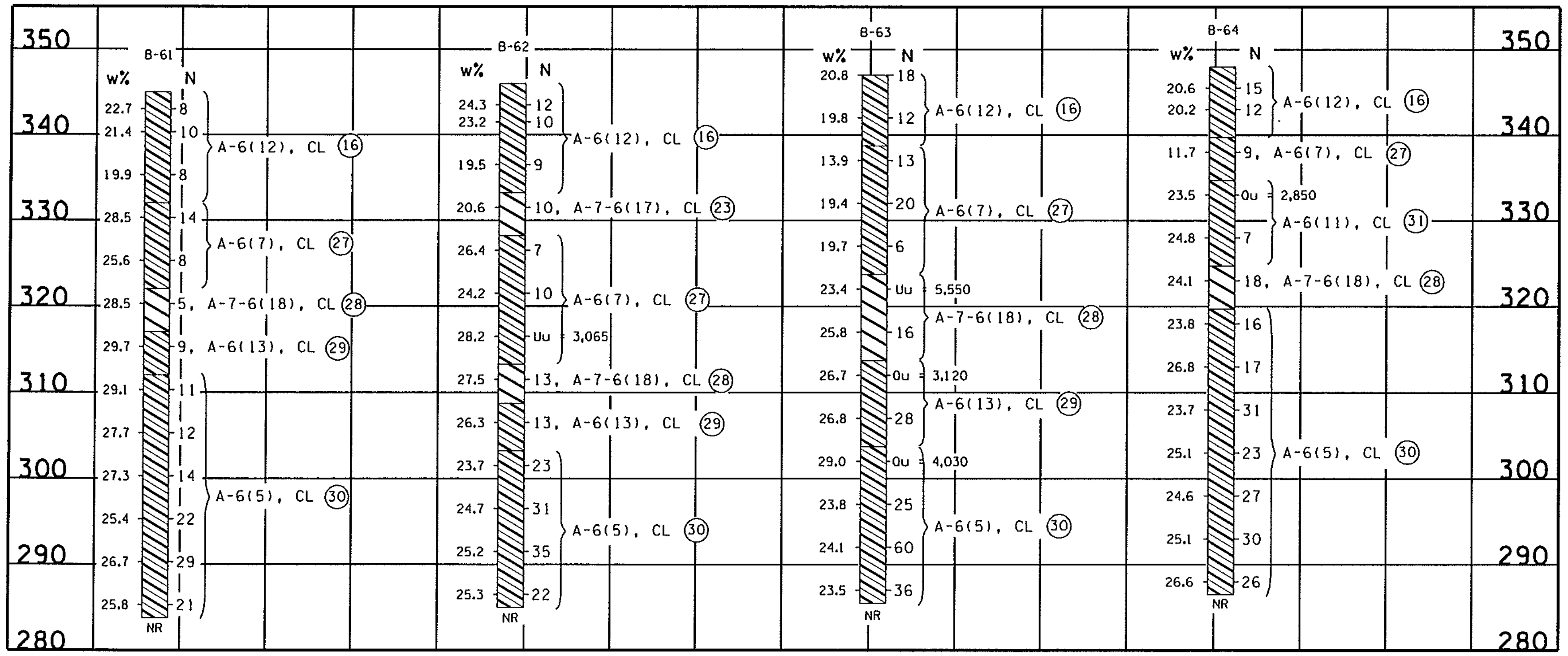


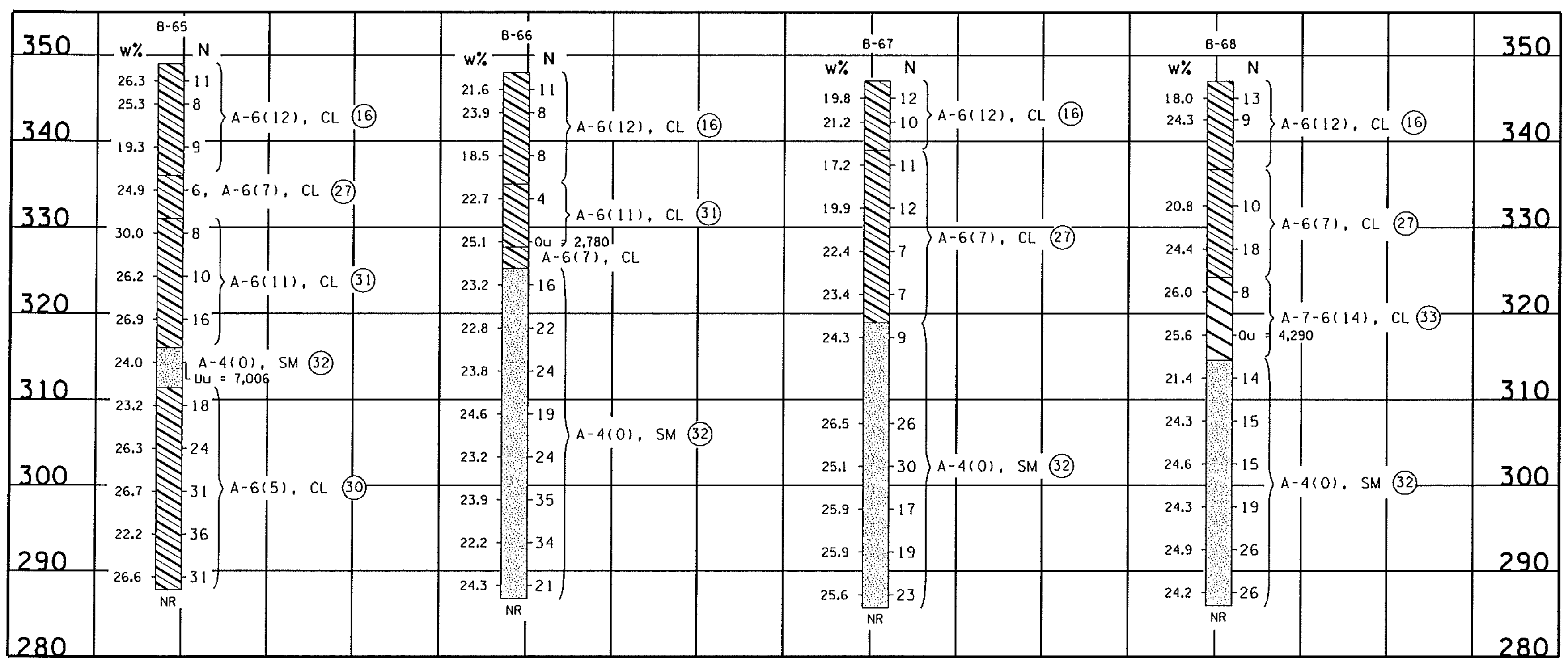
PROPOSED
LAYOUT
AND PROFILE

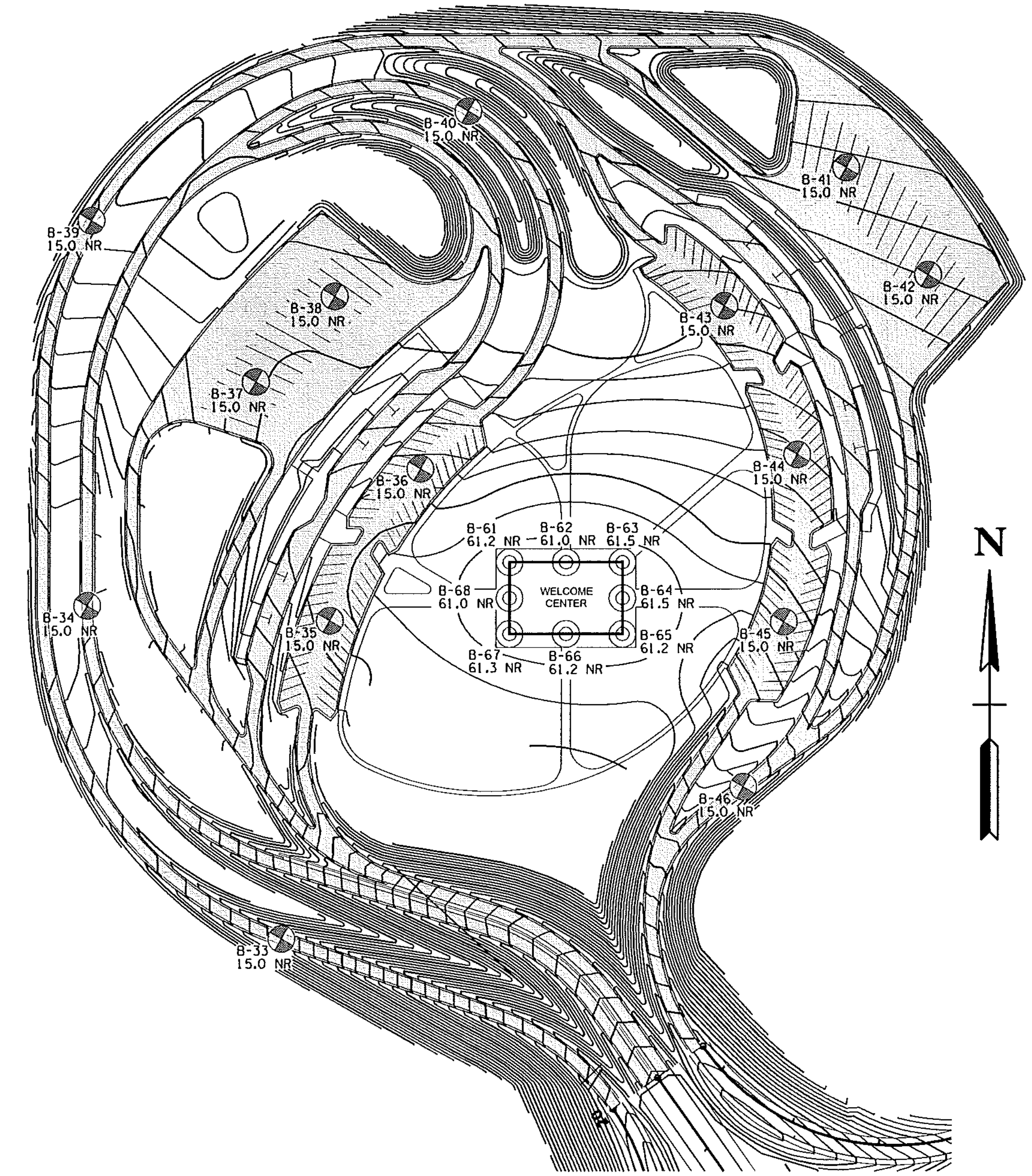
STA. 60+00 TO STA. 73+11.07

SCALE: 1"=100'

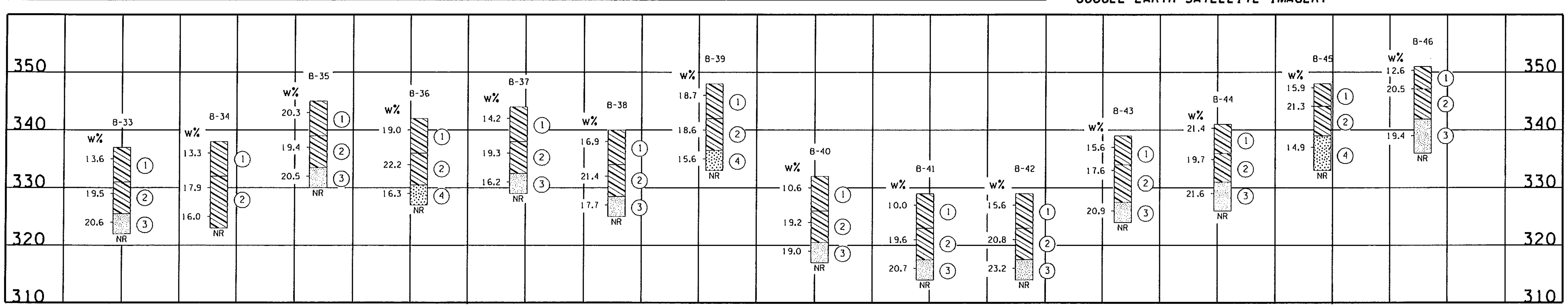
TYPE	YEAR	PROJECT NO.	SHEET NO.







BORING ELEVATIONS WERE ESTIMATED FROM GOOGLE EARTH SATELLITE IMAGERY



PROPOSED LAYOUT AND PROFILE

WELCOME CENTER AND PARKING

SCALE: 1"=100'

DESIGN DIVISION

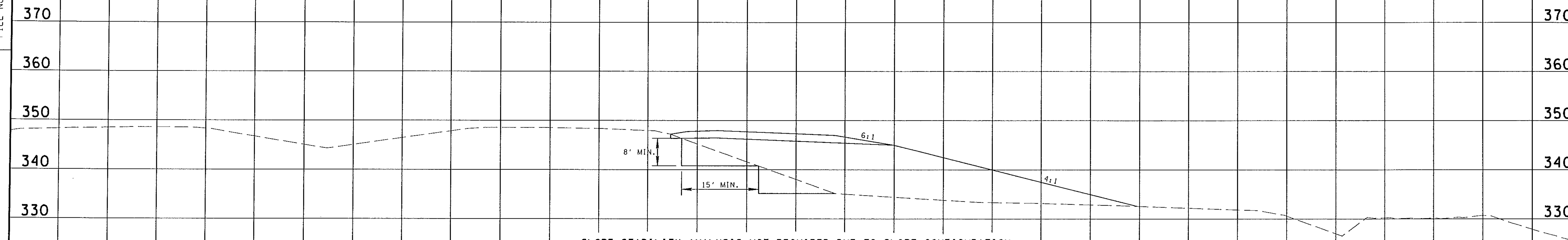
FILE NO.

$$$$SYTIME$$$$$$

$$$DGNSPEC$$

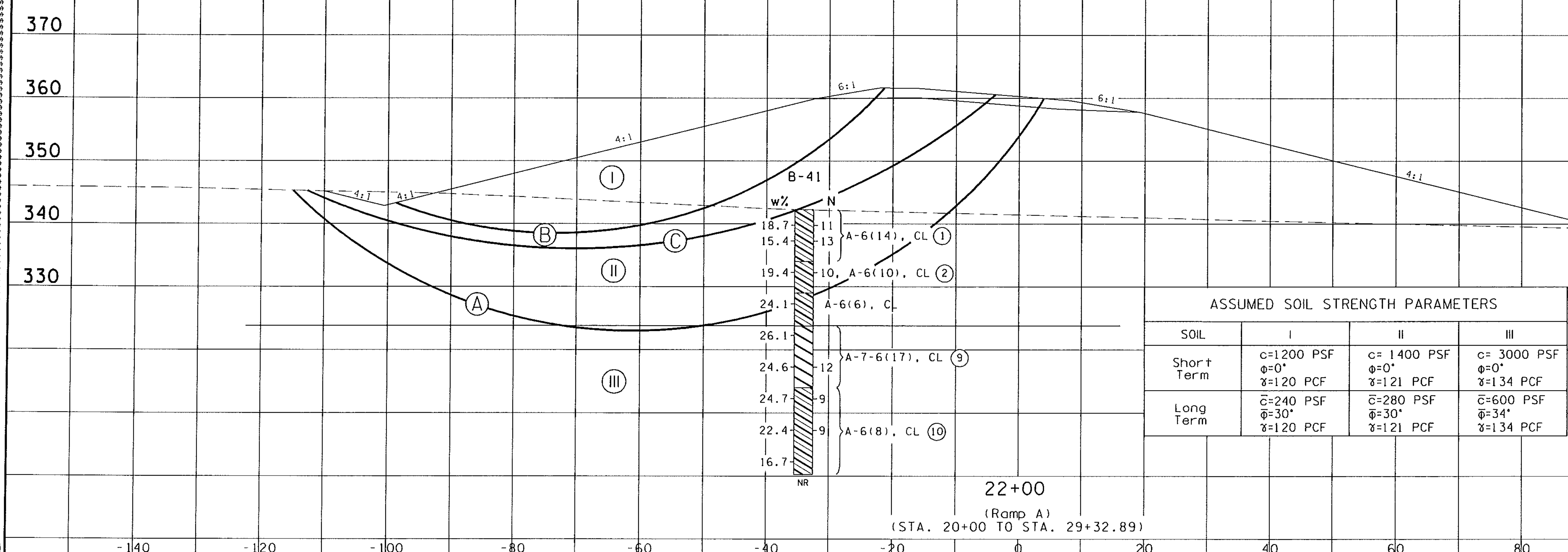
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2010	38001-1684-04	

FILE NO.



SLOPE STABILITY ANALYSIS NOT REQUIRED DUE TO SLOPE CONFIGURATION

26+00
(Ramp A)
(STA. 20+00 TO STA. 29+32.89)



ASSUMED SOIL STRENGTH PARAMETERS

SOIL	I	II	III
Short Term	c=1200 PSF φ=0° γ=120 PCF	c= 1400 PSF φ=0° γ=121 PCF	c= 3000 PSF φ=0° γ=134 PCF
Long Term	c̄=240 PSF φ̄=30° γ=120 PCF	c̄=280 PSF φ̄=30° γ=121 PCF	c̄=600 PSF φ̄=34° γ=134 PCF

FACTORS OF SAFETY

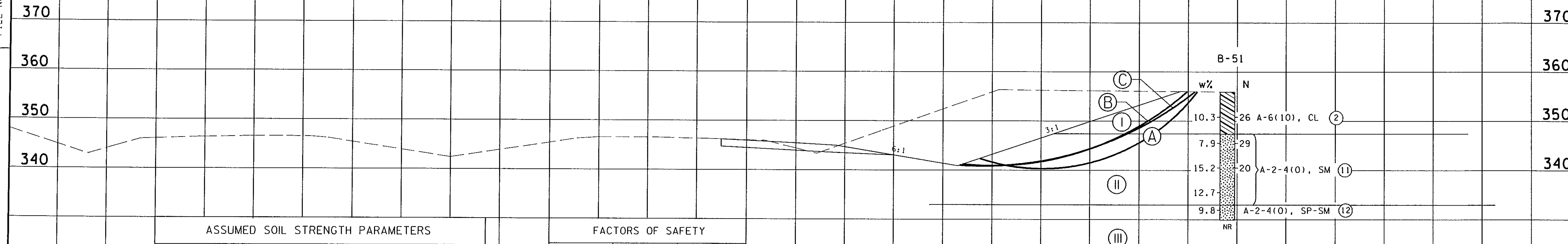
Short Term	A	4.0
Long Term	B	4.0
Seismic	C	1.4

22+00
(Ramp A)
(STA. 20+00 TO STA. 29+32.89)

$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2010	38001-1684-04	

FILE NO.

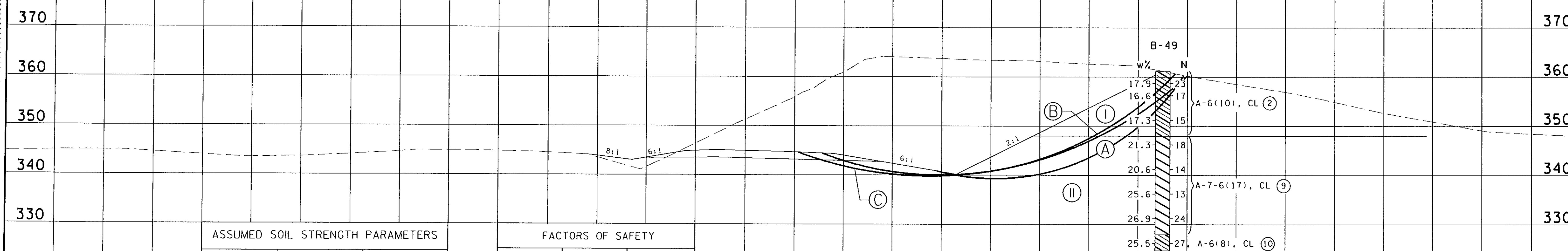


ASSUMED SOIL STRENGTH PARAMETERS			
SOIL	I	II	III
Short Term	c=240 PSF φ=28° γ=128 PCF	c= 50 PSF φ=32° γ=125 PCF	c= 0 PSF φ=32° γ=118 PCF
Long Term	c̄=60 PSF φ̄=28° γ=128 PCF	c̄=0 PSF φ̄=32° γ=125 PCF	c̄=0 PSF φ̄=32° γ=118 PCF

FACTORS OF SAFETY		
Short Term	A	2.2
Long Term	B	1.7
Seismic	C	0.7

41+50

(Ramp C)
(STA. 40+00 TO STA. 44+00)



ASSUMED SOIL STRENGTH PARAMETERS		
SOIL	I	II
Short Term	c̄=240 PSF φ̄=28° γ=130 PCF	c̄= 400 PSF φ̄=30° γ=134 PCF
Long Term	c̄=60 PSF φ̄=28° γ=130 PCF	c̄=100 PSF φ̄=30° γ=134 PCF

FACTORS OF SAFETY		
Short Term	A	2.6
Long Term	B	1.6
Seismic	C	0.8

34+00

(Ramp B)
(STA. 30+00 TO STA. 39+32.89)

-140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140

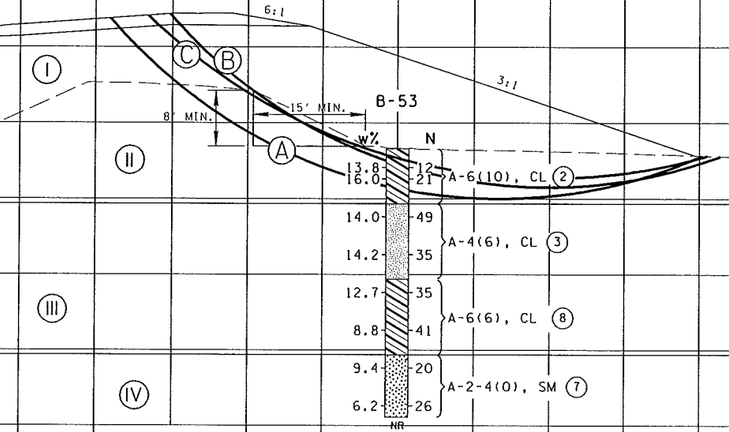
$$$$SYTIME$$$$$$
$$$$DGNSPEC$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2010	38001-1684-04	

FILE NO.

FACTORS OF SAFETY		
Short Term	A	3.2
Long Term	B	2.8
Seismic	C	1.1

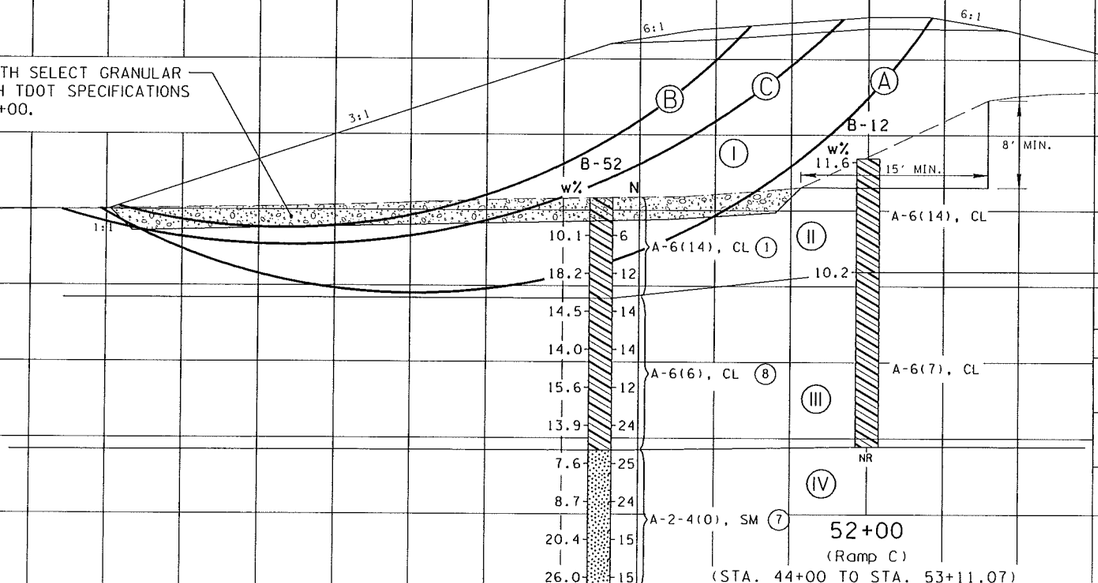
ASSUMED SOIL STRENGTH PARAMETERS				
SOIL	I	II	III	IV
Short Term	c=1200 PSF ϕ=0° γ=120 PCF	c= 1000 PSF ϕ=0° γ=129 PCF	c= 3000 PSF ϕ=0° γ=128 PCF	c= 0 PSF ϕ=34° γ=122 PCF
Long Term	$\bar{c}$=240 PSF $\bar{\phi}$=30° γ=120 PCF	$\bar{c}$=200 PSF $\bar{\phi}$=28° γ=129 PCF	$\bar{c}$=600 PSF $\bar{\phi}$=34° γ=128 PCF	$\bar{c}$=50 PSF $\bar{\phi}$=34° γ=122 PCF



61+50
(Ramp D)
(STA. 60+00 TO STA. 73+11.07)

FACTORS OF SAFETY		
Short Term	A	2.4
Long Term	B	2.7
Seismic	C	1.1

3' UNDERCUT AND BACKFILL WITH SELECT GRANULAR MATERIAL IN ACCORDANCE WITH TDOT SPECIFICATIONS FROM STA. 49+00 TO STA. 53+00.



52+00
(Ramp C)
(STA. 44+00 TO STA. 53+11.07)

ASSUMED SOIL STRENGTH PARAMETERS				
SOIL	I	II	III	IV
Short Term	c=1200 PSF ϕ=0° γ=120 PCF	c= 1000 PSF ϕ=0° γ=120 PCF	c= 1400 PSF ϕ=0° γ=121 PCF	c= 0 PSF ϕ=34° γ=122 PCF
Long Term	$\bar{c}$=240 PSF $\bar{\phi}$=30° γ=120 PCF	$\bar{c}$=200 PSF $\bar{\phi}$=28° γ=120 PCF	$\bar{c}$=280 PSF $\bar{\phi}$=30° γ=121 PCF	$\bar{c}$=50 PSF $\bar{\phi}$=34° γ=122 PCF

$$$$SYTIME$$$$$$$$
$$$$DGNSPEC

Survey & Design Division

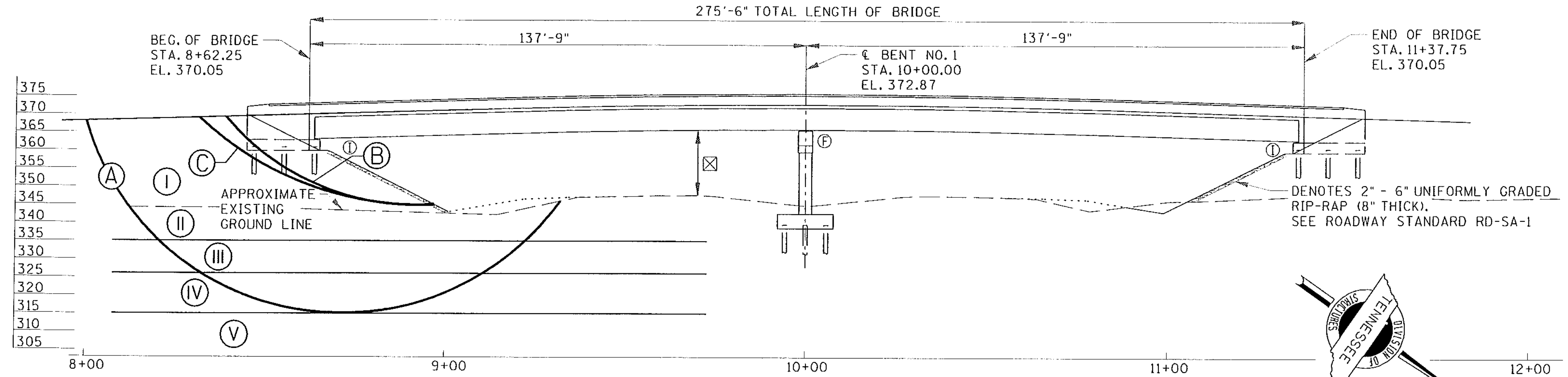
Appendix VII
Foundation Data Sheets

CONST. NO. XXXXX-XXXX-XX

PROJECT NO.	YEAR	SHEET NO.
38001-1684-04	2010	

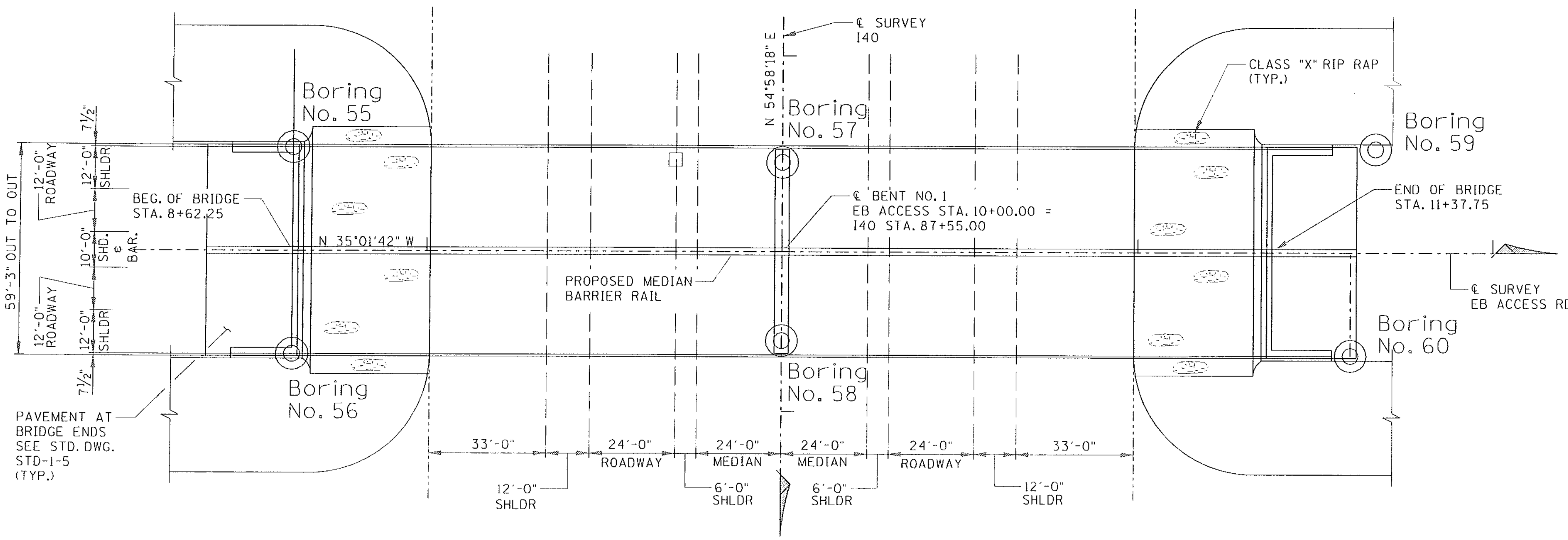
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



Ⓕ DENOTES: FIXED
Ⓕ DENOTES: INTEGRAL
☐ DENOTES: POINT OF MIN. VERTICAL CLEARANCE
ACTUAL 17'-6" - REQUIRED 16'-6"

ELEVATION



PLAN

SOIL LEGEND AND AASHTO CLASSIFICATION

GENERAL CLASS.	GRANULAR MATERIALS (≤35% PASSING #200)							SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS		
GROUP CLASS.	A-1		A-3	A-2				A-4	A-5	A-6	A-7	A-1,A-2 A-3	A-4,A-5 A-6,A-7	
	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7				A-7-5 A-7-6			
SYMBOL														
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS, GRAVEL & SAND		FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND				SILTY SOILS		CLAYEY SOILS		SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS

ADDITIONAL ROCK SYMBOLS

SYMBOL								
	SHALE	LIMESTONE	DOLOMITE	WEATHERED SHALE	EXISTING ROADWAY FILL	RANDOM BACKFILL	WEATHERED LIMESTONE	GRADED SOLID ROCK

Symbol	Meaning	Symbol	Meaning
○	Rockline Soundings	RQD	Rock Quality Designation
◍	Disturbed Sample Boring	REC	Core Recovery
◎	Undisturbed Sample Boring	ϕ	Angle of InternalFriction (TotalStress)
⊙	Undisturbed Sample Boring & Rock Core	$\bar{\phi}$	Angle of InternalFriction (Effective Stress)
●	Rock Core	c (psf)	Cohesion (TotalStress)
➡	Approximate Footing Elevation	$\bar{c}$ (psf)	Cohesion (Effective Stress)
▼(Date)	Water Elevation	γ (pcf)	TotalUnit Weight
✳	Liquifaction Is Probable at These Locations	R	Refusal
N	Penetration Resistance	NR	RefusalNot Encountered
Qu (psf)	Unconfined Compressive Strength	(HA)	Hand Auger
UU (psf)	Unconsolidated Undrained TriaxialStrength	Fs	Nominal Side Friction Value for Interval (tsf)
w%	Moisture Content	Qb	Nominal End Bearing for Layer (tsf)

TABLE OF POINT LOCATIONS

POINT	STATION	OFFSET	N	E	GROUND ELEV.	REFUSAL ELEV.
55	8+62	29' Lt.	408151.8110	959106.5131	342.4	N/A
56	8+62	29' Rt	408185.4064	959154.4415	345.4	N/A
57	10+00	25' Lt.	408267.0435	959030.9500	344.9	N/A
58	10+00	25' Rt.	408295.7426	959071.8933	345.1	N/A
59	11+67	29' Lt.	408401.4987	958931.8191	346.8	N/A
60	11+60	29' Rt.	408429.0574	958983.3314	346.4	N/A

NOTE: THIS DRAWING IS FOR FOUNDATION DATA ONLY AND IS NOT TO BE USED AS A LAYOUT.

ASSUMED SOIL STRENGTH PARAMETERS

SOIL	I	II	III	IV	V
Short Term	c=1200 PSF ϕ=0° γ=120 PCF	c=1500 PSF ϕ=0° γ=125 PCF	c=1000 PSF ϕ=0° γ=125 PCF	c=50 PSF ϕ=0° γ=125 PCF	c=0 PSF ϕ=32° γ=118 PCF
Long Term	$\bar{c}$=240 PSF $\bar{\phi}$=30° γ=120 PCF	$\bar{c}$=300 PSF $\bar{\phi}$=30° γ=125 PCF	$\bar{c}$=200 PSF $\bar{\phi}$=28° γ=125 PCF	$\bar{c}$=130 PSF $\bar{\phi}$=28° γ=125 PCF	$\bar{c}$=50 PSF $\bar{\phi}$=32° γ=118 PCF

FACTORS OF SAFETY

Short Term	A	2.0
Long Term	B	2.3
Seismic	C	1.1

BENCHMARKS:

CP-6 N 408420.9593, E 959372.2868, EL 343.18, STATION 90+99.89, OFFSET 70.32' (RT) 12" GALV. SPIKE SET IN SOUTH EDGE OF I-40 EASTBOUND SHOULDER.

CP-15 N 408616.9988, E 959407.8016, EL 343.34, STATION 92+41.50, OFFSET 69.83' (LT) 60D NAIL SET IN NORTH EDGE OF I-40 WESTBOUND SHOOULDER.

CP-30 N 408658.5738, E 959344.3446, EL 363.40, STATION 92+13.40, OFFSET 140.30' (LT) 1/2 " REBAR SET 20.0' NORTH OF THE NORTHEAST BRIDGE ABUTMENT.

CP-31 N 408261.2535, E 959305.4804, EL 364.73, STATION 89+53.52, OFFSET 162.75' (RT) 1/2 " REBAR SET 55.4' SOUTH OF THE SOUTHEAST BRIDGE ABUTMENT.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

FOUNDATION DATA SHEET

EB ACCESS ROAD
OVER I-40
BR. I.D. NO. XXXXXXXXXX
LOG MILE XXX.XX
STA. 87+55.00
HAYWOOD COUNTY
2010

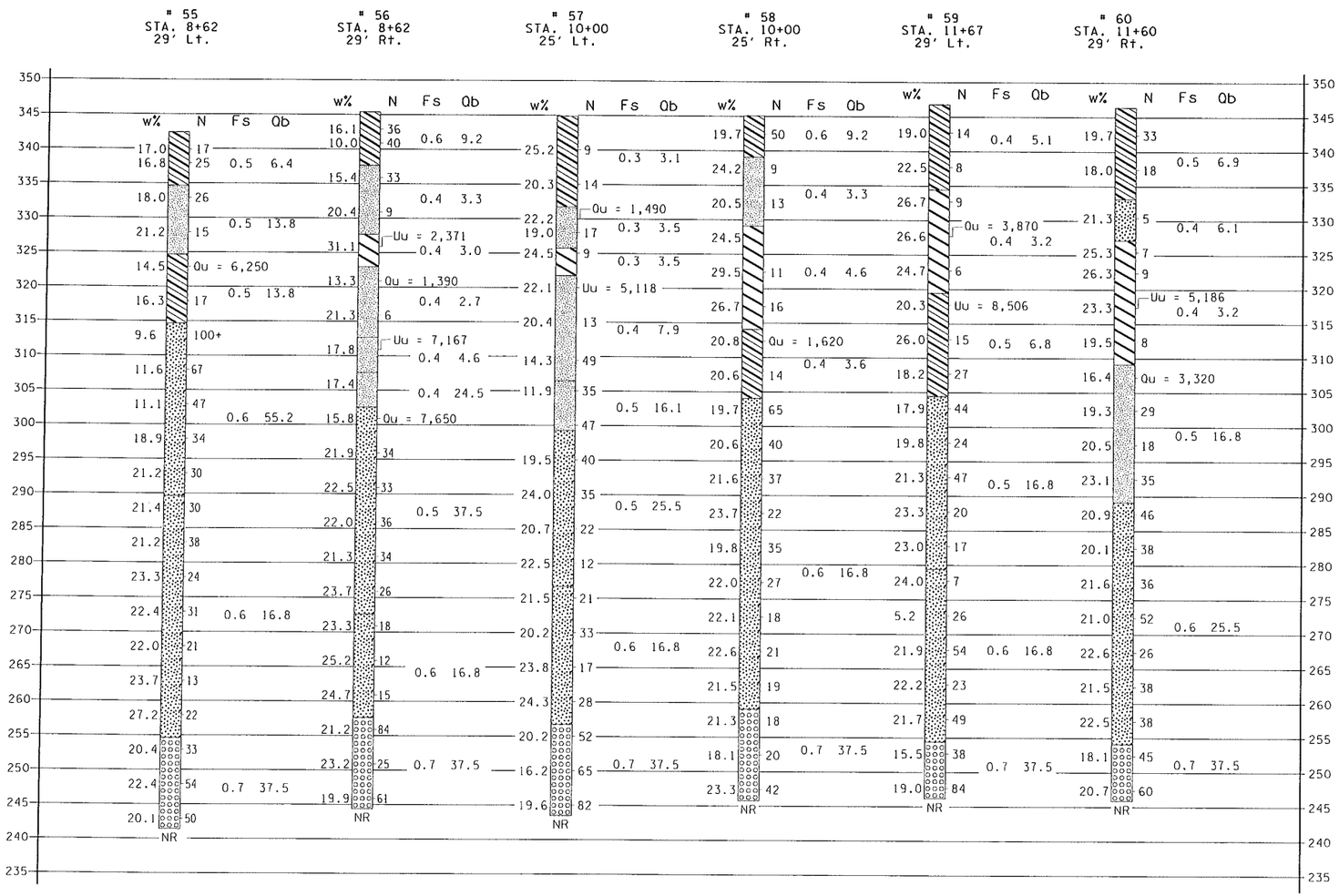
D BY ______ DATE ______
Y ______ DATE ______
SED BY ______ DATE ______
BY ______ DATE ______

CONST. NO. XXXXX-XXXX-XX

PROJECT NO.	YEAR	SHEET NO.
38001-1684-04	2010	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



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DEPARTMENT OF TRANSPORTATION

FOUNDATION DATA SHEET

EB ACCESS ROAD
OVER I-40
BR. I.D. NO. XXXXXXXXXX
LOG MILE XXX.XX
STA. 87+55.00
HAYWOOD COUNTY
2010

SH. 2 OF 2

BY _____ DATE _____
BY _____ DATE _____
SED BY _____ DATE _____
BY _____ DATE _____