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CONTRACT: ID: U-3338B

NOTE: SEE SHEET 2A FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

CONTENTS

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

ROADWAY SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. *34932.1.1 (U-3338B)* F.A. PROJ. *STP-1175(8)*

COUNTY *NEW HANOVER*

PROJECT DESCRIPTION *WILMINGTON - SR 1175 (KERR AVE.) FROM RANDALL PARKWAY TO SR 2649 (MARTIN LUTHER KING, JR. PARKWAY)*

INVENTORY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	34932.1.1 (U-3338B)	1	37

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34932.1.1	STP-1175(8)	P.E.
		R/W & UTIL.

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING, AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES, AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 250-4088. NEITHER THE SUBSURFACE PLANS AND REPORTS, NOR THE FIELD BORING LOGS, ROCK CORES, OR SOIL TEST DATA ARE PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION, AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINON OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THIS PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

PERSONNEL

S.C. DILLARD

J.P. DELOATCH

R.E. SMITH

J.M. EDMONDSON

MIDATLANTIC PERSONNEL

CATLIN PERSONNEL

INVESTIGATED BY *J.L. STONE*

CHECKED BY *D.N. ARGENBRIGHT*

SUBMITTED BY *D.N. ARGENBRIGHT*

DATE *SEPTEMBER 2012*

NORTH CAROLINA LICENSED SEAL 2007 GEOLOGIST JOSEPH L. STONE 9-13-12

DRAWN BY: *C.R. SUMNER, C.P. TURNER, J.L. STONE*

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NOTE - BY HAVING REQUESTED THIS INFORMATION THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PROJECT REFERENCE NO.	SHEET NO.
U-3338B	2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

SOIL IS CONSIDERED TO BE THE UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER, AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO STANDARD PENETRATION TEST (AASHTO T206, ASTM D-1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY SHALL INCLUDE: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. EXAMPLE:

VERY STIFF, GRAY, SILTY CLAY, MOIST WITH VERY THIN LAYERS OF FINE SAND, HIGHLY PLASTIC, A-7-6

SOIL LEGEND AND AASHTO CLASSIFICATION

GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)							SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS		
GROUP CLASS.	A-1		A-3	A-2				A-4	A-5	A-6	A-7	A-1, A-2 A-3	A-4, A-5 A-6, A-7	
	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7				A-7-5 A-7-6			
SYMBOL														
% PASSING #10 #40 #200	50 MX 30 MX 15 MX		50 MX 25 MX	51 MN 10 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN	GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT
LIQUID LIMIT	6 MX		NP	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS
PLASTIC INDEX				10 MX	10 MX	11 MN	11 MN	10 MX	10 MX	11 MN	11 MN			
GROUP INDEX	0		0	0		4 MX		8 MX	12 MX	16 MX	No MX			
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL, AND SAND		FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND				SILTY SOILS		CLAYEY SOILS				
GEN. RATING AS A SUBGRADE	EXCELLENT TO GOOD							FAIR TO POOR				FAIR TO POOR	POOR	UNSUITABLE

PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30

CONSISTENCY OR DENSENESS

PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTENCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH ($TONS/FT^2$)
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE	<4	N/A
	LOOSE	4 TO 10	
	MEDIUM DENSE	10 TO 30	
	DENSE	30 TO 50	
	VERY DENSE	>50	
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT	<2	<0.25
	SOFT	2 TO 4	0.25 TO 0.50
	MEDIUM STIFF	4 TO 8	0.5 TO 1.0
	STIFF	8 TO 15	1 TO 2
	VERY STIFF	15 TO 30	2 TO 4
	HARD	>30	>4

TEXTURE OR GRAIN SIZE

U.S. STD. SIEVE SIZE	4	10	40	60	200	270
OPENING (MM)	4.76	2.00	0.42	0.25	0.075	0.053

BOULDER (BLDR.)	COBBLE (COB.)	GRAVEL (GR.)	COARSE SAND (CSE. SD.)	FINE SAND (F SD.)	SILT (SL.)	CLAY (CL.)

GRAIN SIZE	MM	305	75	2.0	0.25	0.05	0.005
	IN.	12	3				

SOIL MOISTURE - CORRELATION OF TERMS

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
LL — LIQUID LIMIT		
PLASTIC RANGE (PI)	- WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
PL — PLASTIC LIMIT		
OM — OPTIMUM MOISTURE	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
SL — SHRINKAGE LIMIT		
	- DRY - (D)	REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE

PLASTICITY

	PLASTICITY INDEX (PI)	DRY STRENGTH
NONPLASTIC	0-5	VERY LOW
LOW PLASTICITY	6-15	SLIGHT
MED. PLASTICITY	16-25	MEDIUM
HIGH PLASTICITY	26 OR MORE	HIGH

COLOR

DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY), MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.

GRADATION

WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE.
UNIFORM - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. (ALSO POORLY GRADED)
GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLES OF TWO OR MORE SIZES.

ANGULARITY OF GRAINS

THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.

MINERALOGICAL COMPOSITION

MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE.

COMPRESSIBILITY

SLIGHTLY COMPRESSIBLE	LIQUID LIMIT LESS THAN 31
MODERATELY COMPRESSIBLE	LIQUID LIMIT EQUAL TO 31-50
HIGHLY COMPRESSIBLE	LIQUID LIMIT GREATER THAN 50

PERCENTAGE OF MATERIAL

ORGANIC MATERIAL	GRANULAR SOILS	SILT - CLAY SOILS	OTHER MATERIAL	
TRACE OF ORGANIC MATTER	2 - 3%	3 - 5%	TRACE	1 - 10%
LITTLE ORGANIC MATTER	3 - 5%	5 - 12%	LITTLE	10 - 20%
MODERATELY ORGANIC	5 - 10%	12 - 20%	SOME	20 - 35%
HIGHLY ORGANIC	>10%	>20%	HIGHLY	35% AND ABOVE

GROUND WATER

- WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING
- STATIC WATER LEVEL AFTER 24 HOURS
- PW — PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA
- SPRING OR SEEP

MISCELLANEOUS SYMBOLS

- ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION
- SOIL SYMBOL
- ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT
- INFERRED SOIL BOUNDARY
- INFERRED ROCK LINE
- ALLUVIAL SOIL BOUNDARY
- 25/025 — DIP & DIP DIRECTION OF ROCK STRUCTURES
- SPT / CPT / DMT / VST / PMT — TEST BORING
- AUGER BORING
- CORE BORING
- MW — MONITORING WELL
- PIEZOMETER INSTALLATION
- SLOPE INDICATOR INSTALLATION
- CONE PENETROMETER TEST
- SOUNDING ROD
- TEST BORING W/ CORE
- SPT N-VALUE
- REF — SPT REFUSAL

ABBREVIATIONS

AR - AUGER REFUSAL	MED. - MEDIUM	VST - VANE SHEAR TEST
BT - BORING TERMINATED	MICA. - MICACEOUS	WEA. - WEATHERED
CL. - CLAY	MOD. - MODERATELY	γ - UNIT WEIGHT
CPT - CONE PENETRATION TEST	NP - NON PLASTIC	γ_d - DRY UNIT WEIGHT
CSE. - COARSE	ORG. - ORGANIC	
DMT - DILATOMETER TEST	PMT - PRESSUREMETER TEST	SAMPLE ABBREVIATIONS
DPT - DYNAMIC PENETRATION TEST	SAP. - SAPROLITIC	S - BULK
e - VOID RATIO	SD. - SAND, SANDY	SS - SPLIT SPOON
F - FINE	SL. - SILT, SILTY	ST - SHELBY TUBE
FOSS. - FOSSILIFEROUS	SLI. - SLIGHTLY	RS - ROCK
FRAC. - FRACTURED, FRACTURES	TCR - TRICONE REFUSAL	RT - RECOMPACTED TRIAXIAL
FRAGS. - FRAGMENTS	w - MOISTURE CONTENT	CBR - CALIFORNIA BEARING RATIO
HI. - HIGHLY	V - VERY	

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:
- [ ] MOBILE B-___
- [ ] BK-51
- [ ] CME-45C
- [ ] CME-550
- [ ] PORTABLE HOIST
- [X] DIEDRICH D-50
- [ ] _____

ADVANCING TOOLS:
- [ ] CLAY BITS
- [ ] 6" CONTINUOUS FLIGHT AUGER
- [X] 8" HOLLOW AUGERS
- [ ] HARD FACED FINGER BITS
- [ ] TUNG.-CARBIDE INSERTS
- [X] CASING [ ] W/ ADVANCER
- [X] TRICONE 2 15/16 " STEEL TEETH
- [ ] TRICONE _____ " TUNG.-CARB.
- [ ] CORE BIT
- [ ] _____

HAMMER TYPE:
- [X] AUTOMATIC [ ] MANUAL

CORE SIZE:
- [ ] -B_____
- [ ] -N_____
- [ ] -H_____

HAND TOOLS:
- [ ] POST HOLE DIGGER
- [X] HAND AUGER
- [ ] SOUNDING ROD
- [ ] VANE SHEAR TEST
- [ ] _____

ROCK DESCRIPTION

HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT IF TESTED, WOULD YIELD SPT REFUSAL. AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. IN NON-COASTAL PLAIN MATERIAL, THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK.
ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:

WEATHERED ROCK (WR)	NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.
CRYSTALLINE ROCK (CR)	FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.
NON-CRYSTALLINE ROCK (NCR)	FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YEILD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.
COASTAL PLAIN SEDIMENTARY ROCK (CP)	COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.

WEATHERING

FRESH	ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.
VERY SLIGHT (V SLI.)	ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN, CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.
SLIGHT (SLI.)	ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.
MODERATE (MOD.)	SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED WITH FRESH ROCK.
MODERATELY SEVERE (MOD. SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES 'CLUNK' SOUND WHEN STRUCK. *IF TESTED, WOULD YIELD SPT REFUSAL*
SEVERE (SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. *IF TESTED, YIELDS SPT N VALUES > 100 BPF*
VERY SEVERE (V SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT THE MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE SUCH THAT ONLY MINOR VESTIGES OF THE ORIGINAL ROCK FABRIC REMAIN. *IF TESTED, YIELDS SPT N VALUES < 100 BPF*
COMPLETE	ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.

ROCK HARDNESS

VERY HARD	CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.
HARD	CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.
MODERATELY HARD	CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.
MEDIUM HARD	CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.
SOFT	CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.
VERY SOFT	CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL.

FRACTURE SPACING

TERM	SPACING
VERY WIDE	MORE THAN 10 FEET
WIDE	3 TO 10 FEET
MODERATELY CLOSE	1 TO 3 FEET
CLOSE	0.16 TO 1 FEET
VERY CLOSE	LESS THAN 0.16 FEET

BEDDING

TERM	THICKNESS
VERY THICKLY BEDDED	> 4 FEET
THICKLY BEDDED	1.5 - 4 FEET
THINLY BEDDED	0.16 - 1.5 FEET
VERY THINLY BEDDED	0.03 - 0.16 FEET
THICKLY LAMINATED	0.008 - 0.03 FEET
THINLY LAMINATED	< 0.008 FEET

INDURATION

FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF THE MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.

FRIABLE	RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.
MODERATELY INDURATED	GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.
INDURATED	GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.
EXTREMELY INDURATED	SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.

TERMS AND DEFINITIONS

ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.

AQUIFER - A WATER BEARING FORMATION OR STRATA.

ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.

ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, AS SHALE, SLATE, ETC.

ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.

CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.

COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.

CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.

DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.

DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.

DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.

FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.

FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.

FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL.

FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.

FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.

JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.

LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.

LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.

MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.

PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.

RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.

ROCK QUALITY DESIGNATION (RQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.

SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.

SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.

SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.

STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.

STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.

STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.

TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.

BENCH MARK:

ELEVATION: FT.

NOTES:

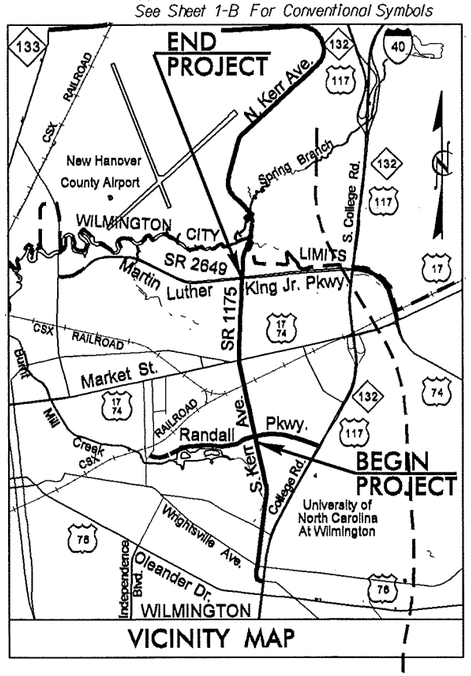
REVISED 09/23/09

09/06/99

TIP PROJECT: U-3338B

CONTRACT:

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NEW HANOVER COUNTY

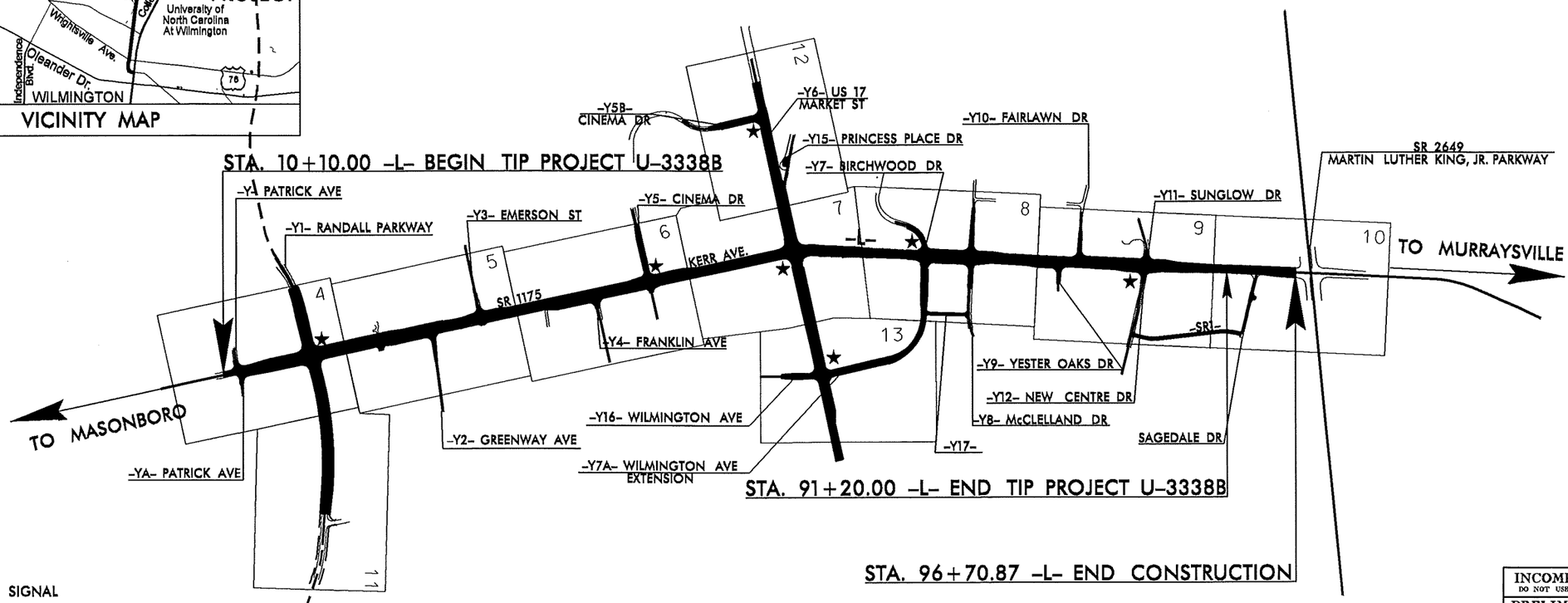
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3338B	2A	37

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34932.1.1	STP-1175(8)	P.E.

LOCATION: *WILMINGTON – SR 1175 (KERR AVE) FROM RANDALL PARKWAY TO SR 2649 (MARTIN LUTHER KING, JR. PARKWAY)*

TYPE OF WORK: *GRADING, PAVING, RESURFACING, CURB & GUTTER, DRAINAGE, AND SIGNALS*

NAD 83/95



★ TRAFFIC SIGNAL

THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF WILMINGTON.

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ??.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

PLANS 20 10 0 20 40

PROFILE (HORIZONTAL) 20 10 0 20 40

PROFILE (VERTICAL) 4 2 0 4 8

DESIGN DATA

ADT 2014 = 30,489
ADT 2034 = 30,786
DHV = 9 %
D = 55 %
T = 5 % *
V = 50 MPH
FUNC. CLASS = ARTERIAL
* (TTST 1% + DUAL 4%)
REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT U-3338B = 1.54 MI

TOTAL LENGTH OF TIP PROJECT U-3338B = 1.54 MI

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: MARCH 02, 2012

LETTING DATE: MARCH 18, 2014

BRENDA MOORE, PE
PROJECT ENGINEER

KATRINA N. WASHINGTON, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

September 13, 2012

STATE PROJECT:	34932.1.1 (U-3338B)
F.A. PROJECT:	STP-1175(8)
COUNTY:	New Hanover
DESCRIPTION:	Wilmington-SR 1175 (Kerr Ave.) from Randall Parkway To SR 2649 (MLK Parkway)
SUBJECT:	Geotechnical Inventory

Project Description

This project begins approximately 100 feet south of the intersection of Kerr Ave. and Patrick Ave. in the city of Wilmington and extends northward approximately 1.6 miles ending at the intersection of Kerr Ave. and Martin Luther King Parkway. This geotechnical investigation was confined to the areas of proposed construction.

Fieldwork was conducted in May of 2009 and July of 2011. Standard Penetration Test borings were advanced with a Diedrich D-50 drill machine with a manual hammer. Cone Penetration Test borings were completed with a 10 ton digital subtraction cone mounted on an ATV. Hand auger borings were also completed. Representative soil samples were collected for visual classification in the field and for laboratory analysis by the Materials and Tests Unit.

The following alignments were investigated. Subsurface profiles and selected cross sections of these alignments are included in this report.

Line	Station(±)
-L-	10+00 to 91+20
-SR1-	10+00 to 18+90
-Y-	11+00 to 11+92
-YA-	10+00 to 10+90
-Y1-	12+80 to 33+00
-Y2-	10+00 to 12+57
-Y3-	14+86 to 15+88

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING UNIT
1589 MAIL SERVICE CENTER
RALEIGH NC 27699-1589

TELEPHONE: 919-707-6850
FAX: 919-250-4237

WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH NC

Line	Station(±)
-Y4-	10+00 to 11+01
-Y5-	11+36 to 16+75
-Y5B-	10+00 to 14+58
-Y6-	5+90 to 34+70
-Y7-	10+11 to 14+04
-Y7A-	10+00 to 25+13
-Y8-	10+69 to 17+02
-Y9-	10+00 to 11+70
-Y10-	11+48 to 14+00
-Y11-	12+60 to 13+82
-Y12-	10+00 to 11+37
-Y15-	12+01 to 14+90
-Y16-	14+69 to 17+85
-Y17-	10+00 to 13+59

Areas of Special Geotechnical Interest

1) The following sections were found to exhibit seasonal high ground water.

Line	Station(±)
-L-	11+40 to 15+50
-L-	17+50 to 18+50
-L-	21+50 to 24+50
-L-	25+50 to 27+00
-L-	33+00 to 37+00
-L-	51+00 to 54+50
-L-	73+50 to 75+50
-L-	78+00 to 79+00
-SR1-	12+50 to 14+00
-SR1-	16+00 to 17+50
-Y2-	10+50 to 12+57
-Y6-	27+00 to 29+00
-Y7-	10+11 to 13+50
-Y8-	14+00 to 17+00

Physiography and Geology

This project corridor is located within the Coastal Plain Physiographic Province. Topography along the project is nearly flat to gently sloping. Natural ground elevations ranged from 21± to 41± feet above sea level

Surficial soils in this area are generally classified as undivided coastal plain sediments.

Ground Water

Ground water data was collected in May of 2009 and July of 2011, during a time of normal precipitation. Ground water elevations ranged from 22± to 33± feet above sea level.

Soils

Soils encountered within this project area have been divided into two categories, undivided coastal plain soils and artificial fill soils.

Soils classified as undivided coastal plain are comprised of 6± to 20± feet of very loose to dense sand (A-2-4, A-3) and 2± to 6± feet of soft to stiff sandy silt (A-4).

Soils classified as artificial fill are composed of 3± feet of dense gravel (A-1-b.)

Respectfully Submitted,

Joseph L. Stone, L.G.
Project Engineering Geologist

PROJECT REFERENCE NO.	SHEET NO.
U-3338B	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99

-L- STA. 6+00

STA. 10+10.00 -L-
BEGIN TIP PROJECT U-3338B

-Y- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-Y- POT Sta. 11+00.00

N 83° 28' 28.3" E

-Y-

KERR AVE. 42' BST

-L- N 12° 12' 28.1" W

-L- POT Sta. 11+17.64
-Y- POT Sta. 11+92.17

END CONSTRUCTION
-YA- POT Sta. 10+90.45

N 83° 04' 29.4" E

-YA-

-L- POT Sta. 11+43.54
-YA- POT Sta. 10+00.00

-YA- POT Sta. 12+00.64

BEGIN CONSTRUCTION
-Y- POT Sta. 12+80.62

-Y1- PT Sta. 14+96.61

RANDALL PKWY BST

-Y1- N 76° 38' 59.1" E

15

-Y1- PC Sta. 20+53.59

20

-L- STA. 20+00 SEE SHEET 5

-L- POT Sta. 17+23.16
-Y1- POT Sta. 18+40.99

-Y1- STA. 23+00

SEE SHEET 11

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PROJECT REFERENCE NO.	SHEET NO.
U-3338B	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99

N

-L- STA. 20+00 SEE SHEET 4

-L- STA. 34+00 SEE SHEET 6

SR 1175 S KERR AVE BST

EMERSON ST 23' BST

N 77° 43' 12.2" E

-Y3-

N 12° 12' 28.1" W

-L- POT Sta. 27+10.76
-Y2- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-Y3- POT Sta. 14+86.75

-L- POT Sta. 31+08.43
-Y3- POT Sta. 15+88.17

-Y2-

N 82° 42' 33.3" E

END CONSTRUCTION
-Y2- POT Sta. 12+57.47

15

20

25

30

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PROJECT REFERENCE NO.	SHEET NO.
U-3338B	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

-L- STA. 34+00 SEE SHEET 5

-L- STA. 48+00 SEE SHEET 7

-Y5- POT Sta. 11+36.44
BEGIN CONSTRUCTION

-Y5- N 77° 26' 56.3" E

CINEMA DR
33' BST

BEGIN CONSTRUCTION
-Y5- POT Sta. 14+92.95

35

40

45

15

-L-

N 12° 12' 28.1" W

-L- POT Sta. 40+37.98
-Y4- POT Sta. 10+00.00

END CONSTRUCTION
-Y4- POT Sta. 11+01.51

-Y4- N 77° 47' 49.1" E

FRANKLIN AVE
BST

-L- POT Sta. 44+80.04
-Y5- POT Sta. 15+94.05

-Y5- POT Sta. 16+75.82
END CONSTRUCTION

-Y5- N 77° 26' 56.3" E

-Y5- POT Sta. 18+94.05

15

-Y4- POT Sta. 15+56.28

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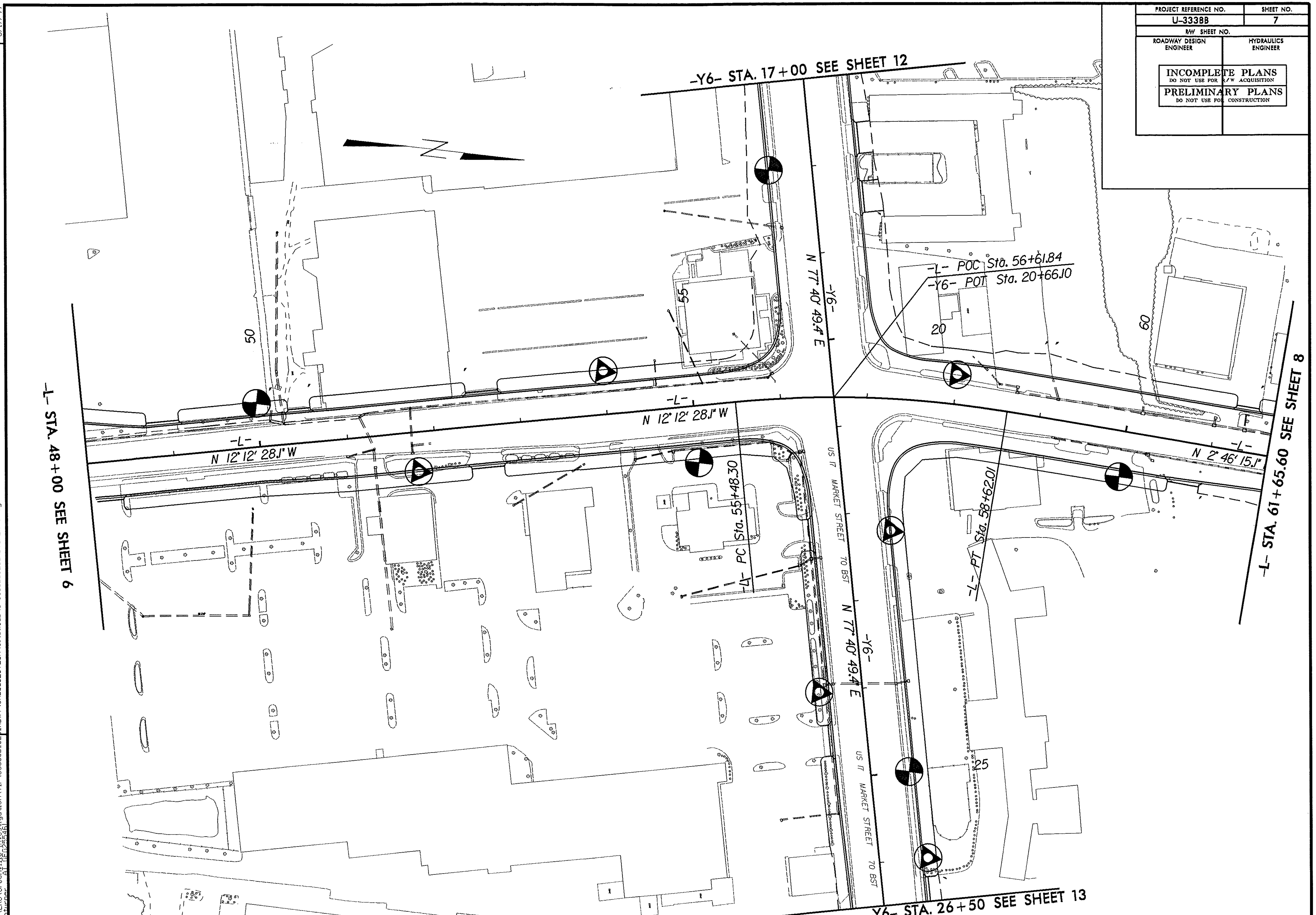
PROJECT REFERENCE NO.	SHEET NO.
U-3338B	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-3338B	8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99

-L- STA. 61+65.60 SEE SHEET 7

-L- STA. 75+50 SEE SHEET 9

BEGIN CONSTRUCTION
-Y7- POT Sta. 10+11.42

-Y7- PC Sta. 11+00.32

-Y7- PT Sta. 13+61.42
BRG AH S 88° 28' 43.3" E

-Y8- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-Y8- POT Sta. 10+69.33

-Y8- S 87° 12' 48.6" E

-L- POT Sta. 70+77.14

-Y8- POT Sta. 14+60.81

-L-
N 2° 46' 15.1" E

-L- POT Sta. 67+09.00

-Y7- POT Sta. 14+04.18

-Y7A- POT Sta. 10+00.00

-Y7A- S 88° 28' 43.3" E

-Y17- POT Sta. 10+00.00

-Y7A- POT Sta. 14+58.59

-Y7A- PC Sta. 14+81.09

-Y7A- STA. 15+50

-Y17-
N 1° 58' 18.4" E

SEE SHEET 13

END CONSTRUCTION
-Y8- POT Sta. 17+02.29

-Y8- S 87° 12' 48.6" E

-Y8- POT Sta. 18+84.21

SCRUB

-Y17- POT Sta. 13+59.13

-Y8- POT Sta. 19+14.30

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PROJECT REFERENCE NO.	SHEET NO.
U-3338B	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99

-L- STA. 75+50 SEE SHEET 8

-L- STA. 89+50 SEE SHEET 10

-SR1- STA. 16+00 SEE SHEET 10

-Y10- POT Sta. 10+00.00

S 87° 12' 41" E

BEGIN CONSTRUCTION
-Y10- POT Sta. 11+48.60

-L- POT Sta. 77+80.29
-Y9- POT Sta. 10+00.00

FAIRLAWN DR 19' BST

80

SUNGLOW DR 37' BST

TABOR LN BST

N 74° 00' 37" E

-Y11- PC Sta. 11+95.45

CHISON CT BST

BEGIN CONSTRUCTION
-Y11- POC Sta. 12+60.78

-Y11- PT Sta. 12+75.95

85

-L- POT Sta. 84+62.55
-Y11- POT Sta. 13+82.07
-Y12- POT Sta. 10+00.00

-Y11-

-L-

SR 1175 N KERR AVE 36' BST

N 2° 46' 15.1" E

-L- POT Sta. 79+37.16
-Y10- POT Sta. 14+00.12

-Y9-

END CONSTRUCTION
-Y9- POT Sta. 11+70.83

-Y9- POT Sta. 12+34.52

-Y12- PC Sta. 10+41.59

END CONSTRUCTION
-Y12- POT Sta. 11+37.42

-Y12- PT Sta. 12+16.10

-Y12-

S 7° 48' 58" E

-Y12- PC Sta. 13+50.13

NEW CENTRE DR BST

-Y12- PT Sta. 15+07.52

-SR1- PC Sta. 11+04.31

-SR1- PT Sta. 12+09.93

-SR1-

15

-Y12- POT Sta. 15+55.00
-SR1- POT Sta. 10+00.00 (obscured area)

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engineer

PROJECT REFERENCE NO.	SHEET NO.
U-3338B	10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS

N

STA. 91+20.00 -L- END TIP PROJECT U-3338B
TIE TO EXISTING CURB & GUTTER
BEGIN RESURFACING

90 95 -Y14- 30 100

-L- POT Sta. 93+64.65
-Y13- POT Sta. 10+00.00

-L-
N 2° 46' 15.1" E

-L- POT Sta. 97+92.29
-Y14- POT Sta. 30+88.36

-L- STA. 89+50 SEE SHEET 9

-L- STA. 103+50

STA. 96+70.87 -L-
END CONSTRUCTION

-SRI- STA. 16+00 SEE SHEET 9

-SRI- POT Sta. 16+84.98

-SRI- PC Sta. 16+84.98

-SRI- PT Sta. 18+60.80

SAGEDALE DR. 21' BST

-Y13- S 76° 01' 30.8" E

-Y13- POT Sta. 15+16.28
-SRI- POT Sta. 18+90.48
BRG BK N 13° 58' 29.2" E

35

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PROJECT REFERENCE NO.	SHEET NO.
U-3338B	11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99

N

-Y1- STA. 23+00 SEE SHEET 1

25

30

COLLEGIATE DRIVE

-Y1- POT Sta. 33+47.56

RANDALL PKWY BST

RANDALL PKWY BST

-Y1- S 85° 44' 13.1" E

-Y1- PT Sta. 28+98.97

END CONSTRUCTION

BEGIN RESURFACING
-Y1- POT Sta. 30+99.68

-Y1- POT Sta. 33+00.00
END RESURFACING

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PROJECT REFERENCE NO.	SHEET NO.
U-3338B	12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99

-Y6- POT Sta. 5+00.00

BEGIN CONSTRUCTION
-Y6- POT Sta. 5+90.00

-Y6- N 77° 40' 49.4" E

-Y15- S 76° 00' 44.9" E

SR 1301 PRINCESS PLACE DR BST

-Y15- POT Sta. 10+00.00
-Y15- PC Sta. 10+28.92

BEGIN CONSTRUCTION
-Y15- POC Sta. 12+01.52

-Y15- PRC Sta. 12+47.01
-Y15- PT Sta. 13+71.62

-Y6- POT Sta. 9+68.59
-Y5B- POT Sta. 10+00.00

BANCROOD DR BST

US 17 MARKET ST 60' BST

US 17 MARKET ST 70 BST

-Y6- POT Sta. 16+12.94
-Y15- POT Sta. 14+90.08

-Y6- STA. 17+00 SEE SHEET 7

-Y5B- S 12° 18' 13.9" E

CINEMA DR. 33' BST

END CONSTRUCTION
-Y5B- PT Sta. 14+58.75

15

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PROJECT REFERENCE NO.	SHEET NO.
U-3338B	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99

-Y6- STA. 26+50 SEE SHEET 7

-Y7A- STA. 15+50 SEE SHEET 8

-Y16- POT Sta. 14+69.73

BEGIN CONSTRUCTION
-Y16- POT Sta. 14+69.73

N 77° 40' 49.4" E

-Y6-

-Y6- POT Sta. 30+77.74
-Y7A- POT Sta. 25+13.45
-Y16- POT Sta. 17+85.00

-Y7A- PT Sta. 19+70.15

30

WILMINGTON AVE 31' BST

-Y16-
N 0° 09' 40.7" W

-Y7A-
S 12° 57' 04.6" E

US 17 MARKET STREET 70 BST

20

END CONSTRUCTION
-Y6- POT Sta. 34+70.00

35

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PROJECT REFERENCE NO.	SHEET NO.
U-3338B	14

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

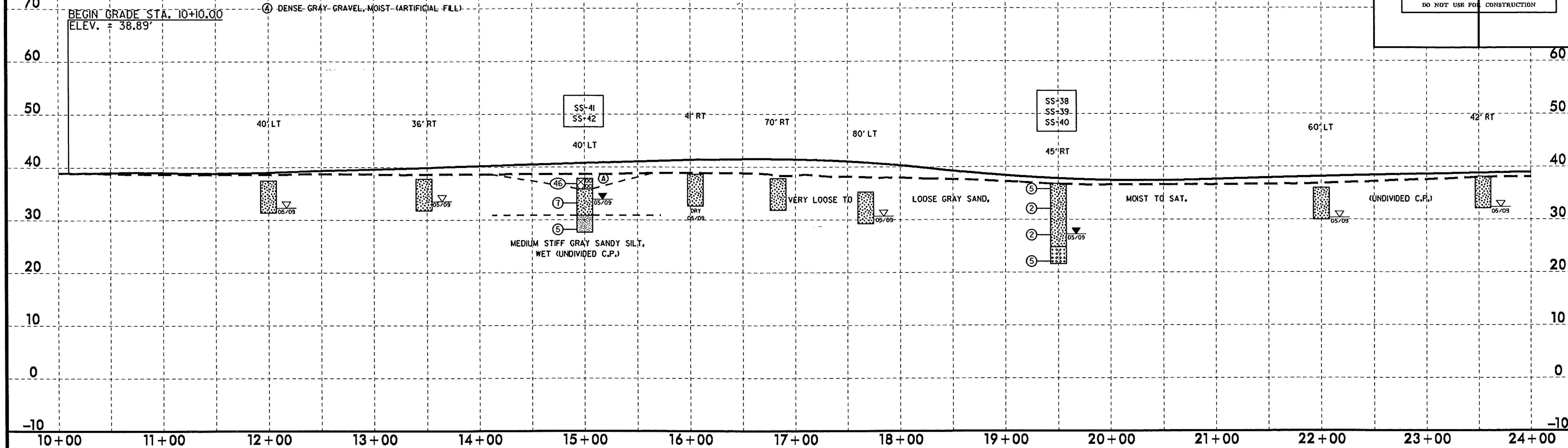
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

5/28/99

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-41	40 LT	15+00	3.7-5.2	A-2-4(0)	24	2	2.6	72.8	5.5	19.1	100	100	31	18.3	-
SS-42	40 LT	15+00	8.7-10.2	A-4(0)	27	9	4.1	61.9	4.8	29.1	100	99	37	-	-
SS-38	45 RT	19+50	1.0-1.5	A-2-4(0)	24	NP	2.5	84.1	8.3	5.0	100	99	17	-	-
SS-39	45 RT	19+50	9.2-10.2	A-2-4(0)	22	1	4.2	71.4	6.3	18.1	100	99	29	33.8	-
SS-40	45 RT	19+50	13.7-15.2	A-3(0)	23	NP	14.6	81.0	1.4	3.0	100	95	6	-	-

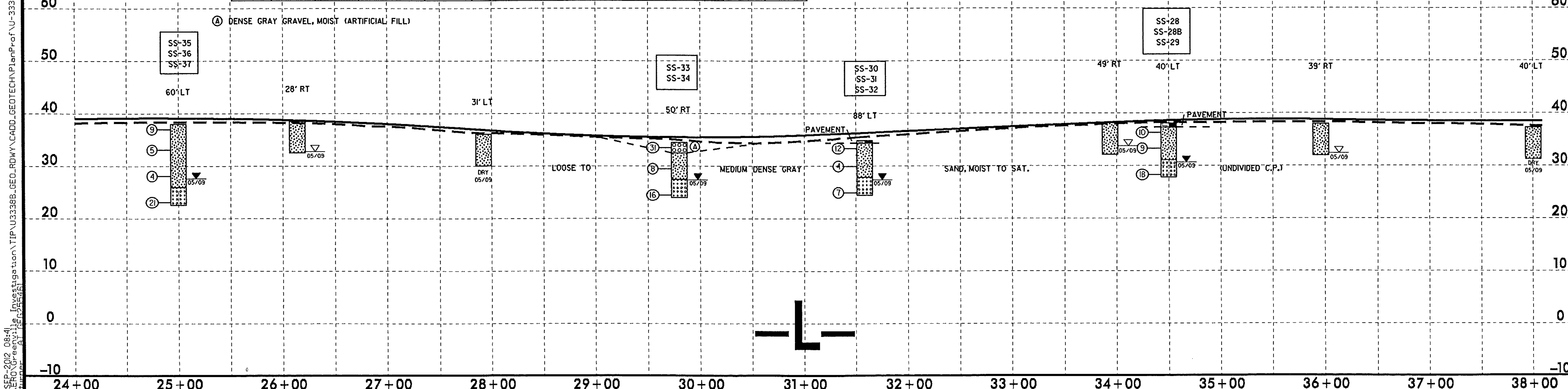
Ⓐ DENSE GRAY GRAVEL, MOIST (ARTIFICIAL FILL)



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-35	60 LT	25+00	1.0-1.5	A-2-4(0)	22	NP	4.5	82.1	8.3	5.0	100	99	17	-	-
SS-36	60 LT	25+00	8.9-10.4	A-2-4(0)	24	6	1.7	68.4	5.7	24.1	100	100	32	27.3	-
SS-37	60 LT	25+00	13.9-15.4	A-3(0)	21	NP	32.0	64.5	1.5	2.0	100	96	4	-	-
SS-33	50 RT	29+80	4.0-5.5	A-2-4(0)	20	NP	4.4	81.6	1.9	12.1	100	100	15	-	-
SS-34	50 RT	29+80	9.0-10.5	A-3(0)	22	NP	28.4	68.1	1.4	2.0	100	94	4	-	-
SS-30	88 LT	31+58	1.0-2.0	A-2-4(0)	19	NP	10.2	75.4	6.4	8.0	100	99	20	-	-
SS-31	88 LT	31+58	3.9-5.4	A-2-4(0)	17	NP	17.0	65.0	1.9	16.1	100	98	19	16.1	-
SS-32	88 LT	31+58	8.9-10.4	A-3(0)	22	NP	31.5	64.8	0.7	3.0	100	91	5	-	-
SS-28	40 LT	34+50	1.0-2.3	A-2-4(0)	21	NP	6.0	74.4	7.5	12.1	100	100	25	-	-
SS-28B	40 LT	34+50	3.8-5.3	A-2-4(0)	21	3	17.5	55.7	5.7	21.1	100	97	35	18.1	-
SS-29	40 LT	34+50	8.8-10.3	A-3(0)	21	NP	13.3	82.5	0.2	4.0	100	99	5	-	-

Ⓐ DENSE GRAY GRAVEL, MOIST (ARTIFICIAL FILL)



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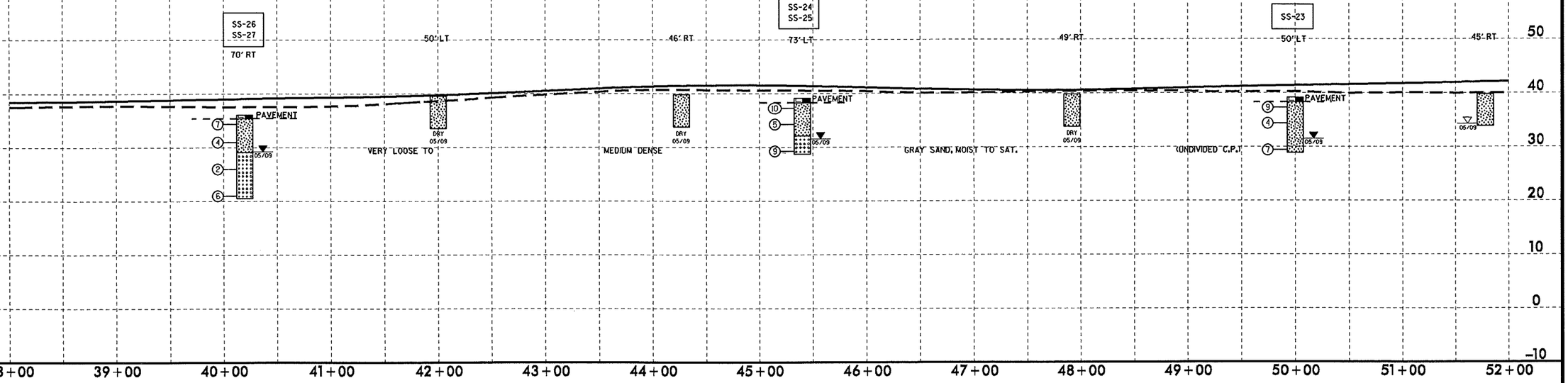
5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3338B	15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

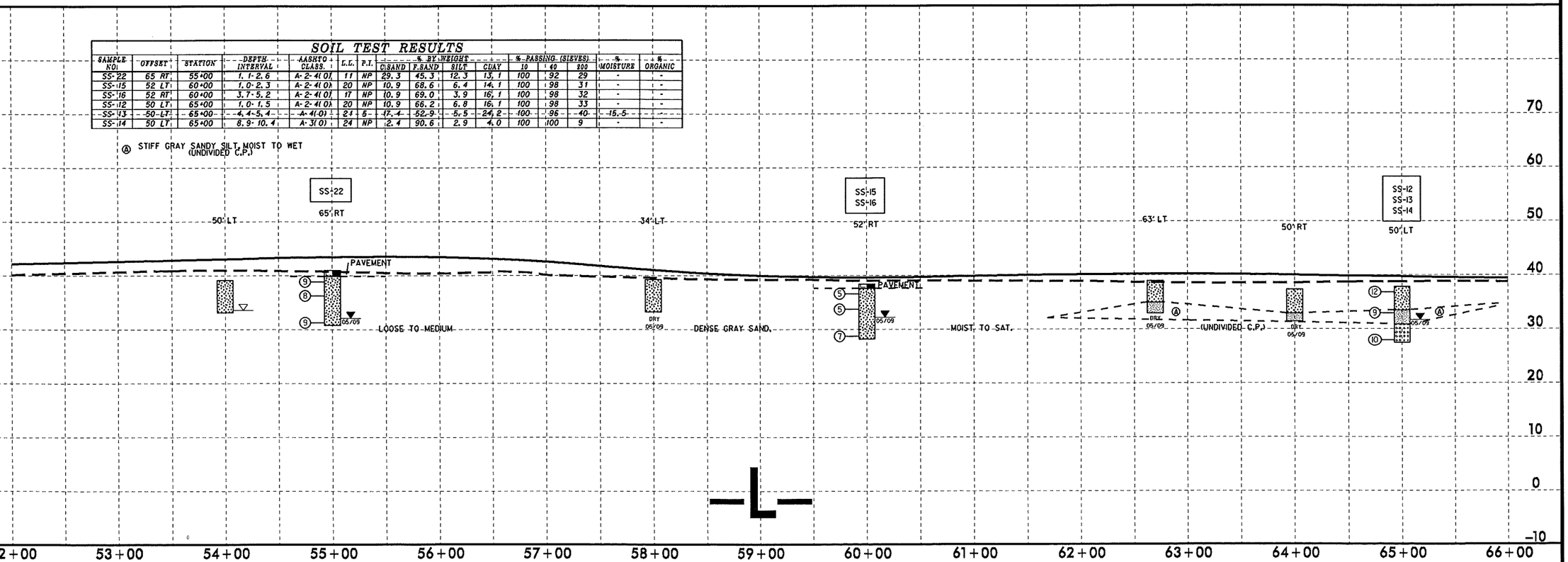
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-26	70 RT	40+20	1.0-2.2	A-2-4(0)	19	NP	9.6	73.6	8.7	8.0	100	99	22	-	-
SS-27	70 RT	40+20	14.1-15.6	A-3(0)	22	NP	16.5	80.3	1.2	2.0	100	99	4	-	-
SS-24	73 LT	45+40	1.0-2.4	A-2-4(0)	16	NP	5.6	73.5	7.8	13.1	100	99	24	-	-
SS-25	73 LT	45+40	8.9-10.4	A-3(0)	25	NP	3.1	93.2	1.7	2.0	100	100	5	-	-
SS-23	50 LT	50+00	1.0-2.4	A-2-4(0)	19	NP	11.3	66.9	12.8	9.0	100	99	26	-	-



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-22	65 RT	55+00	1.1-2.6	A-2-4(0)	11	NP	29.3	45.3	12.3	13.1	100	92	29	-	-
SS-15	52 LT	60+00	1.0-2.3	A-2-4(0)	20	NP	10.9	68.6	6.4	14.1	100	98	31	-	-
SS-16	52 RT	60+00	3.7-5.2	A-2-4(0)	17	NP	10.9	69.0	3.9	16.1	100	98	32	-	-
SS-12	50 LT	65+00	1.0-1.5	A-2-4(0)	20	NP	10.9	66.2	6.8	16.1	100	98	33	-	-
SS-13	50 LT	65+00	4.4-5.4	A-4(0)	24	5	12.4	52.9	5.5	24.2	100	96	40	15.5	-
SS-14	50 LT	65+00	8.9-10.4	A-3(0)	24	NP	2.4	90.6	2.9	4.0	100	100	9	-	-

(A) STIFF GRAY SANDY SILT, MOIST TO WET (UNDIVIDED C.P.)



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5/28/99

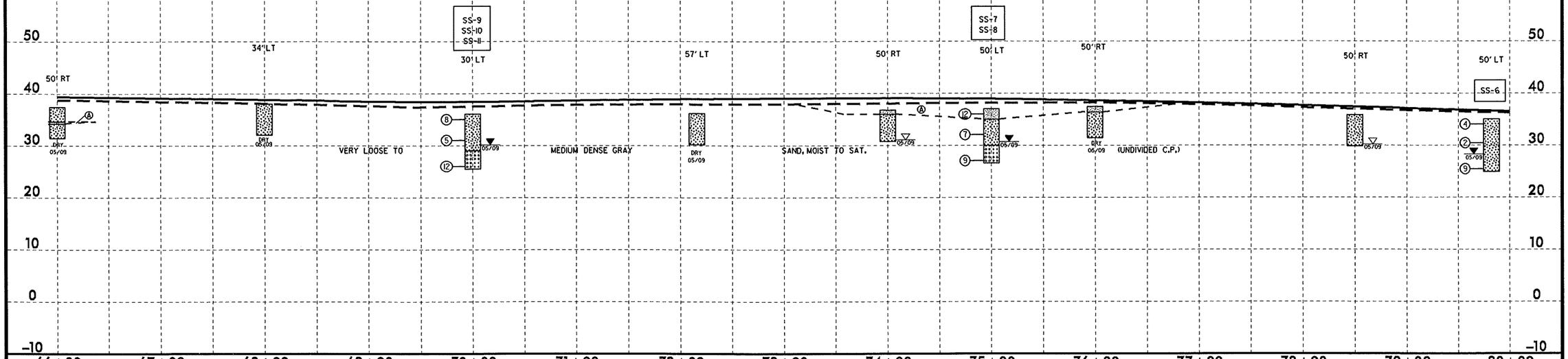
PROJECT REFERENCE NO.	SHEET NO.
U-3338B	16
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

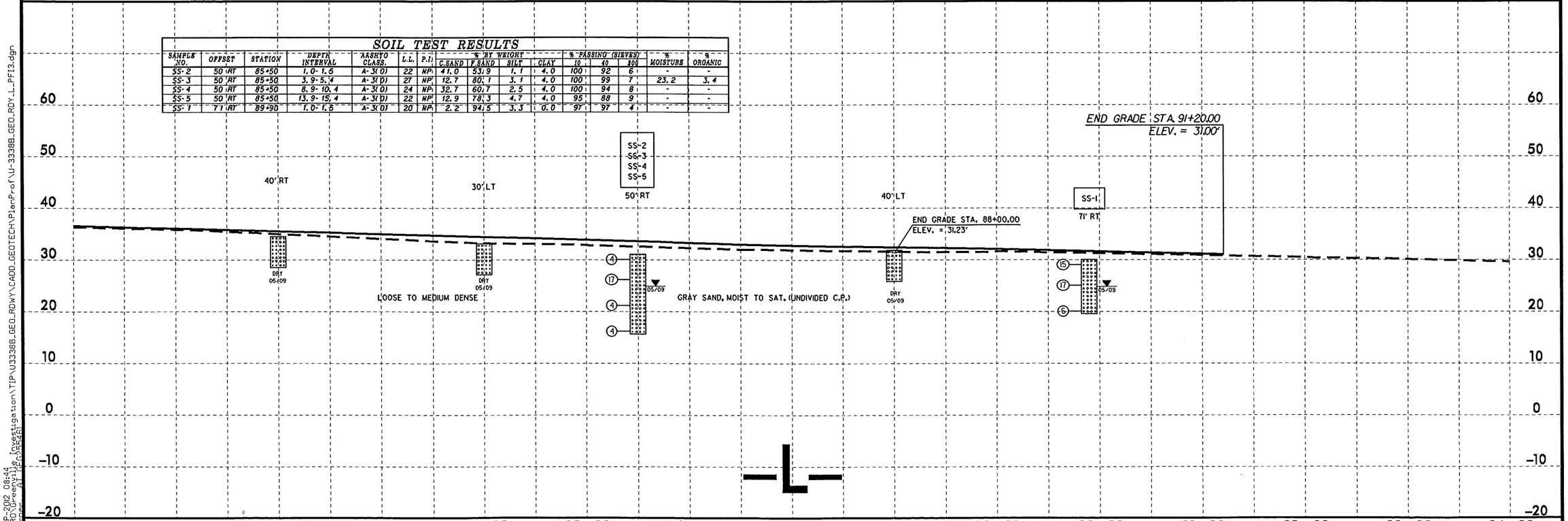
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-9	30 LT	70+00	1.0- 1.5	A-2-4(0)	18	NP	36.9	49.2	3.7	10.1	77	64	14	-	-
SS-10	30 LT	70+00	4.0- 5.5	A-2-4(0)	17	NP	16.1	60.3	5.3	18.2	100	96	33	15.6	-
SS-11	30 LT	70+00	9.0- 10.5	A-3(0)	22	NP	5.7	87.8	2.5	4.0	100	100	9	-	-
SS-7	50 LT	75+00	1.0- 1.5	A-4(0)	13	NP	17.0	55.5	11.4	16.1	100	95	37	-	-
SS-8	50 LT	75+00	8.9- 10.4	A-3(0)	24	NP	9.9	85.8	0.3	4.0	100	99	6	-	-
SS-6	50 LT	79+82	1.0- 1.5	A-2-4(0)	16	NP	22.6	50.5	10.8	16.1	100	93	34	-	-

Ⓐ STIFF GRAY SANDY SILT, MOIST TO WET (UNDIVIDED C.P.)



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-2	50 RT	85+50	1.0- 1.5	A-3(0)	22	NP	41.0	53.9	1.1	4.0	100	92	6	-	-
SS-3	50 RT	85+50	3.9- 5.4	A-3(0)	27	NP	12.7	80.1	3.1	4.0	100	99	7	23.2	3.4
SS-4	50 RT	85+50	8.9- 10.4	A-3(0)	24	NP	32.7	60.7	2.5	4.0	100	94	8	-	-
SS-5	50 RT	85+50	13.9- 15.4	A-3(0)	22	NP	12.9	78.3	4.7	4.0	95	88	9	-	-
SS-1	71 RT	89+90	1.0- 1.5	A-3(0)	20	NP	2.2	94.5	3.3	0.0	97	97	4	-	-



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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-3338B	17

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

END GRADE STA. 10+16.32
ELEV. = 29.71'

END GRADE STA. 18+79.48
ELEV. = 26.97'

LOOSE TO MEDIUM DENSE GRAY SAND, MOIST TO SAT. (UNDIVIDED C.P.)

-SR1-

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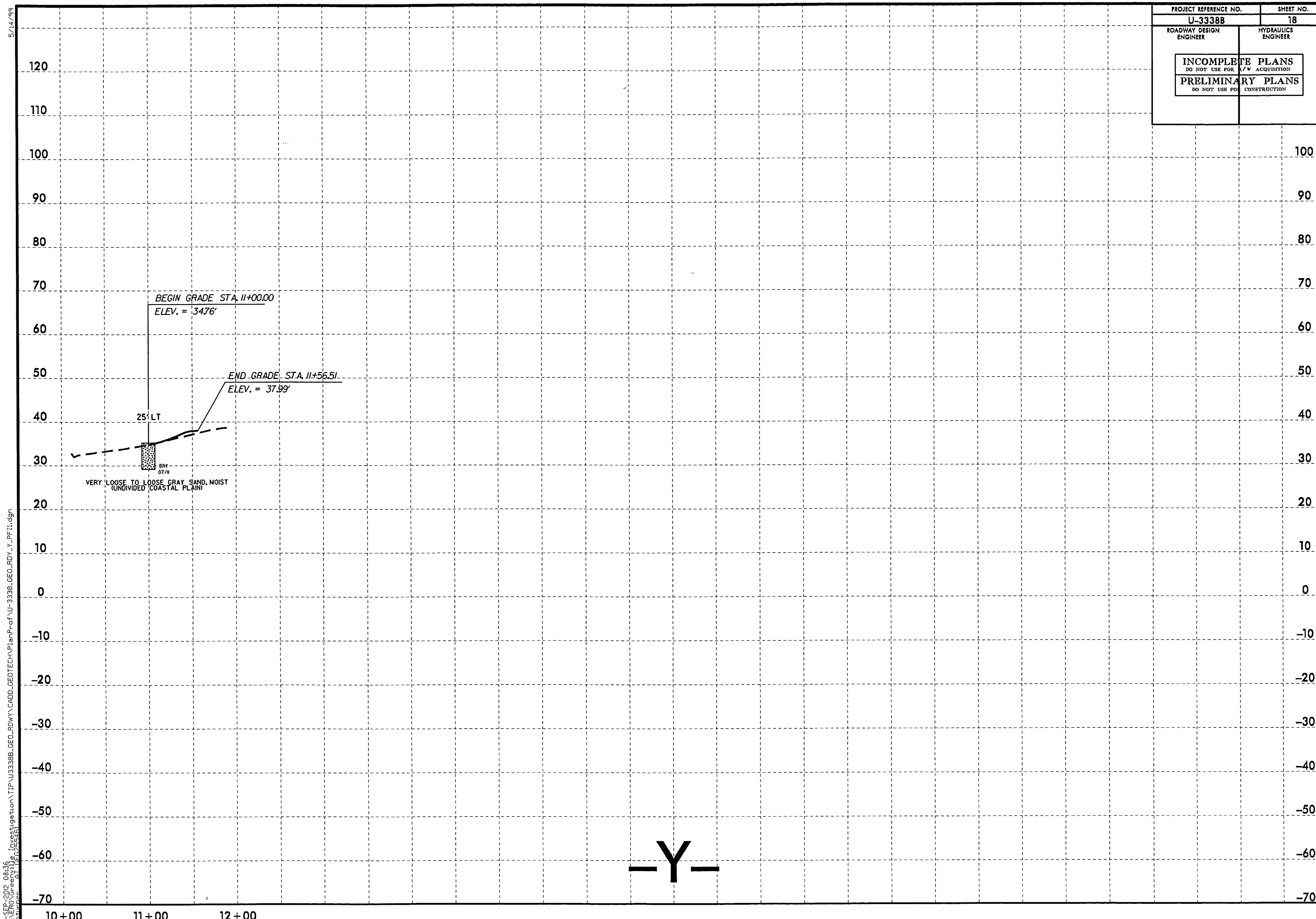
PROJECT REFERENCE NO.	SHEET NO.
U-3338B	18

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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AT GEG25546

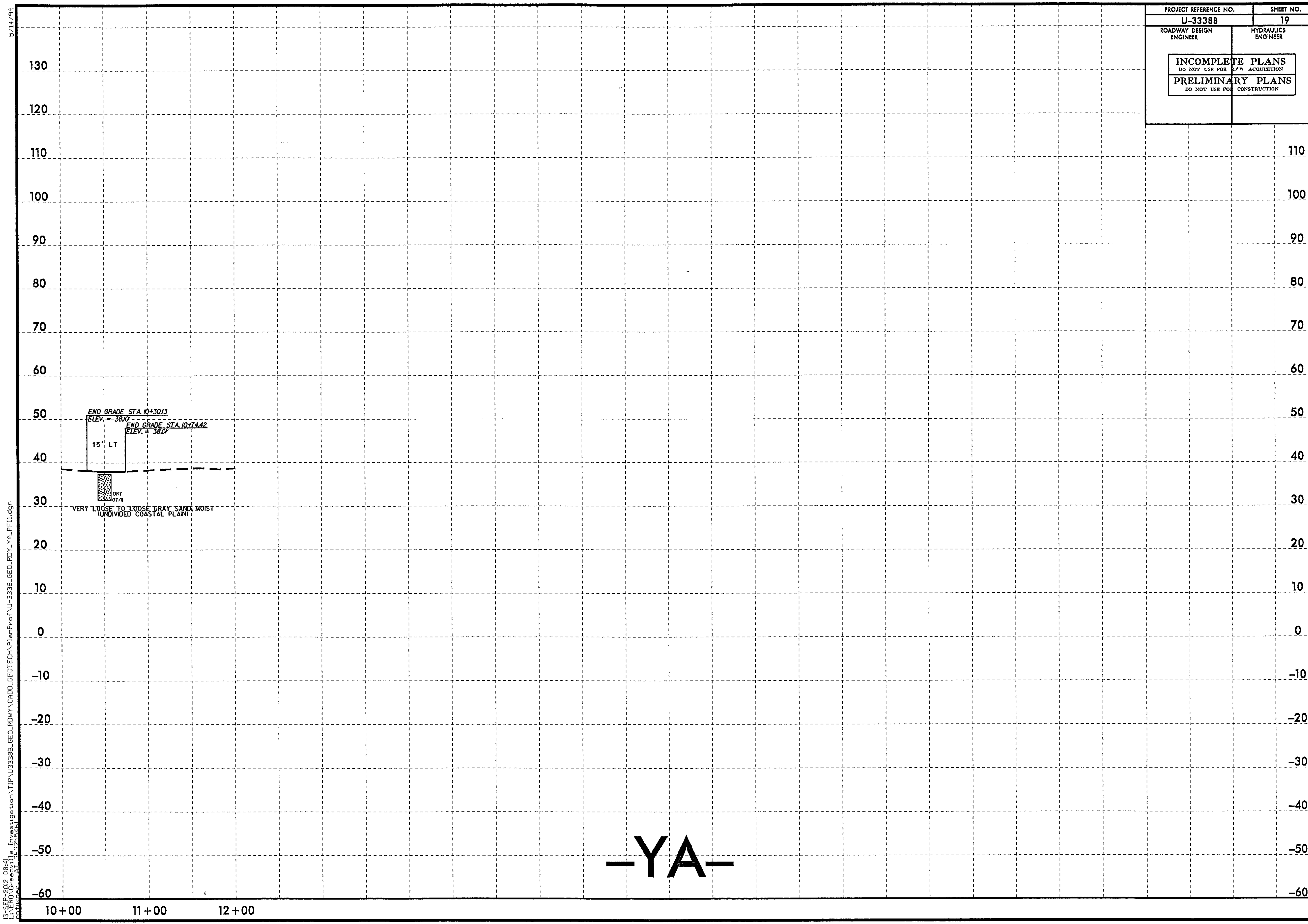
PROJECT REFERENCE NO.	SHEET NO.
U-3338B	19

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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PROJECT REFERENCE NO.	SHEET NO.
U-3338B	20
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

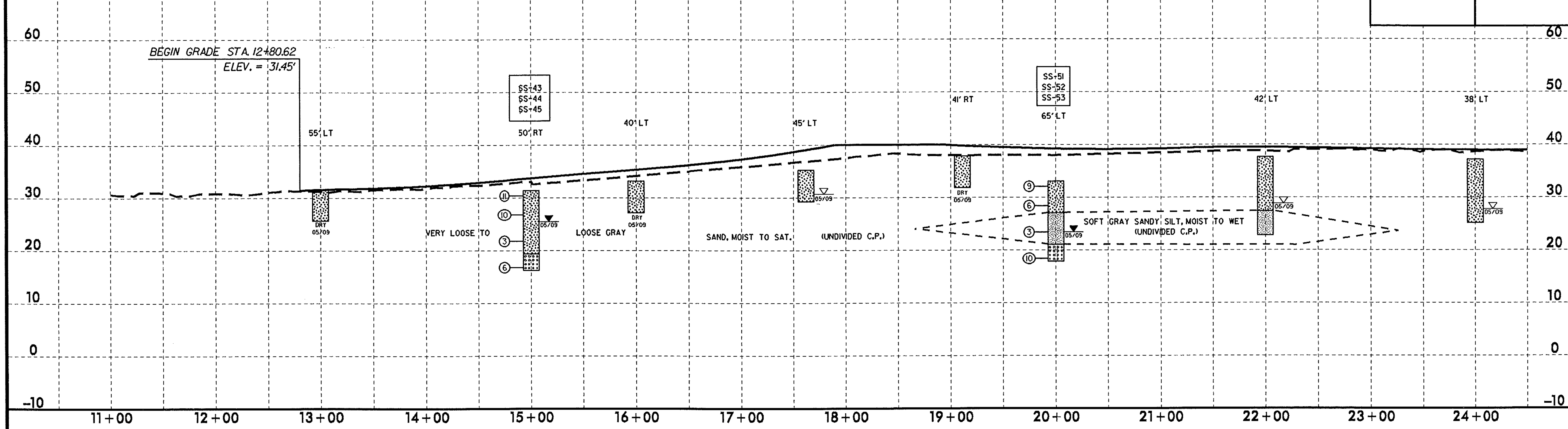
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

5/28/99

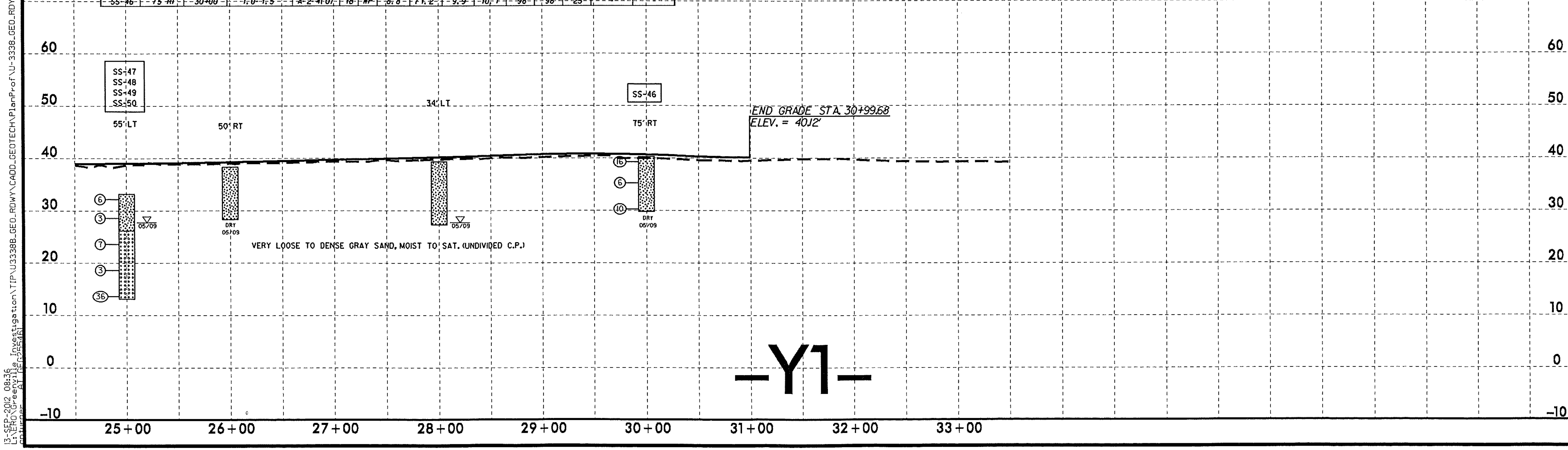
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-43	50 RT	15+00	1.0-1.5	A-2-4(0)	24	NP	28.3	58.3	7.3	6.0	100	94	16	-	-
SS-44	50 RT	15+00	8.6-10.1	A-2-4(0)	16	NP	3.2	71.8	5.9	19.1	100	99	28	27.2	-
SS-45	50 RT	15+00	13.6-15.1	A-3(0)	21	NP	30.2	67.0	0.8	2.0	100	90	3	-	-
SS-51	65 LT	20+00	1.0-1.5	A-2-4(0)	21	NP	7.5	71.1	6.3	15.1	100	98	26	13.9	-
SS-52	65 LT	20+00	8.7-10.2	A-4(0)	24	6	1.3	62.6	12.0	24.1	100	100	41	-	-
SS-53	65 LT	20+00	13.7-15.2	A-3(0)	24	NP	15.6	79.4	1.0	4.0	100	96	6	-	-



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-47	55 LT	25+00	1.0-1.5	A-2-4(0)	19	NP	2.1	75.7	10.2	12.1	98	97	26	-	-
SS-48	55 LT	25+00	3.6-5.1	A-2-4(0)	22	NP	0.2	77.2	4.5	18.1	100	100	25	-	-
SS-49	55 LT	25+00	8.6-10.1	A-3(0)	24	NP	26.2	69.9	1.8	2.0	100	91	6	-	-
SS-50	55 LT	25+00	18.6-20.1	A-3(0)	23	NP	12.4	84.2	2.4	1.0	100	97	4	-	-
SS-46	75 RT	30+00	1.0-1.5	A-2-4(0)	18	NP	8.8	71.2	9.9	10.1	98	96	25	-	-



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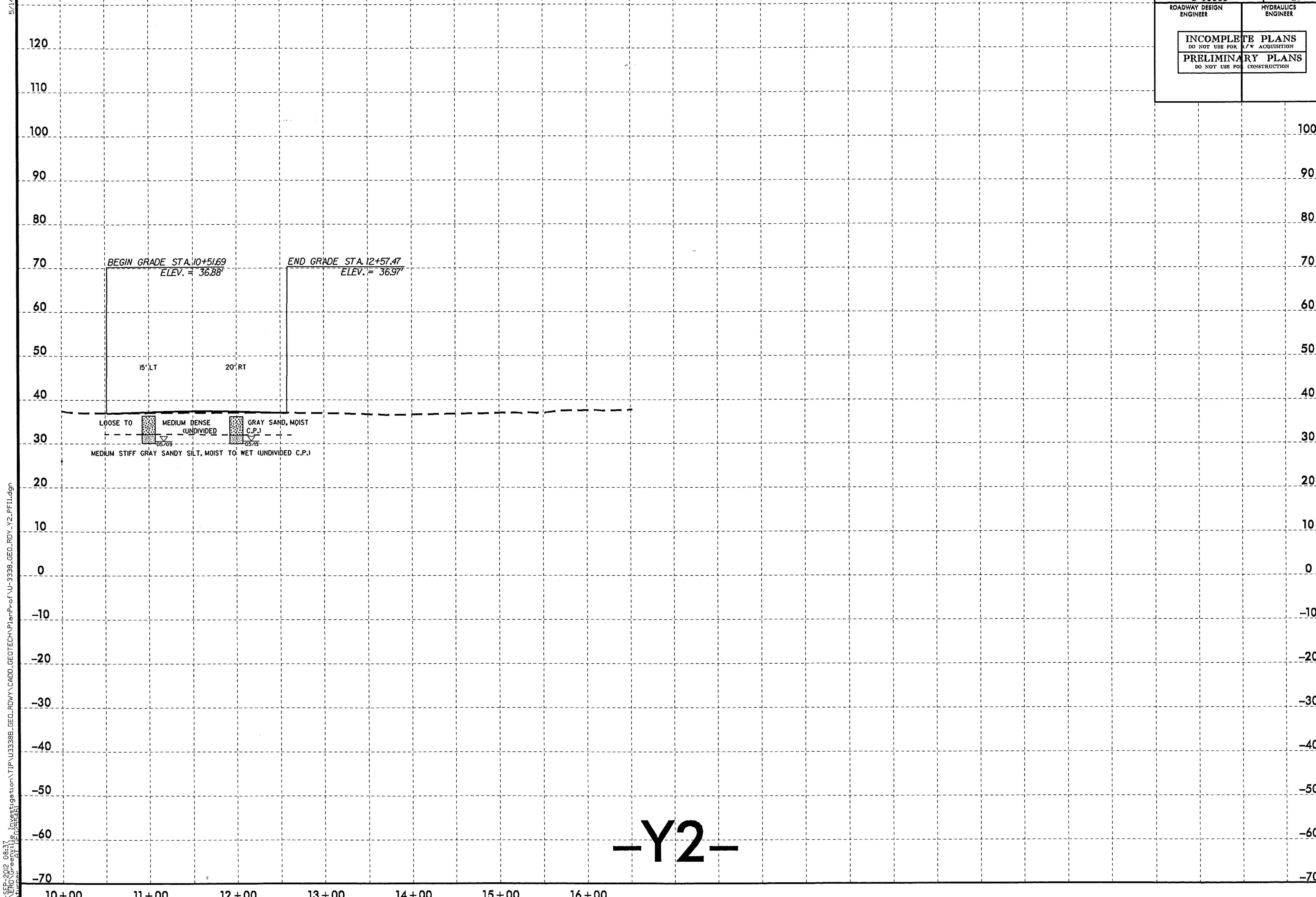
PROJECT REFERENCE NO.	SHEET NO.
U-3338B	21

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-3338B	22

ROADWAY DESIGN ENGINEER

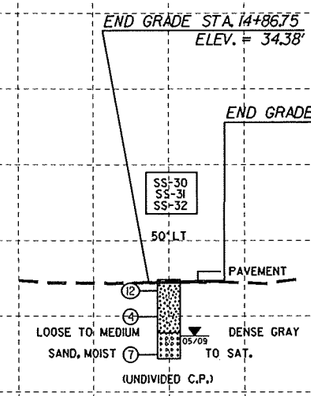
HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-30	50 LT	15+00	1.0-2.0	A-2-4(0)	19	NP	10.2	75.4	6.4	8.0	100	99	20	-	-
SS-31	50 LT	15+00	3.9-5.4	A-2-4(0)	17	NP	17.0	65.0	1.9	16.1	100	98	19	16.1	-
SS-32	50 LT	15+00	8.9-10.4	A-3(0)	22	NP	31.5	64.8	0.7	3.0	100	91	5	-	-



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14+00 15+00 16+00

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PROJECT REFERENCE NO.	SHEET NO.
U-3338B	23

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

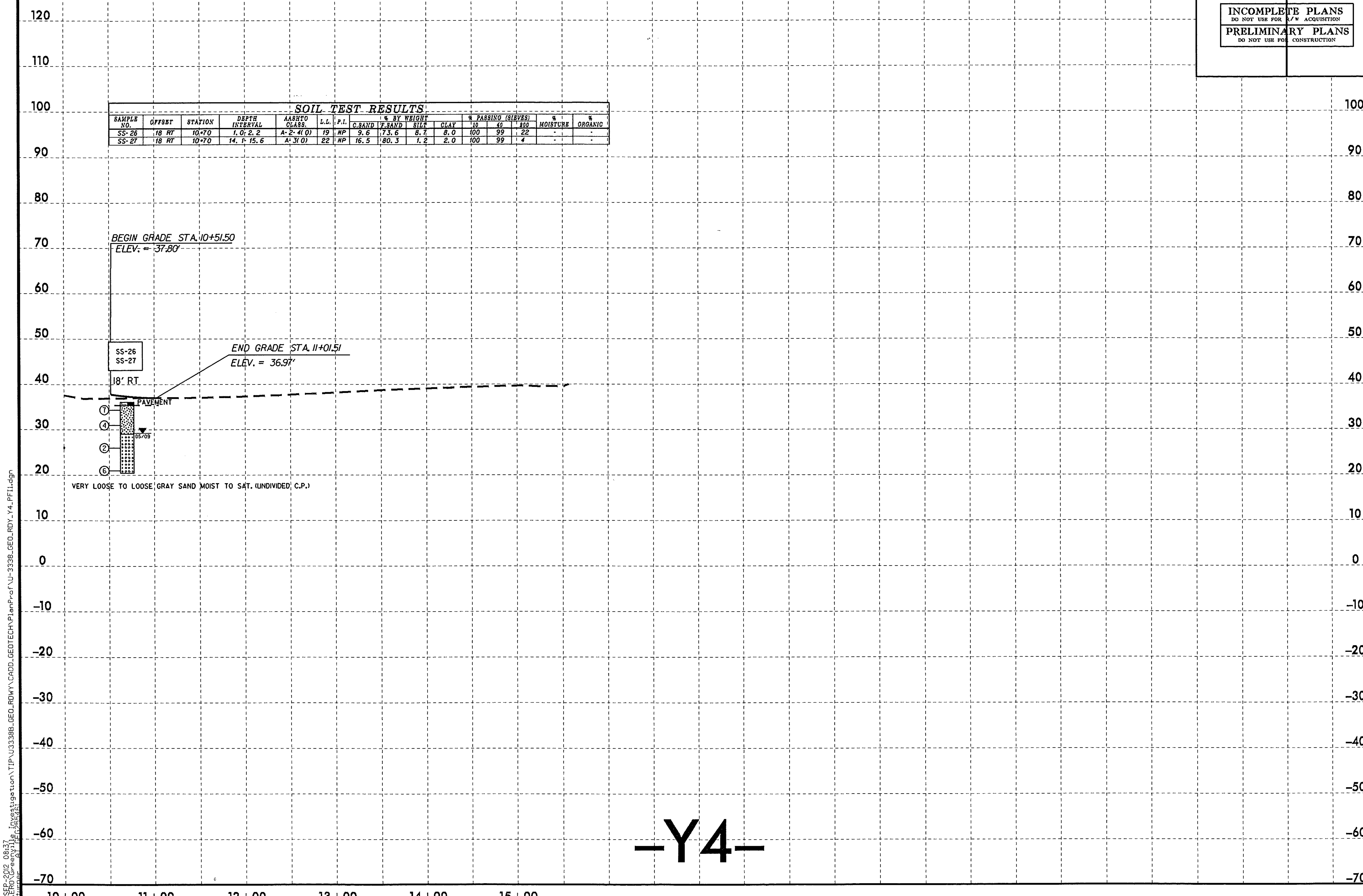
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

5/14/99

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-26	18 RT	10+70	1.0-2.2	A-2-4(0)	19	NP	9.6	73.6	8.7	8.0	100	99	22	-	-
SS-27	18 RT	10+70	14.1-15.6	A-3(0)	22	NP	16.5	80.3	1.2	2.0	100	99	4	-	-



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5/14/99

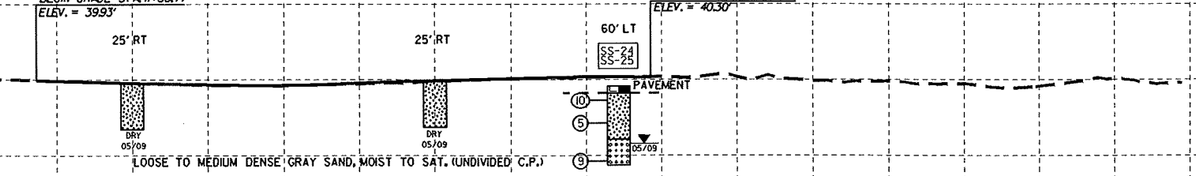
PROJECT REFERENCE NO.	SHEET NO.
U-3338B	24
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-24	60 LT	15+21	1.0-2.4	A-2-4(0)	16	NP	5.6	73.5	7.8	13.1	100	99	24	-	-
SS-25	60 LT	15+21	8.9-10.4	A-3(0)	25	NP	3.1	93.2	1.7	2.0	100	100	5	-	-



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130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10 -20 -30 -40 -50 -60

11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00

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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-3338B	25

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
-50
-60

BEGIN GRADE STA. 10+50.73
ELEV. = 40.07'

40' RT

35' RT

END GRADE STA. 14+58.76
ELEV. = 40.19'

DRY
05/09

DRY
05/09

LOOSE TO MEDIUM DENSE GRAY SAND, MOIST TO SAT. (UNDIVIDED C.P.)

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00

-Y5B-

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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3338B	26

ROADWAY DESIGN ENGINEER

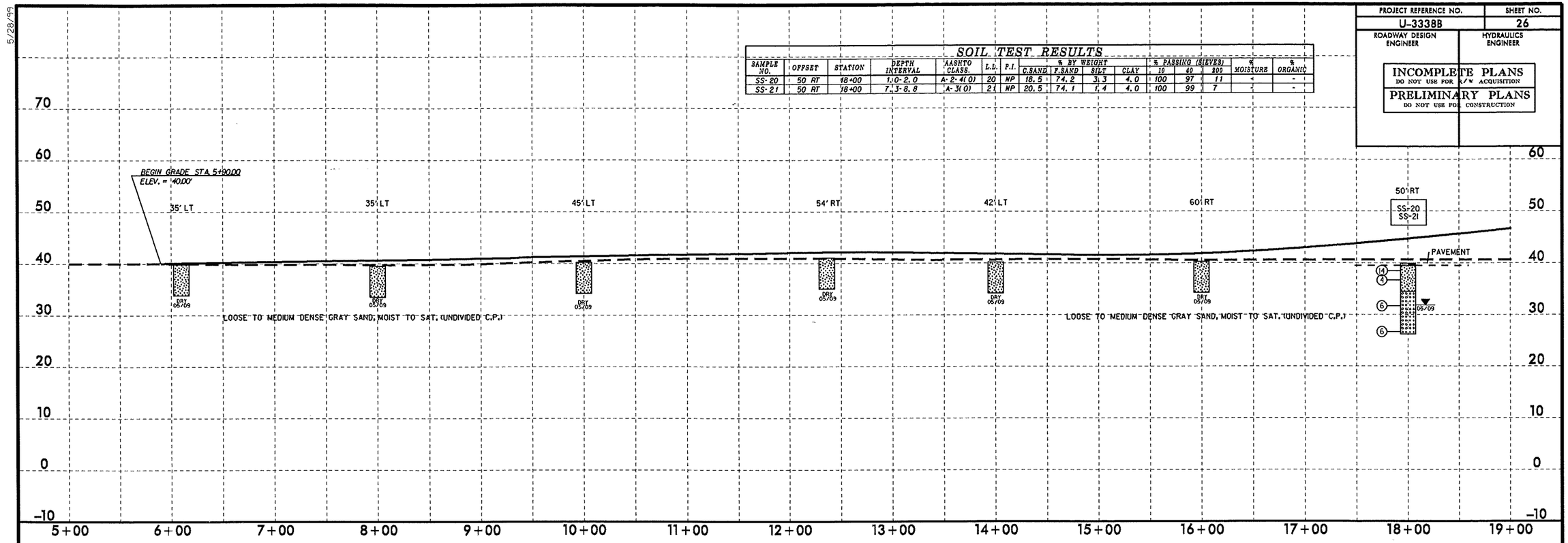
HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

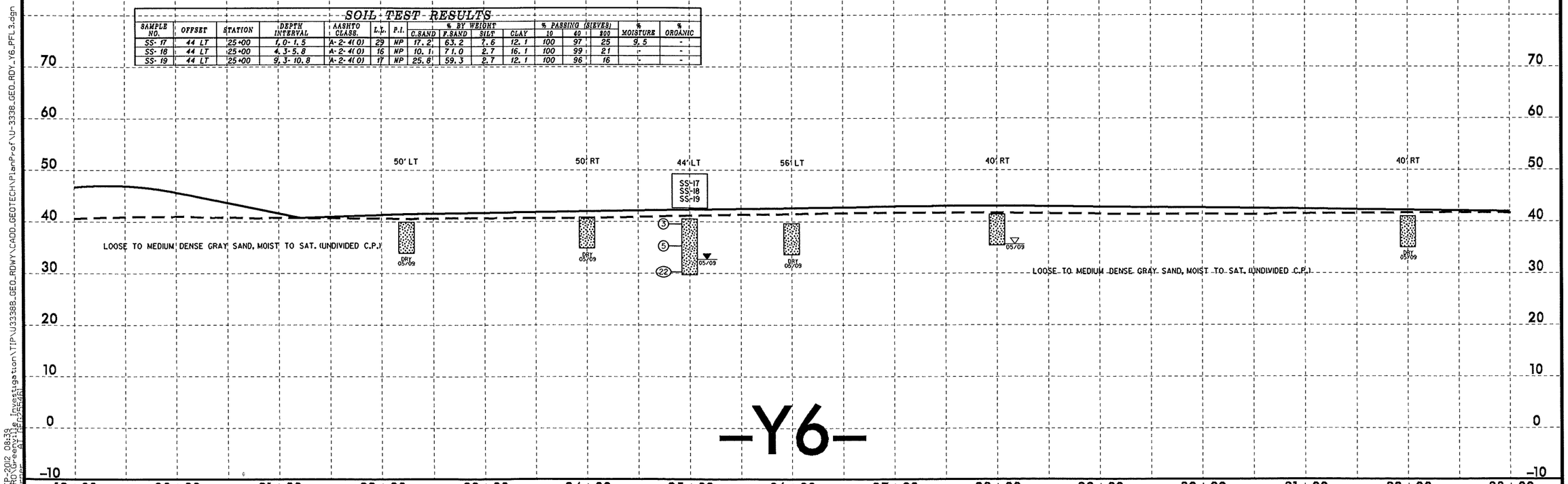
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-20	50 RT	18+00	1.0-2.0	A-2-4(0)	20	NP	18.5	74.2	3.3	4.0	100	97	11	-	-
SS-21	50 RT	18+00	7.3-8.8	A-3(0)	21	NP	20.5	74.1	1.4	4.0	100	99	7	-	-



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-17	44 LT	25+00	1.0-1.5	A-2-4(0)	29	NP	17.2	63.2	7.6	12.1	100	97	25	9.5	-
SS-18	44 LT	25+00	4.3-5.8	A-2-4(0)	16	NP	10.1	71.0	2.7	16.1	100	99	21	-	-
SS-19	44 LT	25+00	9.3-10.8	A-2-4(0)	17	NP	25.8	59.3	2.7	12.1	100	96	16	-	-



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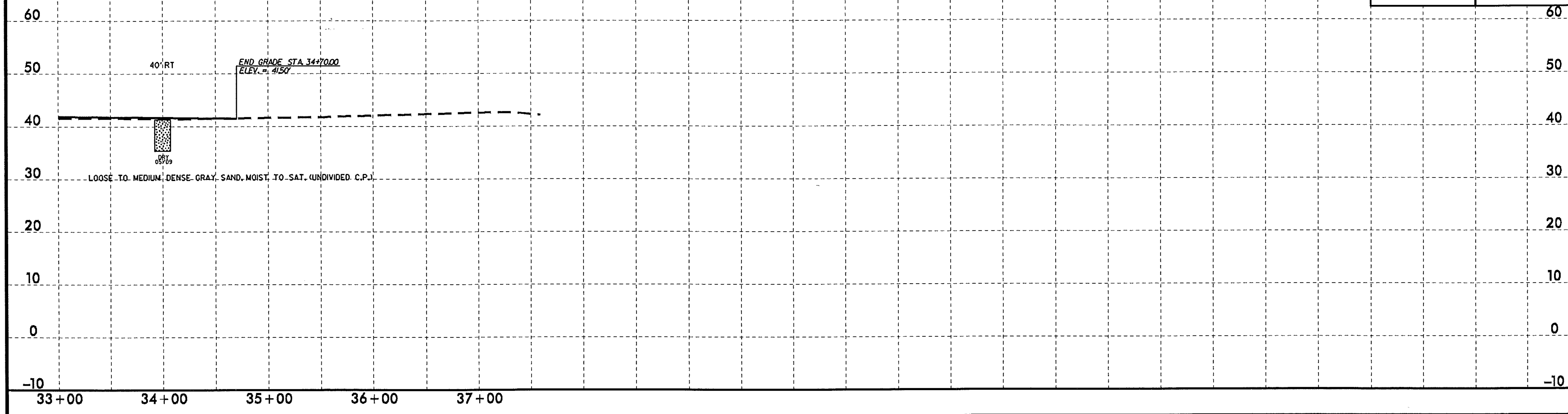
PROJECT REFERENCE NO.	SHEET NO.
U-3338B	27

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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5/28/99

13-SEP-2012 08:40
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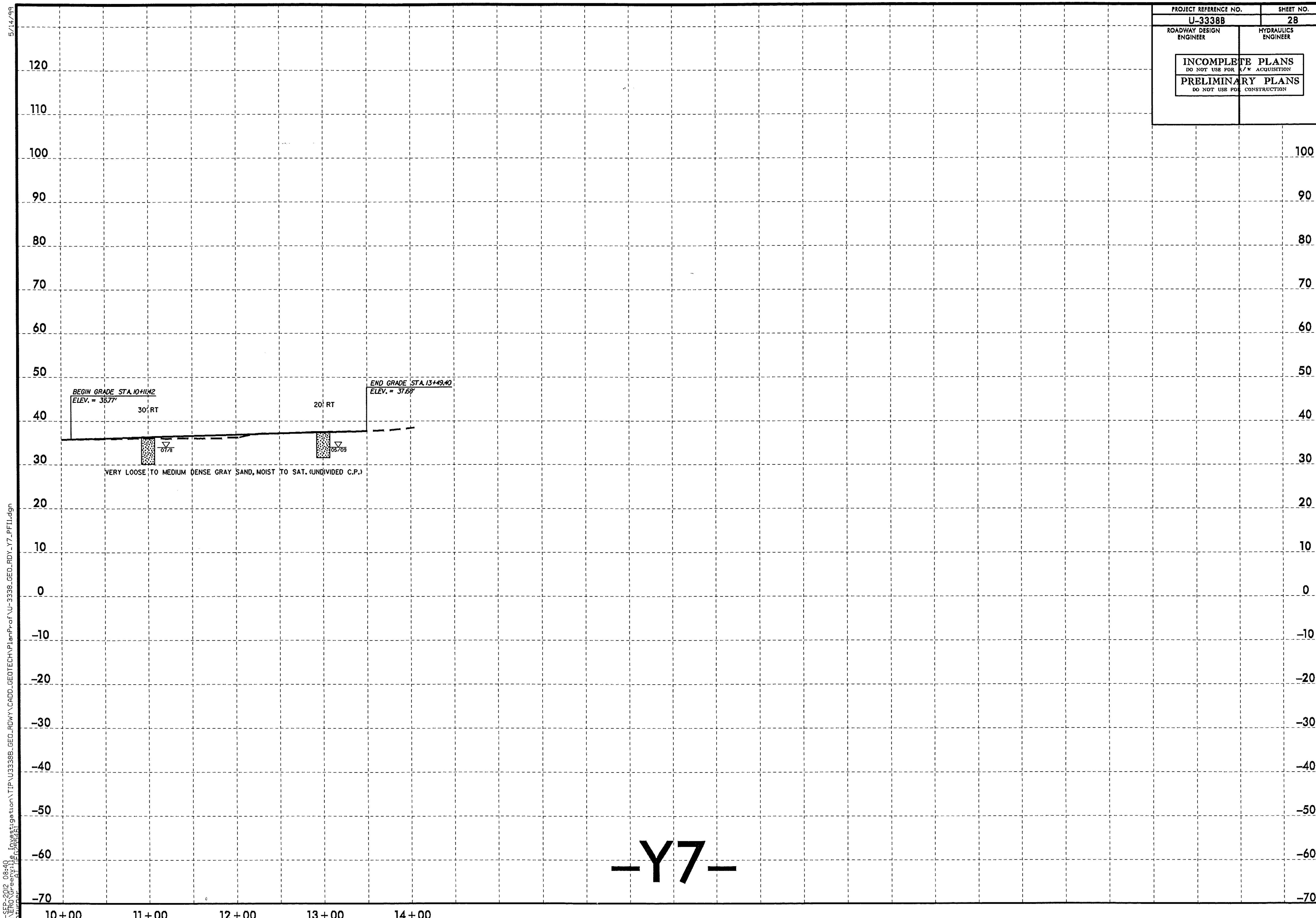
PROJECT REFERENCE NO.
U-3338B
SHEET NO.
28
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
BEGIN GRADE STA. 10+11.42
ELEV. = 35.77'
30' RT
20' RT
END GRADE STA. 13+49.40
ELEV. = 37.68'
07/11
05/09
VERY LOOSE TO MEDIUM DENSE GRAY SAND, MOIST TO SAT. (UNDIVIDED C.P.)
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
10+00
11+00
12+00
13+00
14+00
-Y7-

5/14/99

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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3338B	29
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

(A) SOFT TO MEDIUM STIFF GRAY SANDY SILT, MOIST TO WET (UNDIVIDED C.P.)

BEGIN GRADE STA. 10+57.46
ELEV. = 37.65'

VERY LOOSE TO MEDIUM DENSE GRAY SAND, MOIST TO SAT. (UNDIVIDED C.P.)

DRY 02/11 (A)

END GRADE STA. 24+63.32
ELEV. = 41.09'

LOOSE TO MEDIUM DENSE GRAY SAND
MOIST TO SAT. (UNDIVIDED C.P.)

70 60 50 40 30 20 10 0 -10

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00

-Y7A-

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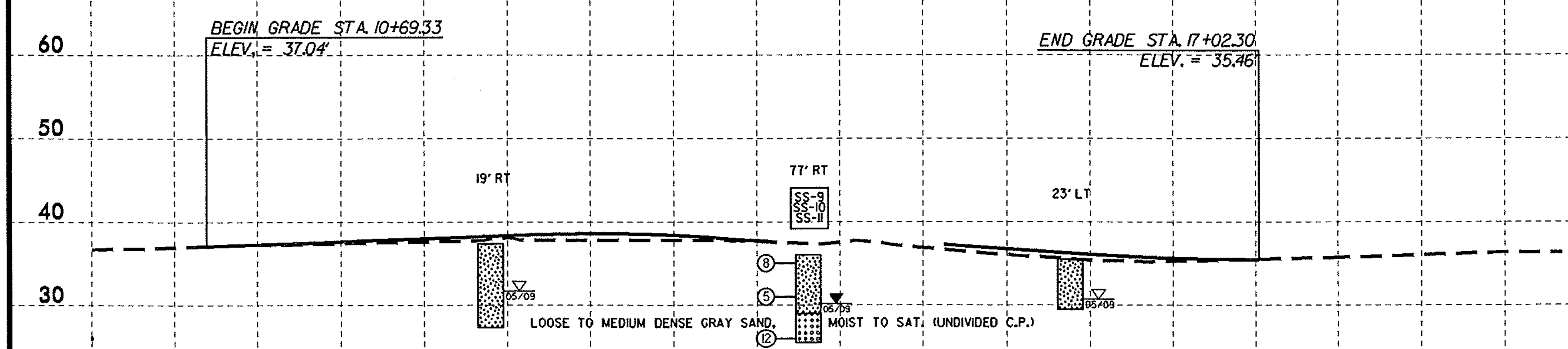
PROJECT REFERENCE NO.	SHEET NO.
U-3338B	30
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-9	77 RT	14+30	1.0-1.5	A-2-4(0)	18	NP	36.9	49.2	3.7	10.1	77	64	14	-	-
SS-10	77 RT	14+30	4.0-5.5	A-2-4(0)	17	NP	16.1	60.3	5.3	18.2	100	96	33	15.6	-
SS-11	77 RT	14+30	9.0-10.5	A-3(0)	22	NP	5.7	87.8	2.5	4.0	100	100	9	-	-



-Y8-

5/14/99

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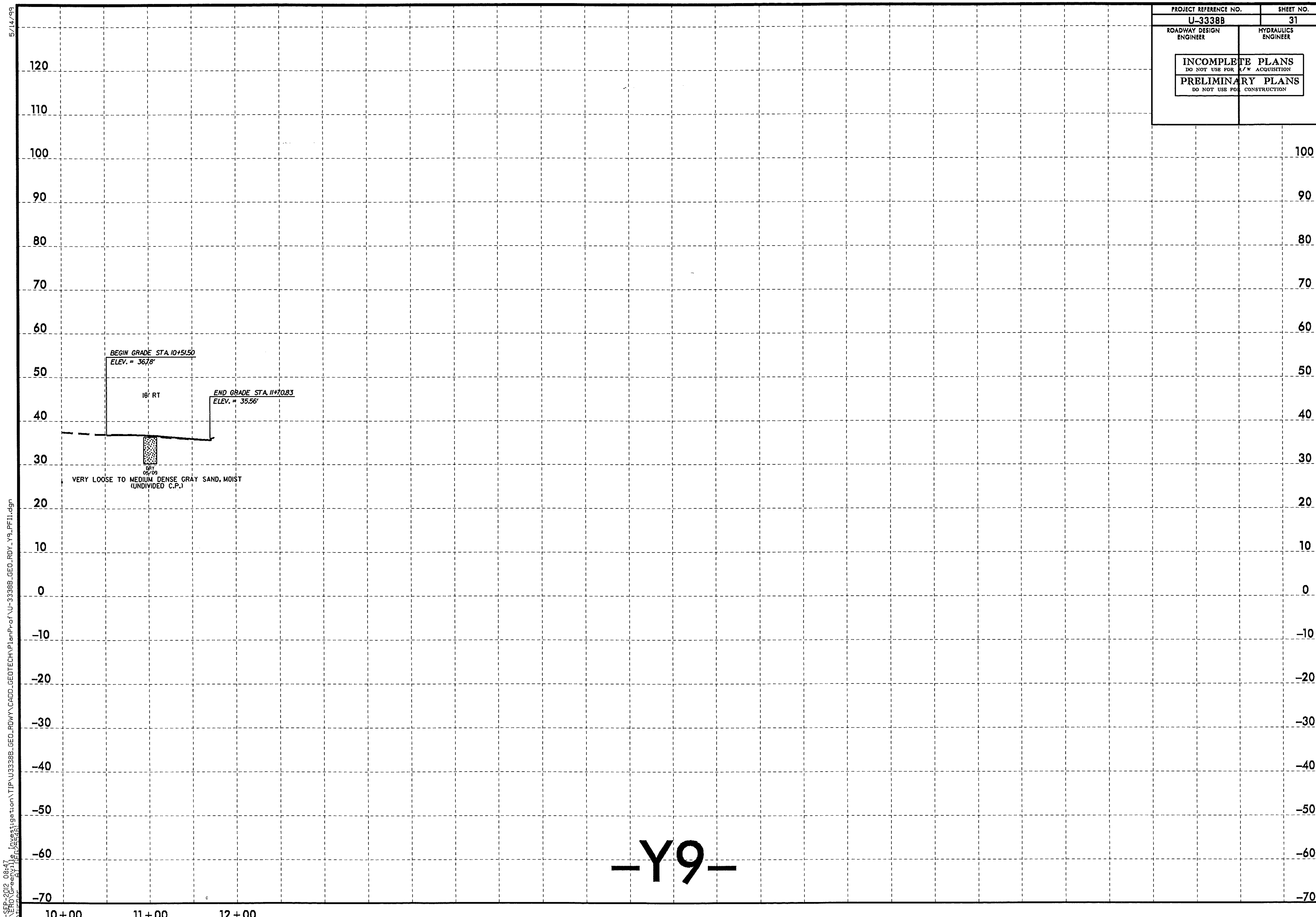
PROJECT REFERENCE NO.	SHEET NO.
U-3338B	31

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



PROJECT REFERENCE NO.	SHEET NO.
U-3338B	32

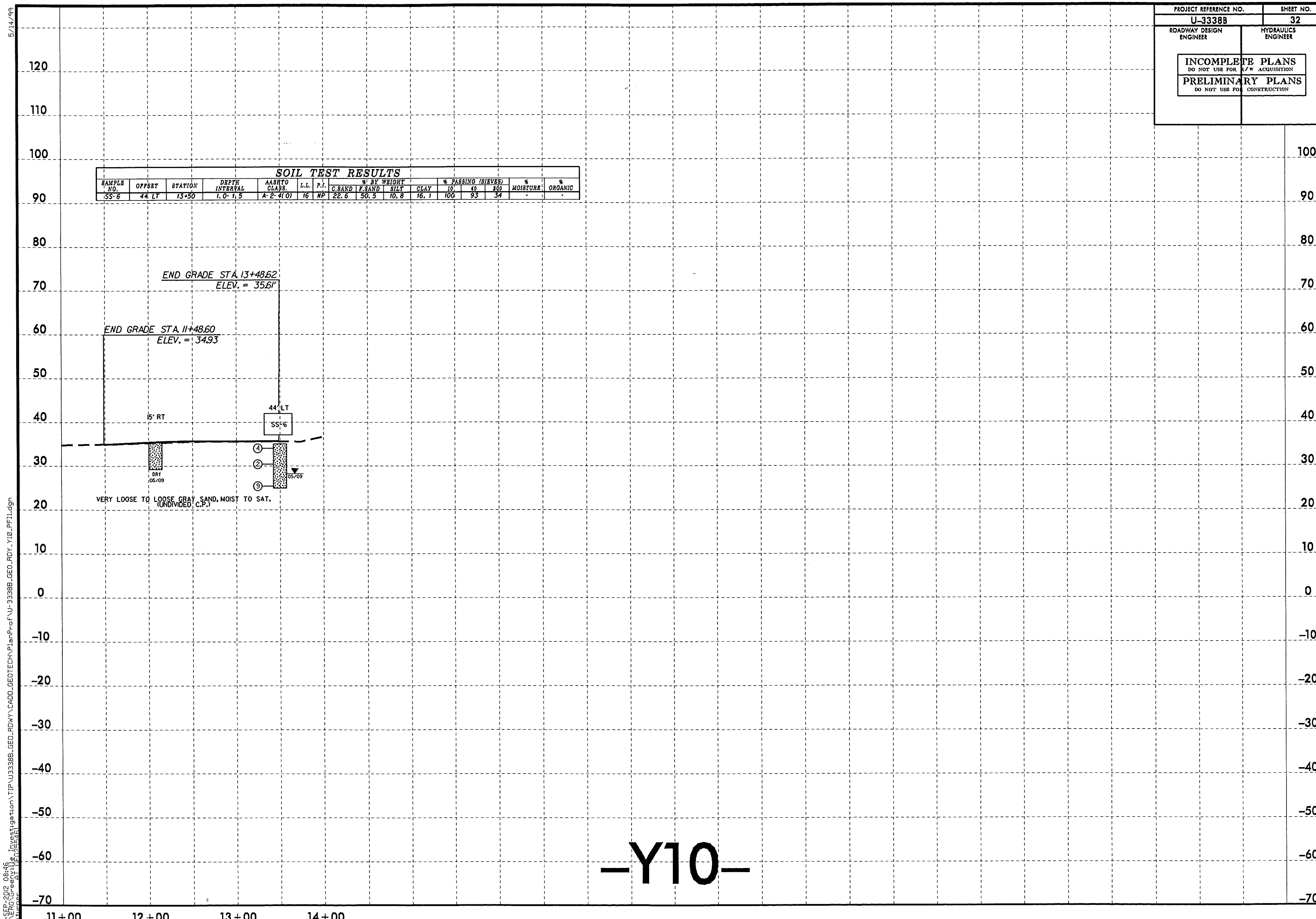
ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-6	44 LT	13+50	1.0-1.5	A-2-4(0)	16	NP	22.6	50.5	10.8	16.1	100	93	34	-	-



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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-3338B	33
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

END GRADE STA. 12+60.78
ELEV. = 31.62'

END GRADE STA. 13+30.42
ELEV. = 32.70'

30' LT

DRY
OT/6

LOOSE TO MEDIUM DENSE GRAY SAND, MOIST
(UNDIVIDED C.P.)

120 110 100 90 80 70 60 50 40 30 20 10 0 -10 -20 -30 -40 -50 -60 -70

100 90 80 70 60 50 40 30 20 10 0 -10 -20 -30 -40 -50 -60 -70

12+00 13+00 14+00

-Y11-

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engineer AT henshaw

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-3338B	34

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

END GRADE STA. 10+51.54
ELEV. = 32.73'

END GRADE STA. 11+34.26
ELEV. = 32.30'

25' LT

DRY
05/09

LOOSE TO MEDIUM DENSE GRAY SAND, MOIST
(UNDIVIDED C.P.)

120 110 100 90 80 70 60 50 40 30 20 10 0 -10 -20 -30 -40 -50 -60 -70

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00

-Y12-

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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-3338B	35

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
-50
-60

BEGIN GRADE STA 12+01.52
ELEV. = 40.50'

END GRADE STA 14+01.89'
ELEV. = 40.57'

10' RT

DRY
05709

LOOSE TO MEDIUM DENSE GRAY SAND, MOIST
(UNDIVIDED C.P.)

12+00 13+00 14+00

-Y15-

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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-3338B	36

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

BEGIN GRADE STA. 14+72.00
ELEV. = 139.44'

30' RT

37' LT

END GRADE STA. 17+52.27
ELEV. = 41.90'

DRY
07/11

DRY
07/1

LOOSE TO MEDIUM DENSE GRAY SAND, MOIST (UNDIVIDED COASTAL PLAIN)

130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10 -20 -30 -40 -50 -60

13+00 14+00 15+00 16+00 17+00 18+00

-Y16-

13-SEP-2012 08:47
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engineer

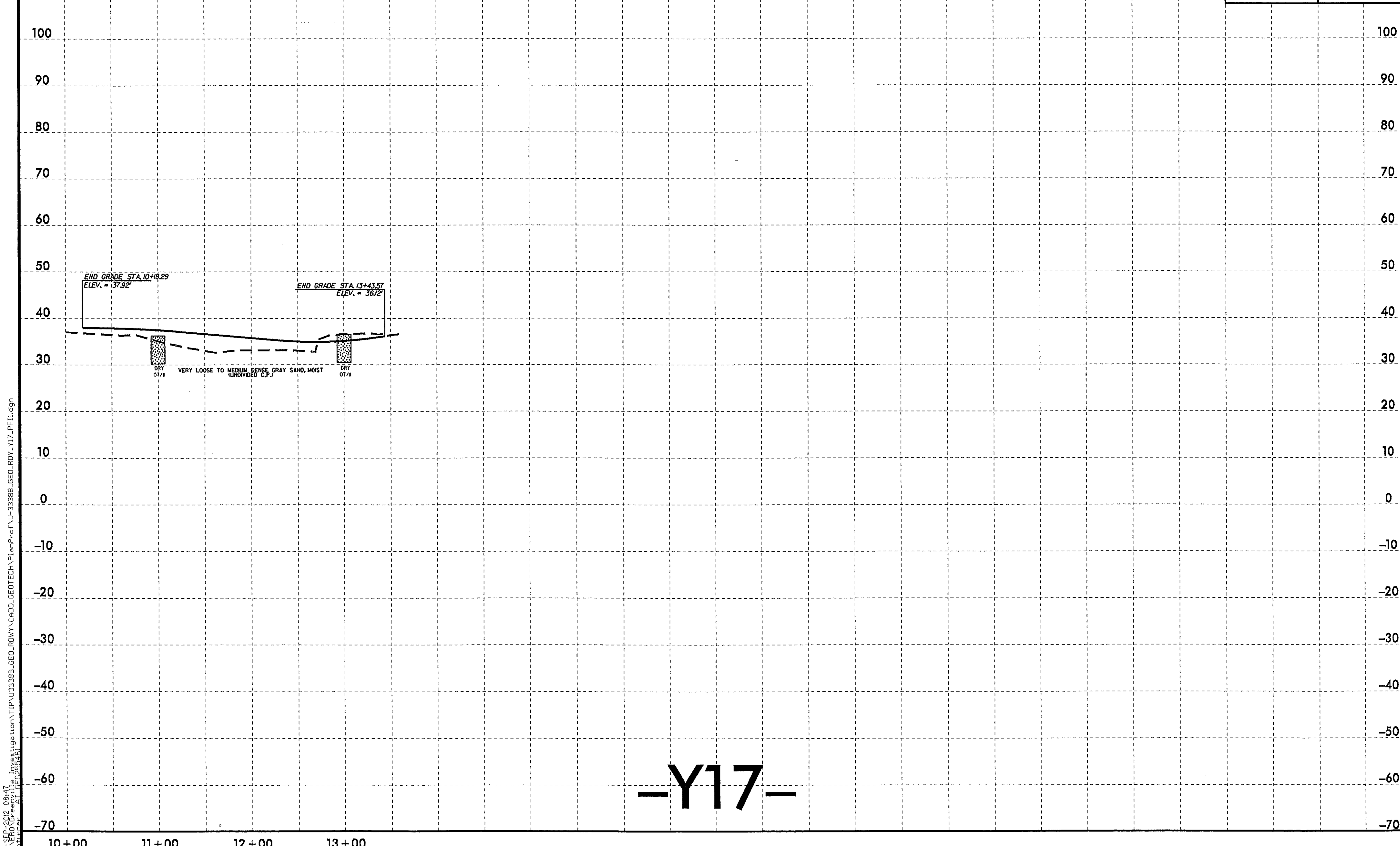
PROJECT REFERENCE NO.	SHEET NO.
U-3338B	37

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-Y17-

5/14/99

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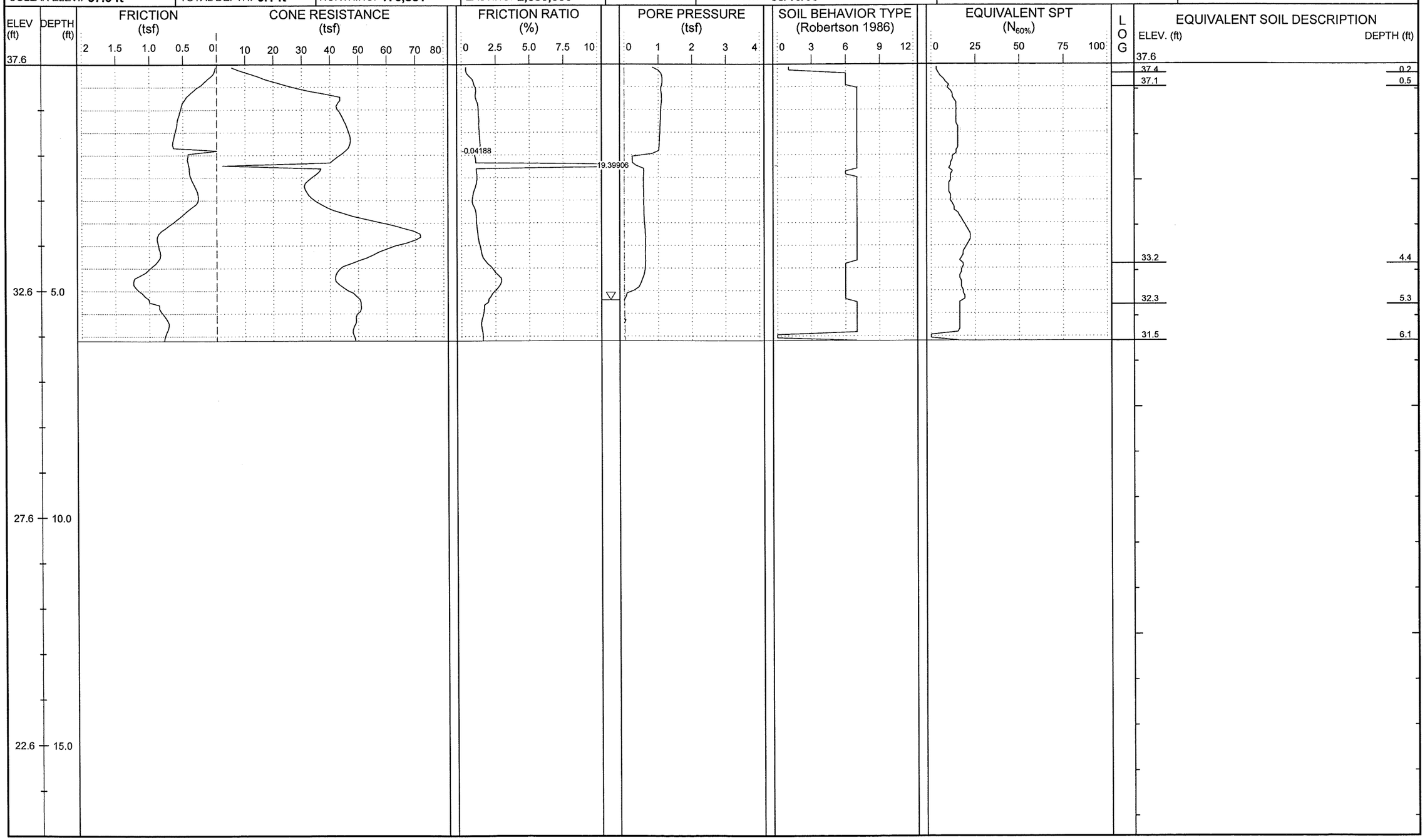
coturner AT GEG25546

NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	1
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-12**	STATION: **12+00**	OFFSET: **40ft LT**	ALIGNMENT: **-L-**	0 HR. **5.2**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **37.6 ft**	TOTAL DEPTH: **6.1 ft**	NORTHING: **176,831**	EASTING: **2,336,350**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

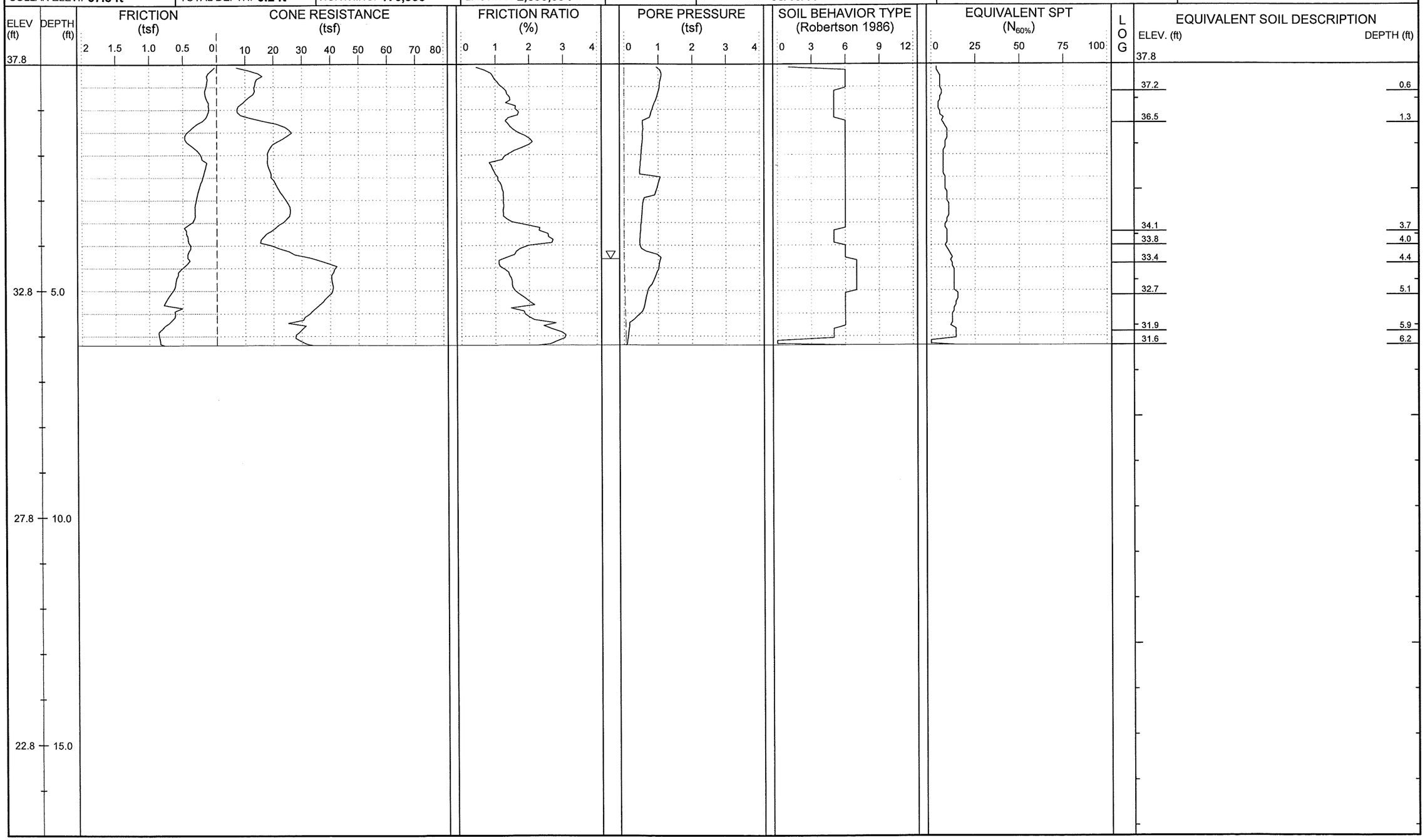


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	2
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**		MAX. DOWN PRESSURE: **~20 Ton**
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-14**	STATION: **13+47**	OFFSET: **36ft RT**	ALIGNMENT: **-L-**	0 HR. **4.3**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **37.8 ft**	TOTAL DEPTH: **6.2 ft**	NORTHING: **176,990**	EASTING: **2,336,394**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

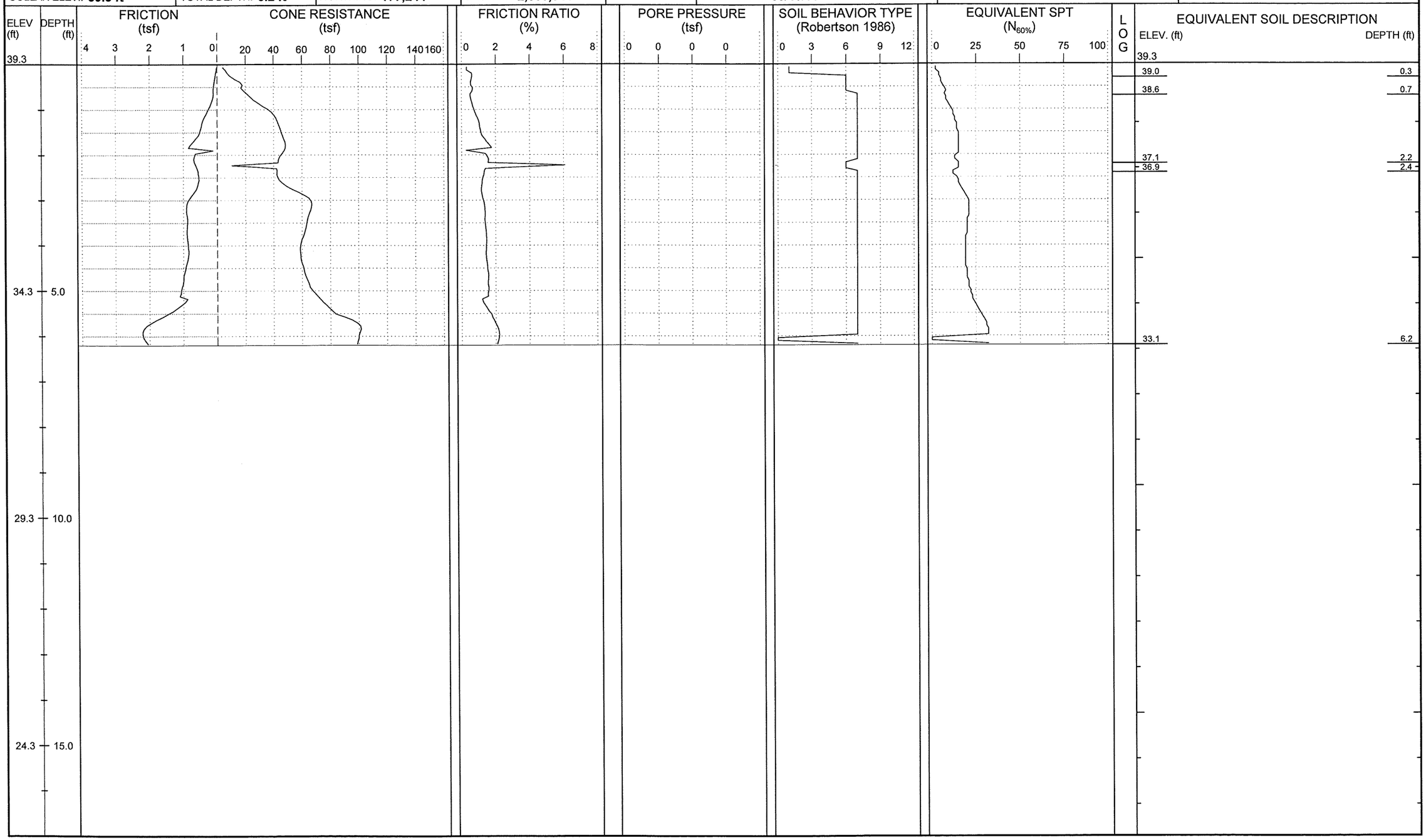


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	3
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-16**	STATION: **16+05**	OFFSET: **41ft RT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **39.3 ft**	TOTAL DEPTH: **6.2 ft**	NORTHING: **177,244**	EASTING: **2,336,344**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

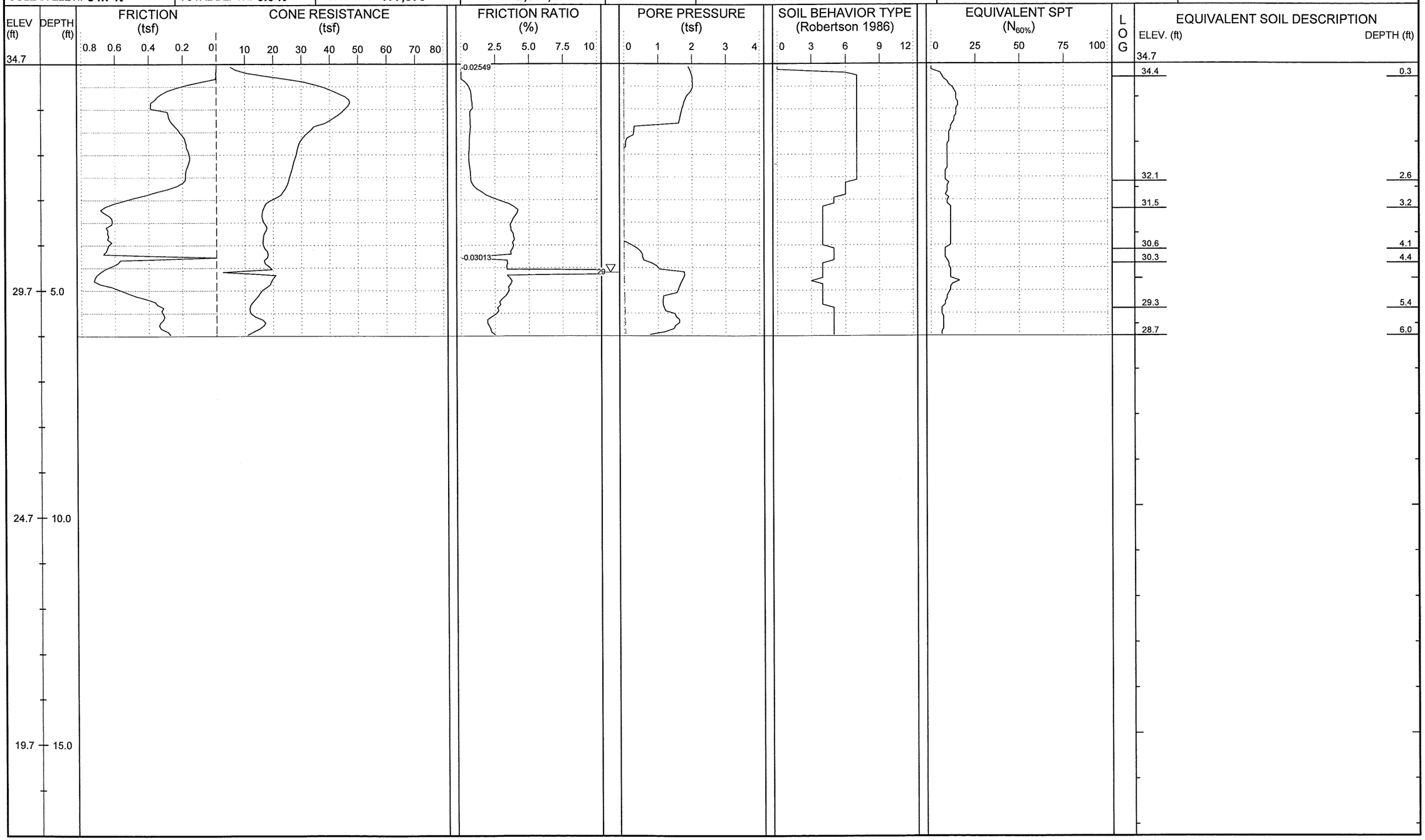


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	4
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-18**	STATION: **17+67**	OFFSET: **80ft LT**	ALIGNMENT: **-L-**	0 HR. **4.6**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **34.7 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **177,376**	EASTING: **2,336,191**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

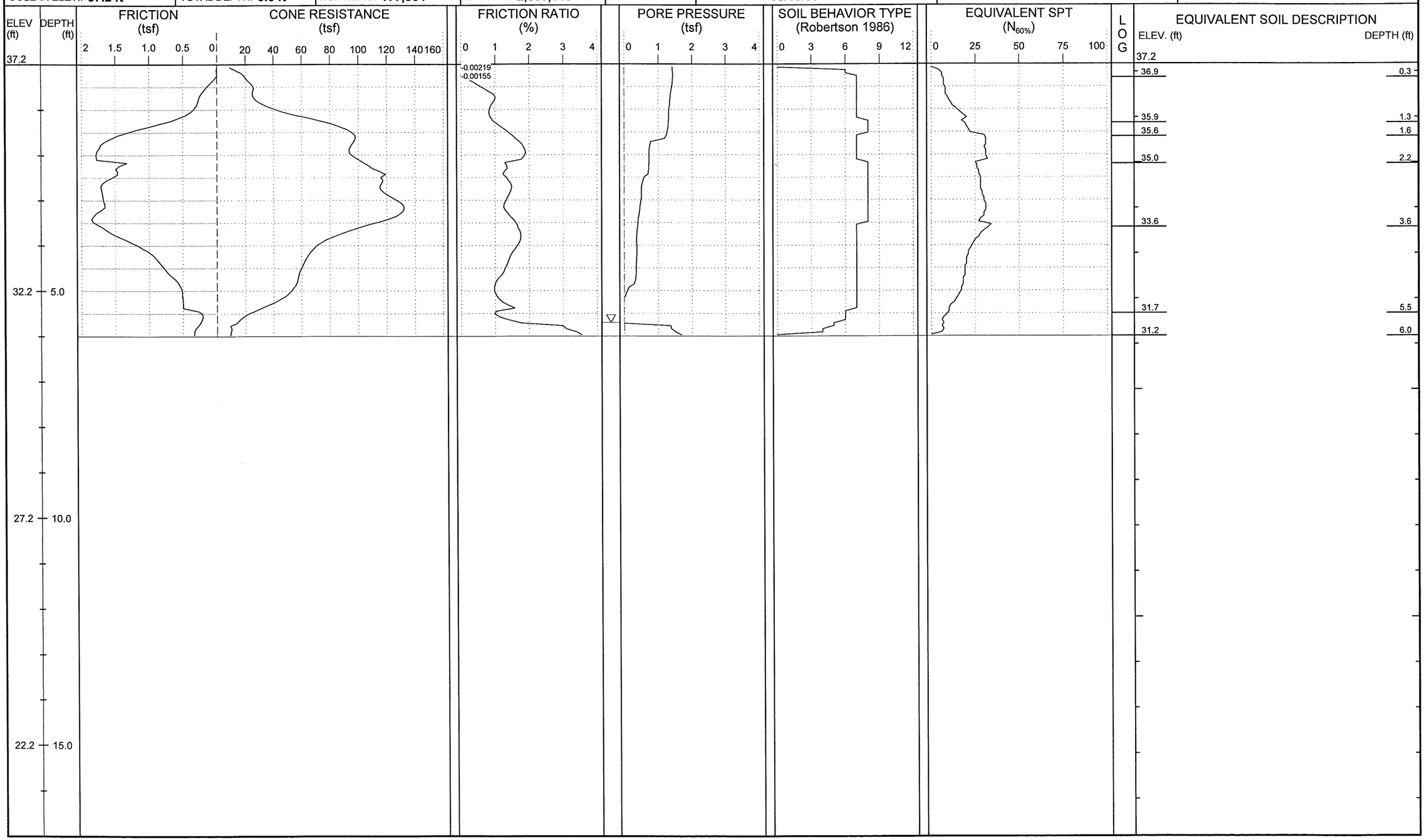


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	5
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**		MAX. DOWN PRESSURE: **~20 Ton**
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**				GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-22**	STATION: **22+00**	OFFSET: **60ft LT**	ALIGNMENT: **-L-**	0 HR. **5.7**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **37.2 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **177,804**	EASTING: **2,336,119**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

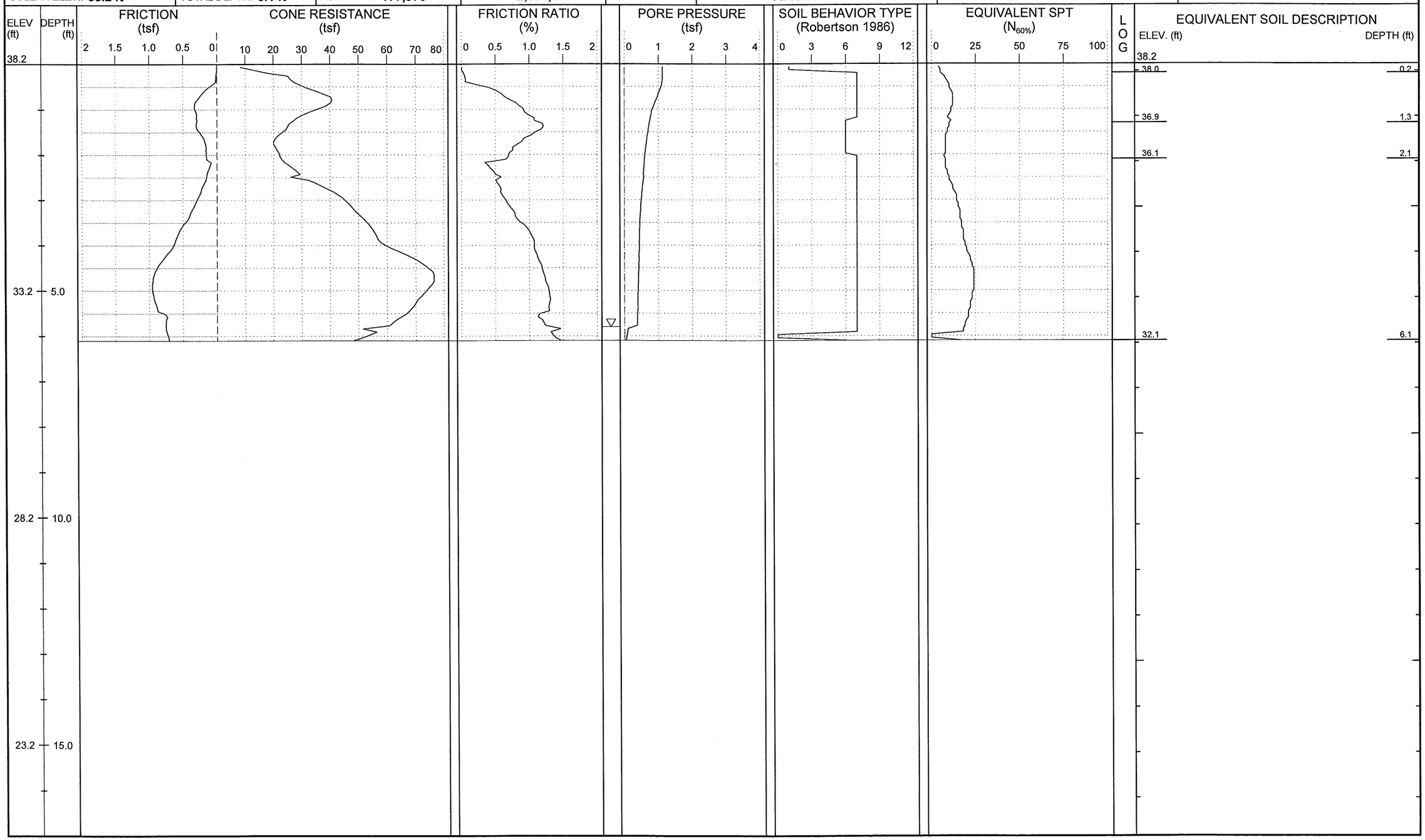


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	6
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-24**	STATION: **23+54**	OFFSET: **42ft RT**	ALIGNMENT: **-L-**	0 HR. **5.8**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **38.2 ft**	TOTAL DEPTH: **6.1 ft**	NORTHING: **177,976**	EASTING: **2,336,187**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

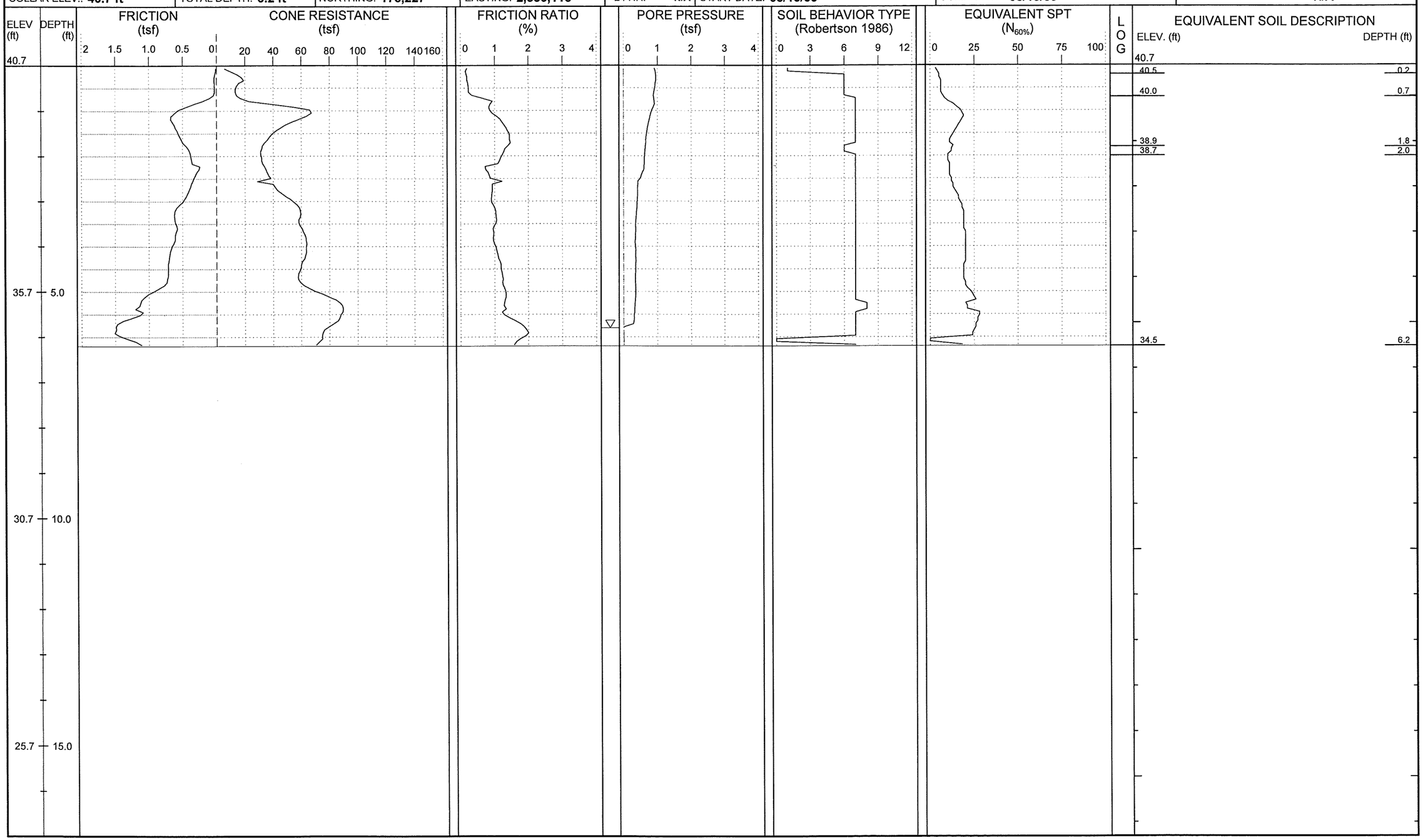


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	7
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-26**	STATION: **26+14**	OFFSET: **28ft RT**	ALIGNMENT: **-L-**	0 HR. **5.8**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **40.7 ft**	TOTAL DEPTH: **6.2 ft**	NORTHING: **178,227**	EASTING: **2,336,118**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

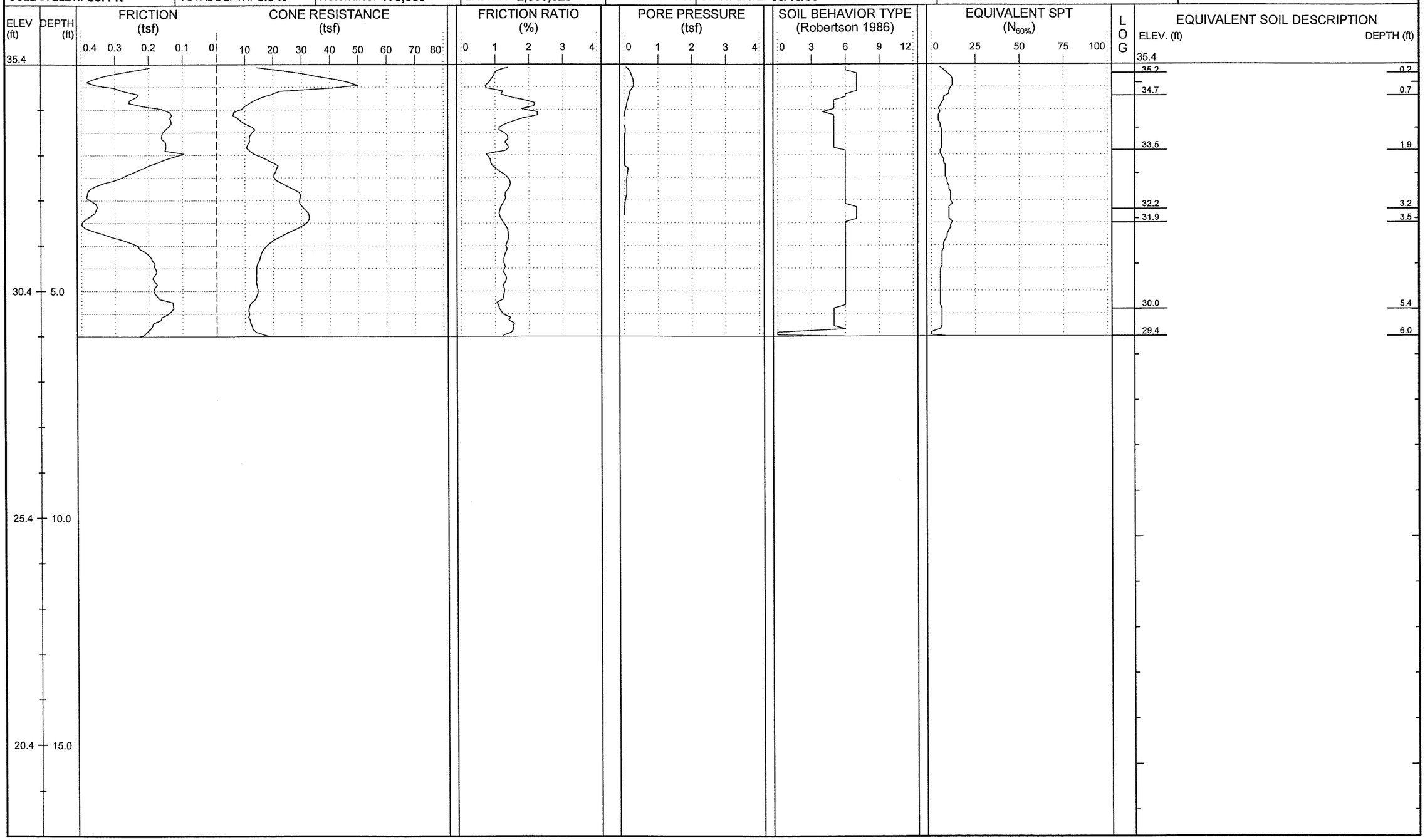


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	8
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**		DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**				GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-28**	STATION: **27+92**	OFFSET: **31ft LT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **35.4 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **178,389**	EASTING: **2,336,023**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

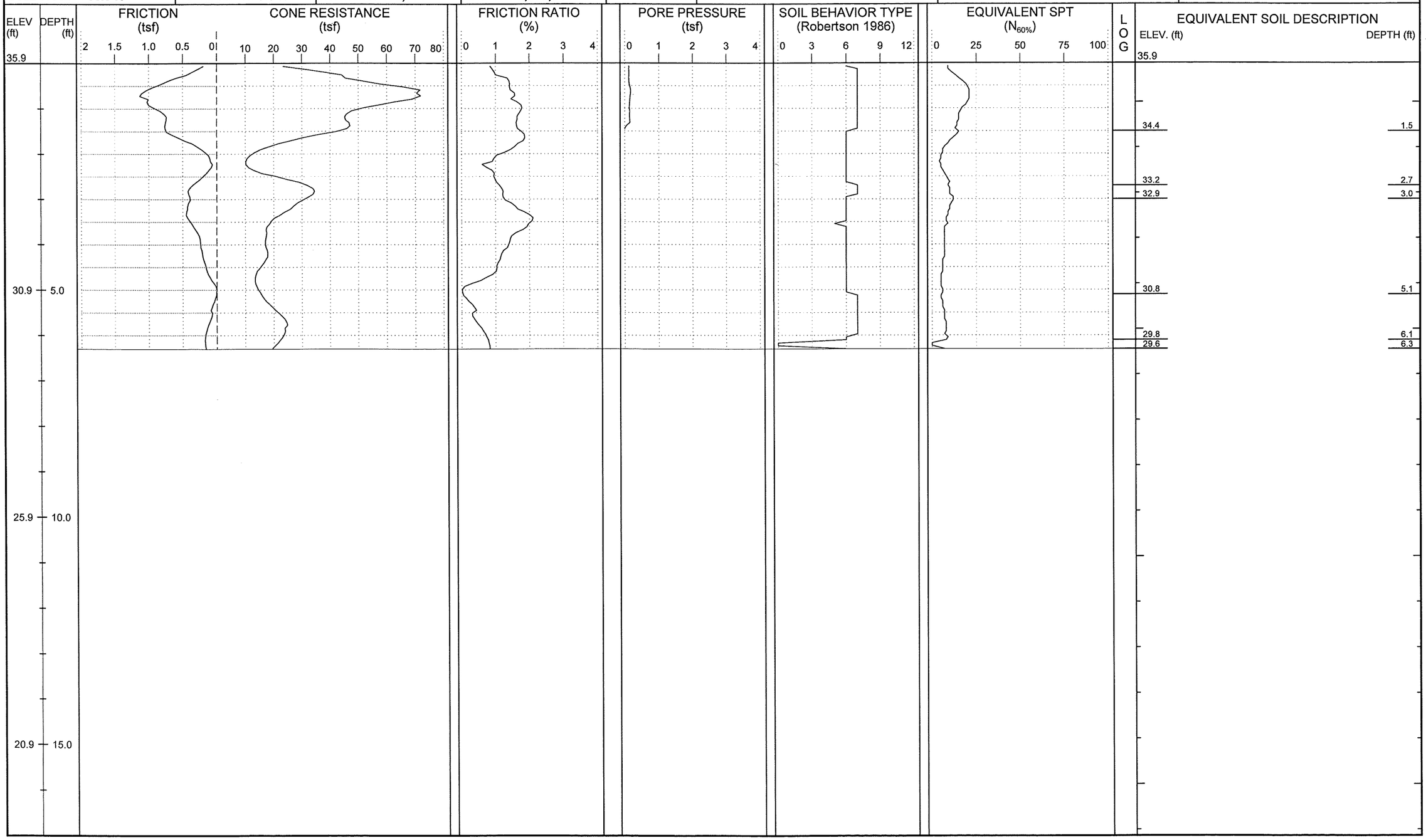


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	9
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-32**	STATION: **31+83**	OFFSET: **30ft LT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **35.9 ft**	TOTAL DEPTH: **6.3 ft**	NORTHING: **178,771**	EASTING: **2,335,940**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

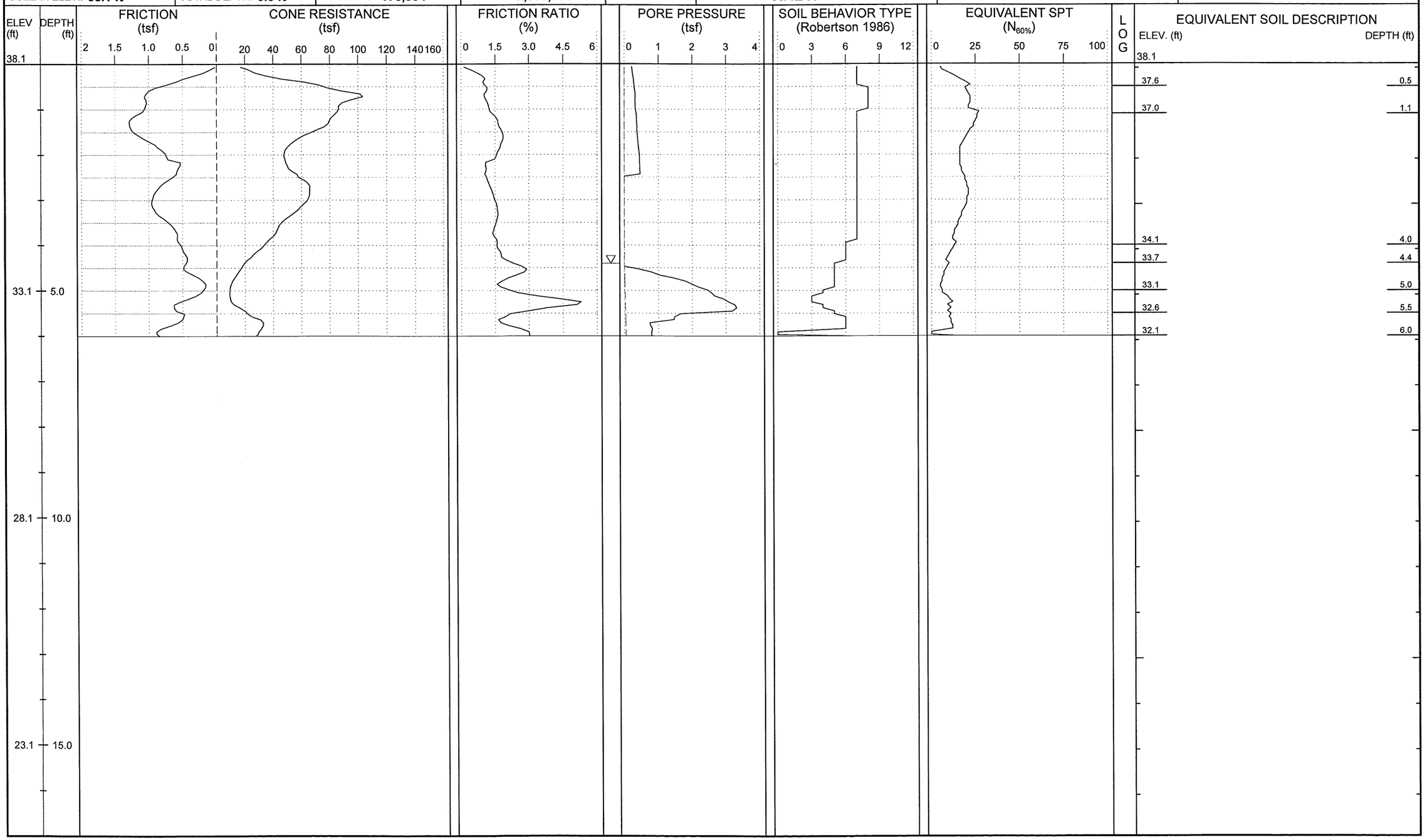


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	10
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-34**	STATION: **33+94**	OFFSET: **49ft RT**	ALIGNMENT: **-L-**	0 HR. **4.4**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **38.1 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **178,994**	EASTING: **2,335,974**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

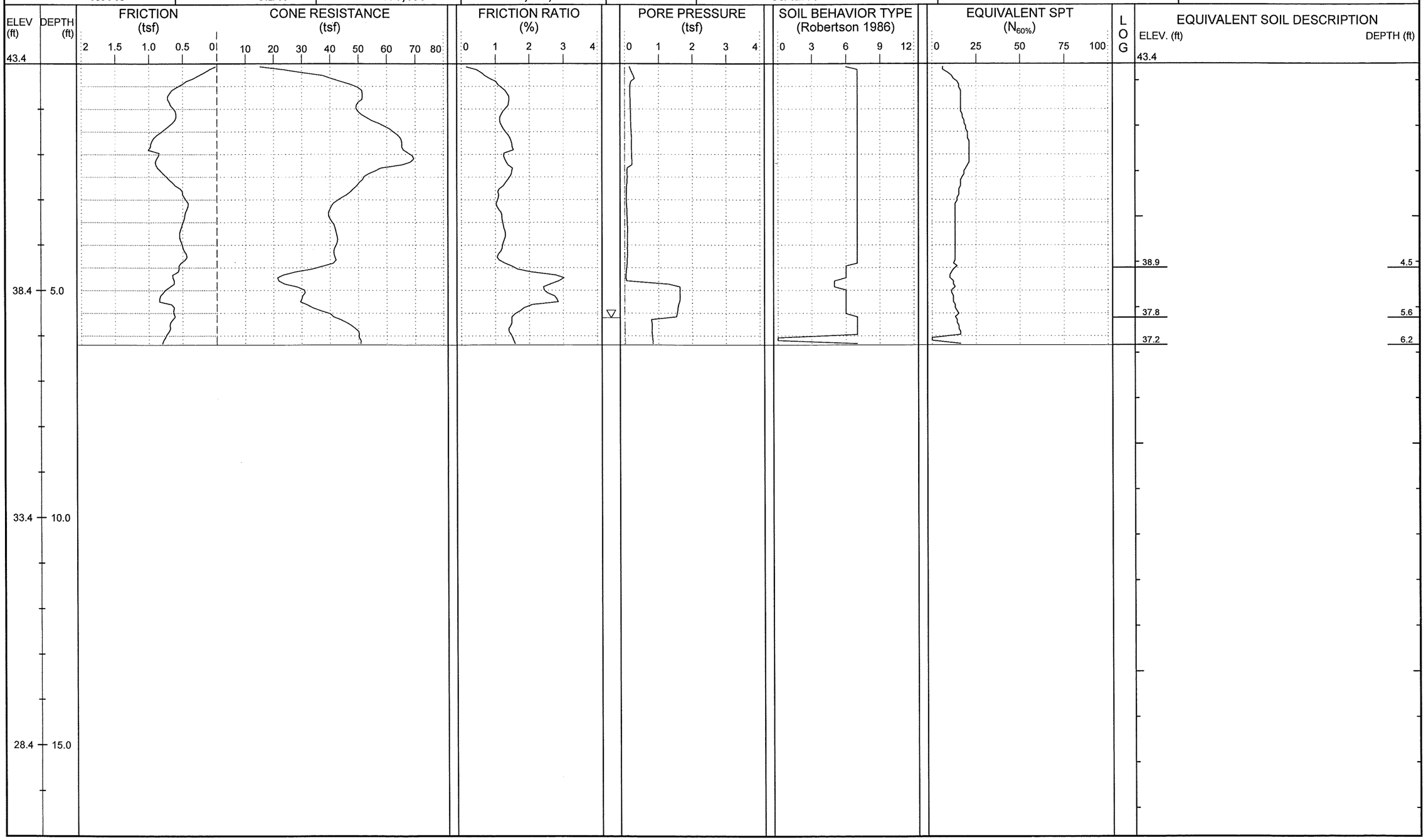


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	11
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-36**	STATION: **35+96**	OFFSET: **39ft RT**	ALIGNMENT: **-L-**	0 HR. **5.6**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **43.4 ft**	TOTAL DEPTH: **6.2 ft**	NORTHING: **179,190**	EASTING: **2,335,921**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

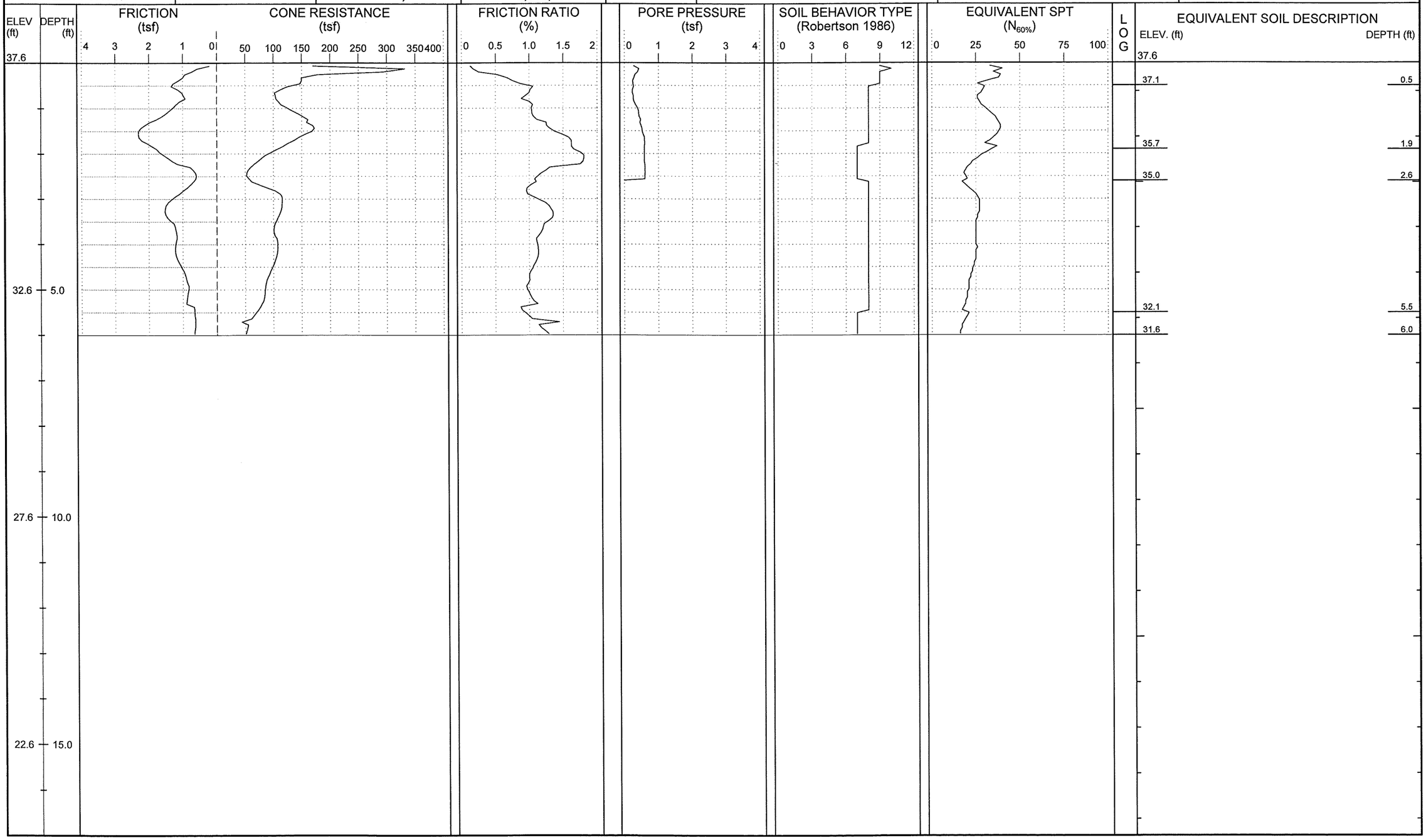


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	12
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**		MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**		DRILLER: **Donald Coogan**
BORING NO.: **L-38**	STATION: **38+00**	OFFSET: **40ft LT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **37.6 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **179,372**	EASTING: **2,335,800**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

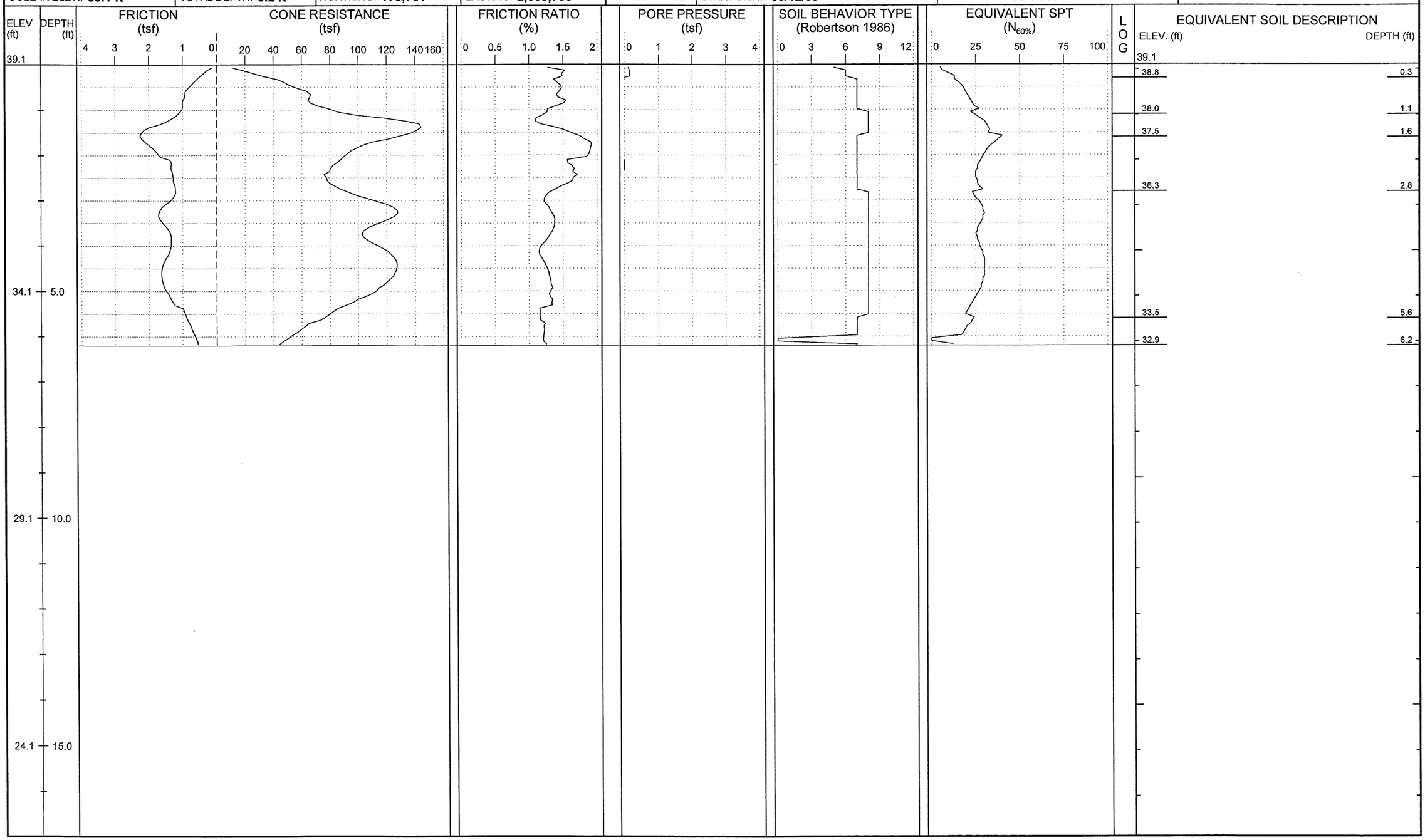


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	13
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-42**	STATION: **42+00**	OFFSET: **50ft LT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **39.1 ft**	TOTAL DEPTH: **6.2 ft**	NORTHING: **179,761**	EASTING: **2,335,706**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

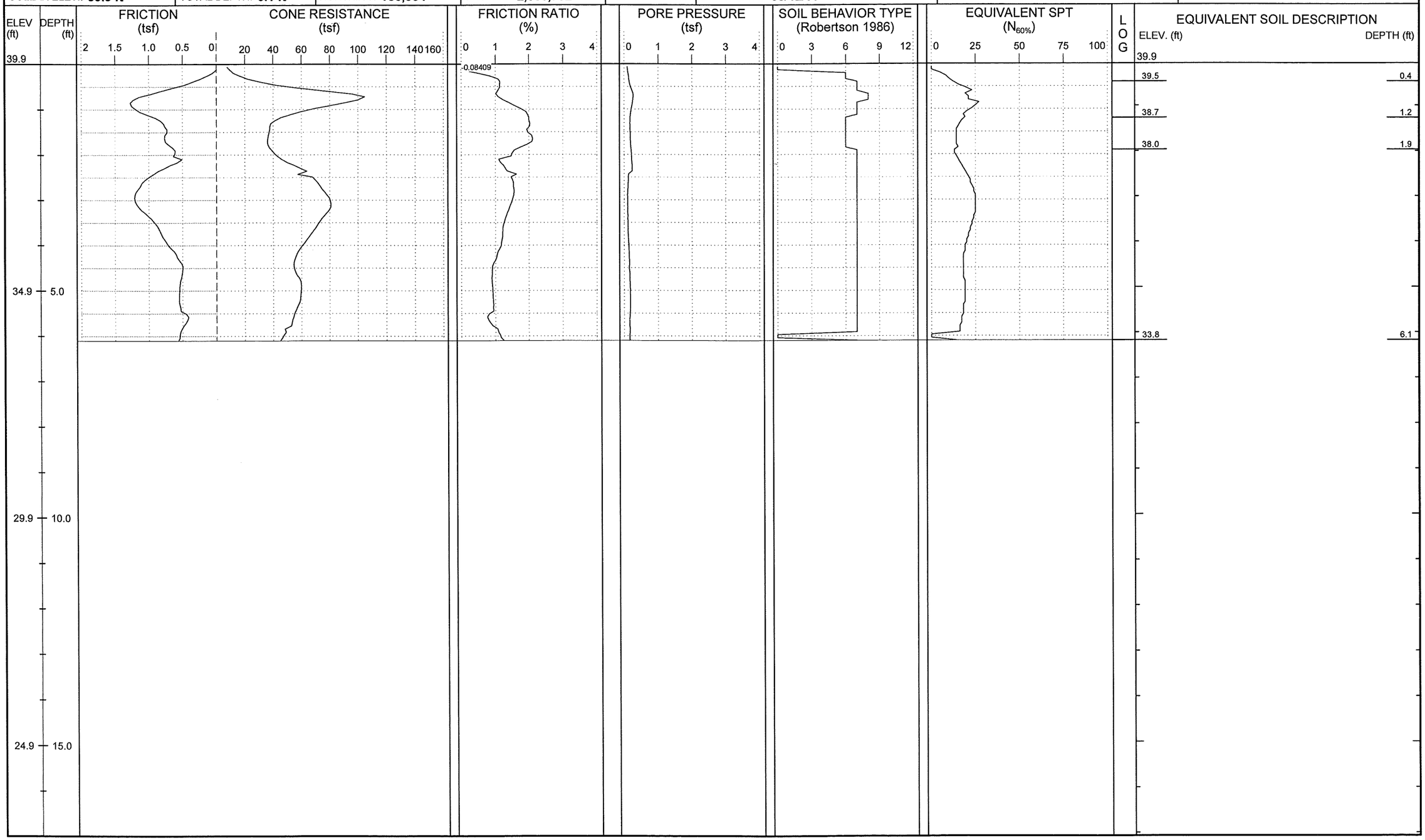


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	14
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-44**	STATION: **44+27**	OFFSET: **46ft RT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **39.9 ft**	TOTAL DEPTH: **6.1 ft**	NORTHING: **180,004**	EASTING: **2,335,752**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

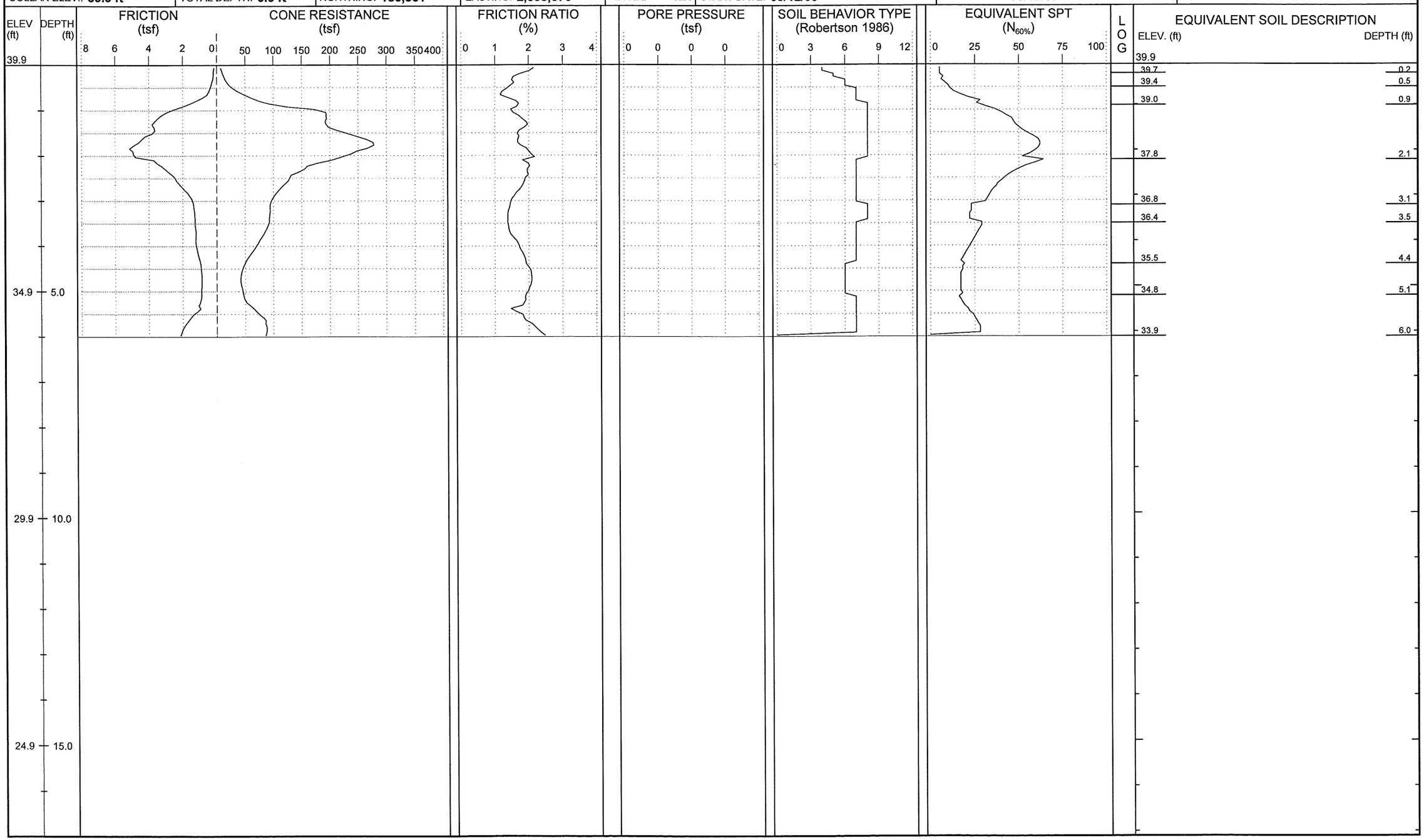


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	15
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-48**	STATION: **47+92**	OFFSET: **49ft RT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **39.9 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **180,361**	EASTING: **2,335,676**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

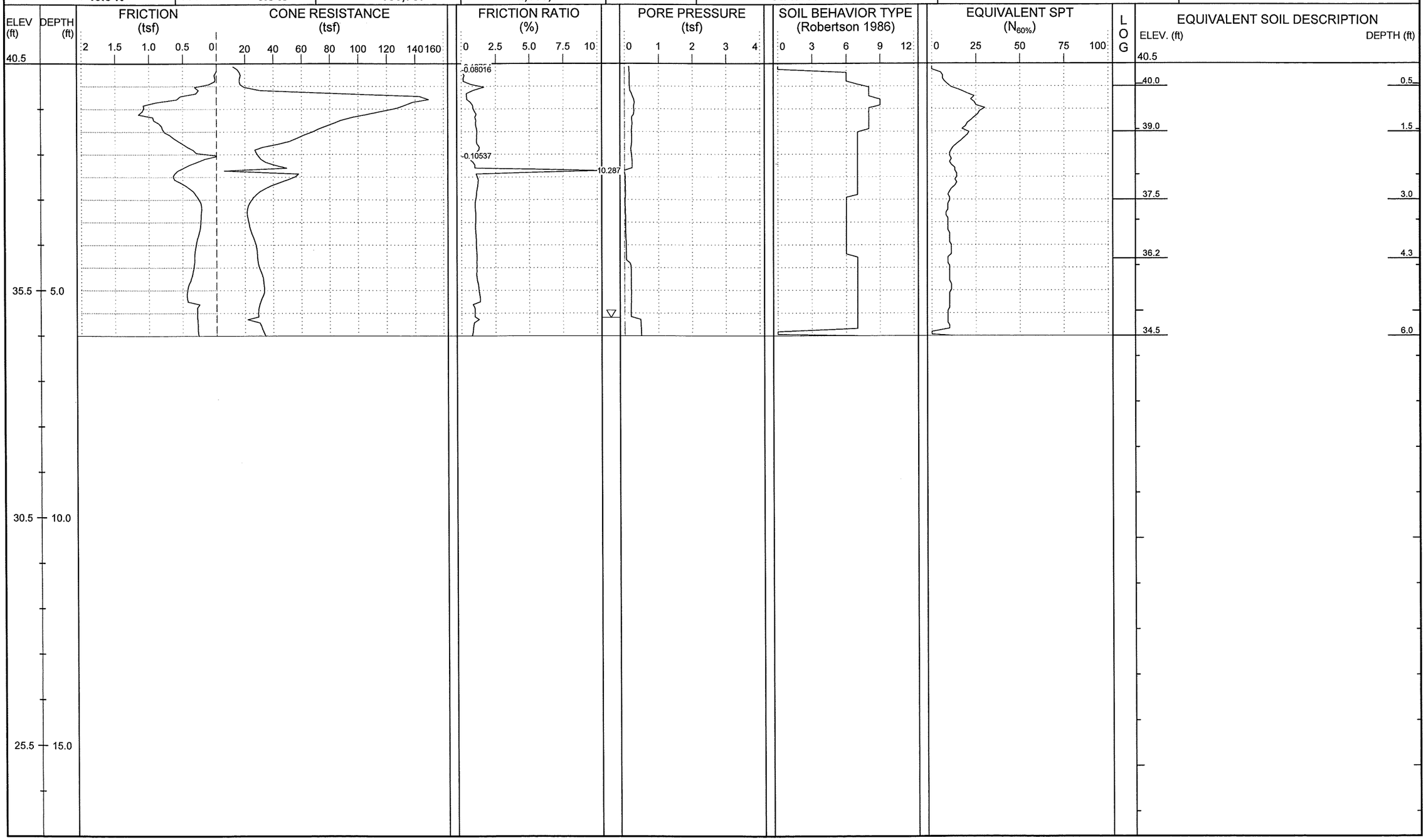


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	16
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-52**	STATION: **51+78**	OFFSET: **45ft RT**	ALIGNMENT: **-L-**	0 HR. **5.6**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **40.5 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **180,737**	EASTING: **2,335,592**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

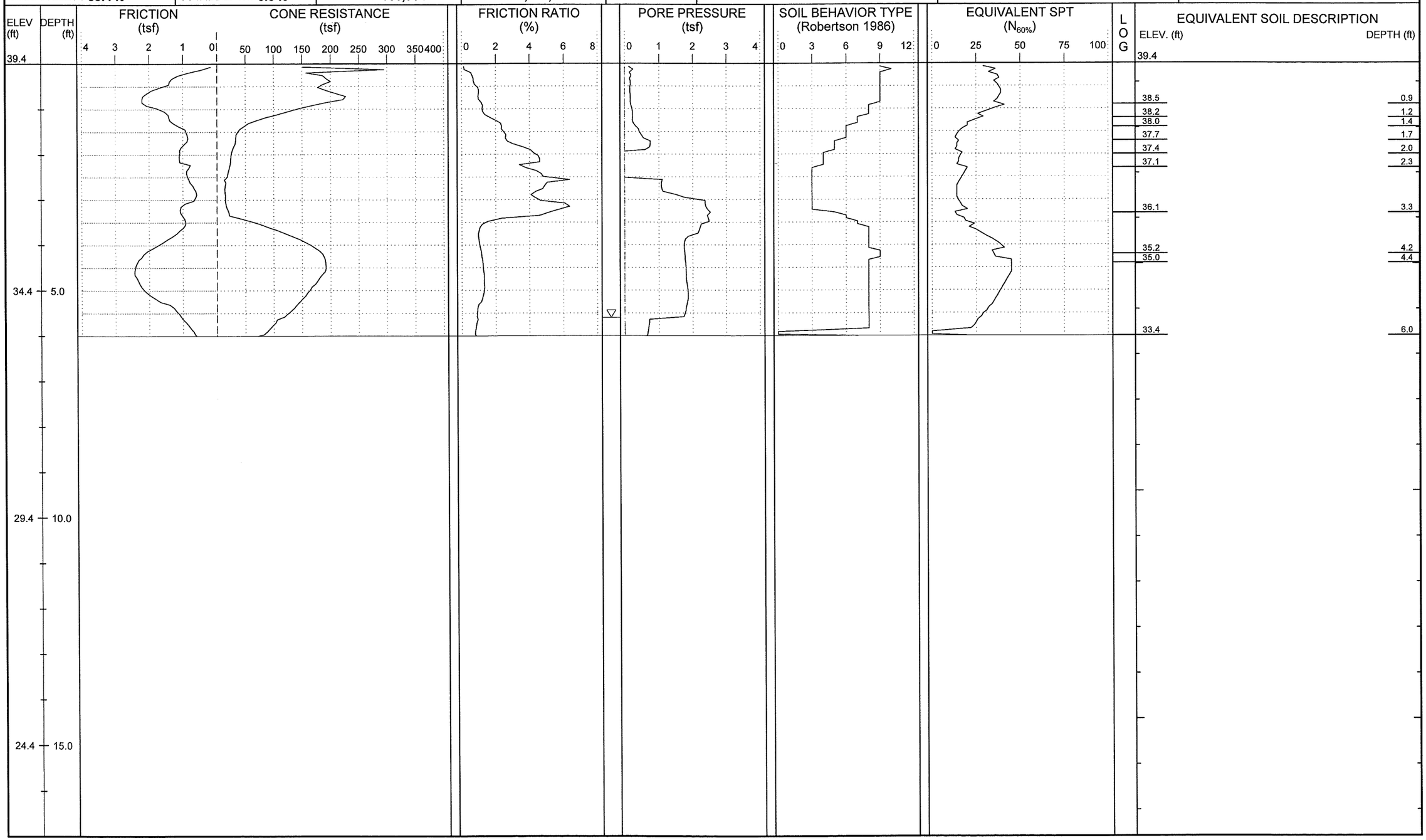


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	17
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-54**	STATION: **54+00**	OFFSET: **50ft LT**	ALIGNMENT: **-L-**	0 HR. **5.6**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **39.4 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **180,934**	EASTING: **2,335,452**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

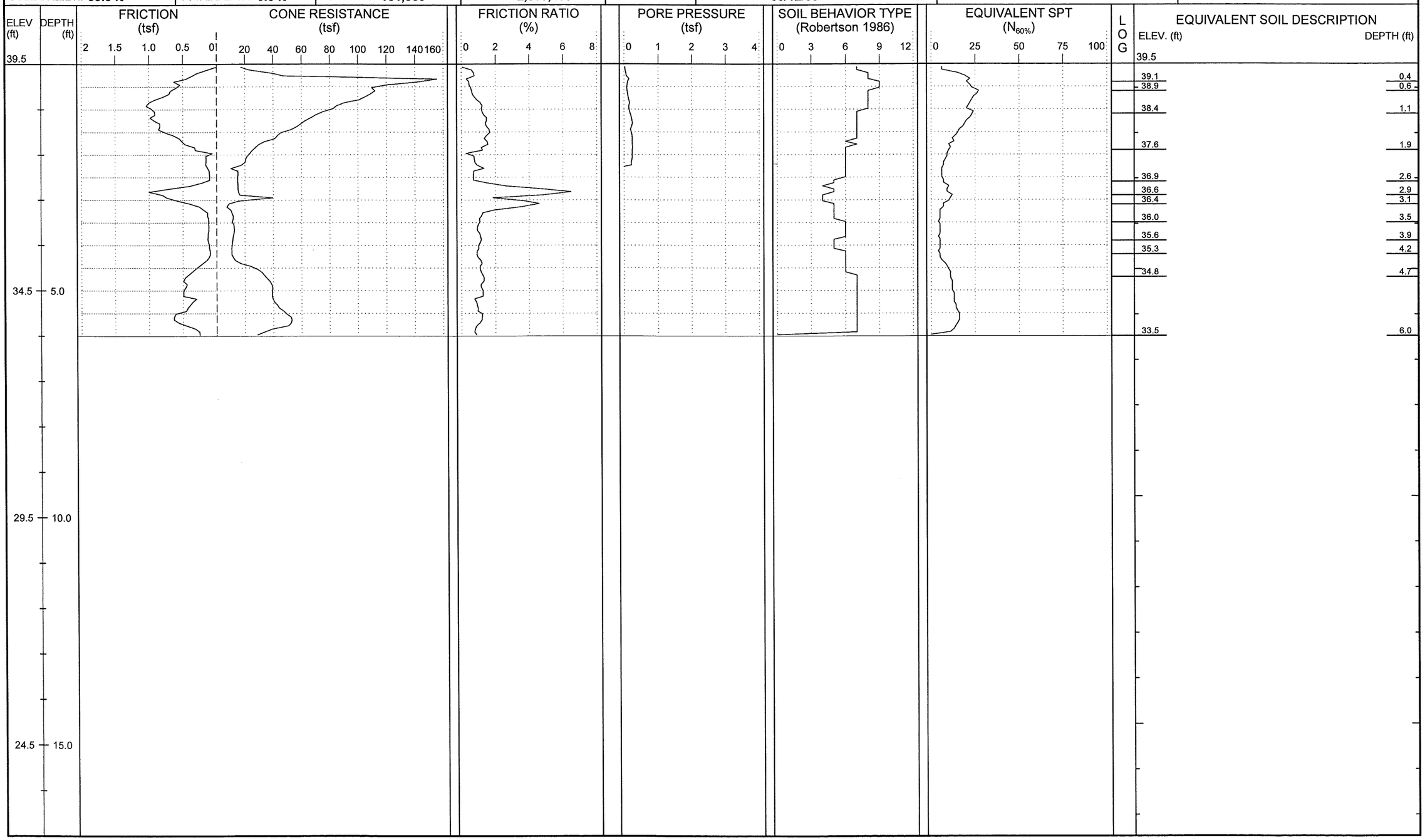


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	18
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-58**	STATION: **58+00**	OFFSET: **34ft LT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **39.5 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **181,339**	EASTING: **2,335,409**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

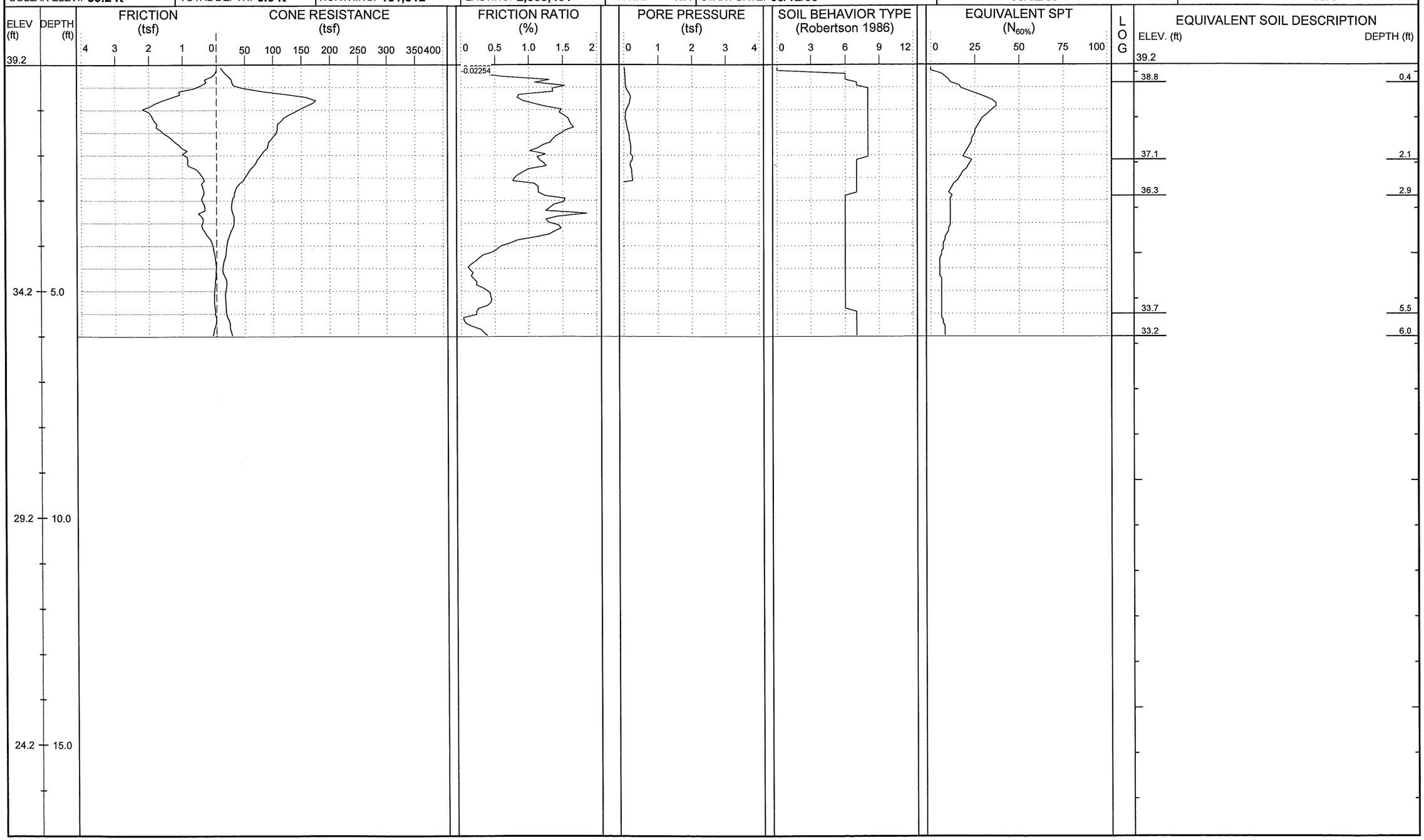


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	19
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-62**	STATION: **62+70**	OFFSET: **63ft LT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **39.2 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **181,812**	EASTING: **2,335,401**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

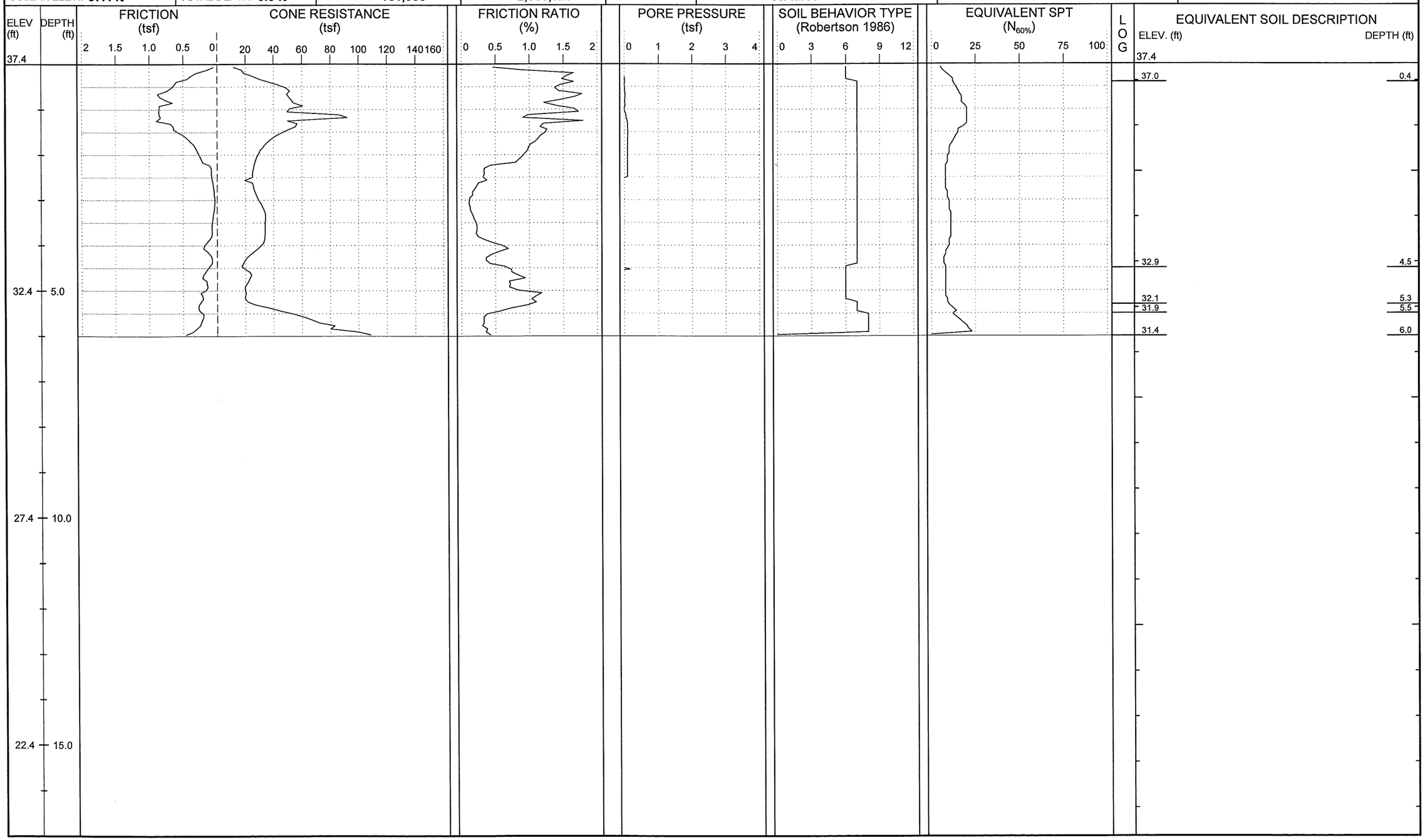


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	20
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-64**	STATION: **64+00**	OFFSET: **50ft RT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **37.4 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **181,936**	EASTING: **2,335,520**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

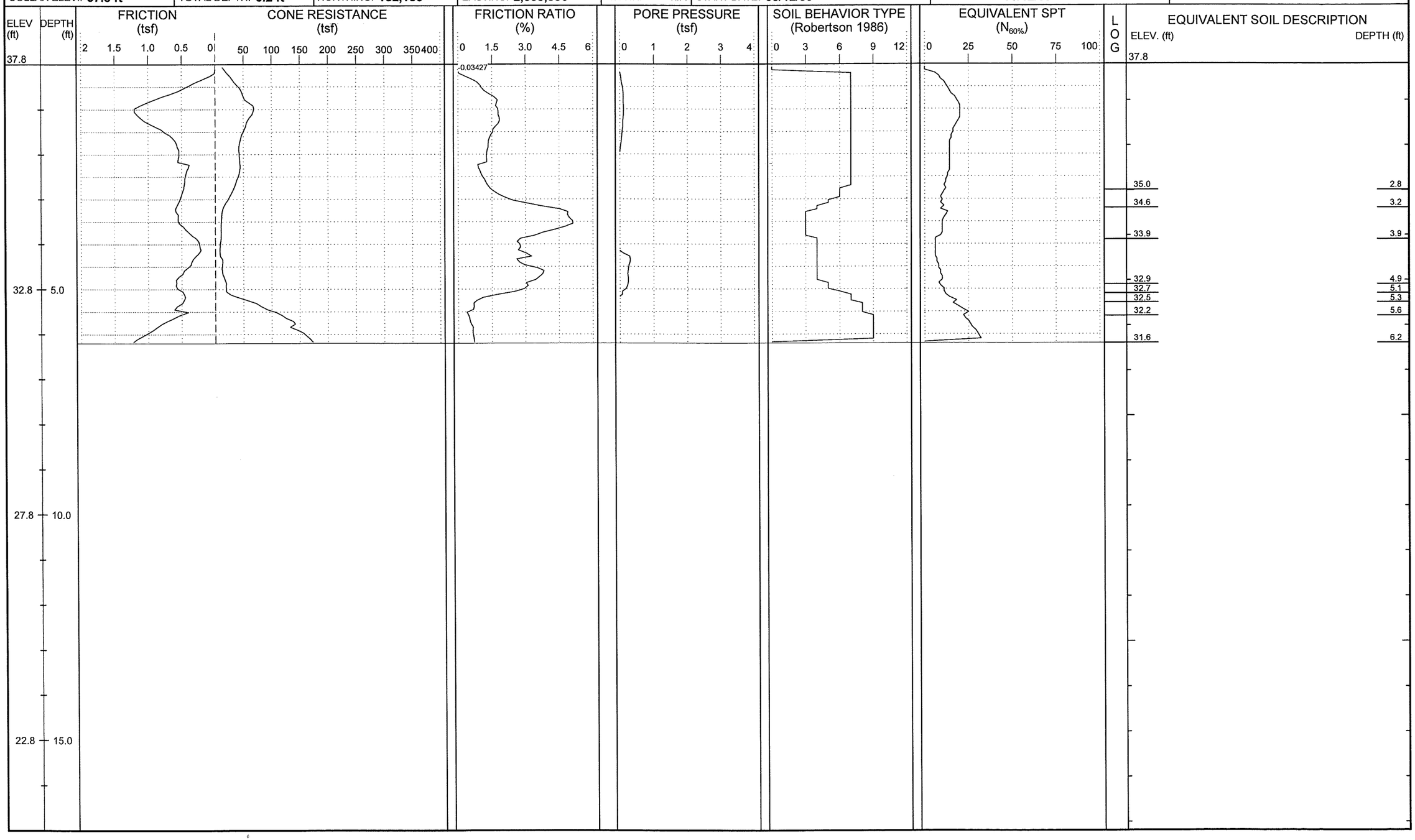


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	21
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-66**	STATION: **66+00**	OFFSET: **50ft RT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **37.8 ft**	TOTAL DEPTH: **6.2 ft**	NORTHING: **182,136**	EASTING: **2,335,530**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

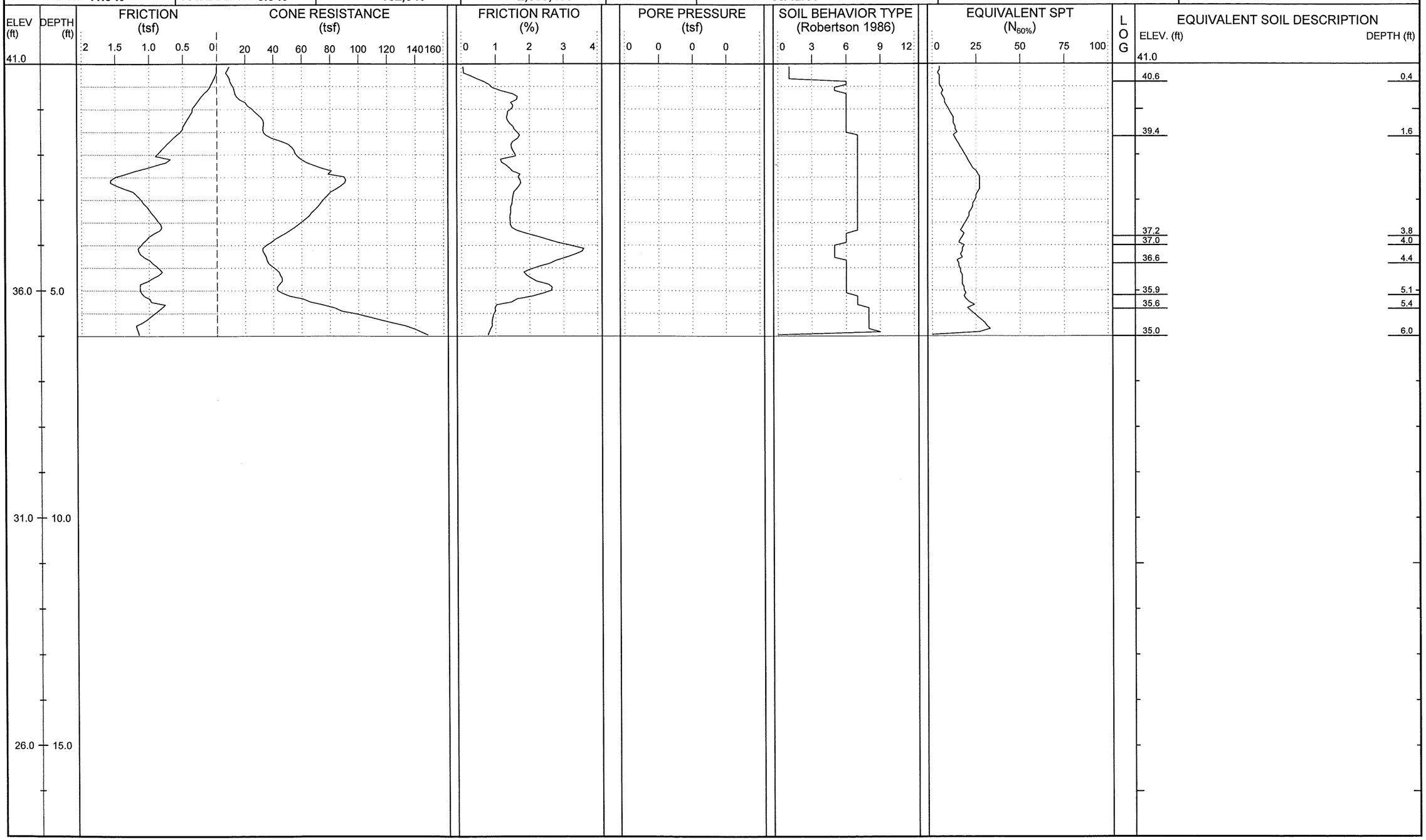


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	22
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-68**	STATION: **68+00**	OFFSET: **34ft LT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **41.0 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **182,340**	EASTING: **2,335,455**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

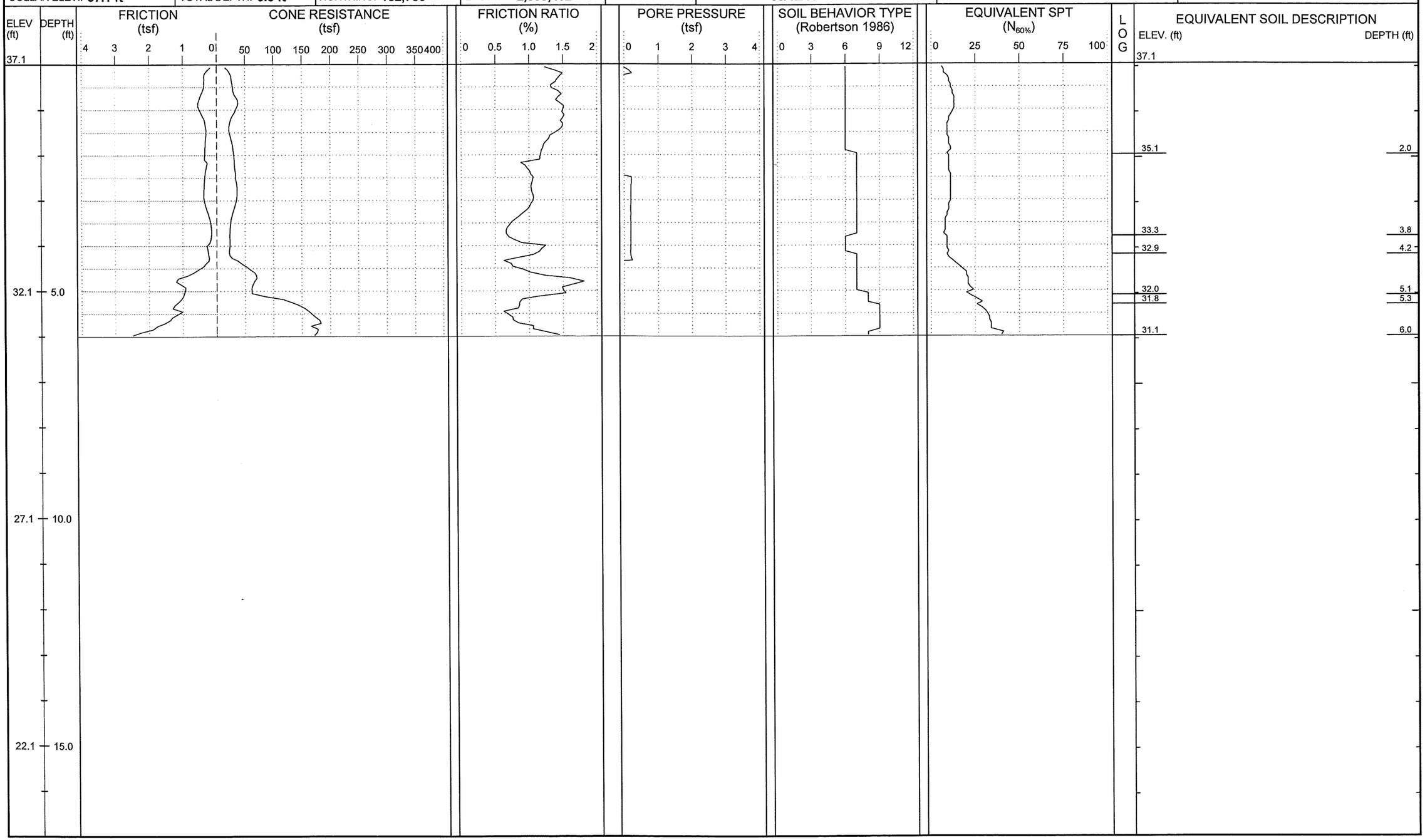


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	23
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-72**	STATION: **72+16**	OFFSET: **57ft LT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **37.1 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **182,756**	EASTING: **2,335,452**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

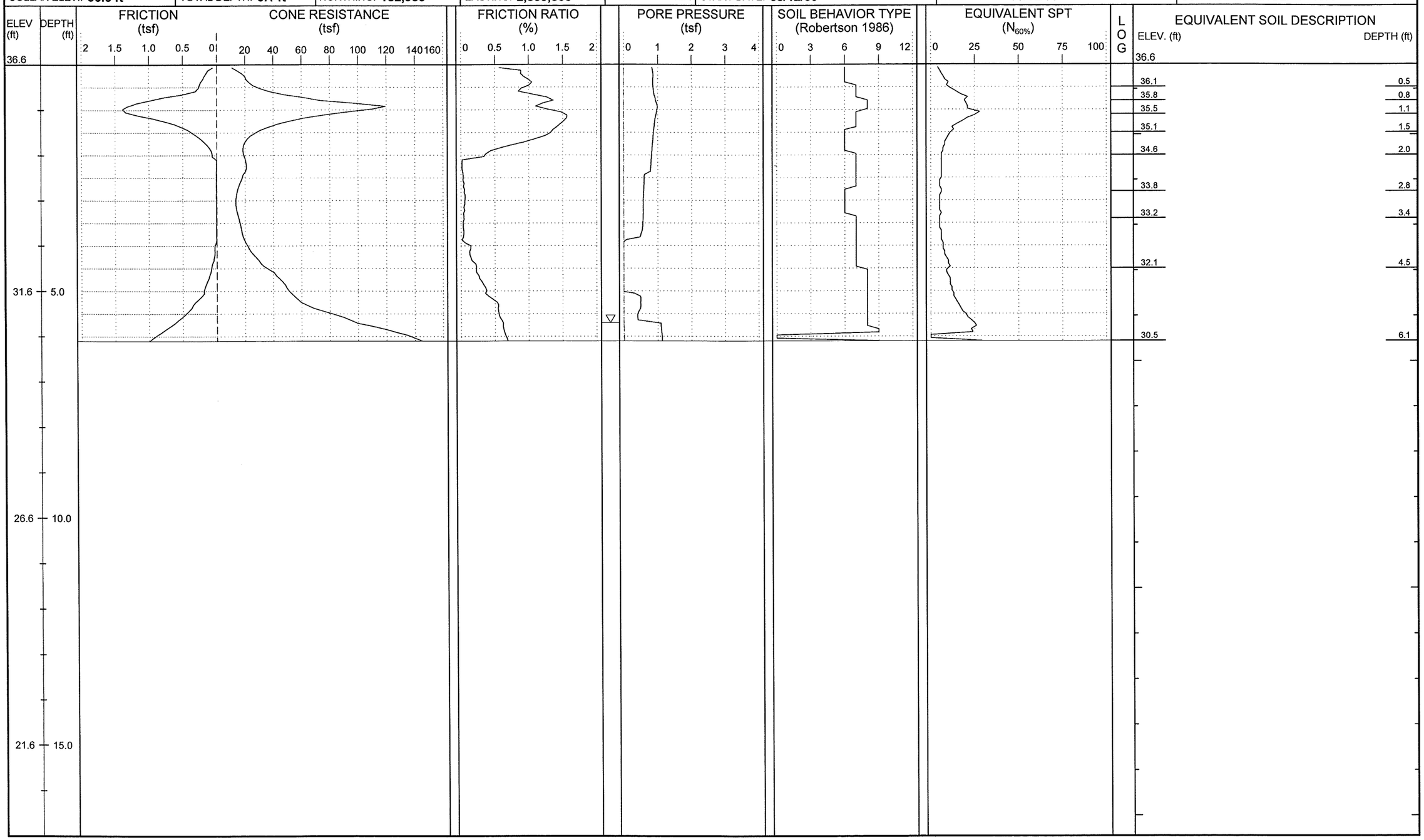


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	24
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-74**	STATION: **74+00**	OFFSET: **50ft RT**	ALIGNMENT: **-L-**	0 HR. **5.7**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **36.6 ft**	TOTAL DEPTH: **6.1 ft**	NORTHING: **182,935**	EASTING: **2,335,568**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

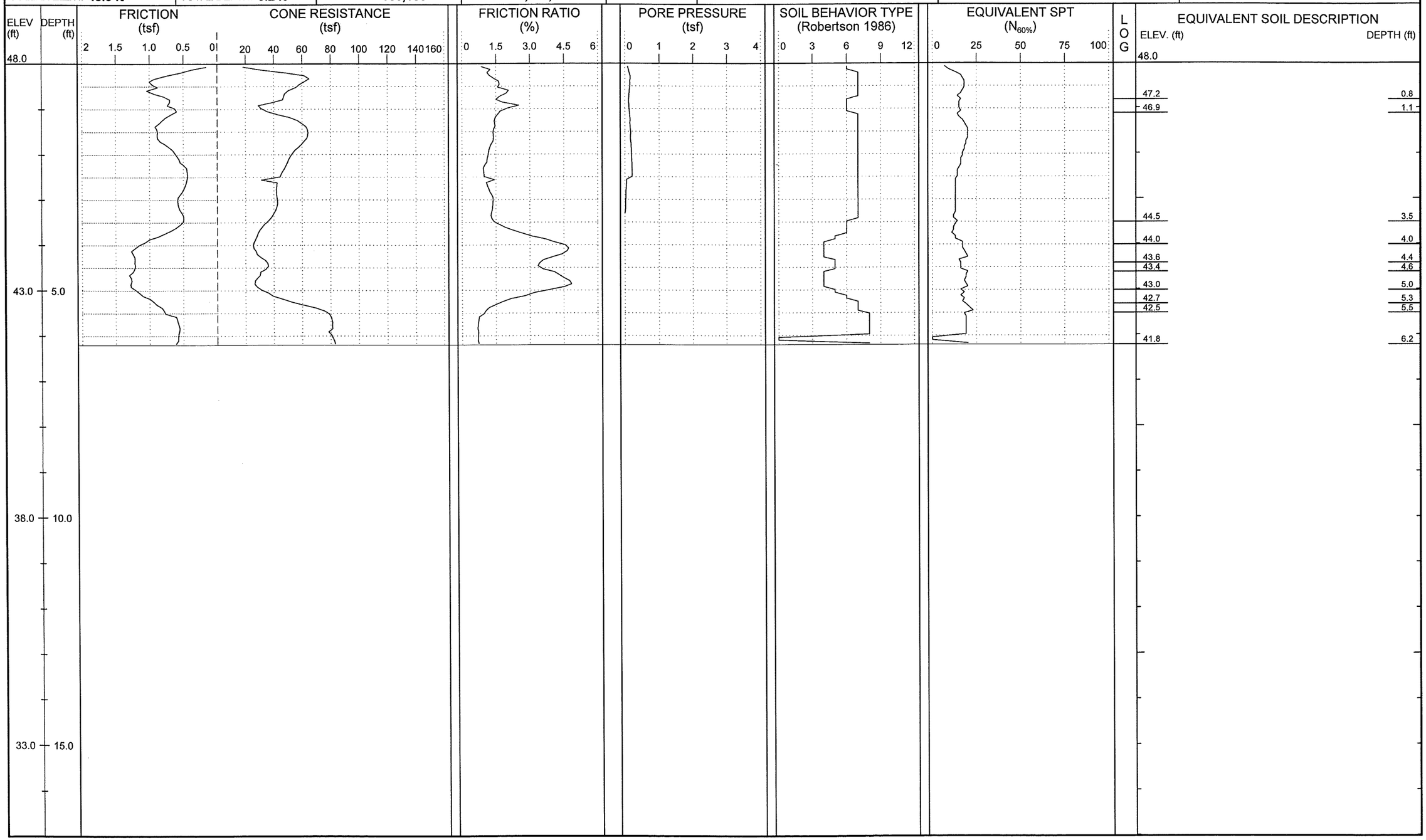


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	25
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-76**	STATION: **76+00**	OFFSET: **50ft RT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **48.0 ft**	TOTAL DEPTH: **6.2 ft**	NORTHING: **183,135**	EASTING: **2,335,578**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

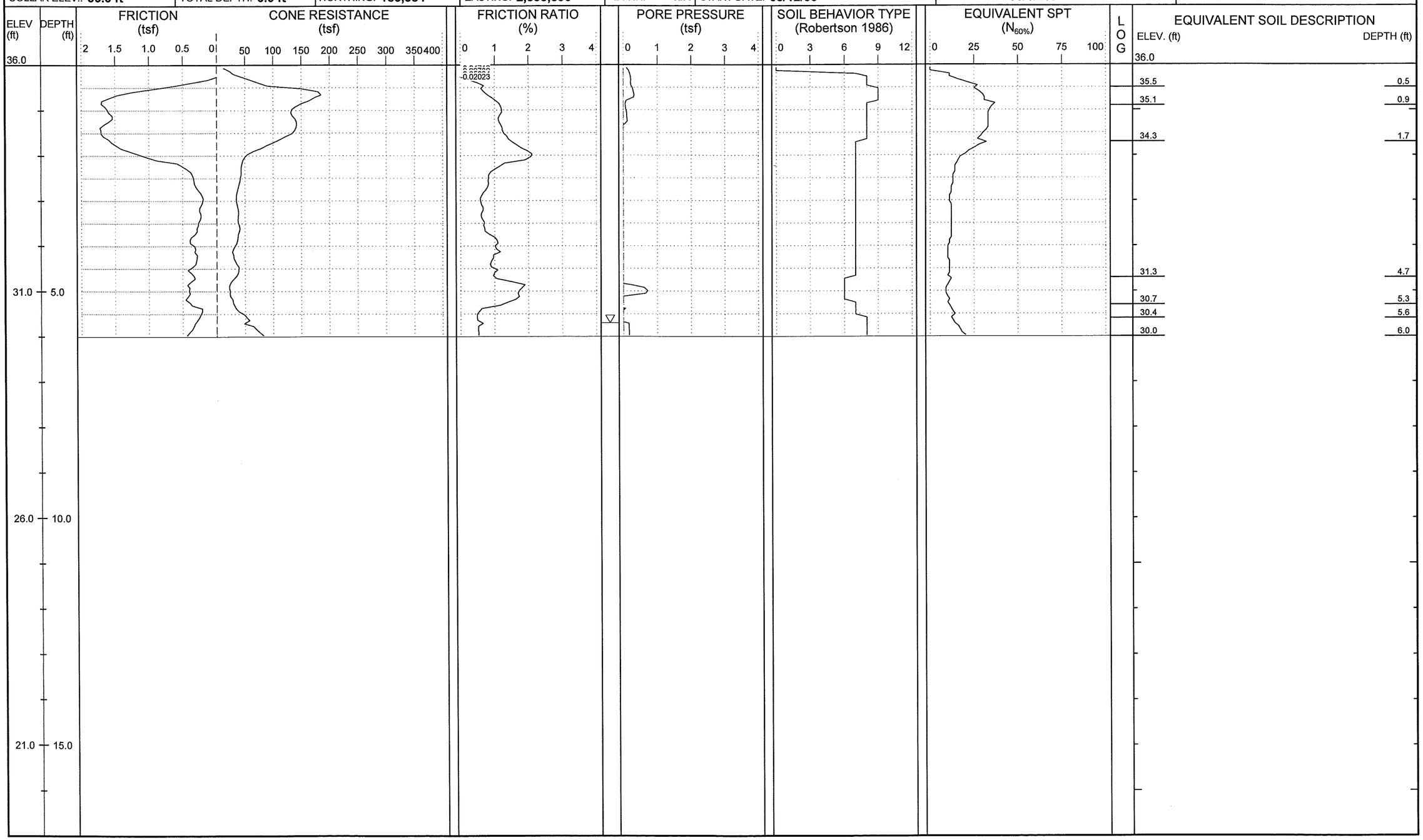


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	26
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**		MAX. DOWN PRESSURE: **~20 Ton**
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**				GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-78.5**	STATION: **78+50**	OFFSET: **50ft RT**	ALIGNMENT: **-L-**	0 HR. **5.7**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **36.0 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **183,384**	EASTING: **2,335,590**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

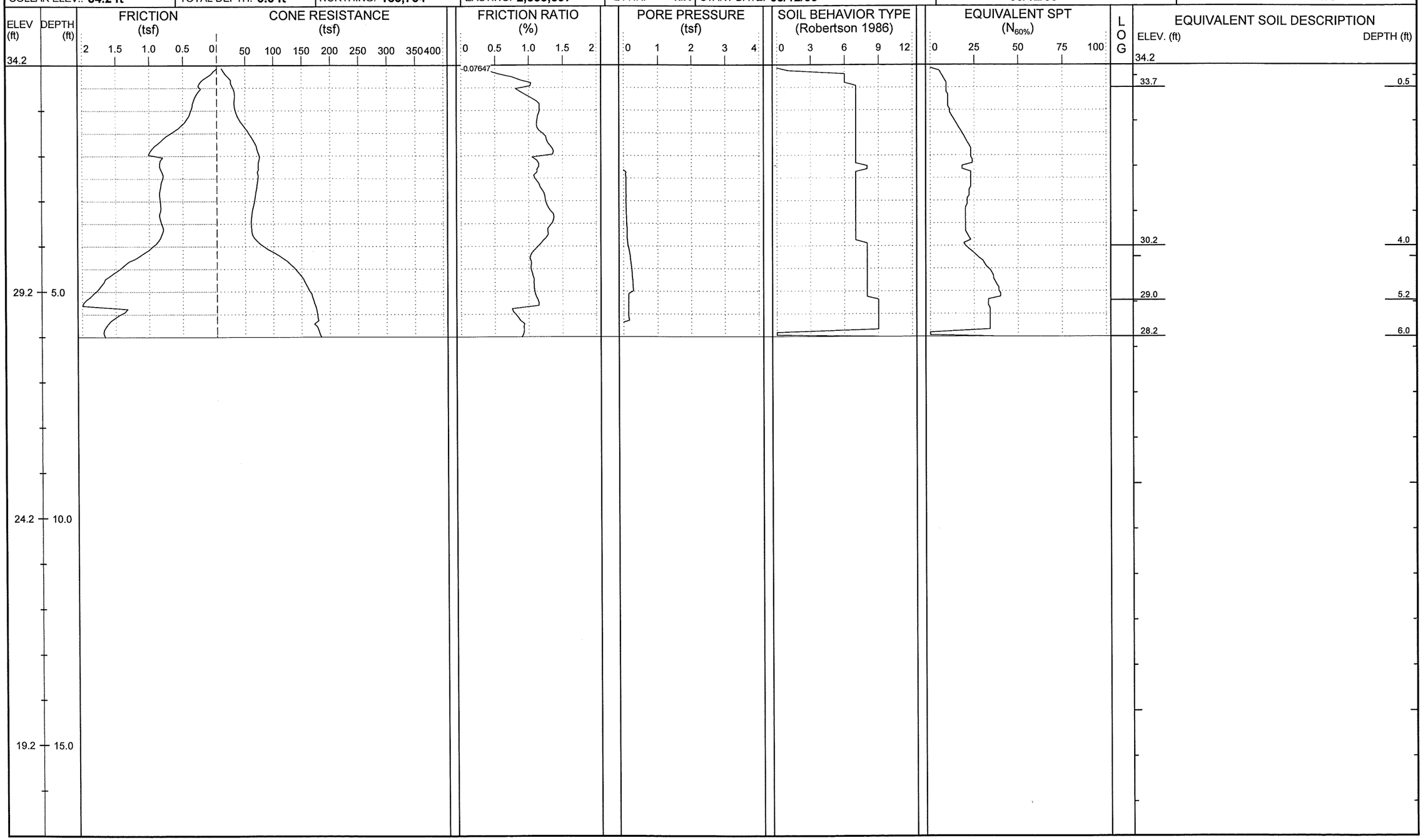


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	27
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**		MAX. DOWN PRESSURE: **~20 Ton**
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-82**	STATION: **82+00**	OFFSET: **40ft RT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **34.2 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **183,734**	EASTING: **2,335,597**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

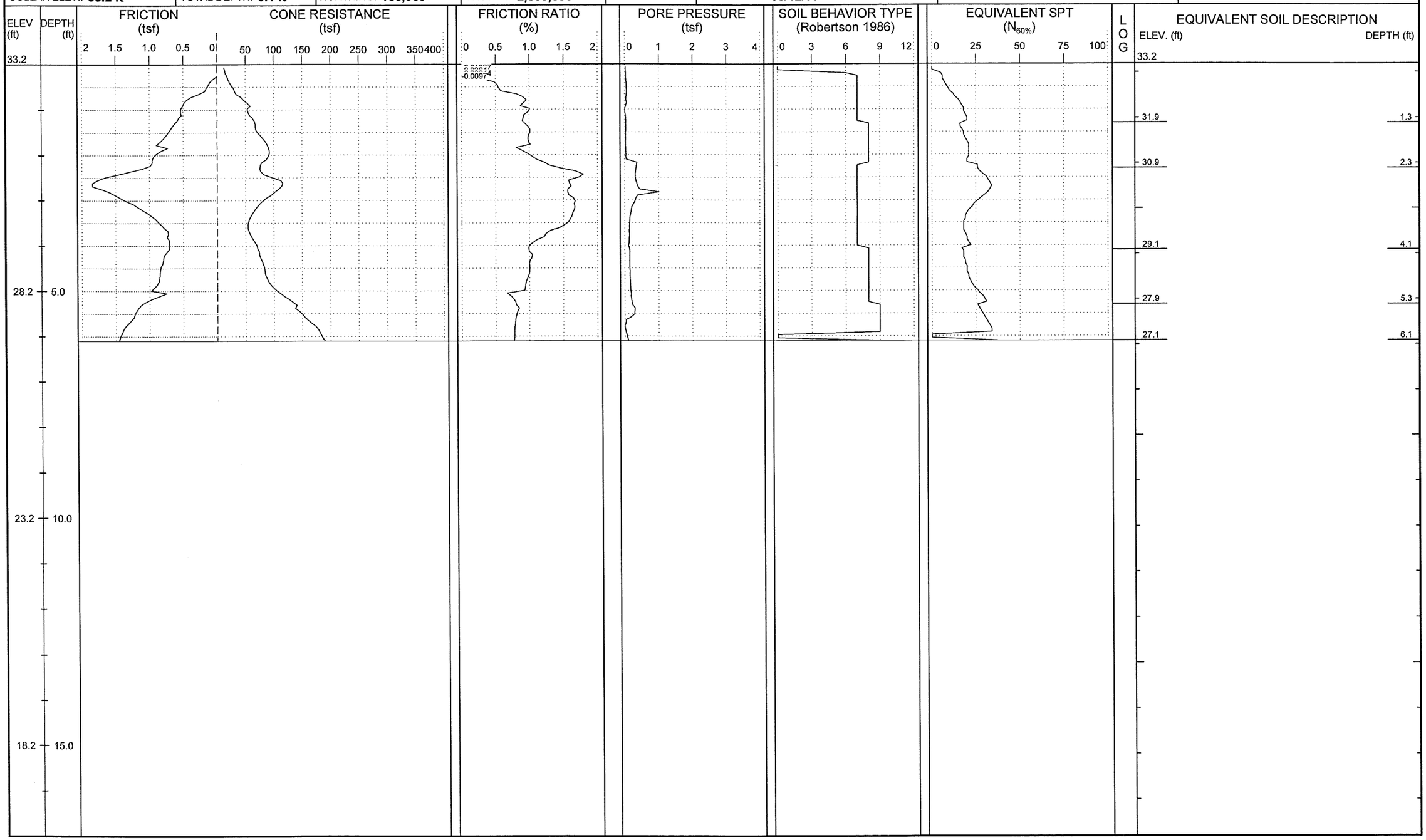


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	28
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-84**	STATION: **84+00**	OFFSET: **30ft LT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **33.2 ft**	TOTAL DEPTH: **6.1 ft**	NORTHING: **183,939**	EASTING: **2,335,536**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

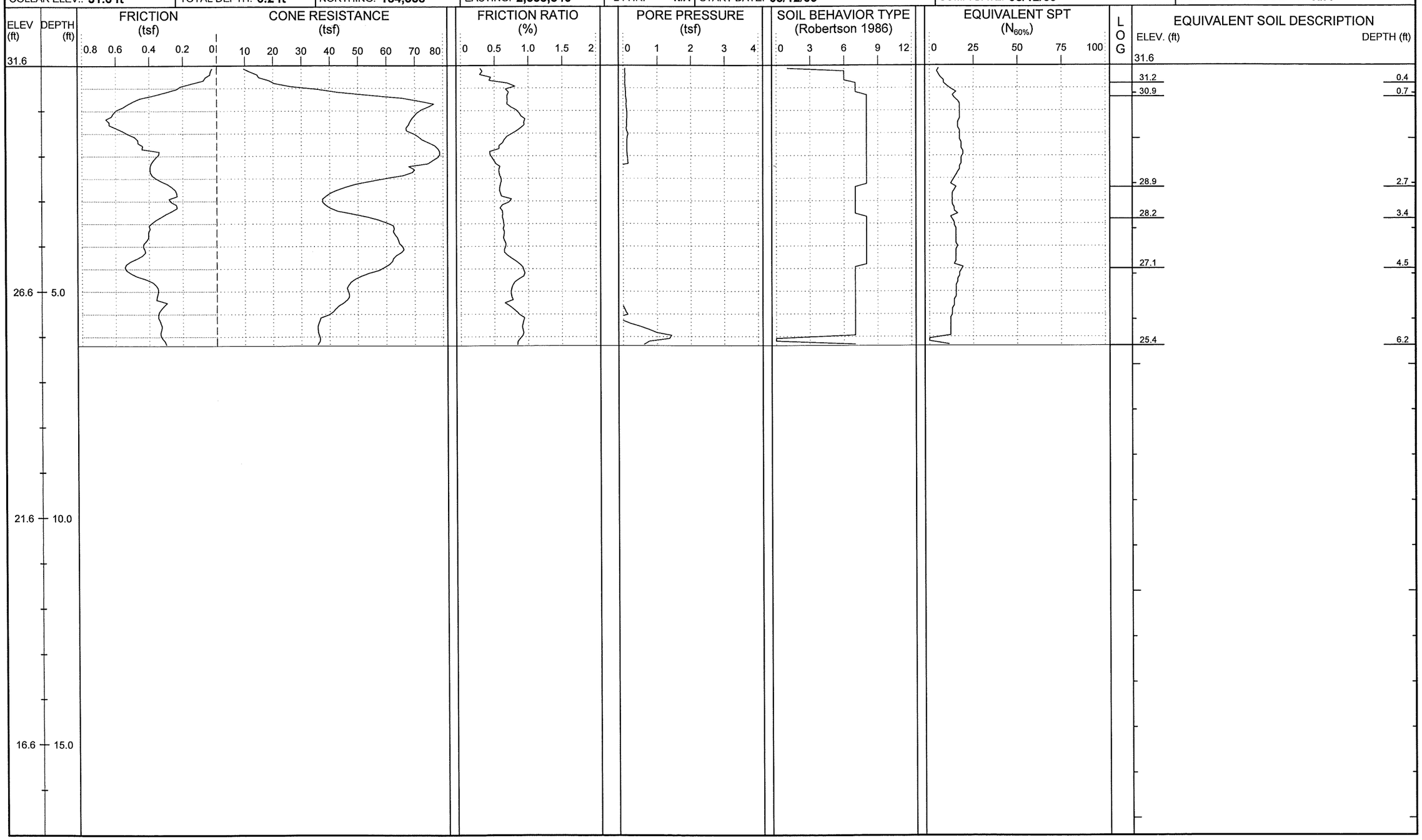


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	29
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **L-88**	STATION: **88+00**	OFFSET: **40ft LT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **31.6 ft**	TOTAL DEPTH: **6.2 ft**	NORTHING: **184,338**	EASTING: **2,335,546**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

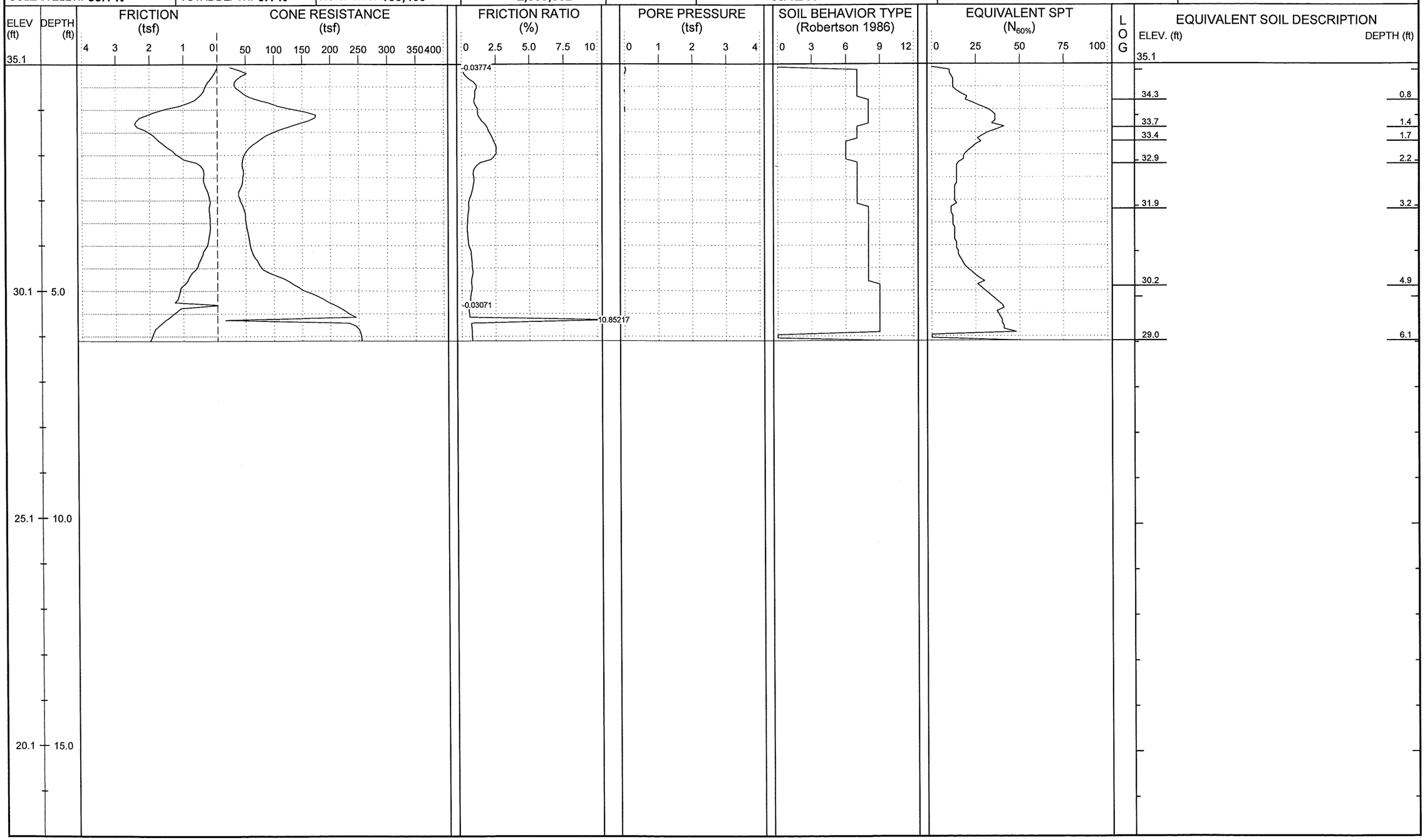


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	30
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**		MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**		DRILLER: **Donald Coogan**
BORING NO.: **Y10-12**	STATION: **12+08**	OFFSET: **15ft RT**	ALIGNMENT: **-Y10-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **35.1 ft**	TOTAL DEPTH: **6.1 ft**	NORTHING: **183,468**	EASTING: **2,335,352**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

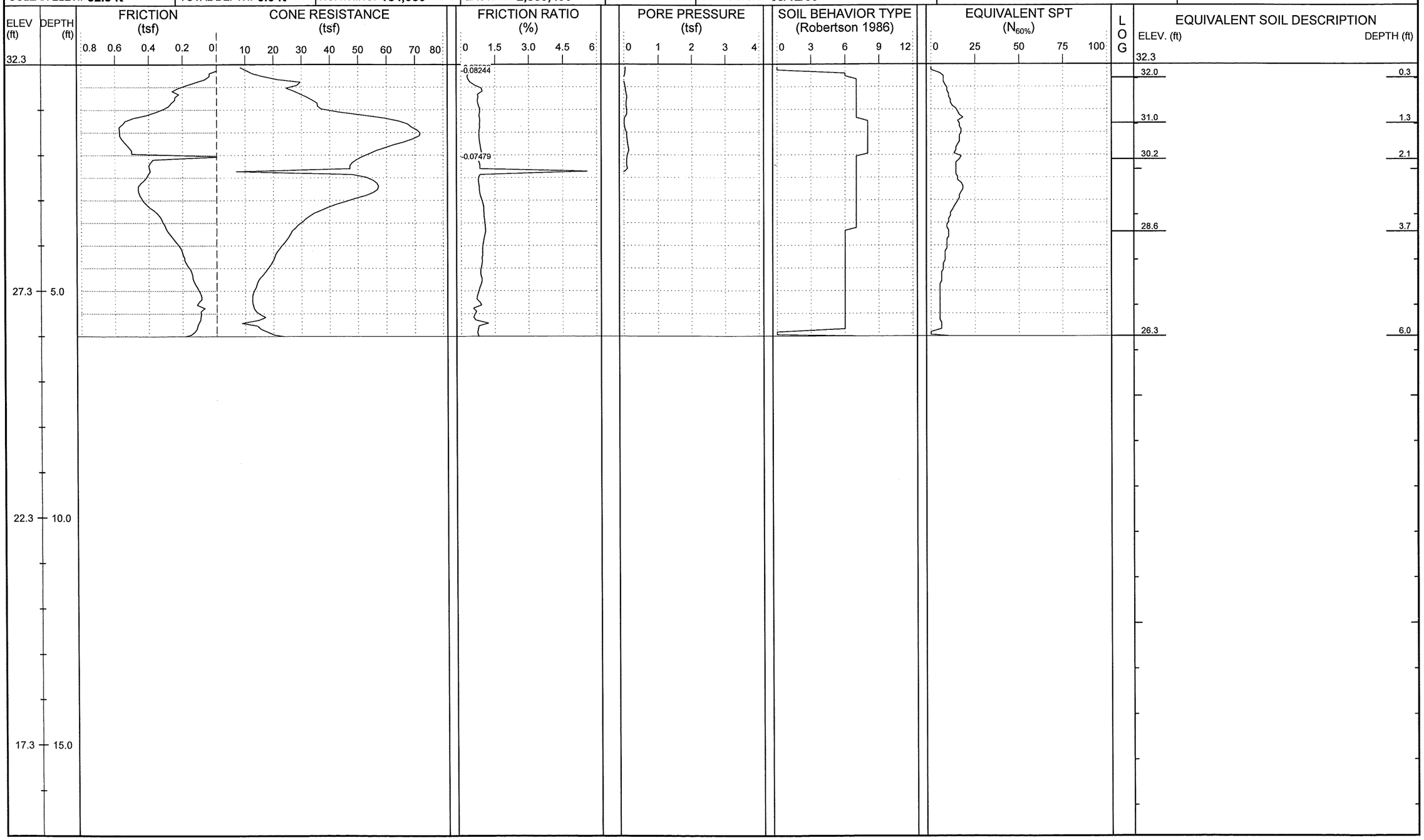


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	31
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**		MAX. DOWN PRESSURE: **~20 Ton**
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**				GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y11-13**	STATION: **13+00**	OFFSET: **30ft LT**	ALIGNMENT: **-Y11-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **32.3 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **184,036**	EASTING: **2,335,490**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

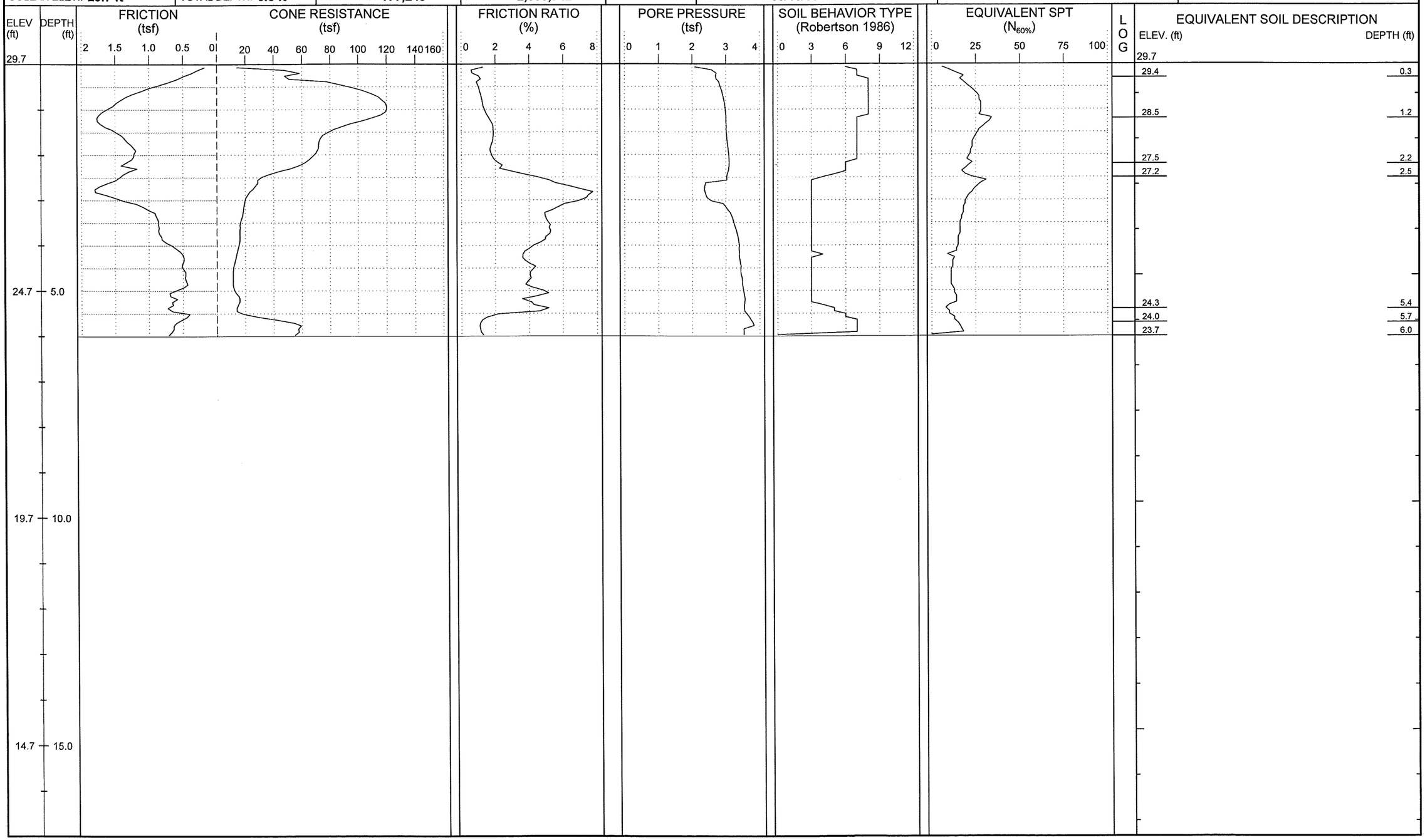


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	32
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**		MAX. DOWN PRESSURE: **~20 Ton**
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**				GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y1-13**	STATION: **13+00**	OFFSET: **55ft LT**	ALIGNMENT: **-Y1-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **29.7 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **177,248**	EASTING: **2,335,742**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

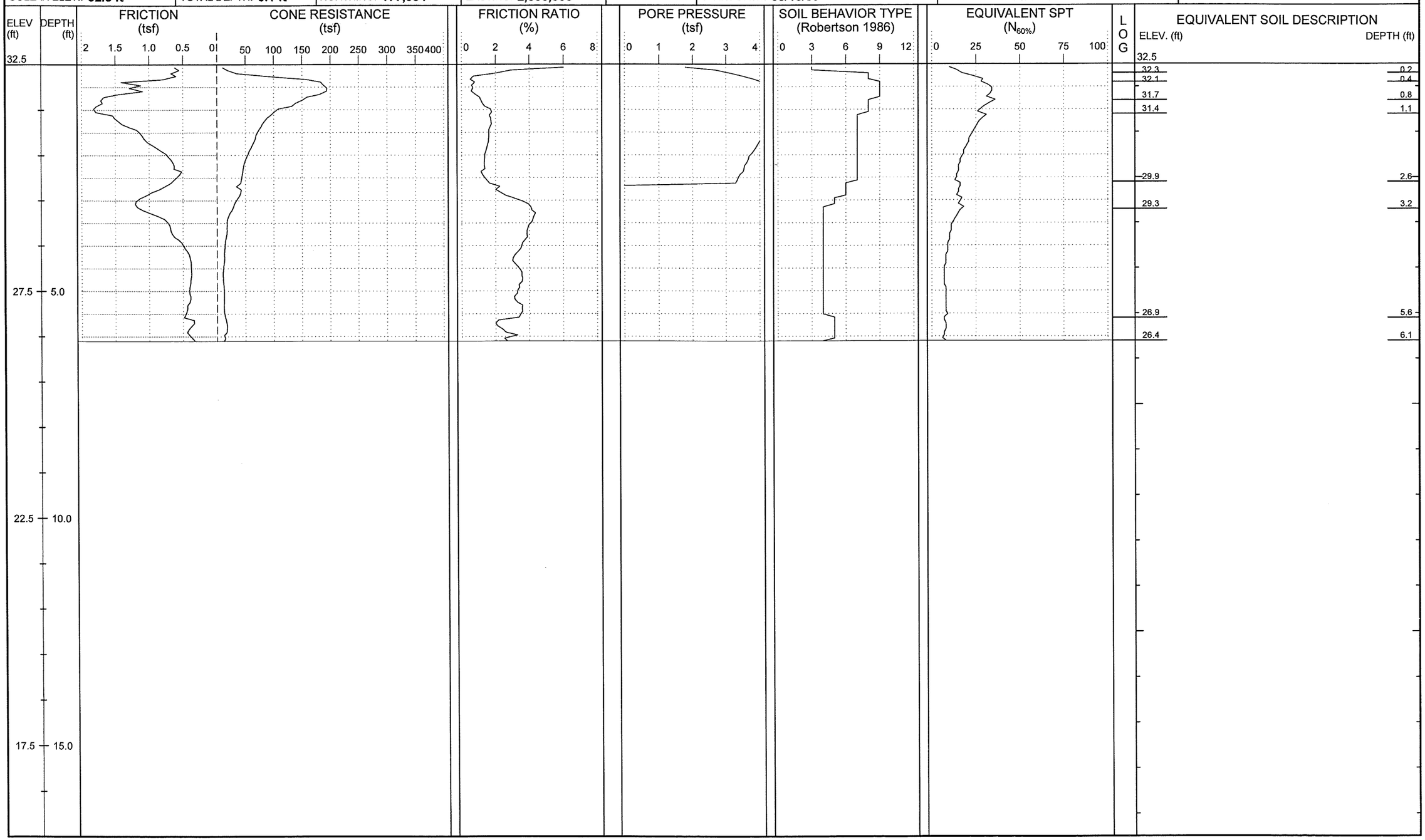


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	33
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y1-16**	STATION: **16+00**	OFFSET: **40ft LT**	ALIGNMENT: **-Y1-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **32.5 ft**	TOTAL DEPTH: **6.1 ft**	NORTHING: **177,334**	EASTING: **2,336,035**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

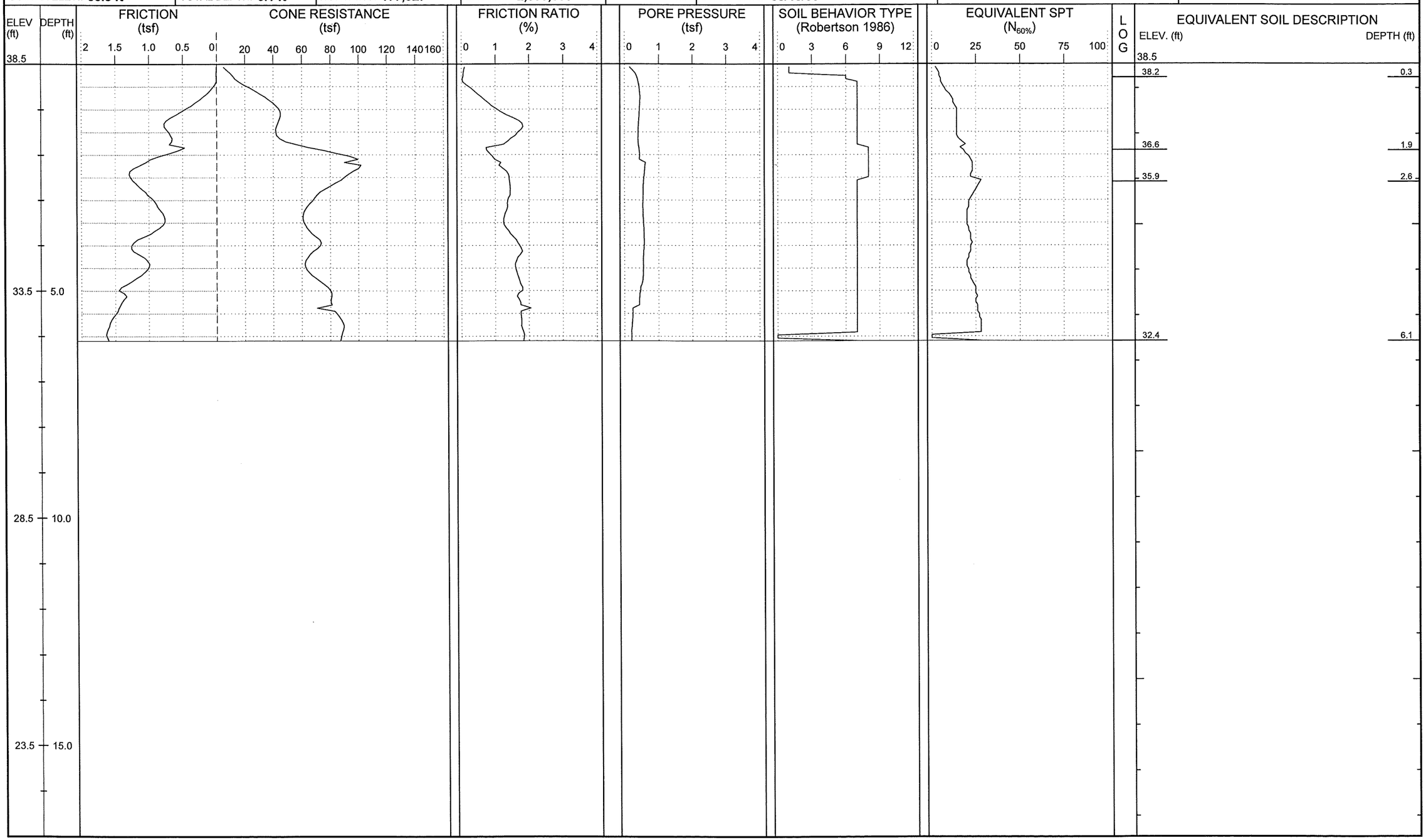


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	34
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**		MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**		DRILLER: **Donald Coogan**
BORING NO.: **Y1-19**	STATION: **19+11**	OFFSET: **41ft RT**	ALIGNMENT: **-Y1-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **38.5 ft**	TOTAL DEPTH: **6.1 ft**	NORTHING: **177,327**	EASTING: **2,336,356**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

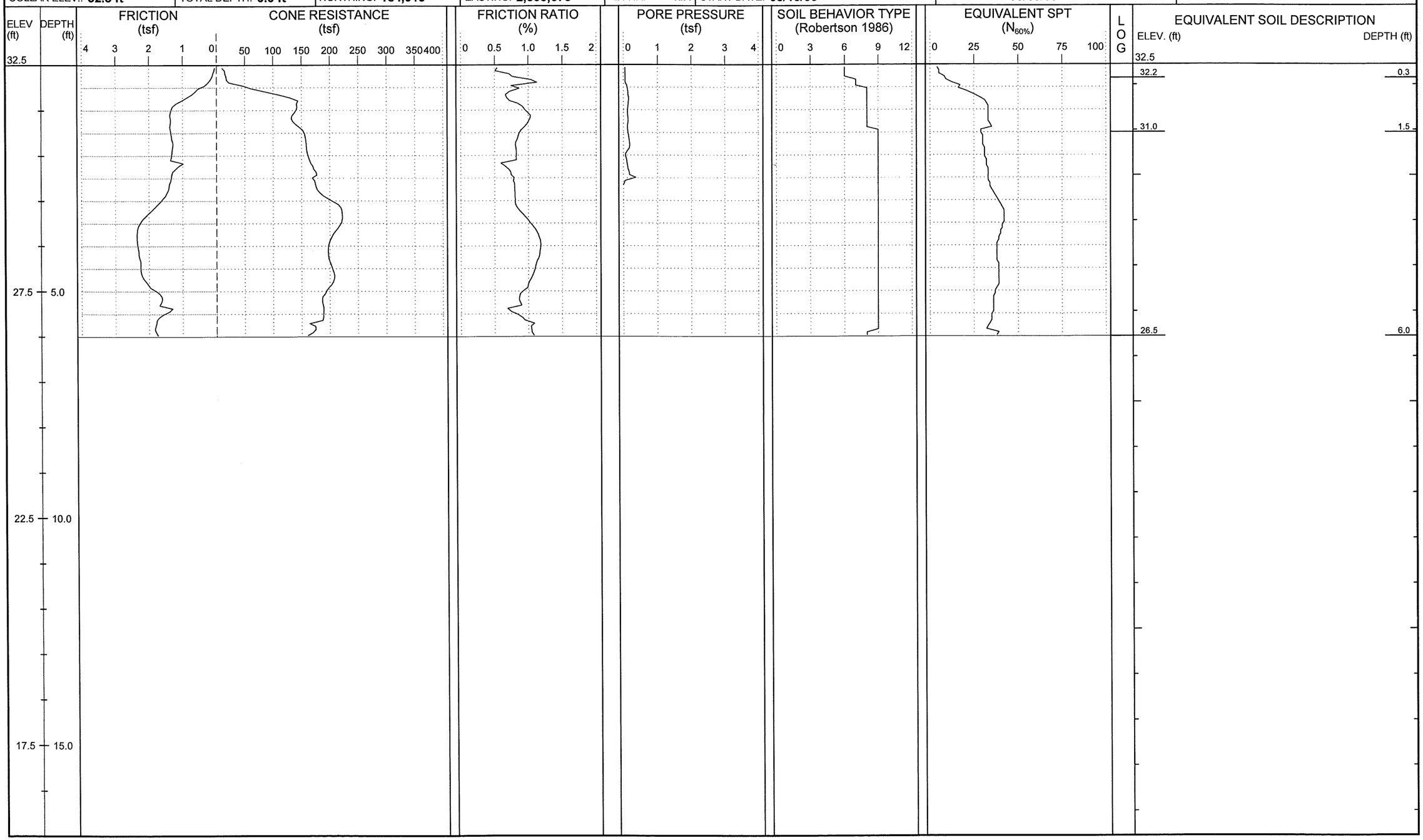


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	35
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**		MAX. DOWN PRESSURE: **~20 Ton**
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**				GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y12-11**	STATION: **11+00**	OFFSET: **25ft LT**	ALIGNMENT: **-Y12-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **32.5 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **184,013**	EASTING: **2,335,673**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

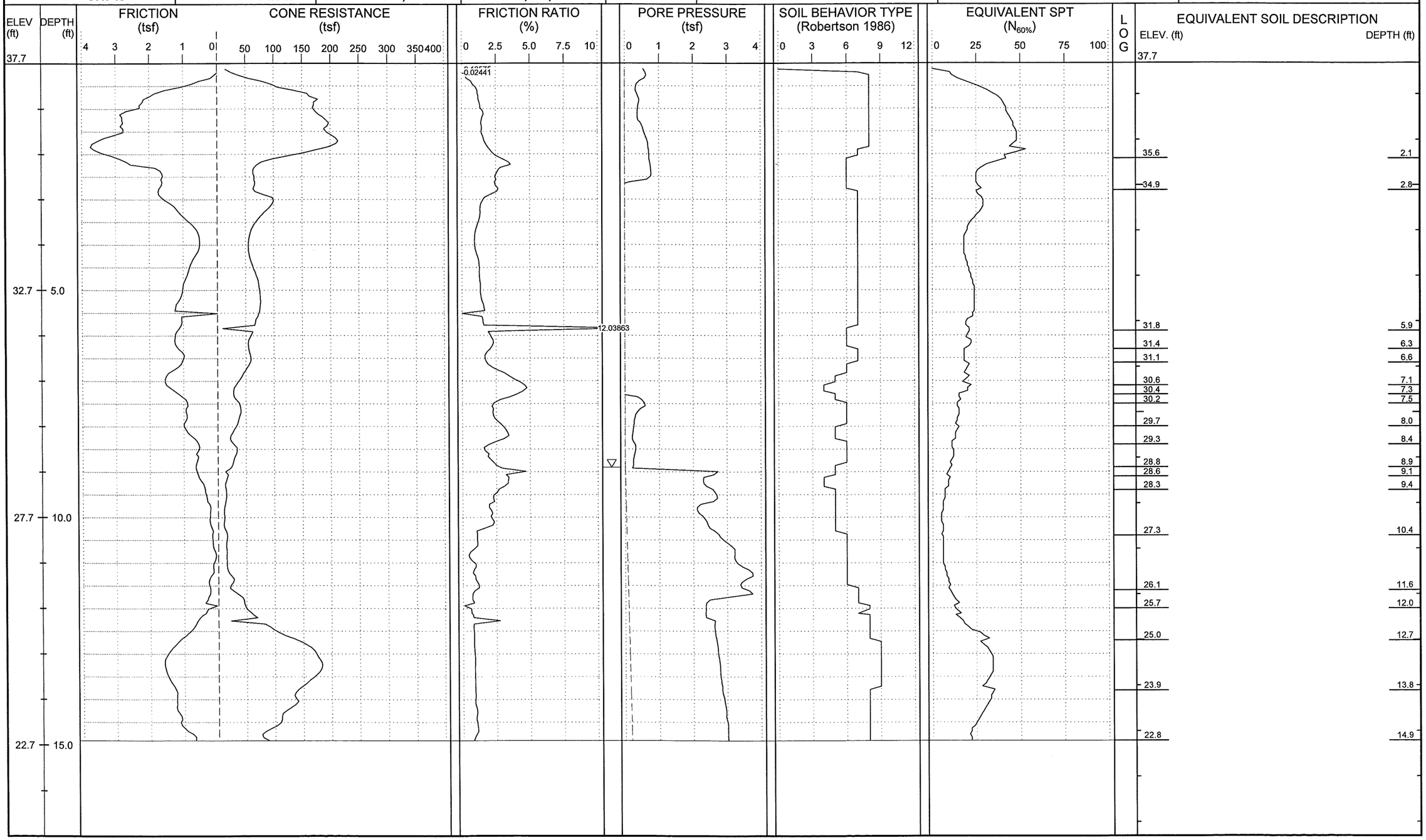


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	36
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y1-22**	STATION: **22+00**	OFFSET: **42ft LT**	ALIGNMENT: **-Y1-**	0 HR. **8.9**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **37.7 ft**	TOTAL DEPTH: **14.9 ft**	NORTHING: **177,471**	EASTING: **2,336,621**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**



LOG

EQUIVALENT SOIL DESCRIPTION

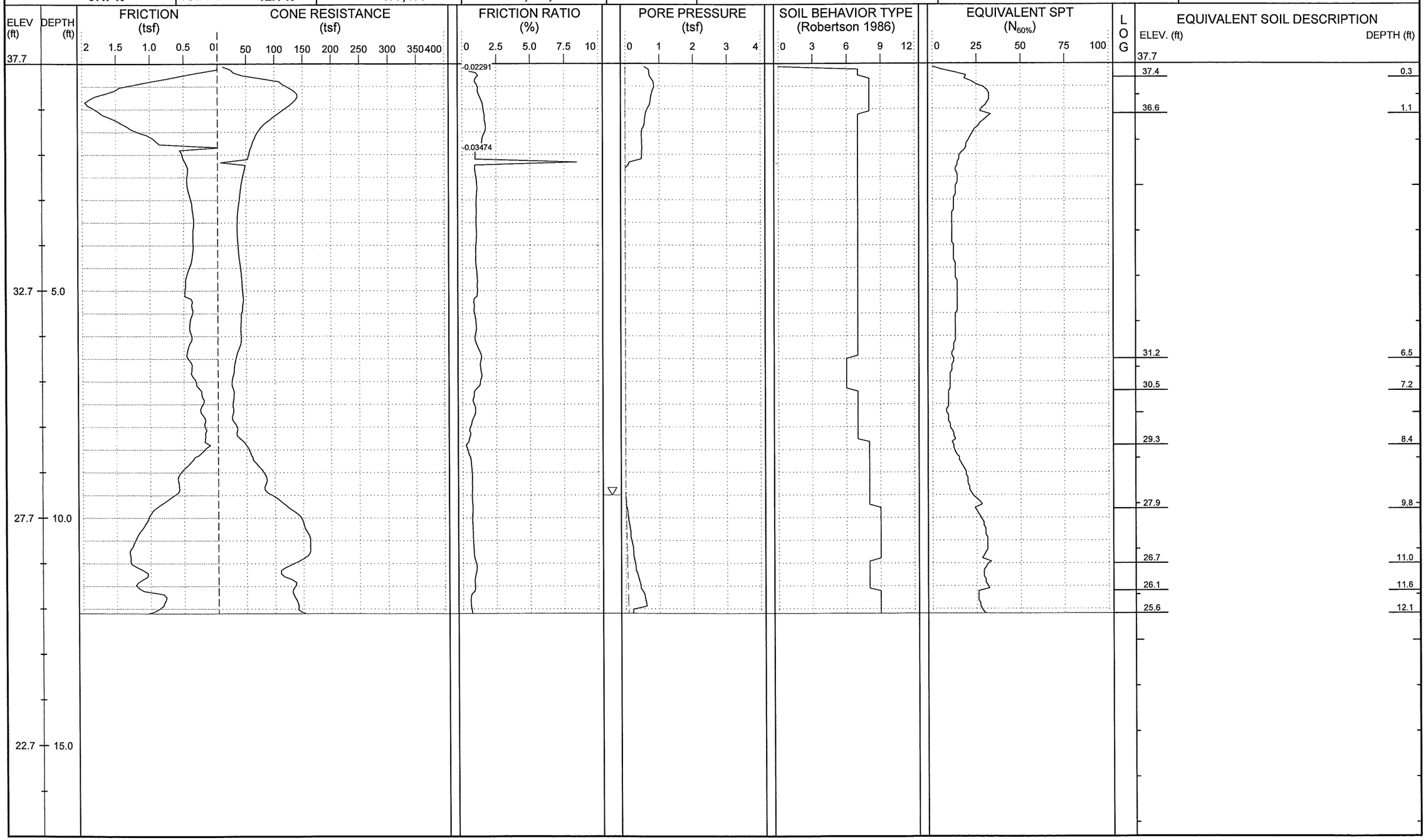
ELEV. (ft)	DEPTH (ft)
37.7	
35.6	2.1
34.9	2.8
31.8	5.9
31.4	6.3
31.1	6.6
30.6	7.1
30.4	7.3
30.2	7.5
29.7	8.0
29.3	8.4
28.8	8.9
28.6	9.1
28.3	9.4
27.3	10.4
26.1	11.6
25.7	12.0
25.0	12.7
23.9	13.8
22.8	14.9

NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	37
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y1-24**	STATION: **24+00**	OFFSET: **38ft LT**	ALIGNMENT: **-Y1-**	0 HR. **9.5**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **37.7 ft**	TOTAL DEPTH: **12.1 ft**	NORTHING: **177,496**	EASTING: **2,336,823**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

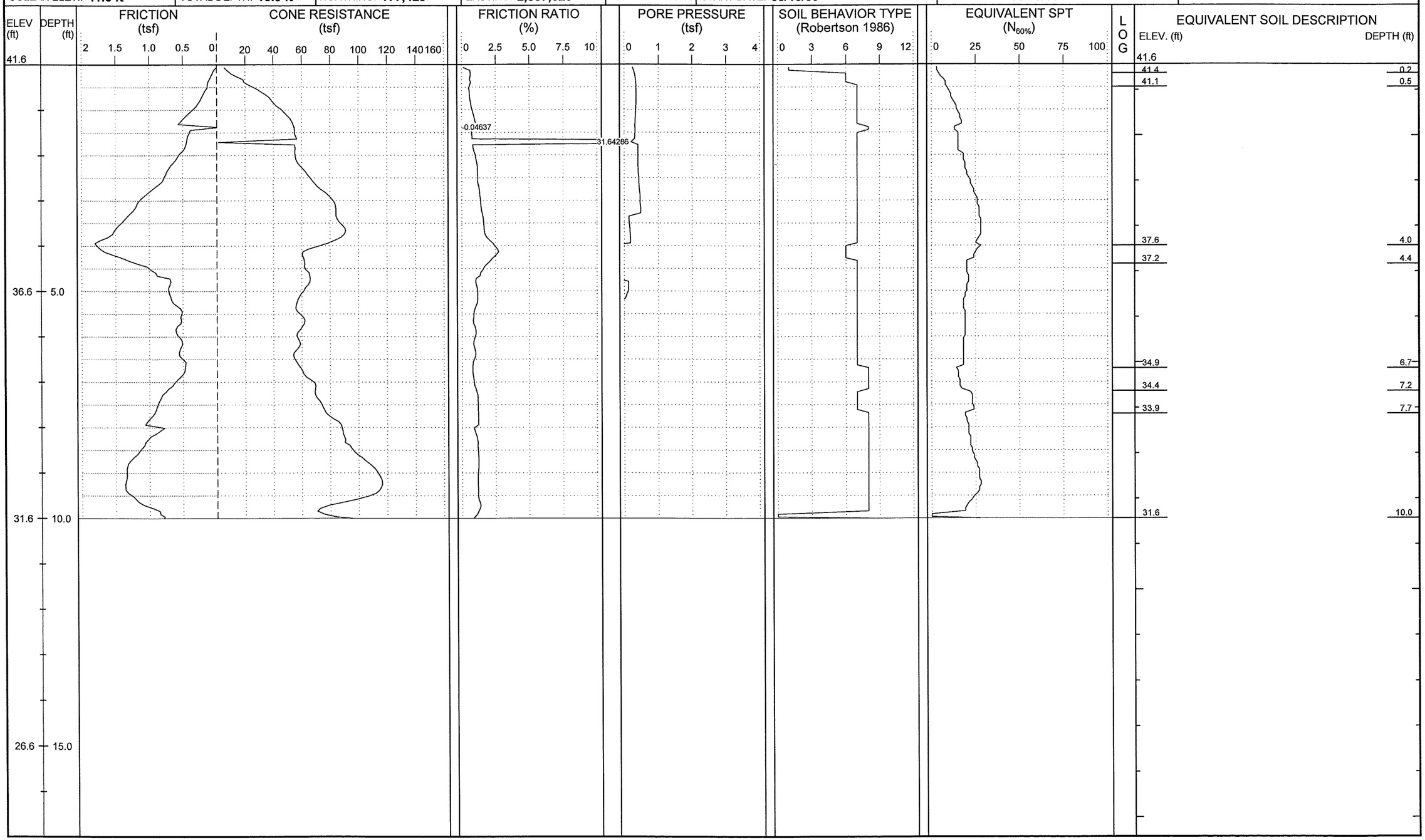


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	38
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y1-26**	STATION: **26+00**	OFFSET: **50ft RT**	ALIGNMENT: **-Y1-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **41.6 ft**	TOTAL DEPTH: **10.0 ft**	NORTHING: **177,423**	EASTING: **2,337,028**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

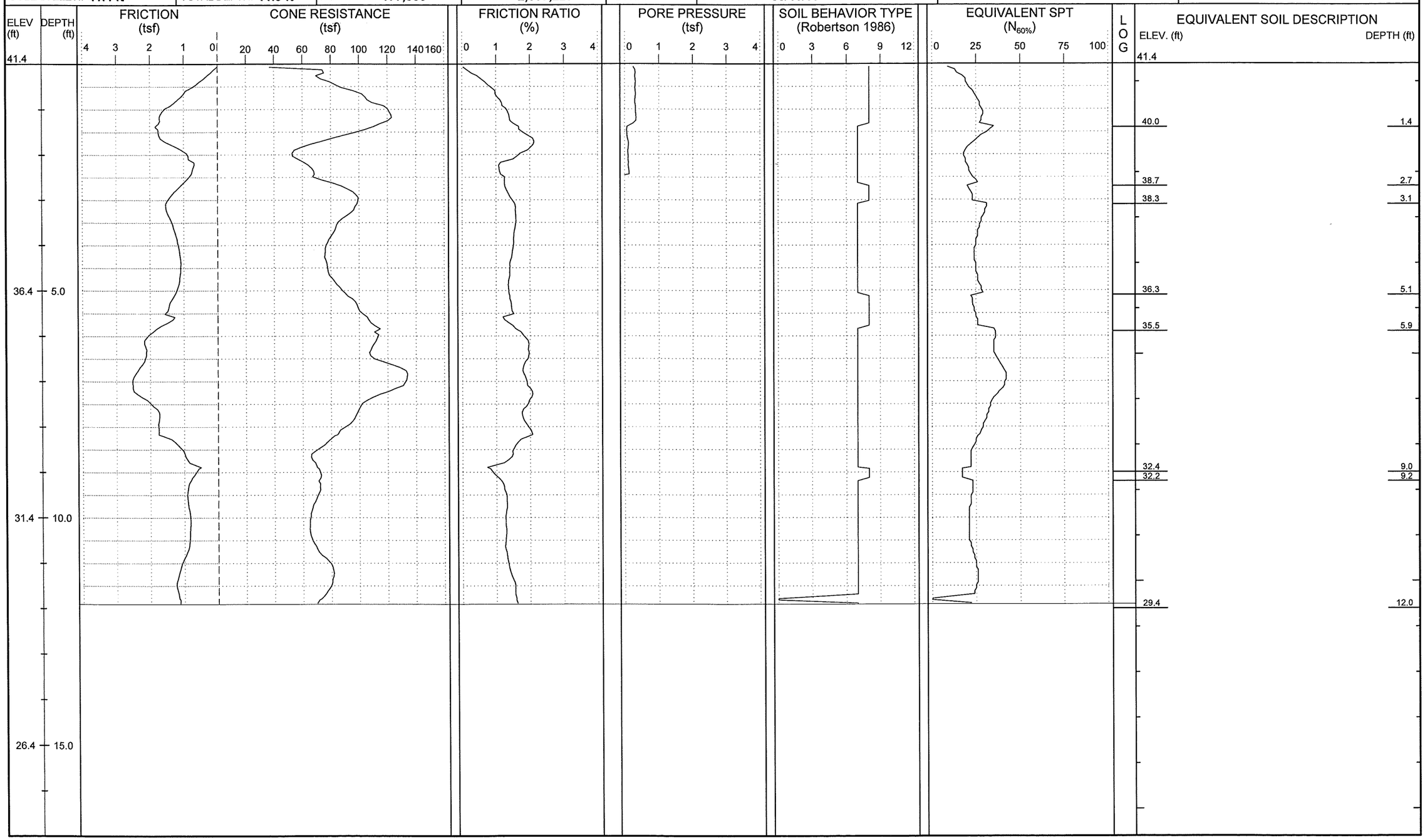


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	39
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y1-28**	STATION: **28+00**	OFFSET: **34ft LT**	ALIGNMENT: **-Y1-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **41.4 ft**	TOTAL DEPTH: **11.9 ft**	NORTHING: **177,506**	EASTING: **2,337,227**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

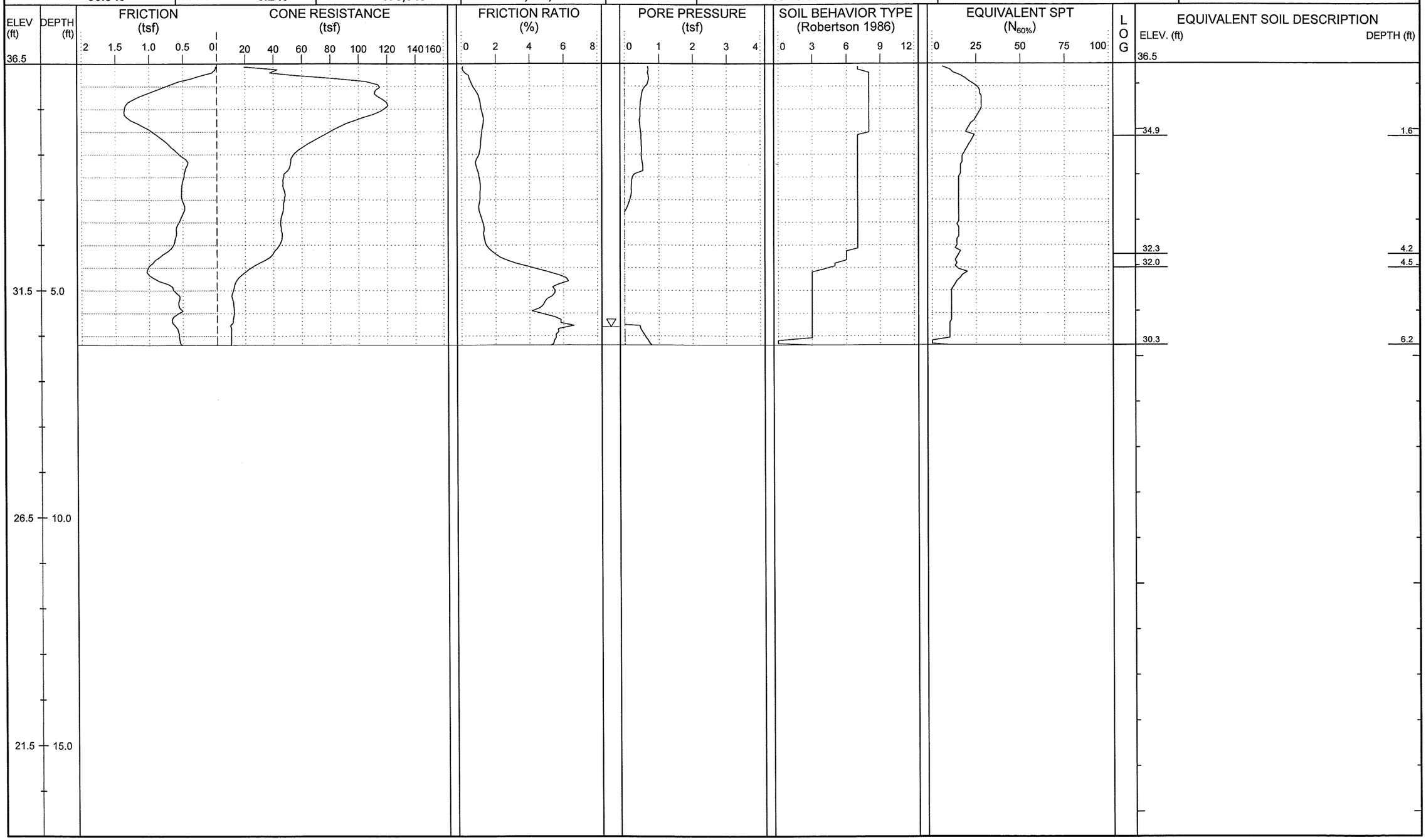


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	40
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y2-11**	STATION: **11+00**	OFFSET: **15ft LT**	ALIGNMENT: **-Y2-**	0 HR. **5.8**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **36.5 ft**	TOTAL DEPTH: **6.2 ft**	NORTHING: **178,343**	EASTING: **2,336,167**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

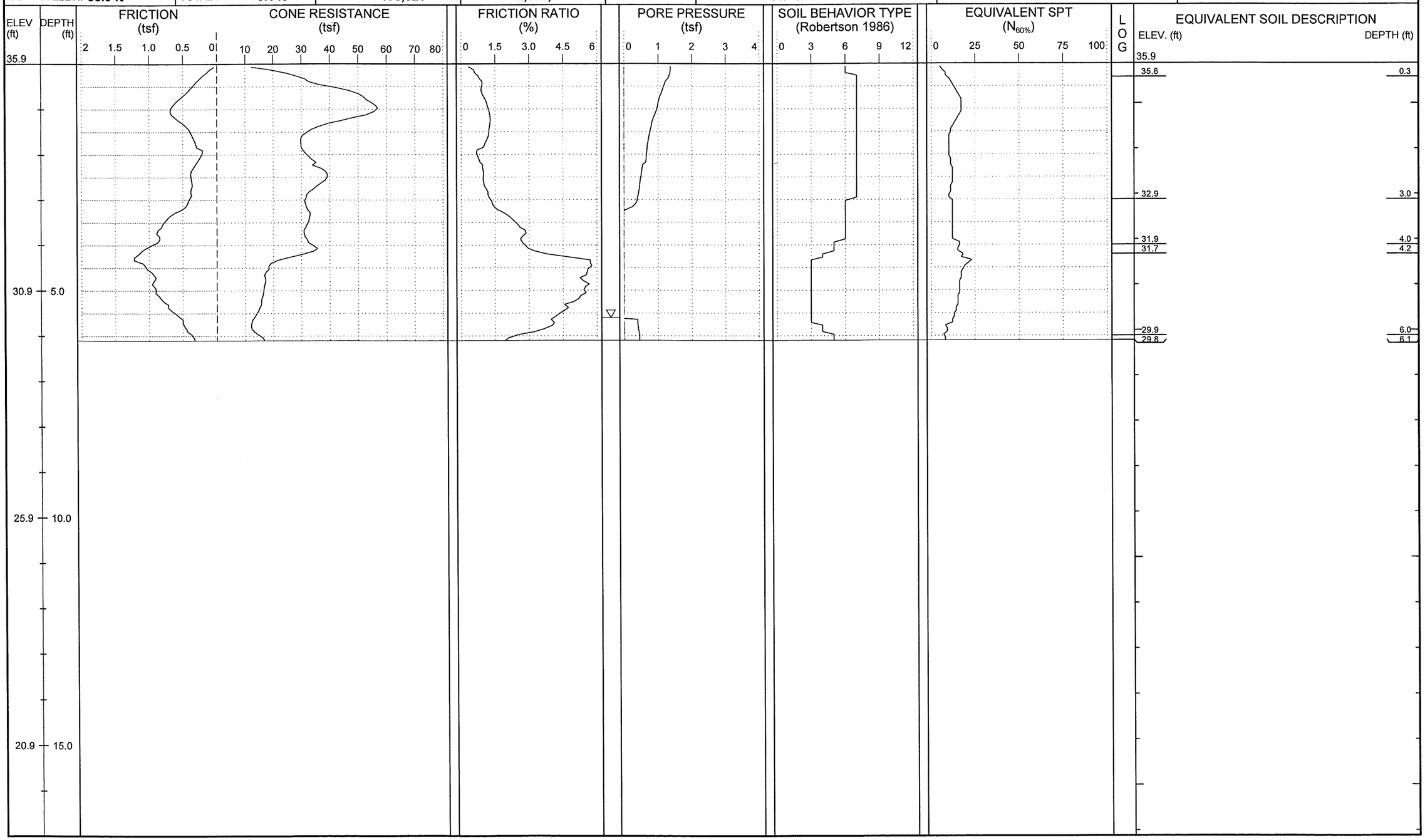


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	41
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y2-12**	STATION: **12+00**	OFFSET: **20ft RT**	ALIGNMENT: **-Y2-**	0 HR. **5.6**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **35.9 ft**	TOTAL DEPTH: **6.1 ft**	NORTHING: **178,321**	EASTING: **2,336,271**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

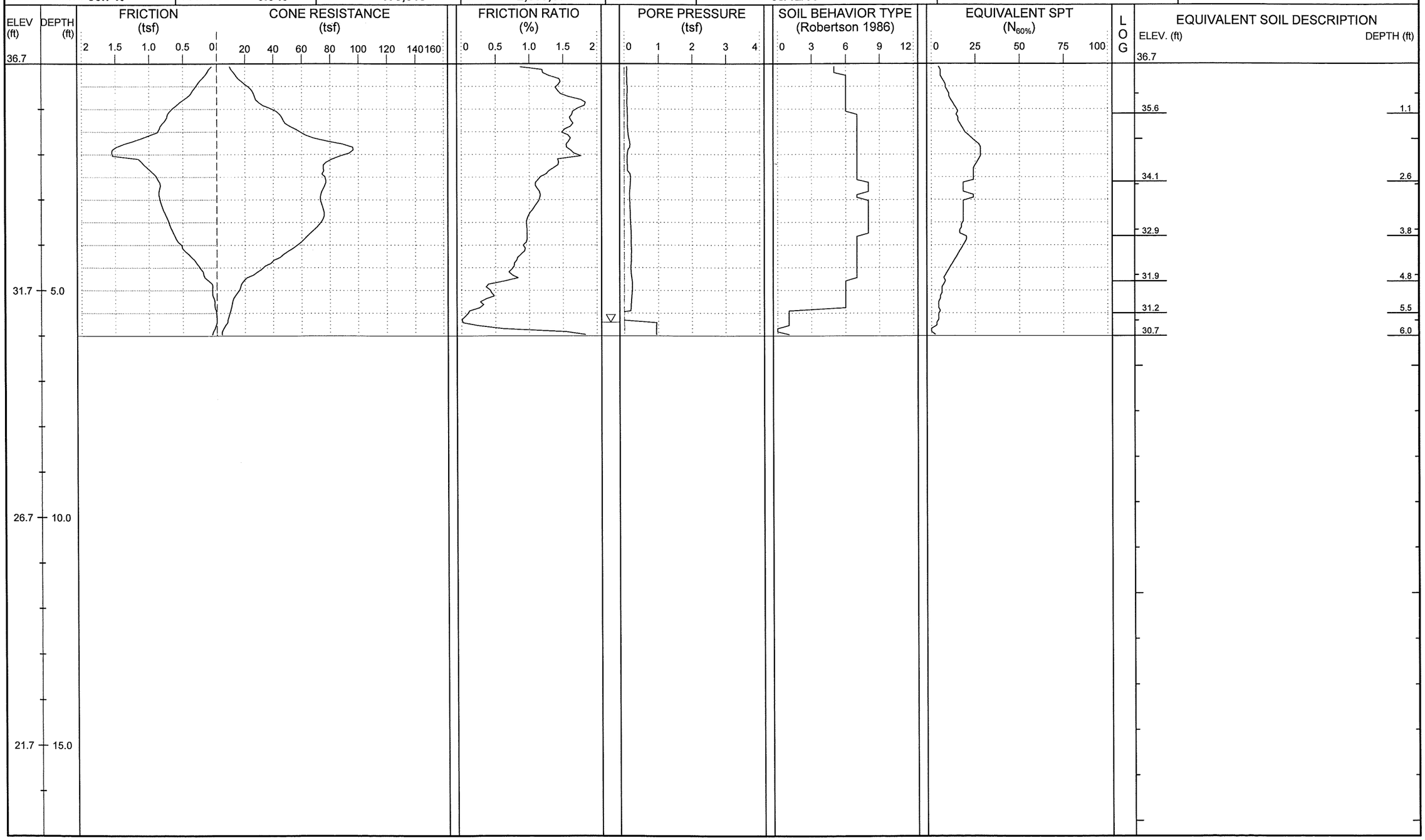


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	42
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y4-11**	STATION: **11+00**	OFFSET: **25ft RT**	ALIGNMENT: **-Y4-**	0 HR. **5.7**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **36.7 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **179,610**	EASTING: **2,335,892**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

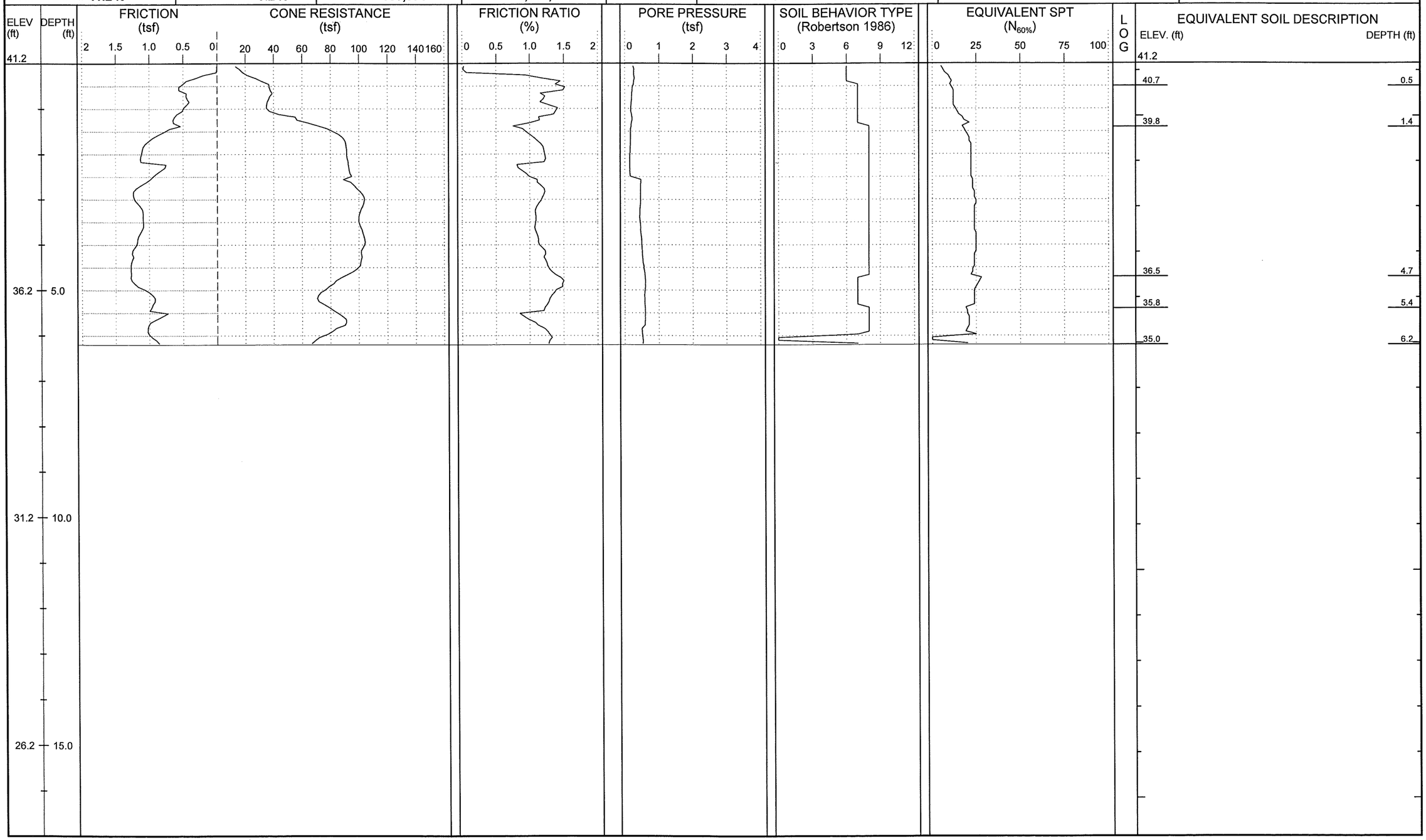


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	43
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y6-12**	STATION: **12+36**	OFFSET: **54ft RT**	ALIGNMENT: **-Y6-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **41.2 ft**	TOTAL DEPTH: **6.2 ft**	NORTHING: **180,971**	EASTING: **2,334,652**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

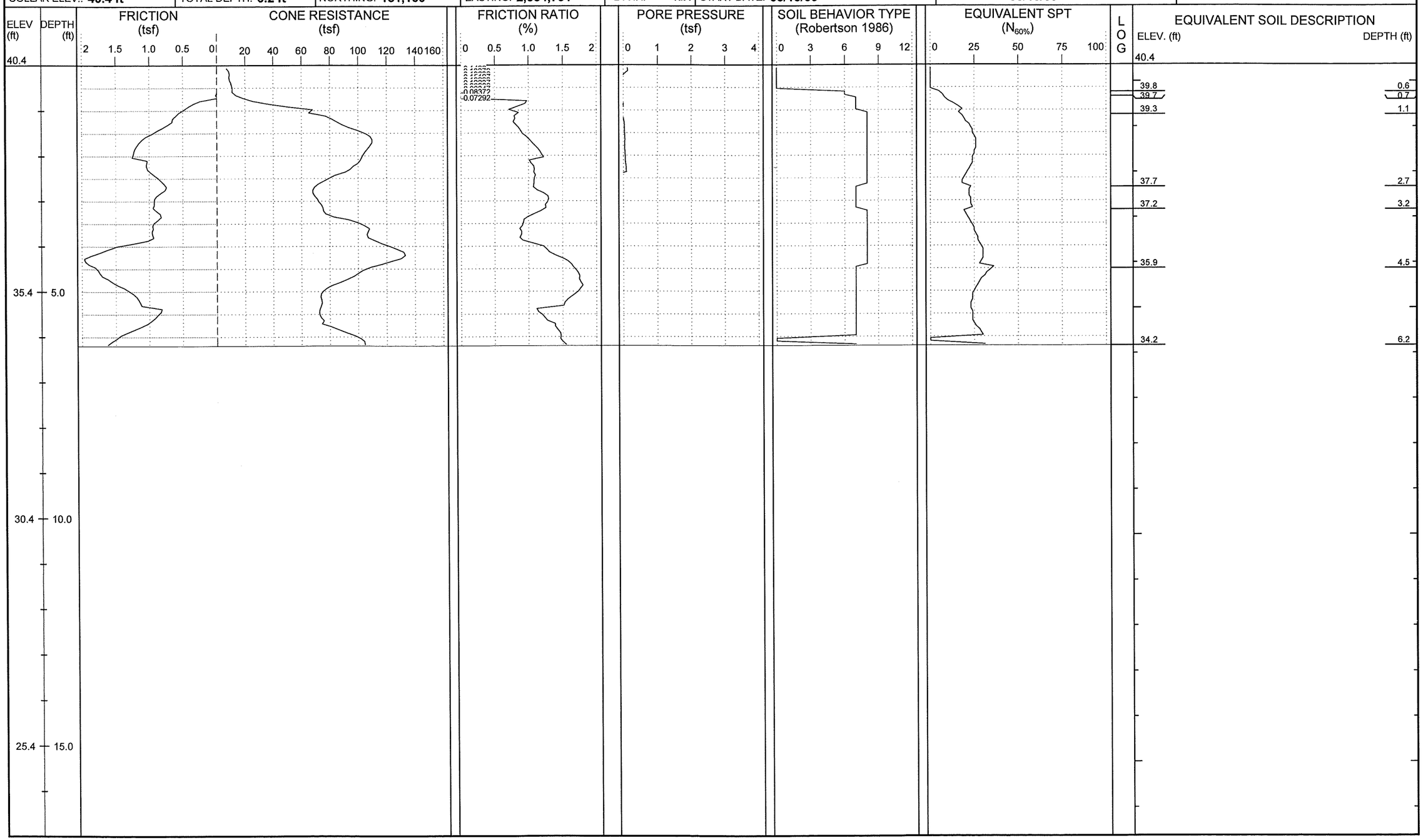


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	44
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**		MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**		DRILLER: **Donald Coogan**
BORING NO.: **Y6-14**	STATION: **14+00**	OFFSET: **42ft LT**	ALIGNMENT: **-Y6-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **40.4 ft**	TOTAL DEPTH: **6.2 ft**	NORTHING: **181,100**	EASTING: **2,334,791**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

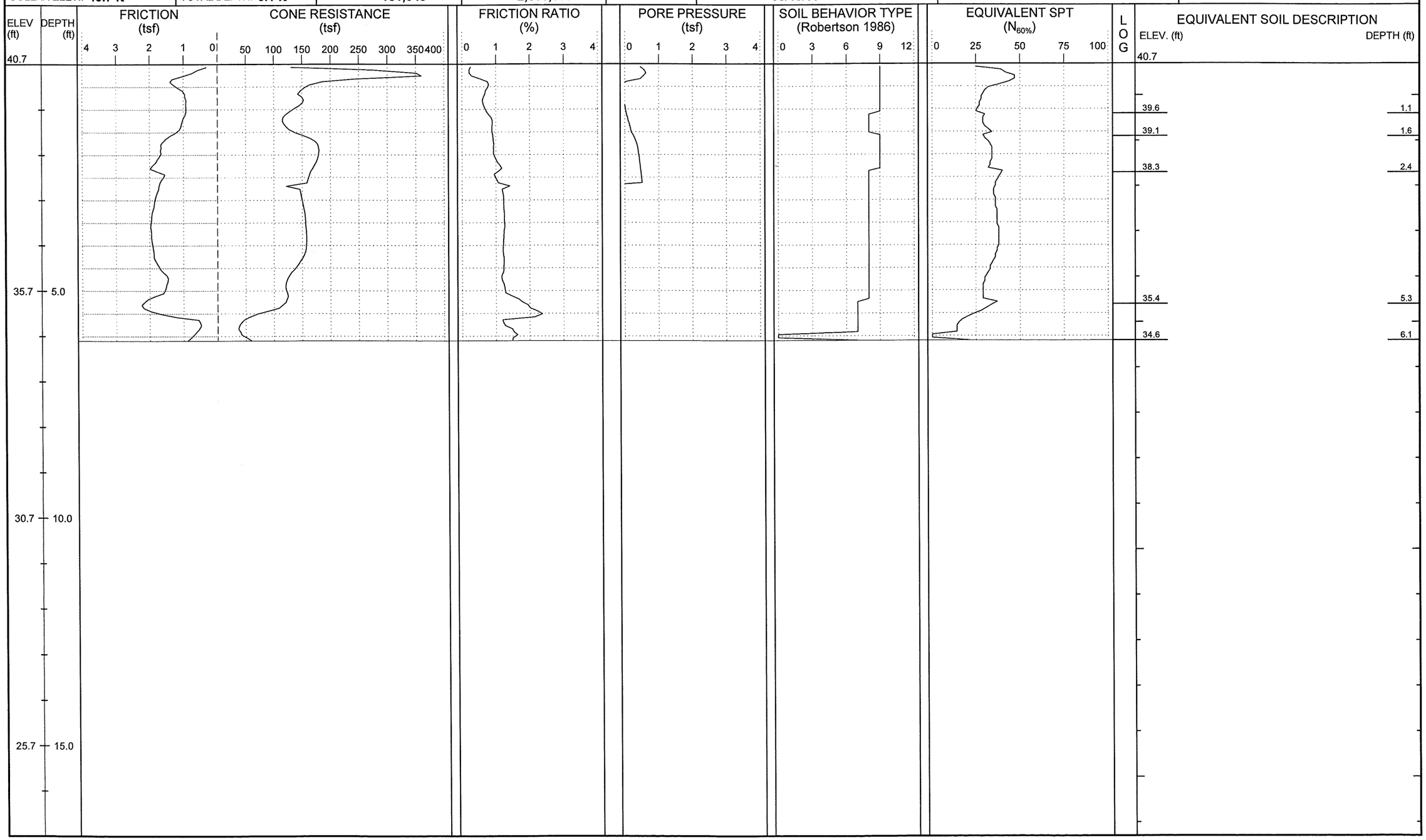


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	45
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**		MAX. DOWN PRESSURE: **~20 Ton**
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y6-16**	STATION: **16+00**	OFFSET: **60ft RT**	ALIGNMENT: **-Y6-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **40.7 ft**	TOTAL DEPTH: **6.1 ft**	NORTHING: **181,043**	EASTING: **2,335,009**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

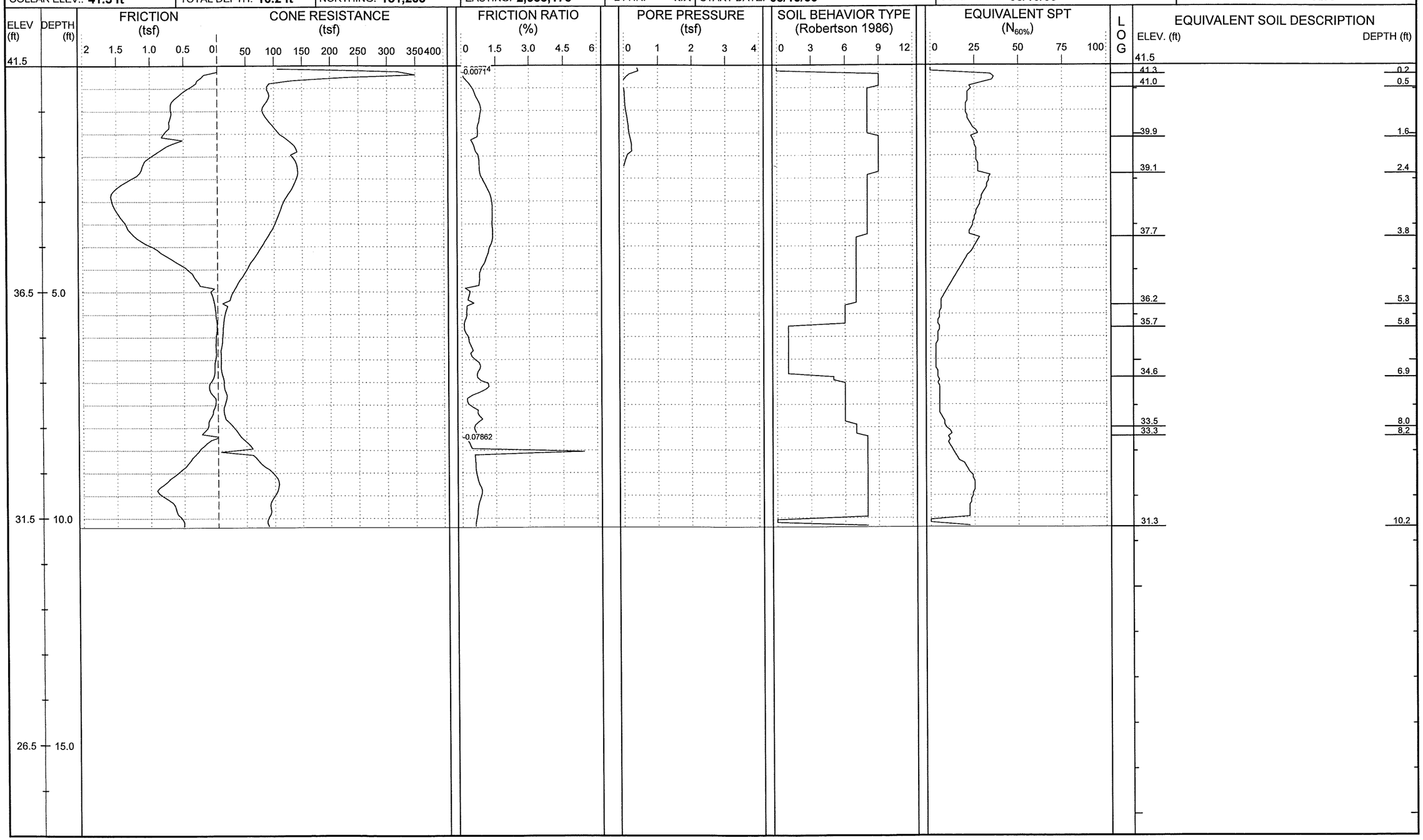


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	46
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y6-18**	STATION: **18+00**	OFFSET: **50ft LT**	ALIGNMENT: **-Y6-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **41.5 ft**	TOTAL DEPTH: **10.2 ft**	NORTHING: **181,203**	EASTING: **2,335,178**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**



LOG

EQUIVALENT SOIL DESCRIPTION

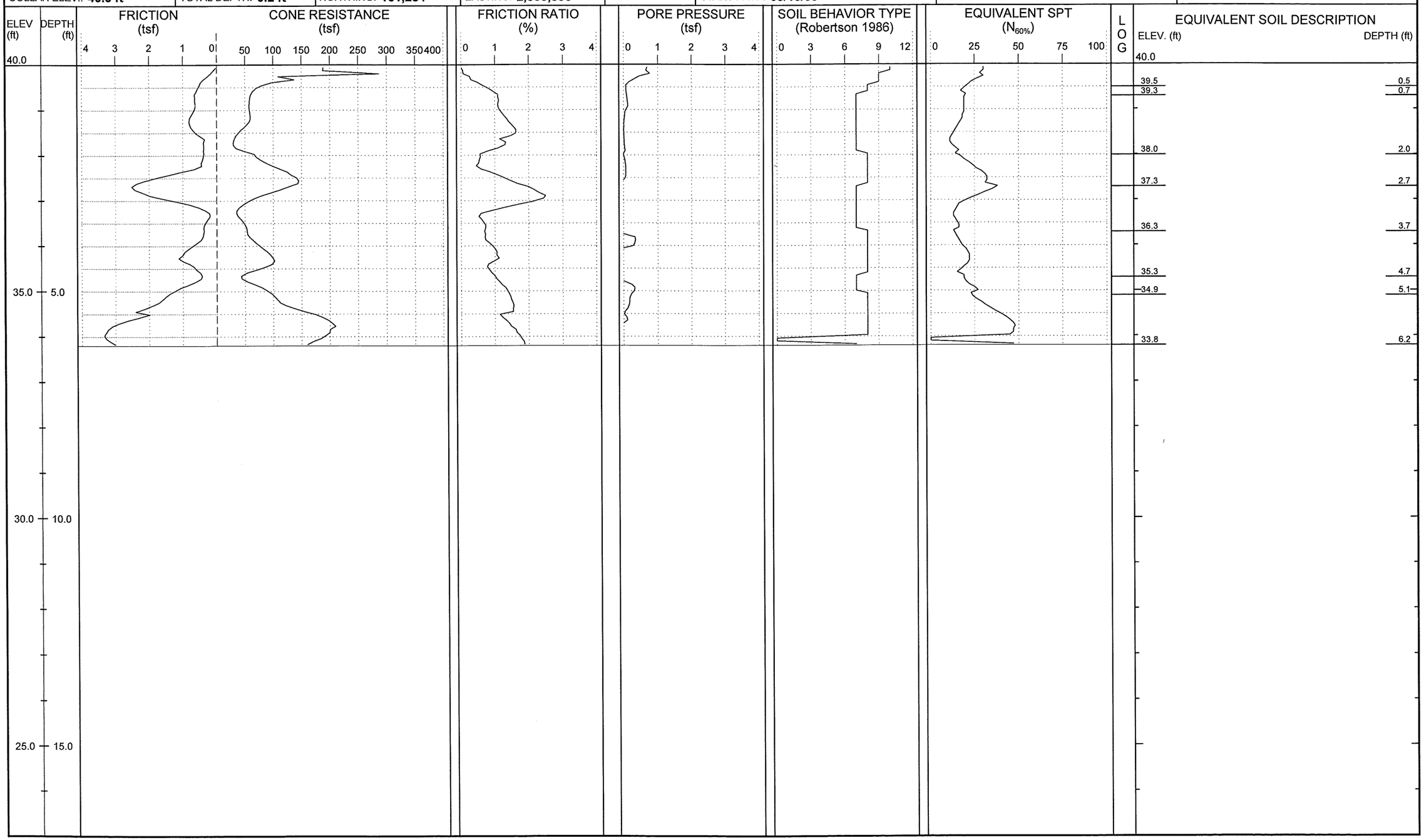
ELEV. (ft)	DEPTH (ft)
41.5	
41.3	0.2
41.0	0.5
39.9	1.6
39.1	2.4
37.7	3.8
36.2	5.3
35.7	5.8
34.6	6.9
33.5	8.0
33.3	8.2
31.3	10.2

NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	47
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y6-22**	STATION: **22+24**	OFFSET: **50ft LT**	ALIGNMENT: **-Y6-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **40.0 ft**	TOTAL DEPTH: **6.2 ft**	NORTHING: **181,284**	EASTING: **2,335,595**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

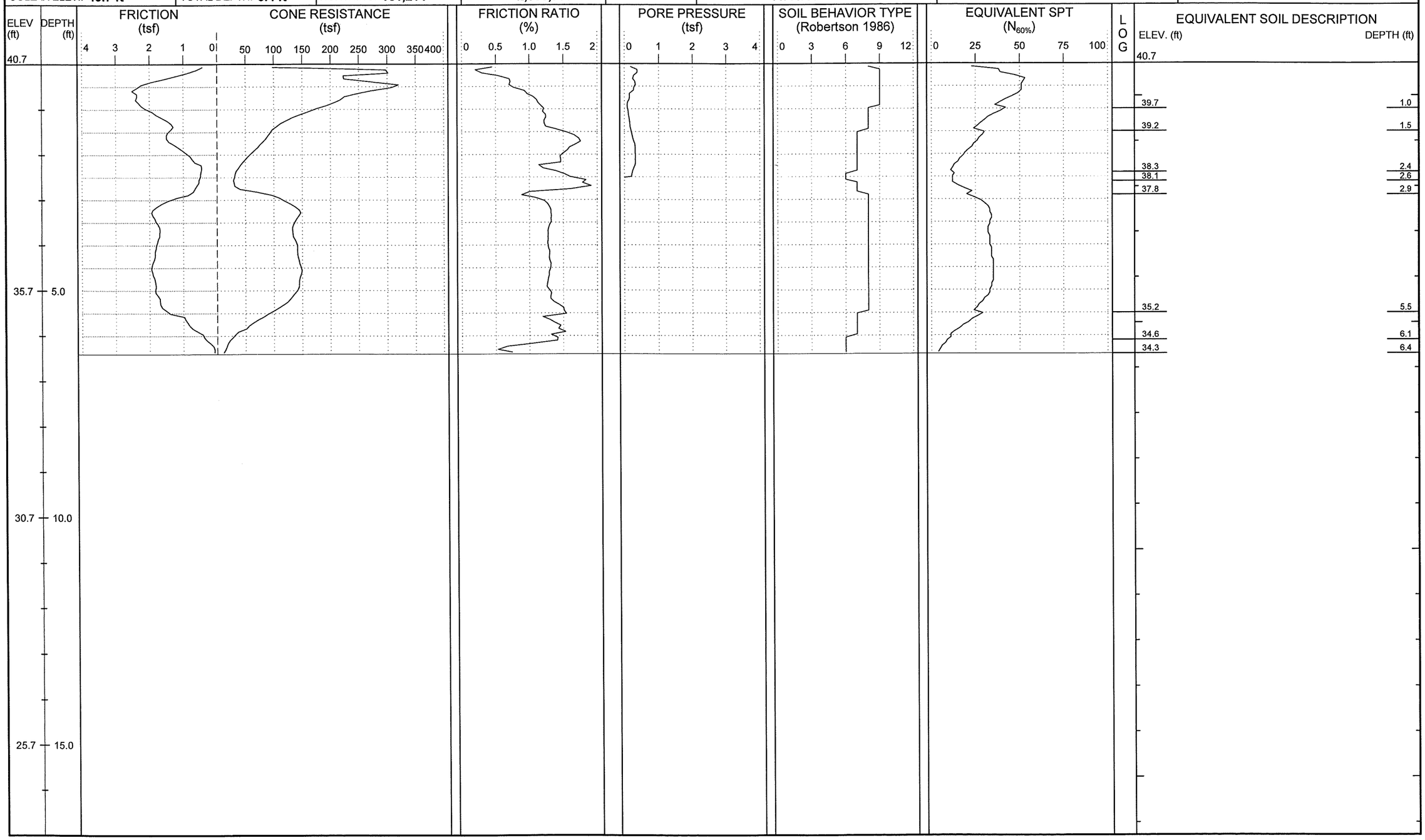


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	48
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**		MAX. DOWN PRESSURE: **~20 Ton**
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y6-24**	STATION: **24+00**	OFFSET: **50ft RT**	ALIGNMENT: **-Y6-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **40.7 ft**	TOTAL DEPTH: **6.4 ft**	NORTHING: **181,214**	EASTING: **2,335,790**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

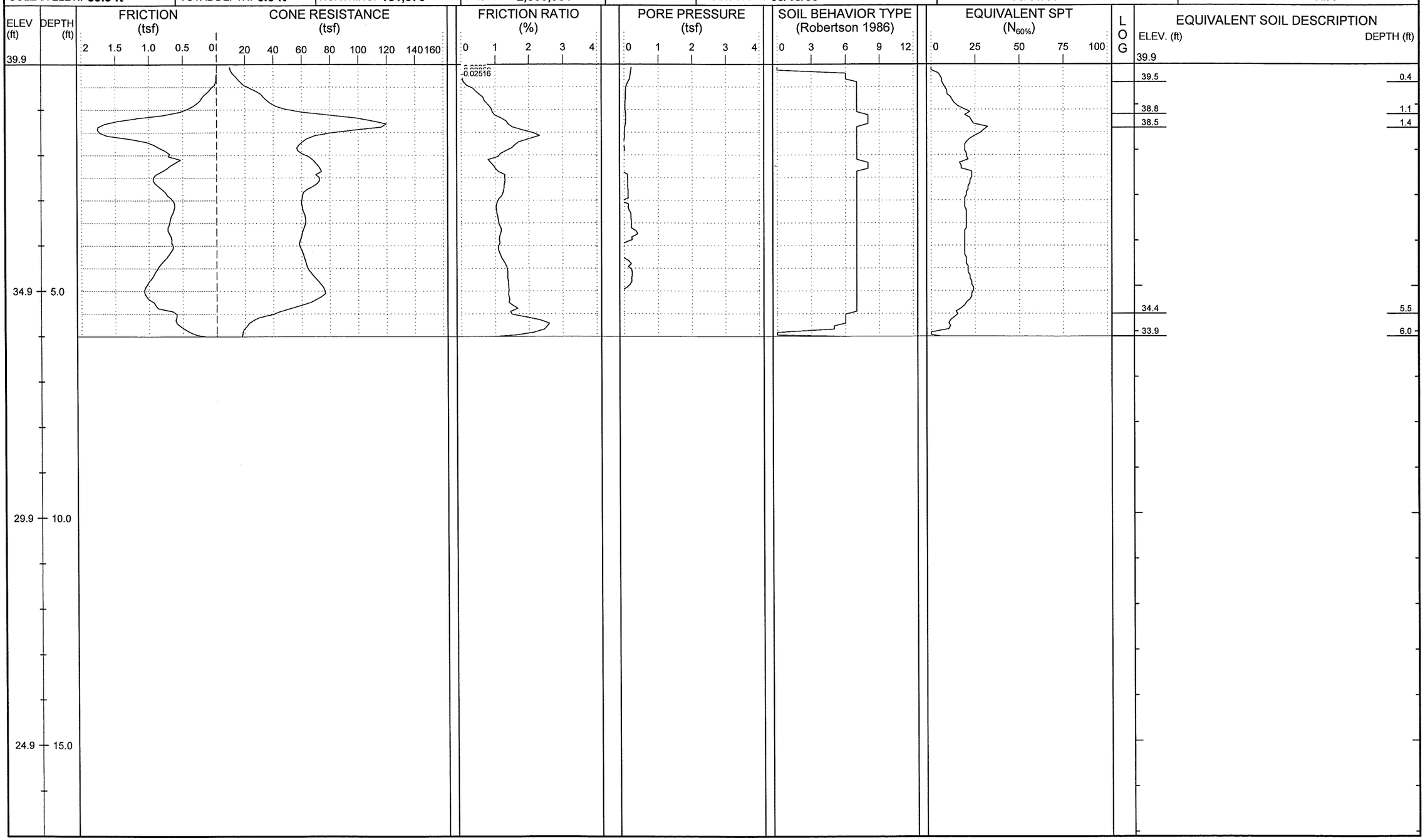


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	49
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y6-26**	STATION: **26+00**	OFFSET: **56ft LT**	ALIGNMENT: **-Y6-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **39.9 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **181,370**	EASTING: **2,335,961**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

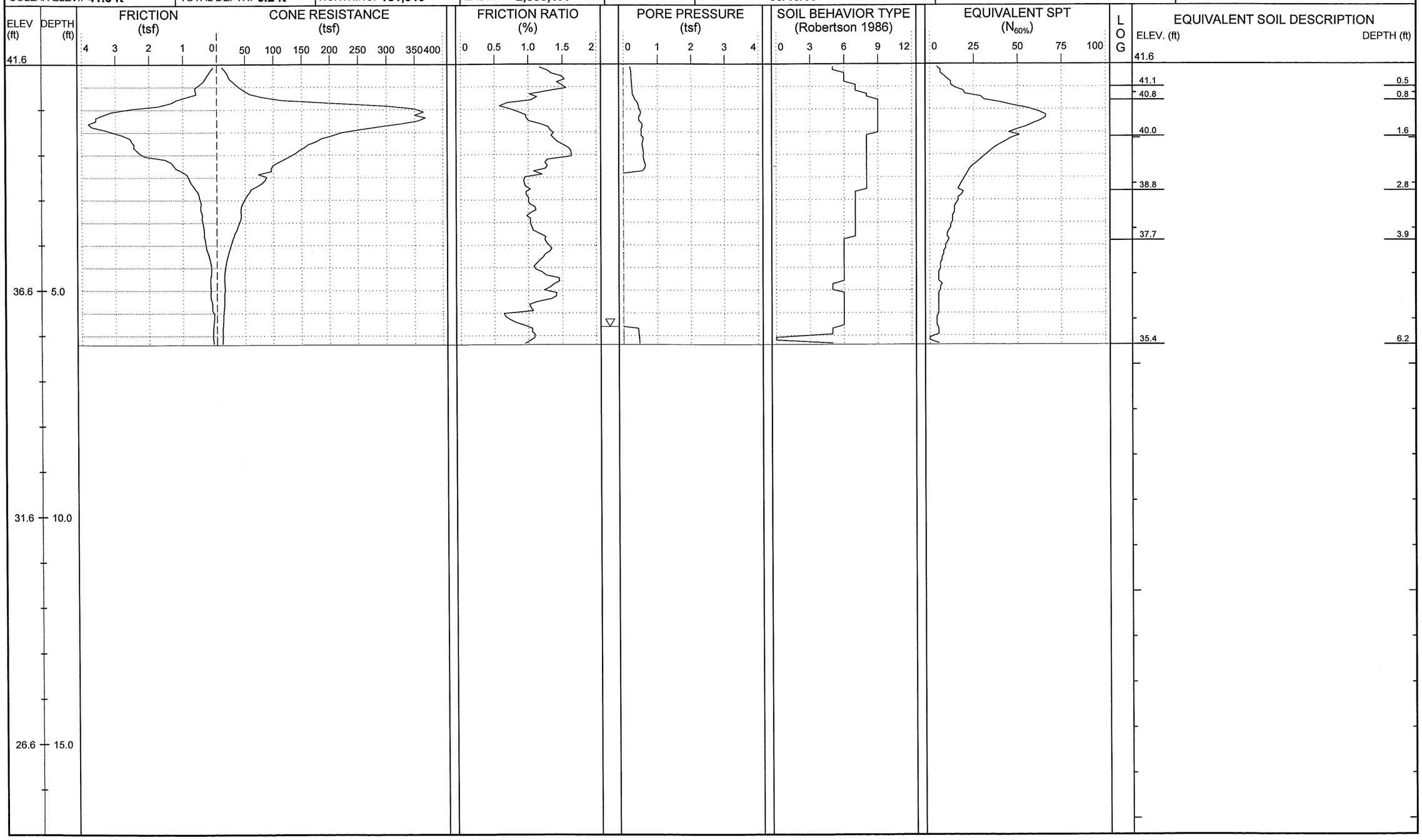


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	50
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y6-28**	STATION: **28+00**	OFFSET: **40ft RT**	ALIGNMENT: **-Y6-**	0 HR. **5.8**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **41.6 ft**	TOTAL DEPTH: **6.2 ft**	NORTHING: **181,319**	EASTING: **2,336,177**	24 HR. **N/A**	START DATE: **05/13/09**	COMP. DATE: **05/13/09**	SURFACE WATER DEPTH: **N/A**

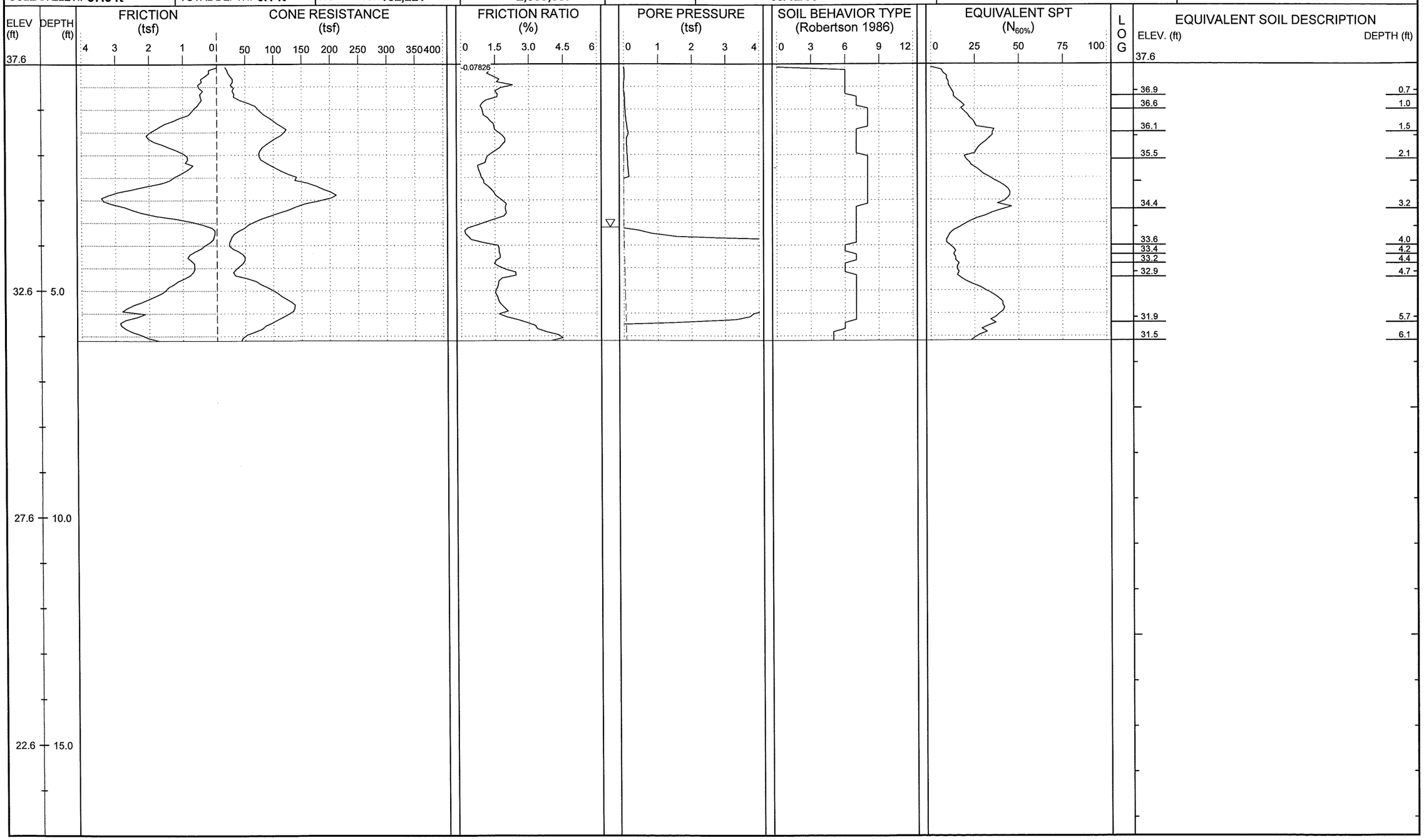


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	51
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y7-13**	STATION: **13+00**	OFFSET: **20ft RT**	ALIGNMENT: **-Y7-**	0 HR. **3.6**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **37.6 ft**	TOTAL DEPTH: **6.1 ft**	NORTHING: **182,221**	EASTING: **2,335,387**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**

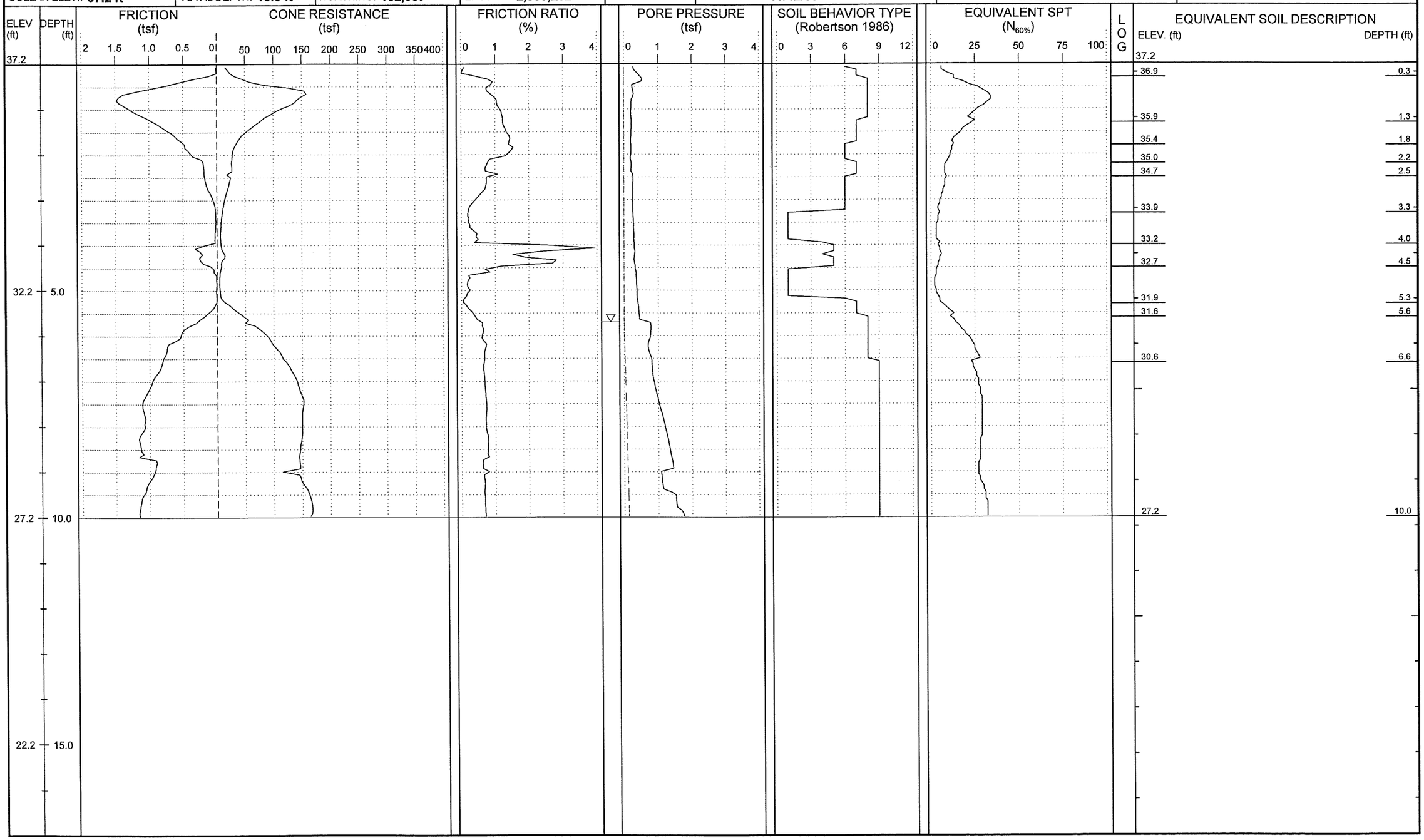


NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	52
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y8-12**	STATION: **12+40**	OFFSET: **19ft RT**	ALIGNMENT: **-Y8-**	0 HR. **5.7**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **37.2 ft**	TOTAL DEPTH: **10.0 ft**	NORTHING: **182,607**	EASTING: **2,335,282**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**



LOG

EQUIVALENT SOIL DESCRIPTION

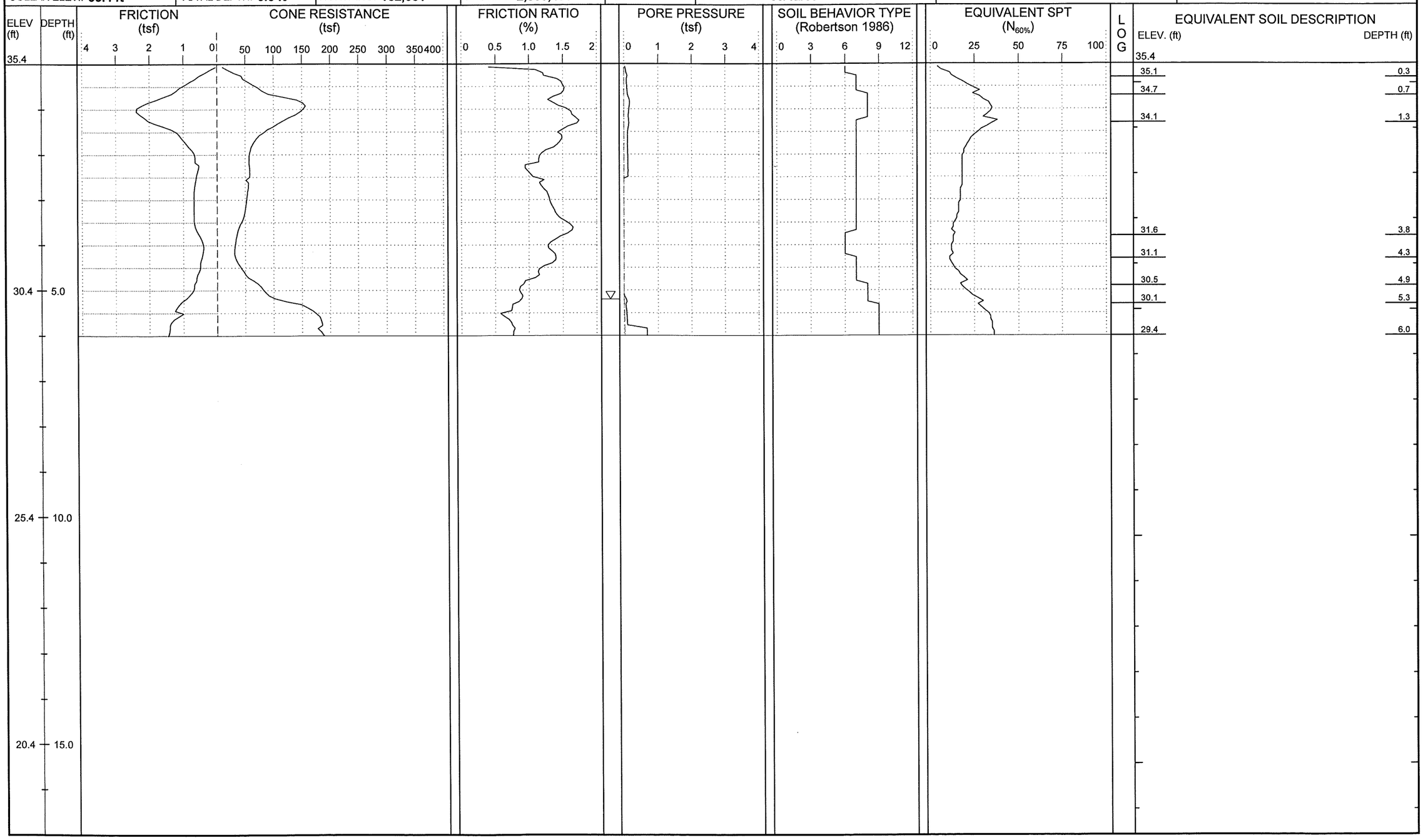
ELEV. (ft)	DEPTH (ft)
37.2	
36.9	0.3
35.9	1.3
35.4	1.8
35.0	2.2
34.7	2.5
33.9	3.3
33.2	4.0
32.7	4.5
31.9	5.3
31.6	5.6
30.6	6.6
27.2	10.0

NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	53
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**		DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**				GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y8-14**	STATION: **14+07**	OFFSET: **33ft LT**	ALIGNMENT: **-Y8-**	0 HR. **5.2**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **35.4 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **182,651**	EASTING: **2,335,451**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**



LOG

EQUIVALENT SOIL DESCRIPTION

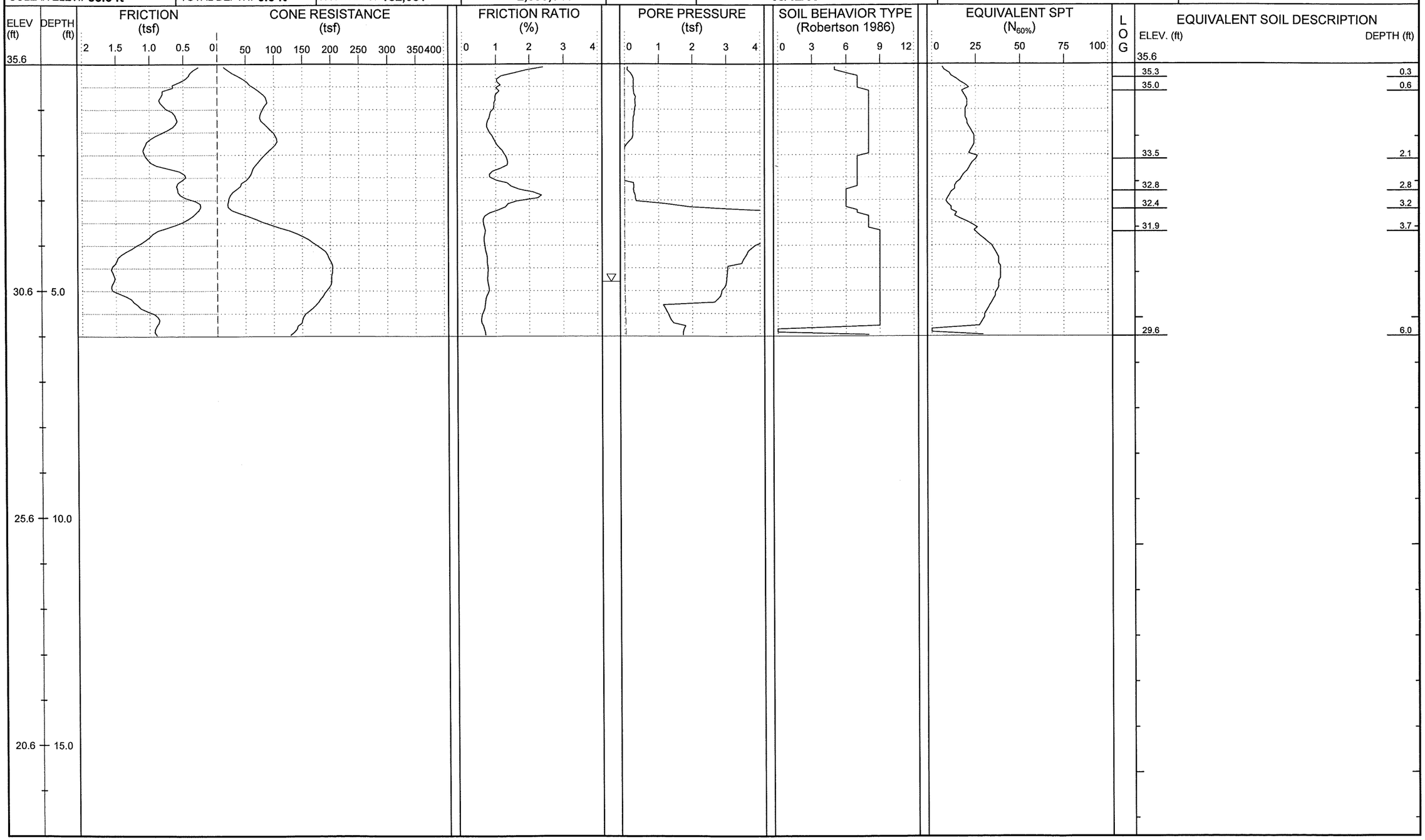
ELEV. (ft)	DEPTH (ft)
35.4	
35.1	0.3
34.7	0.7
34.1	1.3
31.6	3.8
31.1	4.3
30.5	4.9
30.1	5.3
29.4	6.0

NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	54
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y8-16**	STATION: **15+88**	OFFSET: **23ft LT**	ALIGNMENT: **-Y8-**	0 HR. **4.8**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **35.6 ft**	TOTAL DEPTH: **6.0 ft**	NORTHING: **182,631**	EASTING: **2,335,641**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**



EQUIVALENT SOIL DESCRIPTION

ELEV. (ft)	DEPTH (ft)
35.6	
35.3	0.3
35.0	0.6
33.5	2.1
32.8	2.8
32.4	3.2
31.9	3.7
29.6	6.0

NCDOT GEOTECHNICAL ENGINEERING UNIT

ENGLISH

SHEET NO.:	55
PROJ. NO.:	34932.1.1
TIP NO.:	U-3338B
COUNTY:	New Hanover

PROJECT NO.: **34932.1.1**	ID.: **U-3338B**	COUNTY: **New Hanover**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **~20 Ton**	
SITE DESCRIPTION: **SR 1175 (Kerr Ave) from Randall Pky to SR 2649 (MLK Jr. Pky)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **Piezocone**	DRILLER: **Donald Coogan**
BORING NO.: **Y9-11**	STATION: **11+02**	OFFSET: **16ft RT**	ALIGNMENT: **-Y9-**	0 HR. **N/A**	ROD TYPE: **N/A**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **36.3 ft**	TOTAL DEPTH: **6.1 ft**	NORTHING: **183,297**	EASTING: **2,335,638**	24 HR. **N/A**	START DATE: **05/12/09**	COMP. DATE: **05/12/09**	SURFACE WATER DEPTH: **N/A**