REPORT
OF
PRELIMINARY SUBSURFACE EXPLORATION

LIBERTY MEGASITE
LIBERTY, NORTH CAROLINA

ECS PROJECT NO. 09-24982-BR
MARCH 31, 2015

REPORT OF PRELIMINARY SUBSURFACE EXPLORATION

LIBERTY MEGASITE
LIBERTY, NORTH CAROLINA

Prepared For:

Randolph County Economic Development Commission
Asheboro, North Carolina

Prepared By:

ECS CAROLINAS, LLP
4811 Koger Boulevard
Greensboro, NC 27406

ECS Project No:

09-24982-BR

Report Date:

MARCH 31, 2015

ECS CAROLINAS, LLP
"Setting the Standard for Service"
Geotechnical • Construction Materials • Environmental • Facilities
NC Registered Engineering Firm F-1078

March 31, 2015

Ms. Bonnie Renfro
Randolph County Economic Development Commission
PO Box 2001
Asheboro, North Carolina 27204-2001

Reference: Report of Preliminary Subsurface Exploration
Liberty Megasite
Liberty, North Carolina
ECS Project No. 09-24982-BR

Dear Ms. Renfro:

ECS Carolinas, LLP (ECS) has completed the preliminary subsurface exploration for the above referenced project. This project was authorized and performed in general accordance with ECS Proposal No. 09-22506-P & 09.22512-P dated November 17, 2014. The purpose of this exploration was to determine the general subsurface conditions at the site and to evaluate those conditions with regard to building construction and general site development. This report presents our findings, conclusions, and recommendations for design and construction of the project.

ECS Carolinas, LLP appreciates the opportunity to assist you during this phase of the project. If you have questions concerning this report, please contact our office.

Respectfully,

ECS CAROLINAS, LLP

NORTH CAROLINA PROFESSIONAL SEAL 022089 3-31-15 ENGINEER DAVID M. CUTTER

David M. Cutter, P.E.
Principal Engineer
NC Registration No. 022089

Lorin Akins
Asst. Geotechnical Dept. Manager

1. INTRODUCTION

1.1. Project Information

The site is referred to as the "Liberty Megasite" and is an approximate 1,500 tract located between Highway 421 and Old Highway 421 in Randolph County, North Carolina. ECS previously conducted environmental and engineering services on an approximate 400 acre portion of the site in the spring of 2014 and that information has been included into this report. It is our understanding that the site is being evaluated for proposed industrial development. The site is predominately agricultural land with residences, outbuildings, ponds, and wooded areas. The above referenced site has been identified for certification in general accordance with the North Carolina Department of Commerce (NCDOC) Certified Sites Program. Project information was provided to ECS by Ms. Bonnie Renfro and previous work conducted on a portion of the site.

1.2. Scope of Services

1.2.1 Soil Borings

Our scope of services included a subsurface exploration with soil test borings, laboratory testing, engineering analysis of the foundation support options, and preparation of this report with our recommendations. The subsurface exploration included thirty (30) out of thirty-four (34) soil test borings (B-201 through B-234). Borings B-218, B-229, B-231 and B-234 were not drilled due to site conditions and underground utilities. Our previous exploration included nineteen (19) soil test borings, denoted B-101 through B-116 and and B-119 through B-121 Approximate boring locations are shown on the Test Location Diagram (Figure 2) included in the Appendix. The soil borings were performed using a Diedrich D-50 truck-mounted drill rig using continuous-flight, hollow-stem augers.

2. FIELD SERVICES

2.1. Test Locations

The soil boring locations and depths were selected and located in the field by ECS using handheld GPS technology and existing landmarks as reference. The approximate test locations are shown on the Boring Location Diagram (Figure 2) presented in the Appendix of this report and should be considered accurate only to the degree implied by the method used. Ground surface elevations were interpolated from the provided topographic site plan and should be considered approximate.

2.2. Soil Test Borings

A total of fourty-nine (49) soil test borings were drilled to evaluate the stratification and engineering properties of the subsurface soils at the project site. Standard Penetration Tests (SPT's) were performed at designated intervals in general accordance with ASTM D 1586. The Standard Penetration Test is used to provide an index for estimating soil strength and density. In conjunction with the penetration testing, split-barrel soil samples were recovered for soil classification and potential laboratory tests at each test interval. Boring Logs are included in the Appendix.

The drill crew also maintained a field log of the soils encountered at each of the boring locations. After recovery, each sample was removed from the auger and visually classified. Representative portions of each sample were then sealed and brought to our laboratory in Greensboro, North Carolina for further visual examination. Groundwater measurements were attempted at the termination of drilling at each boring location and potential laboratory testing.

3. LABORATORY SERVICES

Soil samples were collected from the borings and examined in our laboratory to check field classifications and to determine pertinent engineering properties. Data obtained from the borings, our visual/manual examinations, and potential laboratory testing are included on the respective boring logs in the Appendix.

3.1. Soil Classification

A geotechnical engineer classified each soil sample on the basis of color, texture, and plasticity characteristics in general accordance with the Unified Soil Classification System (USCS). The soil engineer grouped the various soil types into the major zones noted on the boring logs. The stratification lines designating the interfaces between earth materials on the boring logs and profiles are approximate; in situ, the transition between strata may be gradual in both the vertical and horizontal directions. The results of the visual classifications are presented on the Boring Logs included in the Appendix.

3.2 Laboratory Testing

In addition to visual classification, ECS performed fourty-two (42) natural moisture content tests, eight (8) Atterberg Limits tests, and six (6) percent fines tests. The laboratory testing was performed in general accordance with the applicable ASTM standards. The results of the laboratory testing are presented on the respective Boring Log and presented within the Laboratory Summary Sheet included within the Appendix.

4. SITE AND SUBSURFACE FINDINGS

4.1. Area Geology

The site is located in the Piedmont Physiographic Province of North Carolina. The native soils in the Piedmont Province consist mainly of residuum with underlying saprolites weathered from the parent bedrock, which can be found in both weathered and unweathered states. Although the surficial materials normally retain the structure of the original parent bedrock, they typically have a much lower density and exhibit strengths and other engineering properties typical of soil. In a mature weathering profile of the Piedmont Province, the soils are generally found to be finer grained at the surface where more extensive weathering has occurred. The particle size of the soils generally becomes more granular with increasing depth and gradually changes first to weathered and finally to unweathered parent bedrock. The mineral composition of the parent rock and the environment in which weathering occurs largely control the resulting soil's engineering characteristics. The residual soils are the product of the weathering of the parent bedrock.

In addition, it is apparent that the natural geology within the site has been modified in the past by agricultural use resulting in plow zone material. Plow zone soils can become saturated for short periods of time after rain and can significantly impact grading activities if left in place. These soils may need to be removed, dried, and recompacted if at, or near, planned subgrades.

4.2. Subsurface Conditions

The subsurface conditions at the site, as indicated by the borings, generally consisted of residual soil, partially weathered rock, and refusal materials to the depths explored. The generalized subsurface conditions are described below. For soil stratification at a particular test location, the respective Boring Log found in the Appendix should be reviewed.

Organic laden soil (topsoil), approximately 2 to 12 inches thick, was encountered at the ground surface at the majority of the boring locations.

A surface plow zone was encountered in some parts of the site which, consistent with agricultural use. Plow zones can hold water after periods of rain, making them temporarily unstable. Because the plow zone has been disturbed and is not consolidated, it is typically not suitable for direct foundation or pavement support. Plow zone material may be suitable for use as structural fill provided it is not abnormally high in organic content or highly plastic. Borings indicate typical plow zone thickness of one to two feet.

Residual soil was encountered below the topsoil at each boring location. Residual soils are formed by the in-place chemical and mechanical weathering of the parent bedrock. The residual soils extended to depths ranging from 4 to 47 feet below the ground surface. The residual soils encountered in the borings generally consisted of Silty SAND (SM), Fat CLAY (CH), Clayey SAND (SC), SILT with Sand (ML), SILT (ML), Sandy Elastic SILT (MH) and Sandy SILT (ML), exhibiting SPT N-values ranging between 3 and 84 bpf, with a majority of the N-values between 5 and 26 bpf.

Partially weathered rock (PWR) was encountered below the residual soil at boring locations B-103, B-104, B-105, B-110, B-111, B-114, B-115, B-116, B-119, B-121, B-202, B-205, B-206, B-207, B-208, B-208-A, B-209, B-217, B-219, B-222, B-223-A and B-233. PWR was encountered at depths of 3 to 48 feet below the existing ground surface. PWR is defined as residual material exhibiting SPT N-values greater than 100 bpf. The PWR encountered generally consisted of Silty SAND (SM) and Sandy SILT (ML) exhibiting SPT N-values ranging from 50 blows per 6 inches to 50 blows per 0 inch. Borings B-104, B-110, B-111 and B-115, B-202, B-205, B-206, B-207, B-208, B-208-A, B-217, B-219, B-222, B-223, B-223-A, B-228 and B-233 were terminated in the PWR.

Materials hard enough to cause auger refusal were encountered by borings B-102, B-103, B-105, B-108, B-114, B-116, B-119 through B-121, B-205, B-205-A, B-207, B-208, B-208-A, B-219, B-220, B-221, B-221-A, B-221-B, B-222, B-223, B-233-A, B-226, B-231, B-232 and B-233. The materials causing auger refusal were encountered at depths of 4 to 47 feet below the existing ground surface.

4.3. Groundwater Observations

Groundwater measurements were attempted at the termination of drilling and prior to demobilization. Groundwater was encountered in several of the borings at elevations ranging from 676 to 735 feet across the site. Groundwater was not encountered within the drilled depths of the remaining borehole locations. Fluctuations in the groundwater elevation should be expected depending on precipitation, run-off, utility leaks, and other factors not evident at the time of our evaluation. Normally, highest groundwater levels occur in late winter and spring and the lowest levels occur in late summer and fall.

4.4. Laboratory Test Results

Laboratory test results indicated Liquid Limits of on-site soils between 37 and 66, and Plasticity Indexes between 15 and 34. Laboratory testing also indicated approximately 37.1 to 84.2 percent finer than the No. 200 sieve. The portions of the samples tested classified as SC, CH, and MH.

Selected split-spoon samples from Borings B-201 through B-203, B-214, B-217, B-219, B-220, and B-222 through B-226 were tested for natural moisture content in accordance with ASTM D2216. The moisture contents of the tested samples ranged from 10.4 to 52.7 percent.

The laboratory testing results are provided on the Laboratory Testing Summary and some test data sheets in the Appendix of this report.

5. CONCLUSIONS AND RECOMMENDATIONS

The borings performed at this site represent the subsurface conditions at the location of the borings. Due to inconsistencies associated with the prevailing geology, there can be changes in the subsurface conditions over relatively short distances that have not been disclosed by the results of the test location performed. A final, site specific geotechnical exploration should be performed for each specific project location.

Our evaluation of foundation support conditions has been based on our understanding of the site, project information and the data obtained in our exploration. The general subsurface conditions utilized in our foundation evaluation have been based on interpolation of subsurface data between and away from the borings. In evaluating the boring data, we have examined previous correlations between penetration resistance values and foundation bearing pressures observed in soil conditions similar to those at your site.

5.1. Organic Laden Soils

Organic laden soil(topsoil), approximately 2 to 12 inches thick, was encountered at the ground surface at the majority of the boring locations. The surficial organic laden soil is typically a dark-colored soil material containing roots, fibrous matter, and/or other organic components, and is generally not suitable for direct support of foundations or slabs-on-grade. It may be possible to leave this material in place beneath structural fill, depending upon the depth below final grades. Additionally, this material may be suitable for use as structural fill after removal of surface vegetation and root material. ECS has not performed laboratory testing to determine the organic content or other horticultural properties of the observed surficial organic laden soils. Therefore, the phrase "surficial organic laden soil" is not intended to indicate suitability for landscaping and/or other purposes. The surficial organic laden soil depths provided in this report and on the individual Boring Logs are based on driller observations and should be considered approximate. Please note that the transition from surficial organic laden soils to underlying materials may be gradual, and therefore the observation and measurement of the surficial organic laden soil depth is approximate. Actual surficial organic laden soil depths should be expected to vary and generally increases with the amount of vegetation present over the site.

5.2. Moisture Sensitive Soils (MH) and (CH)

Elastic SILTS (MH) and Fat CLAYS (CH) are moisture sensitive and may require moisture conditioning when used as structural fill. Near surface zones of high plastic material may be used in deeper fill areas or fill areas outside building and pavement areas, or within the building

pad but at least 4 feet below bottom of footing elevation. The plastic soils are also appropriate to use for stormwater pond dam embankment construction and pond liners. High plasticity clays (CH) with a plasticity index greater than 30, encountered near the surface in boring B-203, are generally not suitable for reuse as fill.

5.3. Structural Fill

The majority of on-site materials appear suitable for reuse as fill, except high plasticity clays as noted above. Partially weathered rock and rock may be used as fill provided they can be broken down into pieces smaller than 6 inches in diameter.

5.4. Seismic Site Class

Based on the widely spaced borings, it appears that portions of the site will be seismic site classification C in accordance with the North Carolina Building Code, whole other areas will likely be site class D. Seismic site classification should be determined on a building by building basis.

5.5. Structure Foundations

Based on our subsurface exploration, we anticipate the site to be suitable for industrial, manufacturing and distribution facilities. Buildings typical for industrial, manufacturing, and distribution can likely be supported on shallow foundations at this site. Depending upon final grades, allowable bearing pressures of 3,000 to 5,000 psf should be available in residual materials. Higher bearing pressures may be locally available in weathered rock. Remedial subgrade preparation may be necessary where disturbed residual was encountered. Access roads, parking lots, truck docks, etc. can be constructed using typical pavement sections for this type of use.

5.6. Below Grade Excavation

Shallow weathered rock was encountered in some locations, so difficult excavation may be encountered during site development depending upon final site grades.

Generally, PWR that our augers can penetrate under normal down pressure are considered rippable with typical excavation effort during mass grading.

In mass excavation for general site work, dense soils and PWR can usually be removed by ripping with a single-tooth ripper attached to a large crawler tractor or by breaking it out with a large front-end loader. In confined excavations such as foundations, utility trenches, etc., removal of PWR may require use of heavy duty backhoes, pneumatic spades, or blasting.

As a general guide, we recommend the following definitions be used to define rock:

<u>General Excavation</u>

Rip Rock: Material that cannot be removed by scrapers, loaders, pans, dozers, or graders; and requires the use of a single-tooth ripper mounted on a crawler tractor having a minimum draw bar pull rated at not less than 56,000 pounds.

Blast Rock: Material which cannot be excavated with a single-tooth ripper mounted on a crawler tractor having a minimum draw bar pull rated at not less than

56,000 pounds (Caterpillar D-8 or equivalent) or by a Caterpillar 977 front-end loader or equivalent; and occupying an original volume of at least one (1) cubic yard.

Trench Excavation

Blast Rock: Material which cannot be excavated with a backhoe having a bucket curling force rated at not less than 25,700 pounds (Caterpillar Model 225 or equivalent), and occupying an original volume of at least one-half (1/2) cubic yard.

As noted in the Geology section of this report, the weathering process in the Piedmont can be erratic and significant variations of the depths of the more dense materials can occur in relatively short distances. In some cases, isolated boulders or thin rock seams may be present in the soil matrix.

6. GENERAL COMMENTS

This report has been prepared in order to aid in the evaluation of this site and to assist the owner and engineer in the feasibility study of the project. The report scope is limited to the specific project and location described, and the project description represents our understanding of the significant aspects relevant to soil and foundation characteristics.

The recommendations in this report were based on the subsurface exploration work performed at the site. This report should not be used for final design or construction. Additional site exploration may be needed prior to final design once a proposed site plan and grading plan have been developed. There are likely to be other design and construction related issues that need to be analyzed which have not been addressed by this preliminary report. Subsurface conditions can vary laterally and with depth, and significantly different conditions may exist at locations between the borings. Conditions different from those encountered by the borings and described in this report may require modifications to the geotechnical recommendations for the project. Additional information and data are included in the attached Appendices.

APPENDICES

Appendix A – Illustrations

Site Location Map
Boring Location Plan
Generalized Subsurface Profile
Legend Sheet and Unified Soil Classification System
Soil Test Boring Logs

Appendix B – Laboratory Test Results

Laboratory Testing Summary
Atterberg Limits
Percent Fines

APPENDIX A – ILLUSTRATIONS

SCALE 1" = 4,000'

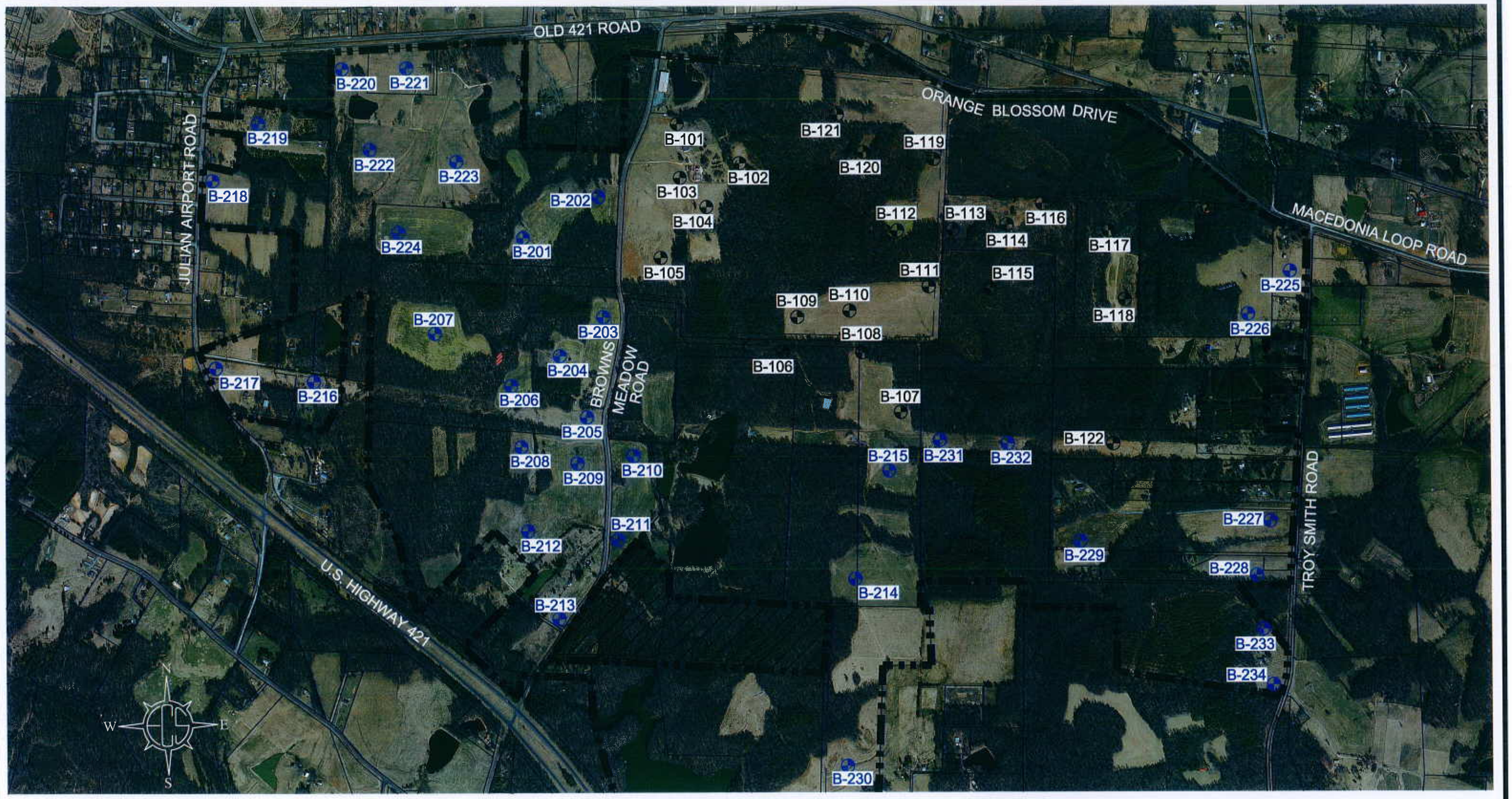
2000 4000

4000 0

REFERENCE:
2014 DigitalGlobe, GeoEye,
U.S. Geological Survey,
U.S.D.A. Farm Service Agency,
2014 Google

FIGURE 1
SITE LOCATION MAP
LIBERTY MEGASITE
LIBERTY, NORTH CAROLINA

DRAWN BY/DATE:		PROJECT NO.
JMR/01-12-15		09-24982-B



LEGEND

B-101 = BORINGS (4-2014)

B-201 = BORINGS (1-2015)

SCALE 1"=1000'

500 1000

1000 0

REFERENCE:
PRELIMINARY DATA
COMPILED BY
STIMMEL ASSOCIATES, PA

ECS

FIGURE 2
BORING LOCATION PLAN
LIBERTY MEGASITE
LIBERTY, NORTH CAROLINA

DRAWN BY/DATE: JMR/01-12-15

PROPOSAL NO. 09.24982-B

SOIL CLASSIFICATION LEGEND

FILL - FILL (POSS/PROB) OF ALL TYPES
GW - WELL GRADED GRAVEL
GM - SILTY GRAVEL
GP - POORLY GRADED GRAVEL
GC - CLAYEY GRAVEL
SW - WELL GRADED SAND
ST - SHELBY TUBE
ML - LOW PLASTICITY SILT
CL - LOW PLASTICITY CLAY
MH - HIGH PLASTICITY SILT
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CH - HIGH PLASTICITY CLAY
OH - HIGH PLASTICITY ORGANIC SILTS AND CLAYS
OL - LOW PLASTICITY ORGANIC SILTS AND CLAY
PT - PEAT
WR - WEATHERED ROCK
PWR - PARTIALLY WEATHERED ROCK
HWR - HIGHLY WEATHERED ROCK
DR - DECOMPOSED ROCK

SURFACE MATERIALS

TOPSOIL
ASPHALT
GRAVEL
CONCRETE
VOID

ROCK TYPES

IGNEOUS
METAMORPHIC
SEDIMENTARY

SYMBOL LEGEND

WATER LEVEL - DURING DRILLING/SAMPLING
WATER LEVEL - BEFORE CASING REMOVAL
WATER LEVEL - AFTER CASING REMOVAL
WATER LEVEL - AFTER 24 HOURS

NOTES:
1 SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.
2 PENETRATION TEST RESISTANCE IN BLOWS PER FOOT (ASTM D1586).
3 HORIZONTAL DISTANCES ARE NOT TO SCALE.

GENERALIZED SUBSURFACE SOIL PROFILE

Liberty Megasite
NC Megasites, LLC
Old US 421, Liberty, North Carolina

PROJECT NO.: 24105-A | DATE: 4/25/2014 | VERTICAL SCALE: 1"=10'

SOIL CLASSIFICATION LEGEND

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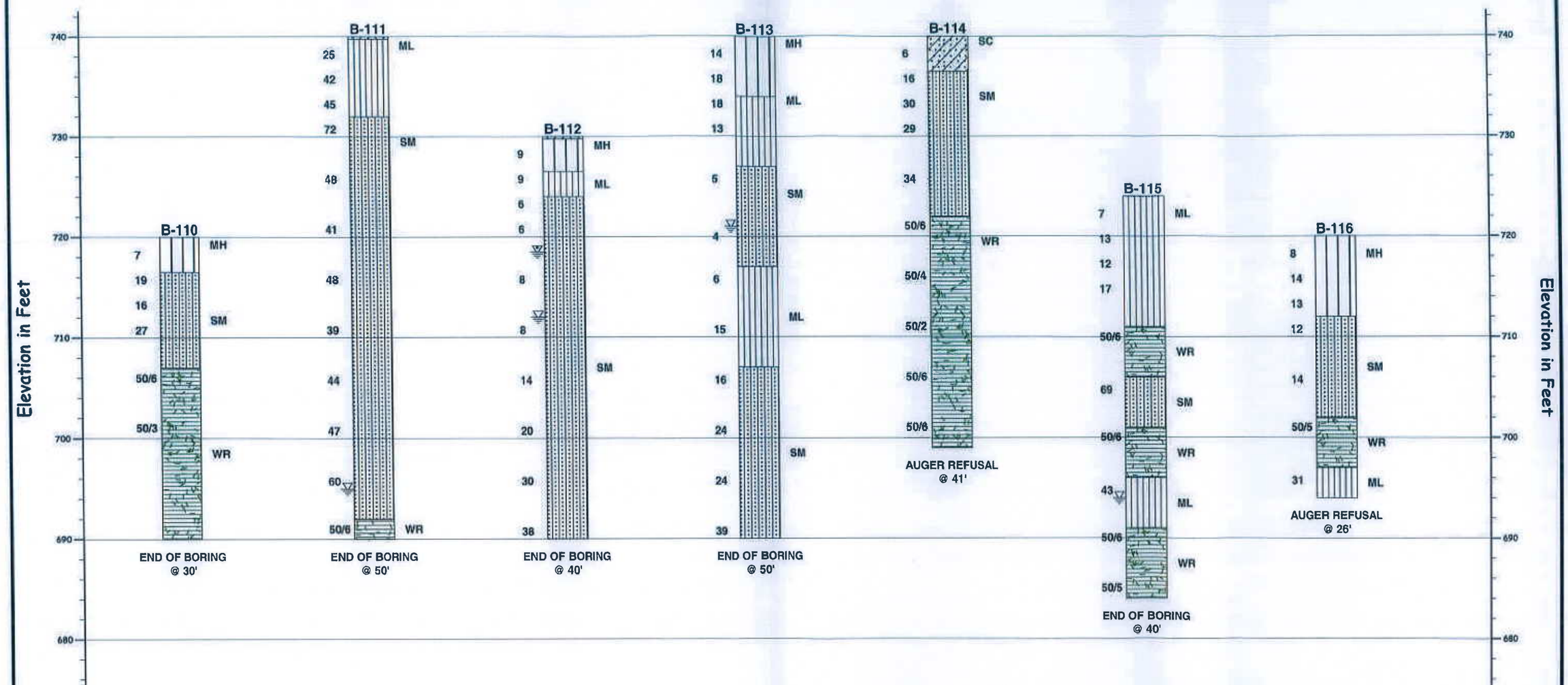

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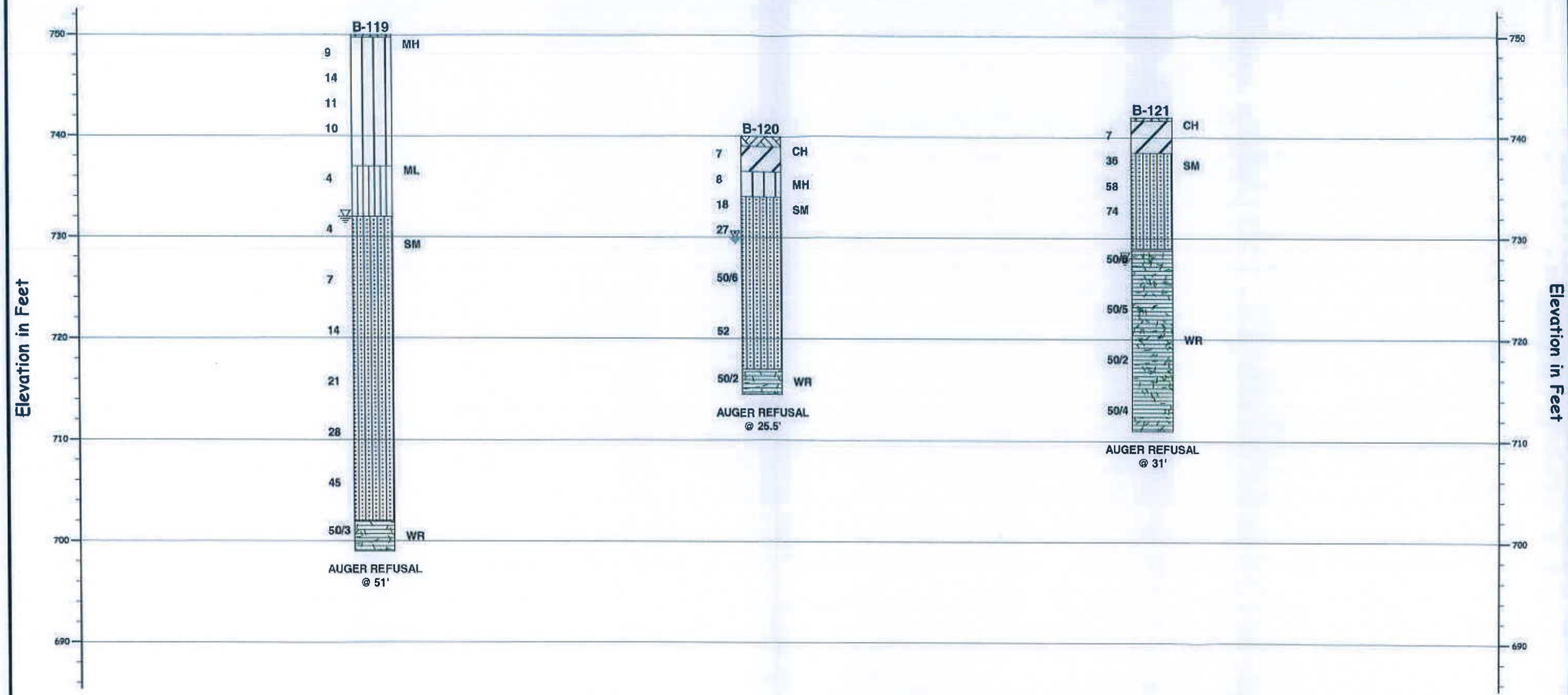

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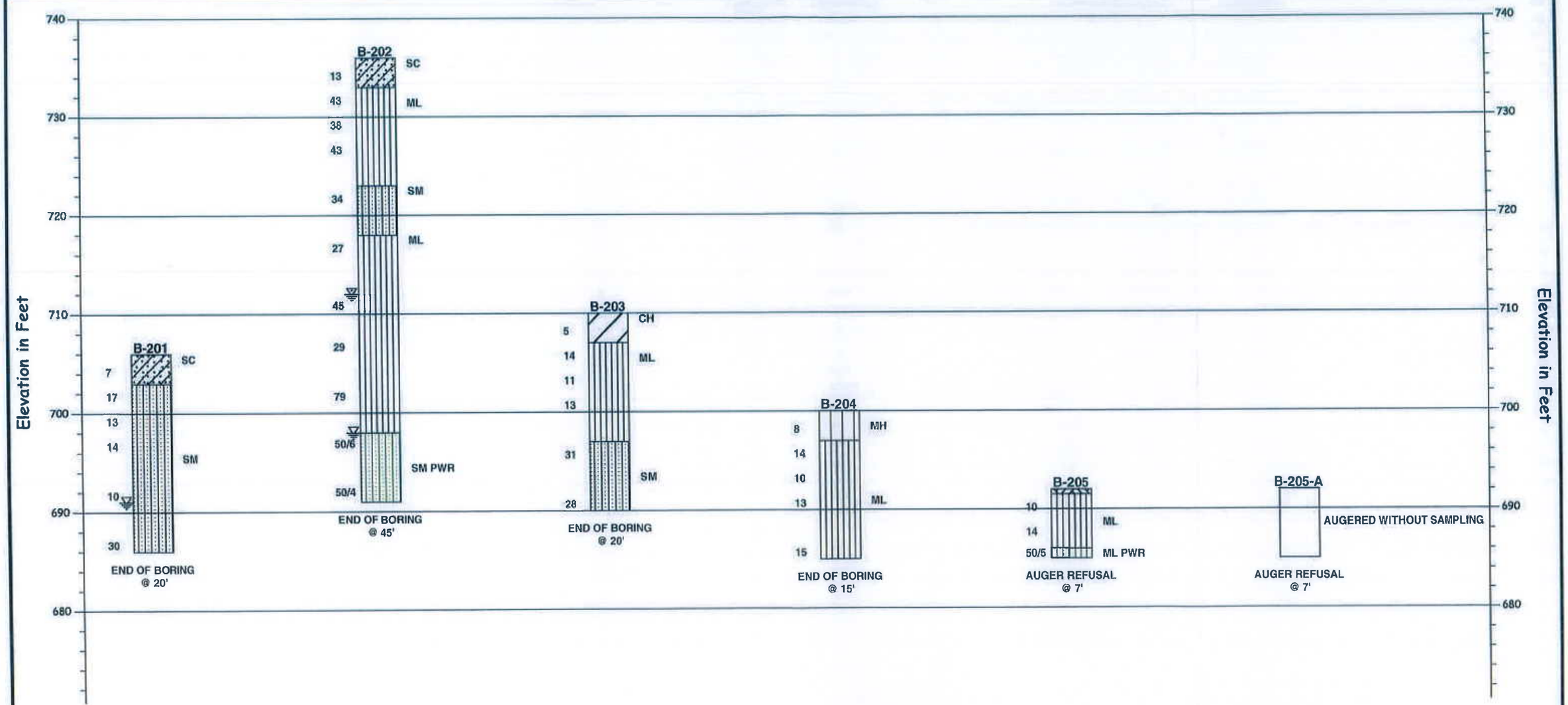

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4 ELEVATIONS ARE APPROXIMATE.

GENERALIZED SUBSURFACE SOIL PROFILE

Liberty Mega Site
Randolph Co. EDC
Highway 421, Liberty, NC

PROJECT NO.: 24982-B | DATE: 1/22/2015 | VERTICAL SCALE: 1"=10'

SOIL CLASSIFICATION LEGEND

- FILL - FILL (FOSS/PROB) OF ALL TYPES
- GW - WELL GRADED GRAVEL
- GM - SILTY GRAVEL
- GP - POORLY GRADED GRAVEL
- GC - CLAYEY GRAVEL
- SW - WELL GRADED SAND
- ST - SHELBY TUBE
- ML - LOW PLASTICITY SILT
- CL - LOW PLASTICITY CLAY
- MH - HIGH PLASTICITY SILT
- RC - ROCK CORE
- SM - SILTY SAND
- SP - POORLY GRADED SAND
- SC - CLAYEY SAND
- PM - PRESSURE METER
- CH - HIGH PLASTICITY CLAY
- OH - HIGH PLASTICITY ORGANIC SILTS AND CLAYS
- OL - LOW PLASTICITY ORGANIC SILTS AND CLAY
- PT - PEAT
- WR - WEATHERED ROCK
- PWR - PARTIALLY WEATHERED ROCK
- HWR - HIGHLY WEATHERED ROCK
- DR - DECOMPOSED ROCK

SURFACE MATERIALS

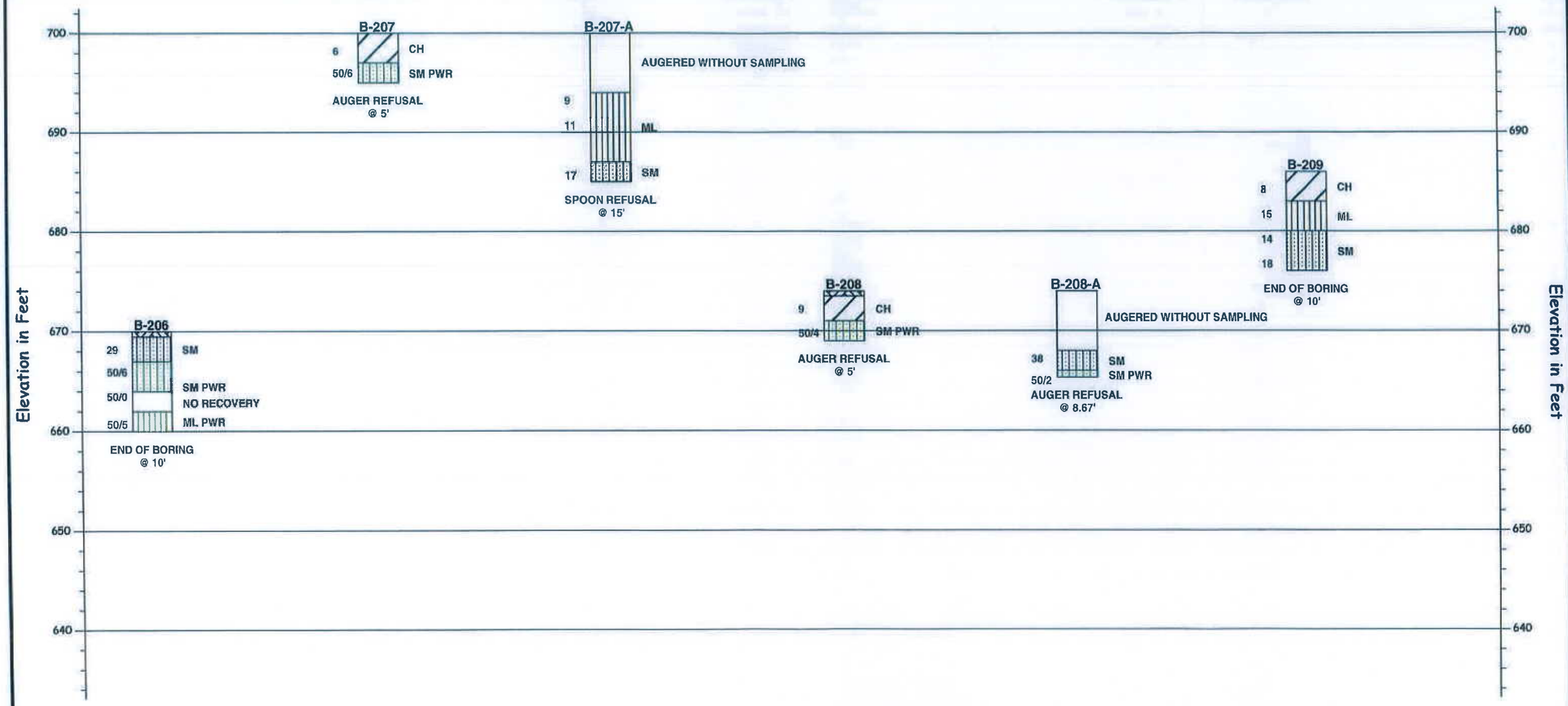
- TOPSOIL
- ASPHALT
- GRAVEL
- CONCRETE
- VOID

ROCK TYPES

- IGNEOUS
- METAMORPHIC
- SEDIMENTARY

SYMBOL LEGEND

- WATER LEVEL - DURING DRILLING/SAMPLING
- WATER LEVEL - BEFORE CASING REMOVAL
- WATER LEVEL - AFTER CASING REMOVAL
- WATER LEVEL - AFTER 24 HOURS



NOTES:
1 SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.
2 PENETRATION TEST RESISTANCE IN BLOWS PER FOOT (ASTM D1586).
3 HORIZONTAL DISTANCES ARE NOT TO SCALE.
4 ELEVATIONS ARE APPROXIMATE.

GENERALIZED SUBSURFACE SOIL PROFILE

Liberty Mega Site
Randolph Co. EDC
Highway 421, Liberty, NC

PROJECT NO.: 24982-B | DATE: 12/22/2014 | VERTICAL SCALE: 1"=10'

SOIL CLASSIFICATION LEGEND

- FILL - FILL (POSS/PROB) OF ALL TYPES
- GW - WELL GRADED GRAVEL
- GM - SILTY GRAVEL
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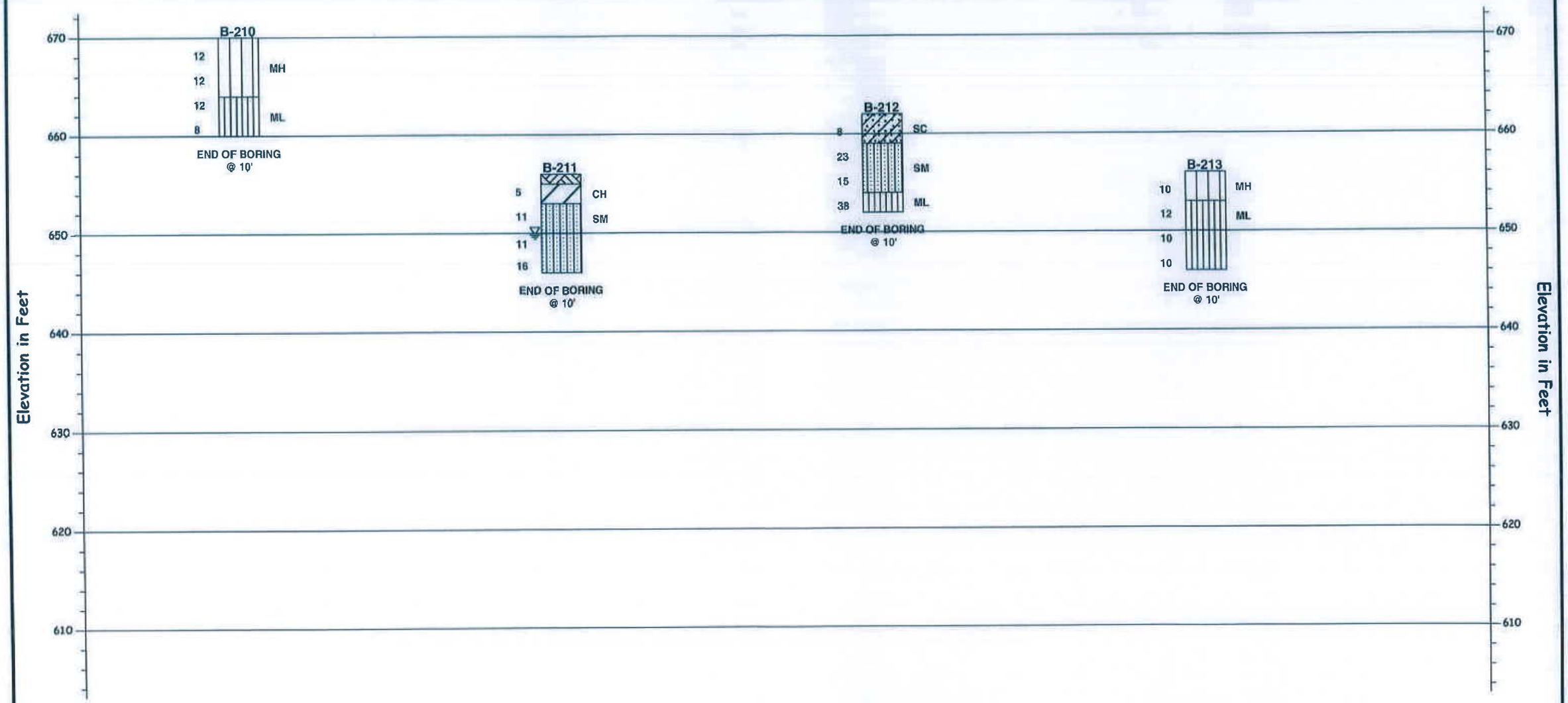

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ECS

GENERALIZED SUBSURFACE SOIL PROFILE

Liberty Mega Site
Randolph Co. EDC
Highway 421, Liberty, NC

PROJECT NO.: 24982-B | DATE: 12/22/2014 | VERTICAL SCALE: 1"=10'

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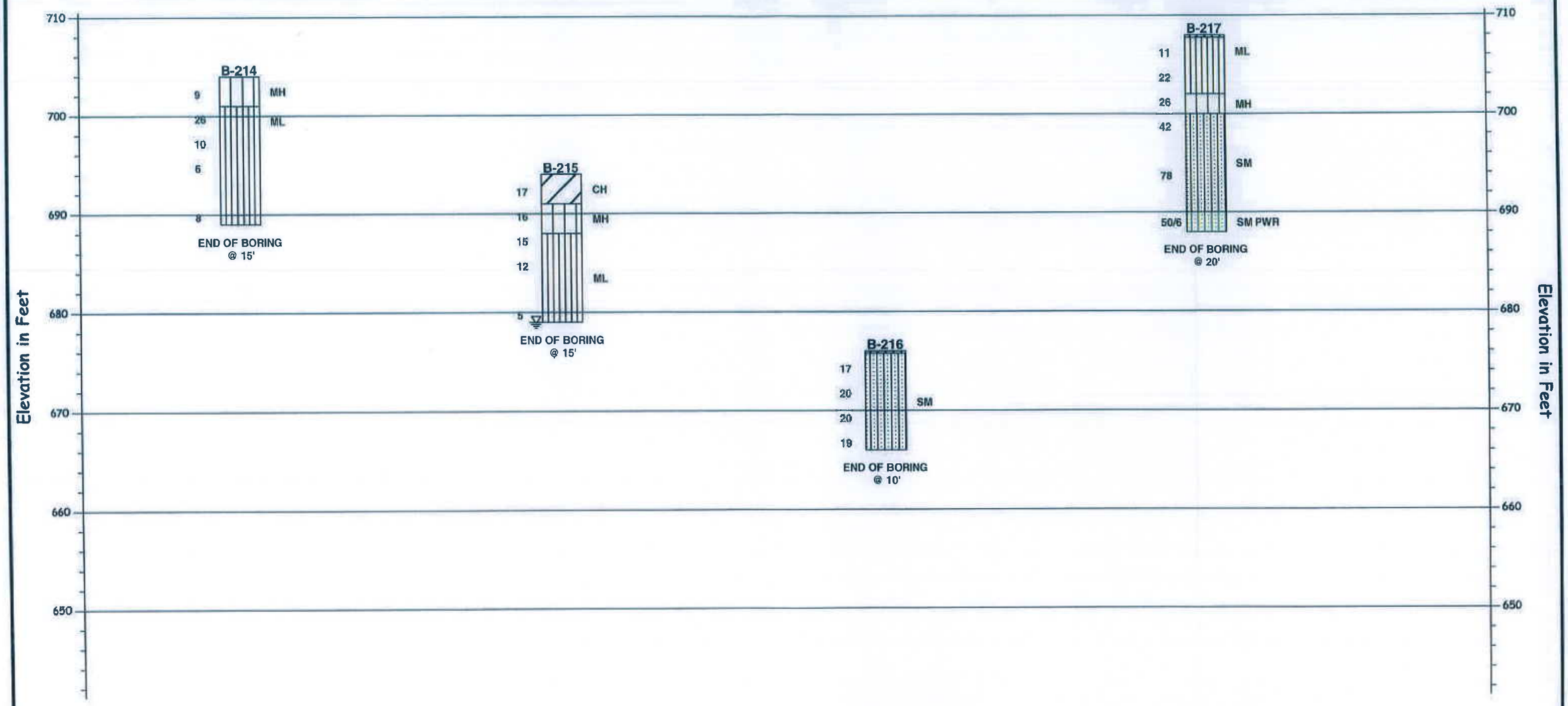

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GENERALIZED SUBSURFACE SOIL PROFILE

Liberty Mega Site
Randolph Co. EDC
Highway 421, Liberty, NC

PROJECT NO.: 24982-B | DATE: 1/13/2015 | VERTICAL SCALE: 1"=10'

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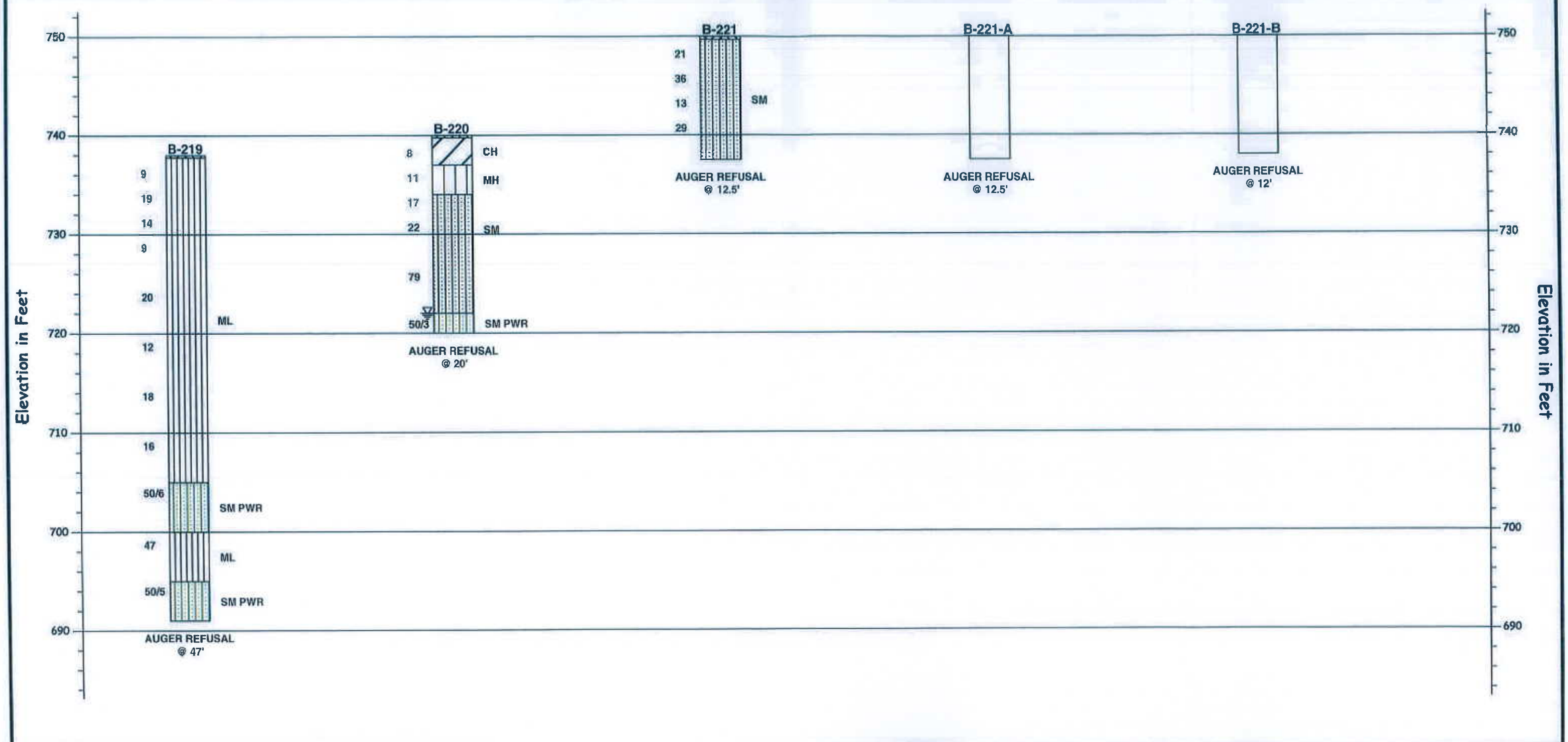

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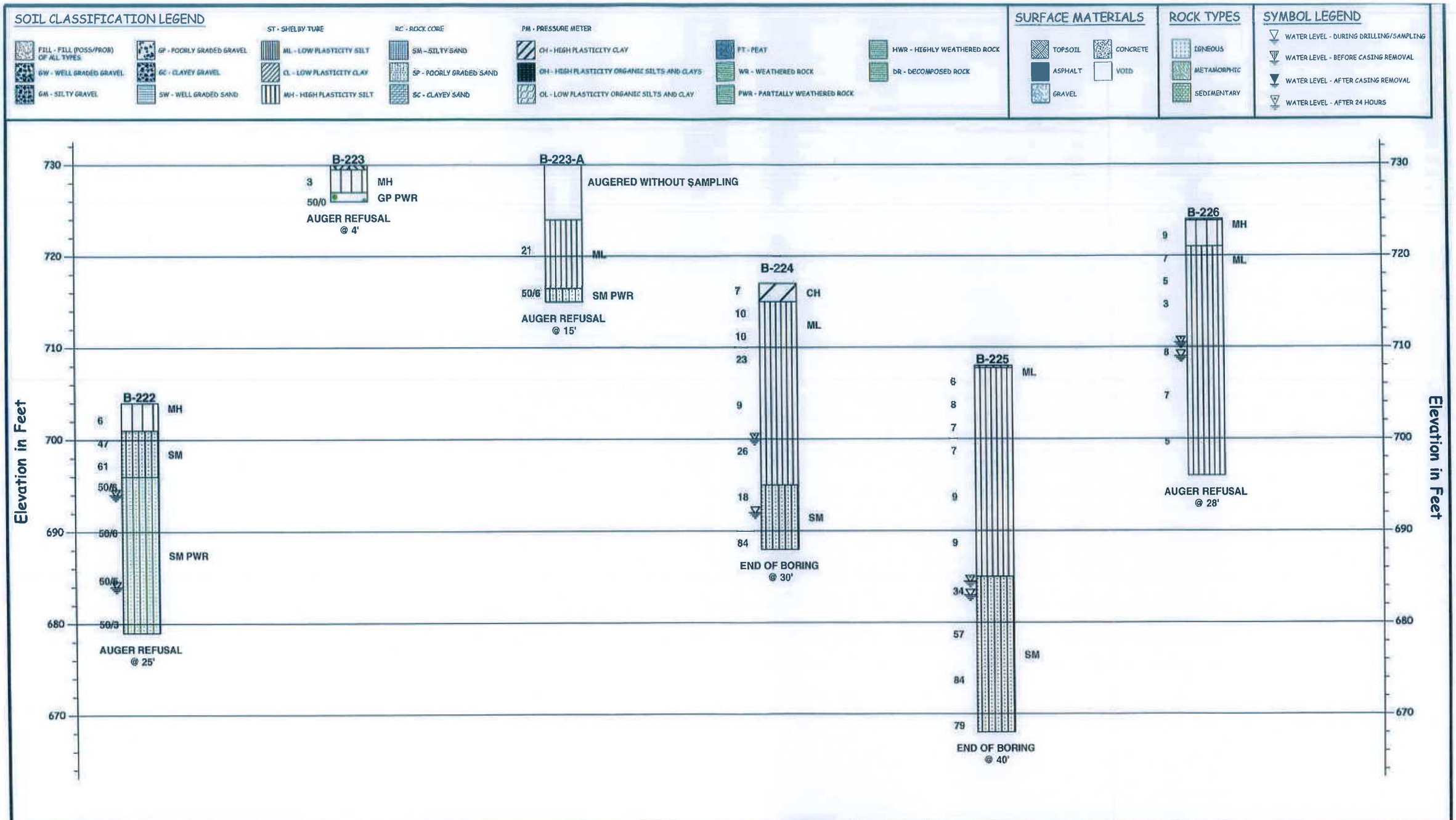
GENERALIZED SUBSURFACE SOIL PROFILE

Liberty Mega Site
Randolph Co. EDC
Highway 421, Liberty, NC

PROJECT NO.: 24982-B | DATE: 1/15/2015 | VERTICAL SCALE: 1"=10'



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Randolph Co. EDC
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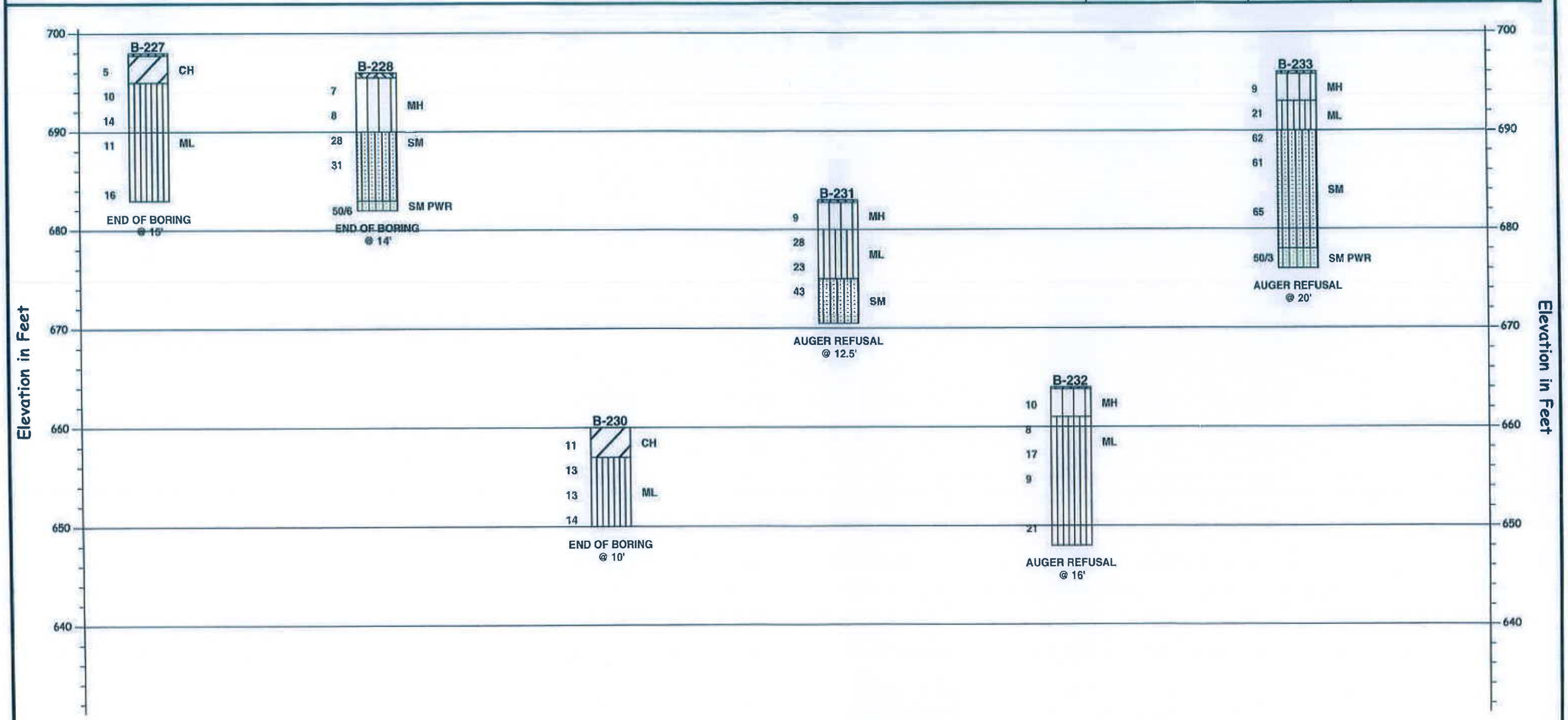

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GENERALIZED SUBSURFACE SOIL PROFILE

Liberty Mega Site
Randolph Co. EDC
Highway 421, Liberty, NC

PROJECT NO.: 24982-B | DATE: 1/13/2015 | VERTICAL SCALE: 1"=10'

I-D. REFERENCE NOTES FOR BORING LOGS

I. Drilling Sampling Symbols:

SS	Split Spoon Sampler	ST	Shelby Tube Sampler
RC	Rock Core, NX, BX, AX	PM	Pressuremeter
DC	Dutch Cone Penetrometer	RD	Rock Bit Drilling
BS	Bulk Sample of Cuttings	PA	Power Auger (no sample)
HAS	Hollow Stem Auger	WS	Wash sample

II. Correlation of Penetration Resistances to Soil Properties:

Standard Penetration (blows/ft) refers to the blows per foot of a 140 lb. hammer falling 30 inches on a 2-inch OD split-spoon sampler, as specified in ASTM D-1586. The blow count is commonly referred to as the N value.

A. Non-Cohesive Soils (Silt, Sand Gravel and Combinations)

Density		*Relative Properties*	
Under 4 blows/ft	Very Loose	Adjective Form	12% to 49%
4 to 10 blows/ft	Loose	With	5% to 12%
11 to 30 blows/ft	Medium Dense		
31 to 50 blows/ft	Dense		
Over 51 blows/ft	Very Dense		

Particle Size Identification		
Boulders		8 inches or larger
Cobbles		3 to 8 inches
Gravel	Coarse	1 to 3 inches
	Medium	½ to 1 inch
	Fine	¼ to ½ inch
Sand	Coarse	2.00 mm to ¼ inch (dia. of lead pencil)
	Medium	0.42 to 2.00 mm (dia. of broom straw)
	Fine	0.074 to 0.42 mm (dia. of human hair)
Silt and Clay		0.0 to 0.074 mm (particles cannot be seen)

B. Cohesive Soils (Clay, Silt, and Combinations)

Blows/ft	*Consistency*	*Unconfined Comp. Strength Q_p (tsf)*	*Degree of Plasticity*	*Plasticity Index*
Under 2	Very Soft	Under 0.25	None to slight	0 – 4
3 to 4	Soft	0.25-0.49	Slight	5 – 7
5 to 8	Medium Stiff	0.50-0.99	Medium	8 – 22
9 to 15	Stiff	1.00-1.99	High to Very High	Over 22
16 to 30	Very Stiff	2.00-3.00		
31 to 50	Hard	4.00-8.00		
Over 50	Very Hard	Over 8.00		

III. Water Level Measurement Symbols:

WL	Water Level	BCR	Before Casing Removal	DCI	Dry Cave-In
WS	While Sampling	ACR	After Casing Removal	WCI	Wet Cave-In
WD	While Drilling	▽	Existing Groundwater Level GWT	▼	Est. Seasonal High

The water levels are those levels actually measured in the borehole at the times indicated by the symbol. The measurements are relatively reliable when augering, without adding fluids, in a granular soil. In clay and plastic silts, the accurate determination of water levels may require several days for the water level to stabilize. In such cases, additional methods of measurement are generally applied.

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-101	1 OF 1

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 740

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0					Disturbed Residual: Tan, Moist, Medium Stiff, Silty CLAY, With Fine to Medium Sand (CH)	740		
	S-1	SS	18	17			2 3 4	7, 20.1, 24, 51
					Residual: Tan, Moist, Medium Stiff, Silty CLAY, With Fine to Medium Sand (CH)			
	S-2	SS	18	16	Tannish Orange, Wet, Medium Dense to Loose, Silty Fine to Medium SAND (SM)		4 6 8	14
5						735		
	S-3	SS	18	17			5 5 5	10
					Tannish Orange and Tan, Wet, Soft, Fine Sandy SILT (ML)			
	S-4	SS	18	15			2 2 2	4, 38.7
10						730		
	S-5	SS	18	3			1 1 3	4
15						725		
	S-6	SS	18	16			1 1 3	4
20						720		
					Tan, Wet, Medium Dense, Silty Fine to Medium SAND (SM)			
	S-7	SS	18	16			3 5 7	12
25						715		
	S-8	SS	18	18			4 6 8	15
30					END OF BORING @ 30.00'	710		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 12.00 WS☐ WD☐	BORING STARTED 04/18/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/18/14	CAVE IN DEPTH @ 13.00'
WL 5.00	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-102	1 OF 1

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY: RQD% - - - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 720

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0					Residual: Tannish Brown to Tan, Moist to Wet, Stiff to Medium Stiff, Fine Sandy SILT (ML)	720		
	S-1	SS	18	16			3 4 5	9
	S-2	SS	18	15			3 3 5	8
5						715		
	S-3	SS	18	16	Greenish Brown, Wet, Medium Dense, Silty Fine to Medium SAND (SM)		5 6 7	13
	S-4	SS	18	15			4 5 8	13
10						710		
	S-5	SS	18	18	Tannish Brown, Wet, Very Stiff, Fine Sandy SILT (ML)		4 6 10	16
15						705		
					AUGER REFUSAL @ 18.00'			
20						700		
25						695		
30						690		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL DRY WS☐ WD☐	BORING STARTED 04/18/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/18/14	CAVE IN DEPTH @ 14.50'
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-103	1 OF 1

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 730

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT	CALIBRATED PENETROMETER TONS/FT²	WATER CONTENT%
0					Disturbed Residual: Orangish Tan to Brown, Moist, Stiff, Clayey SILT, With Fine to Medium Sand (MH)	730				
	S-1	SS	18	16	Residual: Orangish Tan to Brown, Moist, Stiff, Clayey SILT, With Fine to Medium Sand (MH)		4 6 5	11		
	S-2	SS	18	17	Orange, Tan to Greenish Brown, Moist to Wet, Medium Stiff to Stiff, Fine to Medium Sandy SILT (ML)		3 3 5	8		33.7
5						725				
	S-3	SS	16	16			3 5 6	10		
	S-4	SS	18	13	Greenish Brown, Wet, Loose, Fine Sandy SILT (ML)		3 3 4	7		24.6
10						720				
	S-5	SS	18	16	Orangish Tan to Brown, Wet, Medium Stiff to Stiff, Fine Sandy SILT (ML)		2 2 3	5		
15						715				
	S-6	SS	18	16			3 3 6	9		
20						710				
	S-7	SS	18	13			4 3 4	7		
25						705				
	S-8	SS	6	6	Partially Weathered Rock: Brown to Dark Brown, Moist, Silty Fine to Medium SAND, Trace Rock Fragments (WR)		50/6	50/6		
30					AUGER REFUSAL @ 30.50'	700				

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 16.00 WS ☐ WD ☐	BORING STARTED 04/18/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/18/14	CAVE IN DEPTH @ 16.00'
WL 15.00	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-104	1 OF 1

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

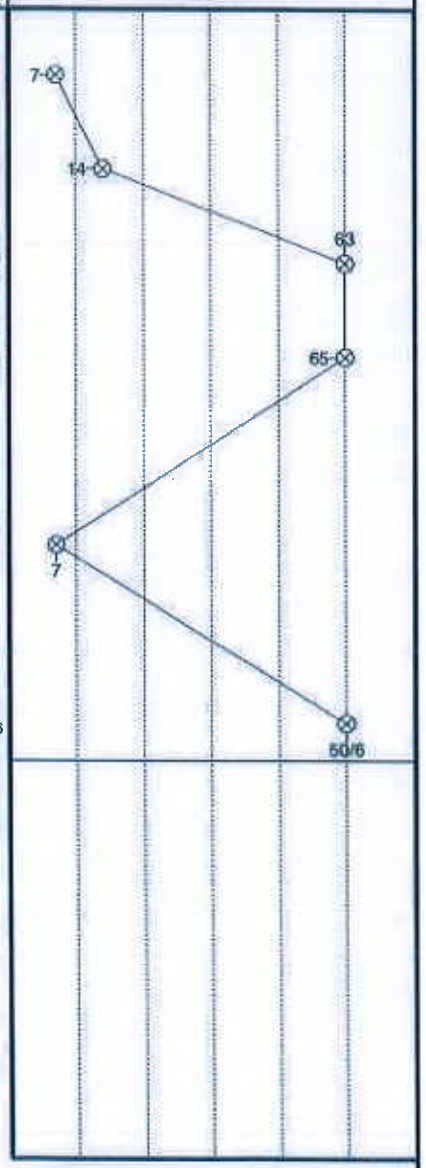
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 710

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0					Disturbed Residual: Orangish Tan, Moist, Loose, Silty Fine to Medium SAND, Trace Clay (SM)	710	
	S-1	SS	18	17			3 3 4
					Residual: Orangish Tan, Moist, Loose, Silty Fine to Medium SAND, Trace Clay (SM)		
	S-2	SS	18	17	Tannish Orange, Moist, Medium Dense, Silty Fine Medium SAND (SM)		5 5 9
5						705	
	S-3	SS	18	16	Tan, Moist, Very Dense, Fine to Medium SAND (SM)		25 26 37
	S-4	SS	18	16			10 29 36
10						700	
	S-5	SS	18	15			2 4 3
15						695	
	S-6	SS	12	11	Partially Weathered Rock: Greenish Tan, Wet, SILT, Trace Fine Sand (WR)		18 50/6
20					END OF BORING @ 20.00'	690	
25						685	
30						680	



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WL DRY WS☐ WD☐	BORING STARTED 04/18/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/18/14	CAVE IN DEPTH @ 17.00'
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-105	1 OF 1

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
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⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 720

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0					Disturbed Residual: Tannish Brown, Moist, Medium Stiff, Clayey SILT, With Fine to Medium Sand (MH)	720		
	S-1	SS	18	18	Residual: Tannish Brown, Moist, Medium Stiff, Clayey SILT, With Fine to Medium Sand (MH)		3 3 3	6
	S-2	SS	18	17	Tan, Wet, Stiff, Fine to Medium Sandy SILT, With Clay (MH)		3 5 6	11
5						715		
	S-3	SS	18	16	Tannish Brown, Moist, Stiff, Fine to Medium Sandy SILT (ML)		4 4 6	10
	S-4	SS	18	16	Tannish Brown, Wet, Stiff to Medium Stiff, Clayey SILT, With Fine Sand (MH)		2 4 5	9
10						710		
	S-5	SS	18	18			2 2 3	5
15						705		
	S-6	SS		1	Partially Weathered Rock: Brown, Wet, Fine to Medium Sandy SILT, Trace Clay (WR)		50/1	50/1
					AUGER REFUSAL @ 18.60'			
20						700		
25						695		
30						690		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 18.00 WS☐ WD☐	BORING STARTED 04/18/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/18/14	CAVE IN DEPTH @ 11.00'
WL 6.00	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-106	1 OF 1

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 688

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0					Disturbed Residual: Tannish Brown, Wet, Stiff, Silty CLAY, With Fine to Medium Sand (CH)			
	S-1	SS	18	17	Residual: Tannish Brown, Wet, Stiff, Silty CLAY, With Fine to Medium Sand (CH)	685	4 4 5	9
	S-2	SS	18	16	Tan to Orangish Tan, Moist and Wet, Medium Dense, Silty Fine to Medium SAND (SM)		3 7 7	14
5	S-3	SS	18	18		680	4 11 6	17
	S-4	SS	18	18			4 11 8	19
10						675		
	S-5	SS	18	18			17 8 13	21
15					END OF BORING @ 15.00'			
						670		
20								
						665		
25								
						660		
30								

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 12.00 WS☐ WD☐	BORING STARTED 04/17/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/17/14	CAVE IN DEPTH
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-107	1 OF 1

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

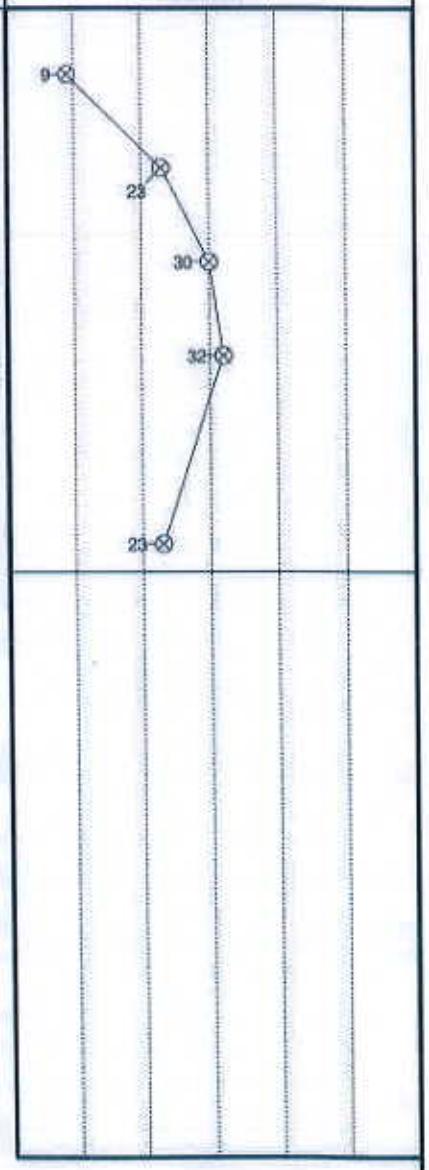
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 700

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0					Disturbed Residual: Brown, Moist, Stiff, Silty CLAY, With Fine to Medium Sand, Trace Roots (CH)	700	
	S-1	SS	18	17	Residual: Brown, Moist, Stiff, Silty CLAY, With Fine to Medium Sand, Trace Roots (CH)		3 4 5
	S-2	SS	18	16	Orangish Tan to Brown, Moist, Medium Dense, Silty Fine to Medium SAND, With Coarse Quartz Fragments, Trace Clay (SM)		5 9 14
5						695	
	S-3	SS	18	15			12 14 16
	S-4	SS	18	18	Greenish Tan, Moist, Hard to Very Stiff, Fine Sandy SILT (ML)		15 14 18
10						690	
	S-5	SS	18	18			8 9 14
15					END OF BORING @ 15.00'	685	
20						680	
25						675	
30						670	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL DRY WS☐ WD☐	BORING STARTED 04/17/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/17/14	CAVE IN DEPTH @ 12.50'
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-108	1 OF 1

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 720

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0					Disturbed Residual: Tannish Brown, Wet, Medium Stiff, Fine Sandy SILT, With Clay, Trace Roots (MH)	720		
	S-1	SS	18	17			2 4 4	8
					Residual: Tannish Brown, Wet, Medium Stiff, Fine Sandy SILT, With Clay, Trace Roots (MH)			
	S-2	SS	18	16	Orangish Tan, Moist, Loose, Silty Fine to Medium SAND (SM)		3 5 5	10
5						715		
	S-3	SS	18	16	Orangish Brown to Tannish Brown, Wet, Medium Stiff to Stiff, Fine Sandy SILT (ML)		3 2 3	5
	S-4	SS	18	16			3 3 4	7
10						710		
	S-5	SS	18	15			3 5 9	14
15						705		
					AUGER REFUSAL @ 16.50'			
20						700		
25						695		
30						690		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 13.00 WS☐ WD☐	BORING STARTED 04/17/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/17/14	CAVE IN DEPTH @ 14.00'
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-109	1 OF 1

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

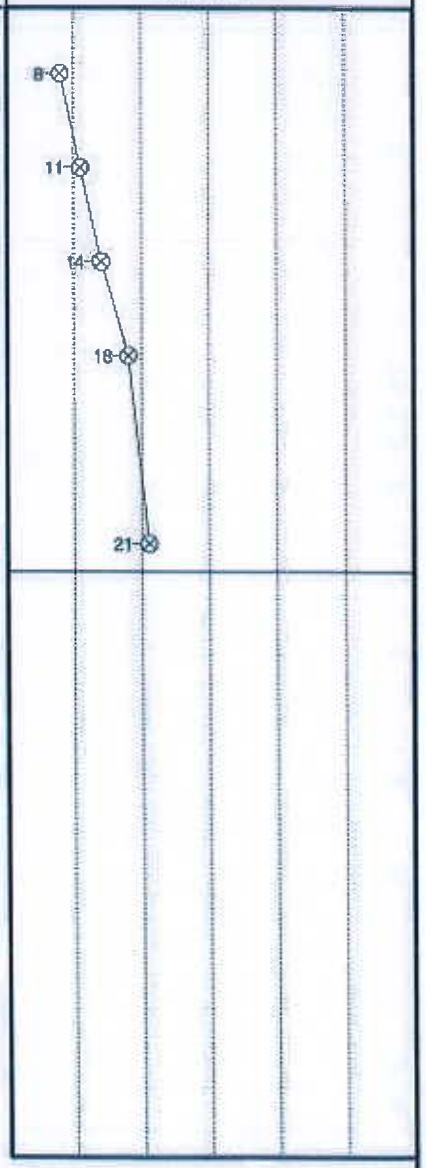
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 700

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
	S-1	SS	18	17	Disturbed Residual: Tannish Brown to Brown, Moist to Wet, Medium Stiff to Stiff, Fine Sandy SILT, Trace Clay (ML)	700	2 3 5
	S-2	SS	18	16	Residual: Tannish Brown to Brown, Moist to Wet, Medium Stiff to Stiff, Fine Sandy SILT, Trace Clay (ML)	695	5 5 6
	S-3	SS	18	17			5 6 8
	S-4	SS	18	16	Tan to Tannish Brown, Wet, Medium Dense, Silty Fine to Medium SAND, (SM)	690	9 8 10
	S-5	SS	18	16			7 9 12
15					END OF BORING @ 15.00'	685	
20						680	
25						675	
30						670	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL DRY WS☐ WD☐	BORING STARTED 04/17/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/17/14	CAVE IN DEPTH @ 12.50'
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-110	1 OF 1

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

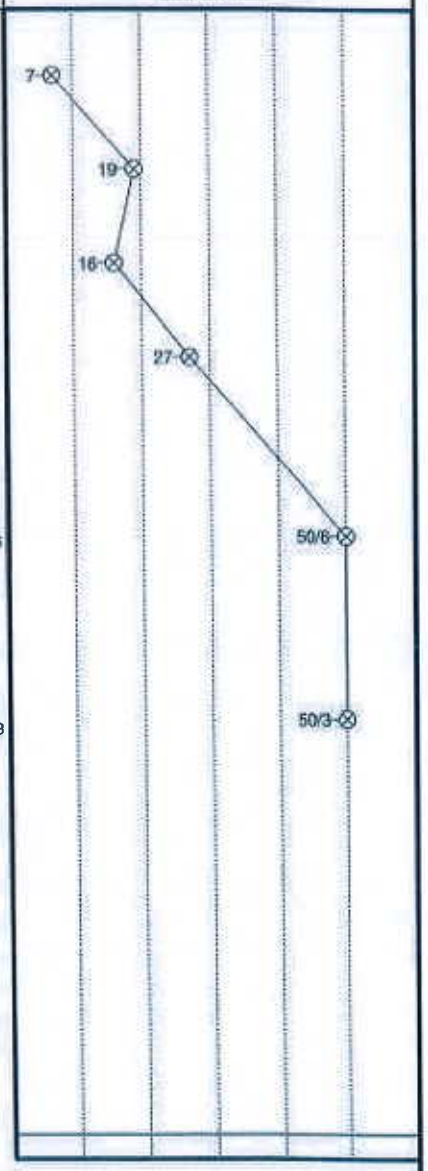
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ➤ LOSS OF CIRCULATION

SURFACE ELEVATION 720

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0					Disturbed Residual: Orangish Brown, Moist, Medium Stiff, Clayey SILT, With Fine to Medium Sand (MH)	720	
	S-1	SS	18	18	Residual: Orangish Brown, Moist, Medium Stiff, Clayey SILT, With Fine to Medium Sand (MH)		2 3 4
	S-2	SS	18	17	Tannish Orange to Tannish White, Moist, Medium Dense, Silty Fine to Medium SAND (SM)		5 8 11
5						715	
	S-3	SS	18	17			6 7 9
	S-4	SS	18	18			8 12 15
10						710	
	S-5	SS	12	12	Partially Weathered Rock: Tannish White, Moist, Silty Fine to Medium SAND (WR)		20 50/6
15						705	
	S-6	SS	9	9			28 50/3
20						700	
25						695	
30					END OF BORING @ 30.00'	690	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL DRY	WS ☐ WD ☐	BORING STARTED 04/17/14	
WL(BCR)	WL(ACR)	BORING COMPLETED 04/17/14	CAVE IN DEPTH
WL		RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-111	1 OF 2

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

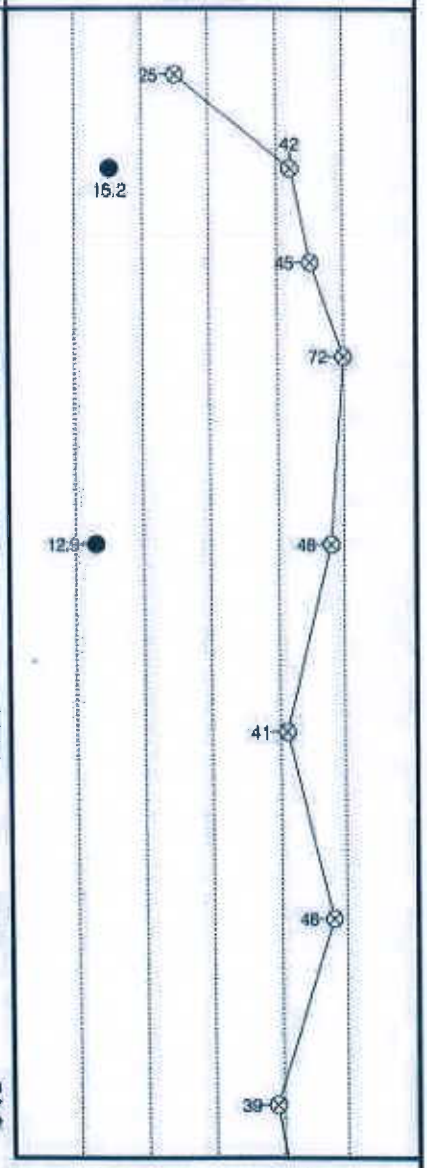
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 740

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0					Topsoil Depth [3"]	740	
	S-1	SS	18	17	Disturbed Residual: Tan, Moist, Medium Dense, Fine to Medium Sandy SILT, Trace Quartz Fragments (ML)		3 7 18
	S-2	SS	18	16	Residual: Tan, Moist, Medium Dense, Fine to Medium Sandy SILT, Trace Quartz Fragments (ML)		14 19 23
5					Residual: Tan to Orangish Tan, Moist, Medium Dense, Fine to Medium Sandy SILT (ML)	735	
	S-3	SS	18	16			6 19 26
	S-4	SS	18	17	Tannish White, Moist, Very Dense, Silty Fine to Coarse SAND (SM)		22 34 38
10						730	
	S-5	SS	18	17	Orangish Tan to Tan, Moist, Dense to Very Dense, Silty Fine to Medium SAND (SM)		18 21 27
15						725	
	S-6	SS	18	16			16 18 23
20						720	
	S-7	SS	18	17			12 23 25
25						715	
	S-8	SS	18	16			14 17 22
30						710	



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 45.00 WS☐ WD☐	BORING STARTED 04/17/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/17/14	CAVE IN DEPTH
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-111	2 OF 2

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 740

DEPTH (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
					Orangish Tan to Tan, Moist, Dense to Very Dense, Silty Fine to Medium SAND (SM)			
35	S-9	SS	18	16		705	16 20 24	44
40	S-10	SS	18	17		700	15 23 24	47
45	S-11	SS	18	16		695	17 20 40	60
50	S-12	SS	12	12	Partially Weathered Rock: Tannish Brown, Moist, Silty Fine to Medium SAND (WR)	690	23 50/6	50/6
					END OF BORING @ 50.00'			
55						685		
60						680		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 45.00 WS☐ WD☐	BORING STARTED 04/17/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/17/14	CAVE IN DEPTH
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-112	1 OF 2

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

ENGLISH UNITS

BOTTOM OF CASING ▶ LOSS OF CIRCULATION

SURFACE ELEVATION 730

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0					Topsoil Depth [3"]	730		
	S-1	SS	18	17	Disturbed Residual: Orange, Moist, Stiff, SILT, With Clay, Trace Fine Sand (MH)		2 4 5	9
					Residual: Orange, Moist, Stiff, SILT, With Clay, Trace Fine Sand (MH)			
	S-2	SS	18	17	Tannish Orange, Moist, Stiff, Fine Sandy SILT, Trace Clay (ML)		3 4 5	9
5						725		
	S-3	SS	18	16	Tannish Orange to Tan, Wet, Loose, Dense, Silty Fine to Medium SAND, Trace Mica (SM)		2 3 3	6
	S-4	SS	18	16			2 3 3	6
10						720		
	S-5	SS	18	16			3 4 4	8
15						715		
	S-6	SS	18	15			4 4 4	8
20						710		
	S-7	SS	18	16			5 6 8	14
25						705		
	S-8	SS	18	16			5 9 11	20
30						700		

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 18.00 WS ☐ WD ☐	BORING STARTED 04/14/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/14/14	CAVE IN DEPTH
WL 11.50	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-112	2 OF 2

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

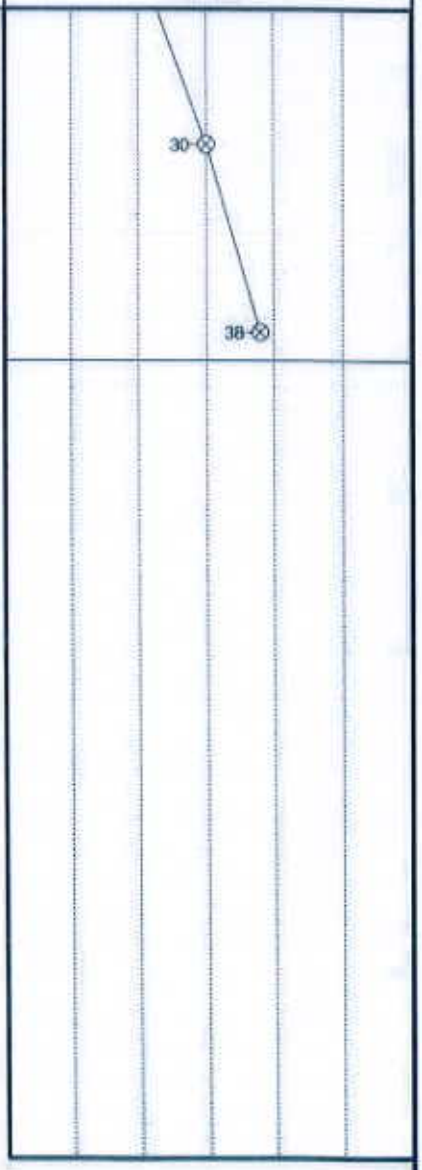
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 730

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					Tannish Orange to Tan, Wet, Loose, Dense, Silty Fine to Medium SAND, Trace Mica (SM)			
35	S-9	SS	18	16			695	11 14 16
40	S-10	SS	18	16			690	16 17 21
					END OF BORING @ 40.00'			
45							685	
50							680	
55							675	
60							670	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 18.00 WS ☐ WD ☐	BORING STARTED 04/14/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/14/14	CAVE IN DEPTH
WL 11.50	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-113	1 OF 2

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 740

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT	CALIBRATED PENETROMETER TONS/FT²
0					Disturbed Residual: Tannish Red, Moist, Stiff, Clayey SILT, With Fine to Medium Sand (MH)	740			
	S-1	SS	18	17	Residual: Tannish Red, Moist, Stiff, Clayey SILT, With Fine to Medium Sand (MH)		3 6 8	14	
	S-2	SS	18	18	Tan, Moist, Very Stiff, Clayey SILT, With Fine to Medium Sand (MH)		6 7 11	18	
5						735			
	S-3	SS	18	17	Yellowish Tan, Moist, Very Stiff to Stiff, Fine to Medium Sandy SILT, Trace Clay (ML)		6 7 11	18	23.3
	S-4	SS	18	16			4 6 7	13	
10						730			
	S-5	SS	18	18	Light Tannish Brown, Wet, Loose to Very Loose, Silty Fine to Medium SAND, Trace Quartz Fragments (SM)		2 2 3	5	
15						725			
	S-6	SS	18	12			2 2 2	4	24.4
20						720			
	S-7	SS	18	17	Tannish Brown, Wet, Medium Stiff to Stiff, Fine Sandy SILT (ML)		2 3 3	6	
25						715			
	S-8	SS	18	16			4 6 9	15	
30						710			

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 19.00 WS☐ WD☐	BORING STARTED 04/14/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/14/14	CAVE IN DEPTH @ 27.00'
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-113	2 OF 2

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

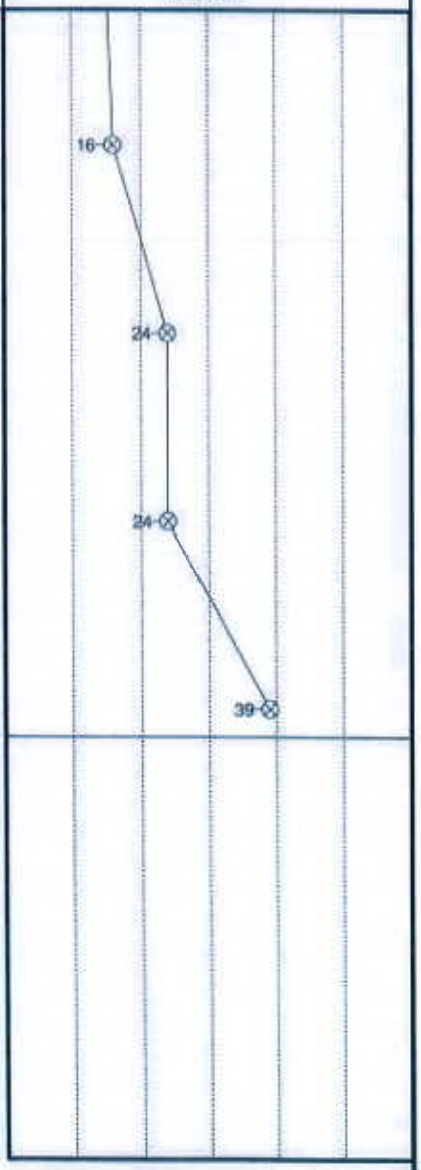
⊗ STANDARD PENETRATION BLOWS/FT

ENGLISH UNITS

BOTTOM OF CASING ➡ LOSS OF CIRCULATION ⟩⟩

SURFACE ELEVATION 740

DEPTH (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					Tannish Brown, Wet, Medium Stiff to Stiff, Fine Sandy SILT (ML)			
35	S-9	SS	18	17	Tannish Brown, Wet, Medium Dense to Dense, Silty Fine to Medium SAND (SM)		705	5 6 10
40	S-10	SS	18	16			700	7 11 13
45	S-11	SS	18	18			695	18 10 14
50	S-12	SS	18	18			690	11 17 22
					END OF BORING @ 50.00'			
55							685	
60							680	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 19.00 WS ☐ WD ☐	BORING STARTED 04/14/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/14/14	CAVE IN DEPTH @ 27.00'
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-114	1 OF 2

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

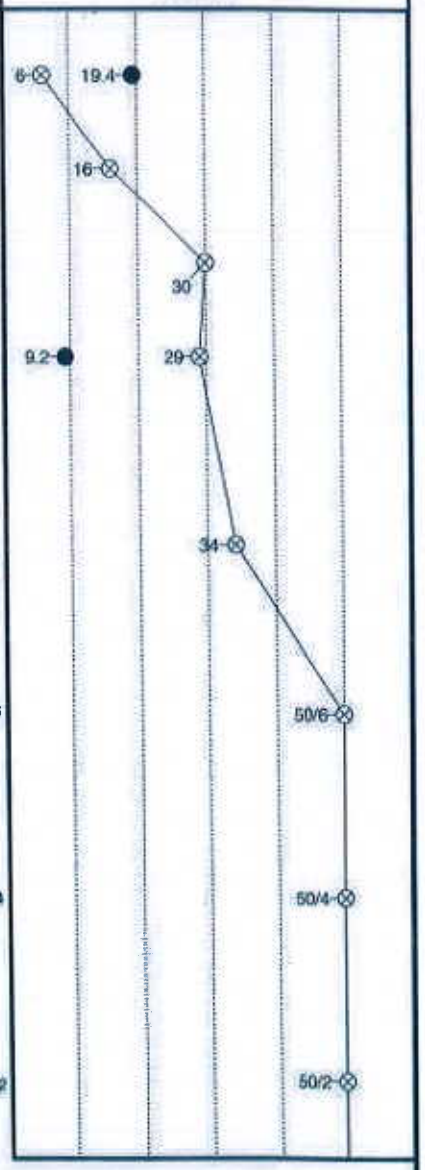
⊗ STANDARD PENETRATION BLOWS/FT

ENGLISH UNITS

BOTTOM OF CASING ➡ LOSS OF CIRCULATION ➡

SURFACE ELEVATION 740

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0					Disturbed Residual: Tan, Moist, Loose, Silty Fine to Medium SAND, With Clay, Trace Quartz Fragments (SC)	740	
	S-1	SS	18	17			2 3 3
					Residual: Tan, Moist, Loose, Silty Fine to Medium SAND, With Clay, Trace Quartz Fragments (SC)		
	S-2	SS	18	16	Tan, Moist, Medium Dense and Dense, Silty Fine to Coarse SAND (SM)		5 7 9
5						735	
	S-3	SS	18	16			12 13 17
	S-4	SS	18	15			13 13 16
10						730	
	S-5	SS	18	17			14 16 18
15						725	
	S-6	SS	6	6	Partially Weathered Rock: Light Tan, Dry, Silty Fine to Coarse SAND, With Quartz Fragments (WR)		50/6
20						720	
	S-7	SS	4	2	Partially Weathered Rock: Tannish Brown and Tan, Moist, Silty Fine to Coarse SAND (WR)		50/4
25						715	
	S-8	SS	2	2			50/2
30						710	



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES, IN-SITU THE TRANSITION MAY BE GRADUAL.

WL	WS ☐ WD ☐	BORING STARTED 04/16/14	
WL(BCR)	WL(ACR)	BORING COMPLETED 04/16/14	CAVE IN DEPTH @ 31.00'
WL		RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-114	2 OF 2

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ——

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 740

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					Partially Weathered Rock: Tannish Brown and Tan, Moist, Silty Fine to Coarse SAND (WR)			
	S-9	SS	6	6				50/6
35							705	
	S-10	SS	6	6				50/6
40							700	
					AUGER REFUSAL @ 41.00'			
45							695	
50							690	
55							685	
60							680	

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS ☐ WD ☐	BORING STARTED 04/16/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/16/14	CAVE IN DEPTH @ 31.00'
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-115	1 OF 2

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ——

PLASTIC LIMIT% ✕ | WATER CONTENT% ● | LIQUID LIMIT% △

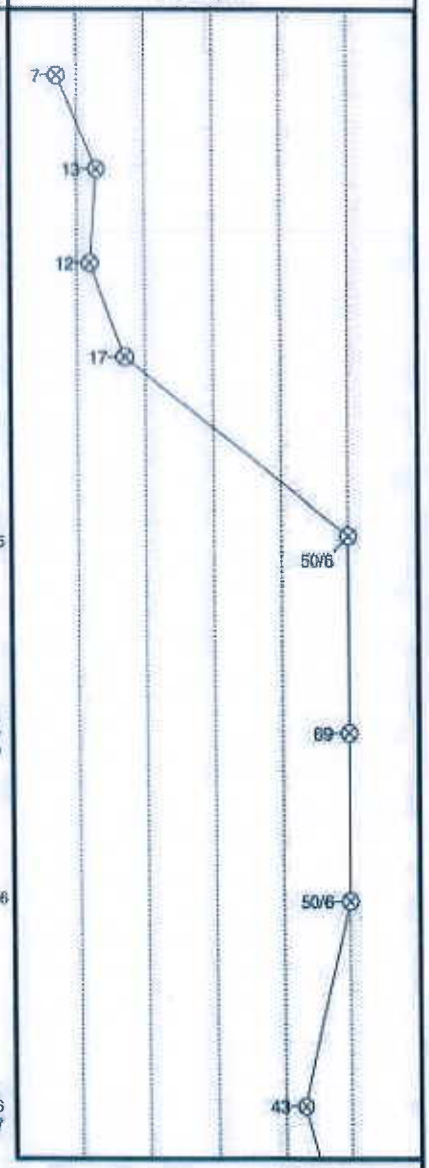
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ➤ LOSS OF CIRCULATION

SURFACE ELEVATION 724

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	18	16	Residual: Tannish Brown, Moist, Medium Stiff, Fine Sandy SILT, Trace Clay (ML)		2 3 4
	S-2	SS	18	17	Tannish Brown, Moist, Stiff to Very Stiff, SILT, Trace Fine Sand (ML)	720	5 6 7
5	S-3	SS	18	16			4 5 7
	S-4	SS	18	16		715	6 7 10
10	S-5	SS	12	11	Partially Weathered Rock: Brown, Moist, Silty Fine SAND (WR)	710	27 50/6
15	S-6	SS	18	16	Light Tan, Moist, Very Dense, Silty Fine to Coarse SAND (SM)	705	25 29 40
20	S-7	SS	6	6	Partially Weathered Rock: Light Tan, Moist, Silty Fine to Coarse SAND (WR)	700	50/6
25	S-8	SS	18	16	Tannish Gray, Moist, Hard, Fine to Medium Sandy SILT (ML)	695	6 16 27
30							



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 30.00 WS☐ WD☐	BORING STARTED 04/17/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/17/14	CAVE IN DEPTH @ 27.50'
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-115	2 OF 2

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT^2

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ➡ LOSS OF CIRCULATION (WD)

SURFACE ELEVATION 724

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					Tannish Gray, Moist, Hard, Fine to Medium Sandy SILT (ML)			
	S-9	SS	6	6	Partially Weathered Rock: Tannish Gray, Moist, Fine to Medium Sandy SILT (WR)		690	50/6
35								
	S-10	SS	5	5			685	50/5
40					END OF BORING @ 40.00'			
							680	
45								
							675	
50								
							670	
55								
							665	
60								

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 30.00 WS☐ WD☐	BORING STARTED 04/17/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/17/14	CAVE IN DEPTH @ 27.50'
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-116	1 OF 1

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ——

PLASTIC LIMIT% ✕ WATER CONTENT% ● LIQUID LIMIT% △

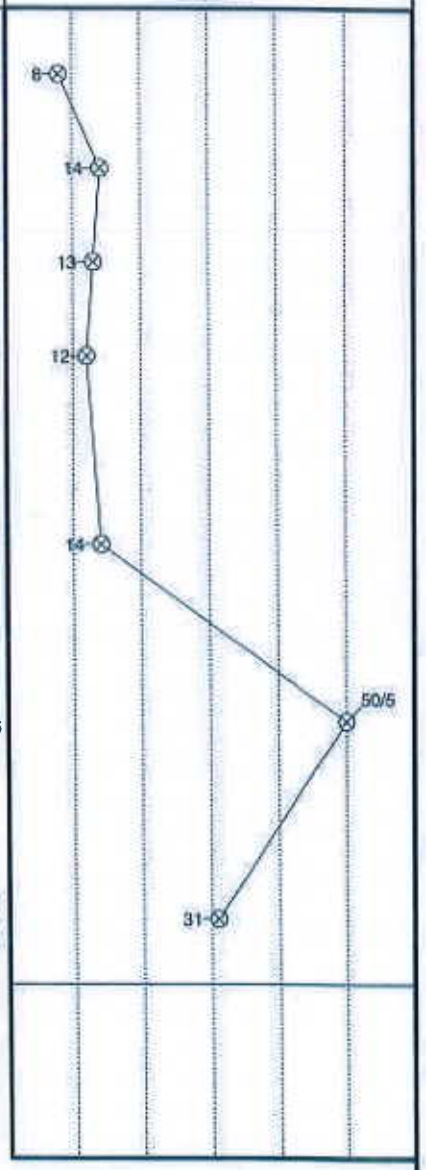
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 720

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	18	18	Residual: Tannish Orange, Moist, Medium Stiff, Clayey SILT, With Fine to Medium Sand (MH)	720	3 4 4
5	S-2	SS	18	11	Tannish Orange, Moist, Stiff, Fine to Medium Sandy SILT, With Clay (MH)	715	3 6 8
	S-3	SS	18	16	Tannish Orange, Moist, Stiff, Fine to Medium Sandy SILT, With Clay (MH)		6 6 7
10	S-4	SS	18	16	Light Tan to Tannish Brown, Moist, Medium Dense, Silty Fine to Medium SAND (SM)	710	3 4 8
15	S-5	SS	18	18		705	3 5 9
20	S-6	SS	11	11	Partially Weathered Rock: Tannish Brown, Moist, Silty Fine to Coarse SAND (WR)	700	28 50/5
25	S-7	SS	18	18	Tannish Brown, Moist, Hard, Fine to Medium Sandy SILT, Trace Rock Fragments (ML)	695	15 11 20
30					AUGER REFUSAL @ 26.00'	690	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL	WS ☐ WD ☐	BORING STARTED 04/16/14	
WL(BCR)	WL(ACR)	BORING COMPLETED 04/16/14	CAVE IN DEPTH @ 21.00'
WL		RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-117	1 OF 1

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ➡ — LOSS OF CIRCULATION

SURFACE ELEVATION 710

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
20					END OF BORING @ 20.00'		690	
25							685	
30							680	
35							675	
40							670	
45							665	
50							660	

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

▽ WL	WS ☐ WD ☐	BORING STARTED	
▽ WL(BCR)	▼ WL(ACR)	BORING COMPLETED	CAVE IN DEPTH
▽ WL		RIG FOREMAN	DRILLING METHOD

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-118	1 OF 1

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ——

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 720

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
30					END OF BORING @ 30.00'		690	
35							685	
40							680	
45							675	
50							670	
55							665	
60							660	

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS☐ WD☐	BORING STARTED	
WL(BCR) WL(ACR)	BORING COMPLETED	CAVE IN DEPTH
WL	RIG FOREMAN	DRILLING METHOD

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-119	1 OF 2

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 750

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT	WATER CONTENT%
0					Topsoil Depth [3"]	750			
	S-1	SS	18	17	Tan, Moist, Stiff, Clayey SILT, With Fine to Medium Sand (MH)		4 4 5	9	
					Residual: Tan, Moist, Stiff, Clayey SILT, With Fine to Medium Sand (MH)				
	S-2	SS	18	17	Pinkish Red, Moist, Stiff, Fine to Medium Sandy SILT, With Clay (MH)		5 7 7	14	28.6
5						745			
	S-3	SS	18	16			4 5 6	11	
	S-4	SS	18	15			3 4 6	10	
10						740			
	S-5	SS	18	8	Pinkish Red, Wet, Soft, Fine to Medium Sandy SILT (ML)		2 2 2	4	31.0
15						735			
	S-6	SS	18	16	Tannish Brown and Tan, Wet, Very Loose to Dense, Silty Fine Medium SAND, Trace Mica (SM)		2 2 2	4	
20						730			
	S-7	SS	18	14			2 3 4	7	35.1
25						725			
	S-8	SS	18	16			4 6 8	14	
30						720			

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 18.00 WS☐ WD☐	BORING STARTED 04/16/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/16/14	CAVE IN DEPTH
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-119	2 OF 2

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

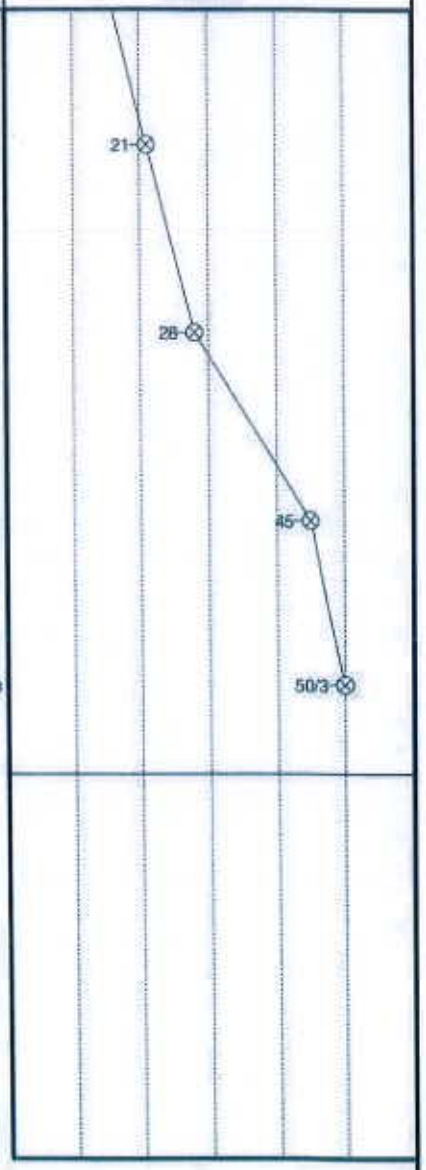
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 750

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					Tannish Brown and Tan, Wet, Very Loose to Dense, Silty Fine Medium SAND, Trace Mica (SM)			
35	S-9	SS	18	16			715	5 9 12
40	S-10	SS	18	16			710	8 11 17
45	S-11	SS	18	15			705	7 18 27
50	S-12	SS	3	3	Partially Weathered Rock: Tan, Wet, Silty Fine to Coarse SAND, With Small Rock Fragments (WR)		700	50/3
					AUGER REFUSAL @ 51.00'			
55							695	
60							690	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 18.00 WS☐ WD☐	BORING STARTED 04/16/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/16/14	CAVE IN DEPTH
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-120	1 OF 1

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY: RQD% - - - REC% ——

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 740

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0					Topsoil Depth [12"]	740		
	S-1	SS	18	17	Residual: Tan, Moist, Medium Stiff, Silty CLAY, With Fine to Medium Sand (CH)		3 3 4	7, 24.6, 31, 71
	S-2	SS	18	18	Tannish White, Wet, Medium Stiff, SILT, With Clay, Trace Fine Sand (MH)	735	4 3 5	8
5	S-3	SS	18	16	Tannish Brown, Moist and Wet, Silty Fine to Coarse SAND, Trace Mica (SM)		5 8 10	18
	S-4	SS	18	16		730	8 13 14	12.0, 27
10	S-5	SS	12	11			20 50/6	50/6
15						725		
	S-6	SS	18	16			19 22 30	52
20						720		
	S-7	SS	2	2	Partially Weathered Rock: Tannish Brown, Wet, Silty Fine to Coarse SAND, Trace Mica (WR)		50/2	50/2
25					AUGER REFUSAL @ 25.50'	715		
30						710		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS WD	BORING STARTED 04/18/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/18/14	CAVE IN DEPTH @ 18.50'
WL 10.00	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-121	1 OF 2

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 742

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT	CALIBRATED PENETROMETER TONS/FT²
0					Topsoil Depth [4"]				
	S-1	SS	18	17	Residual: Tan, Wet, Medium Stiff, Silty CLAY, With Fine Sand (CH)	740	3 3 4	7	32.2
	S-2	SS	18	17	Tan to Tannish Brown, Moist, Dense to Very Dense, Silty Fine to Coarse SAND (SM)		12 16 20	36	
5	S-3	SS	18	16		735	12 28 30	58	6.4
	S-4	SS	18	16			17 28 46	74	
10						730			
	S-5	SS	12	11	Partially Weathered Rock: Tan to Tannish Brown, Moist, Dense to Very Dense, Silty Fine to Coarse SAND (WR)		28 50/6	50/6	
15						725			
	S-6	SS	5	5			50/5	50/5	
20						720			
	S-7	SS	2	2			50/2	50/2	
25						715			
	S-8	SS	4	4			50/4	50/4	
30									

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 14.00 WS☐ WD☐	BORING STARTED 04/16/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/16/14	CAVE IN DEPTH
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-121	2 OF 2

PROJECT NAME: Liberty Megasite

ARCHITECT-ENGINEER:

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 742

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					Partially Weathered Rock: Tan to Tannish Brown, Moist, Dense to Very Dense, Silty Fine to Coarse SAND (WR)		710	
					AUGER REFUSAL @ 31.00'			
35							705	
40							700	
45							695	
50							690	
55							685	
60								

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 14.00 WS ☐ WD ☐	BORING STARTED 04/16/14	
WL(BCR) WL(ACR)	BORING COMPLETED 04/16/14	CAVE IN DEPTH
WL	RIG Diedrich D-50 FOREMAN	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
NC Megasites, LLC	24105-A	B-122	1 OF 1
PROJECT NAME: Liberty Megasite	ARCHITECT-ENGINEER		

SITE LOCATION: Old US 421, Liberty, North Carolina

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ——

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 680

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
10					END OF BORING @ 10.00'		670	
15							665	
20							660	
25							655	
30							650	
35							645	
40							640	

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS☐ WD☐	BORING STARTED	
WL(BCR) WL(ACR)	BORING COMPLETED	CAVE IN DEPTH
WL	RIG FOREMAN	DRILLING METHOD

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-201	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 706

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0	S-1	SS	18	16	Disturbed Residual: (SC) CLAYEY SAND, Tannish Brown, Moist, Loose	705	2 3 4	7, 12.9
5	S-2	SS	18	17	(SM) SILTY SAND, Trace Clay, Tannish Brown and Dark Grayish Brown, Moist to Wet, Medium Dense to Loose		6 7 10	17
	S-3	SS	18	18		700	4 4 9	13
10	S-4	SS	18	16			5 7 7	14
						695		
15	S-5	SS	18	16			5 5 5	10
						690		
20	S-6	SS	18	12	(SM) SILTY SAND, Contains Significant Rock Fragments, Brown, Wet, Medium Dense		16 12 18	30
					END OF BORING @ 20.00'	685		
25						680		
30								

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 15.00 WS☐ WD☐	BORING STARTED 12/19/14	
WL(BCR) WL(ACR)	BORING COMPLETED 12/19/14	CAVE IN DEPTH
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-202	1 OF 2

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

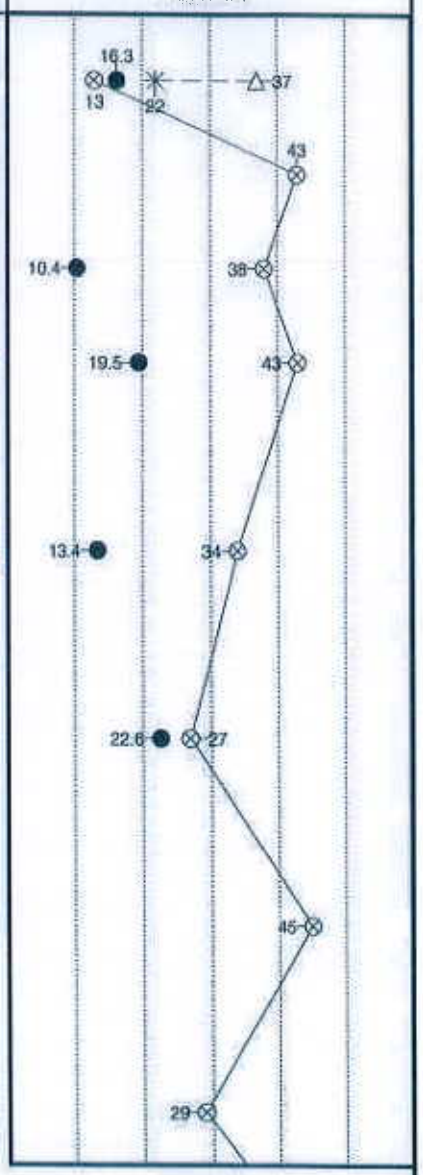
DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 736

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	18	12	Disturbed Residual: (SC) CLAYEY SAND, Yellowish Brown and Tan, Moist, Medium Dense	735	3 6 7
5	S-2	SS	18	16	(ML) SANDY SILT, Contains Slight Rock Fragments, Yellowish Brown and Tan, Moist, Hard	730	18 19 24
	S-3	SS	18	16			18 18 20
10	S-4	SS	18	16		725	11 16 27
15	S-5	SS	18	15	(SM) SILTY SAND, Yellowish Brown and Tan, Moist, Dense	720	11 16 18
20	S-6	SS	18	16	(ML) SANDY SILT, Brown and Tan, Moist, Very Stiff	715	7 11 16
25	S-7	SS	18	14	(ML) SANDY SILT, Contains Rock Fragments, Orangish Brown and Tan, Wet, Hard	710	18 21 24
30	S-8	SS	18	8	(ML) SANDY SILT, Yellowish Brown and Orange, Wet, Very Stiff to Very Hard		14 14 15

WATER LEVELS



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 38.00	WS ☐ WD ☐	BORING STARTED 12/18/14	
WL(BCR)	WL(ACR)	BORING COMPLETED 12/18/14	CAVE IN DEPTH
WL 24.00		RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-202	2 OF 2

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ——

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 736

DEPTH (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
					(ML) SANDY SILT, Yellowish Brown and Orange, Wet, Very Stiff to Very Hard	705		
35	S-9	SS	18	18			19 29 50/6	79
						700		
40	S-10	SS	12	12	(SM PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, Dark Yellowish Brown and Gray, Wet		30 50/6	50/6
						695		
45	S-11	SS	4	4			50/4	50/4
					END OF BORING @ 45.00'	690		
50						685		
55						680		
60						675		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 38.00 WS ☐ WD ☐	BORING STARTED 12/18/14	
WL(BCR) WL(ACR)	BORING COMPLETED 12/18/14	CAVE IN DEPTH
WL 24.00	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-203	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% — — — REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

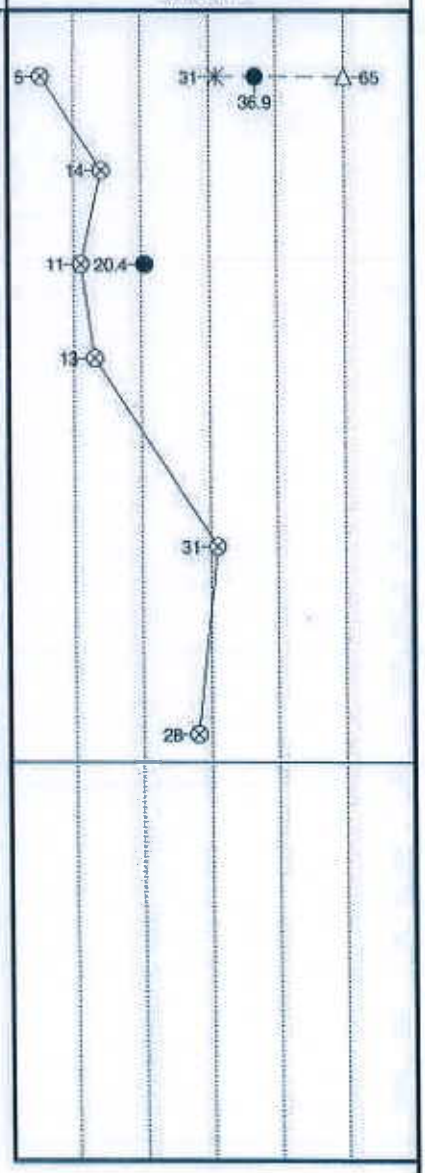
STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 710

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0					Disturbed Residual: (CH) FAT CLAY WITH SAND, Dark Yellowish Brown and Tan, Moist, Medium Stiff	710	
	S-1	SS	18	16			2 2 3
					(ML) SANDY SILT, Greenish Tan and Gray, Moist, Stiff		
	S-2	SS	18	15			4 5 6
5						705	
	S-3	SS	18	16			4 5 6
	S-4	SS	18	15			4 5 6
10						700	
					(SM) SILTY SAND, Contains Slight Rock Fragments, Orangish Tan to Dark Tannish Brown, Moist to Wet, Dense to Medium Dense		
	S-5	SS	18	14			11 12 19
15						695	
	S-6	SS	18	16			12 14 14
20					END OF BORING @ 20.00'	690	
25						685	
30						680	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL	WS ☐ WD ☐	BORING STARTED 12/19/14	
WL(BCR)	WL(ACR)	BORING COMPLETED 12/19/14	CAVE IN DEPTH @ 16.00'
WL		RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-204	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 700

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0					Disturbed Residual: (MH) SANDY ELASTIC SILT, Yellowish Brown and Tan, Moist, Medium Stiff	700		
	S-1	SS	18	16			2 3 5	8
					(ML) SANDY SILT, Yellowish Brown and Tan, Moist to Wet, Stiff			
	S-2	SS	18	17			7 8 8	14
5						695		
	S-3	SS	18	16			5 5 5	10
	S-4	SS	18	16			5 5 8	13
10						690		
	S-5	SS	18	16			6 6 9	15
15					END OF BORING @ 15.00'	685		
20						680		
25						675		
30						670		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS☐ WD☐	BORING STARTED 12/19/14	
WL(BCR) WL(ACR)	BORING COMPLETED 12/19/14	CAVE IN DEPTH @ 12.00'
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-205	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ——

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

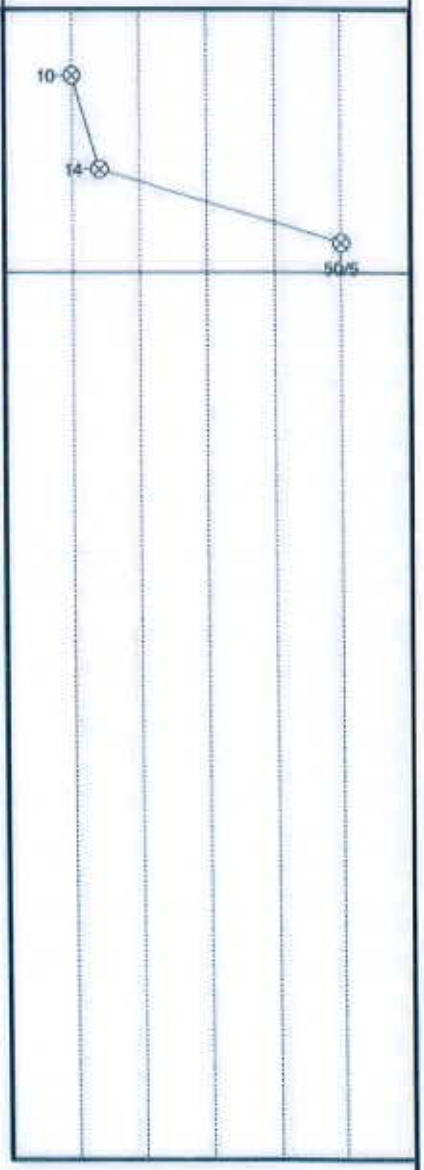
STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 692

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0					Topsoil Depth [6"]		
	S-1	SS	18	16	(ML) SANDY SILT, Trace Clay, Contains Slight Rock Fragments, Tannish Brown and Gray to Orangish Tan, Moist, Stiff	690	3 5 5
	S-2	SS	18	16			4 6 8
5	S-3	SS	5	5	(ML PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SANDY SILT, Tan and Gray, Moist, Contains Small Rock Fragments	685	50/5
					AUGER REFUSAL @ 7.00'		
10						680	
15						675	
20						670	
25						665	
30							



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS ☐ WD ☐	BORING STARTED 12/19/14	
WL(BCR) WL(ACR)	BORING COMPLETED 12/19/14	CAVE IN DEPTH
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-205-A	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ——

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 692

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					AUGER PROBE WITHOUT SAMPLING			
							690	
5								
					AUGER REFUSAL @ 7.00'		685	
10								
							680	
15								
							675	
20								
							670	
25								
							665	
30								

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL — WS ☐ WD ☐	BORING STARTED 12/19/14	
WL(BCR) — WL(ACR)	BORING COMPLETED 12/19/14	CAVE IN DEPTH
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-206	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

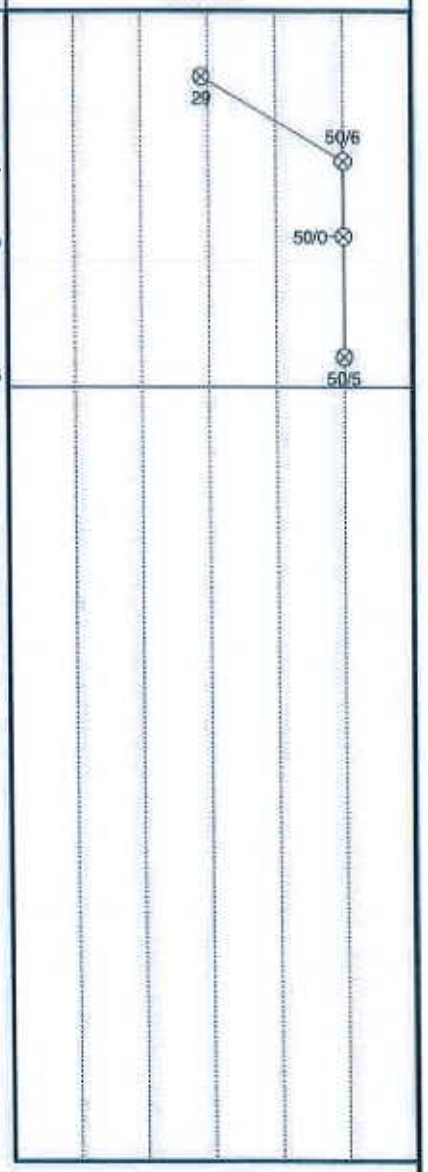
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 670

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0					Topsoil Depth [6"]	670	
	S-1	SS	18	16	(SM) SILTY SAND, Brown and Orange, Moist, Medium Dense		6 12 17
	S-2	SS	12	11	(SM PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, Yellowish Brown and Orange, Moist		21 50/6
5						665	
	S-3	SS	0	0	(NO RECOVERY), Rock Fragments		50/0
	S-4	SS	17	15	(ML PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SANDY SILT, Trace Clay, Contains Slight Rock Fragments, Light Yellowish Tan and Gray, Moist		24 20 50/5
10					END OF BORING @ 10.00'	660	
15						655	
20						650	
25						645	
30						640	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL	WS ☐ WD ☐	BORING STARTED 12/19/14	
WL(BCR)	WL(ACR)	BORING COMPLETED 12/19/14	CAVE IN DEPTH
WL		RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-207	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

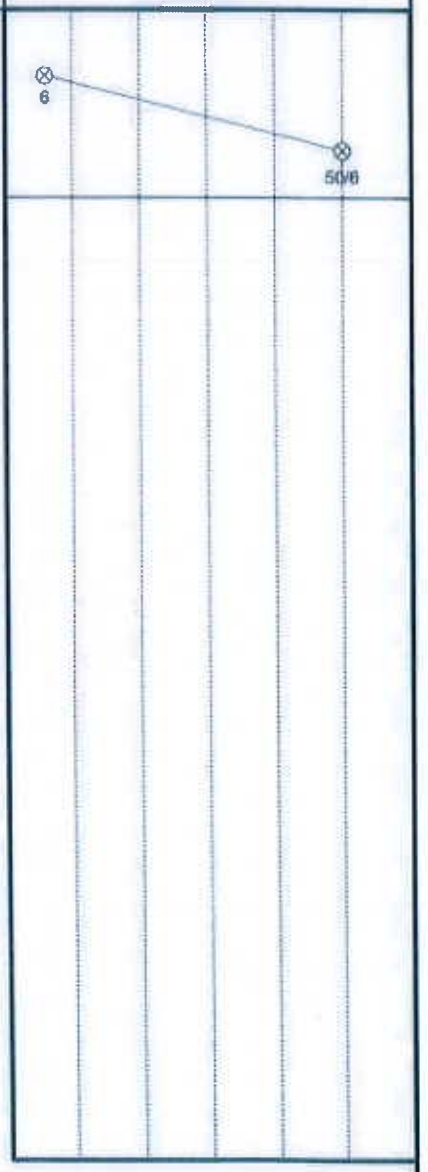
STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 700

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Disturbed Residual: (CH) FAT CLAY, Trace Sand, Contains Slight Roots, Brown, Moist, Medium Stiff		700	
	S-1	SS	18	16				2 2 4
	S-2	SS	6	4	(SM PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, Contains Significant Rock Fragments, Gray, Moist			50/6
5					AUGER REFUSAL @ 5.00'		695	
10							690	
15							685	
20							680	
25							675	
30							670	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS☐ WD☐	BORING STARTED 12/19/14	
WL(BCR) WL(ACR)	BORING COMPLETED 12/19/14	CAVE IN DEPTH @ 12.00'
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-207-A	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 700

DEPTH (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0					AUGERED WITHOUT SAMPLING	700		
5						695		
	S-1	SS	18	16	(ML) SANDY SILT, Yellowish Brown to Grayish Tan, Moist, Stiff		3 4 5	9
	S-2	SS	18	18			8 6 5	11
10						690		
	S-3	SS	18	18	(SM) SILTY SAND, Orangish Tan and Brown, Wet, Medium Dense		5 6 11	17
15					SPOON REFUSAL @ 15.00'	685		
20						680		
25						675		
30						670		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS☐ WD☐	BORING STARTED 12/19/14	
WL(BCR) WL(ACR)	BORING COMPLETED 12/19/14	CAVE IN DEPTH @ 12.00'
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-208	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% — REC% —

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

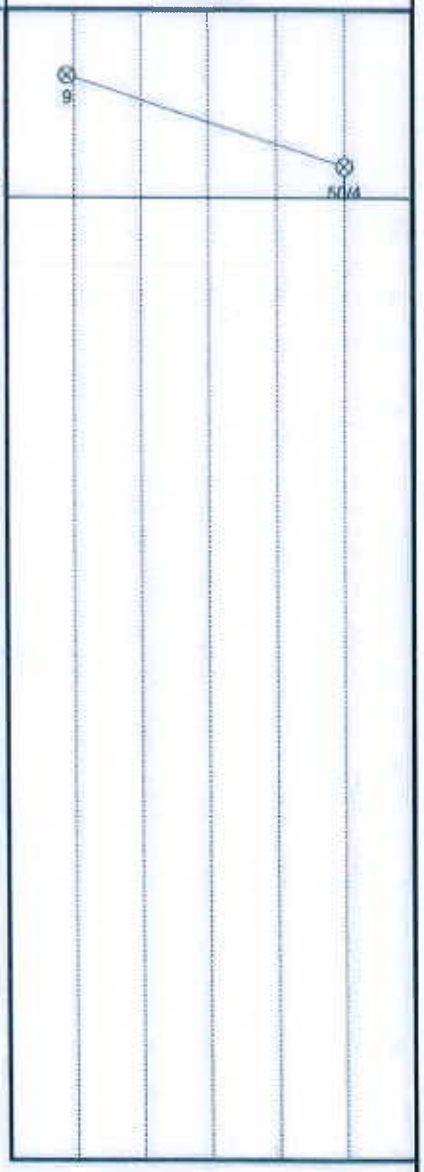
STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 674

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Topsoil Depth [6"]			
	S-1	SS	18	16	(CH) FAT CLAY, Trace Sand, Contains Slight Roots, Orangish Brown, Moist, Stiff			3 4 5
	S-2	SS	16	15	(SM PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, Orangish Brown and Tan, Moist		670	7 8 50/4
5					AUGER REFUSAL @ 5.00'			
10							665	
15							660	
20							655	
25							650	
30							645	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL — WS ☐ WD ☐	BORING STARTED 12/18/14	
WL(BCR) — WL(ACR)	BORING COMPLETED 12/18/14	CAVE IN DEPTH
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-208-A	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ——

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

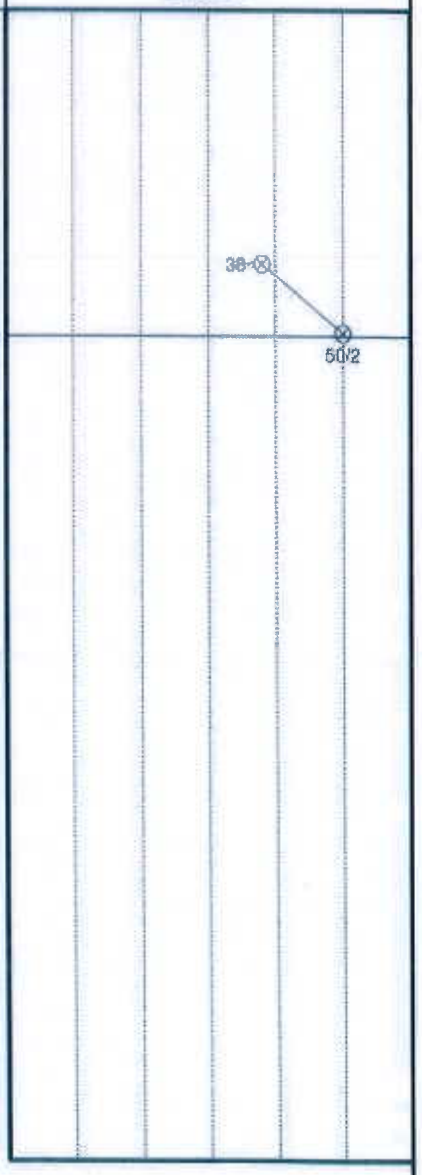
STANDARD PENETRATION BLOWS/FT

ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 674

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					AUGERED WITHOUT SAMPLING			
5							670	
	S-1	SS	18	18	(SM) SILTY SAND, Tan, Moist, Dense			9 14 24
	S-2	SS	2	2	(SM PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, Contains Slight Rock Fragments, Orange and Gray, Moist		665	50/2
10					AUGER REFUSAL @ 8.67'			
15							660	
20							655	
25							650	
30							645	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL	WS ☐ WD ☐	BORING STARTED 12/19/14	
WL(BCR)	WL(ACR)	BORING COMPLETED 12/19/14	CAVE IN DEPTH
WL		RIG FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-209	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING: | EASTING: | STATION:

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 686

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0	S-1	SS	18	15	Disturbed Residual: (CH) FAT CLAY WITH SAND, Brown, Moist, Medium Stiff	685	3 3 5	8
5	S-2	SS	18	16	(ML) SANDY SILT, Yellowish Brown and Tan, Moist, Stiff		6 6 9	15
	S-3	SS	18	16	(SM) SILTY SAND, Dark Yellowish Brown and Tan, Moist to Wet, Medium Dense	680	4 6 8	14
	S-4	SS	18	17			3 5 13	18
10					END OF BORING @ 10.00'	675		
15						670		
20						665		
25						660		
30								

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS ☐ WD ☐	BORING STARTED 12/19/14	
WL(BCR) WL(ACR)	BORING COMPLETED 12/19/14	CAVE IN DEPTH @ 7.50'
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-210	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 670

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0					Disturbed Residual: (MH) SANDY ELASTIC SILT, Yellowish Brown and Tan, Moist, Stiff	670		
	S-1	SS	18	17			3 5 7	12
	S-2	SS	18	16			5 5 7	12
5						665		
	S-3	SS	18	17	(ML) SANDY SILT, Dark Yellowish Brown and Grayish Tan, Wet, Stiff to Medium Stiff		6 5 7	12
	S-4	SS	18	16			3 4 4	8
10					END OF BORING @ 10.00'	660		
15						655		
20						650		
25						645		
30						640		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES, IN-SITU THE TRANSITION MAY BE GRADUAL.

▽ WL	WS ☐ WD ☐	BORING STARTED 12/19/14	
▼ WL(BCR)	▼ WL(ACR)	BORING COMPLETED 12/19/14	CAVE IN DEPTH
▽ WL		RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-211	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING: | EASTING: | STATION:

-◯- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY: RQD% - - - - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

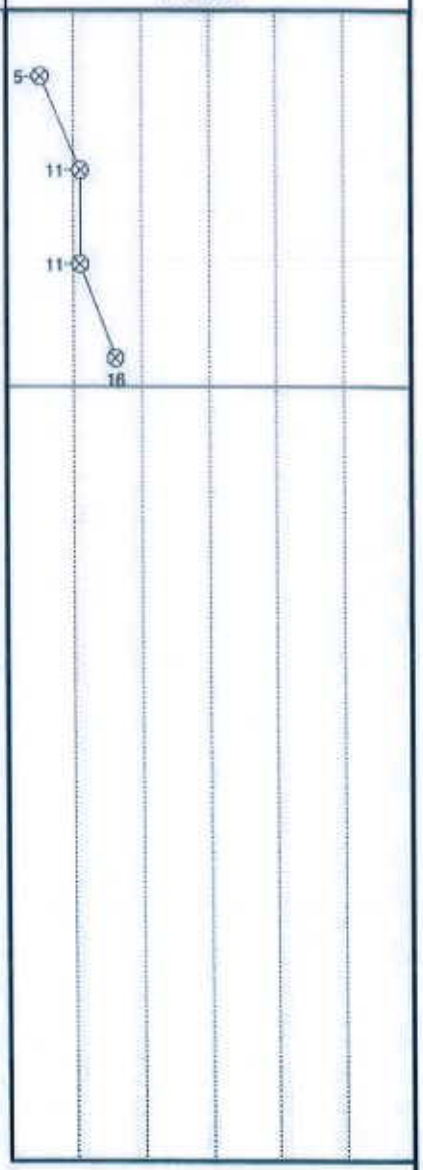
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 656

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Topsoil Depth [12"]			
	S-1	SS	18	15	Disturbed Residual: (CH) FAT CLAY, Gray and Brown, Moist, Medium Stiff		655	2 2 3
	S-2	SS	18	16	(SM) SILTY SAND, Trace Clay, Gray, Wet, Medium Dense			2 5 6
5						▽	650	
	S-3	SS	18	16	(SM) SILTY SAND, Orangish Brown and Tan to Grayish Brown, Wet, Medium Dense			4 5 6
	S-4	SS	18	16				11 6 10
10					END OF BORING @ 10.00'		645	
15							640	
20							635	
25							630	
30								



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

▽ WL 6.00 WS☐ WD☐	BORING STARTED 12/19/14	
▽ WL(BCR) ▼ WL(ACR)	BORING COMPLETED 12/19/14	CAVE IN DEPTH @ 6.50'
▽ WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-212	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ——

PLASTIC LIMIT% × | WATER CONTENT% ● | LIQUID LIMIT% △

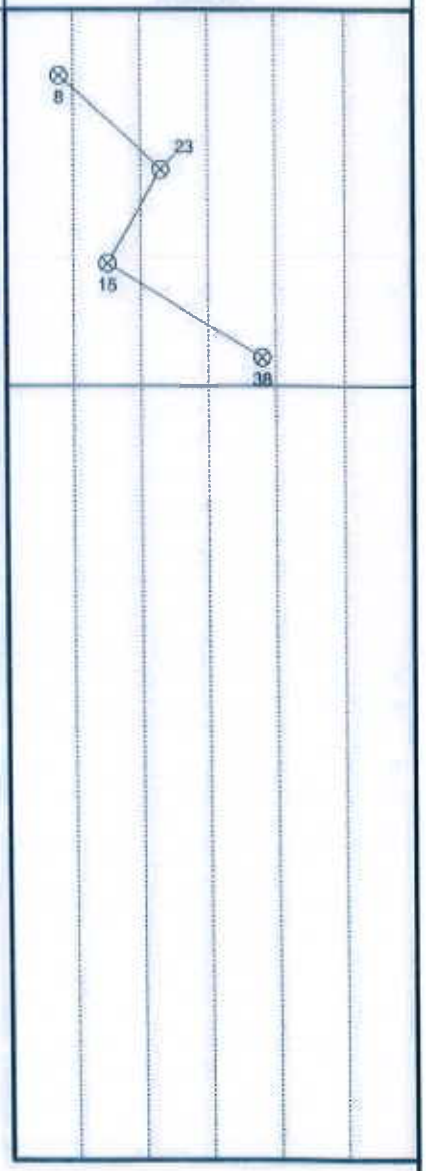
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 662

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0					Disturbed Residual: (SC) CLAYEY SAND, Yellowish Tan, Moist, Loose		
	S-1	SS	18	16		660	3 3 5
					(SM) SILTY SAND, Yellowish Tan, Moist, Medium Dense		
	S-2	SS	18	16			6 11 12
5							
	S-3	SS	18	15		655	6 6 9
					(ML) SANDY SILT, Tannish Brown, Wet, Hard		
	S-4	SS	18	16			12 19 19
10					END OF BORING @ 10.00'		
						650	
15							
						645	
20							
						640	
25							
						635	
30							



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS☐ WD☐	BORING STARTED 12/19/14	
WL(BCR) WL(ACR)	BORING COMPLETED 12/19/14	CAVE IN DEPTH @ 7.50'
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-213	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING: | EASTING: | STATION:

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ——

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 656

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0	S-1	SS	18	16	Disturbed Residual: (MH) SANDY ELASTIC SILT, Reddish Brown, Moist, Stiff	655	4 4 6	10
5	S-2	SS	18	16	(ML) SANDY SILT, Trace Clay, Orangish Red, Moist, Stiff		4 6 6	12
	S-3	SS	18	16	(ML) SANDY SILT, Light Pinkish Tan and White, Moist to Wet, Stiff	650	4 5 5	10
10	S-4	SS	18	16			4 4 6	10
					END OF BORING @ 10.00'	645		
15						640		
20						635		
25						630		
30								

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS ☐ WD ☐	BORING STARTED 12/19/14	
WL(BCR) WL(ACR)	BORING COMPLETED 12/19/14	CAVE IN DEPTH @ 7.50'
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-214	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

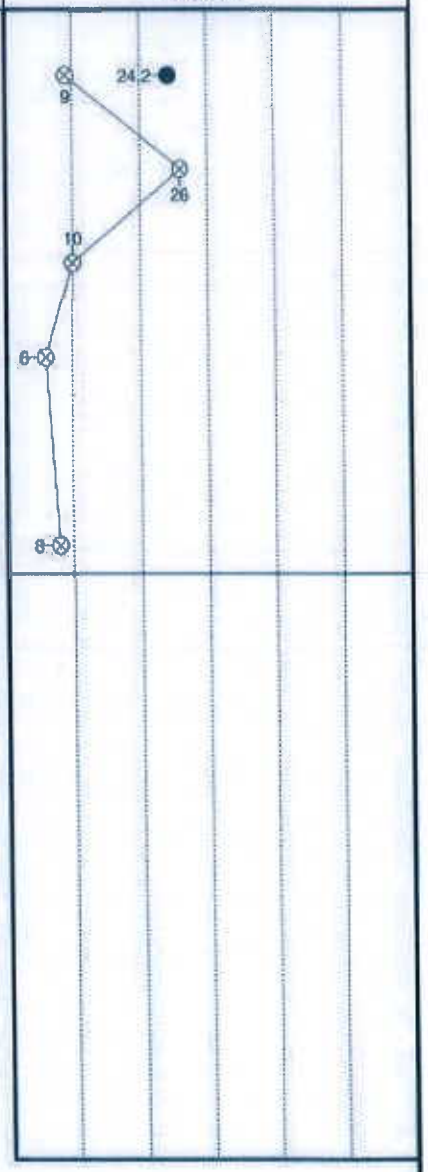
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 704

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	18	16	(MH) ELASTIC SILT WITH SAND, Tannish Brown, Moist, Stiff		3 4 5
5	S-2	SS	18	16	(ML) SILT WITH SAND, Tannish Orange, Moist, Very Stiff	700	10 11 15
	S-3	SS	18	16	(ML) SILT, Trace Sand, Tannish Brown, Moist to Wet, Stiff to Medium Stiff		3 4 6
10	S-4	SS	18	15		695	3 2 4
	S-5	SS	18	16		690	2 3 5
15					END OF BORING @ 15.00'		
						685	
20							
						680	
25							
						675	
30							



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL — WS ☐ WD ☐	BORING STARTED 01/02/15	
WL(BCR) — WL(ACR)	BORING COMPLETED 01/02/15	CAVE IN DEPTH @ 11.50'
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-215	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, Randolph County

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

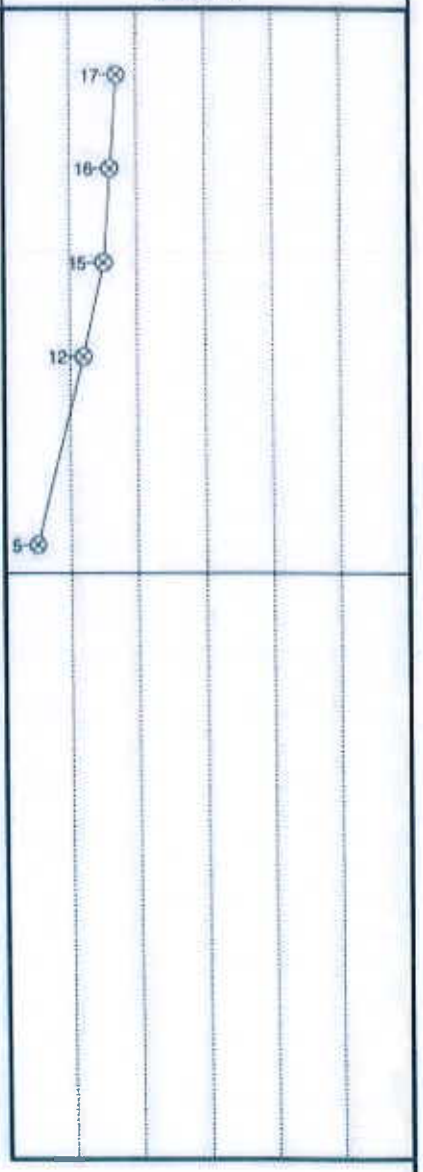
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 694

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0					(CH) FAT CLAY, Reddish, Moist, Very Stiff		
	S-1	SS	18	17			5 7 10
					(MH) ELASTIC SILT WITH SAND, Tannish Brown, Moist, Very Stiff	690	
	S-2	SS	18	17			5 6 10
5							
	S-3	SS	18	16	(ML) SILT WITH SAND, Tannish Brown, Moist to Wet, Stiff to Medium Stiff		4 7 8
	S-4	SS	18	15		685	5 5 7
10							
	S-5	SS	18	16		680	2 2 3
15					END OF BORING @ 15.00'		
						675	
20							
						670	
25							
						665	
30							



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 15.00 WS ☐ WD ☐	BORING STARTED 01/02/15	
WL(BCR) WL(ACR)	BORING COMPLETED 01/02/15	CAVE IN DEPTH
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-216	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, Randolph County

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY: RQD% - — - REC% ——

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 676

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0					Topsoil Depth [3"]			
	S-1	SS	18	17	(SM) SILTY SAND, Tannish Brown, Moist, Medium Dense	675	4 7 10	17
	S-2	SS	18	16			6 10 10	20
5						670		
	S-3	SS	18	16			6 9 11	20
	S-4	SS	18	16			8 8 11	19
10					END OF BORING @ 10.00'	665		
15						660		
20						655		
25						650		
30								

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL	WS ☐ WD ☐	BORING STARTED 12/26/14	
WL(BCR)	WL(ACR)	BORING COMPLETED 12/26/14	CAVE IN DEPTH @ 7.00'
WL		RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-217	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% – – – REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

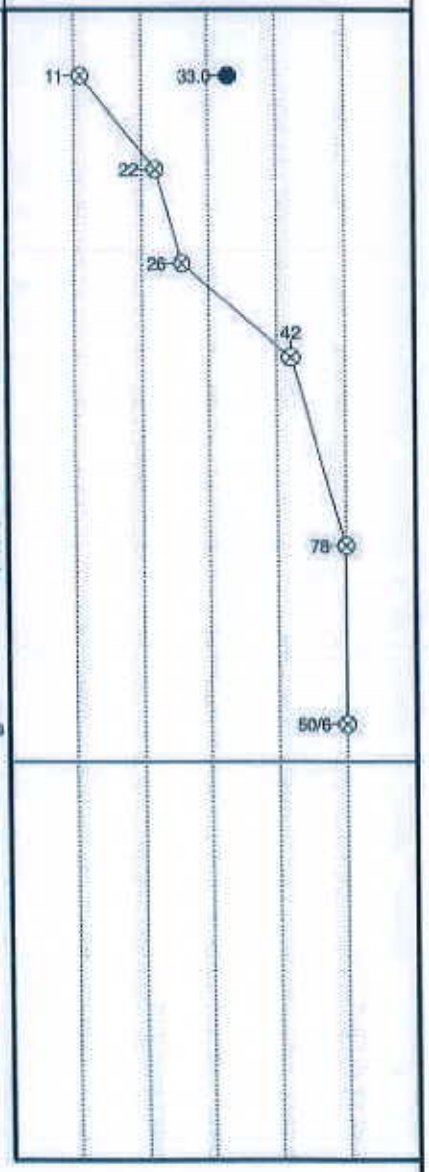
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 708

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0					Topsoil Depth [3"]		
	S-1	SS	18	16	(ML) SANDY SILT, Tannish Brown, Moist, Stiff		2 4 7
						705	
5	S-2	SS	18	17	(ML) SANDY SILT, Tannish Orange, Moist, Very Stiff		6 10 12
	S-3	SS	18	16	(MH) ELASTIC SILT, Tan, Moist, Very Stiff		8 13 13
						700	
10	S-4	SS	18	16	(SM) SILTY SAND, Tannish Brown, Moist to Wet, Dense to Very Dense		10 16 26
						695	
15	S-5	SS	18	17			22 36 40
						690	
20	S-6	SS	12	12	(SM PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, Contains Rock Fragments, Tannish Brown, Wet		30 50/6
					END OF BORING @ 20.00'		
						685	
25							
						680	
30							



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL	WS ☐ WD ☐	BORING STARTED 12/26/14	
WL(BCR)	WL(ACR)	BORING COMPLETED 12/26/14	CAVE IN DEPTH @ 16.00'
WL		RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-219	1 OF 2

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ——

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 738

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0						
	S-1	SS	18	15	4 4 5	9
	S-2	SS	18	16	6 8 11	19
5						
	S-3	SS	18	16	4 6 8	14
	S-4	SS	18	15	4 3 6	9
10						
	S-5	SS	18	16	5 8 12	20
15						
	S-6	SS	18	16	3 5 7	12
20						
	S-7	SS	18	15	6 8 10	18
25						
	S-8	SS	18	16	5 6 10	16
30						

Topsoil Depth [3"]

(ML) SANDY SILT, Brown and Tan, Moist to Wet, Stiff to Very Stiff

WATER LEVELS | ELEVATION (FT): 735, 730, 725, 720, 715, 710

CONTINUED ON NEXT PAGE.

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL	WS ☐ WD ☐	BORING STARTED 12/26/14	
WL(BCR)	WL(ACR)	BORING COMPLETED 12/26/14	CAVE IN DEPTH
WL		RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-219	2 OF 2

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING: | EASTING: | STATION:

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

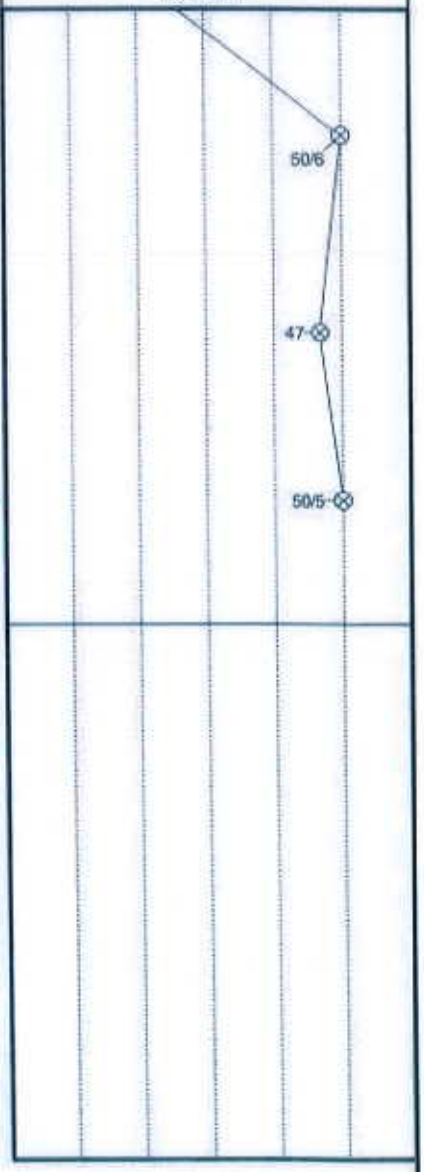
⊗ STANDARD PENETRATION BLOWS/FT

ENGLISH UNITS

BOTTOM OF CASING ▶ LOSS OF CIRCULATION ▶

SURFACE ELEVATION 738

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
					(ML) SANDY SILT, Brown and Tan, Moist to Wet, Stiff to Very Stiff		
						705	
	S-9	SS	12	11	(SM PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, Tan, Moist		26 50/6
35							
						700	
					(ML) SANDY SILT, Tan, Moist, Hard		
	S-10	SS	18	16			26 25 22
40							
						695	
	S-11	SS	5	5	(SM PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, Tan, Wet		50/5
45							
					AUGER REFUSAL @ 47.00'		
						690	
50							
						685	
55							
						680	
60							



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL	WS ☐ WD ☐	BORING STARTED 12/26/14	
WL(BCR)	WL(ACR)	BORING COMPLETED 12/26/14	CAVE IN DEPTH
WL		RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-220	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

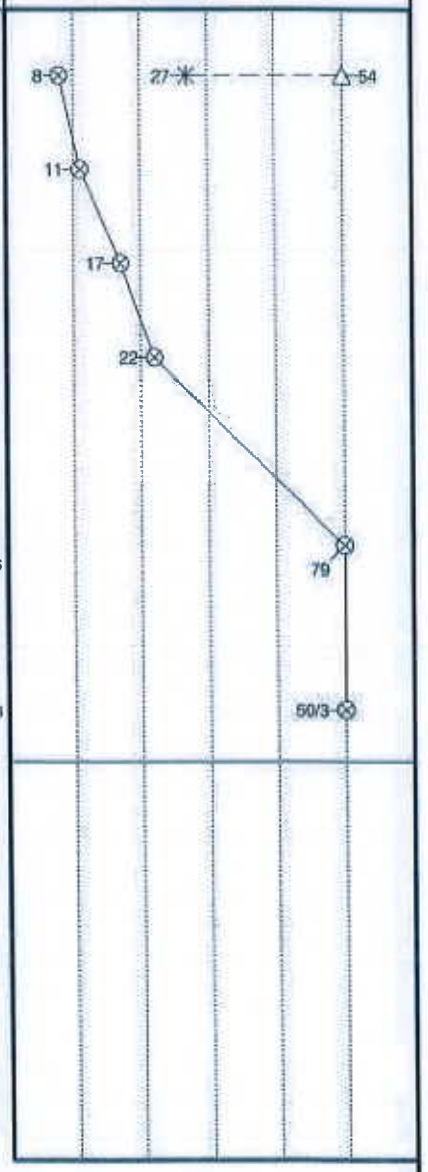
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 740

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0					Topsoil Depth [3"]	740	
	S-1	SS	18	17	(CH) FAT CLAY WITH SAND, Light Tannish Orange, Moist, Medium Stiff		2 3 5
5	S-2	SS	18	17	(MH) ELASTIC SILT WITH SAND, Light Tan, Moist, Stiff	735	3 5 6
	S-3	SS	18	16	(SM) SILTY SAND, Light Tan, Moist to Wet, Medium Dense		11 7 10
10	S-4	SS	18	16		730	6 7 15
15	S-5	SS	18	15	(SM) SILTY SAND, Contains Rock Fragments, Tan, Wet	725	28 29 50/6
	S-6	SS	3	3	(SM PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, Tan, Wet		50/3
20					AUGER REFUSAL @ 20.00'	720	
25						715	
30						710	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 18.00 WS☐ WD☐	BORING STARTED 12/23/14	
WL(BCR) WL(ACR)	BORING COMPLETED 12/23/14	CAVE IN DEPTH @ 14.00'
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-221	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

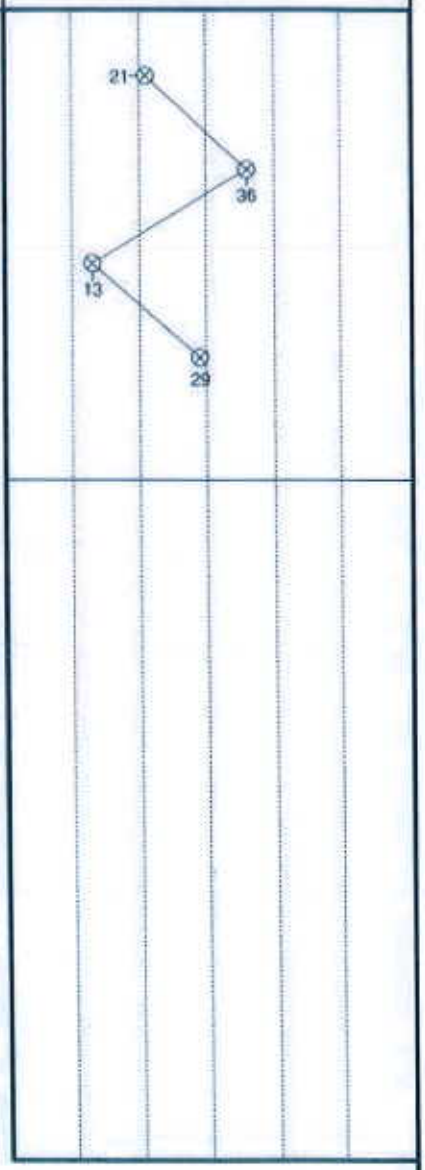
SURFACE ELEVATION 750

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0						750	
	S-1	SS	18	16			13 13 8
	S-2	SS	18	17			11 16 20
5						745	
	S-3	SS	18	15			7 6 7
	S-4	SS	18	16			7 13 16
10						740	
15						735	
20						730	
25						725	
30						720	

Topsoil Depth [4"]

(SM) SILTY SAND, Light Tannish Brown to Tannish White, Moist, Medium Dense to Dense

AUGER REFUSAL @ 12.50'



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS ☐ WD ☐	BORING STARTED 12/23/14	
WL(BCR) WL(ACR)	BORING COMPLETED 12/23/14	CAVE IN DEPTH
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-221-A	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 750

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					AUGER PROBE		750	
5							745	
10							740	
					AUGER REFUSAL @ 12.50'			
15							735	
20							730	
25							725	
30							720	

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL	WS ☐ WD ☐	BORING STARTED 12/23/14	
WL(BCR)	WL(ACR)	BORING COMPLETED 12/23/14	CAVE IN DEPTH
WL		RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-221-B	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 750

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					AUGER PROBE		750	
5							745	
10							740	
					AUGER REFUSAL @ 12.00'			
15							735	
20							730	
25							725	
30							720	

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL	WS ☐ WD ☐	BORING STARTED 12/23/14	
WL(BCR)	WL(ACR)	BORING COMPLETED 12/23/14	CAVE IN DEPTH
WL		RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-222	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

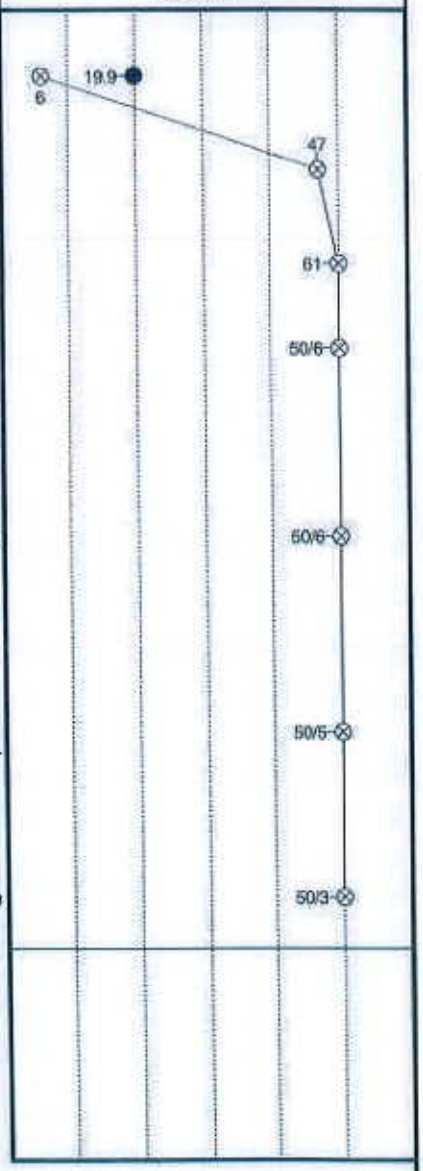
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 704

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	18	16	(MH) ELASTIC SILT WITH SAND, Contains Slight Rock Fragments, Brown, Moist, Medium Stiff		3 3 3
5	S-2	SS	18	17	(SM) SILTY SAND, Contains Rock Fragments, Gray, Moist, Dense to Very Dense	700	19 19 26
	S-3	SS	18	16			17 31 30
10	S-4	SS	12	11	(SM PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, Contains Rock Fragments, Gray and Tannish Brown, Moist to Wet	695	21 50/6
15	S-5	SS	12	11		690	11 50/6
20	S-6	SS	17	13		685	32 36 50/5
25	S-7	SS	3	3		680	50/3
					AUGER REFUSAL @ 25.00'	675	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 20.00	WS☐ WD☐	BORING STARTED 12/23/14	
WL(BCR)	WL(ACR)	BORING COMPLETED 12/23/14	CAVE IN DEPTH @ 18.00'
WL 10.00		RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-223	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

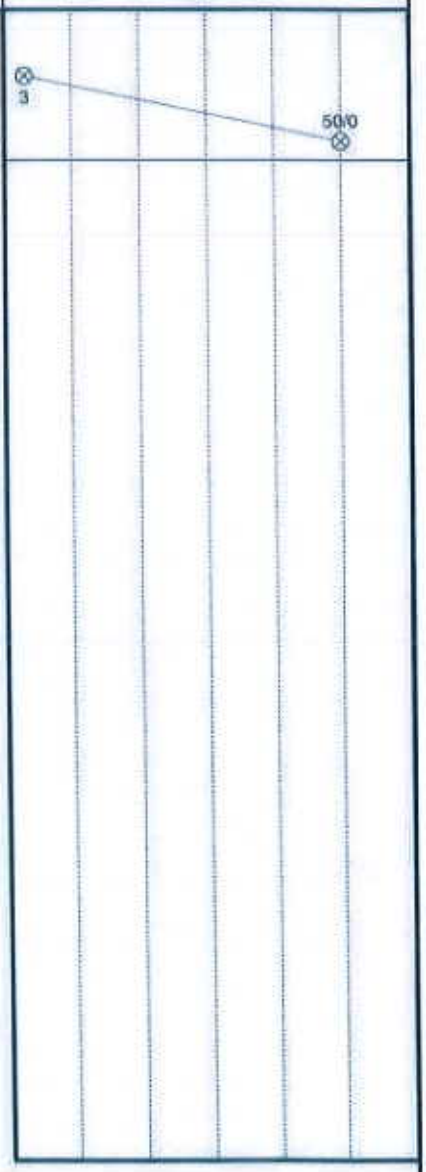
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 730

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0					Topsoil Depth [6"]	730	
	S-1	SS	18	16	(MH) ELASTIC SILT WITH SAND, Tannish Gray, Wet, Soft		2 1 2
	S-2	SS	0	0	(GP PWR) PARTIALLY WEATHERED ROCK SAMPLED AS ROCK FRAGMENTS, Tan, Moist		50/0
					AUGER REFUSAL @ 4.00'		
5						725	
10						720	
15						715	
20						710	
25						705	
30						700	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL — WS ☐ WD ☐	BORING STARTED 12/23/14	
WL(BCR) — WL(ACR)	BORING COMPLETED 12/23/14	CAVE IN DEPTH
WL	RIG Diedrich D-50 — FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-223-A	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

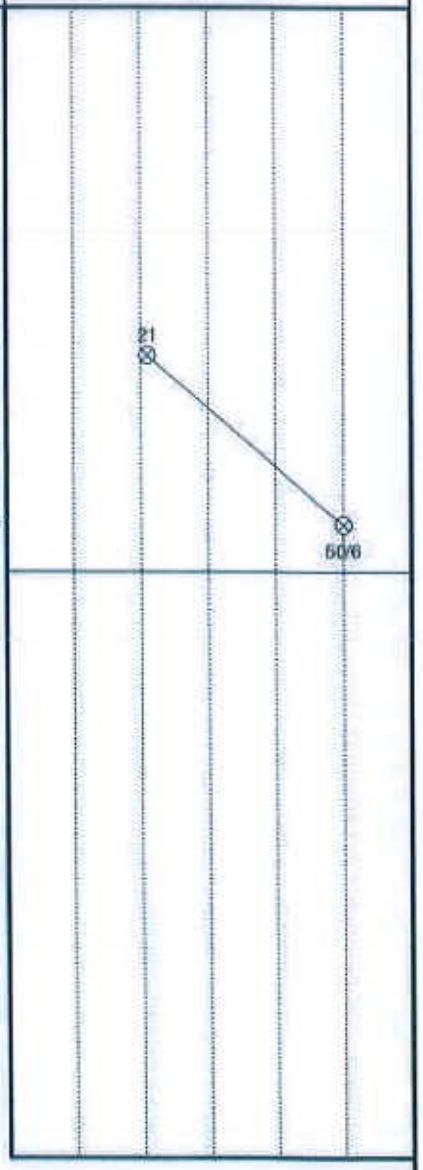
STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 730

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0					AUGERED WITHOUT SAMPLING	730	
5						725	
					(ML) SILT WITH SAND, Tannish Brown to Tan, Moist, Very Stiff		
	S-4	SS	18	16			3 6 15
10						720	
	S-5	SS	6	6	(SM PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, Contains Slight Rock Fragments, Tan, Dry		50/6
15					AUGER REFUSAL @ 15.00'	715	
20						710	
25						705	
30						700	



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES, IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS ☐ WD ☐	BORING STARTED 12/23/14	
WL(BCR) WL(ACR)	BORING COMPLETED 12/23/14	CAVE IN DEPTH @ 12.00'
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-224	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

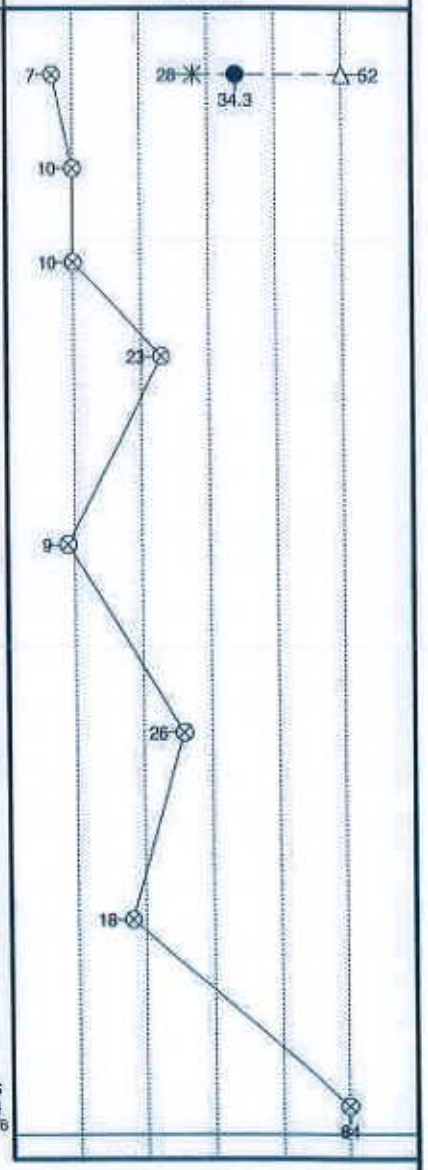
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 718

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	18	18	(CH) FAT CLAY, Brown, Wet, Medium Stiff		2 3 4
						715	
5	S-2	SS	18	16	(ML) SILT WITH SAND, Tannish Brown, Moist, Stiff		3 4 6
	S-3	SS	18	16			3 4 6
						710	
10	S-4	SS	18	16	(ML) SANDY SILT, Tannish Brown, Moist to Wet, Stiff to Very Stiff		6 12 11
						705	
15	S-5	SS	18	16			3 4 5
						700	
20	S-6	SS	18	11			8 11 15
						695	
25	S-7	SS	18	15	(SM) SILTY SAND, Contains Rock Fragments, Tan, Wet, Medium Dense to Very Dense		12 11 7
						690	
30	S-8	SS	18	18			16 34 50/6
					END OF BORING @ 30.00'		



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 26.00 WS ☐ WD ☐	BORING STARTED 12/23/14	
WL(BCR) WL(ACR)	BORING COMPLETED 12/23/14	CAVE IN DEPTH @ 23.00'
WL 18.00	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-225	1 OF 2

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ▶ — LOSS OF CIRCULATION

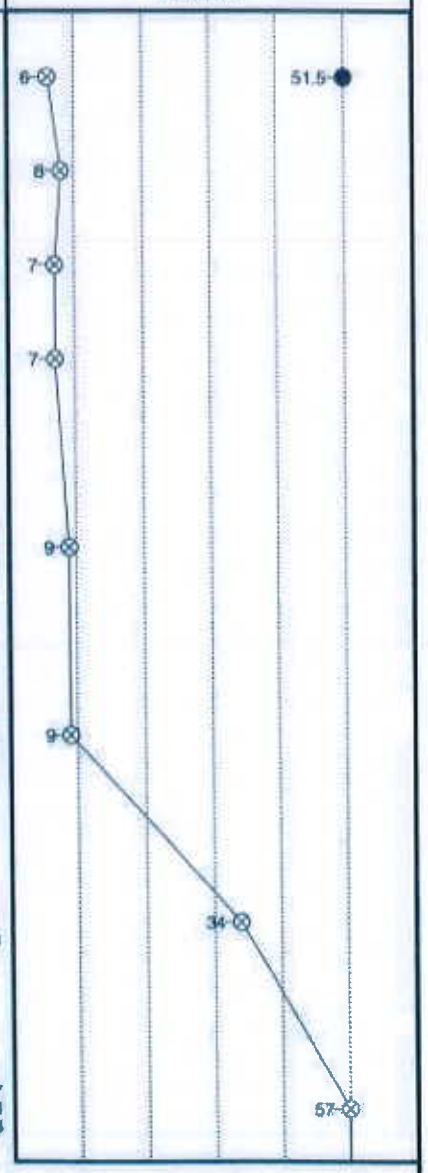
SURFACE ELEVATION 708

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	BLOWS/6"	ELEVATION (FT)
0						
	S-1	SS	18	17	2 3 3	
						705
	S-2	SS	18	16	3 4 4	
5						
	S-3	SS	18	16	3 3 4	
						700
	S-4	SS	18	16	3 3 4	
10						
						695
	S-5	SS	18	16	4 4 5	
15						
						690
	S-6	SS	18	15	4 5 4	
20						
						685
	S-7	SS	18	16	3 11 23	
25						
						680
	S-8	SS	18	15	17 24 33	
30						

Topsoil Depth [3"]

(ML) SILT, Trace Sand, Reddish Brown, Wet, Medium Stiff to Stiff

(SM) SILTY SAND, Tan, Wet to Moist, Dense to Very Dense



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 25.00 WS ☐ WD ☐	BORING STARTED 12/31/14	
WL(BCR) WL(ACR)	BORING COMPLETED 12/31/14	CAVE IN DEPTH @ 30.00'
WL 23.50	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-225	2 OF 2

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING: | EASTING: | STATION:

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 708

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
					(SM) SILTY SAND, Tan, Wet to Moist, Dense to Very Dense				
							675		
	S-9	SS	18	16				28 34 50/0	84
35									
							670		
	S-10	SS	18	15				28 35 44	79
40					END OF BORING @ 40.00'				
							665		
45									
							660		
50									
							655		
55									
							650		
60									

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 25.00 WS☐ WD☐	BORING STARTED 12/31/14	
WL(BCR) WL(ACR)	BORING COMPLETED 12/31/14	CAVE IN DEPTH @ 30.00'
WL 23.50	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-226	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ——

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 724

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT	PLASTIC LIMIT%	WATER CONTENT%	LIQUID LIMIT%
0					Topsoil Depth [2"]						
	S-1	SS	18	18	(MH) ELASTIC SILT, Reddish Brown, Moist, Stiff		3 4 5	9		47.2	66 / 50
	S-2	SS	18	17	(ML) SILT, Trace Sand, Orangish to Tan, Wet, Medium Stiff	720	2 3 4	7			
5	S-3	SS	18	16			2 3 2	5		52.7	
	S-4	SS	18	16		715	2 1 2	3			
10	S-5	SS	18	15		710	2 3 5	8			
15	S-6	SS	18	16		705	4 3 4	7			
20	S-7	SS	18	18	(ML) SANDY SILT, Tan, Wet, Medium Stiff	700	3 2 3	5			
25					AUGER REFUSAL @ 28.00'	695					
30											

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 15.00 WS☐ WD☐	BORING STARTED 01/02/15	
WL(BCR) WL(ACR)	BORING COMPLETED 01/02/15	CAVE IN DEPTH
WL 13.50	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-227	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 698

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0					Topsoil Depth [3"]			
	S-1	SS	18	14	(CH) FAT CLAY, Light Tannish Brown, Wet, Medium Stiff		1 2 3	5
					(ML) SANDY SILT, Tannish Brown to Tannish Green, Moist, Stiff to Very Stiff	695		
	S-2	SS	18	16			4 4 6	10
5								
	S-3	SS	18	17			3 6 8	14
						690		
	S-4	SS	18	16			4 5 6	11
10								
						685		
	S-5	SS	18	16			5 6 10	16
15					END OF BORING @ 15.00'			
						680		
20								
						675		
25								
						670		
30								

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS ☐ WD ☐	BORING STARTED 12/31/14	
WL(BCR) WL(ACR)	BORING COMPLETED 12/31/14	CAVE IN DEPTH @ 12.00'
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-228	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

-O- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ———

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

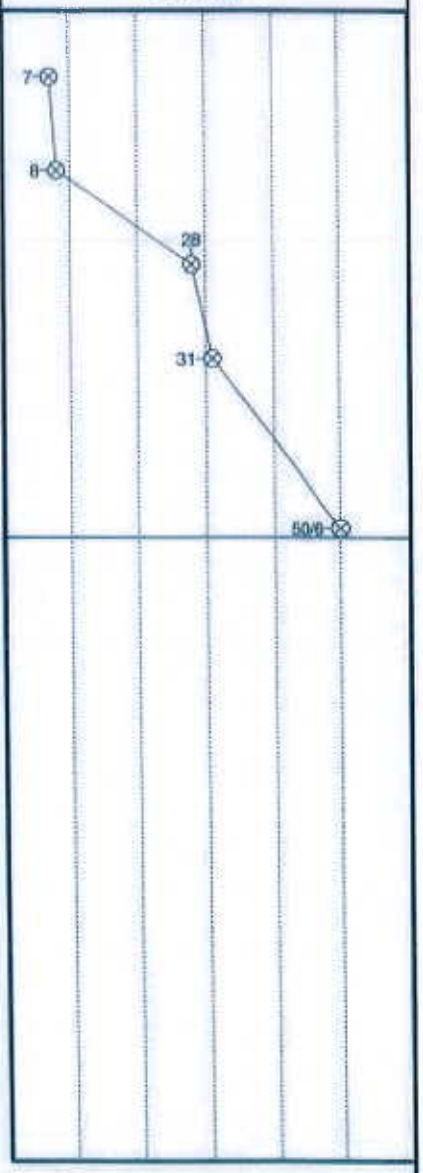
⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION

SURFACE ELEVATION 696

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0					Topsoil Depth [6"]		
	S-1	SS	18	16	(MH) ELASTIC SILT, Trace Sand, Orangish Brown, Wet, Medium Stiff	695	3 3 4
	S-2	SS	18	15			3 3 5
5						690	
	S-3	SS	18	16	(SM) SILTY SAND, Trace Clay, Tan, Moist, Medium Dense		5 10 18
	S-4	SS	18	10	(SM) SILTY SAND, Contains Slight Rock Fragments, Tan, Moist, Dense		15 17 14
10						685	
	S-5	SS	6	6	(SM PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, Contains Slight Rock Fragments, Tannish Green, Moist		50/6
15					END OF BORING @ 14.00'	680	
20						675	
25						670	
30							



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL	WS ☐ WD ☐	BORING STARTED 12/31/14	
WL(BCR)	WL(ACR)	BORING COMPLETED 12/31/14	CAVE IN DEPTH
WL		RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-230	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING: | EASTING: | STATION:

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 660

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0					(CH) FAT CLAY, Light Orangish Tan, Moist, Stiff	660		
	S-1	SS	18	16			3 5 6	11
					(ML) SANDY SILT, Tan, Moist, Stiff			
	S-2	SS	18	17			4 6 7	13
5						655		
	S-3	SS	18	16			4 5 8	13
	S-4	SS	18	16			4 6 8	14
10					END OF BORING @ 10.00'	650		
15						645		
20						640		
25						635		
30						630		

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS ☐ WD ☐	BORING STARTED 01/02/15	
WL(BCR) WL(ACR)	BORING COMPLETED 01/02/15	CAVE IN DEPTH @ 7.50'
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-231	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

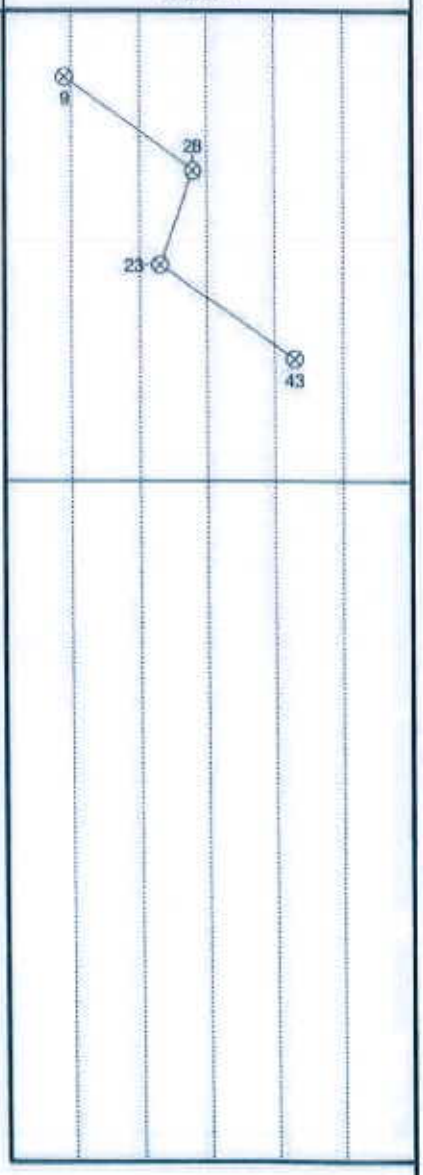
STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 683

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"
0					Topsoil Depth [3"]		
	S-1	SS	18	17	(MH) ELASTIC SILT, Trace Sand, Orangish Brown, Moist, Stiff		2 3 6
						680	
	S-2	SS	18	16	(ML) SANDY SILT, Tannish Brown, Moist, Very Stiff		9 11 17
5							
	S-3	SS	18	16			7 9 14
						675	
	S-4	SS	18	16	(SM) SILTY SAND, Trace Clay, Contains Slight Rock Fragments, Tan, Moist, Dense		17 21 22
10							
					AUGER REFUSAL @ 12.50'	670	
15							
						665	
20							
						660	
25							
						655	
30							



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS☐ WD☐	BORING STARTED 01/02/15	
WL(BCR) WL(ACR)	BORING COMPLETED 01/02/15	CAVE IN DEPTH
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-232	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 664

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0					Topsoil Depth [2"]			
	S-1	SS	18	17	(MH) ELASTIC SILT, Trace Sand, Tannish, Moist, Stiff		3 4 6	10
	S-2	SS	18	16	(ML) SILT, Trace Sand, Tannish Brown, Moist, Medium Stiff to Stiff	660	5 4 4	8
5	S-3	SS	18	16			5 7 10	17
	S-4	SS	18	16	(ML) SILT, Trace Sand, Tannish Brown, Moist, Medium Stiff to Stiff	655	4 3 6	9
10	S-5	SS	18	18	(ML) SANDY SILT, Tannish Brown, Moist, Very Stiff	650	11 12 9	21
15					AUGER REFUSAL @ 16.00'			
						645		
20								
						640		
25								
						635		
30								

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL	WS ☐ WD ☐	BORING STARTED 01/02/15	
WL(BCR)	WL(ACR)	BORING COMPLETED 01/02/15	CAVE IN DEPTH @ 14.00'
WL		RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

CLIENT	JOB #	BORING #	SHEET
Randolph Co. EDC	24982-B	B-233	1 OF 1

PROJECT NAME: Liberty Mega Site

ARCHITECT-ENGINEER:

SITE LOCATION: Highway 421, Liberty, NC

NORTHING: | EASTING: | STATION:

-○- CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC% ——

PLASTIC LIMIT% ✕ — WATER CONTENT% ● — LIQUID LIMIT% △

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ➡ LOSS OF CIRCULATION

SURFACE ELEVATION 696

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	ELEVATION (FT)	BLOWS/6"	STANDARD PENETRATION BLOWS/FT
0					Topsoil Depth [3"]			
	S-1	SS	18	16	(MH) ELASTIC SILT, Trace Sand, Tannish Brown, Moist, Stiff	695	3 3 6	9
	S-2	SS	18	17	(ML) SANDY SILT, Trace Clay, Tannish Brown, Moist, Very Stiff		6 8 13	21
5	S-3	SS	18	16	(SM) SILTY SAND, Tannish, Moist, Very Dense	690	22 28 34	62
	S-4	SS	18	16			19 23 38	61
10						685		
	S-5	SS	18	16			17 21 44	65
15						680		
	S-6	SS	3	3	(SM PWR) PARTIALLY WEATHERED ROCK SAMPLED AS SILTY SAND, Tan, Moist		50/3	50/3
20					AUGER REFUSAL @ 20.00'	675		
25						670		
30								

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL — WS ☐ WD ☐	BORING STARTED 12/31/14	
WL(BCR) — WL(ACR)	BORING COMPLETED 12/31/14	CAVE IN DEPTH
WL	RIG Diedrich D-50 FOREMAN John Wingo	DRILLING METHOD HSA

APPENDIX B – LABORATORY RESULTS

Laboratory Testing Summary

Sample Source	Sample Number	Depth (feet)	MC[1] (%)	Soil Type[2]	Atterberg Limits[3]			Percent Passing No. 200 Sieve[4]	Moisture - Density (Corr.)[5]		CBR Value[6]	Other
					LL	PL	PI		Maximum Density (pcf)	Optimum Moisture (%)		
B-101												
	S-1	1.00 - 2.50	20.1		51	24	27	58.3				
	S-4	8.50 - 10.00	38.7									
B-103												
	S-2	3.50 - 5.00	33.7									
	S-4	8.50 - 10.00	24.8									
B-111												
	S-2	3.50 - 5.00	15.2									
	S-5	13.50 - 15.00	12.9									
B-113												
	S-3	6.00 - 7.50	23.3									
	S-6	18.50 - 20.00	24.4									
B-114												
	S-1	1.00 - 2.50	19.4									
	S-4	8.50 - 10.00	9.2									
B-119												
	S-2	3.50 - 5.00	28.6		56	39	17	57.4				
	S-5	13.50 - 15.00	31.0									
	S-7	23.50 - 25.00	35.1									
B-120												
	S-1	1.00 - 2.50	24.6		71	31	40	58.3				
	S-4	8.50 - 10.00	12.0									
B-121												
	S-1	1.00 - 2.50	32.2									
	S-3	6.00 - 7.50	6.4									

Notes: 1. ASTM D 2216, 2. ASTM D 2487, 3. ASTM D 4318, 4. ASTM D 1140, 5. See test reports for test method, 6. See test reports for test method

Definitions: MC: Moisture Content, Soil Type: USCS (Unified Soil Classification System), LL: Liquid Limit, PL: Plastic Limit, PI: Plasticity Index, CBR: California Bearing Ratio, OC: Organic Content (ASTM D 2974)

Project No. 24105-A
Project Name: Liberty Megasite GEO
PM: Lorin E. Akins
PE: James D. Hoskins, III
Printed On: Thursday, April 24, 2014

ECS Carolinas, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150 Fax: (336) 464-2869

Laboratory Testing Summary

Sample Source	Sample Number	Depth (feet)	MC[1] (%)	Soil Type[2]	Atterberg Limits[3]			Percent Passing No. 200 Sieve[4]	Moisture - Density (Corr.)[5]		CBR Value[6]	Other
					LL	PL	PI		Maximum Density (pcf)	Optimum Moisture (%)		
B-201												
	S-1	1.00 - 2.50	12.9									
B-202												
	S-1	1.00 - 2.50	16.3	SC	37	22	15	37.1				
	S-3	6.00 - 7.50	10.4									
	S-4	8.50 - 10.00	19.5									
	S-5	13.50 - 15.00	13.4									
	S-6	18.50 - 20.00	22.6									
B-203												
	S-1	1.00 - 2.50	36.9	CH	65	31	34	69.6				
	S-3	6.00 - 7.50	20.4									
B-214												
	S-1	1.00 - 2.50	24.2									
B-217												
	S-1	1.00 - 2.50	33.0									
B-219												
B-220												
	S-1	1.00 - 2.50		CH	54	27	27	78.2				
B-222												
	S-1	1.00 - 2.50	19.9									
B-223												
B-224												
	S-1	1.00 - 2.50	34.3	CH	52	28	24	74.2				
B-225												
	S-1	1.00 - 2.50	51.5									
B-226												
	S-1	1.00 - 2.50	47.2	MH	66	50	16	84.2				
	S-3	6.00 - 7.50	52.7									

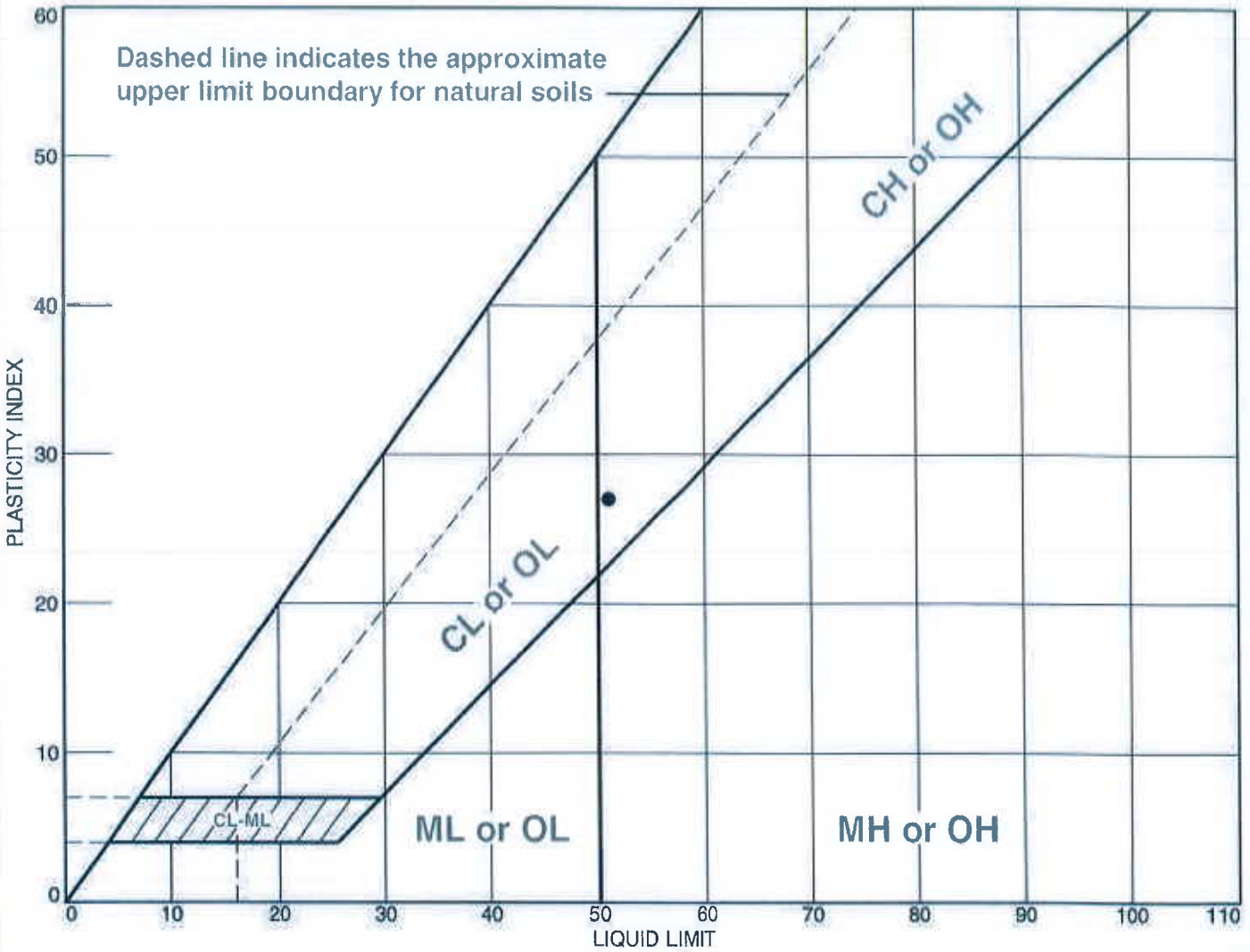
Notes: 1. ASTM D 2216, 2. ASTM D 2487, 3. ASTM D 4318, 4. ASTM D 1140, 5. See test reports for test method, 6. See test reports for test method

Definitions: MC: Moisture Content, Soil Type: USCS (Unified Soil Classification System), LL: Liquid Limit, PL: Plastic Limit, PI: Plasticity Index, CBR: California Bearing Ratio, OC: Organic Content (ASTM D 2974)

Project No. 24982-B
Project Name: Liberty Mega Site
PM: Lorin E. Akins
PE: David M. Cutter
Printed On: Thursday, January 22, 2015

ECS CAROLINAS, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Disturbed Residual: Tan, Moist, Medium Stiff, Silty CLAY, With Fine to Medium Sand	51	24	27		58.3	CH

Project No. 24105-A **Client:** NC Megasites, LLC

Project: Liberty Megasite

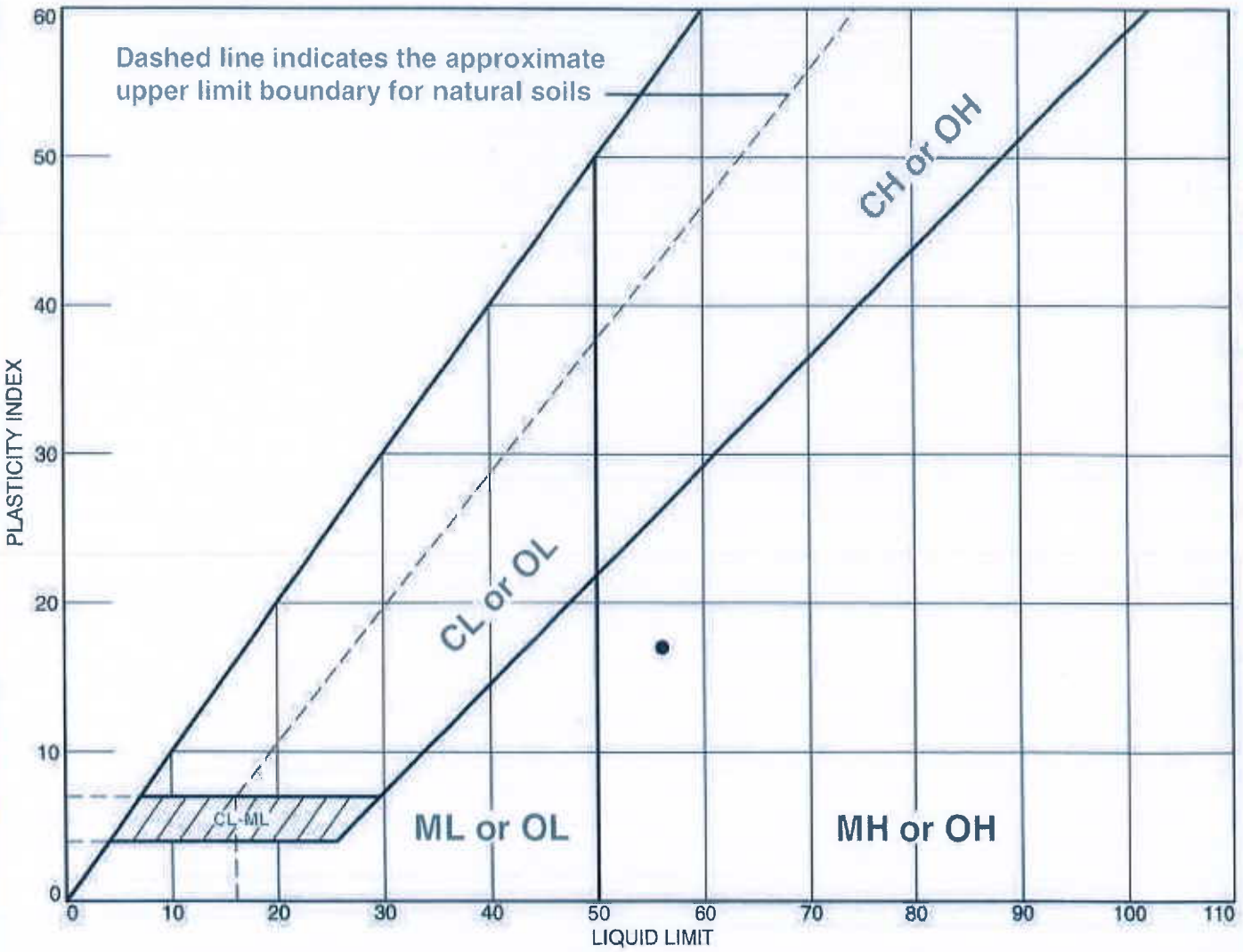
● **Source of Sample:** B-101 **Depth:** 1.00-2.50 **Sample Number:** S-1

Remarks:

ECS Carolinas, LLP
4011 Hoger Boulevard
Greensboro, NC 27407
Phone: (336) 668-7140
Fax: (336) 454-2800

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Residual: Tan, Moist, Stiff, Clayey SILT, With Fine to Medium Sand	56	39	17		57.4	MH

Project No. 24105-A **Client:** NC Megasites, LLC

Project: Liberty Megasite

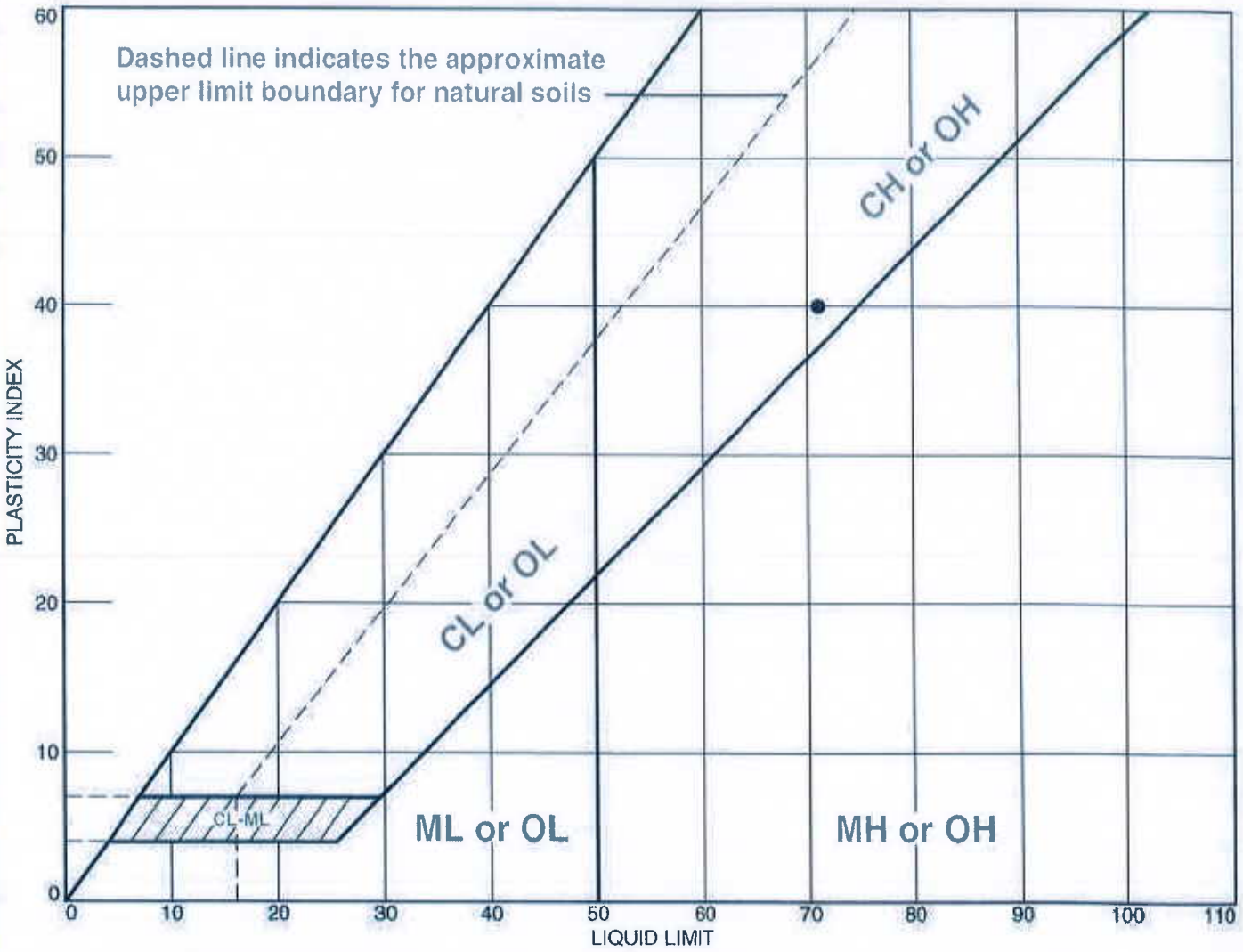
● **Source of Sample:** B-119 **Depth:** 3.50-5.00 **Sample Number:** S-2

Remarks:

ECS Carolinas, LLP

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Residual: Tan, Moist, Medium Stiff, Silty CLAY, With Fine to Medium Sand	71	31	40		58.3	CH

Project No. 24105-A **Client:** NC Megasites, LLC

Project: Liberty Megasite

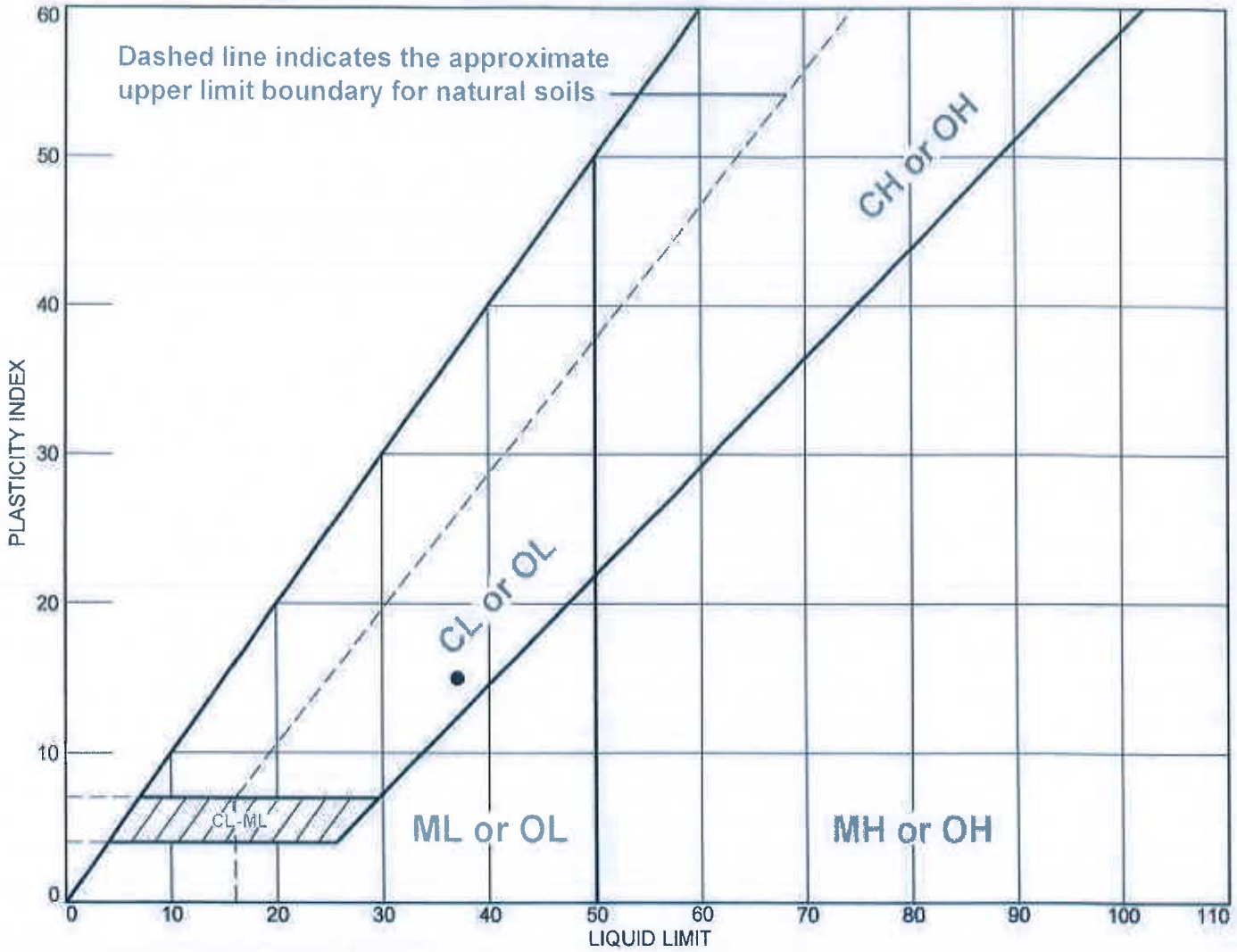
● **Source of Sample:** B-120 **Depth:** 1.00-2.50 **Sample Number:** S-1

Remarks:

ECS Carolinas, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	(SC) CLAYEY SAND, Yellowish Brown and Tan, Moist, Medium Dense	37	22	15		37.1	SC

Project No. 24982-B **Client:** Randolph Co. EDC

Project: Liberty Mega Site

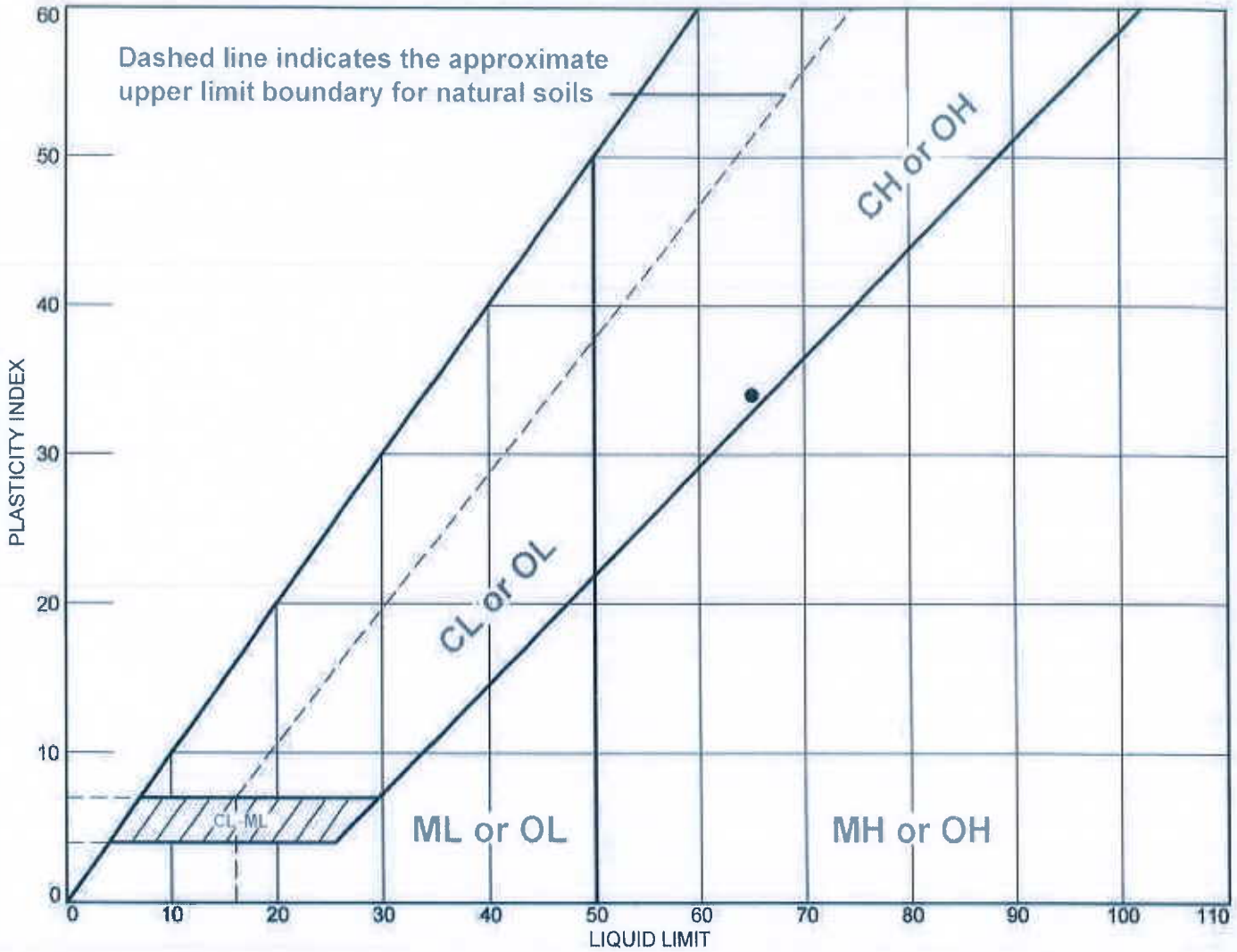
● **Source of Sample:** B-202 **Depth:** 1.00-2.50 **Sample Number:** S-1

Remarks:

ECS CAROLINAS, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	(CH) FAT CLAY WITH SAND, Dark Yellowish Brown and Tan, Moist, Medium Stiff	65	31	34		69.6	CH

Project No. 24982-B **Client:** Randolph Co. EDC

Project: Liberty Mega Site

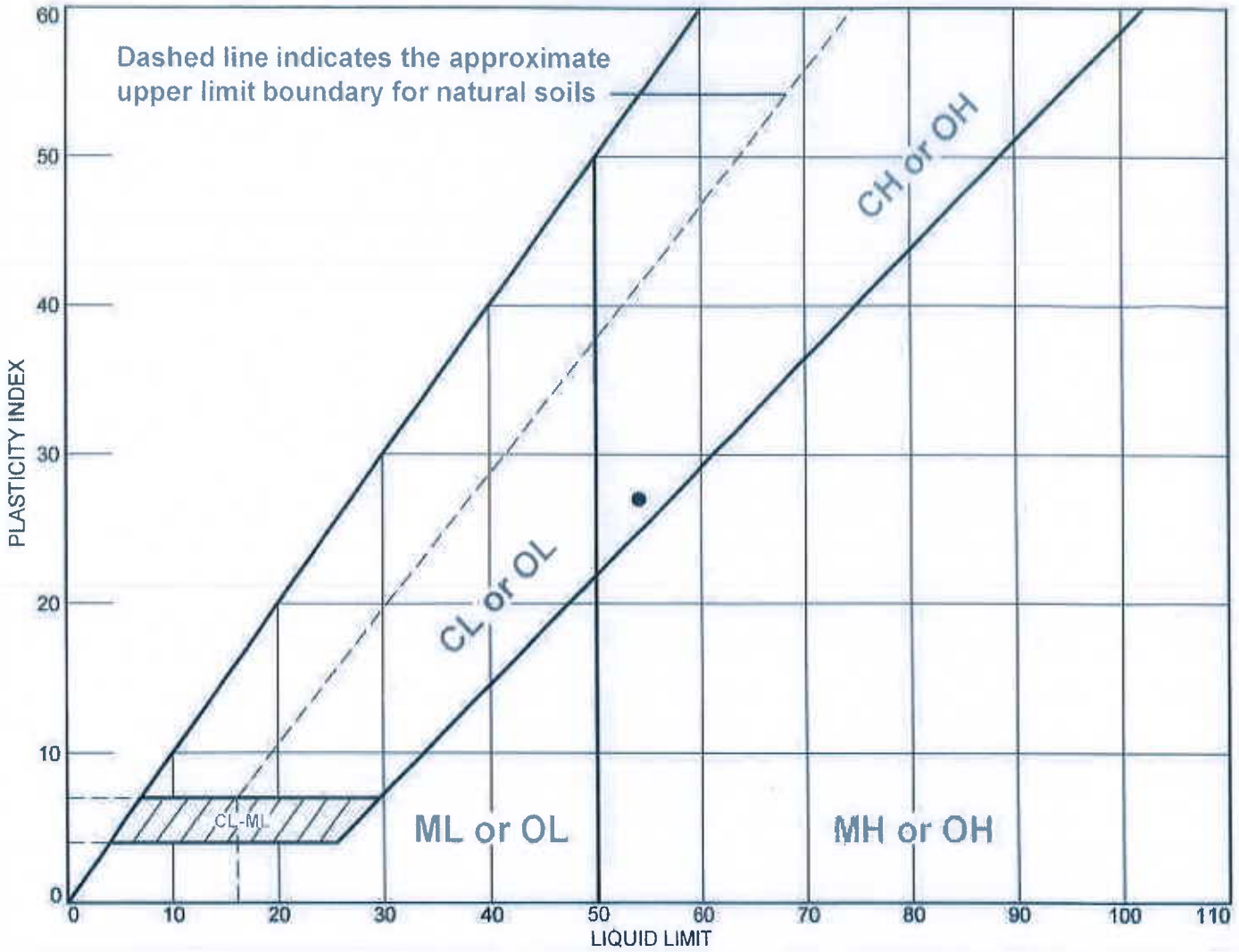
● **Source of Sample:** B-203 **Depth:** 1.00-2.50 **Sample Number:** S-1

Remarks:

ECS CAROLINAS, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	(CH) FAT CLAY WITH SAND, Light Tannish Orange, Moist, Medium Stiff	54	27	27		78.2	CH

Project No. 24982-B **Client:** Randolph Co. EDC

Project: Liberty Mega Site

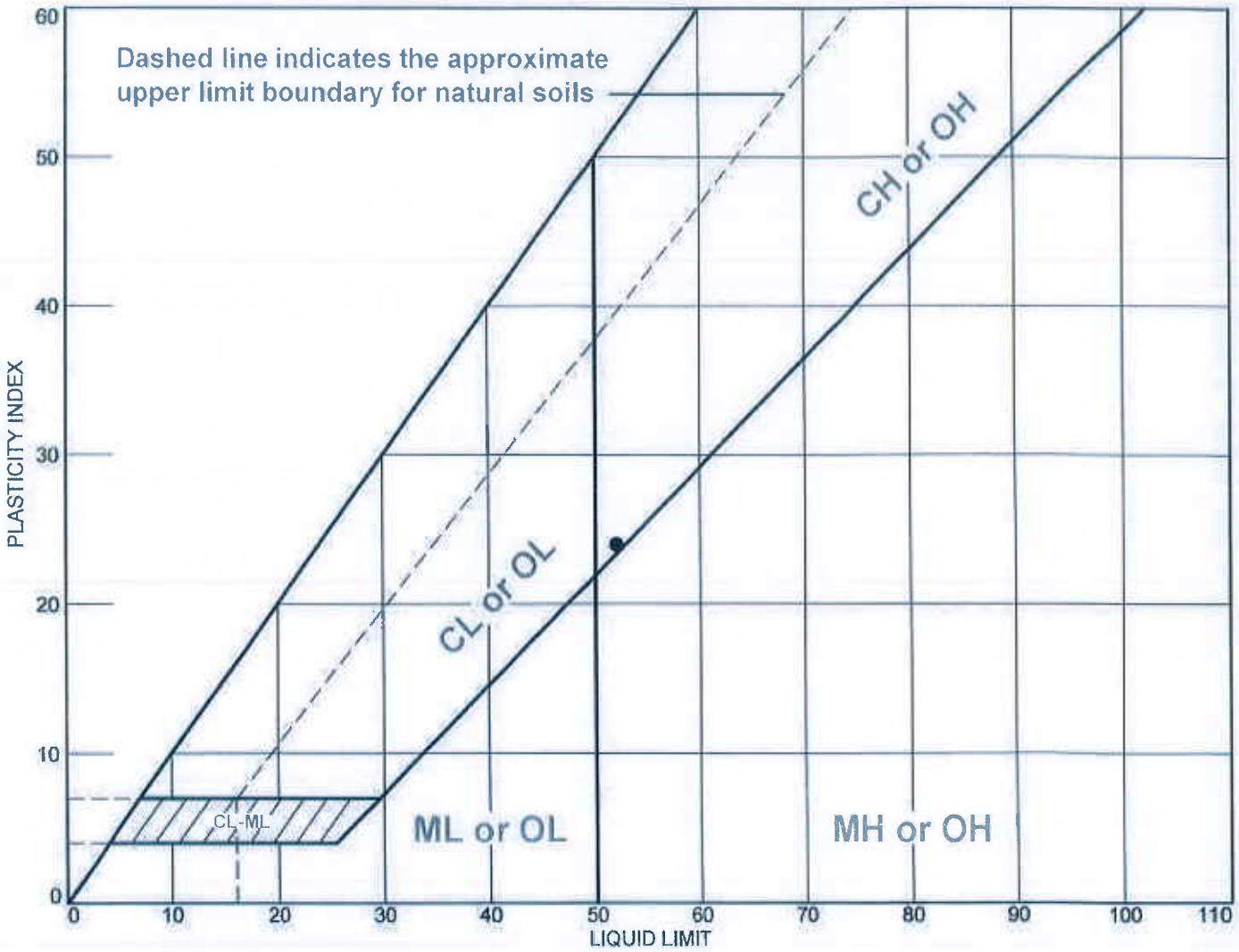
● **Source of Sample:** B-220 **Depth:** 1.00-2.50 **Sample Number:** S-1

Remarks:

ECS CAROLINAS, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	(CH) FAT CLAY, Brown, Wet, Medium Stiff	52	28	24		74.2	CH

Project No. 24982-B **Client:** Randolph Co. EDC

Project: Liberty Mega Site

● **Source of Sample:** B-224 **Depth:** 1.00-2.50 **Sample Number:** S-1

Remarks:

ECS CAROLINAS, LLP
4811 Koger Boulevard
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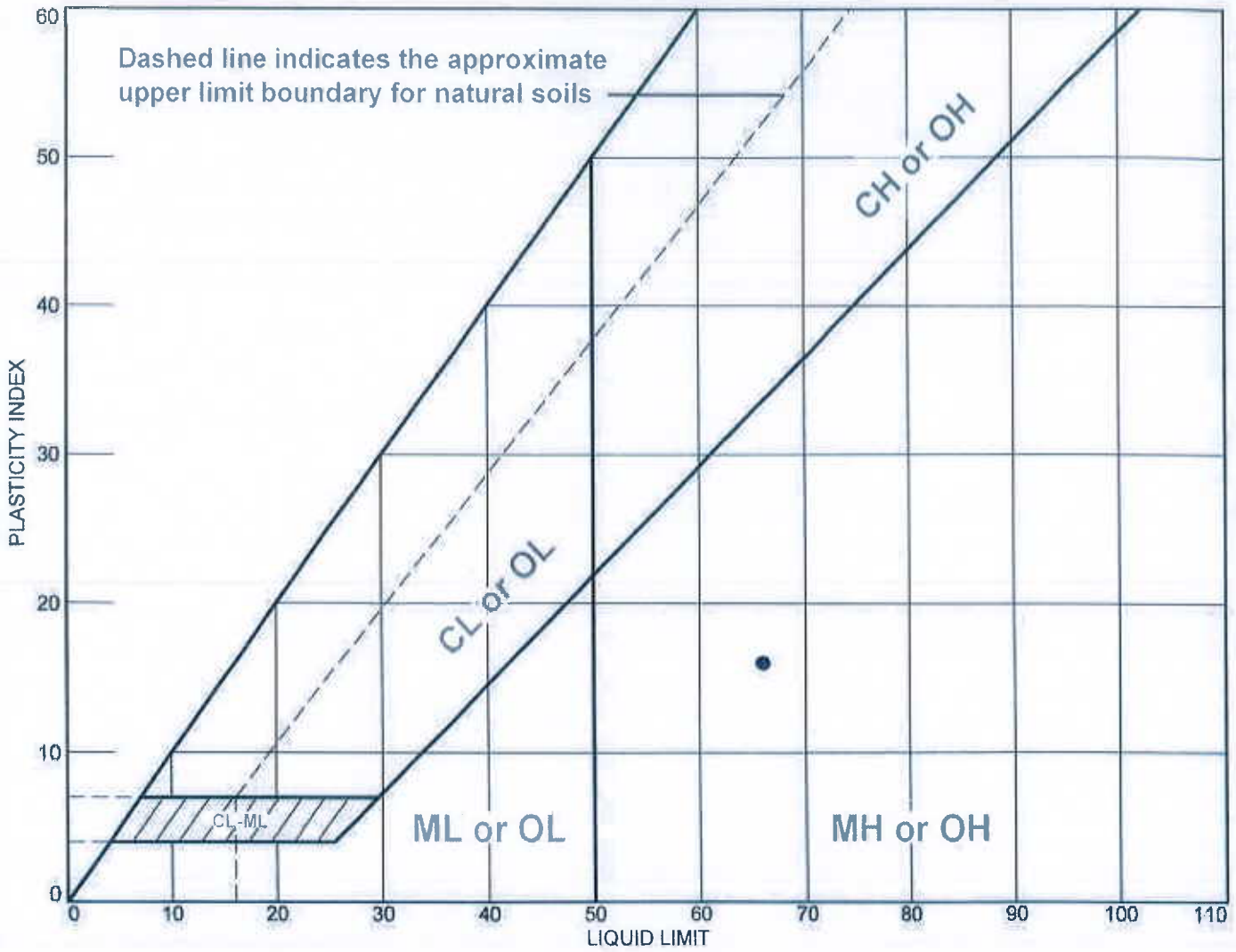
Phone: (336) 856-7150
Fax: (336) 856-7160

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	(MH) ELASTIC SILT, Reddish Brown, Moist, Stiff	66	50	16		84.2	MH

Project No. 24982-B **Client:** Randolph Co. EDC

Project: Liberty Mega Site

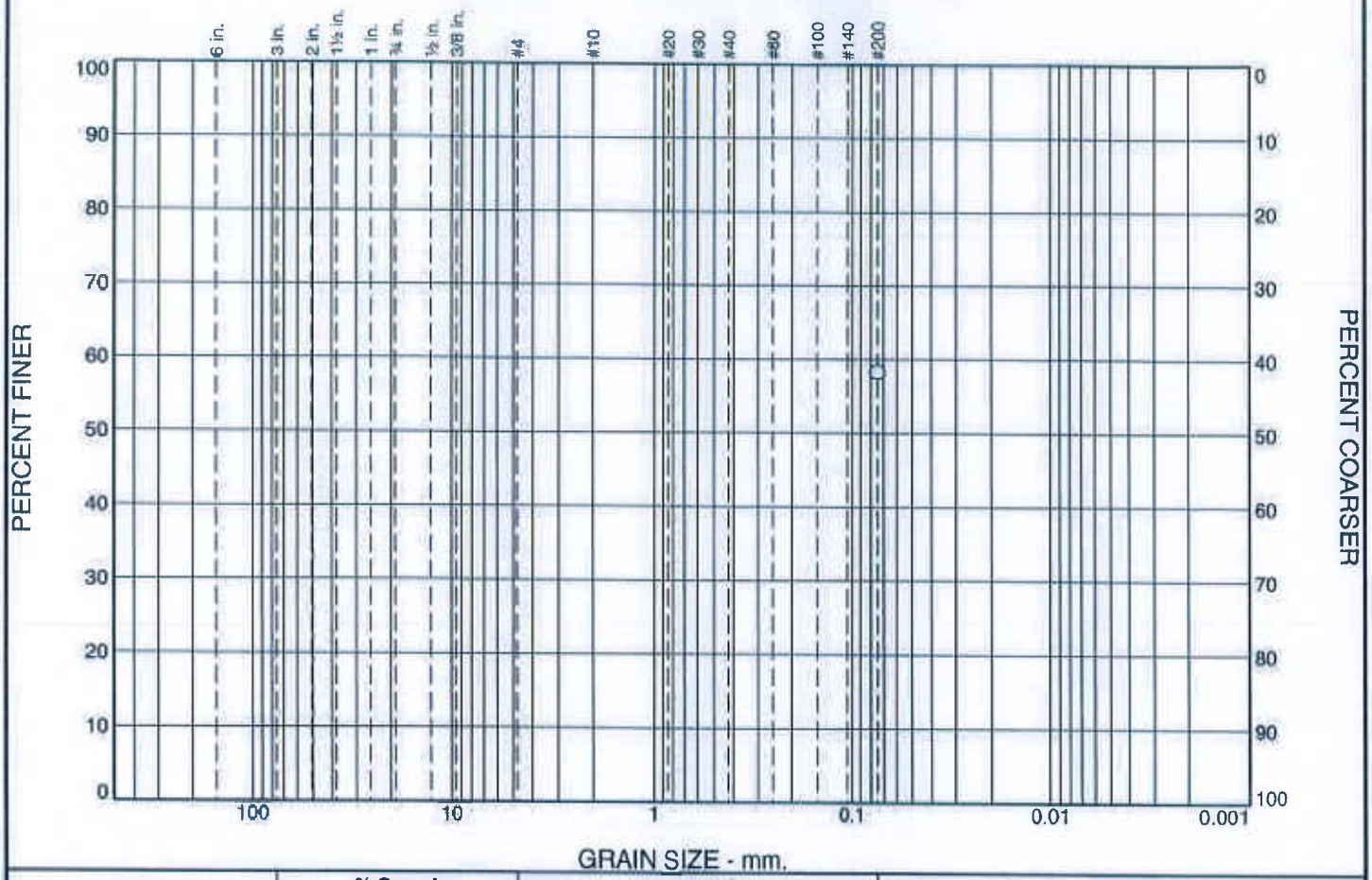
● **Source of Sample:** B-226 **Depth:** 1.00-2.50 **Sample Number:** S-1

Remarks:

ECS CAROLINAS, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

Figure

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						58.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	58.3		

* (no specification provided)

Soil Description

Disturbed Residual: Tan, Moist, Medium Stiff, Silty CLAY, With Fine to Medium Sand

Atterberg Limits

PL= 24 LL= 51 PI= 27

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

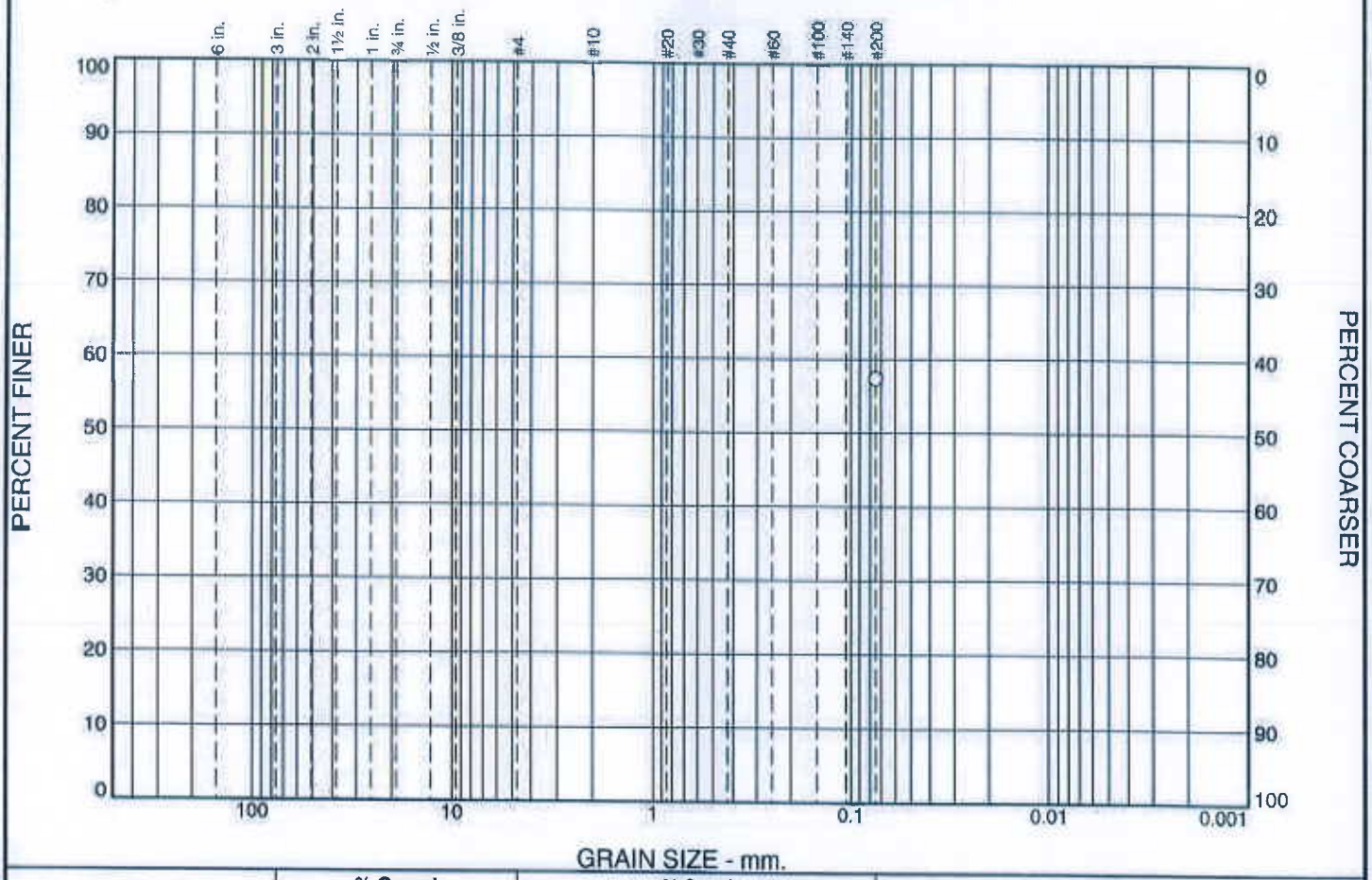
Remarks

Source of Sample: B-101 **Depth:** 1.00-2.50
Sample Number: S-1 **Date:**

ECS Carolinas, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150 Fax: (336) 464-2869

Client: NC Megasites, LLC
Project: Liberty Megasite
Project No: 24105-A **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						57.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	57.4		

* (no specification provided)

Soil Description

Residual: Tan, Moist, Stiff, Clayey SILT, With Fine to Medium Sand

Atterberg Limits

PL= 39 LL= 56 PI= 17

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= MH AASHTO=

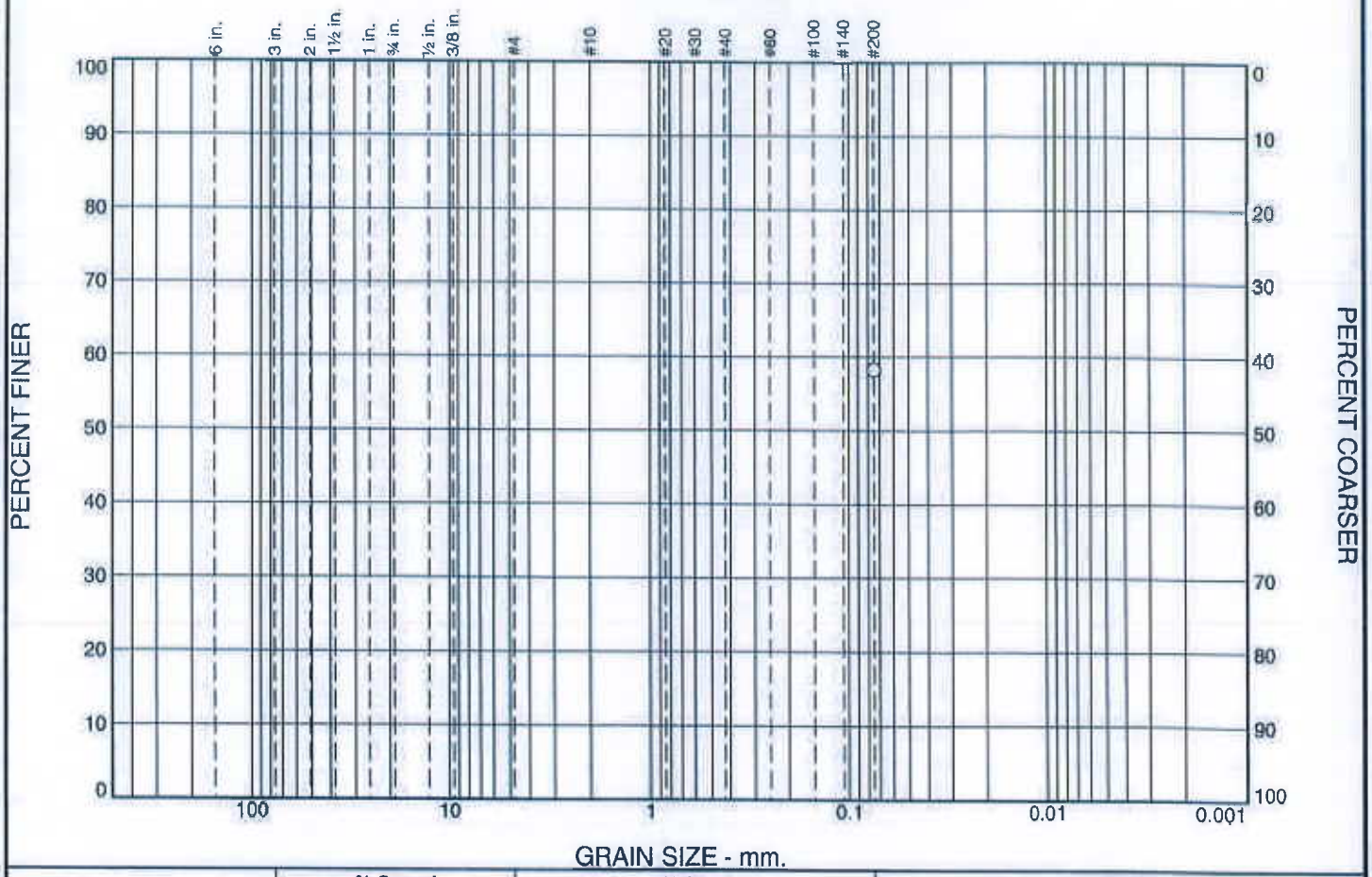
Remarks

Source of Sample: B-119 **Depth:** 3.50-5.00
Sample Number: S-2 **Date:**

ECS Carolinas, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150 Fax: (336) 464-2869

Client: NC Megasites, LLC
Project: Liberty Megasite
Project No: 24105-A **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						58.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	58.3		

* (no specification provided)

Soil Description

Residual: Tan, Moist, Medium Stiff, Silty CLAY, With Fine to Medium Sand

Atterberg Limits

PL= 31 LL= 71 PI= 40

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: B-120 **Depth:** 1.00-2.50
Sample Number: S-1 **Date:**

ECS Carolinas, LLP
4811 Koger Boulevard
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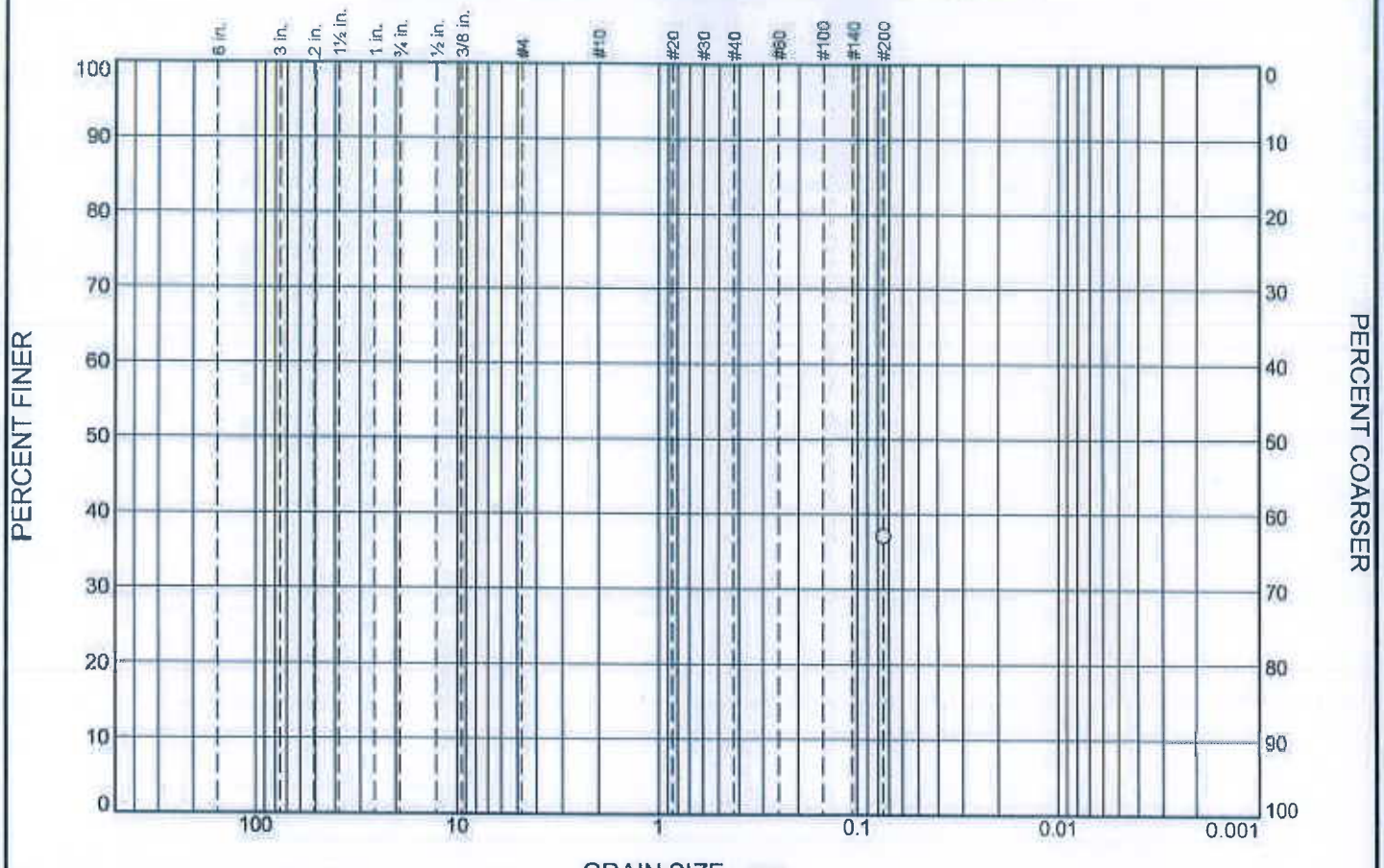
Client: NC Megasites, LLC
Project: Liberty Megasite
Project No: 24105-A **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						37.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	37.1		

* (no specification provided)

Soil Description

(SC) CLAYEY SAND, Yellowish Brown and Tan, Moist, Medium Dense

Atterberg Limits

PL= 22 LL= 37 PI= 15

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SC AASHTO=

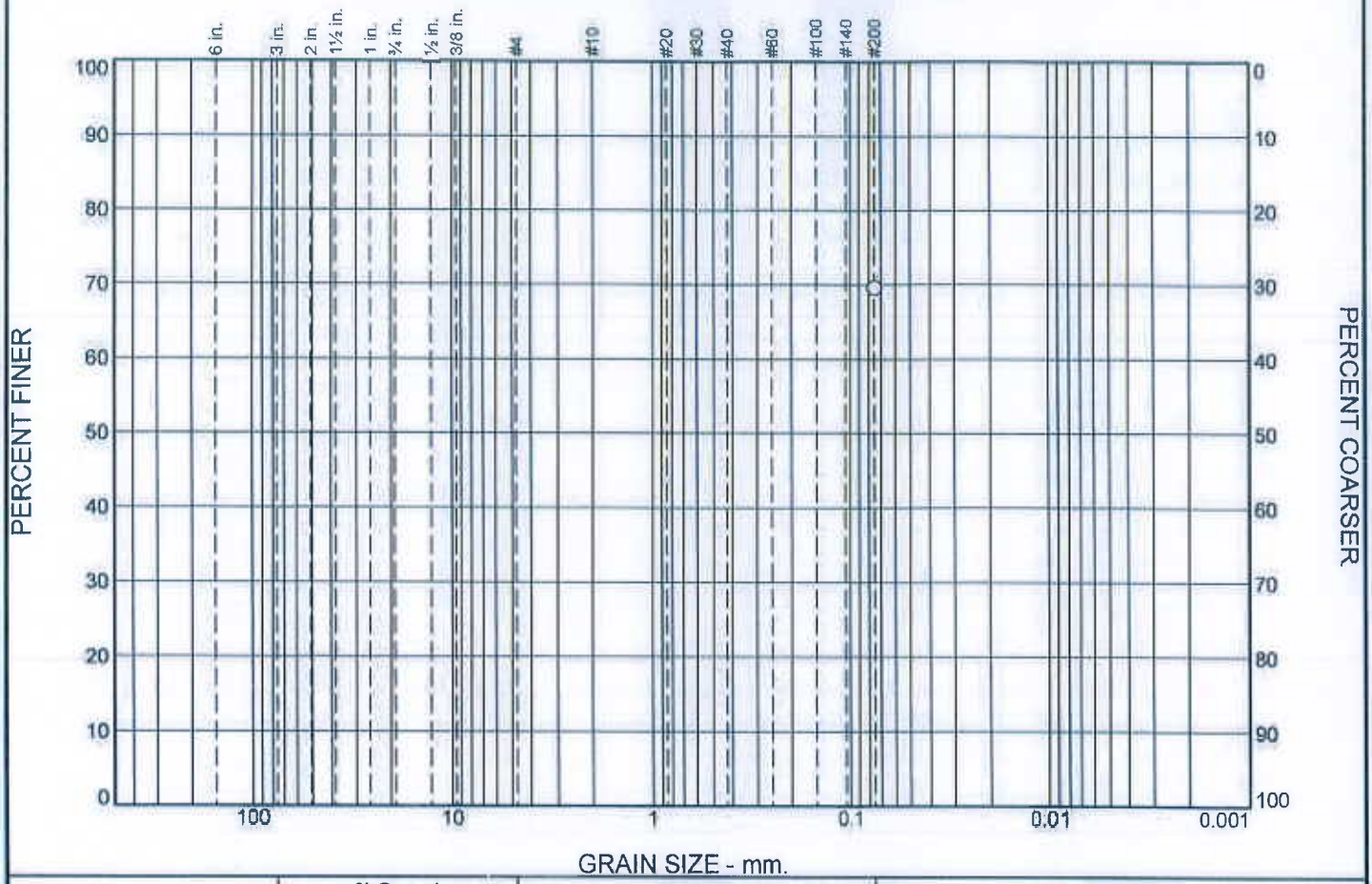
Remarks

Source of Sample: B-202 **Depth:** 1.00-2.50
Sample Number: S-1 **Date:**

ECS CAROLINAS, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

Client: Randolph Co. EDC
Project: Liberty Mega Site
Project No: 24982-B **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						69.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	69.6		

* (no specification provided)

Soil Description

(CH) FAT CLAY WITH SAND, Dark Yellowish Brown and Tan, Moist, Medium Stiff

Atterberg Limits

PL= 31 LL= 65 PI= 34

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: B-203 **Depth:** 1.00-2.50
Sample Number: S-1 **Date:**

ECS CAROLINAS, LLP
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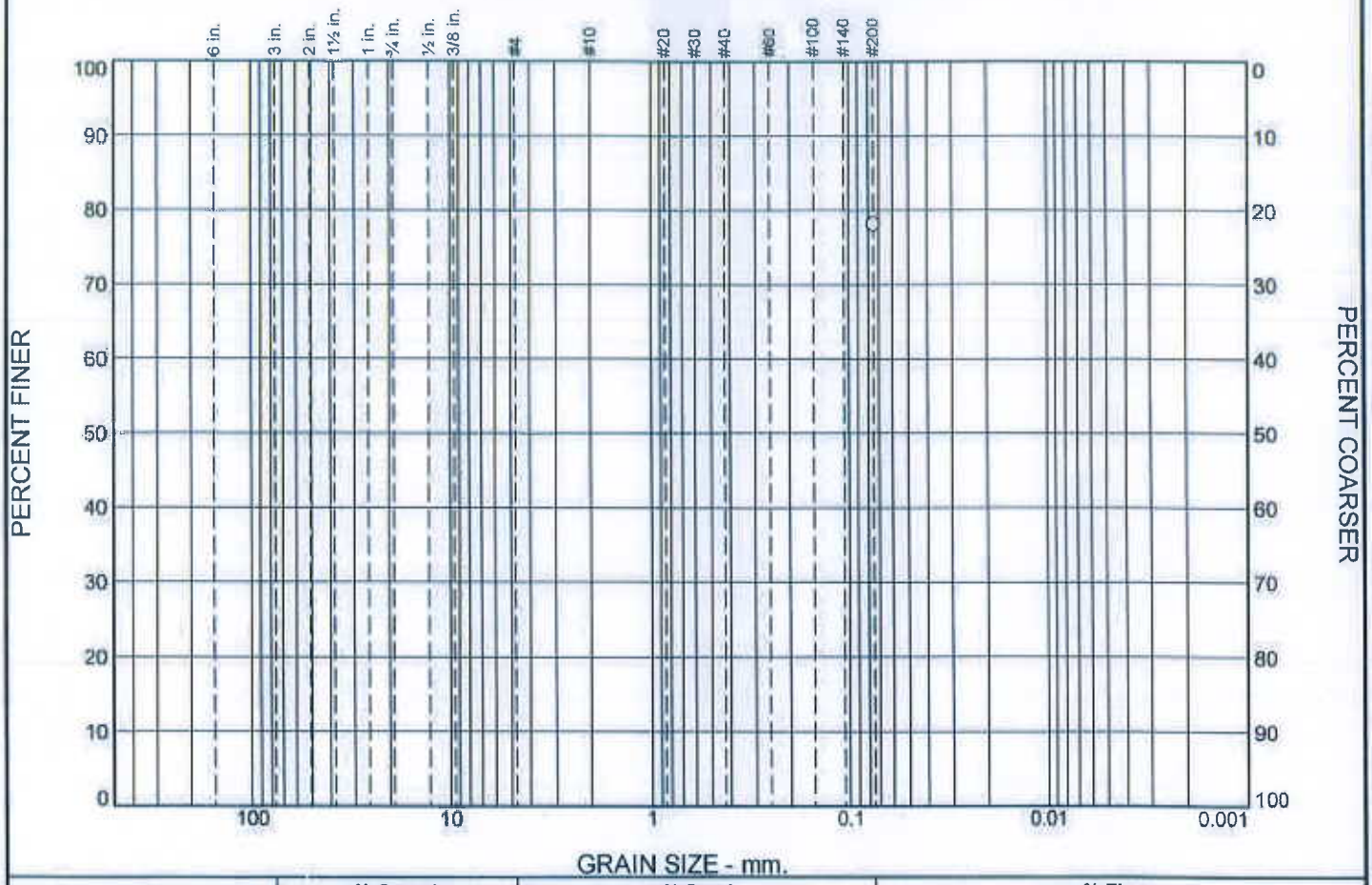
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

Client: Randolph Co. EDC
Project: Liberty Mega Site
Project No: 24982-B **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						78.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	78.2		

* (no specification provided)

Soil Description

(CH) FAT CLAY WITH SAND, Light Tannish Orange, Moist, Medium Stiff

Atterberg Limits

PL= 27 LL= 54 PI= 27

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

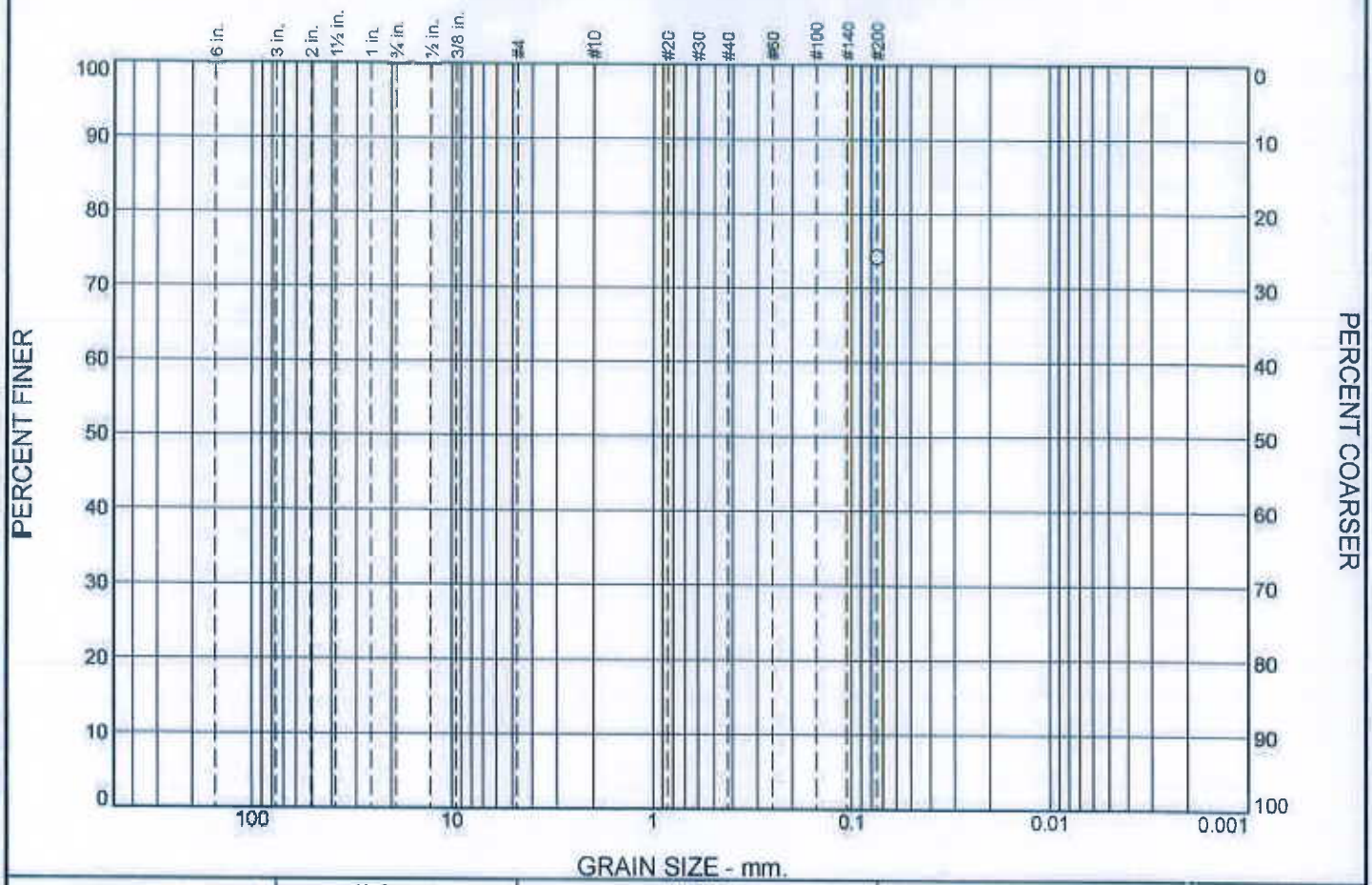
Remarks

Source of Sample: B-220 **Depth:** 1.00-2.50
Sample Number: S-1 **Date:**

ECS CAROLINAS, LLP
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

Client: Randolph Co. EDC
Project: Liberty Mega Site
Project No: 24982-B **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						74.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	74.2		

* (no specification provided)

Soil Description

(CH) FAT CLAY, Brown, Wet, Medium Stiff

Atterberg Limits

PL= 28 LL= 52 PI= 24

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO=

Remarks

Source of Sample: B-224 **Depth:** 1.00-2.50
Sample Number: S-1 **Date:**

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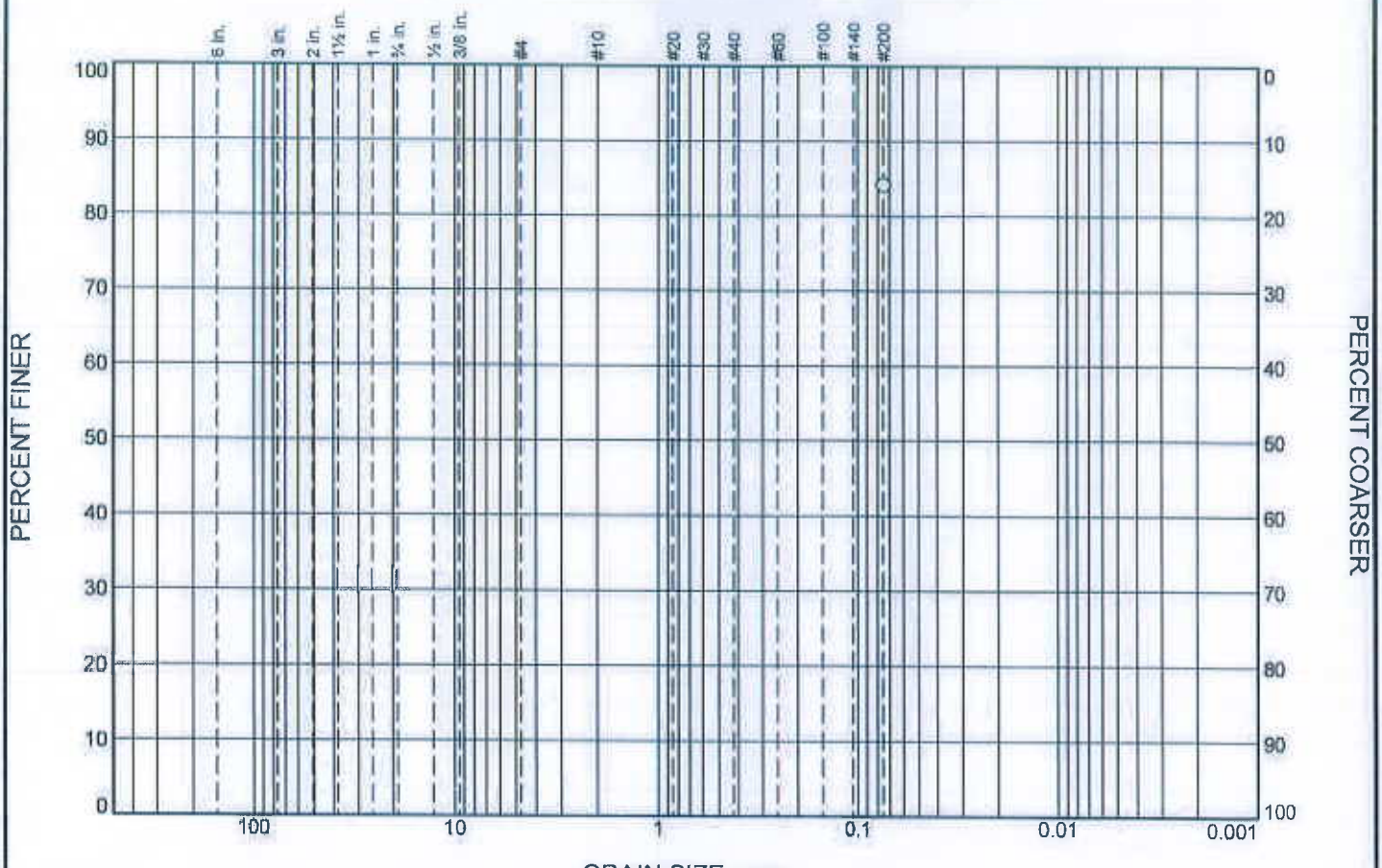
4811 Koger Boulevard
Greensboro, NC 27407
Phone: (336) 856-7150
Fax: (336) 856-7160

Client: Randolph Co. EDC
Project: Liberty Mega Site
Project No: 24982-B **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						84.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	84.2		

* (no specification provided)

Soil Description

(MH) ELASTIC SILT, Reddish Brown, Moist, Stiff

Atterberg Limits

PL= 50 LL= 66 PI= 16

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= MH AASHTO=

Remarks

Source of Sample: B-226 **Depth:** 1.00-2.50
Sample Number: S-1 **Date:**

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Client: Randolph Co. EDC
Project: Liberty Mega Site
Project No: 24982-B **Figure**