

GEOTECHNICAL EXPLORATION

OMNI COMMERCE PARK – PHASE I
BERKELEY COUNTY, SOUTH CAROLINA
S&ME PROJECT NO. 1131-08-433

Prepared for:

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July 25, 2008



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Attention: Mr. Bill Yeaton, Development Manager

Reference: **GEOTECHNICAL EXPLORATION**

Omni Commerce Park – Phase I
Berkeley County, South Carolina
S&ME Project No. 1131-08-433


Ladies and Gentlemen:

We are pleased to submit this Geotechnical Exploration report for Phase I of the Omni Commerce Park near Summerville, South Carolina. The exploration was performed in general accordance with our Proposal No. 31-08-234 dated June 27, 2008. The purpose of our exploration was to evaluate subsurface conditions at the site pertinent to site grading, structural support, and pavement support. This report presents a brief confirmation of our understanding of the project, the exploration results, and our geotechnical conclusions and recommendations regarding the above considerations.

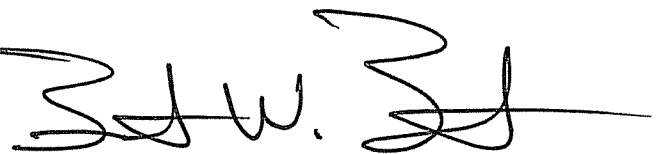
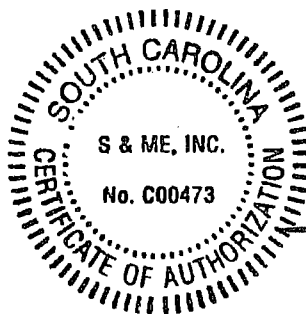
We appreciate the opportunity to be of service on this project. If you have any questions concerning this report, please call.

Sincerely,

S&ME, Inc.



Michael S. Ulmer, P.E.
Senior Engineer
MSU/FWF/ablk



Forrest W. Foshee, P.E.
Branch Manager / Vice President

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EXECUTIVE SUMMARY

Phase I of the proposed Omni Commerce Park comprises roughly 97 acres of land formally developed with a nursery that will be redeveloped with three commercial warehouse and/or light manufacturing structures ranging in size from about 290,000 to 747,500 sq ft and associates pavements and infrastructure.

The Phase I area was explored with 33 cone penetration test (CPT) soundings, four flat-plate dilatometer soundings, shear-wave velocity testing, and laboratory testing. Soil test borings and laboratory testing previously performed on the property by Terracon were also provided for our review and use.

Subsurface conditions in the Building 1 area generally consist of a 1 to 4½ -ft thick layer of fill soils underlain by natural Coastal Plain soils. The fill varies in composition and consistency. Large amounts of organic laden soils are present within the west end of the Building 1 area and along the north side of the pond to the north of Building 1. These areas were reportedly used to waste strippings from the original site development. Subsurface conditions in the Building 2 and 3 areas generally consist of a surface layer of topsoil underlain by natural Coastal Plain soils. The natural soils generally consist of low consistency mixtures of sand, silt, and clay. Groundwater was measured as shallow as 4 ft below the existing ground surface, and seasonal high groundwater levels could be as shallow as 2 ft.

The primary geotechnical considerations will be site grading, subgrade evaluation, fill placement and compaction, and foundation evaluation during construction. It is our understanding that the initial grading scheme was to place the finished floor elevation of Building 1 slightly above the existing grades and cut the pavement areas roughly 4 ft. This scenario would place pavements at or possibly below the groundwater level on soft, wet subgrade soils requiring significant and costly stabilization and permanent drainage measures. We recommend that the building finished floor level be raised to limit cut depths to 2 ft or less around Building 1. The existing “pad” appears to be relatively stable, and our experience indicates that following proper site preparation procedures, these areas should provide adequate support for construction traffic and the building floor slab. Nonetheless, we anticipate that cutting up to 2 ft will expose unstable areas that will require significant stabilization. The finished floor level of Buildings 2 and 3 should be set at the same or higher elevations as Building 1.

The clayey soils at this site, although common to the area, are moderately to highly plastic and are moisture sensitive. The use of these soils will be heavily dependent on final grades; the climatic conditions during construction; the aggressiveness of the earthwork schedule; site drainage; and the grading contractor’s experience, equipment, means, and methods.

Relatively soft clayey soils were encountered within the immediate bearing zone throughout the site. Undercutting individual footings may be necessary to provide a more uniform support and reduce differential settlements. This will require close field engineering evaluation to help determine that all unsuitable soils are removed and to prevent unnecessary undercutting.

1.0 PROJECT INFORMATION

Phase I of the Omni Commerce park encompasses an approximately 97-acre site that was previously developed with the Baucom's Nursery facility. The property is on the north side of Drop Off Drive (I-26 frontage road) roughly 4,000 ft southeast of Jedburg Road in Berkeley County, South Carolina (Figure 1). We understand plans are to develop Phase I with three commercial warehouse and/or light manufacturing structures. The buildings will range in size from about 290,000 to 747,500 sq ft and will be located on the south portion of the property that was previously developed with the Baucom's Nursery facility. Truck courts will generally be located along the long sides of the buildings with car parking in various areas. We assume both asphalt and concrete pavements will be used. A large storm water management pond located on the north side of Building 1 will be retained, and new smaller ponds will be located to the south of Building 1 and between Buildings 2 and 3. Construction will include a new access road along an existing berm of spoil material that extends along the north side of the north pond.

We understand the buildings will be high-bay, steel-framed structures with tilt-up panel walls and soil-supported floor slabs. We understand maximum column and wall loads will be about 107 kips and 5 kips/ft, respectively. We assume floor slab loads will not exceed 250 psf.

Grading plans have not been finalized. Based on the preliminary plans provided,¹ the finished floor elevation of the north building was initially set at about 75 ft. The existing ground surface elevations in this area are about 74 ft. We understand this area was reported raised with as much as 4 ft of fill during construction of the Baucom's Nursery facility. The initial plan was to cut the area around the building roughly 4 ft to accommodate the truck docks; however, based on the preliminary exploration data and discussions with the design team, the building will likely be raised and the cut reduced to avoid the adverse effects of this approach, as discussed later in this report. We assume the south buildings will be graded in a similar fashion. As such, up to 7 ft of fill will be required in these areas.

This project information was developed from: 1) numerous emails and telephone conversations between Mr. Bill Yeaton with Trammell Crow Company and Mr. Forrest Foshee, P.E. with S&ME, Inc., 2) a site plan prepared by Woolpert, Inc. dated May 9, 2008, and 3) a *Geotechnical Engineering Report* prepared by Terracon dated September 18, 2006 (prepared for a previous development scheme for the property).

If structural loads are significantly different than those stated above, we should be provided the actual design loads so that we may reevaluate our conclusions and recommendations. This is very important because significantly higher loads will result in excessive settlements that could require ground improvement to improve bearing capacity and reduce foundation settlement.

¹ *Grading and Drainage Plan* prepared by Woolpert, Inc. dated April 9, 2008. Datum unknown.

2.0 EXPLORATION METHODS

Prior to planning and performance of our services, we reviewed the September 2006 *Geotechnical Engineering Report* prepared by Terracon. Although the site development scheme assumed by Terracon was different from the one now proposed, many of their borings fall within or near the proposed building locations. These borings and laboratory testing provide usable data for the subject project, and we understand the report and data have been provided for our use. Copies of the Terracon boring logs that fall within the Phase I area are included in Appendix III.

2.1 Field Exploration

We supplemented the existing borings with 33 cone penetration test (CPT) and 4 flat-plate dilatometer (DMT) soundings extended to depths from about 30 to 37 ft below the existing ground surface. Shear wave velocity measurements were performed in sounding C-16 to assist in seismic design. At each sounding location, the surface soils were evaluated with a 4-ft deep hand-auger boring, and representative bulk samples were collected at select locations. The soil cuttings from the hand-auger borings were visually classified in the field by a geotechnical professional according to the Unified Soil Classification System (USCS).

In addition to our soundings, we performed 16 test pits around the perimeter of the proposed Building 1 location to help evaluate the thickness and composition of the existing fill in this area. The test pits were excavated with a small tracked excavator supplied by Baucum Grading, left open over night to measure 24-hr water levels, and then backfilled. The soils encountered were visually classified in the field by a geotechnical engineer.

We previously performed 42 test pits along the proposed entrance road that extends along the north side of the Phase I site. The results of that test pit exploration were presented under separate cover in a brief report dated June 12, 2008.² Copies of those Test Pit Logs are also included in Appendix I.

In CPT soundings (ASTM D 5778), an electronically instrumented cone penetrometer is hydraulically pushed through the soil to measure point stress, pore water pressure, sleeve friction and potentially soil shear wave velocity. The CPT data is used to determine soil stratigraphy and to estimate soil parameters such as preconsolidation stress, friction angle and undrained shear strength.

Dilatometer soundings are performed using a CPT rig to advance a specially designed and instrumented blade equipped with a flexible membrane on one side. During the DMT sounding, pressure measurements are collected at 1-ft intervals in general accordance with ASTM D 6635. The pressure measurements consist of determining the lateral pressure required to expand the membrane into the surrounding soil. Soil samples are not collected during a DMT sounding; however, the dilatometer data is correlated to numerous soil properties including undrained shear strength, friction angle, and stiffness modulus.

² *Test Pit Exploration Along Proposed Entrance Road*. S&ME Project No. 1131-08-390. June 12, 2008.

The soundings and test pits were located in the field using global positioning system (GPS) equipment, and the approximate test locations are shown on the Test Location Plan (Figure 2) in Appendix I. The elevations shown on the logs were interpolated from the provided topographic site plan. Coordinates and elevations should both be considered approximate. A more detailed description of our field testing procedures, the CPT Sounding Logs, DMT Sounding Logs, Shear Wave Velocity Profile, Test Pit Logs, and Hand-Auger Boring Logs are included in Appendix I.

2.2 Laboratory Testing

Representative soil samples were subjected to laboratory natural moisture content, grain size distribution, Atterburg limits, standard Proctor compaction, and California Bearing Ratio (CBR) testing. All laboratory testing was performed in general accordance with applicable ASTM standards. The test results are presented on the Summary of Laboratory Test table in Appendix II.

3.0 SITE AND SUBSURFACE CONDITIONS

3.1 Site Conditions

The majority of the Phase I area is open and was previously developed with green houses and agricultural fields. Most of these structures have been removed, but concrete slabs, crushed limestone, drainage tile, and other remnants of these structures remain. A small office building and several metal buildings remain in the south central portion of the site, and there is a small residential structure on the west side of the site. The south and west portions of the property are wooded. Large storm water ponds are located along the west and north sides of the site.

Based on the topographic plan provided, the north and central portions of the site are relatively level. The site gradually slopes downward from this area to the south. Elevations range from about 74 ft in the central portion of the site to about 68 ft along the south edge. The pond bottom is shown at elevation 58 ft.

3.2 Soil Survey Data

Soil surveys can provide helpful, qualitative information. The data is not intended to replace geotechnical evaluations and testing, but it can help identify trends. Much of the subject property has been previously graded; therefore, the mapped soil series will likely not be applicable in these areas. However, we understand that all of the soils used to grade the property were excavated on site. As such, this information may still be useful.

Review of the *Soil Survey of Berkeley County*, South Carolina (USDA SCS, 1980) indicates the soils on the project area are mapped as borrow pits (Bp) and as Goldsboro (GoA), Meggett (Mg), Lynchburg (Ly), and Coxville (Cu) series soils. These soils generally vary from silty sand to clayey sand to silty clay soils by USCS classification. Pertinent data from the Soil Survey are shown in Table 1.

Soil Type	USCS Classification	Depth to Seasonal High Water Table (ft)	Shrink Swell Potential	Corrosive Potential		Hydrologic Soil Group
				Steel	Concrete	
Goldsboro	SM, SM-SC, SC, CL-ML, CL	2.5 to 3.5	Low	Moderate	High	B
Meggett	CL, CL-ML, CH, MH, SC	0 to 1.0	Low to High	High	Low	D
Lynchburg	SM, SM-SC, SC, CL, CL-ML	0.5 to 1.5	Low	High	High	C
Coxville	SM, ML, SM-SC, CL-ML, CL, CH	0 to 1.0	Low to Moderate	High	High	D

Table 1 - Soil Survey Information

3.3 Subsurface Conditions

3.3.1 Surface Materials

The borings initially penetrated a surface layer of organic laden topsoil ranging from 1 to 12 in. thick. Topsoil was generally encountered in undisturbed portions of the property. In the central, previously graded portion of the site, the borings and test pits initially penetrated 2 to 24 in. of crushed stone. Portions of the site are bare. Other surface materials include concrete slabs and walkways.

3.3.2 Fill

Fill materials from about 1 to 4½ ft thick were encountered throughout the previously developed, central portion of the site. Possible fill materials were also encountered in the east portion of the property. The fill generally comprises sandy clay and clayey sand soils that appear to be native soils excavated from other portions of the property. Some of the clays are moderately to highly plastic. The CPT and boring data indicate the fill is erratically compacted.

No significant amounts of organic materials or debris were noted within the fill; however, organic laden soils were encountered directly below the fill in some areas. These organic soils appear to be the original topsoil that was not properly removed during the previous development on this site.

In the west shoulder of the existing gravel road on the west side of the site (i.e. west side of Building 1 area) and the proposed new roadway along the north side of the site, the fill depths ranged from about 2 to 5½ ft. The materials in these area consist of a mixture of soil, organic laden topsoil (strippings), roots, and other debris that was apparent removed from the site during the previous grading operations and disposed of in these areas. These materials are poorly compacted.

3.3.3 Coastal Plain Soils

Beneath the surface materials and fill, the exploration encountered natural Coastal Plain soils common to the Berkeley County area. These soils generally consist of an upper stratum of silty and clayey sands roughly 10 to 15 ft thick. The cone tip resistance (q_t) varies from less than 10 to over 200 tsf in this stratum. These values indicate a very loose to dense relative density for sands.

Silty clays were generally encountered below the upper stratum to a depths from about 20 to 35 ft below the existing ground surface. The q_t values in the clay were mostly less than 10 tsf which indicates a very soft to soft consistency for clay.

Clayey sands were encountered below the clay. The q_t values in these sands range from about 10 to over 200 tsf which indicates a very loose to very dense relatively consistency. Some of these deeper clayey sands were cemented and very dense causing cone refusal (i.e. Maximum Reaction Force). This very dense clayey sand stratum that underlies this site is often referred to in geologic terms as the Chandler Bridge Formation.

3.4 Groundwater

Groundwater was measured in the CPT soundings at depths ranging from about 5 to 11 ft below the existing ground surface at the time the soundings were made. Water levels were measured at depths from about 4 to 7½ ft in the test pits 24 hours after they were excavated. The *Soil Survey* indicates the seasonal high water table could be from 0 to 3½ ft below the ground surface over undisturbed portions of the site. After heavy rainfall, subsurface water may be temporarily perched at levels above the stabilized groundwater level because the clayey soils are relatively impermeable and impede infiltration of rainwater. It should be noted that the actual groundwater level will fluctuate during the year due to such things as seasonal variations and construction activity in the area.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The exploration indicates the site is adaptable for the proposed construction. Building foundations may be designed as shallow spread footings bearing in well-compacted fill or stable natural soils. The primary geotechnical considerations will be site grading, subgrade evaluation, fill placement and compaction, and foundation evaluation during construction. The special grading considerations discussed below are also very important.

The clayey soils at this site, although common to the area, are moderately to highly plastic and are moisture sensitive. When wet, these soils will become unstable and difficult to work. If grading takes place in wet conditions, undercutting significant portions of these soils should be expected and use of these soils as structural fill will be limited. The use of these soils will be heavily dependent on final grades; the climatic conditions during construction; the aggressiveness of the earthwork schedule; site drainage; and the grading contractor's experience, equipment, means, and methods.

Relatively soft clayey soils were encountered within the immediate bearing zone throughout the site. Undercutting individual footings may be necessary to provide a more uniform support and reduce differential settlements. This will require close field engineering evaluation to help determine that all unsuitable soils are removed and to prevent unnecessary undercutting. This evaluation is considered part of the geotechnical design.

The following presents our recommendations regarding site grading. When reviewing these recommendations, please remember that with any previously developed site, unexpected subsurface conditions will be encountered. These conditions can include such things as additional or deeper fill deposits and buried debris. These unexpected conditions can typically be handled with field engineering during construction.

4.1 Special Grading Considerations

The majority of the Building 1 area was filled with about 1 to 4½ ft of fill. These fill materials include some very clayey soils that were reportedly borrowed from other portions of the property. The exploration data indicates this fill is generally moderately well, but somewhat erratically compacted. Nonetheless, our observations indicate this “pad” appears to be relatively stable. Groundwater in this area was measured as shallow as 4 ft below the existing ground surface (elevation ± 70 ft), and seasonal high groundwater levels could be as shallow as 2 ft. Also, pockets of organic laden soils were encountered below the fill in some areas. These materials appear to be the original topsoil that was not adequately stripped. The test pits indicate the natural soils directly below the fill were often very soft, particularly on the north side of the Building 1 area.

It is our understanding that the initial grading scheme was to place the finished floor elevation of Building 1 at about 75 ft slightly above the existing grades and cut the area around the building roughly 4 ft. The materials removed would be used to grade other portions of the property. This scenario would place pavements at or possibly below the groundwater level on soft, wet subgrade soils. As such, significant and costly stabilization and permanent drainage measures would be required to support construction traffic and to construct and maintain pavements in these areas. We recommend this grading scenario be abandoned and the proposed building finished floor level be raised.

We recommend that the building finished floor level be raised to limit cut depths to 2 ft or less around the Building 1 area. As stated above, the existing “pad” appears to be relatively stable, and our experience indicates that following the site preparation measures discussed below, these areas should provide adequate support for construction traffic and the building floor slab. Nonetheless, we anticipate that cutting up to 2 ft will expose areas of unsuitable or soft, wet soils that will require significant use of the stabilization measures discussed below. It is difficult to predict the measures required and the extent these measures will be needed because prevailing weather conditions and the grading contractor’s “handing” of the site will significantly influence on this. Project budgets and schedules should anticipate these needs.

4.2 Drainage Improvements

Establishing positive site drainage before construction will be very important to site development. Prior to beginning mass clearing and grading, we recommend that drainage improvements be made to lower the water level and handle any rainfall during construction. Site drainage can be established by excavating gravity-drained ditches across the site to divert water flow away from construction areas. Depending on conditions at the time of construction, pumping from sumps may be required in low-lying areas. Ditches should be excavated as deep as practical and as far ahead of general site work as possible. Even during dry weather conditions, ditches and drainage improvements should be in place to handle any heavy rainfall that might occur during construction.

As site work progresses, large expanses of unprepared and prepared subgrades will be exposed to prevailing weather conditions for relatively long periods of time. It will be very important that the grading contractor maintains proper means and methods such as positive slopes, sealed surfaces, and ditching to prevent rainwater runoff from ponding on unprepared and prepared subgrades. Otherwise, the clayey soils at this site will deteriorate and require extensive drying and reworking or undercutting and replacement. These “good housekeeping” measures will be very important.

4.3 Site Preparation

4.3.1 Building 1 Area

Site preparation in the Building 1 area should continue with the removal of all unsuitable surface materials. This will include removing existing concrete slabs, drainage tiles, underground utilities, and any other subsurface structures associated with the previous development. Utility trenches and other voids should be backfilled with well-compacted controlled fill. Any vegetation and roots should be removed, and organic laden topsoil should be stripped. The existing crushed stone may remain in place. If it is to be removed, we recommend stock piling this stone for use as a stabilization material.

Prior to new fill placement, the exposed subgrade should be evaluated by a representative of the Geotechnical Engineer to confirm all unsuitable materials have been removed. To aid the Engineer during this evaluation, the exposed subgrade may be proofrolled with a heavily-loaded tandem-axle dump truck or similar rubber-tired equipment. Areas which deflect excessively under proofrolling should be stabilized or undercut and replaced with well-compacted controlled fill as recommended by the Geotechnical Engineer.

Significant amounts of organic laden fill soils are present along the west side of the Building 1 area. These materials are not suitable for structural support and should be undercut and replaced with well-compacted controlled fill. The test pit and hand-auger borings in this area encountered about 3 to 4 ft of this fill, and these materials are reportedly limited to the west shoulder of the existing roadway in this area. The actual lateral and vertical extent of these materials is not known.

4.3.2 Other Building and Pavement Areas

Site preparation in all other structural areas will include clearing and grubbing of vegetation and roots, stripping organic laden topsoil, and undercutting unstable surface soils. The exploration indicates the organic laden topsoil thickness varied from about 1 to 12 in.; however, topsoil thicknesses will vary across the site. Stumps and taproots should be completely removed within proposed building areas and cut off at least 2 ft below pavement subgrade in planned parking and drive areas. Voids created by the removal of large stumps should be backfilled with well-compacted controlled fill.

Prior to fill placement, all exposed subgrade should be proofrolled as discussed above, and any unstable areas should be stabilized or undercut and replaced with well-compacted controlled fill as recommended by the Geotechnical Engineer.

4.3.3 North Access Road

The site preparation measures discussed above are applicable to the proposed north access roadway route. The organic fill materials encountered along the route are not suitable for roadway support and should be undercut and replaced with well-compacted controlled fill. Additional information including estimates of the undercutting depths were provided in our *Test Pit Exploration Along Proposed Entrance Road* report dated June 12, 2008. A copy of this report is included in Appendix IV.

4.4 Subgrade Stabilization Measures

Subgrade stabilization will be generally be dependent upon the depth of fill to be placed, prevailing weather conditions, and the condition of the subgrade at the time of construction. The stabilization measures used are best determined in the field at the time of construction with joint consultation between the Grading Contractor and the Geotechnical Engineer.

In areas where 4 ft or more of fill are required to reach the finished subgrade elevation, the area should be disked, allowed to dry, and compacted as much as possible without destabilizing it. Sheepsfoot type compaction equipment should be used on the clayey subgrade soils. If the subgrade is stable, fill should be placed and compacted as recommended in the "Controlled Fill" section of this report.

If the subgrade is only marginally stable, an 18 to 24-in. thick bridge lift of relatively dry granular soil or crushed stone should be placed. The bridge lift should be placed by end dumping the fill material at the edges of the area and spreading the fill across the pad using lightweight wide-tracked equipment. The bridge lift should be compacted with a dozer or smooth-drum roller as much as possible without destabilizing it. If a roller is used, the vibrating mechanism should not be engaged on the bridge lift since it will tend to draw moisture up into these soils. Rubber-tired equipment, particularly loaded dump trucks or similar heavy equipment, should be restricted from the weak subgrade soils. The remaining lifts should be compacted as subsequently described in our "Controlled Fill" section.

In areas where less than 4 ft of fill are required to reach the finished subgrade elevation, more extensive stabilization measures will be required. Two options are available. Either unstable surface soils can be undercut to stable materials as directed by the Geotechnical Engineer and replaced with well-compacted controlled fill or the existing subgrade can be stabilized with lime. Regardless of which technique is used, the resulting subgrade should comprise at least 2 ft of well-compacted controlled fill or suitable natural soils below the building floor slab.

Lime stabilization involves adding hydrated lime to the existing clayey soils. Lime stabilization can provide two benefits. First, where clayey soils are present, the lime can undergo a pozzolonic reaction with the clay minerals that increases the shear strength and stability of the clay. Second, hydrated lime adsorbs large amounts of water which helps dry the soils. Lime stabilization is typically performed by specialty contractors who have significant experience with these methods. Our experience indicates an application rate of about 3 to 4 percent lime by dry weight of soil is sufficient for the soils in this area; however, we recommend that a small test area be treated to help determine the optimum lime application rate, means, and methods. In soils without sufficient clay content to react with the lime, other additives such as fly ash or Portland cement can be used to help dry soils and stabilize subgrades.

4.5 Imported Fill

Imported fill material should be cohesionless soil containing no more than 15% fines (material passing the No. 200 sieve) by weight and having a maximum dry density of at least 105 pcf as determined by a laboratory modified Proctor compaction test (ASTM D 1557). The soil should be relatively free of organics, deleterious matter, and elongated or flat particles susceptible to degradation. All fill should be placed in uniform lifts of 10 in. or less (loose measure) and compacted to at least 95% of the standard Proctor maximum dry density. Fill in the upper 2 ft below floor slabs should be compacted to at least 98 percent of the standard Proctor maximum dry density.

The majority of the building areas will be supported by structural fill; therefore, it is very important that all fill is uniformly well compacted. Accordingly, fill placement should be observed by a qualified Materials Technician working under the direction of the Geotechnical Engineer. In addition to this visual evaluation, the Technician should perform a sufficient number of in-place field density tests.

4.6 Use of On-site Soils

Soils meeting the requirements for imported fill are preferred for use as structural fill and are most commonly used in this geographic area. However, the natural clayey soils at this site are adaptable for use as well-compacted structural fill to support the buildings and pavements. The use of these soils will be heavily dependent on final grades; the climatic conditions during construction; the aggressiveness of the earthwork schedule; site drainage; and the grading contractor's experience, equipment, means, and methods. These soils comprise a majority of the soils that will be used in construction; consequently, they cannot be undercut in mass economically.

When handled properly, these soils can be suitably used, but the measures discussed below are recommended:

- These soils will require more drying than typically expected during grading. This should be taken into consideration during the bidding phase of the project. Prevailing weather will greatly affect the use of the soils.
- Maintaining positive site drainage during construction will be very important.
- The Contractor should have equipment such as disk harrows to help dry wet soil. Spreading the soil and aerating will be needed, particularly with the more clayey soils. Sheepsfoot compaction equipment will be required.
- The subgrade soils for slabs should not be allowed to dry significantly. This could require wetting and reworking the surface soils prior to slab installation.
- Based on their grain size, plasticity, and organic content, we predict roughly 70 percent of the available soils should be suitable for use as structural fill with proper handling. Highly plastic and organic laden soils will not be suitable for use.

4.7 Subgrade Repair and Improvement Methods

The exposed subgrade soils, both before and after fill placement, can deteriorate and lose support when exposed to heavy construction traffic and wet weather. Subgrade soil deterioration can occur in the form of erosion, softening from ponded rainwater, and rutting from construction traffic. Deterioration will also occur if the subgrades are not properly sloped and sealed during construction or if they are exposed to heavy or rubber-tired equipment.

Immediately prior to placement of pavement sections or floor slabs, we recommend that the subgrade soils be proofrolled with a fully-loaded tandem-axle dump truck or similar equipment to detect any unstable or otherwise unsuitable areas. This proofrolling should be observed by the project Geotechnical Engineer. Any areas that pump or rut should be repaired in-place or undercut and replaced with well-compacted controlled fill. Provided that our site preparation recommendations are followed and drainage and construction traffic are controlled during construction as previously discussed, we do not anticipate that extensive repair of final subgrades will be required.

4.8 Excavation

The boring data indicates excavation to the expected subgrade levels will extend through low to moderate consistency soils. These soils can normally be excavated by routine earthmoving equipment and techniques. However, the presence of shallow groundwater and moisture-sensitive clayey soils may preclude the use of large rubber-tired equipment because such equipment would over-stress and destabilize these weak upper soils.

Foundation and utility excavations will likely encounter subsurface water. If encountered, the water level should be maintained at least 12 in. below excavation bottoms to help maintain bottom stability. Water can probably be controlled by pumping from sumps located within the excavation.

All excavations should be sloped or shored in accordance with local, state, and federal regulations, including OSHA (29 CFR Part 1926) excavation trench safety standards. The contractor is usually solely responsible for site safety. This information is provided only as a service, and under no circumstances should S&ME be assumed to be responsible for construction site safety.

4.9 Seismic Considerations

The liquefaction³ susceptibility of the site soils was evaluated using standard industry procedures and the 2006 International Building Code (IBC) design earthquake parameters.⁴ Soils most susceptible to liquefaction generally consist of saturated, loose, "clean," fine sands (i.e. plasticity indices < 5 and particle diameters of 0.07 to 0.25 mm). Liquefaction can create two potential problems: ground surface disruption and volumetric compression. Ground surface disruptions (i.e. sand boils) could result in complete loss of soil support for shallow foundations. Based on work by Youd and Garriss,⁵ the presence of a sufficiently thick (> 10 ft) layer of non-liquefiable soils overlying liquefiable sands will prevent ground surface disruptions.

At this site, only isolated liquefiable sand zones were encountered, and they were located below a depth of 10 ft. Thus, the risk for ground surface disruption is very low. The exploration data also indicate the potentially liquefiable soils are isolated at random locations and depths throughout the property. As such, it is our opinion the risk of significant liquefaction induced settlements is also low.

Section 1613.5.5 of the IBC 2006 classify sites with the potential for liquefaction as Seismic Site Class F. However, the IBC 2006 allows the design spectral response accelerations for a site to be determined without regard to liquefaction provided the buildings have a fundamental period of less than or equal to 0.5 seconds and the risks of liquefaction are considered in design. We assume the proposed buildings will meet these criteria; however, this should be confirmed by the Structural Engineer. Based on these provisions, it is our interpretation the site may be considered a Site Class D. The design short period spectral response acceleration (S_{DS}) is 1.44g, and the design 1-second period spectral response acceleration (S_{D1}) is 0.55g.

³ Liquefaction, the loss of a soil's shear strength due to the increase in porewater pressure resulting from seismic vibrations, is always a potential concern in Charleston and the surrounding area.

⁴ The IBC design earthquake has a 2 % probability of exceedance in 50 years. Our liquefaction analysis was based on an earthquake with a magnitude of 7.3 and ground surface acceleration of 0.58g.

⁵ Youd, T.L., and Garriss, C.T., "Liquefaction-Induced Ground Surface Disruption," *Journal of Geotechnical Engineering*, ASCE, Vol. 121, No. 11, November, 1995, pp. 805-809.

4.10 Foundations

4.10.1 Shallow Foundations

The exploration indicates relatively low consistency soils are present throughout the site at the proposed footing bearing level. Based on our experience with construction of similar facilities in the area, we recommend that the footings bear on at least 2 ft of well-compacted materials to provide uniform support. The required amount of new fill and subgrade stabilization method will determine if 2 ft of well-compacted fill is present underneath the footing at the time of footing excavation.

In some cases, it will be necessary to undercut individual footings at the time of construction to provided 2 ft of well-compacted fill below the bottom of footings. Undercutting and backfilling such small areas will be difficult and time consuming. Coarse aggregate will likely be required because the excavation will be too small for large rollers to compact sand and using small compaction equipment would be very time consuming.

Provided our site and footing preparation recommendations are followed, the proposed structures may be supported on conventional shallow foundations. We recommend that a maximum allowable soil bearing pressure of 2,500 psf be used for design. Minimum foundation widths of 24 in. and 36 in. are recommended for continuous and isolated footings, respectively. We recommend that shallow foundations bear a minimum of 18 in. below finished exterior grades.

We recommend that the project Geotechnical Engineer or his representative be retained to observed the undercutting of the footings and evaluate the bottom of foundation excavations prior to placement of reinforcing steel and concrete. Depending on conditions at the time of excavation, this evaluation may include performing hand-auger borings with dynamic cone penetrometer (DCP) testing. This evaluation is very important and is considered part of the geotechnical design.

When practical, the foundation concrete should be placed the same day that the foundations are excavated. If concrete placement is delayed, the subgrade may soften due to exposure to moisture. If softening occurs, the subgrade may have to be undercut and backfilled with a coarse aggregate. Because of its potentially expansive nature, slag is not recommended for this application.

Depending on conditions at the time of construction and the success of the site drainage program, foundation excavations may encounter groundwater. The water level should be maintained at least 12 in. below excavations to prevent bottom instability during construction. Groundwater can likely be controlled at the site by pumping from sumps excavated within the foundation excavations.

4.10.2 Settlement

Our analysis indicates the weight of the planned fill and the moderately heavy foundation and floor slab loads will induce some settlement in the underlying soils. We have evaluated the potential settlement using the maximum loading conditions as discussed in the Project Information section and a generalized soil profile based on the findings of our exploration. The results of our analysis and the resulting recommendations relating to settlement are summarized below:

- Consolidation settlement due to the weight of up to 7 ft of fill is expected to be on the order of 1½ in. The majority of this settlement will occur in about 30 days or less; therefore, it will not be necessary to delay construction to allow this settlement to dissipate, and foundation construction can begin immediately after fill placement is complete.
- Provided our recommendations regarding site and shallow foundation preparation are followed, post-construction total settlement due to the maximum foundation loads will be on the order of 1½ inches or less. Differential settlement is anticipated to be approximately 50 percent of the total settlement.

4.11 Floor Slabs

Concrete slabs may be soil supported provided the recommendations regarding site preparation and fill placement are followed. We suggest a 6-in. thick layer of crushed stone be used to separate floor slabs from the subgrade soils. The crushed stone should consist of SCDOT Macadam Base Course compacted to 100 percent of the modified Proctor maximum dry density. This layer will help reduce construction downtime during wet weather conditions and will provide a good leveling course.

Based on our experience, a modulus of subgrade reaction (k) of 150 pci, based on the 30-in. diameter plate method, should be available for design of grade slabs on properly prepared subgrades. Using the 6 in. of crushed stone under the slabs will increase the subgrade modulus to 185 pci. Please note that using this material during construction will cause it to be contaminated with soil and lose some of its supporting value.

If moisture sensitive floor coverings will be used for any enclosed slabs, then a vapor barrier should be included in the floor slab design. The design of the vapor barrier should be in accordance with American Concrete Institute (ACI) guidelines. Also, utility trenches in the slab areas should be properly backfilled with controlled fill.

4.12 Retaining Wall Parameters

Retaining walls must be capable of resisting lateral earth pressures that will be imposed on them. Lateral earth pressures to be resisted by the walls will be partially dependent upon the method of construction. Assuming the walls are relatively rigid and structurally braced against rotation, they should be designed for a condition approaching the "at-rest" lateral pressure. However, in

the event the walls are not restrained or rigidly braced, the "active" pressure conditions will be applicable for design. The lateral earth pressure parameters presented in Table 2 are recommended for design. These parameters assume a level backfill, a frictionless wall, and no hydrostatic pressure.

Lateral Earth Pressure Condition	Coefficient	Equivalent Fluid Pressure
At-Rest Condition (K_O)	0.47	56 psf/ft
Active Condition (K_A)	0.31	37 psf/ft
Passive Condition (K_P)	3.25	391 psf/ft
Unit Weight Of Soil (Moist)	120 pcf	
Friction Factor For Foundations And Bearing Soils	0.35	

Table 2 - Retaining Wall Design Parameters

The recommended lateral earth pressure coefficients do not consider the development of hydrostatic pressure behind the earth retaining wall structures. As such, positive wall drainage must be provided for all earth retaining structures. These drainage systems can be constructed of open-graded washed stone isolated from the soil backfill with a geosynthetic filter fabric and drained by perforated pipe, or several wall drainage products are made specifically for this application. Lateral earth pressures arising from surcharge loading and any slopes above the walls should be added to the above earth pressures to determine the total lateral pressure.

Section 1802.2.7 of IBC 2006 requires structures that are determined to be in Building Design Category D, E, or F be evaluated for lateral pressures on retaining walls due to earthquake motions. The following lateral earth pressure parameters may be used to evaluate dynamic lateral earth loads. These parameters assume a level cohesionless backfill, a frictionless wall, and no hydrostatic pressure. They were computed using the Mononobe-Okabe equations and must be used with that methodology. The resultant lateral thrust for earthquake loads should be applied at one half the height of the wall above the toe.

Lateral Earth Pressure Condition	Coefficient	Equivalent Fluid Pressure
At-Rest Condition + Earthquake Effect (K_{OE})	1.54	184 psf/ft
Active Condition + Earthquake Effect (K_{AE})	1.02	123 psf/ft
Passive Condition + Earthquake Effect (K_{PE})	1.81	218 psf/ft

Table 3 - Lateral Earth Pressure Coefficients With Earthquake Effect

The soil backfill placed behind retaining walls should be compacted to at least 95 percent of the soil's standard Proctor maximum dry density. We caution that operating compaction equipment directly behind retaining structures can create lateral earth pressures far in excess of those recommended for design. Therefore, bracing of the walls may be needed during backfilling operations.

5.0 FLEXIBLE AND RIGID PAVEMENTS

Design procedures are based on the *ASSHTO Guide for Design of Pavement Structures* and associated literature. Based on the subsurface conditions and assuming our grading recommendations will be implemented as specified, the following presents our recommendations regarding typical pavement sections and materials.

Four soaked laboratory California Bearing Ratio (CBR) tests were performed on representative bulk samples. The samples were compacted (remolded) to approximately 95 percent of the standard Proctor maximum dry density near the optimum moisture content and soaked. The results of the laboratory testing indicate CBR values of about 1 to 6 percent. Based on our experience, a CBR value of 3 percent was used for design. This value should be confirmed during construction.

Traffic loadings have not been provided. We assume that standard-duty pavement will be subjected primarily to cars and occasional light truck traffic. We assume heavy-duty pavement will be used in truck docks, truck parking, and main roadways. Based on our experience with similar projects, we assume daily traffic will include a number of automobiles and 75 fully-loaded, 18-wheel tractor trailers. Using these assumptions, the following pavement design parameters have been used and the minimum pavement sections are presented in Table 4.

- Initial serviceability = 4.2
- Terminal serviceability = 2.0
- Reliability = 85%,
- Standard deviation = 0.45 for flexible pavements and 0.35 for rigid pavements.

MATERIAL	FLEXIBLE PAVEMENT		RIGID PAVEMENT	
	Heavy Duty	Standard Duty	Heavy Duty	Standard Duty
Asphaltic Concrete Surface Course (SCDOT Type C)	2 in.	2 in.	-	-
Asphaltic Concrete Intermediate Course (SCDOT Type C)	2 in.	-	-	-
Portland Cement Concrete ($f'_c = 4000$ psi)	-	-	8 in.	5 in.
Graded Aggregate Base Course (marine limestone)	10 in.	8 in.	6 in.	6 in.

Table 4 – Minimum Pavement Sections

Based on our analysis, the standard duty pavement section has an allowable traffic volume of about 15,000 ESAL⁶ over a 15-year design life. The allowable traffic volume for the heavy duty pavement section is approximately 850,000 ESAL over 15 years. If actual heavy truck traffic will be substantially more or less than the assumed value of 75 trucks per day, we should be provided this information so that we can reevaluate the pavement sections.

⁶ Equivalent 18-kip single axle load. For example, a legally-loaded tandem axle tractor-trailer has an ESAL of up to 2.5, while a passenger car has an ESAL of approximately 0.0002.

A rigid pavement section is recommended in dumpster pad areas to support, at a minimum, the front wheels of the truck. Rigid pavements should also be used in areas subjected to repeated lateral loading (turning, stopping, starting) such as any truck loading and turning areas. We recommend the standard duty rigid pavement section for the dumpster pads and the heavy duty rigid pavement section for any areas subjected to truck turning.

Pavement design typically has relatively low factors of safety; therefore, it will be very important that the specifications are followed closely during pavement construction. Our analysis was based on a 15-year design life; however, our experience indicates isolated areas could require repair in a shorter period of time due to normal pavement wear and weathering.

5.1 Pavement Construction

All materials and workmanship should be in accordance with the South Carolina Department of Transportation's (SCDOT) *Standard Specifications for Highway Construction*, 2007 Edition.

Immediately prior to paving, the exposed subgrade should be thoroughly evaluated using proofrolling, and any unstable areas should be repaired. This recommendation is very important for long-term performance of the pavements. The base course should be compacted to at least 100% of the maximum dry density as determined by the modified Proctor compaction test (ASTM D 1557). To confirm that the base course has been uniformly compacted, in-place field density tests should be performed by a qualified Materials Technician working under the direction of the Geotechnical Engineer. The base thickness should not be deficient in any area by more than ½ inch, and the asphalt or concrete pavement thickness should not be deficient by more than ¼ inch in any area.

5.2 Pavement Drainage

Proper drainage will be very important to long-term pavement performance. As discussed above, the clayey soils at this site are plastic, moisture sensitive, and will degrade rapidly when wet. As such, it will be very important that rainwater or irrigation runoff is not allowed to seep below pavements from adjacent slopes or landscaped areas. The civil design should provide adequate slopes on all paved areas and gutter lines to positively drain pavements. Care will be required during construction to make sure that pavements are properly placed and compacted against curbing and drainage structures so that the edge of asphalt is not left below the gutter or structure and the seam is properly sealed. Under drains may be necessary in sags and behind curbing to positively drain subgrades. The need for under drains in specific areas may not be apparent until the time of construction.

6.0 LIMITATION OF REPORT

This report has been prepared in accordance with generally accepted geotechnical engineering practice for specific application to this project. The conclusions and recommendations contained in this report are based upon applicable standards of our practice in this geographic area at the time this report was prepared. No other warranty, express or implied, is made.

The analyses and recommendations in this report are based, in part, upon data obtained from our subsurface exploration. The nature and extent of subsurface variations will not become evident until construction. If variations appear evident, then we should be given the opportunity to re-evaluate the recommendations of this report. In the event that any changes in the nature, design, or location of the proposed buildings are planned, the conclusions and recommendations contained in this report will not be considered valid unless the changes are reviewed and conclusions modified or verified in writing. This is particularly important if the actual structural loads or new fill heights will exceed those used in our analyses.

We recommend that S&ME be retained to review the final design plans and specifications to confirm that earthwork and foundation recommendations are properly interpreted and implemented.

APPENDIX I

Site Location Map (Figure 1)

Test Location Plan (Figure 2)

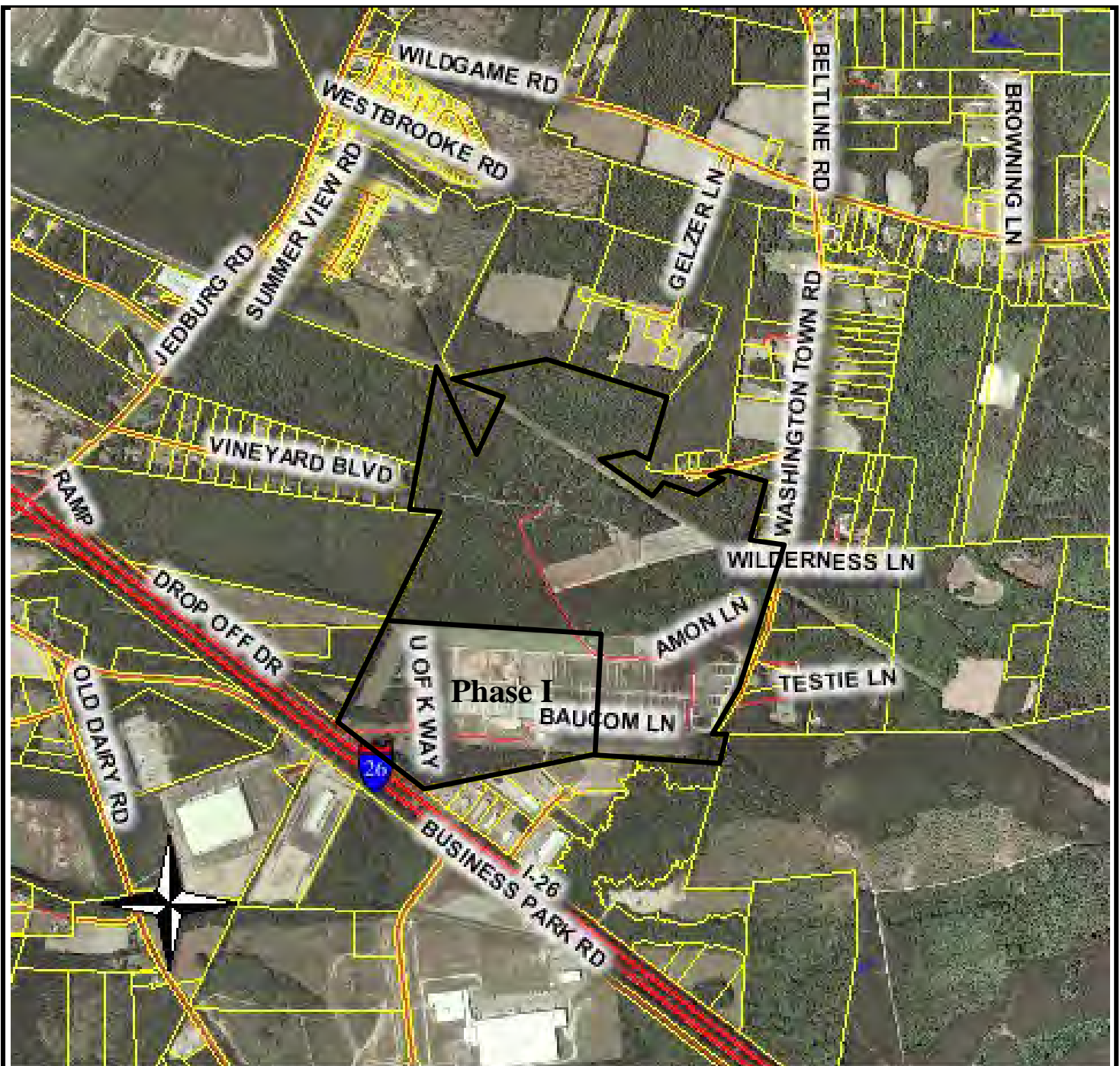
CPT and DMT Sounding Logs

Hand-Auger Boring Logs Log

Test Pit Logs

Shear Wave Velocity Profile

Field Testing Procedures



Berkeley County GIS 2008

0 0.25mi

Scale: As Shown

Drawn by: MSU

Checked by:

Date: 7/25/08

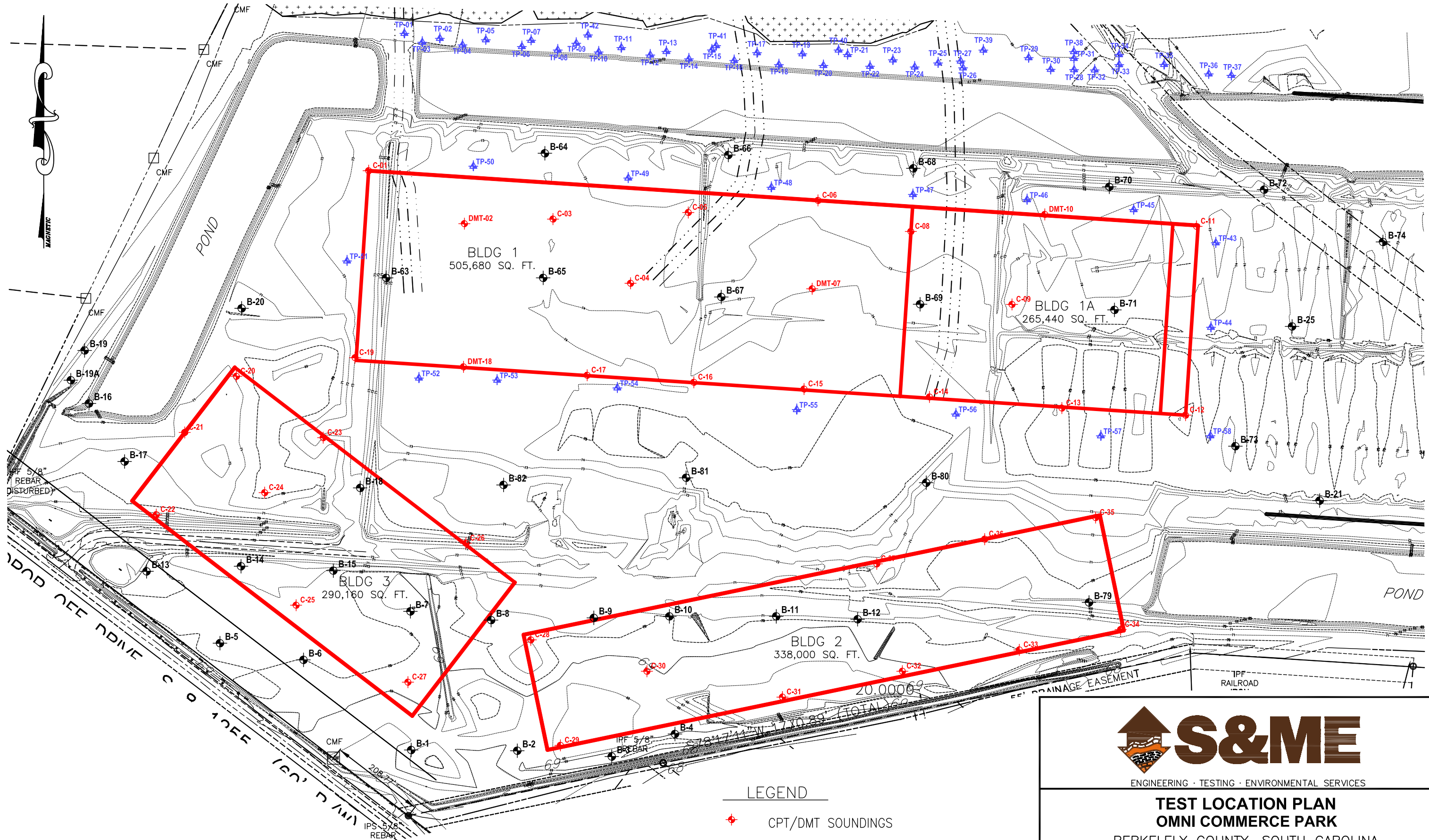


Site Location Map
Omni Commerce Park
Berkeley County, South Carolina

Job No.: 1131-08-433

Figure No.

1



Notes: This site plan was provided by Woolpert, Inc. and adapted by S&ME, Inc.
Test locations are shown in general arrangement only.
Do not use locations for determination of distances or quantities.

LEGEND

- CPT/DMT SOUNDINGS
- TEST PITS
- PREVIOUS SOIL BORINGS BY TERRACON



TEST LOCATION PLAN
OMNI COMMERCE PARK
BERKELEY COUNTY, SOUTH CAROLINA

SCALE: 1"=200'	DRAWN BY: LAJ	APPROVED BY:
PROJECT NO. 1131-08-433	DATE: 7-25-08	FIGURE NO. 2



Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

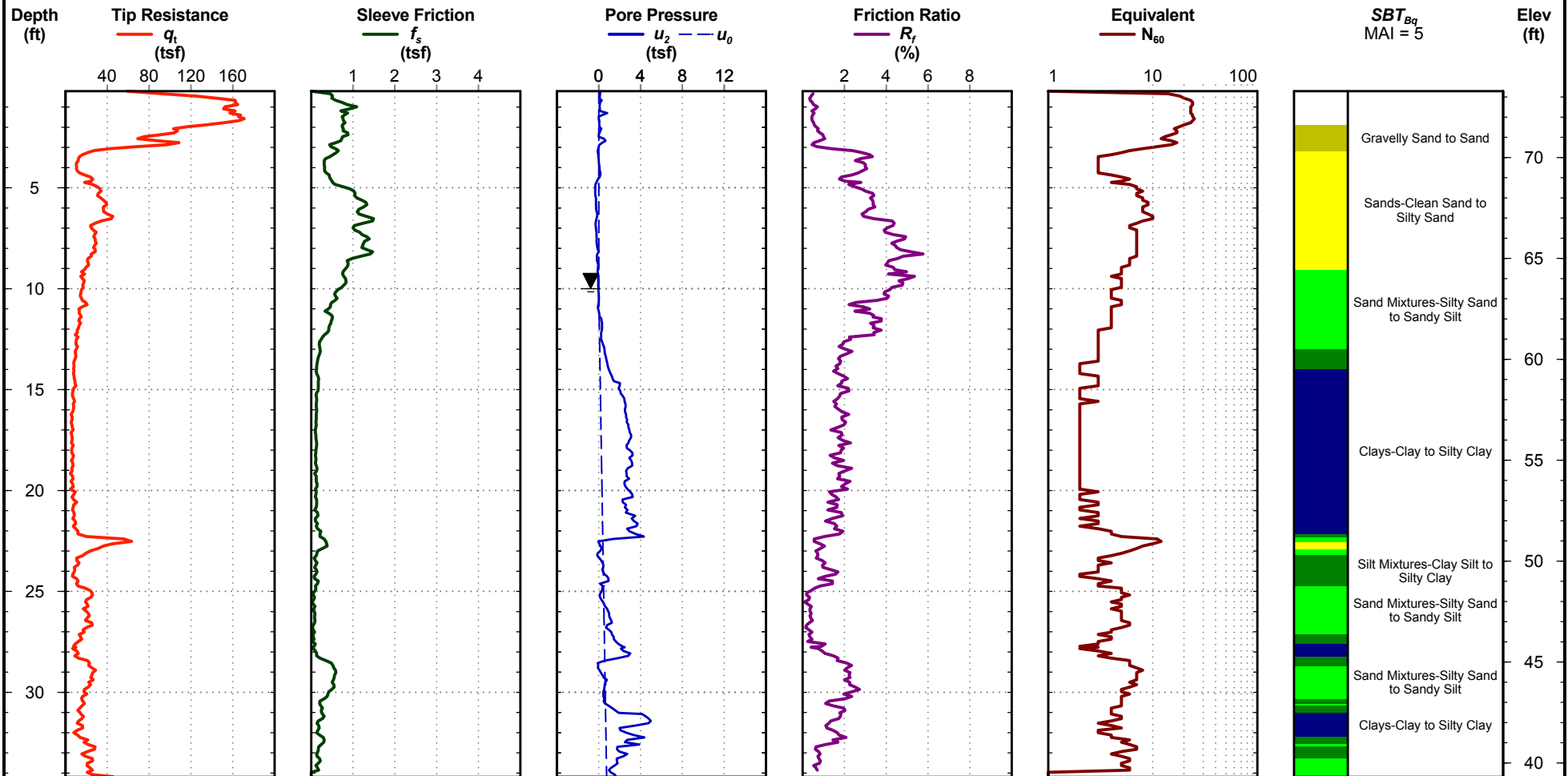
Cone Penetration Test

C-1

Date: Jul. 1, 2008
Estimated Water Depth: 10 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453651
Easting: 2246900
Elevation: 73.5

Total Depth: 34.2 ft
Termination Criteria: Target Depth
Cone Size: 1.44



C-1



Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

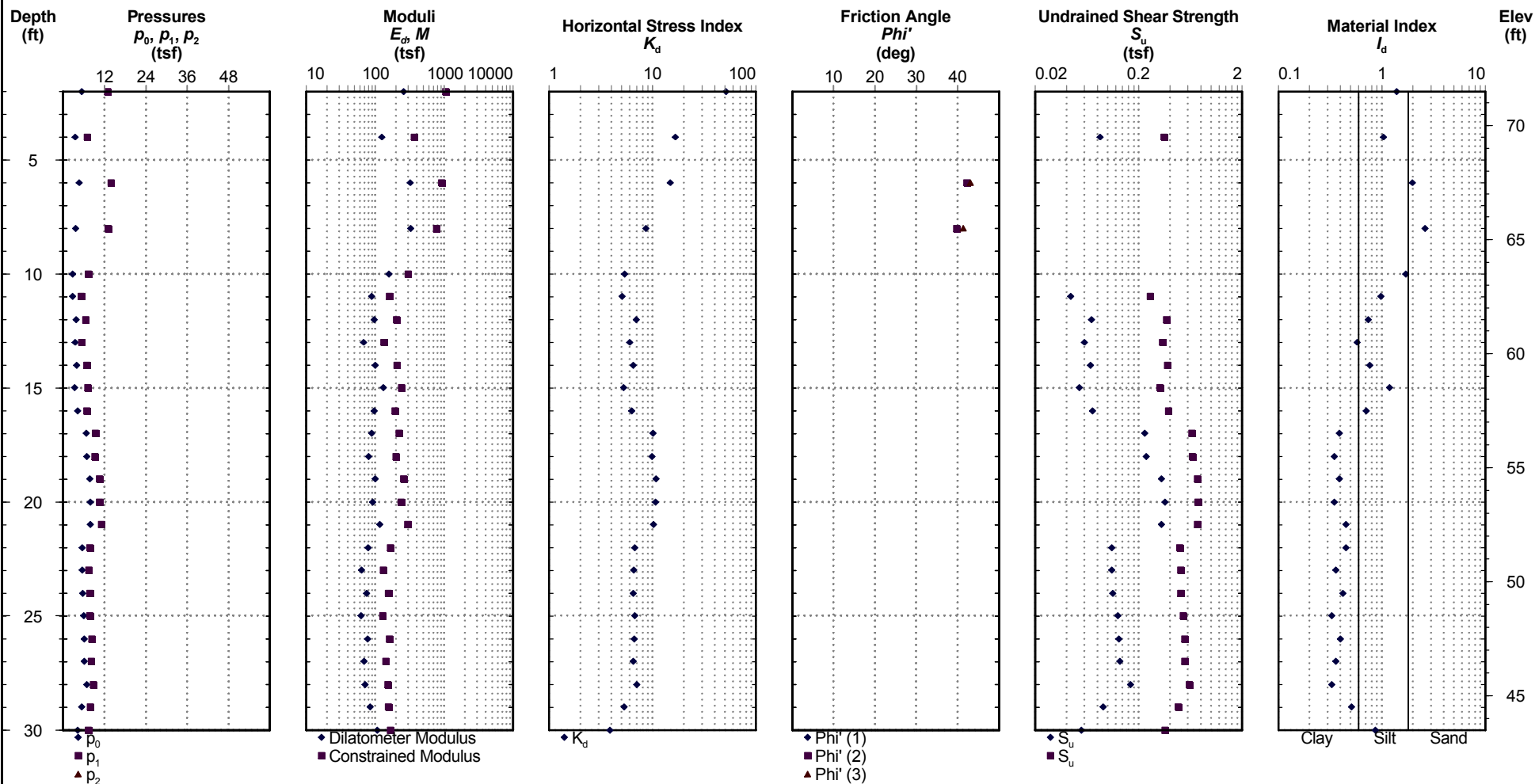
Dilatometer Test

DMT-2

Date: Jul. 1, 2008
Estimated Water Depth: 9 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453534
Easting: 2247112
Elevation: 73.5

Total Depth: 30.0 ft
Termination Criteria: Target Depth
Membrane Type: Soft



DMT-2



Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

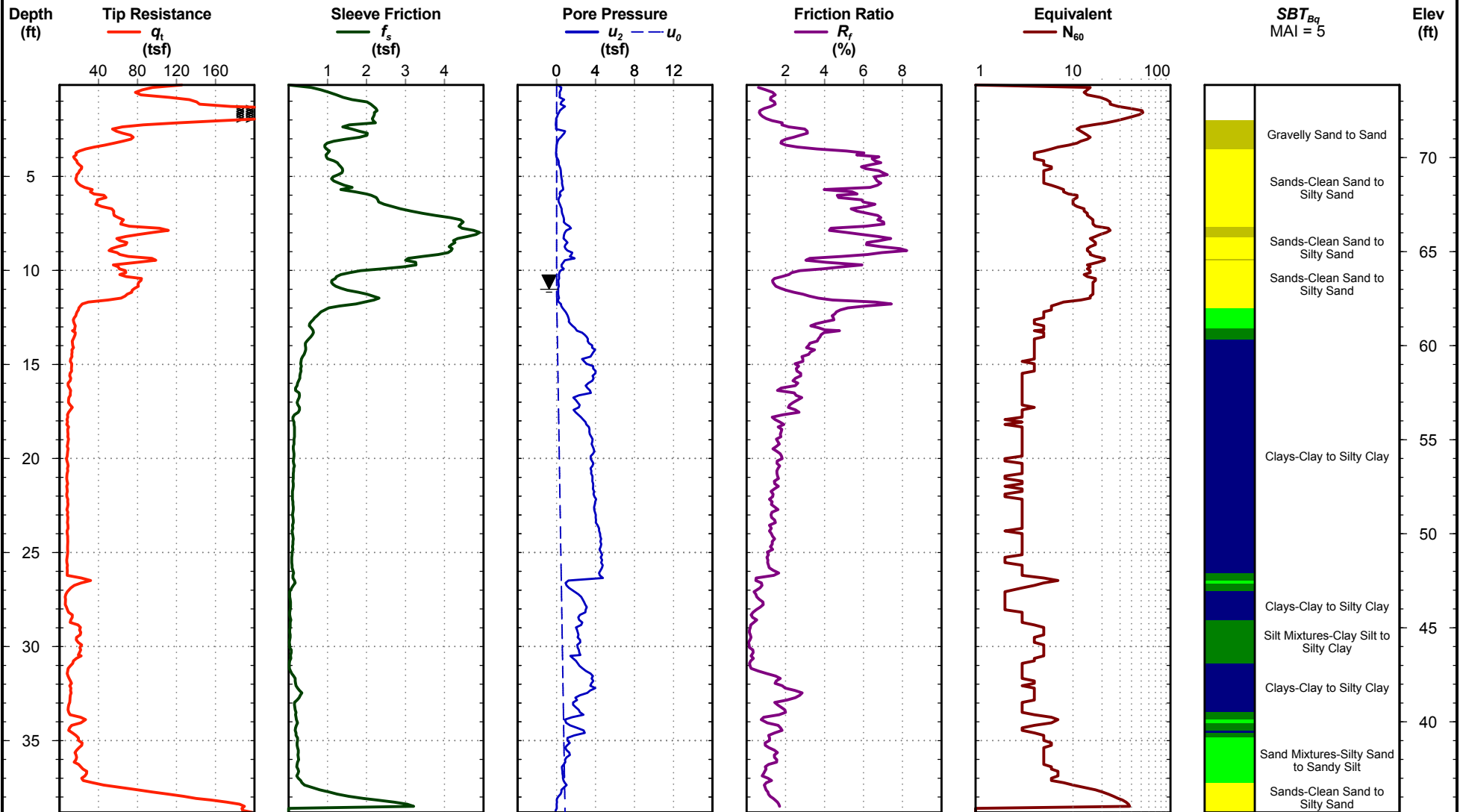
Cone Penetration Test

C-3

Date: Jul. 1, 2008
Estimated Water Depth: 11 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453544
Easting: 2247308
Elevation: 74

Total Depth: 38.8 ft
Termination Criteria: Target Depth
Cone Size: 1.44



C-3



Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

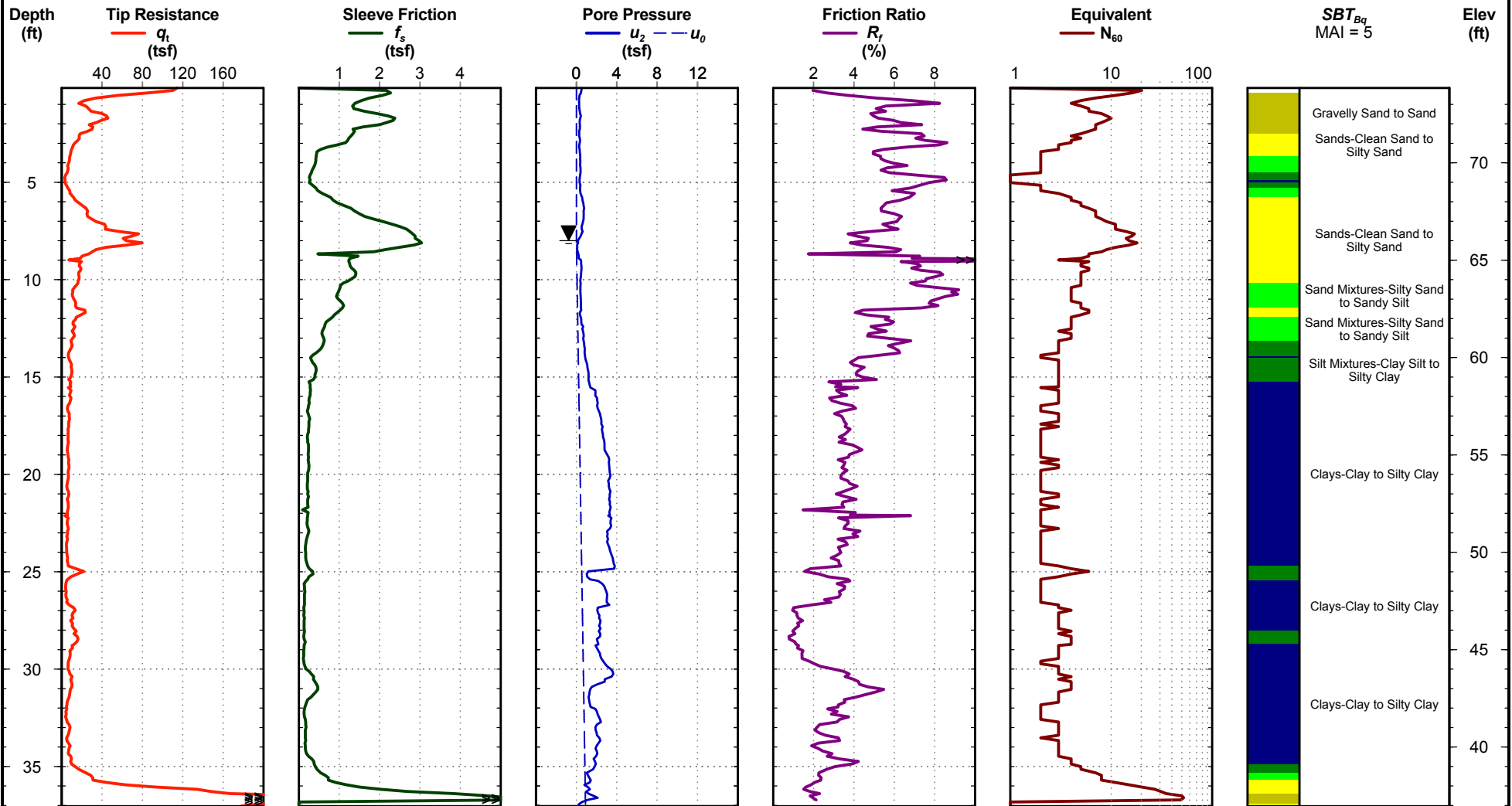
Cone Penetration Test

C-4

Date: Jul. 1, 2008
Estimated Water Depth: 8 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453403
Easting: 2247479
Elevation: 74

Total Depth: 37.0 ft
Termination Criteria: Target Depth
Cone Size: 1.44



C-4



Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

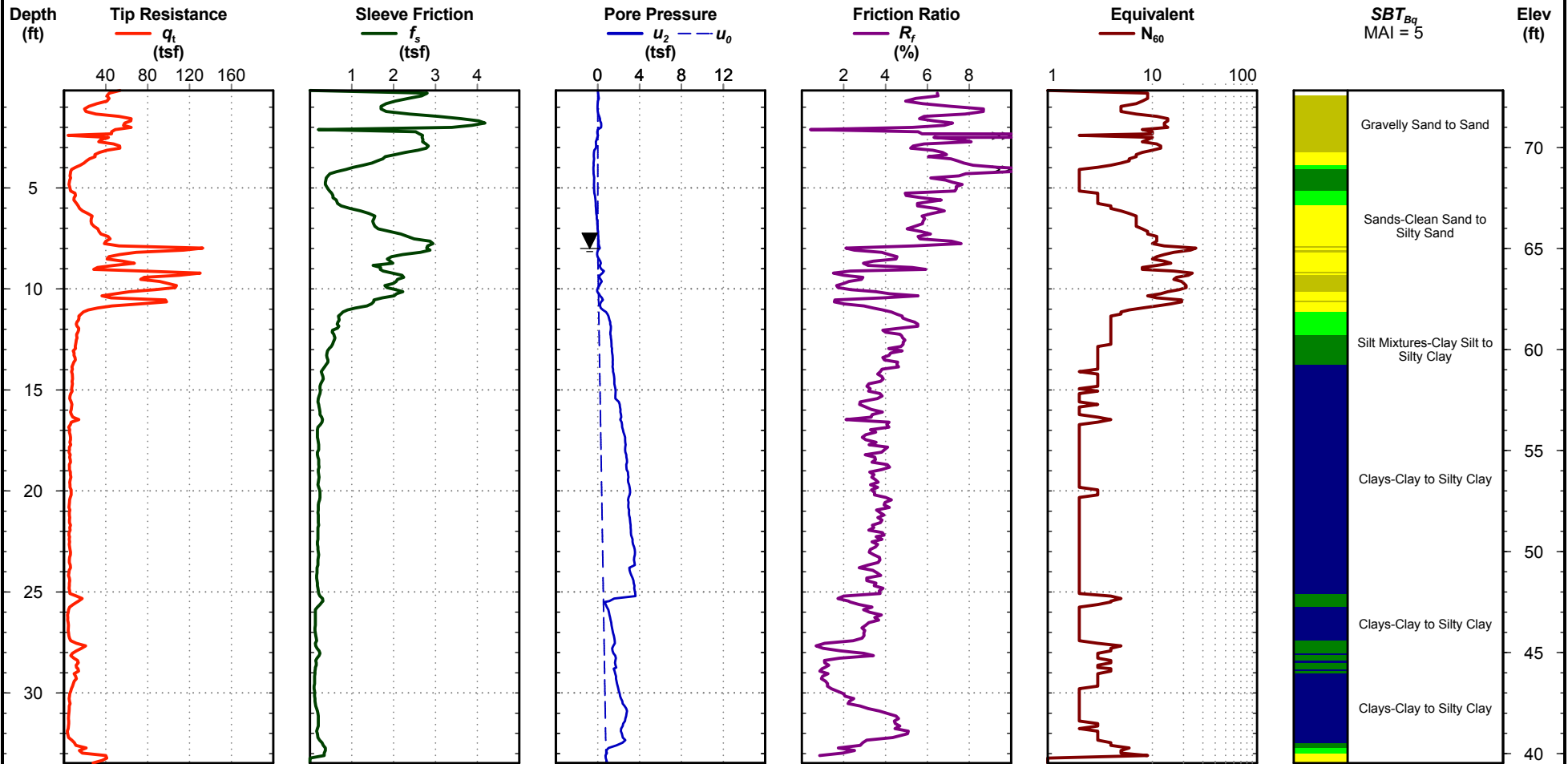
Cone Penetration Test

C-5

Date: Jul. 1, 2008
Estimated Water Depth: 8 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453559
Easting: 2247606
Elevation: 73

Total Depth: 33.5 ft
Termination Criteria: Target Depth
Cone Size: 1.44



C-5



Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

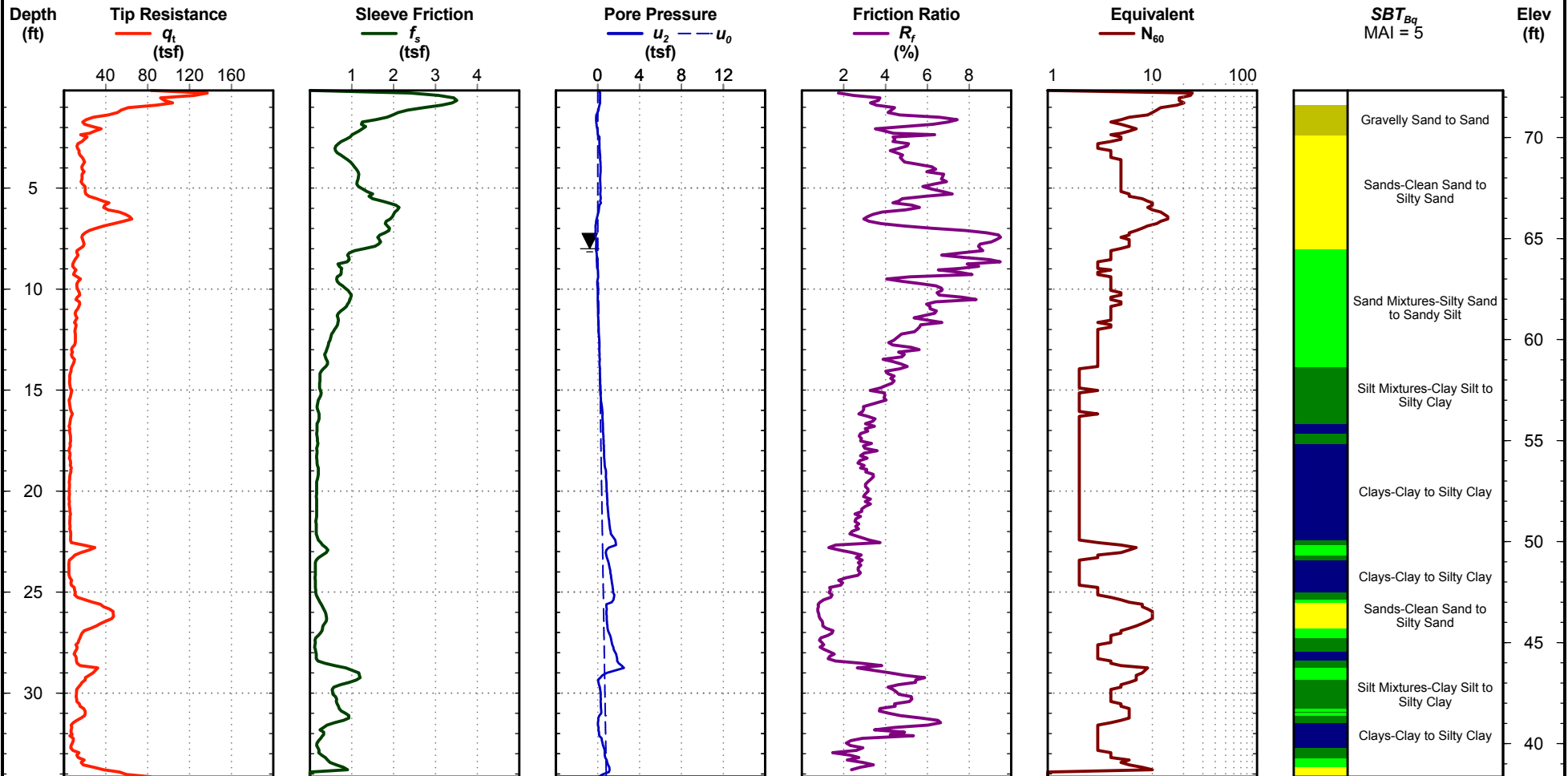
Cone Penetration Test

C-6

Date: Jul. 1, 2008
Estimated Water Depth: 8 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453586
Easting: 2247893
Elevation: 72.5

Total Depth: 34.1 ft
Termination Criteria: Target Depth
Cone Size: 1.44



C-6



Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

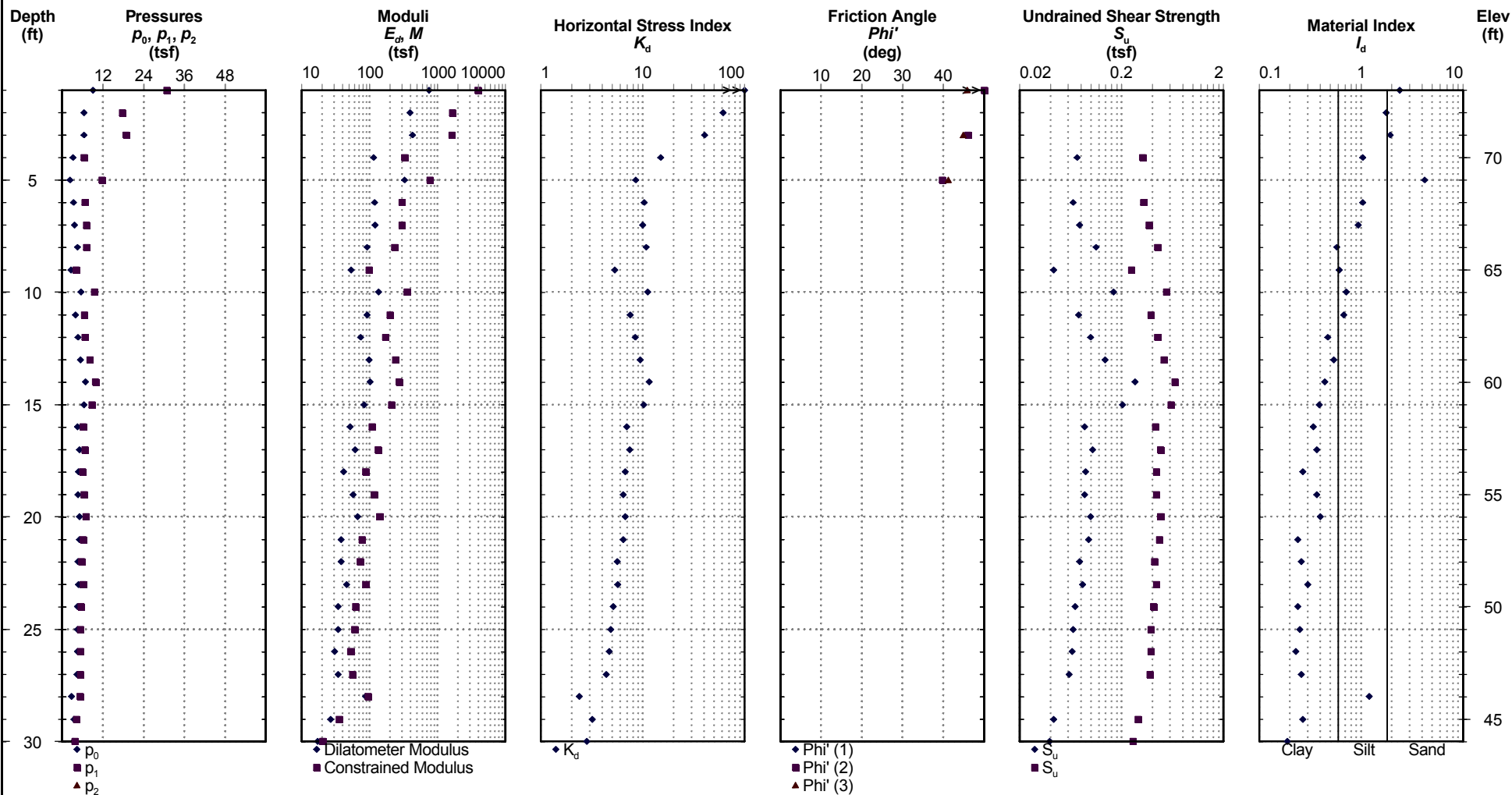
Dilatometer Test

DMT-7

Date: Jul. 1, 2008
Estimated Water Depth: 9 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453390
Easting: 2247880
Elevation: 74

Total Depth: 30.0 ft
Termination Criteria: Target Depth
Membrane Type: Soft



DMT-7



Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

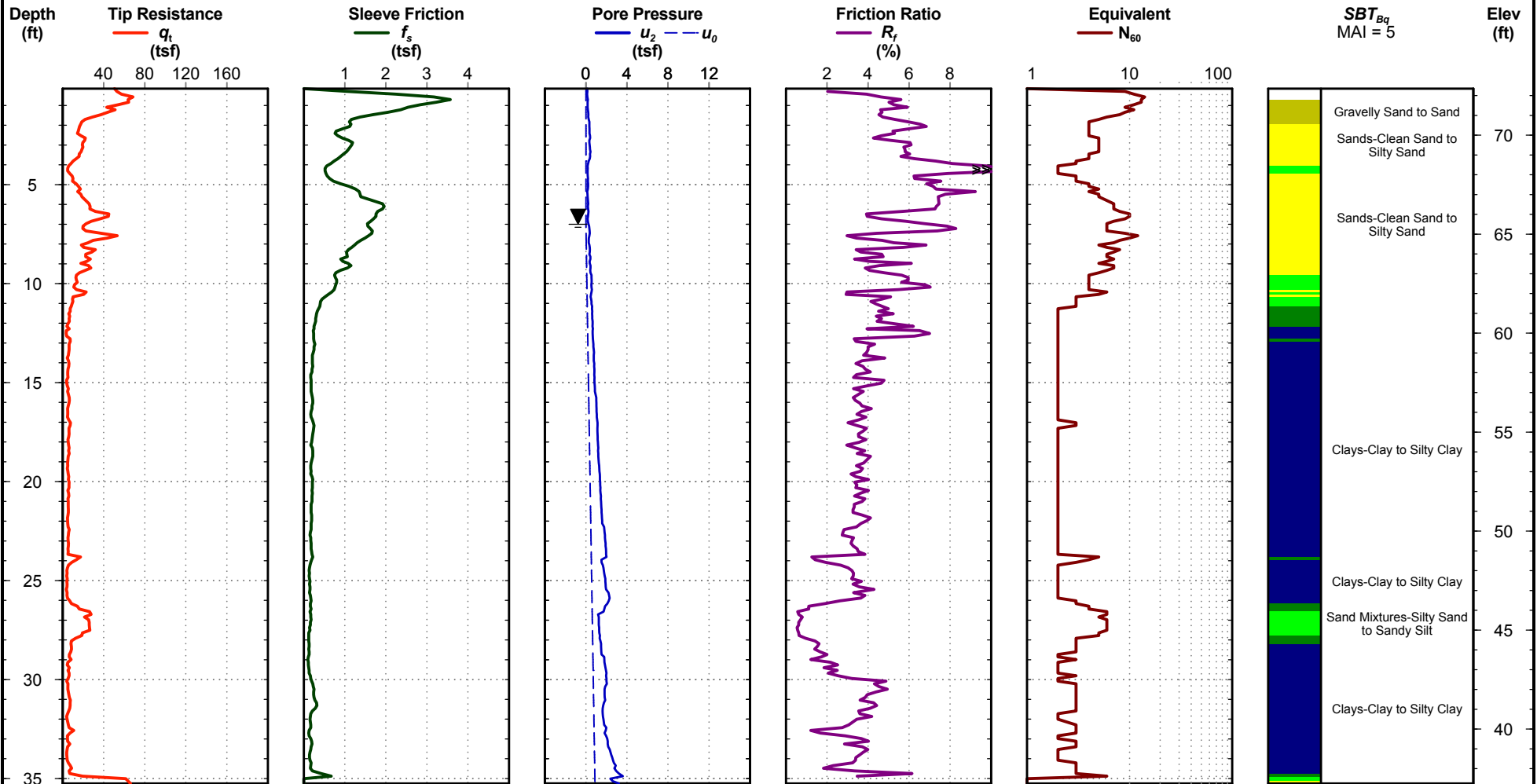
Cone Penetration Test

C-8

Date: Jul. 1, 2008
Estimated Water Depth: 7 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453517
Easting: 2248098
Elevation: 72.5

Total Depth: 35.3 ft
Termination Criteria: Target Depth
Cone Size: 1.44



C-8



Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

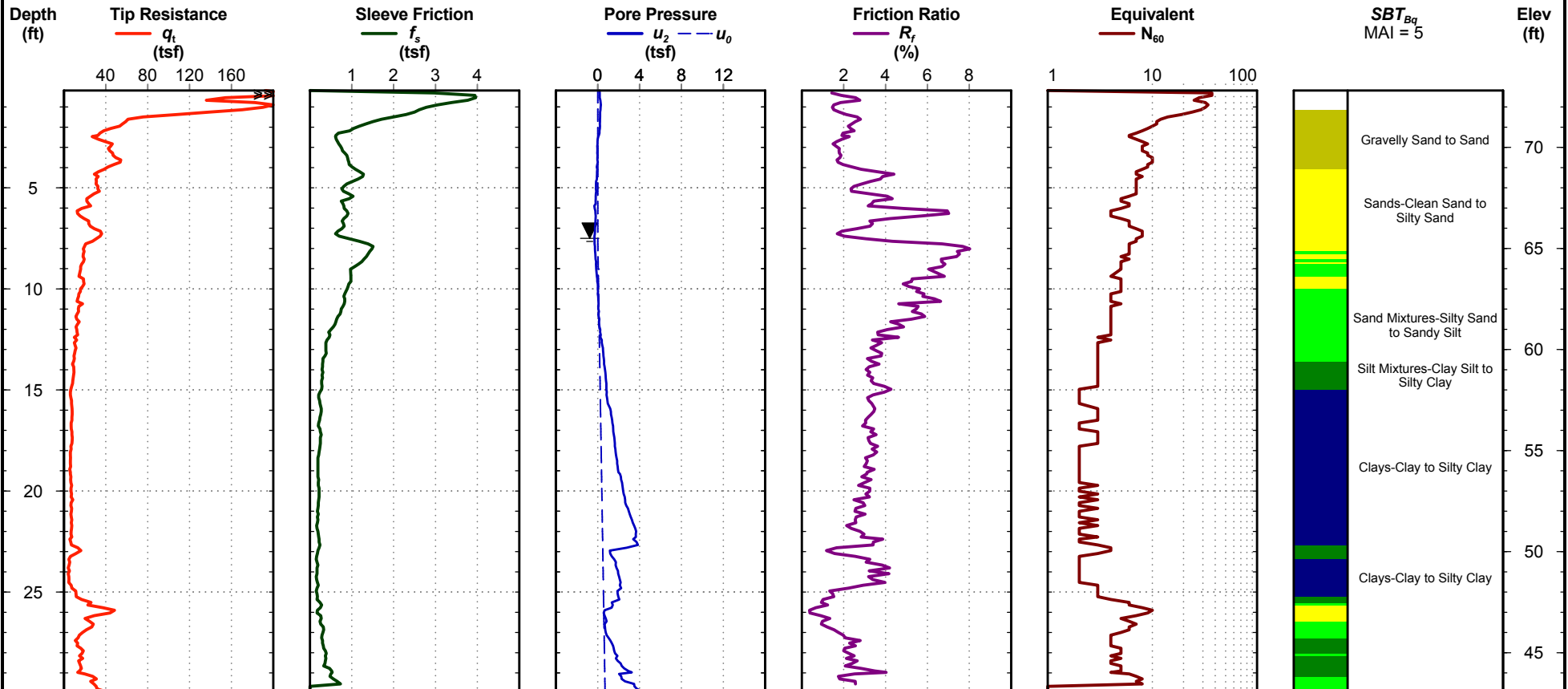
Cone Penetration Test

C-9

Date: Jul. 1, 2008
Estimated Water Depth: 7.5 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453356
Easting: 2248321
Elevation: 73

Total Depth: 29.9 ft
Termination Criteria: Target Depth
Cone Size: 1.44



C-9



Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

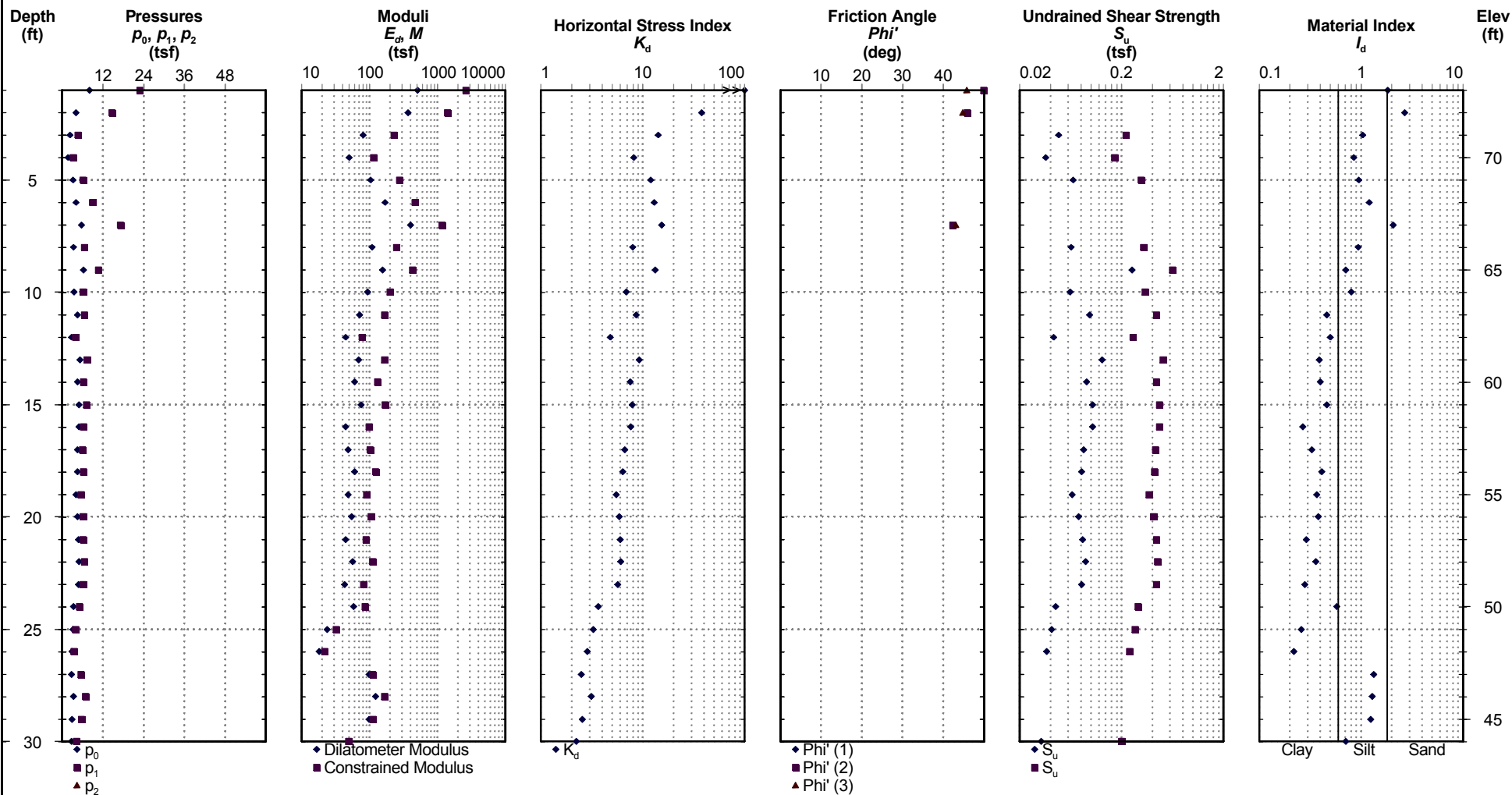
Dilatometer Test

DMT-10

Date: Jul. 1, 2008
Estimated Water Depth: 9 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453555
Easting: 2248394
Elevation: 74

Total Depth: 30.0 ft
Termination Criteria: Target Depth
Membrane Type: Soft



DMT-10



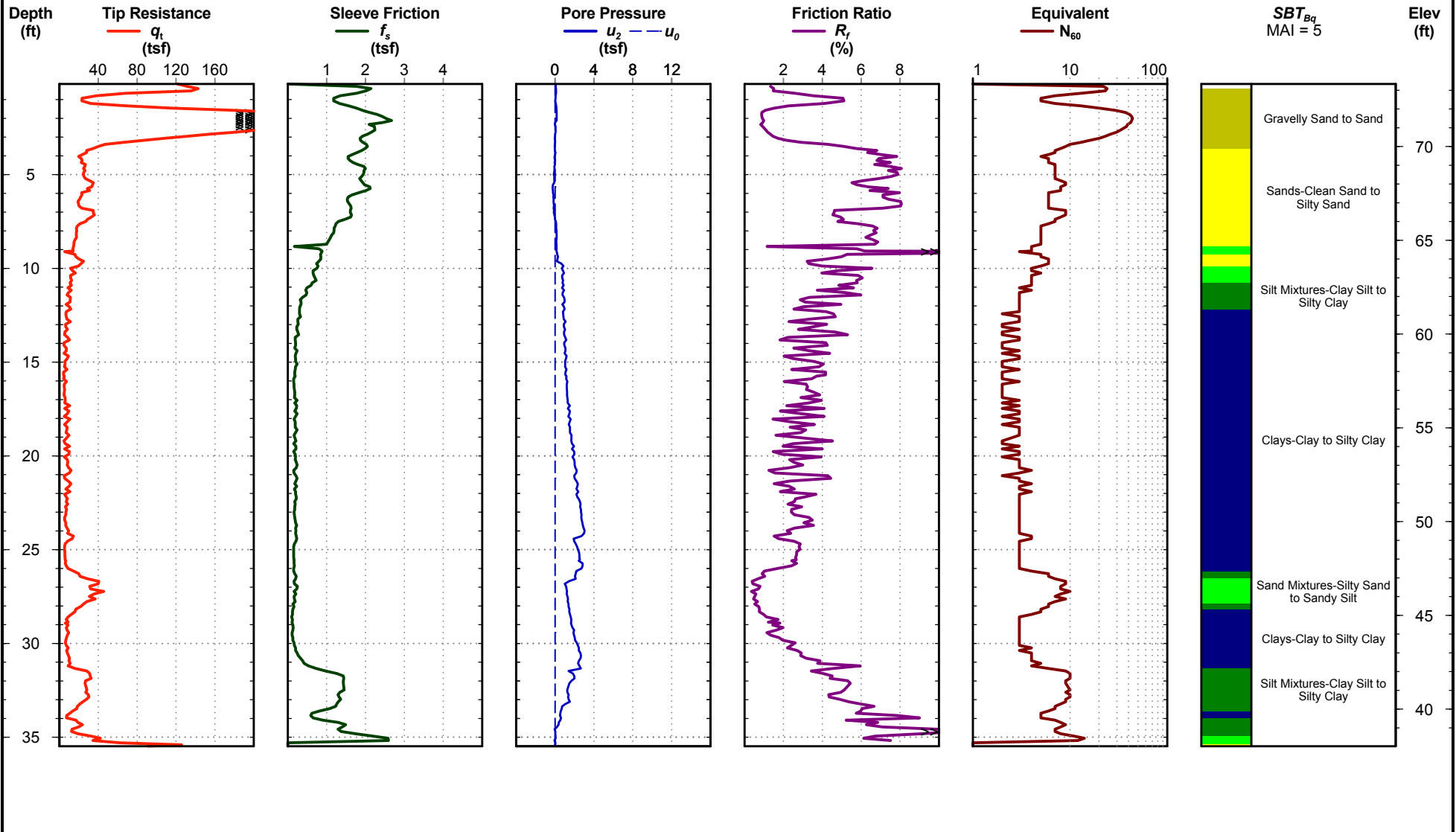
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-11

Date: Jul. 1, 2008
Estimated Water Depth: 65 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453528
Easting: 2248729
Elevation: 73.5

Total Depth: 35.5 ft
Termination Criteria: Target Depth
Cone Size: 1.44





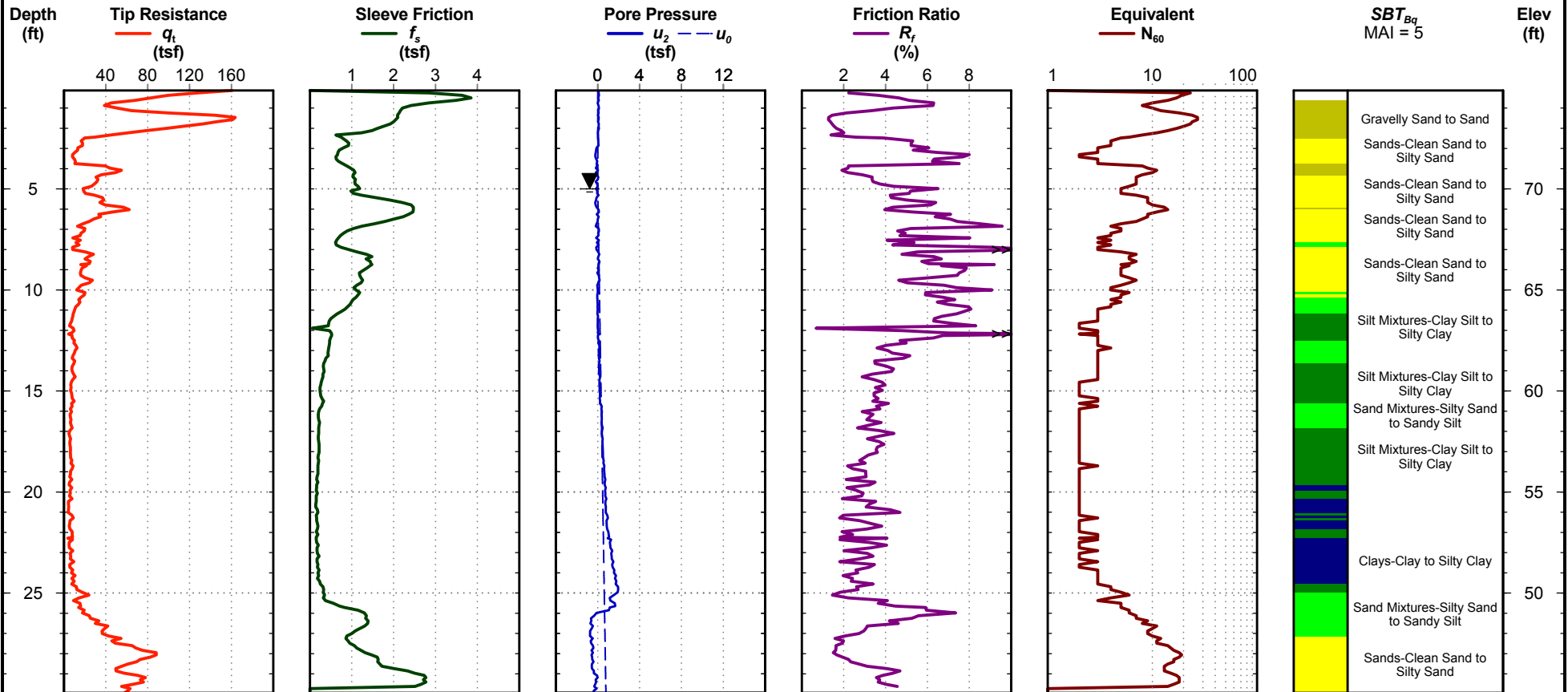
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-12

Date: Jul. 1, 2008
Estimated Water Depth: 5 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453111
Easting: 2248705
Elevation: 75

Total Depth: 29.9 ft
Termination Criteria: Target Depth
Cone Size: 1.44





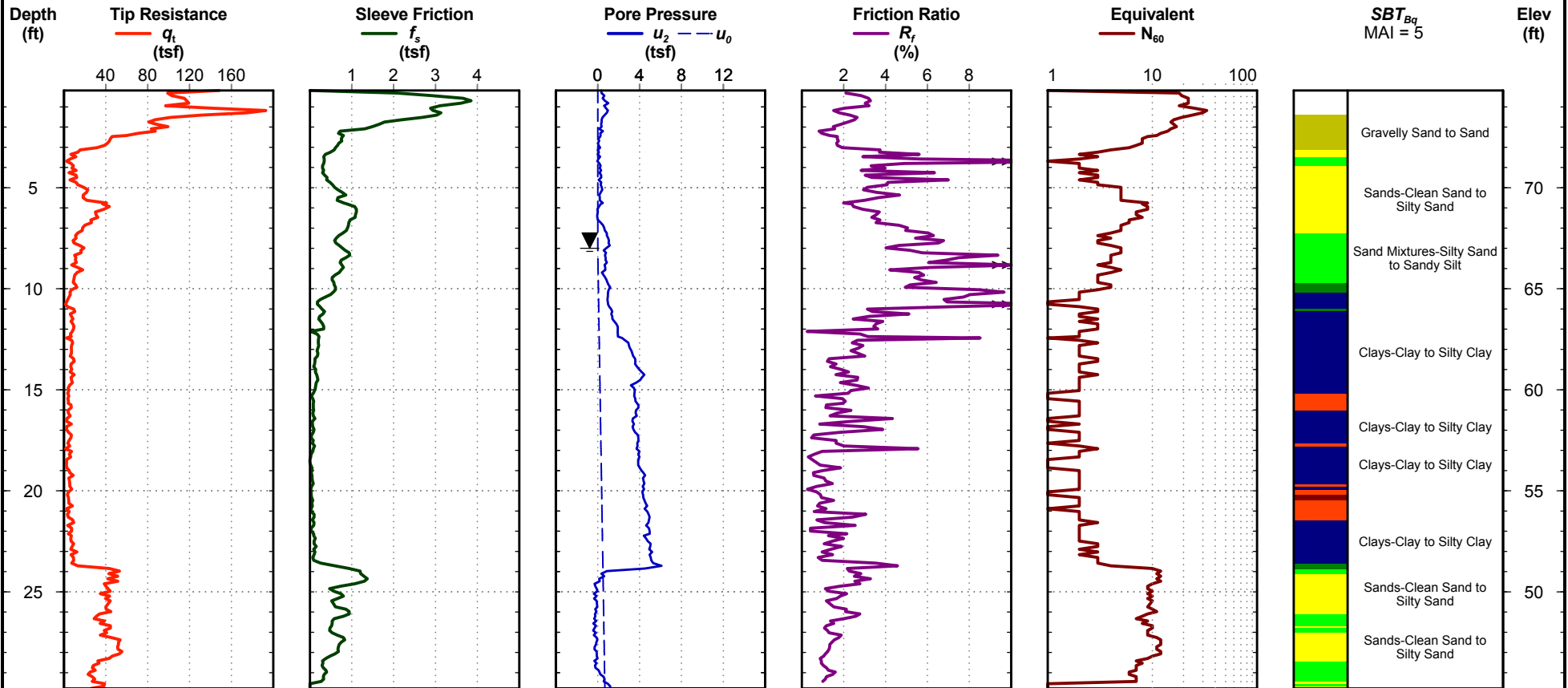
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-13

Date: Jul. 1, 2008
Estimated Water Depth: 8 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453127
Easting: 2248432
Elevation: 75

Total Depth: 29.8 ft
Termination Criteria: Target Depth
Cone Size: 1.44





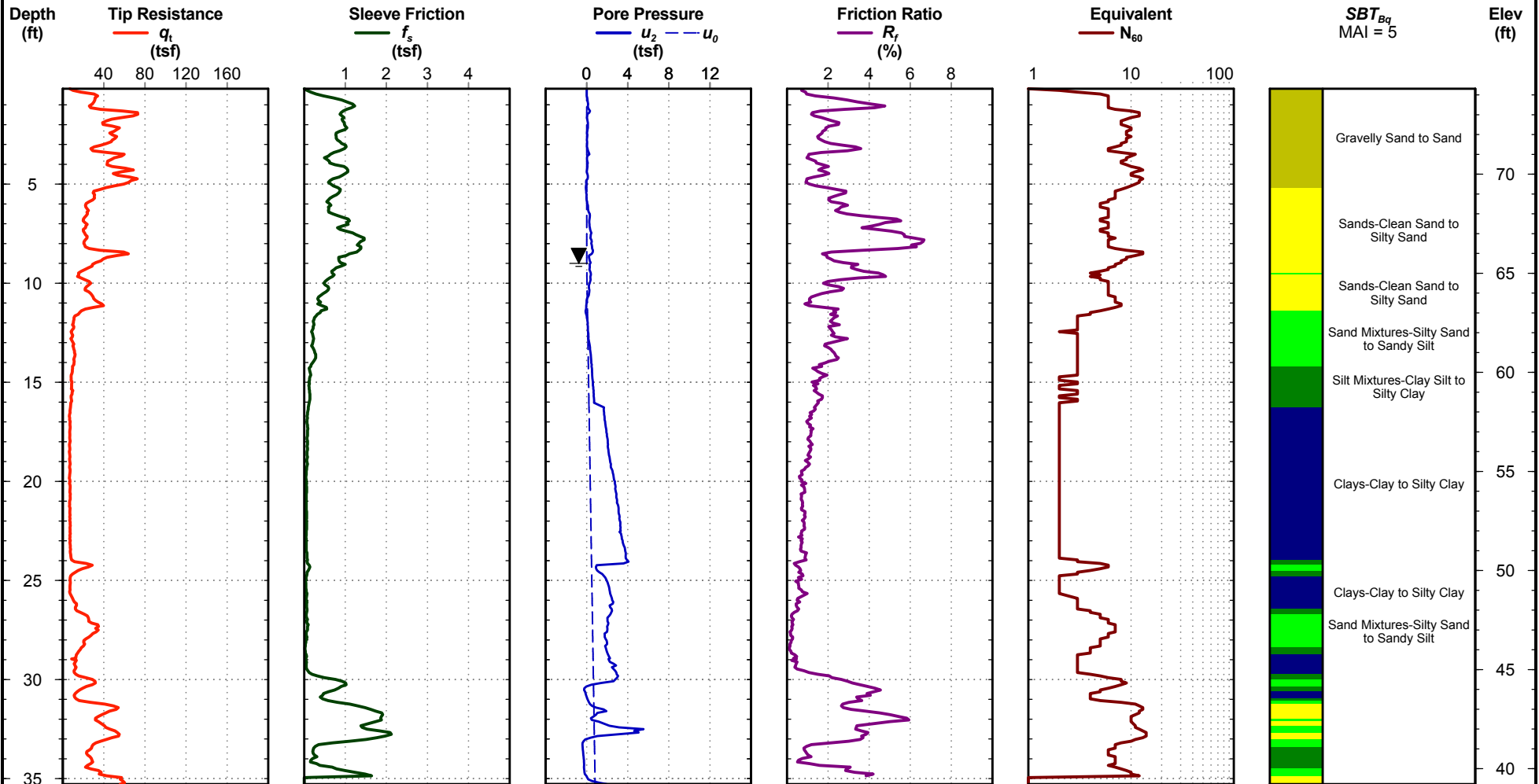
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-14

Date: Jul. 1, 2008
Estimated Water Depth: 9 ft
Rig/Operator: ATV/Cox

Northing: 453151
Easting: 2248139
Elevation: 74.5

Total Depth: 35.3 ft
Termination Criteria: Target Depth
Cone Size:





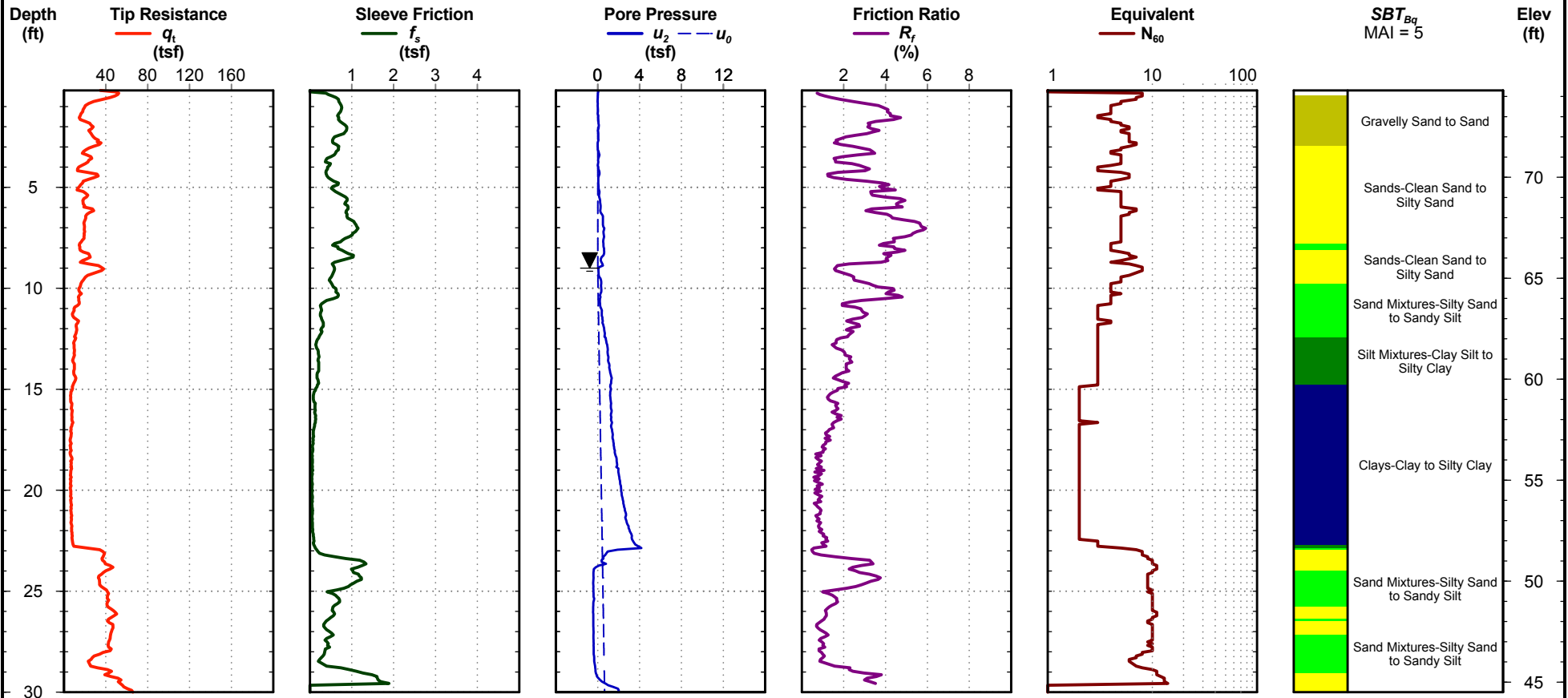
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-15

Date: Jul. 1, 2008
Estimated Water Depth: 9 ft
Rig/Operator: ATV/Cox

Northing: 453169
Easting: 2247862
Elevation: 74.5

Total Depth: 30.0 ft
Termination Criteria: Target Depth
Cone Size:





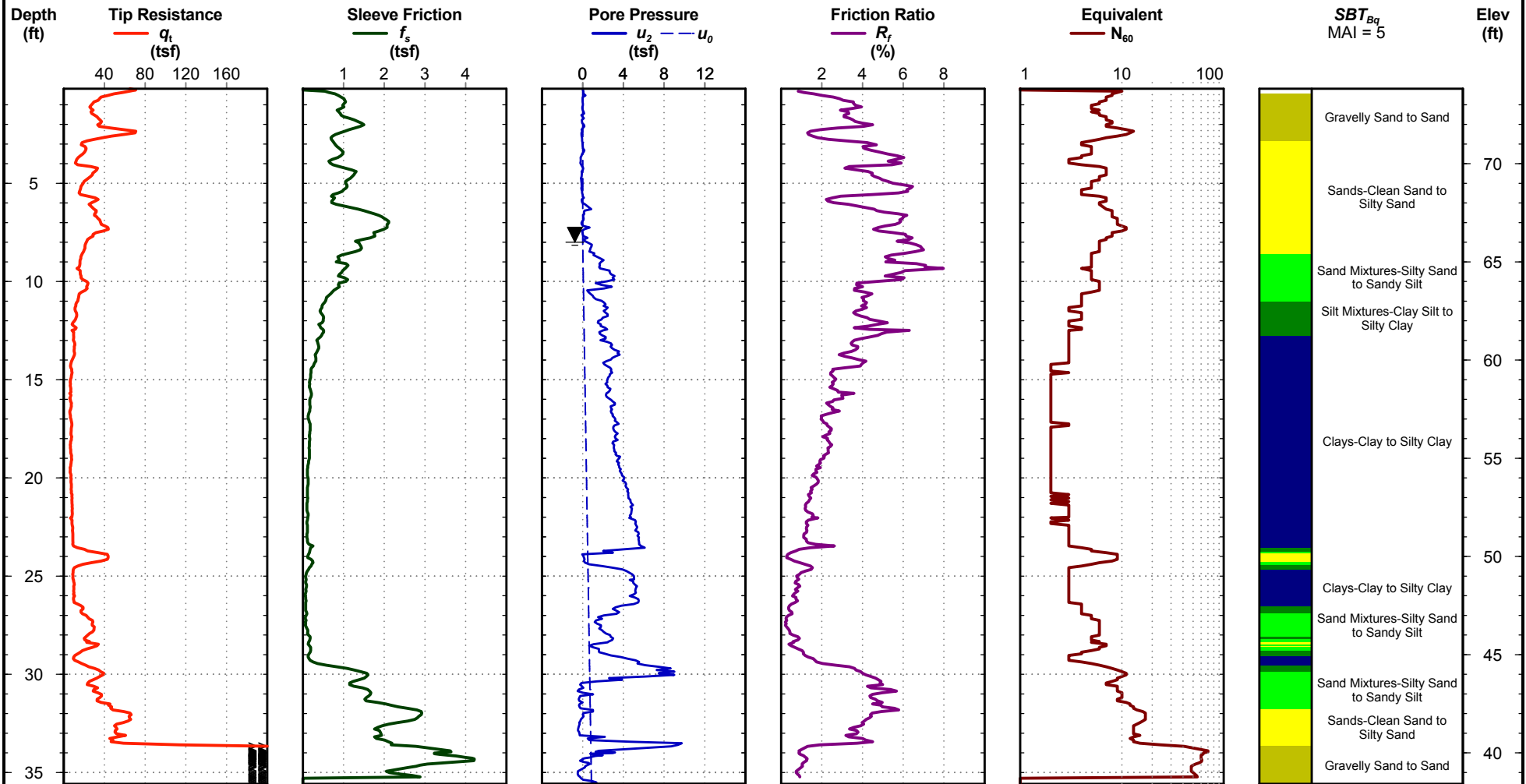
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-16

Date: Jul. 1, 2008
Estimated Water Depth: 8 ft
Rig/Operator: ATV/Cox

Northing: 453184
Easting: 2247619
Elevation: 74

Total Depth: 35.6 ft
Termination Criteria: Target Depth
Cone Size:





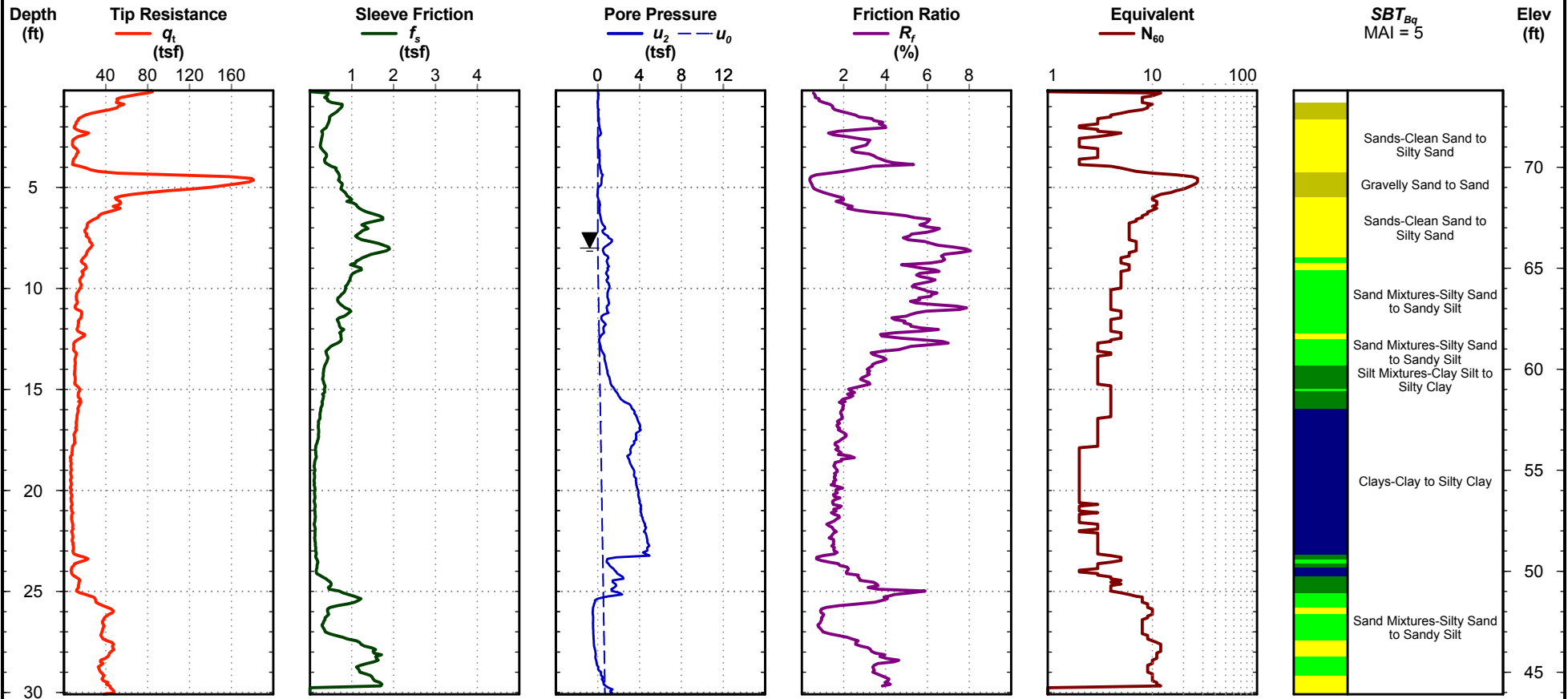
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-17

Date: Jul. 1, 2008
Estimated Water Depth: 8 ft
Rig/Operator: ATV/Cox

Northing: 453199
Easting: 2247383
Elevation: 74

Total Depth: 30.1 ft
Termination Criteria: Target Depth
Cone Size:





Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

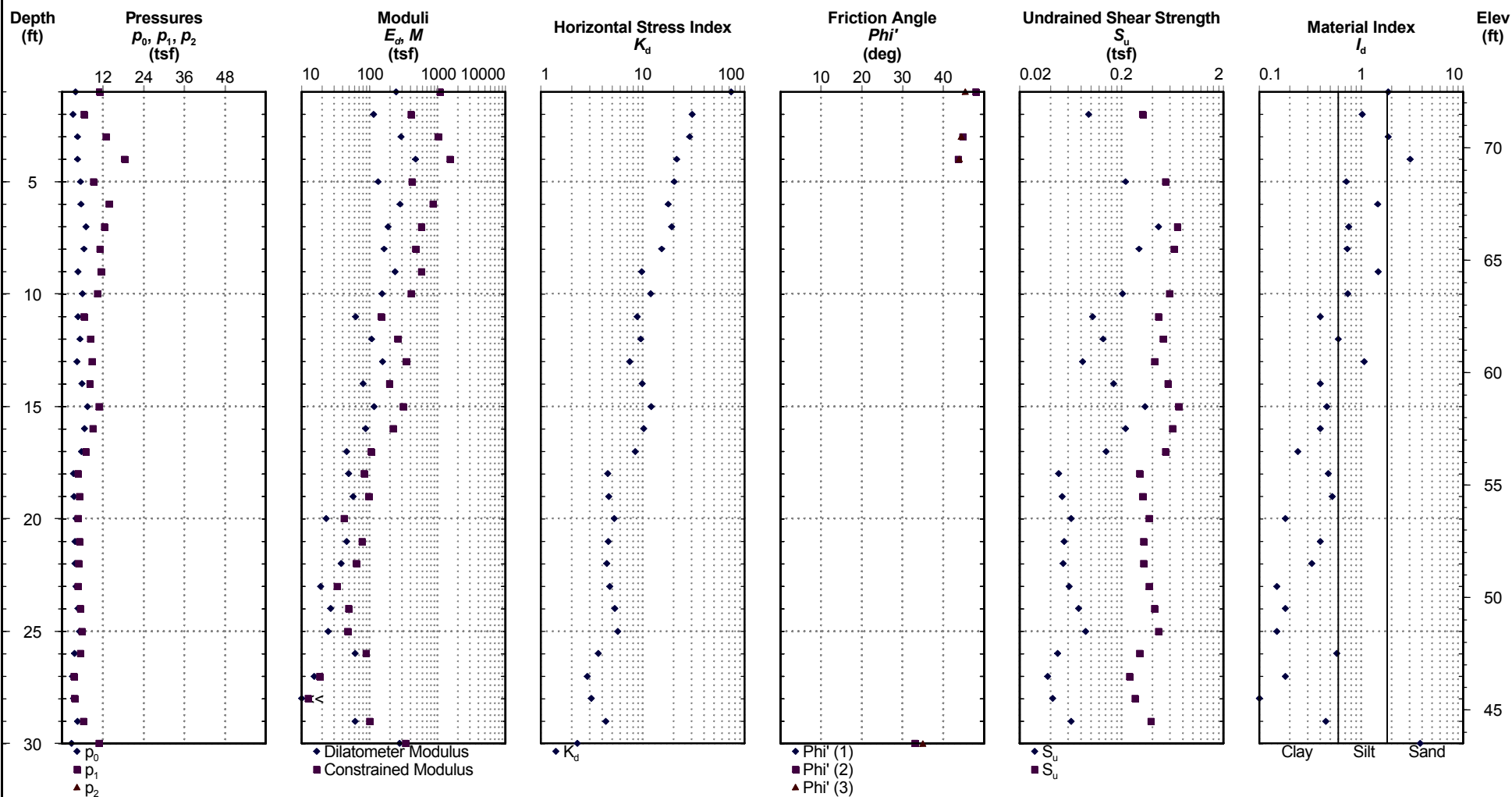
Dilatometer Test

DMT-18

Date: Jul. 1, 2008
Estimated Water Depth: 9 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453218
Easting: 2247110
Elevation: 73.5

Total Depth: 30.0 ft
Termination Criteria: Target Depth
Membrane Type: Soft



DMT-18



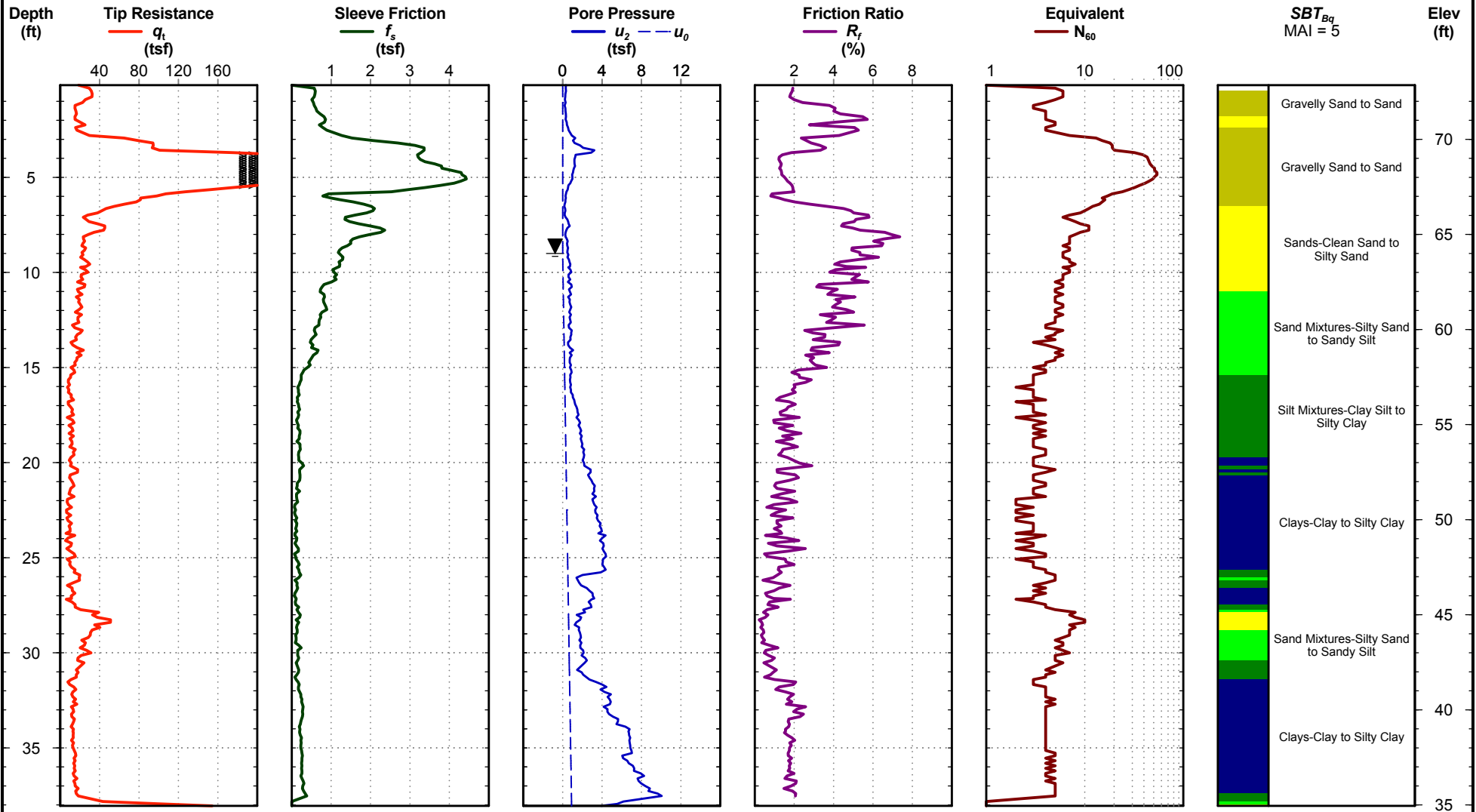
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-19

Date: Jul. 1, 2008
Estimated Water Depth: 9 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453238
Easting: 2246870
Elevation: 73

Total Depth: 38.1 ft
Termination Criteria: Target Depth
Cone Size: 1.44





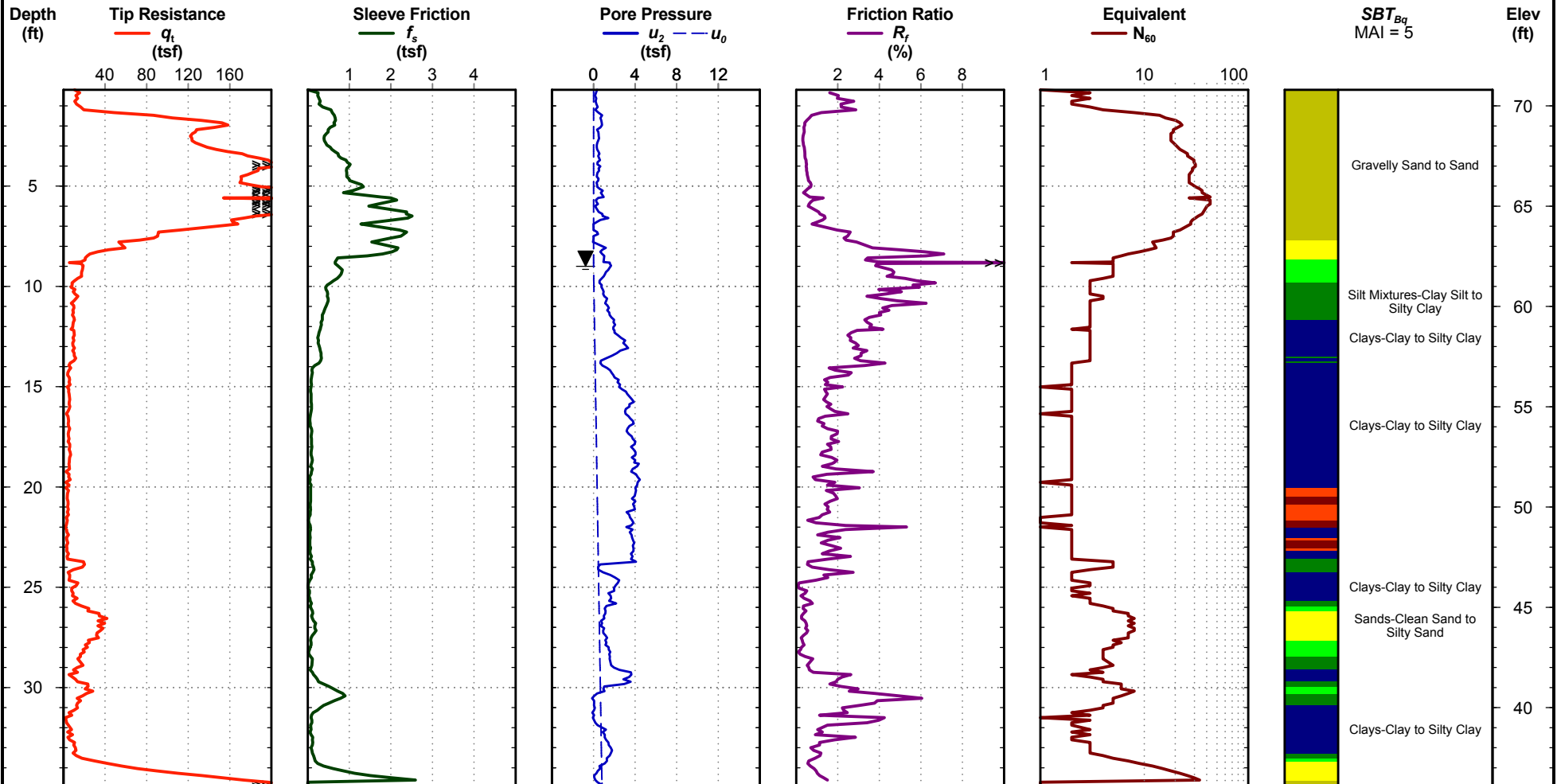
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-20

Date: Jul. 1, 2008
Estimated Water Depth: 9 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453197
Easting: 2246608
Elevation: 71

Total Depth: 34.9 ft
Termination Criteria: Target Depth
Cone Size: 1.44





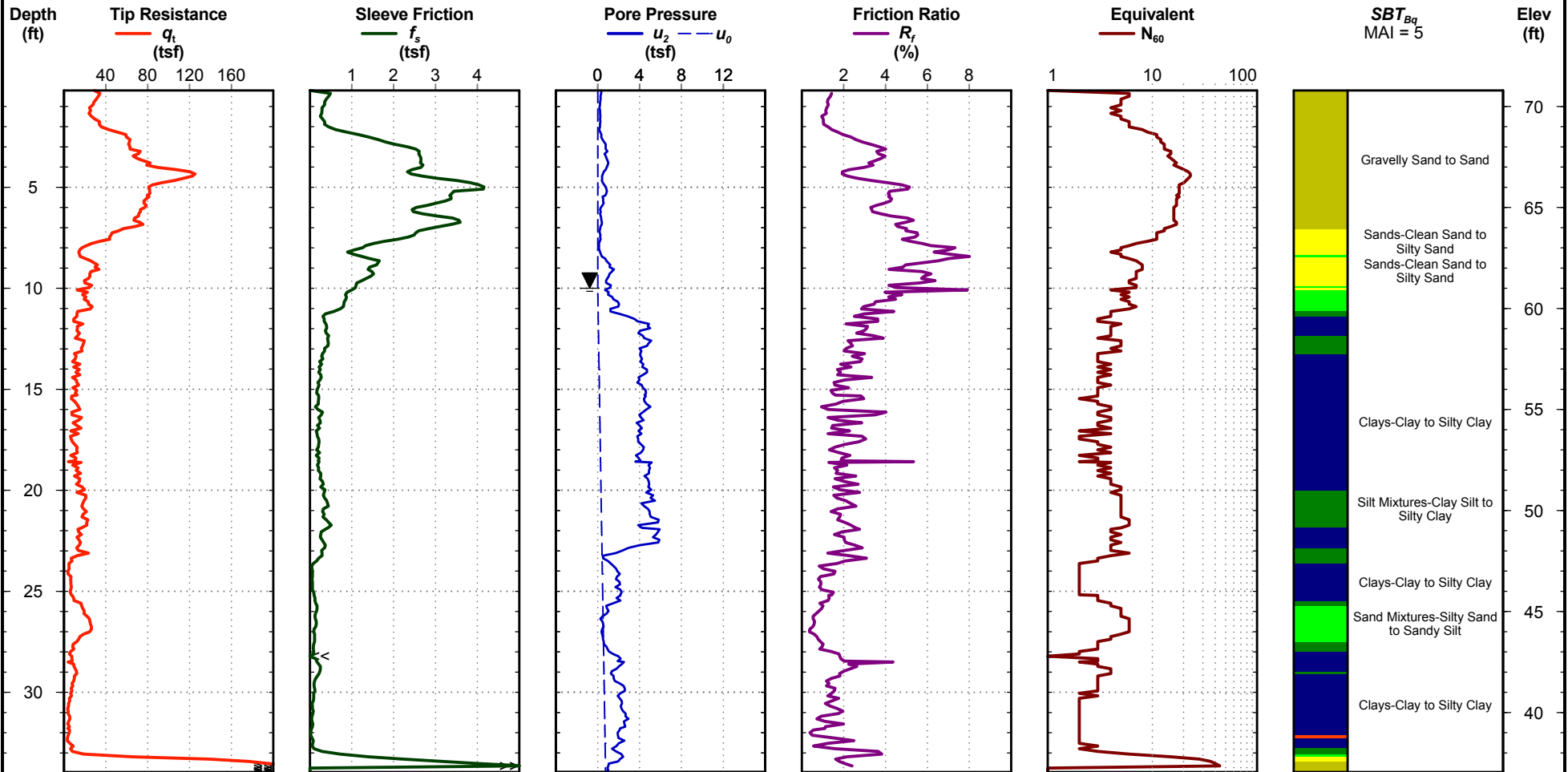
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-21

Date: Jul. 1, 2008
Estimated Water Depth: 10 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453073
Easting: 2246494
Elevation: 71

Total Depth: 34.0 ft
Termination Criteria: Target Depth
Cone Size: 1.44





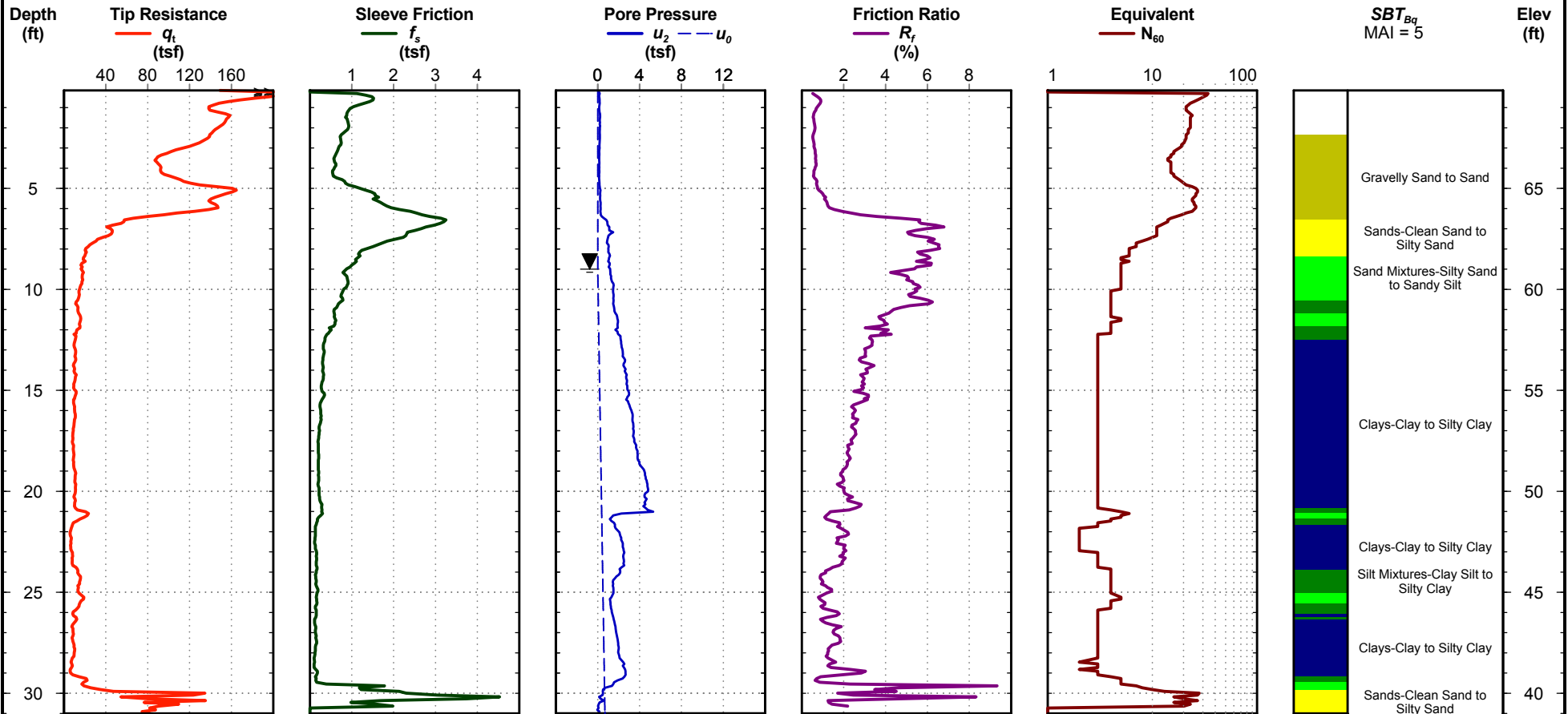
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-22

Date: Jul. 1, 2008
Estimated Water Depth: 9 ft
Rig/Operator: ATV/Cox

Northing: 452891
Easting: 2246431
Elevation: 70

Total Depth: 31.0 ft
Termination Criteria: Target Depth
Cone Size:





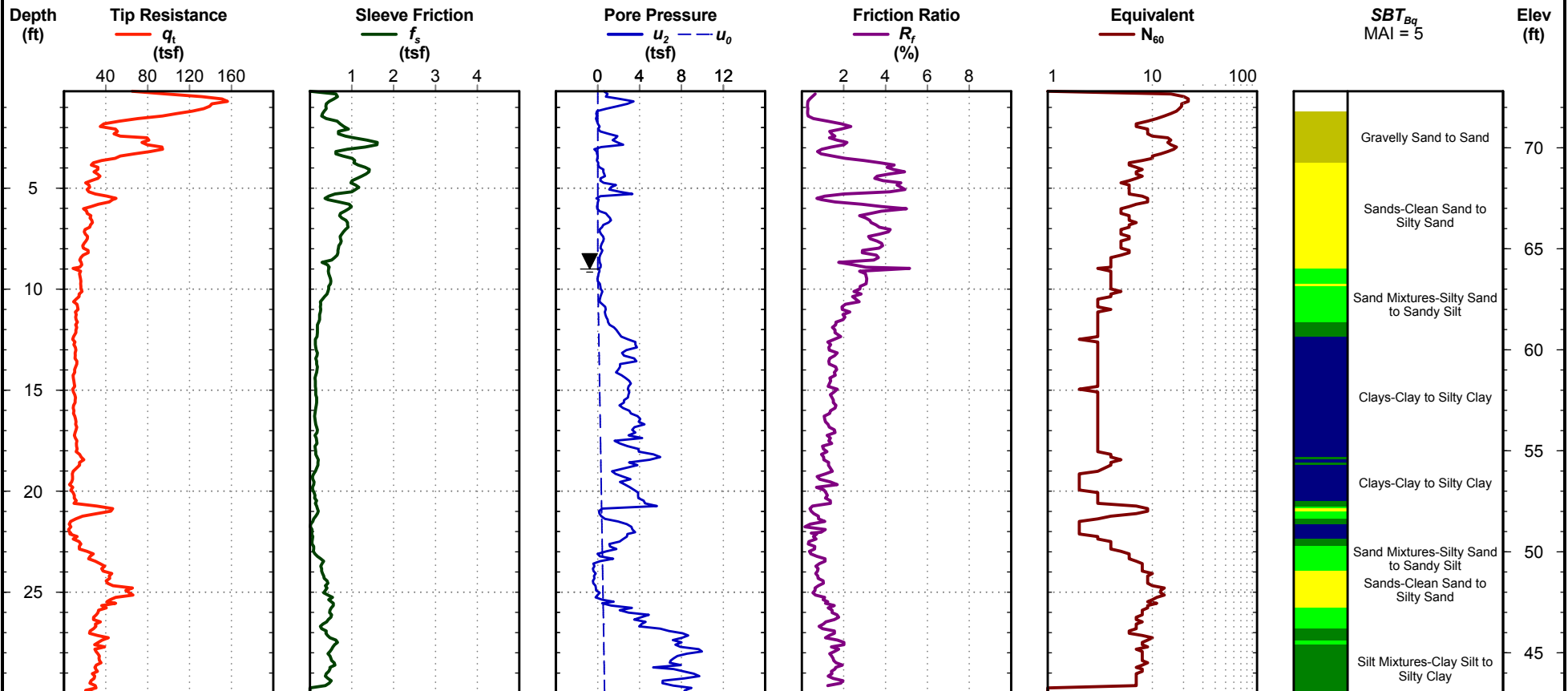
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-23

Date: Jul. 1, 2008
Estimated Water Depth: 9 ft
Rig/Operator: Gyrotrack/Feix

Northing: 453061
Easting: 2246800
Elevation: 73

Total Depth: 30.0 ft
Termination Criteria: Target Depth
Cone Size: 1.44





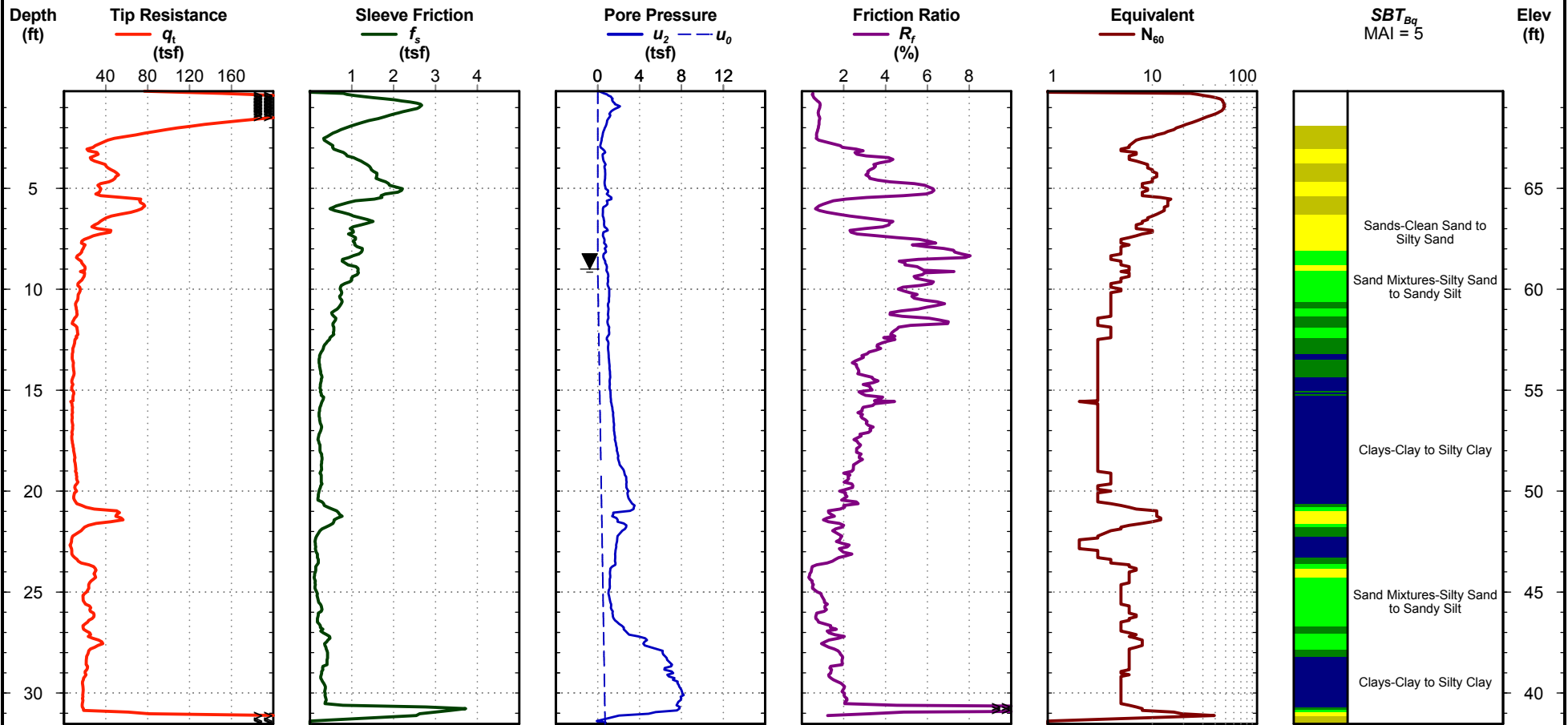
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-24

Date: Jul. 1, 2008
Estimated Water Depth: 9 ft
Rig/Operator: ATV/Cox

Northing: 452940
Easting: 2246671
Elevation: 70

Total Depth: 31.5 ft
Termination Criteria: Target Depth
Cone Size:





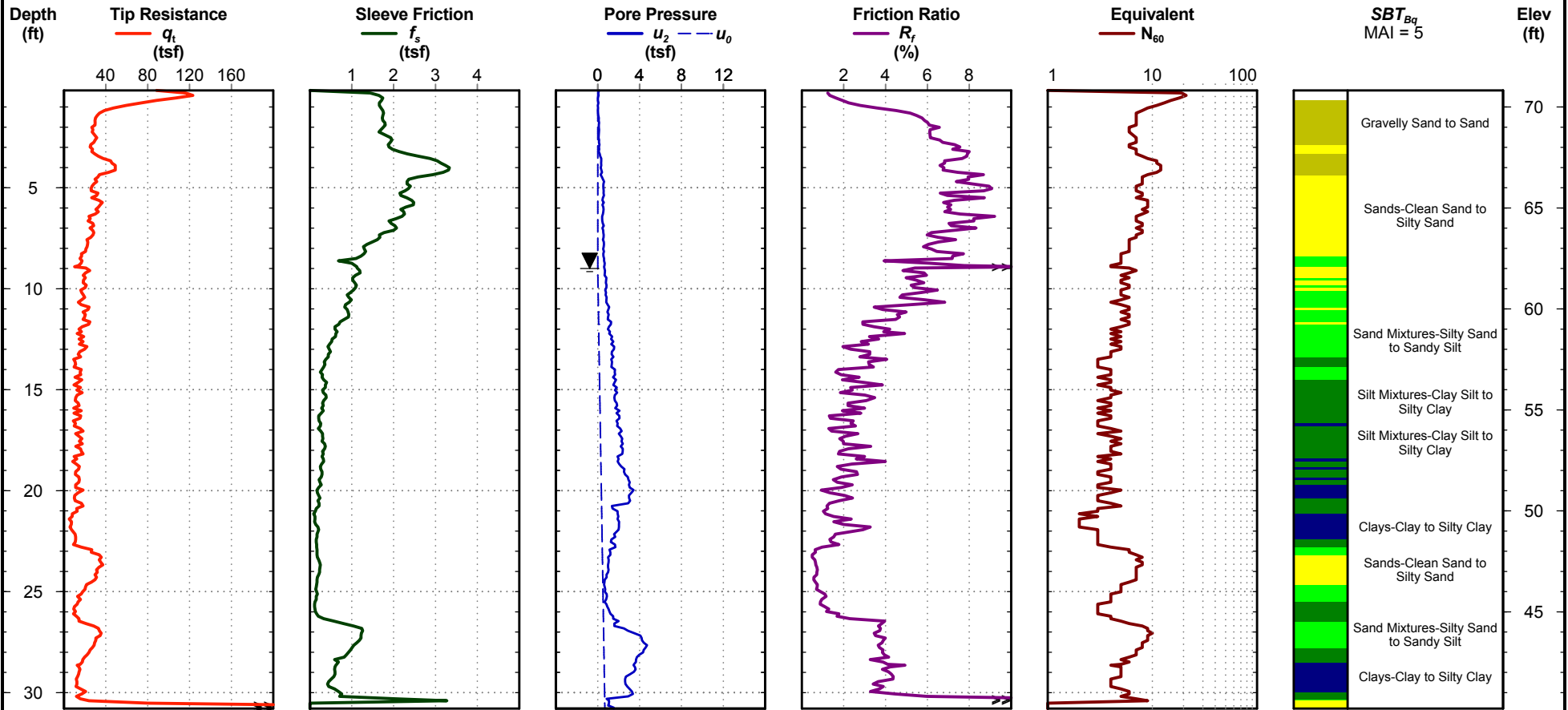
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-25

Date: Jul. 1, 2008
Estimated Water Depth: 9 ft
Rig/Operator: Gyrotrack/Feix

Northing: 452691
Easting: 2246740
Elevation: 71

Total Depth: 30.8 ft
Termination Criteria: Target Depth
Cone Size: 1.44





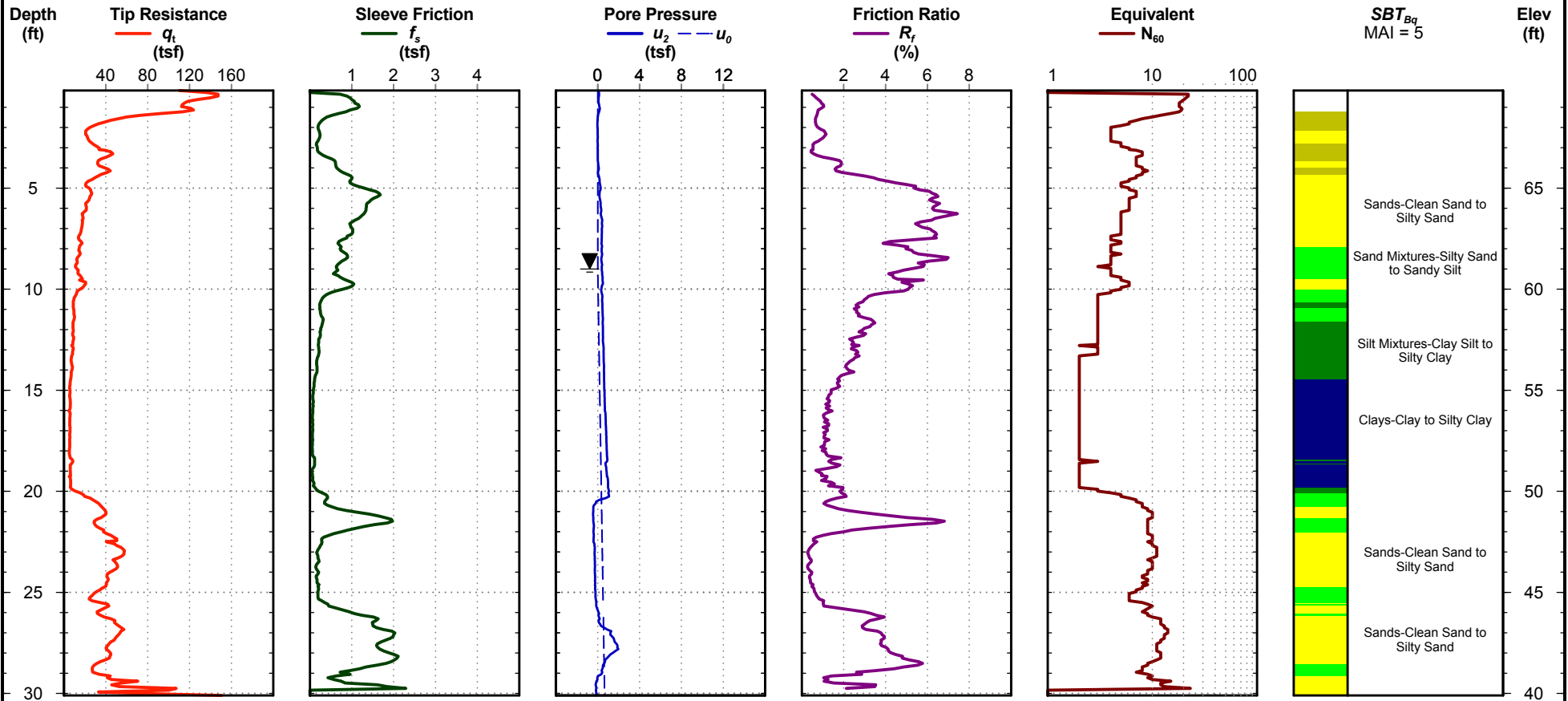
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-26

Date: Jul. 1, 2008
Estimated Water Depth: 9 ft
Rig/Operator: ATV/Cox

Northing: 452828
Easting: 2247115
Elevation: 70

Total Depth: 30.1 ft
Termination Criteria: Target Depth
Cone Size:





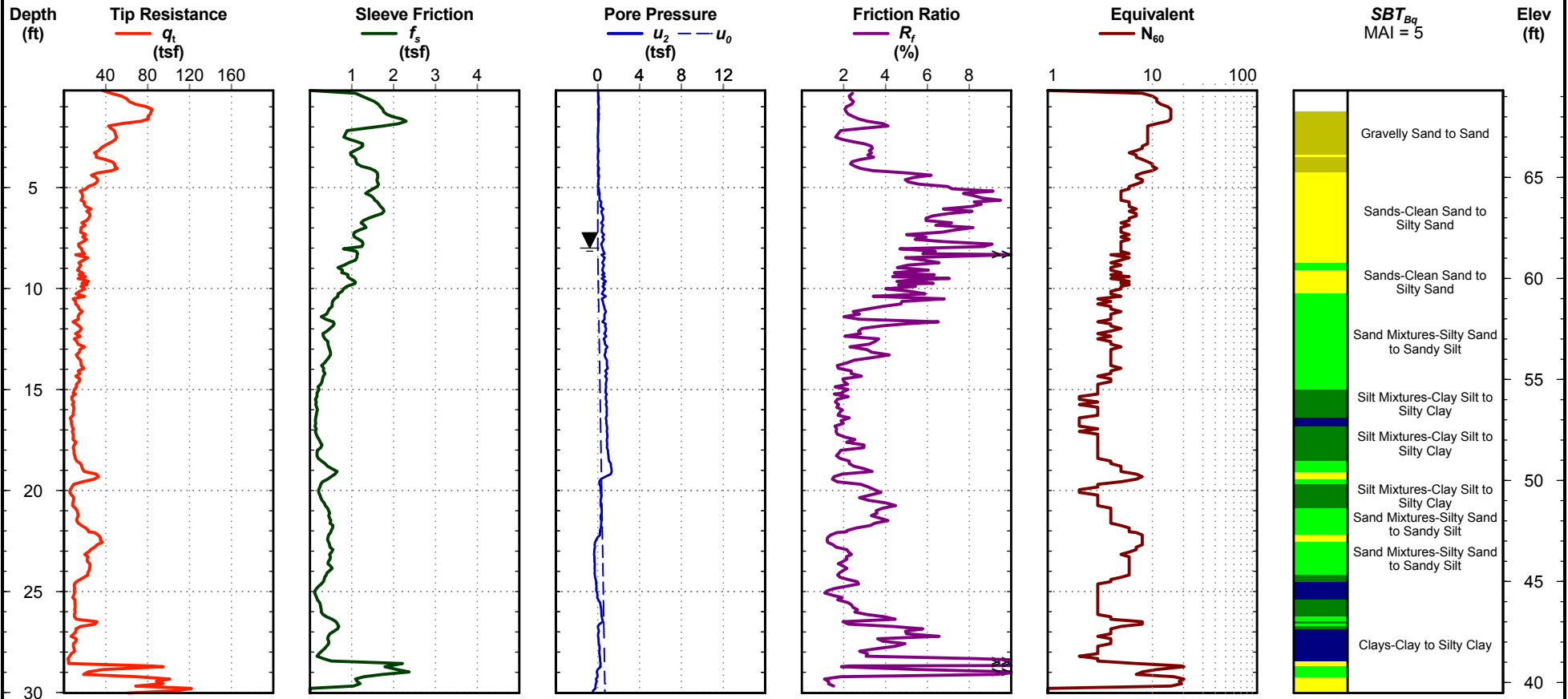
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-27

Date: Jul. 1, 2008
Estimated Water Depth: 8 ft
Rig/Operator: Gyrotrack/Feix

Northing: 452521
Easting: 2246987
Elevation: 69.5

Total Depth: 30.0 ft
Termination Criteria: Target Depth
Cone Size: 1.44





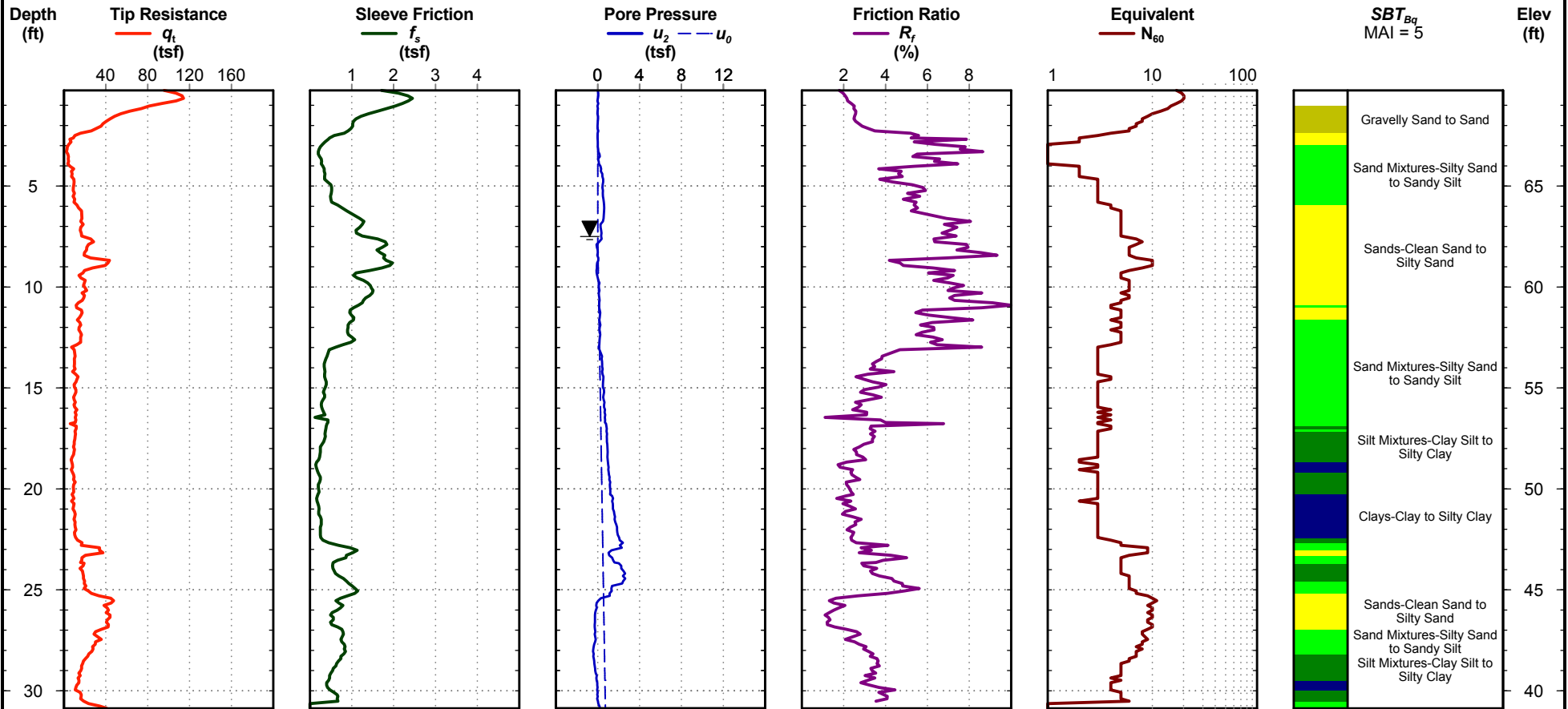
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-28

Date: Jul. 1, 2008
Estimated Water Depth: 7.5 ft
Rig/Operator: Gyrotrack/Feix

Northing: 452615
Easting: 2247259
Elevation: 70

Total Depth: 30.9 ft
Termination Criteria: Target Depth
Cone Size: 1.44





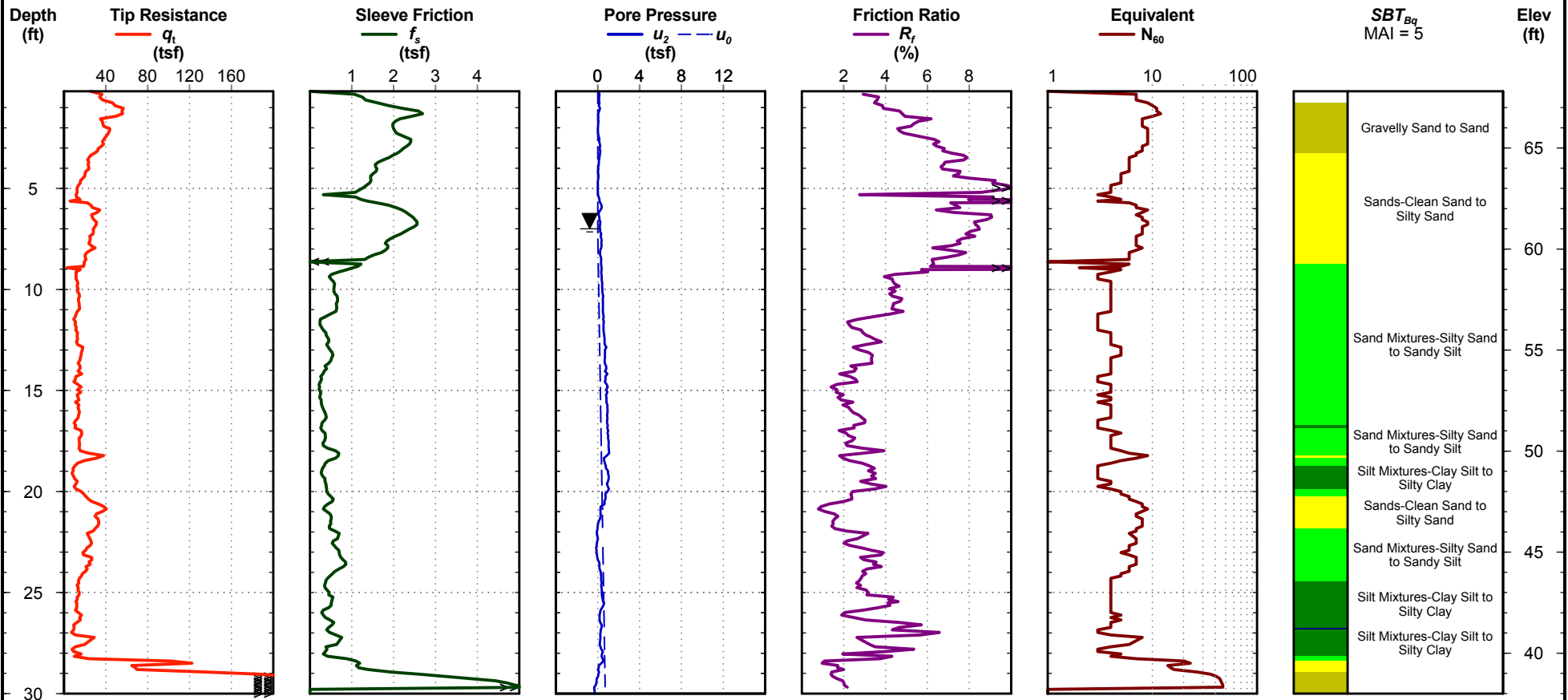
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-29

Date: Jul. 1, 2008
Estimated Water Depth: 7 ft
Rig/Operator: Gyrotrack/Feix

Northing: 452381
Easting: 2247324
Elevation: 68

Total Depth: 30.0 ft
Termination Criteria: Target Depth
Cone Size: 1.44





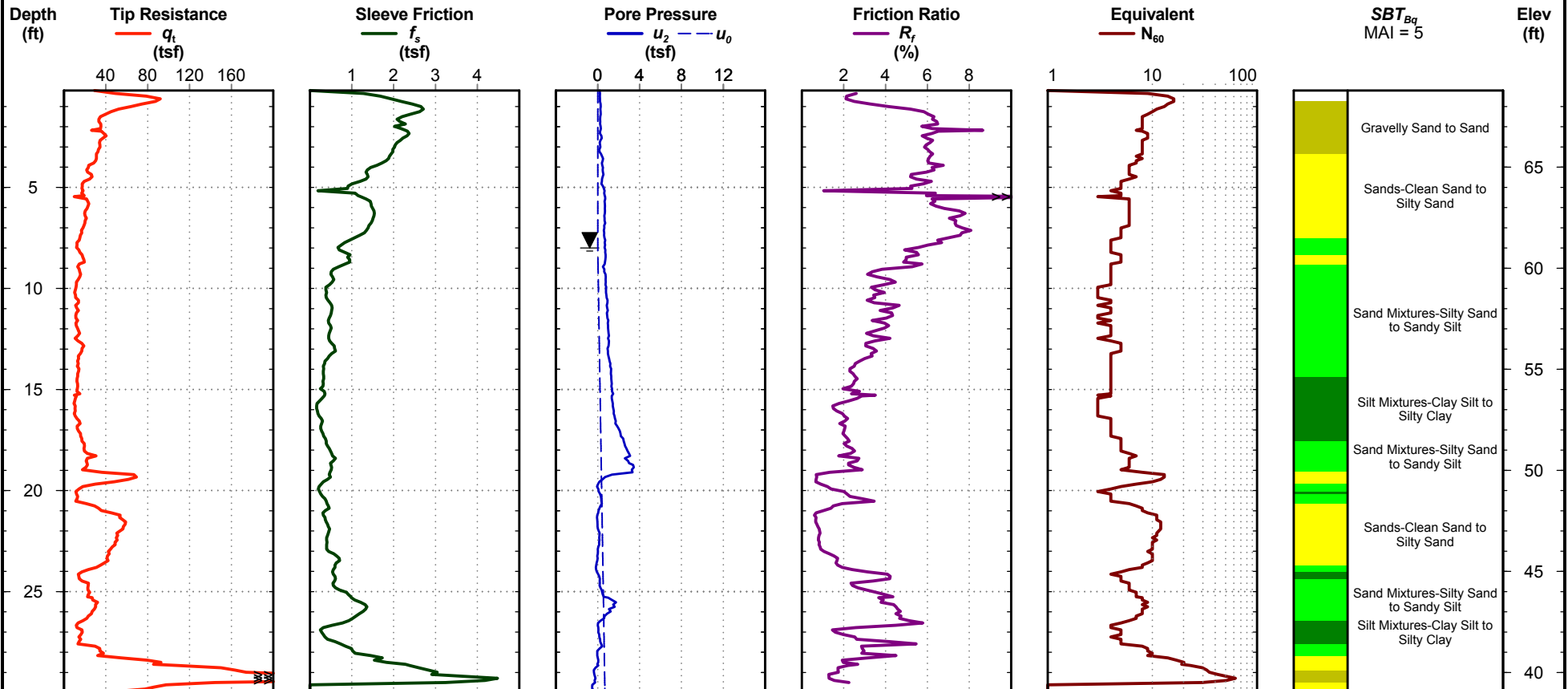
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-30

Date: Jul. 1, 2008
Estimated Water Depth: 8 ft
Rig/Operator: Gyrotrack/Feix

Northing: 452545
Easting: 2247515
Elevation: 69

Total Depth: 29.9 ft
Termination Criteria: Target Depth
Cone Size: 1.44





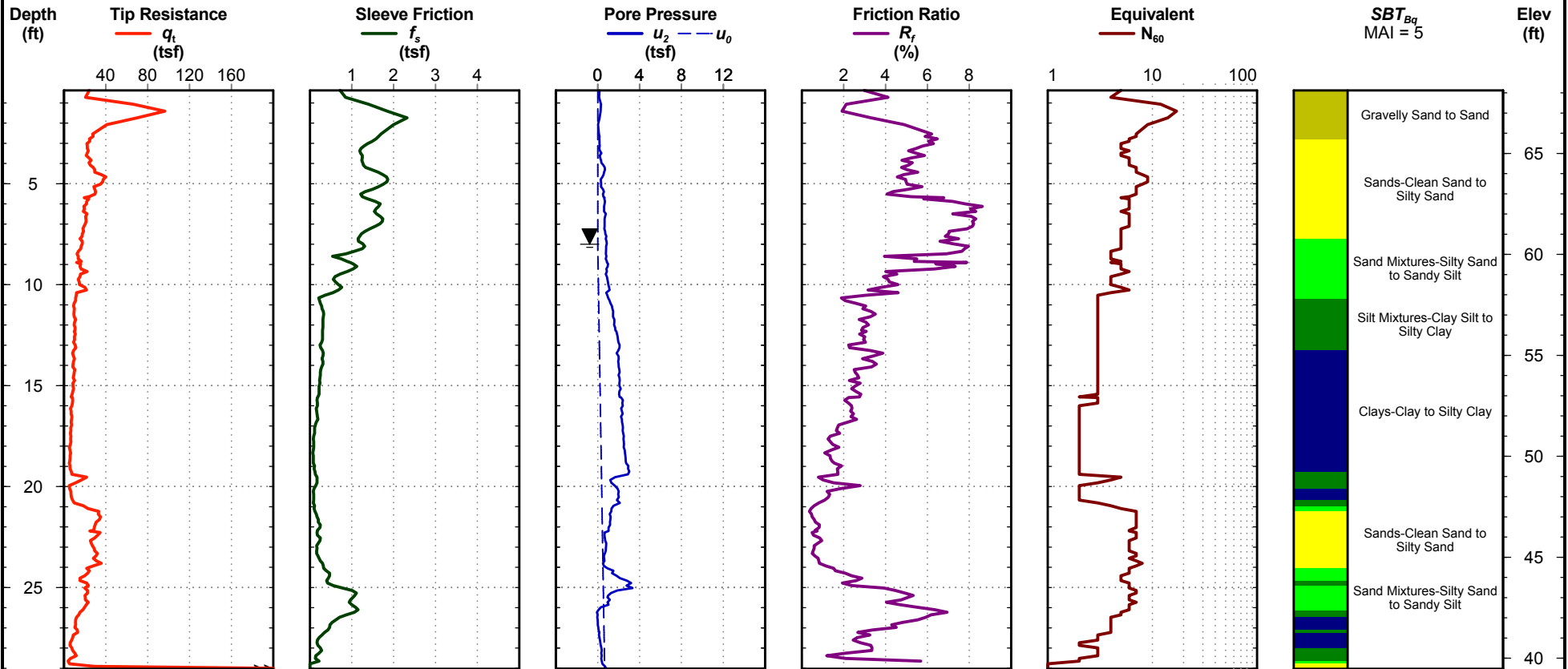
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-31

Date: Jul. 1, 2008
Estimated Water Depth: 8 ft
Rig/Operator: Gyrotrack/Feix

Northing: 452488
Easting: 2247814
Elevation: 68.5

Total Depth: 29.0 ft
Termination Criteria: Target Depth
Cone Size: 1.44





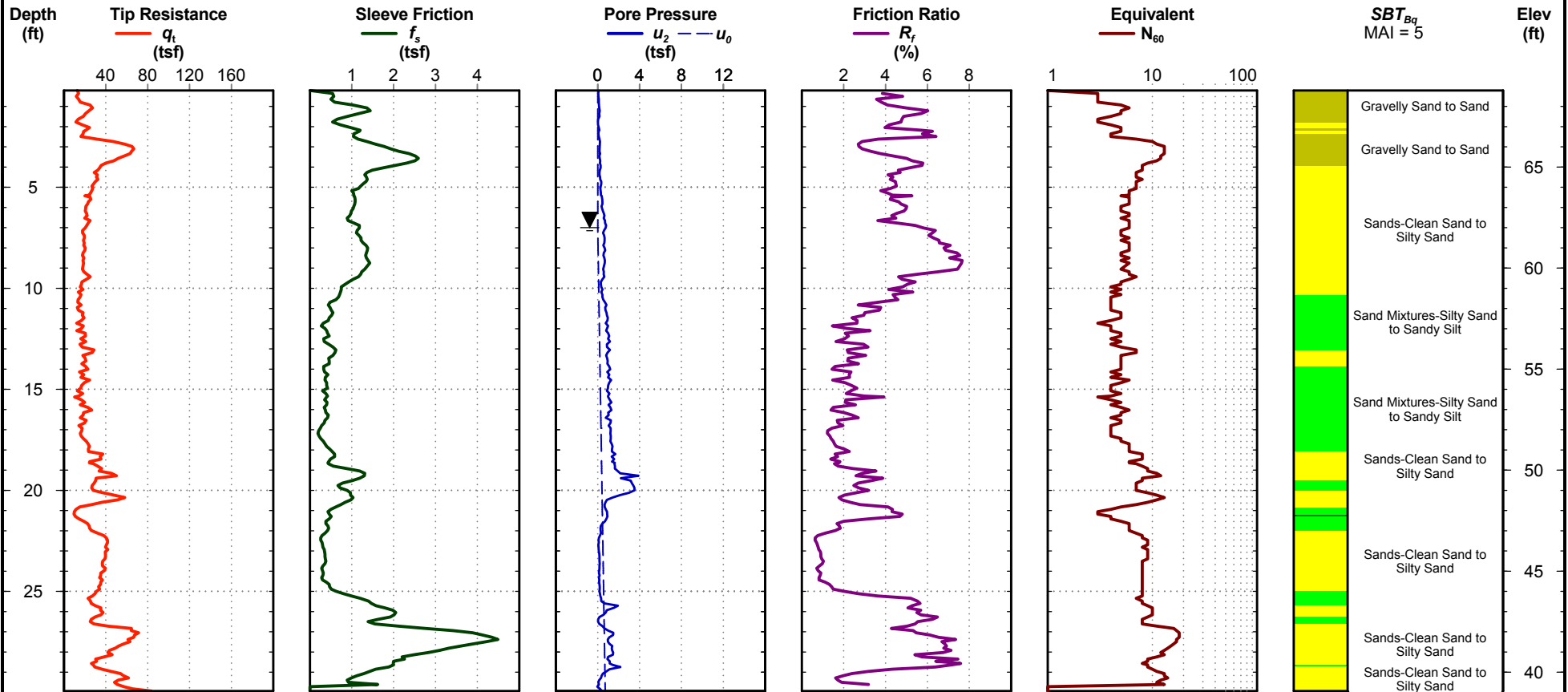
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-32

Date: Jul. 1, 2008
Estimated Water Depth: 7 ft
Rig/Operator: Gyrotrack/Feix

Northing: 452545
Easting: 2248079
Elevation: 69

Total Depth: 29.9 ft
Termination Criteria: Target Depth
Cone Size: 1.44





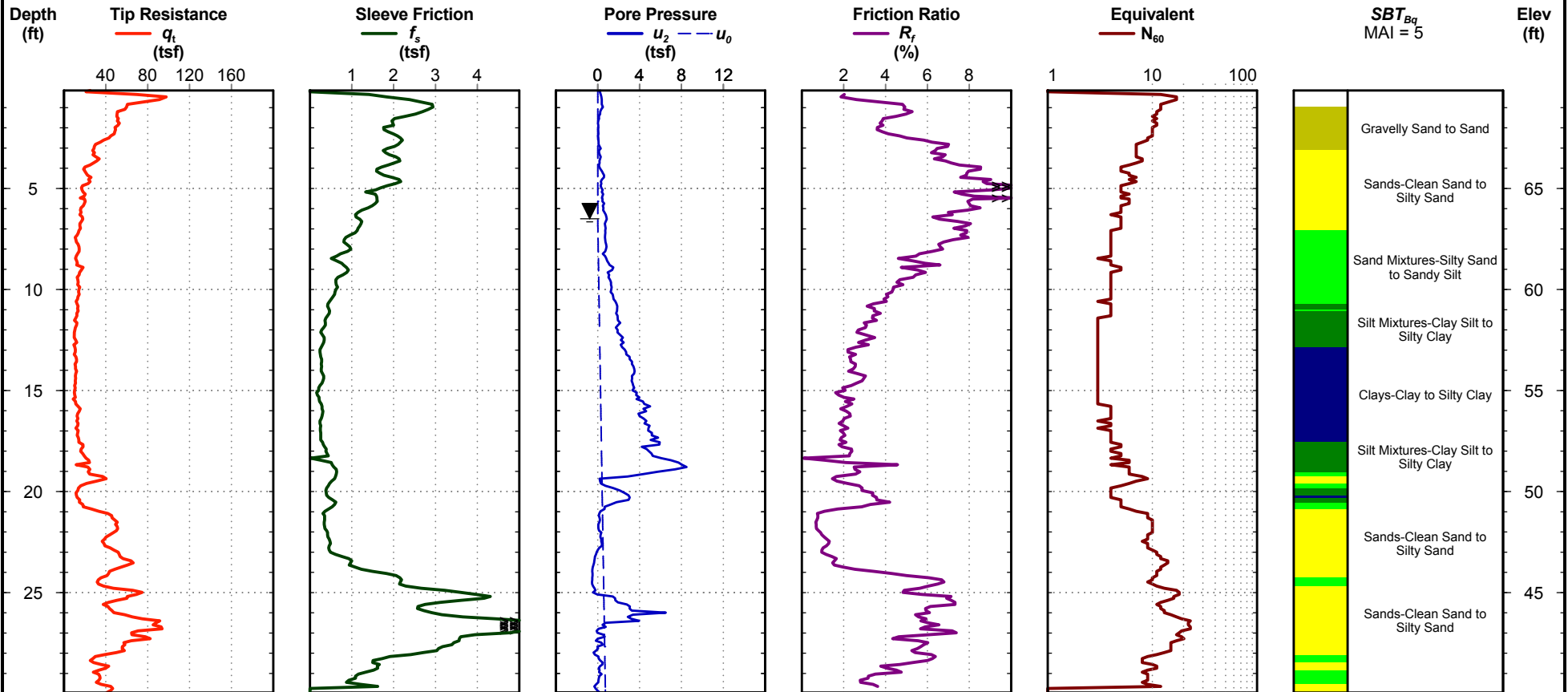
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-33

Date: Jul. 1, 2008
Estimated Water Depth: 6.5 ft
Rig/Operator: Gyrotrack/Feix

Northing: 452592
Easting: 2248338
Elevation: 70

Total Depth: 30.0 ft
Termination Criteria: Target Depth
Cone Size: 1.44





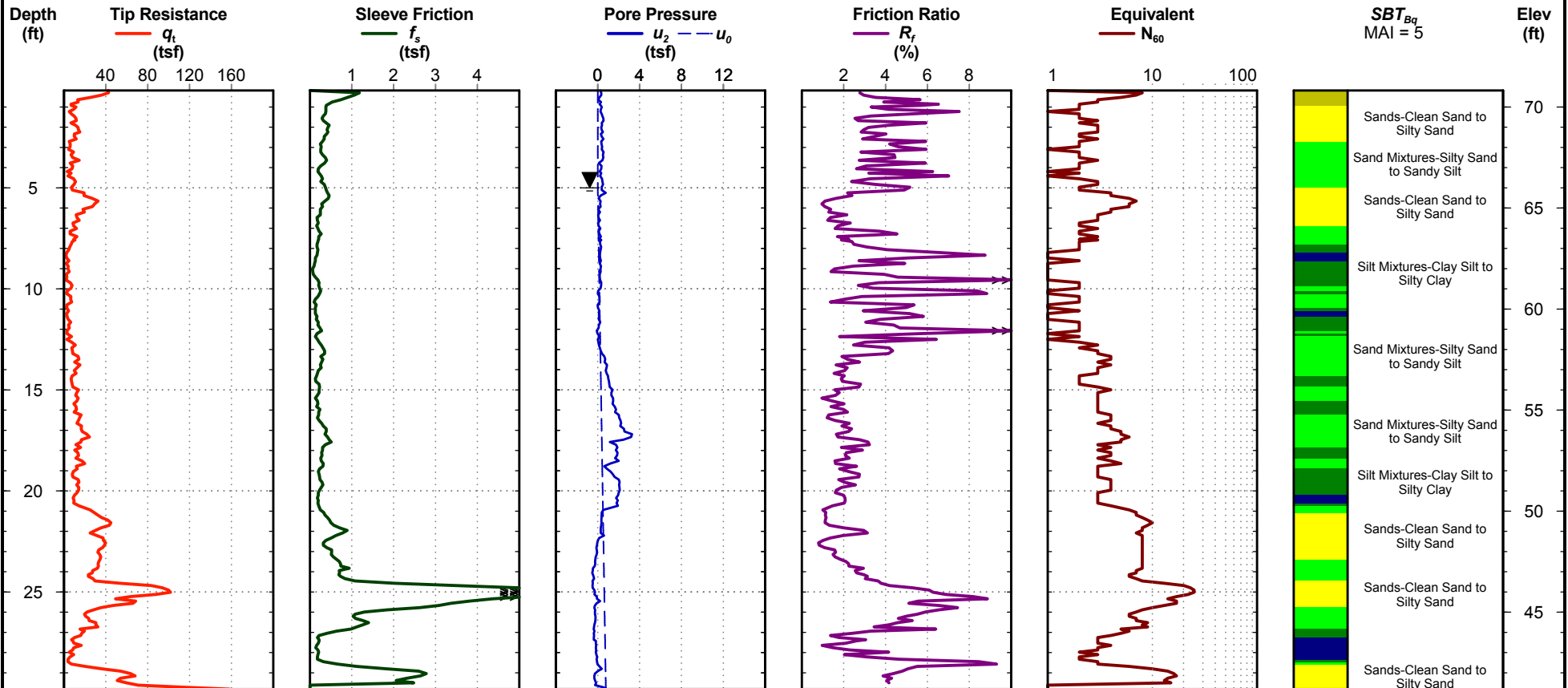
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-34

Date: Jul. 1, 2008
Estimated Water Depth: 5 ft
Rig/Operator: Gyrotrack/Feix

Northing: 452637
Easting: 2248561
Elevation: 71

Total Depth: 29.8 ft
Termination Criteria: Target Depth
Cone Size: 1.44





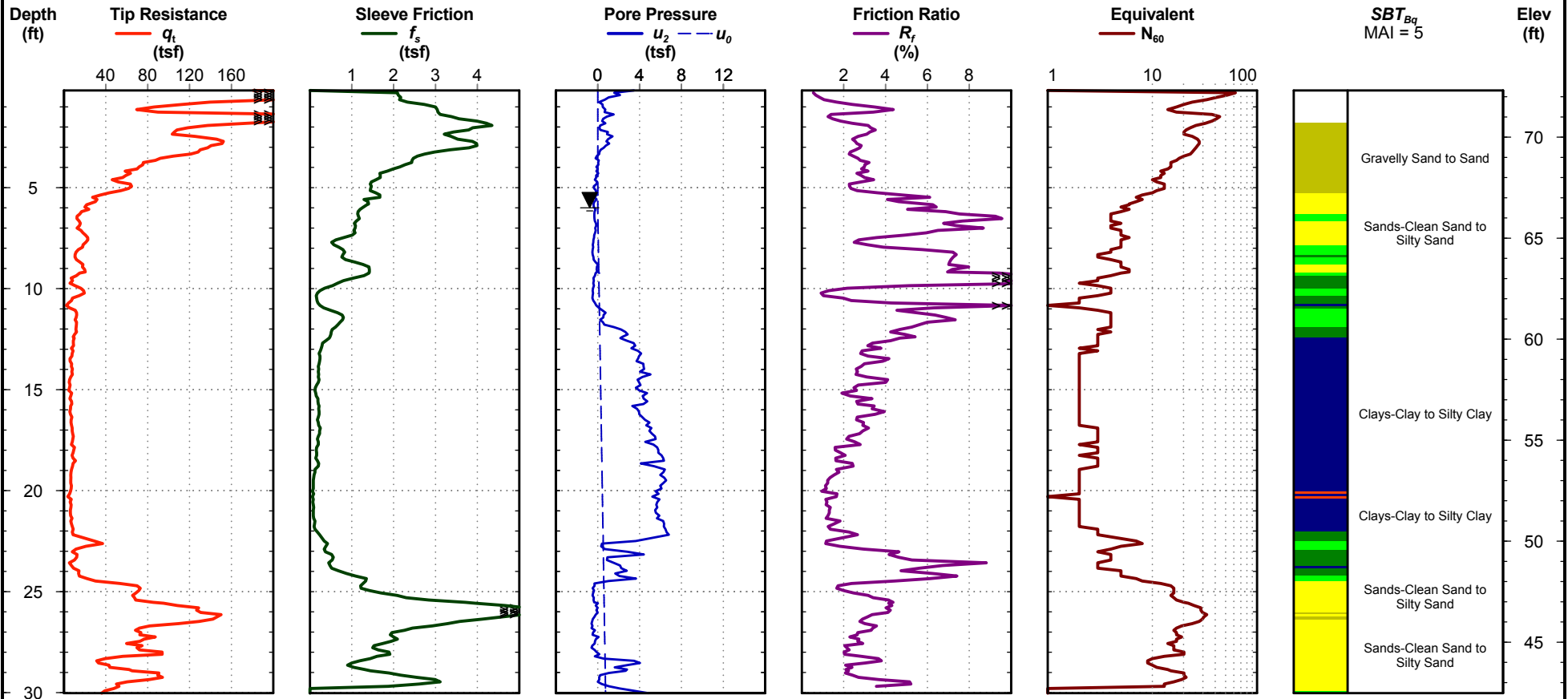
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-35

Date: Jul. 1, 2008
Estimated Water Depth: 6 ft
Rig/Operator: Gyrotrack/Feix

Northing: 452885
Easting: 2248506
Elevation: 72.5

Total Depth: 30.0 ft
Termination Criteria: Target Depth
Cone Size: 1.44





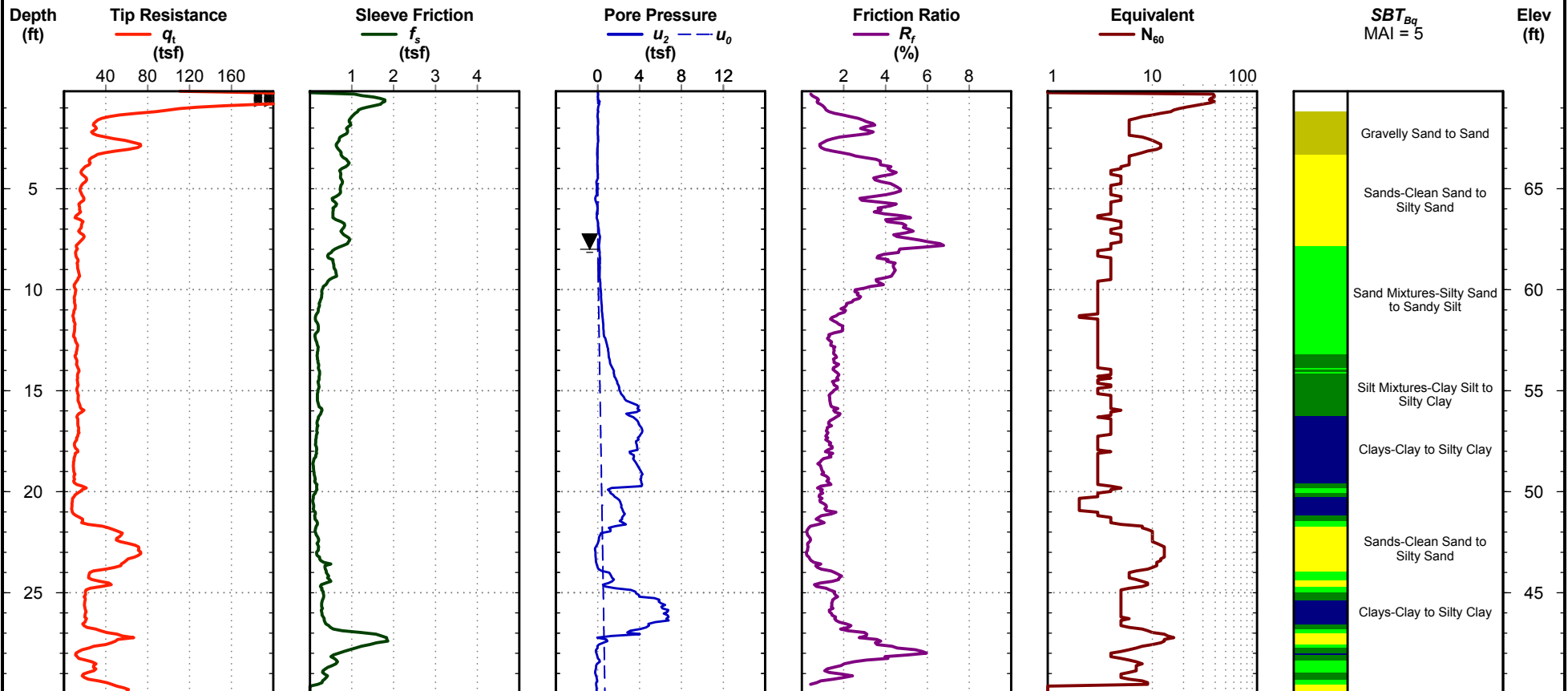
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-36

Date: Jul. 1, 2008
Estimated Water Depth: 8 ft
Rig/Operator: ATV/Cox

Northing: 452837
Easting: 2248261
Elevation: 70

Total Depth: 30.0 ft
Termination Criteria: Target Depth
Cone Size:





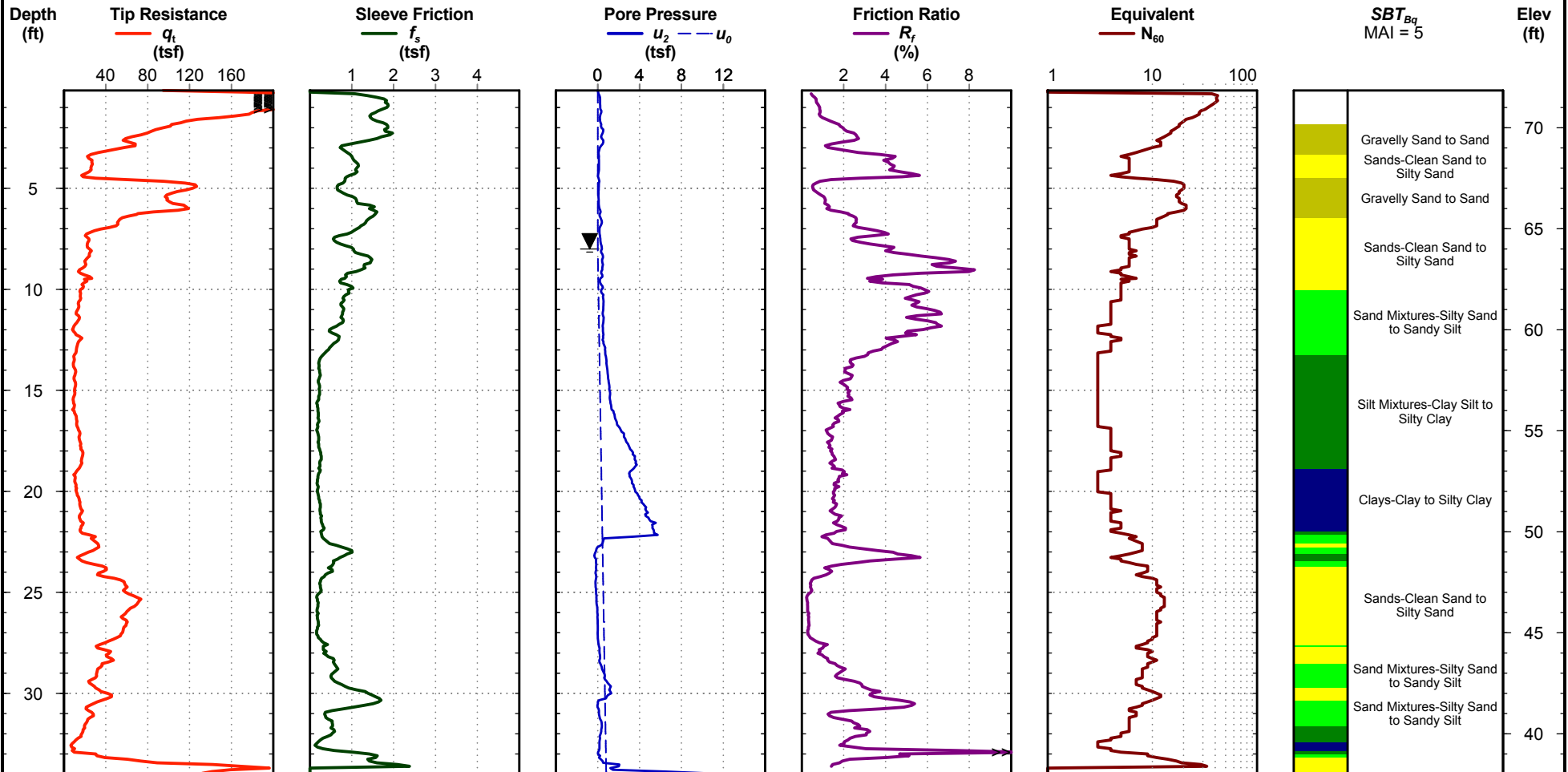
Omni Commerce Park
Berkeley County, South Carolina
S&ME Project No: 1131-08-433

Cone Penetration Test C-37

Date: Jul. 1, 2008
Estimated Water Depth: 8 ft
Rig/Operator: ATV/Cox

Northing: 452783
Easting: 2248023
Elevation: 72

Total Depth: 34.0 ft
Termination Criteria: Target Depth
Cone Size:



PROJECT:		OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-01	
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 8 INCHES</u>			
1		<u>FILL: SAND (SP)</u> brown, moist; with cemented nodules		-	
2		- - - with organics		-	
3				-	
4		<u>CLAYEY SAND (SC)</u> dark brown, black, moist; with organics		-	
HAND AUGER BORING TERMINATED AT 4 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-02			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08			
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
1		ORGANIC LADEN TOPSOIL= 1 INCH FILL: CLAYEY SAND (SC) light brown, orange mottled			
2		SAND (SP) light brown, moist			
3		CLAYEY SAND (SC) light brown, moist			
4		HAND AUGER BORING TERMINATED AT 4 FEET.			




PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-03			
DATE STARTED: 7/8/08		DATE FINISHED: 7/8/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: A. WOODS			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL: SANDY CLAY (CL)</u> tan-orange mottled		-	
2		<u>CLAYEY SAND (SC)</u> tan		-	
3		<u>CLAYEY SAND (SC)</u> gray		-	
4		<p style="text-align: center;">HAND AUGER BORING TERMINATED AT 4 FEET.</p>		-	



PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-04			
DATE STARTED: 7/8/08		DATE FINISHED: 7/8/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: A. WOODS			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL: CLAYEY SAND (SC)</u> tan, orange mottled		-	
2				-	
3			<u>SANDY CLAY (CL)</u> grayish black; organic smell		-
4				-	
HAND AUGER BORING TERMINATED AT 4 FEET.					



PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-05			
DATE STARTED: 7/8/08		DATE FINISHED: 7/8/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: A. WOODS			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL: CLAYEY SAND (SC)</u> brown		-	
2				-	
3			<u>CLAY (CL)</u> reddish brown		-
4				-	
HAND AUGER BORING TERMINATED AT 4 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-06			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 3 INCHES</u> <u>FILL: CLAYEY SAND (SC)</u> dark brown, moist --- orange; decaying roots		-	
1				-	
2		<u>CLAYEY SAND (SC)</u> light brown, orange; decaying roots		-	
3				-	
4				-	
HAND AUGER BORING TERMINATED AT 4 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-07			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>GRAVEL= 4 INCHES</u>	-	-	
		<u>FILL: CLAYEY SAND (SC)</u> brown, moist; with rock			
	HAND AUGER BORING REFUSAL AT 10 INCHES.				





PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-08			
DATE STARTED: 7/8/08		DATE FINISHED: 7/8/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: A. WOODS			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL: CLAYEY SAND (SC)</u> red brown		-	
2		<u>CLAYEY SAND (SC)</u> dark brown		-	
3				-	
4					-
		HAND AUGER BORING TERMINATED AT 4 FEET.			




PROJECT:		OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-09	
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 6 INCHES</u>			
1		<u>FILL: CLAYEY SAND (SC)</u> light brown, orange, mottled		-	
2		<u>CLAYEY SAND (SC)</u> gray, moist		-	
3				-	
4				-	
HAND AUGER BORING TERMINATED AT 4 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-10			
DATE STARTED: 7/8/08		DATE FINISHED: 7/8/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: A. WOODS			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL: CLAYEY SAND (SC)</u> brown		-	
2		<u>CLAYEY SAND (SC)</u> red brown		-	
3				-	
4				-	
HAND AUGER BORING TERMINATED AT 4 FEET.					


PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-11			
DATE STARTED: 7/8/08		DATE FINISHED: 7/8/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: A. WOODS			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL: SANDY CLAY (CL)</u> gray		-	
2		<u>CLAYEY SAND (SC)</u> light brown		-	
3				-	
4					-
HAND AUGER BORING TERMINATED AT 4 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-12			
DATE STARTED: 7/8/08		DATE FINISHED: 7/8/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: A. WOODS			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL: SANDY CLAY (SC)</u> mottled		-	
2		<u>FILL: CLAY (CL)</u> brown		-	
3		<u>CLAYEY SAND (SC)</u> gray and brown; with organics		-	
4		HAND AUGER BORING TERMINATED AT 4 FEET.		-	

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-13			
DATE STARTED: 7/8/08		DATE FINISHED: 7/8/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: A. WOODS			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>CRUSHED STONE= 24 INCHES</u>		-	
2		<u>FILL: CLAYEY SAND (SC)</u> dark brown		-	
3				-	
4				-	
HAND AUGER BORING TERMINATED AT 4 FEET.					





PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-14			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 3 INCHES</u>			
1		<u>FILL: CLAYEY SAND (SC)</u> dark brown		-	
2		--- organic matter		-	
3		<u>CLAYEY SAND (SC)</u> light brown		-	
4				-	
HAND AUGER BORING TERMINATED AT 4 FEET.					





PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-15			
DATE STARTED: 7/8/08		DATE FINISHED: 7/8/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: A. WOODS			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL: SANDY CLAY (SC)</u> gray; with organics	-	-	
		HAND AUGER BORING REFUSAL AT 1.2 FEET.			

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-16			
DATE STARTED: 7/8/08		DATE FINISHED: 7/8/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: A. WOODS			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL: SANDY CLAY (SC)</u> brown		-	
2		<u>FILL: CLAY (CL)</u> red		-	
3		- - - mottled		-	
4		HAND AUGER BORING TERMINATED AT 4 FEET.		-	

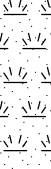

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-17			
DATE STARTED: 7/8/08		DATE FINISHED: 7/8/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: A. WOODS			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL: CLAYEY SAND (SC)</u> brown		-	
2		<u>FILL: CLAY (CL)</u> mottled		-	
3				-	
4					-
HAND AUGER BORING TERMINATED AT 4 FEET.					




PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-19			
DATE STARTED: 7/8/08		DATE FINISHED: 7/8/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: A. WOODS			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 12 INCHES</u>			
1		<u>FILL: SLIGHTLY SILTY CLAY (SM)</u> mottled		-	
2		<u>FILL: SLIGHTLY SILTY SAND (SM)</u> brown		-	
3		<u>CLAYEY SAND (SC)</u> light brown		-	
4				-	
		HAND AUGER BORING TERMINATED AT 4 FEET.			



PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-20			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 4 INCHES</u>			
1		<u>POSSIBLE FILL: SILTY SAND (S.)</u> light brown, moist		-	
2				-	
3				-	
4				-	
		HAND AUGER BORING TERMINATED AT 4 FEET.			




PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-21			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 8 INCHES</u>			
1		<u>POSSIBLE FILL: SILTY SAND (SM)</u> light brown, moist		-	
2				-	
3				-	
4				-	
		<u>HAND AUGER BORING TERMINATED AT 4 FEET.</u>			


PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-22			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08			
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 3 INCHES</u>			
		<u>POSSIBLE FILL: SILTY SAND (SM)</u> light brown, moist			
1		<u>SILTY SAND (SM)</u> dark brown, moist		-	
2		- - - light brown, moist		-	
3				-	
4				-	
		HAND AUGER BORING TERMINATED AT 4 FEET.			

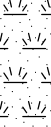










PROJECT:		OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-23	
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 6 INCHES</u>			
1		<u>POSSIBLE FILL: CLAYEY SAND (SC)</u> light brown, moist; with clay nodules		-	
2		<u>CLAYEY SAND (SC)</u> gray, moist; with organics		-	
3				-	
4				-	
HAND AUGER BORING TERMINATED AT 4 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-24			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>ORGANIC LADEN TOPSOIL= 2 INCHES</u> <u>SILTY SAND (SM)</u> light brown, moist	-		
2		<u>CLAYEY SAND (SC)</u> orange, brown; with clay nodules - - - roots	-		
3			-		
4		HAND AUGER BORING TERMINATED AT 4 FEET.	-		

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-25			
DATE STARTED: 7/8/08		DATE FINISHED: 7/8/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: A. WOODS			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>SILTY SAND (SM)</u> brown		-	
2				-	
3		<u>CLAY (CL)</u> red brown; with slightly silty sand (SP-SM)		-	
4		HAND AUGER BORING TERMINATED AT 4 FEET.		-	






PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-26			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 10 INCHES</u>			
1		<u>FILL: CLAYEY SAND (SC)</u> dark brown, moist - - - orange root decay - - - organic matter		-	
2				-	
3		<u>SILTY SAND (SM)</u> light brown, moist		-	
4		HAND AUGER BORING TERMINATED AT 4 FEET.		-	


PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-27			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 6 INCHES</u>			
1		<u>SILTY SAND (SM)</u> light brown, moist		-	
2		<u>SAND (SP)</u> white, moist; with cemented nodules		-	
3		--- orange, organic		-	
4		HAND AUGER BORING TERMINATED AT 4 FEET.		-	

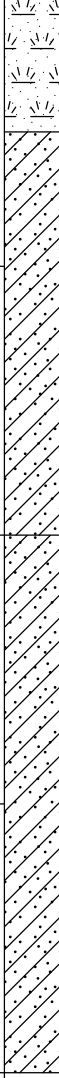
PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-28			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 3 INCHES</u>			
		<u>FILL: SAND (SP)</u> light brown, moist; with small rocks			
1		<u>SAND (SP)</u> dark brown, moist; with clay nodules		-	
		--- light brown, orange mottled, moist			
2				-	
		--- dark brown, moist			
3		<u>CLAYEY SAND (SC)</u> light brown, orange mottled, moist		-	
4				-	
HAND AUGER BORING TERMINATED AT 4 FEET.					

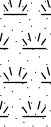


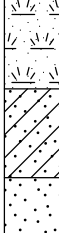



PROJECT:		OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-29	
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 6 INCHES</u>			
1		<u>CLAYEY SAND (SC)</u> brown, orange mottled, moist; with cemented nodules		-	
2				-	
3				-	
4				-	
		HAND AUGER BORING TERMINATED AT 4 FEET.			

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-30			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 4 INCHES</u>			
1		<u>CLAYEY SAND (SC)</u> light brown, moist; with clay nodules		-	
2				-	
3				-	
4				-	
		HAND AUGER BORING TERMINATED AT 4 FEET.			


PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-31			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 6 INCHES</u>			
1		<u>CLAYEY SAND (SC)</u> light brown, moist		-	
2				-	
3				-	
4				-	
		HAND AUGER BORING TERMINATED AT 4 FEET.			

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-32			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 6 INCHES</u> <u>CLAYEY SAND (SC)</u> dark brown, moist; with clay nodules		-	
1				-	
2		<u>CLAYEY SAND (SC)</u> dark brown, moist; with decaying roots		-	
3				-	
4				-	
HAND AUGER BORING TERMINATED AT 4 FEET.					


PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-33			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 6 INCHES</u>			
1		<u>CLAYEY SAND (SC)</u> light brown, orange mottled, moist		-	
2				-	
3				-	
		--- roots			
4				-	
		HAND AUGER BORING TERMINATED AT 4 FEET.			


PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-34			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)		WATER LEVEL
1		<u>ORGANIC LADEN TOPSOIL= 4 INCHES</u> <u>CLAYEY SAND (SC)</u> light brown, orange mottled <u>SAND (SP)</u> dark brown, moist	-	-	
2		<u>CLAYEY SAND (SC)</u> light brown, moist	-	-	
3			-	-	
4			-	-	
HAND AUGER BORING TERMINATED AT 4 FEET.					

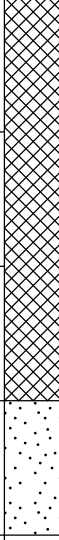



PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		HAND AUGER BORING LOG: HA-36			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD: HAND AUGER		PERFORMED BY: K. WAGNER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	WATER LEVEL	DYNAMIC CONE PENETRATION RESISTANCE
		<u>CRUSHED STONE= 3 INCHES</u>			
1		HAND AUGER BORING REFUSAL AT 3 INCHES.			
2					
3					
4					

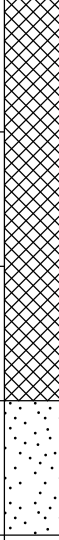
PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-01			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 14+20 2 ft left of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3					
4					
5					
6		<u>SAND (SP)</u> gray, moist			
TEST PIT TERMINATED AT 6.5 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-02			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 15+00 10 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3					
4		<u>SAND (SP)</u> gray, moist			
5					
TEST PIT TERMINATED AT 5 FEET.					


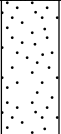
PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-03			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 14+60 20 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		FILL organic laden topsoil (strippings), soil, and other debris			
2					
3		SAND (SP) gray, moist			
TEST PIT TERMINATED AT 3.5 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-04			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 15+50 23 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3		<u>SAND (SP)</u> gray, moist			
4		TEST PIT TERMINATED AT 4 FEET.			



PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-05			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 16+00 10 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3					
4		<u>SAND (SP)</u> gray, moist			
5					
TEST PIT TERMINATED AT 5 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-06			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 16+80 20 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3		<u>SAND (SP)</u> gray, moist			
4		TEST PIT TERMINATED AT 4 FEET.			


PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-07			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 17+00 5 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3					
4		<u>SAND (SP)</u> gray, moist			
5					
TEST PIT TERMINATED AT 5 FEET.					

PROJECT:		OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-08	
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 17+60 23 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2		<u>SAND (SP)</u> gray, moist			
3		TEST PIT TERMINATED AT 3 FEET.			


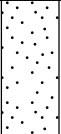
PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433			TEST PIT LOG: TP-09		
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 18+00 5 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris	-		
2			-		
3			-		
4			-		
5			<u>SAND (SP)</u> gray, moist	-	
6		TEST PIT TERMINATED AT 6 FEET.	-		

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-10			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 18+50 21 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2		<u>SAND (SP)</u> white gray, moist			
3		TEST PIT TERMINATED AT 3 FEET.			



PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-11			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 19+00 8 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3					
4		<u>SAND (SP-SC)</u> white gray, moist; with some clay			
5					
TEST PIT TERMINATED AT 5 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-12			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 19+65 20 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3		<u>SAND (SP)</u> white gray, moist			
TEST PIT TERMINATED AT 3.5 FEET.					


PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-13			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 20+00 10 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3					
4		<u>SAND (SP)</u> white gray, moist			
5					
TEST PIT TERMINATED AT 5 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-14			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 20+50 23 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2		<u>SAND (SP)</u> gray white, moist			
3		TEST PIT TERMINATED AT 3 FEET.			

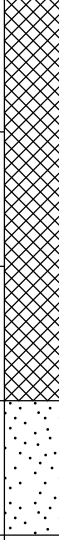
PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-15			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 21+00 2 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3					
4		<u>SAND (SP)</u> white gray, moist			
5					
TEST PIT TERMINATED AT 5 FEET.					


PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-16			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 21+50 20 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris	-	-	
2		<u>SAND (SP)</u> white, moist	-	-	
3		TEST PIT TERMINATED AT 3 FEET.			

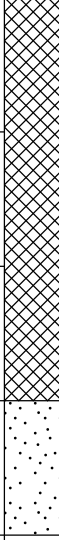
PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433			TEST PIT LOG: TP-17		
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 22+00 3 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3					
4		<u>SILTY SAND (SM)</u> brown, slightly wet			
5					
TEST PIT TERMINATED AT 5 FEET.					


PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-18			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 22+55 22 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3		<u>CLAYEY SAND (SC)</u> white, moist			
TEST PIT TERMINATED AT 3.5 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-19			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 23+00 5 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3					
4		<u>SAND (SP)</u> white gray, moist			
5					
TEST PIT TERMINATED AT 5 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-20			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 23+50 25 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3		<u>SAND (SP)</u> white gray, moist			
4		TEST PIT TERMINATED AT 4 FEET.			

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433			TEST PIT LOG: TP-21		
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 24+00 5 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris	-		
2			-		
3		<u>SAND (SP)</u> white gray, moist	-		
4		TEST PIT TERMINATED AT 4 FEET.	-		


PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-22			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 24+50 25 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3		<u>SAND (SP)</u> white gray, moist			
4		TEST PIT TERMINATED AT 4 FEET.			

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-23			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 25+00 10 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3		<u>SAND (SP)</u> white gray, moist			
TEST PIT TERMINATED AT 3.5 FEET.					


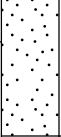
PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-24			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 25+50 25 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3		<u>SAND (SP)</u> white gray, moist			
4		TEST PIT TERMINATED AT 4 FEET.			

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-25			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 26+00 15 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3					
4					
5		<u>SAND (SP)</u> white gray, moist			
		TEST PIT TERMINATED AT 5.5 FEET.			

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-26			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 26+55 25 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3		<u>SAND (SP)</u> white gray, moist			
4		TEST PIT TERMINATED AT 4 FEET.			



PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-27			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 26+50 10 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		FILL organic laden topsoil (strippings), soil, and other debris			
2					
3		SAND (SP) white gray, moist			
TEST PIT TERMINATED AT 3.5 FEET.					

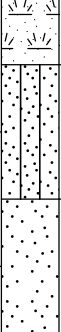
PROJECT:		OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-28	
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 29+00 25 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		FILL organic laden topsoil (strippings), soil, and other debris			
2					
3		SAND (SP) white, moist			
TEST PIT TERMINATED AT 3.5 FEET.					


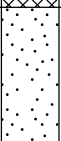
PROJECT:		OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-29	
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 28+00	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
		<u>SAND (SP)</u> white gray, moist			
TEST PIT TERMINATED AT 1.7 FEET.					




PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-30			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 28+50 25 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2					
3		<u>CLAYEY SAND (SC)</u> white gray, moist			
TEST PIT TERMINATED AT 3.5 FEET.					




PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-31			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 29+00 2 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 8 INCHES</u>			
1		<u>SAND (SP)</u> white			
2					
3		<u>CLAYEY SAND (SC)</u> gray			
4		TEST PIT TERMINATED AT 3.5 FEET.			




PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-32			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 29+50 25 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris	-	-	
2		<u>SAND (SP)</u> white, moist	-	-	
3		TEST PIT TERMINATED AT 3 FEET.			

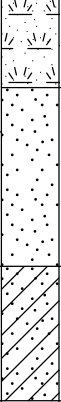
PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-33			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 30+00 12 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 6 INCHES</u> <u>SILTY SAND (SM)</u> brown, moist <u>SAND (SP)</u> white, moist			
1					
2					
3		TEST PIT TERMINATED AT 2.5 FEET.			

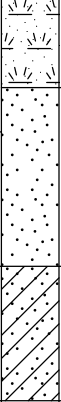
PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-34			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 30+00 10 ft left of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL</u> organic laden topsoil (strippings), soil, and other debris			
2		<u>SAND (SP)</u> white & brown, moist			
3		TEST PIT TERMINATED AT 3 FEET.			


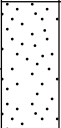
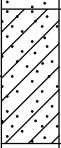
PROJECT:		OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-35	
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 31+00 10 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 6 INCHES</u>			
1		<u>SILTY SAND (SM)</u> brown, moist			
2		--- white			
3		TEST PIT TERMINATED AT 2.5 FEET.			


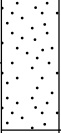
PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-36			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 32+00 25 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 6 INCHES</u>			
1		<u>SAND (SP)</u> tan brown, moist			
2		<u>CLAYEY SAND (SC)</u> white, moist			
3		TEST PIT TERMINATED AT 2.5 FEET.			

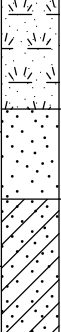
PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-37			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 32+50 25 ft right of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 6 INCHES</u>			
1		<u>SAND (SP)</u> tan brown, moist			
2		<u>CLAYEY SAND (SC)</u> white gray, moist			
3		TEST PIT TERMINATED AT 2.5 FEET.			


PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-38			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 29+00 15 ft left of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 8 INCHES</u>			
1		<u>SAND (SP)</u> white, moist			
2		<u>CLAYEY SAND (SC)</u> white gray, moist			
3		TEST PIT TERMINATED AT 3 FEET.			

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-39			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 27+00 16 ft left of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 8 INCHES</u> <u>SAND (SP)</u> white, moist <u>CLAYEY SAND (SC)</u> white gray, moist			
1					
2					
3					
TEST PIT TERMINATED AT 3 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-40			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 23+80 10 ft left of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 6 INCHES</u>			
1		<u>SAND (SP)</u> brown, moist			
2		<u>CLAYEY SAND (SC)</u> white gray, moist			
3		TEST PIT TERMINATED AT 2.5 FEET.			

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-41			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 21+10 10 ft left of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>ORGANIC LADEN TOPSOIL= 6 INCHES</u>			
		<u>SAND (SP)</u> white gray, moist			
		TEST PIT TERMINATED AT 1.5 FEET.			

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-42			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES: Sta. 18+25 15 ft left of centerline	
SAMPLING METHOD:		LOGGED BY: T. WOOD			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
		<u>ORGANIC LADEN TOPSOIL= 10 INCHES</u>			
1		<u>SAND (SP)</u> white, moist			
2		<u>CLAYEY SAND (SC)</u> white gray, moist			
3		TEST PIT TERMINATED AT 2.5 FEET.			

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-44			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD:		LOGGED BY: F. FOSHEE			
WATER LEVEL: 5 FEET AT 24 HOURS					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
		<u>CRUSHED STONE= 4 INCHES</u> <u>FILL: CLAYEY SAND (SC)</u> dark brown to yellow brown; with some clumps of light gray clay --- yellow, brown, gray, and red mottled <u>CLAYEY SAND (SC)</u> gray, and weak red mottled, wet			
1					
2					
3					
4					
5					
6					
7					
TEST PIT TERMINATED AT 7 FEET.					


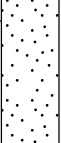
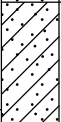
PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-45			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD:		LOGGED BY: F. FOSHEE			
WATER LEVEL: 7 FEET AT 24 HOURS					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		CRUSHED STONE= 2 INCHES FILL: CLAY (CL) red			
2		FILL: CLAYEY SAND (SC) brown, red, with gray mottled			
3		CLAYEY SAND (SC) dark gray, slightly organic to clay (CH/CL)			
4					
5		CLAY (CH) dark gray			
6					
7					
TEST PIT TERMINATED AT 7.5 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-46			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD:		LOGGED BY: M. ULMER			
WATER LEVEL: 7.5 FEET AT TIME OF BORING/ 4.6 FEET AT 24 HOURS					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		CRUSHED STONE= 3 INCHES FILL: CLAYEY SAND (SC) dark brown; with some organics - - - yellow, gray			
2					
3		CLAY (CL) tan, red, gray			
4					
5					
6					
7					
8					
TEST PIT TERMINATED AT 8 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-47			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD:		LOGGED BY: M. ULMER			
WATER LEVEL: 8.5 FEET AT TIME OF BORING/ 6 FEET AT 24 HOURS					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL: CLAYEY SAND (SC)</u> tan, brown, fine, moist			
2		<u>CLAY (CL)</u> black, moist; with organics - - - tan, gray			
3					
4		<u>CLAYEY SAND (SC)</u> light gray, moist			
5					
6					
7					
8					
9					
TEST PIT TERMINATED AT 9 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-48			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD:		LOGGED BY: M. ULMER			
WATER LEVEL: 8 FEET AT TIME OF BORING/ 4.7 FEET AT 24 HOURS					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL: CLAY (CL) AND SILTY SAND (SM)</u> tan, brown, dark gray			
2		<u>CLAYEY SAND (SC/CL)</u> tan, brown, moist			
3		- - - light gray, red, tan; moist			
4					
5					
6					
7					
8					
9					
TEST PIT TERMINATED AT 9 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-49			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD:		LOGGED BY: M. ULMER			
WATER LEVEL: 4 FEET AT 24 HOURS					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL: SANDY CLAY (CL)</u> tan, orange			
2		<u>SAND (SP)</u> dark brown			
3		<u>CLAYEY SAND (SC)</u> tan, brown, gray			
4		--- seep			
5					
6					
7					
8					
TEST PIT TERMINATED AT 8 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-50			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD:		LOGGED BY: M. ULMER			
WATER LEVEL: 5 FEET AT 24 HOURS					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
		<u>FILL: SANDY CLAY (CL)</u> tan, gray, red			
1		<u>SAND (SP)</u> dark gray			
2					
3		<u>CLAYEY SAND (SC)</u> tan			
4					
5		- - - tan, light gray, red			
6					
7					
8					
9					
TEST PIT TERMINATED AT 9 FEET.					



PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-51			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD:		LOGGED BY: M. ULMER			
WATER LEVEL: 7.5 FEET AT 24 HOURS					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL: CLAYEY SAND (SC)</u> black; with organics			
2					
3		<u>CLAYEY SAND (SC)</u> tan, gray, light gray			
4					
5					
6					
7					
8					
		TEST PIT TERMINATED AT 8.5 FEET.			

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-52			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD:		LOGGED BY: M. ULMER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING OR 24 HOURS					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
0		<u>CRUSHED STONE= 3 INCHES</u>			
1		<u>FILL: SANDY CLAY (CL)</u> tan, orange			
2					
3		<u>CLAYEY SAND (SC)</u> dark brown; sand with roots			
4					
5		--- tan, light gray			
6					
7					
8					
		TEST PIT TERMINATED AT 8 FEET.			

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-53			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD:		LOGGED BY: M. ULMER			
WATER LEVEL: 6.25 FEET AT 24 HOURS					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
0		<u>CRUSHED STONE= 3 INCHES</u>			
1		<u>FILL: SANDY CLAY (CL)</u> tan, orange			
2					
3		<u>CLAYEY SAND (SC)</u> tan, light gray			
4					
5					
6					
7					
8					
TEST PIT TERMINATED AT 8 FEET.					

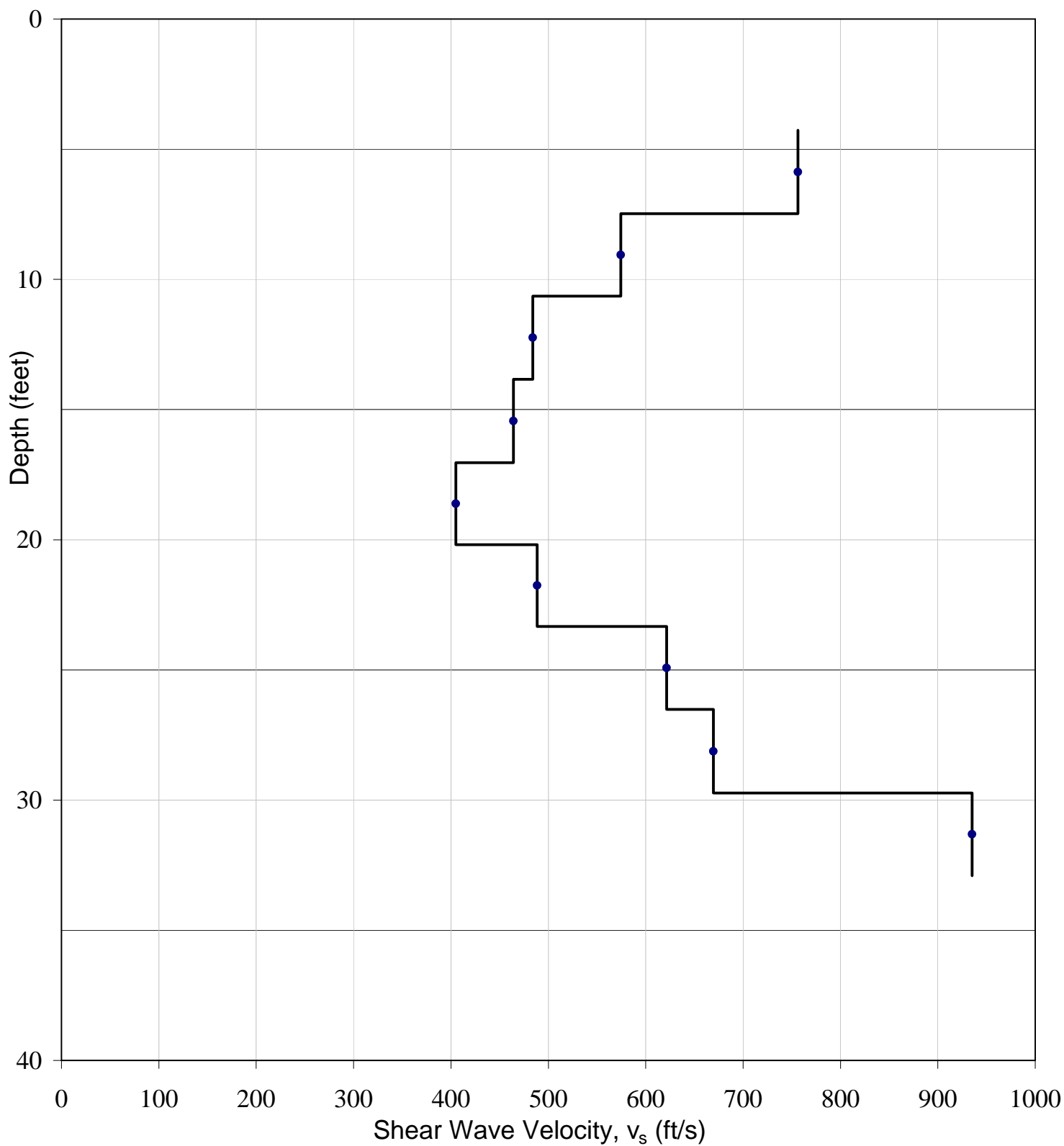
PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-54			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD:		LOGGED BY: M. ULMER			
WATER LEVEL: 7.25 FEET AT 24 HOURS					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
0		<u>CRUSHED STONE= 3 INCHES</u>			
1		<u>FILL: CLAY (CL)</u> tan, red, orange			
2					
3					
4		<u>CLAYEY SAND (SC)</u> light gray, tan			
5					
6					
7					
8					
TEST PIT TERMINATED AT 8 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-55			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD:		LOGGED BY: M. ULMER			
WATER LEVEL: 8 FEET AT TIME OF BORING/ 7.34 AT 24 HOURS					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
1		<u>FILL: SAND (SP) = 2 INCHES</u> <u>FILL: CLAY (CL)</u> tan, red, orange			
2					
3					
4		<u>CLAYEY SAND (SC)</u> light brown, tan			
5					
6					
7					
8					
TEST PIT TERMINATED AT 8 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-56			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD:		LOGGED BY: M. ULMER			
WATER LEVEL: 7.5 FEET AT TIME OF BORING/ 7 FEET AT 24 HOURS					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
		<u>FILL: SAND (SP) = 6 INCHES</u>			
1		<u>FILL: CLAY (CL)</u> tan, red, gray			
2					
3		<u>CLAYEY SAND (SC)</u> dark brown; with roots			
4					
5		<u>CLAY (CL)</u> tan, gray; with sand			
6					
7					
TEST PIT TERMINATED AT 7.5 FEET.					

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-57			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD:		LOGGED BY: M. ULMER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING OR 24 HOUR					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
0		<u>CRUSHED STONE= 3 INCHES</u>			
1		<u>FILL: CLAYEY SAND (SC)</u> dark gray; with organic material			
2					
3					
4		<u>CLAY (CL)</u> tan, brown, gray; with sand			
5					
6					
7		TEST PIT TERMINATED AT 7 FEET.			

PROJECT: OMNI COMMERCE PARK SUMMERVILLE, SOUTH CAROLINA 1131-08-433		TEST PIT LOG: TP-58			
DATE STARTED: 6/12/08		DATE FINISHED: 6/12/08		NOTES:	
SAMPLING METHOD:		LOGGED BY: M. ULMER			
WATER LEVEL: NOT ENCOUNTERED AT TIME OF BORING OR 24 HOURS					
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION (ft)	SAMPLE NO/TYPE	DYNAMIC CONE PENETRATION RESISTANCE
0		<u>CRUSHED STONE= 3 INCHES</u>			
1		<u>FILL: SANDY CLAY (CL)</u> tan, gray			
2					
3		<u>CLAYEY SAND (SC)</u> dark gray; with roots			
4		--- tan, red, gray			
5					
6					
7		TEST PIT TERMINATED AT 7 FEET.			



Shear Wave Velocity Profile Omni Commerce Park Berkeley County, South Carolina		Sounding ID:	C-16	Drawn By:
		Date:	7/1/08	Approved By:
		Project Number:	1131-08-433	Figure: 2

FIELD TESTING PROCEDURES

Cone Penetrometer Test (CPT) Sounding

The cone penetrometer test soundings (ASTM D 5778) were performed by hydraulically pushing an electronically instrumented cone penetrometer through the soil at a constant rate. As the cone penetrometer tip was advanced through the soil, nearly continuous readings of point stress, sleeve friction and pore water pressure were recorded and stored in the on-site computers. Using theoretical and empirical relationships, CPT data can be used to determine soil stratigraphy and estimate soil properties and parameters such as effective stress, friction angle, Young's Modulus and undrained shear strength.

The consistency and relative density designations, which are based on the cone tip resistance, q_t for sands and cohesive soils (silts and clays) are as follows:

<u>SANDS</u>		<u>SILTS AND CLAYS</u>	
Cone Tip Resistance, q_t (tsf)	Relative Density	Cone Tip Resistance, q_t (tsf)	Consistency
<20	Very Loose	<5	Very Soft
20 – 40	Loose	5 – 10	Soft
40 – 120	Medium Dense	10 – 15	Firm
		15 – 30	Stiff
120 – 200	Dense	30 – 60	Very Stiff
>200	Very Dense	>60	Hard

CPT Correlations

References are in parenthesis next to the appropriate equation.

General

p_a = atmospheric pressure (for unit normalization)

q_t = corrected cone tip resistance (tsf)

f_s = friction sleeve resistance (tsf)

$R_f = 100\% * (f_s/q_t)$

u_2 = pore pressure behind cone tip (tsf)

u_0 = hydrostatic pressure

$B_q = (u_2 - u_0)/(q_t - \sigma'_{v0})$

$Q_t = (q_t - \sigma'_{v0})/ \sigma'_{v0}$

$F_r = 100\% * f_s/(q_t - \sigma'_{v0})$

$I_c = ((3.47 - \log Q_t)^2 + (\log F_r + 1.22)^2)^{0.5}$

N-Value

$$N_{60} = (q_t/p_a)/[8.5(1 - I_c/4.6)] \quad (6)$$

(6) Jefferies, M.G. and Davies, M.P., (1993), "Use of CPTu to estimate equivalent SPT N_{60} ", ASTM Geotechnical Testing Journal, Vol. 16, No. 4

APPENDIX II

Laboratory Data Summary

Proctor Curves

CBR Curves

Laboratory Testing Procedures

LABORATORY TEST DATA SUMMARY

Omni Commerce Park
Berkeley County, South Carolina
S&ME Job No. 1131-08-433

Sample Location	Sample Depth (feet)	USCS Symbol	Natural Moisture (%)	% Finer #200 Sieve	Atterberg Limits		Modified Proctor		CBR (%)
					LL	PI	Max γ_d (pcf)	OMC (%)	
TP-1	2	SC-SM	21.0	36.8	25	5			
TP-2	1 – 3	SC-SM	14.3	28.7	23	5			
TP-3	2	ML	26.1	64.2	40	14	107.0	16.5	2.0
TP-4	2	SC-SM	16.2	29.8	24	7	108.5	17.5	3.5
TP-6	6	SM	23.7	34.7	NV	NP			
TP-7	2	SM	18.9	31.7	NV	NP			
TP-8	0	SM	16.9	31.5	NV	NP	110.5	16.5	6.0
TP-11	2	SM	15.4	34.6	27	3			
TP-12	2	ML	16.0	54.4	27	2	106.0	17.0	0.9
TP-13	2	SC-SM	16.5	33.6	27	7			

Moisture - Density Report



S&ME Project #: 1131-08-433
Project Name: Omni Commerce Park
Client Name:
Client Address:

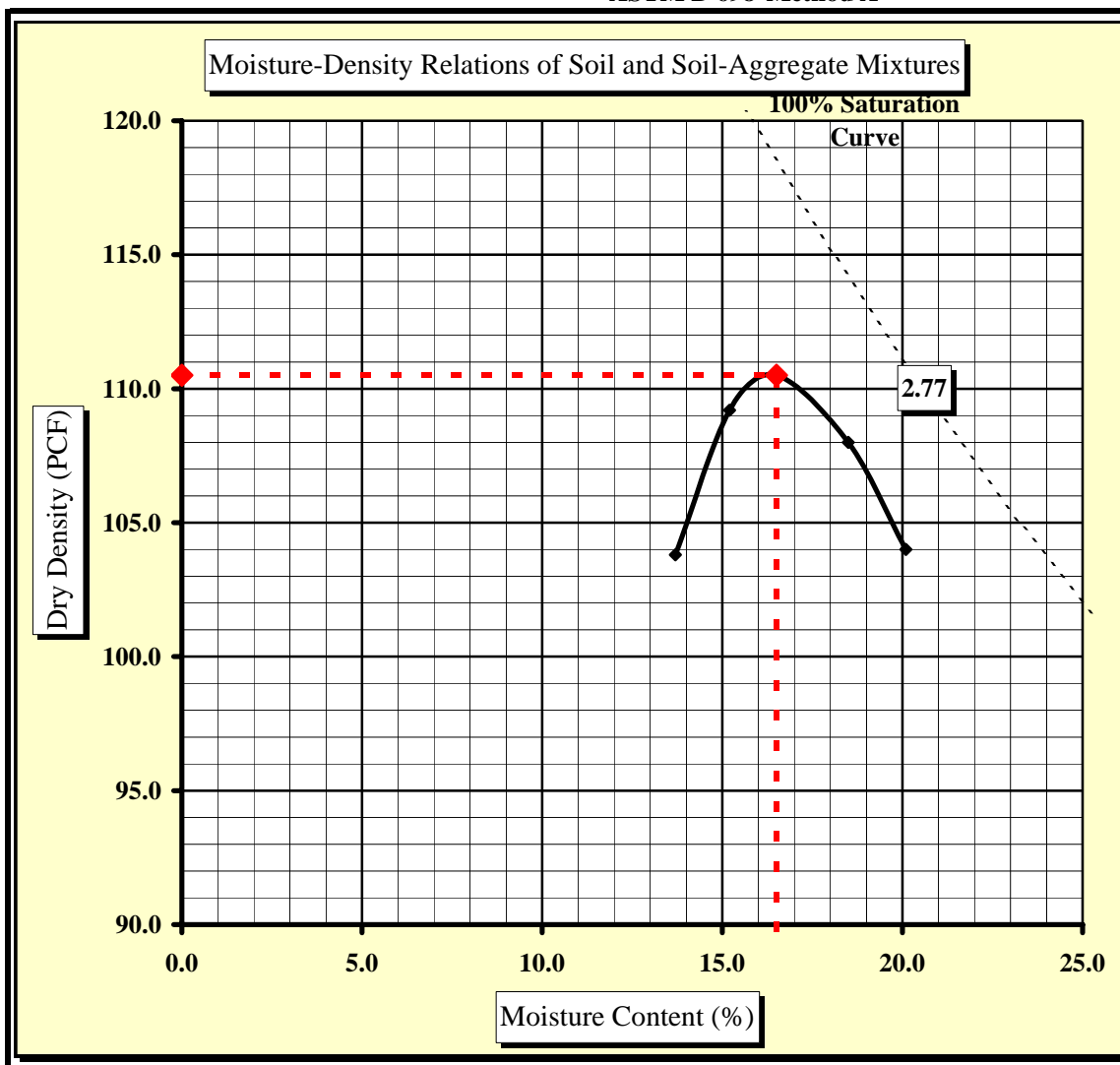
Report Date: July 3, 2008
Test Date(s): July 3, 2008

Boring #: TP-8 **Sample #:** 1 **Sample Date:** July 2, 2008
Location: Drop Off Drive **Offset:** N/A **Depth:** N/A
Sample Description: Reddish Brown Sand with traces of Clay

Maximum Dry Density 110.5 PCF.

Optimum Moisture Content 16.5 %

ASTM D 698 Method A



Soil Properties

Natural Moisture Content: 16.9%

Liquid Limit: NP

Plastic Limit: NP

Plastic Index: NP

Specific Gravity: N/A

% Passing
#200 31.5

Overflow Fraction

Bulk Sp. Gravity

% Moisture

Overflow Fraction

MDD

Opt. MC

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Overflow Fraction (ASTM D 4718) ☐
 Sieve Size used to separate the Overflow Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐
 Mechanical Hammer ☒ Manual Hammer ☐ Moist Preparation ☐ Dry Preparation ☐

References: ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort

Technical Responsibility:

Signature

Position

Moisture - Density Report



S&ME Project #: 1131-08-433
Project Name: Omni Commerce Park
Client Name:
Client Address:

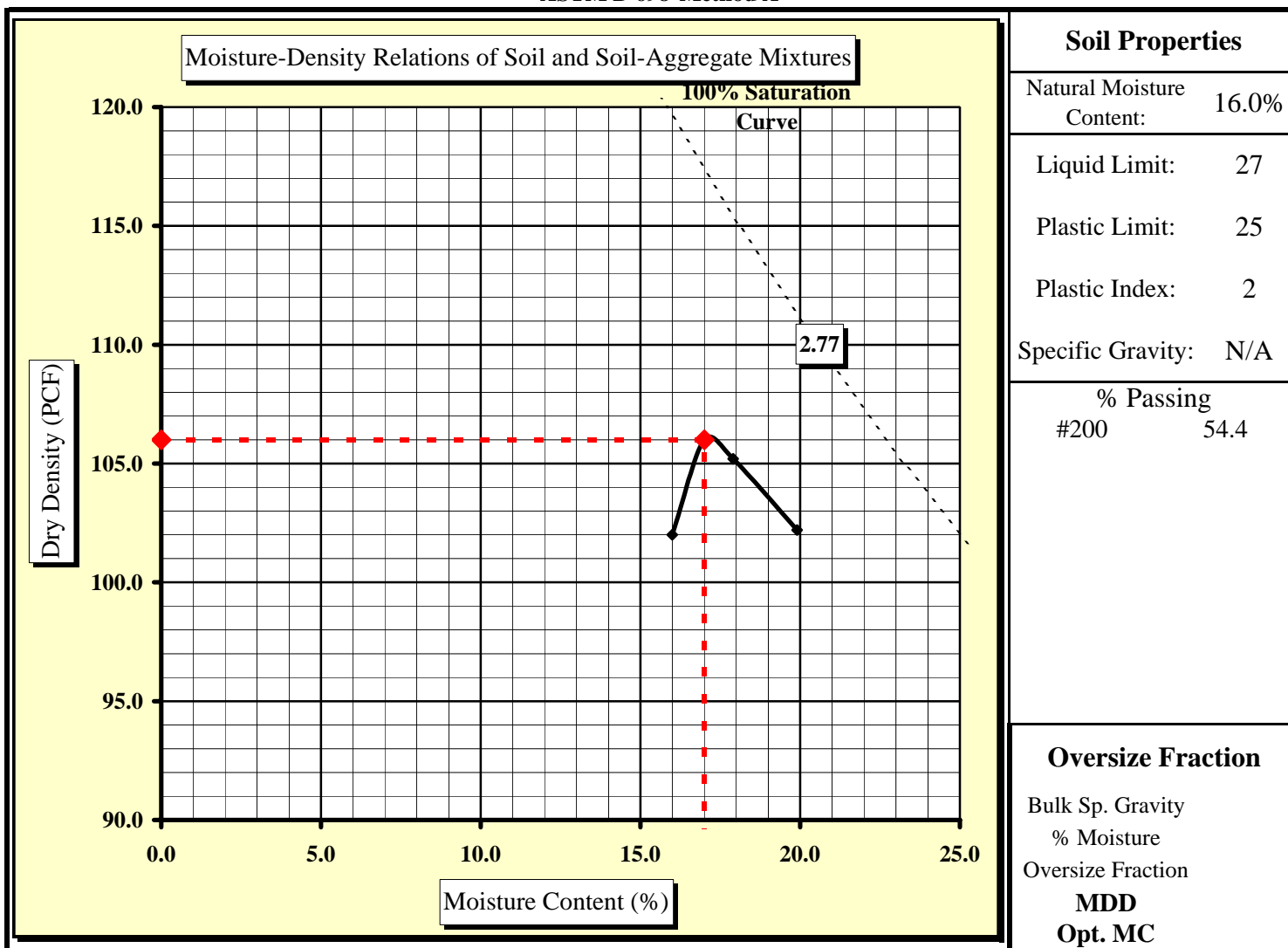
Report Date: July 8, 2008
Test Date(s): July 8, 2008

Boring #: TP- 12	Sample #: 2	Sample Date: July 2, 2008
Location: Drop Off Drive	Offset: N/A	Depth: 2 ft
Sample Description: Red Clayey Sand		

Maximum Dry Density 106.0 PCF.

Optimum Moisture Content 17.0 %

ASTM D 698 Method A



Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Overflow Fraction (ASTM D 4718) ☐
 Sieve Size used to separate the Overflow Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐
 Mechanical Hammer ☒ Manual Hammer ☐ Moist Preparation ☐ Dry Preparation ☐

References: ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort

Technical Responsibility:

Signature

Position

Moisture - Density Report



S&ME Project #: 1131-08-433
Project Name: Omni Commerce Park
Client Name:
Client Address:

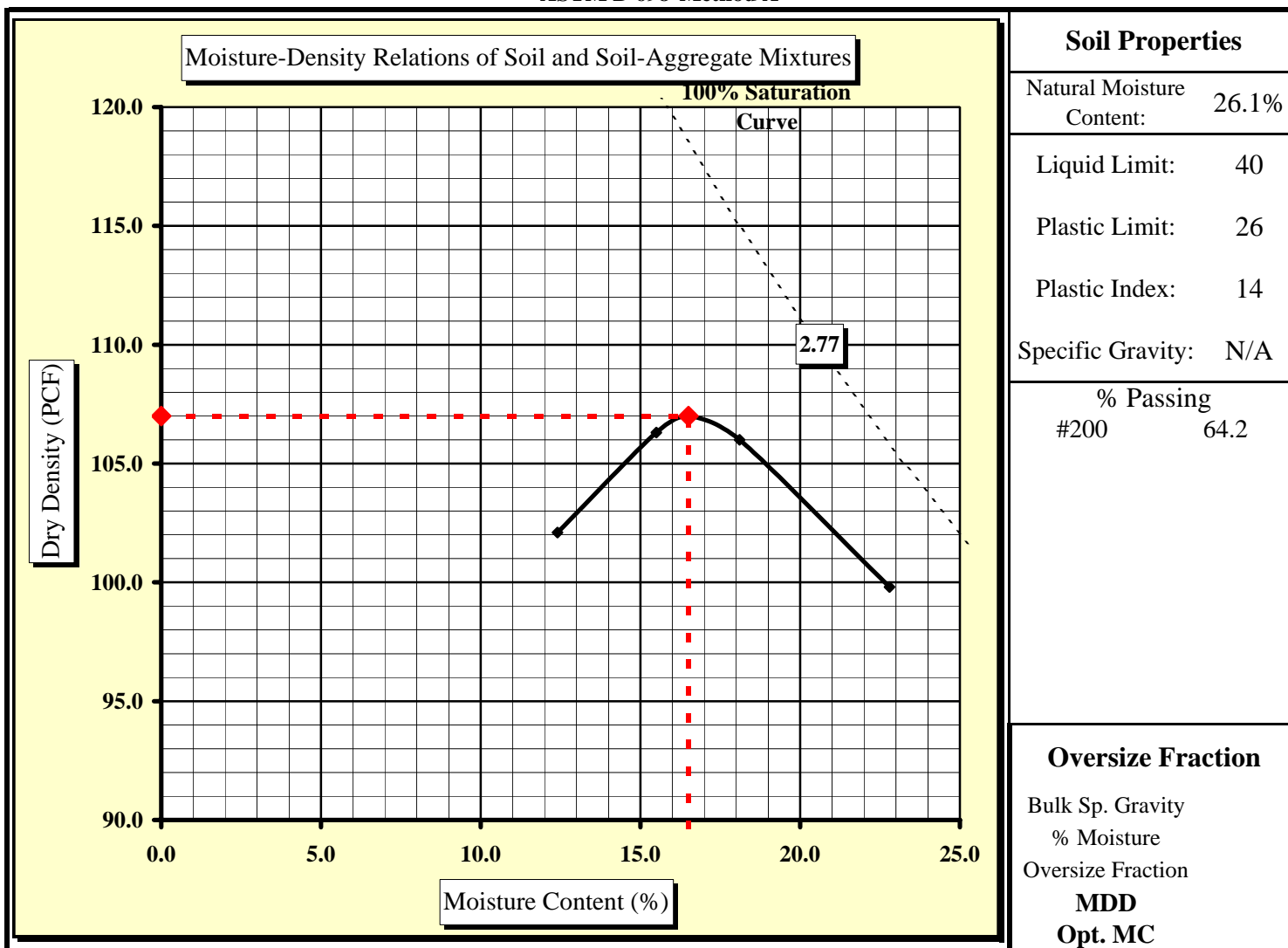
Report Date: July 8, 2008
Test Date(s): July 7, 2008

Boring #: TP- 3	Sample #: 3	Sample Date: July 2, 2008
Location: Drop Off Drive	Offset: N/A	Depth: 2 ft
Sample Description: 0		

Maximum Dry Density 107.0 PCF.

Optimum Moisture Content 16.5 %

ASTM D 698 Method A



Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐
 Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐
 Mechanical Hammer ☒ Manual Hammer ☐ Moist Preparation ☐ Dry Preparation ☐

References: ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort

Technical Responsibility:

Signature

Position

Moisture - Density Report



S&ME Project #: 1131-08-433
 Project Name: Omni Commerce Park
 Client Name:
 Client Address:

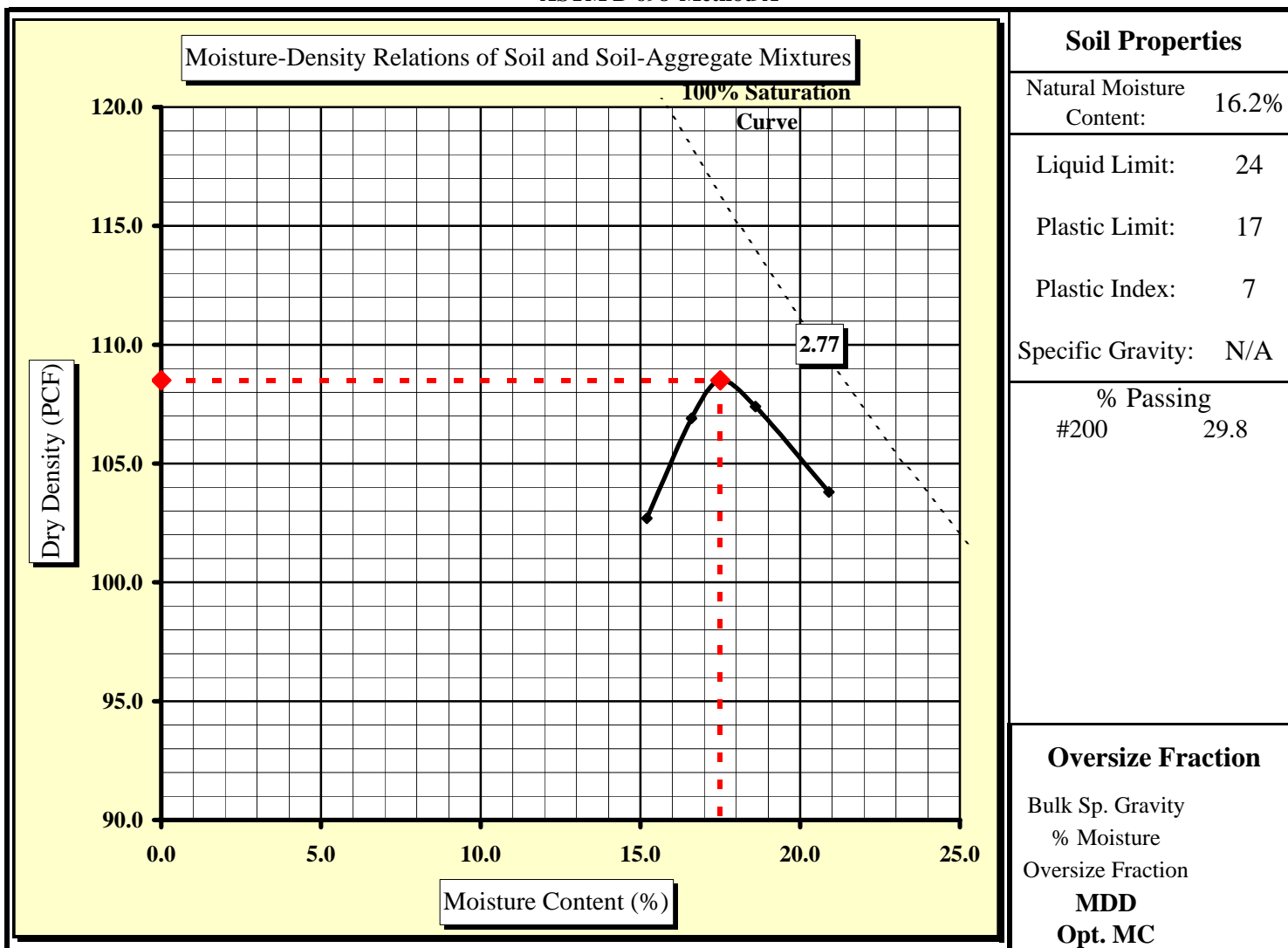
Report Date: July 3, 2008
 Test Date(s): July 3, 2008

Boring #:	TP- 4	Sample #:	4	Sample Date:	July 2, 2008
Location:	Drop Off Drive	Offset:	N/A	Depth:	2 ft
Sample Description:	Reddish Brown Clayey Sand				

Maximum Dry Density 108.5 PCF.

Optimum Moisture Content 17.5 %

ASTM D 698 Method A



Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐
 Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐
 Mechanical Hammer ☒ Manual Hammer ☐ Moist Preparation ☐ Dry Preparation ☐

References: ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort

Technical Responsibility:

Signature

Position



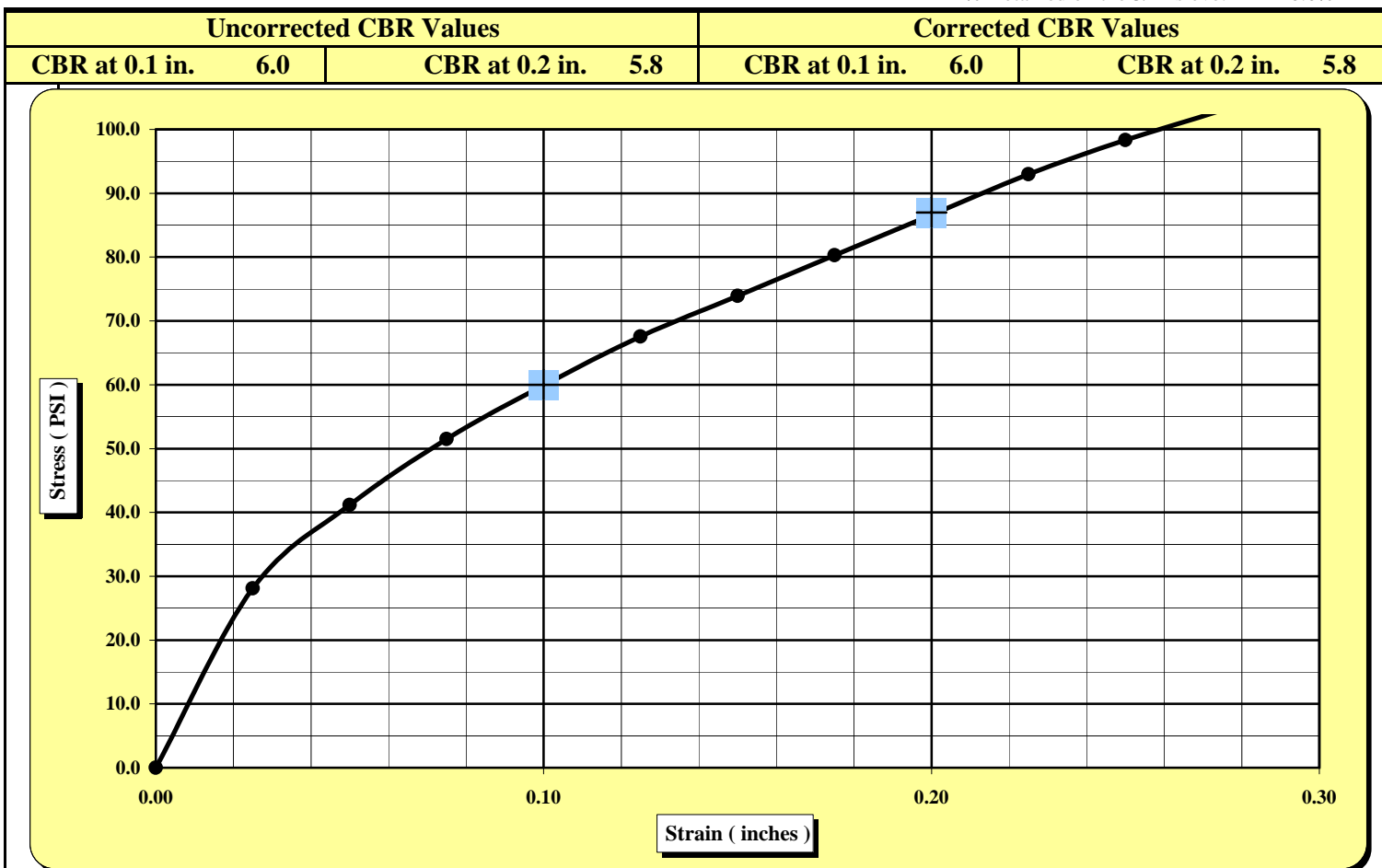
CBR (California Bearing Ratio) of Laboratory Compacted Soil

AASHTO T 193

Project #: 1131-08-433
Project Name: Omni Commerce Park
 Client Name:
 Client Address:

Report Date: 7-12-08
Test Date(s): 7-8-08

Boring #: TP-8 **Sample #:** 1 **Sample Date:** 7-2-08
Location: Drop Off Road **Offset:** NA **Elevation:** NA
Sample Description: Reddish Brown Clayey Sand
ASTM D 698 **Maximum Dry Density (PCF):** 110.5 **Optimum Moisture Content:** 16.5%
% Retained on the 3/4" sieve: 0.0%



CBR Sample Preparation:

Grading was in accordance with the above method and compacted using the 6" diameter CBR mold.

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	18	Final Dry Density (PCF)	105.2
Initial Dry Density (PCF)	105.1	Average Final Moisture Content	15.9%
Moisture Content of the Compacted Specimen	16.0%	Moisture Content (top 1" after soaking)	16.3%
Percent Compaction	95.1%	Percent Swell	0.0%
Soak Time:	96 hrs.	Surcharge Weight	10.0
		Surcharge Wt. per sq. Ft.	51.0

References: AASHTO T 193: The California Bearing Ratio
 ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort
 Optional Moisture method
 Visual Classification of Soil or other note can be entered here or a string of blanks here will leave the line blank.

Technical Responsibility:

Signature

Position

CBR (California Bearing Ratio) of Laboratory Compacted Soil

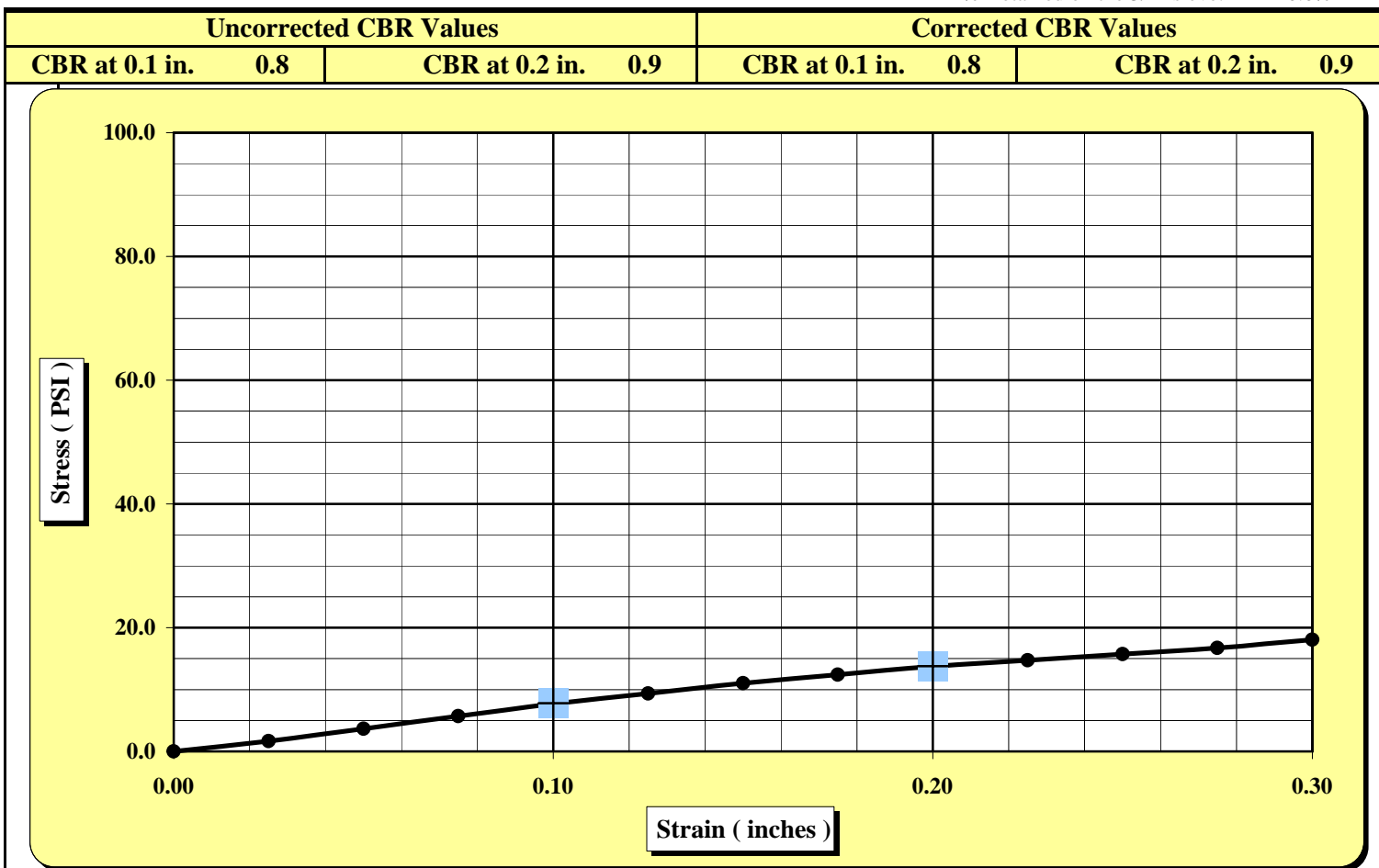
AASHTO T 193

Project #: 1131-08-433
Project Name: Omni Commerce Park
 Client Name:
 Client Address:

Report Date: 7-15-08
Test Date(s): 7-10-08

Boring #: TP-12 **Sample #:** 2 **Sample Date:** 7-2-08
Location: Drop Off Road **Offset:** NA **Elevation:** 2 ft
Sample Description: Red Clayey Sand

ASTM D 698 **Maximum Dry Density (PCF):** 106.0 **Optimum Moisture Content:** 17.0%
% Retained on the 3/4" sieve: 0.0%

**CBR Sample Preparation:**

Grading was in accordance with the above method and compacted using the 6" diameter CBR mold.

<i>Before Soaking</i>		<i>After Soaking</i>	
Compactive Effort (Blows per Layer)	21	Final Dry Density (PCF)	96.4
Initial Dry Density (PCF)	100.4	Average Final Moisture Content	20.2%
Moisture Content of the Compacted Specimen	16.5%	Moisture Content (top 1" after soaking)	21.6%
Percent Compaction	94.7%	Percent Swell	1.0%
Soak Time:	96 hrs.	Surcharge Weight	10.0
		Surcharge Wt. per sq. Ft.	50.2

References: AASHTO T 193: The California Bearing Ratio

ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort

Optional Moisture method

Visual Classification of Soil or other note can be entered here or a string of blanks here will leave the line blank.

Technical Responsibility:

Signature

Position

CBR (California Bearing Ratio) of Laboratory Compacted Soil

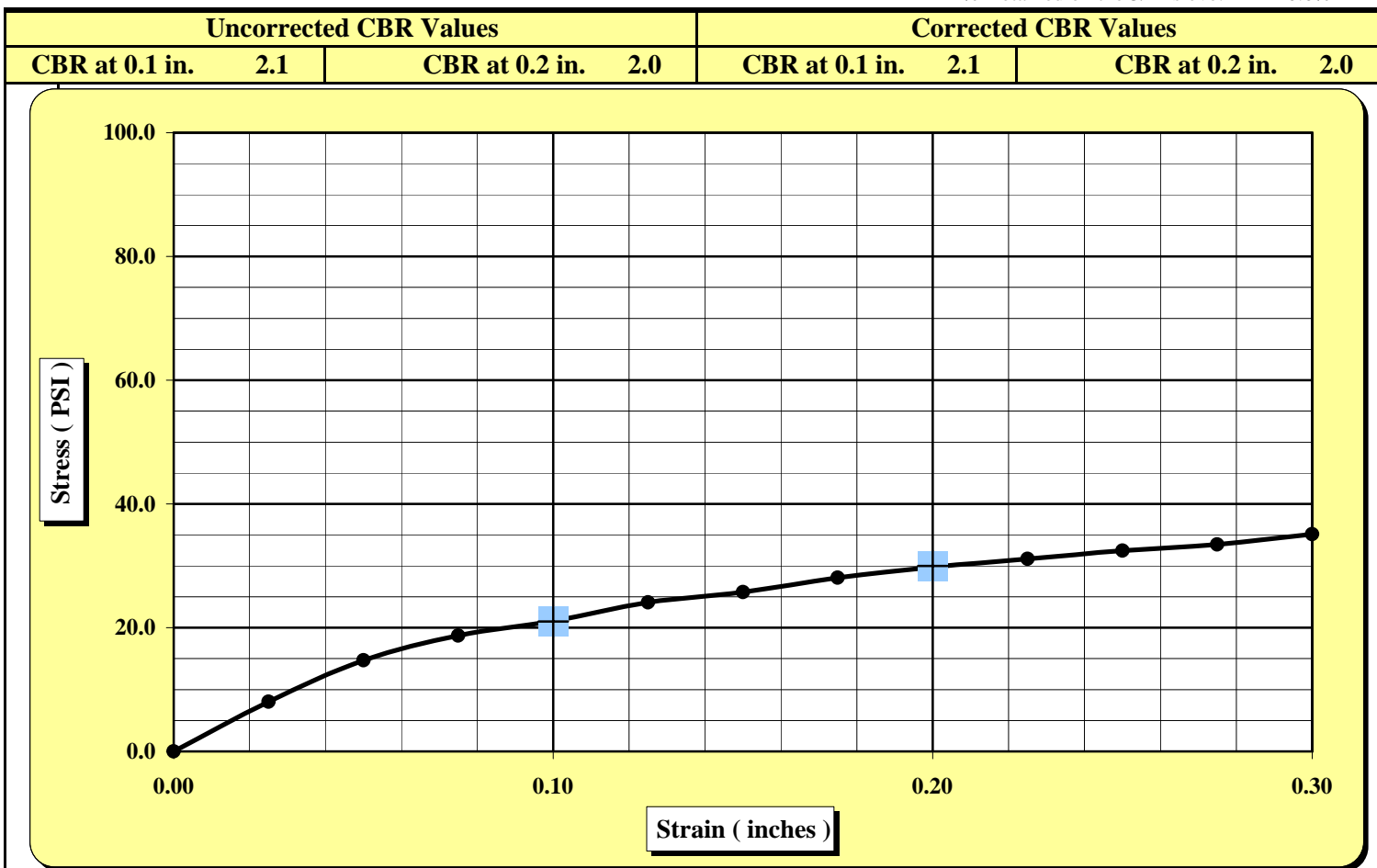
AASHTO T 193

Project #: 1131-08-433
Project Name: Omni Commerce Park
 Client Name:
 Client Address:

Report Date: 7-15-08
Test Date(s): 7-10-08

Boring #: TP-3 **Sample #:** 3 **Sample Date:** 7-2-08
Location: Drop Off Road **Offset:** NA **Elevation:** 2 ft
Sample Description: Red Clayey Sand

ASTM D 698 Method A **Maximum Dry Density (PCF):** 107.0 **Optimum Moisture Content:** 16.5%
% Retained on the 3/4" sieve: 0.0%

**CBR Sample Preparation:**

Grading was in accordance with the above method and compacted using the 6" diameter CBR mold.

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	16	Final Dry Density (PCF)	98.2
Initial Dry Density (PCF)	101.0	Average Final Moisture Content	19.0%
Moisture Content of the Compacted Specimen	16.6%	Moisture Content (top 1" after soaking)	19.1%
Percent Compaction	94.4%	Percent Swell	0.7%
Soak Time:	96 hrs.	Surcharge Weight	10.0
		Surcharge Wt. per sq. Ft.	51.0

References: AASHTO T 193: The California Bearing Ratio
 ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort
 Optional Moisture method
 Visual Classification of Soil or other note can be entered here or a string of blanks here will leave the line blank.

Technical Responsibility:

Signature

Position

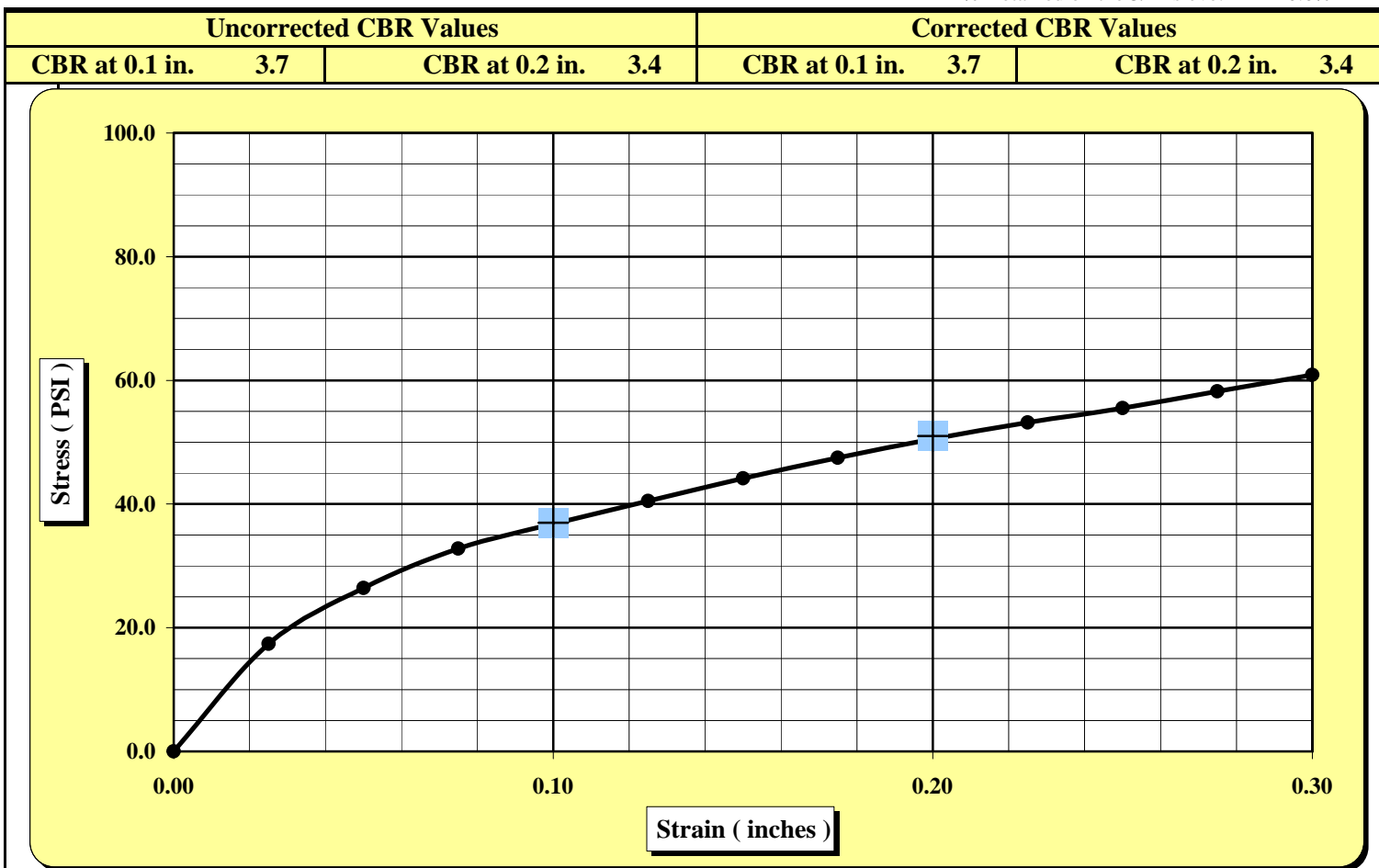
CBR (California Bearing Ratio) of Laboratory Compacted Soil

AASHTO T 193

Project #: 1131-08-433
Project Name: Omni Commerce Park
 Client Name:
 Client Address:

Report Date: 7-12-08
Test Date(s): 7-8-08

Boring #: TP-4 **Sample #:** 4 **Sample Date:** 7-2-08
Location: Drop Off Road **Offset:** NA **Elevation:** 2 ft
Sample Description: Reddish Brown Clayey Sand
ASTM D 698 Method A **Maximum Dry Density (PCF):** 108.5 **Optimum Moisture Content:** 17.5%
% Retained on the 3/4" sieve: 0.0%

**CBR Sample Preparation:**

Grading was in accordance with the above method and compacted using the 6" diameter CBR mold.

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	18	Final Dry Density (PCF)	102.3
Initial Dry Density (PCF)	103.3	Average Final Moisture Content	18.0%
Moisture Content of the Compacted Specimen	17.1%	Moisture Content (top 1" after soaking)	17.6%
Percent Compaction	95.2%	Percent Swell	0.1%

Soak Time: 96 hrs. Surcharge Weight: 10.0 Surcharge Wt. per sq. Ft.: 51.0

References: AASHTO T 193: The California Bearing Ratio

ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort

Optional Moisture method

Visual Classification of Soil or other note can be entered here or a string of blanks here will leave the line blank.

Technical Responsibility: _____

Signature

Position

APPENDIX III

Terracon Boring Logs

LOG OF BORING NO. B-1

Page 1 of 1

CLIENT		Eastway Properties										
SITE		Summerville, South Carolina		PROJECT								
				OMNI COMMERCE PARK								
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES				TESTS				
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf	UNCONFINED STRENGTH, psf		
	Approx. Surface Elev.: 69 ft											
	0.3 TOPSOIL	68.5		1	SS		10			2000*		
	COASTAL PLAIN - stiff, grayish brown, sandy <u>CLAY</u>			2	SS		9	22.6		1000*		
				3	SS		12			2000*		
				4	SS		10			2000*		
	8 Stiff, tannish brown, silty <u>CLAY</u>	61		5	SS		7					
	17 Medium dense to loose, greenish gray, fine <u>SAND</u> , with clay	52		6	SS		17					
				7	SS		4					
	27 Medium dense, gray, clayey fine <u>SAND</u>	42		8	SS		10					
30 BORING TERMINATED	39	30										

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	▽ 6	AB	▽
WL	▽		▽
WL			

Terracon

BORING STARTED		1-16-06	
BORING COMPLETED		1-16-06	
RIG	CME-55	FOREMAN	RWJ
LOGGED	NK	JOB #	73055114A

BOREHOLE 99 73055114.GPJ GAGE TERRACON GDT 9/15/06

LOG OF BORING NO. B-2

Page 1 of 2

CLIENT		PROJECT							
Eastway Properties		OMNI COMMERCE PARK							
SITE		PROJECT							
Summerville, South Carolina		OMNI COMMERCE PARK							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS		
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 69 ft								
	0.4 TOPSOIL 68.5								
	COASTAL PLAIN - medium stiff, dark gray, CLAY, with fine sand 66			1	SS		5	17.6	
	Stiff, reddish brown, sandy CLAY 63.5			2	SS		10		
	5.5 Stiff, gray, CLAY, with fine sand 63.5			3	SS		10		2500*
				4	SS		10		3000*
				5	SS		10		2000*
	17 Medium dense, dark gray, fine SAND, trace clay 52			6	SS		10		
	22 Very stiff to hard, dark gray, CLAY, with fine sand, and fine gravel 47			7	SS		20		
				8	SS		30		2000*
	32 Dense to very dense, dark gray, clayey fine to medium SAND, with fine gravel 37			9	SS		50		
Continued Next Page									

Continued Next Page

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	7	AB	6
WL			
WL			


Terracon

BORING STARTED	1-5-06
BORING COMPLETED	1-5-06
RIG: GME-55	FOREMAN: RWJ
LOGGED: NK	JOB # 73055114A

BOREHOLE 99 73055114 GPR GAGE TERRACON GDT 9/15/06

LOG OF BORING NO. B-2

Page 2 of 2

CLIENT		Eastway Properties									
SITE		Summerville, South Carolina									
PROJECT		OMNI COMMERCE PARK									
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES				TESTS			
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS /ft.	WATER CONTENT, %	DRY UNIT WT pcf	UNCONFINED STRENGTH, psf	
	Dense to very dense, dark gray, clayey fine to medium <u>SAND</u> , with fine gravel	40		10	SS		44				FINES 45%
		45		11	SS		50	36.9			
		50		12	SS		48				
		50	BORING TERMINATED								

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	▽ 7	AB	▽ 6
WL	▽		▽
WL			

Terracon

BORING STARTED		1-5-06	
BORING COMPLETED		1-5-06	
RIG	CME-55	FOREMAN	RWJ
LOGGED	NK	JOB # 73055114A	

BOREHOLE 99 73055114.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-3

Page 1 of 1

CLIENT		Eastway Properties										
SITE		Summerville, South Carolina		PROJECT								
				OMNI COMMERCE PARK								
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES				TESTS				
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf	UNCONFINED STRENGTH, psf		
	Approx. Surface Elev.: 69 ft											
	0.4 TOPSOIL 68.5											
	COASTAL PLAIN- stiff to very stiff, orangeish brown, silty CLAY, with fine sand			1	SS		10				3000*	
				2	SS		15				3500*	
	5.5 63.5	5		3	SS		17				4000*	
	Very stiff to stiff, gray, CLAY, with fine sand			4	SS		11				3000*	
		10										
	12 57											
	Medium stiff, gray, silty CLAY			5	SS		6	32.9			1000*	
		15										
	17 52											
	Loose, greenish gray, fine SAND, with clay			6	SS		8					
		20										
				7	SS		8					
		25										
	27 42											
	Very dense, greenish gray, fine SAND, with clay			8	SS		57					
	30 39	30										
	BORING TERMINATED											

LL 44
PI 24

LL 44
PI 24

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	▽ 6	AB	▽
WL	▽		▽
WL			

Terracon

BORING STARTED	1-4-06
BORING COMPLETED	1-4-06
RIG CME-55	FOREMAN RWJ
LOGGED NK	JOB # 73055114A

BOREHOLE 99 73055114.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-4

Page 1 of 1

CLIENT		Eastway Properties							
SITE		Summerville, South Carolina							
PROJECT		OMNI COMMERCE PARK							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS		
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 69 ft								
	0.3 TOPSOIL	68.5							
	COASTAL PLAIN - medium stiff, brownish tan, <u>CLAY</u> , with fine sand	66		1	SS		5		
	Stiff, brownish gray, <u>CLAY</u> , with fine sand			2	SS		12		1000*
		5		3	SS		8		1000*
	Stiff to medium stiff, gray, silty <u>CLAY</u>	61		4	SS		11		2500*
		10							
		15		5	SS		6		1000*
	17 Medium dense, gray, clayey fine <u>SAND</u>	52							
		20		6	SS		12		
	22 Hard, gray, silty <u>CLAY</u>	47							
		25		7	SS		26		
	27 Medium dense, grayish green, clayey fine <u>SAND</u>	42							
		30		8	SS		16		
	BORING TERMINATED	39							

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	6	AB	
WL			
WL			

Terracon

BORING STARTED	1-17-06
BORING COMPLETED	1-17-06
RIG	GME-55
LOGGED	NK
FOREMAN	RWJ
JOB #	73055114A

BOREHOLE 99 73055114.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-5

Page 1 of 1

CLIENT		Eastway Properties											
SITE		Summerville, South Carolina		PROJECT									
				OMNI COMMERCE PARK									
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES				TESTS					
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf	UNCONFINED STRENGTH, psf			
	Approx. Surface Elev.: 70 ft												
	0.3 TOPSOIL	69.5											
	COASTAL PLAIN - very stiff, brownish tan, sandy <u>CLAY</u>			1	SS		13				1000*	FINES 81%	
				2	SS		17				2000*		
	5.5	64.5		3	SS		13						
	8	62		4	SS		19	30.2		2000*			
	12	58		5	SS		7						
	17	53		6	SS		5						
	27	43		7	SS		5						
	30	40		8	SS		36			3000*			
BORING TERMINATED													

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	▽ 5	AB	▽
WL	▽		▽
WL			

Terracon

BORING STARTED		1-16-06	
BORING COMPLETED		1-16-06	
RIG	CME-55	FOREMAN	RWJ
LOGGED	NK	JOB #	73055114A

BOREHOLE 99 73055114.GPJ CAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-6

Page 1 of 1

CLIENT									
Eastway Properties									
SITE		PROJECT							
Summerville, South Carolina		OMNI COMMERCE PARK							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES		TESTS			
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 70 ft								
	0.3 TOPSOIL 69.5								
	COASTAL PLAIN- medium stiff, tannish brown, CLAY, with fine sand			1	SS		6	20.1	1000*
	3 Very stiff, grayish brown, CLAY, with fine sand 67			2	SS		13		2000*
		5		3	SS		16		3000*
	8 Stiff to very stiff, gray, silty CLAY 62			4	SS		12		2500*
		10							
				5	SS		8		1000*
		15							
	Very stiff, gray, silty CLAY			6	SS		13		1500*
		20							
	22 Medium dense, greenish gray, clayey fine SAND 48			7	SS		10		
		25							
	30 BORING TERMINATED 40			8	SS		10		
		30							

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	3	AB	
WL			
WL			

Terracon

BORING STARTED	1-16-06
BORING COMPLETED	1-16-06
RIG CME-55	FOREMAN RWJ
LOGGED NK	JOB # 73055114A

BOREHOLE 99 73055114.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-7

Page 1 of 1

CLIENT		Eastway Properties	
SITE		Summerville, South Carolina	
PROJECT		OMNI COMMERCE PARK	

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS		
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 70 ft								
	0.4' TOPSOIL	69.5							
	COASTAL PLAIN- medium dense, black, clayey fine SAND, with silt	67		1	SS		10		
	Loose, brown, clayey fine SAND			2	SS		4		
				3	SS		9		
	Medium stiff to soft, dark brown, silty CLAY, with fine sand	62		4	SS		6	42.0	
				5	SS		2		<250*
				6	SS		3		<250*
				7	SS		3		
	27' Medium dense, brown, clayey fine SAND	43		8	SS		11		
	30' BORING TERMINATED	40							

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	5	AB	
WL			
WL			

Terracon

BORING STARTED	1-12-06
BORING COMPLETED	1-12-06
RIG	CME-55
LOGGED	NK
FOREMAN	RWJ
JOB #	73055114A

BOREHOLE 99 73055114.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-8

Page 1 of 1

CLIENT		Eastway Properties							
SITE		Summerville, South Carolina							
PROJECT		OMNI COMMERCE PARK							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS		
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 71 ft								
	0.4' TOPSOIL	70.5							
	FILL - stiff, blackish gray, silty CLAY, with fine sand			1	SS		10		
	3' COASTAL PLAIN - stiff, brownish gray, silty CLAY, with fine sand	68							
				2	SS		11	41.9	2500*
				3	SS		9		
				4	SS		9		
	12' Medium stiff to soft, gray, silty CLAY	59							
				5	SS		4	40.6	
				6	SS		3		<250
	22' Loose, greenish gray, clayey fine SAND	49							
				7	SS		4		
	27' Very dense, greenish gray, silty fine SAND, with clay	44							
				8	SS		50/5.5'		
	30' BORING TERMINATED	41							

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	▽ 5	AB	▽
WL	▽		▽
WL			

Terracon

BORING STARTED		1-12-06	
BORING COMPLETED		1-12-06	
RIG	CME-55	FOREMAN	RWJ
LOGGED	NK	JOB #	73055114A

BOREHOLE 99 73055114.GPJ GAGE TERRACON.LGDT 9/15/06

Page 1 of 1

Eastway Properties

Summerville, South Carolina

OMNI COMMERCE PARK

BOREHOLE 99 73055114.GPJ GAGE TERRACON.GDT 9/15/06

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft				BORING STARTED		1-4-06	
WL	▽ 8	AB		BORING COMPLETED		1-5-06	
WL	▽	▽		RIG	CME-55	FOREMAN	RWJ
WL				LOGGED	NK	JOB #	73055114A

LOG OF BORING NO. B-10

Page 1 of 1

CLIENT		Eastway Properties								
SITE		Summerville, South Carolina								
PROJECT		OMNI COMMERCE PARK								
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS			
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf	UNCONFINED STRENGTH, psf
	Approx. Surface Elev.: 70 ft									
	0.3 TOPSOIL 69.5									
	FILL - loose, brownish black, fine <u>SAND</u> , with clay 67			1	SS		7			
	COASTAL PLAIN - stiff, grayish brown, sandy <u>CLAY</u> 62			2	SS		8			
		5		3	SS		9	25.5		4000*
	8 <u>▽</u> 62			4	SS		9			3000*
	Stiff, dark gray, silty <u>CLAY</u> , with fine sand	10								
				5	SS		7			2000*
		15								
				6	SS		7			1000*
		20								
	22 48			7	SS		6			
	Loose to medium dense, grayish gray, clayey fine <u>SAND</u>	25								
				8	SS		12			
	30 40	30								
	BORING TERMINATED									

LL 36
PI 16

LL 36
PI 16

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	7	AB	
WL			
WL			

Terracon

BORING STARTED	1-4-06
BORING COMPLETED	1-4-06
RIG	CME-55
FOREMAN	RWJ
LOGGED	NK
JOB #	73055114A

BOREHOLE 99 73055114 G.P.J. GAGE TERRACON GDT 9/15/06

LOG OF BORING NO. B-11

Page 1 of 1

CLIENT		Eastway Properties							
SITE		Summerville, South Carolina							
PROJECT		OMNI COMMERCE PARK							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS		
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 70 ft								
	0.3 TOPSOIL	69.5							
	FILL - loose, blackish brown, clayey fine <u>SAND</u> , with organics	67		1	SS		4		
	COASTAL PLAIN - very loose, brown, clayey fine <u>SAND</u>			2	SS		3	17.6	
	5.5 <u>▽</u> 64.5			3	SS		8		2000*
	Stiff, grayish brown to gray, silty <u>CLAY</u> , trace fine sand			4	SS		7		
				5	SS		8		
				6	SS		9		
				7	SS		12		
				8	SS		32		
	BORING TERMINATED								

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	▽ 5	AB	▽
WL	▽		▽
WL			

Terracon

BORING STARTED	1-15-06
BORING COMPLETED	1-15-06
RIG	CME-55
FOREMAN	RWJ
LOGGED	NK
JOB #	73055114A

BOREHOLE 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

Page 1 of 1

BOREHOLE 99 73055114.GPJ GAGE TERRACON.GDT 9/15/06

*Calibrated Hand Penetrometer

LOGGED	NK	JOB # 73055114A
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LOG OF BORING NO. B-13

Page 1 of 1

CLIENT		Eastway Properties							
SITE		Summerville, South Carolina							
PROJECT		OMNI COMMERCE PARK							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS		
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 70 ft								
	0.4 TOPSOIL 69.5								
	COASTAL PLAIN - loose, brown, clayey fine <u>SAND</u> 67			1	SS		9		
	Very stiff, grayish brown, <u>CLAY</u> , with fine sand 67			2	SS		13		2000*
	8 62			3	SS		16		3000*
	Stiff to medium stiff, gray, silty <u>CLAY</u>			4	SS		9		
				5	SS		6		
				6	SS		8		
	22 48			7	SS		7		
	Loose, gray, clayey fine <u>SAND</u>			8	SS		50/6"	25.4	
	27 43								
	Very dense, gray, silty fine to coarse <u>SAND</u>								
	30 40								
	BORING TERMINATED								

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	5	AB	
WL			
WL			

Terracon

BORING STARTED	1-12-06
BORING COMPLETED	1-12-06
RIG	CME-55
LOGGED	NK
FOREMAN	RWJ
JOB #	73055114A

BOREHOLE 99 73055114.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-14

Page 1 of 1

CLIENT		Eastway Properties	
SITE		Summerville, South Carolina	
		PROJECT	
		OMNI COMMERCE PARK	
GRAPHIC LOG	DESCRIPTION	SAMPLES	
		TESTS	
		DEPTH, ft.	USCS SYMBOL
		NUMBER	TYPE
		RECOVERY, in.	SPT - N BLOWS / ft.
		WATER CONTENT, %	DRY UNIT WT pcf
		UNCONFINED STRENGTH, psf	
	Approx. Surface Elev.: 71 ft		
	0.3 TOPSOIL 70.5		
	FILL - loose, dark brown, fine SAND, with clay	1	SS
	3 68	2	SS
	COASTAL PLAIN - medium stiff to stiff, brownish gray, clayey SILT, with fine sand	3	SS
		4	SS
	12 59	5	SS
	Medium stiff, dark gray, silty CLAY	6	SS
		7	SS
	22 49	8	SS
	Loose, greenish gray, fine SAND, trace silt and clay		
	27 44		
	Medium dense, grayish green, clayey fine SAND		
	30 41		
	BORING TERMINATED		

LL 52
PI 21

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	3	AB	3
WL	3		3
WL			

Terracon

BORING STARTED	1-12-06
BORING COMPLETED	1-12-06
RIG CME-55	FOREMAN RWJ
LOGGED NK	JOB # 73055114A

BOREHOLE 99 73055114.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-15

Page 1 of 1

CLIENT		Eastway Properties									
SITE		Summerville, South Carolina		PROJECT							
				OMNI COMMERCE PARK							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS				
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf		UNCONFINED STRENGTH, psf
	Approx. Surface Elev.: 71 ft										
	0.4' TOPSOIL	70.5'									
	FILL - stiff, blackish brown, sandy <u>CLAY</u> , with organics			1	SS		8				
	3' COASTAL PLAIN - very stiff to stiff, tannish brown, sandy <u>CLAY</u>	68'		2	SS		13				
				3	SS		8				
	8' Stiff to medium stiff, brownish gray, silty <u>CLAY</u>	63'		4	SS		9				
				5	SS		6				
				6	SS		5				
	22' Loose, greenish gray, clayey fine <u>SAND</u>	49'		7	SS		9				
	27' Very dense, greenish gray, silty fine <u>SAND</u> , with clay, and shells	44'		8	SS		50/5"				
	30' BORING TERMINATED	41'									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	▽ 4	AB	▽
WL	▽		▽
WL			

Terracon

BORING STARTED		1-12-06	
BORING COMPLETED		1-12-06	
RIG	CME-55	FOREMAN	RWJ
LOGGED	NK	JOB #	73055114A

BOREHOLE 99 73055114.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-17

Page 1 of 2

CLIENT		Eastway Properties							
SITE		Summerville, South Carolina		PROJECT					
				OMNI COMMERCE PARK					
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES		TESTS			
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.		WATER CONTENT, %
	Approx. Surface Elev.: 71 ft								
	0.5 TOPSOIL 70.5			1	SS		10		
	COASTAL PLAIN - stiff to medium stiff, grayish brown, sandy <u>CLAY</u>			2	SS		6		2000*
				3	SS		12		1000*
				4	SS		11		1000*
				5	SS		9		
	5.5 Stiff to medium stiff, reddish brown to gray, silty <u>CLAY</u> , trace fine sand 65.5			6	SS		6		
				7	SS		11	32.5	
				8	SS		31		
	22 Loose, brownish gray, fine <u>SAND</u> , with clay 49			9	SS		50/3"		
27 Dense to very dense, gray to grayish brown, clayey fine <u>SAND</u> , with silt 44									
Continued Next Page									

Continued Next Page

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	▽ 8	AB	▽
WL	▽		▽
WL			

Terracon

BORING STARTED		1-17-06	
BORING COMPLETED		1-17-06	
RIG	CME-55	FOREMAN	RWJ
LOGGED	NK	JOB #	73055114A

BOREHOLE 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-18

Page 1 of 1

CLIENT Eastway Properties		PROJECT OMNI COMMERCE PARK									
SITE Summerville, South Carolina											
GRAPHIC LOG	DESCRIPTION		DEPTH, ft.	USCS SYMBOL	SAMPLES				TESTS		
					NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf	UNCONFINED STRENGTH, psf
	Approx. Surface Elev.: 72 ft										
	0.3	TOPSOIL			71.5						
	3	COASTAL PLAIN - stiff, blackish brown, sandy <u>CLAY</u>			69	1	SS		8		
		Stiff, grayish brown, silty <u>CLAY</u> , with fine sand				2	SS		8		1000*
	8				64	3	SS		7		1000*
		Medium stiff, dark gray, silty <u>CLAY</u>				4	SS		5		1000*
	22				50	5	SS		4		
		Medium dense, gray, clayey fine <u>SAND</u>				6	SS		5	59.0	
30		42	7	SS		10					
	BORING TERMINATED		8	SS		18					

LL 40
PI 15

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	4	AB	
WL			
WL			

Terracon

BORING STARTED	1-17-06
BORING COMPLETED	1-17-06
RIG CME-55	FOREMAN RWJ
LOGGED NK	JOB # 73055114A

BOREHOLE 99 73055114.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-20

Page 1 of 1

CLIENT Eastway Properties											
SITE Summerville, South Carolina		PROJECT OMNI COMMERCE PARK									
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES				TESTS			
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf	UNCONFINED STRENGTH, psf	
	Approx. Surface Elev.: 71 ft										
	0.4 TOPSOIL 70.5										
	FILL - medium dense, black, fine <u>SAND</u> , with clay, and organics 68										
	COASTAL PLAIN - very stiff, orangeish brown, sandy <u>CLAY</u> ∇	5									
	12 Medium stiff to soft, gray, silty <u>CLAY</u> 59										
	22 Very stiff, gray, silty <u>CLAY</u>, with fine sand 49										
	30 BORING TERMINATED 41										

LL 46
PI 22

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	∇ 6	AB	∇
WL	∇		∇
WL			

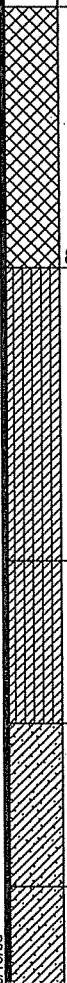
Terracon

BORING STARTED		1-11-06
BORING COMPLETED		1-11-06
RIG	CME-55	FOREMAN RWJ
LOGGED	NK	JOB # 73055114A

BOREHOLE 99 73055114.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-63

Page 1 of 1

CLIENT EASTWAY PROPERTIES									
SITE Summerville, South Carolina		PROJECT OMNI COMMERCE PARK							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES				TESTS	
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 73 ft								
	CLAYEY FINE SAND brown and reddish brown, loose (FILL)								
		1	SS		9				
		2	SS		8				
		3	SS		10				
		4	SS		11			3000*	
		5	SS		7			1500*	
		6	SS		6			500*	
		7	SS		5				
	SILTY CLAY , with fine sand, brown and tan, stiff (COASTAL PLAIN)								
	SANDY CLAY , dark gray, medium stiff								
	SANDY CLAY , with shells, gray, stiff								
	BORING TERMINATED								

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	9	AB	
WL			
WL			

Terracon

BORING STARTED	8-24-06
BORING COMPLETED	8-24-06
RIG CME-55	FOREMAN HW
LOGGED NK	JOB # 73055114A

BOREHOLE 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-64

Page 1 of 2

CLIENT		EASTWAY PROPERTIES											
SITE		Summerville, South Carolina		PROJECT									
				OMNI COMMERCE PARK									
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES				TESTS					
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf	UNCONFINED STRENGTH, psf			
	Approx. Surface Elev.: 73 ft												
	0.1 (TOPSOIL)	73											
	<u>CLAYEY FINE TO MEDIUM SAND</u> brown, medium dense (COASTAL PLAIN)			1	SS		12						
				2	SS		11						
		5		3	SS		10						
	8	65		4	SS		8				2000*		
				5	SS		6				1500*		
	17	56		6	SS		4				500*		
				7	SS		3						
	22	51		8	SS		13						
	27	46		9	SS		49						
	32	41											
	<u>CLAYEY FINE SAND</u> gray, dense												
Continued Next Page													

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	6	AB	
WL			
WL			

Terracon

BORING STARTED	8-24-06
BORING COMPLETED	8-24-06
RIG CME-55	FOREMAN HW
LOGGED NK	JOB # 73055114A

BOREHOLE 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-64

Page 2 of 2

CLIENT EASTWAY PROPERTIES											
SITE Summerville, South Carolina		PROJECT OMNI COMMERCE PARK									
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS				
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf	UNCONFINED STRENGTH, psf	
	CLAYEY FINE SAND gray, dense	37									
	CLAYEY FINE SAND with cemented sand lenses, brown, very dense	36									
		40	10	SS		50/3"					
		45	11	SS		50/6"					
		50	12	SS		50/5.5"					
	BORING TERMINATED	23									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft


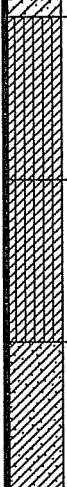
WL	▽ 6	AB	▽
WL	▽		▽
WL			

Terracon

BORING STARTED		8-24-06	
BORING COMPLETED		8-24-06	
RIG	CME-55	FOREMAN	HW
LOGGED	NK	JOB #	73055114A

LOG OF BORING NO. B-65

Page 1 of 1

CLIENT		EASTWAY PROPERTIES							
SITE		Summerville, South Carolina							
PROJECT		OMNI COMMERCE PARK							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS		
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	
	0.1 (TOPSOIL) 73								
	CLAYEY FINE SAND brown and tan, medium dense (COASTAL PLAIN)			1	SS		11		
				2	SS		10		
				3	SS		12		
				4	SS		16		
	12 61			5	SS		8		2000*
	17 56			6	SS		5		500*
	22 51			7	SS		4		
	27 46			8	SS		10		
	30 43								
BORING TERMINATED									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	8	AB	
WL			
WL			

Terracon

BORING STARTED	8-24-06
BORING COMPLETED	8-24-06
RIG CME-55	FOREMAN HW
LOGGED NK	JOB # 73055114A

BOREHOLE 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-66

Page 1 of 1

CLIENT		EASTWAY PROPERTIES							
SITE		Summerville, South Carolina							
PROJECT		OMNI COMMERCE PARK							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS		
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 72 ft								
	<u>CLAYEY FINE SAND</u> , brown, medium dense (COASTAL PLAIN)			1	SS		10		
3		69							
	<u>CLAYEY FINE SAND</u> , gray, very loose			2	SS		2		
5.5		66.5	5						
	<u>SILTY CLAY</u> , with fine sand, gray, stiff to very stiff			3	SS		8		2500*
				4	SS		15		5000*
12		60	10						
	<u>SILTY CLAY</u> , with fine sand, light gray and dark gray, medium stiff to soft			5	SS		4		<250*
			15						
				6	SS		3		<250*
			20						
				7	SS		2		<250*
			25						
				8	SS		2		<250*
30		42	30						
	BORING TERMINATED								

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	▽ 8	AB	▽
WL	▽		▽
WL			

Terracon

BORING STARTED		8-25-06	
BORING COMPLETED		8-25-06	
RIG	CME-55	FOREMAN	HW
LOGGED	NK	JOB #	73055114A

BOREHOLE 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-67

Page 1 of 1

CLIENT


EASTWAY PROPERTIES

SITE

Summerville, South Carolina

PROJECT

OMNI COMMERCE PARK

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES				TESTS			
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf	UNCONFINED STRENGTH, psf	
Approx. Surface Elev.: 73 ft											
	0.1 (TOPSOIL) 73										
	CLAYEY FINE SAND brown, medium dense (FILL) 70		1	SS		10					
	3 SILTY CLAY, with fine sand, and roots, dark brown, very stiff (FILL) 5		2	SS		14			2500*		
	8 CLAYEY FINE SAND gray, medium dense (COASTAL PLAIN) 65		3	SS		15			3000*		
	12 61		4	SS		13					
	SILTY CLAY, with fine sand, gray and dark gray, soft		5	SS		2			<250*		
	6		6	SS		3			<250*		
	7		7	SS		2			<250*		
	8		8	SS		3			<250*		
	BORING TERMINATED										

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	8	AB	
WL			
WL			

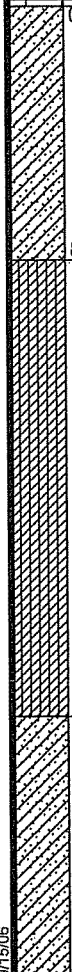
Terracon

BORING STARTED	8-25-06
BORING COMPLETED	8-25-06
RIG CME-55	FOREMAN HW
LOGGED NK	JOB # 73055114A

BOREHOLE 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-68

Page 1 of 1

CLIENT EASTWAY PROPERTIES									
SITE Summerville, South Carolina		PROJECT OMNI COMMERCE PARK							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS		
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 73 ft								
	0.2 (COQUINA) 73								
	CLAYEY FINE SAND brown and red, loose to medium dense (COASTAL PLAIN)		1	SS		8			
			2	SS		12			
			3	SS		11			
	8 65		4	SS		5		500*	
			5	SS		4		250*	
			6	SS		3		<250*	
			7	SS		5			
22 51	CLAYEY FINE SAND gray, loose to medium dense								
			8	SS		14			
30 43	BORING TERMINATED	30							

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	8	AB	
WL			
WL			

Terracon

BORING STARTED	8-28-06
BORING COMPLETED	8-28-06
RIG CME-55	FOREMAN HW
LOGGED NK	JOB # 73055114A

BOREHOLE 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-69

Page 1 of 1

CLIENT		EASTWAY PROPERTIES							
SITE		Summerville, South Carolina							
PROJECT		OMNI COMMERCE PARK							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS		
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 74 ft								
	0.3 (COQUINA) 73.5								
	CLAYEY FINE SAND with wood pieces, dark brown, loose (FILL)			1	SS		9		
	3 71								
	CLAYEY FINE SAND brown, loose to medium dense (COASTAL PLAIN)			2	SS		7		
		5							
				3	SS		10		
	8 66								
	SILTY CLAY, with fine sand, brown and gray, soft			4	SS		3		500*
		10							
				5	SS		3		<250*
		15							
				6	SS		2		<250*
		20							
	22 52								
	SANDY CLAY, gray, medium stiff			7	SS		4		<250*
		25							
	27 47								
	FINE CLAYEY SAND gray, medium dense			8	SS		13		
	30 44								
	BORING TERMINATED	30							

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	10	AB	
WL			
WL			

Terracon

BORING STARTED		8-28-06	
BORING COMPLETED		8-28-06	
RIG	CME-55	FOREMAN	HW
LOGGED	NK	JOB #	73055114A

BOREHOLE 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-70

Page 1 of 1

CLIENT		EASTWAY PROPERTIES							
SITE		PROJECT							
Summerville, South Carolina		OMNI COMMERCE PARK							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS		
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 73 ft								
	0.4 (TOPSOIL) 72.5								
	CLAYEY FINE SAND brown, medium dense (FILL) 70			1	SS		11		
	CLAYEY FINE SAND reddish brown, loose (COASTAL PLAIN) 65			2	SS		8		
				3	SS		7		
	SILTY CLAY, with fine sand, gray, medium stiff to soft 51			4	SS		4		500*
				5	SS		3		<250*
				6	SS		3		<250*
	CLAYEY FINE SAND gray, very loose to loose 43			7	SS		2		
				8	SS		4		
	BORING TERMINATED								

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	9	AB	
WL			
WL			

Terracon

BORING STARTED	8-28-06
BORING COMPLETED	8-28-06
RIG CME-55	FOREMAN HW
LOGGED NK	JOB # 73055114A

BOREHOLE 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-71

Page 1 of 1

CLIENT		EASTWAY PROPERTIES								
SITE		Summerville, South Carolina								
PROJECT		OMNI COMMERCE PARK								
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS			
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf	UNCONFINED STRENGTH, psf
	Approx. Surface Elev.: 74 ft									
	<u>CLAYEY FINE SAND</u> with wood pieces, dark brown, medium dense (FILL)	3	71	1	SS		16			
	<u>CLAYEY FINE SAND</u> brown and tan, loose (COASTAL PLAIN)	8	66	2	SS		8			
				3	SS		9			
	<u>SILTY CLAY</u> , with fine sand, brown and gray, medium stiff to soft			4	SS		5			500*
				5	SS		4			<250*
				6	SS		3			<250*
	<u>CLAYEY FINE SAND</u> dark gray, very loose to loose	22	52	7	SS		2			
				8	SS		4			
BORING TERMINATED		30	44							

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	▽ 7	AB	▽
WL	▽		▽
WL			

Terracon

BORING STARTED		8-28-06	
BORING COMPLETED		8-28-06	
RIG	CME-55	FOREMAN	HW
LOGGED	NK	JOB #	73055114A

BOREHOLE 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-72

Page 1 of 2

CLIENT		EASTWAY PROPERTIES							
SITE		Summerville, South Carolina							
PROJECT		OMNI COMMERCE PARK							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS		
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 73 ft								
	0.3 (TOPSOIL) 72.5								
	CLAYEY FINE SAND brown, loose (COASTAL PLAIN) 70			1	SS		9		
	SILTY CLAY, with fine sand, reddish gray and gray, very stiff	5		2	SS		15		2000*
	8 65			3	SS		16		2000*
	SILTY CLAY, with fine sand, gray and dark gray, medium stiff to soft	10		4	SS		4		500*
		15		5	SS		4		<250*
	22 51			6	SS		2		<250*
	CLAYEY FINE SAND dark green and gray, medium dense to loose	25		7	SS		11		
	32 41			8	SS		7		
CLAYEY FINE SAND gray, medium dense	35		9	SS		27			

Continued Next Page

GAGE TERRACON GDT 9/7/05

Continued Next Page

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	7	AB	
WL			
WL			

Terracon

BORING STARTED		8-28-06	
BORING COMPLETED		8-28-06	
RIG	CME-55	FOREMAN	HW
LOGGED	NK	JOB #	73055114A

BOREHOLE 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-73

Page 1 of 1

CLIENT		EASTWAY PROPERTIES							
SITE		Summerville, South Carolina							
PROJECT		OMNI COMMERCE PARK							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS		
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	Approx. Surface Elev.: 74 ft								
	0.3 (TOPSOIL)	73.5							
	CLAYEY FINE SAND brown, loose (COASTAL PLAIN)			1	SS		7		
			5						
	8	66							
	SILTY CLAY, with fine sand, gray, medium stiff								

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	7	AB	
WL			
WL			

Terracon

BORING STARTED	8-29-06
BORING COMPLETED	8-29-06
RIG CME-55	FOREMAN HW
LOGGED NK	JOB # 73055114A

BOREHOLE 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

Page 1 of 2

OMNI COMMERCE PARK

BOREHOLE 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft					BORING STARTED		8-24-06	
WL	▽ 5	AB	▽		BORING COMPLETED		8-24-06	
WL	▽		▽		RIG	CME-55	FOREMAN	HW
WL					LOGGED	NK	JOB #	73055114A

LOG OF BORING NO. B-79

Page 2 of 2

CLIENT		EASTWAY PROPERTIES							
SITE		Summerville, South Carolina							
PROJECT		OMNI COMMERCE PARK							
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS		
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf
	<u>CLAYEY FINE SAND</u> gray, very dense	37							
	<u>CLAYEY FINE SAND</u> brown, medium dense	34		10	SS		23		
	<u>SILTY CLAYEY FINE SAND</u> gray, very dense	42		11	SS		50/1"		
	<u>BORING TERMINATED</u>	50		12	SS		50/3"		

GAGE TERRACON GDT 9/15/06

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	5	AB	
WL			
WL			

Terracon

BORING STARTED	8-24-06
BORING COMPLETED	8-24-06
RIG CME-55	FOREMAN HW
LOGGED NK	JOB # 73055114A

BOREHOLE 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-80

Page 1 of 1

CLIENT EASTWAY PROPERTIES											
SITE Summerville, South Carolina		PROJECT OMNI COMMERCE PARK									
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES				TESTS			
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf	UNCONFINED STRENGTH, psf	
				Approx. Surface Elev.: 75 ft.							
				0.1	(COQUINA)	75					
				CLAYEY FINE SAND brown, medium dense (COASTAL PLAIN)							
				1	SS		11				
				2	SS		11				
				3	SS		11				
				8							
				67							
8	SILTY CLAY , with fine sand, grayish brown, stiff	67									
4	SS		12			2500*					
5	SS		7			500*					
17	SILTY CLAY , with fine sand, dark gray, medium stiff to stiff	58									
6	SS		5			500*					
7	SS		8			2000*					
27	SILTY CLAYEY FINE SAND with shells, dark gray, medium dense	48									
8	SS		14								
30	BORING TERMINATED	45									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	▽ 9	AB	▽
WL	▽		▽
WL			

Terracon

BORING STARTED		8-24-06	
BORING COMPLETED		8-24-06	
RIG	CME-55	FOREMAN	HW
LOGGED	NK	JOB #	73055114A

BOREHOLE 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-82

Page 1 of 2.

CLIENT		EASTWAY PROPERTIES											
SITE		Summerville, South Carolina		PROJECT									
				OMNI COMMERCE PARK									
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES				TESTS					
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf	UNCONFINED STRENGTH, psf			
	Approx. Surface Elev.: 73 ft												
	0.3 (TOPSOIL) 72.5												
	CLAYEY FINE SAND, brown and orangish brown, medium dense (COASTAL PLAIN)												
	8 65												
	SILTY CLAY, with fine sand, purpleish brown, stiff												
	12 61												
	SILTY CLAY, with fine sand, grayish brown, medium stiff to stiff												
	22 51												
	SANDY CLAY, trace, brown and gray, medium stiff to soft												
	32 41												
	CLAYEY FINE SAND, gray, very dense												
	</												

Continued Next Page

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	▽ 10	AB	▽
WL	▽		▽
WL			

Terracon

BORING STARTED	8-24-06
BORING COMPLETED	8-24-06
RIG	CME-55
LOGGED	NK
FOREMAN	HW
JOB #	73055114A

BORING NO. 99 73055114A.GPJ, GAGE TERRACON.GDT 9/15/06

LOG OF BORING NO. B-82

Page 2 of 2

CLIENT EASTWAY PROPERTIES											
SITE Summerville, South Carolina		PROJECT OMNI COMMERCE PARK									
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES				TESTS			
				NUMBER	TYPE	RECOVERY, in.	SPT - N BLOWS / ft.	WATER CONTENT, %	DRY UNIT WT pcf	UNCONFINED STRENGTH, psf	
	CLAYEY FINE SAND gray, very dense	37									
	CLAYEY FINE SAND brown, medium dense	36									
		40		10	SS		27				
		45		11	SS		28				
	CLAYEY FINE SAND with cemented sand lenses, brown, very dense	47									
		26									
		50		12	SS		50/1"				
	BORING TERMINATED	23									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Calibrated Hand Penetrometer

WATER LEVEL OBSERVATIONS, ft

WL	▽ 10	AB	▽
WL	▽		▽
WL			

Terracon

BORING STARTED		8-24-06	
BORING COMPLETED		8-24-06	
RIG	CME-55	FOREMAN	HW
LOGGED	NK	JOB #	73055114A

BORING 99 73055114A.GPJ GAGE TERRACON.GDT 9/15/06

APPENDIX IV

Test Pit Exploration Along Proposed Entrance Road
S&ME Project No. 1131-08-390.
June 12, 2008.

June 12, 2008

Trammell Crow Company
201 S. College Street, Suite 1990
Charlotte, NC 28244

Attention: Mr. Bill Yeaton, Development Manager.

Reference: Test Pit Exploration Along Proposed Entrance Road
Omni Commerce Park
Berkeley County, South Carolina
S&ME Job 1131-08-390

Dear Mr. Yeaton:

We have completed the test pit exploration you authorized for an 1800± segment of the proposed main entrance road into your Omni Commerce Park site in Berkeley County, South Carolina. Our work was performed in general accordance with S&ME Proposal #31-08-207. Presented herein is relative information about the roadway, a description of the work we performed, and our findings and conclusions.

PROJECT INFORMATION

The portion of the proposed roadway we explored is highlighted on the attached site plan. According to Mr. Rick Meadows with Woolpert, the road will have two 15-ft travel lanes and 8-ft shoulders, for a total width of 46 ft. However, we understand the roadway easement will be 50 ft wide. Based on centerline staking performed by Woolpert, the southern half of the roadway will generally lie along an open grassed area next to the existing on-site ponds and the northern half of the roadway will run through a wooded lowland with a ground surface visually appearing to be about 2 ft to 5 ft below the southern half). According to Mr. Ed Davis, associated with the current land owner (Baucoms Nursery), the southern open side of the roadway route is covered with organic "strippings" from the original Baucoms Nursery construction.

SCOPE OF SERVICES

To determine the depth and extent of the organic material along the roadway, we had Baucoms Grading excavate a series of test pits with a trackhoe earlier today. The attached table indicates the general location of the test pits excavated. These locations were determined by pacing distances from the centerline stakes which were placed on 100-ft centers. The undersigned witnessed the test pit exploration and "logged" the soil conditions at each location.

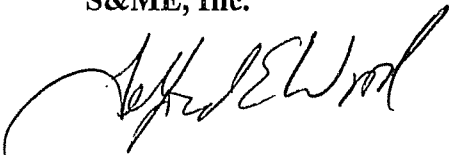
FINDINGS AND CONCLUSIONS

In general, soil conditions along the south half of the roadway route consisted of an upper layer of dark gray, highly organic, sandy fill underlain by light gray, natural, silty sand. Along the northern half of the roadway, which ran through the wooded lowland, 8 to 10 inches of topsoil was encountered and then the same light gray, natural silty sand layer than was encountered beneath the adjacent organic soils. Within the lowland the light gray sand was about 12 to 18 inches deep, and was underlain by darker gray clayey sand. The only exception to the above conditions was that the organic soils on the southern side of the roadway disappeared by about station 30+00, where light gray and brown mottled, sandy clay was encountered immediately below about 8 inches of topsoil.

In our opinion it is feasible to build the roadway along the intended route. The major grading requirement will be that the organic laden soils along the southern side of the roadway are completely undercut and replaced with new granular, controlled fill¹. The attached table indicates our estimates of the undercutting depths that will be required at each test pit location. Within the lowland and east of station 30+00 site grading should be conventional; stripping of topsoil, proof-rolling of the underlying subgrade prior to fill placement, and shallow undercutting of soft isolated zones if necessary. Based on the soil conditions encountered in the test pits, it doesn't appear that any extensive undercutting will be required in this latter area.

Sincerely,

S&ME, Inc.



Telford E. Wood, CET
Construction Services Dept. Manager

FWF/TeW/acl

Attachment – Site Plan
Table of Undercutting Depths



Forrest W. Foshee, P.E.
Vice President

¹ New controlled fill for the roadway should be a granular soil with less than 15% passing a No. 200 sieve, with a maximum dry density of at least 105 pcf by ASTM Method D 1557, compacted to at least 98% of that same ASTM maximum dry density standard.

**RECOMMENDED UNDERCUTTING DEPTHS OF ORGANIC FILL ALONG ENTRANCE ROADWAY
OMNI COMMERCE PARK
BERKELEY COUNTY, SOUTH CAROLINA
S&ME JOB 1131-08-390
JUNE 12, 2008**

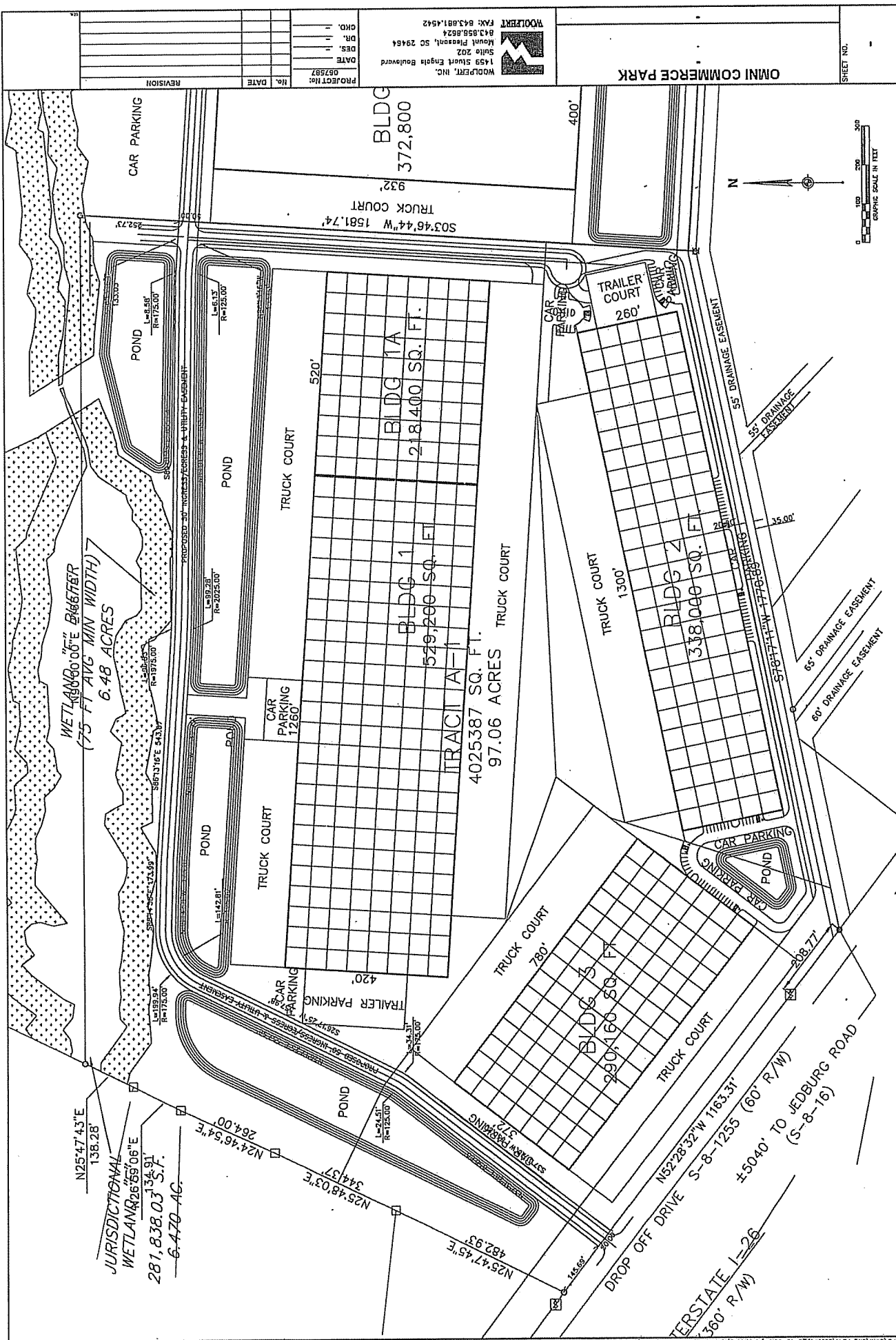
Station #	10' North of Centerline	Centerline	10' South of Centerline	25' South of Centerline
14+00		5.5'		
14+50				2.5'
15+00			4'	
15+50				3'
16+00			4'	
16+50				3'
17+00			4'	
17+50				2'
18+00	≤10" of Topsoil	4.5'		
18+50				2'
19+00			4'	
19+50				2.5'
20+00			4'	
20+50				2'
21+00	≤10" of Topsoil	4'		
21+50				2'
22+00		4'		
22+50				2.5'
23+00			4'	
23+50				3'
24+00	≤10" of Topsoil		3'	
24+50				3'
25+00			2.5'	
25+50				3'
26+00			4.5'	
26+50				3'
27+00	≤10" of Topsoil		2.5'	
27+50				2.5'
28+00		≤10" of Topsoil		
28+50				2.5'
29+00	≤10" of Topsoil	≤10" of Topsoil		
29+50				2'
30+00	2'		≤10" of Topsoil	
30+50				
31+00			≤10" of Topsoil	
31+50				
32+00				≤10" of Topsoil
32+50				≤10" of Topsoil



WOLPER, INC.
Suite 202
Mount Pleasant, SC 29464
843.856.8624
FAX: 843.881.4542

PROJECT NO. _____
DATE _____
DES. _____
DR. _____
CKD. _____
067587

REVISION



LABORATORY TESTING PROCEDURES

Atterberg Limits Test (ASTM D-4318)

Atterberg Limits tests were performed to determine the soil plasticity characteristics. The soil plasticity index (PI) is representative of this characteristic and is bracketed by the liquid limit (LL) and the plastic limit (PL). The liquid limit is the moisture content at which the soil will flow as a heavy viscous fluid. The plastic limit is the moisture content at which the soil begins to lose its plasticity. The difference between the liquid limit and plastic limit is the plasticity index.

Grain Size Tests (ASTM D 1140 and ASTM D 422)

Grain size tests were performed to determine the soil particle size distribution. The amount of material finer than the #200 sieve was determined by washing the sample over that particular size sieve. The grain size distribution of the soil retained on the #200 sieve was then determined by passing the retained portion through a standard set of nested sieves.

Natural Moisture Content Test (ASTM D 2216)

Moisture content tests were conducted to determine the ratio, expressed as a percentage, of the weight of water in a given amount of soil to the weight of the solid particles.

Laboratory California Bearing Ratio (CBR) Tests (ASTM D 1883)

The California Bearing Ratio, usually abbreviated as CBR, is a punching shear test. The CBR value is a semi-empirical index of the soil strength and deflection characteristics and has been correlated with pavement performance to establish design curves for pavement thickness. The test was performed on 6-inch diameter, 5-inch thick discs of compacted soil, confined in a steel cylinder. The specimens were then soaked for 96 hours prior to testing. A piston approximately 2-inches in diameter was then forced into the soils at a standard rate to determine the resistance to penetration. The CBR is the ratio, expressed as a percentage, of the actual load required to produce a 0.1 inch deflection to the load required for the same deflection in a standard crushed stone sample. The results of the CBR tests are given on the CBR Test sheets included in the Appendix.

Moisture-Density Relationship (Standard Proctor) (ASTM D 698)

Bulk samples of near surface soils were tested to determine moisture-density characteristics by the "standard" method using a 5½-lb. hammer and 12 inch drop. The tests determine maximum dry density and optimum moisture content. Test results are graphically presented in the form of dry density versus moisture content on the Compaction Test sheets included in the Appendix.