STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2303D	1	128

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34416.1.1		PE
34416.2.5		R/W, UTIL.
34416.3.S2		CONST.

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

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

ROADWAY SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. 34416.1.1 (R-2303D) F.A. PROJ. STPNHF-F-8-2(17)

COUNTY SAMPSON

PROJECT DESCRIPTION NC 24 FROM SR 1303 (MITCHELL LOOP ROAD) TO US 421-701/SR 1296 (SUNSET AVENUE)

INVENTORY

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 OPINION 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.

CONTENTS

LINE	STATION	PLAN	PROFILE
-L-	1097+00 TO 1449+56	4-30	36-48
-RPA-	5+00 TO 17+31	29,32	49
-RPB-	5+00 TO 13+27	29,33	50
-RPC-	5+00 TO 15+51	29,33	51
-RPD-	5+00 TO 15+72	29,32	52
-SRI-	10+00 TO 39+34	27,33-35	53-54
-Y39-	11+84 TO 14+00	4	55
-Y40-	12+83 TO 15+00	7	56
-Y41-	10+00 TO 12+94	7,8	57
-Y42-	12+15 TO 19+45	10	58
-Y43-	13+28 TO 17+60	16	59
-Y44-	11+41 TO 18+53	18	60
-Y45-	12+97 TO 17+10	22	61
-Y46-	12+56 TO 15+71	24	62
-Y47-	10+00 TO 11+46	25	63
-Y48-	10+00 TO 13+48	25	64
-Y49-	10+82 TO 12+29	27	65
-Y50-	10+93 TO 20+81	28,34	66
-Y51-	10+00 TO 23+32	29,33	67
-Y52-	14+62 TO 51+91	29,31-33	68-69
-Y53-	10+00 TO 16+57	30	70
-Y54-	11+50 TO 12+58	30	71

XSECT	STATION	SHEET
-L-	1097+00 TO 1101+00	72-74
-L-	1107+00 TO 1110+00	74-76
-L-	1134+00 TO 1142+50	76-80
-L-	1202+00 TO 1205+00	80-82
-L-	1206+50 TO 1211+00	82-84
-L-	1222+50 TO 1225+50	84-86
-L-	1286+00 TO 1300+00	86-93
-L-	1302+50 TO 1306+00	94-96
-L-	1318+50	96
-L-	1325+50 TO 1326+00	96
-L-	1327+00 TO 1327+50	97
-L-	1330+00 TO 1346+50	97-109
-L-	1432+00 TO 1438+00	109-112
-L-	1444+50 TO 1446+00	112-113
-RPA-	15+00 TO 17+00	114-115
-RPC-	5+00 TO 6+50	116
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-SRI-	10+50 TO 17+00	119-121
-SRI-	35+50 TO 39+00	121-123
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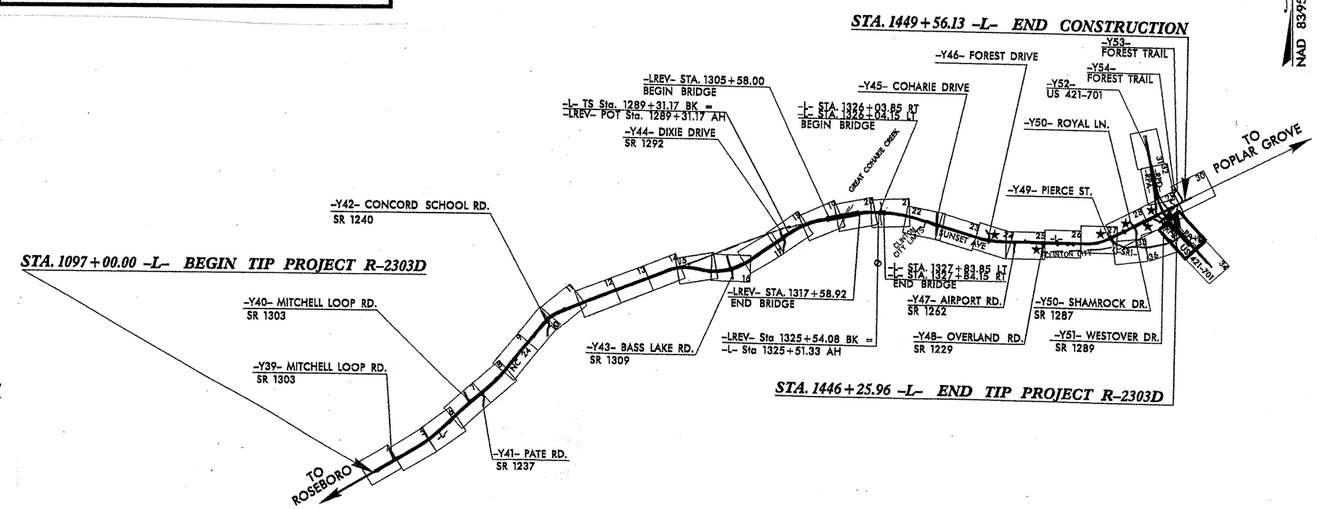
-Y44-	14+50 TO 16+49	125
-Y47-	10+50 TO 12+00	126
-Y52-	18+00 TO 22+00	127-128

APPENDIX 1	SHEET
93 CPT LOGS	1-93
CROSS SECTION OF CULVERT AT -L- STA. 1109+25	94
CROSS SECTION OF CULVERT AT -L- STA. 1224+46	95

This project contains 1 APPENDIX. Refer to it as well as to this Subsurface Investigation.



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CHECKED BY D.N. ARGENBRIGHT
SUBMITTED BY D.N. ARGENBRIGHT
DATE OCTOBER 2012

NORTH CAROLINA LICENSED SEAL 2240 GEOLOGIST TYLER C. BOTTOMS
10/17/12

DRAWN BY: C.P. TURNER, T.C. BOTTOMS

NOTE - THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS BEING ACCURATE NOR IT IS CONSIDERED TO BE PART OF THE PLANS, SPECIFICATIONS, OR CONTRACT FOR THE PROJECT.

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.

ID: R-2303D

CONTRACT: C203464

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	2 OF 128

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 INTERBEDDED FINE SAND LAYERS, 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	50 MX											GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT
# 40	30 MX	50 MX	51 MN											
# 200	15 MX	25 MX	10 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN			
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 LOOSE MEDIUM DENSE DENSE VERY DENSE	<4 4 TO 10 10 TO 30 30 TO 50 >50	N/A
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD	<2 2 TO 4 4 TO 8 8 TO 15 15 TO 30 >30	<0.25 0.25 TO 0.50 0.5 TO 1.0 1 TO 2 2 TO 4 >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
GRAIN SIZE 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
TRACE OF ORGANIC MATTER	2 - 3%	3 - 5%
LITTLE ORGANIC MATTER	3 - 5%	5 - 12%
MODERATELY ORGANIC	5 - 10%	12 - 20%
HIGHLY ORGANIC	>10%	>20%

OTHER MATERIAL	
TRACE	1 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
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 DPT 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
BT - BORING TERMINATED
CL. - CLAY
CPT - CONE PENETRATION TEST
CSE. - COARSE
DMT - DILATOMETER TEST
DPT - DYNAMIC PENETRATION TEST
e - VOID RATIO
F - FINE
FOSS. - FOSSILIFEROUS
FRAC. - FRACTURED, FRACTURES
FRAGS. - FRAGMENTS
HI. - HIGHLY
MED. - MEDIUM
MICA. - MICACEOUS
MOD. - MODERATELY
NP - NON PLASTIC
ORG. - ORGANIC
PMT - PRESSUREMETER TEST
SAP. - SAPROLITIC
SD. - SAND, SANDY
SL. - SILT, SILTY
SLI. - SLIGHTLY
TCR - TRICONE REFUSAL
w - MOISTURE CONTENT
V - VERY
VST - VANE SHEAR TEST
WEA. - WEATHERED
γ - UNIT WEIGHT
γ_d - DRY UNIT WEIGHT

SAMPLE ABBREVIATIONS
S - BULK
SS - SPLIT SPOON
ST - SHELBY TUBE
RS - ROCK
RT - RECOMPACTED TRIAXIAL
CBR - CALIFORNIA BEARING RATIO

EQUIPMENT USED ON SUBJECT PROJECT

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

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
- [X] VANE SHEAR TEST
- [ ] _____

ROCK DESCRIPTION

HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT 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:

← APPROXIMATE LIMIT OF ORGANIC SOILS

VST - VANE SHEAR TEST

CPT BORING

REVISED 09/23/09

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2303D	2A	128

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34416.1.1	STPNHF-F-8-2(17)	PE

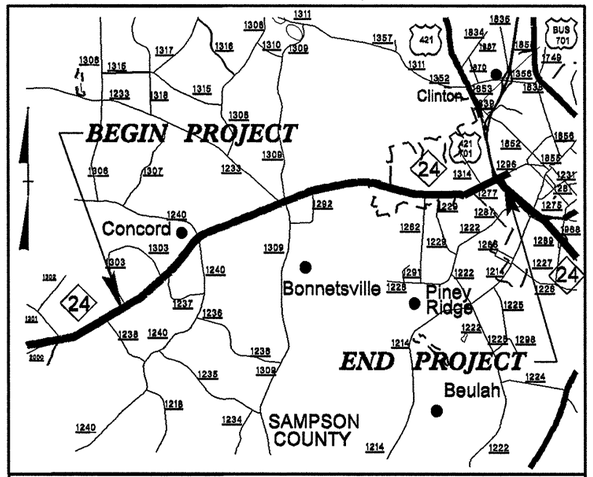
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SAMPSON COUNTY

LOCATION: NC 24 FROM SR 1303 (MITCHELL LOOP ROAD) TO US 421-701 / SR 1296 (SUNSET AVENUE)

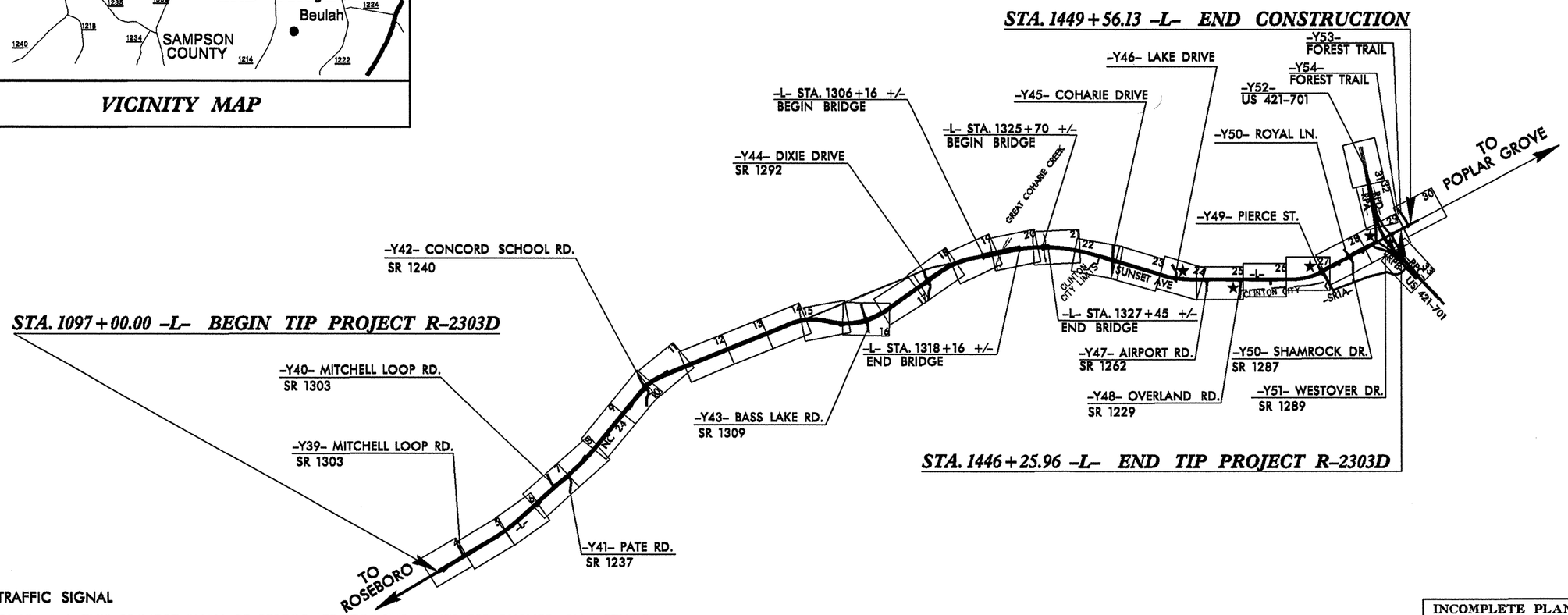
TYPE OF WORK: GRADING, DRAINAGE, PAVING, RESURFACING, CURB & GUTTER, SIGNALS, AND STRUCTURES

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



VICINITY MAP

NAD 83



★ TRAFFIC SIGNAL

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ———.
PORTIONS OF THIS PROJECT ARE WITHIN THE TOWN LIMITS OF BELVOIR & LITTLE COHAIRE AND CITY LIMITS OF CLINTON.
THIS IS A LIMITED AND PARTIAL CONTROL OF ACCESS PROJECT WITH ACCESS BEING LIMITED TO THE POINTS AS SHOWN ON THE PLANS.

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

TIP PROJECT: R-2303D

CONTRACT:

GRAPHIC SCALES

50 25 0 50 100 — PLANS
50 25 0 50 100 — PROFILE (HORIZONTAL)
10 5 0 10 20 — PROFILE (VERTICAL)

DESIGN DATA

ADT 2012 = 39520
ADT 2032 = 58720
DHV = 11 %
D ≐ 55 %
T = 8 % *
V (SHOULDER) = 60 MPH
V (CURB & GUTTER) = 50 MPH
* (TTST 5% + DUAL 3%)
FUNC. CLASS = ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2303D = 6.35 MILES
LENGTH STRUCTURES TIP PROJECT R-2303D = 0.26 MILES
TOTAL LENGTH TIP PROJECT R-2303D = 6.61 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: FEBRUARY 18, 2011
LETTING DATE: FEBRUARY 19, 2013

BRENDA MOORE, PE — PROJECT ENGINEER
REKHA PATEL, PE — PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
SIGNATURE: P.E.
ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
P.E.
STATE HIGHWAY DESIGN ENGINEER

09/08/99

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cpturner AT GEO25546I

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

February 2011

STATE PROJECT:	34416.1.1 (R-2303D)
F.A. PROJECT:	STPNHF-F-8-2(17)
COUNTY:	Sampson
DESCRIPTION:	NC 24 from SR 1303 (Mitchell Loop Road) to US 421-701/SR 1296 (Sunset Avenue)
SUBJECT:	Geotechnical Inventory

Project Description

This project begins approximately 900 feet southwest of Mitchell Loop Rd. along NC 24 and extends generally northeast about 6.5 miles to just northeast of US 421-701. This geotechnical investigation was confined to the areas of proposed construction.

Fieldwork was conducted from August 2009 through December 2010. Standard Penetration Test borings were advanced with a CME 45-B drill machine with an automatic 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-	1097+00 to 1449+56
-RPA-	5+00 to 17+31
-RPB-	5+00 to 13+27
-RPC-	5+00 to 15+51
-RPD-	5+00 to 15+72
-SR1-	10+00 to 39+34
-Y39-	11+84 to 14+00
-Y40-	12+83 to 15+00
-Y41-	10+00 to 12+94
-Y42-	12+15 to 19+45
-Y43-	13+28 to 17+60
-Y44-	11+41 to 18+53
-Y45-	12+97 to 17+10
-Y46-	12+56 to 15+71
-Y47-	10+00 to 11+46
-Y48-	10+00 to 13+48
-Y49-	10+82 to 12+29
-Y50-	10+93 to 16+10
-Y50-	19+67 to 20+73
-Y51-	10+00 to 23+32
-Y52-	14+62 to 51+91
-Y53-	10+00 to 16+57
-Y54-	11+50 to 12+58

Areas of Special Geotechnical Interest

1) The following sections contain cohesive soils which have the potential to cause embankment/subgrade stability and/or long term settlement problems.

Line	Station(±)
-L-	1097+00 to 1100+95
-L-	1101+60 to 1109+75
-L-	1111+70 to 1112+40
-L-	1126+55 to 1147+60
-L-	1151+62 to 1197+48
-L-	1202+38 to 1205+13
-L-	1207+00 to 1211+30
-L-	1224+25 to 1229+60
-L-	1234+52 to 1247+38
-L-	1251+45 to 1260+40
-L-	1266+62 to 1336+41
-L-	1339+65 to 1342+25
-L-	1351+61 to 1352+42
-L-	1356+55 to 1382+59
-L-	1389+45 to 1390+43
-L-	1404+55 to 1405+60
-L-	1409+51 to 1410+44
-L-	1414+47 to 1448+22
-RPA-	5+00 to 17+32

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

TELEPHONE: 919-250-4088
FAX: 919-250-4237

WEBSITE: WWW.NCDOT.ORG/DOH

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

Line	Station(±)
-RPB-	5+00 to 5+70
-RPB-	6+15 to 7+20
-RPB-	7+82 to 8+25
-RPB-	12+65 to 13+28
-RPC-	5+00 to 13+40
-RPC-	14+10 to 15+51
-RPD-	5+00 to 15+72
-SR1-	10+00 to 39+34
-Y39-	11+84 to 14+00
-Y40-	12+83 to 15+00
-Y41-	11+06 to 11+99
-Y42-	12+15 to 19+45
-Y44-	11+41 to 18+53
-Y46-	12+56 to 15+71
-Y47-	10+00 to 11+46
-Y48-	10+58 to 11+45
-Y49-	10+82 to 12+29
-Y50-	10+93 to 20+81
-Y51-	10+00 to 23+32
-Y52-	14+62 to 21+92
-Y52-	24+00 to 45+86
-Y52-	50+68 to 51+91
-Y53-	10+00 to 12+40
-Y54-	11+50 to 12+58

2) The following sections contain organic soils which have the potential to cause embankment/subgrade stability and/or long term settlement problems.

Line	Station(±)
-L-	1107+25 to 1109+75
-L-	1222+75 to 1225+10
-L-	1290+72 to 1291+25
-L-	1292+12 to 1299+65
-L-	1302+65 to 1317+70
-L-	1325+75 to 1327+30

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

Line	Station(±)
-L-	1106+50 to 1110+50
-L-	1149+00 to 1158+00
-L-	1169+00 to 1178+00

Sheet 3A

Line	Station(±)
-L-	1196+00 to 1203+00
-L-	1121+50 to 1129+00
-L-	1246+00 to 1253+00
-L-	1279+00 to 1299+50
-L-	1301+50 to 1330+50
-RPA-	6+00 to 8+00
-RPA-	14+00 to 17+31
-Y39-	11+84 to 14+00
-Y41-	10+00 to 12+94
-Y43-	13+28 to 17+60
-Y44-	11+41 to 18+53
-Y53-	10+00 to 16+57

4) One pond is located within the project limits and is located as follows.

Line	Station(±)	Location
-L-	1303+02 to 1304+67	Right Side

A pond identified on the plans along -SR1- Sta. 14+00 to 16+70 was dry during the investigation and appears to have been drained.

5) The following water wells were encountered within the proposed right of way limits.

Line	Station(±)	Offset
-L-	1147+40	100' RT
-L-	1242+10	35' RT
-L-	1247+90	63' LT
-Y44-	12+25	35' LT

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 74± to 170± feet above sea level

Surficial soils in this area are generally classified as undivided coastal plain sediments and are underlain by the Black Creek Formation. The Black Creek Formation was not encountered during this investigation.

Ground Water

Ground water data was collected during a time of normal precipitation. Ground water elevations ranged from 84± to 165± feet above sea level.

Soils

Soils within this project area have been divided into three categories; roadway embankment soils, undivided coastal plain soils, and alluvial soils.

Soils identified as roadway embankment are comprised of 1± to 13± feet of very loose to medium dense sand and clayey sand (A-2-6, A-2-4, A-3) and 1± to 10± feet of medium stiff to very stiff sandy and silty clay (A-6, A-7-6) and 1± to 24± feet of medium stiff sandy silt (A-4). These soils were encountered along the existing NC 24 and associated intersecting roads along the project.

Soils classified as undivided coastal plain are comprised of 1± to 15± feet of medium stiff to very stiff sandy and clayey silt and clayey sandy silt (A-4), 1± to 16± feet of soft to very stiff sandy and silty clay, silty sandy clay, and clay (A-6, A-7-5, A-7-6), and 1± to 20± feet of very loose to medium dense sand and clayey sand (A-2-6, A-2-4, A-3) Moisture samples collected within the cohesive soils ranged from 9% to 52%.

Soils classified as alluvial are comprised of 1± to 7± feet very soft to very stiff clayey sandy silt with little organic matter, moderately organic clayey sandy silt (A-5), moderately organic silty sand (A-2-5) and muck. Organic samples collected within this unit contained 3% to 30% organic matter with shear strengths ranging from 219 psf to 2171 psf. Moisture samples collected within the organic soils ranged from 31% to 310%.

Undisturbed Samples

Undisturbed thin wall Shelby tube samples were collected at the following locations and submitted for testing.

Sample No.	Station	Depth	Test
ST-1	-L- 1294+00 CL	0.5-2.5	Consolidation
ST-1A	-L- 1109+00 44' RT	11.4-13.4	Consolidation
ST-2	-L- 1109+00 44' RT	15.4-16.8	Consolidation
ST-3	-L- 1224+25 80' LT	16.8-18.3	Consolidation
ST-4	-L- 1224+25 80' LT	19.8-21.5	Consolidation
ST-5	-L- 1224+45 34' RT	26.0-27.5	Consolidation

Culvert at -L- Station 1109+25

Natural ground elevations range from 122± feet at the bottom of the ditch to 125± feet along the adjacent floodplain. Borings completed in the vicinity show approximately 2 to 6± feet of very soft muck and sandy clay with trace organic material (A-6) underlain by 19± feet of medium stiff to stiff sandy and silty clay (A-7-6) on the southern end of the culvert. Soils underlying the organic soils on the northern end consist of 5± foot thick layers of medium dense sand (A-2-4) and stiff clay. During this investigation groundwater was measured at an elevation of 124± feet.

Sheet 3B

Culvert at -L- Station 1224+46

Natural ground elevations range from 116± feet at the bottom of the ditch to 126± feet along the adjacent floodplain. Borings completed in the vicinity show approximately 4 to 8± feet of soft muck and moderately organic silty sand (A-2-5) underlain by 6 to 23± feet of stiff to very stiff clay and sandy clay (A-7-6) on the northern end. Soils underlying the organics on the central and southern end consist of 2 to 18± feet of very loose to medium dense sand (A-2-4, A-3). During this investigation groundwater was measured at an elevation of 120 to 124± feet.

Respectfully Submitted,

Tyler C. Bottoms, L.G.
Project Engineering Geologist

Earthwork Balance Sheet

Volumes in Cubic Yards

PROJECT: R-2303D COUNTY: Sampson DATE: 6/12/2013 COMPILED BY: Best, Wayne T

CHAIN	STATION	STATION	EXCAVATION					EMBANKMENT				BORROW	WASTE			
			TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMBANK. (+)25%		ROCK	SUITABLE	UNSUIT.	TOTAL
SUMMARY 1																
-L-	1097+00.00	1126+00.00	3,664		852	570	3,094	8,638		8,638	10,798	7,704			1,422	1,422
-L-	1097+00.00	1126+00.00	4,408		1,900	4	4,404	20,932		20,932	26,165	21,761			1,904	1,904
-Y39-	11+84.96	13+25.00	127				127	214		214	268	141				
SUBTOTAL			8,199		2,752	574	7,625	29,784		29,784	37,230	29,605			3,326	3,326
SUMMARY 2																
-L-	1126+00.00	1150+00.00	3,683		1,046	172	3,511	1,739		1,739	2,174			1,337	1,218	2,555
-L-	1126+00.00	1150+00.00	3,404		1,243	36	3,368	2,981		2,981	3,726	358			1,279	1,279
-Y40-	12+83.00	14+41.00	209		409	209		611		611	764	764			618	618
-Y41-	10+59.01	12+94.30	301				301	110		110	138			164		164
SUBTOTAL			7,597		2,698	417	7,180	5,441		5,441	6,801	1,122		1,501	3,115	4,616
SUMMARY 3																
-L-	1150+00.00	1183+00.00	805				805	31,281		31,281	39,101	38,296				
-L-	1150+00.00	1183+00.00						38,928		38,928	48,660	48,660				
SUBTOTAL			805				805	70,209		70,209	87,761	86,956				
SUMMARY 4																
-L-	1183+00.00	1215+00.00	4,628		2,399	895	3,733	25,508		25,508	31,885	28,152			3,294	3,294
-L-	1184+00.00	1193+00.00	886				886	1,491		1,491	1,864	978				
-L-	1183+00.00	1215+00.00	1,064		1,273	215	849	23,926		23,926	29,908	29,059			1,488	1,488
-Y42-	12+15.01	13+73.01	26				26	1,632		1,632	2,040	2,014				
-Y42-	14+91.01.00	19+45.90	119				119	2,168		2,168	2,710	2,591				
SUBTOTAL			6,723		3,672	1,110	5,613	54,725		54,725	68,406	62,793			4,782	4,782
SUMMARY 5																
-L-	1215+00.00	1246+00.00	8,134		3,702		8,134	29,159		29,159	36,449	28,315			3,702	3,702
-L-	1237+00.00	1247+50.00	1,012				1,012	1,357		1,357	1,696	684				
-L-	1215+00.00	1246+00.00	982		1,171		982	30,724		30,724	38,405	37,423			1,171	1,171
SUBTOTAL			10,128		4,873		10,128	61,240		61,240	76,550	66,422			4,873	4,873
SUMMARY 6																
-L-	1246+00.00	1276+00.00	10,173				10,173	7,979		7,979	9,974			199		199
-L-	1246+00.00	1276+00.00	375				375	29,243		29,243	36,554	36,179				
SUBTOTAL			10,548				10,548	37,222		37,222	46,528	36,179		199		199
SHEET TOTALS			44,000		13,995	2,101	41,899	258,621		258,621	323,276	283,077		1,700	16,096	17,796

NOTE: EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGN UNIT. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

Earthwork Balance Sheet

Volumes in Cubic Yards

PROJECT: R-2303D COUNTY: Sampson DATE: 6/12/2013 COMPILED BY: Best, Wayne T

CHAIN	STATION	STATION	EXCAVATION					EMBANKMENT				BORROW	WASTE			
			TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMBANK. (+)25%		ROCK	SUITABLE	UNSUIT.	TOTAL
SUMMARY 7																
-L-	1276+00.00	1293+00.00	53		878		53	23,343		23,343	29,179	29,126			878	878
-L-	1276+00.00	1293+00.00			1,146			30,352		30,352	37,940	37,940			1,146	1,146
-Y43-	13+28.56	14+86.56	203				203	166		166	208	5				
-Y43-	16+04.77	17+60.77	65				65	1,202		1,202	1,503	1,438				
-Y44-	11+41.95	13+00.33	6				6	246		246	308	302				
-Y44-	14+18.33	18+53.33	24		109		24	2,118		2,118	2,648	2,624			109	109
SUBTOTAL			351		2,133		351	57,427		57,427	71,784	71,433			2,133	2,133
SUMMARY 8																
-L-	1293+00.00	1305+50.00	113		4,662		113	23,606		23,606	29,508	29,395			4,662	4,662
-L-	1293+00.00	1301+50.00	151		5,112		151	15,177		15,177	18,971	18,820			5,112	5,112
-L-	1293+00.00	1305+50.00	544		12,452		544	17,925		17,925	22,406	21,862			12,452	12,452
SUBTOTAL			808		22,226		808	56,708		56,708	70,885	70,077			22,226	22,226
SUMMARY 9																
-L-	1318+00.00	1325+50.00			354			9,230		9,230	11,538	11,538			354	354
-L-	1318+00.00	1325+50.00						4,002		4,002	5,003	5,003				
SUBTOTAL					354			13,232		13,232	16,540	16,540			354	354
SUMMARY 10																
-L-	1328+00.00	1350+00.00	2,007		2,085	831	1,176	10,162		10,162	12,703	11,527			2,916	2,916
-L-	1328+00.00	1350+00.00	4,599		1,553	1,684	2,915	3,766		3,766	4,708	1,793			3,237	3,237
-Y45-	12+58.21	14+56.05	107				107	84		84	105			2		2
-Y45-	15+50.55	17+10.46	307				307	17		17	21			286		286
SUBTOTAL			7,020		3,638	2,515	4,505	14,029		14,029	17,536	13,319		288	6,153	6,441
SUMMARY 11																
-L-	1350+00.00	1381+00.00	1,573				1,573	2,231		2,231	2,789	1,216				
-L-	1350+00.00	1381+00.00	1,416				1,416	2,955		2,955	3,694	2,278				
-Y46-	12+56.95	14+14.56	146				146	56		56	70			76		76
-Y46-	15+06.77	15+71.14	30				30	15		15	19			11		11
-Y47-	10+46.09	11+46.27	93		218		93	268		268	335	242			218	218
SUBTOTAL			3,258		218		3,258	5,525		5,525	6,906	3,736		87	218	305
SUMMARY 12																
-L-	1381+00.00	1415+00.00	1,228				1,228	1,018		1,018	1,273	45				
-L-	1381+00.00	1415+00.00	1,332				1,332	1,495		1,495	1,869	537				
-DR2-	10+25.00	11+25.00	14				14	337		337	421	407				
-Y48-	10+58.00	13+48.17	251				251	274		274	343	92				
SUBTOTAL			2,825				2,825	3,124		3,124	3,905	1,080				
SHEET TOTALS			14,262		28,569	2,515	11,747	150,045		150,045	187,556	176,184		375	31,084	31,459

NOTE: EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGN UNIT. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

Earthwork Balance Sheet

Volumes in Cubic Yards

PROJECT: R-2303D COUNTY: Sampson DATE: 6/12/2013 COMPILED BY: Best, Wayne T

CHAIN	STATION	STATION	EXCAVATION					EMBANKMENT				BORROW	WASTE			
			TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMBANK. (+)25%		ROCK	SUITABLE	UNSUIT.	TOTAL
SUMMARY 13																
-L-	1415+00.00	1437+00.00	1,484		801	315	1,169	1,102		1,102	1,378	209			1,116	1,116
-L-	1415+00.00	1437+00.00	1,609		1,176	796	813	2,165		2,165	2,706	1,893			1,972	1,972
-Y49-	10+82.26	11+83.09	123				123	29		29	36			87		87
-SR1-	11+00.00	32+00.00	420		591	25	395	17,668		17,668	22,085	21,690			616	616
-SR1-	32+00.00	39+00.00	3,034		1,286		3,034	1,451		1,451	1,814			1,220	1,286	2,506
-DR1-	10+25.00	11+75.00	259				259	90		90	113			147		147
-Y50-	19+67.42	20+73.30	243				243							243		243
-Y50-	10+93.00	12+38.86	44				44	27		27	34			10		10
-Y50-	13+34.61	16+10.00	83				83	54		54	68			16		16
-Y51-	11+33.09	12+25.00	109				109	17		17	21			88		88
SUBTOTAL			7,408		3,854	1,136	6,272	22,603		22,603	28,254	23,792		1,810	4,990	6,800
SUMMARY 14																
-L-	1443+00.00	1445+00.00	148		30	11	137	1,139		1,139	1,424	1,287			41	41
-L-	1443+00.00	1446+00.00	148		78	69	79	289		289	361	282			147	147
-Y52-	14+50.00	27+50.00	2,108				2,108	337		337	421			1,687		1,687
-Y52-	16+00.00	27+50.00	6,320		820		6,320	1,107		1,107	1,384			4,936	820	5,756
-Y52-	41+50.00	50+50.00	1,094		198		1,094	359		359	449			645	198	843
-Y52-	37+00.00	51+50.00	990				990	515		515	644			346		346
-Y53-	10+00.00	16+32.58	1,397				1,397	555		555	694			703		703
-Y54-	11+50.00	12+44.13	55				55							55		55
-RPA-	11+00.00	17+00.00	676		532		676	2,031		2,031	2,539	1,863			532	532
-RPB-	8+50.00	12+50.00	278				278	2,625		2,625	3,281	3,003				
-RPC-	8+00.00	15+00.00	955		628		955	1,560		1,560	1,950	995			628	628
-RPD-	8+50.00	15+00.00	705				705	1,380		1,380	1,725	1,020				
SUBTOTAL			14,874		2,286	80	14,794	11,897		11,897	14,871	8,450		8,373	2,366	10,739
SHEET TOTALS			22,282		6,140	1,216	21,066	34,500		34,500	43,125	32,242		10,183	7,356	17,539

NOTE: EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGN UNIT. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

3F

Earthwork Balance Sheet

Volumes in Cubic Yards

(Alternate ABC Base Course)

PROJECT: R-2303D COUNTY: Sampson DATE: 6/12/2013 COMPILED BY: Best, Wayne T

CUMULATIVE TOTALS	EXCAVATION					EMBANKMENT				BORROW	WASTE			
	TOTAL UNCLASS.	ROCK	UNDERCUT	UNSUIT. UNCLASS.	SUITABLE UNCLASS.	TOTAL	ROCK	EARTH	EMBANK. (+)25%		ROCK	SUITABLE	UNSUIT.	TOTAL
SHEET 1 SUMMARY	44,000		13,995	2,101	41,899	258,621		258,621	323,276	283,077		1,700	16,096	17,796
SHEET 2 SUMMARY	14,262		28,569	2,515	11,747	150,045		150,045	187,556	176,184		375	31,084	31,459
SHEET 3 SUMMARY	22,282		6,140	1,216	21,066	34,500		34,500	43,125	32,242		10,183	7,356	17,539
SHEET TOTALS	80,544		48,704	5,832	74,712	443,166		443,166	553,958	491,503		12,258	54,536	66,794
LOSS DUE TO CLEARING AND GRUBBING	-520				-520					520				
MATERIAL FOR SHOULDER CONSTRUCTION						58,234		58,234	72,793	72,793				
ADDITIONAL UNDERCUT			11,500			11,500		11,500	14,375	14,375			11,500	11,500
EARTH WASTE IN LIEU OF BORROW										-12,258		-12,258		-12,258
PROJECT TOTAL	80,024		60,204	5,832	74,192	512,900		512,900	641,125	566,933			66,036	66,036
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT										28,347				
GRAND TOTAL	80,024									595,280				
SAY	80,600									595,800				
DRAINAGE DITCH EXCAVATION	3,920													
Earthwork Totals For Alternate Pavement Design (Alternate Asphalt Base Course)														
Totals for ABC Pavement Design	80,544		48,704	5,832	74,712	443,166		443,166	553,958	491,503		12,258	54,536	66,794
Adjust For Alternate Pavement Design	-12,958		-15,448	-901	-12,057	28,559		28,559	35,698	46,220		-1,537	-16,349	-17,886
LOSS DUE TO CLEARING AND GRUBBING	-520				-520					520				
MATERIAL FOR SHOULDER CONSTRUCTION						39,199		39,199	48,999	48,999				
ADDITIONAL UNDERCUT			11,500			11,500		11,500	14,375	14,375			11,500	11,500
EARTH WASTE IN LIEU OF BORROW										-10,721				
PROJECT TOTAL	67,066		44,756	4,931	62,135	522,424		522,424	653,030	590,896		10,721	49,687	60,408
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT										29,545				
Grand Total	67,066									620,441				
Say	67,600									621,000				

NOTE: EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGN UNIT. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

COMPUTED BY: WTB DATE: 7/2/2013

PROJECT NUMBER	SHEET NUMBER
R-2303D	3-AA

RD.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

Note: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

CHAIN	BEGINNING STATION	ENDING STATION	UNCL. EXCA. C.Y.	UNDERCUT C.Y.	EMBANK. +% C.Y.	BORROW C.Y.	WASTE C.Y.
SUMMARY 1							
-L-	1097+00.00	1126+00.00	3,664	852	10,798	7,704	1,422
-L-	1097+00.00	1126+00.00	4,408	1,900	26,165	21,761	1,904
-Y39-	11+84.96	13+25.00	127		268	141	
SUBTOTAL			8,199	2,752	37,230	29,605	3,326
SUMMARY 2							
-L-	1126+00.00	1150+00.00	3,683	1,046	2,174		2,555
-L-	1126+00.00	1150+00.00	3,404	1,243	3,726	358	1,279
-Y40-	12+83.00	14+41.00	209	409	764	764	618
-Y41-	10+59.01	12+94.30	301		138		164
SUBTOTAL			7,597	2,698	6,801	1,122	4,616
SUMMARY 3							
-L-	1150+00.00	1183+00.00	805		39,101	38,296	
-L-	1150+00.00	1183+00.00			48,660	48,660	
SUBTOTAL			805		87,761	86,956	
SUMMARY 4							
-L-	1183+00.00	1215+00.00	4,628	2,399	31,885	28,152	3,294
-L-	1184+00.00	1193+00.00	886		1,864	978	
-L-	1183+00.00	1215+00.00	1,064	1,273	29,908	29,059	1,488
-Y42-	12+15.01	13+73.01	26		2,040	2,014	
-Y42-	14+91.01.00	19+45.90	119		2,710	2,591	
SUBTOTAL			6,723	3,672	68,406	62,793	4,782
SUMMARY 5							
-L-	1215+00.00	1246+00.00	8,134	3,702	36,449	28,315	3,702
-L-	1237+00.00	1247+50.00	1,012		1,696	684	
-L-	1215+00.00	1246+00.00	982	1,171	38,405	37,423	1,171
SUBTOTAL			10,128	4,873	76,550	66,422	4,873
SUMMARY 6							
-L-	1246+00.00	1276+00.00	10,173		9,974		199
-L-	1246+00.00	1276+00.00	375		36,554	36,179	
SUBTOTAL			10,548		46,528	36,179	199
SUMMARY 7							
-L-	1276+00.00	1293+00.00	53	878	29,179	29,126	878
-L-	1276+00.00	1293+00.00		1,146	37,940	37,940	1,146
-Y43-	13+28.56	14+86.56	203		208	5	
-Y43-	16+04.77	17+60.77	65		1,503	1,438	
-Y44-	11+41.95	13+00.33	6		308	302	
-Y44-	14+18.33	18+53.33	24	109	2,648	2,624	109
SUBTOTAL			351	2,133	71,784	71,433	2,133
SUMMARY 8							
-L-	1293+00.00	1305+50.00	113	4,662	29,508	29,395	4,662
-L-	1293+00.00	1301+50.00	151	5,112	18,971	18,820	5,112
-L-	1293+00.00	1305+50.00	544	12,452	22,406	21,862	12,452
SUBTOTAL			808	22,226	70,885	70,077	22,226
SUMMARY 9							
-L-	1318+00.00	1325+50.00		354	11,538	11,538	354
-L-	1318+00.00	1325+50.00			5,003	5,003	
SUBTOTAL				354	16,540	16,540	354

CHAIN	BEGINNING STATION	ENDING STATION	UNCL. EXCA. C.Y.	UNDERCUT C.Y.	EMBANK. +% C.Y.	BORROW C.Y.	WASTE C.Y.
SUMMARY 10							
-L-	1328+00.00	1350+00.00	2,007	2,085	12,703	11,527	2,916
-L-	1328+00.00	1350+00.00	4,599	1,553	4,708	1,793	3,237
-Y45-	12+58.21	14+56.05	107		105		2
-Y45-	15+50.55	17+10.46	307		21		286
SUBTOTAL			7,020	3,638	17,536	13,319	6,441
SUMMARY 11							
-L-	1350+00.00	1381+00.00	1,573		2,789	1,216	
-L-	1350+00.00	1381+00.00	1,416		3,694	2,278	
-Y46-	12+56.95	14+14.56	146		70		76
-Y46-	15+06.77	15+71.14	30		19		11
-Y47-	10+46.09	11+46.27	93	218	335	242	218
SUBTOTAL			3,258	218	6,906	3,736	305
SUMMARY 12							
-L-	1381+00.00	1415+00.00	1,228		1,273	45	
-L-	1381+00.00	1415+00.00	1,332		1,869	537	
-DR2-	10+25.00	11+25.00	14		421	407	
-Y48-	10+58.00	13+48.17	251		343	92	
SUBTOTAL			2,825		3,905	1,080	
SUMMARY 13							
-L-	1415+00.00	1437+00.00	1,484	801	1,378	209	1,116
-L-	1415+00.00	1437+00.00	1,609	1,176	2,706	1,893	1,972
-Y49-	10+82.26	11+83.09	123		36		87
-SR1-	11+00.00	32+00.00	420	591	22,085	21,690	616
-SR1-	32+00.00	39+00.00	3,034	1,286	1,814		2,506
-DR1-	10+25.00	11+75.00	259		113		147
-Y50-	19+67.42	20+73.30	243				243
-Y50-	10+93.00	12+38.86	44		34		10
-Y50-	13+34.61	16+10.00	83		68		16
-Y51-	11+33.09	12+25.00	109		21		88
SUBTOTAL			7,408	3,854	28,254	23,792	6,800
SUMMARY 14							
-L-	1443+00.00	1445+00.00	148	30	1,424	1,287	41
-L-	1443+00.00	1446+00.00	148	78	361	282	147
-Y52-	14+50.00	27+50.00	2,108		421		1,687
-Y52-	16+00.00	27+50.00	6,320	820	1,384		5,756
-Y52-	41+50.00	50+50.00	1,094	198	449		843
-Y52-	37+00.00	51+50.00	990		644		346
-Y53-	10+00.00	16+32.58	1,397		694		703
-Y54-	11+50.00	12+44.13	55				55
-RPA-	11+00.00	17+00.00	676	532	2,539	1,863	532
-RPB-	8+50.00	12+50.00	278		3,281	3,003	
-RPC-	8+00.00	15+00.00	955	628	1,950	995	628
-RPD-	8+50.00	15+00.00	705		1,725	1,020	
SUBTOTAL			14,874	2,286	14,871	8,450	10,739

3H

COMPUTED BY: WTB DATE: 7/2/2013

PROJECT NUMBER	SHEET NUMBER
R-2303D	3-AB

RD:

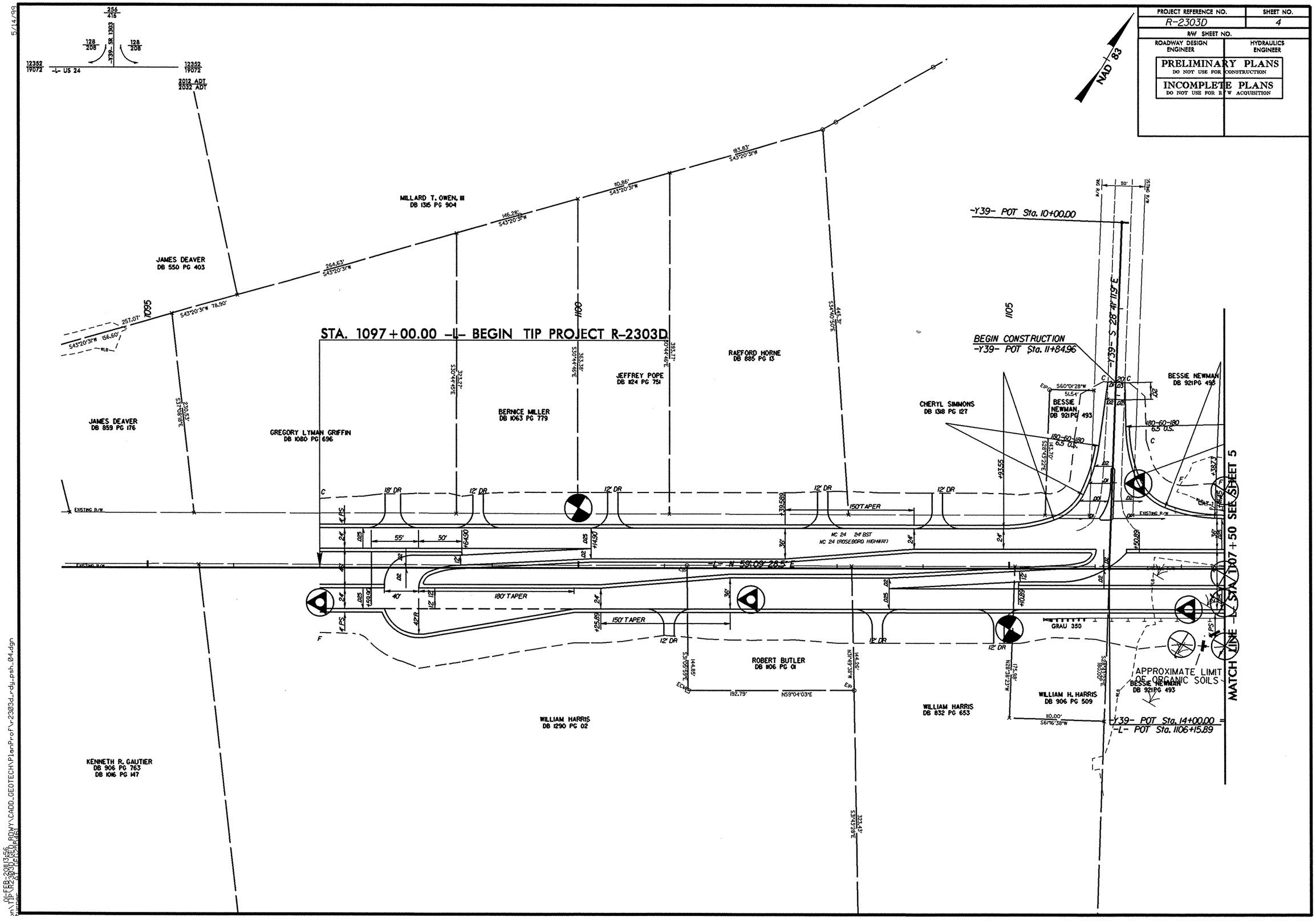
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

Note: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

CHAIN	BEGINNING STATION	ENDING STATION	UNCL. EXCA. C.Y.	UNDERCUT C.Y.	EMBANK. +% C.Y.	BORROW C.Y.	WASTE C.Y.
SHEET TOTALS			80,544	48,704	553,958	491,503	66,794
LOSS DUE TO CLEARING AND GRUBBING			-520			520	
MATERIAL FOR SHOULDER CONSTRUCTION					72,793	72,793	
ADDITIONAL UNDERCUT				11,500	14,375	14,375	11,500
EARTH WASTE IN LIEU OF BORROW						-12,258	-12,258
PROJECT TOTAL			80,024	60,204	641,125	566,933	66,036
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT						28,347	
GRAND TOTAL			80,024			595,280	
SAY			80,600			595,800	
Earthwork Totals For Alternate Pavement Design							
TOTALS FOR ABC PAVEMENT DESIGN			80,544	48,704	553,958	491,503	66,794
ADJUST FOR B25.0C ALTERNATE PAVEMENT DESIGN			-12,958	-15,448	35,698	46,220	-17,886
LOSS DUE TO CLEARING AND GRUBBING			-520			520	
MATERIAL FOR SHOULDER CONSTRUCTION					48,999	48,999	
ADDITIONAL UNDERCUT				11,500	14,375	14,375	11,500
EARTH WASTE IN LIEU OF BORROW						-10,721	
PROJECT TOTAL			67,066	44,756	653,030	590,896	60,408
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT						29,545	
GRAND TOTAL			67,066			620,441	
SAY			67,600			621,000	

CHAIN	BEGINNING STATION	ENDING STATION	UNCL. EXCA. C.Y.	UNDERCUT C.Y.	EMBANK. +% C.Y.	BORROW C.Y.	WASTE C.Y.

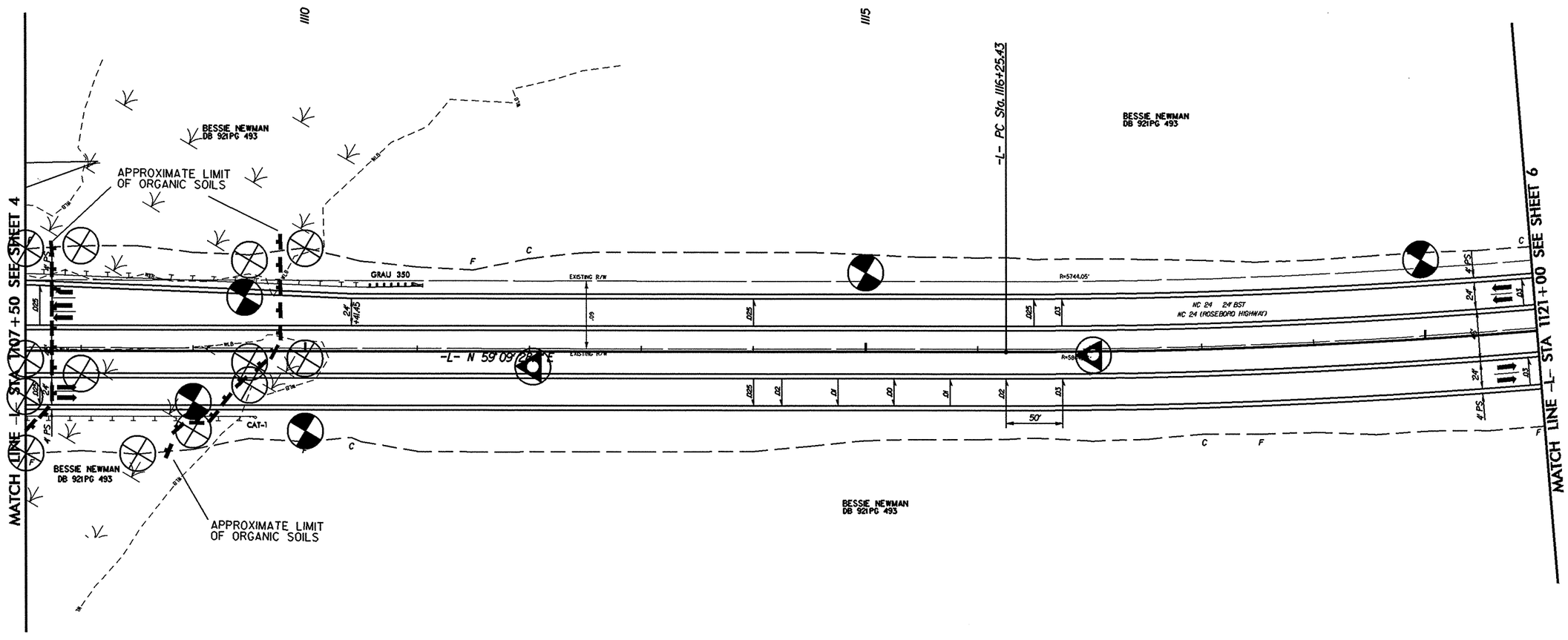

PROJECT REFERENCE NO.
R-2303D
SHEET NO.
4
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
NAD 83
-L- US 24
2012 ADT
2032 ADT
MILLARD T. OWEN, III
DB 1315 PG 904
JAMES DEAVER
DB 550 PG 403
STA. 1097+00.00 -L- BEGIN TIP PROJECT R-2303D
JAMES DEAVER
DB 859 PG 176
GREGORY LYMAN GRIFFIN
DB 1080 PG 696
BERNICE MILLER
DB 1063 PG 779
JEFFREY POPE
DB 1124 PG 751
RAEFORD HORNE
DB 885 PG 13
CHERYL SIMMONS
DB 1318 PG 127
BESSIE NEWMAN
DB 921PG 493
-Y39- POT Sta. 10+00.00
BEGIN CONSTRUCTION
-Y39- POT Sta. 11+84.96
-Y39- S 28°41'11.9" E
-L- N 59°09'28.5" E
NC 24 24' BST
NC 24 (ROSEBORO HIGHWAY)
150' TAPER
180' TAPER
GRAU 350
ROBERT BUTLER
DB 1106 PG 01
WILLIAM HARRIS
DB 1290 PG 02
WILLIAM HARRIS
DB 832 PG 653
WILLIAM H. HARRIS
DB 906 PG 509
APPROXIMATE LIMIT OF ORGANIC SOILS
-Y39- POT Sta. 14+00.00
-L- POT Sta. 1106+15.89
MATCH LINE -L- STA. 1107+50 SEE SHEET 5
KENNETH R. GAUTIER
DB 906 PG 763
DB 1016 PG 147
EXISTING R/W
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

NAD 83



-L-

PI Sta 1121+91.60
Δ = 11° 03' 21.5" (LT)
D = 0° 58' 45.9"
L = 1,128.83'
T = 566.18'
R = 5,850.00'
Se = .03
Runoff = 150'

921PG
N00°50'05"E

5/14/99

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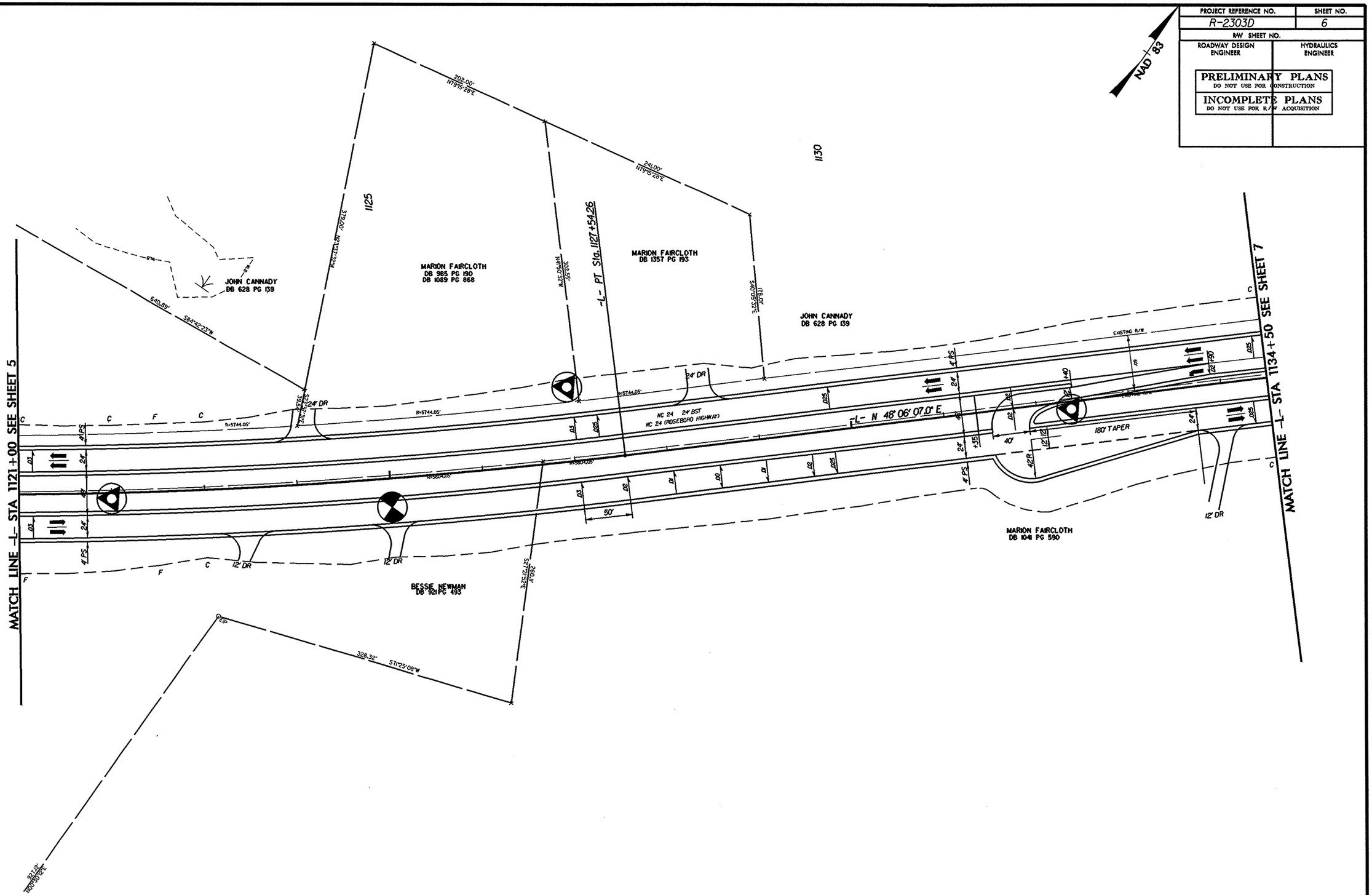
User: ...

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION



-L-

PI Sta 1121+91.60
Δ = 11° 03' 21.5" (LT)
D = 0° 58' 45.9"
L = 1,128.83'
T = 566.18'
R = 5,850.00'
Se = .03
Runoff = 150'

5/14/99

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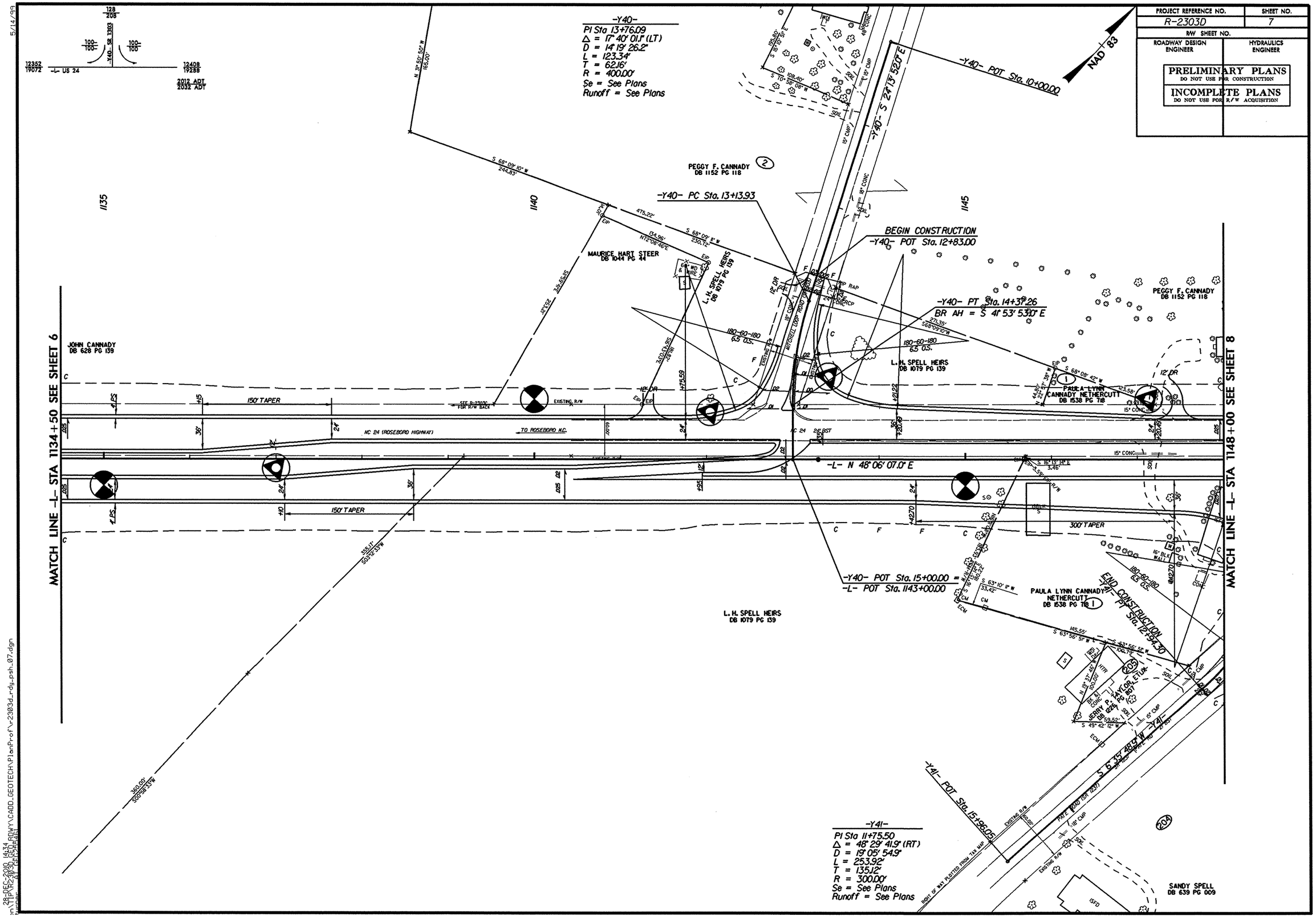
Users: AY RESSAE.ATAI

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION



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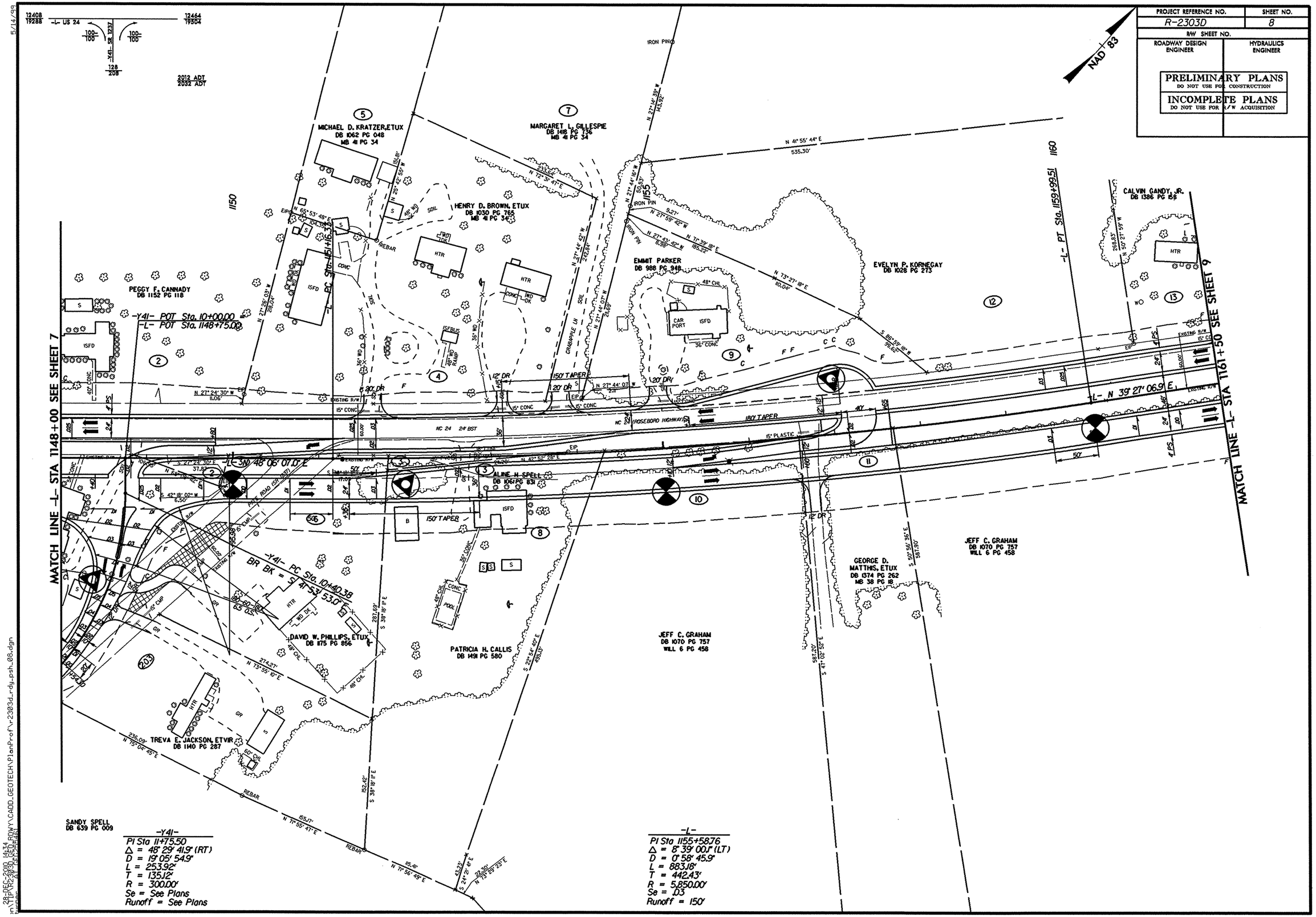
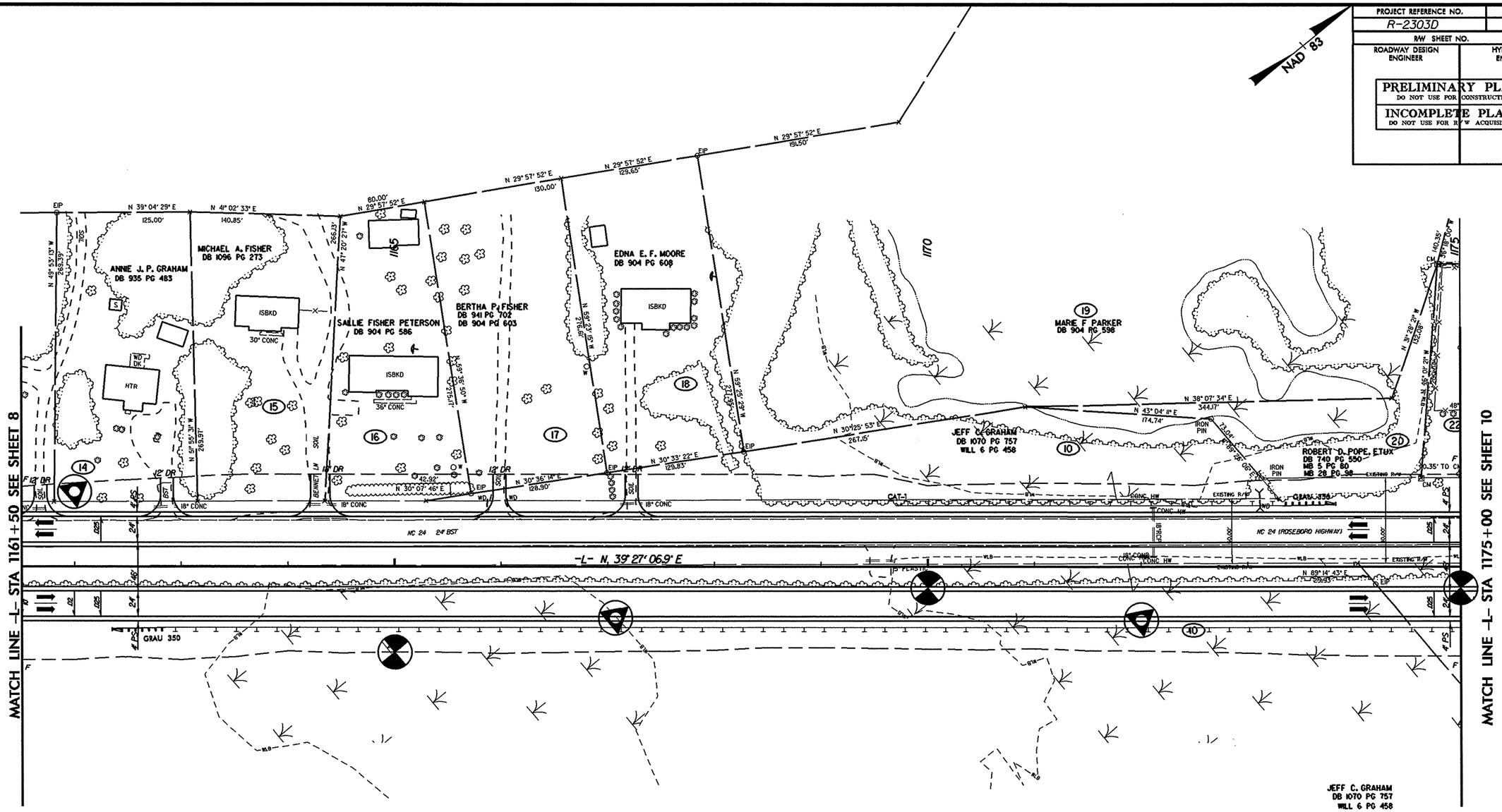


PROJECT REFERENCE NO.
R-2303D
SHEET NO.
8
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
NAD 83
MATCH LINE -L- STA 1148+00 SEE SHEET 7
MATCH LINE -L- STA 1161+50 SEE SHEET 9
MICHAEL D. KRATZER, ETUX
DB 1062 PG 048
MB 41 PG 34
MARGARET L. GILLESPIE
DB 1418 PG 736
MB 41 PG 34
HENRY D. BROWN, ETUX
DB 1030 PG 765
MB 41 PG 34
PEGGY F. CANNADY
DB 1152 PG 118
EMMIT PARKER
DB 988 PG 948
EVELYN P. KORNEGAY
DB 1028 PG 273
CALVIN GANDY, JR.
DB 1386 PG 158
ALINE H. SPELL
DB 1061 PG 831
DAVID W. PHILLIPS, ETUX
DB 1175 PG 856
PATRICIA H. CALLIS
DB 1491 PG 580
JEFF C. GRAHAM
DB 1070 PG 757
WILL 6 PG 458
GEORGE D. MATTHIS, ETUX
DB 1374 PG 262
MB 38 PG 18
TREVA E. JACKSON, ETVIR
DB 1140 PG 287
SANDY SPELL
DB 639 PG 009
-Y41- POT Sta. 10+00.00
-L- POT Sta. 1148+75.00
-L- PC Sta. 1151+16.30
-L- PT Sta. 1159+99.51
-L- N 39° 27' 06.9" E
-L- N 48° 06' 07.0" E
-Y41- PC Sta. 10+40.38
BR BK = S 41° 53' 53.0" E
NC 24 24' BST
NC 24 (ROSEBORO HIGHWAY)
180' TAPER
150' TAPER
2012 ADT
2032 ADT
-Y41-
PI Sta 11+75.50
Δ = 48° 29' 41.9" (RT)
D = 19° 05' 54.9"
L = 253.92'
T = 135.12'
R = 300.00'
Se = See Plans
Runoff = See Plans
-L-
PI Sta 1155+58.76
Δ = 8° 39' 00.1" (LT)
D = 0° 58' 45.9"
L = 883.18'
T = 442.43'
R = 5,850.00'
Se = .03
Runoff = 150'

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION



JEFF C. GRAHAM
DB 1070 PG 757
WILL 6 PG 458

5/14/99

28-DEC-2010 14:34
n:\TIP\R2303D_GEO_RDWY\CADD_GEOTECH\PlanProf\r2303d_rdg_psh_09.dgn
Number 01 Rev 5x42

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

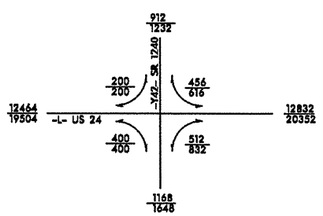
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

-L-

PIs Sta 1185+11.63	PI Sta 1188+93.78
Θs = 4° 39' 49.0"	Δ = 19° 04' 06.2" (RT)
Ls = 280.00'	D = 3° 19' 52.1"
LT = 186.73'	L = 572.43'
ST = 93.39'	T = 288.88'
	R = 1,720.00'
	Se = .07

-Y42-

PI Sta 13+21.63	PI Sta 16+46.46	PI Sta 18+52.90
Δ = 15° 00' 02.1" (LT)	Δ = 72° 35' 01.2" (RT)	Δ = 36° 51' 04.7" (LT)
D = 14° 19' 26.2"	D = 28° 38' 52.4"	D = 19° 05' 54.9"
L = 104.72'	L = 253.36'	L = 192.95'
T = 52.66'	T = 146.87'	T = 99.95'
R = 400.00'	R = 200.00'	R = 300.00'
Se = See Plans	Se = See Plans	Se = See Plans
Runoff = See Plans	Runoff = See Plans	Runoff = See Plans



2012 ADT
2032 ADT

NAD 83

MATCH LINE -L- STA 1175+00 SEE SHEET 9

MATCH LINE -L- STA 1188+50 SEE SHEET 11

EVERETT LEE SMITH, ETUX
DB 816 PG 634
MB 5 PG 80

JOSE G. RODRIGUEZ
DB 1366 PG 842
MB 5 PG 80

ROBERT D. POPE, ETUX
DB 740 PG 550
MB 5 PG 80
MB 28 PG 98

HERMAN J. LEE TAYLOR, ETUX
DB 1387 PG 624
DB 941 PG 188
DB 862 PG 472
MB 5 PG 80
MB 28 PG 98

WILLIAM A. RICH, ETAL (TRUSTEES)
DB 1258 PG 235

LAWRENCE C. MILLER, ETUX
DB 933 PG 842
MB 5 PG 80

DONALD R. SIMMONS, ETUX
DB 794 PG 039

-Y42- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-Y42- POT Sta. 12+15.01

-Y42- PT Sta. 13+73.70
BR AH = S 42° 42' 59.0" E

-L- SC Sta. 1186+04.89

-L- PC Sta. 12+66.97

-L- N 39° 27' 06.9" E

-Y42- POT Sta. 14+32.01
-L- POC Sta. 1187+00.00

-L- TS Sta. 1183+24.89

-Y42- PC Sta. 14+99.59

-Y42- PRC Sta. 17+52.95

END CONSTRUCTION
-Y42- PT Sta. 19+45.90

-Y42- S 6° 39' 02.5" E

FOY S. THORNTON
DB 1028 PG 466

BRUCE R. O'BRIEN
DB 1183 PG 144

STANLEY LUCAS, ETUX
DB 1230 PG 131
DB 1229 PG 981

JEFF C. GRAHAM
DB 1070 PG 757
WILL 6 PG 458

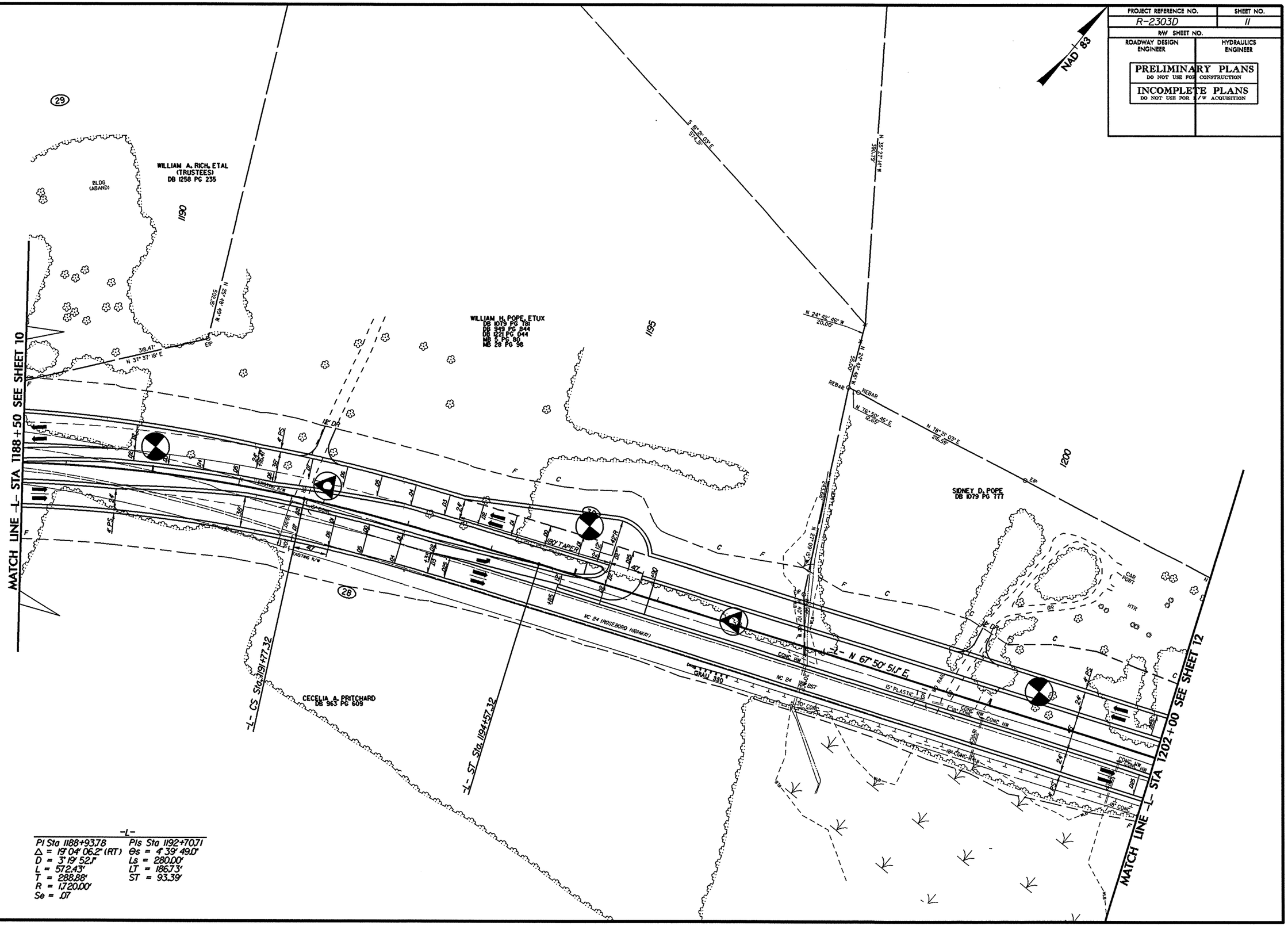
ROLAND G. CANNADY, ETAL
DB 1190 PG 022

CECELIA A. PRITCHARD
DB 963 PG 609

150' TAPER
180' TAPER
100' TAPER LT. & RT.
NC 24 (ROSEBORO HIGHWAY)

5/14/99

28-DEC-2010 14:34
R-2303D_GEO_RDWY

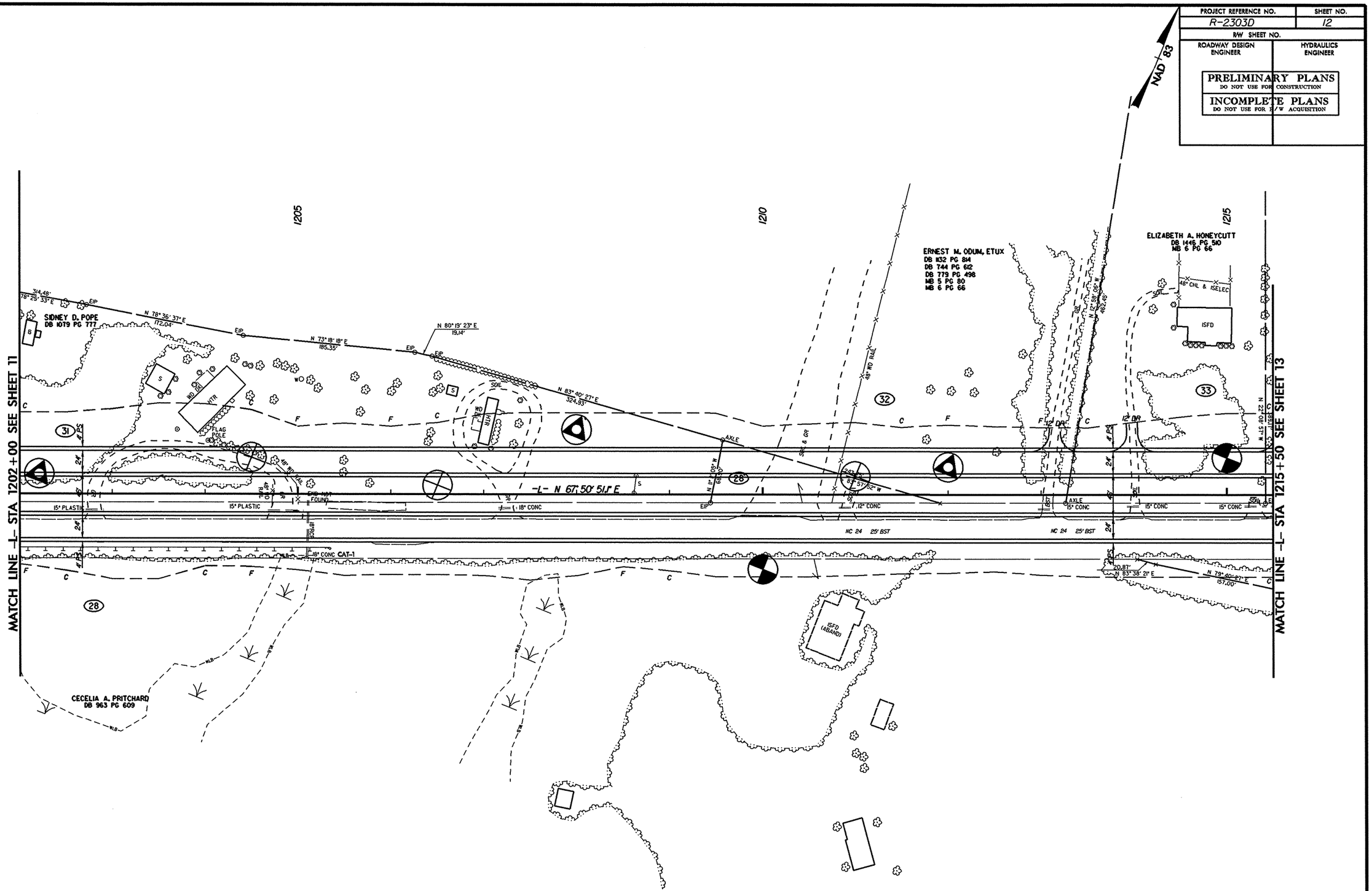


PROJECT REFERENCE NO.
R-2303D
SHEET NO.
11
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
NAD 83
WILLIAM A. RICH, ETAL (TRUSTEES) DB 1258 PG 235
BLDG (ABAND)
WILLIAM H. POPE, ETUX DB 1079 PG 781 DB 949 PG 844 DB 1221 PG 044 MB 3 PG 80 MB 28 PG 98
SIDNEY D. POPE DB 1079 PG 777
CECELIA A. PRITCHARD DB 963 PG 609
MATCH LINE -L- STA 1188+50 SEE SHEET 10
MATCH LINE -L- STA 1202+00 SEE SHEET 12
-L- N 67° 50' 51.1" E
-L- CS Sta. 1191+77.32
-L- ST Sta. 1194+57.32
NC 24 (ROSEBORO HIGHWAY)
GRAU 350
180' TAPER
12' DR
REBAR
CAR PORT
HTR
-L-
PI Sta 1188+93.78
Δ = 19° 04' 06.2" (RT)
D = 3° 19' 52.1"
L = 572.43'
T = 288.88'
R = 1,720.00'
Se = .07
PIs Sta 1192+70.71
Θs = 4° 39' 49.0"
Ls = 280.00'
LT = 186.73'
ST = 93.39'

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION



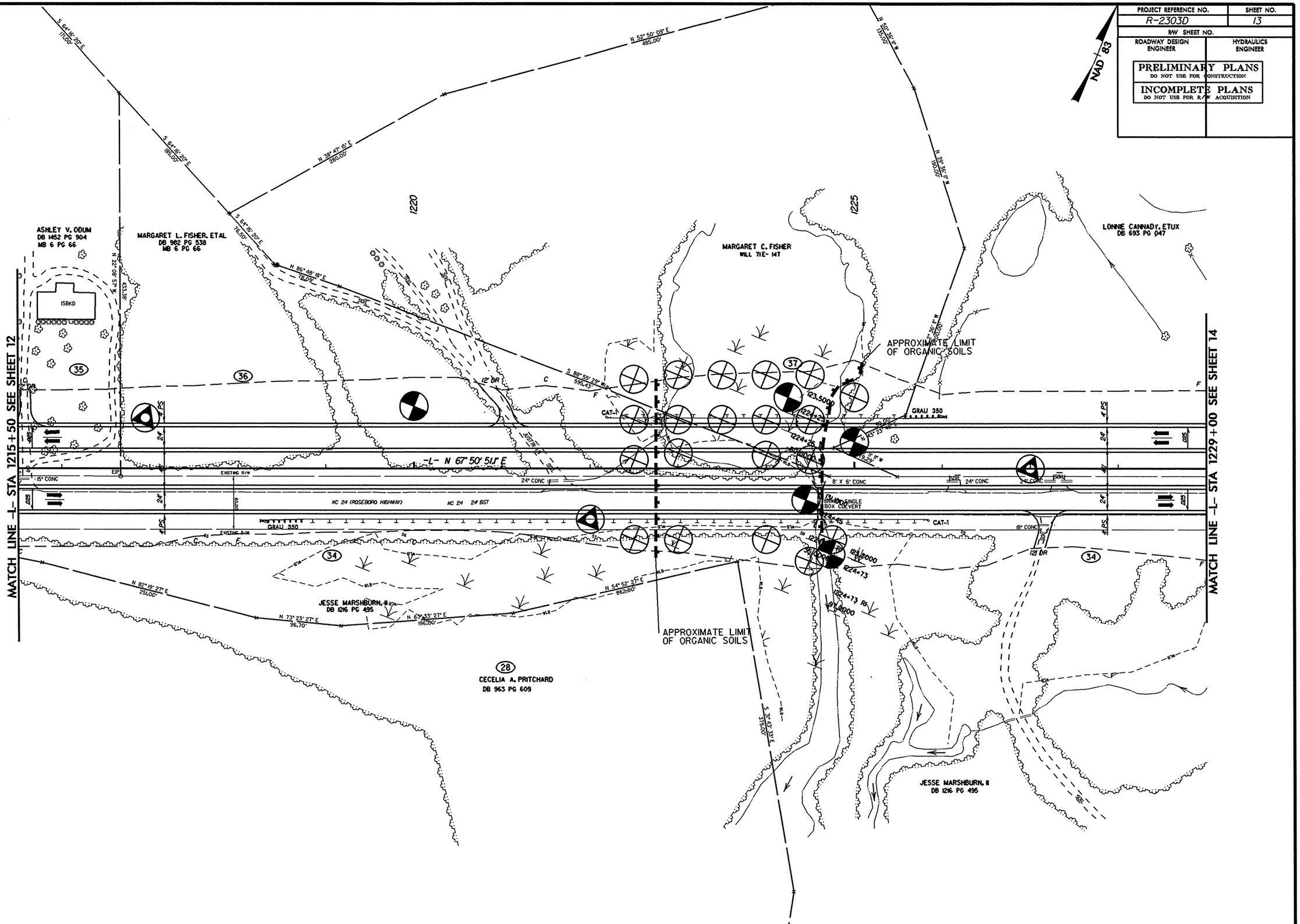
5/14/99

28-DEC-2010 14:35
TTPR2303D_GEO_RDWY\CADD_GEOTECH\PlanProf\r-2303d_rdy_psh_12.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

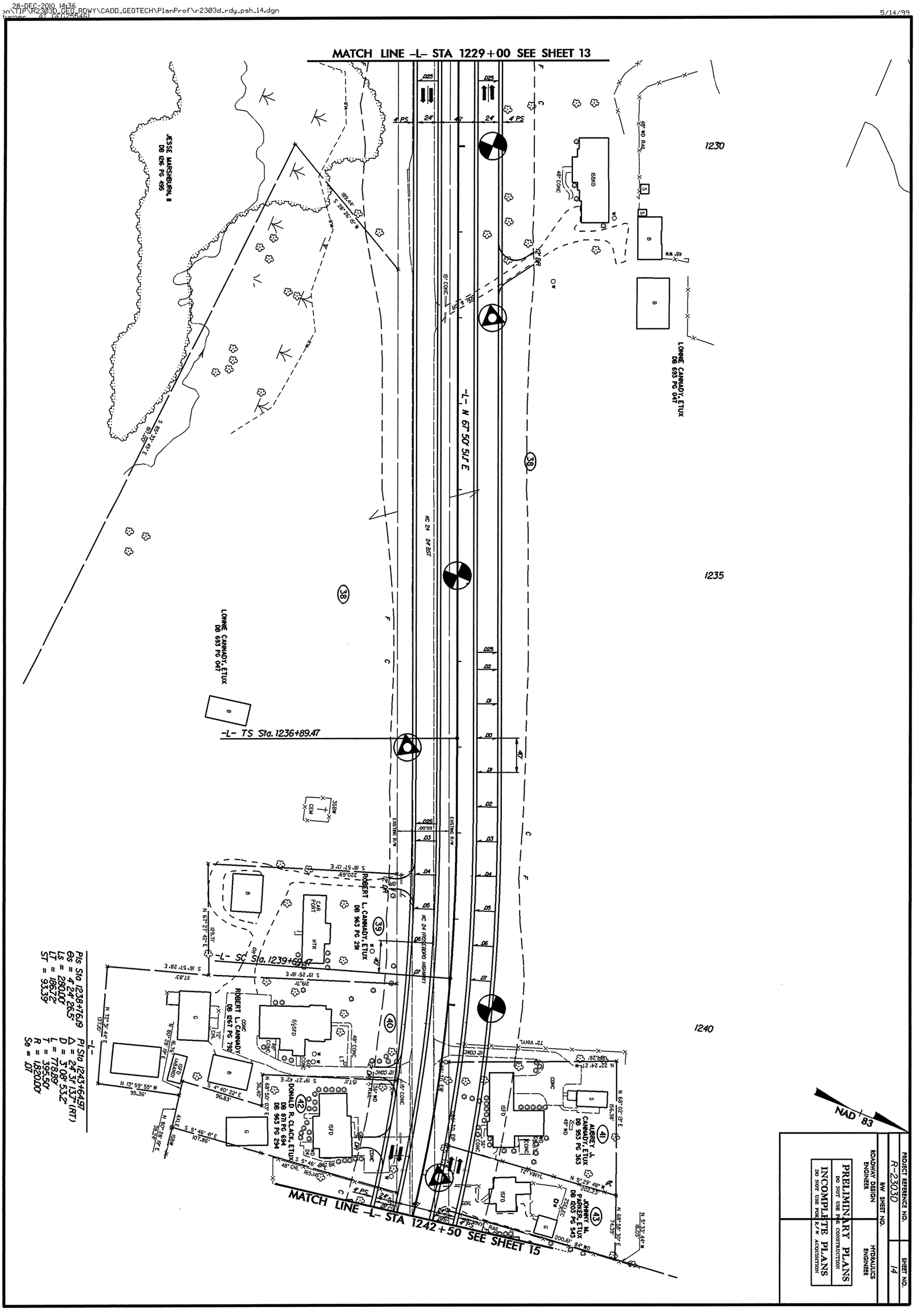
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION



5/14/99
10-JAN-2011 09:54
R:\Roadway\Proj\R-2303D_RDWY\CADD_GEOTECH\PlanProf\r-2303d_rdy_psh_13.dgn

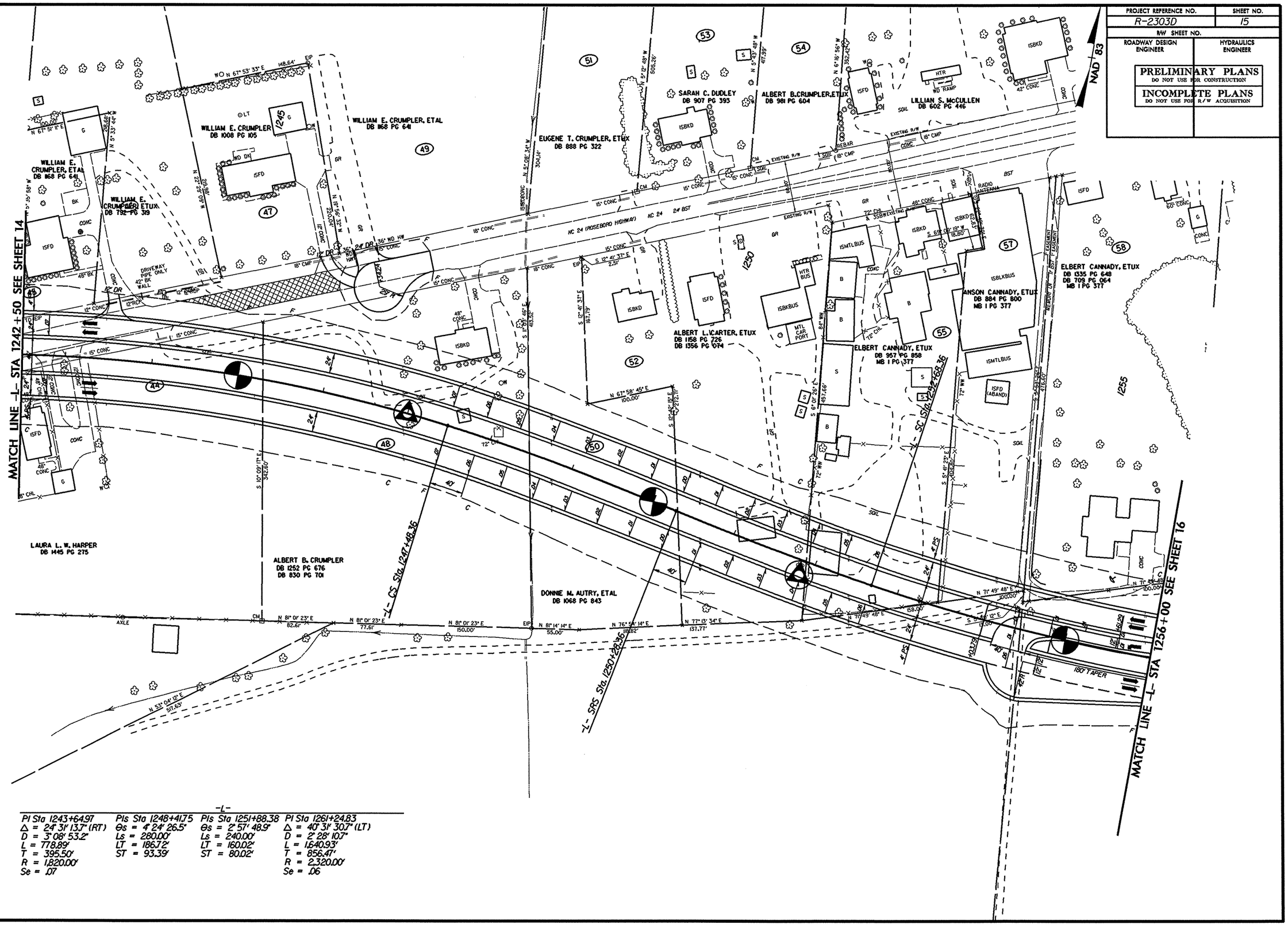
28-DEC-2010 14:36
on\TIP\R2303D_GEO_RDWY\CADD_GEOTECH\PlanProf\r2303d_rdy_psh_14.dgn
5/14/99



PROJECT REFERENCE NO.	SHEET NO.
R-2303D	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION



-L-

PI Sta 1243+64.97	PIs Sta 1248+41.75	PIs Sta 1251+88.38	PI Sta 1261+24.83
Δ = 24° 31' 13.7" (RT)	Θs = 4° 24' 26.5"	Θs = 2° 57' 48.9"	Δ = 40° 31' 30.7" (LT)
D = 3° 08' 53.2"	Ls = 280.00'	Ls = 240.00'	D = 2° 28' 10.7"
L = 778.89'	LT = 186.72'	LT = 160.02'	L = 1,640.93'
T = 395.50'	ST = 93.39'	ST = 80.02'	T = 856.47'
R = 1,820.00'			R = 2,320.00'
Se = .07			Se = .06

5/14/99

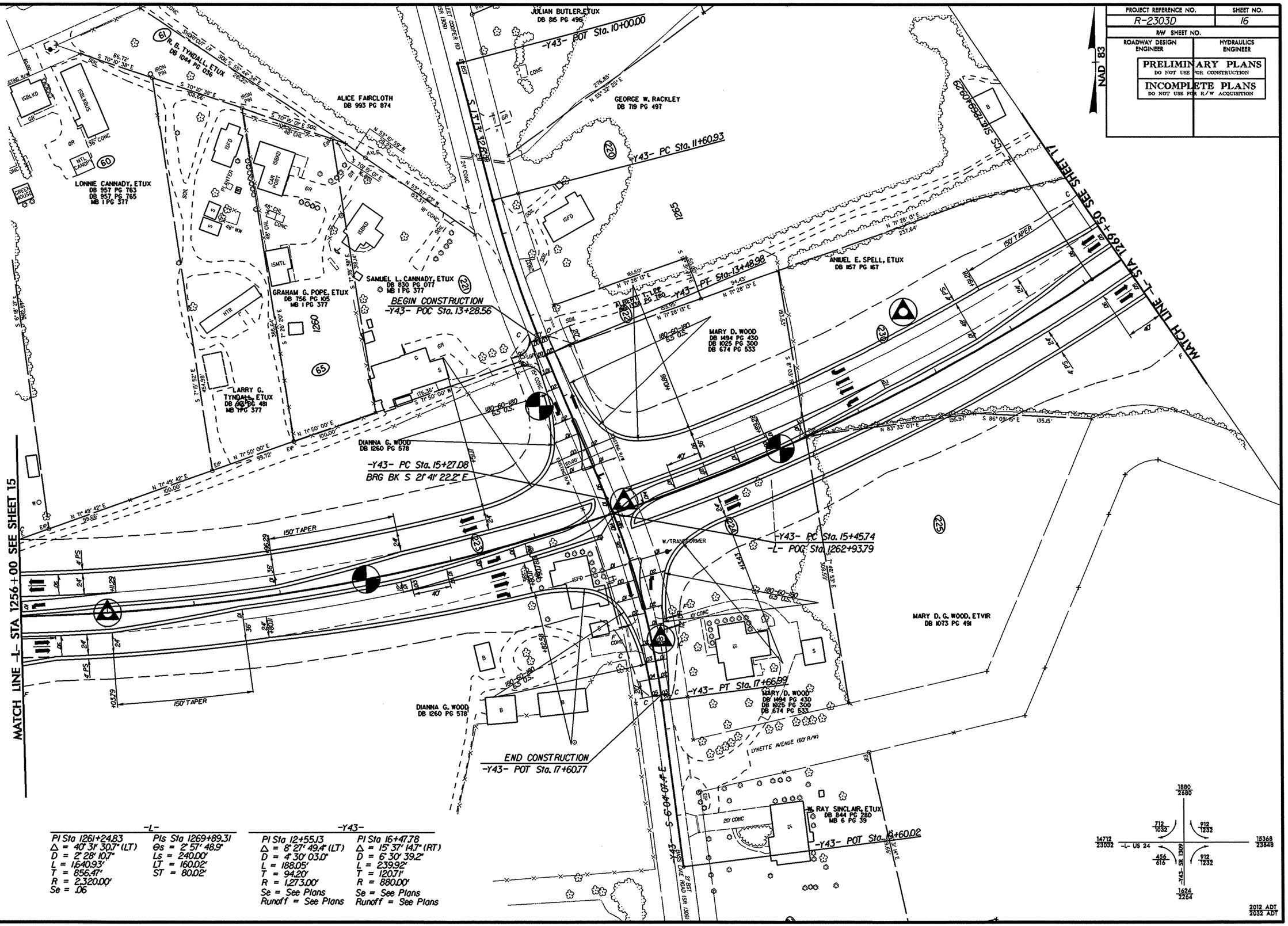
28-DEC-2010 14:36
...\TIP\R2303D_GEO_RDWY\CADD_GEOTECH\PlanProf\r2303d_rdy_psh_15.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

NAD 83

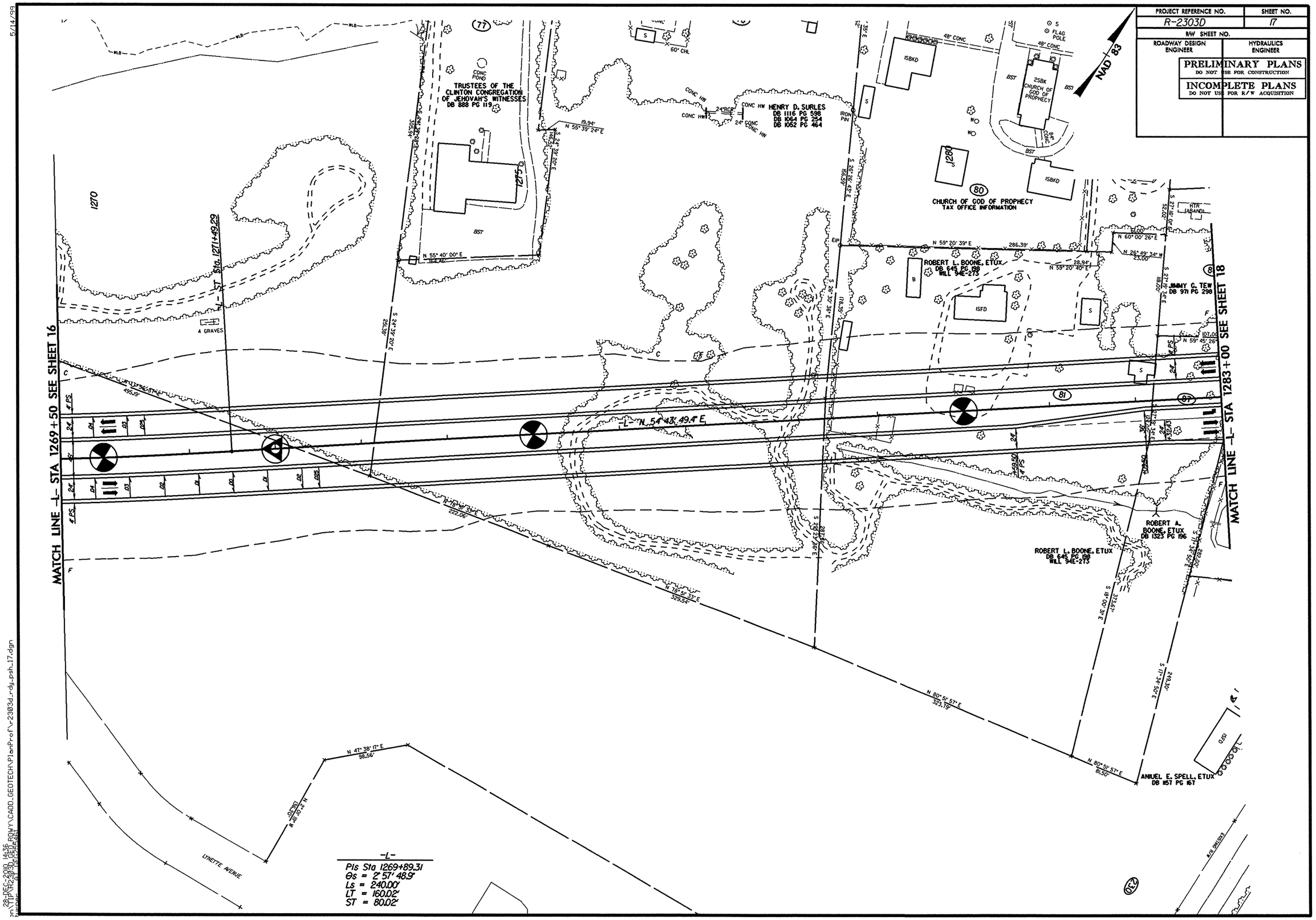


-L-	
PI Sta 1261+24.83	PIs Sta 1269+89.31
Δ = 40° 31' 30.7" (LT)	Θs = 2° 57' 48.9"
D = 2° 28' 10.7"	Ls = 240.00'
L = 1,640.93'	LT = 160.02'
T = 856.47'	ST = 80.02'
R = 2,320.00'	
Se = .06	

-Y43-	
PI Sta 12+55.13	PI Sta 16+47.78
Δ = 8° 27' 49.4" (LT)	Δ = 15° 37' 14.7" (RT)
D = 4° 30' 03.0"	D = 6° 30' 39.2"
L = 188.05'	L = 239.92'
T = 94.20'	T = 120.71'
R = 1,273.00'	R = 880.00'
Se = See Plans	Se = See Plans
Runoff = See Plans	Runoff = See Plans

5/14/99

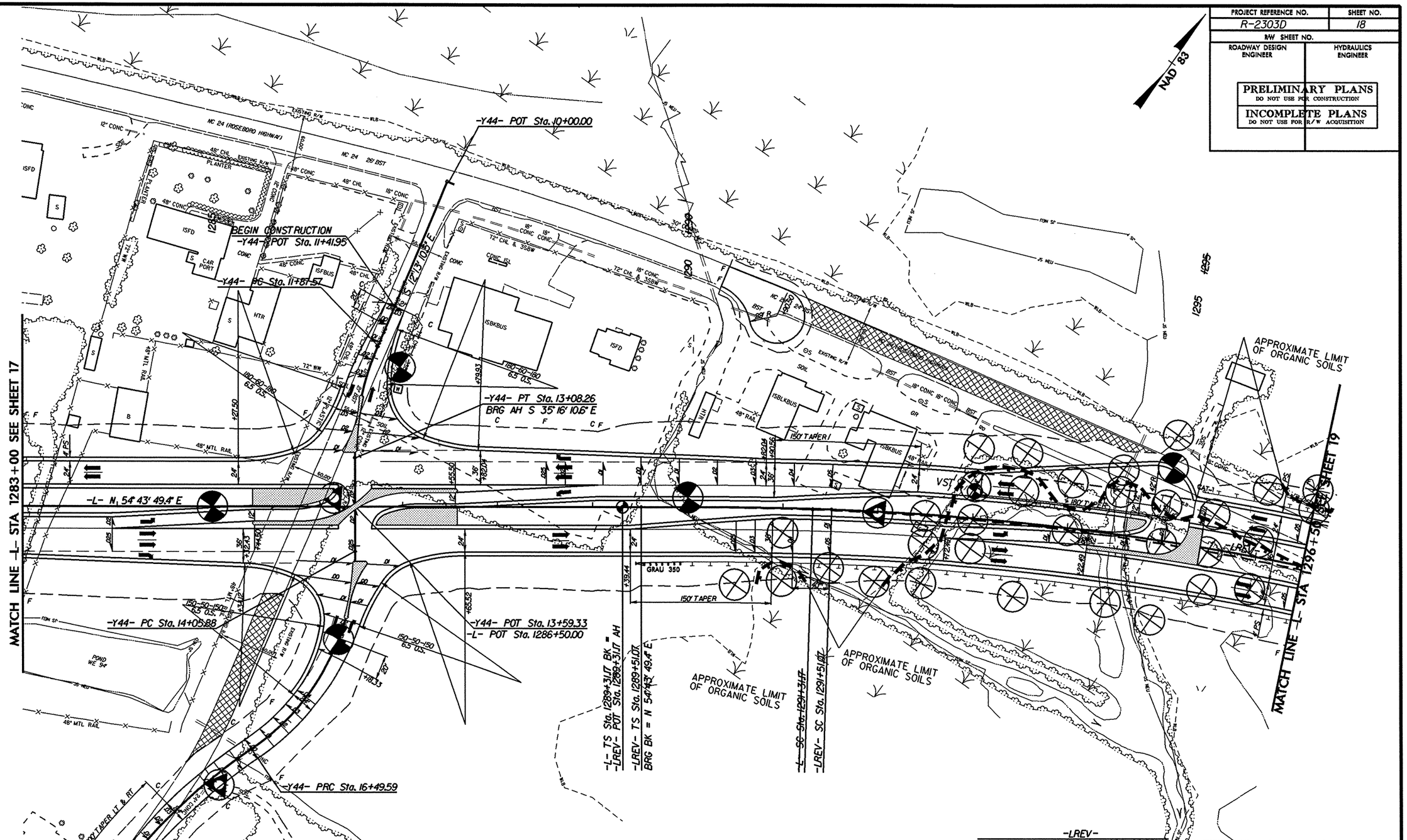
28-DEC-2010 14:36
pn TIP R-2303D GEO ROWY\CADD_GEOTECH\PlanProf\r-2303d_rdy_psh_16.dgn
Engineer 01 REF=2426261


PROJECT REFERENCE NO.
R-2303D
SHEET NO.
17
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
NAD 83
MATCH LINE -L- STA 1269+50 SEE SHEET 16
MATCH LINE -L- STA 1283+00 SEE SHEET 18
TRUSTEES OF THE CLINTON CONGREGATION OF JEHOVAH'S WITNESSES DB 888 PG 119
HENRY D. SURLES DB 1116 PG 598 DB 1064 PG 254 DB 1052 PG 464
CHURCH OF GOD OF PROPHECY TAX OFFICE INFORMATION
ROBERT L. BOONE, ETUX DB 645 PG 198 WILL 94E-273
JIMMY G. TEW DB 971 PG 298
ROBERT A. BOONE, ETUX DB 1323 PG 196
ANIUEL E. SPELL, ETUX DB 1157 PG 167
-L- N 54° 43' 49.4" E
-L- ST Sta. 1271+49.29
4 GRAVES
LYNETTE AVENUE
-L-
PIs Sta 1269+89.31
Θs = 2° 57' 48.9"
Ls = 240.00'
LT = 160.02'
ST = 80.02'

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION



-LREV-

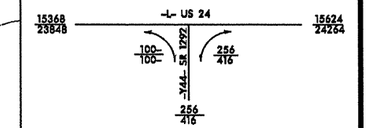
PIs Sta 1290+84.41	PI Sta 1296+68.58
Θs = 1° 56' 08.4"	Δ = 19° 50' 02.0" (RT)
Ls = 200.00'	D = 1° 56' 08.4"
LT = 133.34'	L = 1,024.65'
ST = 66.67'	T = 517.50'
	R = 2,950.00'
	Se = .05

-Y44-

PI Sta 12+48.75	PI Sta 15+38.40	PI Sta 17+52.71
Δ = 23° 03' 00.1" (LT)	Δ = 55° 51' 13.4" (RT)	Δ = 19° 30' 13.7" (LT)
D = 19° 05' 54.9"	D = 22° 55' 05.9"	D = 9° 32' 57.5"
L = 120.69'	L = 243.71'	L = 204.24'
T = 61.17'	T = 132.52'	T = 103.12'
R = 300.00'	R = 250.00'	R = 600.00'
Se = See Plans	Se = See Plans	Se = See Plans
Runoff = See Plans	Runoff = See Plans	Runoff = See Plans

-L-

PIs Sta 1290+64.51	PI Sta 1296+48.68
Θs = 1° 56' 08.4"	Δ = 19° 50' 02.0" (RT)
Ls = 200.00'	D = 1° 56' 08.4"
LT = 133.34'	L = 1,024.65'
ST = 66.67'	T = 517.50'
	R = 2,950.00'
	Se = .05



2012 ADT
2032 ADT

5/14/99

28-DEC-2010 14:28
T:\R2303D_GEO_ROWV\CADD_GEOTECH\PlanProf\r2303d_rdy_psh_18_LREV.dgn

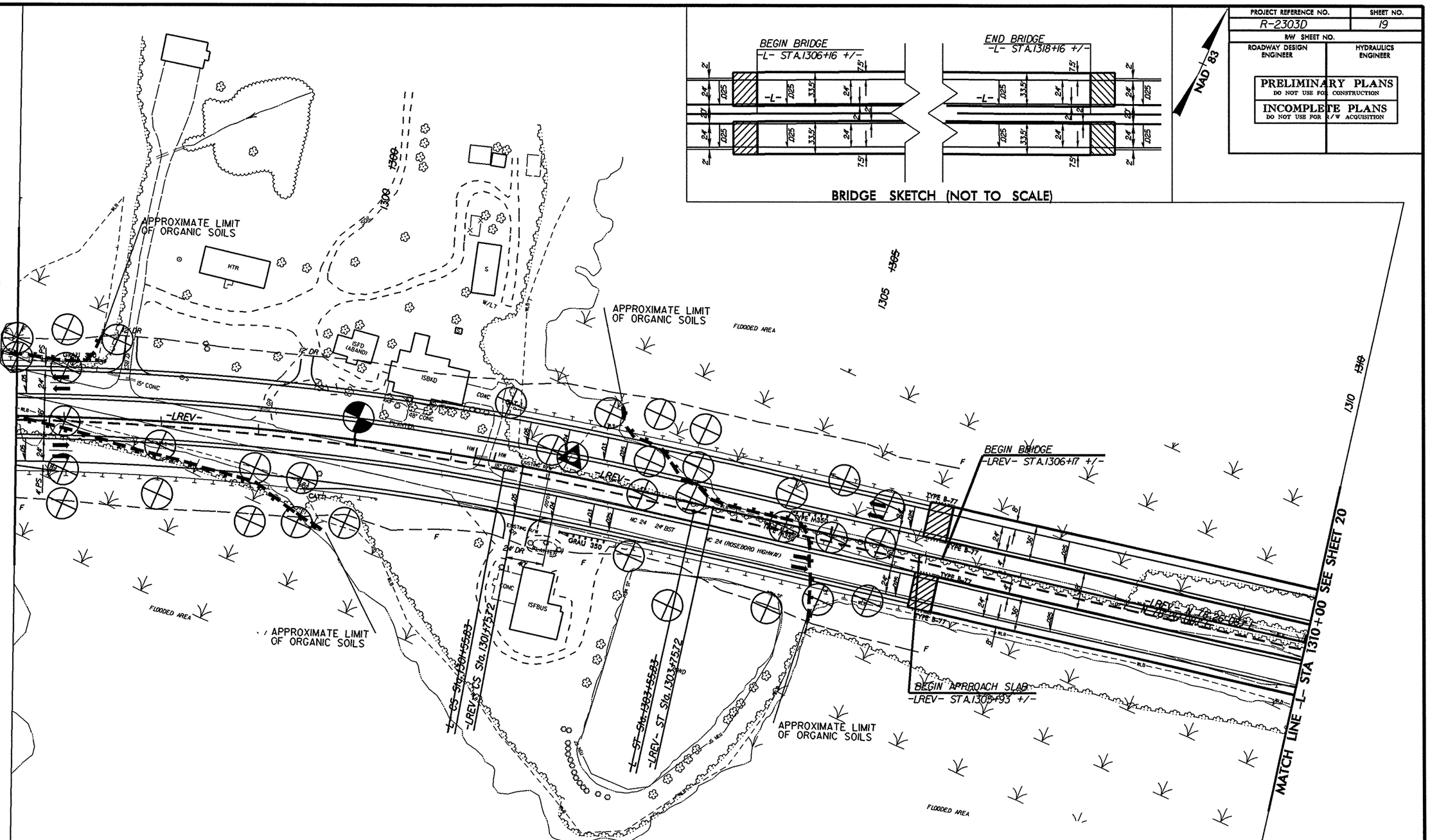
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

NAD 83

BRIDGE SKETCH (NOT TO SCALE)



-LREV-

PI Sta 1296+68.58	PIs Sta 1302+42.40
Δ = 19° 50' 02.0" (RT)	Θs = 1° 56' 08.4"
D = 1° 56' 08.4"	Ls = 200.00'
L = 1,024.65'	LT = 133.34'
T = 517.50'	ST = 66.67'
R = 2,960.00'	
Se = .05	

-L-

PI Sta 1296+48.68	PIs Sta 1302+22.50
Δ = 19° 50' 02.0" (RT)	Θs = 1° 56' 08.4"
D = 1° 56' 08.4"	Ls = 200.00'
L = 1,024.65'	LT = 133.34'
T = 517.50'	ST = 66.67'
R = 2,960.00'	
Se = .05	

5/14/99

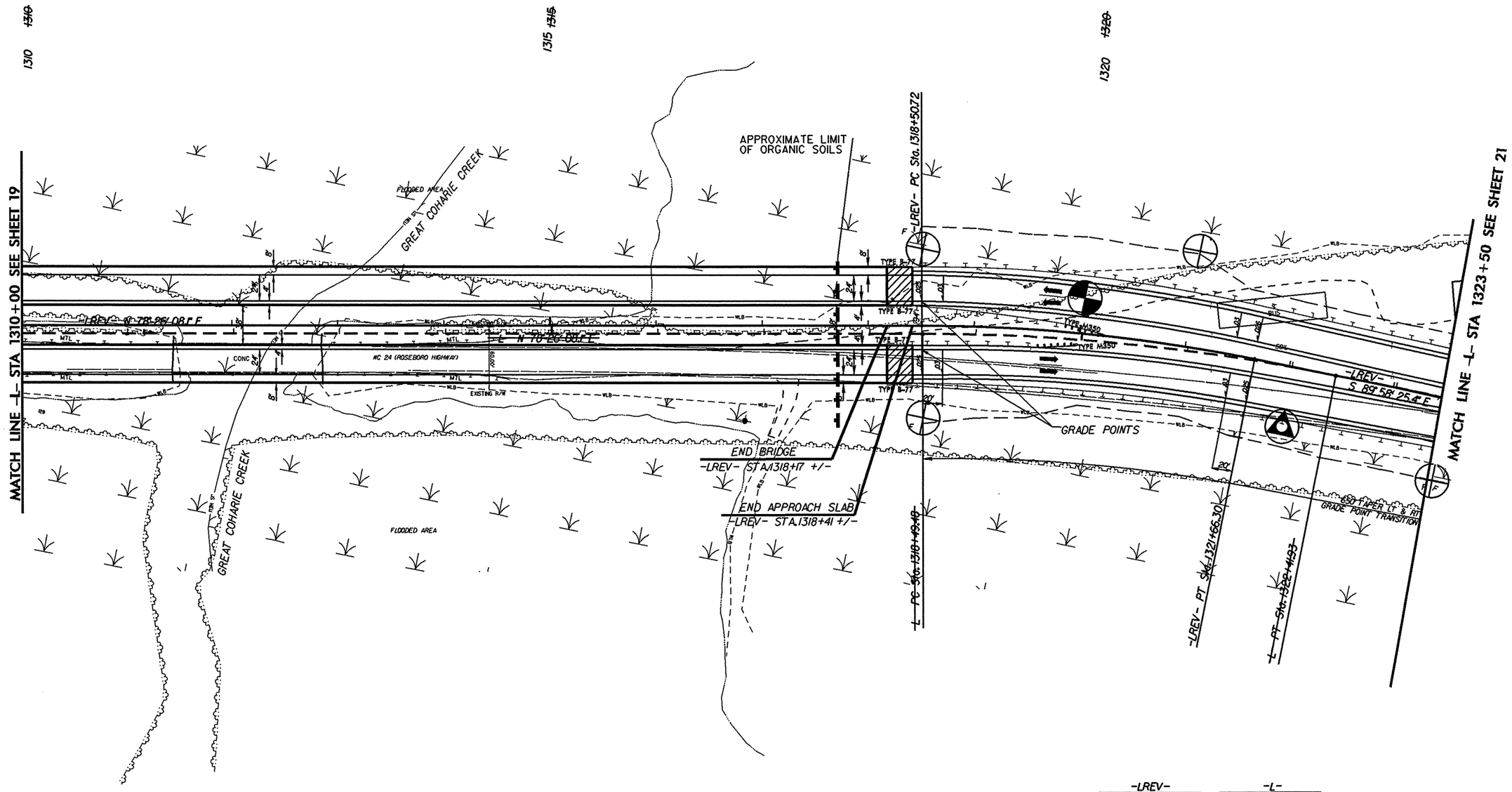
28-DEC-2010 14:33
TIP\R2303D_GEO_RDWY\CADD_GEOTECH\PlanProf\r-2303d_r-dy_psh_19_LREV.dgn
USER: BT

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	20
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

NAD 83



-LREV-	-L-
PI Sta 1320+09.05	PI Sta 1320+46.38
Δ = 11° 35' 26.5" (RT)	Δ = 11° 35' 26.5" (RT)
D = 3° 40' 22.1"	D = 2° 57' 12.2"
L = 315.58'	L = 392.45'
T = 158.33'	T = 196.90'
R = 1,560.00'	R = 1,940.00'
Se = .03	Se = .03
Runoff = 120'	Runoff = 108'

5/14/99

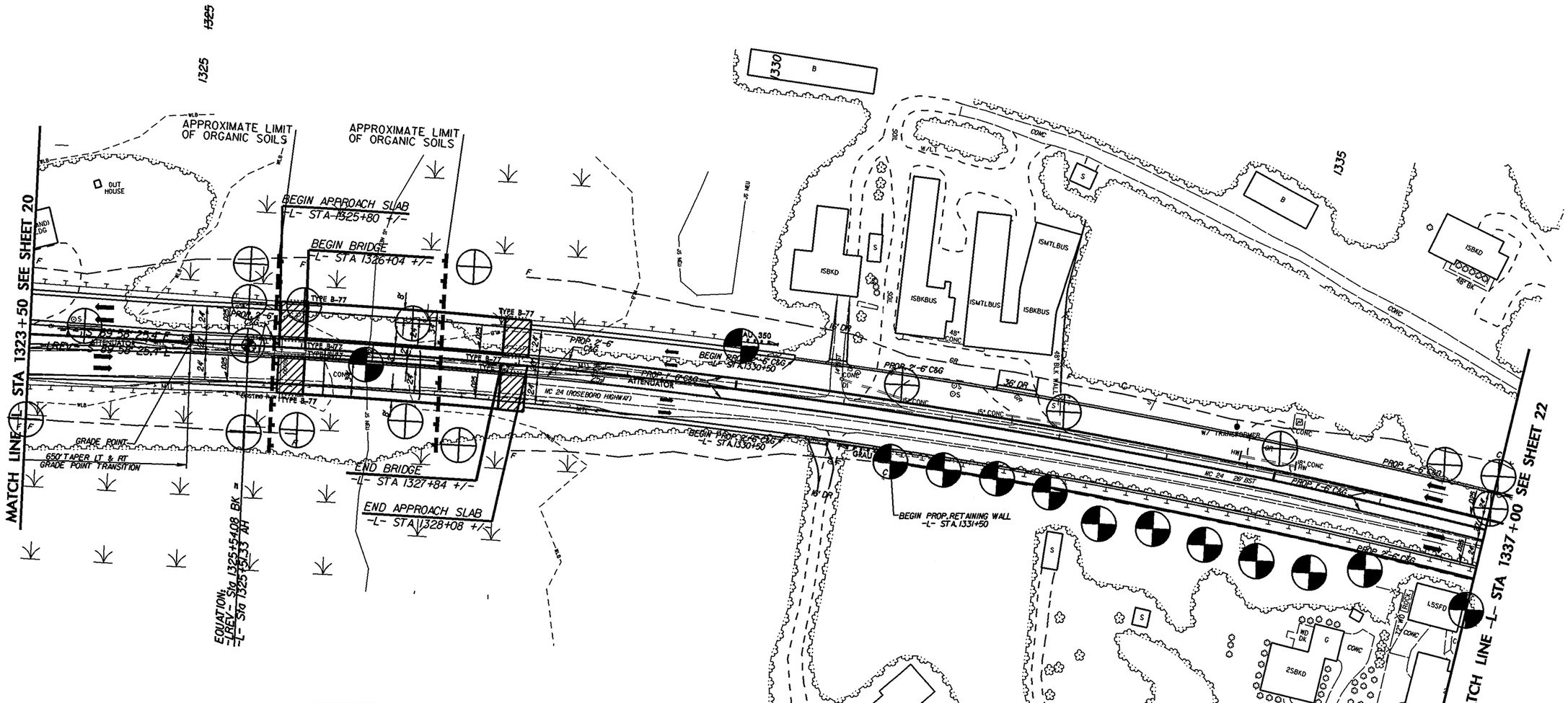
28-DEC-2010 14:39
TIP\R-2303D\DGN\R2303d_rdy_psh_20_LREV.dgn
WORKSPACE: AT_PERC-PE4G1

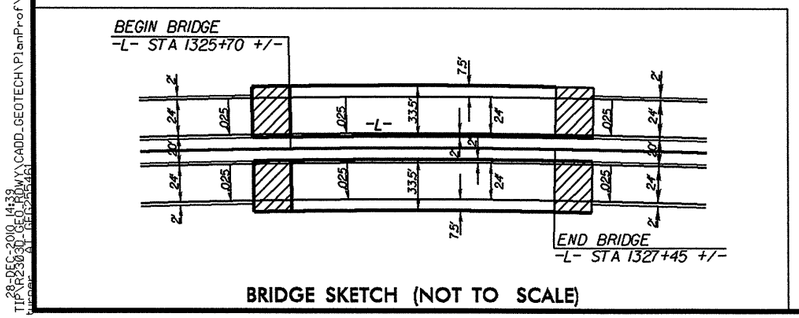
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	21
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

NAD 83





BRIDGE SKETCH (NOT TO SCALE)

-L-
PI Sta 1334+00.44
Δ = 16° 06' 35.6" (RT)
D = 0° 57' 17.7"
L = 1,687.02'
T = 849.11'
R = 6,000.00'
Se = .025
Runoff = 90'

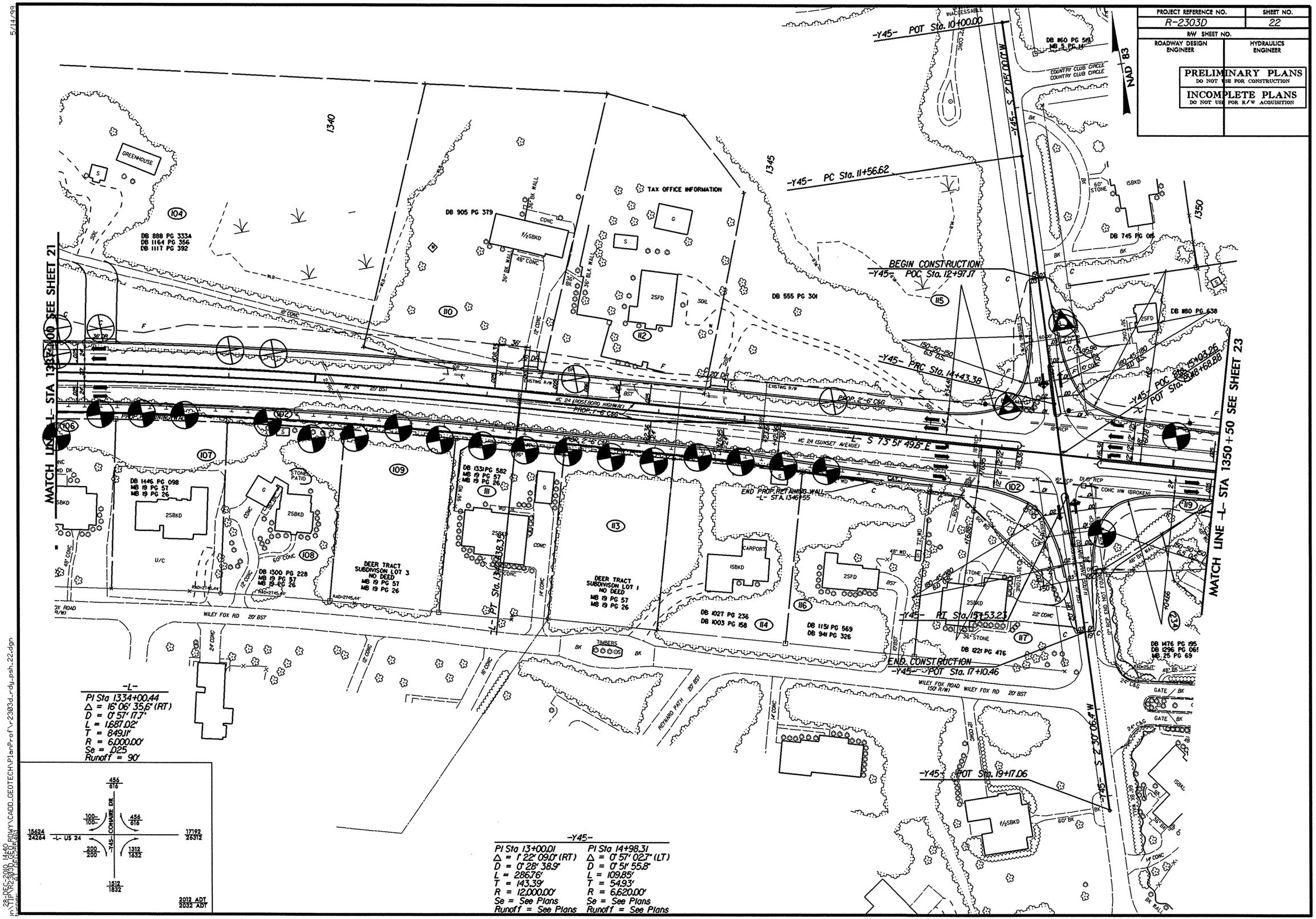
5/14/99

28-DEC-2010 14:39
TIP\R2303D_GEO_RDWY\CADD_GEOTECH\PlanProf\r2303d_rdy_psh_21_LREV.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION



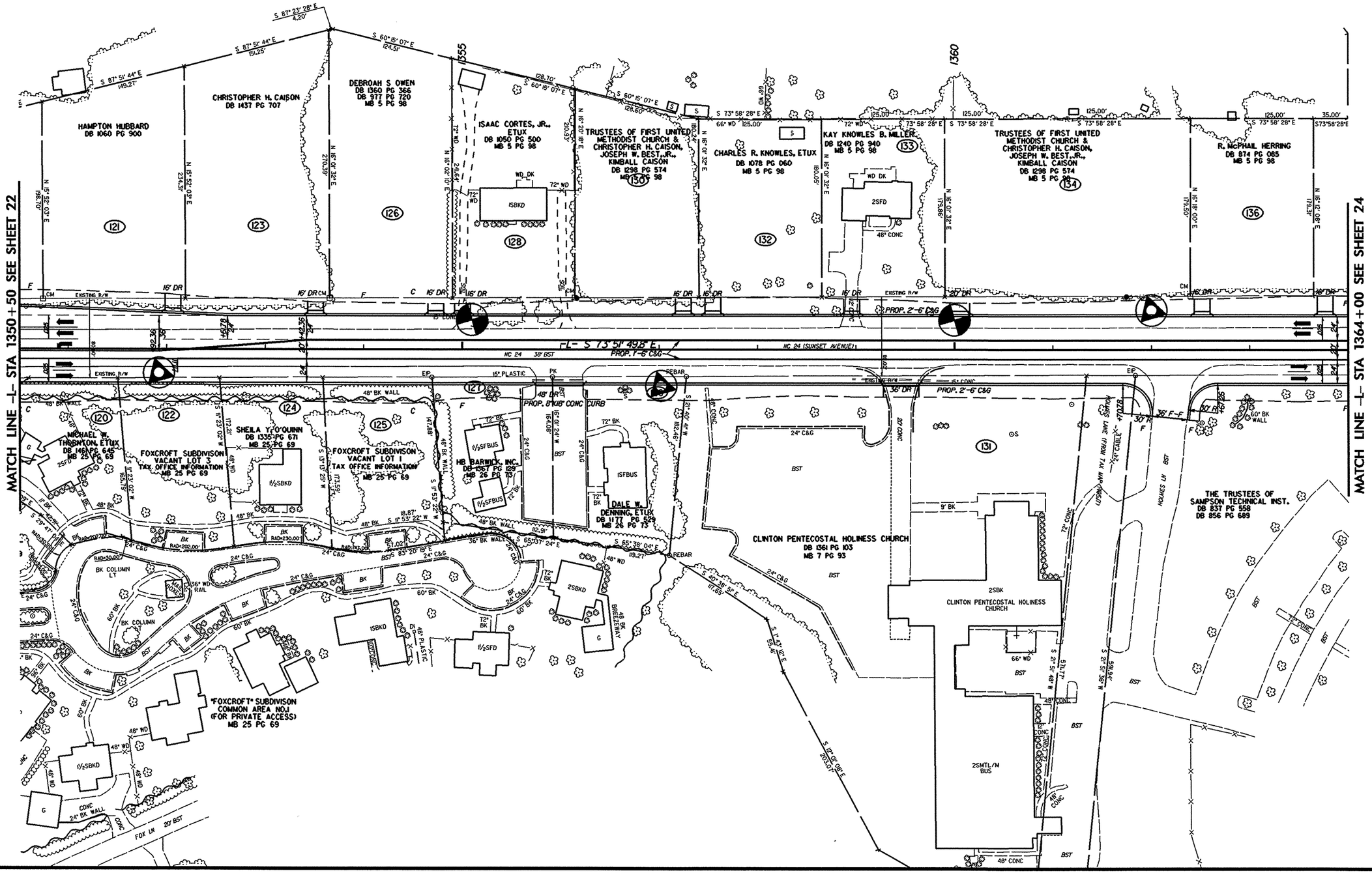
5/14/99

28-DEC-2010 14:40
pw:\\TIP\R2303D_DOT_ROWY\CADD_GEOTECH\PlanProf\r-2303d_rdy_psh_22.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

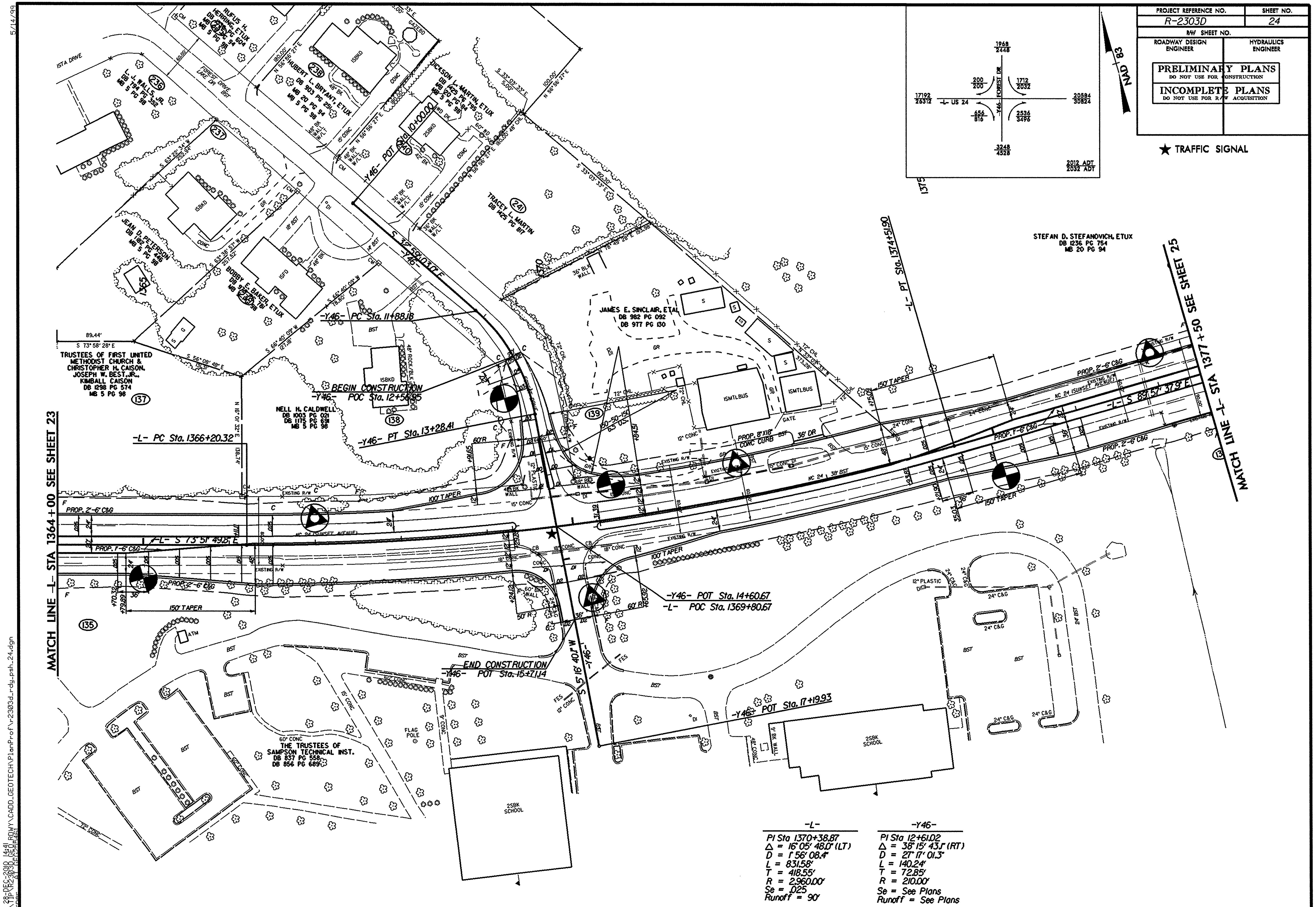
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION



5/14/99

28-DEC-2010 14:40
pw:\\TIPP\R2303D_GEO_ROWY\CADD_GEOTECH\PlanProf\r-2303d_rdy_psh_23.dgn
$IGNORE: A1 (ROSSARCH)

5/14/99



28-DEC-2010 14:41
\TIP\R2303D_GEO_RDWY\CADD_GEOTECH\PlanProf\r2303d_rdy_psh_24.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

★ TRAFFIC SIGNAL

NAD 83

MATCH LINE -L- STA 1377+50 SEE SHEET 24

MATCH LINE -L- STA 1391+50 SEE SHEET 26

20584
30824
-L- US 24
21808
32688
912
1232
1232
3168
-Y47- SR 1262
3048
4328
2012 ADT
2032 ADT

STEFAN D. STEFANOVICH, ETUX
DB 1236 PG 754
MB 20 PG 94

BOBBY R. HALL
DB 1501 PG 725
MB 45 PG 80

GEORGE R. EDWARDS, ETAL
DB 794 PG 046
DB 1079 PG 923
DB 1116 PG 051
DB 1116 PG 071
MB 45 PG 80
MB 23 PG 45

CLEMENT W. SHAREK, JR., ETUX
DB 1507 PG 342
MB 23 PG 45
MB 45 PG 80

PARKER GAS COMPANY, INC.
DB 1046 PG 476
MB 123 PG 45

J.E. AUSTIN CORP
DB 1102 PG 808

THE TRUSTEES OF
SAMPSON TECHNICAL INST.
DB 837 PG 558
DB 856 PG 689

A. G. THORNTON, ETAL
DB 837 PG 250
& EXCEPTIONS FROM
DB 1392 PG 140
DB 963 PG 931
DB 1041 PG 107

HARRIS SIGHT
AND SOUND, INC.
DB 1400 PG 647

FAIRCLOTH FAMILY PROPERTIES, LLC.
DB 1275 PG 775

NC LAND
LIMITED PARTNERSHIP
DB 1286 PG 822

CITY OF CLINTON
DB 1055 PG 575

-Y47- POT Sta. 10+00.00
-L- POT Sta. 1379+94.15

-Y48- POT Sta. 10+00.00
-L- POT Sta. 1390+74.36

-L- S 89° 57' 37.9" E

-Y48- PC Sta. 10+46.73
BRG BK S 0° 02' 22.1" E

-Y48- PT Sta. 10+80.06

-Y47- S 3° 42' 22.4" W

END CONSTRUCTION
-Y47- POT Sta. 11+46.27

-Y47- POT Sta. 14+00.00

END CONSTRUCTION
-Y48- POT Sta. 13+48.17

-Y48- POT Sta. 14+00.00

-Y48-
PI Sta 10+63.41
Δ = 6° 21' 56.1" (RT)
D = 19° 05' 54.9"
L = 33.33'
T = 16.68'
R = 300.00'
Se = See Plans
Runoff = See Plans

21808
32688
-L- US 24
22464
33504
256
416
-Y48- SR 1279
912
1232
1168
1648
2012 ADT
2032 ADT

5/14/99

28-DEC-2010 14:41
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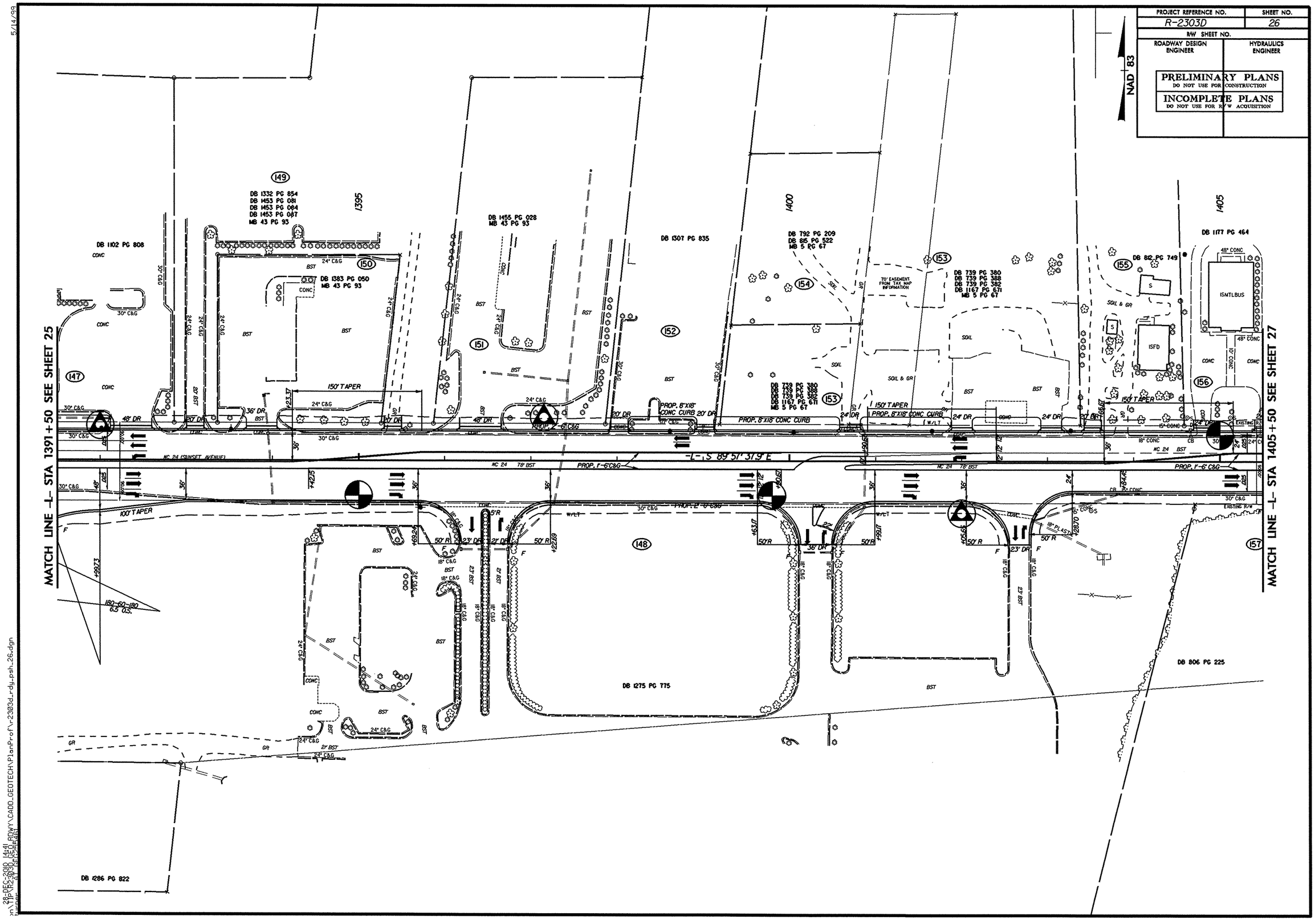
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	26
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION



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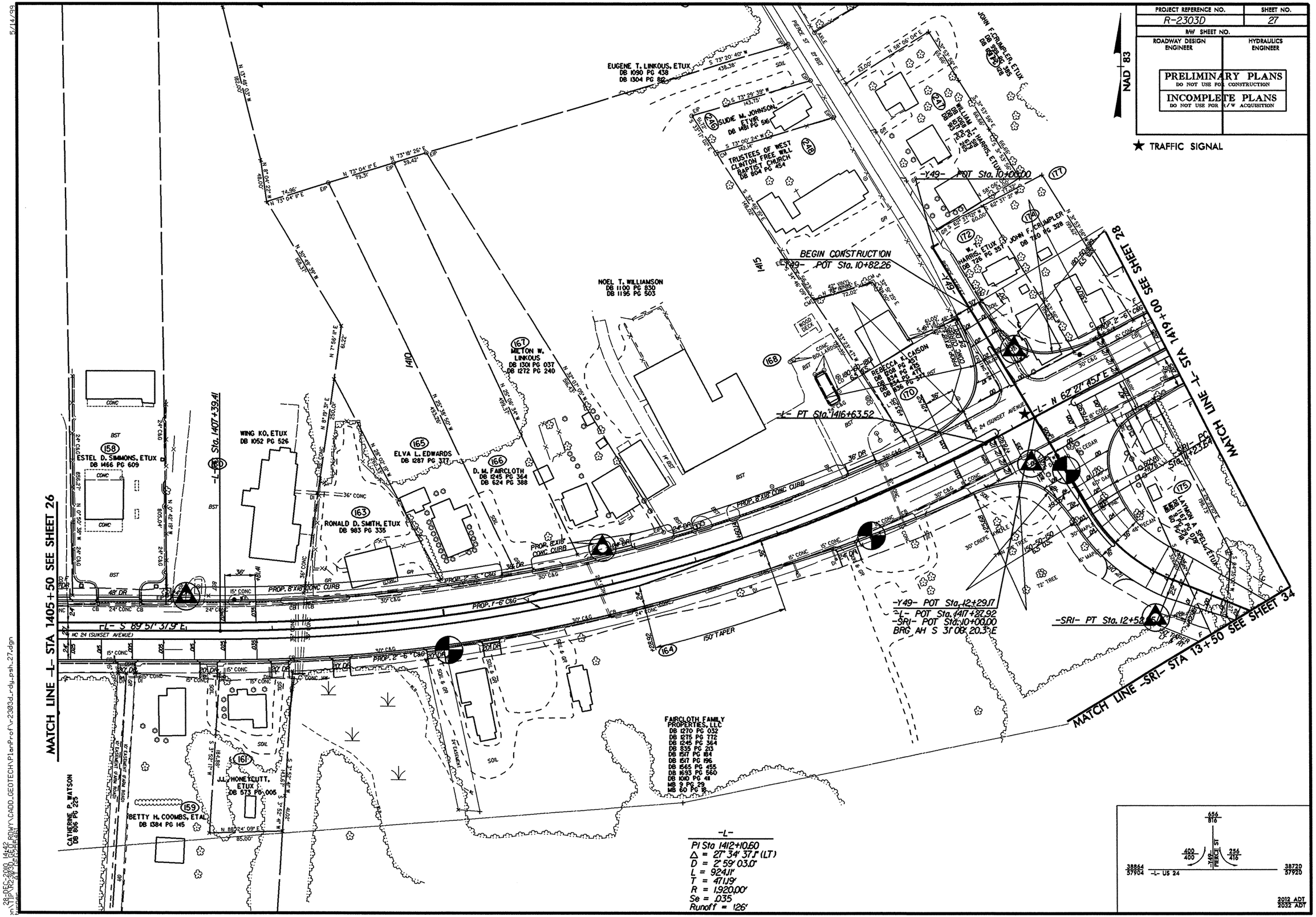
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	27
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

NAD 83

★ TRAFFIC SIGNAL



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ser: gkt1 (Kent Taylor)

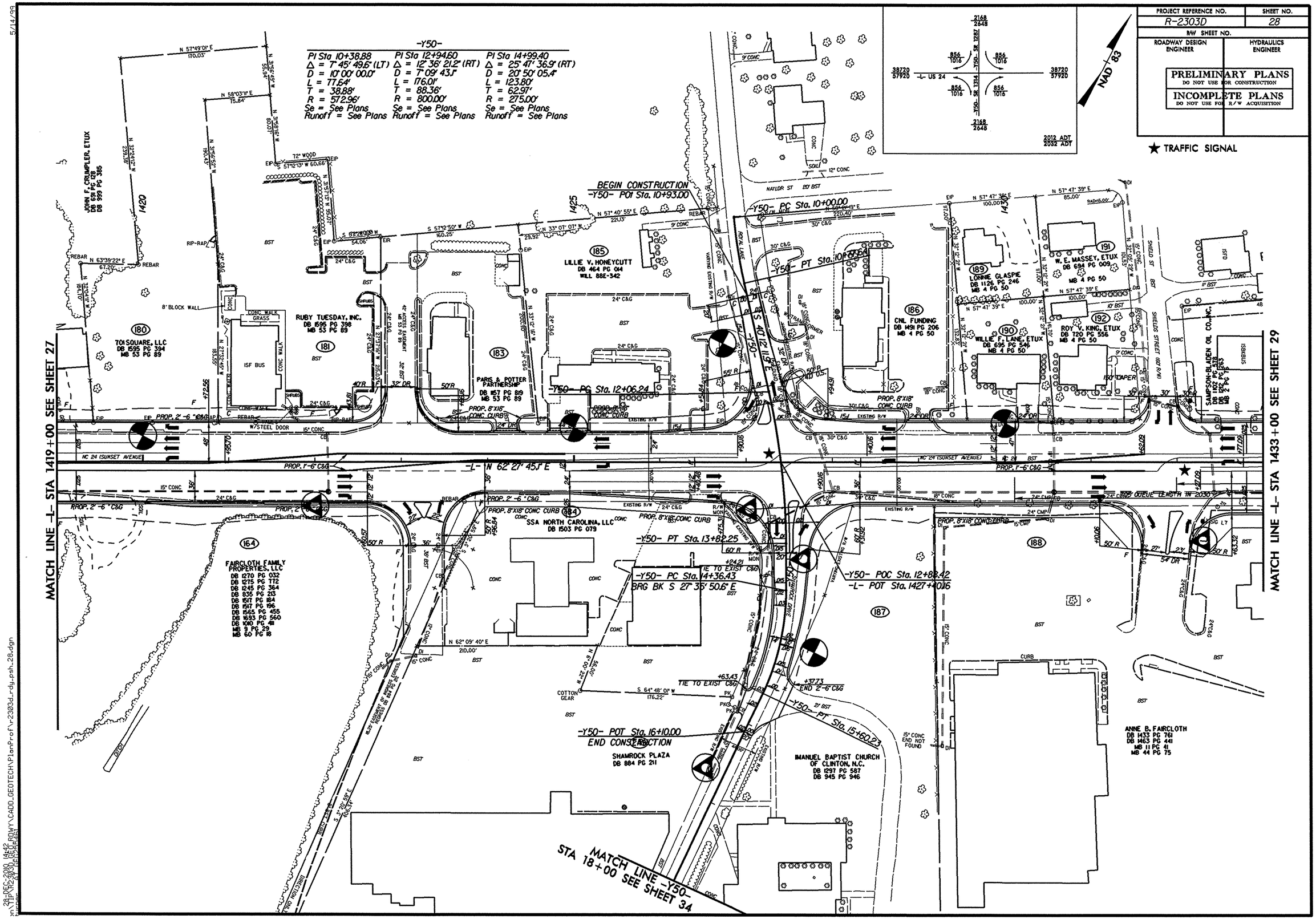
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

★ TRAFFIC SIGNAL



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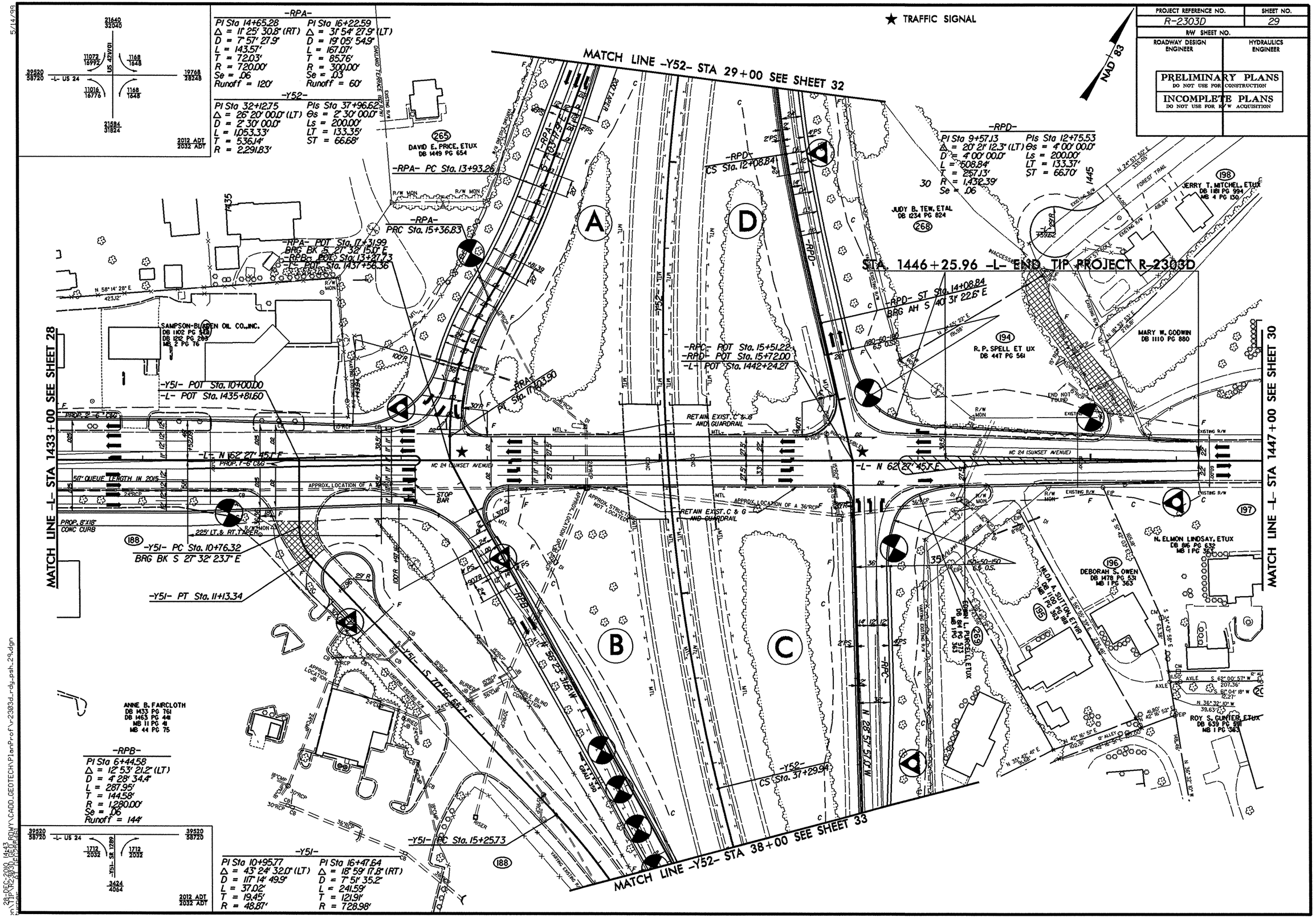
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	29
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

★ TRAFFIC SIGNAL

NAD 83



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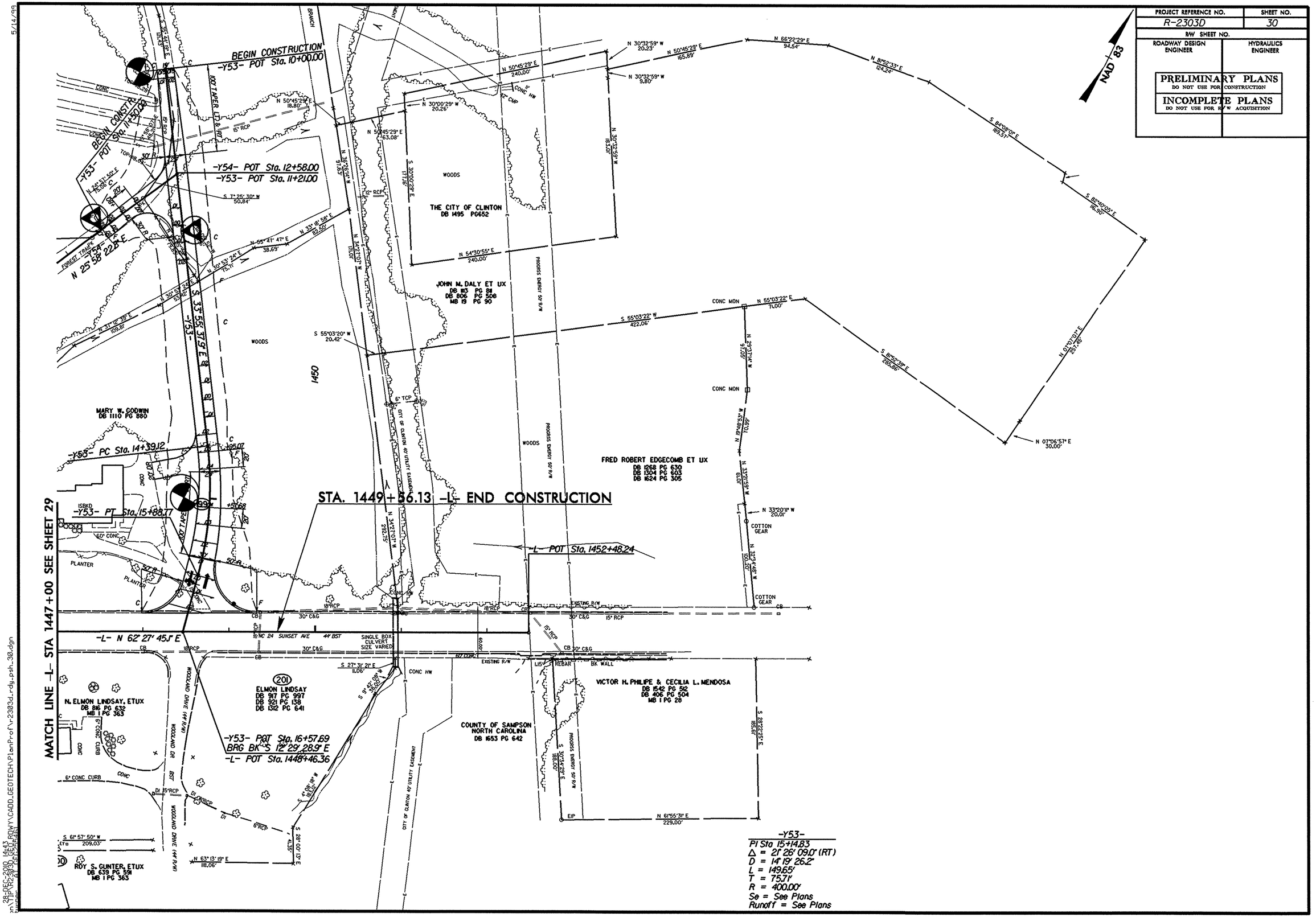


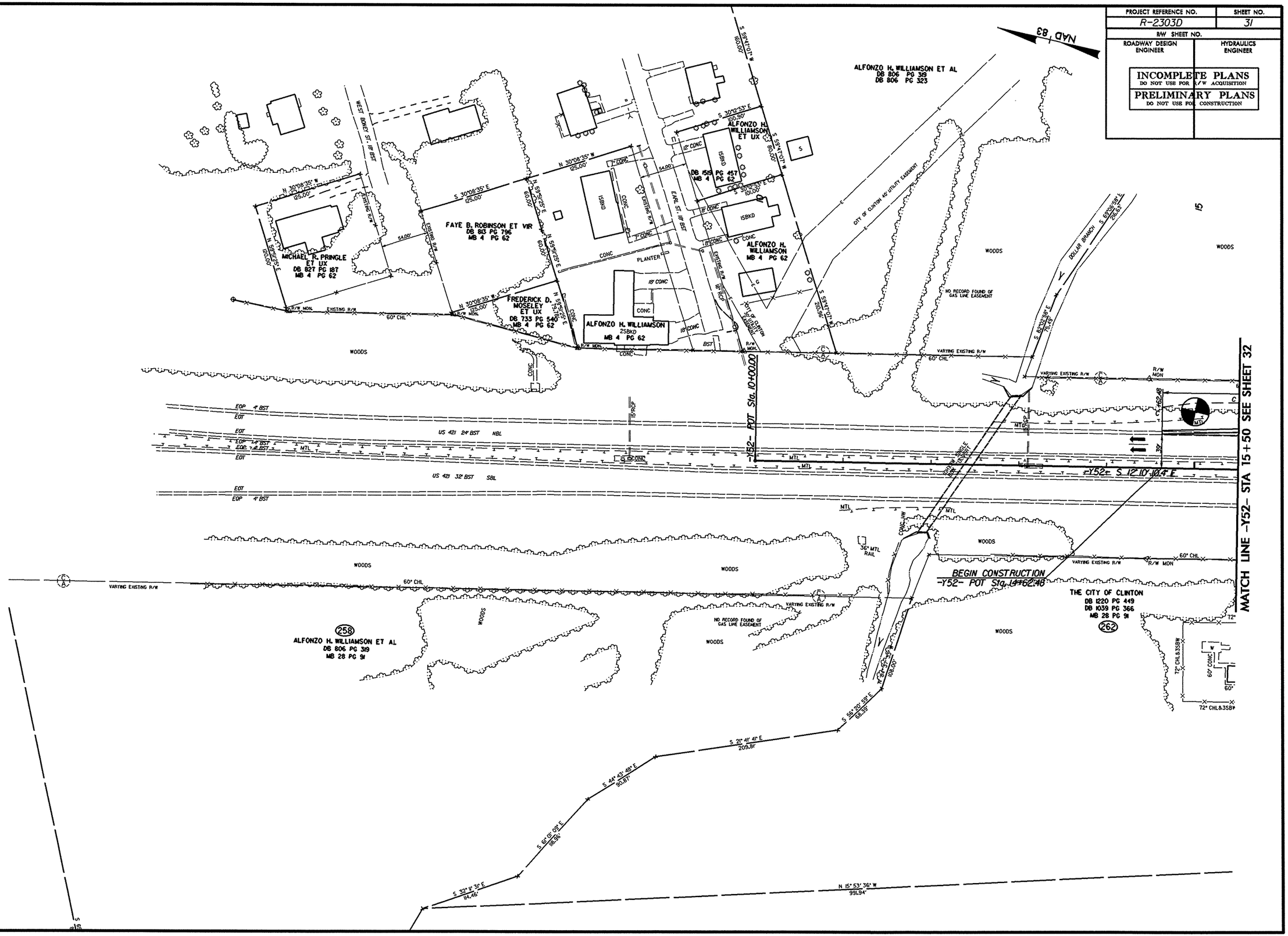
PROJECT REFERENCE NO.
R-2303D
SHEET NO.
30
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
NAD 83
BEGIN CONSTRUCTION
-Y53- POT Sta. 10+00.00
-Y54- POT Sta. 12+58.00
-Y53- POT Sta. 11+21.00
-Y53- PC Sta. 14+39.12
-Y53- PT Sta. 15+88.77
-Y53- POT Sta. 16+57.69
BRG BK S 12° 29' 28.9" E
-L- POT Sta. 1448+46.36
-L- POT Sta. 1452+48.24
STA. 1449+56.13 -L- END CONSTRUCTION
MATCH LINE -L- STA 1447+00 SEE SHEET 29
THE CITY OF CLINTON
DB 1495 PG652
JOHN M. DALY ET UX
DB 1113 PG 811
DB 806 PG 508
MB 19 PG 90
MARY W. GODWIN
DB 1110 PG 880
FRED ROBERT EDGECOMB ET UX
DB 1268 PG 630
DB 1304 PG 603
DB 1624 PG 305
ELMON LINDSAY
DB 917 PG 997
DB 921 PG 138
DB 1312 PG 641
N. ELMON LINDSAY, ETUX
DB 816 PG 632
MB 1 PG 363
COUNTY OF SAMPSON
NORTH CAROLINA
DB 1653 PG 642
VICTOR H. PHILIPE & CECILIA L. MENDOSA
DB 1542 PG 512
DB 406 PG 504
MB 1 PG 28
ROY S. GUNTER, ETUX
DB 639 PG 591
MB 1 PG 363
WOODS
CONC MON
COTTON GEAR
PLANTER
SINGLE BOX CULVERT SIZE VARIED
-Y53-
PI Sta 15+14.83
Δ = 21° 26' 09.0" (RT)
D = 14° 19' 26.2"
L = 149.65'
T = 75.71'
R = 400.00'
Se = See Plans
Runoff = See Plans

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	31
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



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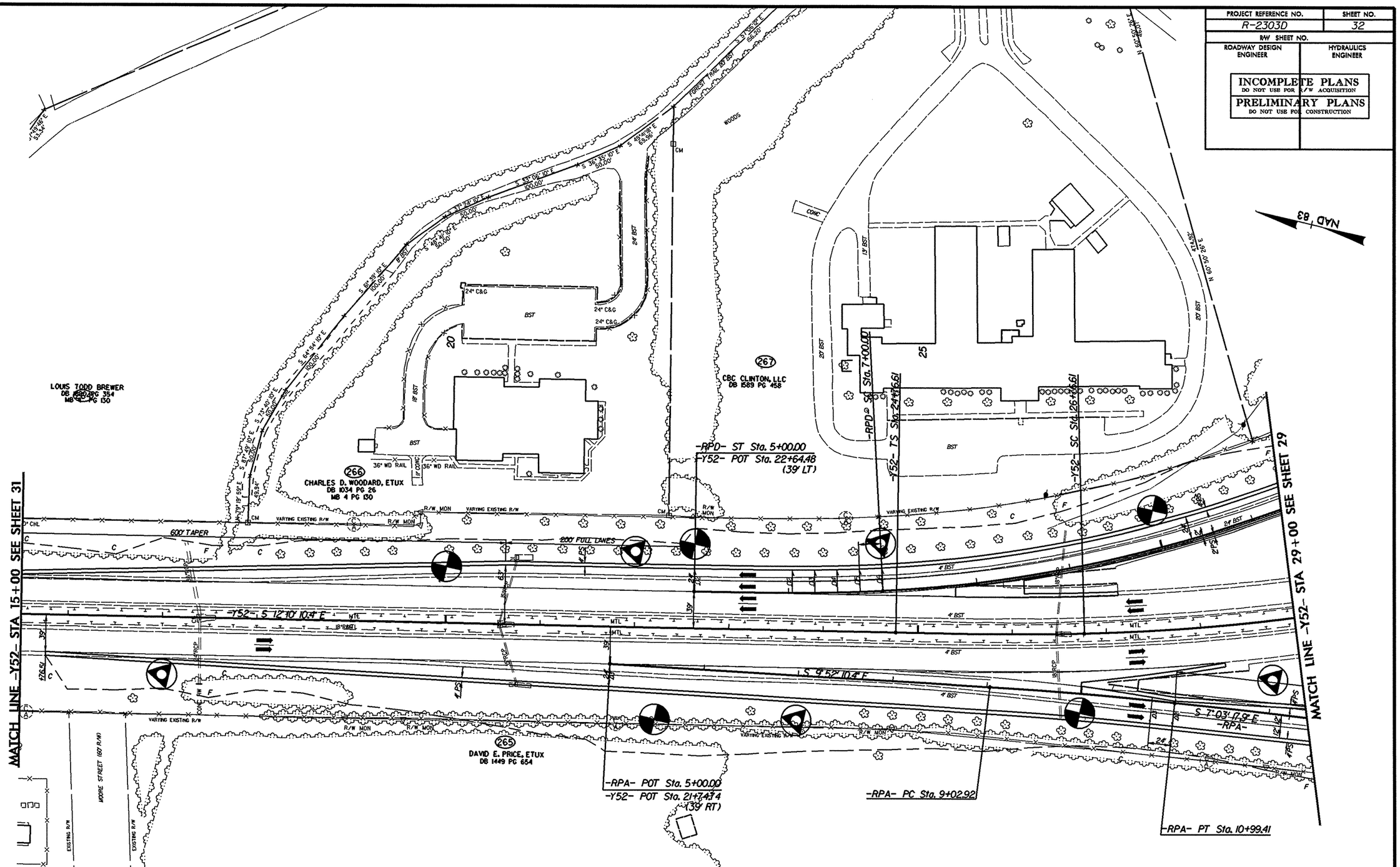
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	32
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

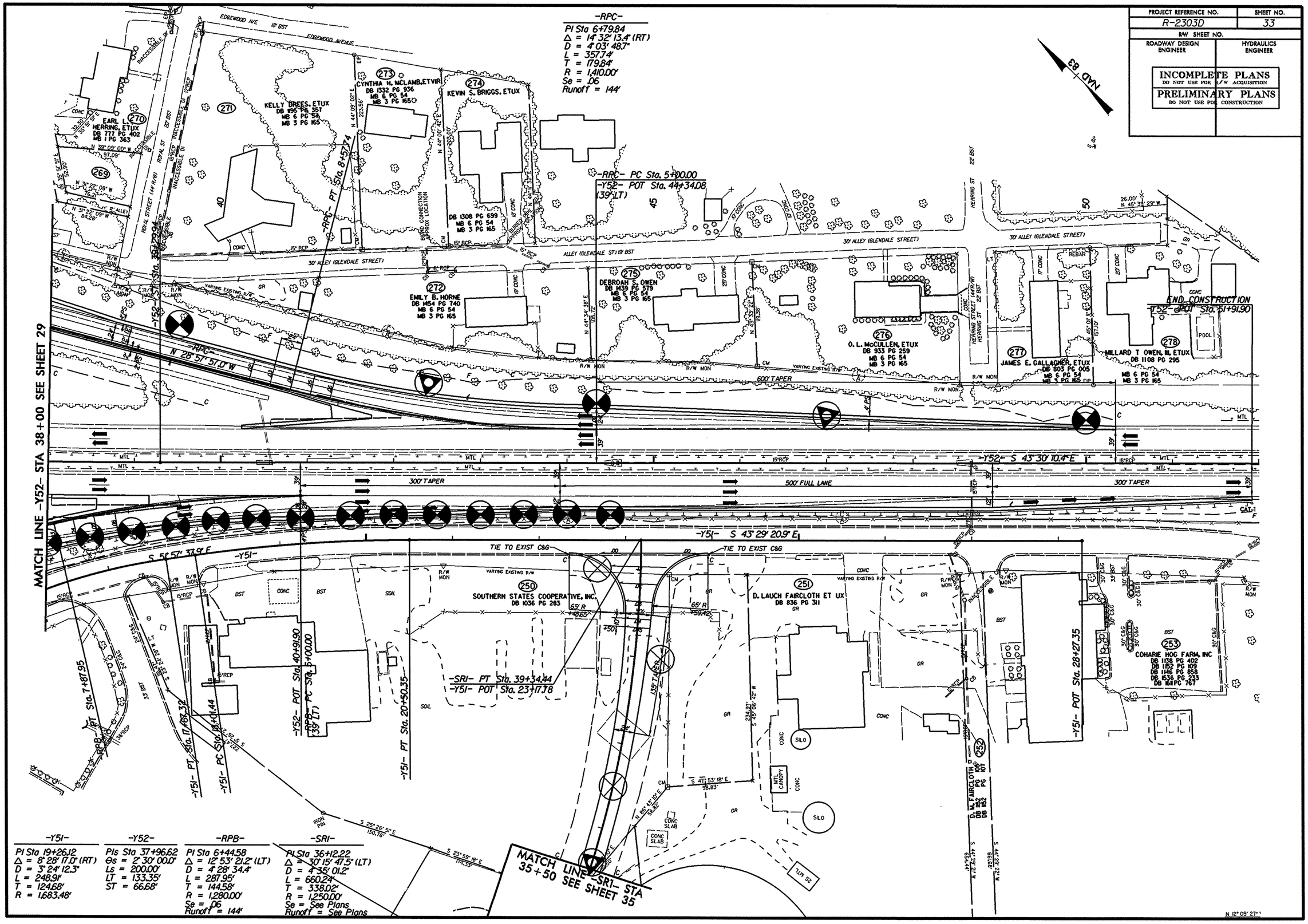
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-RPA-	-RPD-		-Y52-	
PI Sta 10+01.19	PIs Sta 6+33.37	PI Sta 9+57.13	PIs Sta 26+09.96	PI Sta 32+12.75
Δ = 2° 48' 52.5" (RT)	θs = 4° 00' 00.0"	Δ = 20° 21' 12.3" (LT)	θs = 2° 30' 00.0"	Δ = 26° 20' 00.0" (LT)
D = 1° 25' 56.6"	Ls = 200.00'	D = 4° 00' 00.0"	Ls = 200.00'	D = 2° 30' 00.0"
L = 196.49'	LT = 133.37'	L = 508.84'	LT = 133.35'	L = 1,053.33'
T = 98.27'	ST = 66.70'	T = 257.13'	ST = 66.68'	T = 536.14'
R = 4,000.00'		R = 1,432.39'		R = 2,291.83'
Se = .03		Se = .06		
Runoff = 72'				

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	33
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

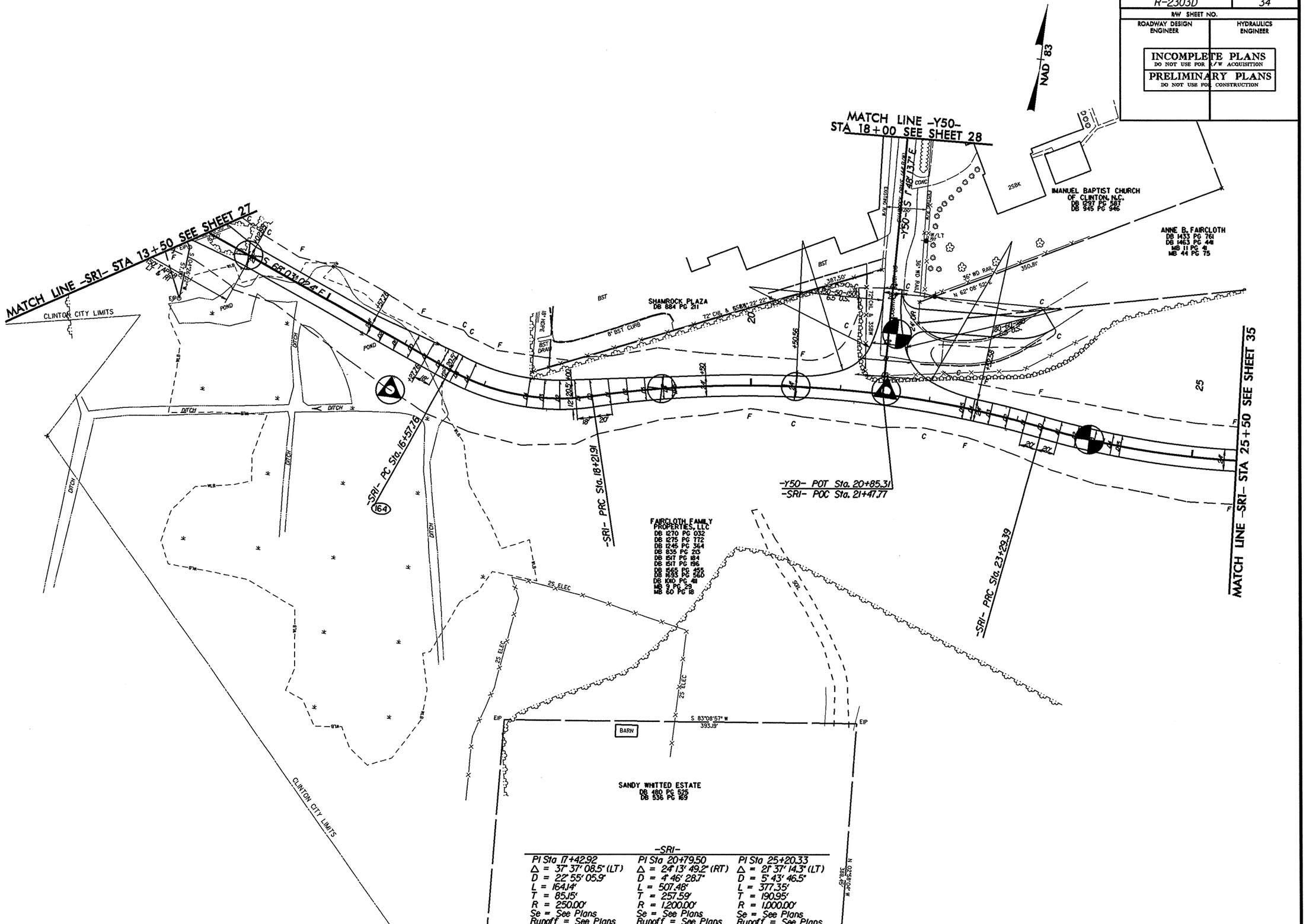


-Y51-	-Y52-	-RPB-	-SRI-
PI Sta 19+26.12	PIs Sta 37+96.62	PI Sta 6+44.58	PI Sta 36+12.22
Δ = 8° 28' 17.0" (RT)	Θs = 2° 30' 00.0"	Δ = 12° 53' 21.2" (LT)	Δ = 30° 15' 47.5" (LT)
D = 3° 24' 12.3"	Ls = 200.00'	D = 4° 28' 34.4"	D = 4° 35' 01.2"
L = 248.91'	LT = 133.35'	L = 287.95'	L = 660.24'
T = 124.68'	ST = 66.68'	T = 144.58'	T = 338.02'
R = 1,683.48'		R = 1,280.00'	R = 1,250.00'
		Se = .06	Se = See Plans
		Runoff = 144'	Runoff = See Plans

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	34
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



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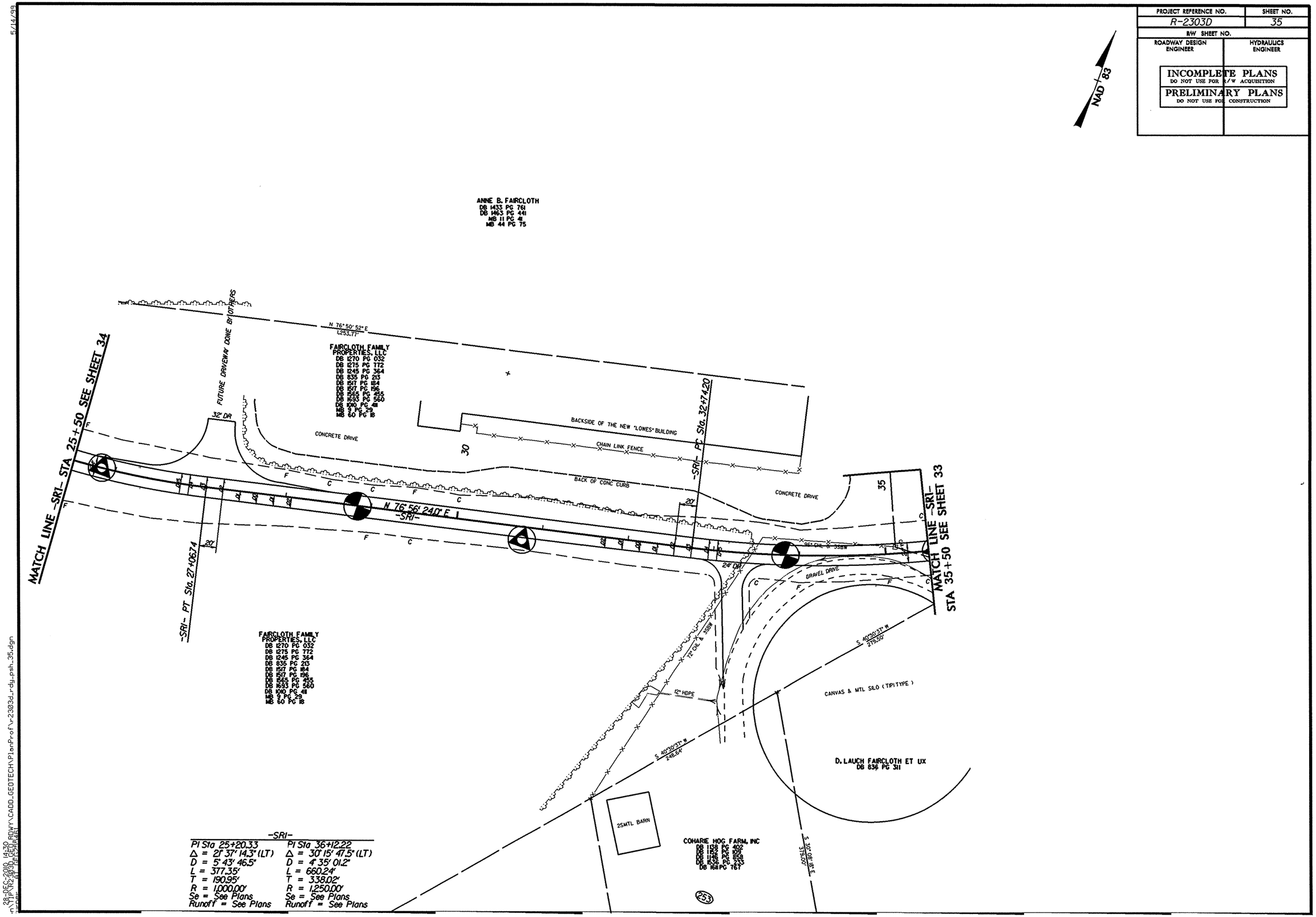
User: 81 (REDACTED)

PROJECT REFERENCE NO.	SHEET NO.
R-2303D	35
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



-SRI-

PI Sta 25+20.33	PI Sta 36+12.22
Δ = 21° 37' 14.3" (LT)	Δ = 30° 15' 47.5" (LT)
D = 5° 43' 46.5"	D = 4° 35' 01.2"
L = 377.35'	L = 660.24'
T = 190.95'	T = 338.02'
R = 1,000.00'	R = 1,250.00'
Se = See Plans	Se = See Plans
Runoff = See Plans	Runoff = See Plans

5/14/99

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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	36
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

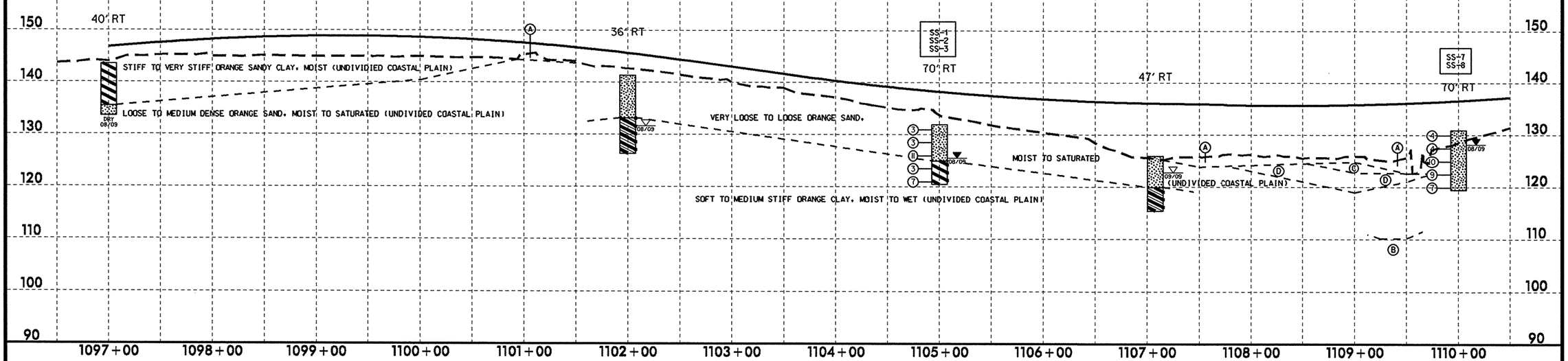
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

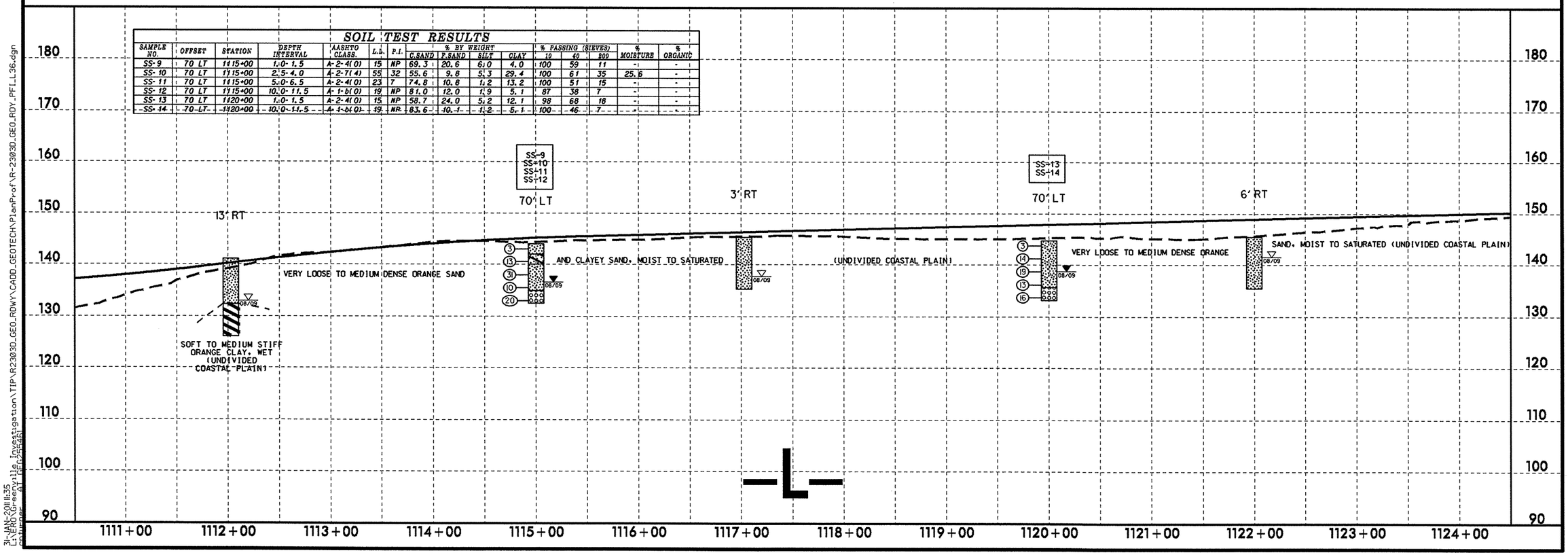
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-1	70 RT	1105+00	1.0-1.5	A-2-4(0)	19	NP	60.3	28.3	6.3	5.1	99	71	13	-	-
SS-2	70 RT	1105+00	7.5-9.0	A-7-5(53)	83	52	8.9	4.9	13.4	72.9	100	95	88	-	-
SS-3	70 RT	1105+00	10.0-11.5	A-7-5(48)	85	37	1.6	1.8	17.6	78.9	100	99	97	-	-
SS-7	70 RT	1110+00	1.0-1.5	A-2-4(0)	24	5	66.4	16.6	6.9	10.1	98	57	18	-	-
SS-8	70 RT	1110+00	10.0-11.5	A-2-4(0)	24	NP	31.8	56.4	4.8	7.1	100	95	13	-	-

(A) MEDIUM DENSE ORANGE SAND, MOIST (ROADWAY EMBANKMENT)
(B) MEDIUM STIFF TO STIFF GRAY SANDY AND SILTY CLAY, WET (UNDIVIDED COASTAL PLAIN)
(C) VERY LOOSE TO LOOSE BROWN SAND, MOIST TO SATURATED (ALLUVIAL)
(D) VERY SOFT TO SOFT BROWN MUCK AND SANDY CLAY WITH LITTLE ORGANIC MATERIAL, MOIST TO WET (ALLUVIAL)



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	70 LT	1115+00	1.0-1.5	A-2-4(0)	15	NP	69.3	20.6	6.0	4.0	100	59	11	-	-
SS-10	70 LT	1115+00	2.5-4.0	A-2-7(4)	55	32	55.6	9.8	5.3	29.4	100	61	35	25.6	-
SS-11	70 LT	1115+00	5.0-6.5	A-2-4(0)	23	7	74.8	10.8	1.2	13.2	100	51	15	-	-
SS-12	70 LT	1115+00	10.0-11.5	A-1-b(0)	19	NP	81.0	12.0	1.9	5.1	87	38	7	-	-
SS-13	70 LT	1120+00	1.0-1.5	A-2-4(0)	15	NP	58.7	24.0	5.2	12.1	98	68	18	-	-
SS-14	70 LT	1120+00	10.0-11.5	A-1-b(0)	19	NP	83.6	10.1	1.2	5.1	100	46	7	-	-



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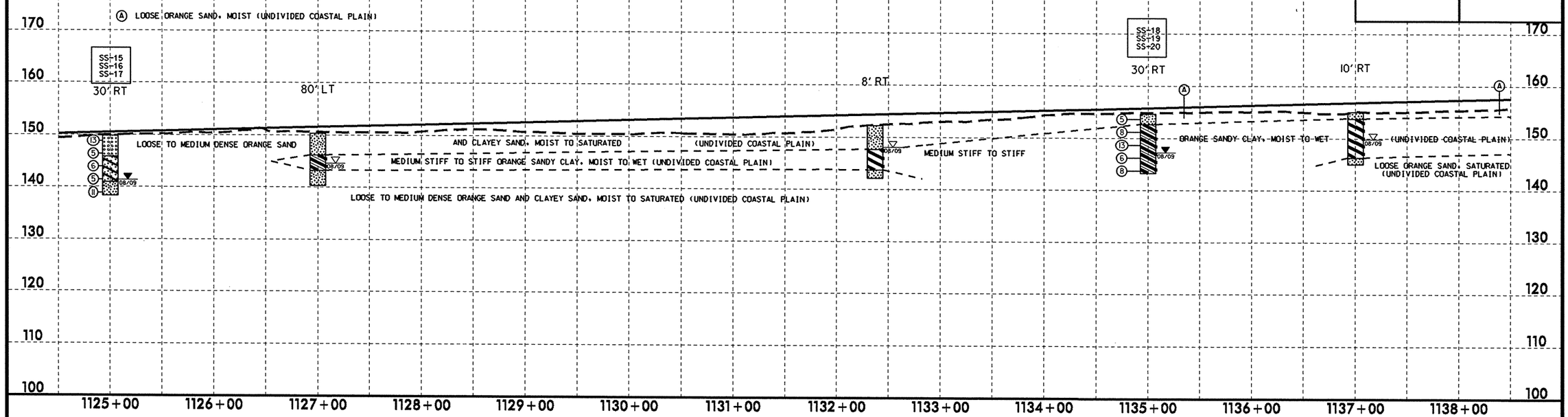
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	37
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

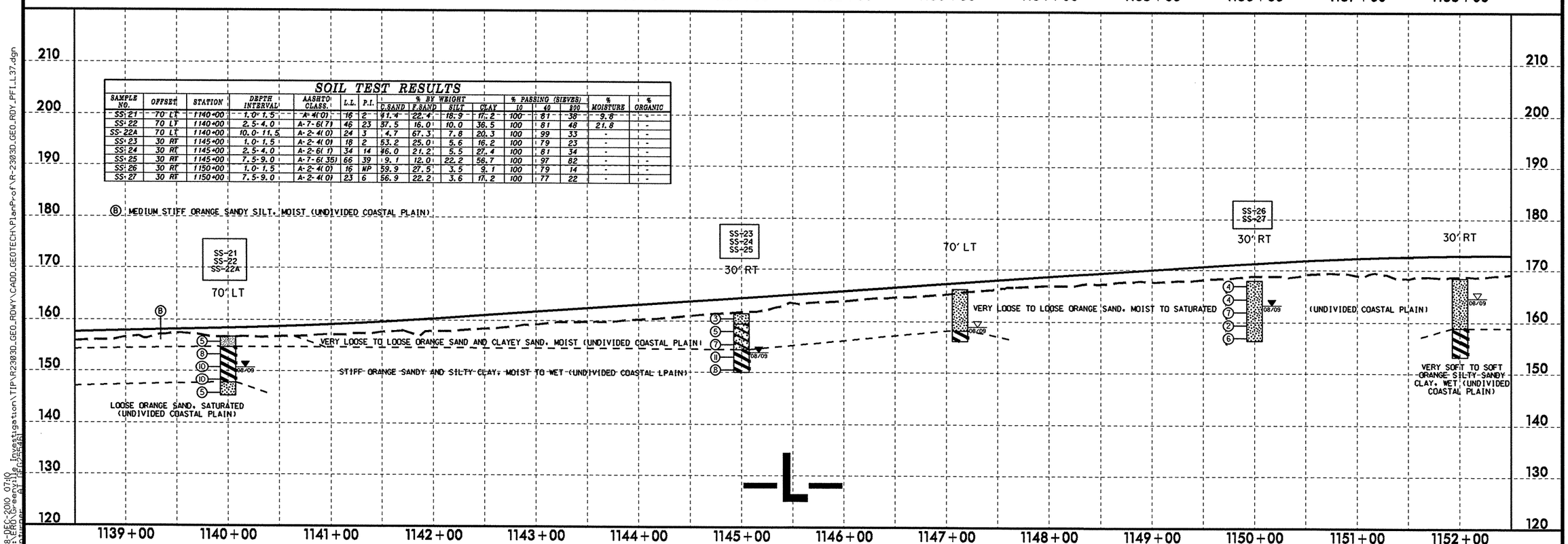
SOIL TEST RESULTS

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-15	30 RT	1125+00	1.0- 1.5	A-3(0)	17	NP	67.0	24.9	4.0	4.0	100	65	10	-	-
SS-16	30 RT	1125+00	5.0- 6.5	A-2-6(1)	39	15	47.8	19.2	6.7	26.3	100	72	35	-	-
SS-17	30 RT	1125+00	10.0- 11.5	A-2-4(0)	21	NP	61.4	23.2	2.2	13.2	100	71	16	-	-
SS-18	30 RT	1135+00	1.0- 1.5	A-2-4(0)	15	NP	57.6	29.9	8.4	4.1	100	75	14	-	-
SS-19	30 RT	1135+00	2.5- 4.0	A-6(1)	32	14	42.7	22.8	9.2	25.3	100	81	37	18.8	-
SS-20	30 RT	1135+00	7.5- 9.0	A-6(7)	36	18	12.0	41.1	14.5	32.4	100	95	55	-	-



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-21	70 LT	1140+00	1.0- 1.5	A-4(0)	16	2	41.4	22.4	18.9	17.2	100	81	38	9.8	-
SS-22	70 LT	1140+00	2.5- 4.0	A-7-6(7)	46	23	37.5	16.0	10.0	36.5	100	81	48	21.8	-
SS-22A	70 LT	1140+00	10.0- 11.5	A-2-4(0)	24	3	4.7	67.3	7.8	20.3	100	99	33	-	-
SS-23	30 RT	1145+00	1.0- 1.5	A-2-4(0)	18	2	53.2	25.0	5.6	16.2	100	79	23	-	-
SS-24	30 RT	1145+00	2.5- 4.0	A-2-6(1)	34	14	46.0	21.2	5.5	27.4	100	81	34	-	-
SS-25	30 RT	1145+00	7.5- 9.0	A-7-6(35)	56	39	9.1	12.0	22.2	56.7	100	97	82	-	-
SS-26	30 RT	1150+00	1.0- 1.5	A-2-4(0)	16	NP	59.9	27.5	3.5	9.1	100	79	14	-	-
SS-27	30 RT	1150+00	7.5- 9.0	A-2-4(0)	23	6	56.9	22.2	3.6	17.2	100	77	22	-	-



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	38
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

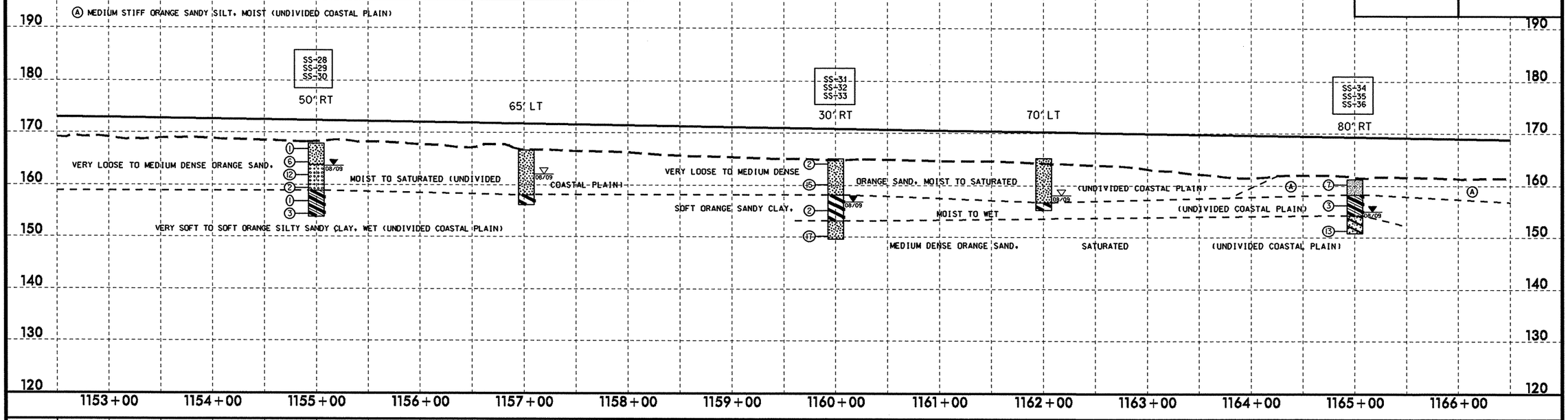
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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-28	50 RT	1155+00	1.0- 1.5	A-2-4(0)	17	NP	59.6	25.9	4.4	10.1	100	78	15	-	-
SS-29	50 RT	1155+00	5.0- 6.5	A-3(0)	19	NP	67.9	23.9	0.1	8.1	100	80	9	-	-
SS-30	50 RT	1155+00	10.0- 11.5	A-6(7)	32	13	17.2	18.8	31.5	32.4	100	93	69	-	-
SS-31	30 RT	1160+00	1.0- 1.5	A-2-4(0)	18	NP	68.2	22.0	3.7	6.1	100	70	11	-	-
SS-32	30 RT	1160+00	9.0- 10.5	A-7-6(7)	41	25	37.1	18.1	10.6	34.1	100	84	47	-	-
SS-33	30 RT	1160+00	14.0- 15.5	A-2-4(0)	22	1	68.8	16.3	2.9	12.0	100	72	16	-	-
SS-34	80 RT	1165+00	1.0- 1.5	A-4(0)	23	3	32.5	16.9	34.5	16.1	100	87	53	14.6	-
SS-35	80 RT	1165+00	4.0- 5.5	A-6(8)	38	21	35.1	14.1	16.7	34.1	100	84	53	-	-
SS-36	80 RT	1165+00	9.0- 10.5	A-2-6(0)	28	12	65.1	13.5	2.4	19.1	100	72	22	-	-

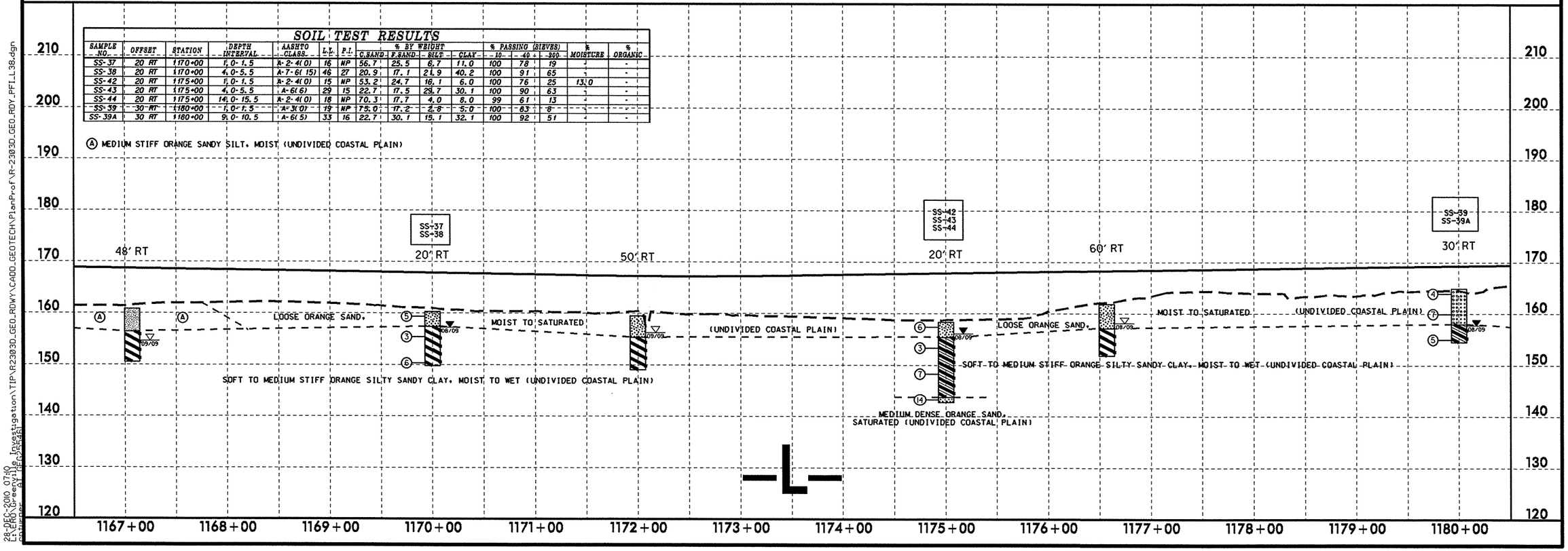
(A) MEDIUM STIFF ORANGE SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)



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-37	20 RT	1170+00	1.0- 1.5	A-2-4(0)	16	NP	56.7	25.5	6.7	11.0	100	78	19	-	-
SS-38	20 RT	1170+00	4.0- 5.5	A-7-6(15)	46	27	20.9	17.1	21.9	40.2	100	91	65	-	-
SS-42	20 RT	1175+00	1.0- 1.5	A-2-4(0)	15	NP	53.2	24.7	16.1	6.0	100	76	25	13.0	-
SS-43	20 RT	1175+00	4.0- 5.5	A-6(6)	29	15	22.7	17.5	29.7	30.1	100	90	63	-	-
SS-44	20 RT	1175+00	14.0- 15.5	A-2-4(0)	18	NP	70.3	17.7	4.0	8.0	99	61	13	-	-
SS-39	30 RT	1180+00	1.0- 1.5	A-3(0)	19	NP	75.0	17.2	2.8	5.0	100	63	8	-	-
SS-39A	30 RT	1180+00	9.0- 10.5	A-6(5)	33	16	22.7	30.1	15.1	32.1	100	92	51	-	-

(A) MEDIUM STIFF ORANGE SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	39
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

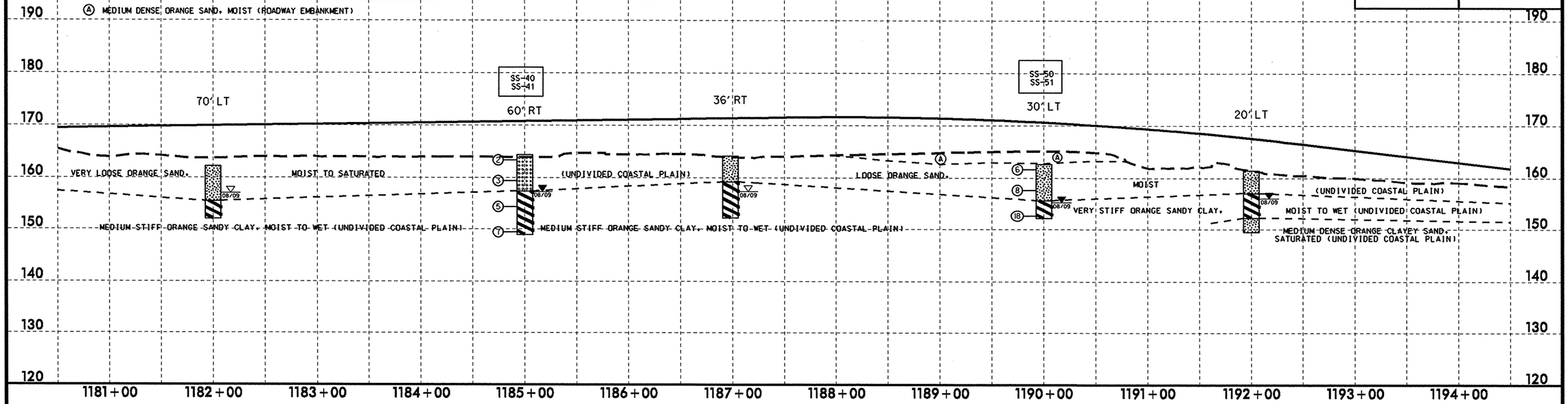
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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-40	60 RT	1185+00	1.0- 1.5	A-3(0)	20	NP	69.6	22.8	3.6	4.0	100	65	8	-	-
SS-41	60 RT	1185+00	9.0- 10.5	A-7-6(9)	43	26	34.0	17.6	9.3	39.1	100	84	51	-	-
SS-50	30 LT	1190+00	1.0- 1.5	A-2-4(0)	17	NP	65.2	23.7	5.1	6.0	100	76	13	-	-
SS-51	30 LT	1190+00	9.0- 10.5	A-7-5(5)	48	16	40.9	13.3	10.7	35.1	100	82	47	-	-

(A) MEDIUM DENSE ORANGE SAND, MOIST (ROADWAY EMBANKMENT)

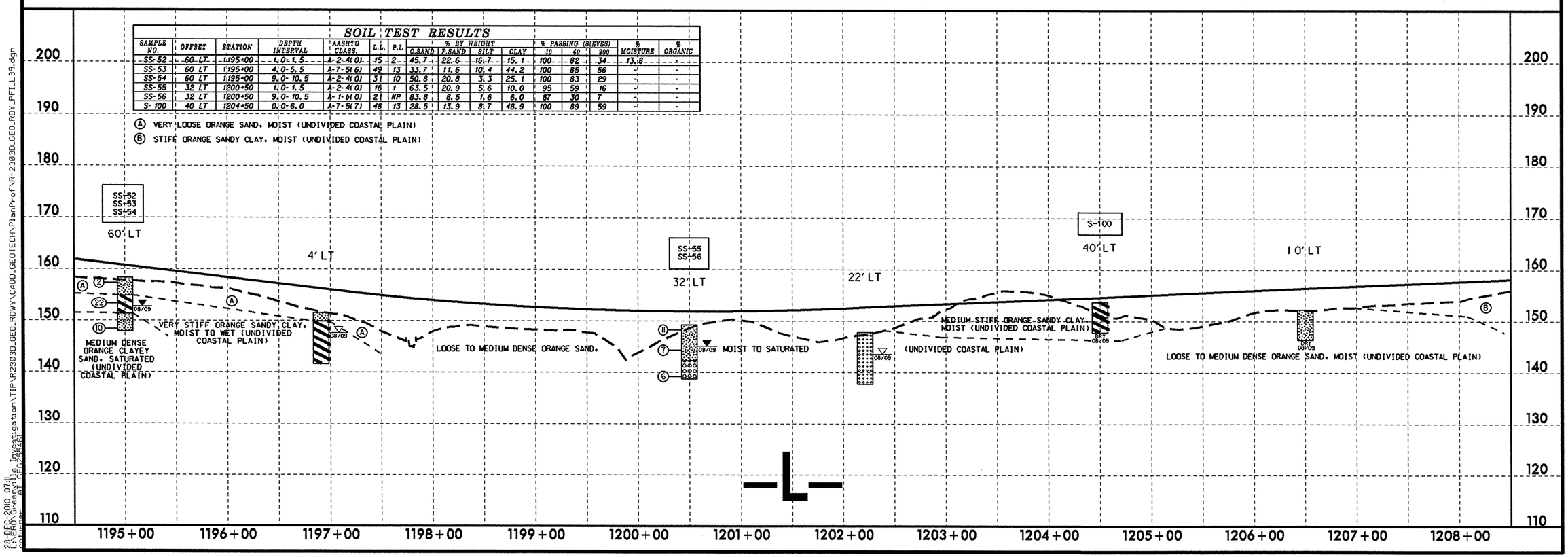


SOIL TEST RESULTS

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-52	60 LT	1195+00	1.0- 1.5	A-2-4(0)	15	2	45.7	22.6	16.7	15.1	100	82	34	13.8	-
SS-53	60 LT	1195+00	4.0- 5.5	A-7-5(6)	49	13	33.7	11.6	10.4	44.2	100	85	56	-	-
SS-54	60 LT	1195+00	9.0- 10.5	A-2-4(0)	31	10	50.8	20.8	3.3	25.1	100	83	29	-	-
SS-55	32 LT	1200+50	1.0- 1.5	A-2-4(0)	16	1	63.5	20.9	5.6	10.0	95	59	16	-	-
SS-56	32 LT	1200+50	9.0- 10.5	A-1-b(0)	21	NP	83.8	8.5	1.6	6.0	87	30	7	-	-
S-100	40 LT	1204+50	0.0- 6.0	A-7-5(7)	48	13	28.5	13.9	8.7	48.9	100	89	59	-	-

(A) VERY LOOSE ORANGE SAND, MOIST (UNDIVIDED COASTAL PLAIN)

(B) STIFF ORANGE SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	40
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

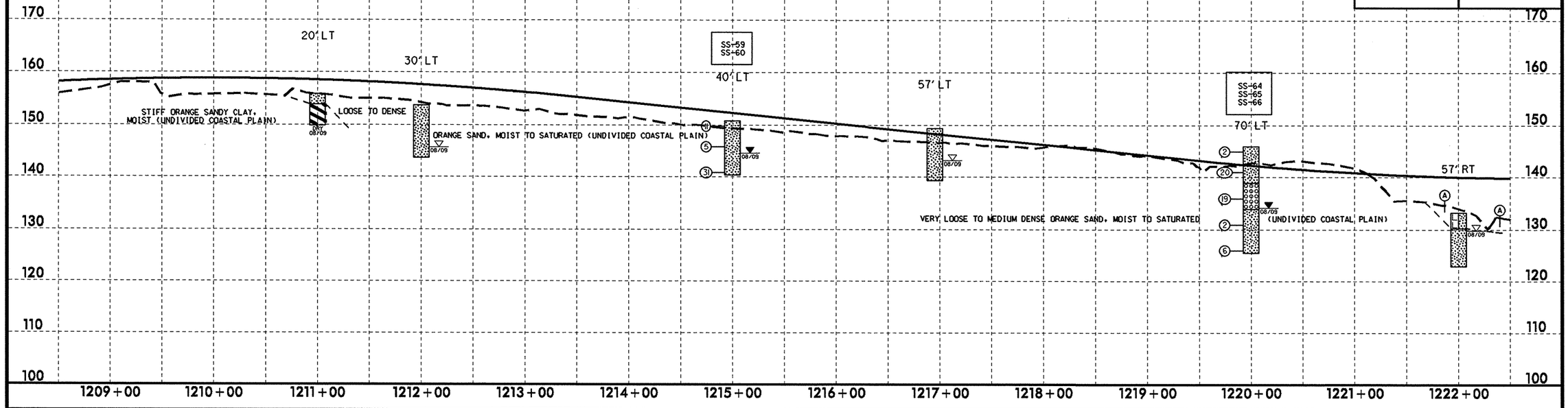
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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-59	40 RT	1215+00	1.0-1.5	A-2-4(0)	17	3	46.7	27.1	13.2	13.1	100	78	29	9.8	-
SS-60	40 LT	1215+00	4.0-5.5	A-2-4(0)	18	NP	64.2	21.2	5.6	9.0	100	67	16	-	-
SS-64	70 LT	1220+00	1.0-1.5	A-2-4(0)	16	NP	54.5	31.1	8.2	6.1	100	75	16	-	-
SS-65	70 LT	1220+00	9.0-10.5	A-1-b(0)	24	3	82.3	7.7	0.8	9.2	81	28	9	-	-
SS-66	70 LT	1220+00	14.0-15.5	A-2-4(0)	36	9	61.1	24.3	1.3	13.2	92	41	14	-	-

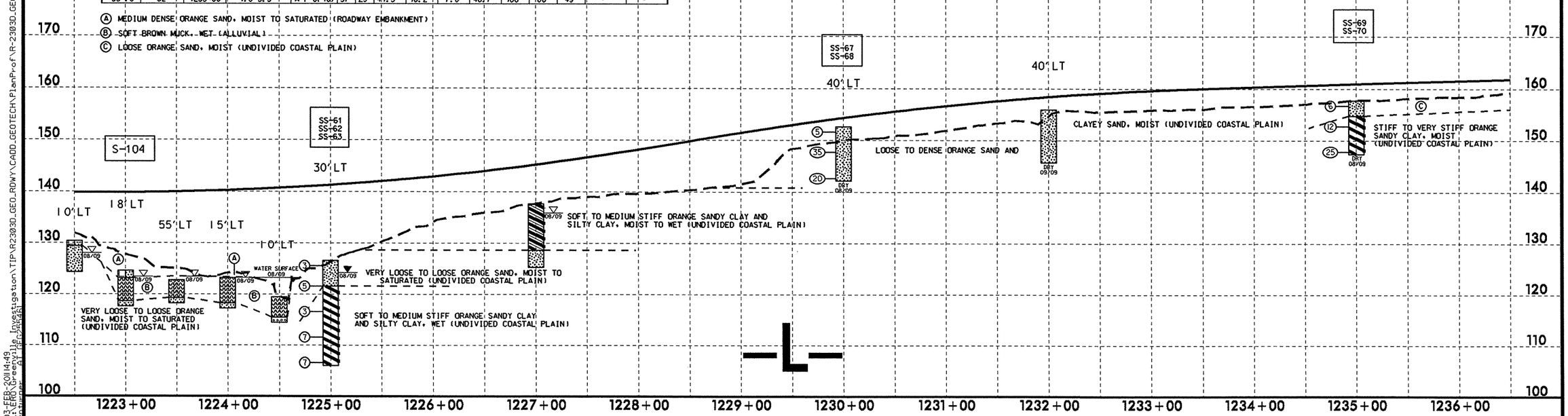
(A) MEDIUM DENSE ORANGE SAND, MOIST (ROADWAY EMBANKMENT)



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
S-104	10 LT	1223+00	1.5-6.0	A-5(0)	90	NP	40.8	16.3	26.6	16.3	95	75	42	309.7	25.9
SS-61	30 LT	1225+00	1.0-1.5	A-2-4(0)	17	NP	70.3	18.3	4.4	7.0	91	51	11	-	-
SS-62	30 LT	1225+00	5.0-5.5	A-7-5(7)	63	14	38.4	8.2	11.2	42.2	93	65	52	-	-
SS-63	30 LT	1225+00	9.0-10.5	A-7-5(50)	89	47	11.4	2.2	26.3	60.1	100	90	87	-	-
SS-67	40 LT	1230+00	1.0-1.5	A-2-4(0)	16	NP	59.3	29.2	6.4	5.1	100	75	14	-	-
SS-68	40 LT	1230+00	4.0-5.5	A-2-4(0)	31	9	55.0	18.8	2.7	23.4	100	76	28	-	-
SS-69	CL	1235+00	1.0-1.5	A-2-4(0)	11	NP	56.6	26.2	9.1	8.1	100	75	20	-	-
SS-70	CL	1235+00	4.0-5.5	A-7-6(10)	57	29	41.5	10.2	7.6	40.7	100	80	49	-	-

(A) MEDIUM DENSE ORANGE SAND, MOIST TO SATURATED (ROADWAY EMBANKMENT)
(B) SOFT BROWN MUCK, WET (ALLUVIAL)
(C) LOOSE ORANGE SAND, MOIST (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	41
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

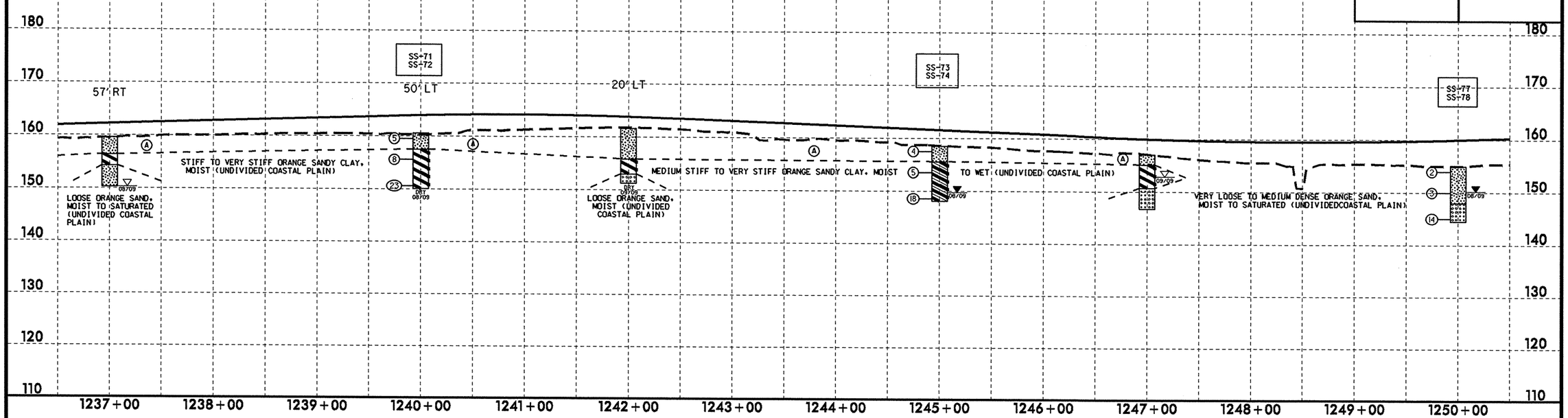
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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-71	50 LT	1240+00	1.0-1.5	A-2-4(0)	13	NP	52.6	29.5	11.8	6.1	100	81	21	-	-
SS-72	50 LT	1240+00	4.0-5.5	A-7-6(8)	45	21	34.8	15.7	8.9	40.7	100	86	51	-	-
SS-73	CL	1245+00	1.0-1.5	A-2-4(0)	16	NP	65.8	23.2	5.9	5.1	100	70	13	-	-
SS-74	CL	1245+00	4.0-5.5	A-6(3)	37	16	45.0	15.7	8.9	30.5	100	80	41	-	-
SS-77	CL	1250+00	1.0-1.5	A-2-4(0)	16	NP	49.3	30.3	9.2	11.2	100	82	23	-	-
SS-78	CL	1250+00	9.0-10.5	A-3(0)	21	NP	76.9	14.1	1.8	7.1	97	54	9	-	-

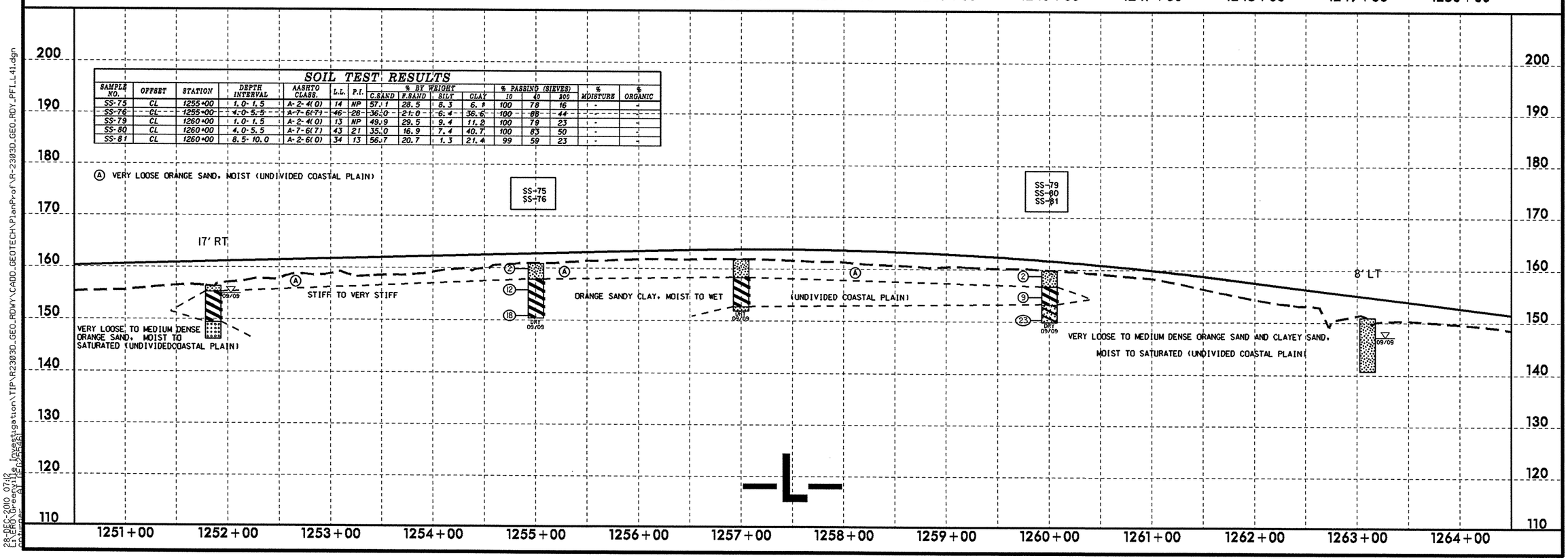
Ⓐ LOOSE ORANGE SAND, MOIST (UNDIVIDED COASTAL PLAIN)



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-75	CL	1255+00	1.0-1.5	A-2-4(0)	14	NP	57.1	28.5	8.3	6.1	100	78	16	-	-
SS-76	CL	1255+00	4.0-5.5	A-7-6(7)	46	28	36.0	21.0	6.4	36.6	100	88	44	-	-
SS-79	CL	1260+00	1.0-1.5	A-2-4(0)	13	NP	49.9	29.5	9.4	11.2	100	79	23	-	-
SS-80	CL	1260+00	4.0-5.5	A-7-6(7)	43	21	35.0	16.9	7.4	40.7	100	83	50	-	-
SS-81	CL	1260+00	8.5-10.0	A-2-6(0)	34	13	56.7	20.7	1.3	21.4	99	59	23	-	-

Ⓐ VERY LOOSE ORANGE SAND, MOIST (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	42
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

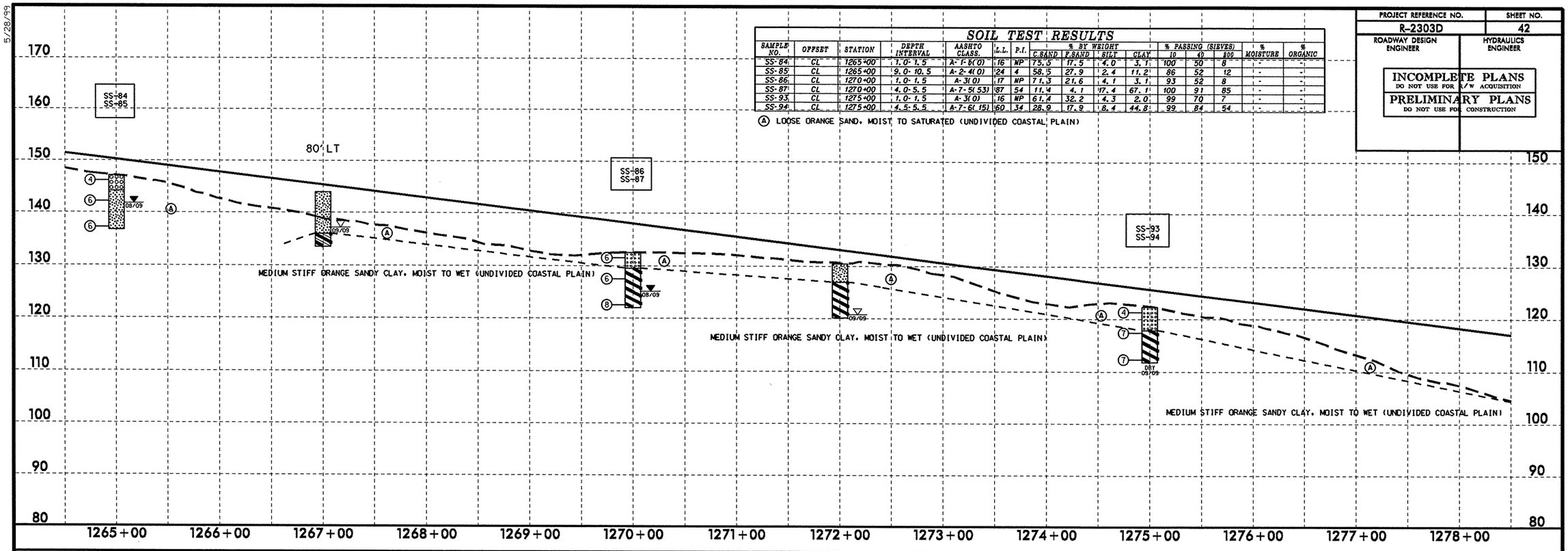
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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-84	CL	1265+00	1.0-1.5	A-1-b(0)	16	NP	75.5	17.5	4.0	3.1	100	50	8	-	-
SS-85	CL	1265+00	9.0-10.5	A-2-4(0)	24	4	58.5	27.9	2.4	11.2	86	52	12	-	-
SS-86	CL	1270+00	1.0-1.5	A-3(0)	17	NP	71.5	21.6	4.1	3.1	93	52	8	-	-
SS-87	CL	1270+00	4.0-5.5	A-7-5(53)	87	54	11.4	4.1	17.4	67.1	100	91	85	-	-
SS-93	CL	1275+00	1.0-1.5	A-3(0)	16	NP	61.4	32.2	4.3	2.0	99	70	7	-	-
SS-94	CL	1275+00	4.5-5.5	A-7-6(15)	60	34	28.9	17.9	8.4	44.8	99	84	54	-	-

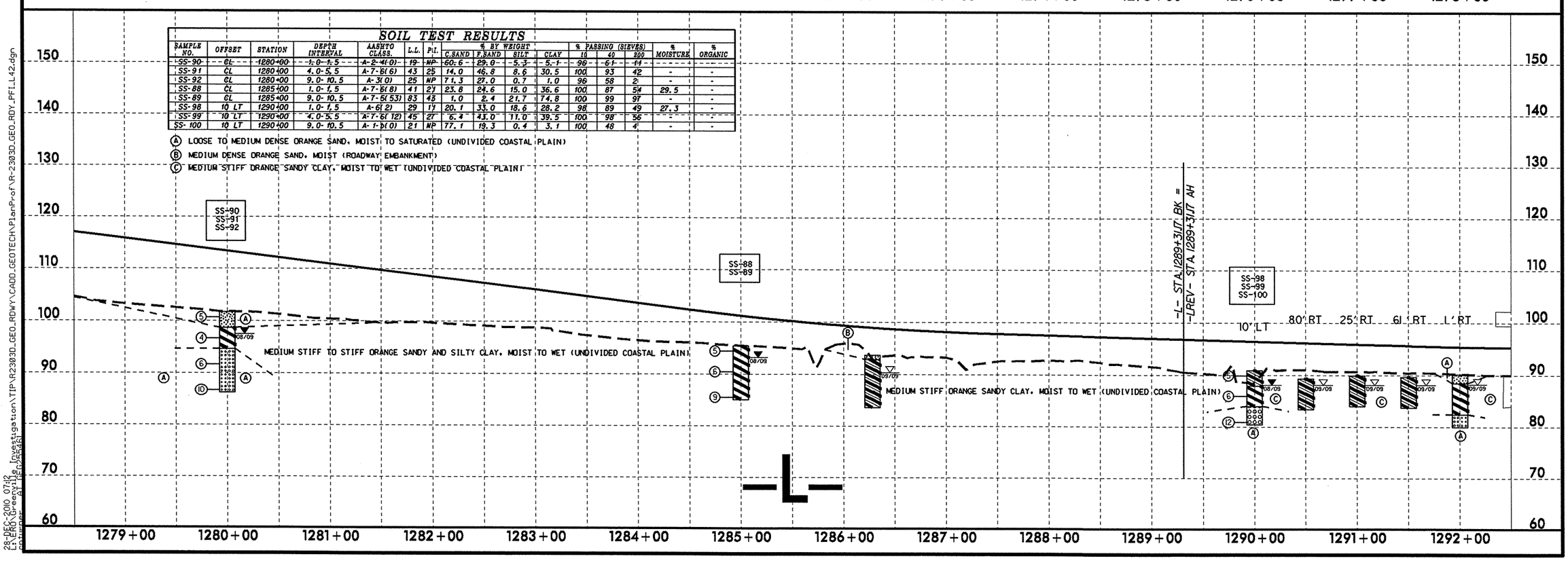
(A) LOOSE ORANGE SAND, MOIST TO SATURATED (UNDIVIDED COASTAL PLAIN)



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-90	CL	1280+00	1.0-1.5	A-2-4(0)	19	NP	60.6	29.0	5.3	5.1	96	61	11	-	-
SS-91	CL	1280+00	4.0-5.5	A-7-6(6)	43	25	14.0	46.8	8.6	30.5	100	93	42	-	-
SS-92	CL	1280+00	9.0-10.5	A-3(0)	25	NP	71.3	27.0	0.7	1.0	96	58	2	-	-
SS-88	CL	1285+00	1.0-1.5	A-7-6(8)	41	24	23.8	24.6	15.0	36.6	100	87	54	29.5	-
SS-89	CL	1285+00	9.0-10.5	A-7-5(53)	83	45	1.0	2.4	21.7	74.8	100	99	97	-	-
SS-98	10' LT	1290+00	1.0-1.5	A-6(2)	29	14	20.1	33.0	18.6	28.2	98	89	49	27.3	-
SS-99	10' LT	1290+00	4.0-5.5	A-7-6(12)	45	27	6.4	43.0	11.0	39.5	100	98	56	-	-
SS-100	10' LT	1290+00	9.0-10.5	A-1-b(0)	21	NP	77.1	19.3	0.4	3.1	100	48	4	-	-

(A) LOOSE TO MEDIUM DENSE ORANGE SAND, MOIST TO SATURATED (UNDIVIDED COASTAL PLAIN)
(B) MEDIUM DENSE ORANGE SAND, MOIST (ROADWAY EMBANKMENT)
(C) MEDIUM STIFF ORANGE SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	43
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

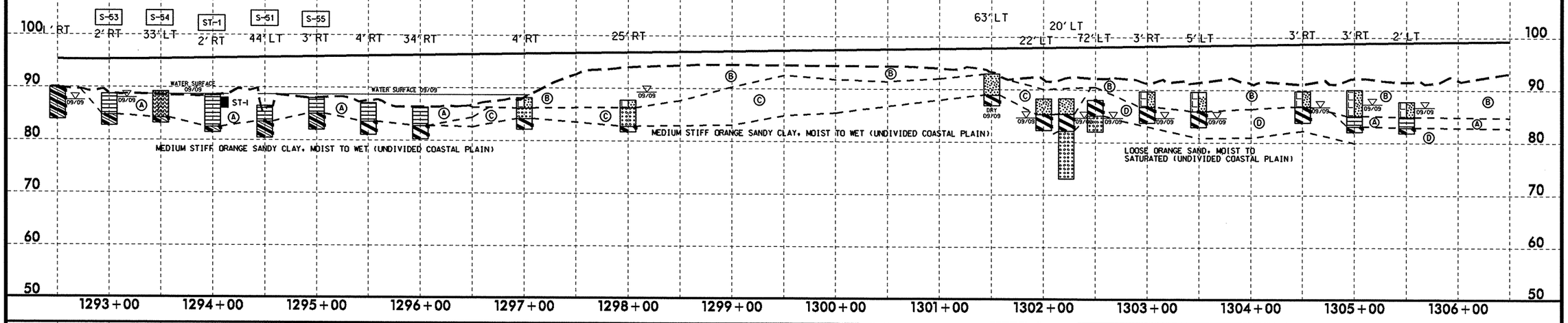
SOIL TEST RESULTS

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
S-53	CL	1293+00	1.0-4.0	A-5(0)	59	NP	20.5	37.2	30.1	12.2	99	88	45	53.1	2.91
S-54	35 LT	1293+50	1.0-5.0	A-5(1)	73	NP	23.0	34.1	30.7	12.2	100	87	47	88.3	20.7
ST-1	CL	1294+00	0.5-2.5	A-6(2)	40	15	38.7	25.9	15.3	20.1	99	77	37	52.1	7.7
S-51	47 LT	1294+50	1.0-3.0	A-5(1)	42	8	35.2	24.0	18.6	22.2	98	77	42	-	8.9
S-55	CL	1295+00	1.0-3.0	A-5(0)	63	NP	20.5	41.3	28.0	10.2	99	88	42	38.0	17.2

(A) VERY SOFT BROWN CLAYEY SANDY SILT AND SANDY CLAY WITH LITTLE ORGANIC MATTER. MODERATELY ORGANIC CLAYEY SANDY SILT, AND MUCK, MOIST TO WET (ALLUVIAL)
(B) VERY LOOSE TO LOOSE ORANGE SAND, MOIST TO SATURATED (ROADWAY EMBANKMENT)
(C) LOOSE ORANGE SAND, MOIST TO SATURATED (UNDIVIDED COASTAL PLAIN)
(D) MEDIUM STIFF ORANGE SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

VANE SHEAR TESTS

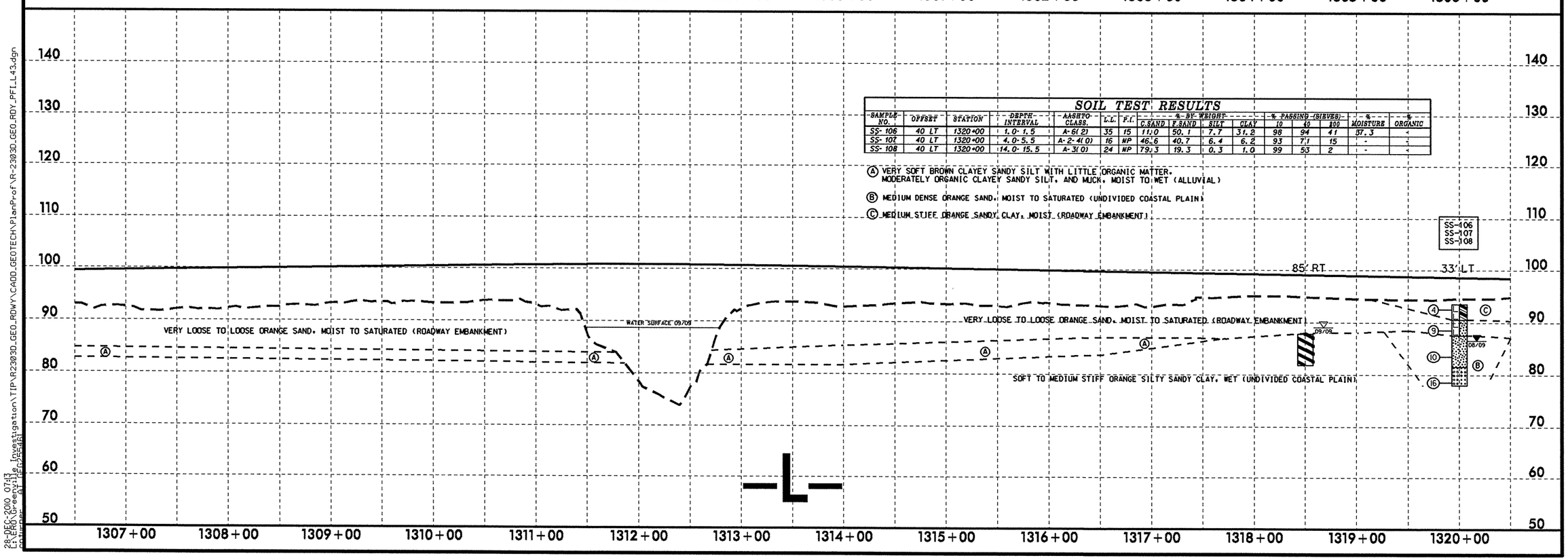
STATION	OFFSET	DEPTH	SR (psf)
1293+00	30 RT	0.0	219.24
1293+00	30 RT	0.5	334.08
1293+00	30 RT	1.0	417.60
1293+00	30 RT	1.5	1252.80
1293+00	30 RT	2.0	1419.84
1293+00	30 RT	2.5	1628.64
1293+00	30 RT	3.0	2171.52
1293+00	30 RT	3.5	1461.60
1293+00	30 RT	4.0	1795.68
1293+00	30 RT	4.5	1419.84
1293+00	30 RT	5.0	2171.52
1293+00	30 RT	5.5	2150.64



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-106	40 LT	1320+00	1.0-1.5	A-6(2)	35	15	11.0	50.1	7.7	31.2	98	94	41	37.3	-
SS-107	40 LT	1320+00	4.0-5.5	A-2-4(0)	16	NP	46.6	40.7	6.4	6.2	93	71	15	-	-
SS-108	40 LT	1320+00	14.0-15.5	A-3(0)	24	NP	79.3	19.3	0.3	1.0	99	53	2	-	-

(A) VERY SOFT BROWN CLAYEY SANDY SILT WITH LITTLE ORGANIC MATTER. MODERATELY ORGANIC CLAYEY SANDY SILT, AND MUCK, MOIST TO WET (ALLUVIAL)
(B) MEDIUM DENSE ORANGE SAND, MOIST TO SATURATED (UNDIVIDED COASTAL PLAIN)
(C) MEDIUM STIFF ORANGE SANDY CLAY, MOIST (ROADWAY EMBANKMENT)



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	44
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

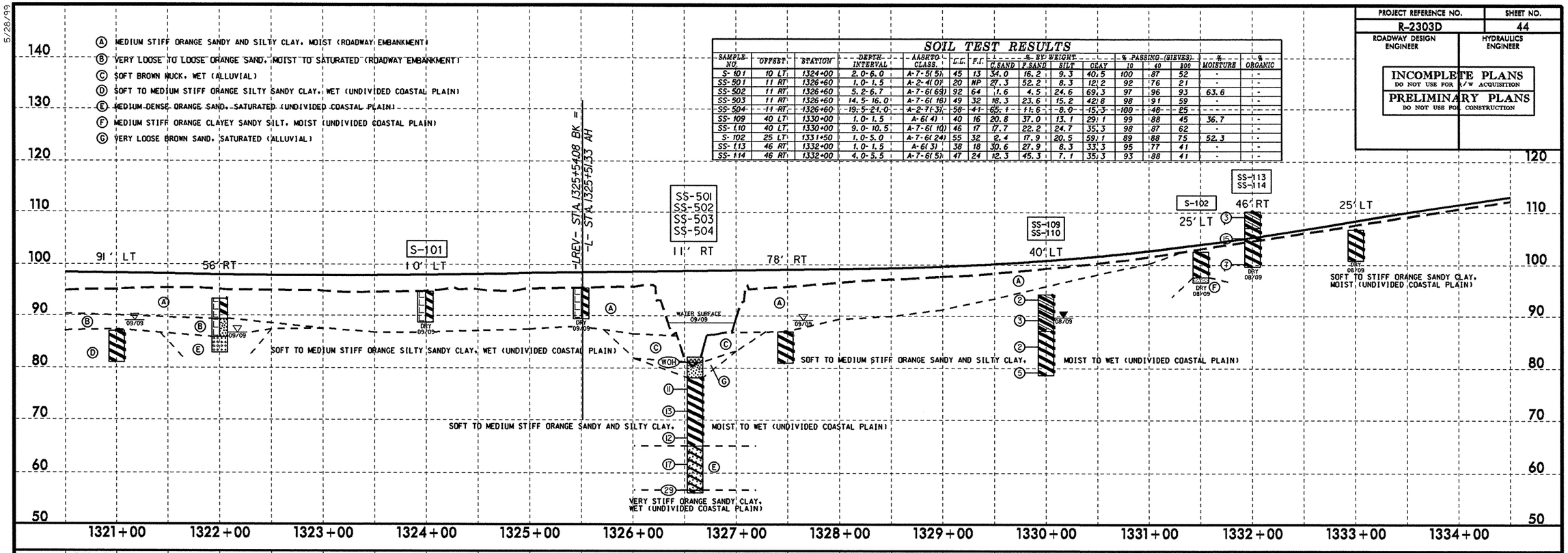
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Ⓐ MEDIUM STIFF ORANGE SANDY AND SILTY CLAY, MOIST (ROADWAY EMBANKMENT)
Ⓑ VERY LOOSE TO LOOSE ORANGE SAND, MOIST TO SATURATED (ROADWAY EMBANKMENT)
Ⓒ SOFT BROWN MUCK, WET (ALLUVIAL)
Ⓓ SOFT TO MEDIUM STIFF ORANGE SILTY SANDY CLAY, WET (UNDIVIDED COASTAL PLAIN)
Ⓔ MEDIUM DENSE ORANGE SAND, SATURATED (UNDIVIDED COASTAL PLAIN)
Ⓕ MEDIUM STIFF ORANGE CLAYEY SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)
Ⓖ VERY LOOSE BROWN SAND, SATURATED (ALLUVIAL)

SOIL TEST RESULTS

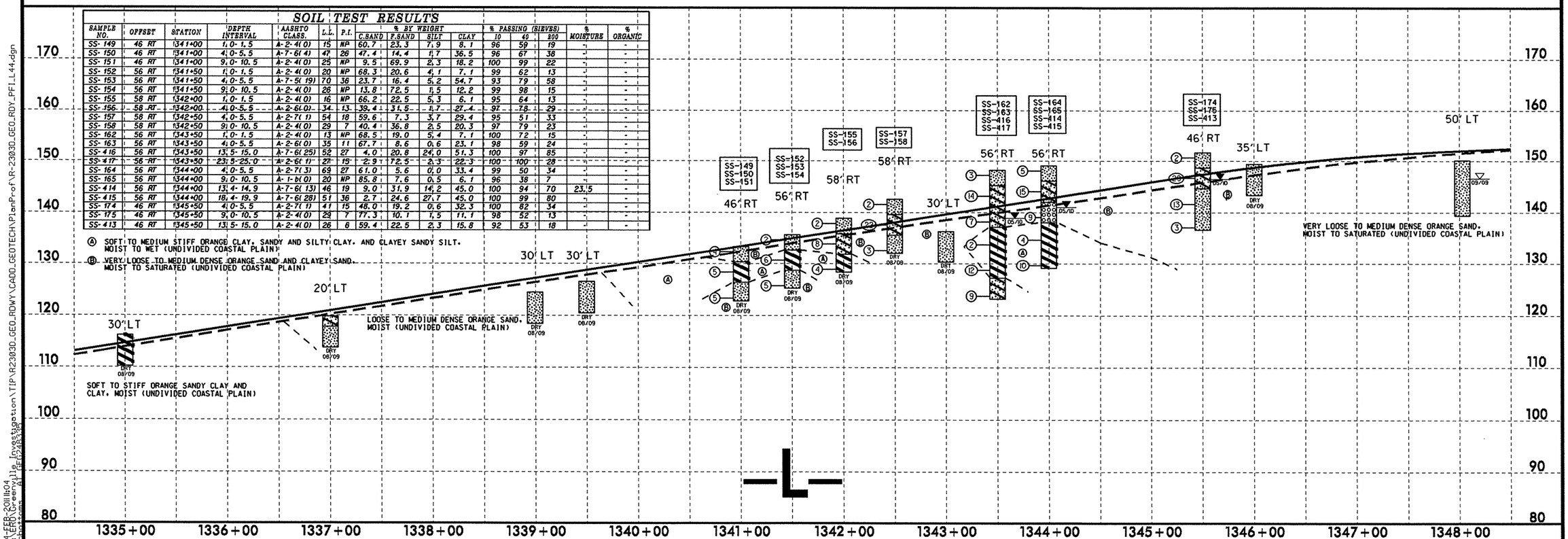
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-101	10 LT	1324+00	2.0-6.0	A-7-5(5)	45	13	34.0	16.2	9.3	40.5	100	87	52	-	-
SS-501	11 RT	1326+60	1.0-1.5	A-2-4(0)	20	NP	27.3	52.2	8.3	12.2	92	76	21	-	-
SS-502	11 RT	1326+60	5.2-6.7	A-7-6(69)	92	64	1.6	4.5	24.6	69.3	97	96	93	63.6	-
SS-503	11 RT	1326+60	14.5-16.0	A-7-6(16)	49	32	18.3	23.6	15.2	42.8	98	91	59	-	-
SS-504	11 RT	1326+60	19.5-21.0	A-2-7(3)	58	41	65.1	11.6	8.0	15.3	100	48	25	-	-
SS-109	40 LT	1330+00	1.0-1.5	A-6(4)	40	16	20.8	37.0	13.1	29.1	99	88	45	36.7	-
SS-110	40 LT	1330+00	9.0-10.5	A-7-6(10)	46	17	17.7	22.2	24.7	35.3	98	87	62	-	-
S-102	25 LT	1331+50	1.0-5.0	A-7-6(24)	55	32	2.4	17.9	20.5	59.1	89	88	75	52.3	-
SS-113	46 RT	1332+00	1.0-1.5	A-6(3)	38	18	30.6	27.9	8.3	33.3	95	77	41	-	-
SS-114	46 RT	1332+00	4.0-5.5	A-7-6(5)	47	24	12.3	45.3	7.1	35.3	93	88	41	-	-



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-149	46 RT	1341+00	1.0-1.5	A-2-4(0)	15	NP	60.7	23.3	7.9	8.1	96	59	19	-	-
SS-150	46 RT	1341+00	4.0-5.5	A-7-6(4)	47	26	47.4	14.4	11.7	36.5	96	67	38	-	-
SS-151	46 RT	1341+00	9.0-10.5	A-2-4(0)	25	NP	9.5	69.9	2.3	18.2	100	99	22	-	-
SS-152	56 RT	1341+50	1.0-1.5	A-2-4(0)	20	NP	68.3	20.6	4.1	7.1	99	62	13	-	-
SS-153	56 RT	1341+50	4.0-5.5	A-7-5(19)	70	36	23.7	16.4	5.2	54.7	93	79	58	-	-
SS-154	56 RT	1341+50	9.0-10.5	A-2-4(0)	26	NP	13.8	72.5	1.5	12.2	99	98	15	-	-
SS-155	58 RT	1342+00	1.0-1.5	A-2-4(0)	16	NP	66.2	22.5	5.3	6.1	95	64	13	-	-
SS-156	58 RT	1342+00	4.0-5.5	A-2-6(0)	34	13	39.4	31.5	1.7	27.4	97	78	29	-	-
SS-157	58 RT	1342+50	4.0-5.5	A-2-7(1)	54	18	59.6	7.3	3.7	29.4	95	51	33	-	-
SS-158	58 RT	1342+50	9.0-10.5	A-2-4(0)	29	7	40.4	36.8	2.5	20.3	97	79	23	-	-
SS-162	56 RT	1343+50	1.0-1.5	A-2-4(0)	13	NP	68.5	19.0	5.4	7.1	100	72	15	-	-
SS-163	56 RT	1343+50	4.0-5.5	A-2-6(0)	35	11	67.7	8.6	0.6	23.1	98	59	24	-	-
SS-416	56 RT	1343+50	13.5-15.0	A-7-6(25)	52	27	4.0	20.8	24.0	51.3	100	97	85	-	-
SS-417	56 RT	1343+50	23.5-25.0	A-2-6(1)	27	15	2.9	72.5	2.3	22.3	100	100	28	-	-
SS-164	56 RT	1344+00	4.0-5.5	A-2-7(3)	69	27	61.0	5.6	0.0	33.4	99	50	34	-	-
SS-165	56 RT	1344+00	9.0-10.5	A-1-b(0)	20	NP	85.8	7.6	0.5	6.1	96	38	7	-	-
SS-414	56 RT	1344+00	13.4-14.9	A-7-6(13)	46	19	9.0	31.9	14.2	45.0	100	94	70	23.5	-
SS-415	56 RT	1344+00	18.4-19.9	A-7-6(28)	51	36	2.7	24.6	27.7	45.0	100	99	80	-	-
SS-174	46 RT	1345+50	4.0-5.5	A-2-7(1)	41	15	48.0	19.2	0.6	32.3	100	82	34	-	-
SS-175	46 RT	1345+50	9.0-10.5	A-2-4(0)	29	7	77.3	10.1	1.5	11.1	98	52	13	-	-
SS-413	46 RT	1345+50	13.5-15.0	A-2-4(0)	26	6	59.4	22.5	2.3	15.8	92	53	18	-	-

Ⓐ SOFT TO MEDIUM STIFF ORANGE CLAY, SANDY AND SILTY CLAY, AND CLAYEY SANDY SILT. MOIST TO WET (UNDIVIDED COASTAL PLAIN)
Ⓑ VERY LOOSE TO MEDIUM DENSE ORANGE SAND AND CLAYEY SAND, MOIST TO SATURATED (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	45
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

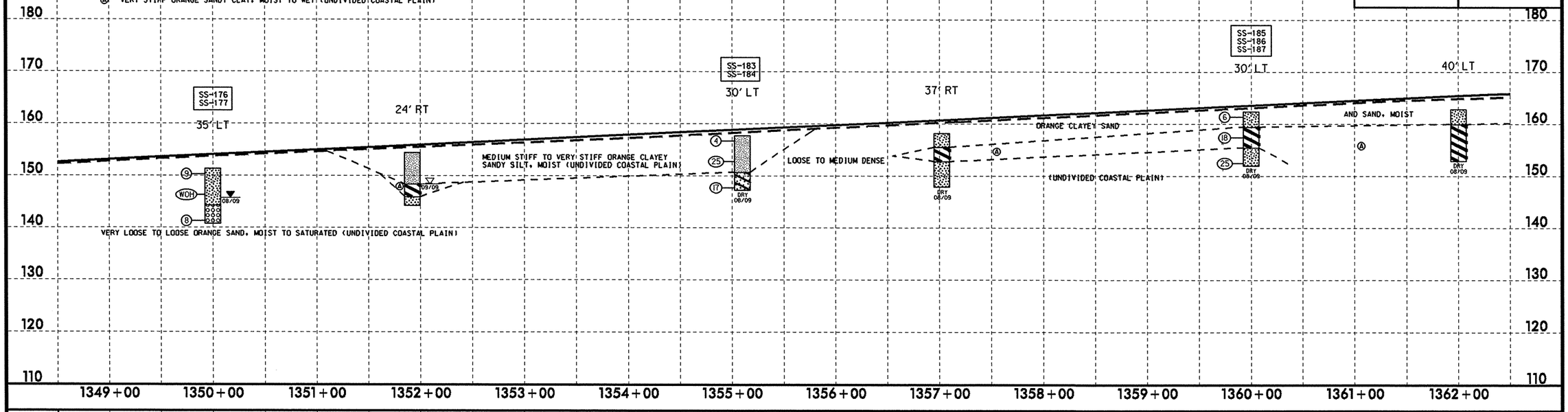
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

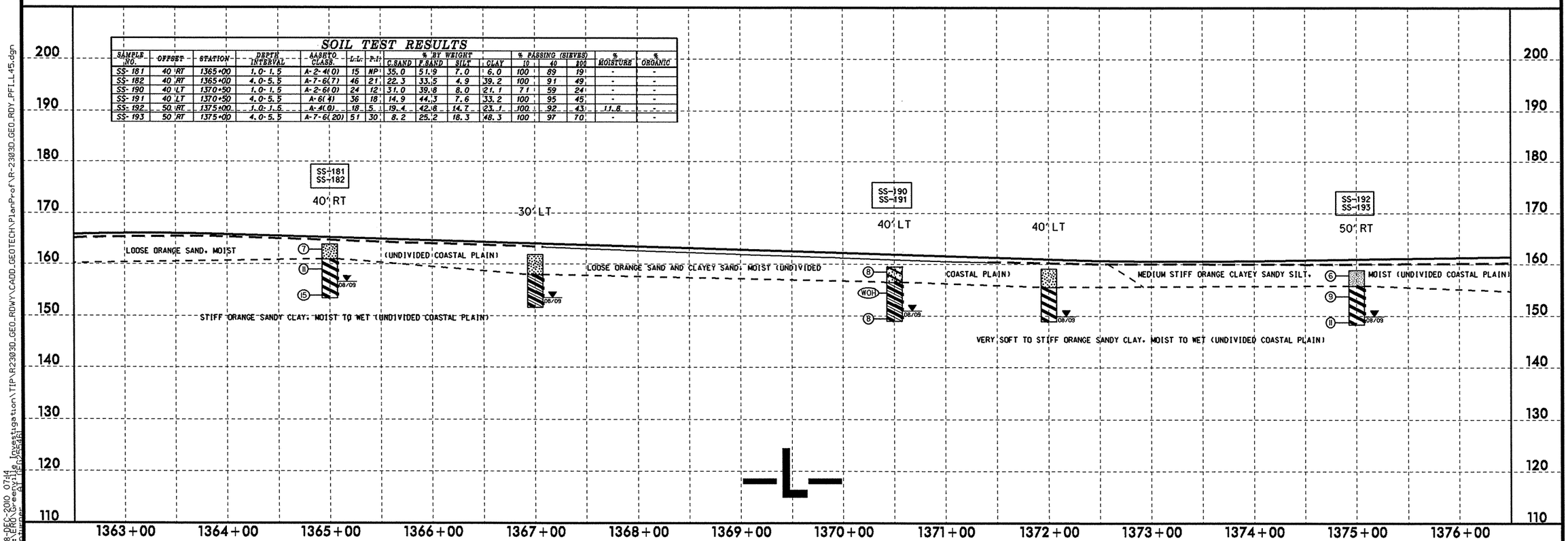
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-176	35 LT	1350+00	1.0- 1.5	A-2-4(0)	17	2	56.6	24.2	6.0	13.1	97	69	21	-	-
SS-177	35 LT	1350+00	9.0- 10.5	A-1-b(0)	20	NP	83.4	9.1	1.5	6.0	96	38	8	-	-
SS-183	30 LT	1355+10	1.0- 1.5	A-4(0)	20	7	29.8	36.4	13.7	20.1	100	88	39	23.7	-
SS-184	30 LT	1355+10	9.0- 10.5	A-2-6(0)	30	12	18.7	48.9	7.2	25.2	100	94	35	-	-
SS-185	30 LT	1360+00	1.0- 1.5	A-2-4(0)	18	NP	40.2	47.5	6.2	6.0	100	86	17	-	-
SS-186	30 LT	1360+00	4.0- 5.5	A-7-5(-12)	56	26	22.9	23.5	7.4	46.3	99	87	56	-	-
SS-187	30 LT	1360+00	9.0- 10.5	A-2-4(0)	28	7	70.8	12.0	0.1	17.1	100	61	18	-	-

(A) VERY STIFF ORANGE SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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-181	40 RT	1365+00	1.0- 1.5	A-2-4(0)	15	NP	35.0	51.9	7.0	6.0	100	89	19	-	-
SS-182	40 RT	1365+00	4.0-5.5	A-7-6(7)	46	21	22.3	33.5	4.9	39.2	100	91	49	-	-
SS-190	40 LT	1370+50	1.0- 1.5	A-2-6(0)	24	12	31.0	39.8	8.0	21.1	71	59	24	-	-
SS-191	40 LT	1370+50	4.0-5.5	A-6(1)	36	18	14.9	44.3	7.6	33.2	100	95	45	-	-
SS-192	50 RT	1375+00	1.0- 1.5	A-4(0)	18	5	19.4	42.8	14.7	23.1	100	92	43	11.8	-
SS-193	50 RT	1375+00	4.0-5.5	A-7-6(20)	51	30	8.2	25.2	18.3	48.3	100	97	70	-	-



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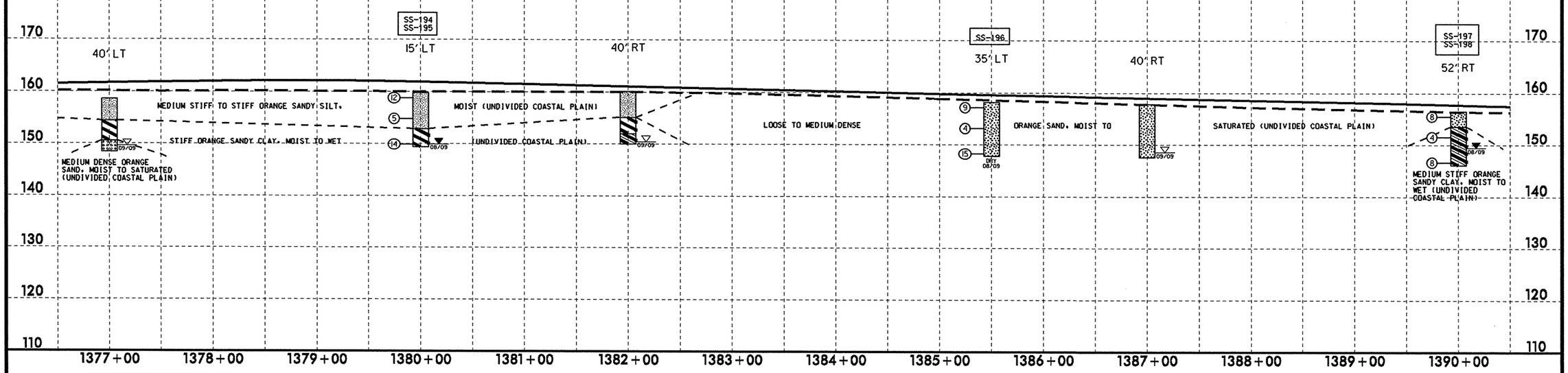
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	46
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

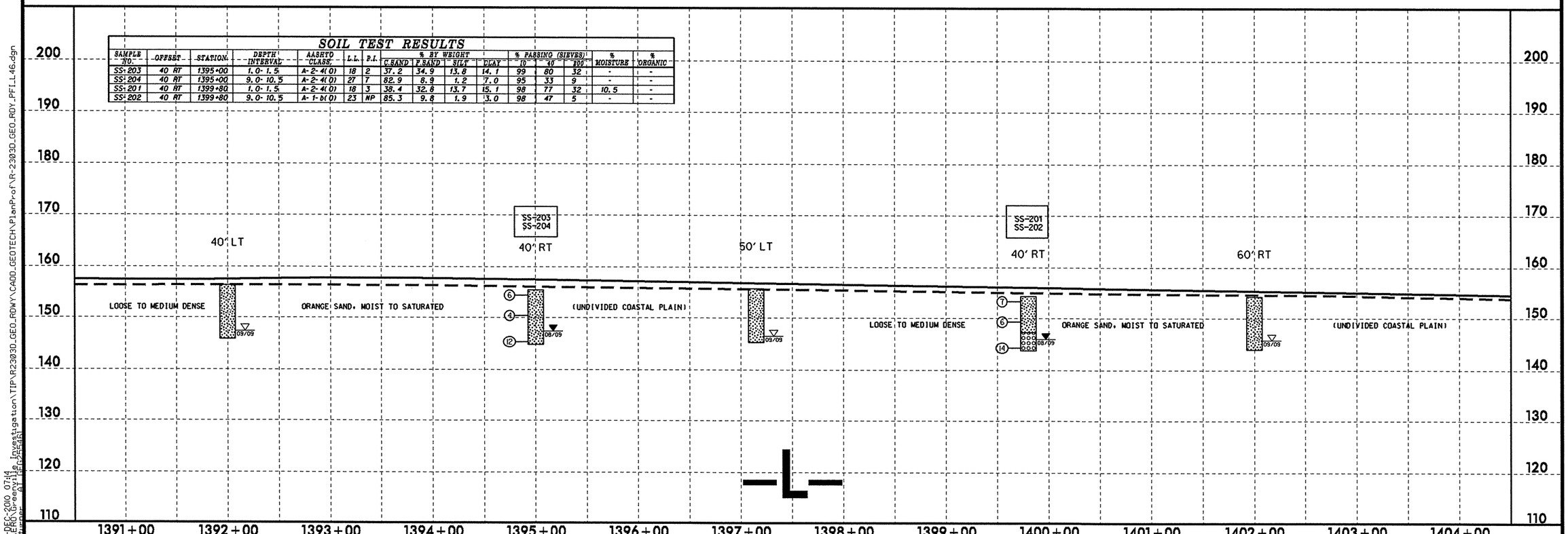
SOIL TEST RESULTS

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-194	15 LT	1380+00	1.0- 1.5	A-4(0)	15	1	25.2	46.2	14.6	14.1	100	90	46	-	-
SS-195	15 LT	1380+00	9.0- 10.5	A-7-6(12)	48	29	20.1	30.4	9.3	40.2	100	89	54	-	-
SS-196	35 LT	1385+50	1.0- 1.5	A-2-4(0)	16	NP	29.3	50.4	10.3	10.1	98	64	27	-	-
SS-197	52 RT	1390+00	1.0- 1.5	A-2-4(0)	17	NP	24.4	55.8	10.7	9.1	100	92	27	-	-
SS-198	52 RT	1390+00	4.0- 5.5	A-6(5)	34	19	24.8	35.1	12.9	27.2	100	89	47	-	-



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-203	40 RT	1395+00	1.0- 1.5	A-2-4(0)	18	2	37.2	34.9	13.8	14.1	99	80	32	-	-
SS-204	40 RT	1395+00	9.0- 10.5	A-2-4(0)	27	7	82.9	8.9	1.2	7.0	95	33	9	-	-
SS-201	40 RT	1399+80	1.0- 1.5	A-2-4(0)	18	3	38.4	32.8	13.7	15.1	98	77	32	10.5	-
SS-202	40 RT	1399+80	9.0- 10.5	A-1-b(0)	23	NP	85.3	9.8	1.9	3.0	98	47	5	-	-



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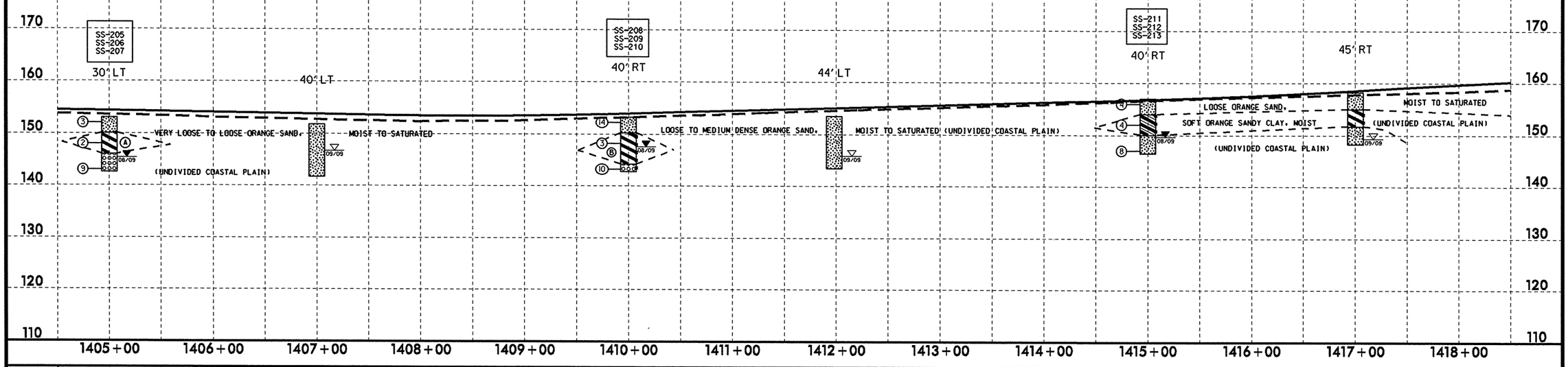
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	47
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

SOIL TEST RESULTS

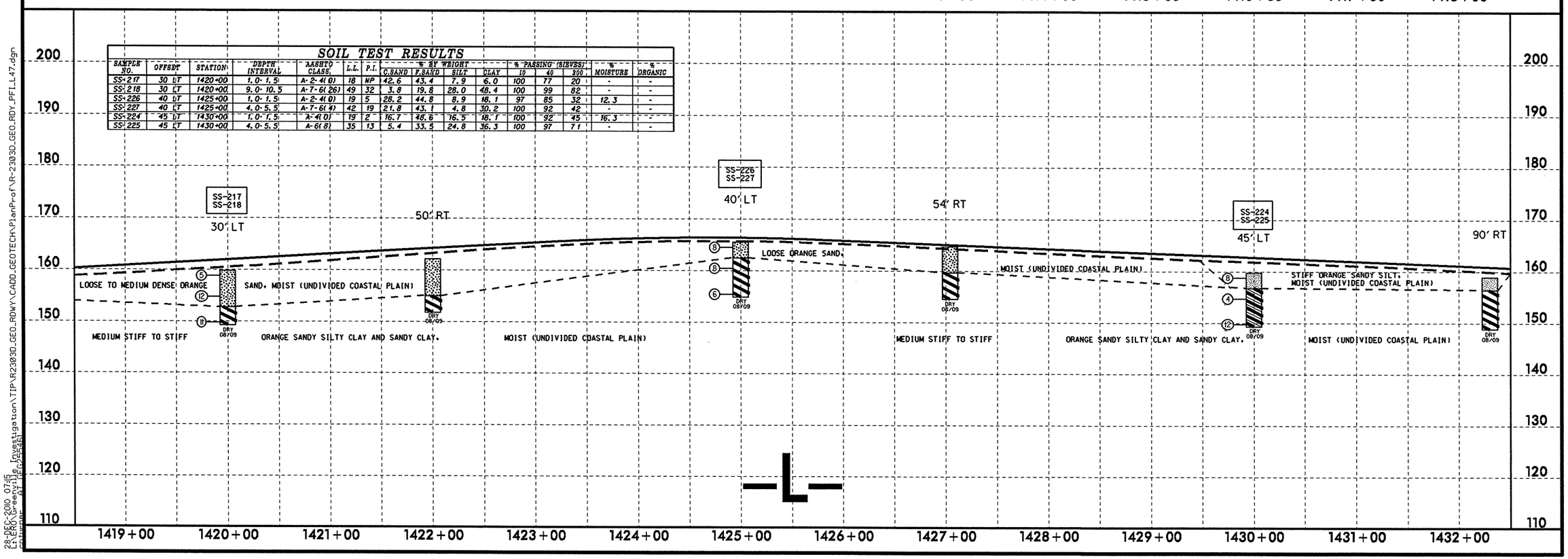
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-205	30 LT	1405+00	1.0- 1.5	A-2-4(0)	16	NP	40.1	34.6	16.2	9.1	98	77	29	-	-
SS-206	30 LT	1405+00	4.0- 5.5	A-7-6(7)	50	29	36.0	23.7	8.0	32.2	94	68	43	-	-
SS-207	30 LT	1405+00	9.0- 10.5	A-1-b(0)	24	6	89.1	3.8	1.0	6.0	100	50	8	-	-
SS-208	40 RT	1410+00	1.0- 1.5	A-2-4(0)	16	NP	43.3	38.4	10.3	8.0	92	70	21	-	-
SS-209	40 RT	1410+00	4.0- 5.5	A-7-6(20)	44	28	9.7	25.8	30.4	34.2	100	95	75	-	-
SS-210	40 RT	1410+00	9.0- 10.5	A-1-b(0)	21	NP	80.7	14.5	0.8	4.0	95	46	5	-	-
SS-211	40 RT	1415+00	1.0- 1.5	A-2-4(0)	17	NP	45.4	33.8	12.8	8.0	100	73	26	-	-
SS-212	40 RT	1415+00	4.0- 5.5	A-6(4)	40	26	45.1	21.8	5.9	27.2	99	69	36	-	-
SS-213	40 RT	1415+00	9.0- 10.5	A-2-4(0)	22	5	61.1	23.5	3.3	12.1	99	57	17	-	-

Ⓐ SOFT ORANGE SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)
Ⓑ SOFT TO STIFF ORANGE SANDY AND SILTY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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-217	30 LT	1420+00	1.0- 1.5	A-2-4(0)	18	NP	42.6	43.4	7.9	6.0	100	77	20	-	-
SS-218	30 LT	1420+00	9.0- 10.5	A-7-6(26)	49	32	3.8	19.8	28.0	48.4	100	99	82	-	-
SS-226	40 LT	1425+00	1.0- 1.5	A-2-4(0)	19	5	28.2	44.8	8.9	18.1	97	85	32	12.3	-
SS-227	40 LT	1425+00	4.0- 5.5	A-7-6(4)	42	19	21.8	43.1	4.8	30.2	100	92	42	-	-
SS-224	45 LT	1430+00	1.0- 1.5	A-4(0)	19	2	16.7	48.6	16.5	18.1	100	92	45	16.3	-
SS-225	45 LT	1430+00	4.0- 5.5	A-6(8)	35	13	5.4	33.5	24.8	36.3	100	97	71	-	-



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	48
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

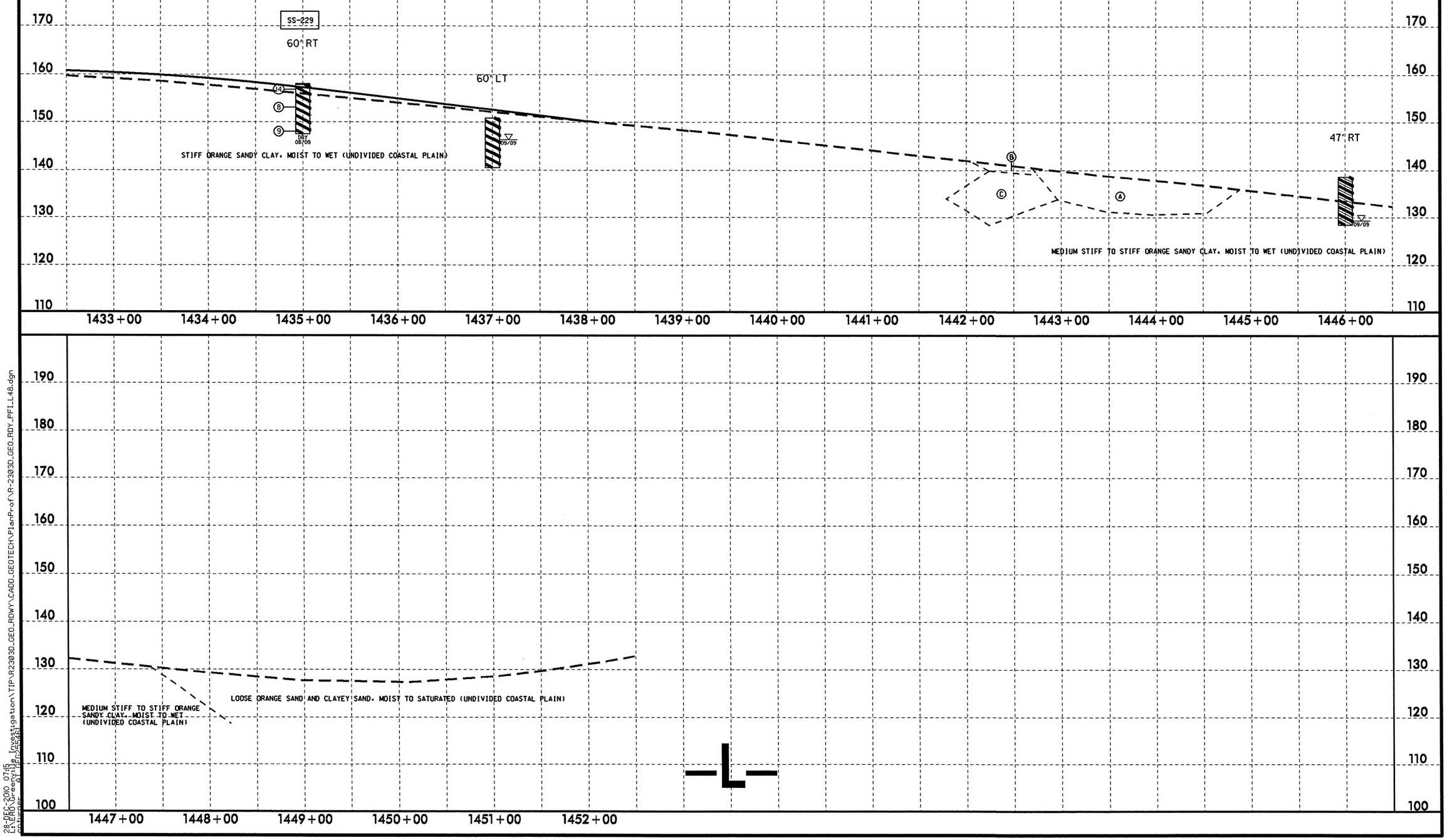
SOIL TEST RESULTS

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-229	60' RT	1435+90	9.0-10.5	A-7-6(13)	42	22	18.1	21.8	19.8	40.3	100	90	68	-	-

Ⓐ MEDIUM STIFF ORANGE SANDY CLAY, MOIST (ROADWAY EMBANKMENT)

Ⓑ LOOSE ORANGE CLAYEY SAND, MOIST (ROADWAY EMBANKMENT)

Ⓒ VERY LOOSE TO MEDIUM DENSE ORANGE SAND AND CLAYEY SAND, MOIST TO SATURATED (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	49
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

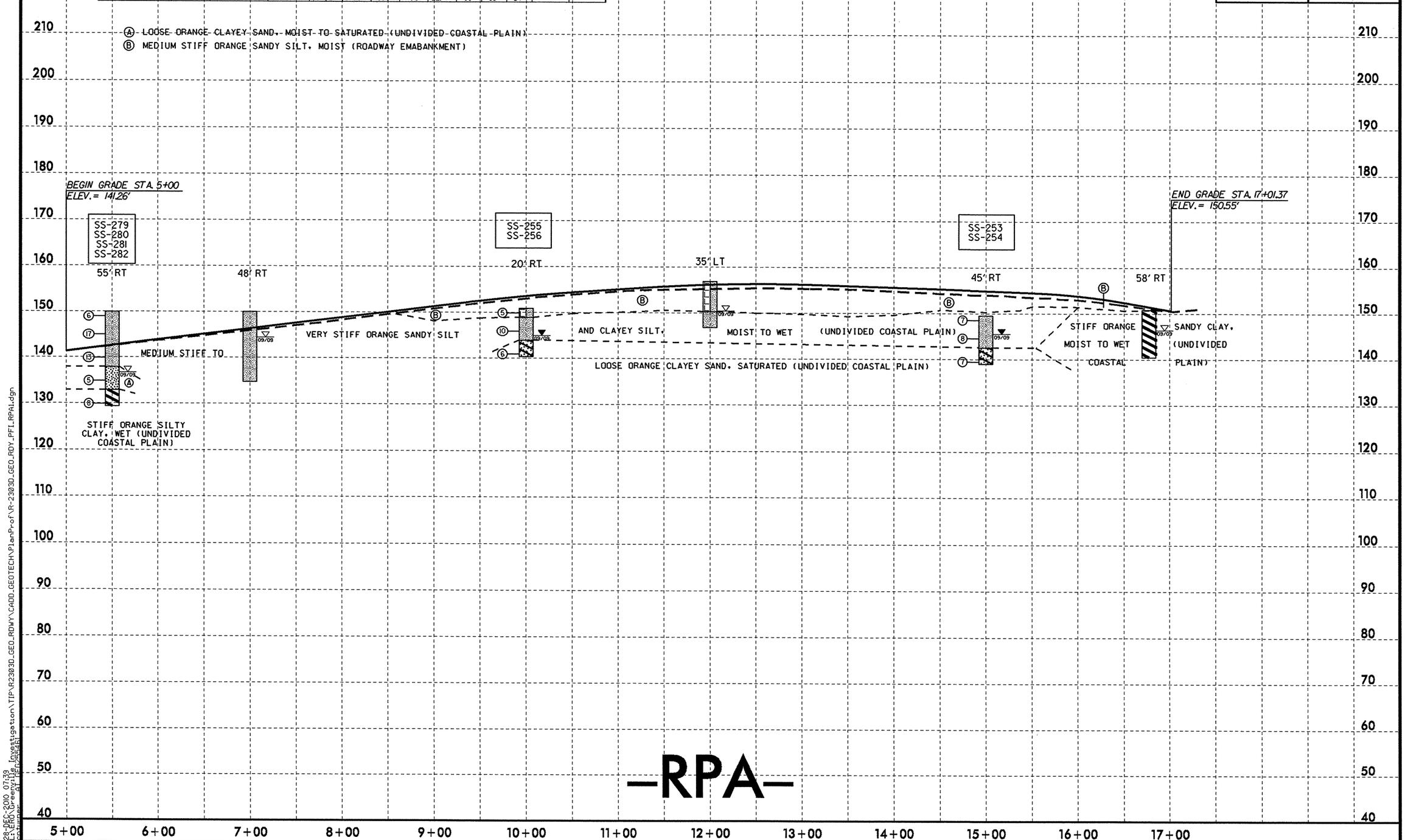
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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-279	55 RT	5+50	1.0- 1.5	A-4(0)	15	NP	17.0	53.4	20.9	9.1	99	92	38	-	-
SS-280	55 RT	5+50	4.0- 5.5	A-4(2)	31	10	16.8	39.0	18.1	26.2	95	87	47	-	-
SS-281	55 RT	5+50	14.0- 15.5	A-2-4(0)	32	10	18.8	54.5	4.5	22.2	97	84	27	-	-
SS-282	55 RT	5+50	19.0- 20.5	A-7-6(52)	78	53	2.6	12.7	26.1	58.5	100	99	88	-	-
SS-255	20 RT	10+00	1.0- 1.5	A-4(0)	16	2	15.8	43.4	22.6	18.2	96	88	47	-	-
SS-256	20 RT	10+00	9.0- 10.5	A-2-6(1)	36	20	50.9	23.3	1.7	24.1	94	59	25	-	-
SS-253	45 RT	15+00	1.0- 1.5	A-4(1)	21	7	9.9	41.0	26.9	22.2	100	95	56	-	-
SS-254	45 RT	15+00	9.0- 10.5	A-2-6(2)	38	21	61.0	9.5	7.3	22.1	99	59	31	-	-

Ⓐ LOOSE ORANGE CLAYEY SAND, MOIST TO SATURATED (UNDIVIDED COASTAL PLAIN)
Ⓑ MEDIUM STIFF ORANGE SANDY SILT, MOIST (ROADWAY EMABANKMENT)



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	50
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

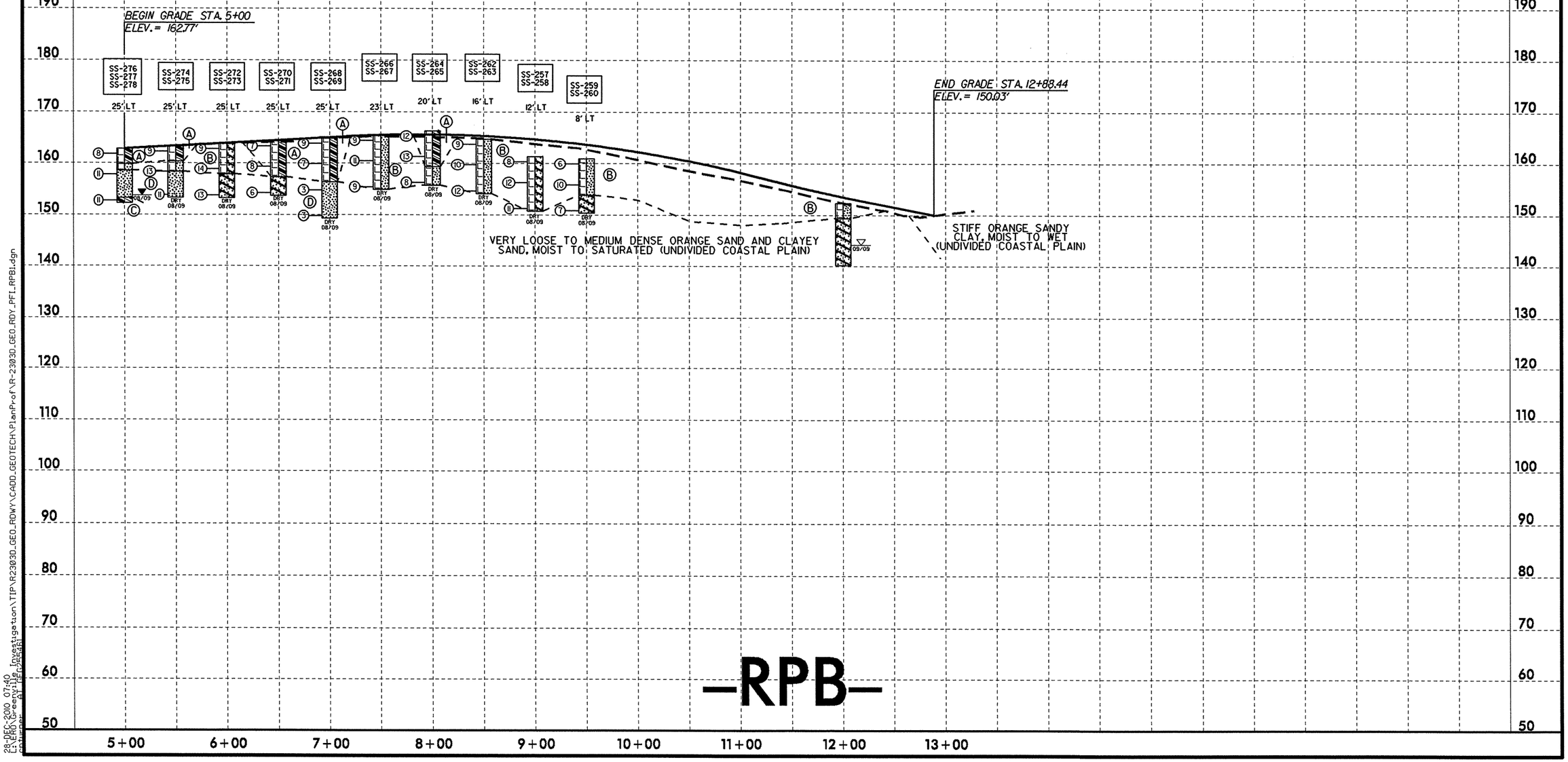
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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-276	25 LT	5+00	1.0- 1.5	A-6(11)	27	12	23.2	42.8	7.7	26.3	99	86	37	-	-
SS-277	25 LT	5+00	4.0- 5.5	A-2-4(0)	16	NP	37.5	47.3	8.1	7.1	98	77	18	-	-
SS-278	25 LT	5+00	10.0- 10.5	A-6(5)	32	11	11.1	31.3	29.4	28.3	100	95	65	-	-
SS-274	25 LT	5+50	1.0- 1.5	A-6(3)	37	19	21.2	39.3	7.3	32.3	96	84	40	-	-
SS-275	25 LT	5+50	4.0- 5.5	A-2-4(0)	15	NP	37.9	44.4	7.6	10.1	98	77	21	-	-
SS-272	25 LT	6+00	1.0- 1.5	A-2-6(1)	26	13	22.0	45.1	6.7	26.3	98	86	35	-	-
SS-273	25 LT	6+00	9.0- 10.5	A-2-6(1)	37	16	43.0	27.3	5.4	24.2	97	67	31	-	-
SS-270	25 LT	6+50	1.0- 1.5	A-6(1)	26	13	18.2	45.9	10.7	25.2	96	86	38	-	-
SS-271	25 LT	6+50	9.0- 10.5	A-2-7(2)	46	25	45.0	26.1	2.7	26.1	96	64	29	-	-
SS-268	25 LT	7+00	1.0- 1.5	A-6(3)	32	17	26.5	35.2	10.2	28.1	98	82	41	-	-
SS-269	25 LT	7+00	9.0- 10.5	A-2-4(0)	28	7	27.7	46.5	6.6	19.2	97	81	27	-	-
SS-266	23 LT	7+50	1.0- 1.5	A-2-4(0)	23	8	21.1	47.6	7.1	24.1	99	88	35	-	-
SS-267	23 LT	7+50	4.0- 5.5	A-2-4(0)	24	6	31.7	41.8	4.4	22.1	98	80	29	-	-
SS-264	20 LT	8+00	1.0- 1.5	A-6(2)	30	15	20.3	44.4	7.1	28.1	94	83	38	-	-
SS-265	20 LT	8+00	9.0- 10.5	A-2-4(0)	29	8	46.8	26.7	6.3	20.2	96	73	27	-	-
SS-262	16 LT	8+50	4.0- 5.5	A-2-4(0)	18	2	29.1	46.6	10.2	14.1	99	83	29	-	-
SS-263	16 LT	8+50	9.0- 10.5	A-2-4(0)	31	9	44.5	28.4	6.0	21.2	98	76	28	-	-
SS-257	12 LT	9+00	1.0- 1.5	A-2-6(0)	26	12	22.4	45.6	7.8	24.2	99	87	35	-	-
SS-258	12 LT	9+00	9.0- 10.5	A-2-6(0)	30	11	45.1	30.0	5.8	19.2	96	73	26	-	-
SS-259	8 LT	9+50	1.0- 1.5	A-2-4(0)	24	8	20.3	48.1	9.4	22.2	96	85	33	-	-
SS-260	8 LT	9+50	9.0- 10.5	A-2-6(1)	35	14	38.3	31.2	6.3	24.2	94	73	30	-	-

Ⓐ MEDIUM STIFF TO STIFF ORANGE SANDY CLAY, MOIST (ROADWAY EMBANKMENT)
Ⓑ LOOSE TO MEDIUM DENSE ORANGE SAND AND CLAYEY SAND, MOIST (ROADWAY EMBANKMENT)
Ⓒ STIFF ORANGE SILTY SANDY CLAY, WET (UNDIVIDED COASTAL PLAIN)
Ⓓ VERY LOOSE TO MEDIUM DENSE ORANGE SAND AND CLAYEY SAND, MOIST TO SATURATED (UNDIVIDED COASTAL PLAIN)



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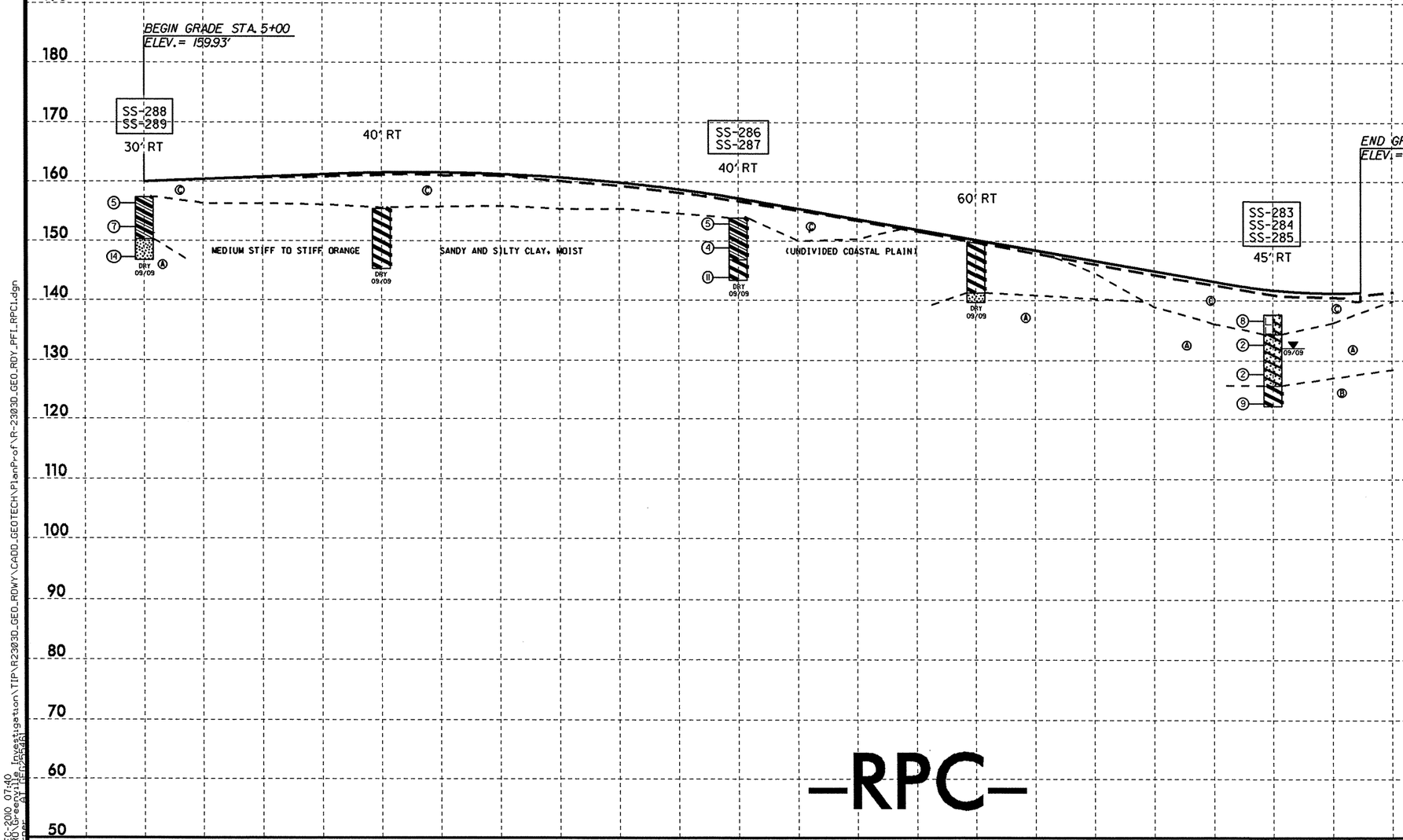
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	51
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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-288	30 RT	5+00	1.0- 1.5	A-6(4)	31	14	6.9	49.4	11.4	32.3	100	97	49	-	-
SS-289	30 RT	5+00	9.0- 10.5	A-2-4(0)	25	2	1.3	76.9	3.6	18.2	100	100	24	-	-
SS-286	40 RT	10+00	1.0- 1.5	A-6(8)	40	17	4.0	44.2	11.6	40.2	100	98	58	-	-
SS-287	40 RT	10+00	9.0- 10.5	A-7-6(49)	70	43	1.0	1.6	26.7	70.6	100	99	98	-	-
SS-283	45 RT	14+50	1.0- 1.5	A-2-6(1)	32	17	33.7	33.7	6.3	26.3	97	77	34	-	-
SS-284	45 RT	14+50	4.0- 5.5	A-2-7(3)	52	26	45.4	22.7	2.6	29.3	96	65	31	-	-
SS-285	45 RT	14+50	14.0- 15.5	A-7-5(46)	75	45	5.2	5.6	32.9	58.3	97	93	89	-	-

Ⓐ VERY LOOSE TO MEDIUM DENSE ORANGE SAND AND CLAYEY SAND, MOIST TO SATURATED (UNDIVIDED COASTAL PLAIN)
Ⓑ STIFF ORANGE SILTY CLAY, WET (UNDIVIDED COASTAL PLAIN)
Ⓒ LOOSE ORANGE CLAYEY SAND, MOIST (ROADWAY EMBANKMENT)



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	52
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

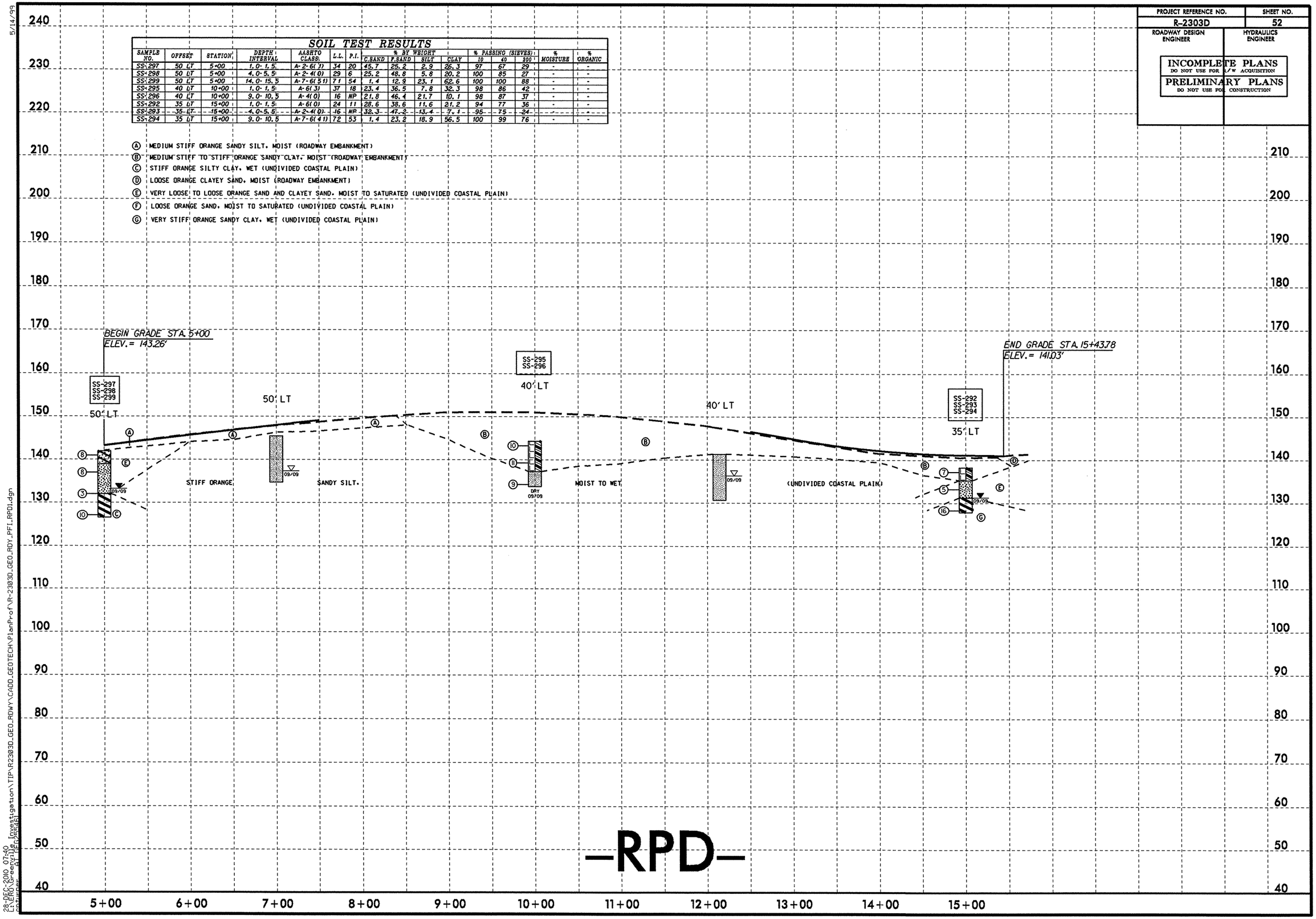
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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-297	50 LT	5+00	1.0- 1.5	A-2-6(1)	34	20	45.7	25.2	2.9	26.3	97	67	29	-	-
SS-298	50 LT	5+00	4.0- 5.5	A-2-4(0)	29	6	25.2	48.8	5.8	20.2	100	85	27	-	-
SS-299	50 LT	5+00	14.0- 15.5	A-7-6(51)	71	54	1.4	12.9	23.1	62.6	100	100	88	-	-
SS-295	40 LT	10+00	1.0- 1.5	A-6(3)	37	18	23.4	36.5	7.8	32.3	98	86	42	-	-
SS-296	40 LT	10+00	9.0- 10.5	A-4(0)	16	NP	21.8	46.4	21.7	10.1	98	87	37	-	-
SS-292	35 LT	15+00	1.0- 1.5	A-6(0)	24	11	28.6	38.6	11.6	21.2	94	77	36	-	-
SS-293	35 LT	15+00	4.0- 5.5	A-2-4(0)	16	NP	32.3	47.2	13.4	7.1	95	75	24	-	-
SS-294	35 LT	15+00	9.0- 10.5	A-7-6(41)	72	53	1.4	23.2	18.9	56.5	100	99	76	-	-

Ⓐ MEDIUM STIFF ORANGE SANDY SILT, MOIST (ROADWAY EMBANKMENT)
Ⓑ MEDIUM STIFF TO STIFF ORANGE SANDY CLAY, MOIST (ROADWAY EMBANKMENT)
Ⓒ STIFF ORANGE SILTY CLAY, WET (UNDIVIDED COASTAL PLAIN)
Ⓓ LOOSE ORANGE CLAYEY SAND, MOIST (ROADWAY EMBANKMENT)
Ⓔ VERY LOOSE TO LOOSE ORANGE SAND AND CLAYEY SAND, MOIST TO SATURATED (UNDIVIDED COASTAL PLAIN)
Ⓕ LOOSE ORANGE SAND, MOIST TO SATURATED (UNDIVIDED COASTAL PLAIN)
Ⓖ VERY STIFF ORANGE SANDY CLAY, WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	53
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

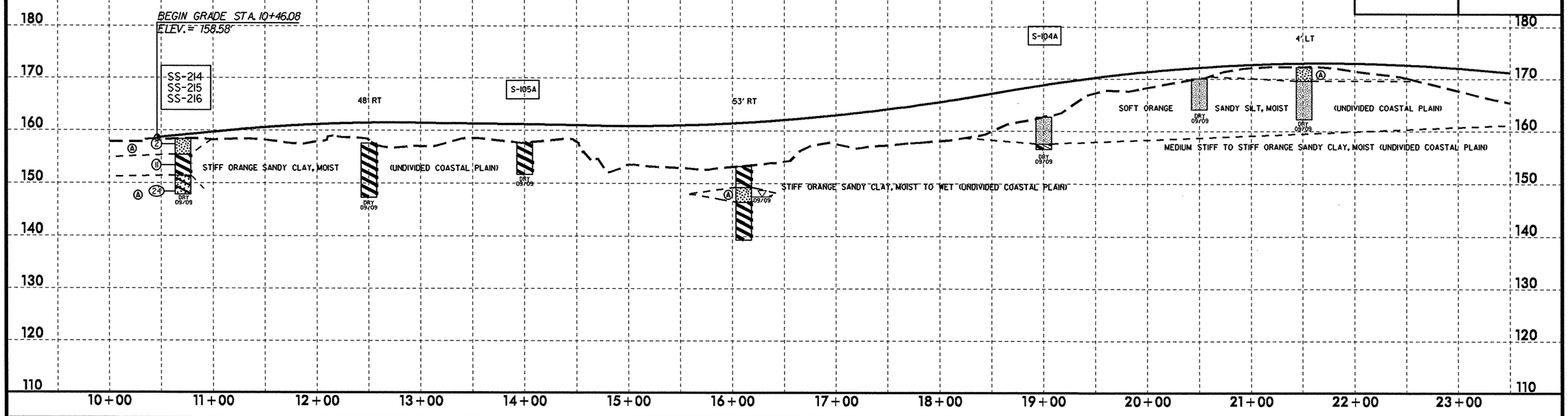
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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-214	CL	10+71	1.0-1.5	A-2-4(0)	15	NP	46.3	33.5	9.2	11.1	100	74	25	-	-
SS-215	CL	10+71	4.0-5.5	A-7-6(11)	47	29	18.8	34.1	10.9	36.3	100	89	53	-	-
SS-216	CL	10+71	9.0-10.5	A-2-6(0)	28	11	65.3	16.3	2.2	16.1	99	61	20	-	-
S-105A	CL	14+00	2.5-6.0	A-7-6(18)	51	34	14.5	30.3	10.7	44.4	100	93	62	-	-
S-104A	CL	19+00	5.0-6.0	A-6(2)	31	16	33.5	34.5	3.6	28.3	100	80	37	-	-

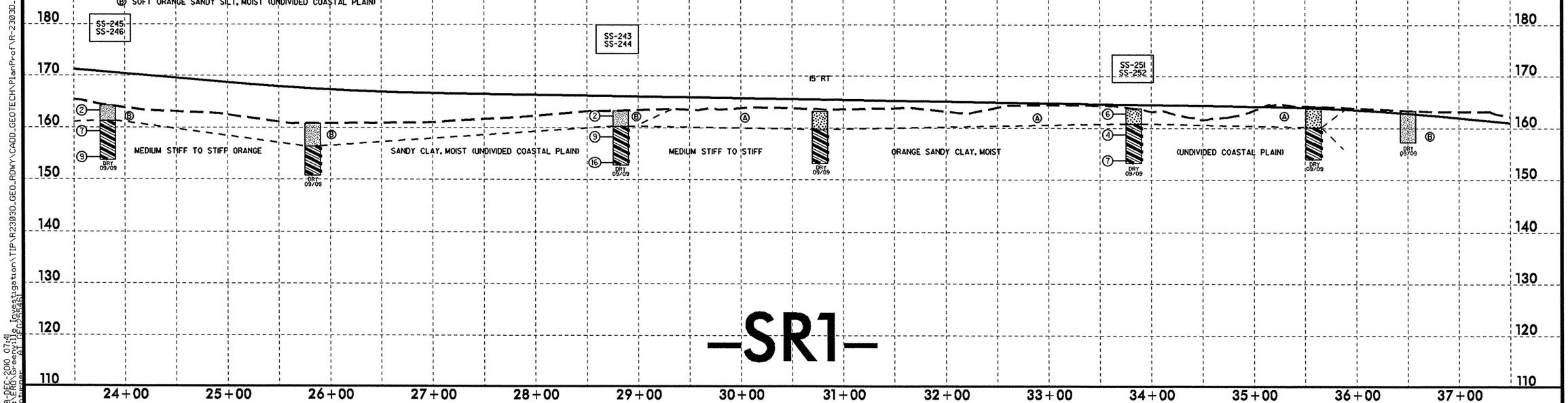
Ⓐ VERY LOOSE TO MEDIUM DENSE ORANGE SAND, MOIST TO SATURATED (UNDIVIDED COASTAL PLAIN)



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-245	CL	23+83	1.0-1.5	A-4(0)	15	NP	12.2	47.7	23.0	17.1	100	94	49	-	-
SS-246	CL	23+83	4.0-5.5	A-6(3)	32	14	22.2	35.1	14.5	28.2	95	87	47	-	-
SS-243	CL	28+83	1.0-1.5	A-4(0)	16	NP	18.2	51.6	13.0	17.1	100	92	39	-	-
SS-244	CL	28+83	4.0-5.5	A-6(5)	36	14	7.7	44.8	13.3	34.3	100	97	56	-	-
SS-251	CL	33+83	1.0-1.5	A-2-4(0)	16	NP	19.1	58.7	14.2	8.0	100	91	33	-	-
SS-252	CL	33+83	4.0-5.5	A-6(3)	32	11	13.3	42.8	9.7	34.2	100	94	52	-	-

Ⓐ LOOSE ORANGE SAND, MOIST (UNDIVIDED COASTAL PLAIN)
Ⓑ SOFT ORANGE SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	54
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

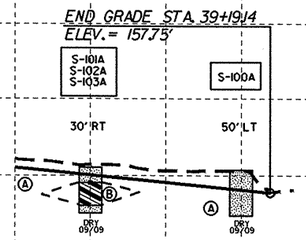
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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
S-101A	30 RT	38+00	0.0-2.0	A-4(0)	19	NP	12.7	54.5	20.6	12.1	100	94	44	-	-
S-102A	30 RT	38+00	2.0-5.0	A-6(3)	25	12	4.8	54.7	14.1	26.3	100	98	50	-	-
S-103A	30 RT	38+00	5.0-6.0	A-4(3)	25	10	4.0	51.1	16.6	28.3	100	99	55	-	-
S-100A	50 LT	39+00	1.5-6.0	A-4(2)	27	8	5.1	52.5	18.2	24.2	100	98	54	-	-

(A) SOFT TO MEDIUM STIFF ORANGE SANDY AND CLAYEY SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)

(B) MEDIUM STIFF ORANGE SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)



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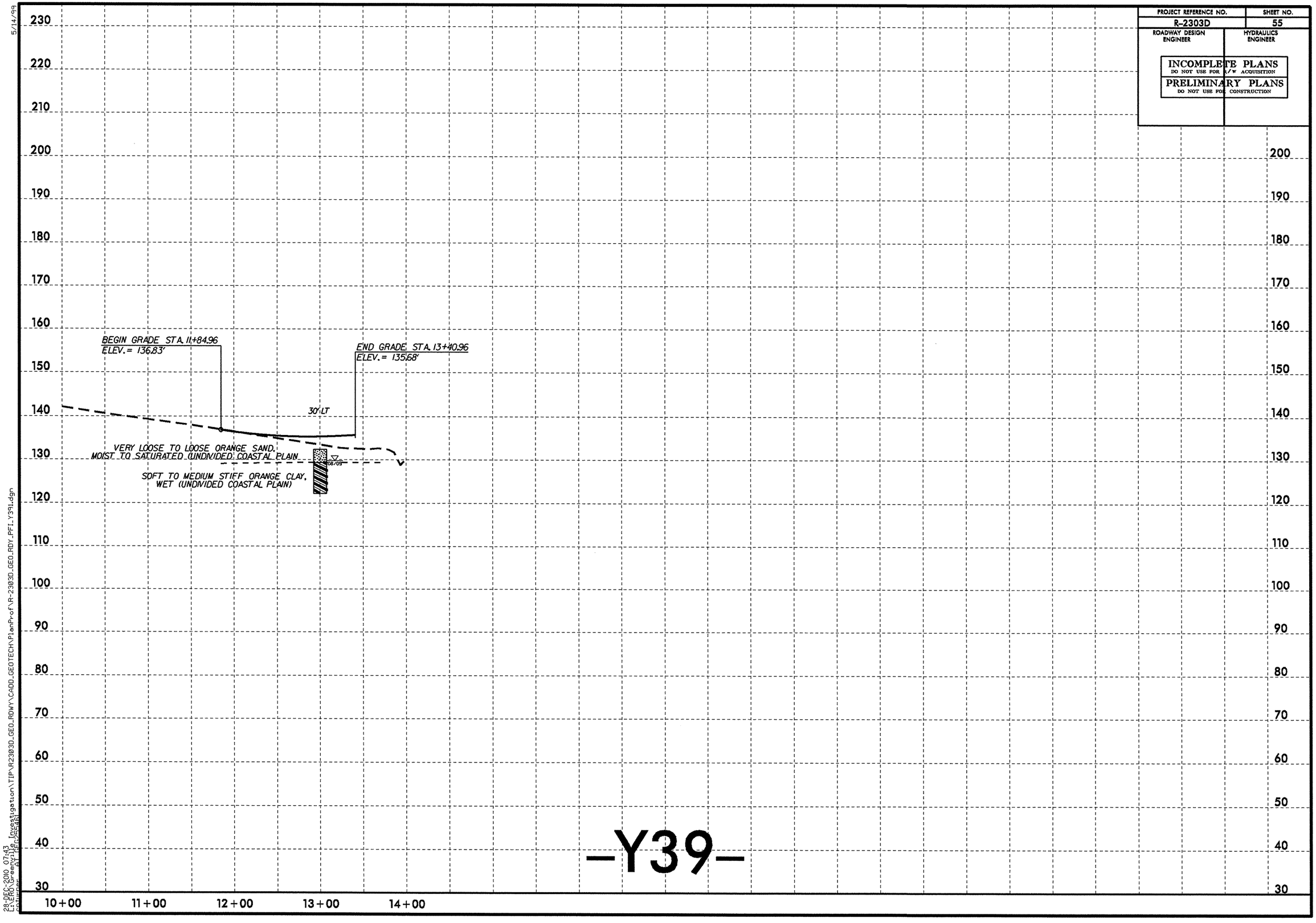

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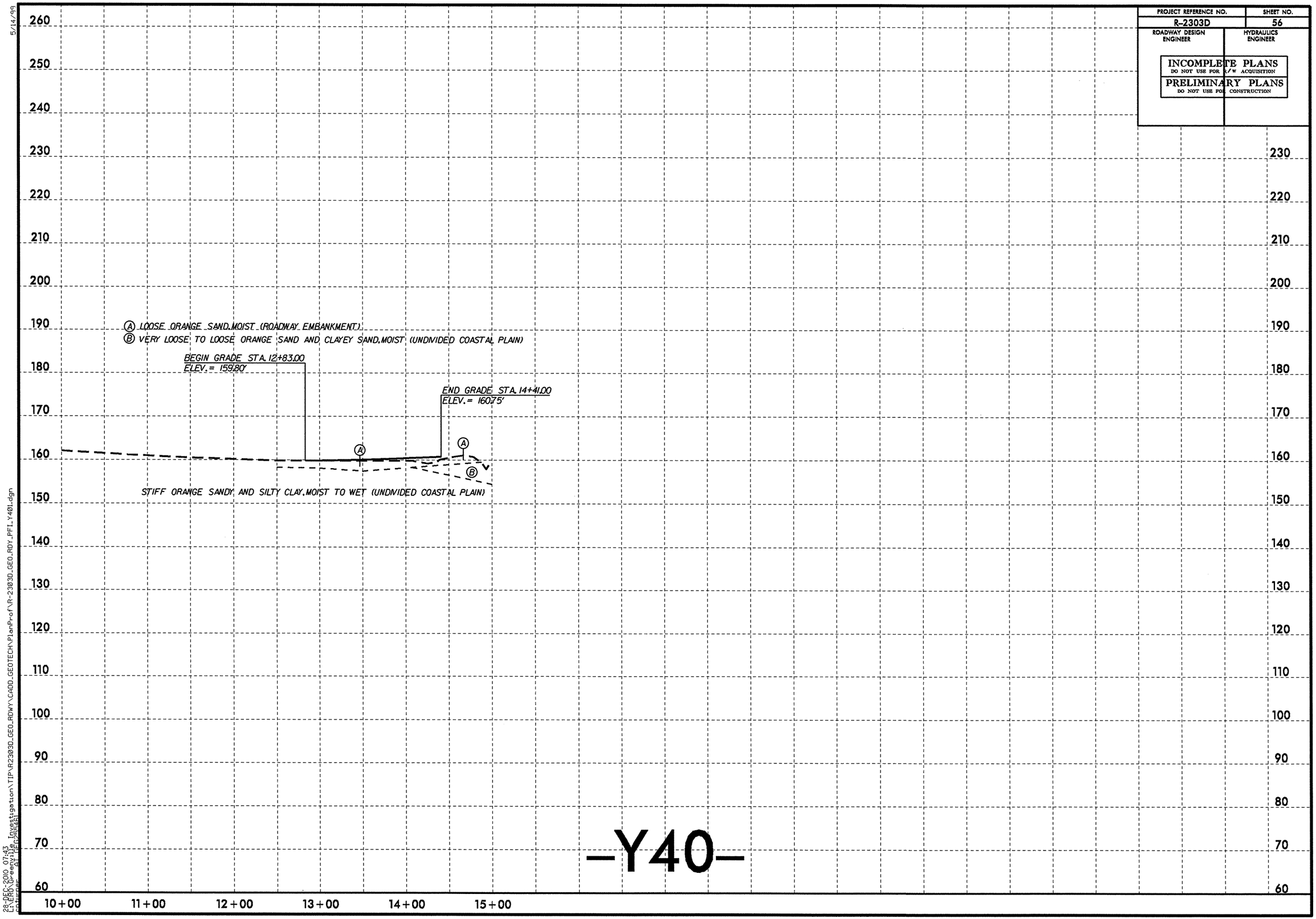
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	56
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



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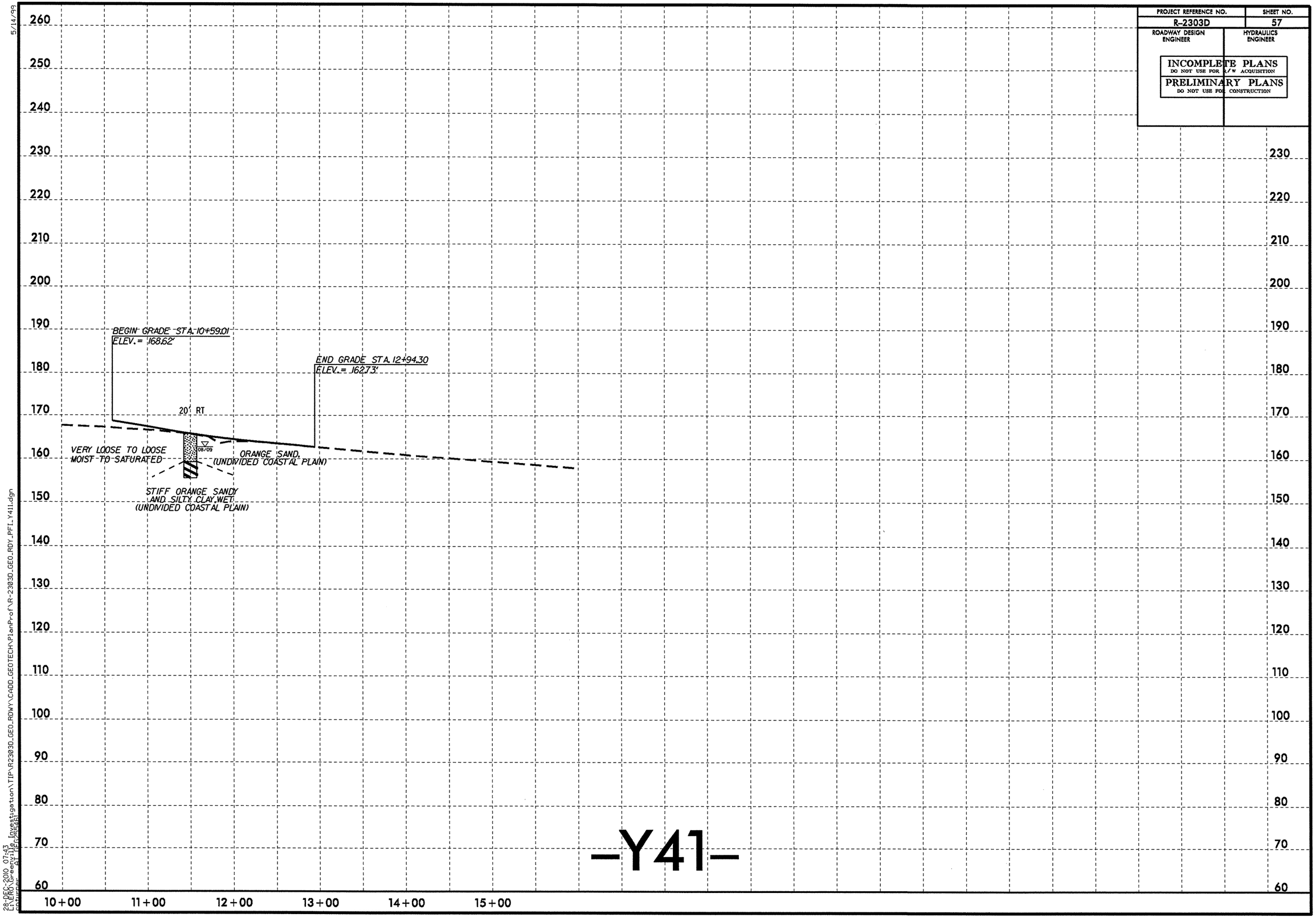
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	57
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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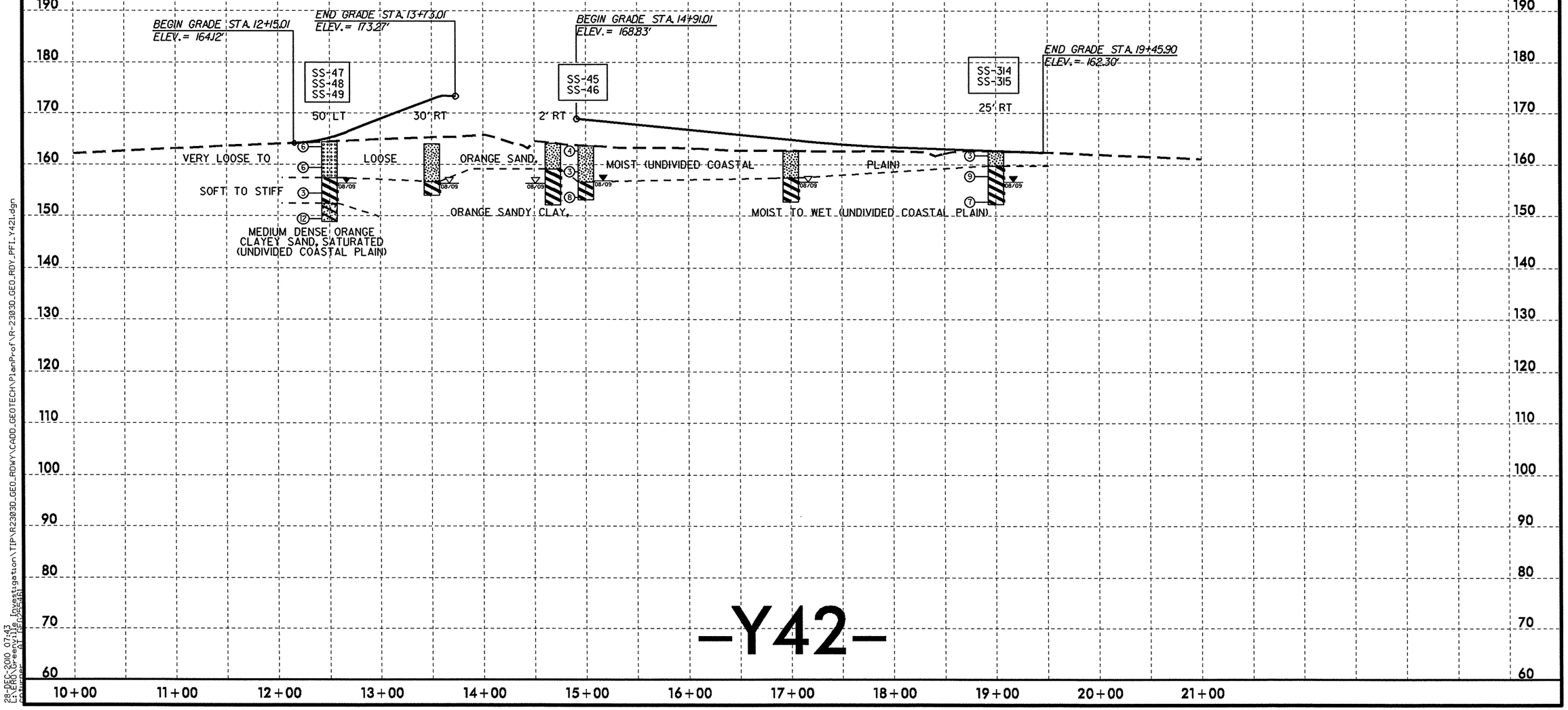
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	58
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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-47	50 LT	12+50	1.0- 1.5	A-3(0)	22	NP	82.0	10.6	1.3	6.0	100	55	8	-	-
SS-48	50 LT	12+50	9.0- 10.5	A-7-6(9)	47	23	36.5	13.7	5.6	44.2	100	84	52	-	-
SS-49	50 LT	12+50	14.0- 15.5	A-2-6(0)	32	12	59.6	15.7	3.6	21.1	100	78	25	-	-
SS-45	CL	15+00	1.0- 1.5	A-2-4(0)	18	NP	67.8	22.0	4.2	6.0	100	76	11	-	-
SS-46	CL	15+00	9.0- 10.5	A-7-6(8)	46	28	38.9	16.9	12.1	32.1	100	84	46	-	-
SS-314	25 RT	19+00	1.0- 1.5	A-2-4(0)	18	NP	70.1	18.8	2.9	8.1	100	68	12	-	-
SS-315	25 RT	19+00	4.0- 5.5	A-7-6(12)	48	26	24.7	20.7	6.0	48.6	100	92	56	-	-



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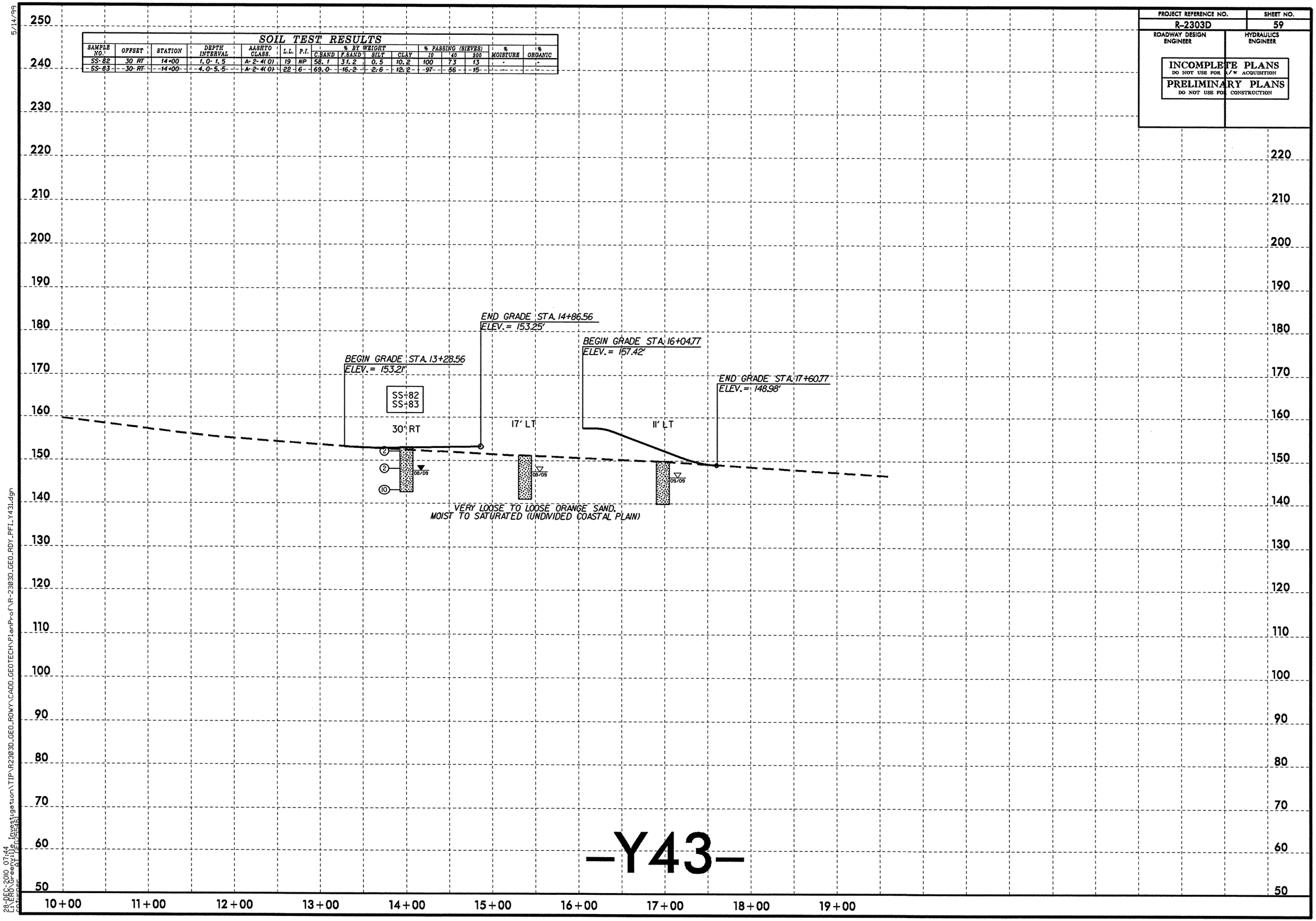
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	59
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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-82	30 RT	14+00	1.0-1.5	A-2-4(0)	19	NP	58.1	31.2	0.5	10.2	100	73	13	-	-
SS-83	30 RT	14+00	4.0-5.5	A-2-4(0)	22	6	69.0	16.2	2.6	12.2	97	56	15	-	-



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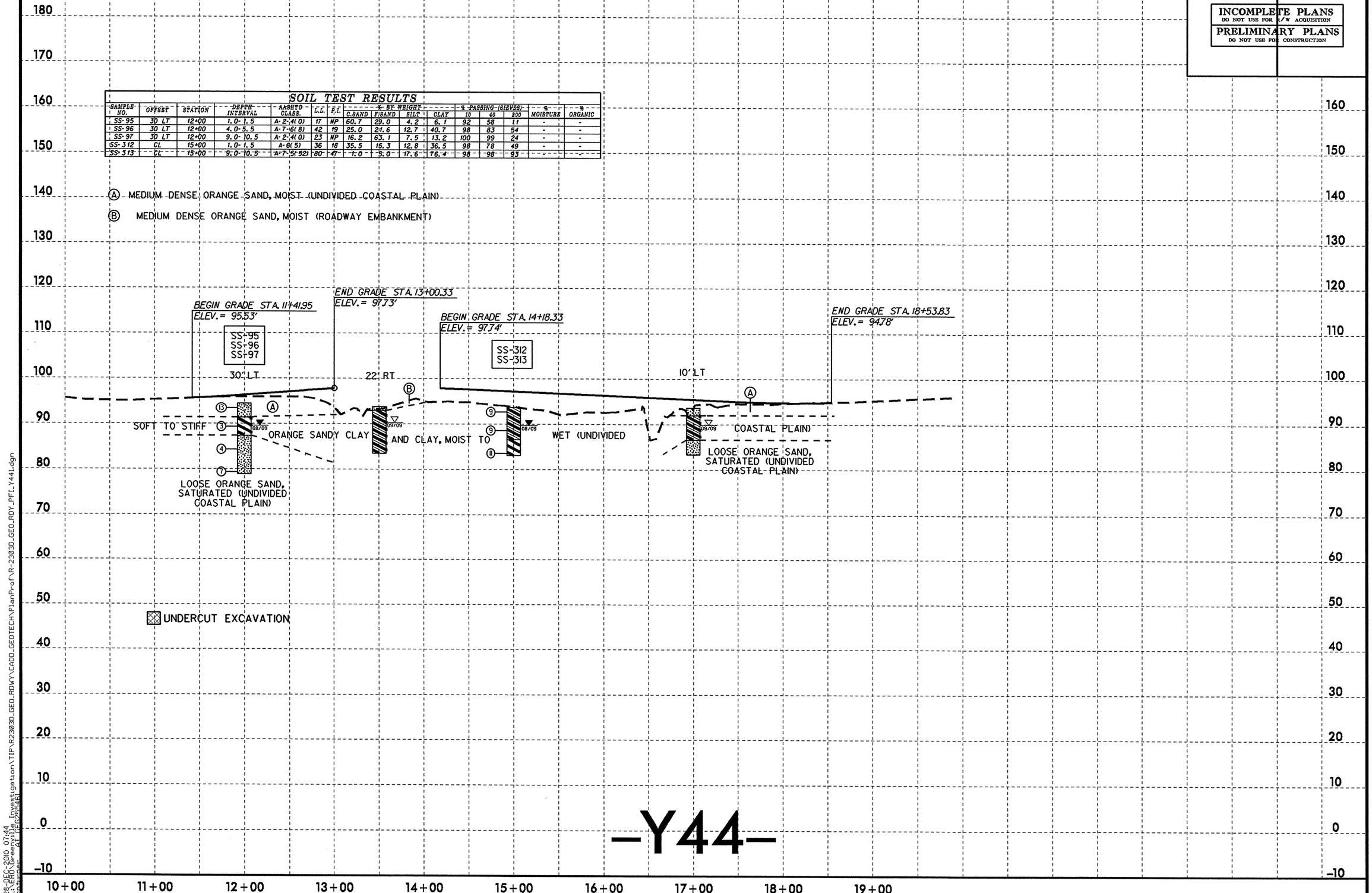
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	60
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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-95	30 LT	12+00	1.0-1.5	A-2-4(0)	17	NP	60.7	29.0	4.2	6.1	92	58	11	-	-
SS-96	30 LT	12+00	4.0-5.5	A-7-6(8)	42	19	25.0	21.6	12.7	40.7	98	83	54	-	-
SS-97	30 LT	12+00	9.0-10.5	A-2-4(0)	23	NP	16.2	63.1	7.5	13.2	100	99	24	-	-
SS-312	CL	15+00	1.0-1.5	A-6(5)	36	18	35.5	15.3	12.8	36.5	98	78	49	-	-
SS-313	CL	15+00	9.0-10.5	A-7-5(52)	80	47	1.0	5.0	17.6	76.4	98	98	93	-	-



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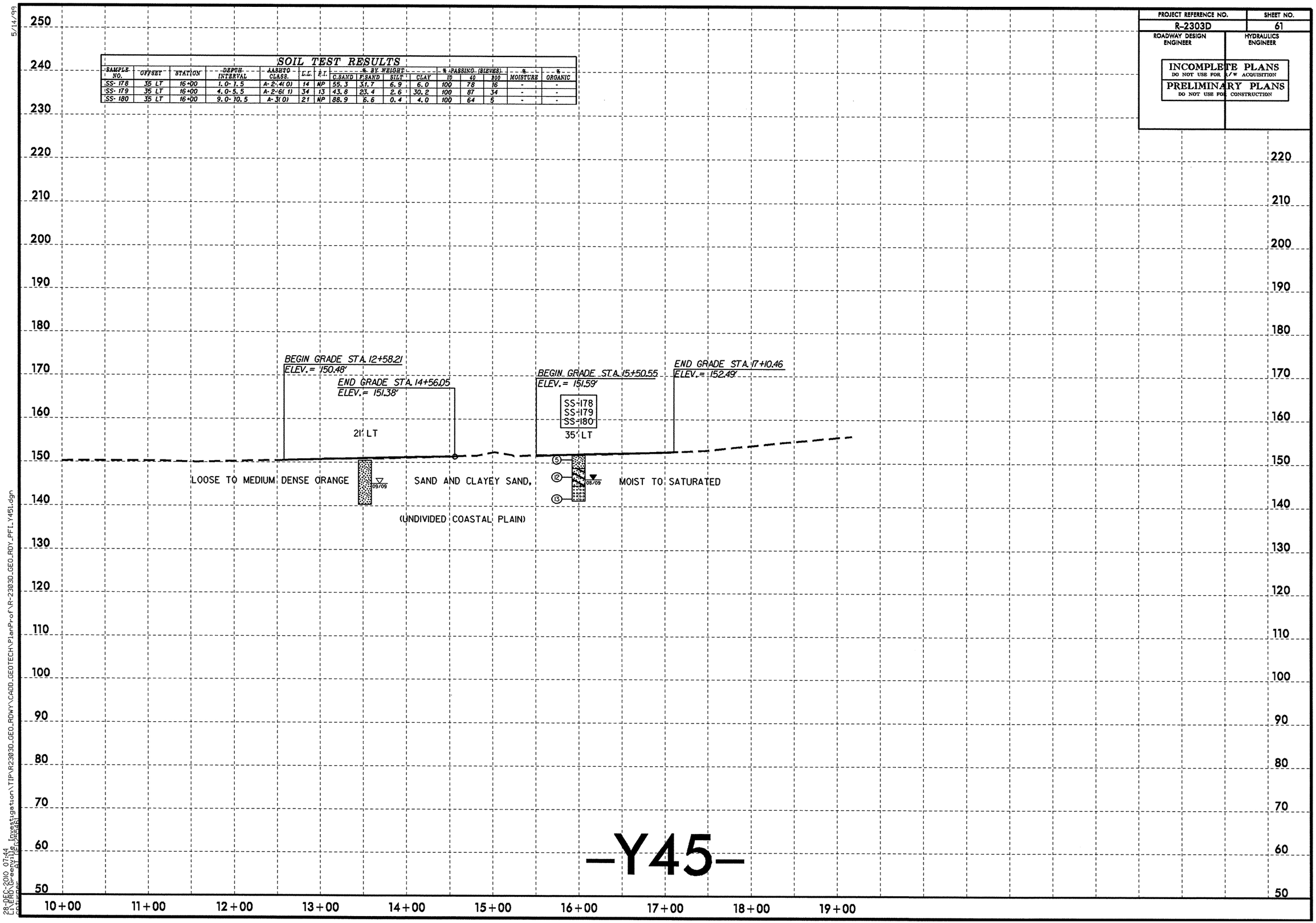
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	61
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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-178	35 LT	16+00	1.0-1.5	A-2-4(0)	14	NP	55.3	31.7	6.9	6.0	100	78	16	-	-
SS-179	35 LT	16+00	4.0-5.5	A-2-6(1)	34	13	43.8	23.4	2.6	30.2	100	87	34	-	-
SS-180	35 LT	16+00	9.0-10.5	A-3(0)	21	NP	88.9	6.6	0.4	4.0	100	64	5	-	-



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5/14/99

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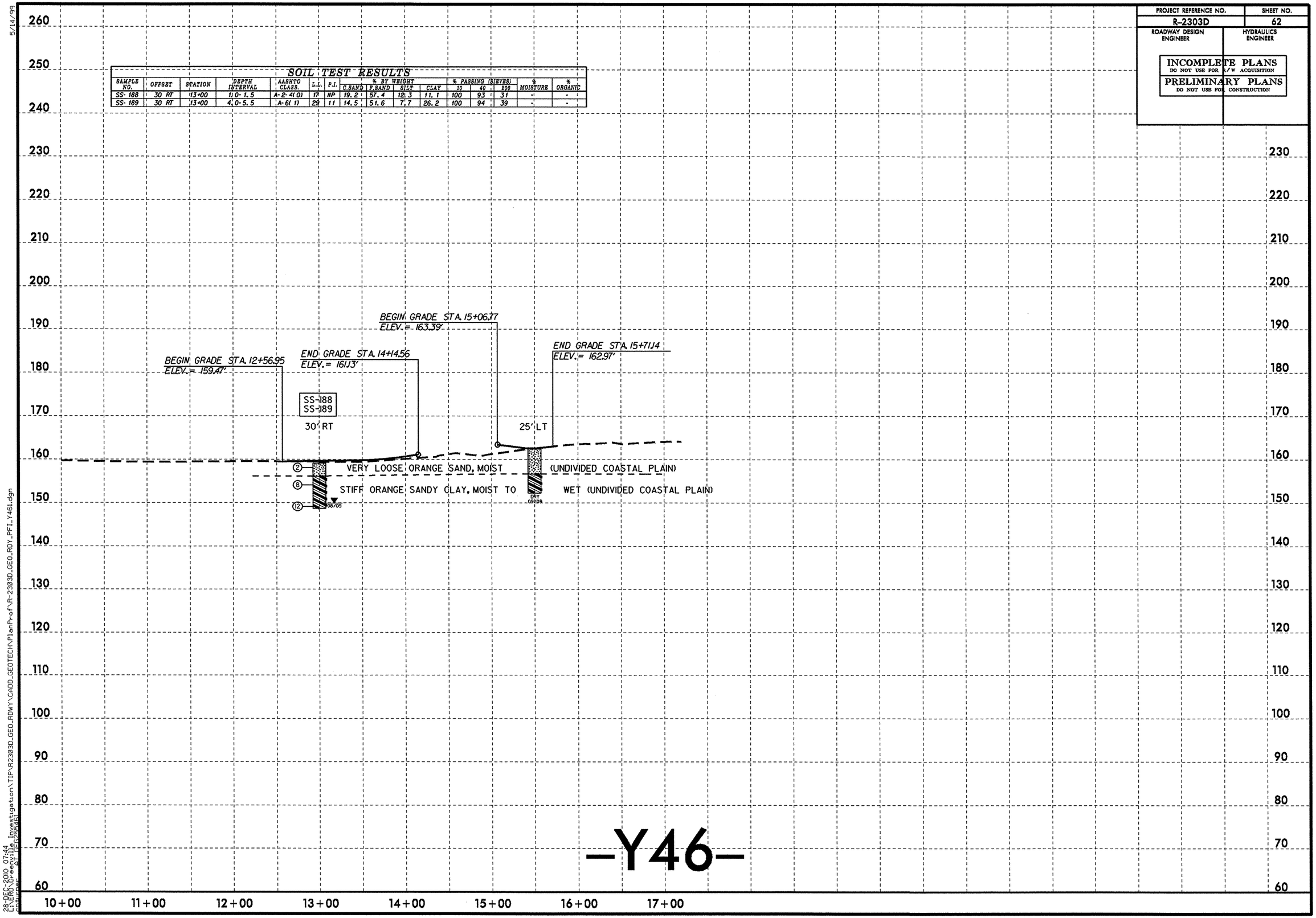
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	62
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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-188	30 RT	13+00	1.0-1.5	A-2-4(0)	17	NP	19.2	57.4	12.3	11.1	100	93	31	-	-
SS-189	30 RT	13+00	4.0-5.5	A-6(1)	29	11	14.5	51.6	7.7	26.2	100	94	39	-	-



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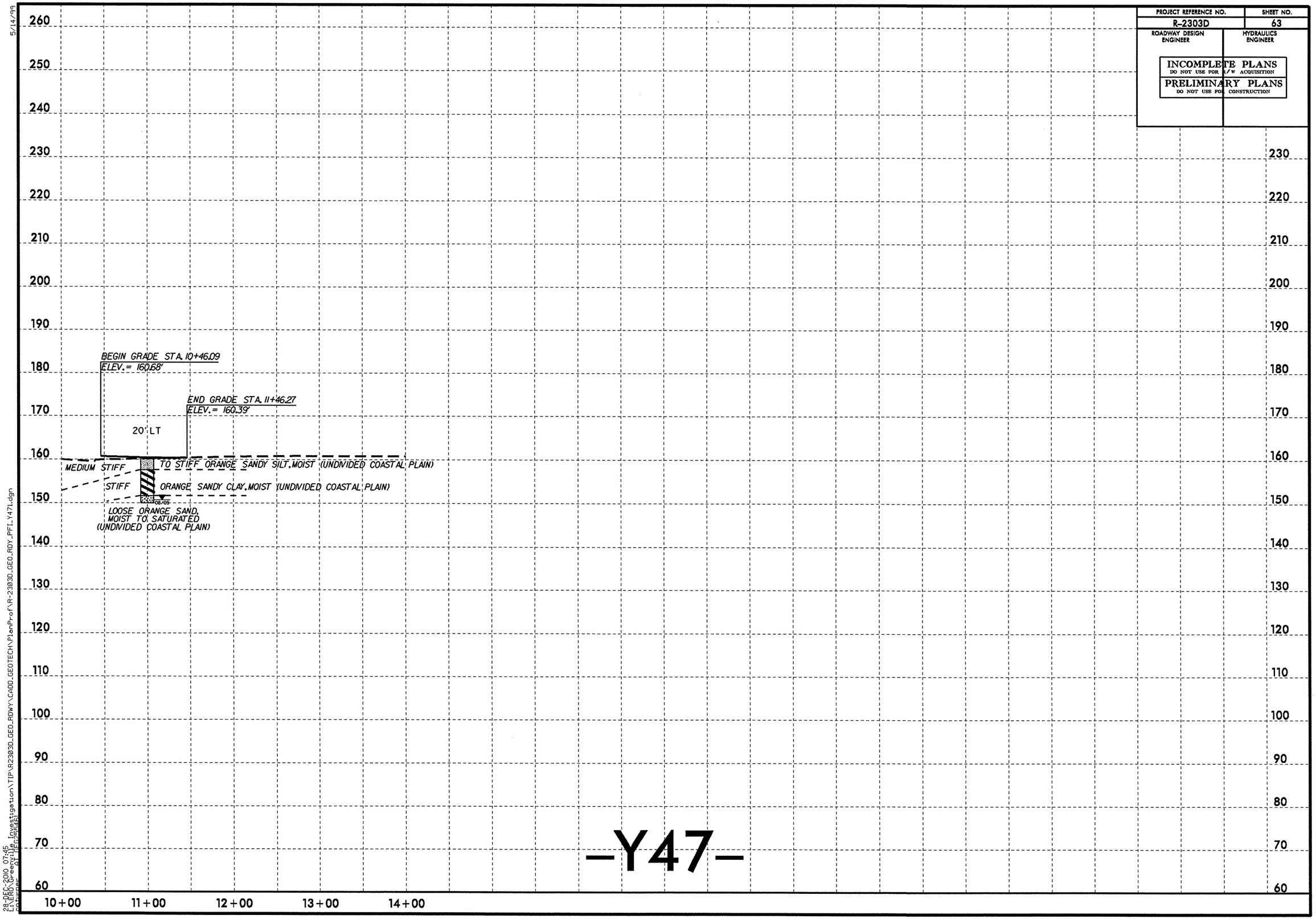
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	63
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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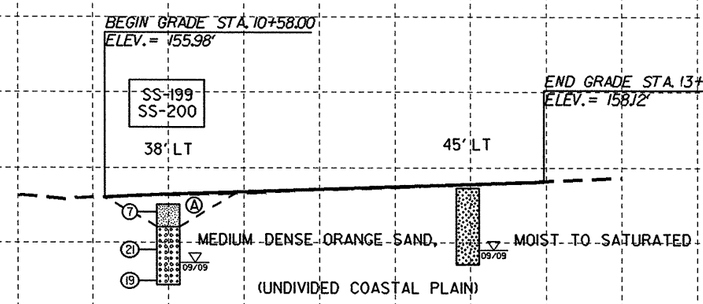
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	64
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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-199	38 LT	11+00	1.0-1.5	A-4(0)	18	3	30.0	39.8	14.1	16.1	100	87	36	12.8	-
SS-200	38 LT	11+00	9.0-10.5	A-3(0)	21	NP	76.5	17.9	1.6	4.0	100	59	6	-	-

Ⓐ MEDIUM STIFF ORANGE SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)



250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50

10+00 11+00 12+00 13+00 14+00

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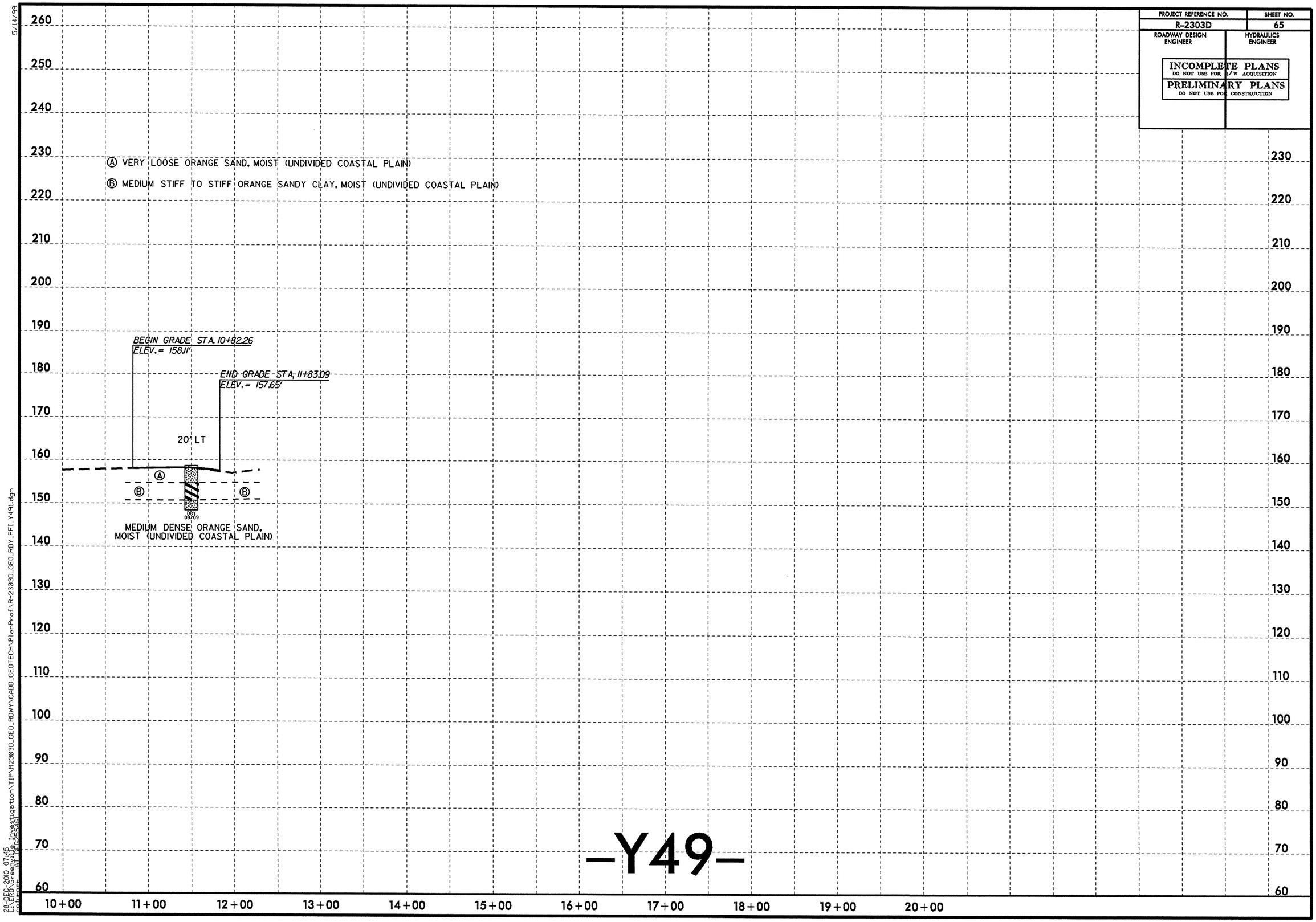
PROJECT REFERENCE NO.
R-2303D
SHEET NO.
65
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Ⓐ VERY LOOSE ORANGE SAND, MOIST (UNDIVIDED COASTAL PLAIN)
Ⓑ MEDIUM STIFF TO STIFF ORANGE SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)
BEGIN GRADE STA. 10+82.26
ELEV. = 158.11'
END GRADE STA. 11+83.09
ELEV. = 157.65'
20' LT
Ⓐ
Ⓑ
Ⓑ
DRT 09/09
MEDIUM DENSE ORANGE SAND, MOIST (UNDIVIDED COASTAL PLAIN)
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
10+00
11+00
12+00
13+00
14+00
15+00
16+00
17+00
18+00
19+00
20+00
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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	66
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

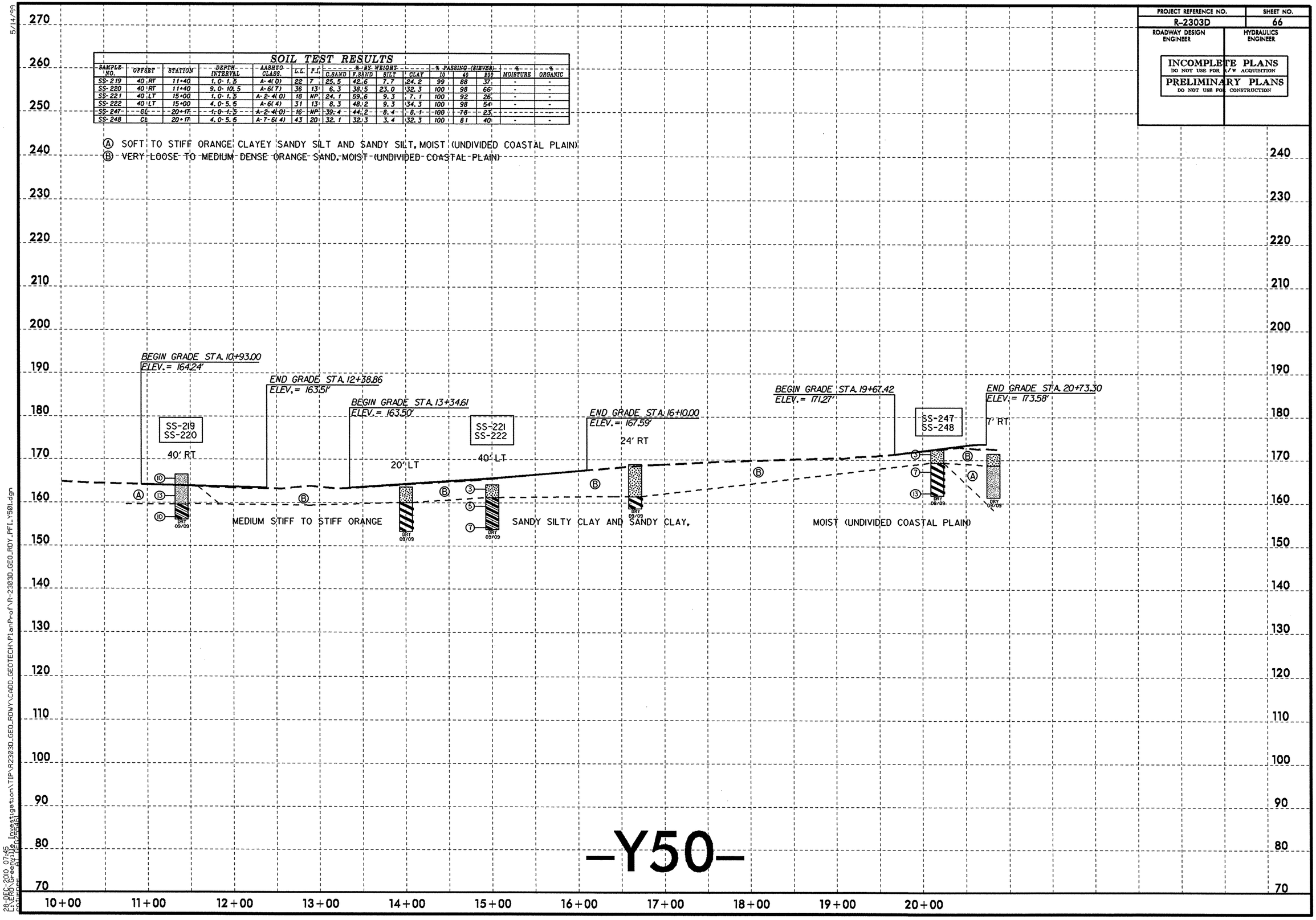
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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-219	40' RT	11+40	1.0-1.5	A-4(0)	22	7	25.5	42.6	7.7	24.2	99	88	37	-	-
SS-220	40' RT	11+40	9.0-10.5	A-6(7)	36	13	6.3	38.5	23.0	32.3	100	98	66	-	-
SS-221	40' LT	15+00	1.0-1.5	A-2-4(0)	18	NP	24.1	59.6	9.3	7.1	100	92	26	-	-
SS-222	40' LT	15+00	4.0-5.5	A-6(4)	31	13	8.3	48.2	9.3	34.3	100	98	54	-	-
SS-247	6' LT	20+17	1.0-1.5	A-2-4(0)	16	NP	39.4	44.2	8.4	8.1	100	78	23	-	-
SS-248	6' LT	20+17	4.0-5.5	A-7-6(4)	43	20	32.1	32.3	3.4	32.3	100	81	40	-	-

Ⓐ SOFT TO STIFF ORANGE CLAYEY SANDY SILT AND SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)
Ⓑ VERY LOOSE TO MEDIUM DENSE ORANGE SAND, MOIST (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	67
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

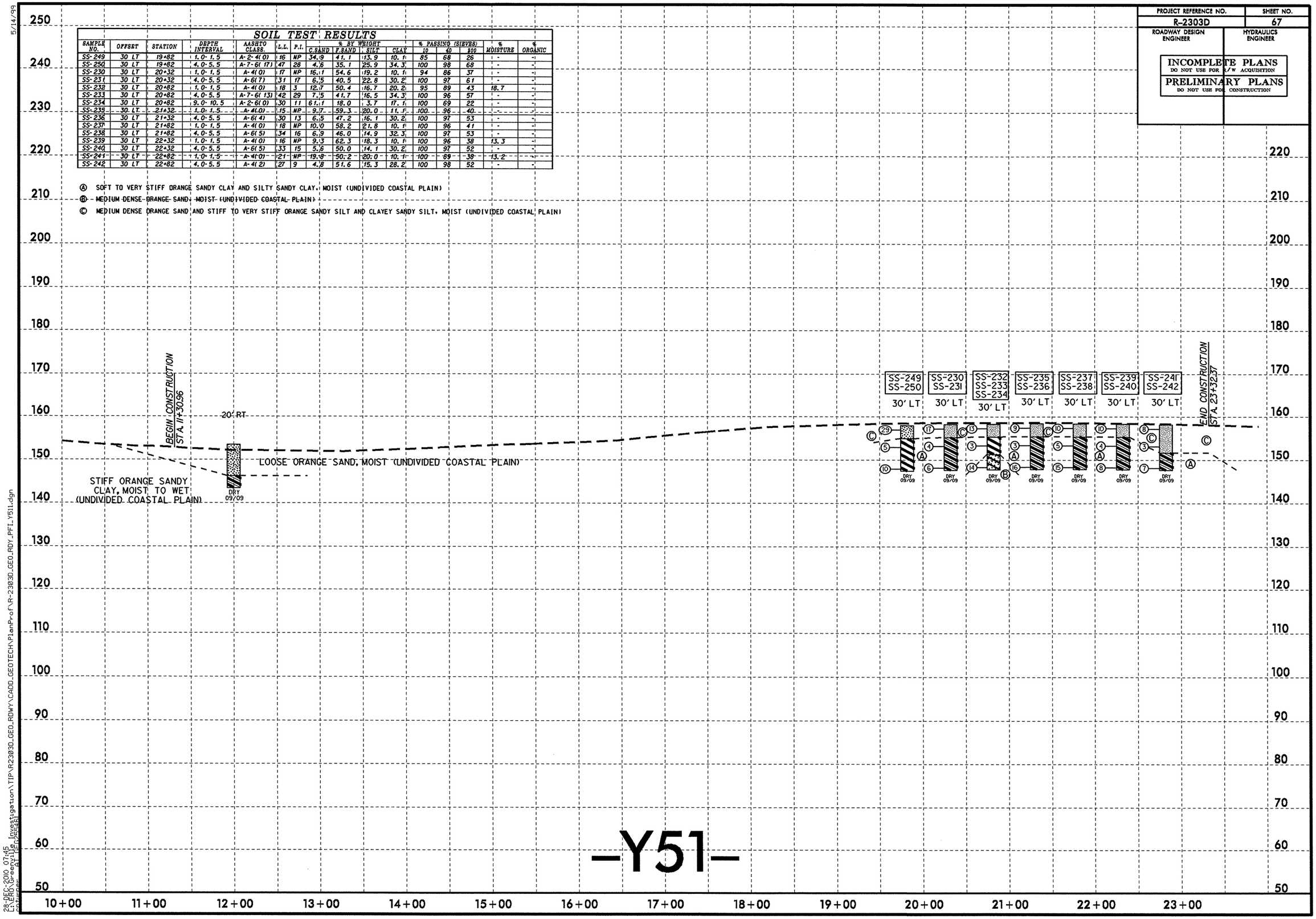
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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-249	30 LT	19+82	1.0- 1.5	A-2-4(0)	16	NP	34.9	41.1	13.9	10.1	85	68	26	-	-
SS-250	30 LT	19+82	4.0- 5.5	A-7-6(17)	47	28	4.6	35.1	25.9	34.3	100	98	68	-	-
SS-230	30 LT	20+32	1.0- 1.5	A-4(0)	17	NP	16.1	54.6	19.2	10.1	94	86	37	-	-
SS-231	30 LT	20+32	4.0- 5.5	A-6(7)	31	17	6.5	40.5	22.8	30.2	100	97	61	-	-
SS-232	30 LT	20+82	1.0- 1.5	A-4(0)	18	3	12.7	50.4	16.7	20.2	95	89	43	18.7	-
SS-233	30 LT	20+82	4.0- 5.5	A-7-6(13)	42	29	7.5	41.7	16.5	34.3	100	96	57	-	-
SS-234	30 LT	20+82	9.0- 10.5	A-2-6(0)	30	11	61.1	18.0	3.7	17.1	100	69	22	-	-
SS-235	30 LT	21+32	1.0- 1.5	A-4(0)	15	NP	9.7	59.3	20.0	11.1	100	96	40	-	-
SS-236	30 LT	21+32	4.0- 5.5	A-6(4)	30	13	6.5	47.2	16.1	30.2	100	97	53	-	-
SS-237	30 LT	21+82	1.0- 1.5	A-4(0)	18	NP	10.0	58.2	21.8	10.1	100	96	41	-	-
SS-238	30 LT	21+82	4.0- 5.5	A-6(5)	34	16	6.9	46.0	14.9	32.3	100	97	53	-	-
SS-239	30 LT	22+32	1.0- 1.5	A-4(0)	16	NP	9.3	62.3	18.3	10.1	100	96	38	13.3	-
SS-240	30 LT	22+32	4.0- 5.5	A-6(5)	33	15	5.6	50.0	14.1	30.2	100	97	52	-	-
SS-241	30 LT	22+82	1.0- 1.5	A-4(0)	21	NP	19.8	50.2	20.0	10.1	100	89	38	13.2	-
SS-242	30 LT	22+82	4.0- 5.5	A-4(2)	27	9	4.8	51.6	15.3	28.2	100	98	52	-	-

Ⓐ SOFT TO VERY STIFF ORANGE SANDY CLAY AND SILTY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)
~~Ⓑ MEDIUM DENSE ORANGE SAND, MOIST (UNDIVIDED COASTAL PLAIN)~~
Ⓒ MEDIUM DENSE ORANGE SAND AND STIFF TO VERY STIFF ORANGE SANDY SILT AND CLAYEY SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	68
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

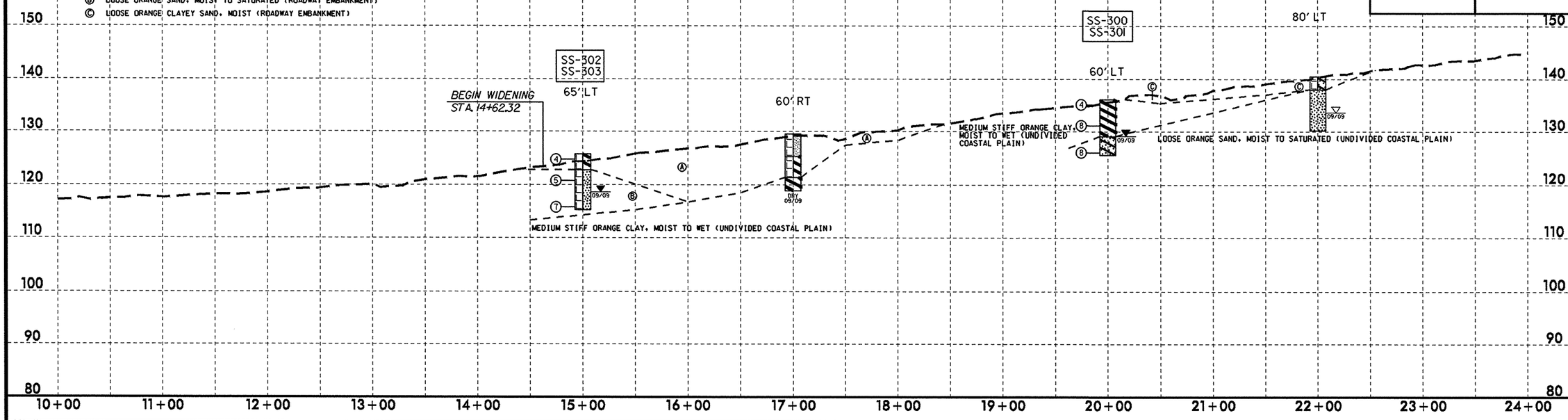
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

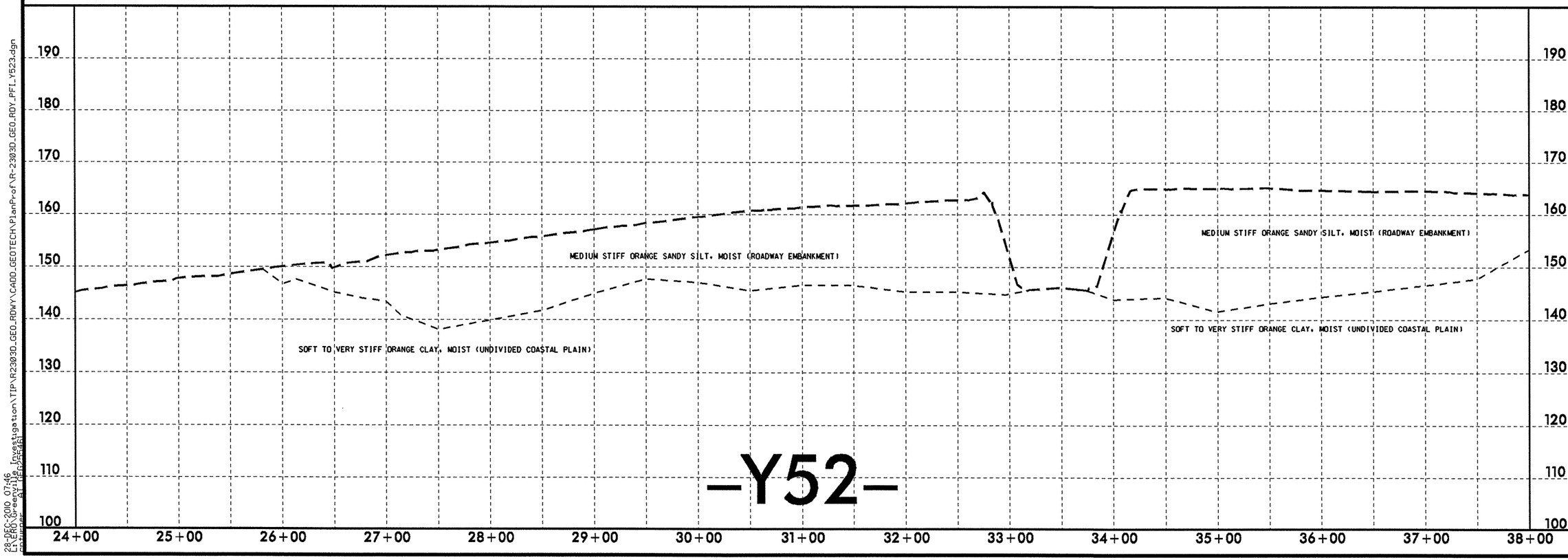
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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-302	65 LT	15+00	1.0- 1.5	A-7-6(6)	42	26	30.5	28.7	12.6	28.3	97	82	42	-	-
SS-303	65 LT	15+00	4.0- 5.5	A-2-4(0)	26	NP	62.5	23.0	2.4	12.1	97	72	15	-	-
SS-300	60 LT	20+00	1.0- 1.5	A-7-5(76)	103	63	1.0	1.8	18.5	78.7	100	99	98	-	-
SS-301	60 LT	20+00	9.0- 10.5	A-2-6(0)	36	13	82.7	8.1	1.1	8.0	98	37	10	-	-

Ⓐ MEDIUM STIFF ORANGE SANDY CLAY AND SANDY SILT, MOIST (ROADWAY EMBANKMENT)
Ⓑ LOOSE ORANGE SAND, MOIST TO SATURATED (ROADWAY EMBANKMENT)
Ⓒ LOOSE ORANGE CLAYEY SAND, MOIST (ROADWAY EMBANKMENT)





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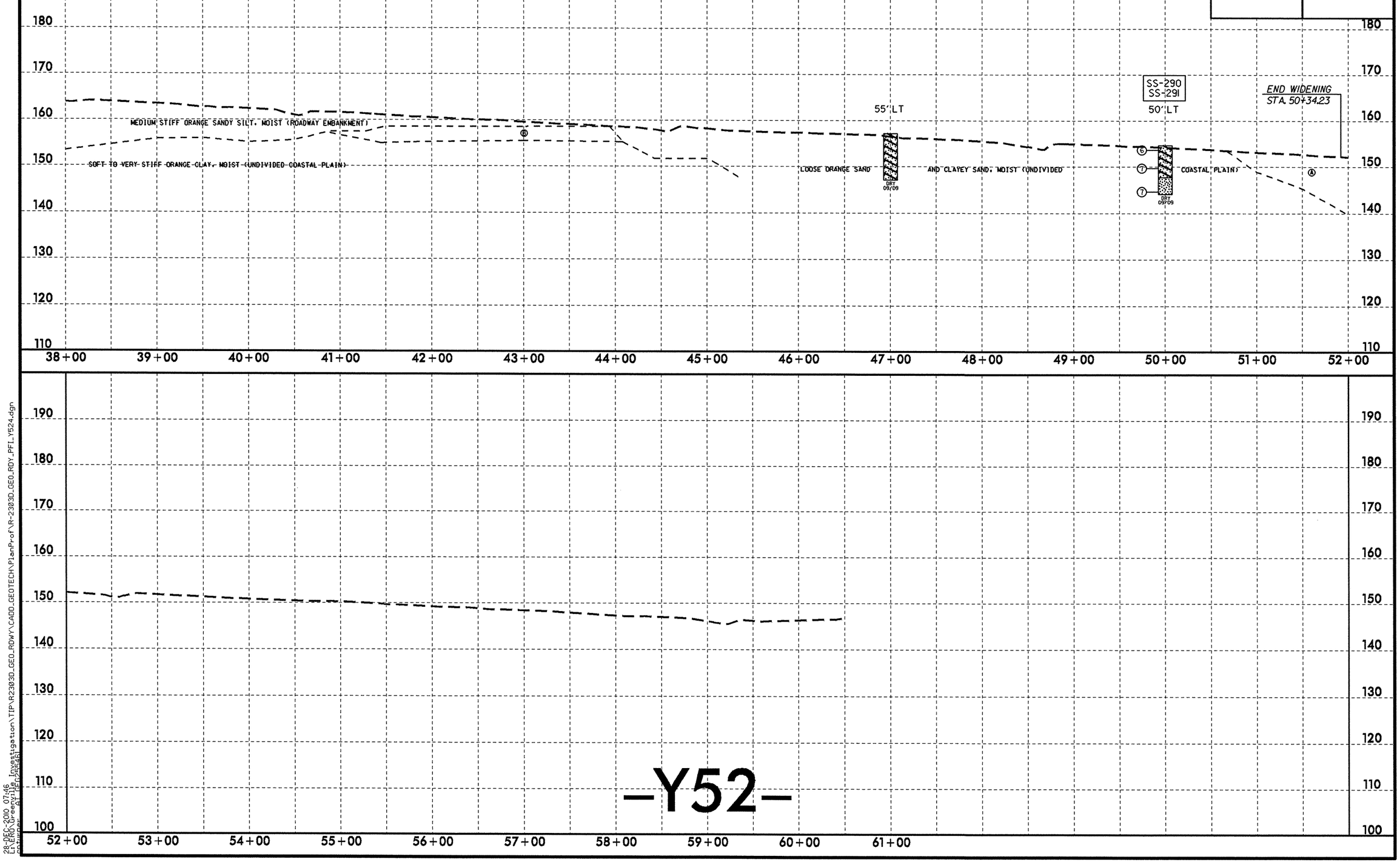
PROJECT REFERENCE NO.	SHEET NO.
R-2303D	69
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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-290	50 LT	50+00	1.0- 1.5	A-2-6(0)	27	12	29.2	41.4	6.2	23.2	97	81	31	-	-
SS-291	50 LT	50+00	9.0- 10.5	A-2-4(0)	27	6	75.1	12.0	1.8	11.1	100	57	13	-	-

Ⓐ MEDIUM STIFF ORANGE SANDY SILT, MOIST (ROADWAY EMBANKMENT)
Ⓑ - MEDIUM-DENSE ORANGE SAND AND STIFF TO VERY STIFF ORANGE SANDY SILT AND CLAYEY SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-2303D	70
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

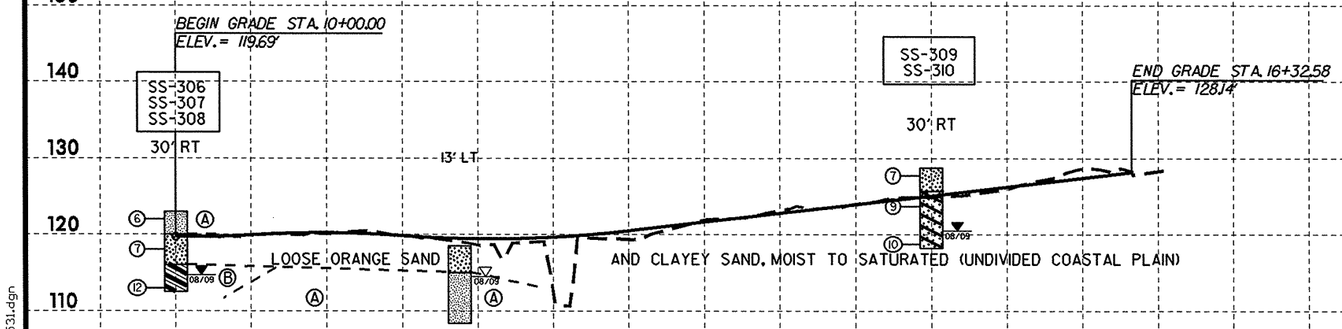
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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-306	30 RT	10+00	1.0- 1.5	A-4(0)	28	9	27.9	36.5	13.4	22.2	98	82	39	-	-
SS-307	30 RT	10+00	4.0- 5.5	A-2-4(0)	16	NP	43.0	39.4	8.6	9.1	96	68	20	-	-
SS-308	30 RT	10+00	9.0- 10.5	A-6(4)	38	15	0.9	57.8	13.0	28.3	100	100	47	-	-
SS-309	30 RT	15+00	1.0- 1.5	A-2-4(0)	17	2	49.0	30.0	17.9	13.1	99	70	23	-	-
SS-310	30 RT	15+00	4.0- 5.5	A-2-6(1)	37	15	22.9	44.3	15.5	27.4	100	98	34	-	-

Ⓐ MEDIUM STIFF ORANGE CLAYEY SANDY SILT, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

Ⓑ STIFF ORANGE SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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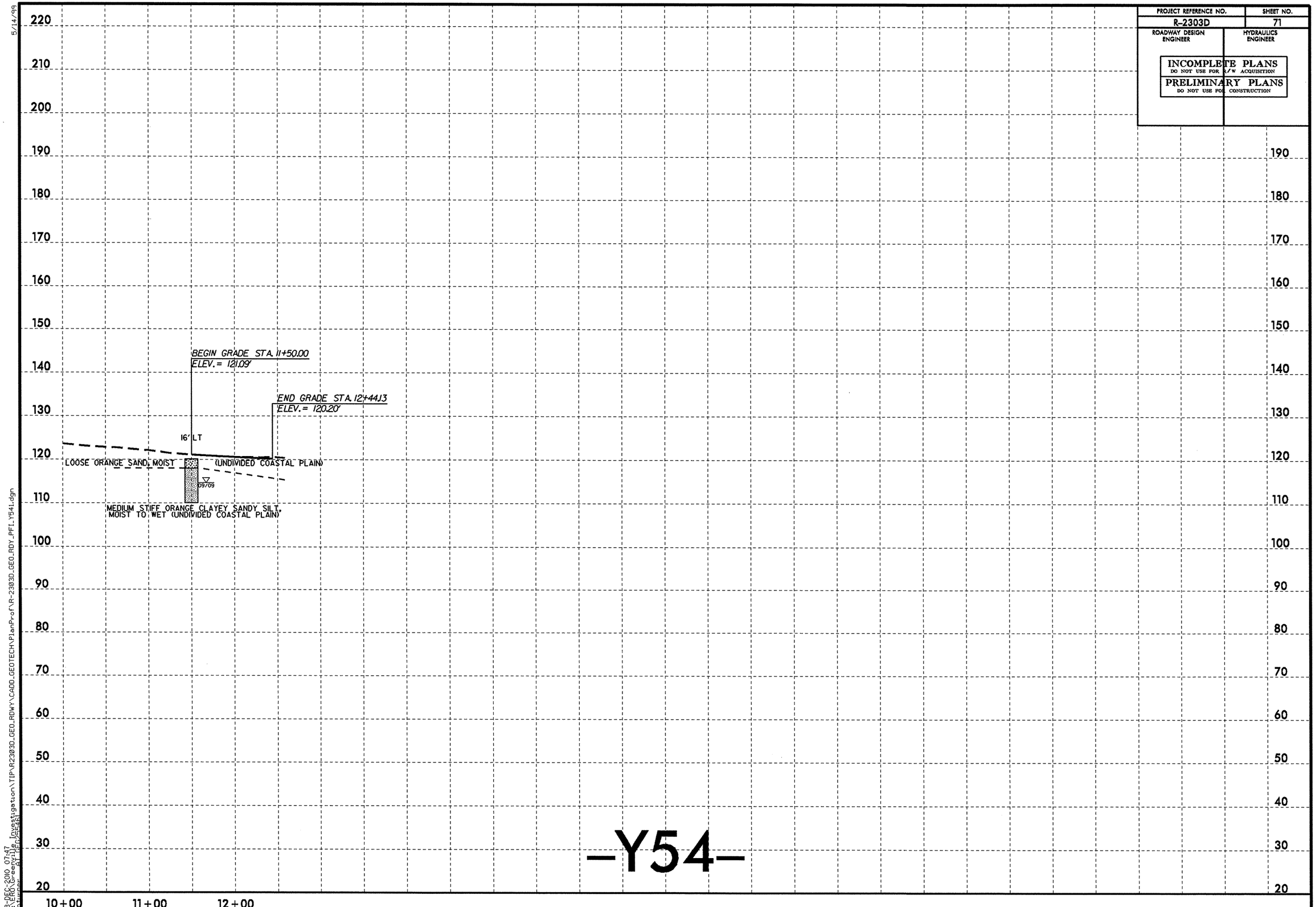
Chris Gilmore/Chris Gilmore



PROJECT REFERENCE NO.
R-2303D
SHEET NO.
71
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
BEGIN GRADE STA. 11+50.00
ELEV. = 121.09'
END GRADE STA. 12+44.13
ELEV. = 120.20'
16' LT
LOOSE ORANGE SAND, MOIST
(UNDIVIDED COASTAL PLAIN)
09/09
MEDIUM STIFF ORANGE CLAYEY SANDY SILT, MOIST TO WET (UNDIVIDED COASTAL PLAIN)
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10+00
11+00
12+00
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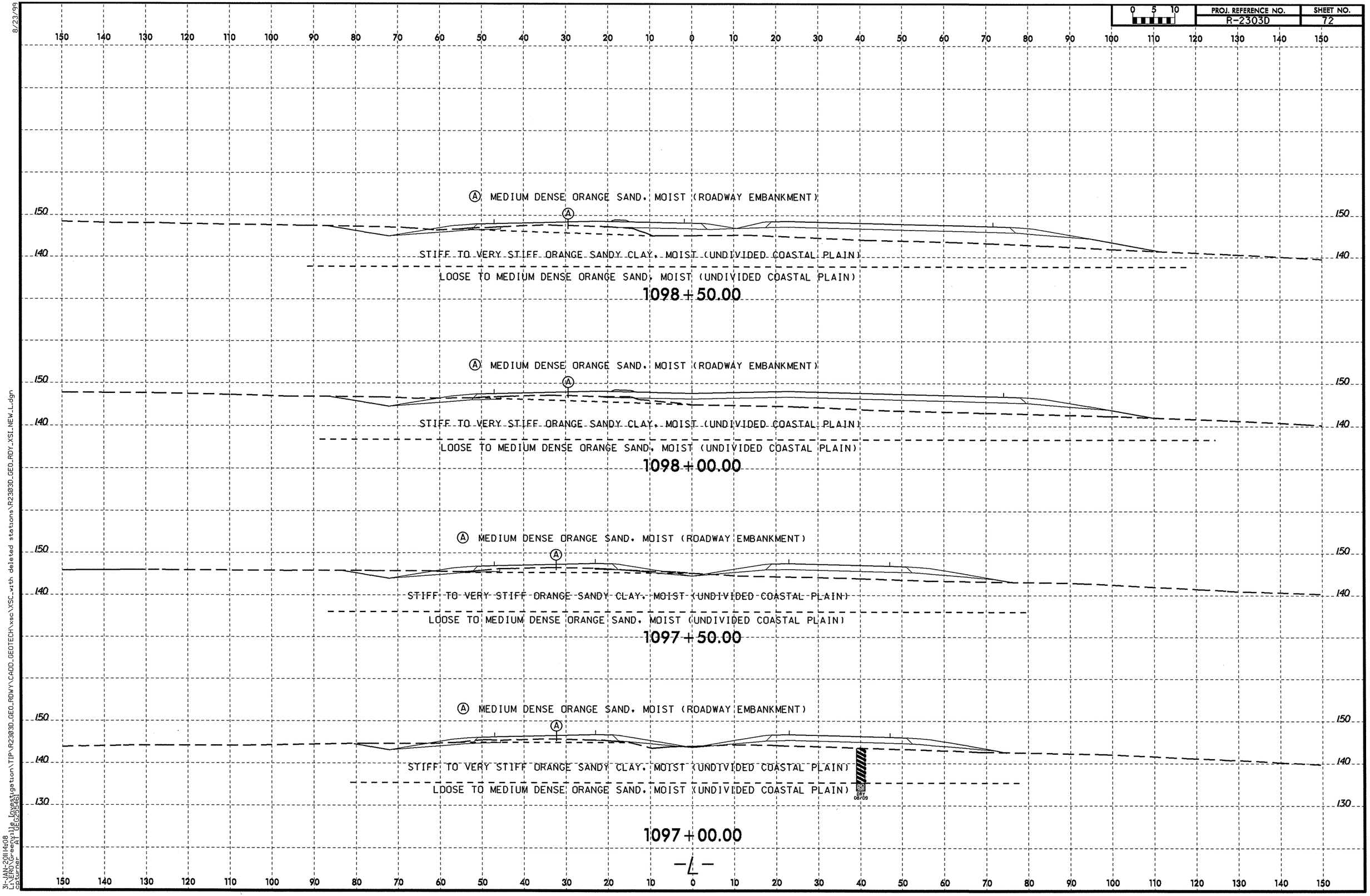

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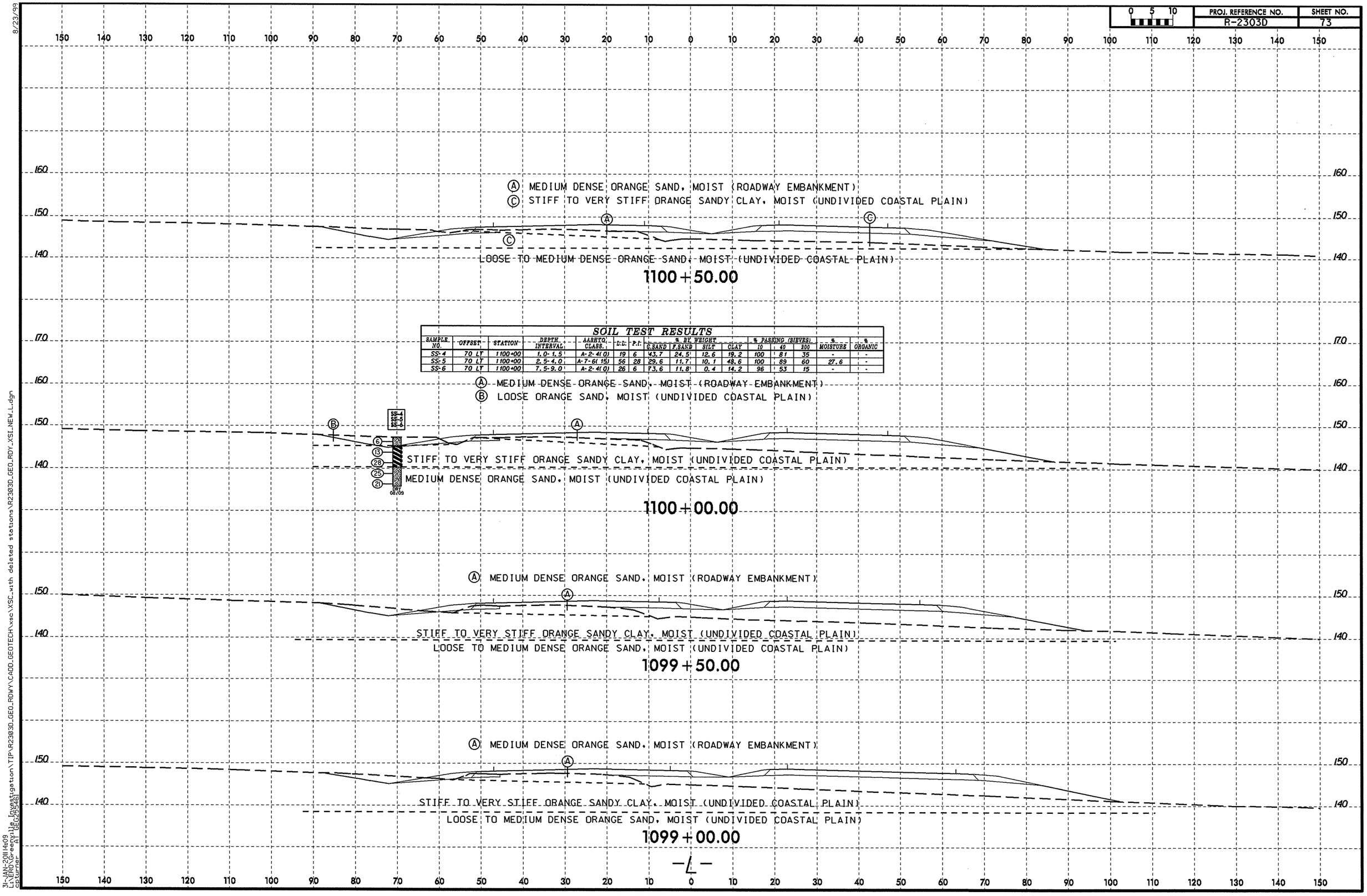

SOIL TEST RESULTS

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-4	70 LT	1100+00	1.0-1.5'	A-2-4(0)	19	6	43.7	24.5	12.6	19.2	100	81	35	-	-
SS-5	70 LT	1100+00	2.5-4.0'	A-7-6(15)	56	28	29.6	11.7	10.1	48.6	100	89	60	27.6	-
SS-6	70 LT	1100+00	7.5-9.0'	A-2-4(0)	26	6	73.6	11.8	0.4	14.2	96	53	15	-	-

8/23/99
31-JAN-2011 4:09
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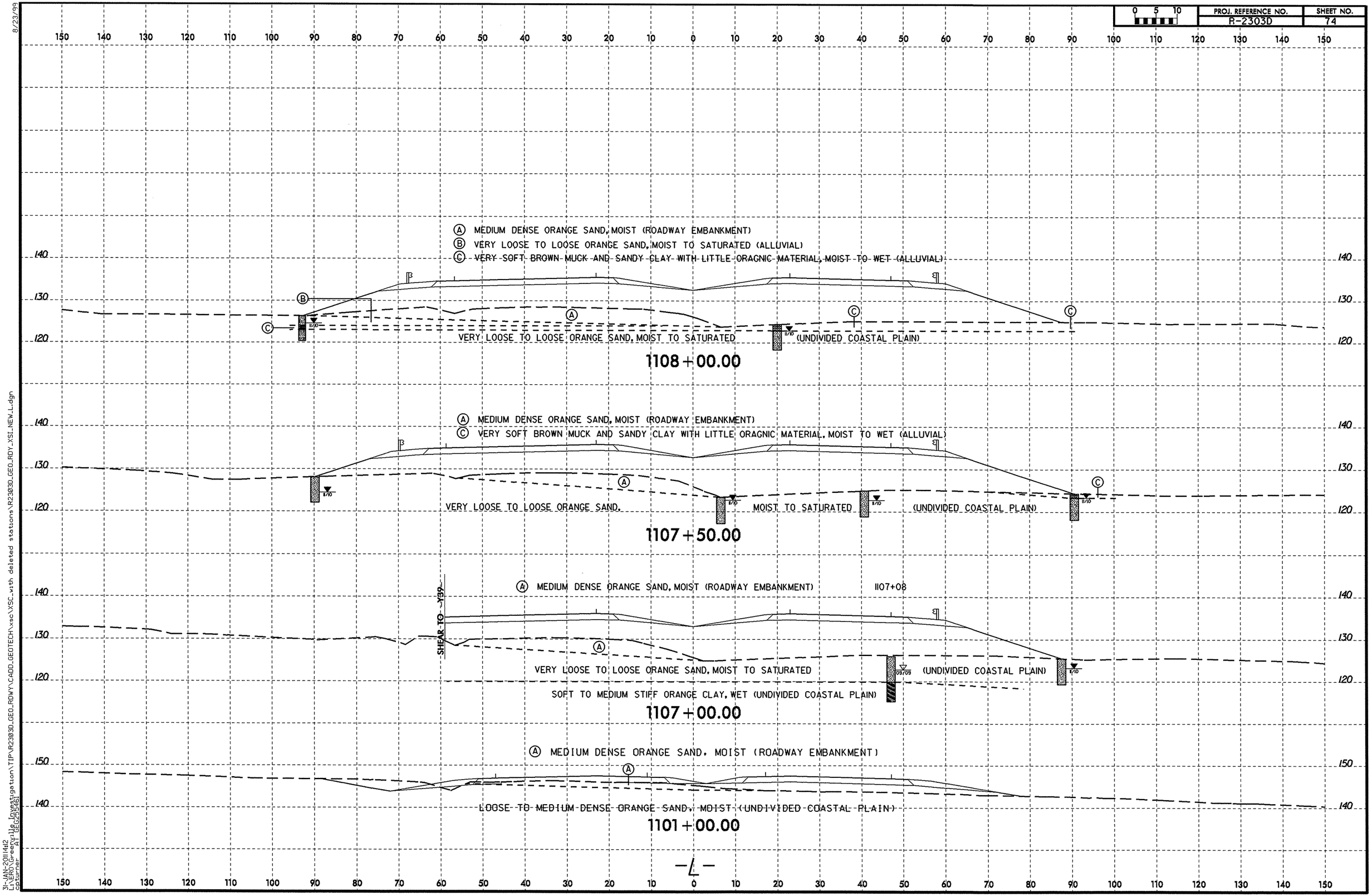
cpsurner
AT GEOPSAG1



8/23/99
31-JAN-2011 14:12
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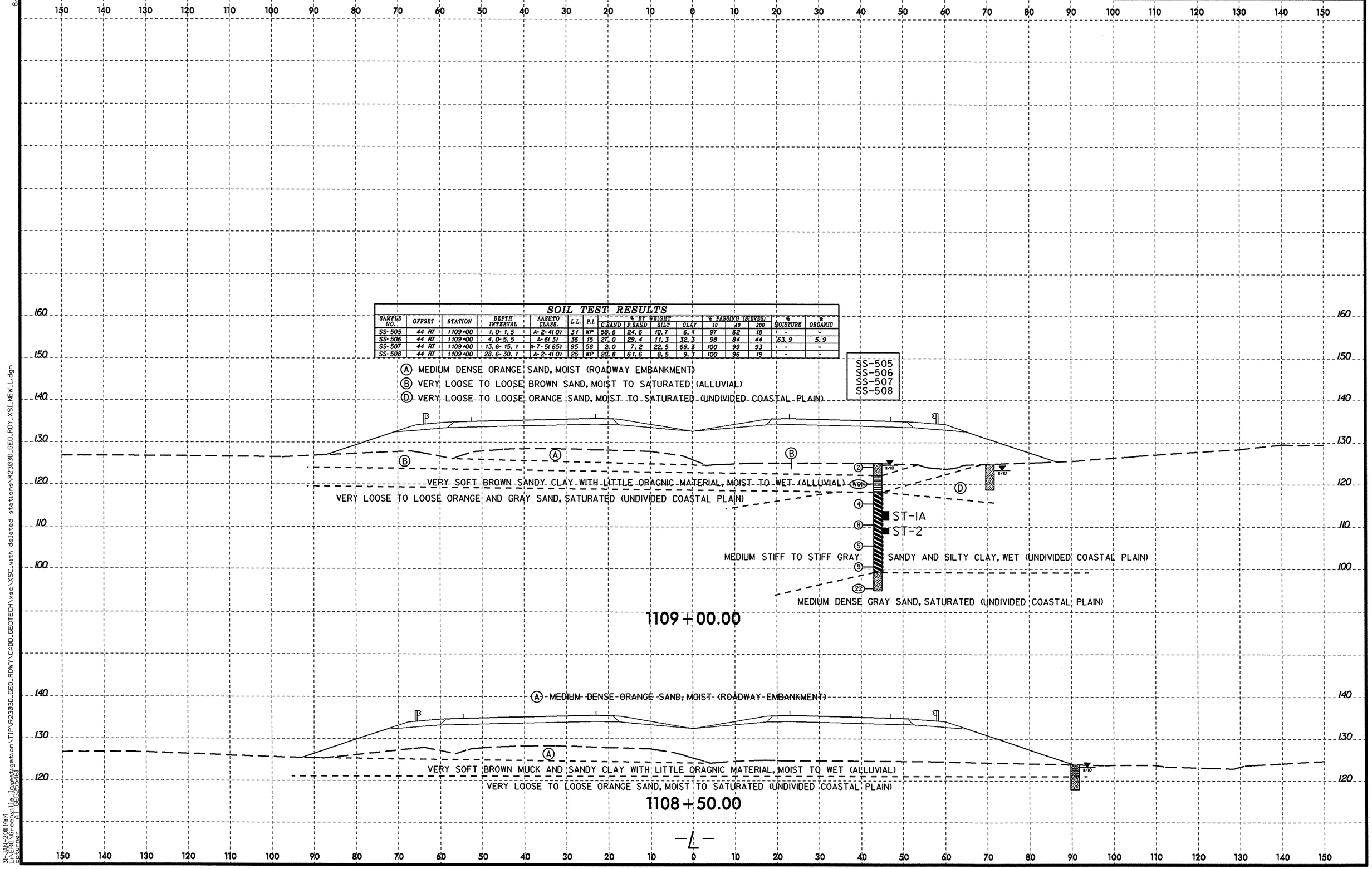
gsturner

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-505	44 RT	1109+00	1.0-1.5	A-2-4(0)	31	NP	58.6	24.6	10.7	6.1	97	62	18	-	-
SS-506	44 RT	1109+00	4.0-5.5	A-6(3)	36	15	27.0	29.4	11.3	32.3	98	84	44	63.9	5.9
SS-507	44 RT	1109+00	13.6-15.1	A-7-5(65)	95	58	2.0	7.2	22.5	68.3	100	99	93	-	-
SS-508	44 RT	1109+00	28.6-30.1	A-2-4(0)	25	NP	20.8	61.6	8.5	9.1	100	96	19	-	-



8/23/99
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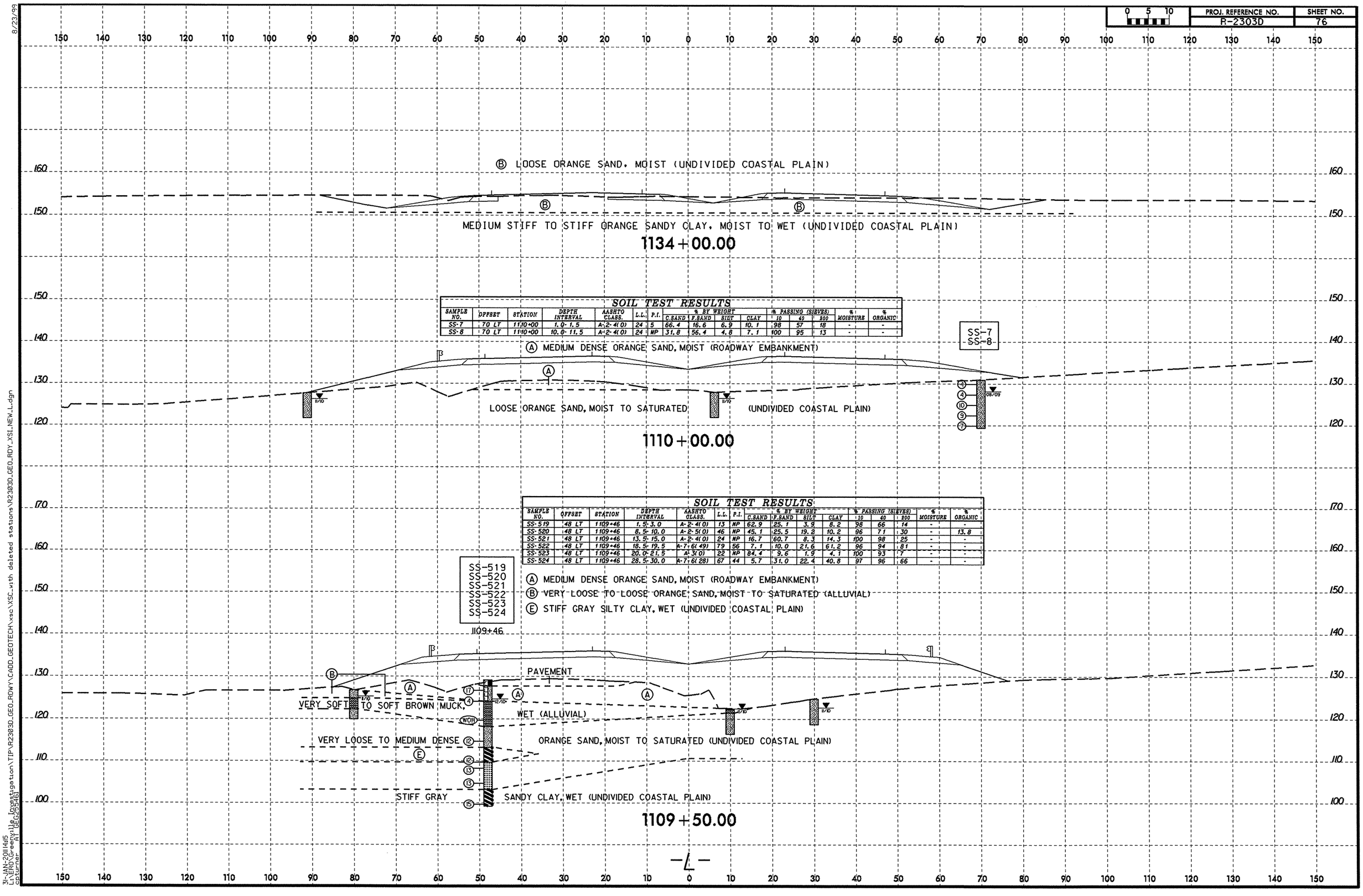
cpturner AT GEO295461

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	76

0 5 10



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-7	70 LT	1110+00	1.0- 1.5	A-2-4(0)	24	5	66.4	16.6	6.9	10.1	98	57	18	-	-
SS-8	70 LT	1110+00	10.0- 11.5	A-2-4(0)	24	NP	31.8	56.4	4.8	7.1	100	95	13	-	-

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-519	48 LT	1109+46	1.5- 3.0	A-2-4(0)	13	NP	62.9	25.1	3.9	8.2	98	66	14	-	-
SS-520	48 LT	1109+46	8.5- 10.0	A-2-5(0)	46	NP	45.1	25.5	19.2	10.2	96	71	30	-	13.8
SS-521	48 LT	1109+46	13.5- 15.0	A-2-4(0)	24	NP	16.7	60.7	8.3	14.3	100	98	25	-	-
SS-522	48 LT	1109+46	18.5- 19.5	A-7-6(49)	79	56	7.1	10.0	21.6	61.2	96	94	81	-	-
SS-523	48 LT	1109+46	20.0- 21.5	A-3(0)	22	NP	84.4	9.6	1.9	4.1	100	93	7	-	-
SS-524	48 LT	1109+46	28.5- 30.0	A-7-6(28)	67	44	5.7	31.0	22.4	40.8	97	96	66	-	-

8/23/99

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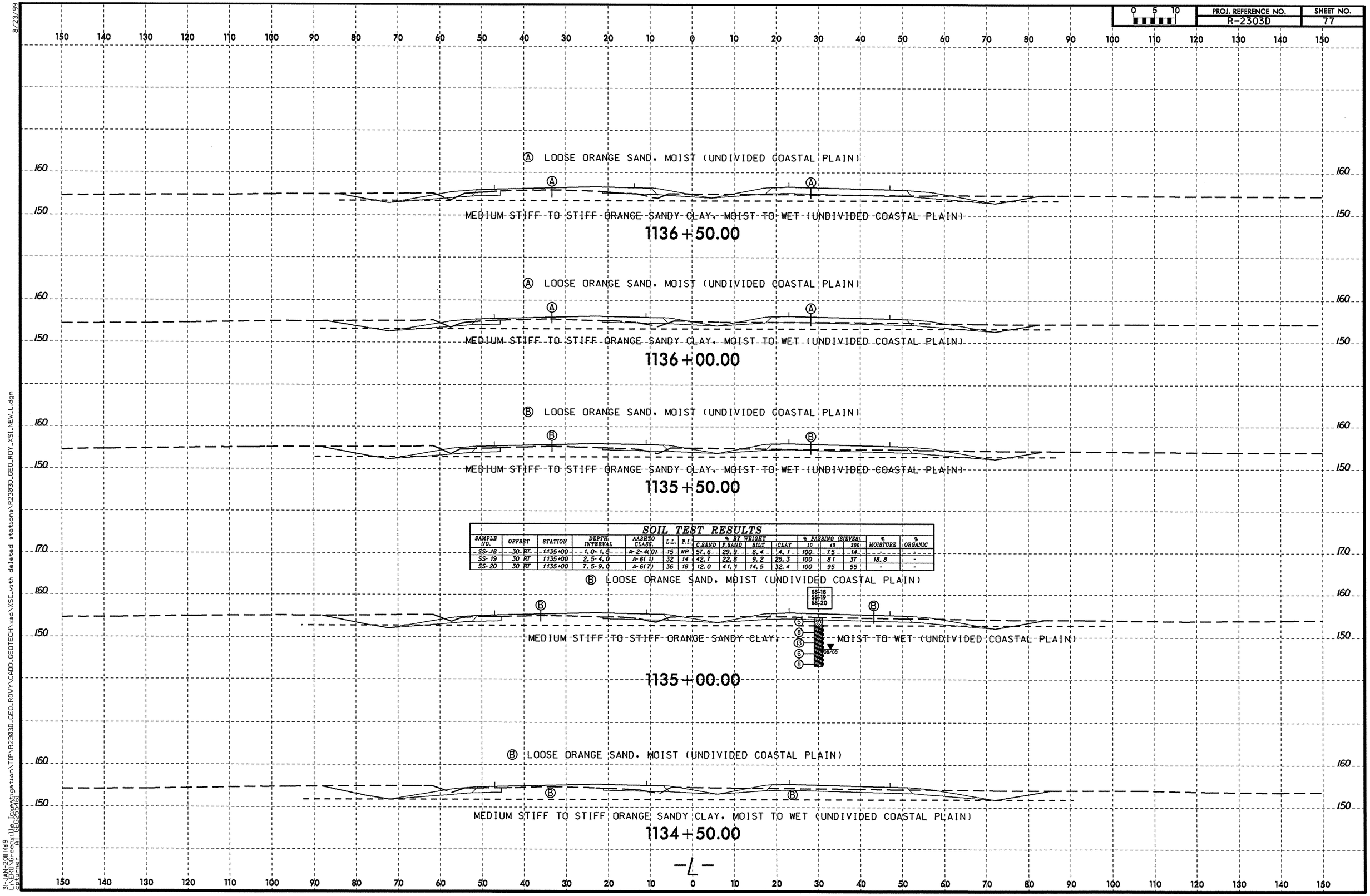
opturner AT GEO25546

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	77

0 5 10



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-18	30 RT	1135+00	1.0-1.5	A-2-4(0)	15	NP	57.6	29.9	8.4	4.1	100	75	14	-	-
SS-19	30 RT	1135+00	2.5-4.0	A-6(1)	32	14	42.7	22.8	9.2	25.3	100	81	37	18.8	-
SS-20	30 RT	1135+00	7.5-9.0	A-6(7)	36	18	12.0	41.1	14.5	32.4	100	95	55	-	-

8/23/99

31-JAN-2011 14:19
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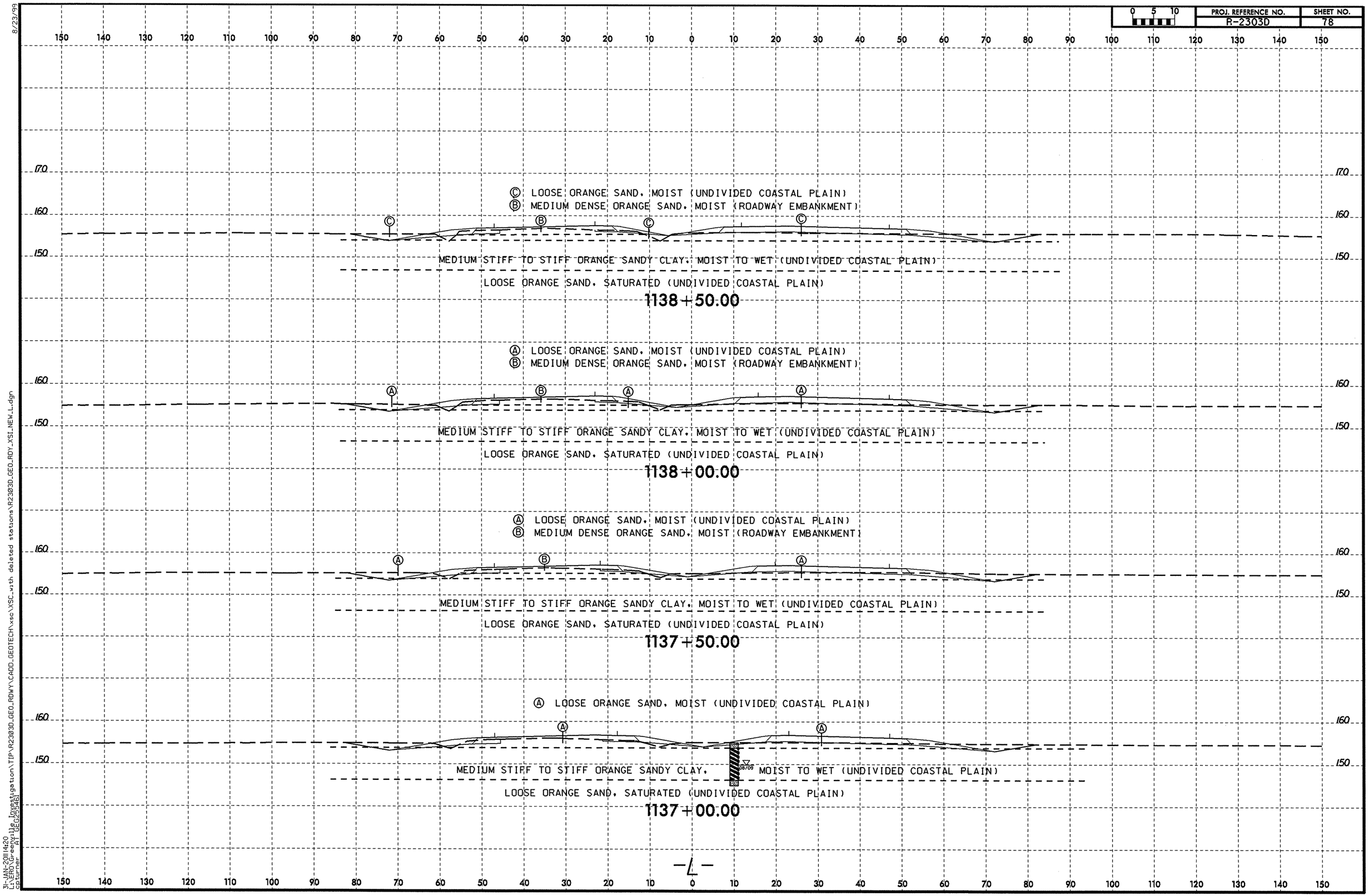
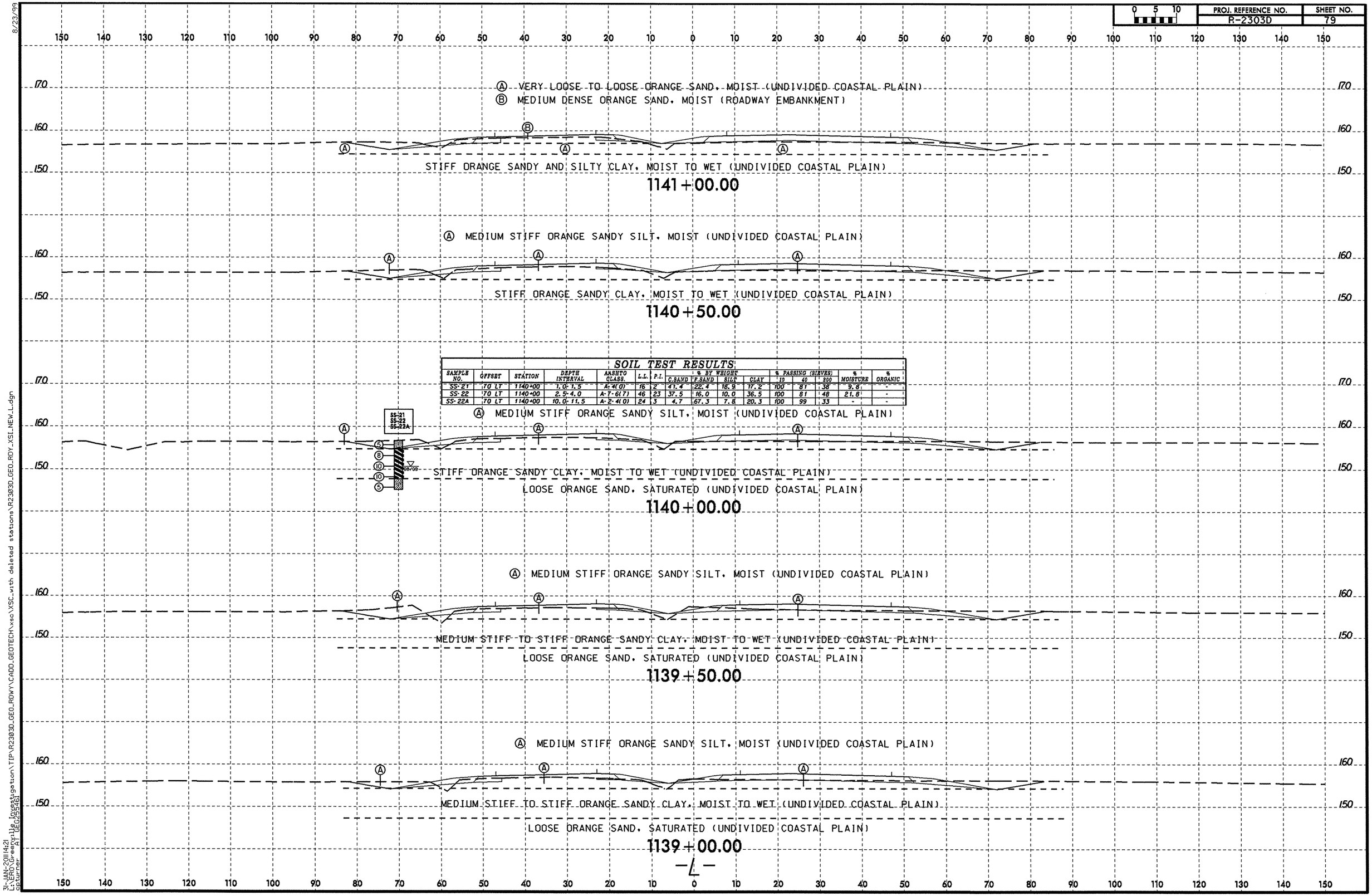
optumer AT GEO25546)

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	78

0 5 10



PROJ. REFERENCE NO.	SHEET NO.
R-2303D	79



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-21	70 LT	1140+00	1.0-1.5	A-4(0)	16	2	41.4	22.4	18.9	17.2	100	81	38	9.8	-
SS-22	70 LT	1140+00	2.5-4.0	A-7-6(7)	46	23	37.5	16.0	10.0	36.5	100	81	48	21.8	-
SS-22A	70 LT	1140+00	10.0-11.5	A-2-4(0)	24	3	4.7	67.3	7.8	20.3	100	99	33	-	-

8/23/99
31-JAN-2011 14:21
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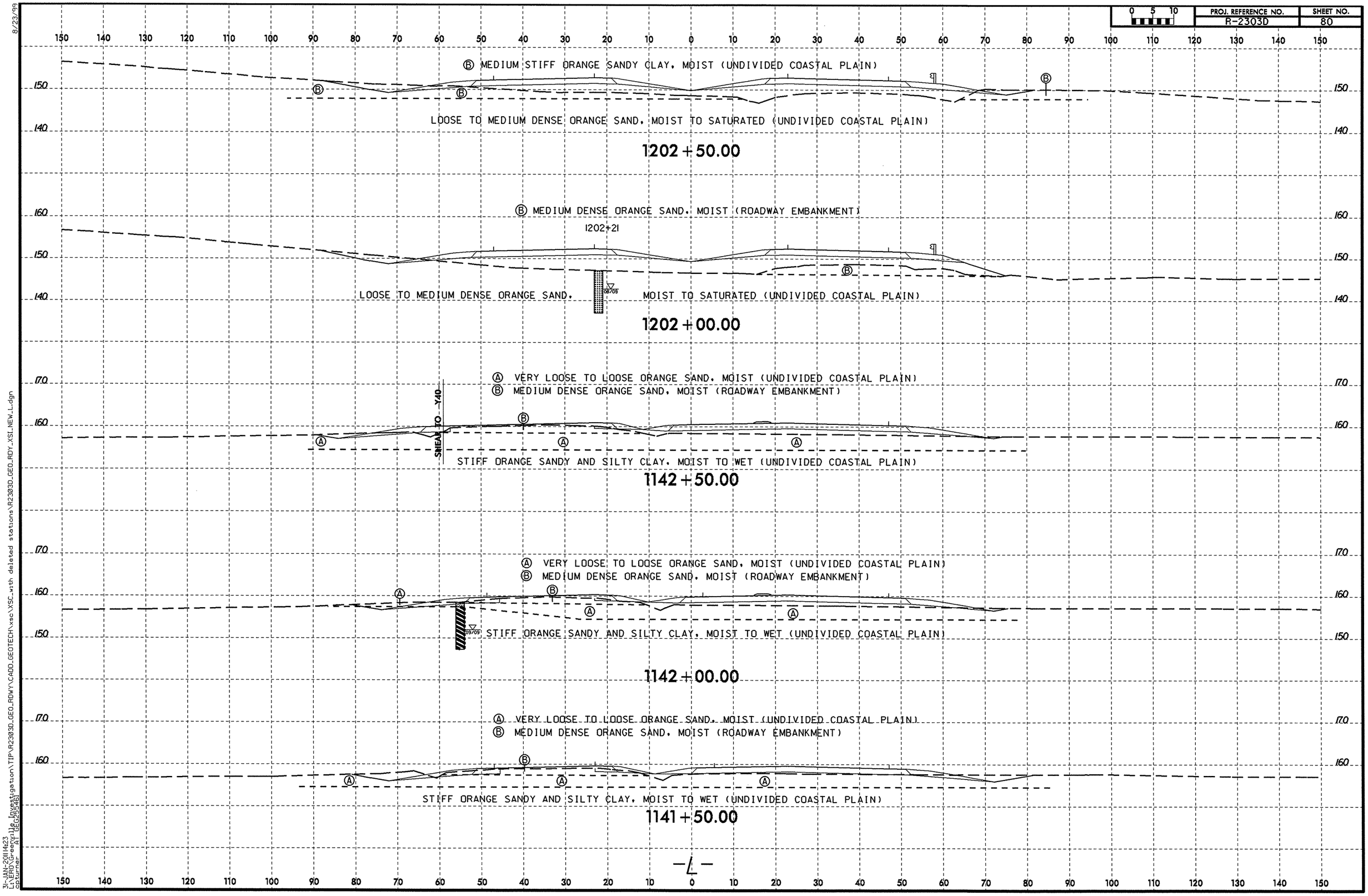
cpturner AT GEG255461



8/23/99
31-JAN-2011 14:23
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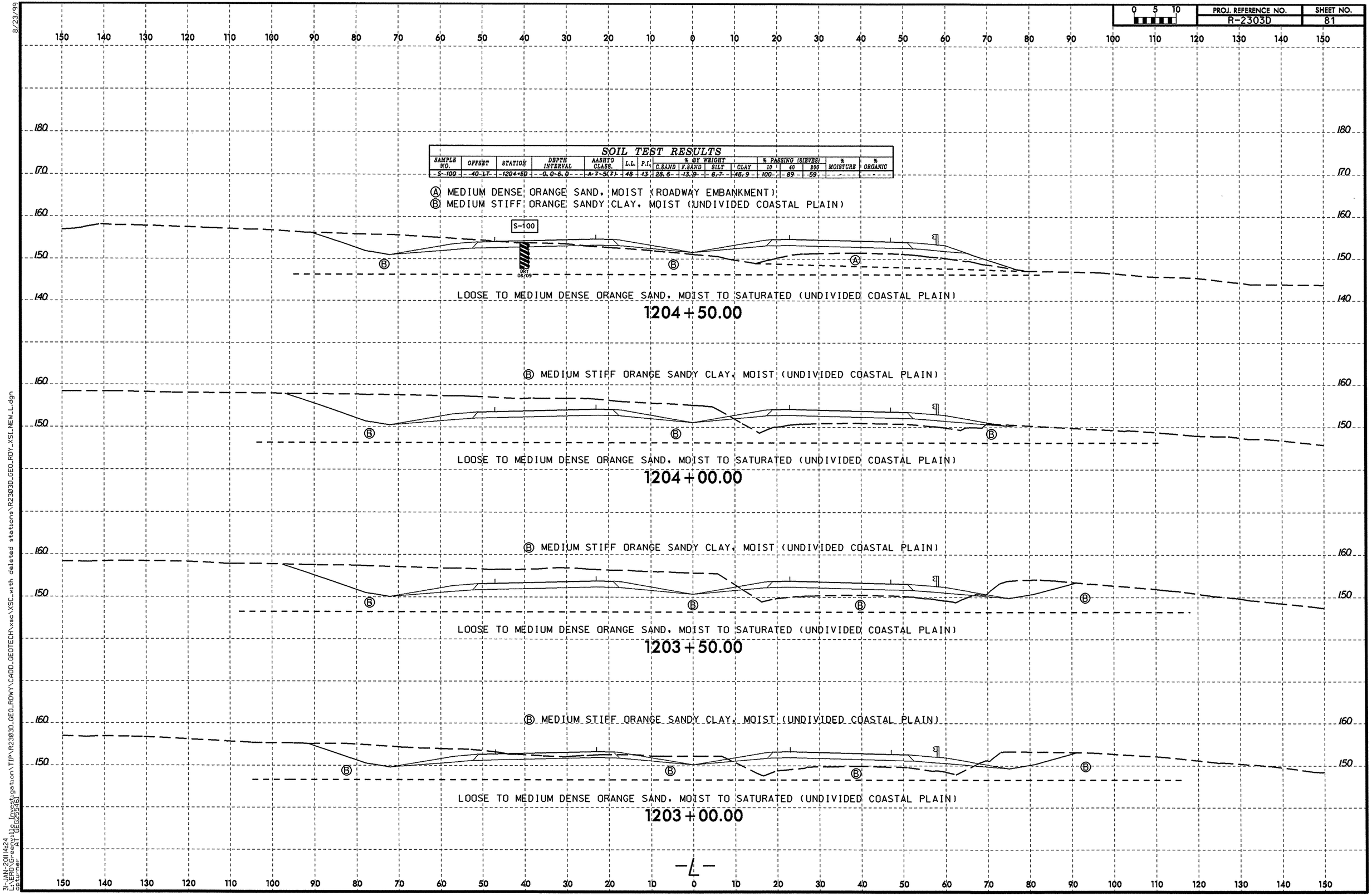
opturner AT GEO25546

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
S-100	40 LT	1204+50	0.0-6.0	A-7-5(7)	48	13	28.5	13.9	8.7	48.9	100	89	59		

Ⓐ MEDIUM DENSE ORANGE SAND, MOIST (ROADWAY EMBANKMENT)
Ⓑ MEDIUM STIFF ORANGE SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)



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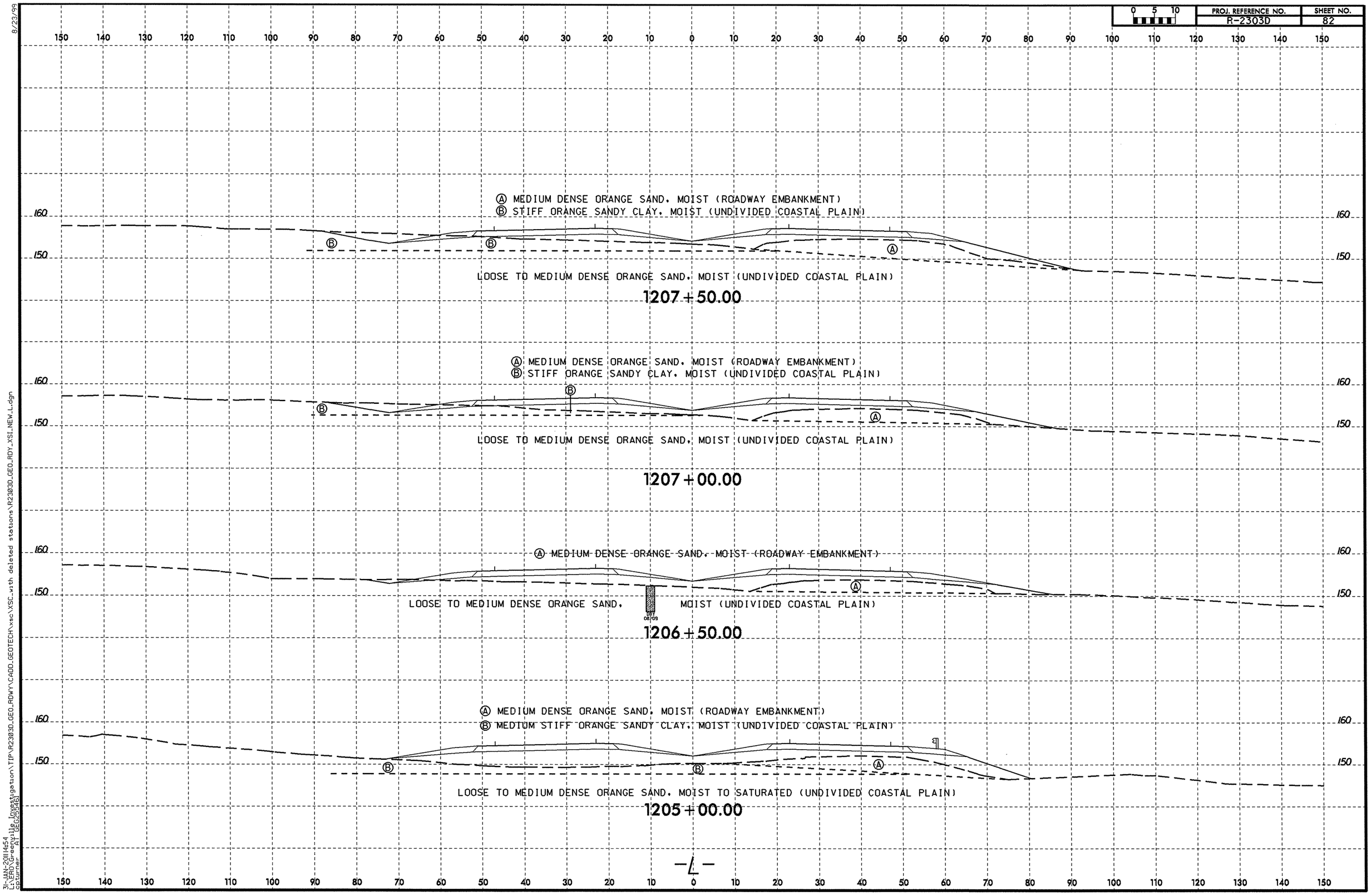
cpturner AT GEO25546

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	82



8/23/99

31-JAN-2011 14:54
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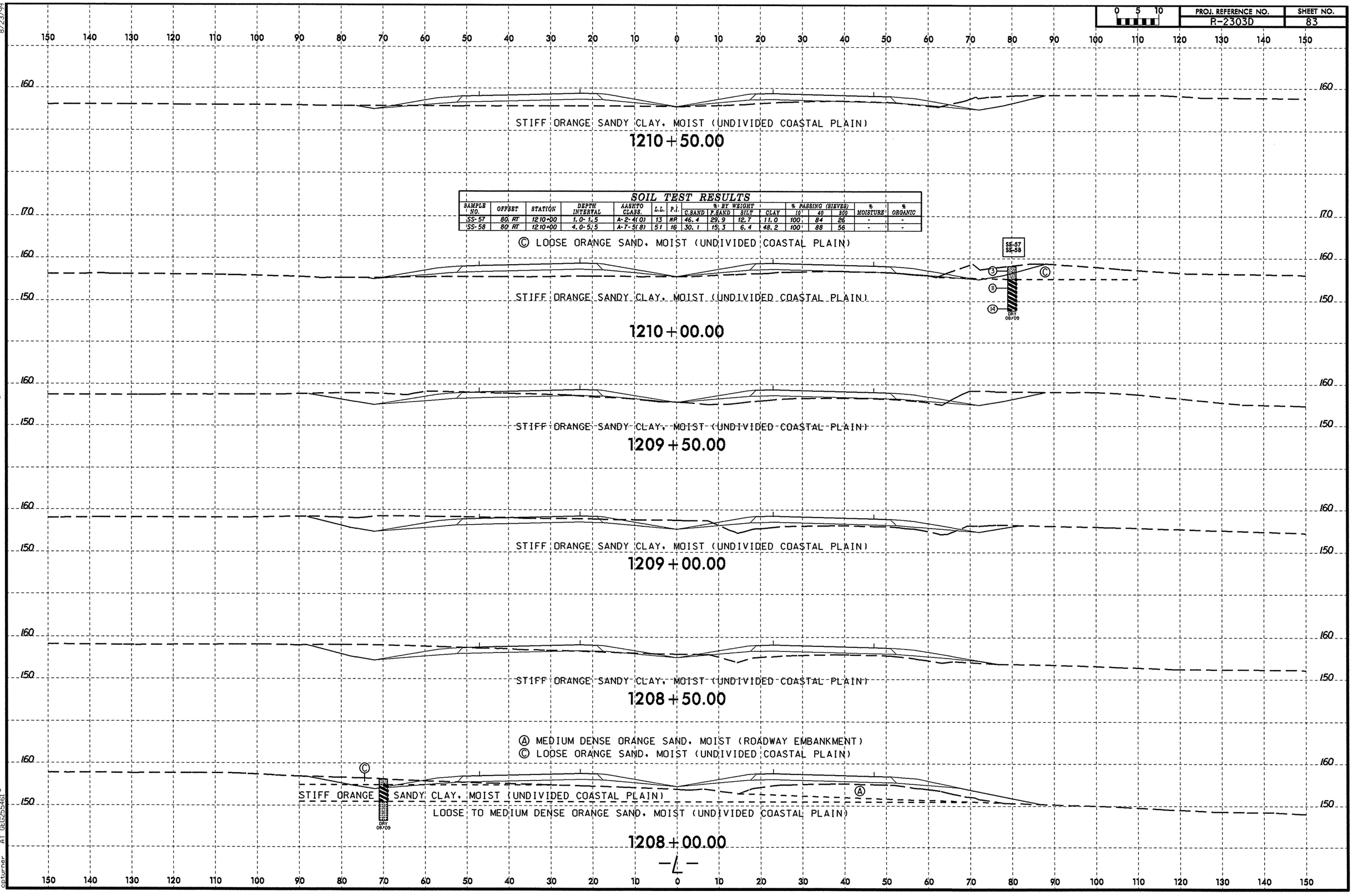
cbturner AT GEO265461

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	83

0 5 10



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-57	80' RT	1210+00	1.0-1.5	A-2-4(0)	13	NP	46.4	29.9	12.7	11.0	100	84	26	-	-
SS-58	80' RT	1210+00	4.0-5.5	A-7-5(8)	51	16	30.1	15.3	6.4	48.2	100	88	56	-	-

8/23/99
31-JAN-2011 14:55
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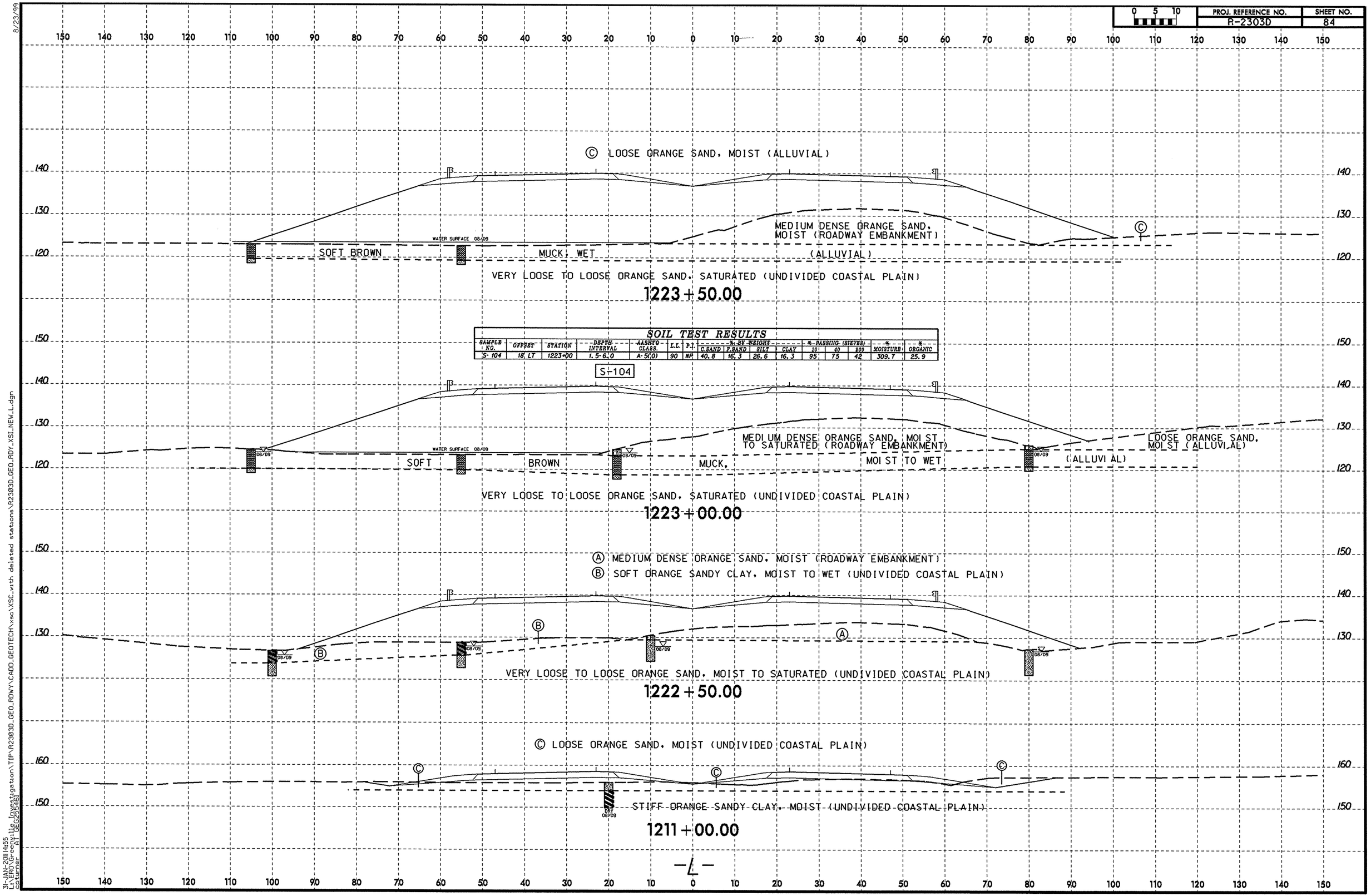
optumer AT GEO295461

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	84



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
S-104	18 LT	1223+00	1.5-6.0	A-5(0)	90	NP	40.8	16.3	26.6	16.3	95	75	42	309.7	25.9

8/23/99

31-JAN-2011 14:55
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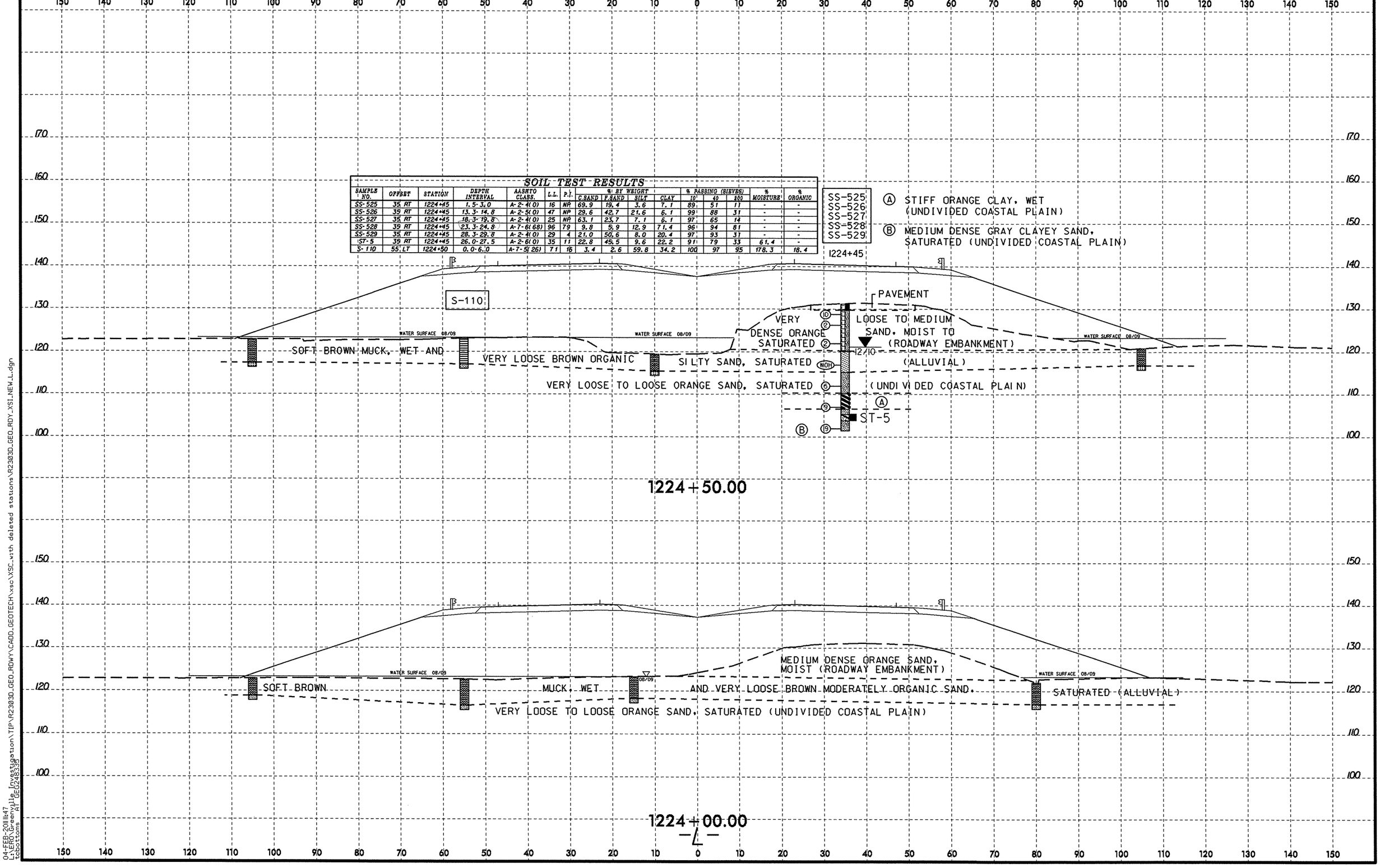
cpturner AT GEG25546I

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	85

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-525	35 RT	1224+45	1.5-3.0	A-2-4(0)	16	NP	69.9	19.4	3.6	7.1	89	51	11	-	-
SS-526	35 RT	1224+45	13.3-14.8	A-2-5(0)	47	NP	29.6	42.7	21.6	6.1	99	88	31	-	-
SS-527	35 RT	1224+45	18.3-19.8	A-2-4(0)	25	NP	63.1	23.7	7.1	6.1	97	65	14	-	-
SS-528	35 RT	1224+45	23.3-24.8	A-7-6(68)	96	79	9.8	5.9	12.9	71.4	96	94	81	-	-
SS-529	35 RT	1224+45	28.3-29.8	A-2-4(0)	29	4	21.0	50.6	8.0	20.4	97	93	31	-	-
ST-5	35 RT	1224+45	26.0-27.5	A-2-6(0)	35	11	22.8	45.5	9.6	22.2	91	79	33	61.4	-
S-110	55 LT	1224+50	0.0-6.0	A-7-5(26)	71	16	3.4	2.6	59.8	34.2	100	97	95	178.3	18.4



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04-FEB-2011 11:47
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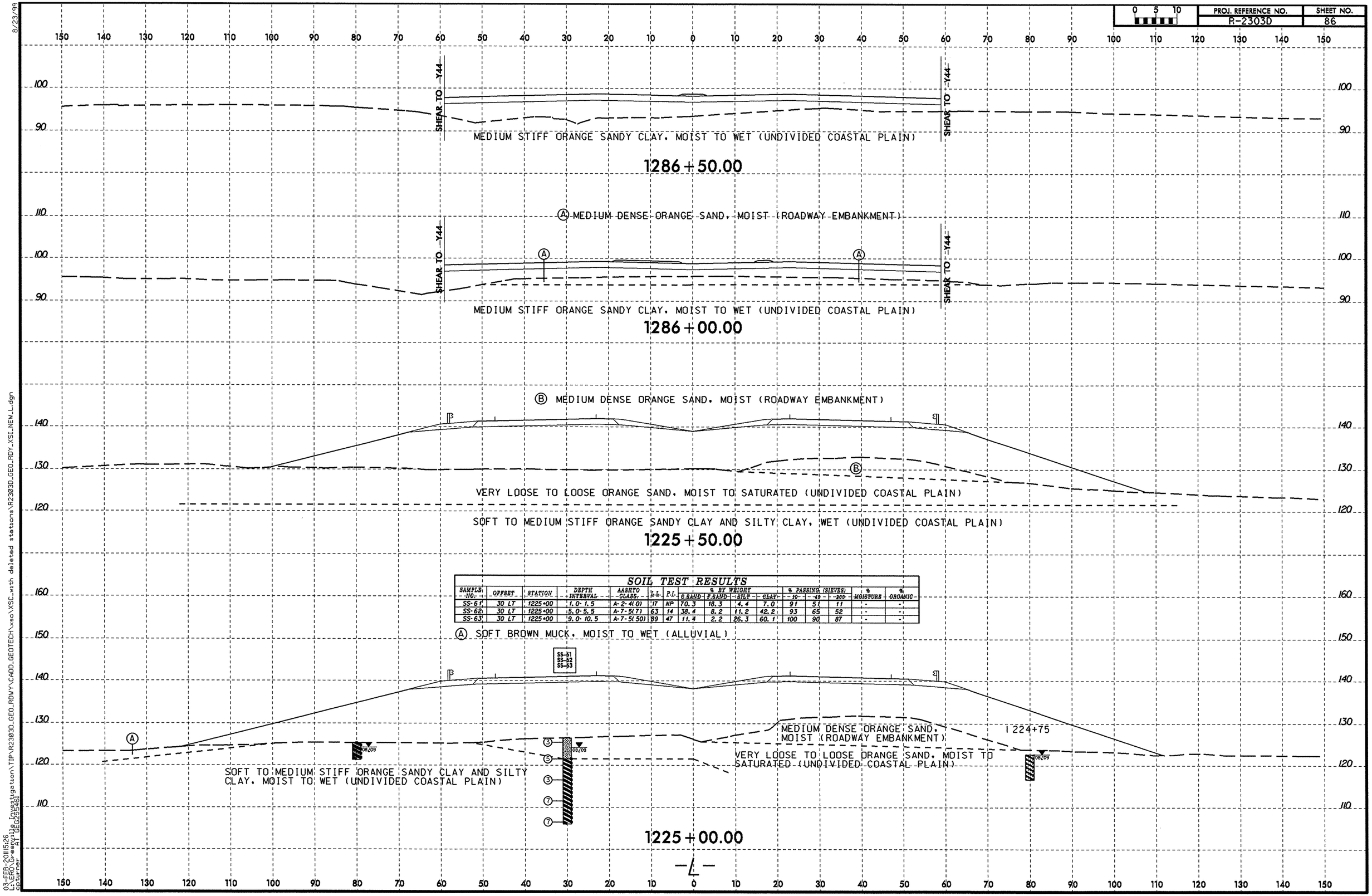
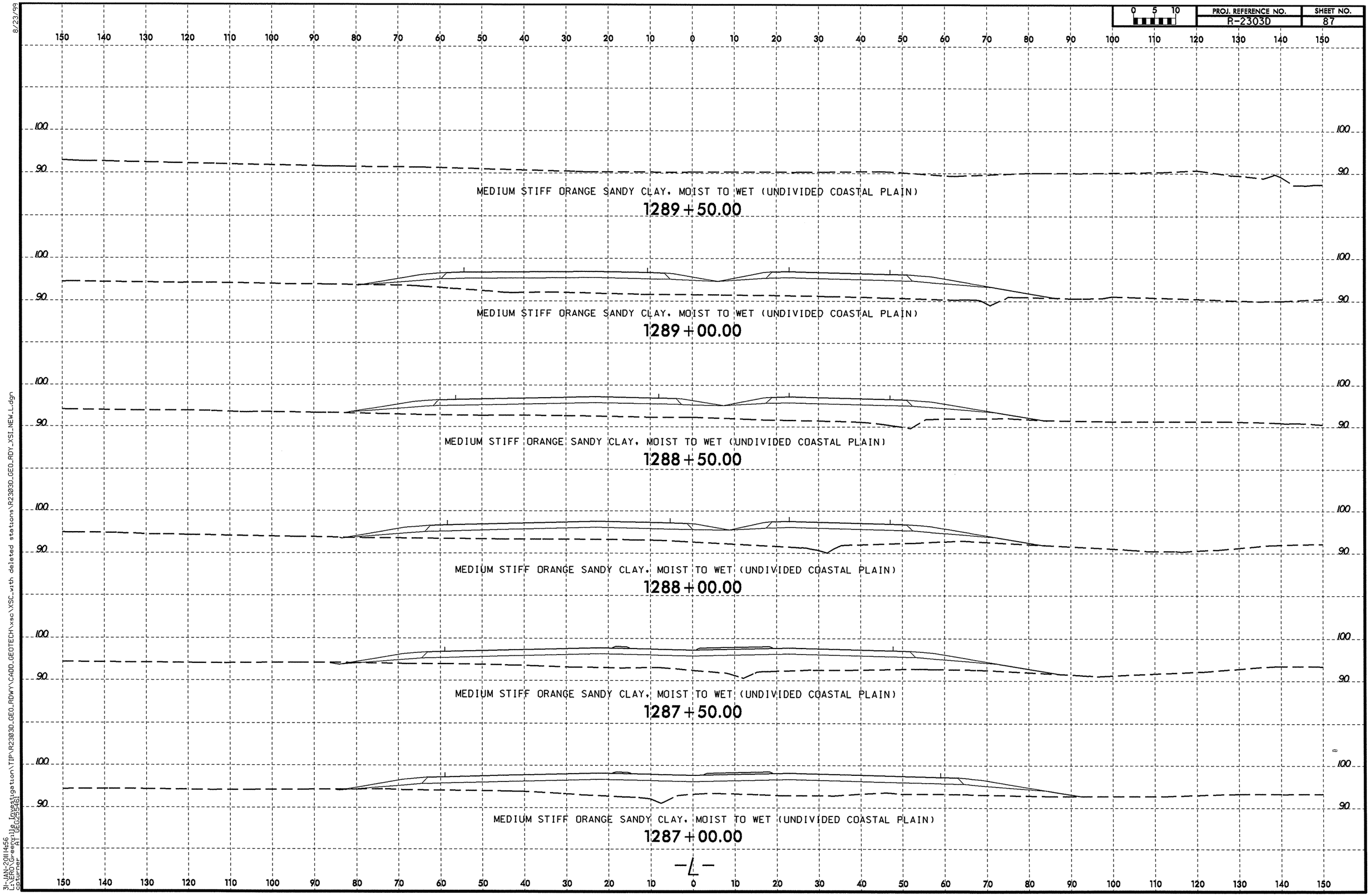


SOIL TEST RESULTS

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-61	30 LT	1225+00	1.0- 1.5	A-2-4(0)	17	NP	70.3	18.3	4.4	7.0	91	51	11	-	-
SS-62	30 LT	1225+00	5.0- 5.5	A-7-5(7)	63	14	38.4	8.2	11.2	42.2	93	65	52	-	-
SS-63	30 LT	1225+00	9.0- 10.5	A-7-5(50)	89	47	11.4	2.2	26.3	60.1	100	90	87	-	-

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	87



8/23/99

31-JAN-2011 14:56
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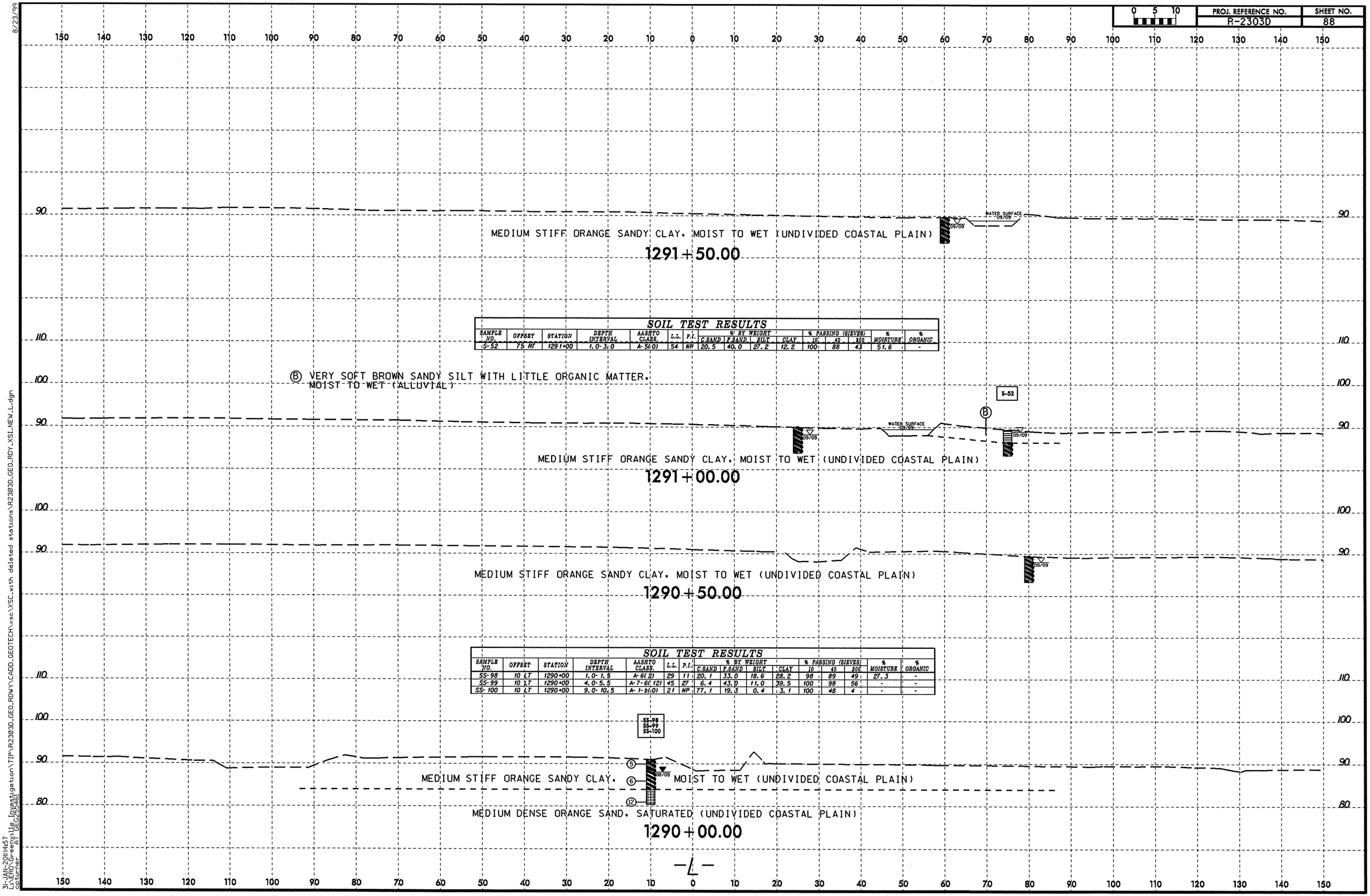
epturner AT GEO25946

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	88



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
S-52	75 RT	1291+00	1.0-3.0	A-5(0)	54	NP	20.5	40.0	27.2	12.2	100	88	43	51.6	-

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-98	10 LT	1290+00	1.0-1.5	A-6(2)	29	11	20.1	33.0	18.6	28.2	98	89	49	27.3	-
SS-99	10 LT	1290+00	4.0-5.5	A-7-6(12)	45	27	6.4	43.0	11.0	39.5	100	98	56	-	-
SS-100	10 LT	1290+00	9.0-10.5	A-1-b(0)	21	NP	77.1	19.3	0.4	3.1	100	48	4	-	-

8/23/99
31-JAN-2011 14:57
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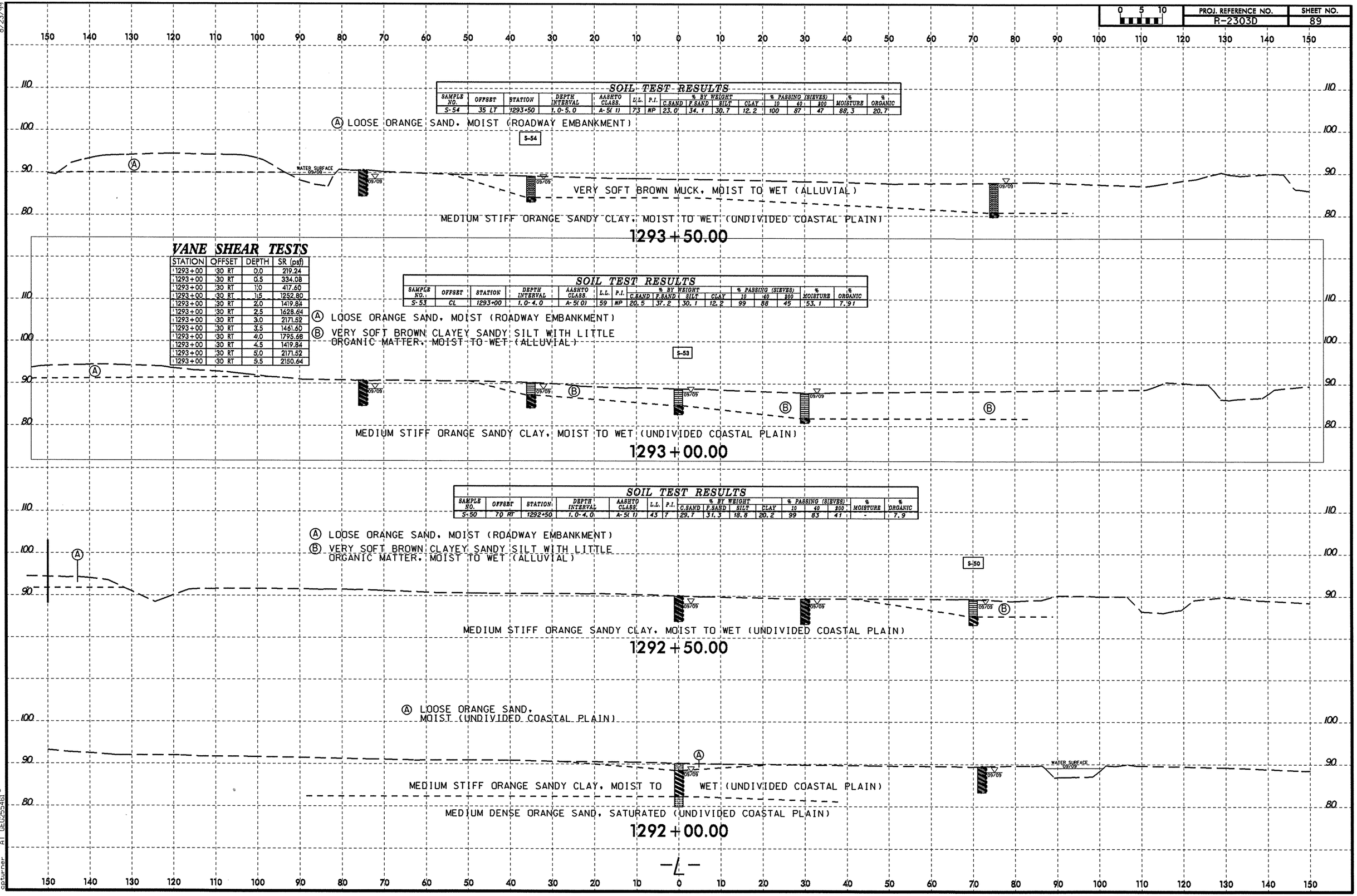
cpturner AT GEG25546I

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	89



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
S-54	35 LT	1293+50	1.0-5.0	A-5(1)	73	NP	23.0	34.1	30.7	12.2	100	87	47	88.3	20.7

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	SR (psf)
1293+00	30 RT	0.0	219.24
1293+00	30 RT	0.5	334.08
1293+00	30 RT	1.0	417.60
1293+00	30 RT	1.5	1252.80
1293+00	30 RT	2.0	1419.84
1293+00	30 RT	2.5	1628.64
1293+00	30 RT	3.0	2171.52
1293+00	30 RT	3.5	1461.60
1293+00	30 RT	4.0	1795.68
1293+00	30 RT	4.5	1419.84
1293+00	30 RT	5.0	2171.52
1293+00	30 RT	5.5	2150.64

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
S-53	CL	1293+00	1.0-4.0	A-5(0)	59	NP	20.5	37.2	30.1	12.2	99	88	45	53.1	7.91

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
S-50	70 RT	1292+50	1.0-4.0	A-5(1)	43	7	29.7	31.3	18.8	20.2	99	83	41	-	7.9

31-JAN-2011 14:57
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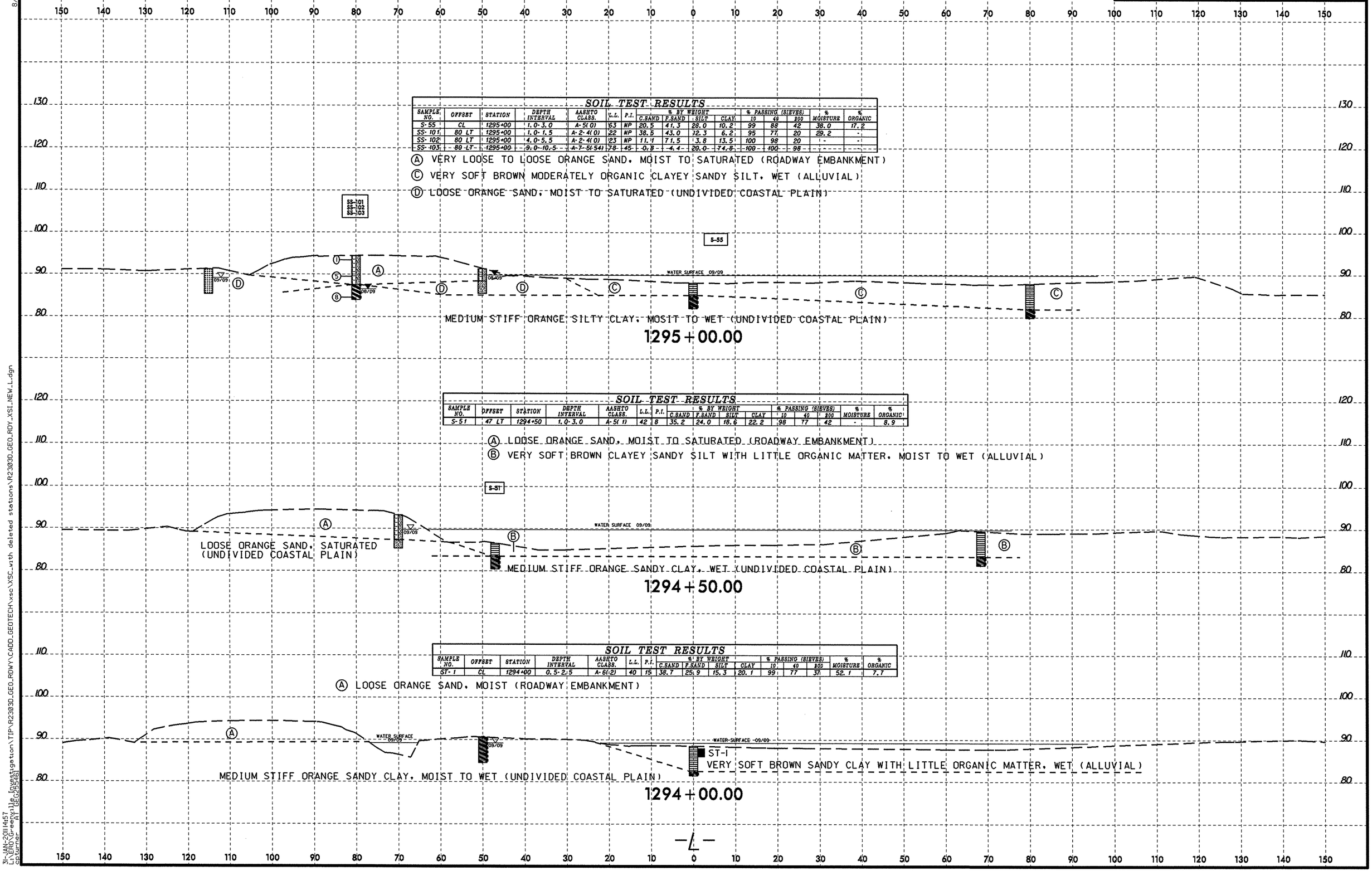
cpturner AT GEG255461
8/23/99

PROJ. REFERENCE NO. R-2303D | SHEET NO. 90



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
S-55	CL	1295+00	1.0-3.0	A-5(0)	63	NP	20.5	41.3	28.0	10.2	99	88	42	38.0	17.2
SS-101	80 LT	1295+00	1.0-1.5	A-2-4(0)	22	NP	38.5	43.0	12.3	6.2	95	77	20	29.2	-
SS-102	80 LT	1295+00	4.0-5.5	A-2-4(0)	23	NP	11.1	71.5	3.8	13.5	100	98	20	-	-
SS-103	80 LT	1295+00	9.0-10.5	A-7-5(54)	78	45	0.8	4.4	20.0	74.8	100	100	98	-	-

Ⓐ VERY LOOSE TO LOOSE ORANGE SAND, MOIST TO SATURATED (ROADWAY EMBANKMENT)
Ⓒ VERY SOFT BROWN MODERATELY ORGANIC CLAYEY SANDY SILT, WET (ALLUVIAL)
Ⓓ LOOSE ORANGE SAND, MOIST TO SATURATED (UNDIVIDED COASTAL PLAIN)

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
S-51	47 LT	1294+50	1.0-3.0	A-5(1)	42	8	35.2	24.0	18.6	22.2	98	77	42	-	8.9

Ⓐ LOOSE ORANGE SAND, MOIST TO SATURATED (ROADWAY EMBANKMENT)
Ⓑ VERY SOFT BROWN CLAYEY SANDY SILT WITH LITTLE ORGANIC MATTER, MOIST TO WET (ALLUVIAL)

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
ST-1	CL	1294+00	0.5-2.5	A-6(2)	40	15	38.7	25.9	15.3	20.1	99	77	37	52.1	7.7

Ⓐ LOOSE ORANGE SAND, MOIST (ROADWAY EMBANKMENT)

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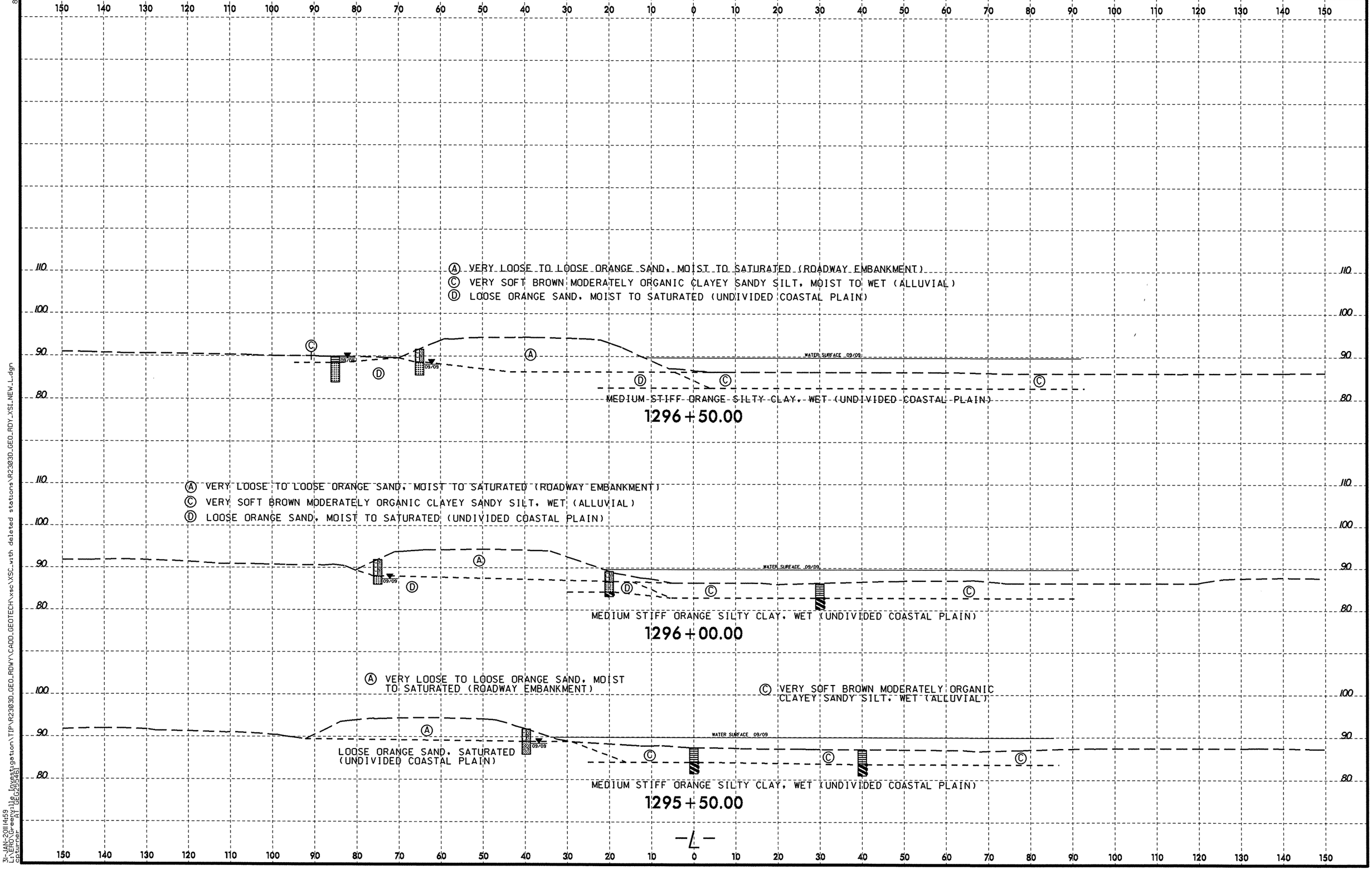

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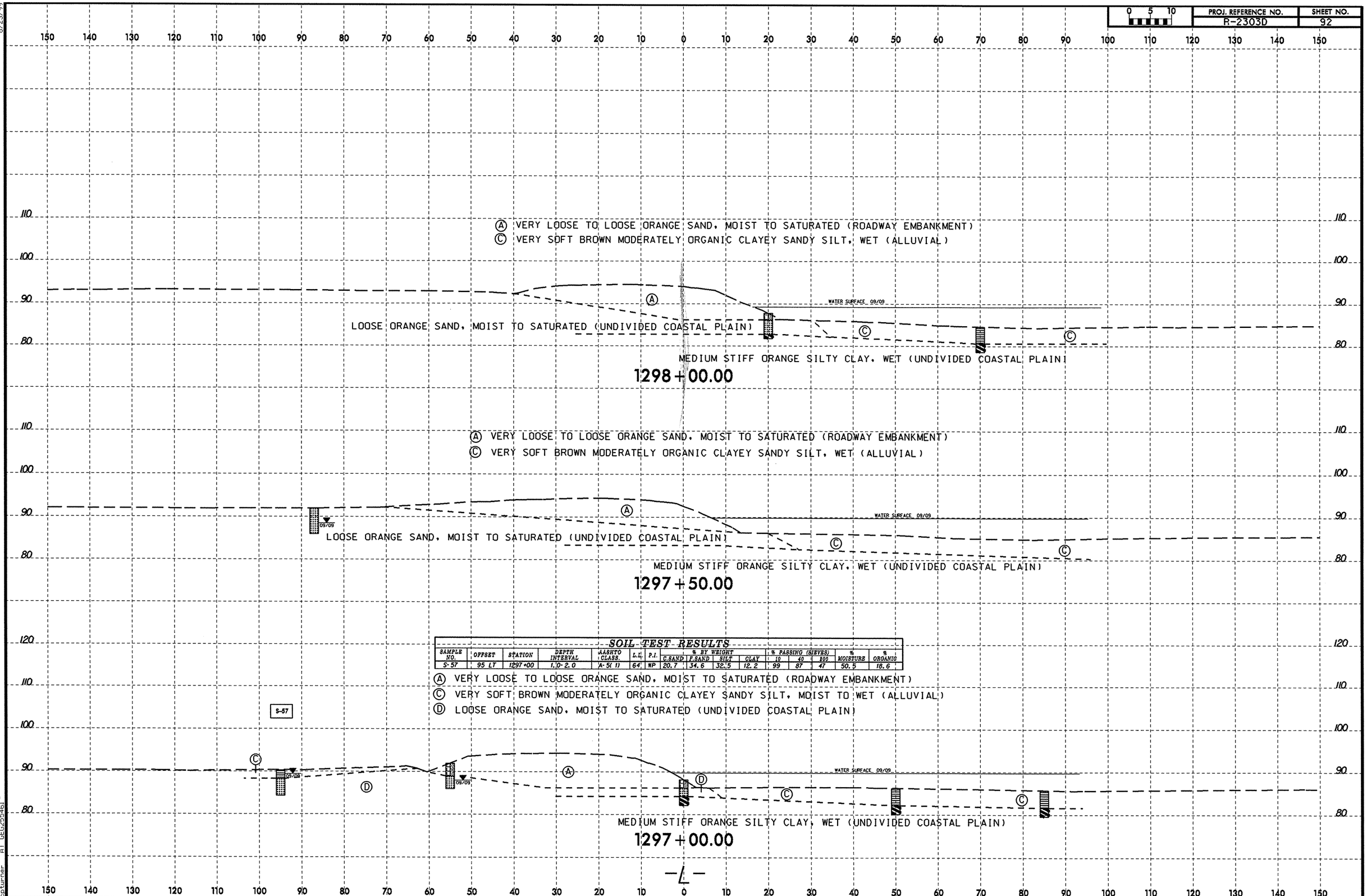

SOIL TEST RESULTS

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
S-57	95 LT	1297+00	1.0-2.0	A-5(1)	64	NP	20.7	34.6	32.5	12.2	99	87	47	50.5	18.6

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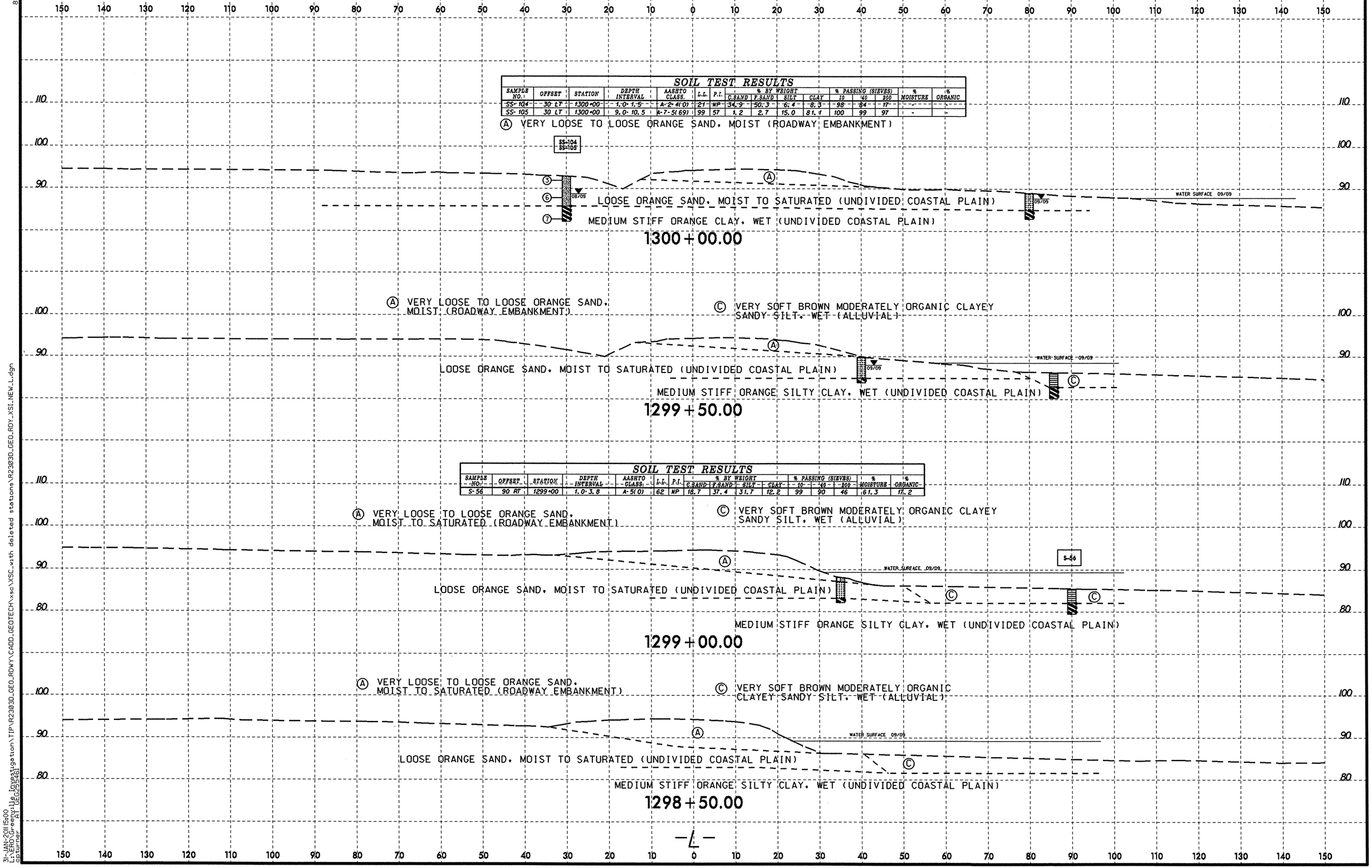
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	93



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-104	30 LT	1300+00	1.0-1.5	A-2-4(0)	21	NP	34.9	50.3	6.4	8.3	98	84	17	-	-
SS-105	30 LT	1300+00	9.0-10.5	A-7-5(69)	99	57	1.2	2.7	15.0	81.1	100	99	97	-	-

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
S-56	90 RT	1299+00	1.0-3.8	A-5(0)	62	NP	18.7	37.4	31.7	12.2	99	90	46	61.3	17.2

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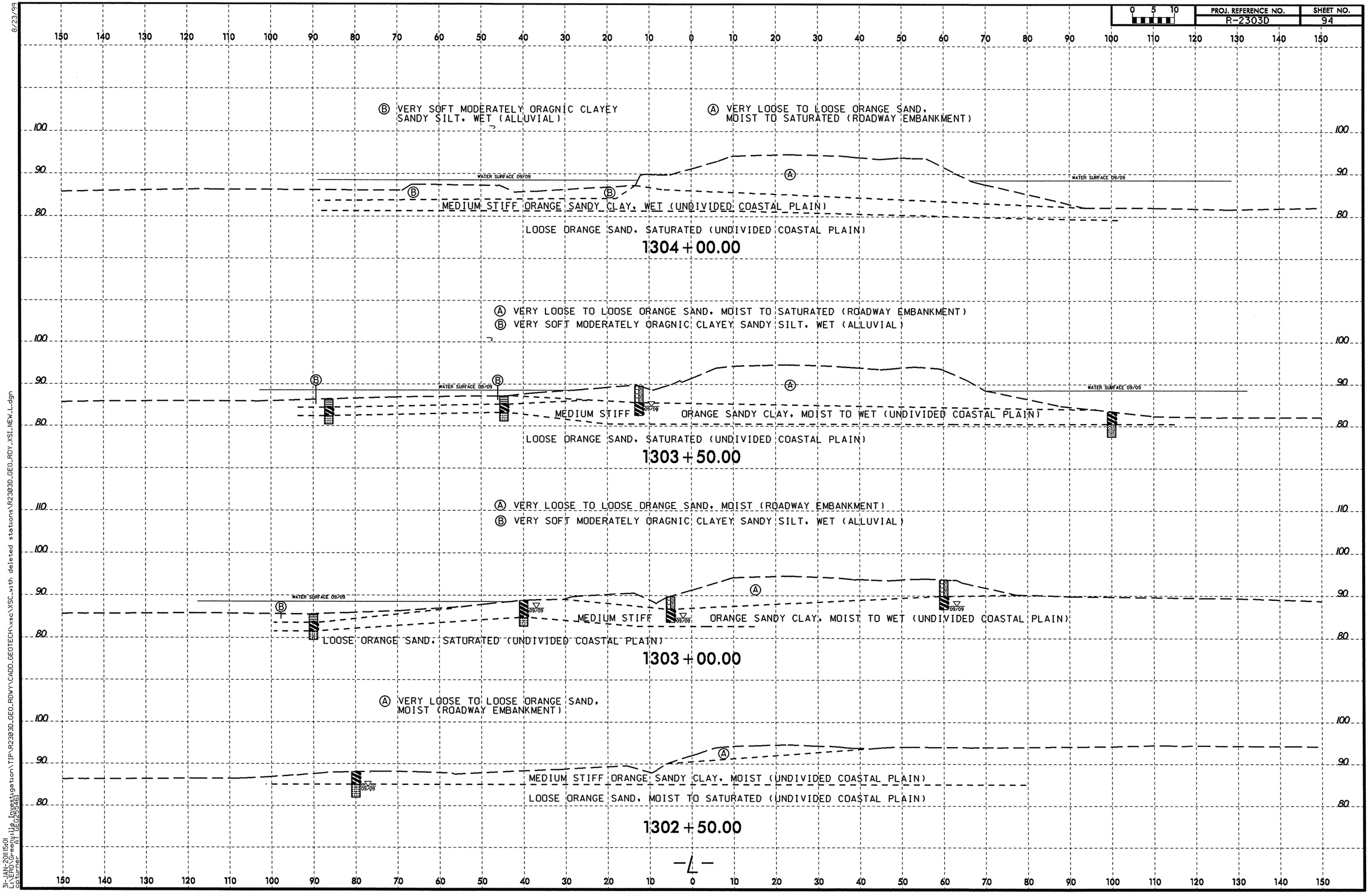

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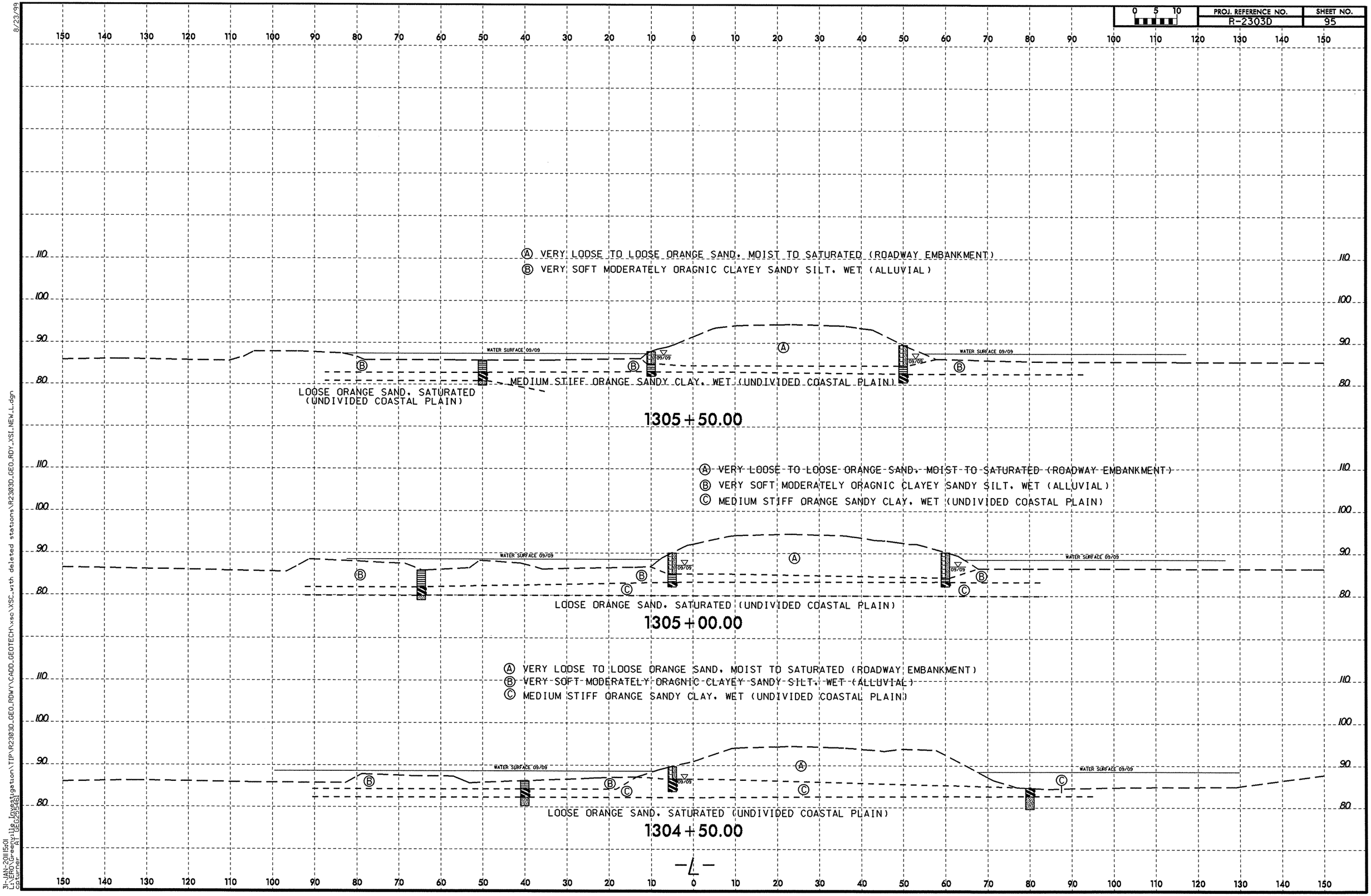

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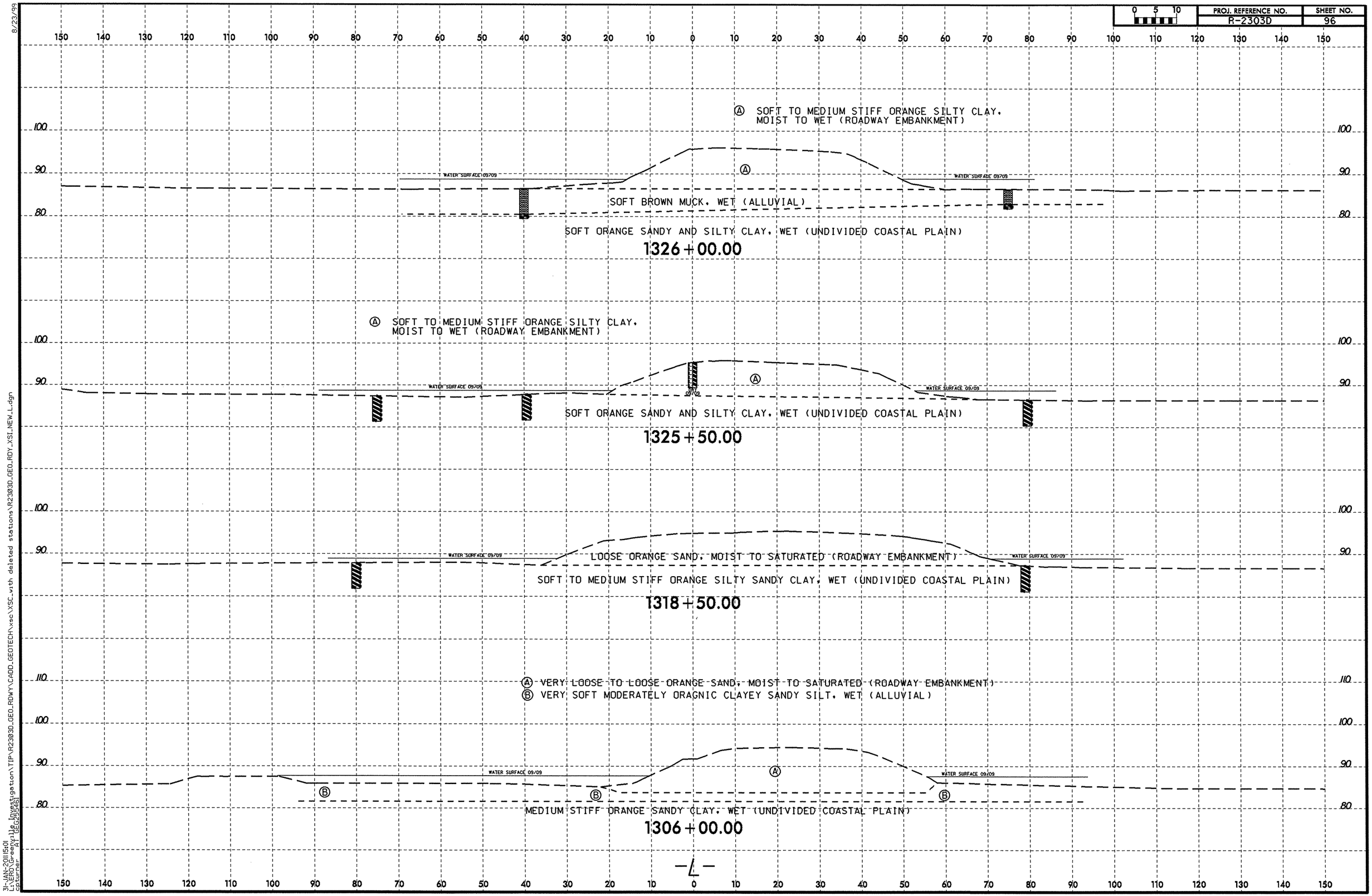

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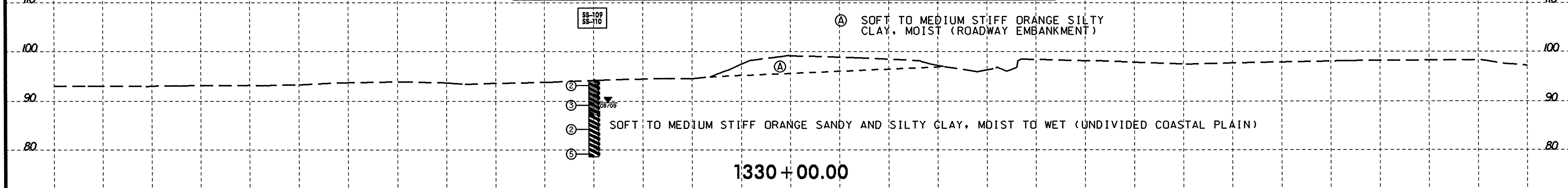
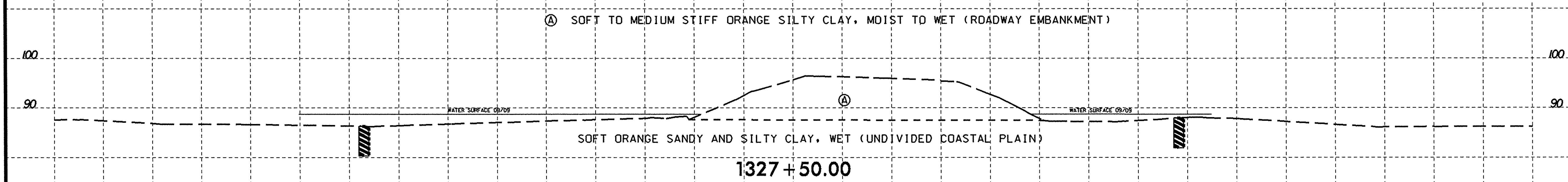
SOIL TEST RESULTS

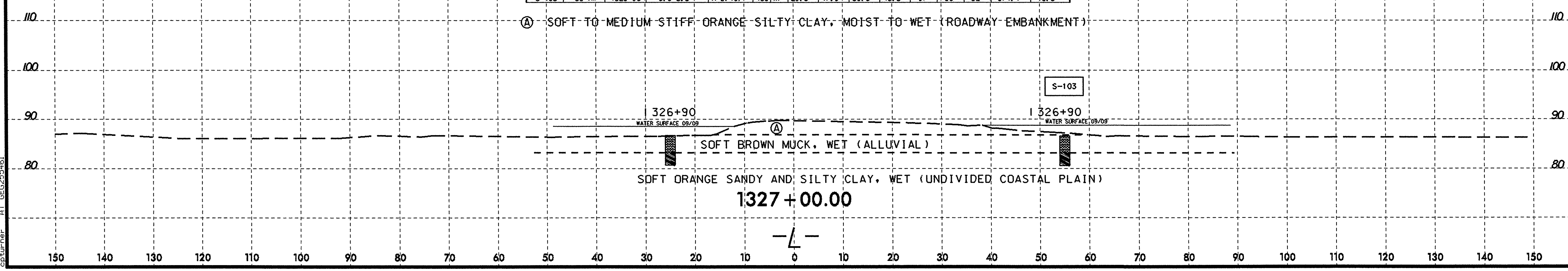
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-109	40 LT	1330+00	1.0-1.5	A-6(4)	40	16	20.8	37.0	13.1	29.1	99	88	45	36.7	-
SS-110	40 LT	1330+00	9.0-10.5	A-7-6(10)	46	17	17.7	22.2	24.7	35.3	98	87	62	-	-





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
S-103	55 RT	1326+90	0.0-3.5	A-5(10)	156	NP	29.8	17.9	36.0	16.3	97	80	52	671.1	48.3



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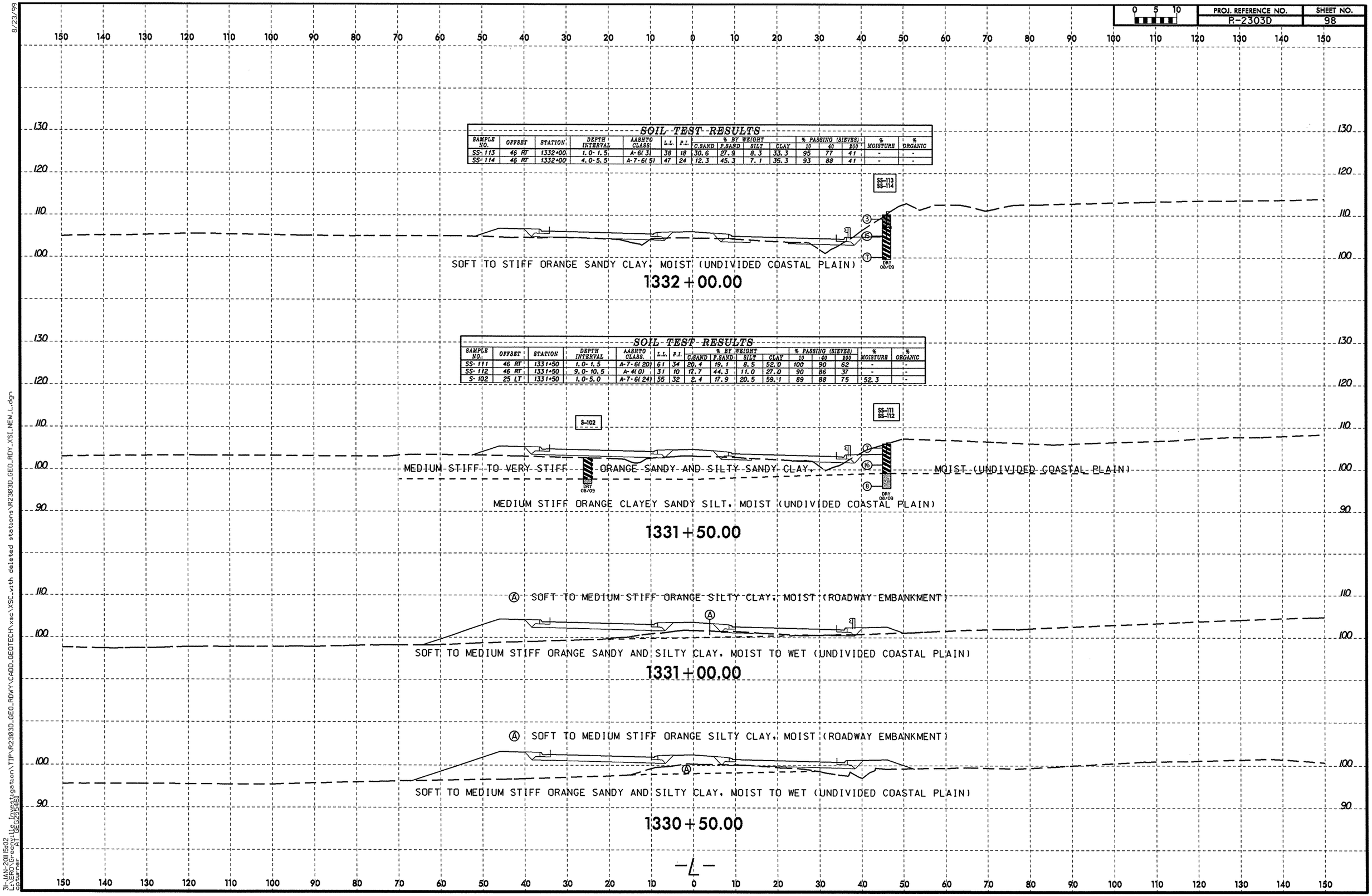
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	98



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-113	46 RT	1332+00	1.0-1.5	A-6(3)	38	18	30.6	27.9	8.3	33.3	95	77	41	-	-
SS-114	46 RT	1332+00	4.0-5.5	A-7-6(5)	47	24	12.3	45.3	7.1	35.3	93	88	41	-	-

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-111	46 RT	1331+50	1.0-1.5	A-7-6(20)	61	34	20.4	19.1	8.5	52.0	100	90	62	-	-
SS-112	46 RT	1331+50	9.0-10.5	A-4(0)	31	10	17.7	44.3	11.0	27.0	90	86	37	-	-
S-102	25 LT	1331+50	1.0-5.0	A-7-6(24)	55	32	2.4	17.9	20.5	59.1	89	88	75	52.3	-

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PROJ. REFERENCE NO.	SHEET NO.
R-2303D	99

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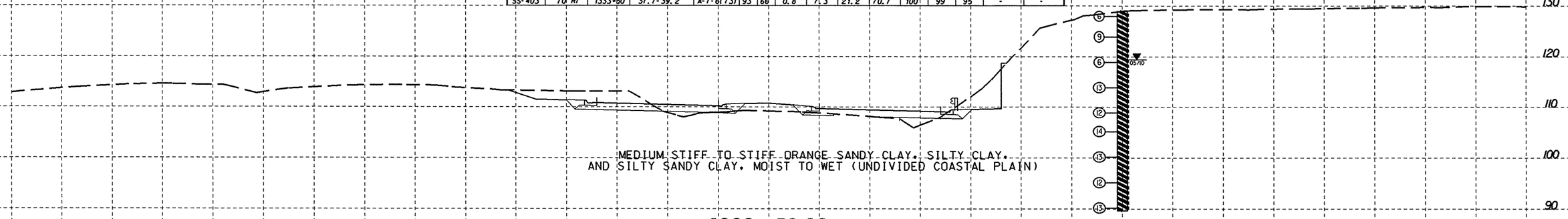
SOIL TEST RESULTS

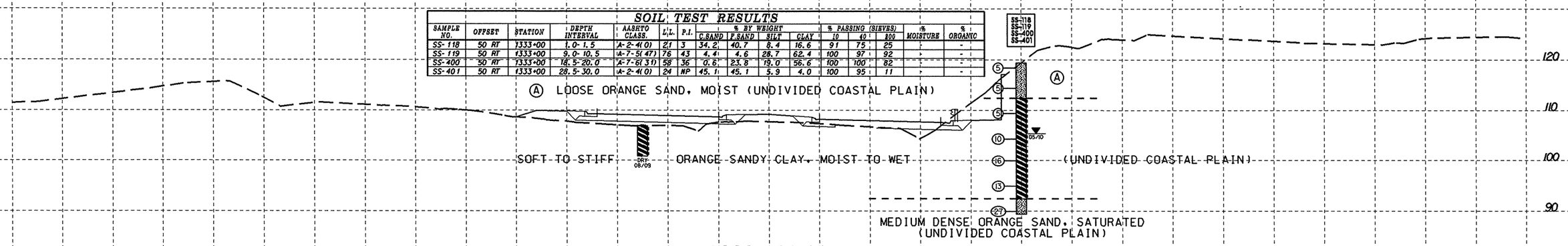
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-120	70 RT	1333+50	1.0-1.5	A-7-6(21)	65	36	23.3	16.6	10.2	49.9	100	90	62	-	-
SS-121	70 RT	1333+50	9.0-10.5	A-7-5(36)	72	36	11.0	5.6	21.0	62.4	100	90	85	-	-
SS-122	70 RT	1333+50	19.0-20.5	A-7-6(29)	56	38	0.2	29.9	24.1	45.7	100	100	77	-	-
SS-402	70 RT	1333+50	27.7-29.2	A-7-6(43)	69	50	0.4	22.8	18.2	58.6	100	100	82	-	-
SS-403	70 RT	1333+50	37.7-39.2	A-7-6(73)	93	66	0.8	7.3	21.2	70.7	100	99	95	-	-



1333+50.00

SOIL TEST RESULTS

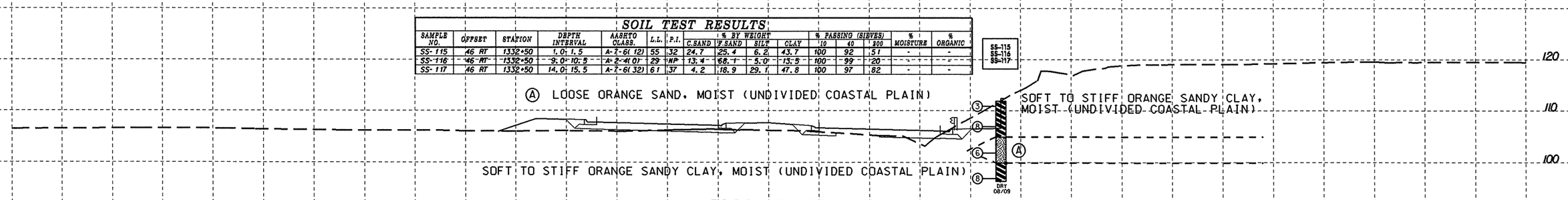
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-118	50 RT	1333+00	1.0-1.5	A-2-4(0)	21	3	34.2	40.7	8.4	16.6	91	75	25	-	-
SS-119	50 RT	1333+00	9.0-10.5	A-7-5(47)	76	43	4.4	4.6	28.7	62.4	100	97	92	-	-
SS-400	50 RT	1333+00	18.5-20.0	A-7-6(31)	58	36	0.6	23.8	19.0	56.6	100	100	82	-	-
SS-401	50 RT	1333+00	28.5-30.0	A-2-4(0)	24	NP	45.1	45.1	5.9	4.0	100	95	11	-	-



1333+00.00

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-115	46 RT	1332+50	1.0-1.5	A-7-6(12)	55	32	24.7	25.4	6.2	43.7	100	92	51	-	-
SS-116	46 RT	1332+50	9.0-10.5	A-2-4(0)	29	NP	13.4	66.1	5.0	13.5	100	99	20	-	-
SS-117	46 RT	1332+50	14.0-15.5	A-7-6(32)	61	37	4.2	18.9	29.1	47.8	100	97	82	-	-



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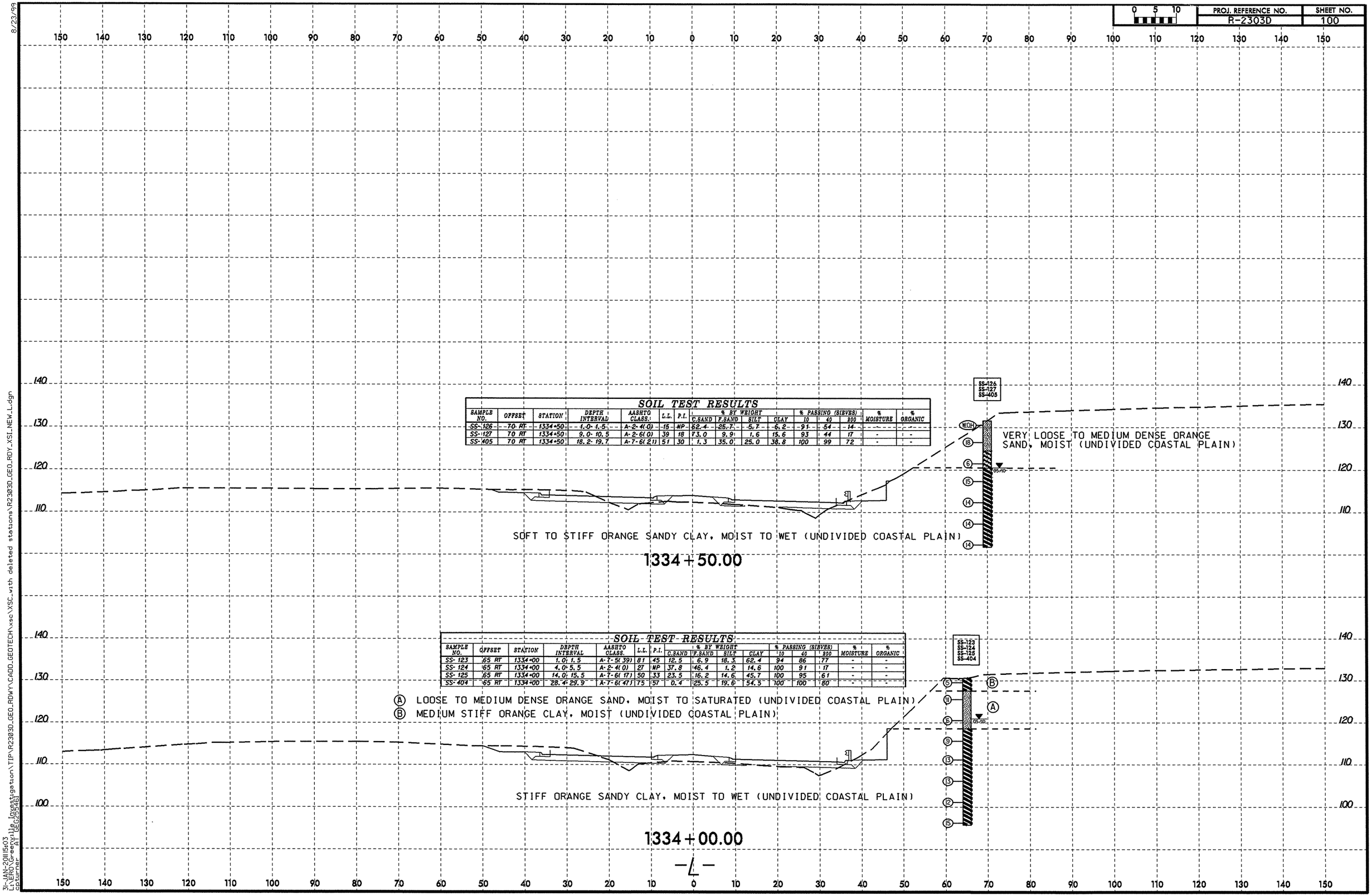

SOIL TEST RESULTS

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-126	70 RT	1334+50	1.0- 1.5	A-2-4(0)	15	NP	62.4	25.7	5.7	6.2	91	54	14	-	-
SS-127	70 RT	1334+50	9.0- 10.5	A-2-6(0)	39	18	73.0	9.9	1.6	15.6	93	44	17	-	-
SS-405	70 RT	1334+50	18.2- 19.7	A-7-6(21)	51	30	1.3	35.0	25.0	38.8	100	99	72	-	-

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-123	65 RT	1334+00	1.0- 1.5	A-7-5(39)	81	45	12.5	6.9	18.3	62.4	94	86	77	-	-
SS-124	65 RT	1334+00	4.0- 5.5	A-2-4(0)	27	NP	37.8	46.4	1.2	14.6	100	91	17	-	-
SS-125	65 RT	1334+00	14.0- 15.5	A-7-6(17)	50	33	23.5	16.2	14.6	45.7	100	95	61	-	-
SS-404	65 RT	1334+00	28.4- 29.9	A-7-6(47)	75	57	0.4	25.5	19.6	54.5	100	100	80	-	-

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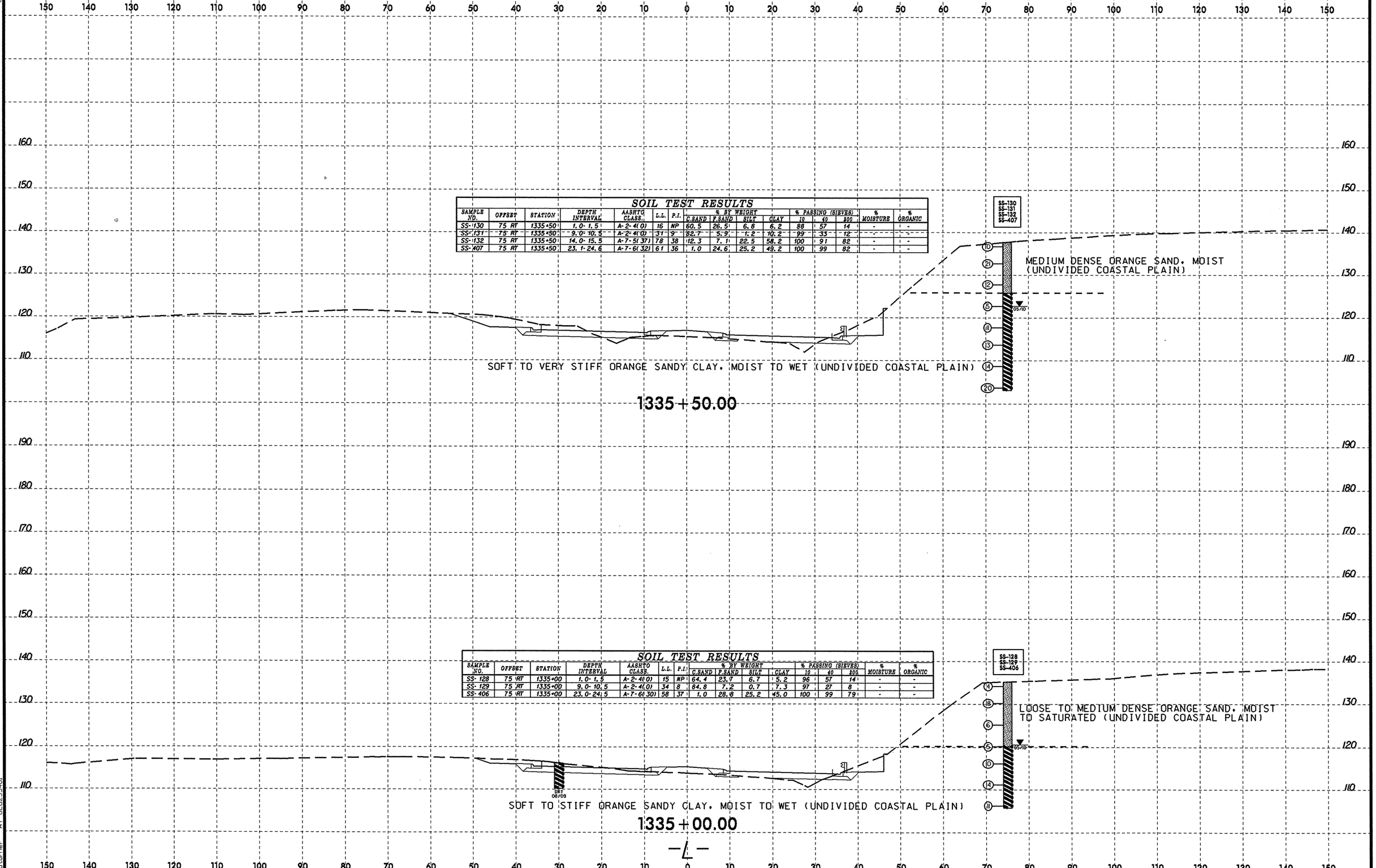
PROJ. REFERENCE NO.	SHEET NO.
R-2303D	101



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-130	75 RT	1335+50	1.0-1.5	A-2-4(0)	16	NP	60.5	26.5	6.8	6.2	88	57	14	-	-
SS-131	75 RT	1335+50	9.0-10.5	A-2-4(0)	31	9	82.7	5.9	1.2	10.2	99	33	12	-	-
SS-132	75 RT	1335+50	14.0-15.5	A-7-5(37)	78	38	12.3	7.1	22.5	58.2	100	91	82	-	-
SS-407	75 RT	1335+50	23.1-24.6	A-7-6(32)	61	36	1.0	24.6	25.2	49.2	100	99	82	-	-

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-128	75 RT	1335+00	1.0-1.5	A-2-4(0)	15	NP	64.4	23.7	6.7	5.2	96	57	14	-	-
SS-129	75 RT	1335+00	9.0-10.5	A-2-4(0)	34	8	84.8	7.2	0.7	7.3	97	27	8	-	-
SS-406	75 RT	1335+00	23.0-24.5	A-7-6(30)	58	37	1.0	28.8	25.2	45.0	100	99	79	-	-

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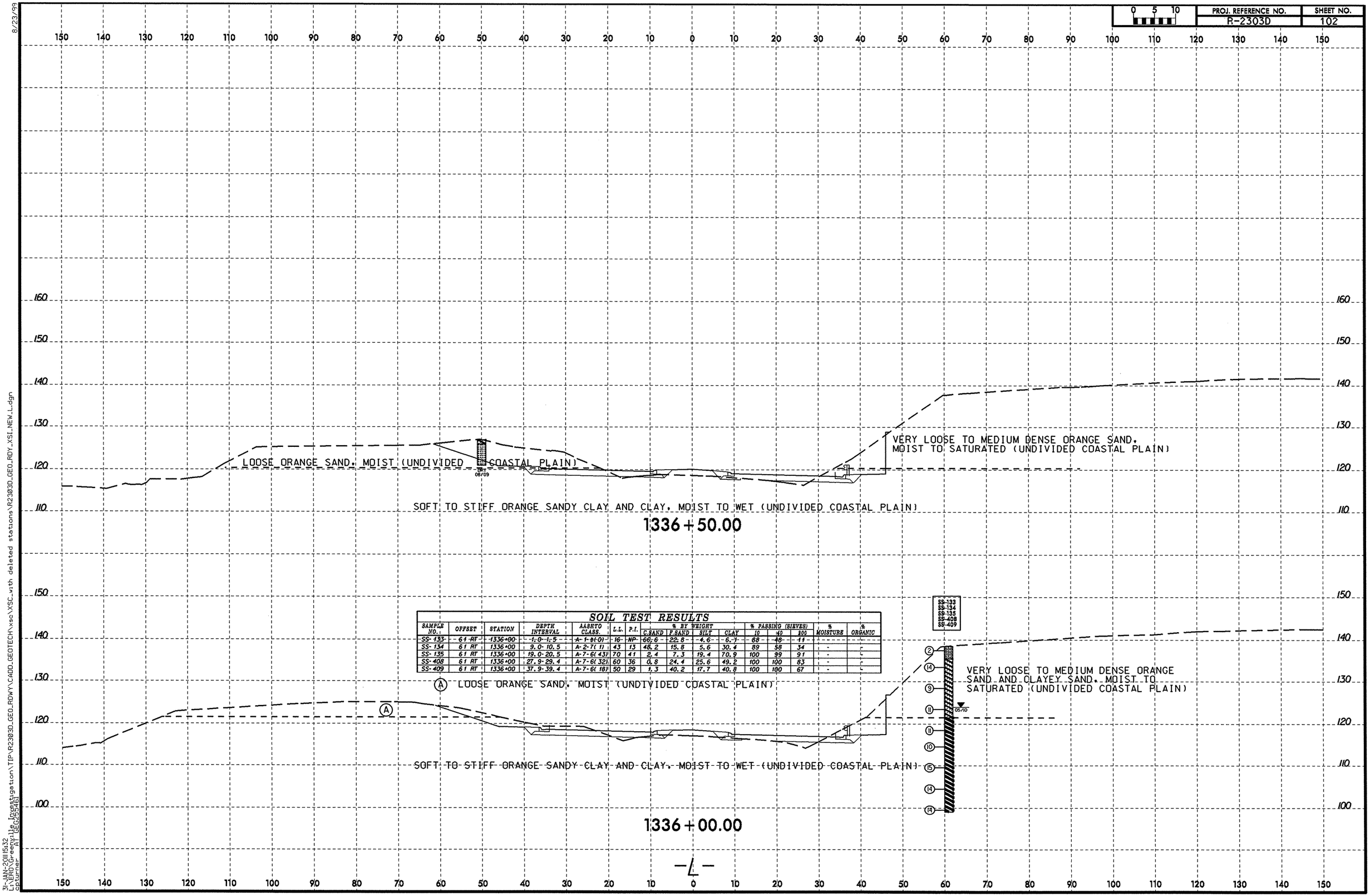

SOIL TEST RESULTS

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-133	61 RT	1336+00	1.0-1.5	A-1-b(0)	16	NP	66.6	22.8	4.6	6.1	88	48	11	-	-
SS-134	61 RT	1336+00	9.0-10.5	A-2-7(1)	43	13	48.2	15.8	5.6	30.4	89	58	34	-	-
SS-135	61 RT	1336+00	19.0-20.5	A-7-6(43)	70	41	2.4	7.3	19.4	70.9	100	99	91	-	-
SS-408	61 RT	1336+00	27.9-29.4	A-7-6(32)	60	36	0.8	24.4	25.6	49.2	100	100	83	-	-
SS-409	61 RT	1336+00	37.9-39.4	A-7-6(18)	50	29	1.3	40.2	17.7	40.8	100	100	67	-	-

(A) LOOSE ORANGE SAND, MOIST (UNDIVIDED COASTAL PLAIN)

8/23/99
31-JAN-2011 15:32
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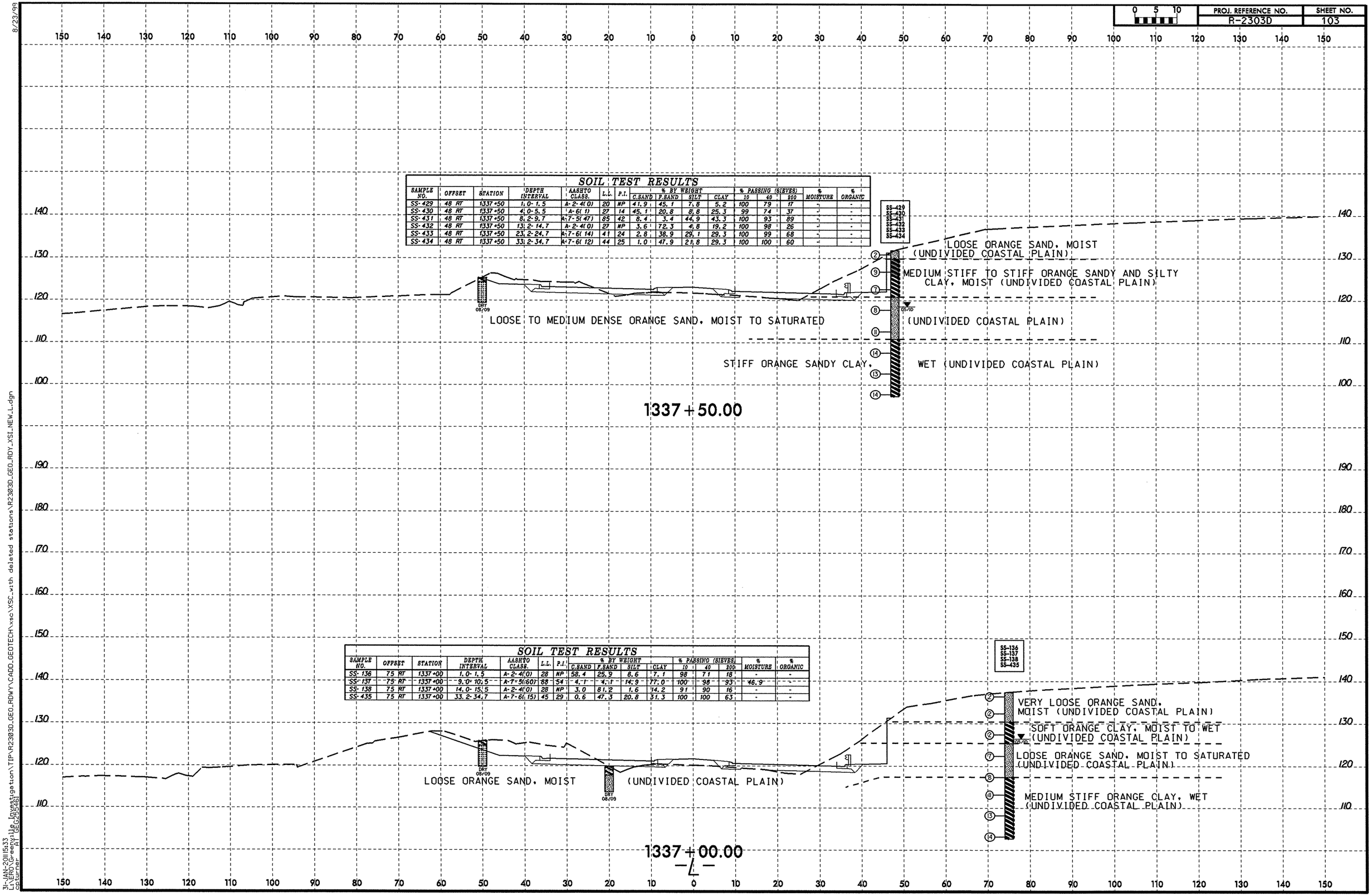
cpturner AT GEG255461

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	103



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-429	48 RT	1337+50	1.0-1.5	A-2-4(0)	20	NP	41.9	45.1	7.8	5.2	100	79	17	-	-
SS-430	48 RT	1337+50	4.0-5.5	A-6(1)	27	14	45.1	20.8	8.8	25.3	99	74	37	-	-
SS-431	48 RT	1337+50	8.2-9.7	A-7-5(47)	85	42	8.4	3.4	44.9	43.3	100	93	89	-	-
SS-432	48 RT	1337+50	13.2-14.7	A-2-4(0)	27	NP	3.6	72.3	4.8	19.2	100	98	26	-	-
SS-433	48 RT	1337+50	23.2-24.7	A-7-6(14)	41	24	2.8	38.9	29.1	29.3	100	99	68	-	-
SS-434	48 RT	1337+50	33.2-34.7	A-7-6(12)	44	25	1.0	47.9	21.8	29.3	100	100	60	-	-

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-136	75 RT	1337+00	1.0-1.5	A-2-4(0)	28	NP	58.4	25.9	8.6	7.1	98	71	18	-	-
SS-137	75 RT	1337+00	9.0-10.5	A-7-5(60)	88	54	4.1	4.1	14.9	77.0	100	98	93	46.9	-
SS-138	75 RT	1337+00	14.0-15.5	A-2-4(0)	28	NP	3.0	81.2	1.6	14.2	91	90	16	-	-
SS-435	75 RT	1337+00	33.2-34.7	A-7-6(15)	45	29	0.6	47.3	20.8	31.3	100	100	63	-	-

8/23/99

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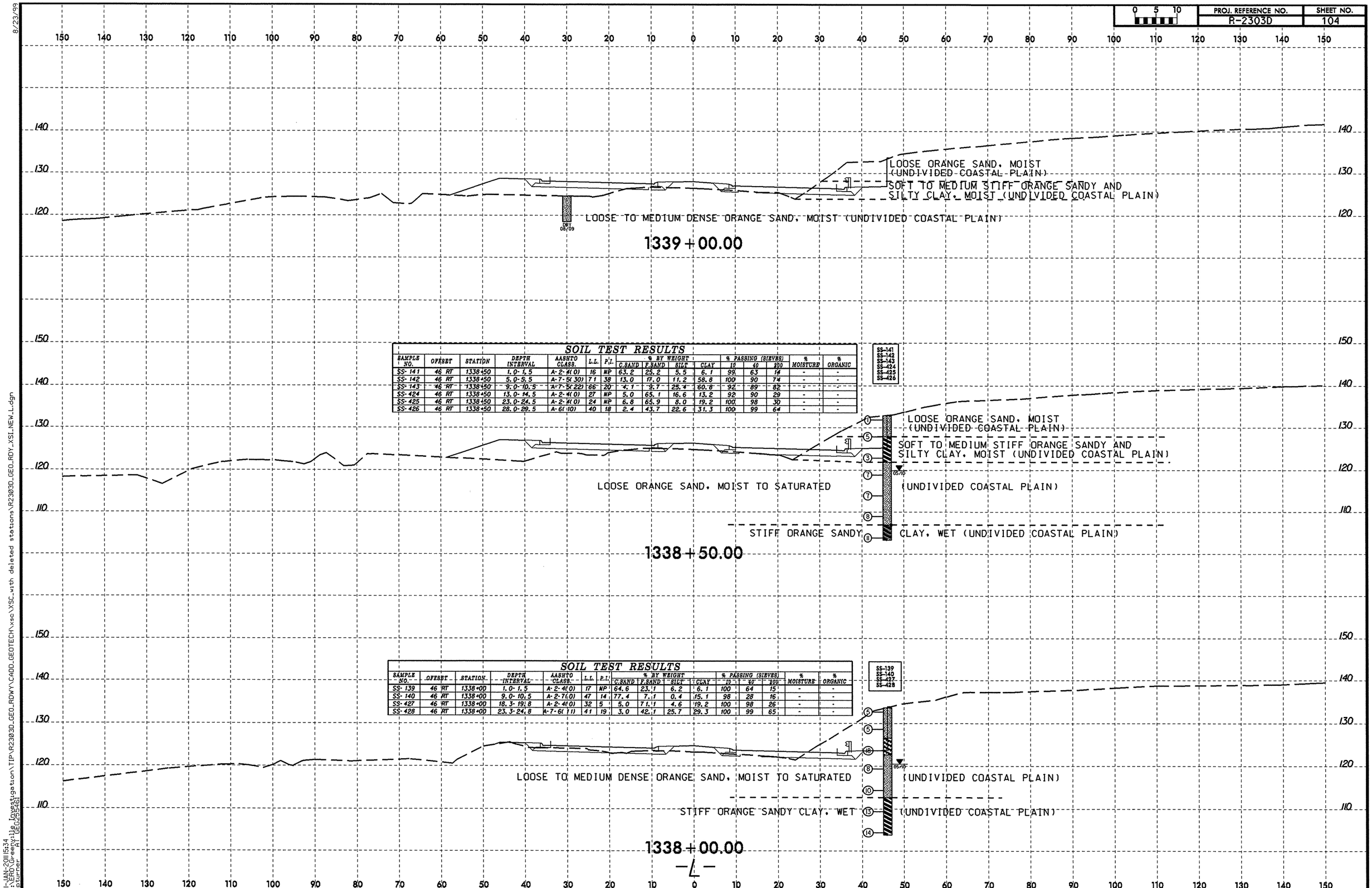
cpturner AT GEG255461

PROJ. REFERENCE NO. R-2303D | SHEET NO. 104



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-141	46 RT	1338+50	1.0-1.5	A-2-4(0)	16	NP	63.2	25.2	5.5	6.1	99	63	14	-	-
SS-142	46 RT	1338+50	5.0-5.5	A-7-5(30)	71	38	13.0	17.0	11.2	58.8	100	90	74	-	-
SS-143	46 RT	1338+50	9.0-10.5	A-7-5(22)	66	20	4.1	9.7	25.4	60.8	92	89	82	-	-
SS-424	46 RT	1338+50	13.0-14.5	A-2-4(0)	27	NP	5.0	65.1	16.6	13.2	92	90	29	-	-
SS-425	46 RT	1338+50	23.0-24.5	A-2-4(0)	24	NP	6.8	65.9	8.0	19.2	100	98	30	-	-
SS-426	46 RT	1338+50	28.0-29.5	A-6(10)	40	18	2.4	43.7	22.6	31.3	100	99	64	-	-

SS-141
SS-142
SS-143
SS-424
SS-425
SS-426

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-139	46 RT	1338+00	1.0-1.5	A-2-4(0)	17	NP	64.6	23.1	6.2	6.1	100	64	15	-	-
SS-140	46 RT	1338+00	9.0-10.5	A-2-7(0)	47	14	77.4	7.1	0.4	15.1	98	28	16	-	-
SS-427	46 RT	1338+00	18.3-19.8	A-2-4(0)	32	5	5.0	71.1	4.6	19.2	100	98	26	-	-
SS-428	46 RT	1338+00	23.3-24.8	A-7-6(11)	41	19	3.0	42.1	25.7	29.3	100	99	65	-	-

SS-139
SS-140
SS-427
SS-428

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cpturner AT GEG255461

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	105

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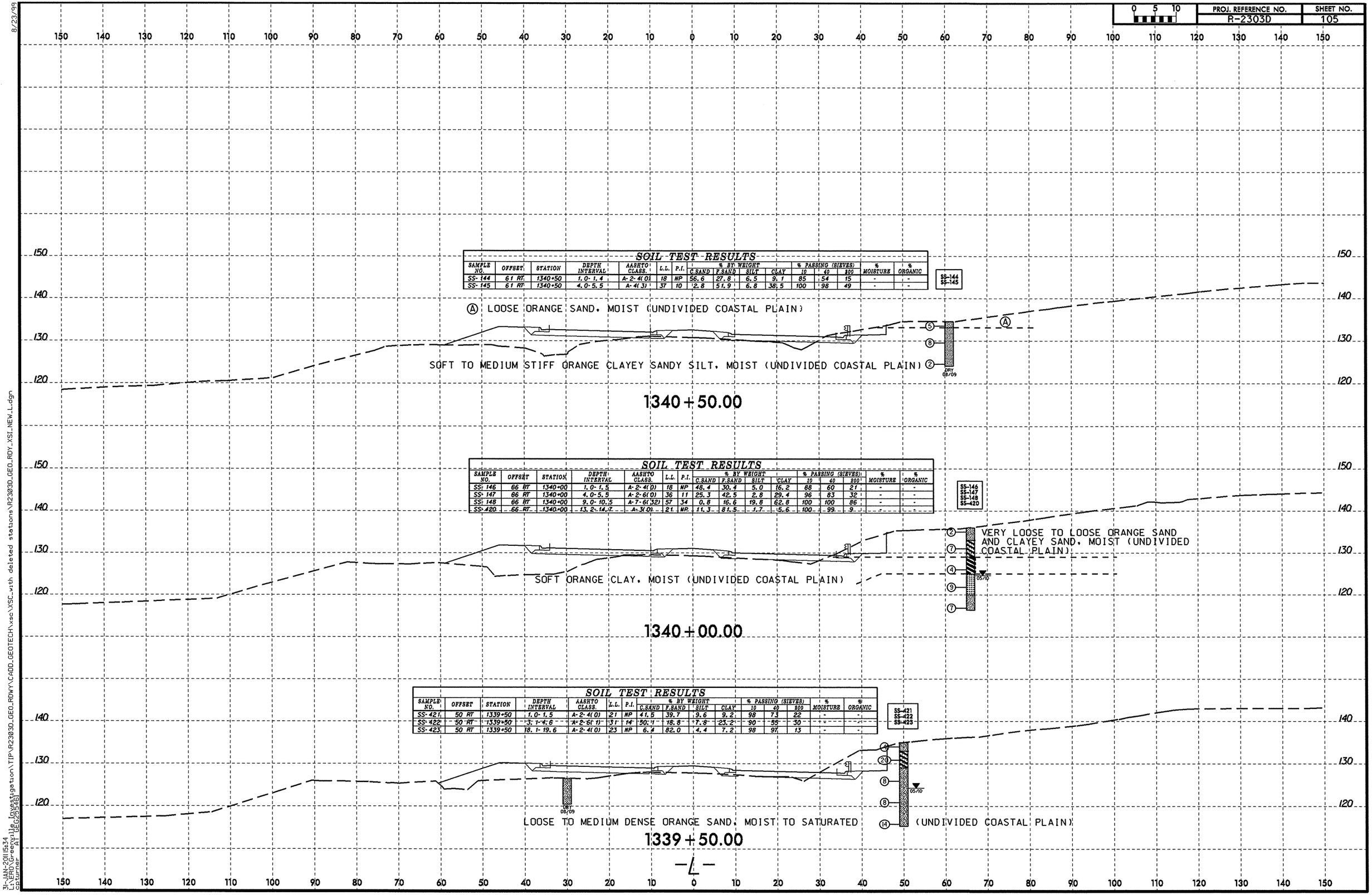

SOIL TEST RESULTS

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-144	61 RT	1340+50	1.0-1.4	A-2-4(0)	18	NP	56.6	27.8	6.5	9.1	85	54	15	-	-
SS-145	61 RT	1340+50	4.0-5.5	A-4(3)	37	10	2.8	51.9	6.8	38.5	100	98	49	-	-

SS-144
SS-145

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-146	66 RT	1340+00	1.0-1.5	A-2-4(0)	18	NP	48.4	30.4	5.0	16.2	68	60	21	-	-
SS-147	66 RT	1340+00	4.0-5.5	A-2-6(0)	36	11	25.3	42.5	2.8	29.4	96	83	32	-	-
SS-148	66 RT	1340+00	9.0-10.5	A-7-6(32)	57	34	0.8	16.6	19.8	62.8	100	100	86	-	-
SS-420	66 RT	1340+00	13.2-14.7	A-3(0)	21	NP	11.3	81.5	1.7	5.6	100	99	9	-	-

SS-146
SS-147
SS-148
SS-420

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-421	50 RT	1339+50	1.0-1.5	A-2-4(0)	21	NP	41.5	39.7	9.6	9.2	98	73	22	-	-
SS-422	50 RT	1339+50	3.1-4.6	A-2-6(1)	31	14	50.1	16.8	7.8	23.2	90	55	30	-	-
SS-423	50 RT	1339+50	18.1-19.6	A-2-4(0)	23	NP	6.4	82.0	4.4	7.2	98	97	13	-	-

SS-421
SS-422
SS-423

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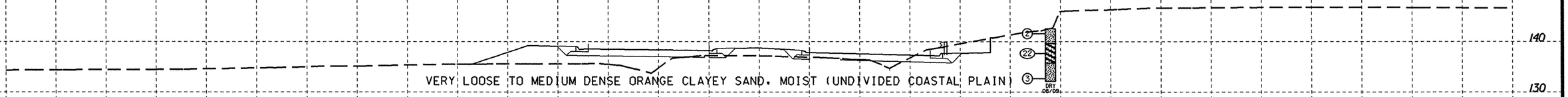
SOIL TEST RESULTS

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-157	58 RT	1342+50	4.0-5.5	A-2-7(1)	54	18	59.6	7.3	3.7	29.4	95	51	33	-	-
SS-158	58 RT	1342+50	9.0-10.5	A-2-4(0)	29	7	40.4	36.8	2.5	20.3	97	79	23	-	-

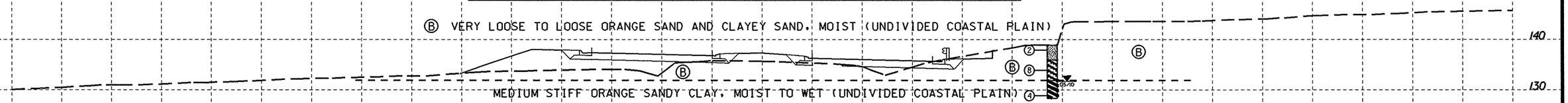
SS-157
SS-158



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-155	58 RT	1342+00	1.0-1.5	A-2-4(0)	16	NP	66.2	22.5	5.3	6.1	95	64	13	-	-
SS-156	58 RT	1342+00	4.0-5.5	A-2-6(0)	34	13	39.4	31.5	1.7	27.4	97	78	29	-	-

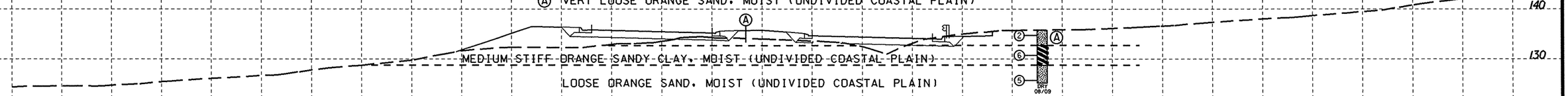
SS-155
SS-156



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-152	56 RT	1341+50	1.0-1.5	A-2-4(0)	20	NP	66.3	20.6	4.1	7.1	99	62	13	-	-
SS-153	56 RT	1341+50	4.0-5.5	A-7-5(19)	70	36	23.7	16.4	5.2	54.7	93	79	58	-	-
SS-154	56 RT	1341+50	9.0-10.5	A-2-4(0)	26	NP	13.8	72.5	1.5	12.2	99	98	15	-	-

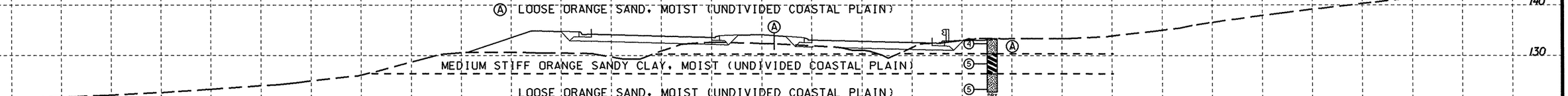
SS-152
SS-153
SS-154



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-149	46 RT	1341+00	1.0-1.5	A-2-4(0)	15	NP	60.7	23.3	7.9	8.1	96	59	19	-	-
SS-150	46 RT	1341+00	4.0-5.5	A-7-6(4)	47	26	47.4	14.4	1.7	36.5	96	67	38	-	-
SS-151	46 RT	1341+00	9.0-10.5	A-2-4(0)	25	NP	9.5	69.9	2.3	18.2	100	99	22	-	-

SS-149
SS-150
SS-151



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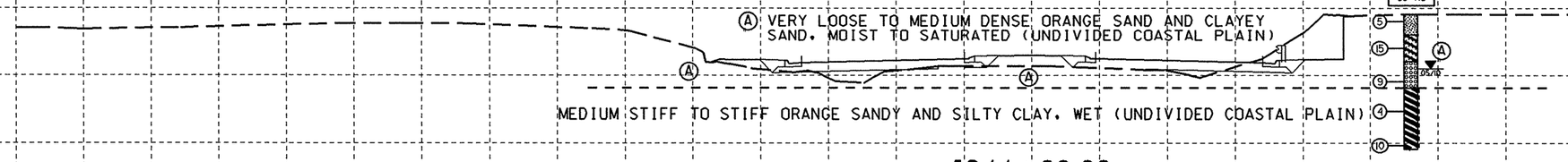
cpturner
AT GEO(25546)

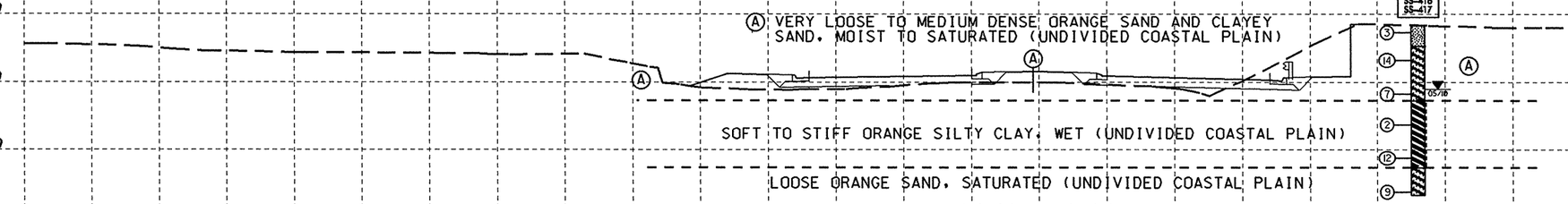
SOIL TEST RESULTS

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-164	56' RT	1344+00	4.0-5.5	A-2-7(3)	69	27	61.0	5.6	0.0	33.4	99	50	34	-	-
SS-165	56' RT	1344+00	9.0-10.5	A-1-b(0)	20	NP	85.8	7.6	0.5	6.1	96	38	7	-	-
SS-414	56' RT	1344+00	13.4-14.9	A-7-6(13)	46	19	9.0	31.9	14.2	45.0	100	94	70	23.5	-
SS-415	56' RT	1344+00	18.4-19.9	A-7-6(28)	51	36	2.7	24.6	27.7	45.0	100	99	80	-	-



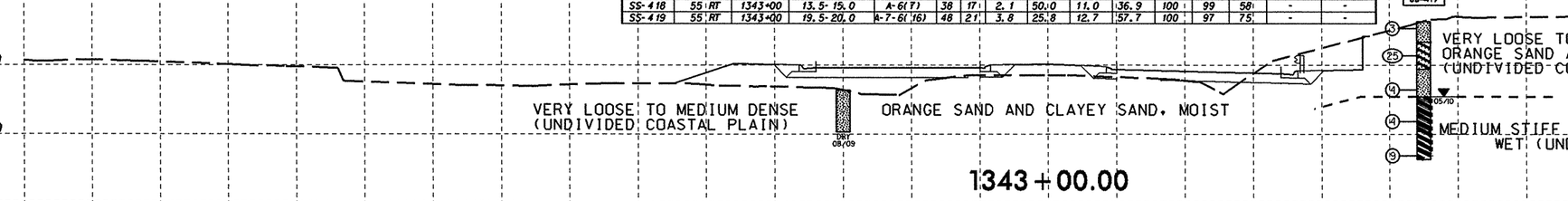
SOIL TEST RESULTS

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-162	56' RT	1343+50	1.0-1.5	A-2-4(0)	13	NP	68.5	19.0	5.4	7.1	100	72	15	-	-
SS-163	56' RT	1343+50	4.0-5.5	A-2-6(0)	35	11	67.7	8.6	0.6	23.1	98	59	24	-	-
SS-416	56' RT	1343+50	13.5-15.0	A-7-6(25)	52	27	4.0	20.8	24.0	51.3	100	97	85	-	-
SS-417	56' RT	1343+50	23.5-25.0	A-2-6(1)	27	15	2.9	72.5	2.3	22.3	100	100	28	-	-



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-159	55' RT	1343+00	1.0-1.5	A-2-4(0)	16	NP	67.4	20.4	4.2	8.1	100	72	15	-	-
SS-160	55' RT	1343+00	4.0-5.5	A-2-7(2)	49	18	55.8	8.6	2.1	33.4	93	62	34	-	-
SS-161	55' RT	1343+00	9.0-10.5	A-2-4(0)	32	9	44.3	31.6	1.8	22.3	97	74	24	-	-
SS-418	55' RT	1343+00	13.5-15.0	A-6(7)	38	17	2.1	50.0	11.0	36.9	100	99	58	-	-
SS-419	55' RT	1343+00	19.5-20.0	A-7-6(16)	48	21	3.8	25.8	12.7	57.7	100	97	75	-	-



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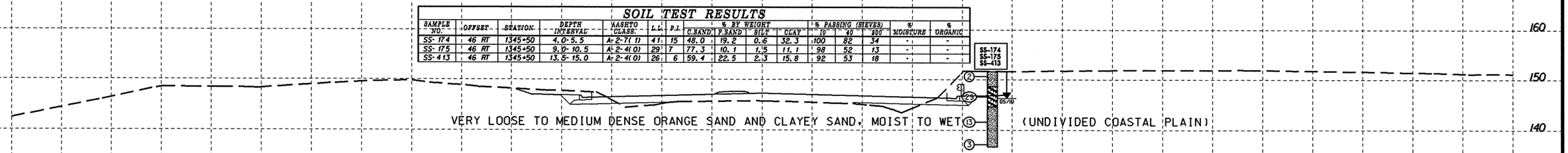
Customer: A1 (ID:23540)

8/23/99

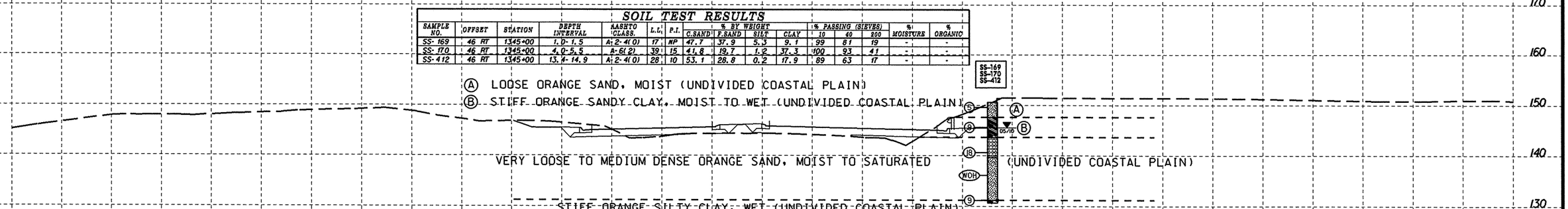
SOIL TEST RESULTS

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-174	46 RT	1345+50	4.0-5.5	A-2-7(1)	41	15	48.0	19.2	0.6	32.3	100	82	34	-	-
SS-175	46 RT	1345+50	9.0-10.5	A-2-4(0)	29	7	77.3	10.1	1.5	11.1	98	52	13	-	-
SS-413	46 RT	1345+50	13.5-15.0	A-2-4(0)	26	6	59.4	22.5	2.3	15.8	92	53	18	-	-



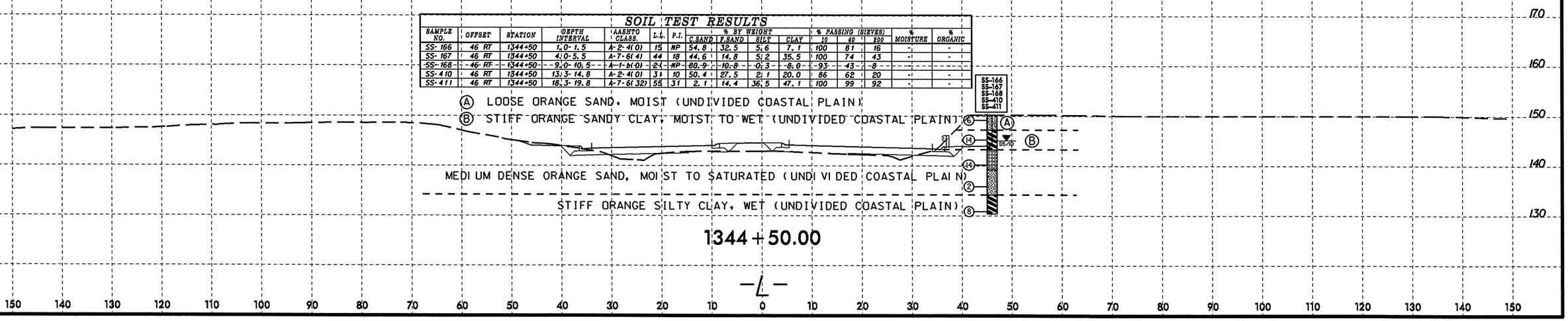
SOIL TEST RESULTS

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-169	46 RT	1345+00	1.0-1.5	A-2-4(0)	17	NP	47.7	37.9	5.3	9.1	99	81	19	-	-
SS-170	46 RT	1345+00	4.0-5.5	A-6(2)	39	15	41.8	19.7	1.2	37.3	100	93	41	-	-
SS-412	46 RT	1345+00	13.4-14.9	A-2-4(0)	28	10	53.1	28.8	0.2	17.9	89	63	17	-	-



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-166	46 RT	1344+50	1.0-1.5	A-2-4(0)	15	NP	54.8	32.5	5.6	7.1	100	81	16	-	-
SS-167	46 RT	1344+50	4.0-5.5	A-7-6(4)	44	18	44.6	14.8	5.2	35.5	100	74	43	-	-
SS-168	46 RT	1344+50	9.0-10.5	A-1-b(0)	21	NP	80.9	10.8	0.3	8.0	93	43	8	-	-
SS-410	46 RT	1344+50	13.3-14.8	A-2-4(0)	31	10	50.4	27.5	2.1	20.0	86	62	20	-	-
SS-411	46 RT	1344+50	18.3-19.8	A-7-6(32)	55	31	2.1	14.4	36.5	47.1	100	99	92	-	-



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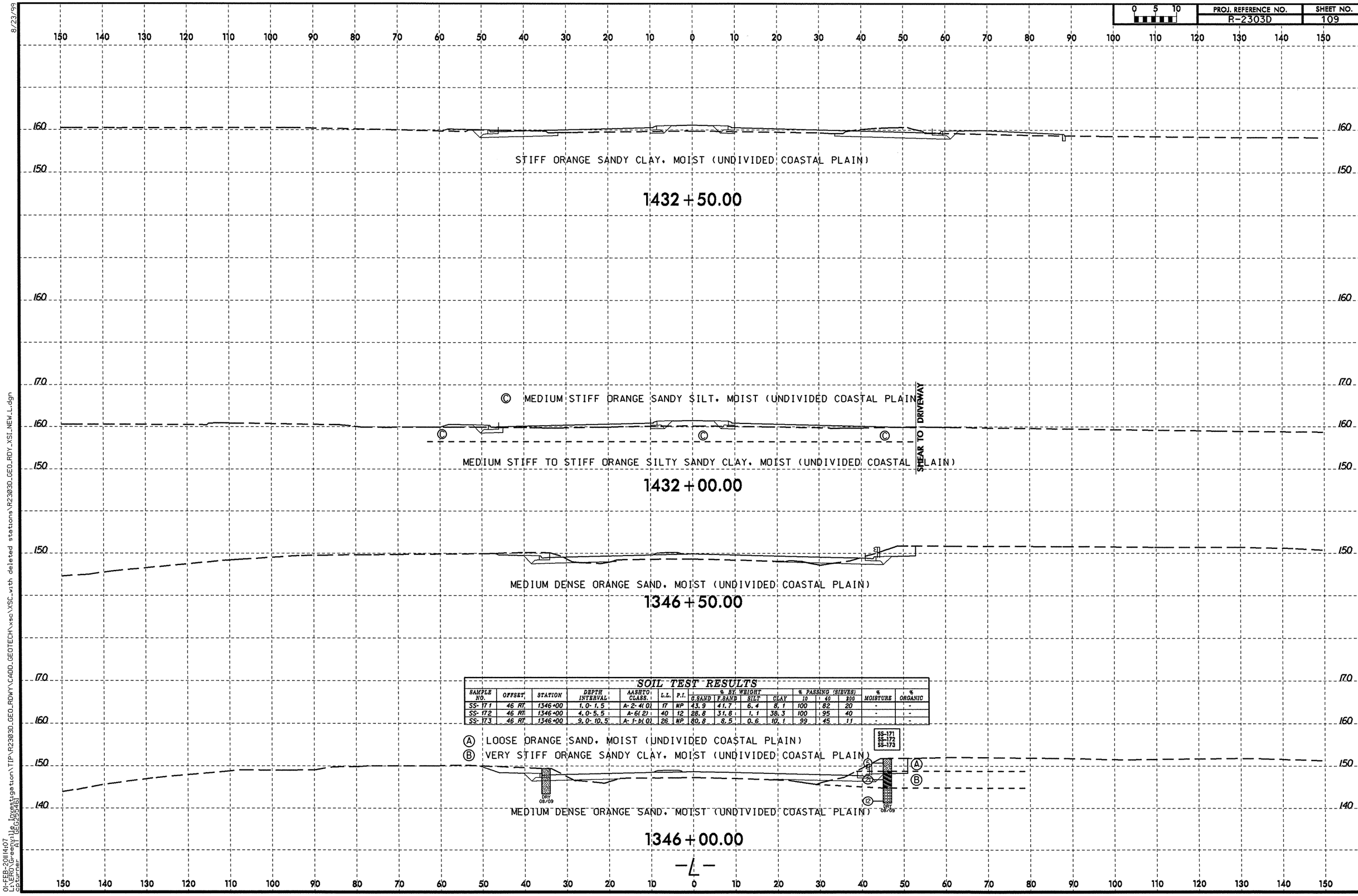

SOIL TEST RESULTS

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-171	46 RT	1346+00	1.0-1.5	A-2-4(0)	17	NP	43.9	41.7	6.4	8.1	100	82	20	-	-
SS-172	46 RT	1346+00	4.0-5.5	A-6(2)	40	12	28.8	31.8	1.1	38.3	100	95	40	-	-
SS-173	46 RT	1346+00	9.0-10.5	A-1-b(0)	26	NP	80.8	8.5	0.6	10.1	99	45	11	-	-

8/23/99

01-FEB-2011 14:07
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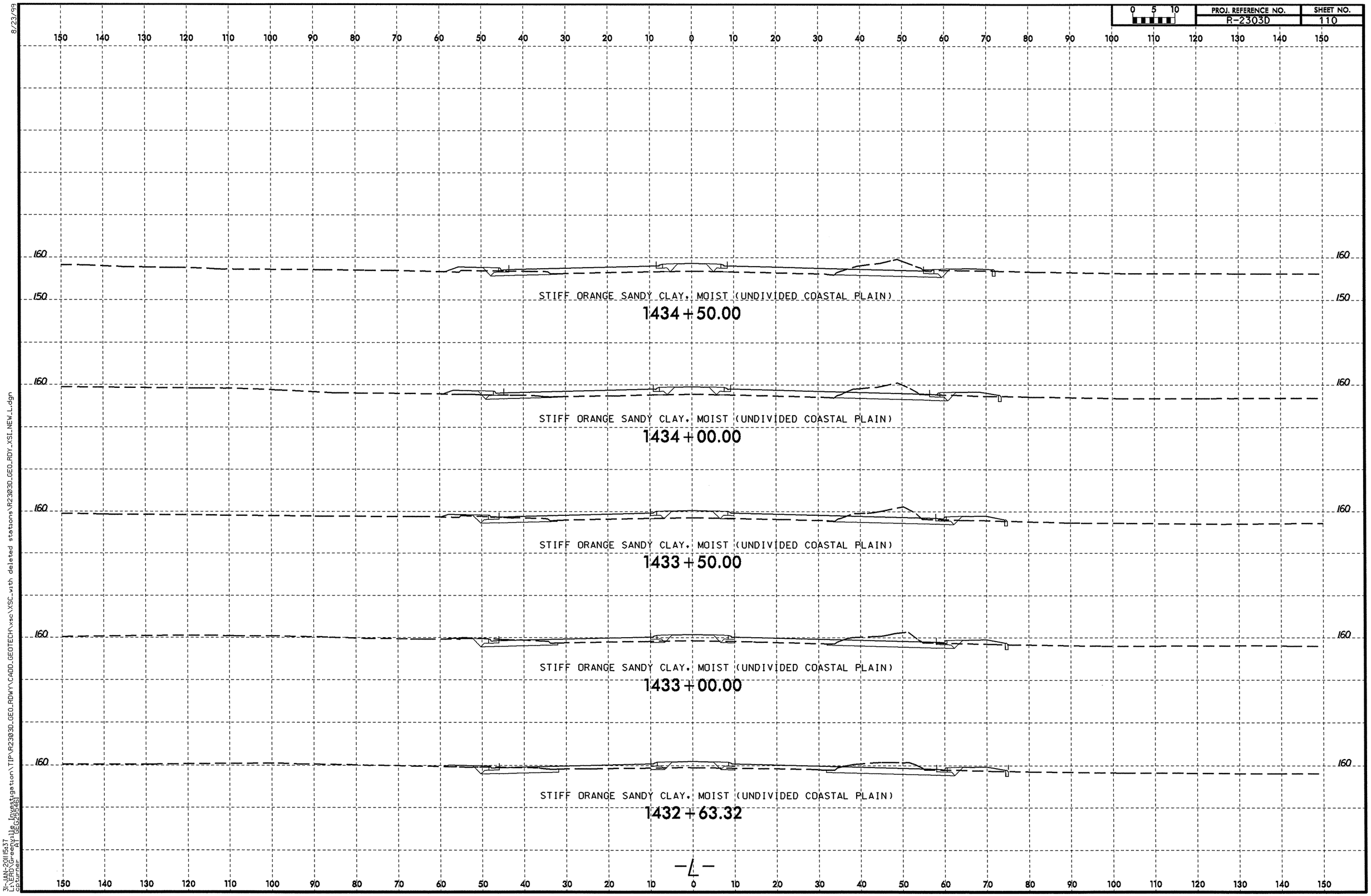

8/23/99

31-JAN-2011 15:37
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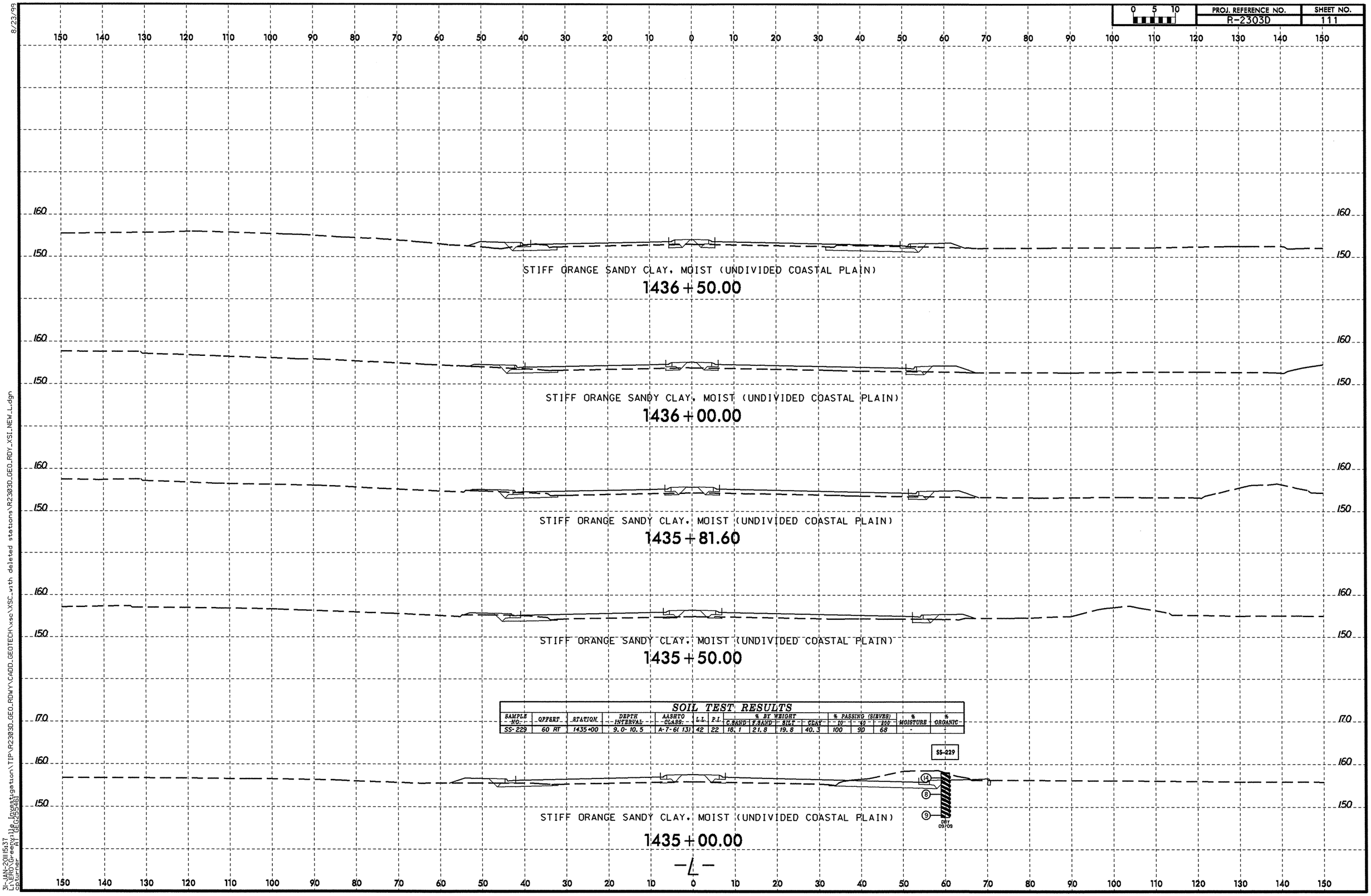
cpturner AT GEG255461

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	111



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-229	60 RT	1435+00	9.0-10.5	A-7-6(13)	42	22	18.1	21.8	19.8	40.3	100	90	68	-	

8/23/99

31-JAN-2011 15:37
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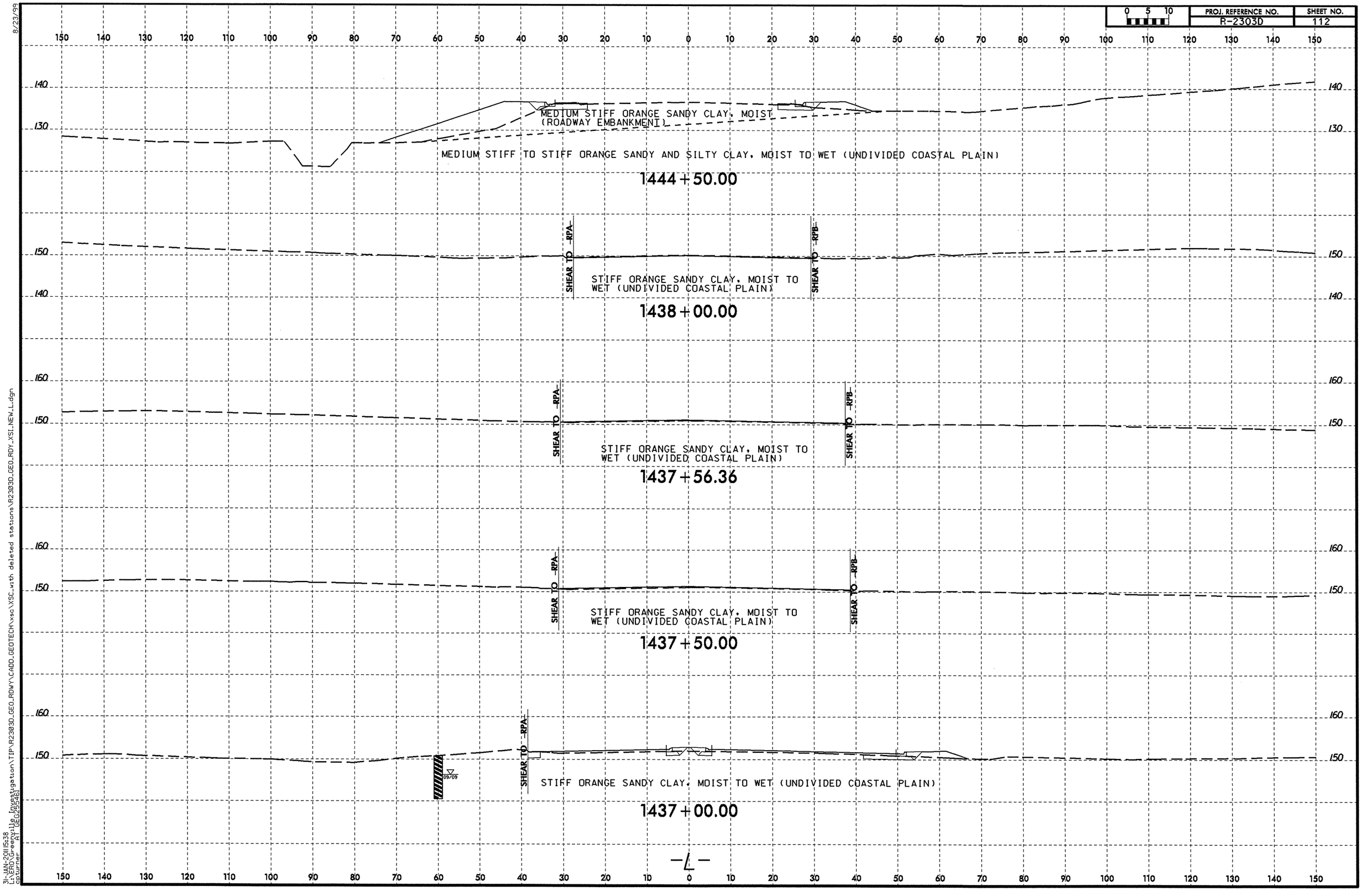
cpturner AT GEG255461



8/23/99

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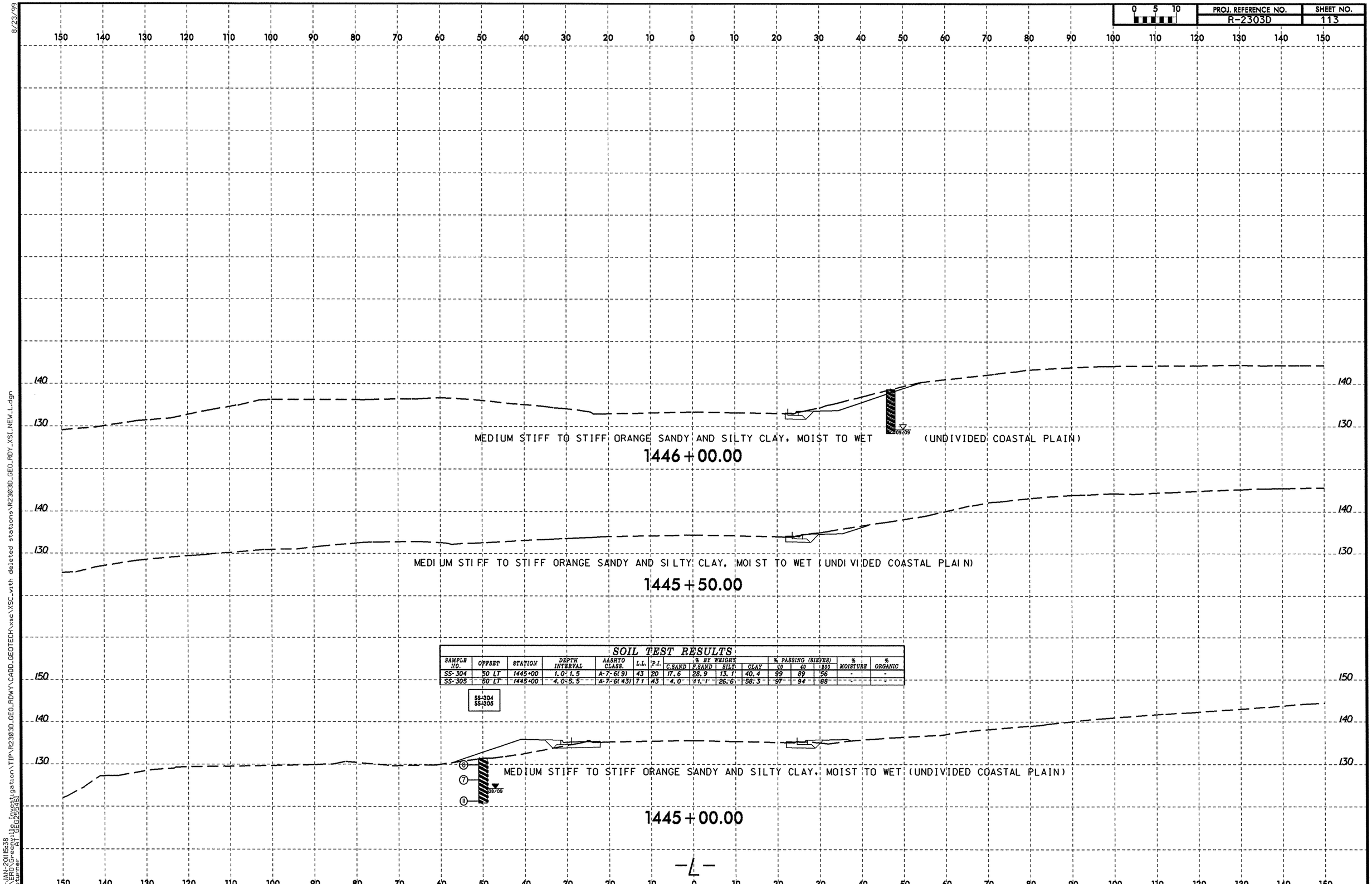
cpturner AT GEG25546I

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	113



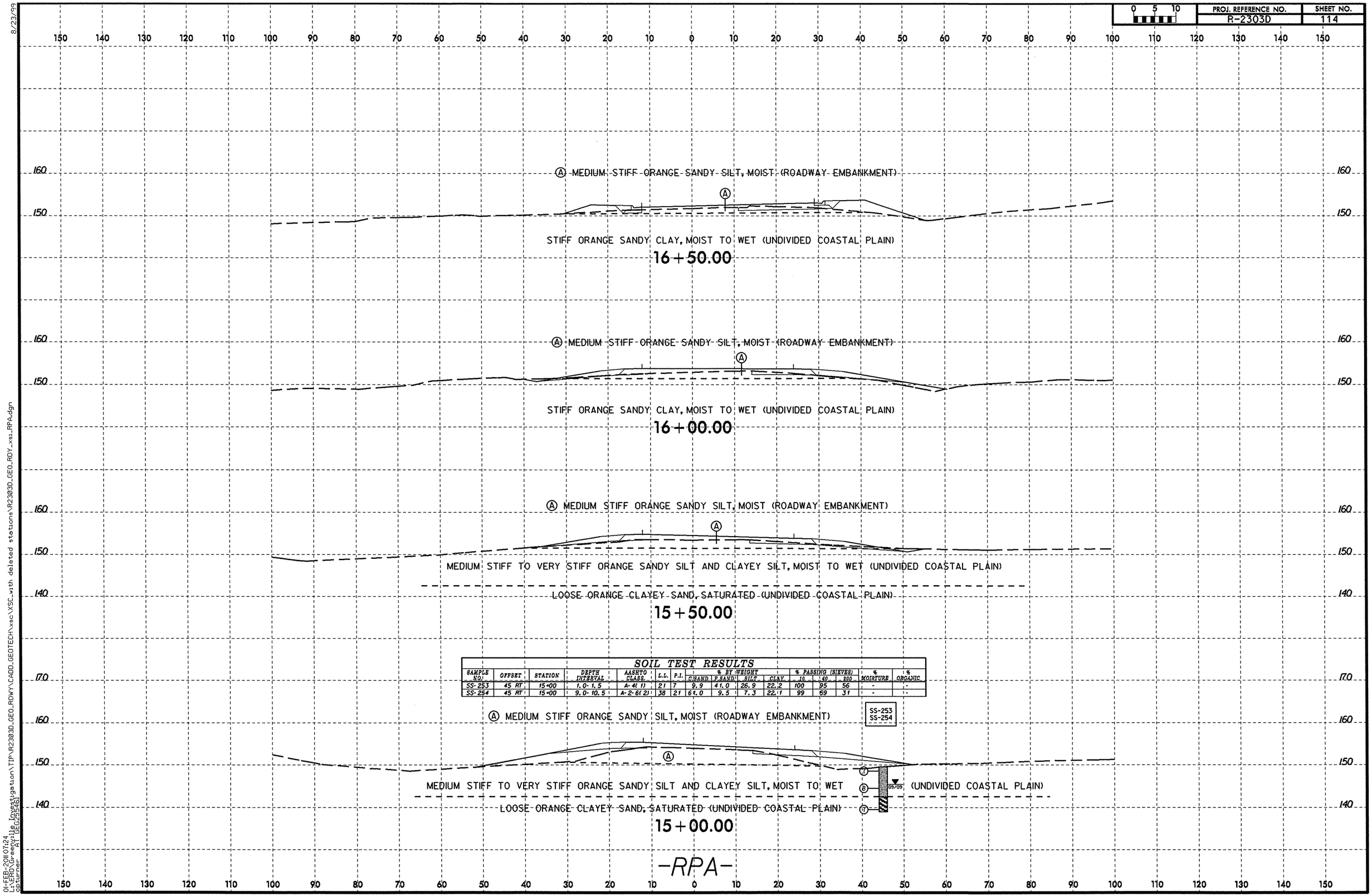
SOIL TEST RESULTS

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-304	50 LT	1445+00	1.0-1.5	A-7-6(9)	43	20	17.6	28.9	13.1	40.4	99	89	56	-	-
SS-305	50 LT	1445+00	4.0-5.5	A-7-6(43)	71	43	4.0	11.1	26.6	58.3	97	94	88	-	-

8/23/99

31-JAN-2011 15:38
L:\ERO\Greenville Investigation\TIP\R2303D_GEO_RDWY\CADD_GEOTECH\xsc\XSC_with deleted stations\R2303D_GEO_RDY_XSI_NEW_L.dgn
cpturner AT GEG255461

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	114



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-253	45 RT	15+00	1.0-1.5	A-4(1)	21	7	9.9	41.0	26.9	22.2	100	95	56	-	-
SS-254	45 RT	15+00	9.0-10.5	A-2-6(2)	38	21	61.0	9.5	7.3	22.1	99	59	31	-	-

8/23/99

01-FEB-2011 07:24
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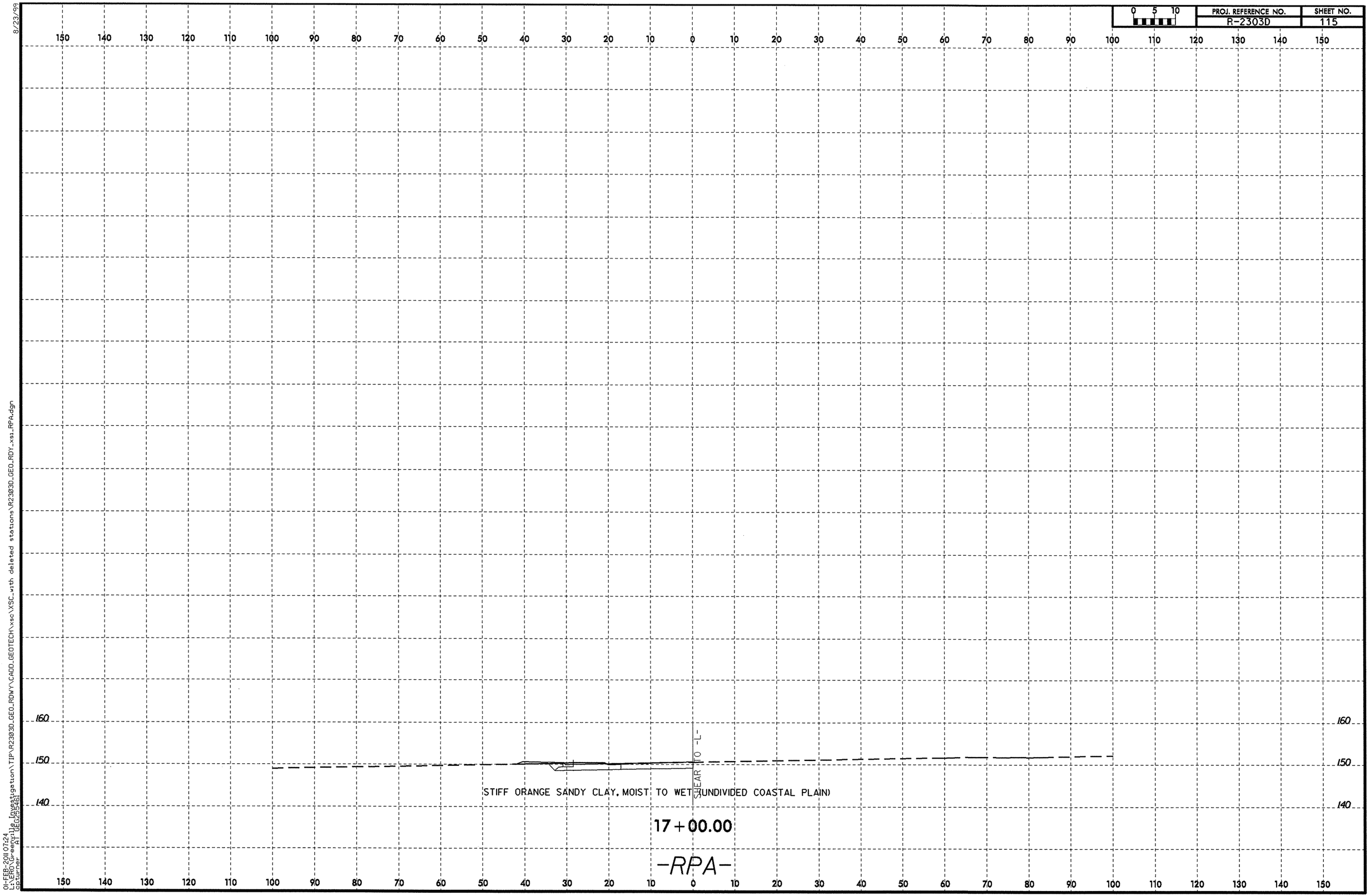
cpturner AT GEG255461



8/23/99

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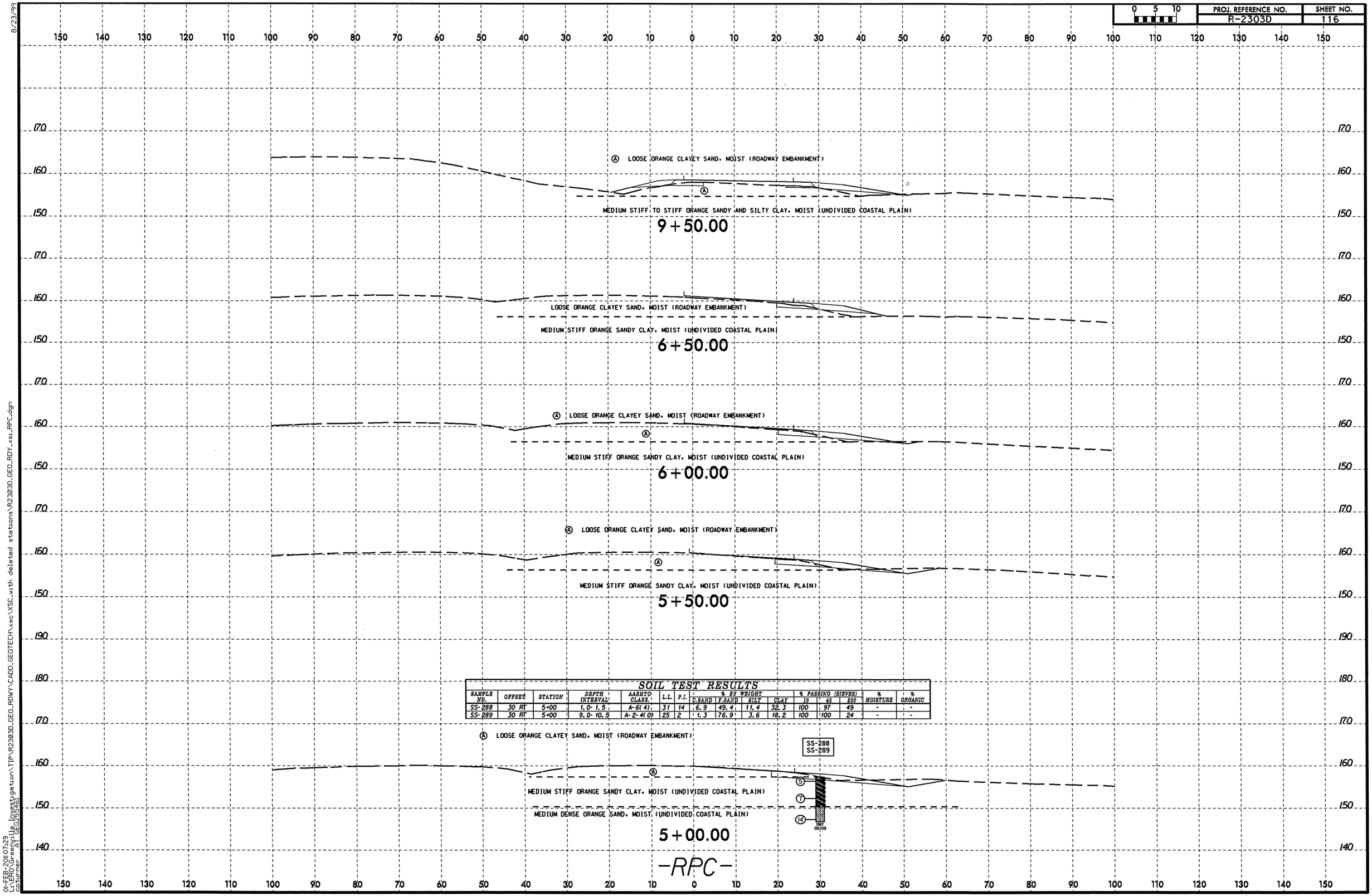
cpturner AT GEO255461

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	116



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-288	30 RT	5+00	1.0-1.5	A-6(4)	31	14	6.9	49.4	11.4	32.3	100	97	49	-	-
SS-289	30 RT	5+00	9.0-10.5	A-2-4(0)	25	2	1.3	76.9	3.6	18.2	100	100	24	-	-

8/23/99

01-FEB-2011 07:29
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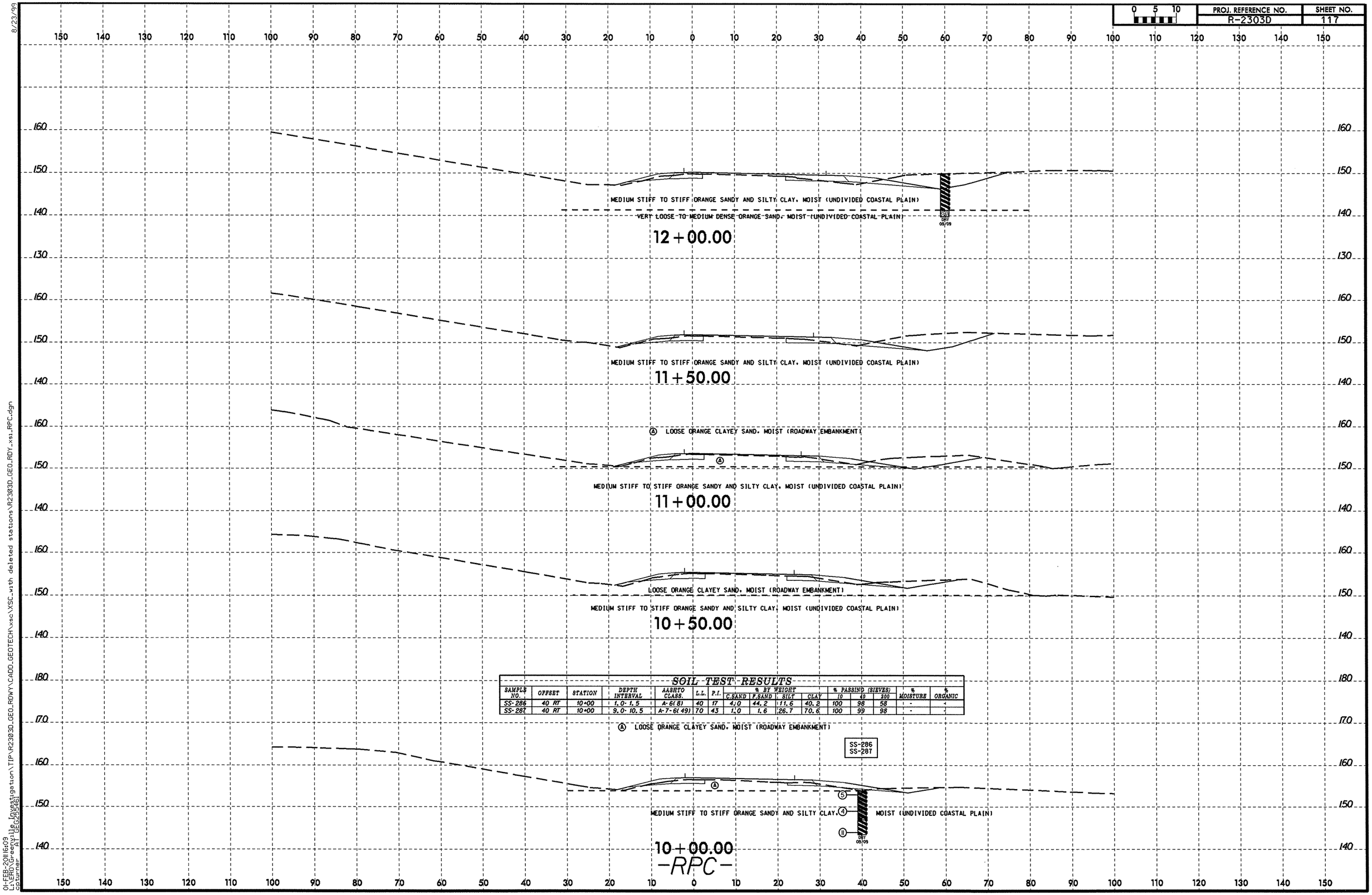
cpturner AT GEO255461

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	117



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-286	40 RT	10+00	1.0- 1.5	A-6(8)	40	17	4.0	44.2	11.6	40.2	100	98	58	-	-
SS-287	40 RT	10+00	9.0- 10.5	A-7-6(49)	70	43	1.0	1.6	26.7	70.6	100	99	98	-	-

8/23/99

01-FEB-2011 6:09
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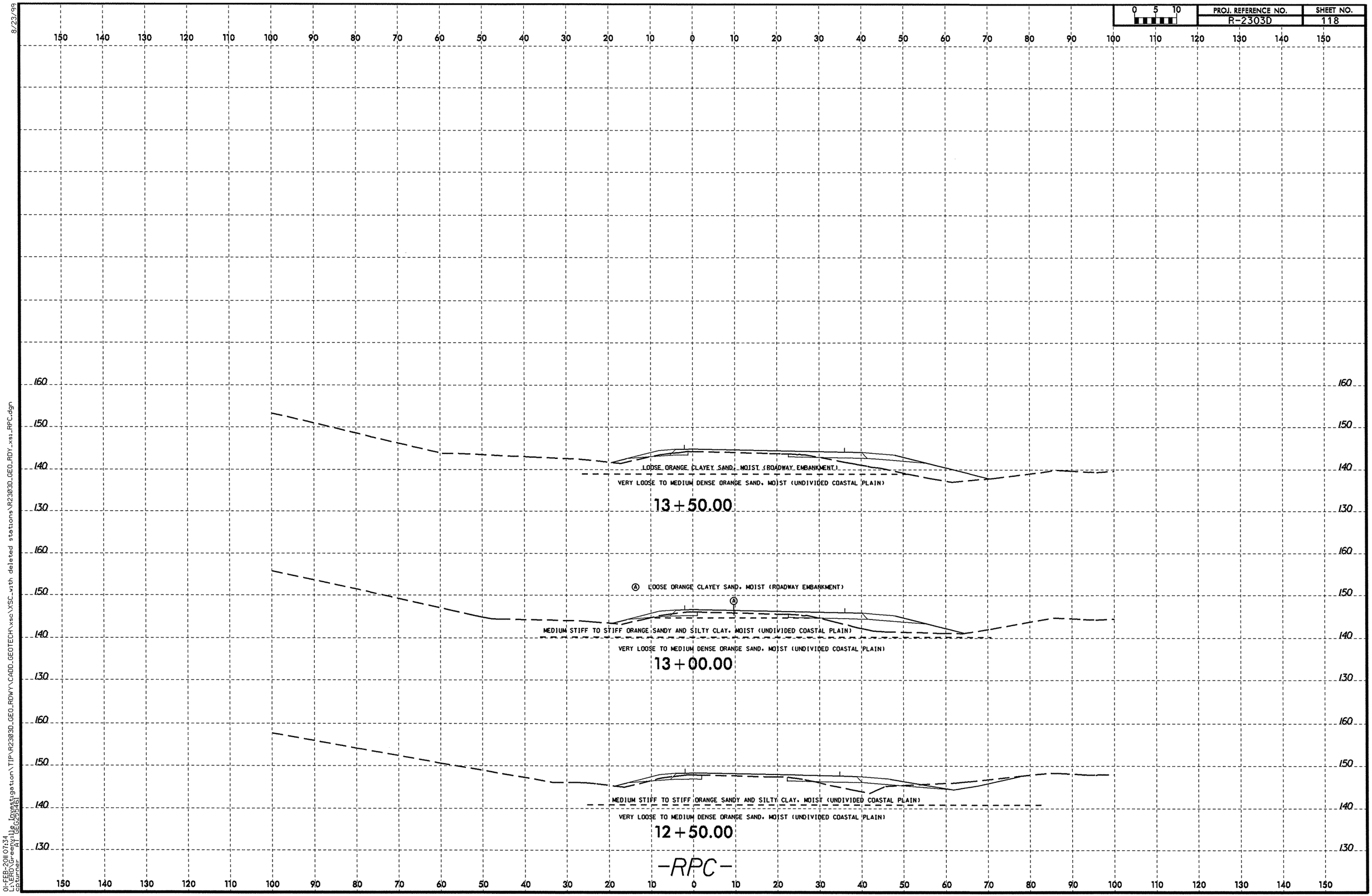
cpturner AT GEG25546I

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	118



8/23/99

01-FEB-2011 07:34
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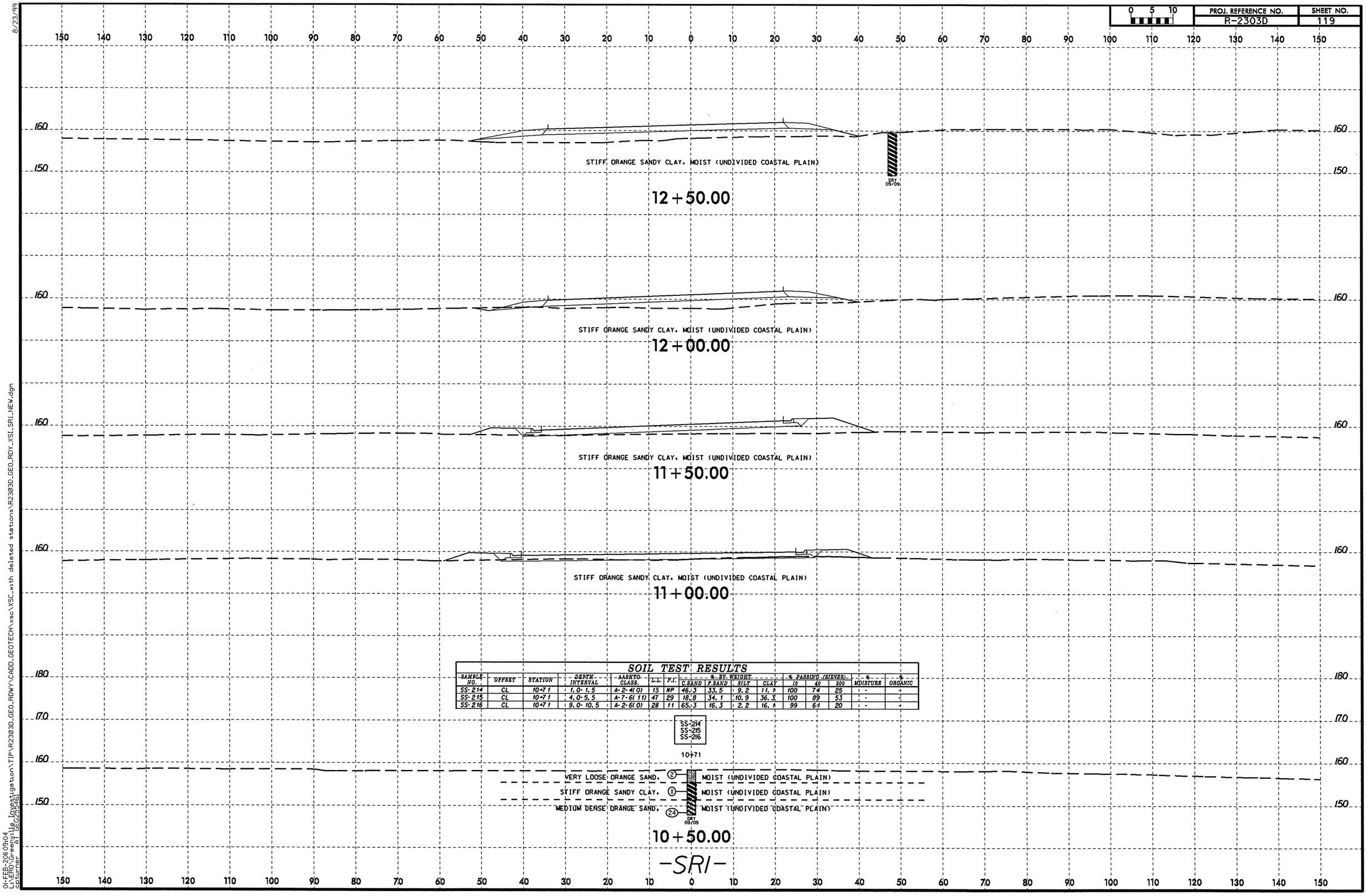
cpturner AT GEO25546

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	119



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-214	CL	10+71	1.0-1.5	A-2-4(0)	15	NP	46.3	33.5	9.2	11.0	100	74	25	-	-
SS-215	CL	10+71	4.0-5.5	A-7-6(11)	47	29	18.8	34.1	10.9	36.3	100	89	53	-	-
SS-216	CL	10+71	9.0-10.5	A-2-6(0)	28	11	65.3	16.3	2.2	16.0	99	61	20	-	-

8/23/99

01-FEB-2011 09:04
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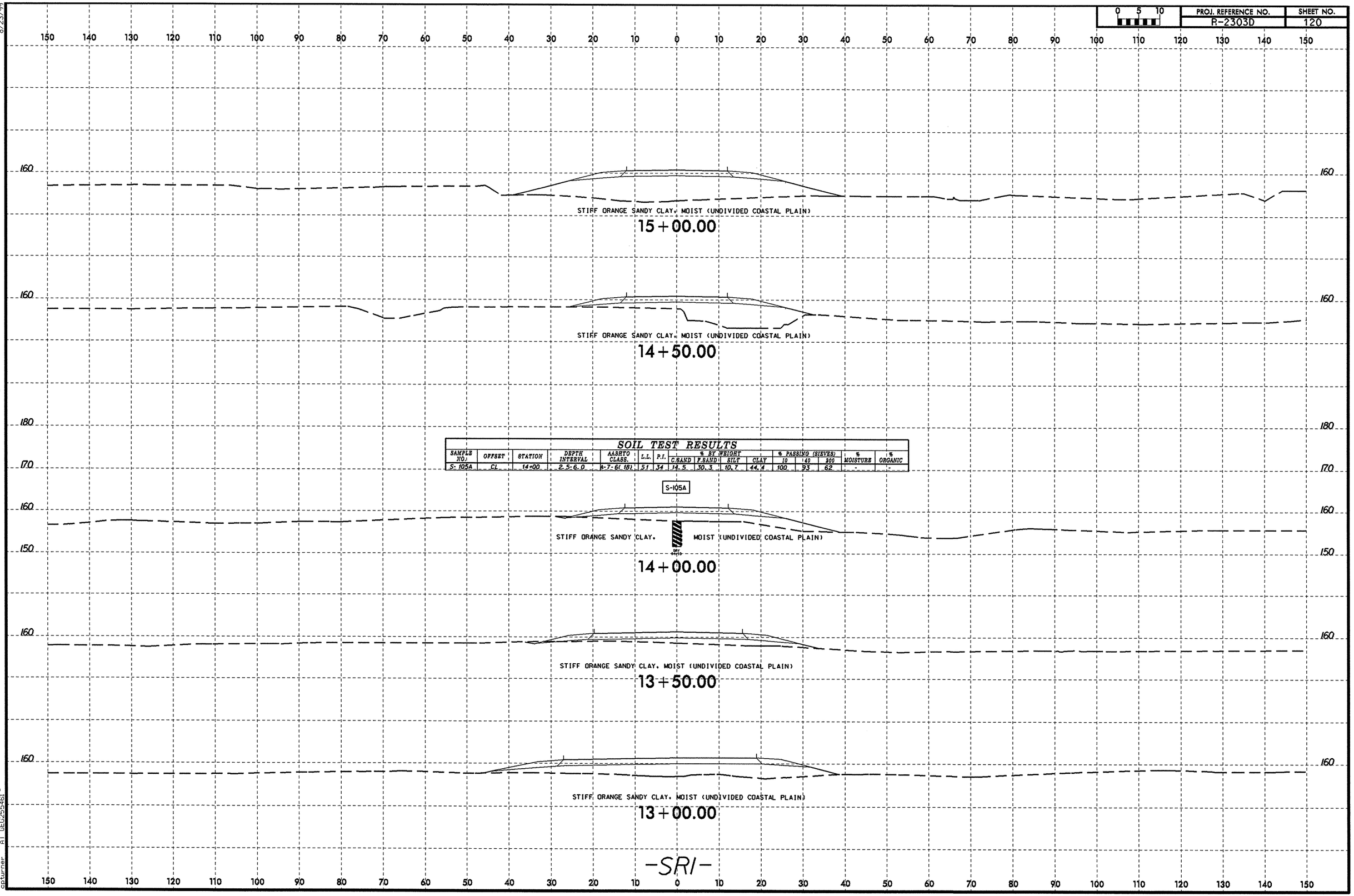
cpturner AT GEO29546

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	120

0 5 10



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
S-105A	CL	14+00	2.5-6.0	A-7-6(18)	51	34	14.5	30.3	10.7	44.4	100	93	62	-	-

8/23/99

01-FEB-2011 09:04
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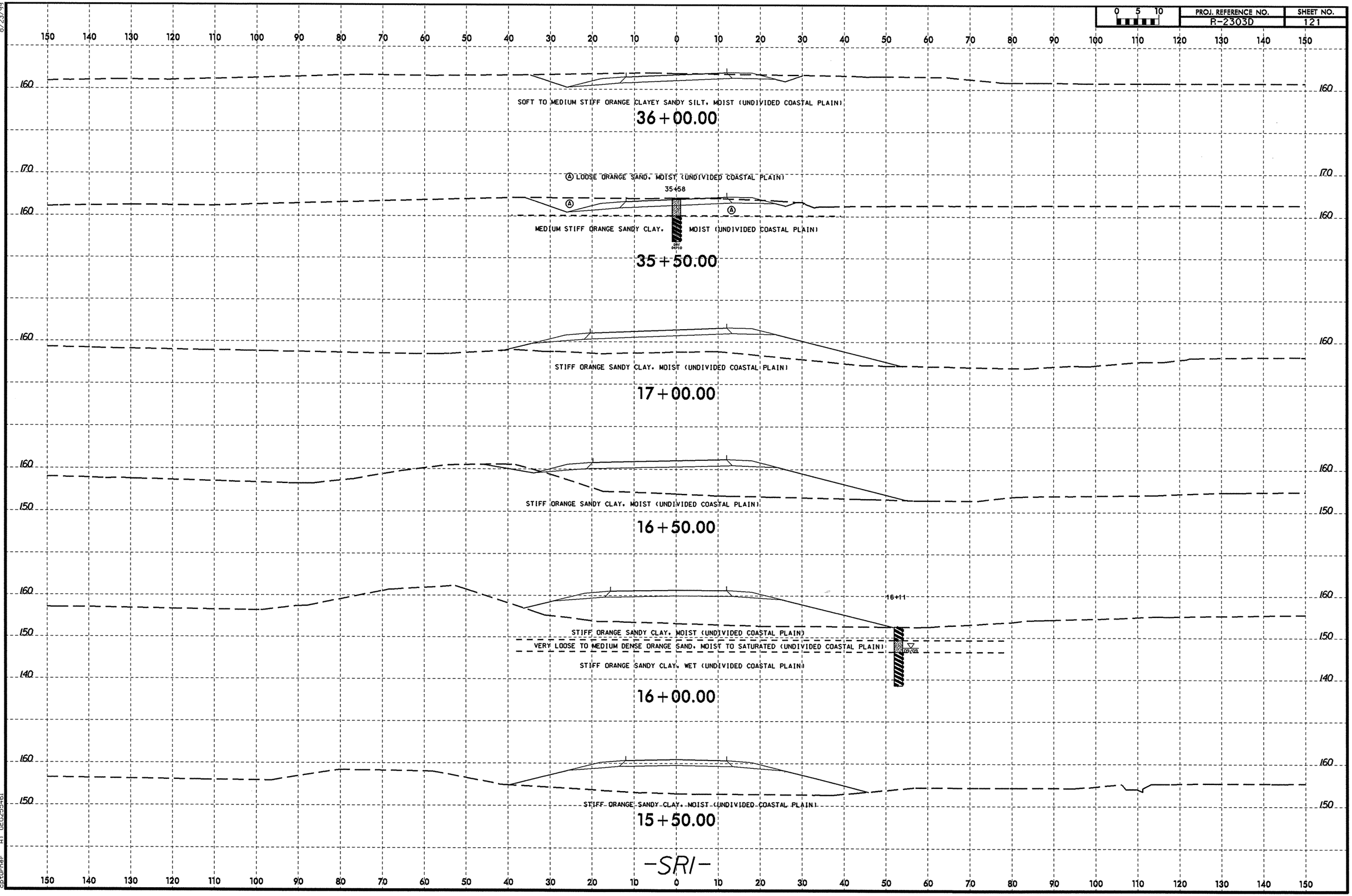

8/23/99

01-FEB-2011 09:05
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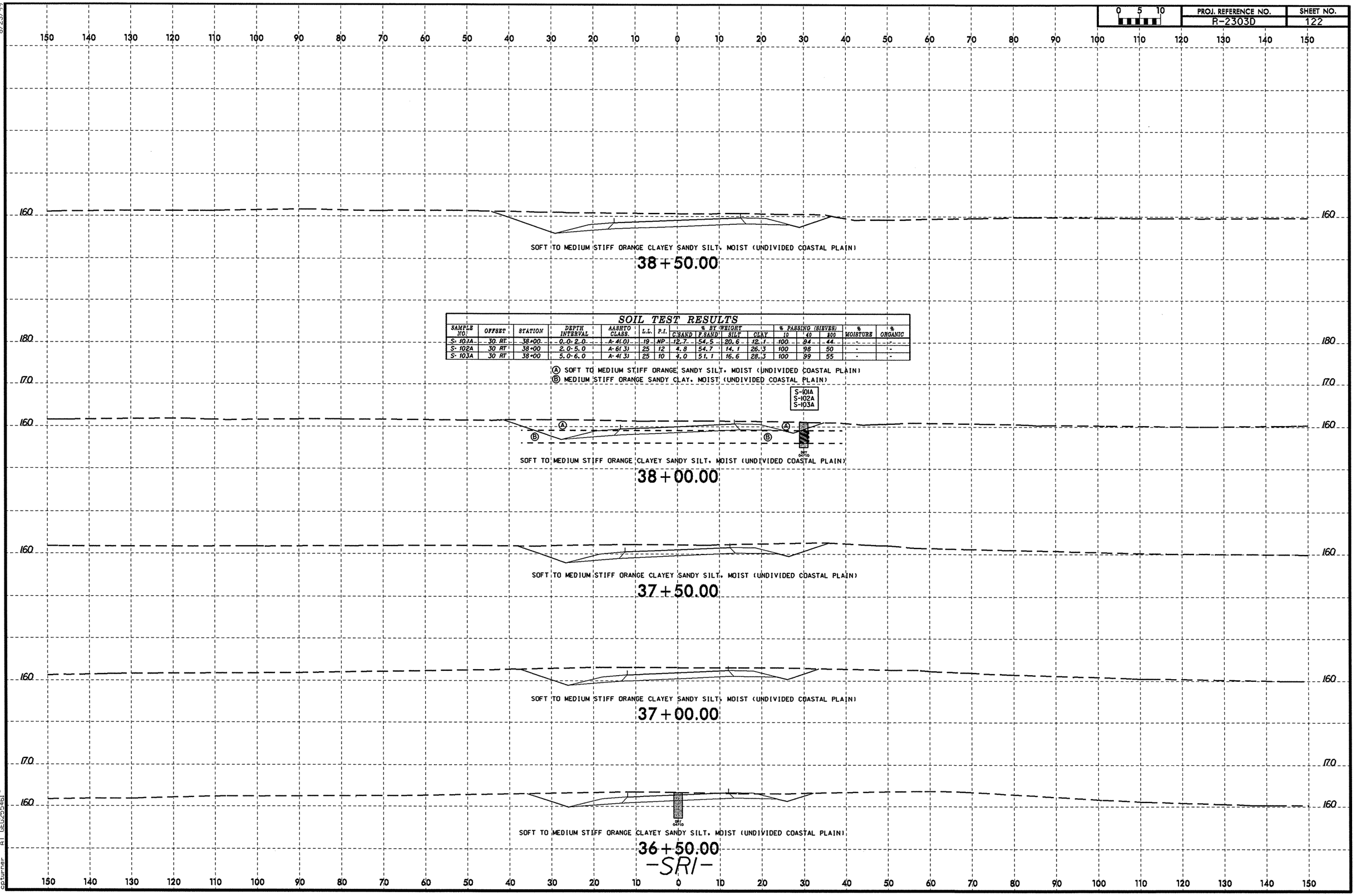
cpturner AT GEG255461

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	122



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
S-101A	30 RT	38+00	0.0-2.0	A-4(0)	19	NP	12.7	54.5	20.6	12.1	100	94	44	-	-
S-102A	30 RT	38+00	2.0-5.0	A-6(3)	25	12	4.8	54.7	14.1	26.3	100	98	50	-	-
S-103A	30 RT	38+00	5.0-6.0	A-4(3)	25	10	4.0	51.1	16.6	28.3	100	99	55	-	-

Ⓐ SOFT TO MEDIUM STIFF ORANGE SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)
Ⓑ MEDIUM STIFF ORANGE SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)

8/23/99

01-FEB-2011 09:06
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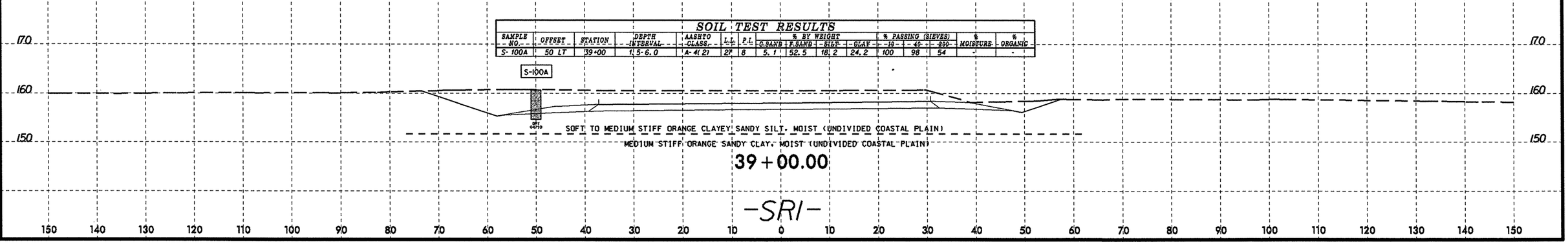
cpturner AT GEG255461

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	123

0 5 10



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT G.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-100A	50 LT	39+00	1.5-6.0	A-4(2)	27	8	5.1	52.5	18.2	24.2	100	98	54	-	-

8/23/99

01-FEB-2011 09:06
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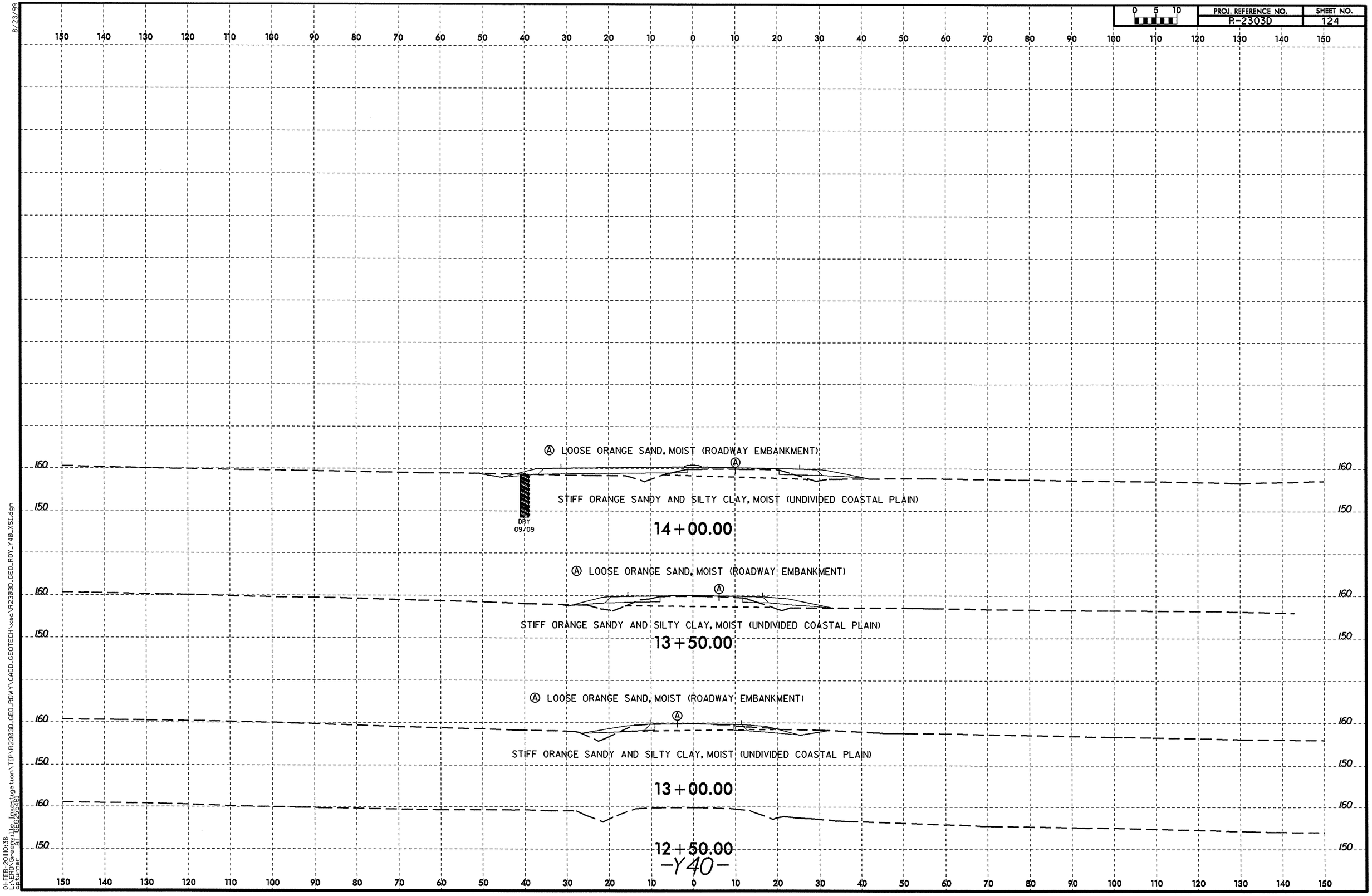
cpturner AT GEO25546I



8/23/99

01-FEB-2011 10:38
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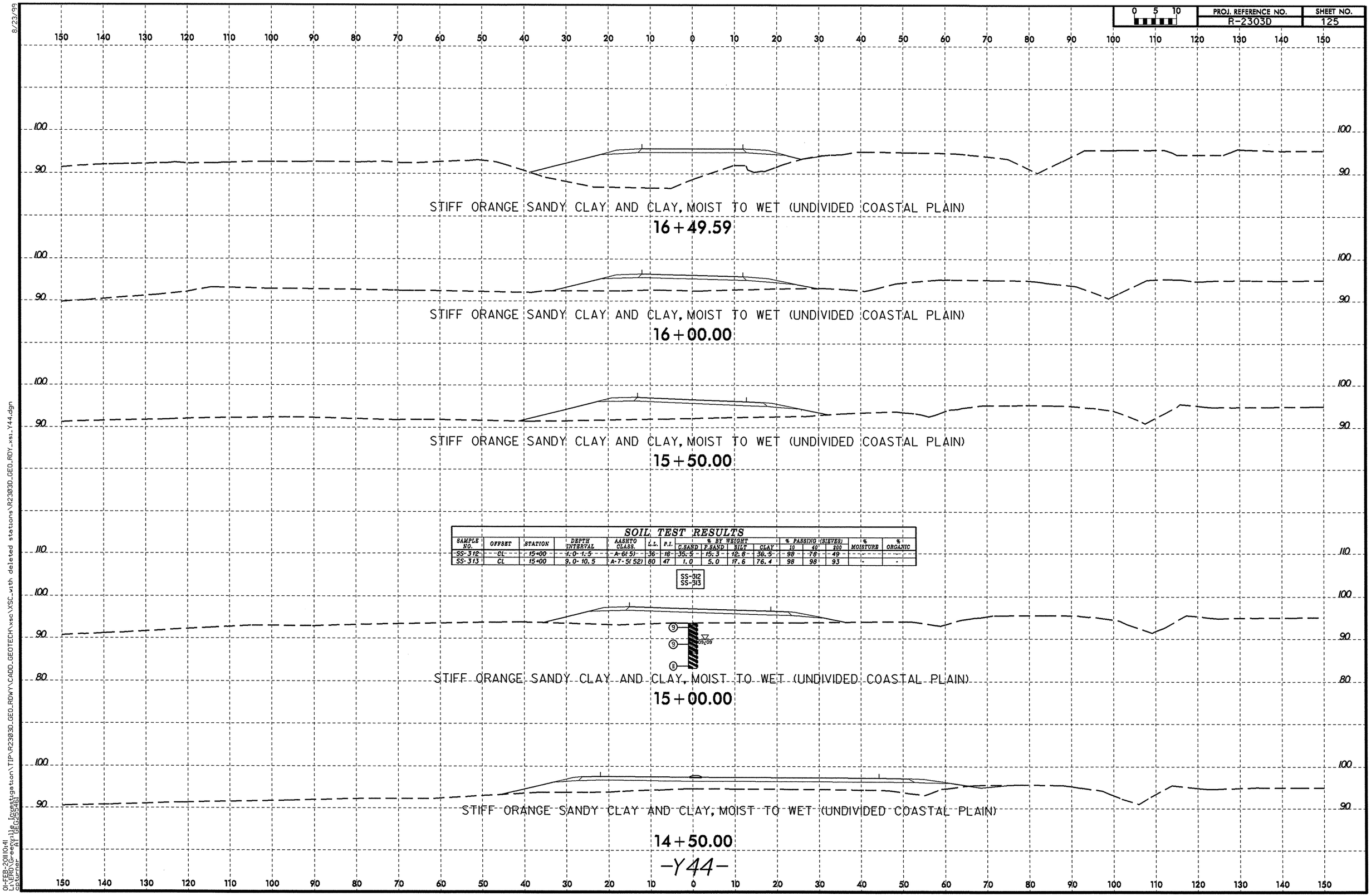
cpturner AT GEG25546I

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	125



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-312	CL	15+00	1.0-1.5	A-6(5)	36	18	35.5	15.3	12.8	36.5	98	78	49	-	-
SS-313	CL	15+00	9.0-10.5	A-7-5(52)	80	47	1.0	5.0	17.6	76.4	98	98	93	-	-

8/23/99

01-FEB-2011 10:41
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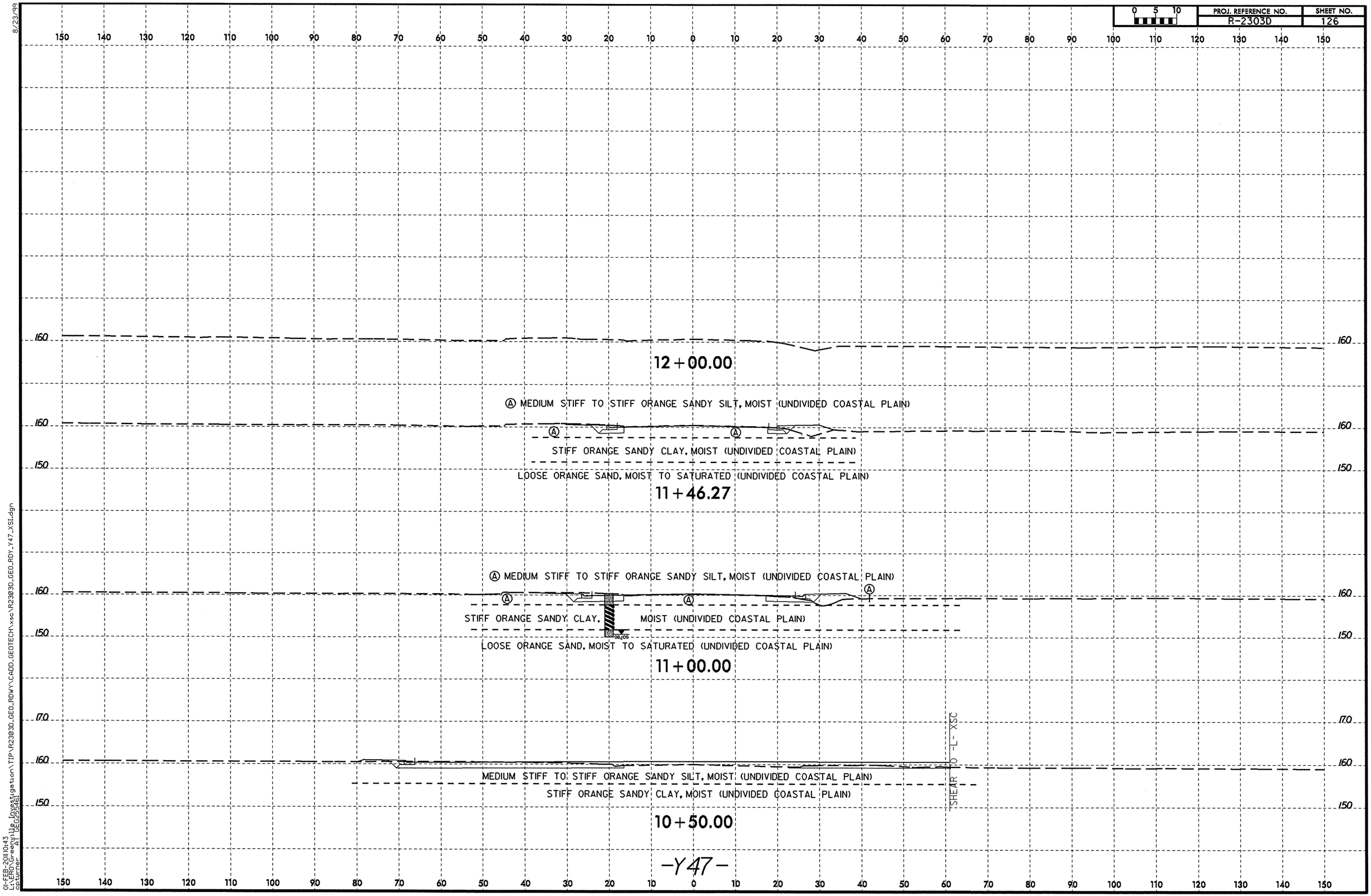
cpturner AT GEG255461



8/23/99

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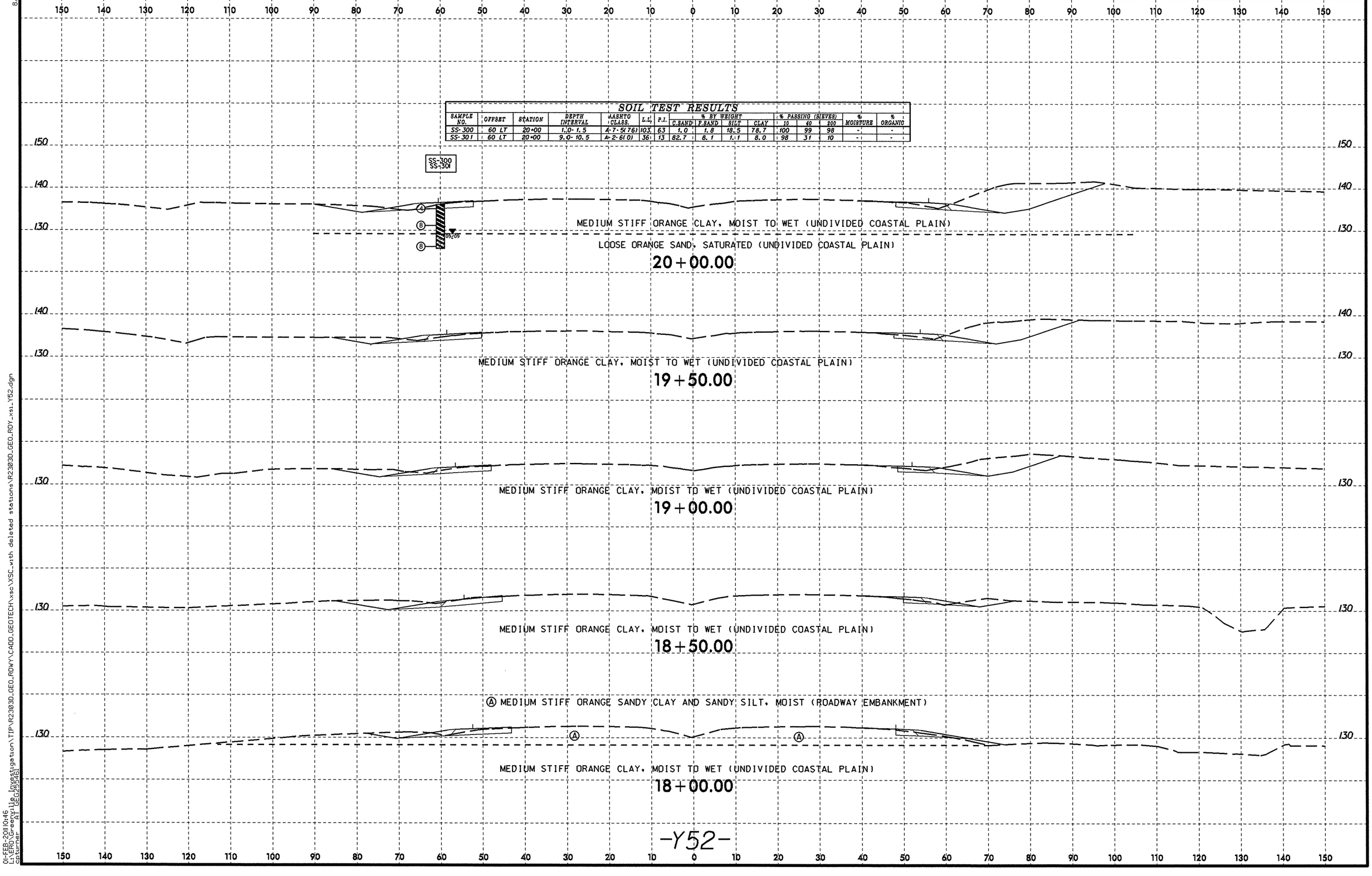
cpturner AT GEG255461

PROJ. REFERENCE NO.	SHEET NO.
R-2303D	127

0 5 10

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-300	60 LT	20+00	1.0- 1.5	A-7-5(76)	103	63	1.0	1.8	18.5	78.7	100	99	98	-	-
SS-301	60 LT	20+00	9.0- 10.5	A-2-6(0)	36	13	82.7	8.1	1.1	8.0	98	31	10	-	-



8/23/99

01-FEB-2011 10:46
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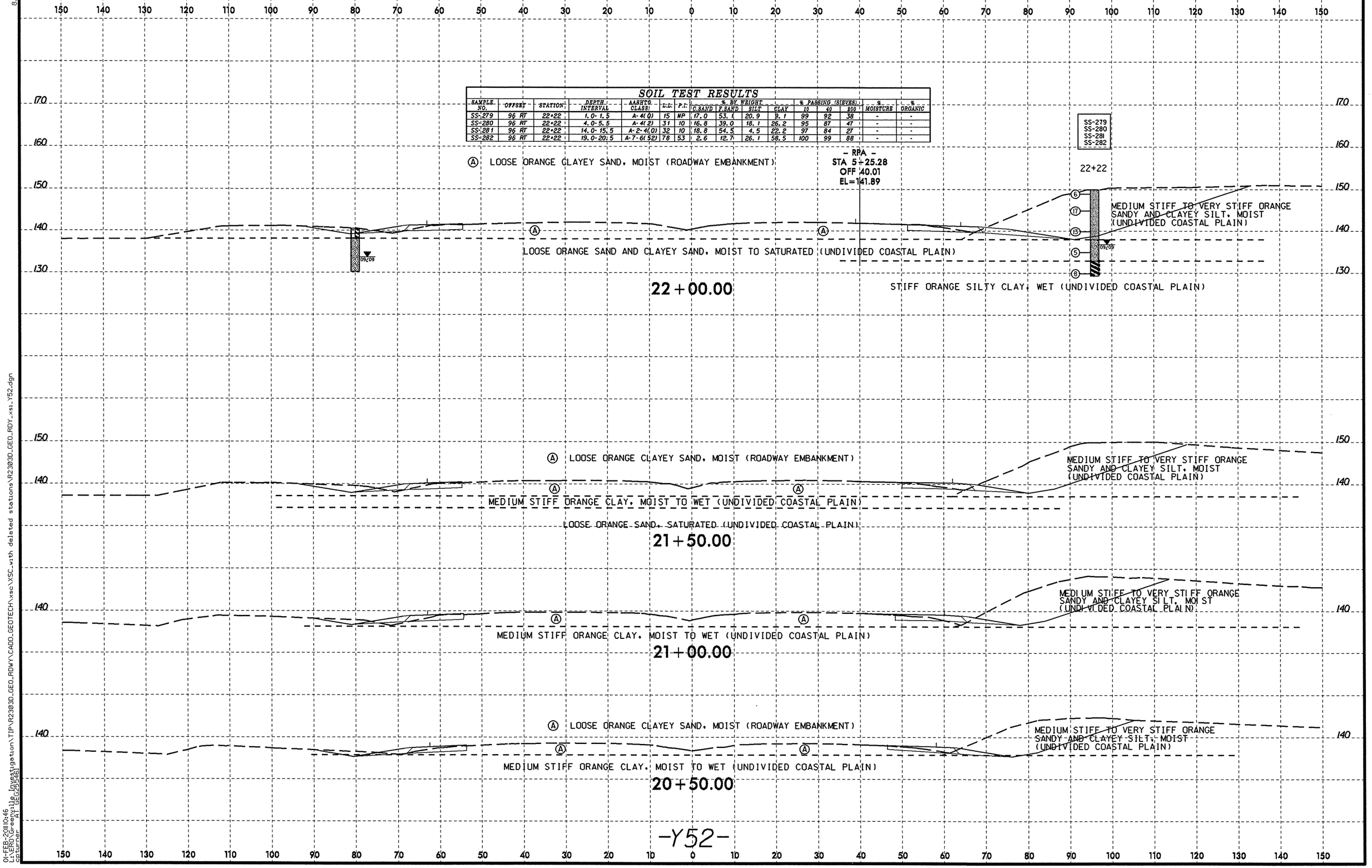
cpturner AT GEG255461

PROJ. REFERENCE NO. R-2303D | SHEET NO. 128



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-279	96 RT	22+22	1.0-1.5	A-4(0)	15	NP	17.0	53.1	20.9	9.1	99	92	38	-	-
SS-280	96 RT	22+22	4.0-5.5	A-4(2)	31	10	16.8	39.0	18.1	26.2	95	87	47	-	-
SS-281	96 RT	22+22	14.0-15.5	A-2-4(0)	32	10	18.8	54.5	4.5	22.2	97	84	27	-	-
SS-282	96 RT	22+22	19.0-20.5	A-7-6(52)	78	53	2.6	12.7	26.1	58.5	100	99	88	-	-

8/23/99
01-FEB-2011 10:46
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cpturner AT GEG255461

APPENDIX 1

NOTE: SOIL DESCRIPTIONS MAY NOT AGREE WITH WHAT IS SHOWN ON THE ATTACHED PROFILE AND CROSS SECTION SHEETS.

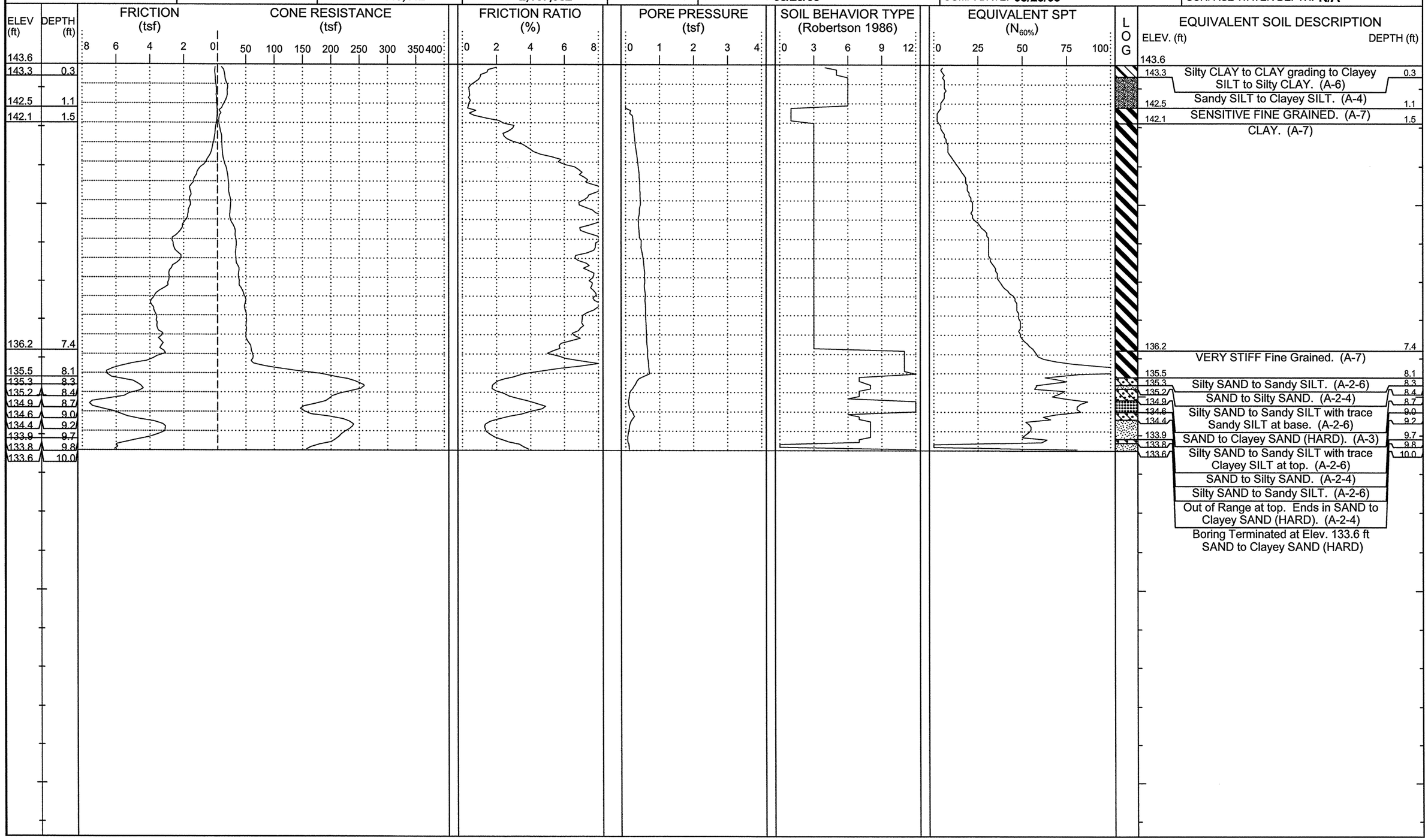
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	1	93

CATLIN #: 209059.01 PAGE 1 of 1

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1097**	STATION: **1097+00**	OFFSET: **40ft RT**	ALIGNMENT: **-L-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **143.6 ft**	TOTAL DEPTH: **10.0 ft**	NORTHING: **443,112**	EASTING: **2,167,952**	24 HR. **N/A** / START DATE: **08/25/09**	COMP. DATE: **08/25/09** / SURFACE WATER DEPTH: **N/A**



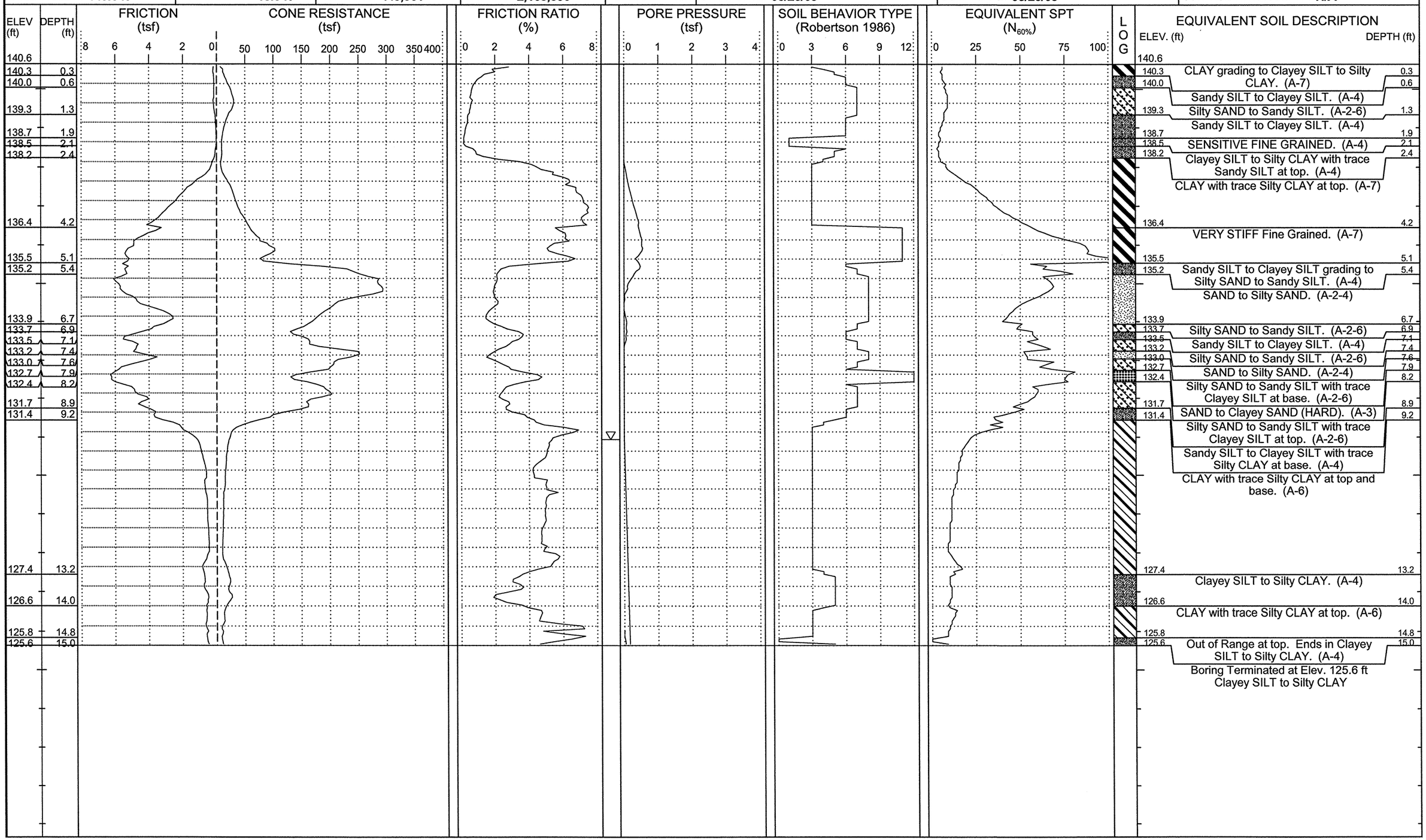
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	2	93

CATLIN #: 209059.01 PAGE 1 of 1

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone**	DRILLER: **Donald B. Coogan**
BORING NO.: **L-1102**	STATION: **1102+00**	OFFSET: **36ft RT**	ALIGNMENT: **-L-**	0 HR. **9.7**	ROD TYPE: **Pre-strung**	CONE ID: **DSA1123**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **140.6 ft**	TOTAL DEPTH: **15.0 ft**	NORTHING: **443,361**	EASTING: **2,168,390**	24 HR. **N/A**	START DATE: **08/25/09**	COMP. DATE: **08/25/09**	SURFACE WATER DEPTH: **N/A**



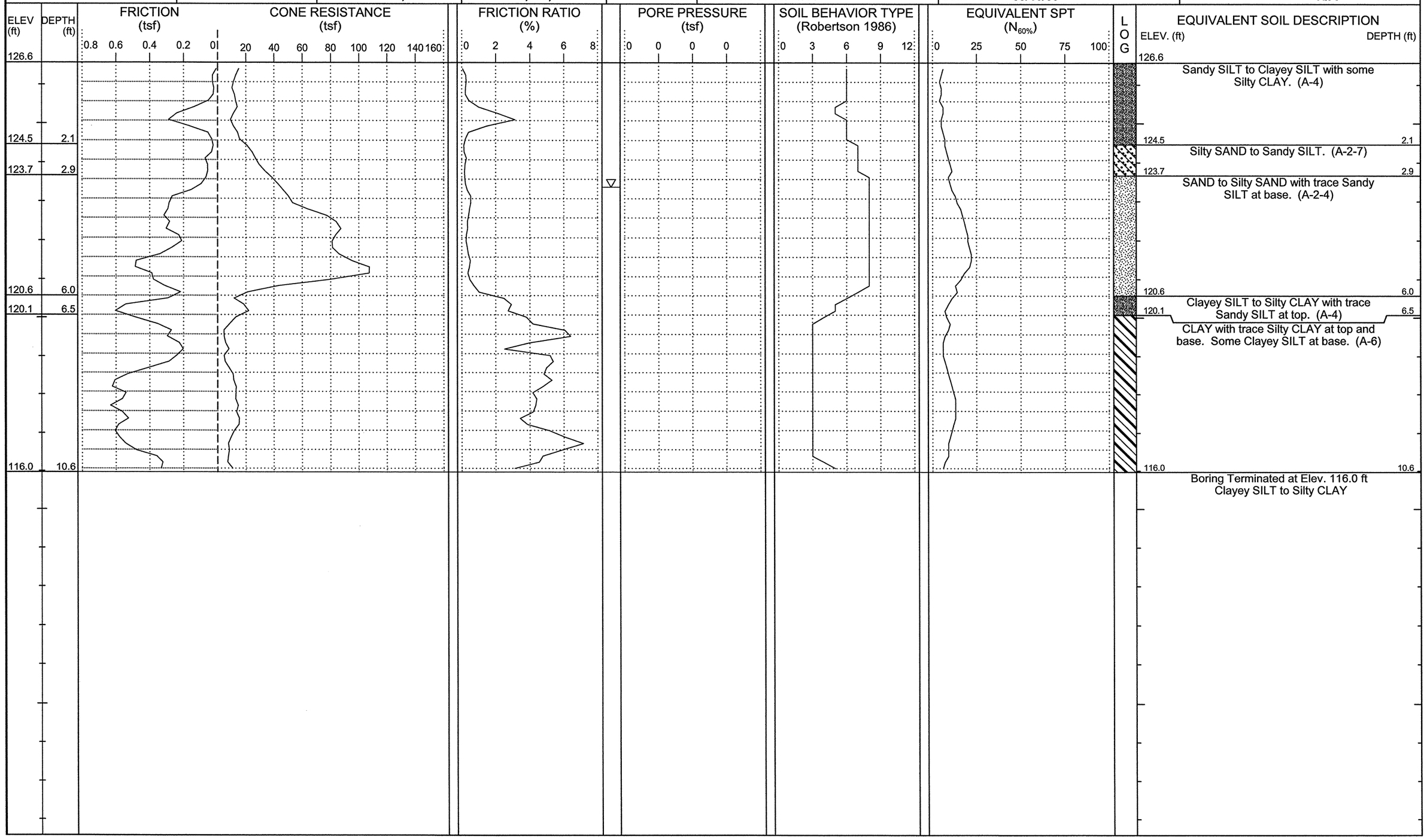
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	3	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1107**	STATION: **1107+08**	OFFSET: **47ft RT**	ALIGNMENT: **-L-**	0 HR. **3.2** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **126.6 ft**	TOTAL DEPTH: **10.6 ft**	NORTHING: **443,610**	EASTING: **2,168,829**	24 HR. **N/A** / START DATE: **09/10/09**	COMP. DATE: **09/10/09** / SURFACE WATER DEPTH: **N/A**



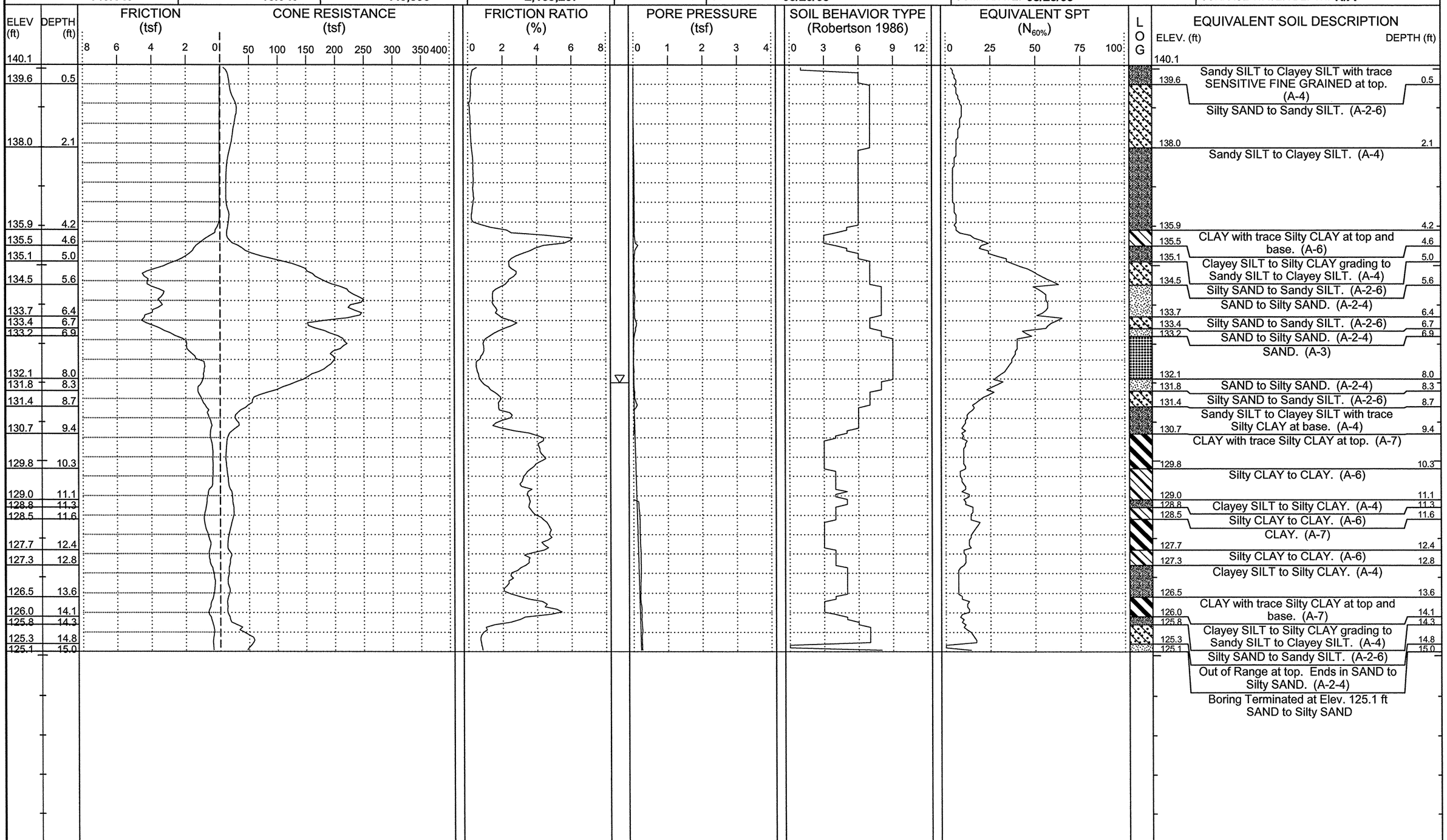
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	4	93

CATLIN #: 209059.01 PAGE 1 of 1

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone**	DRILLER: **Donald B. Coogan**
BORING NO.: **L-1112**	STATION: **1112+03**	OFFSET: **13ft RT**	ALIGNMENT: **-L-**	0 HR. **8.1**	ROD TYPE: **Pre-strung**	CONE ID: **DSA1123**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **140.1 ft**	TOTAL DEPTH: **15.0 ft**	NORTHING: **443,893**	EASTING: **2,169,237**	24 HR. **N/A**	START DATE: **08/25/09**	COMP. DATE: **08/25/09**	SURFACE WATER DEPTH: **N/A**



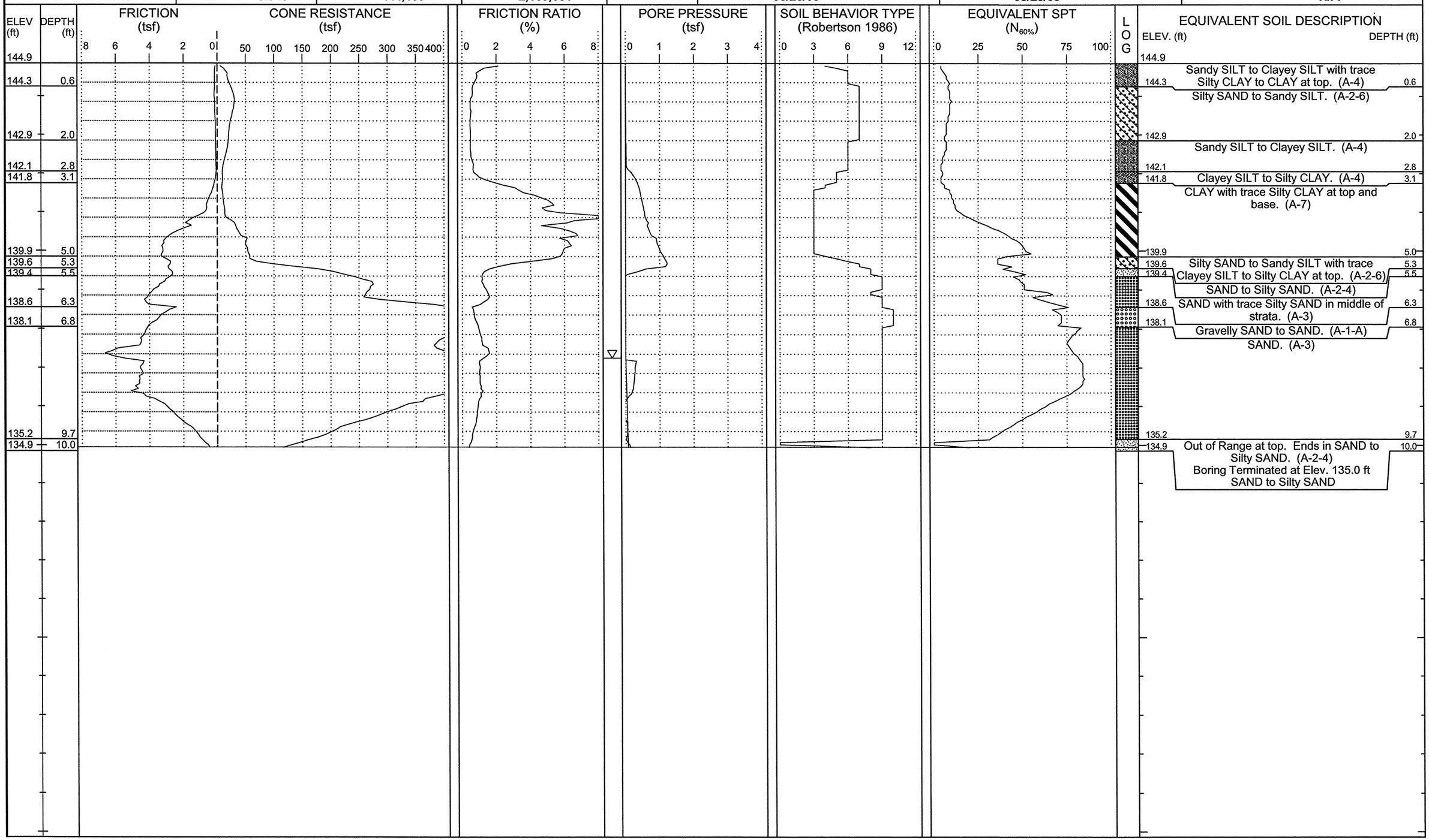
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	5	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1117**	STATION: **1117+03**	OFFSET: **3ft RT**	ALIGNMENT: **-L-**	0 HR. **7.6** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **144.9 ft**	TOTAL DEPTH: **9.9 ft**	NORTHING: **444,159**	EASTING: **2,169,661**	24 HR. **N/A** / START DATE: **08/25/09**	COMP. DATE: **08/25/09** / SURFACE WATER DEPTH: **N/A**



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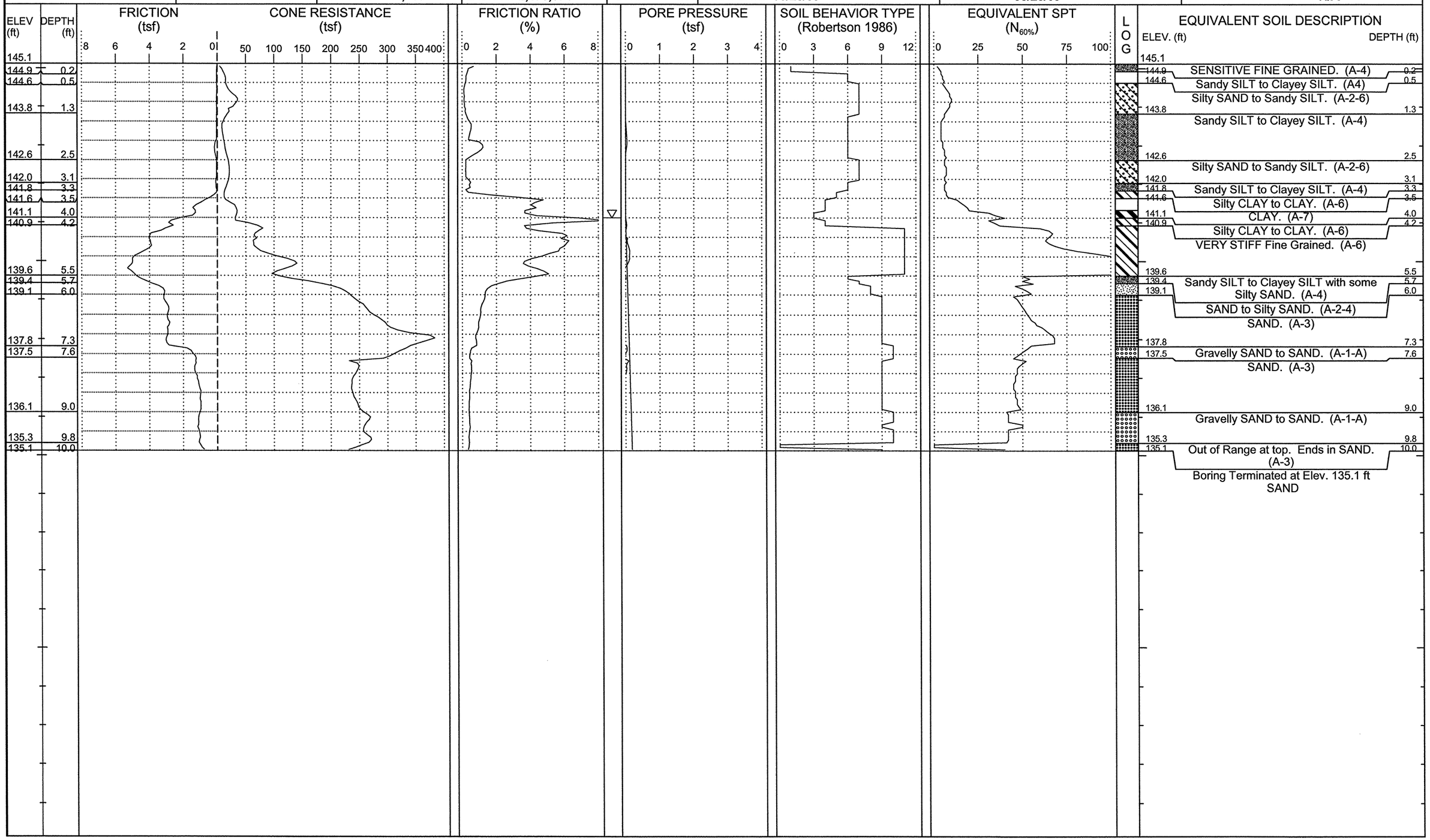
CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	6	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1122**	STATION: **1122+00**	OFFSET: **6ft RT**	ALIGNMENT: **-L-**	0 HR. **4.0** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **145.1 ft**	TOTAL DEPTH: **10.0 ft**	NORTHING: **444,435**	EASTING: **2,170,074**	24 HR. **N/A** / START DATE: **08/25/09**	COMP. DATE: **08/25/09** / SURFACE WATER DEPTH: **N/A**



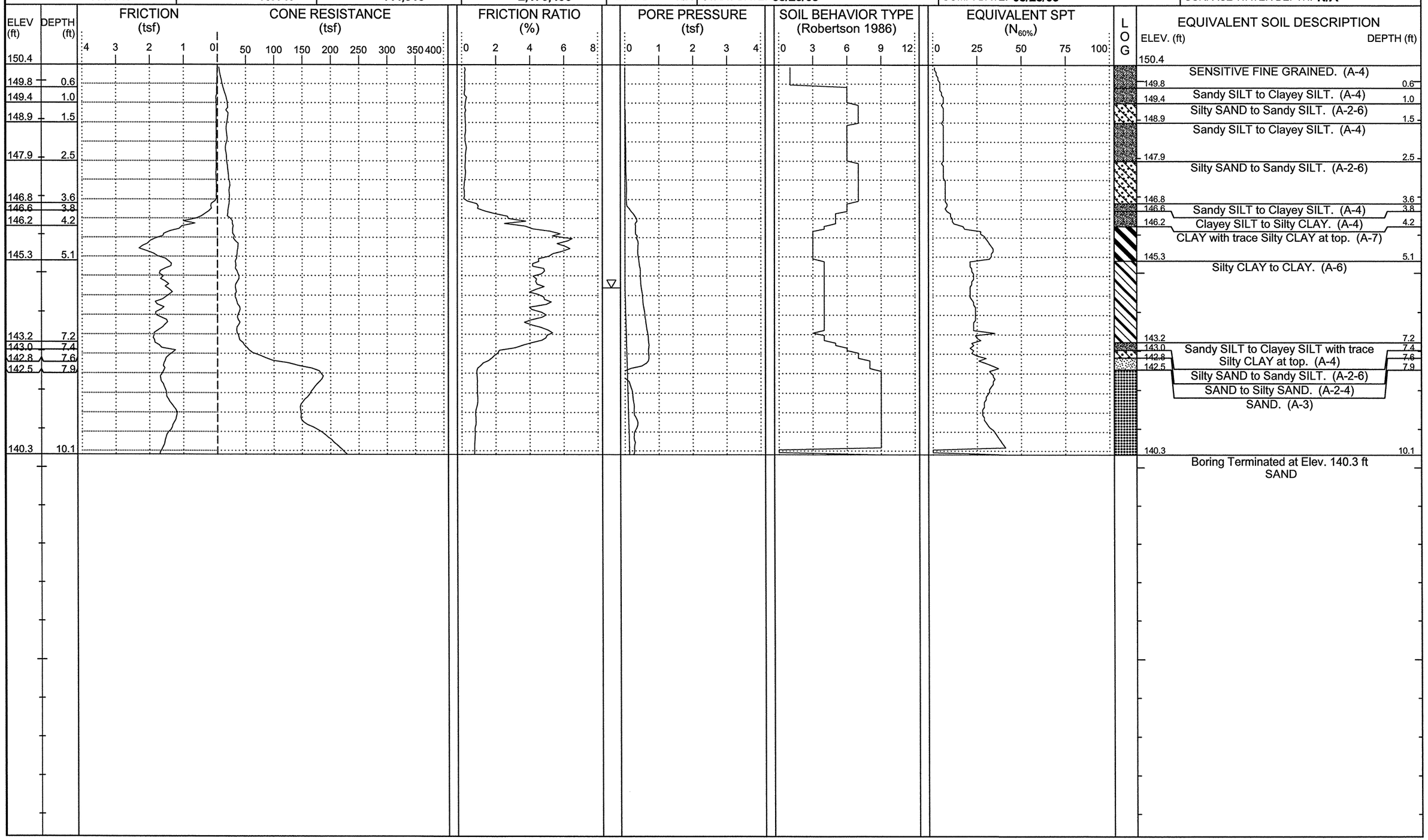
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	7	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1127**	STATION: **1127+00**	OFFSET: **80ft LT**	ALIGNMENT: **-L-**	0 HR. **5.8** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **150.4 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **444,813**	EASTING: **2,170,406**	24 HR. **N/A** / START DATE: **08/25/09**	COMP. DATE: **08/25/09** / SURFACE WATER DEPTH: **N/A**



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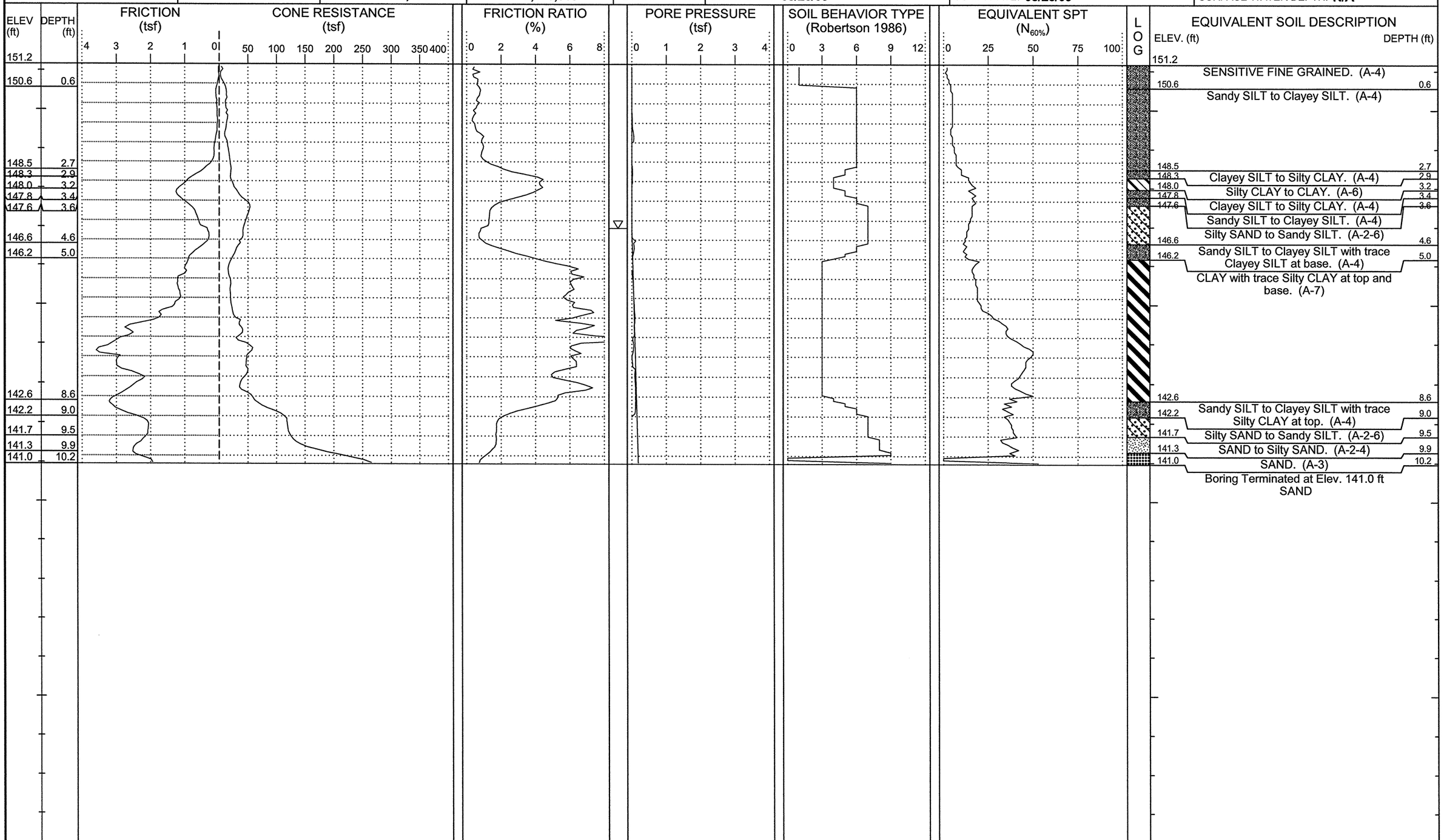
CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	8	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1132**	STATION: **1132+37**	OFFSET: **8ft RT**	ALIGNMENT: **-L-**	0 HR. **4.2** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **151.2 ft**	TOTAL DEPTH: **10.2 ft**	NORTHING: **445,106**	EASTING: **2,170,865**	24 HR. **N/A** / START DATE: **08/25/09**	COMP. DATE: **08/25/09** / SURFACE WATER DEPTH: **N/A**



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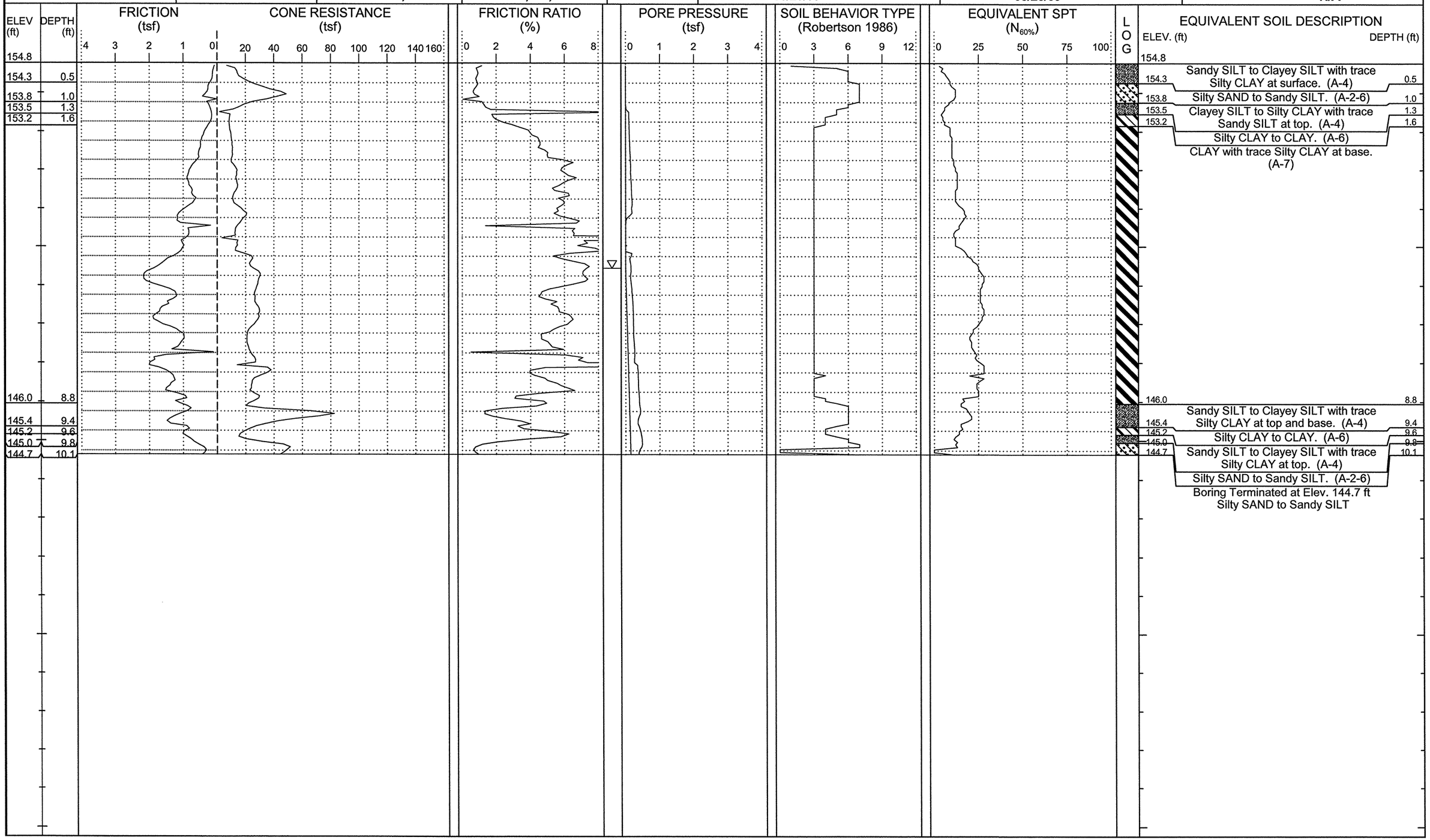
CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	9	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1137**	STATION: **1137+00**	OFFSET: **10ft RT**	ALIGNMENT: **-L-**	0 HR. **5.3** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **154.8 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **445,413**	EASTING: **2,171,211**	24 HR. **N/A** / START DATE: **08/25/09**	COMP. DATE: **08/25/09** / SURFACE WATER DEPTH: **N/A**



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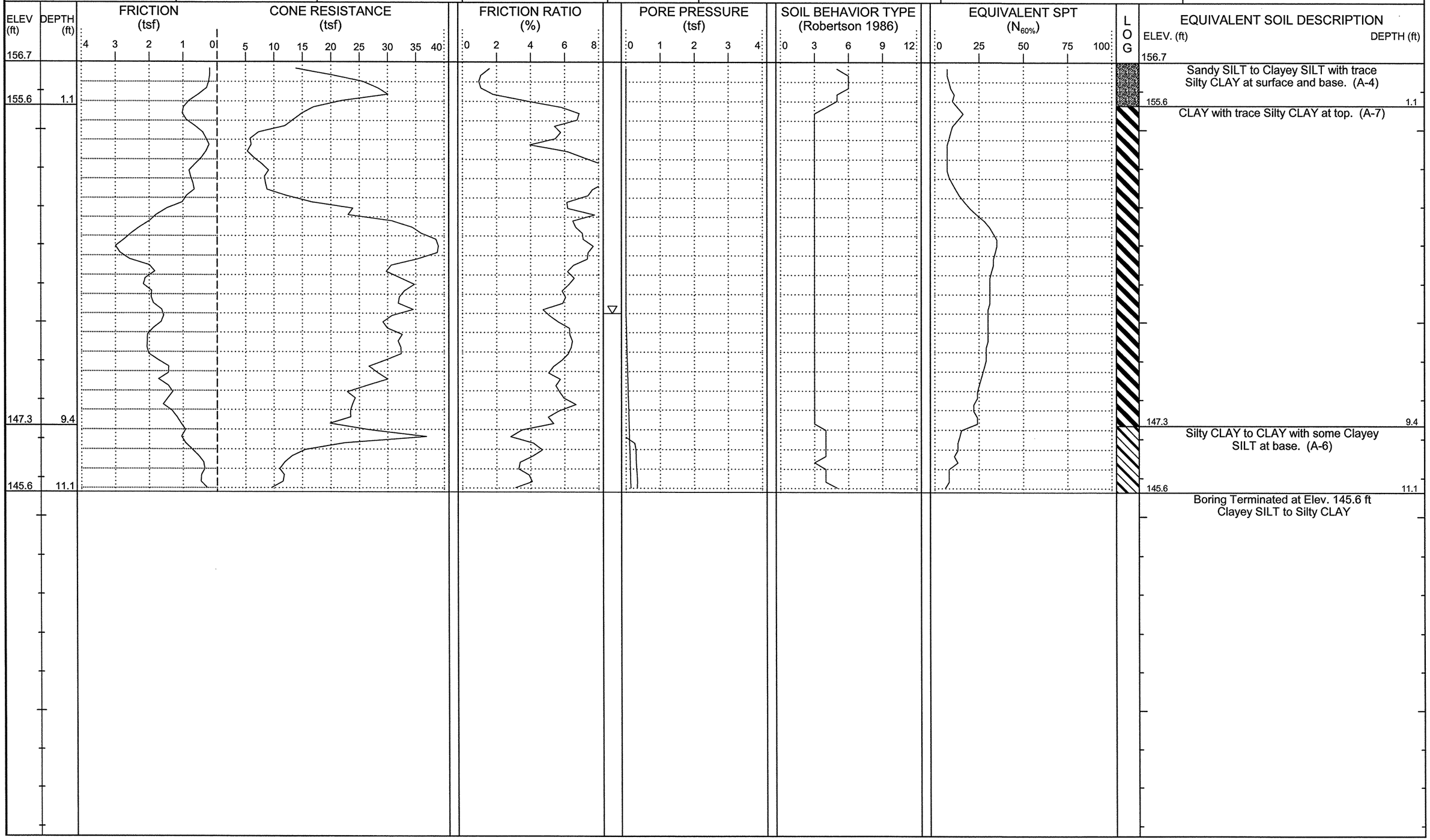
CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	10	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1142**	STATION: **1142+04**	OFFSET: **55ft LT**	ALIGNMENT: **-L-**	0 HR. **6.5** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **156.7 ft**	TOTAL DEPTH: **11.1 ft**	NORTHING: **445,798**	EASTING: **2,171,542**	24 HR. **N/A** / START DATE: **09/09/09**	COMP. DATE: **09/09/09** / SURFACE WATER DEPTH: **N/A**



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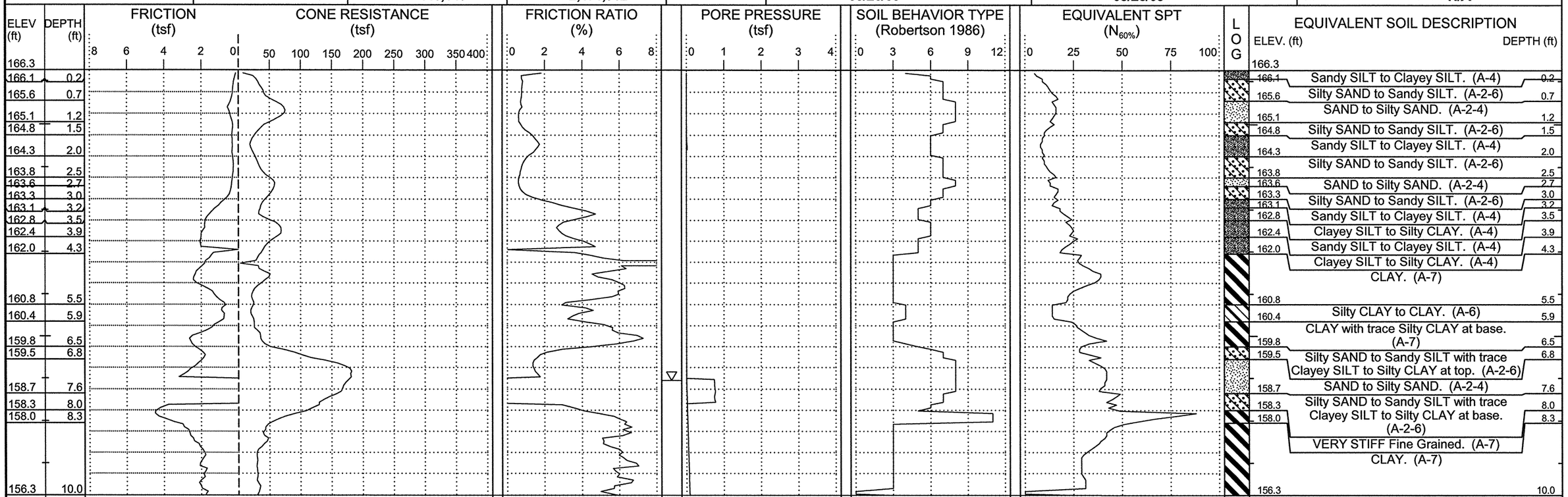
CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	11	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone**	DRILLER: **Donald B. Coogan**
BORING NO.: **L-1147**	STATION: **1147+13**	OFFSET: **70ft LT**	ALIGNMENT: **-L-**	0 HR. **7.3**	ROD TYPE: **Pre-strung**	CONE ID: **DSA1123**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **166.3 ft**	TOTAL DEPTH: **10.0 ft**	NORTHING: **446,149**	EASTING: **2,171,912**	24 HR. **N/A**	START DATE: **08/26/09**	COMP. DATE: **08/26/09**	SURFACE WATER DEPTH: **N/A**



Boring Terminated at Elev. 156.3 ft
CLAY

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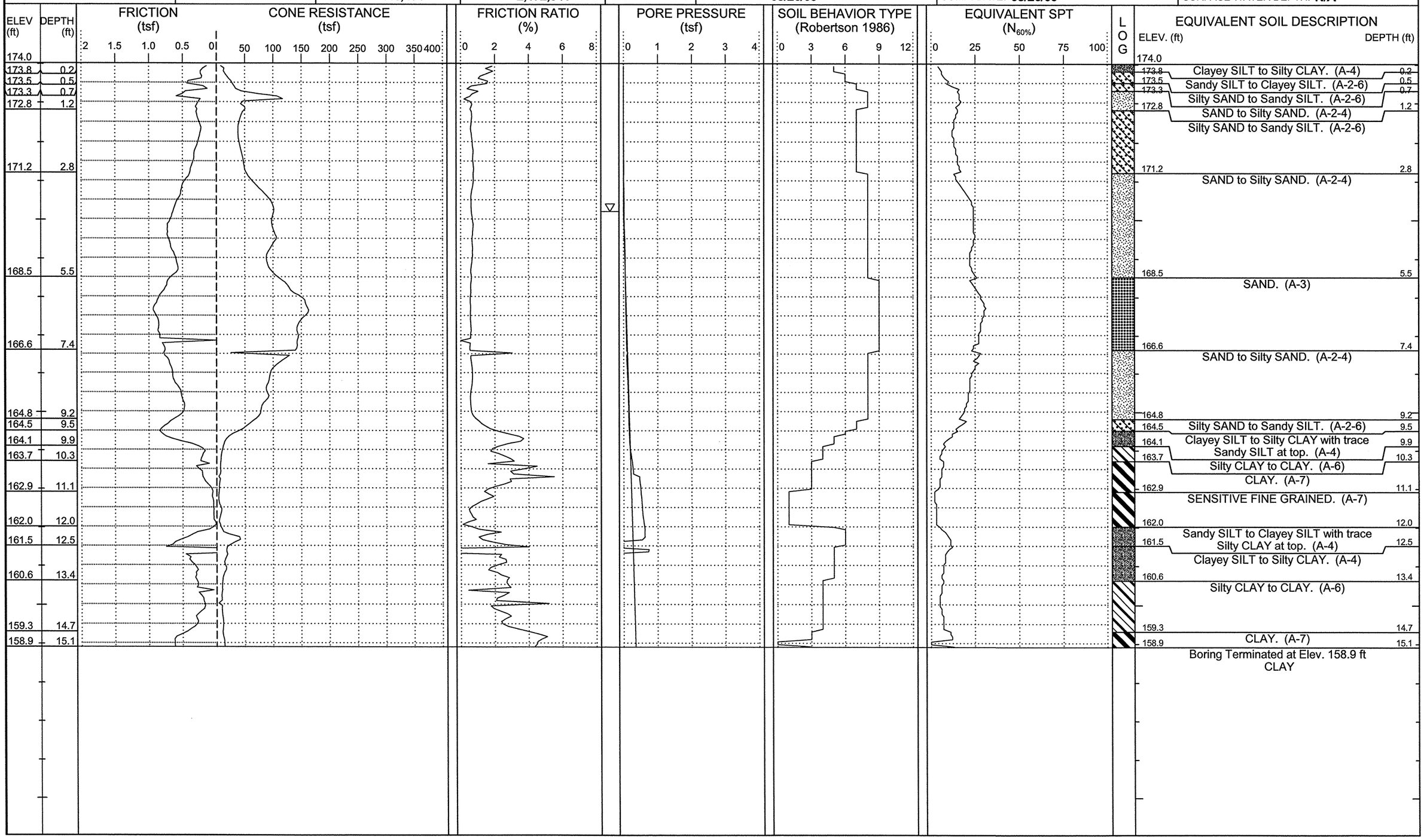
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	12	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1152**	STATION: **1152+00**	OFFSET: **30ft RT**	ALIGNMENT: **-L-**	0 HR. **3.8** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **174.0 ft**	TOTAL DEPTH: **15.1 ft**	NORTHING: **446,404**	EASTING: **2,172,341**	24 HR. **N/A** / START DATE: **08/26/09**	COMP. DATE: **08/26/09** / SURFACE WATER DEPTH: **N/A**



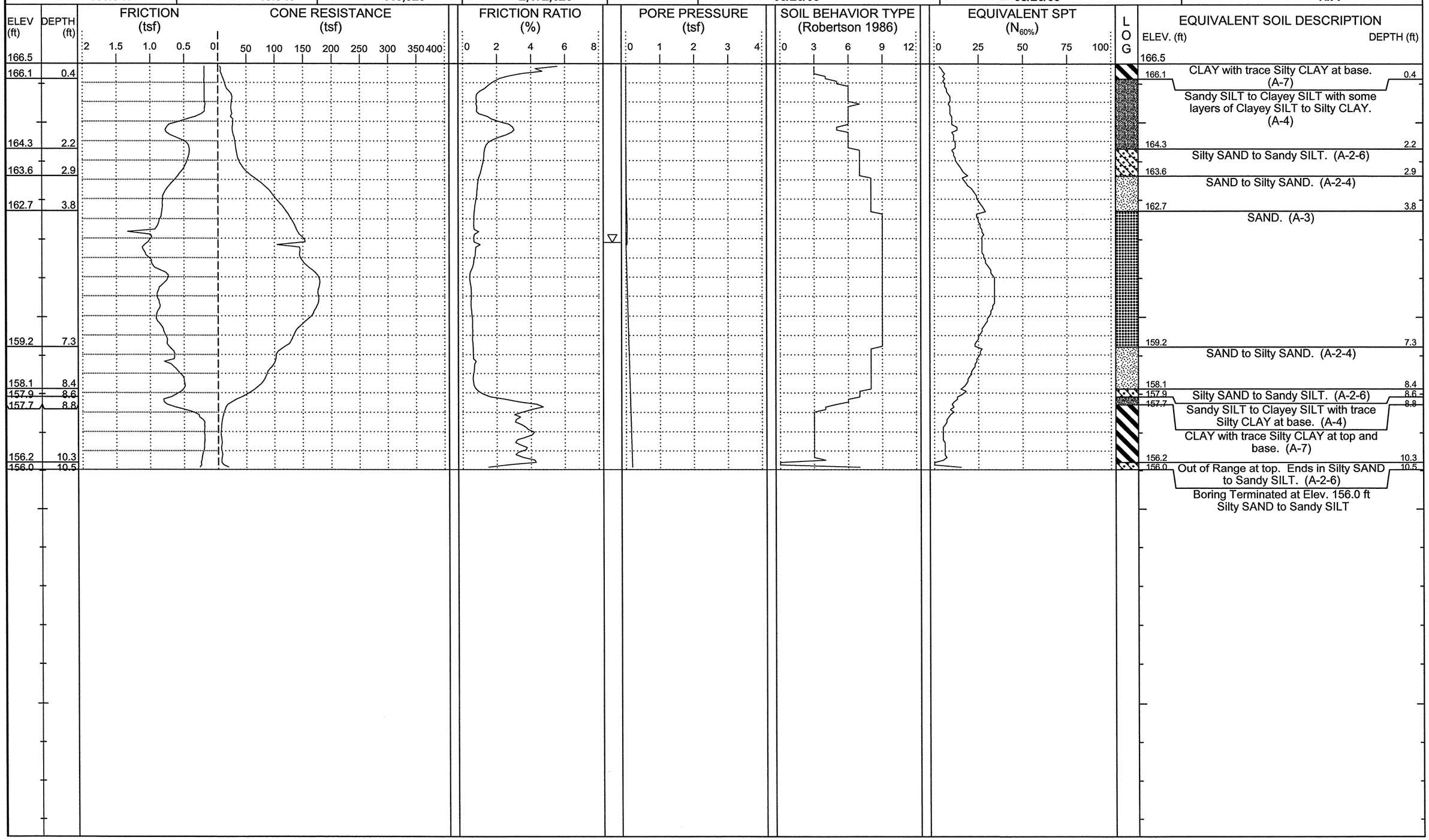
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	13	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1157**	STATION: **1157+02**	OFFSET: **65ft LT**	ALIGNMENT: **-L-** / 0 HR. **4.6**	ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **166.5 ft**	TOTAL DEPTH: **10.5 ft**	NORTHING: **446,823**	EASTING: **2,172,626** / 24 HR. **N/A**	START DATE: **08/26/09**	COMP. DATE: **08/26/09** / SURFACE WATER DEPTH: **N/A**



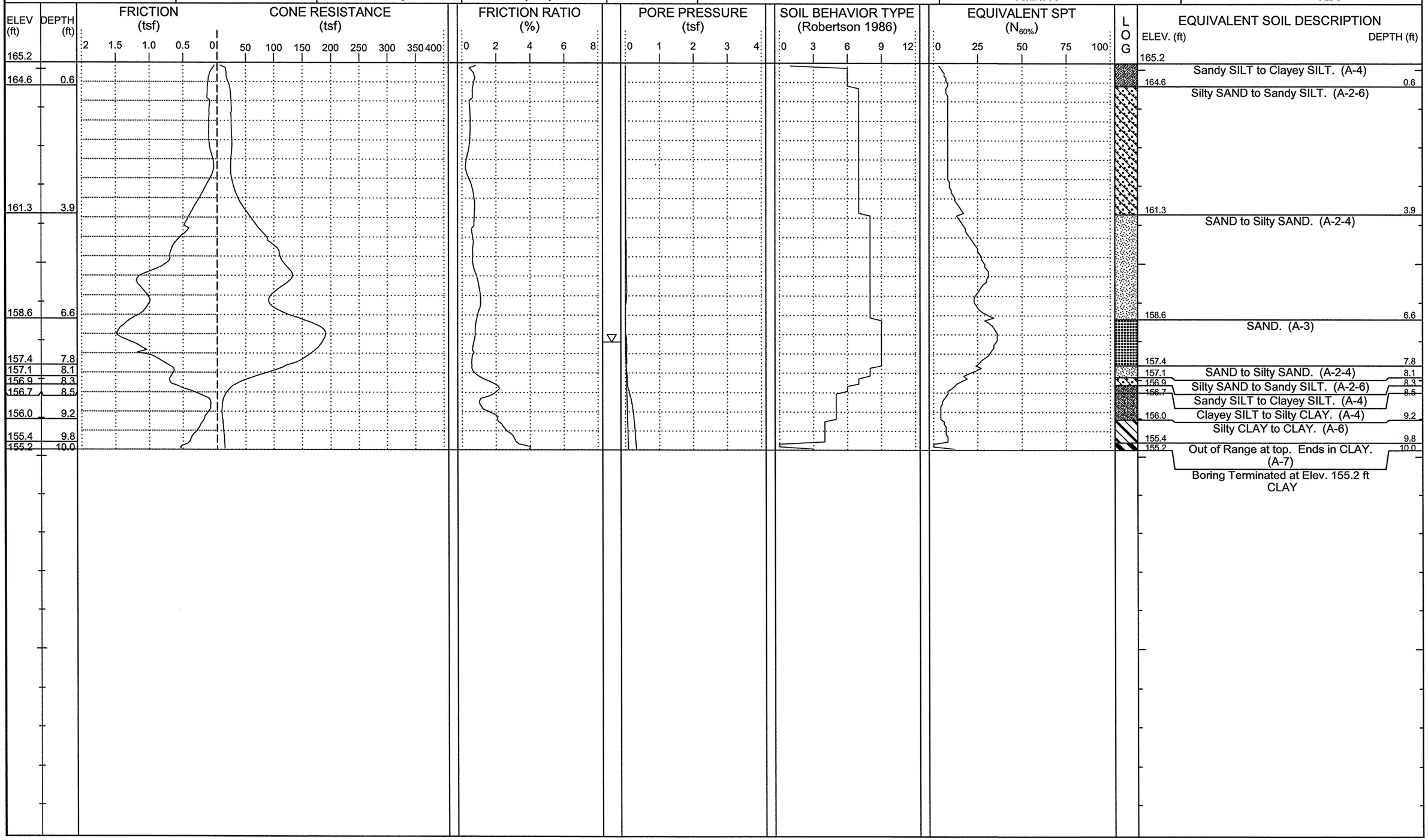
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	14	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1162**	STATION: **1162+00**	OFFSET: **70ft LT**	ALIGNMENT: **-L-**	0 HR. 7.2 / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **165.2 ft**	TOTAL DEPTH: **10.0 ft**	NORTHING: **447,203**	EASTING: **2,172,943**	24 HR. N/A / START DATE: **08/26/09**	COMP. DATE: **08/26/09** / SURFACE WATER DEPTH: **N/A**



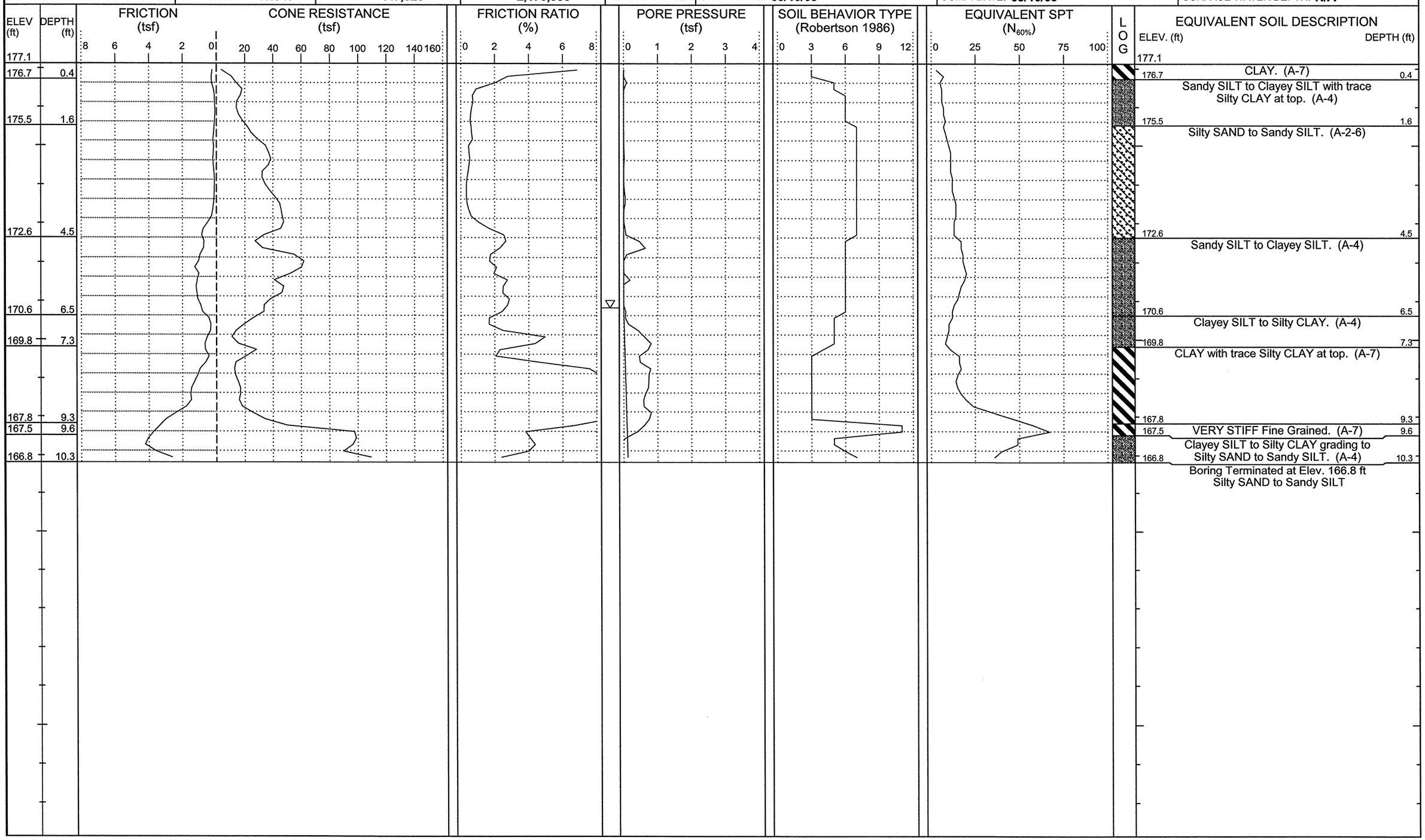
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	15	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1167**	STATION: **1167+07**	OFFSET: **48ft RT**	ALIGNMENT: **-L-**	0 HR. **6.3** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **177.1 ft**	TOTAL DEPTH: **10.3 ft**	NORTHING: **447,520**	EASTING: **2,173,356**	24 HR. **N/A** / START DATE: **09/10/09**	COMP. DATE: **09/10/09** / SURFACE WATER DEPTH: **N/A**



NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	16	93

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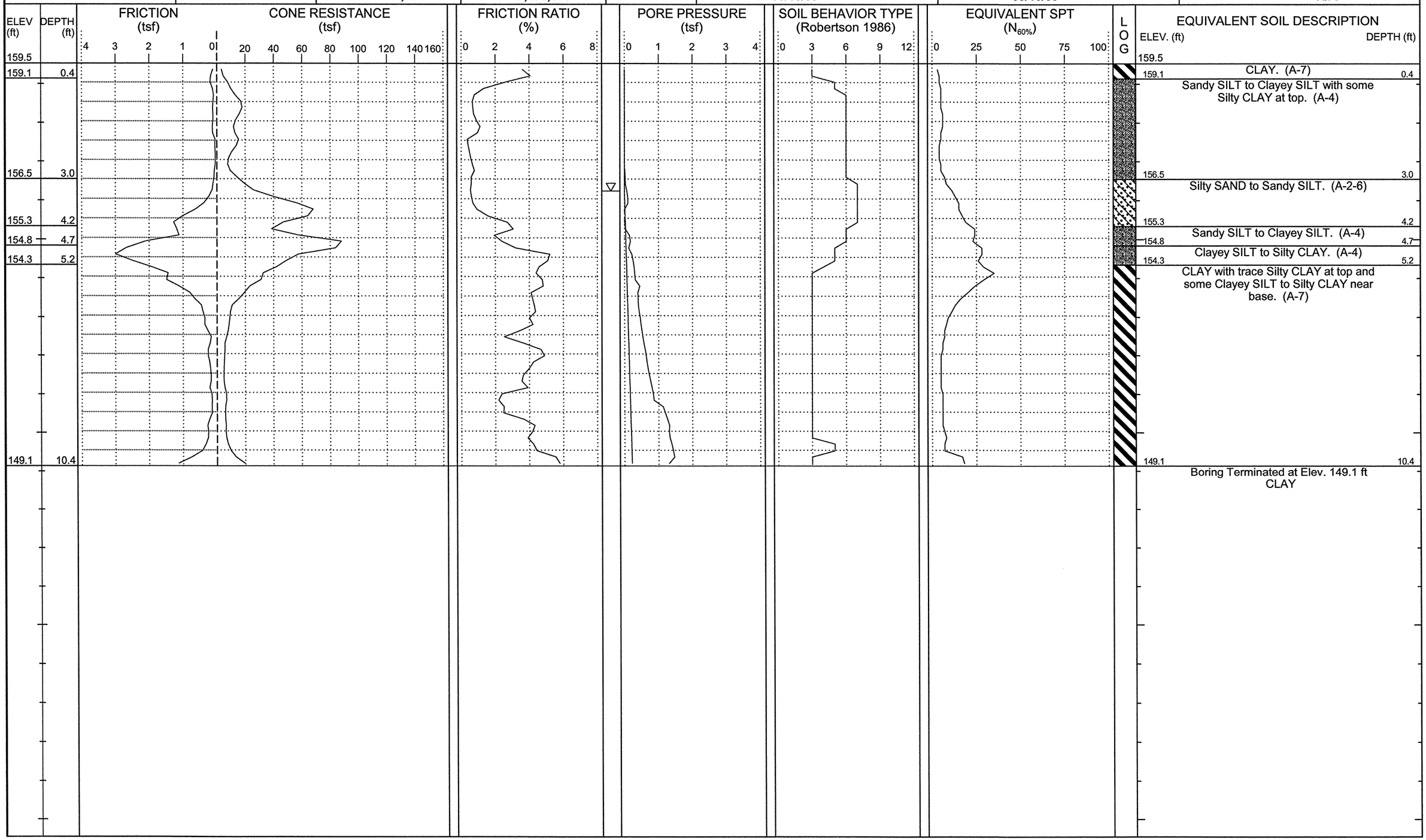
PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1172**	STATION: **1172+00**	OFFSET: **50ft RT**	ALIGNMENT: **-L-**	0 HR. 3.3 / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **159.5 ft**	TOTAL DEPTH: **10.4 ft**	NORTHING: **447,896**	EASTING: **2,173,670**	24 HR. N/A / START DATE: **09/10/09**	COMP. DATE: **09/10/09** / SURFACE WATER DEPTH: **N/A**



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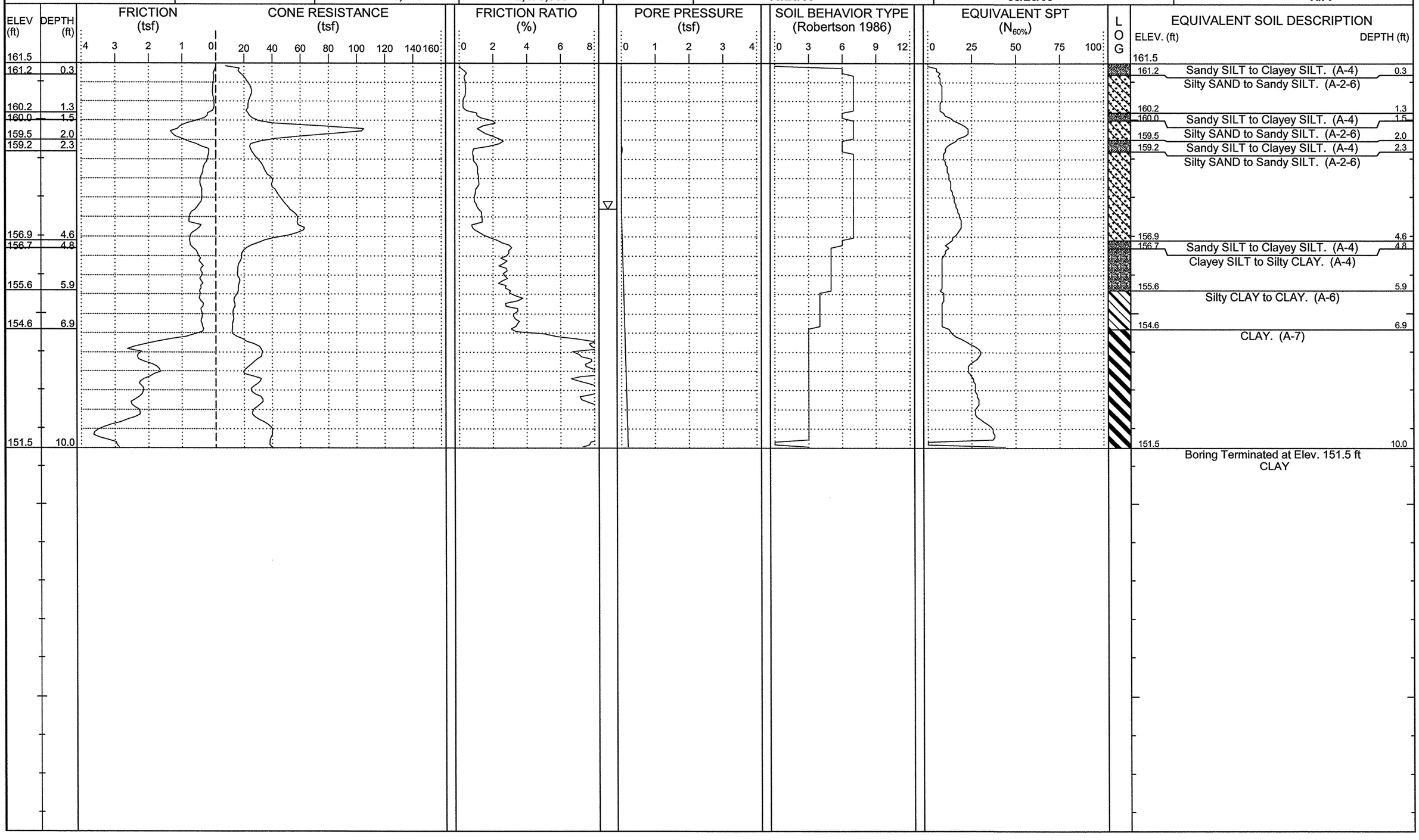
CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	17	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone**	DRILLER: **Donald B. Coogan**
BORING NO.: **L-1177**	STATION: **1176+57**	OFFSET: **60ft RT**	ALIGNMENT: **-L-**	0 HR. **3.8**	ROD TYPE: **Pre-strung**	CONE ID: **DSA1123**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **161.5 ft**	TOTAL DEPTH: **10.0 ft**	NORTHING: **448,246**	EASTING: **2,173,969**	24 HR. **N/A**	START DATE: **08/26/09**	COMP. DATE: **08/26/09**	SURFACE WATER DEPTH: **N/A**



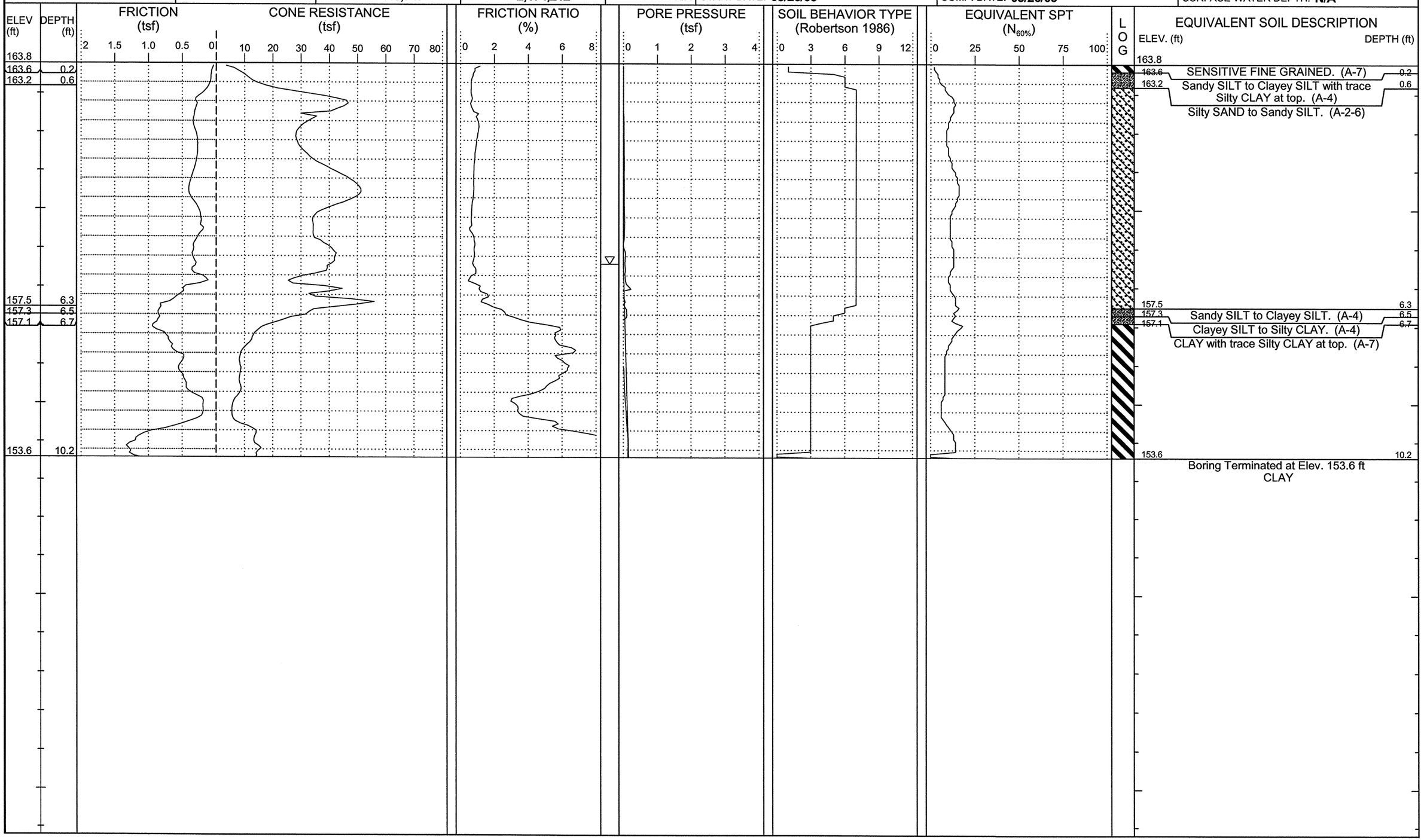
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	18	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1182**	STATION: **1182+00**	OFFSET: **70ft LT**	ALIGNMENT: **-L-**	0 HR. 5.2 / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **163.8 ft**	TOTAL DEPTH: **10.2 ft**	NORTHING: **448,747**	EASTING: **2,174,212**	24 HR. N/A / START DATE: **08/26/09**	COMP. DATE: **08/26/09** / SURFACE WATER DEPTH: **N/A**



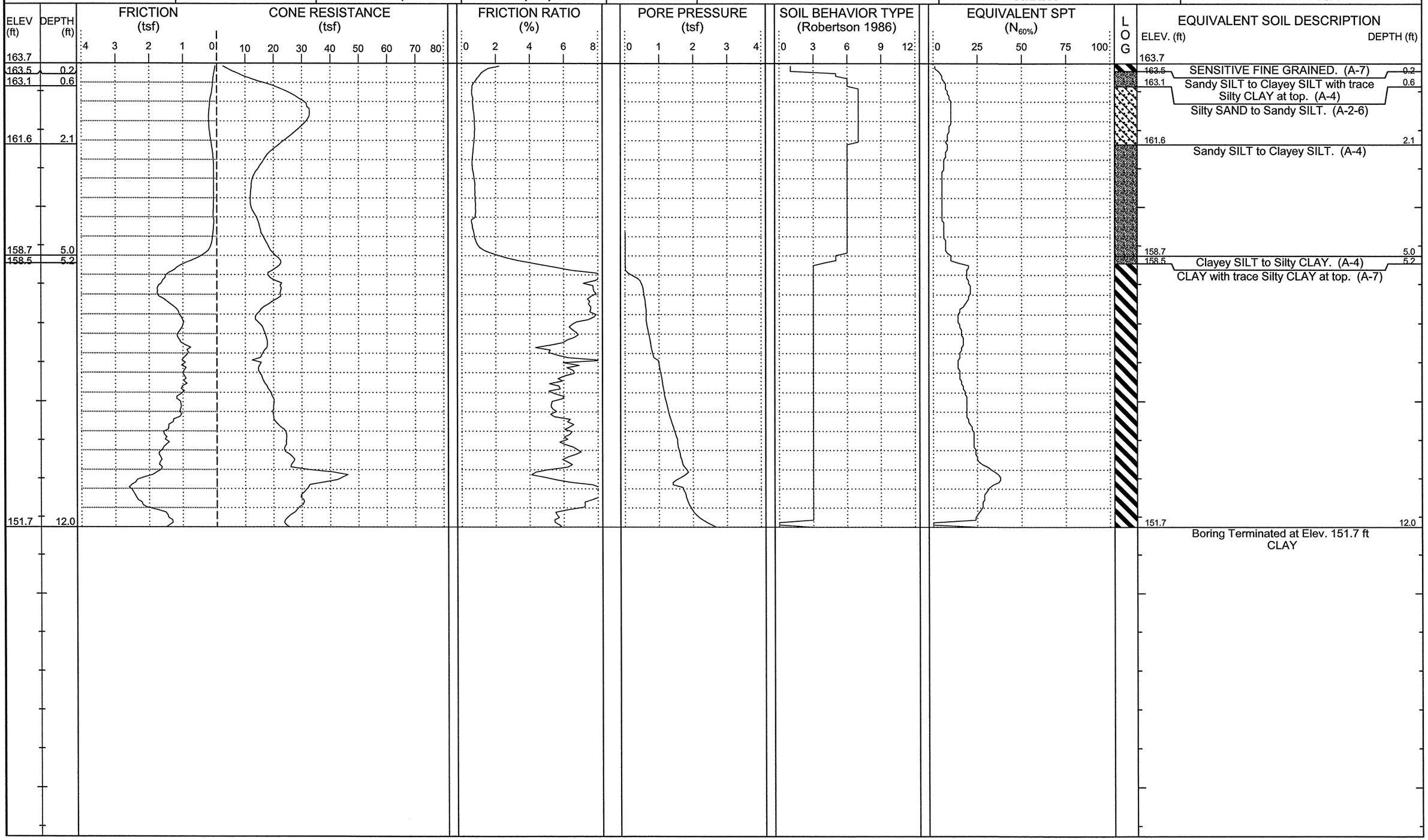
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	19	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1187**	STATION: **1186+98**	OFFSET: **36ft RT**	ALIGNMENT: **-L-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **163.7 ft**	TOTAL DEPTH: **12.0 ft**	NORTHING: **449,049**	EASTING: **2,174,621**	24 HR. **N/A** / START DATE: **08/26/09**	COMP. DATE: **08/26/09** / SURFACE WATER DEPTH: **N/A**



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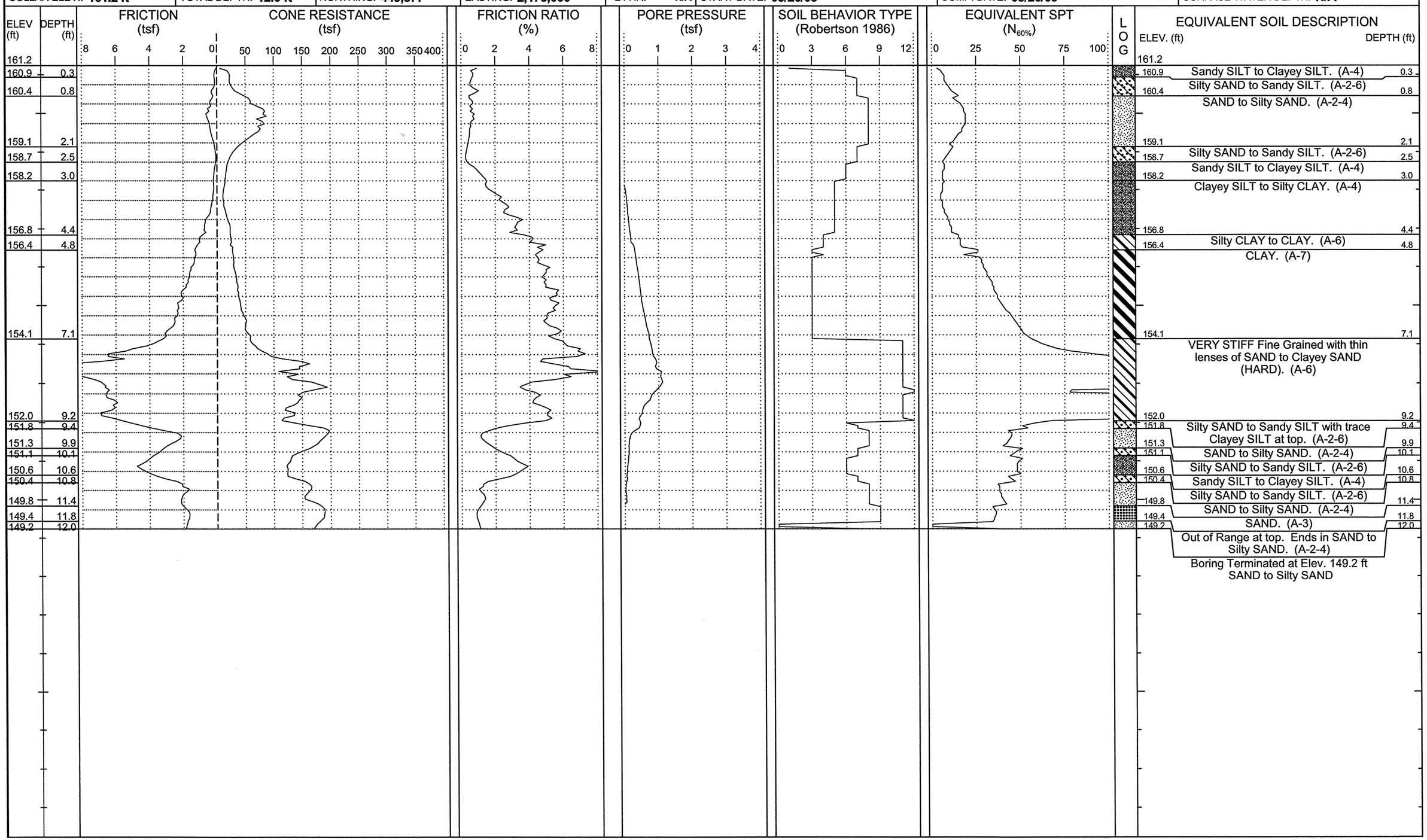
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	20	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1192**	STATION: **1192+00**	OFFSET: **20ft LT**	ALIGNMENT: **-L-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **161.2 ft**	TOTAL DEPTH: **12.0 ft**	NORTHING: **449,377**	EASTING: **2,175,000**	24 HR. **N/A** / START DATE: **08/26/09**	COMP. DATE: **08/26/09** / SURFACE WATER DEPTH: **N/A**



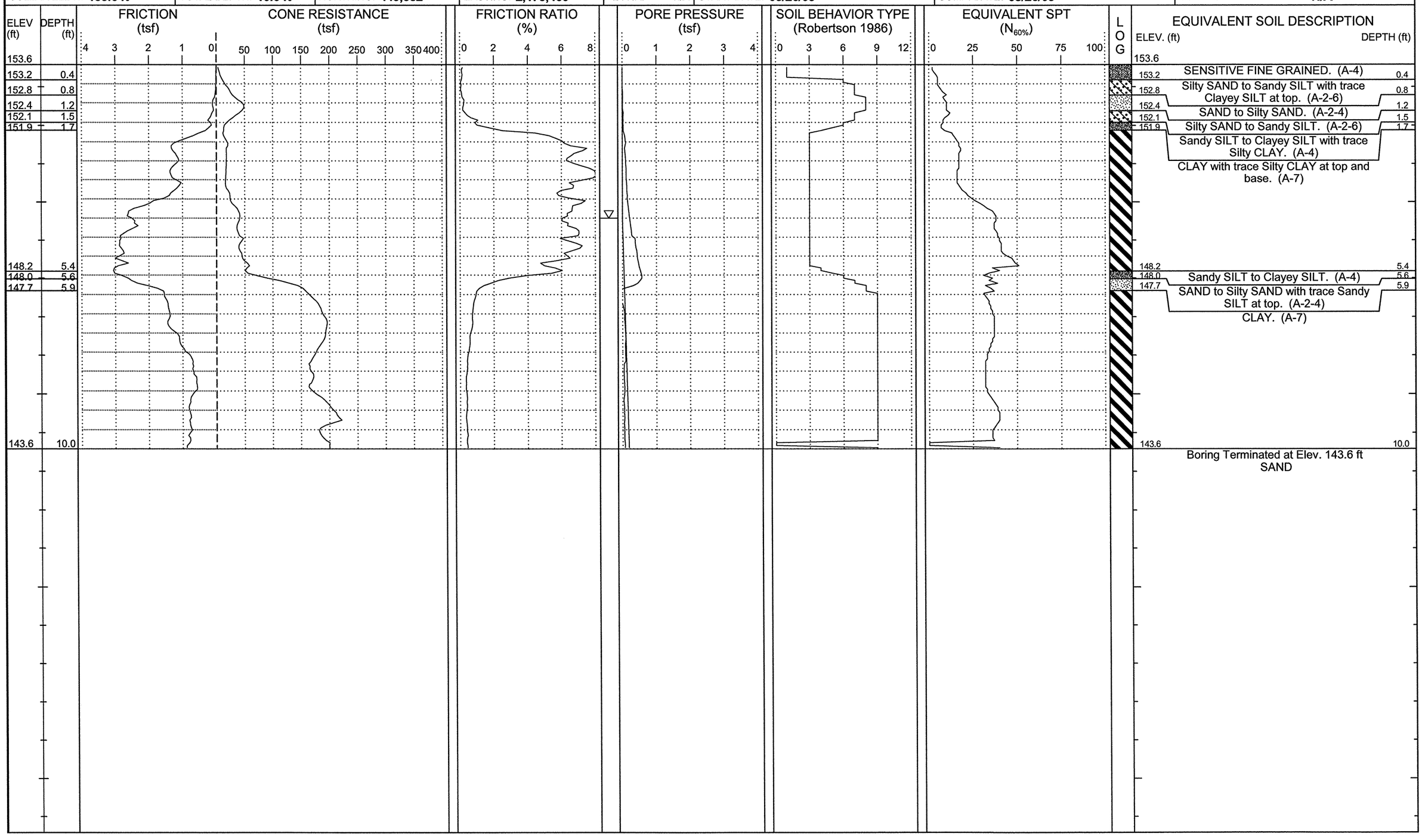
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	21	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1197**	STATION: **1196+91**	OFFSET: **4ft LT**	ALIGNMENT: **-L-**	0 HR. **4.0** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **153.6 ft**	TOTAL DEPTH: **10.0 ft**	NORTHING: **449,552**	EASTING: **2,175,460**	24 HR. **N/A** / START DATE: **08/26/09**	COMP. DATE: **08/26/09** / SURFACE WATER DEPTH: **N/A**



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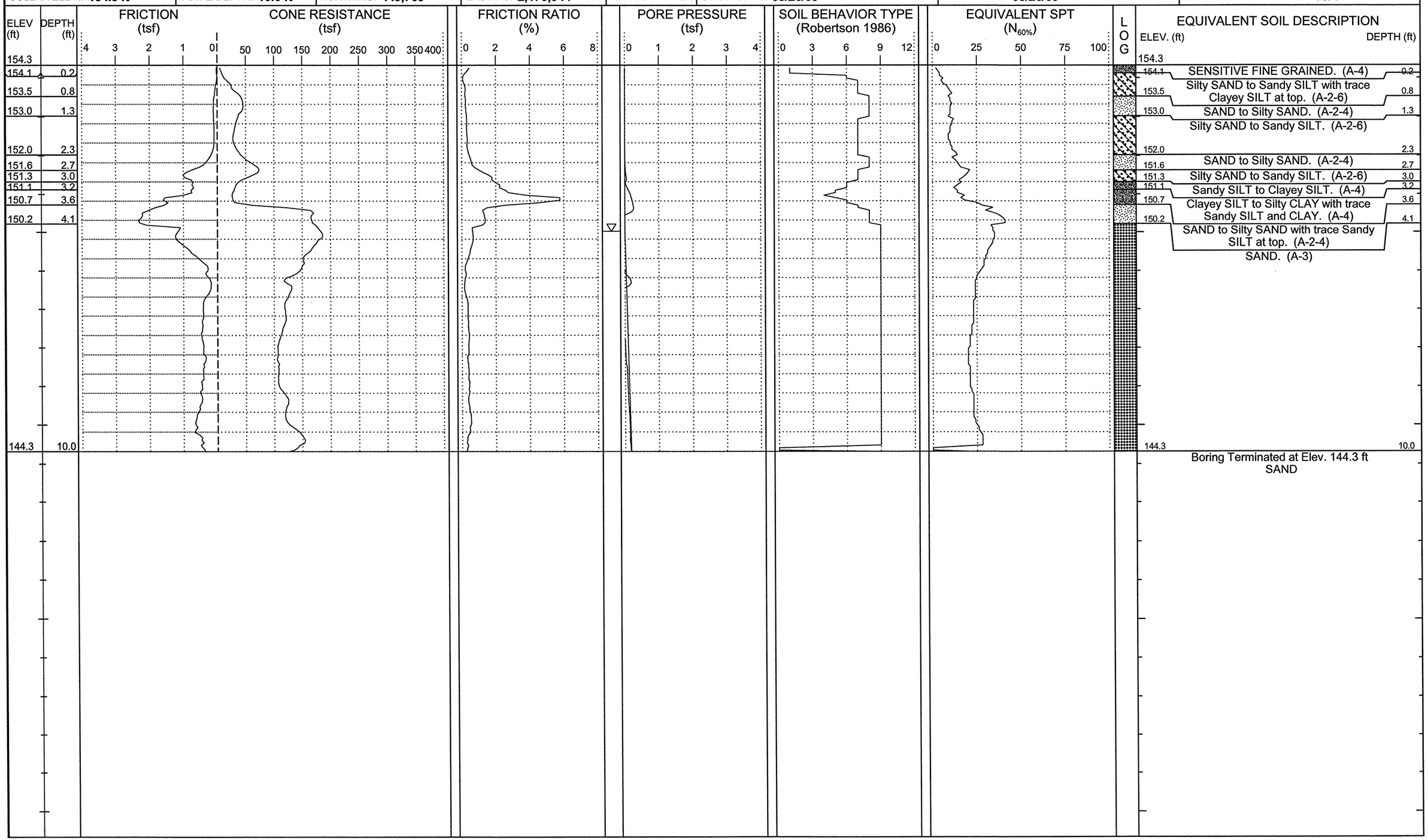
CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	22	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone**	DRILLER: **Donald B. Coogan**
BORING NO.: **L-1202**	STATION: **1202+21**	OFFSET: **22ft LT**	ALIGNMENT: **-L-**	0 HR. **4.3**	ROD TYPE: **Pre-strung**	CONE ID: **DSA1123**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **154.3 ft**	TOTAL DEPTH: **10.0 ft**	NORTHING: **449,769**	EASTING: **2,175,944**	24 HR. **N/A**	START DATE: **08/26/09**	COMP. DATE: **08/26/09**	SURFACE WATER DEPTH: **N/A**



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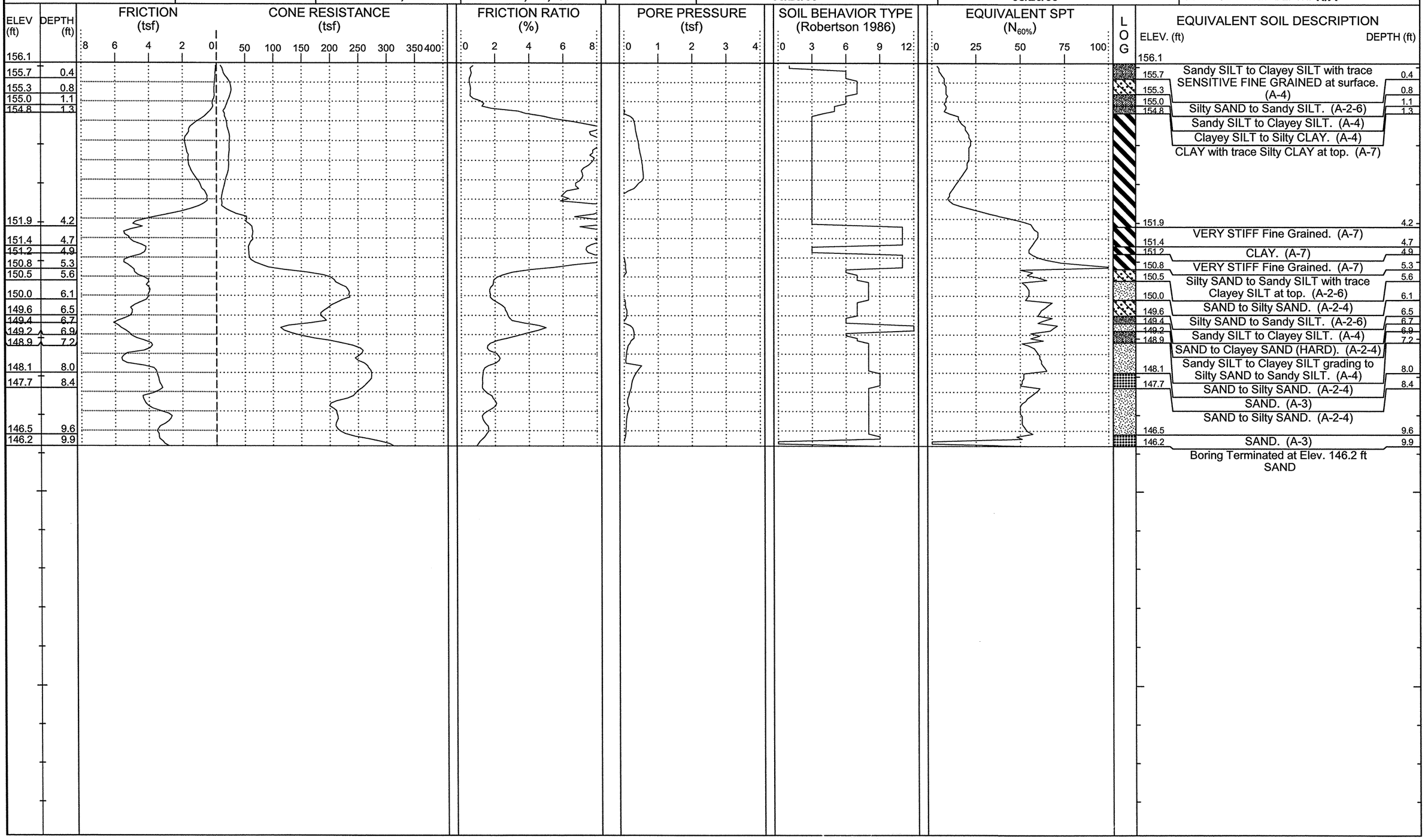
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	23	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1208**	STATION: **1208+00**	OFFSET: **70ft LT**	ALIGNMENT: **-L-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **156.1 ft**	TOTAL DEPTH: **9.9 ft**	NORTHING: **450,032**	EASTING: **2,176,466**	24 HR. **N/A** / START DATE: **08/26/09**	COMP. DATE: **08/26/09** / SURFACE WATER DEPTH: **N/A**



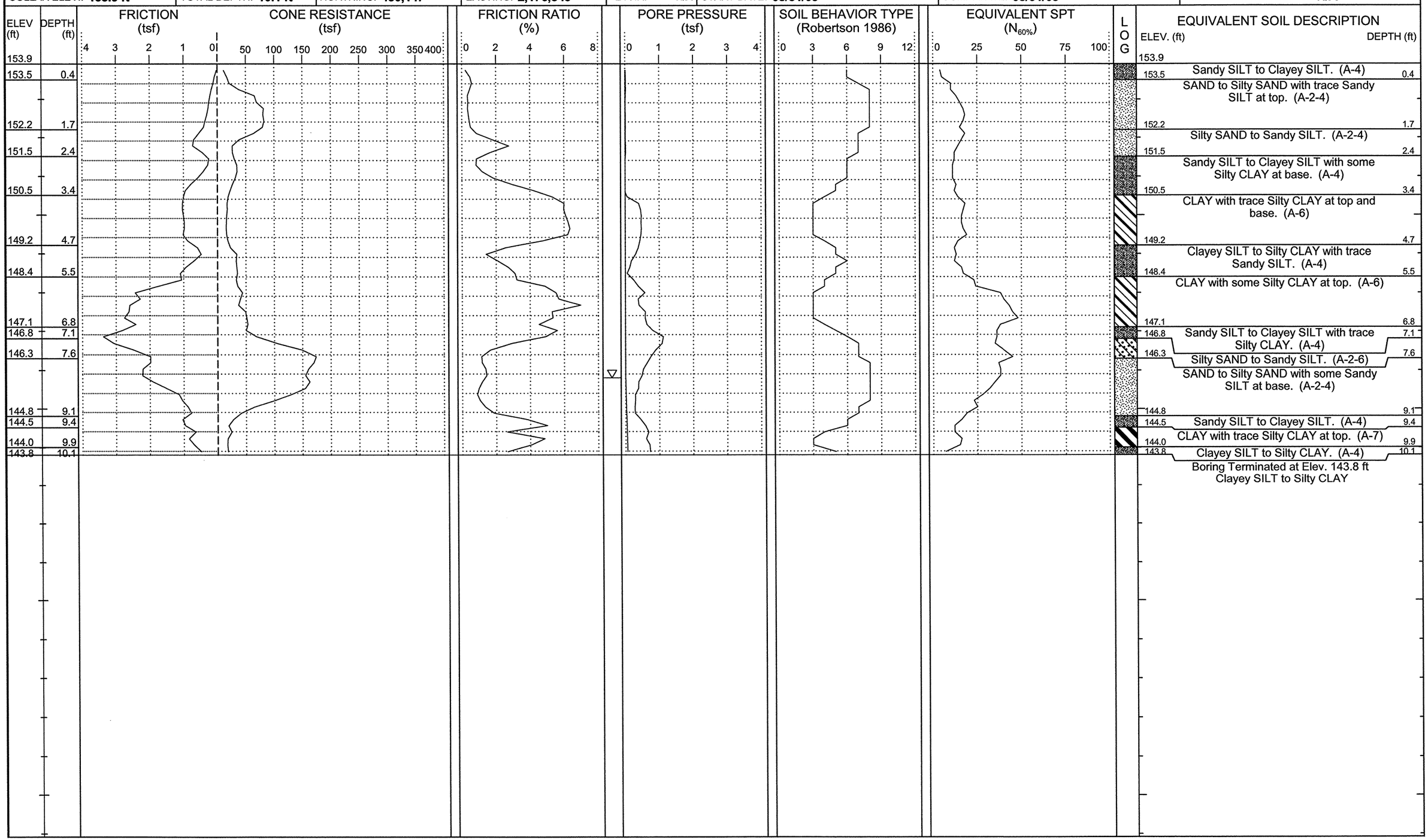
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	24	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1212**	STATION: **1212+00**	OFFSET: **30ft LT**	ALIGNMENT: **-L-**	0 HR. **8.1** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **153.9 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **450,147**	EASTING: **2,176,849**	24 HR. **N/A** / START DATE: **08/31/09**	COMP. DATE: **08/31/09** / SURFACE WATER DEPTH: **N/A**



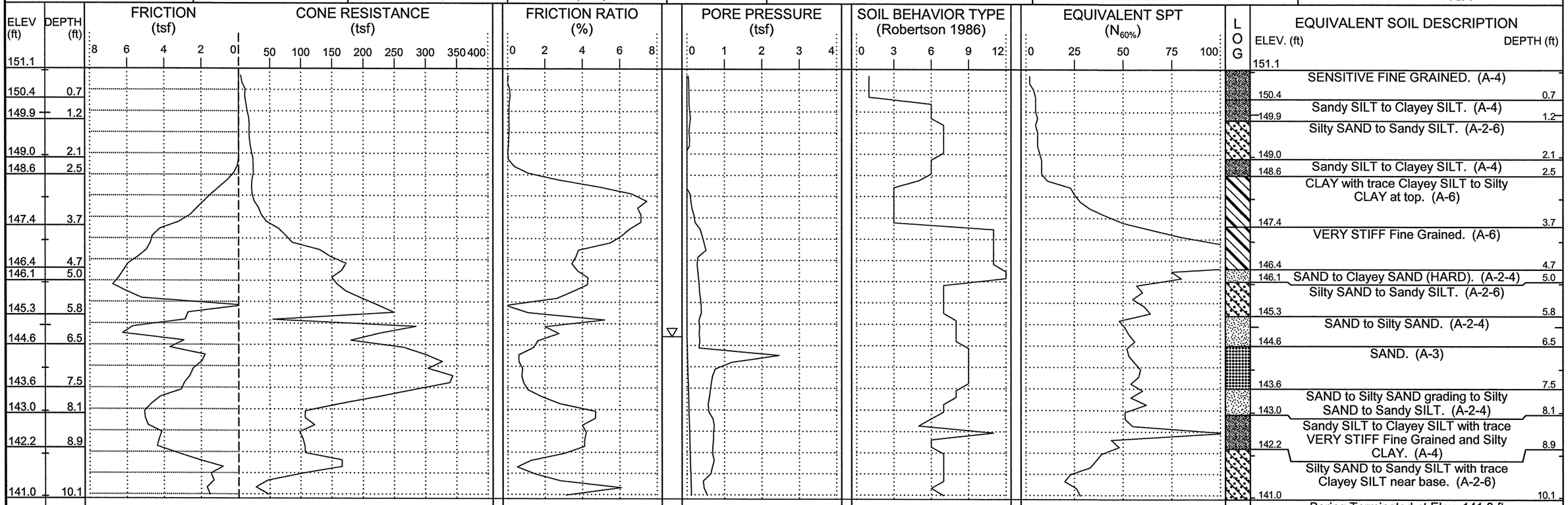
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	25	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1217**	STATION: **1216+95**	OFFSET: **57ft LT**	ALIGNMENT: **-L-**	0 HR. **6.3** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **151.1 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **450,357**	EASTING: **2,177,296**	24 HR. **N/A** / START DATE: **08/31/09**	COMP. DATE: **08/31/09** / SURFACE WATER DEPTH: **N/A**



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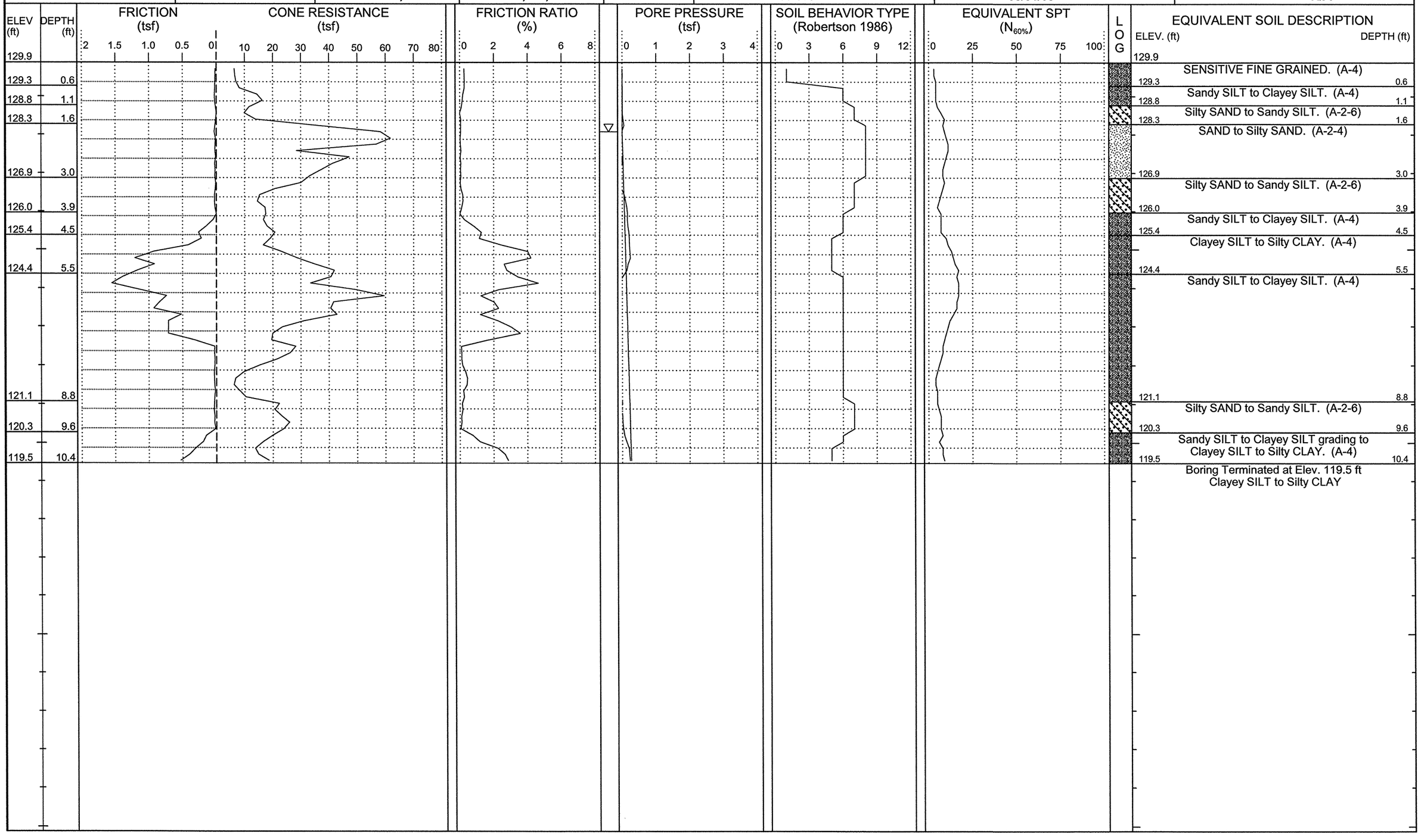
CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	26	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1222**	STATION: **1222+00**	OFFSET: **57ft RT**	ALIGNMENT: **-L-** / 0 HR. **1.8**	ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **129.9 ft**	TOTAL DEPTH: **10.4 ft**	NORTHING: **450,443**	EASTING: **2,177,809** / 24 HR. **N/A**	START DATE: **08/31/09**	COMP. DATE: **08/31/09** / SURFACE WATER DEPTH: **N/A**



NCDOT GEOTECHNICAL ENGINEERING UNIT

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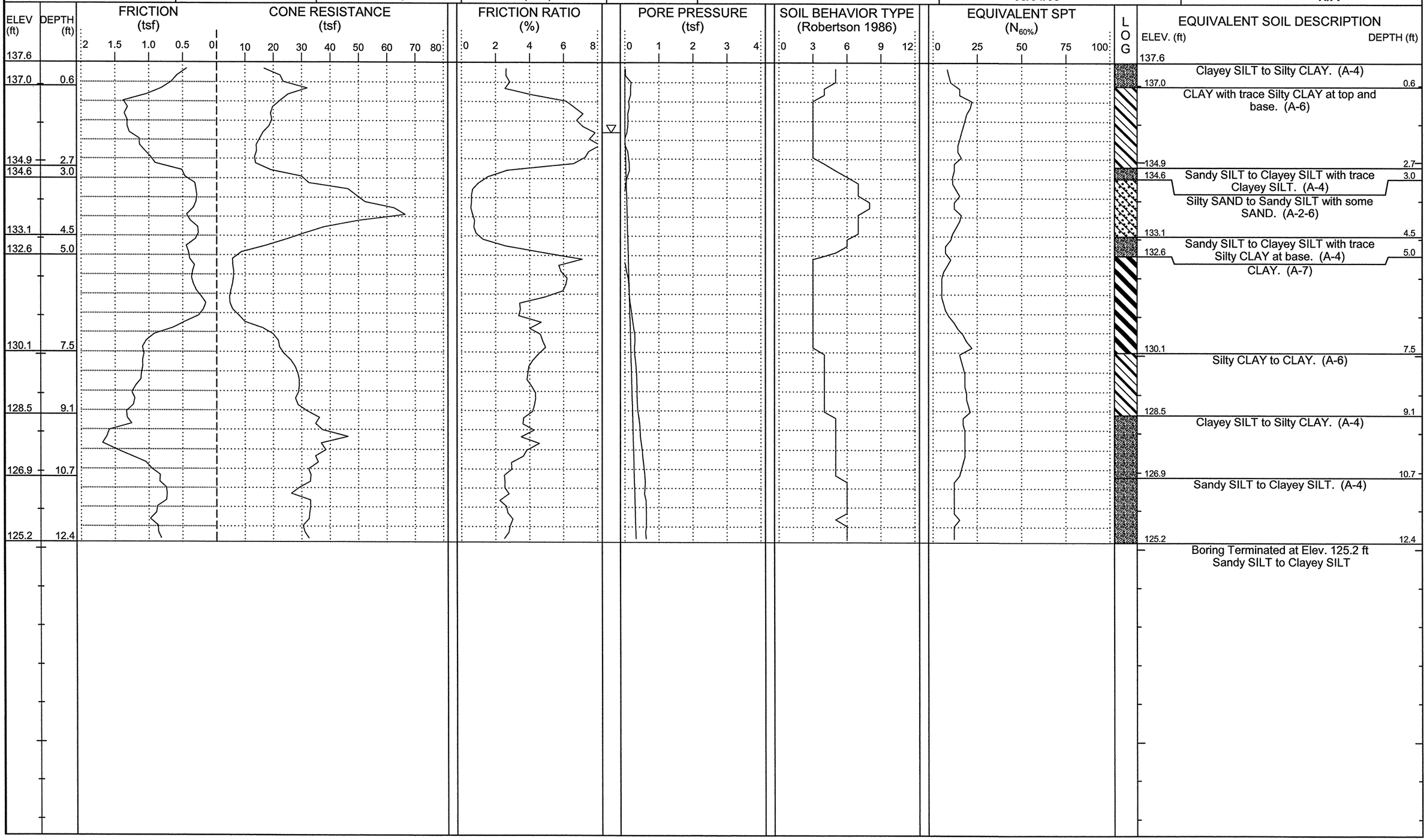
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	27	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1227**	STATION: **1227+00**	OFFSET: **0ft CL**	ALIGNMENT: **-L-**	0 HR. **1.8** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **137.6 ft**	TOTAL DEPTH: **12.4 ft**	NORTHING: **450,684**	EASTING: **2,178,248**	24 HR. **N/A** / START DATE: **08/31/09**	COMP. DATE: **08/31/09** / SURFACE WATER DEPTH: **N/A**



NCDOT GEOTECHNICAL ENGINEERING UNIT

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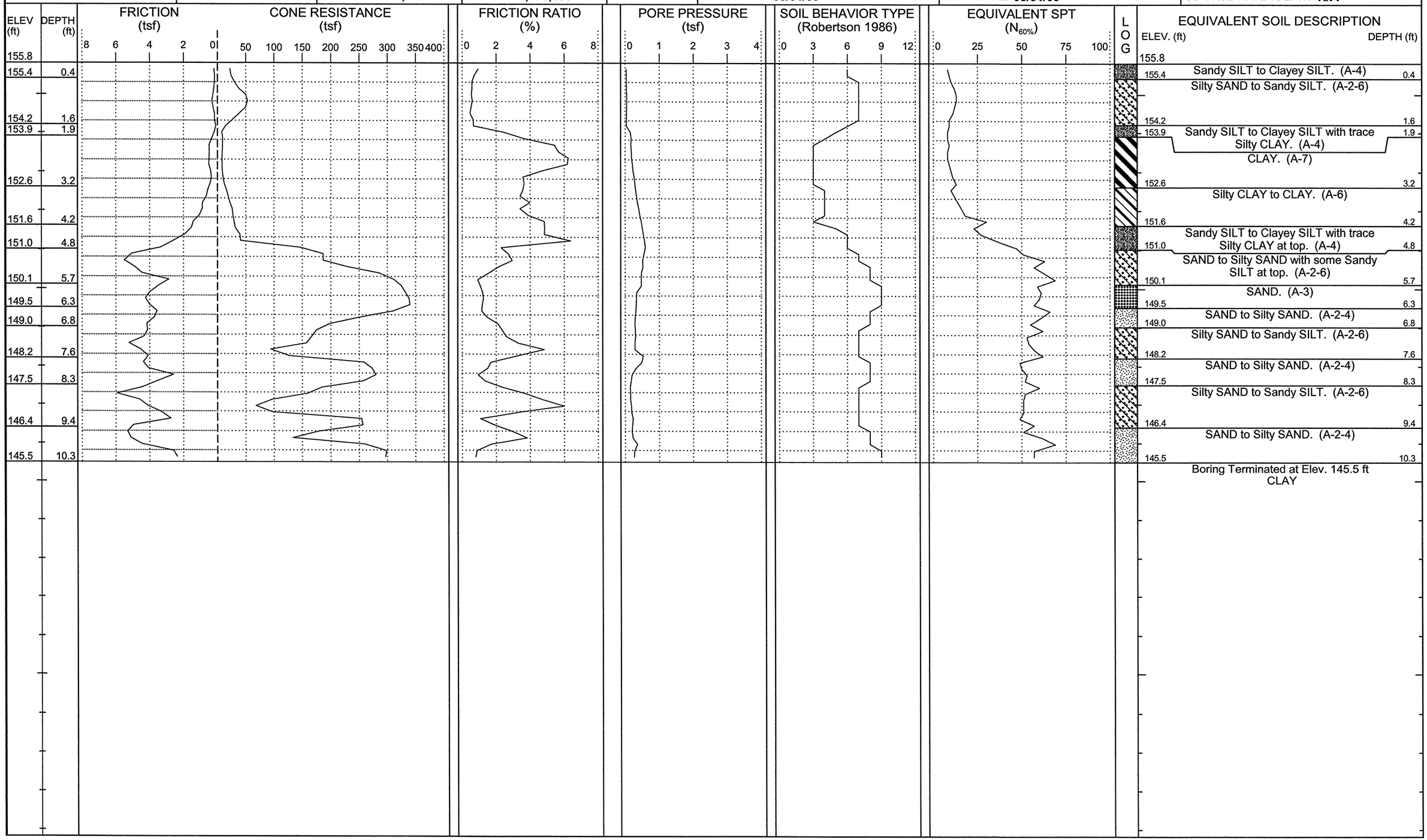
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	28	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1232**	STATION: **1232+00**	OFFSET: **40ft LT**	ALIGNMENT: **-L-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **155.8 ft**	TOTAL DEPTH: **10.3 ft**	NORTHING: **450,910**	EASTING: **2,178,698**	24 HR. **N/A** / START DATE: **08/31/09**	COMP. DATE: **08/31/09** / SURFACE WATER DEPTH: **N/A**



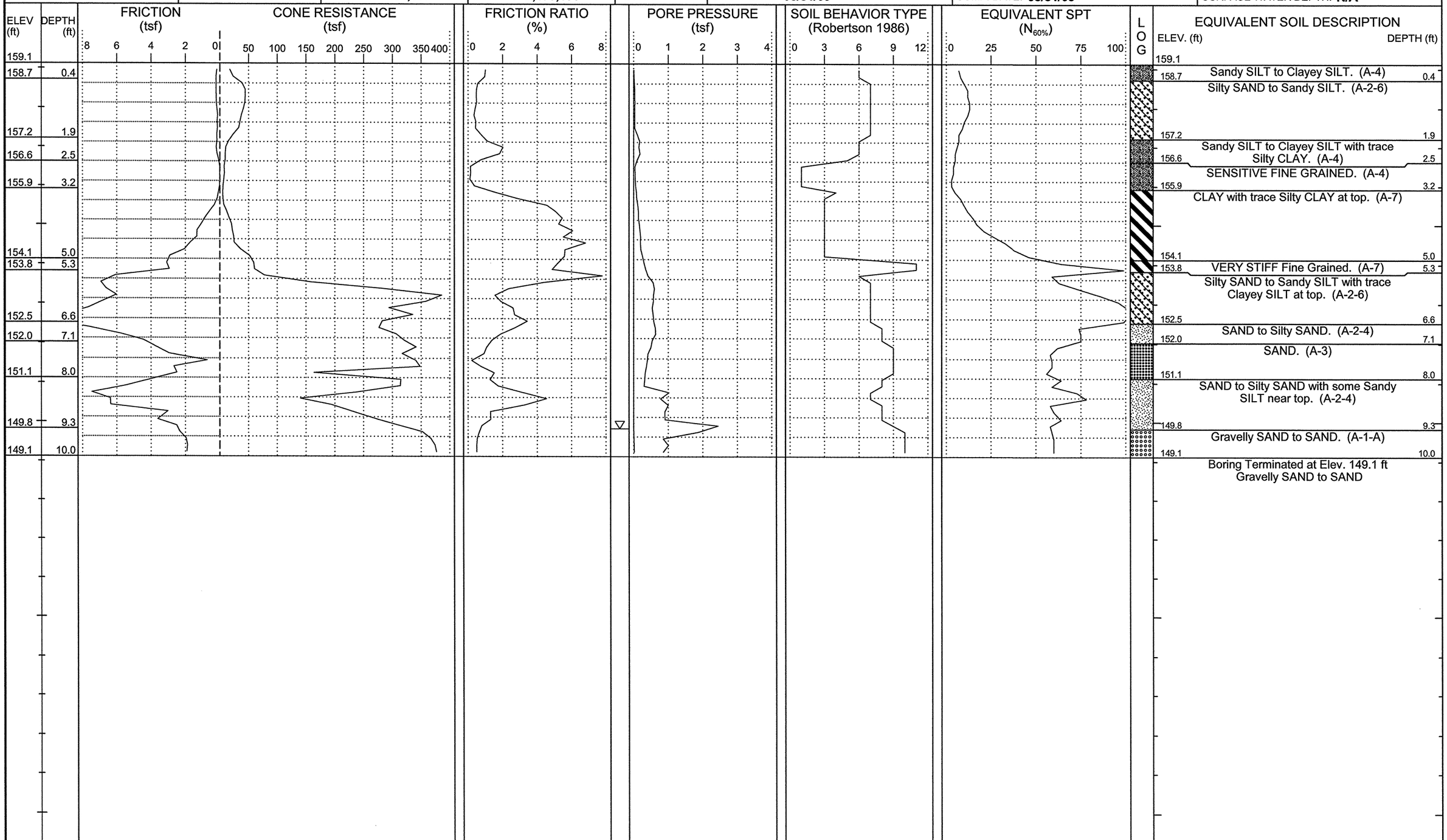
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	29	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1237**	STATION: **1237+00**	OFFSET: **57ft RT**	ALIGNMENT: **-L-**	0 HR. **9.3** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **159.1 ft**	TOTAL DEPTH: **10.0 ft**	NORTHING: **451,007**	EASTING: **2,179,196**	24 HR. **N/A** / START DATE: **08/31/09**	COMP. DATE: **08/31/09** / SURFACE WATER DEPTH: **N/A**



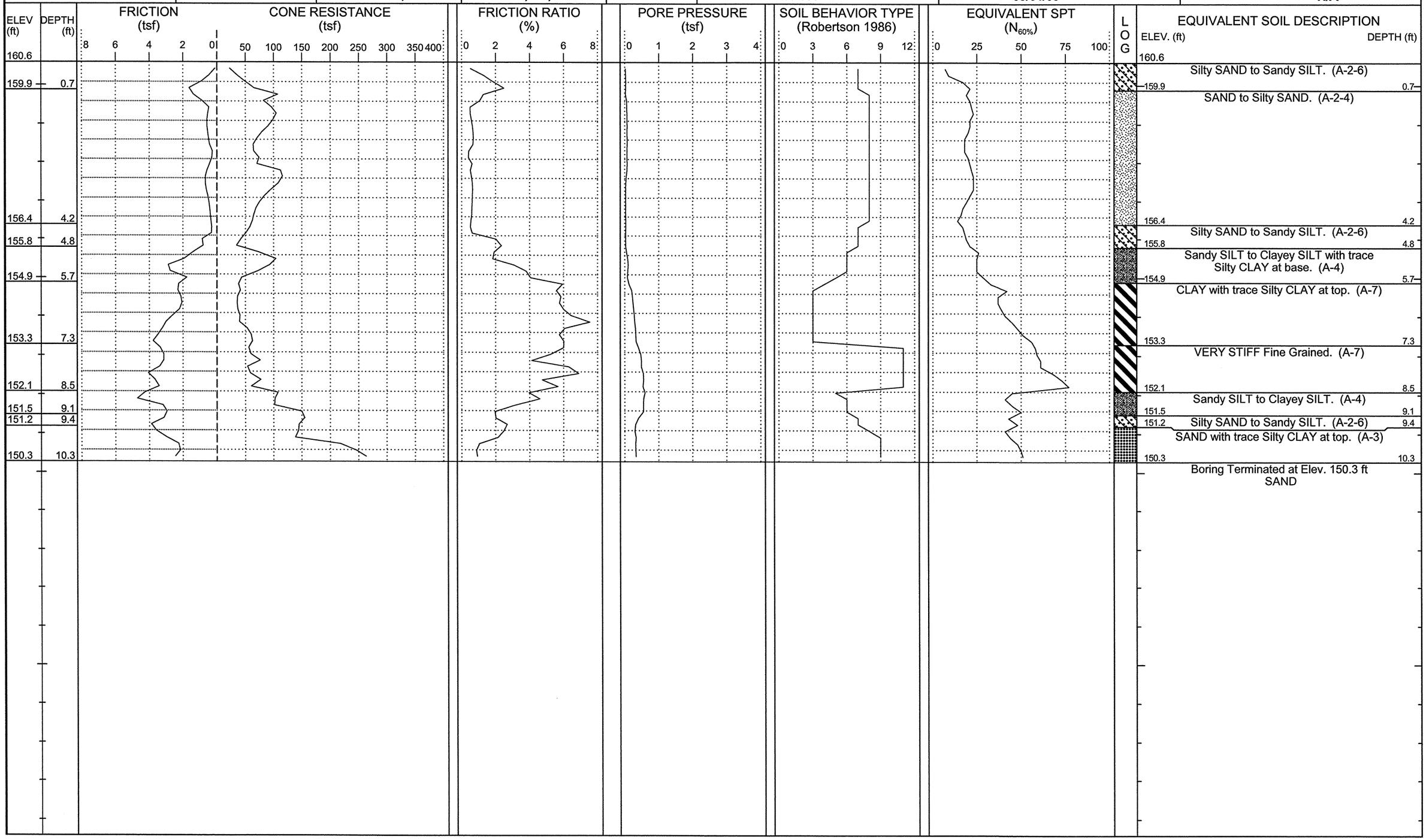
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	30	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1242**	STATION: **1242+00**	OFFSET: **20ft LT**	ALIGNMENT: **-L-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **160.6 ft**	TOTAL DEPTH: **10.3 ft**	NORTHING: **451,232**	EASTING: **2,179,645**	24 HR. **N/A** / START DATE: **09/01/09**	COMP. DATE: **09/01/09** / SURFACE WATER DEPTH: **N/A**



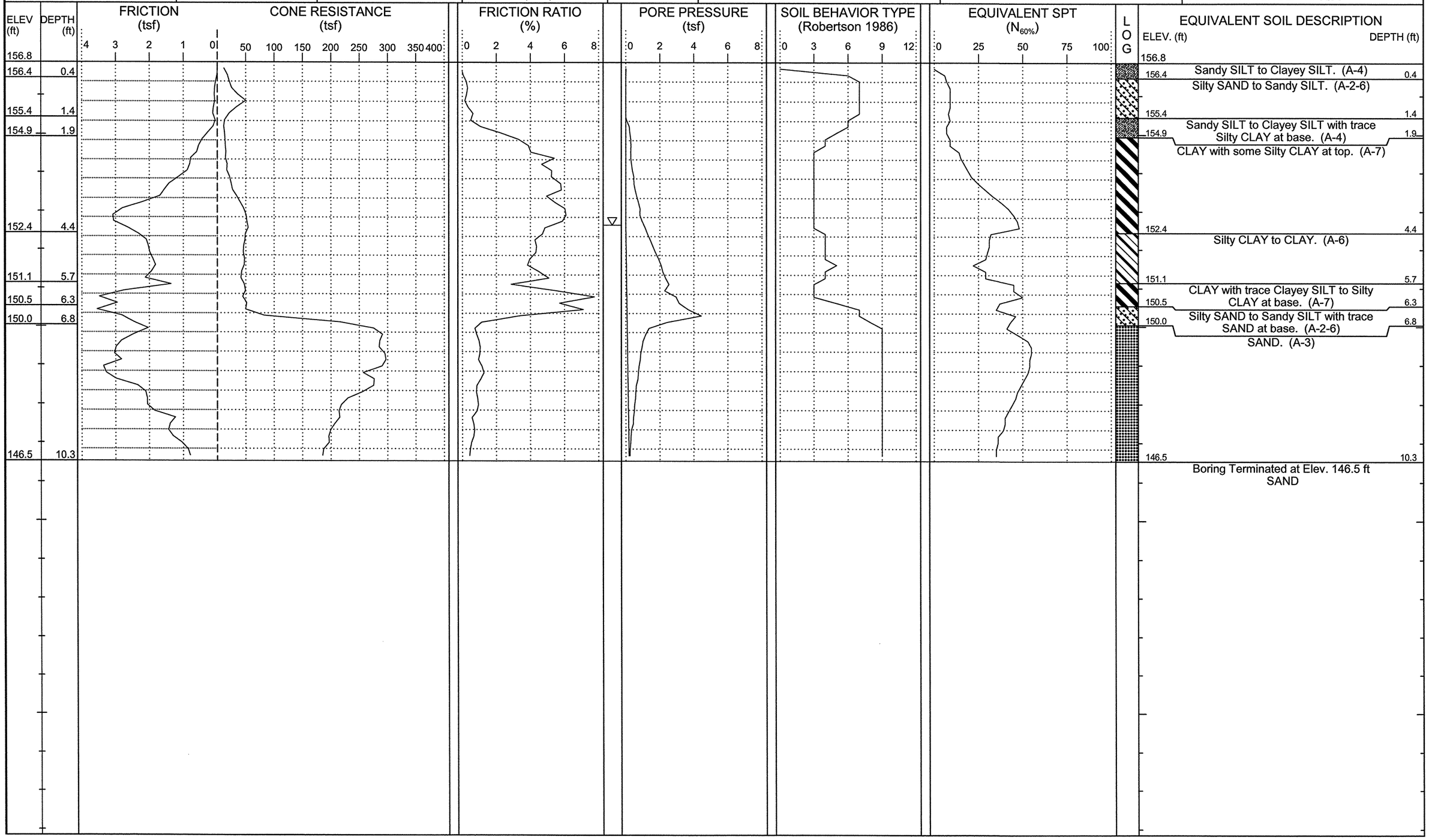
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	31	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **L-1247**	STATION: **1247+00**	OFFSET: **0ft CL**	ALIGNMENT: **-L-** / 0 HR. **4.2**	ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **156.8 ft**	TOTAL DEPTH: **10.3 ft**	NORTHING: **451,235**	EASTING: **2,180,146** / 24 HR. **N/A**	START DATE: **09/01/09**	COMP. DATE: **09/01/09** / SURFACE WATER DEPTH: **N/A**



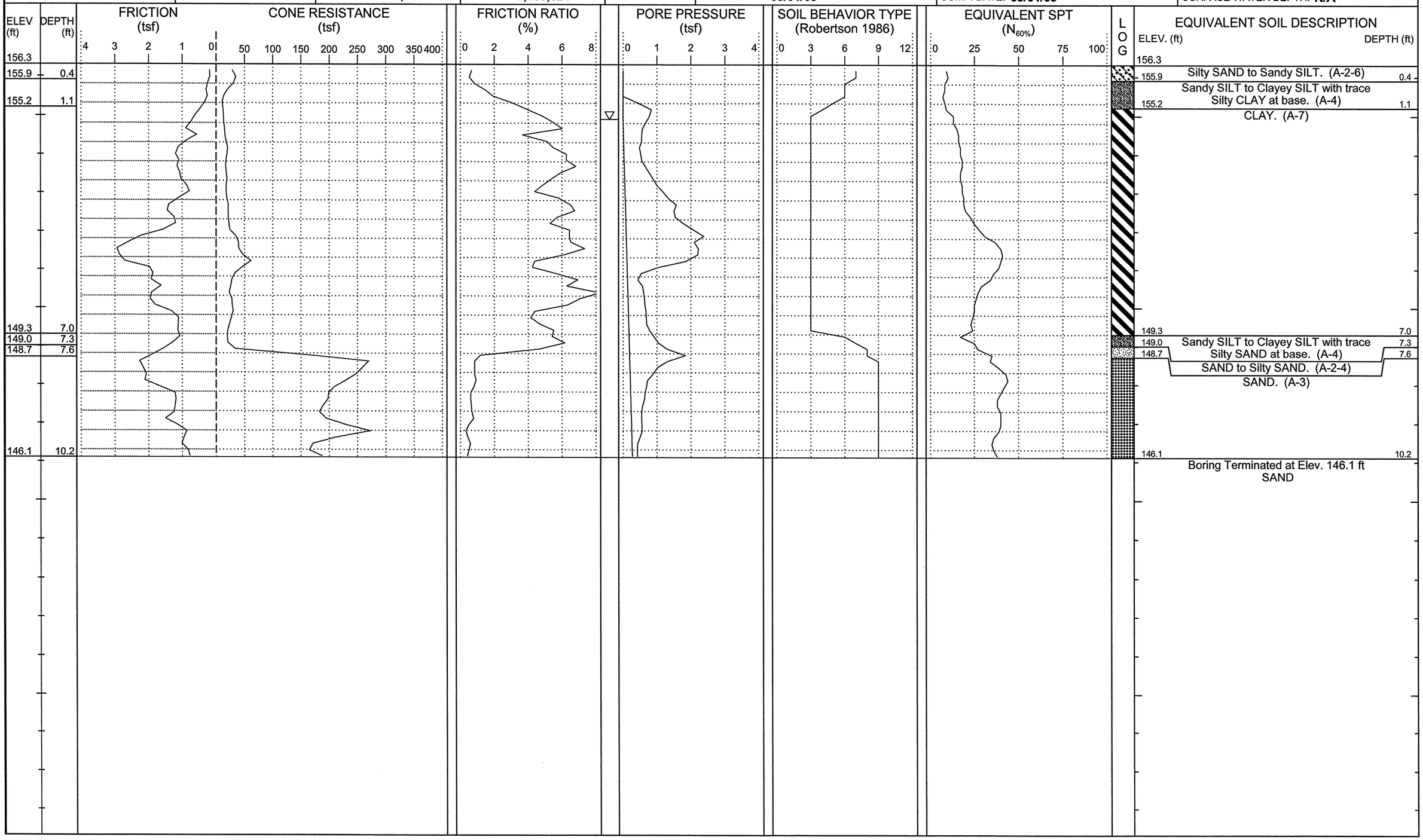
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	32	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1252+50**	STATION: **1251+86**	OFFSET: **17ft RT**	ALIGNMENT: **-L-** / 0 HR. **1.4**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **156.3 ft**	TOTAL DEPTH: **10.2 ft**	NORTHING: **451,136**	EASTING: **2,180,624** / 24 HR. **N/A**	START DATE: **09/01/09**	COMP. DATE: **09/01/09** / SURFACE WATER DEPTH: **N/A**



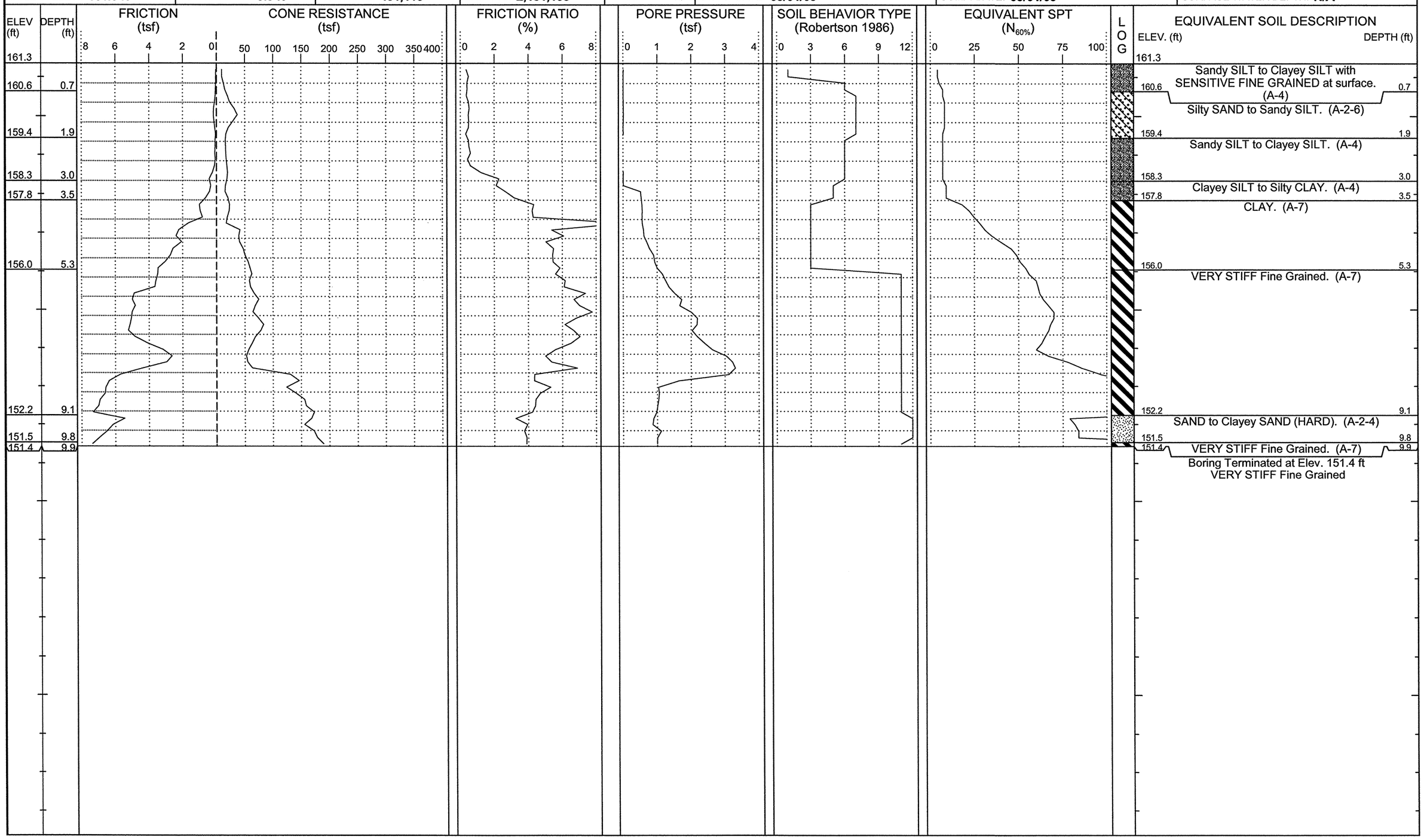
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	33	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone**	DRILLER: **Ronald Stewart**
BORING NO.: **L-1257**	STATION: **1257+00**	OFFSET: **0ft CL**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **161.3 ft**	TOTAL DEPTH: **9.9 ft**	NORTHING: **451,118**	EASTING: **2,181,138**	24 HR. **N/A**	START DATE: **09/01/09**	COMP. DATE: **09/01/09**	SURFACE WATER DEPTH: **N/A**



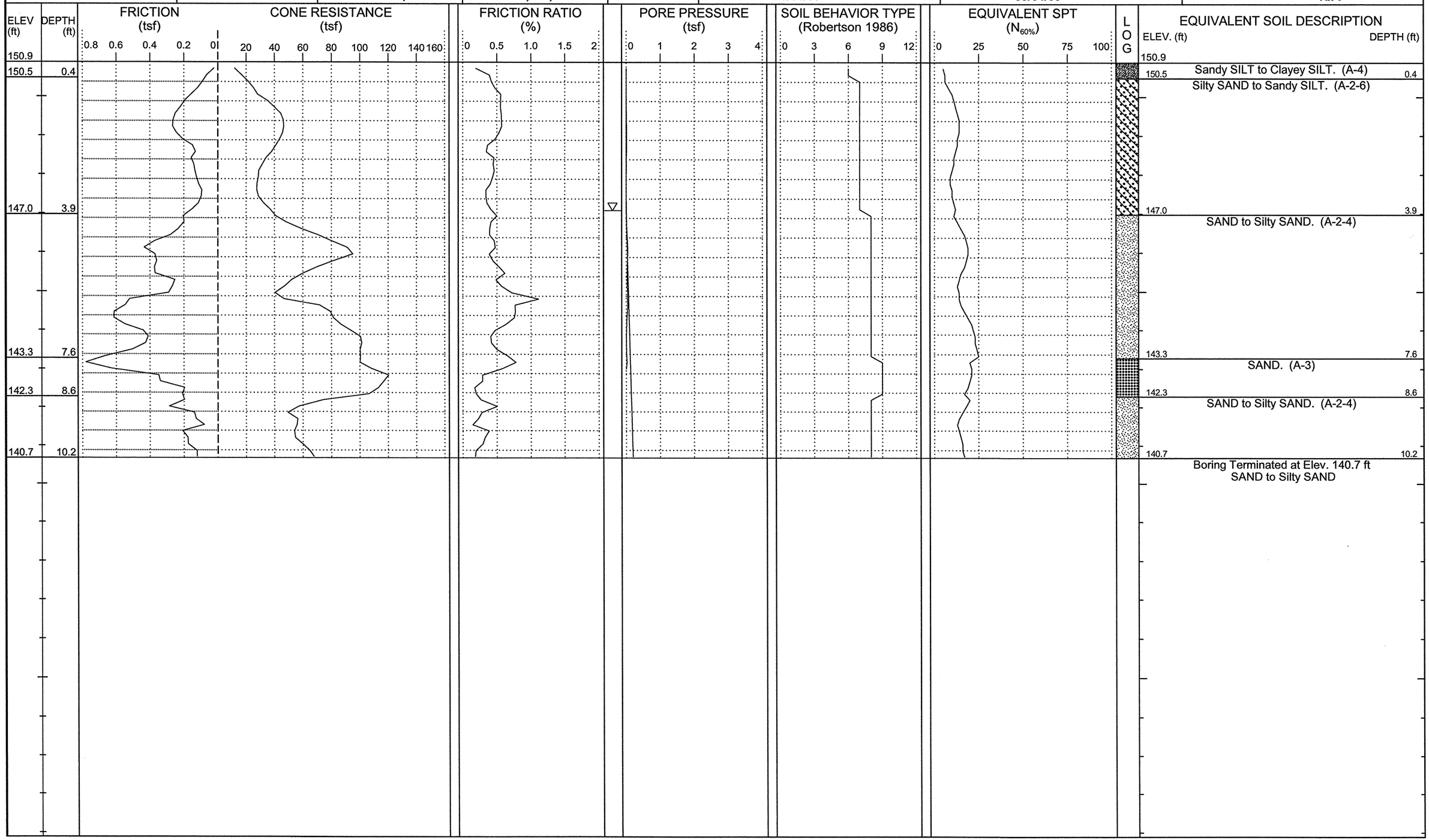
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	34	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1262+93**	STATION: **1262+96**	OFFSET: **8ft LT**	ALIGNMENT: **-L-**	0 HR. **3.8** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **150.9 ft**	TOTAL DEPTH: **10.2 ft**	NORTHING: **451,230**	EASTING: **2,181,732**	24 HR. **N/A** / START DATE: **09/01/09**	COMP. DATE: **09/01/09** / SURFACE WATER DEPTH: **N/A**



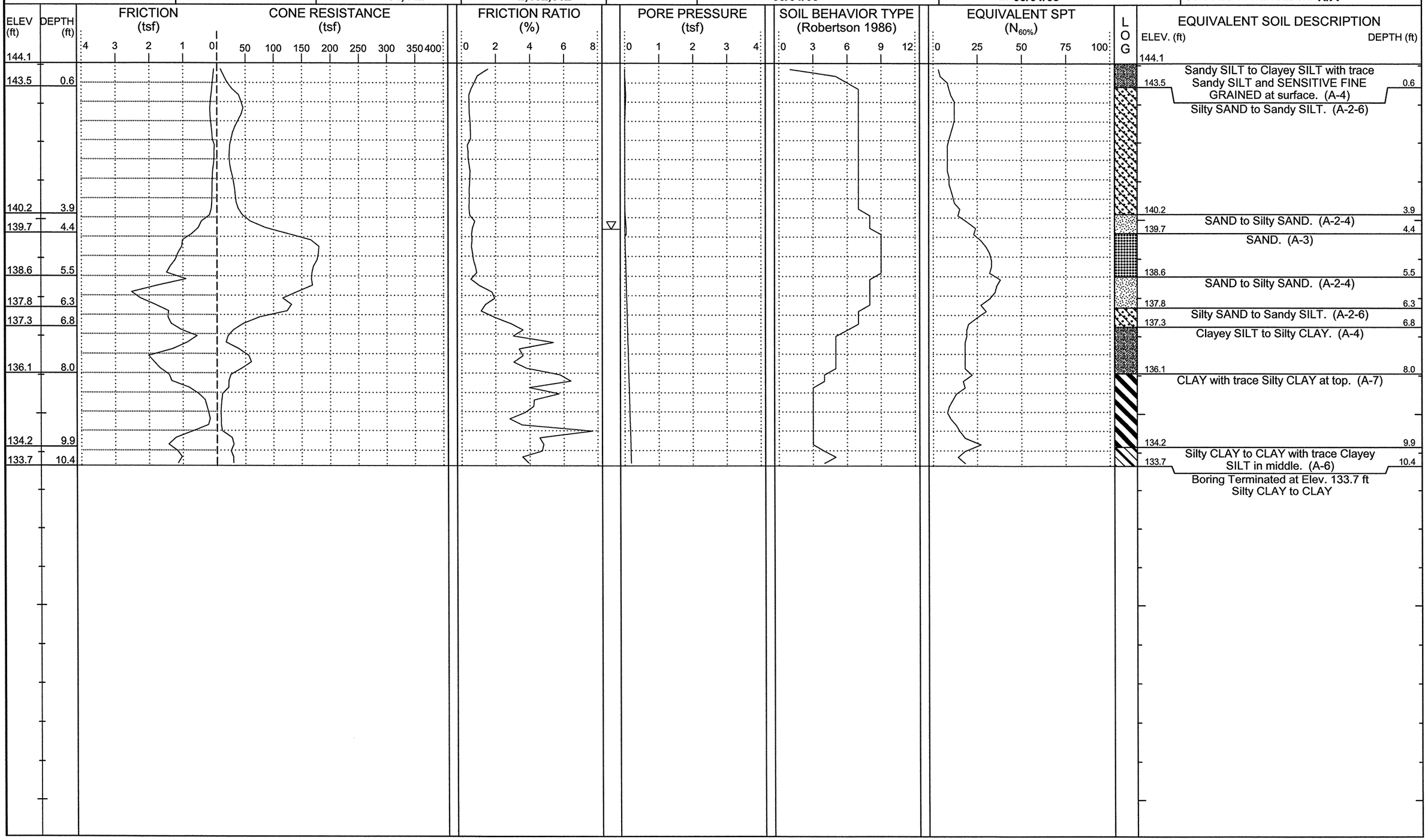
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	35	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1267**	STATION: **1267+00**	OFFSET: **80ft LT**	ALIGNMENT: **-L-**	0 HR. **4.3** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **144.1 ft**	TOTAL DEPTH: **10.4 ft**	NORTHING: **451,442**	EASTING: **2,182,062**	24 HR. **N/A** / START DATE: **09/01/09**	COMP. DATE: **09/01/09** / SURFACE WATER DEPTH: **N/A**



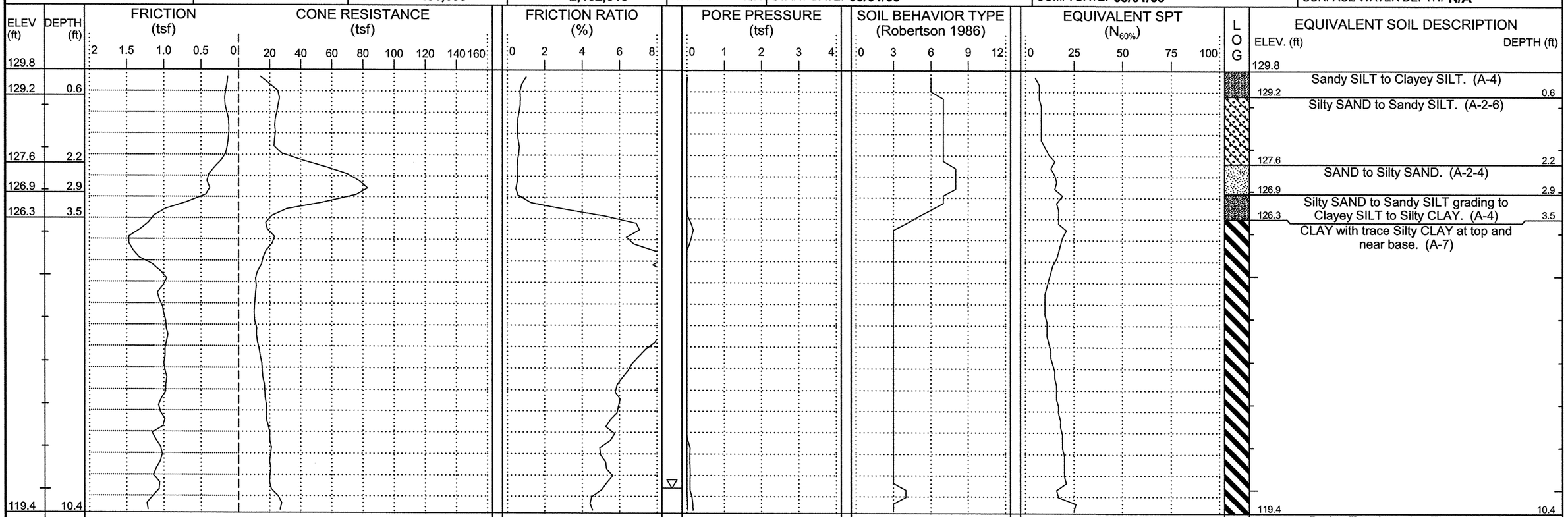
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	36	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1272**	STATION: **1272+00**	OFFSET: **0ft CL**	ALIGNMENT: **-L-**	0 HR. **9.8** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **129.8 ft**	TOTAL DEPTH: **10.4 ft**	NORTHING: **451,638**	EASTING: **2,182,518**	24 HR. **N/A** / START DATE: **09/01/09**	COMP. DATE: **09/01/09** / SURFACE WATER DEPTH: **N/A**



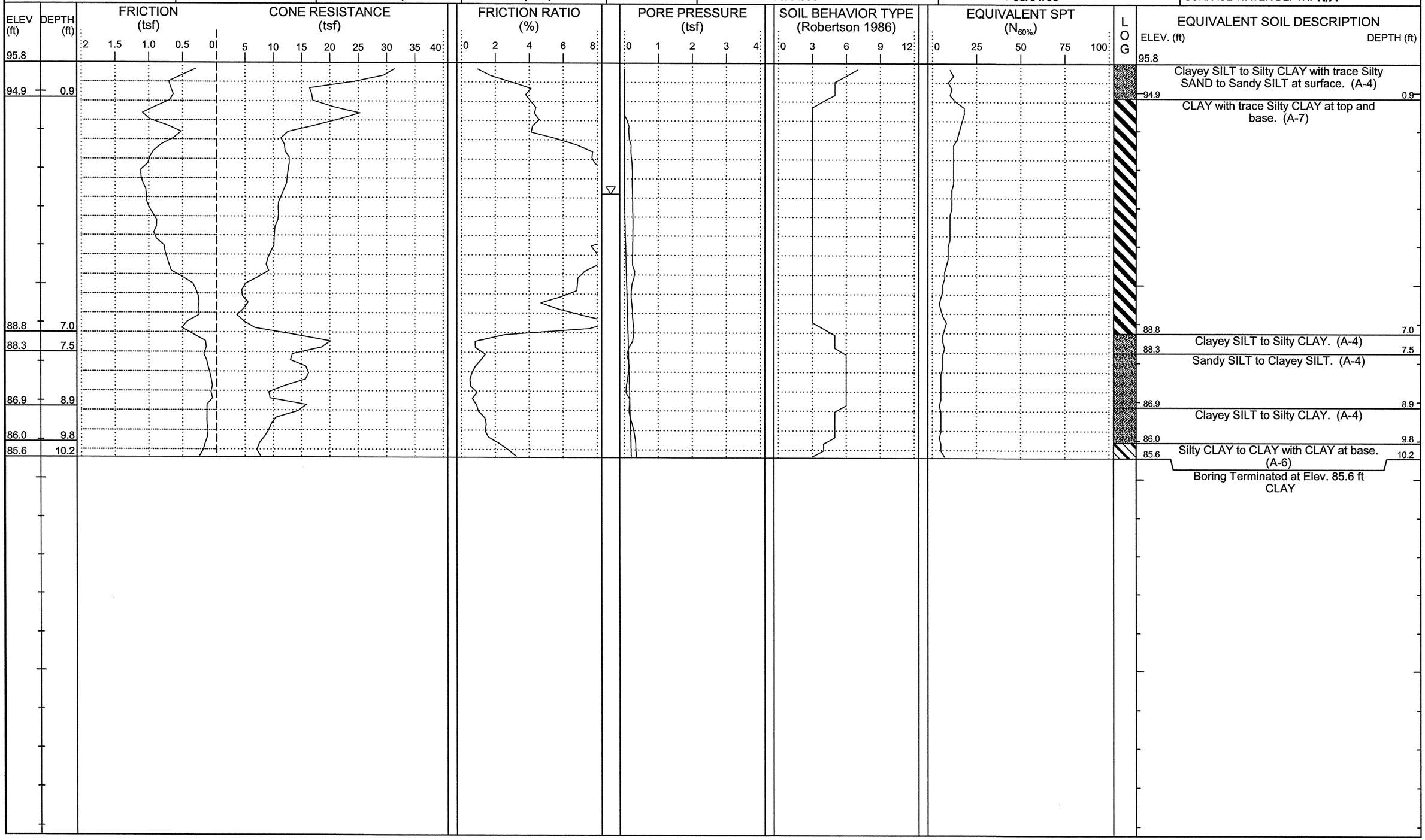
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	37	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1286+50**	STATION: **1286+28**	OFFSET: **9ft LT**	ALIGNMENT: **-L-**	0 HR. **3.4** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **95.8 ft**	TOTAL DEPTH: **10.2 ft**	NORTHING: **452,471**	EASTING: **2,183,680**	24 HR. **N/A** / START DATE: **09/01/09**	COMP. DATE: **09/01/09** / SURFACE WATER DEPTH: **N/A**



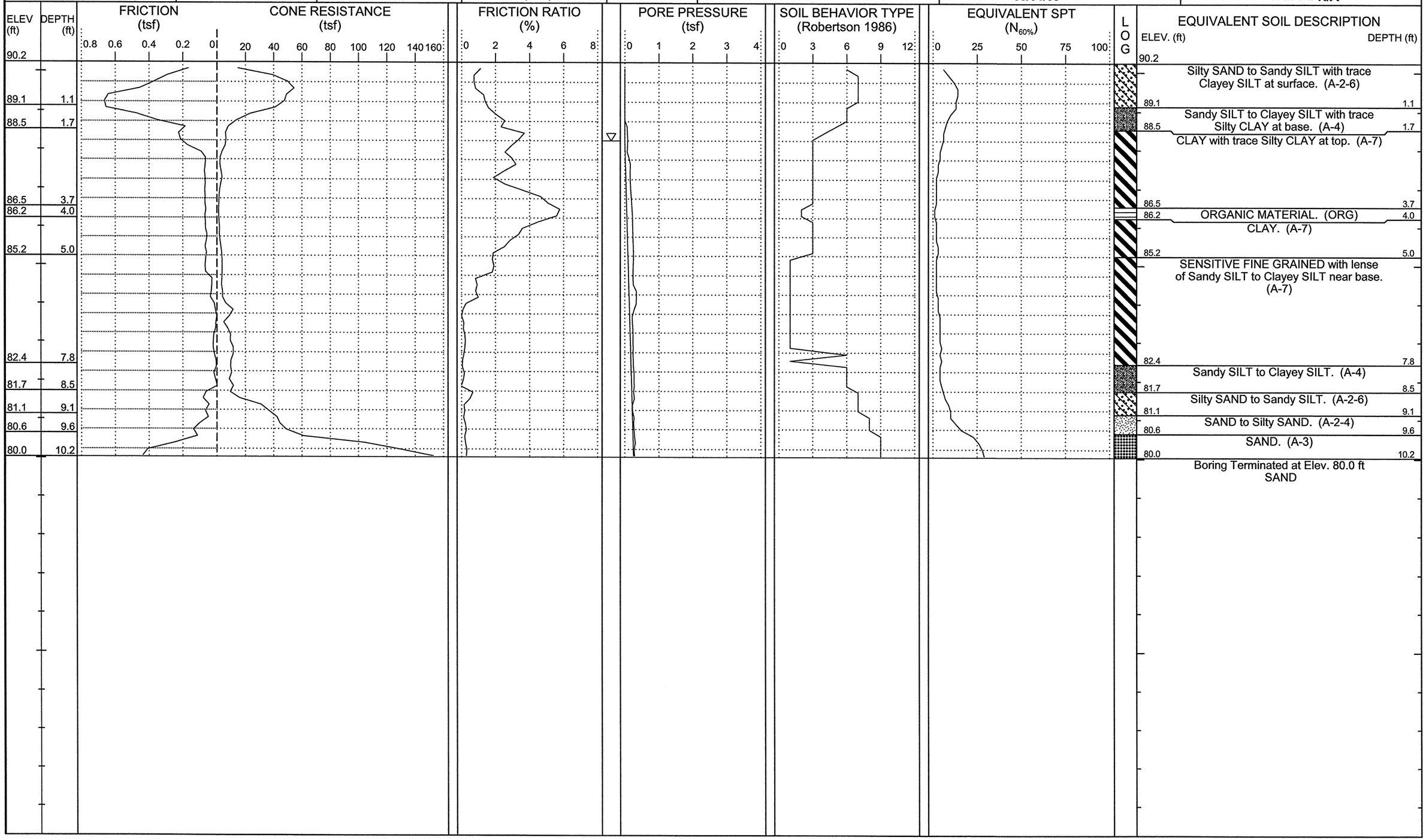
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	38	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone**	DRILLER: **Ronald Stewart**
BORING NO.: **L-1292**	STATION: **1292+00**	OFFSET: **0ft CL**	ALIGNMENT: **-L-**	0 HR. **2.0**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **90.2 ft**	TOTAL DEPTH: **10.2 ft**	NORTHING: **452,791**	EASTING: **2,184,156**	24 HR. **N/A**	START DATE: **09/01/09**	COMP. DATE: **09/01/09**	SURFACE WATER DEPTH: **N/A**



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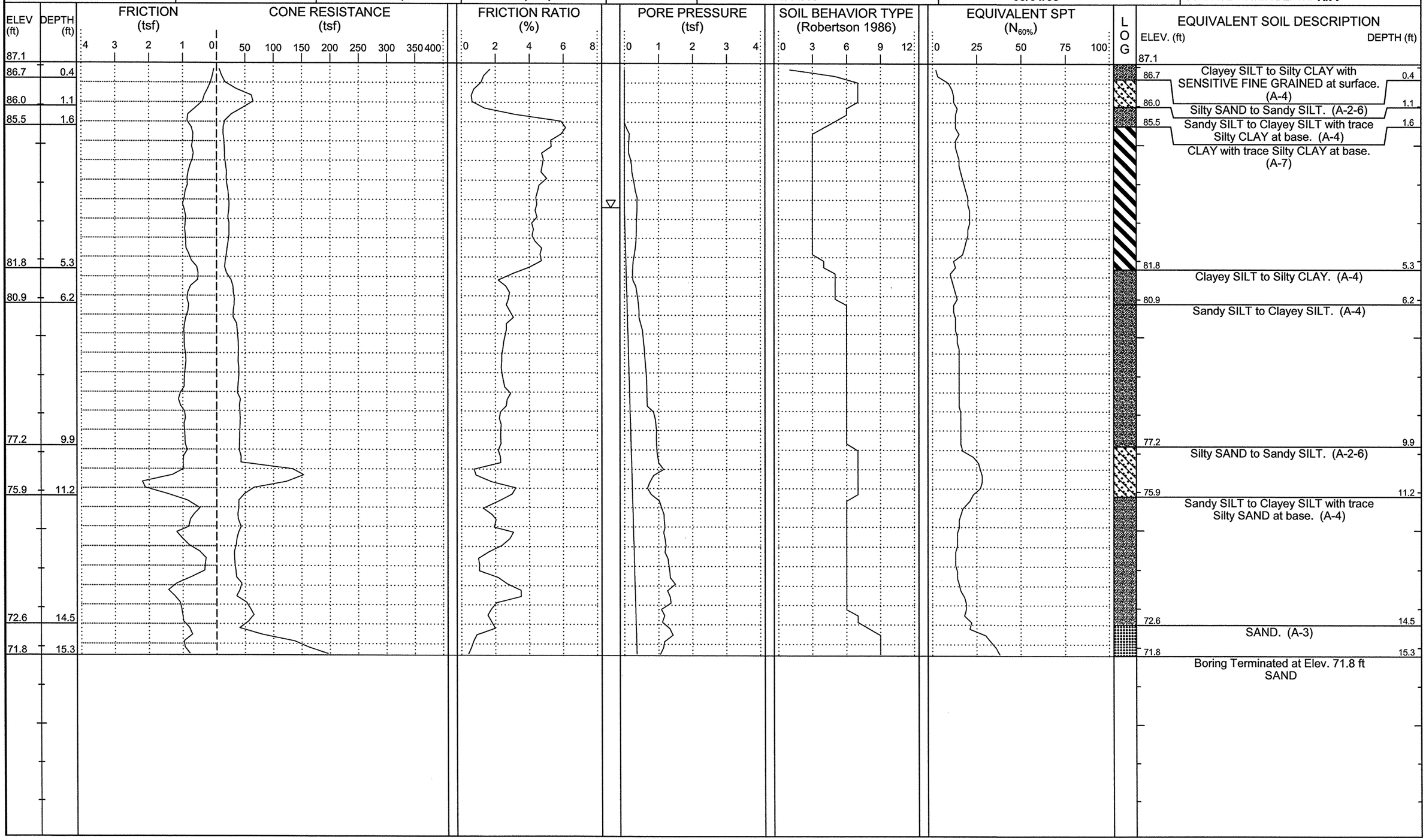
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	39	93

CATLIN #: 209059.01 PAGE 1 of 1

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone**	DRILLER: **Ronald Stewart**
BORING NO.: **L-1302**	STATION: **1302+22**	OFFSET: **27ft LT**	ALIGNMENT: **-L-**	0 HR. **3.7**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **87.1 ft**	TOTAL DEPTH: **15.3 ft**	NORTHING: **453,199**	EASTING: **2,185,092**	24 HR. **N/A**	START DATE: **09/01/09**	COMP. DATE: **09/01/09**	SURFACE WATER DEPTH: **N/A**



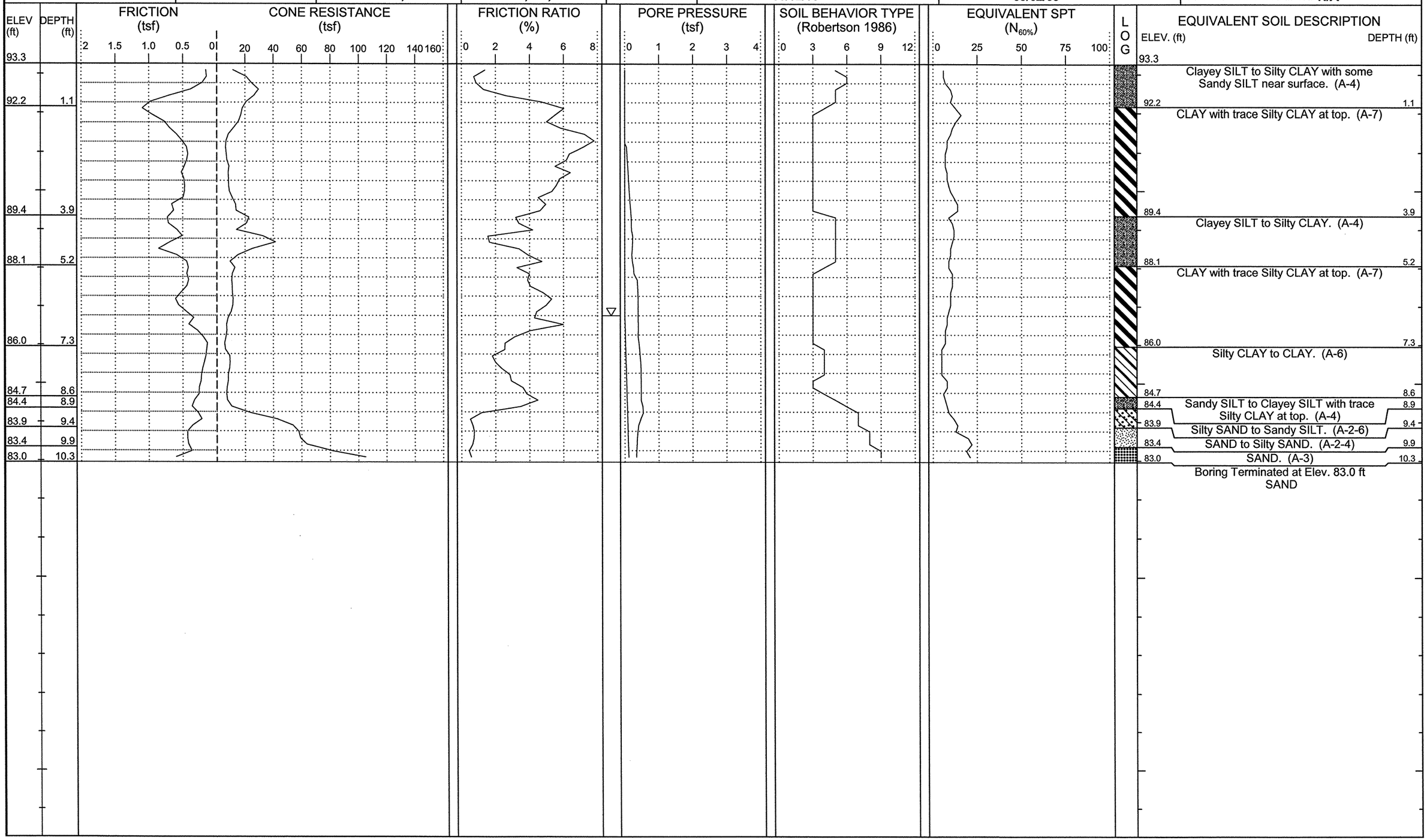
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	40	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone**	DRILLER: **Ronald Stewart**
BORING NO.: **L-1322**	STATION: **1322+00**	OFFSET: **56ft RT**	ALIGNMENT: **-L-**	0 HR. **6.5** ROD TYPE: **Pre-strung**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **93.3 ft**	TOTAL DEPTH: **10.3 ft**	NORTHING: **453,483**	EASTING: **2,187,042**	24 HR. **N/A** START DATE: **09/02/09**	COMP. DATE: **09/02/09**	SURFACE WATER DEPTH: **N/A**



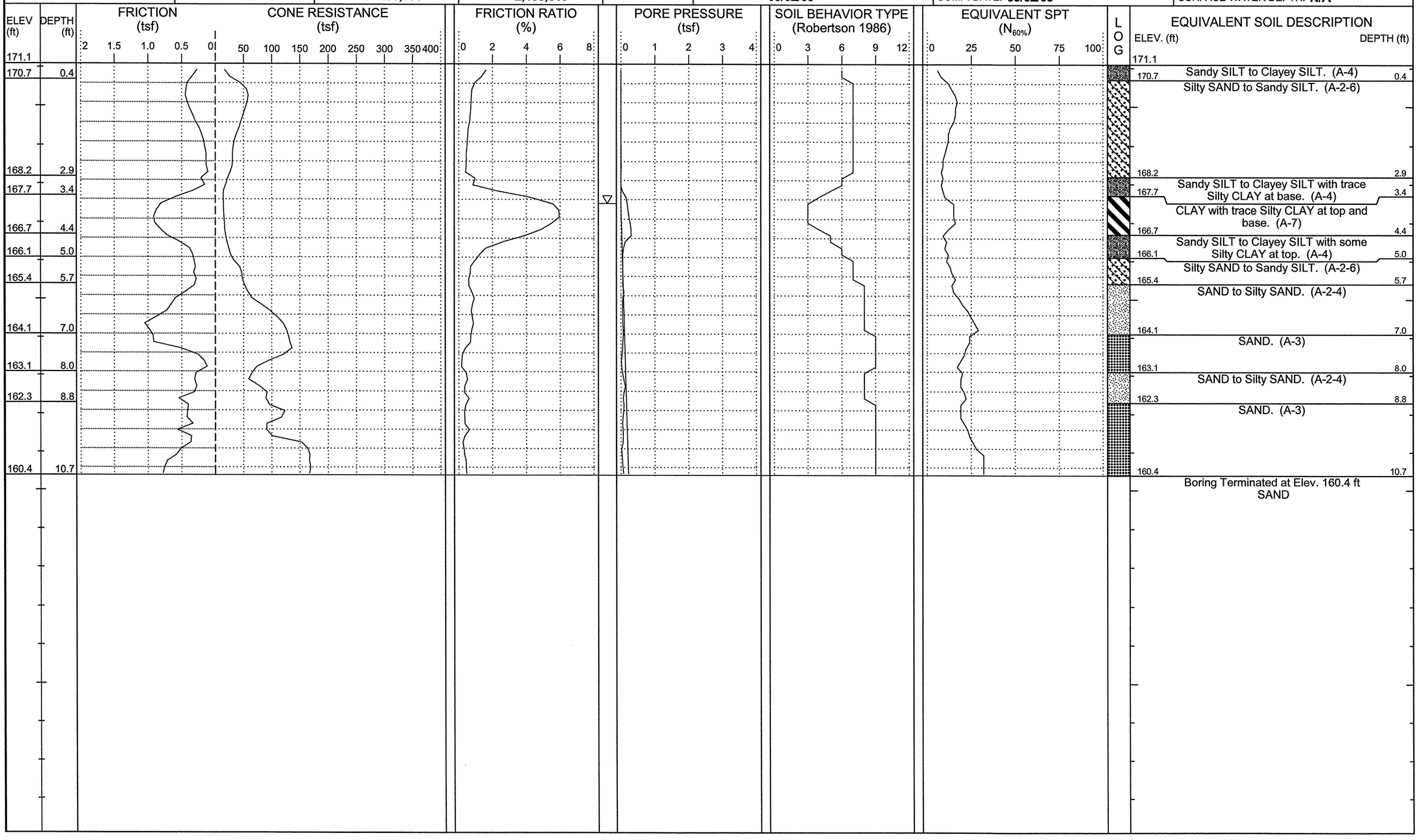
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	41	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1348**	STATION: **1348+03**	OFFSET: **50ft LT**	ALIGNMENT: **-L-**	0 HR. **3.6** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **171.1 ft**	TOTAL DEPTH: **10.7 ft**	NORTHING: **453,193**	EASTING: **2,189,613**	24 HR. **N/A** / START DATE: **09/02/09**	COMP. DATE: **09/02/09** / SURFACE WATER DEPTH: **N/A**



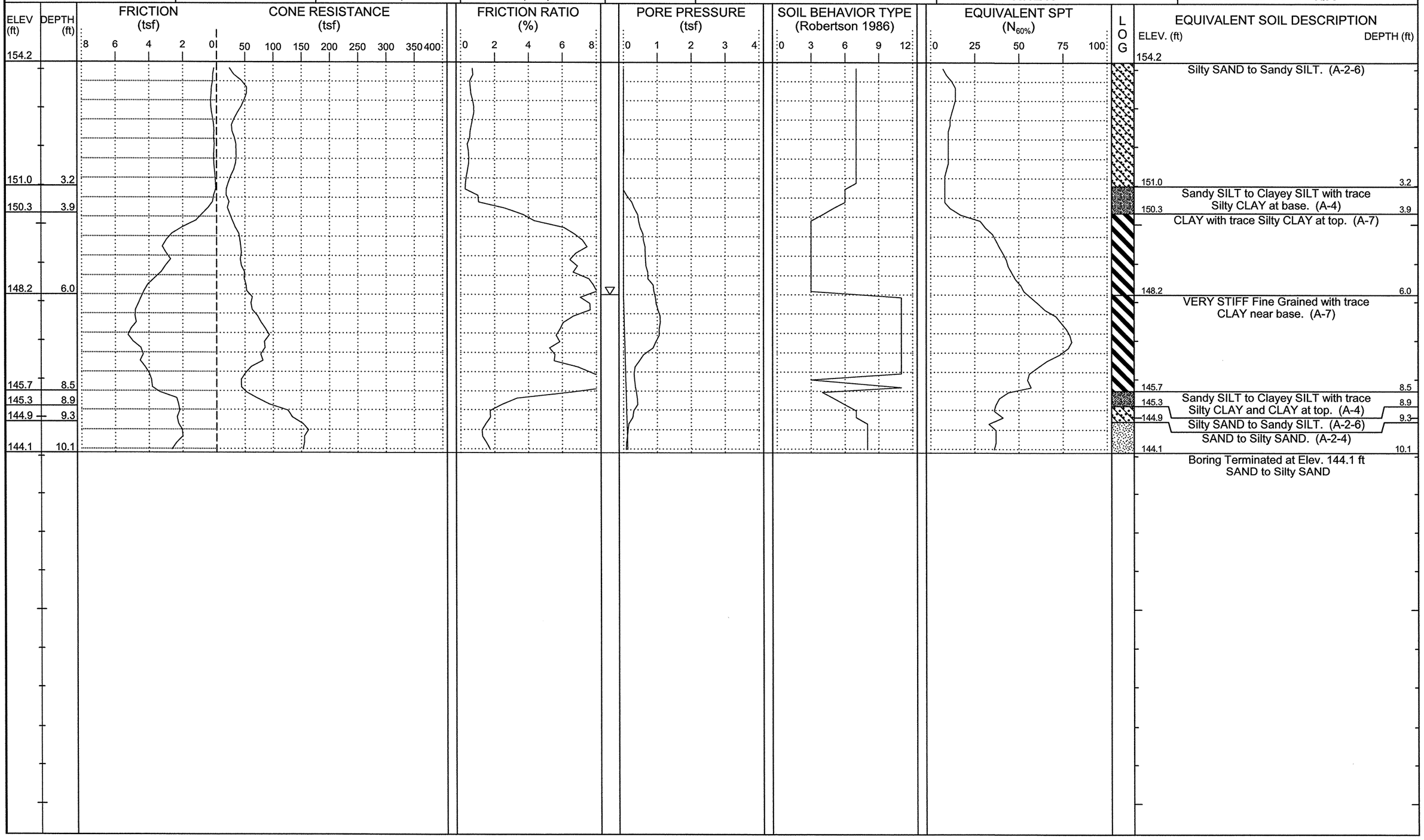
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	42	93

CATLIN #: 209059.01 PAGE 1 of 1

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone**	DRILLER: **Ronald Stewart**
BORING NO.: **L-1352**	STATION: **1351+92**	OFFSET: **24ft RT**	ALIGNMENT: **-L-**	0 HR. **6.0**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **154.2 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **453,014**	EASTING: **2,189,965**	24 HR. **N/A**	START DATE: **09/02/09**	COMP. DATE: **09/02/09**	SURFACE WATER DEPTH: **N/A**



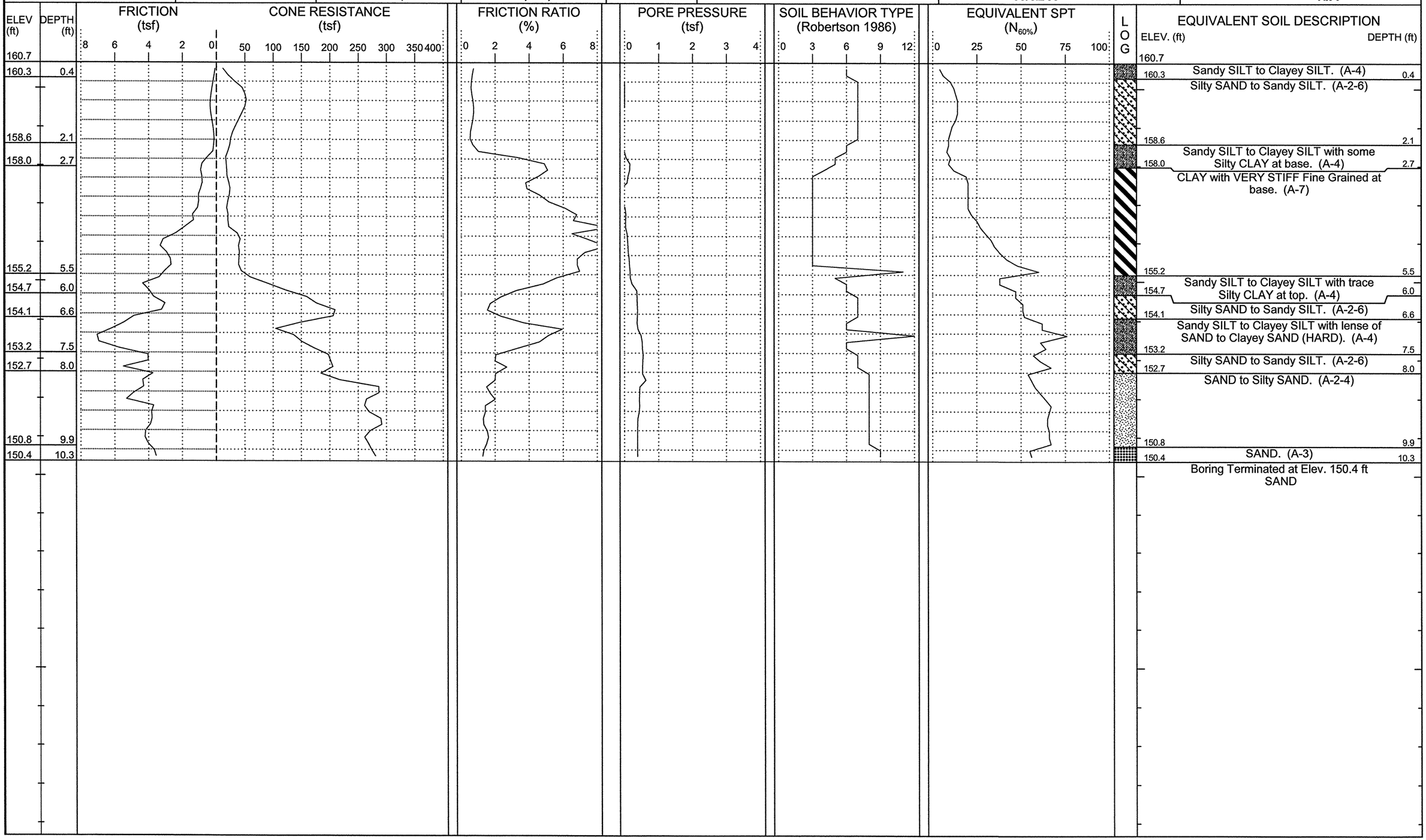
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	43	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1357**	STATION: **1357+02**	OFFSET: **37ft RT**	ALIGNMENT: **-L-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **160.7 ft**	TOTAL DEPTH: **10.3 ft**	NORTHING: **452,860**	EASTING: **2,190,452**	24 HR. **N/A** / START DATE: **09/02/09**	COMP. DATE: **09/02/09** / SURFACE WATER DEPTH: **N/A**



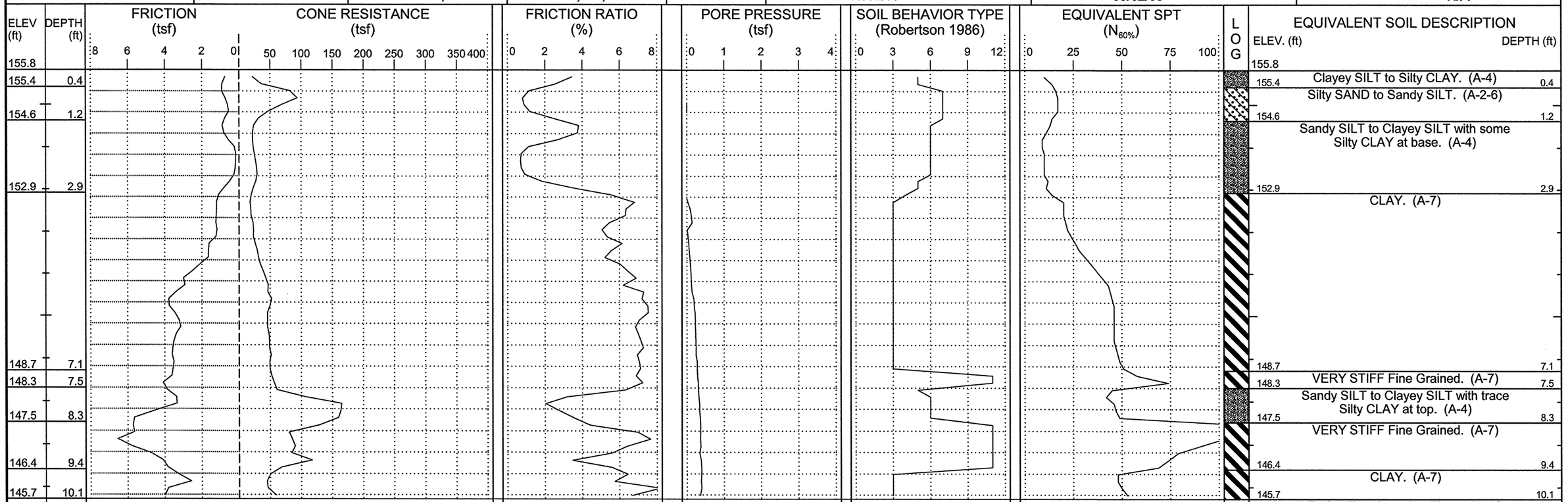
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	44	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1362**	STATION: **1362+00**	OFFSET: **40ft LT**	ALIGNMENT: **-L-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **155.8 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **452,793**	EASTING: **2,190,950**	24 HR. **N/A** / START DATE: **09/02/09**	COMP. DATE: **09/02/09** / SURFACE WATER DEPTH: **N/A**



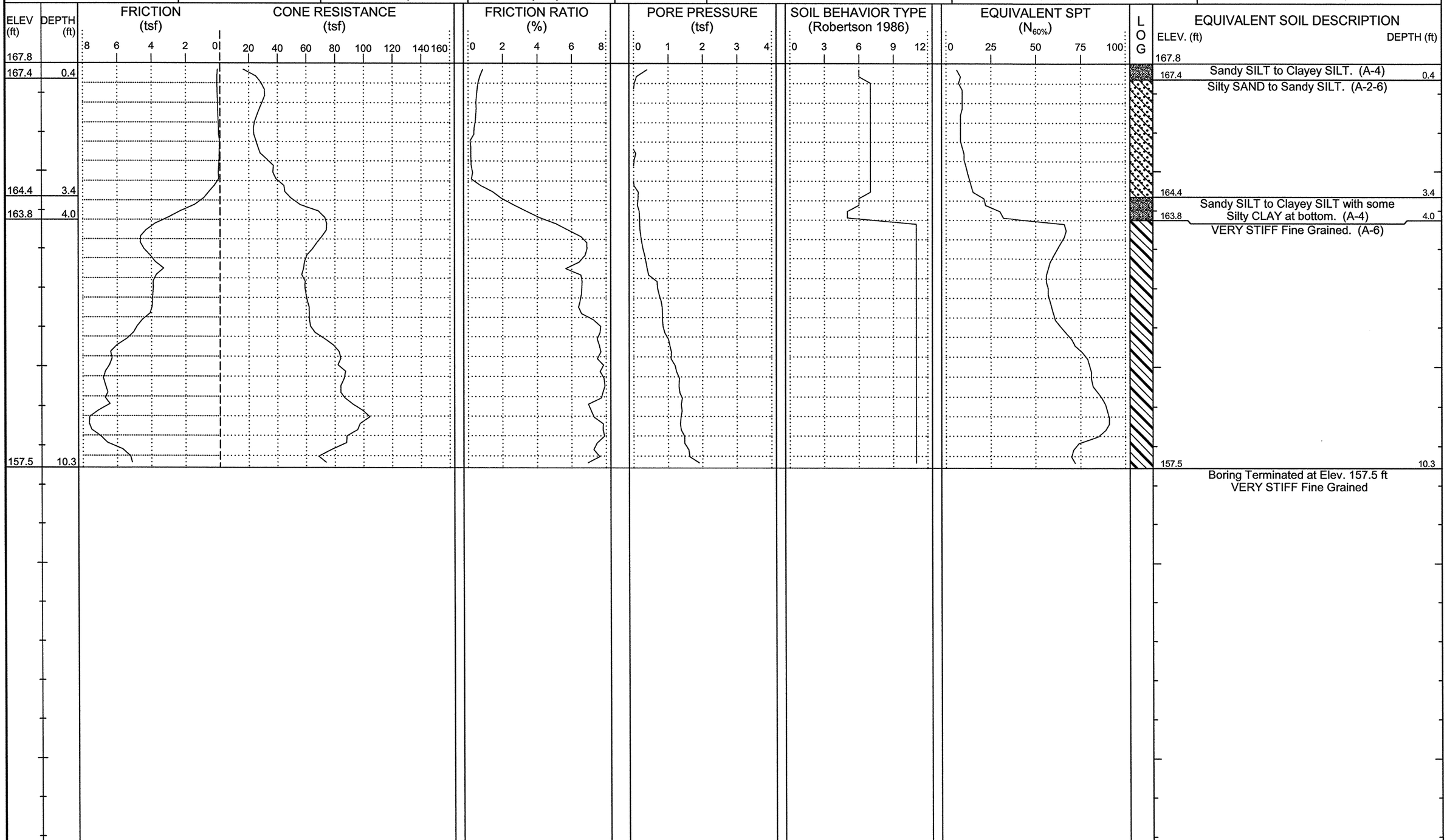
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	45	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1367**	STATION: **1367+00**	OFFSET: **30ft LT**	ALIGNMENT: **-L-** / 0 HR. **N/A**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **167.8 ft**	TOTAL DEPTH: **10.3 ft**	NORTHING: **452,645**	EASTING: **2,191,427** / 24 HR. **N/A**	START DATE: **09/02/09**	COMP. DATE: **09/02/09** / SURFACE WATER DEPTH: **N/A**



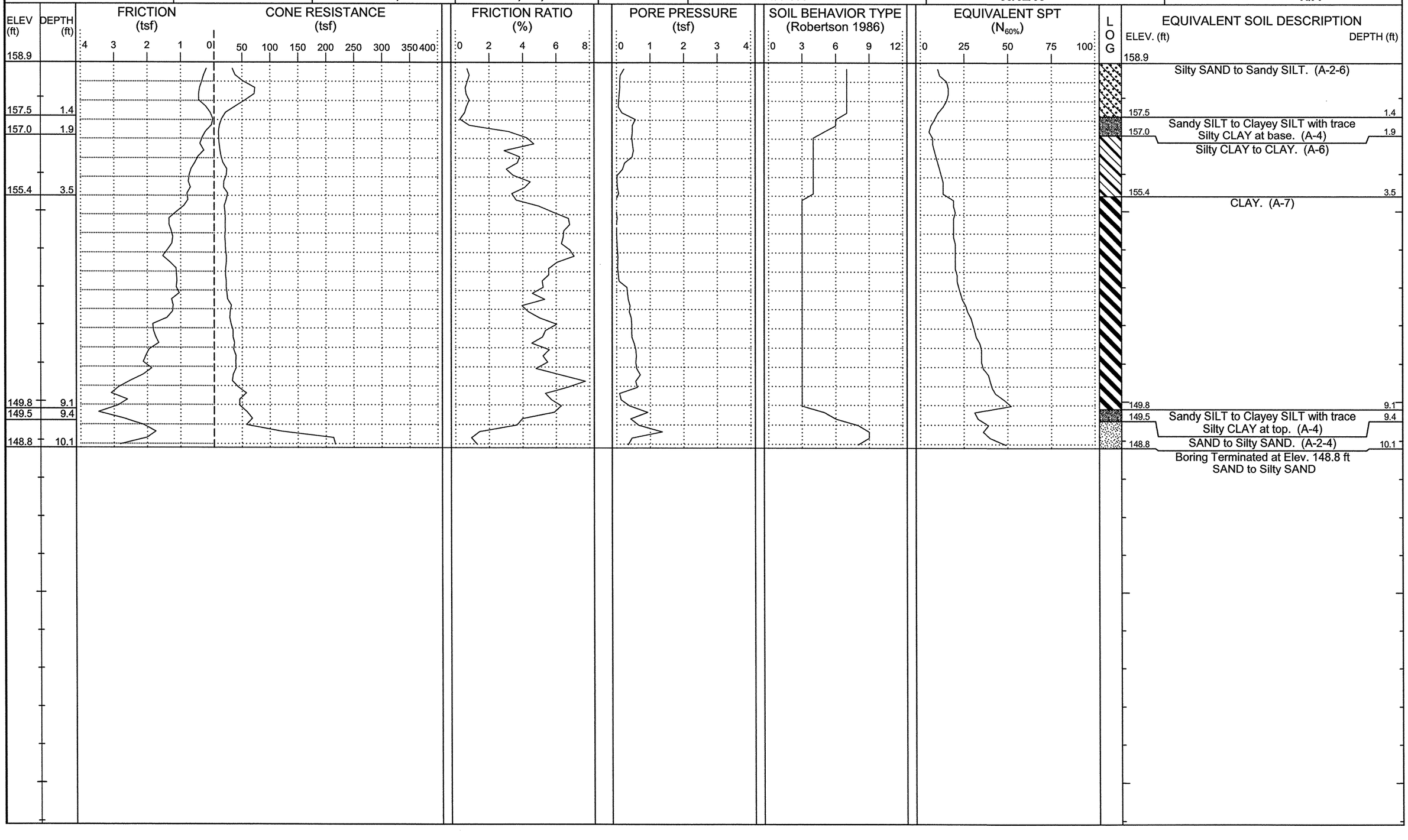
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	46	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1372**	STATION: **1372+00**	OFFSET: **40ft LT**	ALIGNMENT: **-L-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **158.9 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **452,575**	EASTING: **2,191,916**	24 HR. **N/A** / START DATE: **09/02/09**	COMP. DATE: **09/02/09** / SURFACE WATER DEPTH: **N/A**



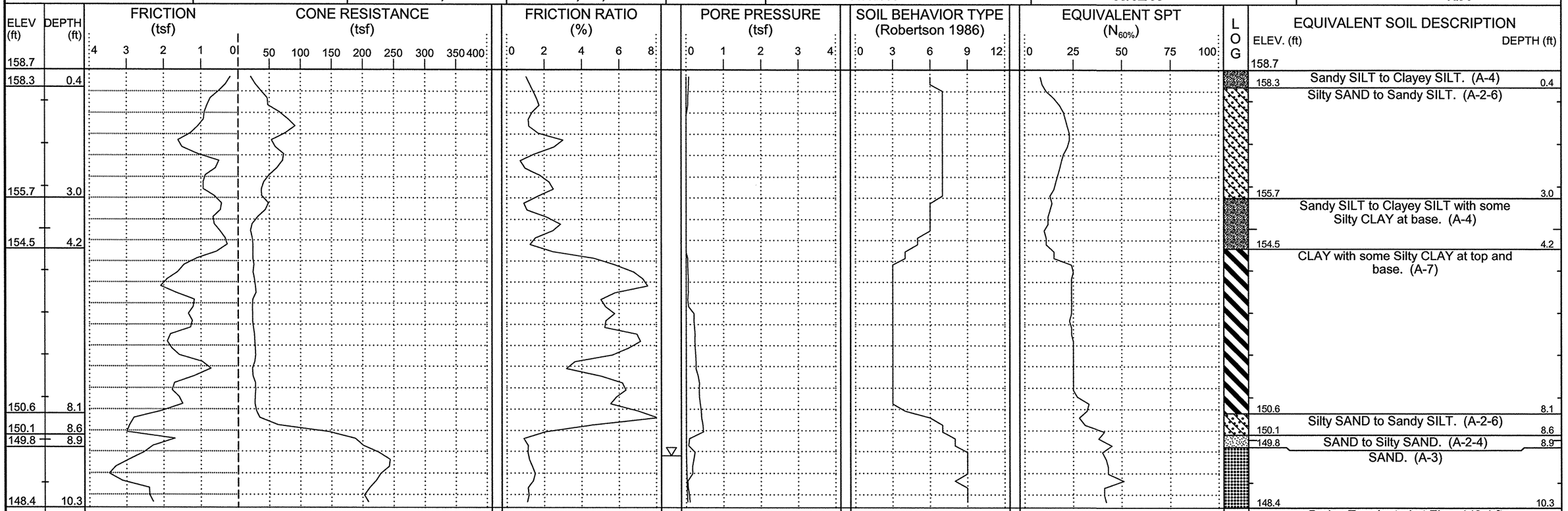
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	47	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1377**	STATION: **1377+00**	OFFSET: **40ft LT**	ALIGNMENT: **-L-**	0 HR. **9.1** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **158.7 ft**	TOTAL DEPTH: **10.3 ft**	NORTHING: **452,567**	EASTING: **2,192,415**	24 HR. **N/A** / START DATE: **09/02/09**	COMP. DATE: **09/02/09** / SURFACE WATER DEPTH: **N/A**



EQUIVALENT SOIL DESCRIPTION

ELEV. (ft)	DEPTH (ft)	Description
158.7		
158.3	0.4	Sandy SILT to Clayey SILT. (A-4)
155.7	3.0	Silty SAND to Sandy SILT. (A-2-6)
154.5	4.2	Sandy SILT to Clayey SILT with some Silty CLAY at base. (A-4)
150.6	8.1	CLAY with some Silty CLAY at top and base. (A-7)
150.1	8.6	Silty SAND to Sandy SILT. (A-2-6)
149.8	8.9	SAND to Silty SAND. (A-2-4)
148.4	10.3	SAND. (A-3)

Boring Terminated at Elev. 148.4 ft
SAND

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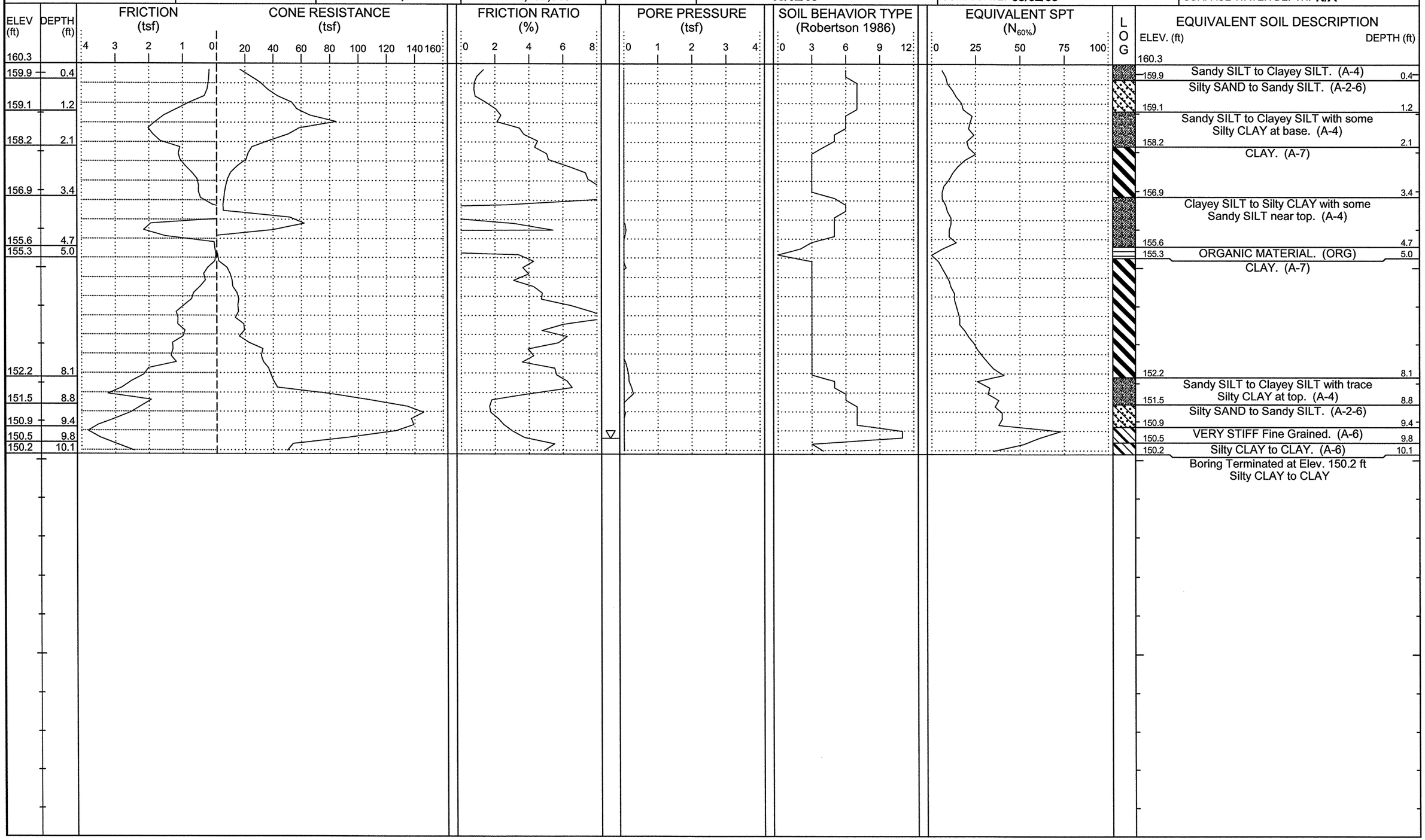
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	48	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1382**	STATION: **1382+00**	OFFSET: **40ft RT**	ALIGNMENT: **-L-** / 0 HR. **9.7**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **160.3 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **452,480**	EASTING: **2,192,913** / 24 HR. **N/A**	START DATE: **09/02/09**	COMP. DATE: **09/02/09** / SURFACE WATER DEPTH: **N/A**



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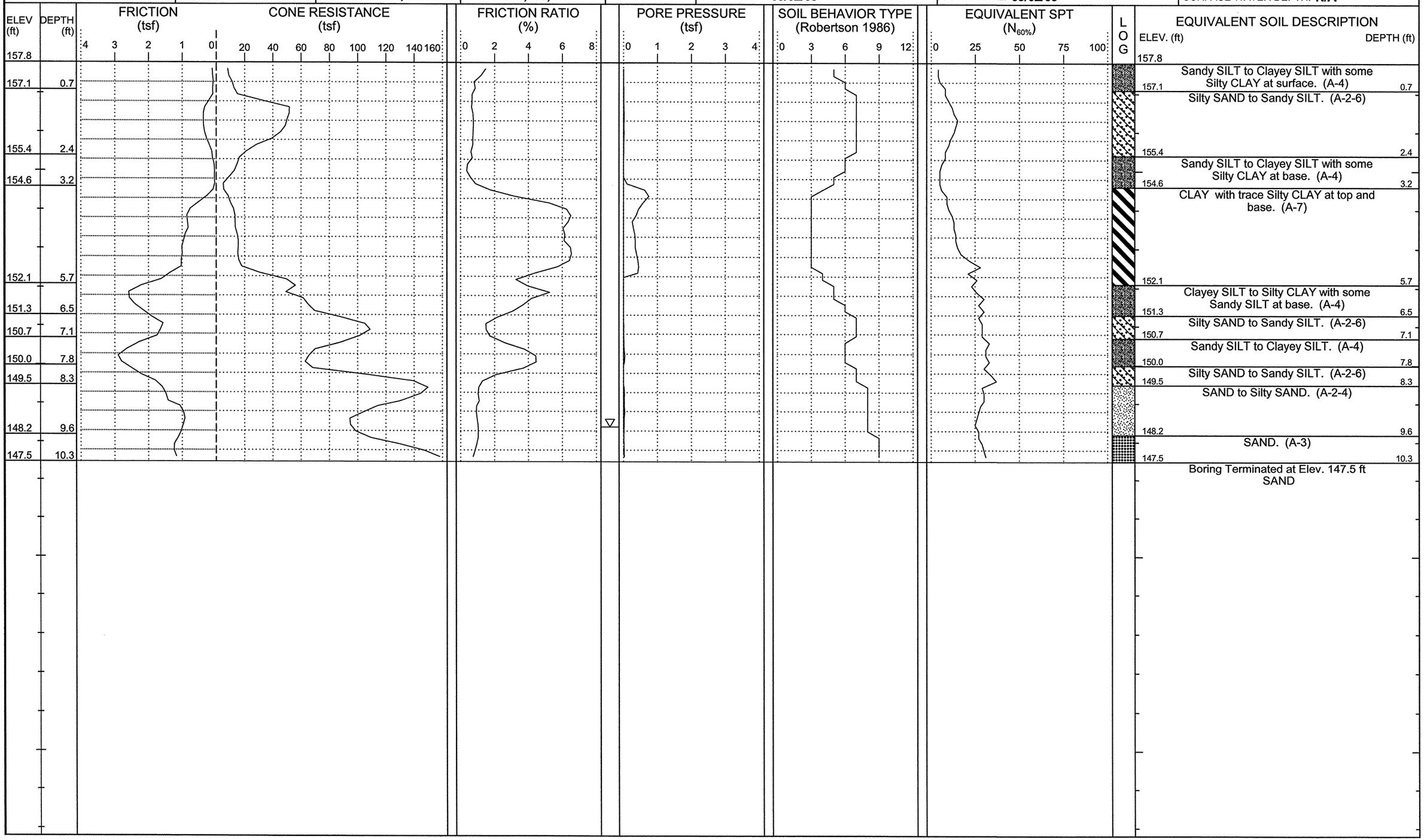
CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	49	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1387**	STATION: **1387+00**	OFFSET: **40ft RT**	ALIGNMENT: **-L-**	0 HR. **9.4** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **157.8 ft**	TOTAL DEPTH: **10.3 ft**	NORTHING: **452,483**	EASTING: **2,193,412**	24 HR. **N/A** / START DATE: **09/02/09**	COMP. DATE: **09/02/09** / SURFACE WATER DEPTH: **N/A**



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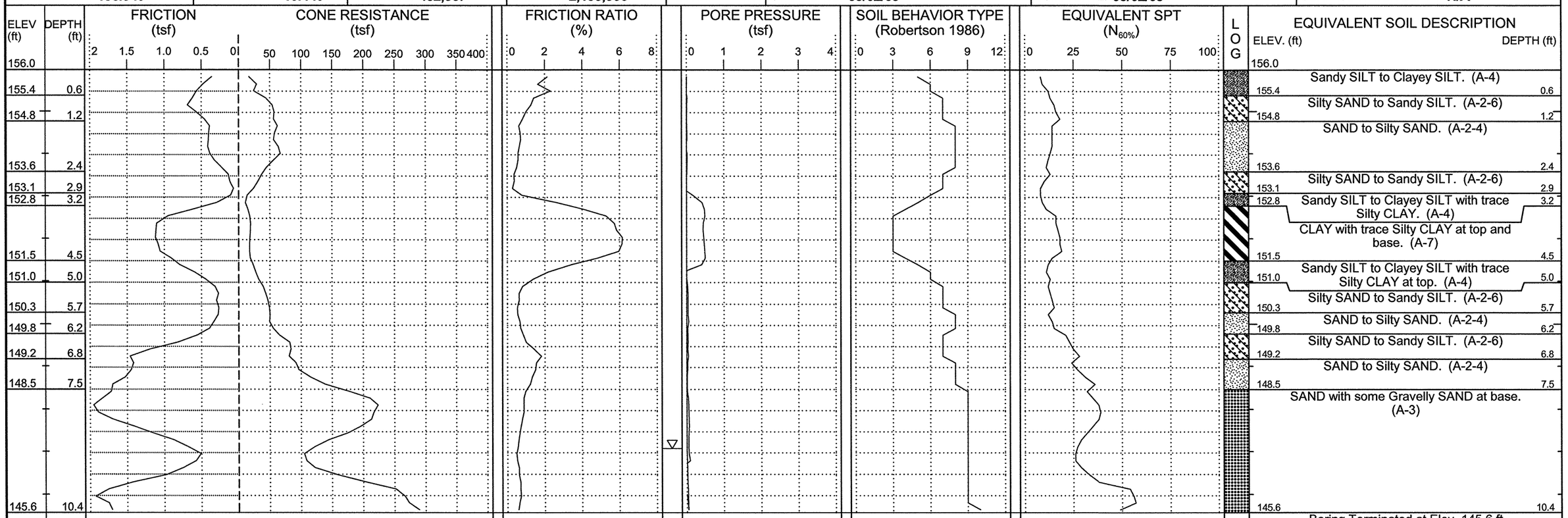
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	50	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1392**	STATION: **1392+00**	OFFSET: **40ft LT**	ALIGNMENT: **-L-**	0 HR. **8.9** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **156.0 ft**	TOTAL DEPTH: **10.4 ft**	NORTHING: **452,567**	EASTING: **2,193,906**	24 HR. **N/A** / START DATE: **09/02/09**	COMP. DATE: **09/02/09** / SURFACE WATER DEPTH: **N/A**



EQUIVALENT SOIL DESCRIPTION

ELEV. (ft)	DEPTH (ft)	Description
156.0		
155.4	0.6	Sandy SILT to Clayey SILT. (A-4)
154.8	1.2	Silty SAND to Sandy SILT. (A-2-6)
153.6	2.4	SAND to Silty SAND. (A-2-4)
153.1	2.9	Silty SAND to Sandy SILT. (A-2-6)
152.8	3.2	Sandy SILT to Clayey SILT with trace Silty CLAY. (A-4)
151.5	4.5	CLAY with trace Silty CLAY at top and base. (A-7)
151.0	5.0	Sandy SILT to Clayey SILT with trace Silty CLAY at top. (A-4)
150.3	5.7	Silty SAND to Sandy SILT. (A-2-6)
149.8	6.2	SAND to Silty SAND. (A-2-4)
149.2	6.8	Silty SAND to Sandy SILT. (A-2-6)
148.5	7.5	SAND to Silty SAND. (A-2-4)
145.6	10.4	SAND with some Gravelly SAND at base. (A-3)

Boring Terminated at Elev. 145.6 ft
Gravelly SAND to SAND

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ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	51	93

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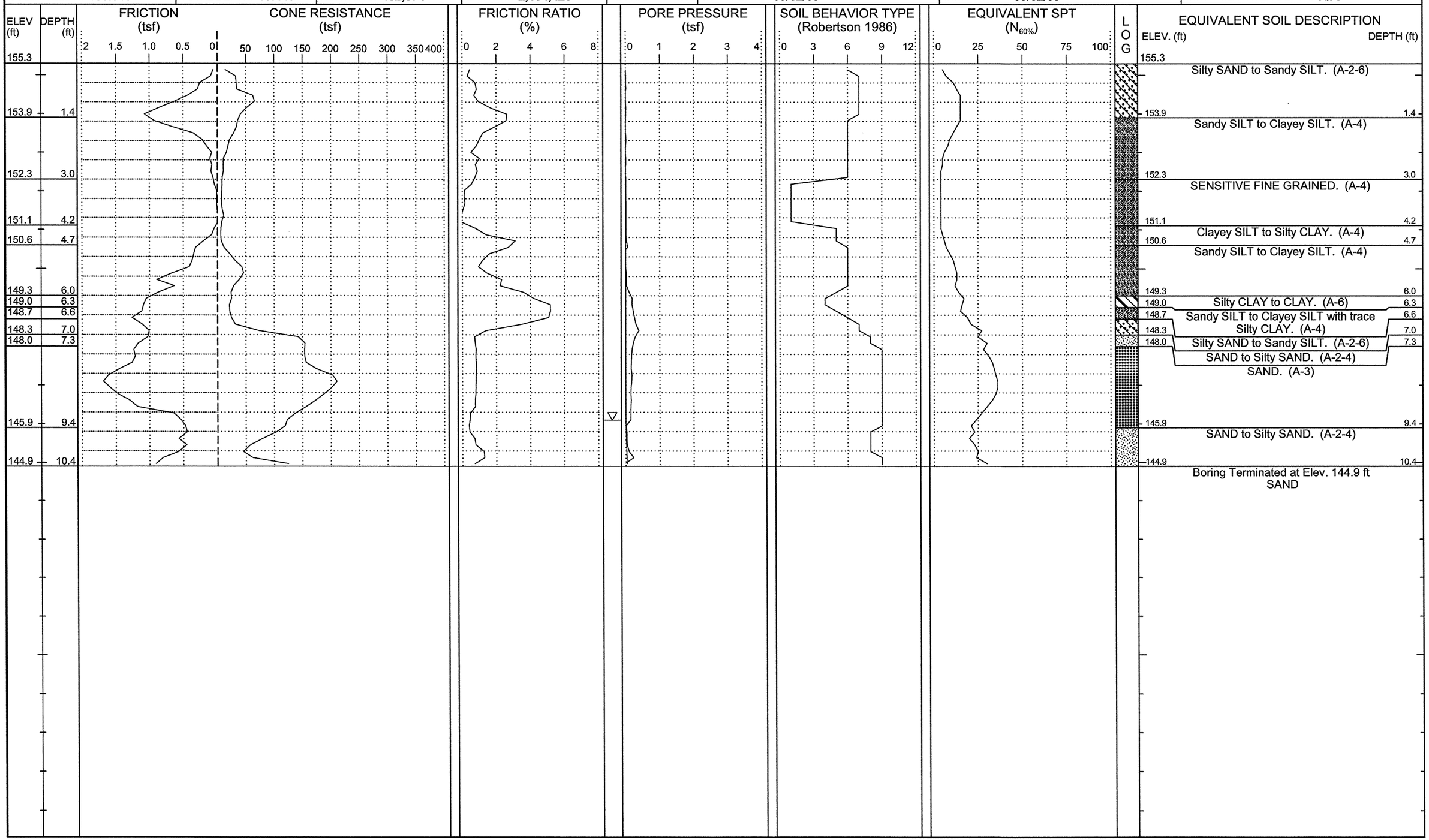
PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone**	DRILLER: **Ronald Stewart**
BORING NO.: **L-1397+15**	STATION: **1397+15**	OFFSET: **50ft LT**	ALIGNMENT: **-L-**	0 HR. **9.2**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **155.3 ft**	TOTAL DEPTH: **10.4 ft**	NORTHING: **452,574**	EASTING: **2,194,428**	24 HR. **N/A**	START DATE: **09/02/09**	COMP. DATE: **09/02/09**	SURFACE WATER DEPTH: **N/A**



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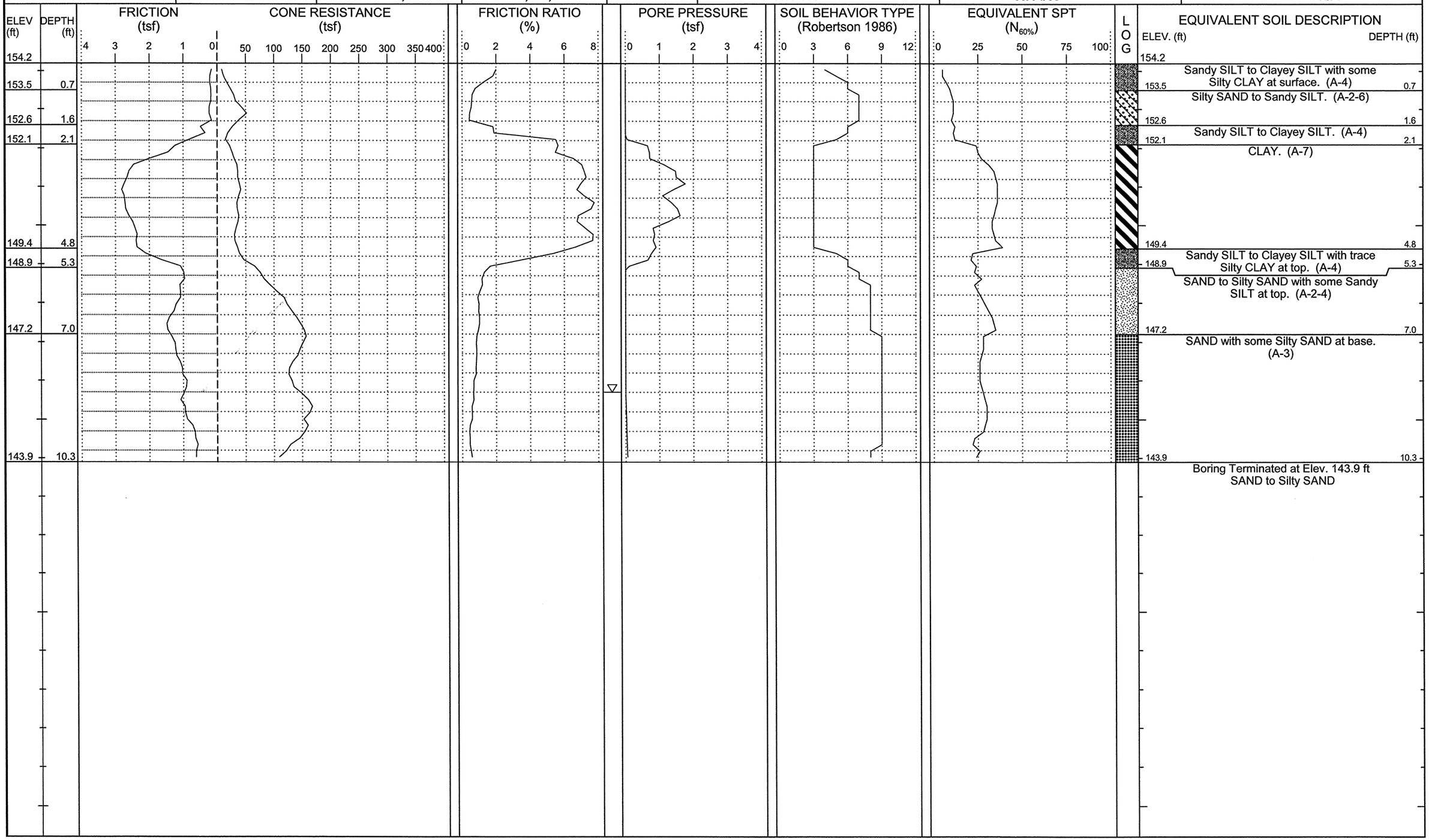
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	52	93

CATLIN #: 209059.01 PAGE 1 of 1

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone**	DRILLER: **Ronald Stewart**
BORING NO.: **L-1402**	STATION: **1402+00**	OFFSET: **60ft RT**	ALIGNMENT: **-L-**	0 HR. **8.5**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **154.2 ft**	TOTAL DEPTH: **10.3 ft**	NORTHING: **452,461**	EASTING: **2,194,912**	24 HR. **N/A**	START DATE: **09/04/09**	COMP. DATE: **09/04/09**	SURFACE WATER DEPTH: **N/A**



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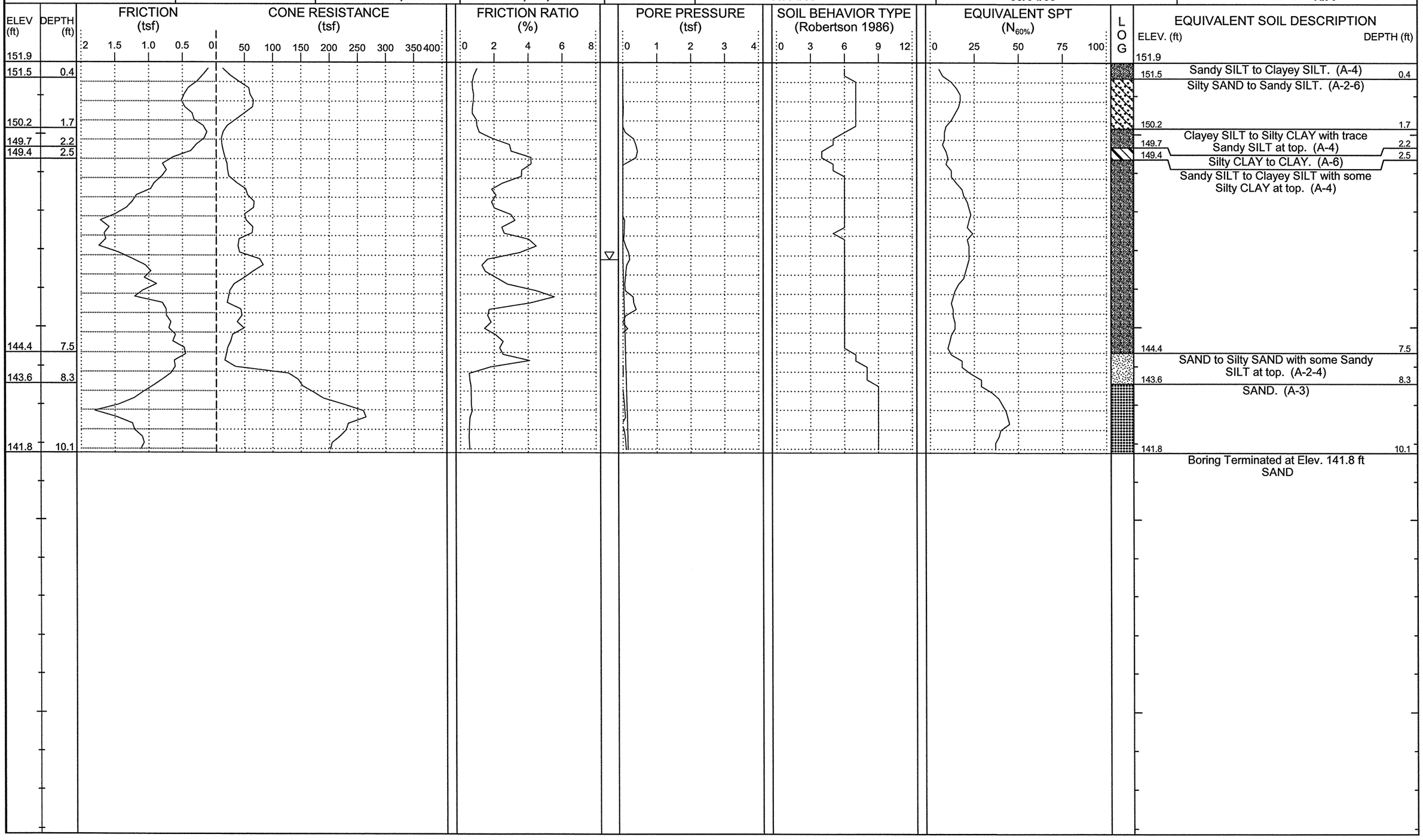
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	53	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1407**	STATION: **1407+00**	OFFSET: **40ft LT**	ALIGNMENT: **-L-**	0 HR. **5.1** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **151.9 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **452,565**	EASTING: **2,195,413**	24 HR. **N/A** / START DATE: **09/04/09**	COMP. DATE: **09/04/09** / SURFACE WATER DEPTH: **N/A**



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ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	54	93

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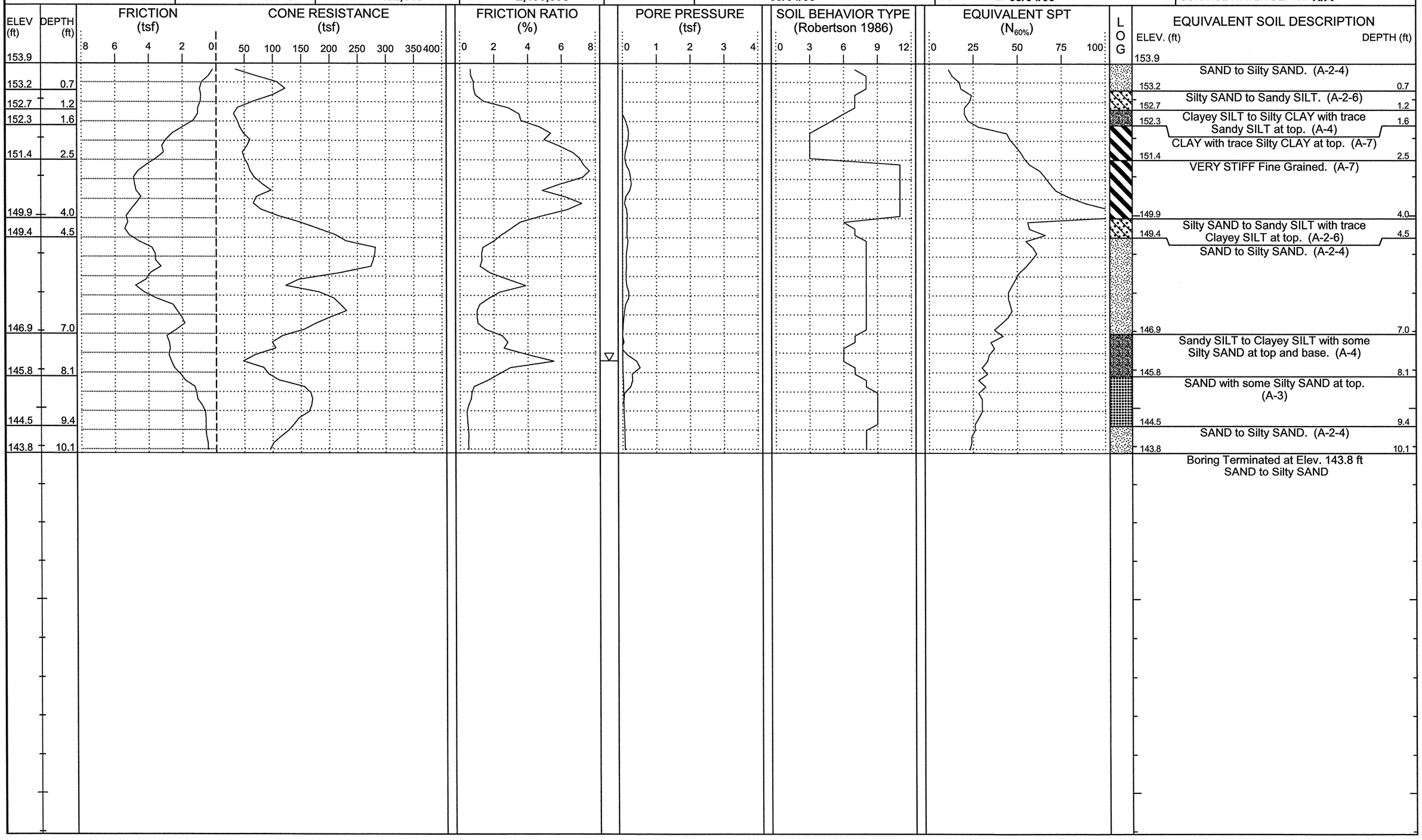
PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone**	DRILLER: **Ronald Stewart**
BORING NO.: **L-1412**	STATION: **1411+98**	OFFSET: **44ft LT**	ALIGNMENT: **-L-**	0 HR. **7.7**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **153.9 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **452,619**	EASTING: **2,195,896**	24 HR. **N/A**	START DATE: **09/04/09**	COMP. DATE: **09/04/09**	SURFACE WATER DEPTH: **N/A**



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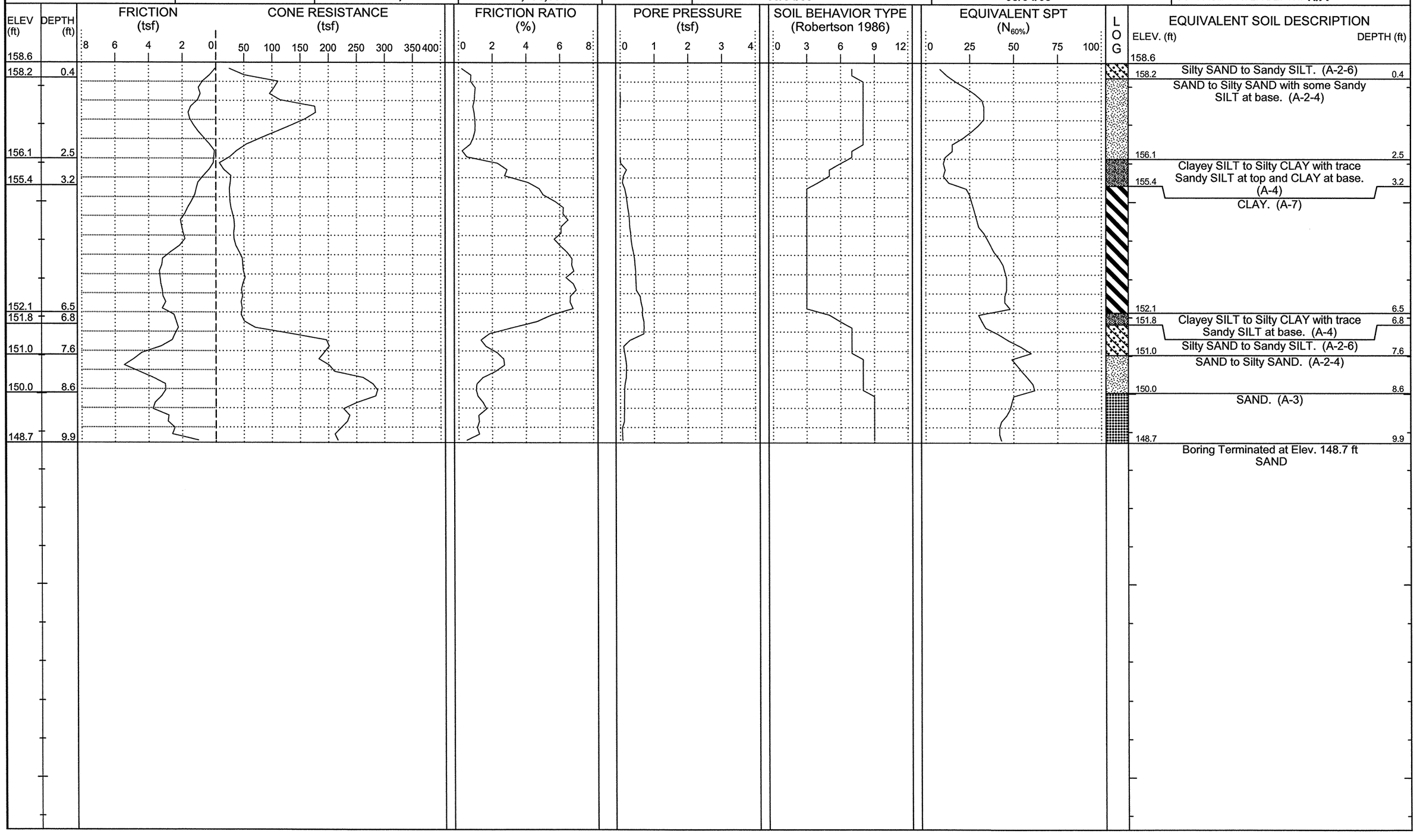
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	55	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1417**	STATION: **1417+00**	OFFSET: **45ft RT**	ALIGNMENT: **-L-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **158.6 ft**	TOTAL DEPTH: **9.9 ft**	NORTHING: **452,715**	EASTING: **2,196,394**	24 HR. **N/A** / START DATE: **09/04/09**	COMP. DATE: **09/04/09** / SURFACE WATER DEPTH: **N/A**



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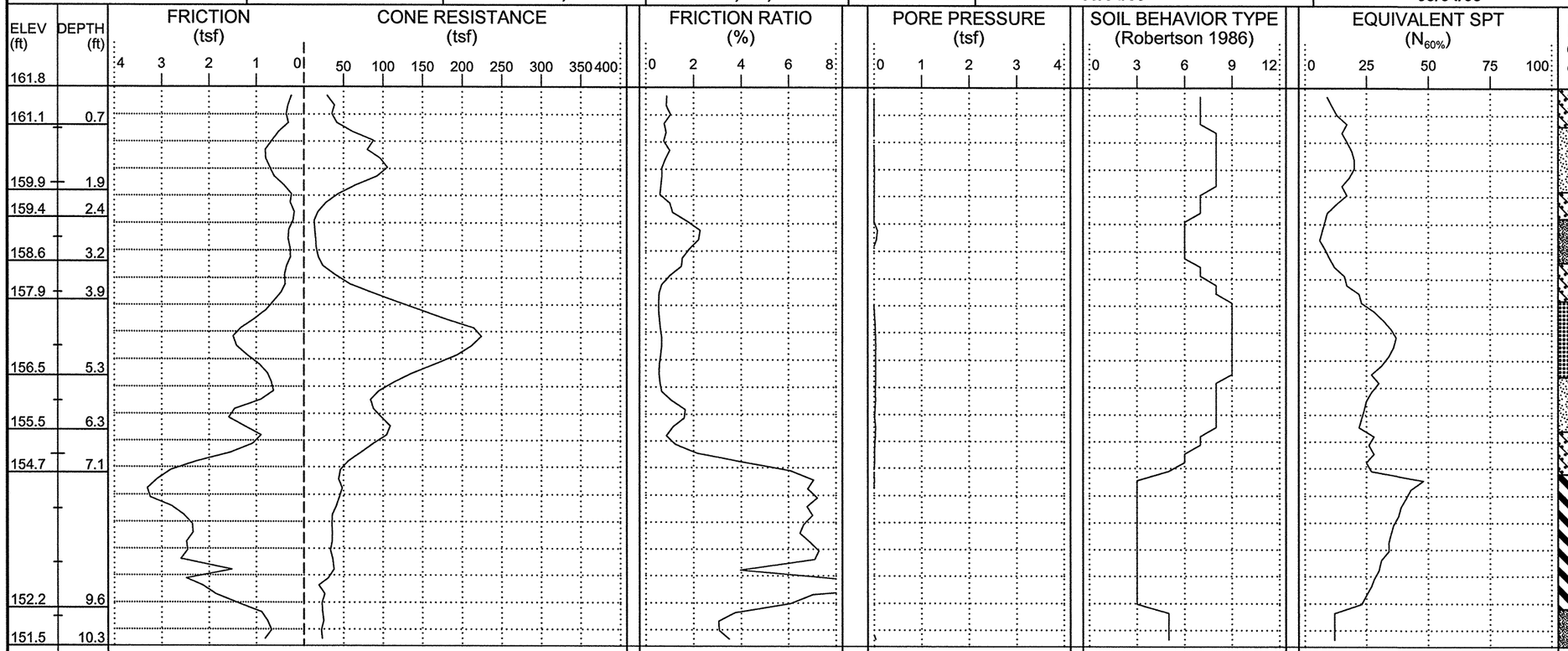
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	56	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1422**	STATION: **1422+00**	OFFSET: **50ft RT**	ALIGNMENT: **-L-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **161.8 ft**	TOTAL DEPTH: **10.3 ft**	NORTHING: **452,940**	EASTING: **2,196,843**	24 HR. **N/A** / START DATE: **09/04/09**	COMP. DATE: **09/04/09** / SURFACE WATER DEPTH: **N/A**



LOG	EQUIVALENT SOIL DESCRIPTION	ELEV. (ft)	DEPTH (ft)
		161.8	
	Silty SAND to Sandy SILT. (A-2-6)	161.1	0.7
	SAND to Silty SAND. (A-2-4)	159.9	1.9
	Silty SAND to Sandy SILT. (A-2-6)	159.4	2.4
	Sandy SILT to Clayey SILT. (A-4)	158.6	3.2
	Silty SAND to Sandy SILT with some SAND at base. (A-2-6)	157.9	3.9
	SAND. (A-3)	156.5	5.3
	SAND to Silty SAND. (A-2-4)	155.5	6.3
	Silty SAND to Sandy SILT grading to Clayey SILT to Silty CLAY. (A-2-6)	154.7	7.1
	CLAY. (A-7)	152.2	9.6
	Clayey SILT to Silty CLAY. (A-4)	151.5	10.3
	Boring Terminated at Elev. 151.5 ft Clayey SILT to Silty CLAY		

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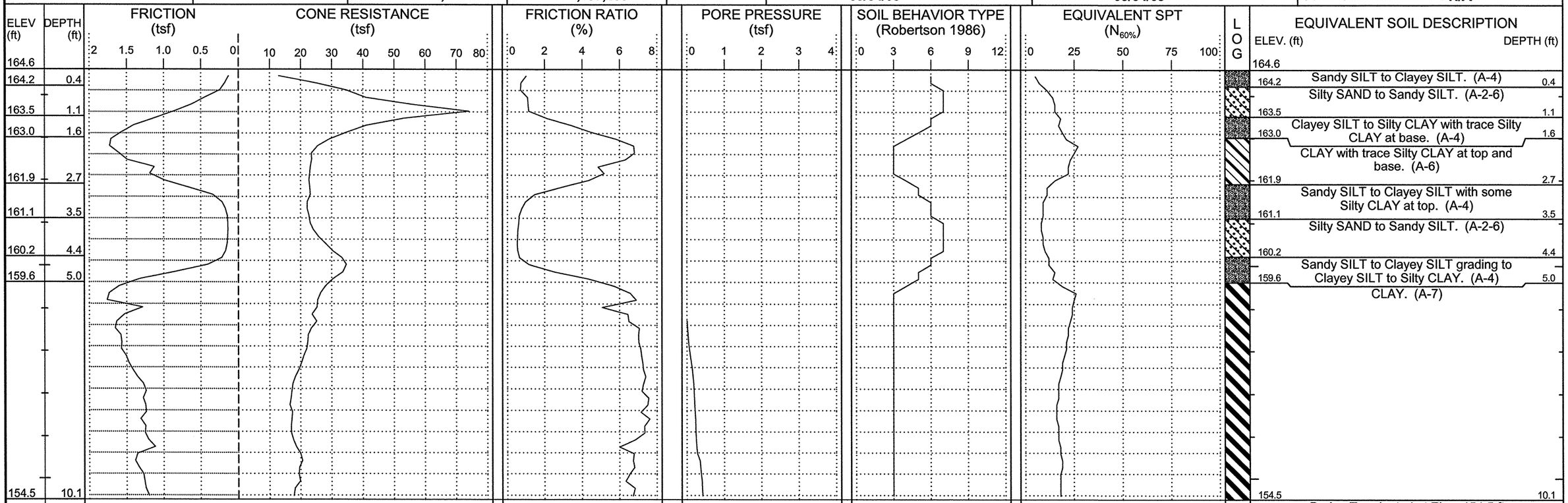
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	57	93

CATLIN #: 209059.01 PAGE 1 of 1

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone**	DRILLER: **Ronald Stewart**
BORING NO.: **L-1427**	STATION: **1427+04**	OFFSET: **54ft RT**	ALIGNMENT: **-L-**	0 HR. **N/A**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **164.6 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **453,172**	EASTING: **2,197,289**	24 HR. **N/A**	START DATE: **09/04/09**	COMP. DATE: **09/04/09**	SURFACE WATER DEPTH: **N/A**



EQUIVALENT SOIL DESCRIPTION

ELEV. (ft)		DEPTH (ft)
164.6		
164.2	Sandy SILT to Clayey SILT. (A-4)	0.4
163.5	Silty SAND to Sandy SILT. (A-2-6)	1.1
163.0	Clayey SILT to Silty CLAY with trace Silty CLAY at base. (A-4)	1.6
161.9	CLAY with trace Silty CLAY at top and base. (A-6)	2.7
161.1	Sandy SILT to Clayey SILT with some Silty CLAY at top. (A-4)	3.5
160.2	Silty SAND to Sandy SILT. (A-2-6)	4.4
159.6	Sandy SILT to Clayey SILT grading to Clayey SILT to Silty CLAY. (A-4)	5.0
	CLAY. (A-7)	
154.5		10.1

Boring Terminated at Elev. 154.5 ft
CLAY

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ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	58	93

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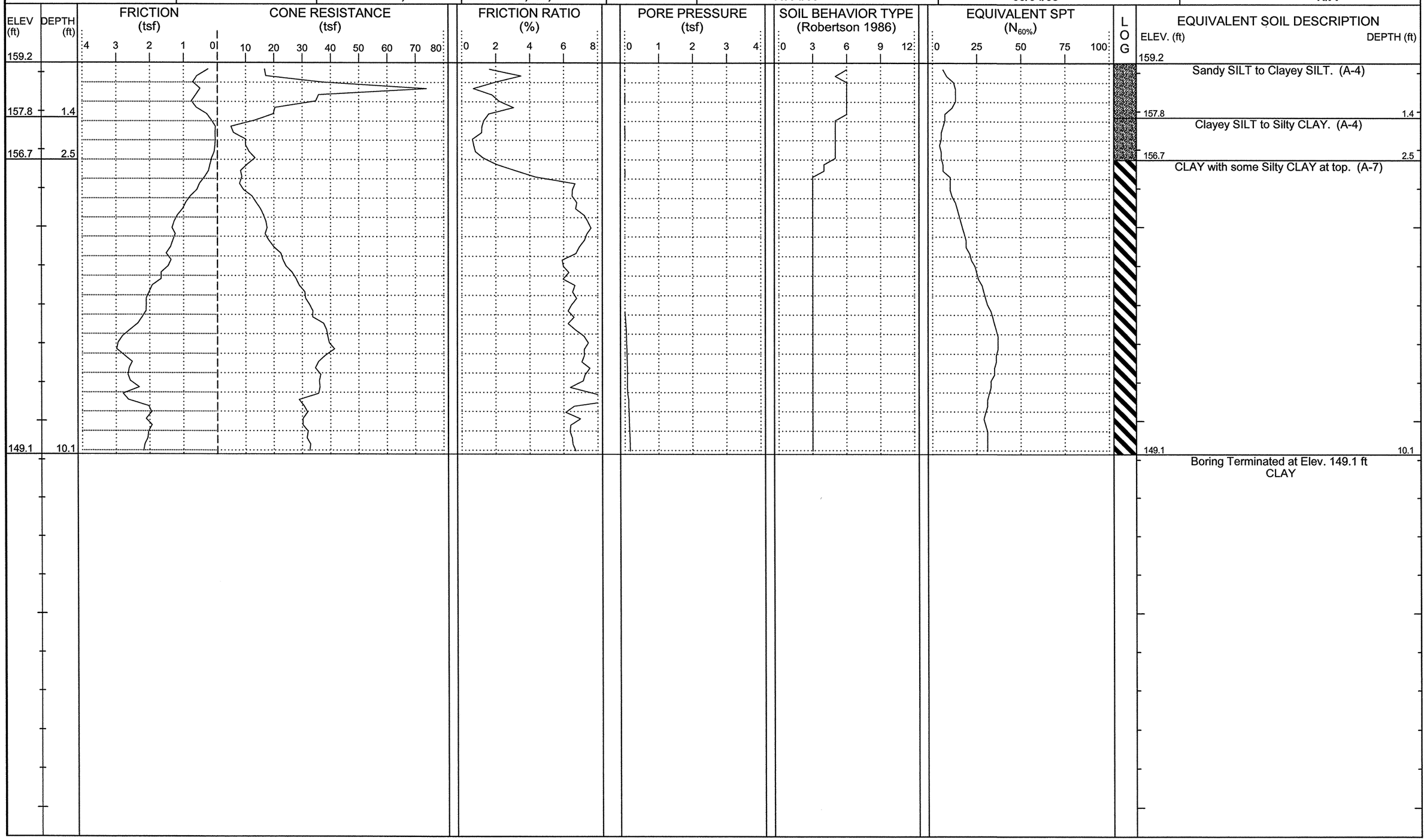
PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1432+30**	STATION: **1432+30**	OFFSET: **90ft RT**	ALIGNMENT: **-L-** / 0 HR. **N/A**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **159.2 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **453,384**	EASTING: **2,197,772** / 24 HR. **N/A**	START DATE: **09/04/09**	COMP. DATE: **09/04/09** / SURFACE WATER DEPTH: **N/A**



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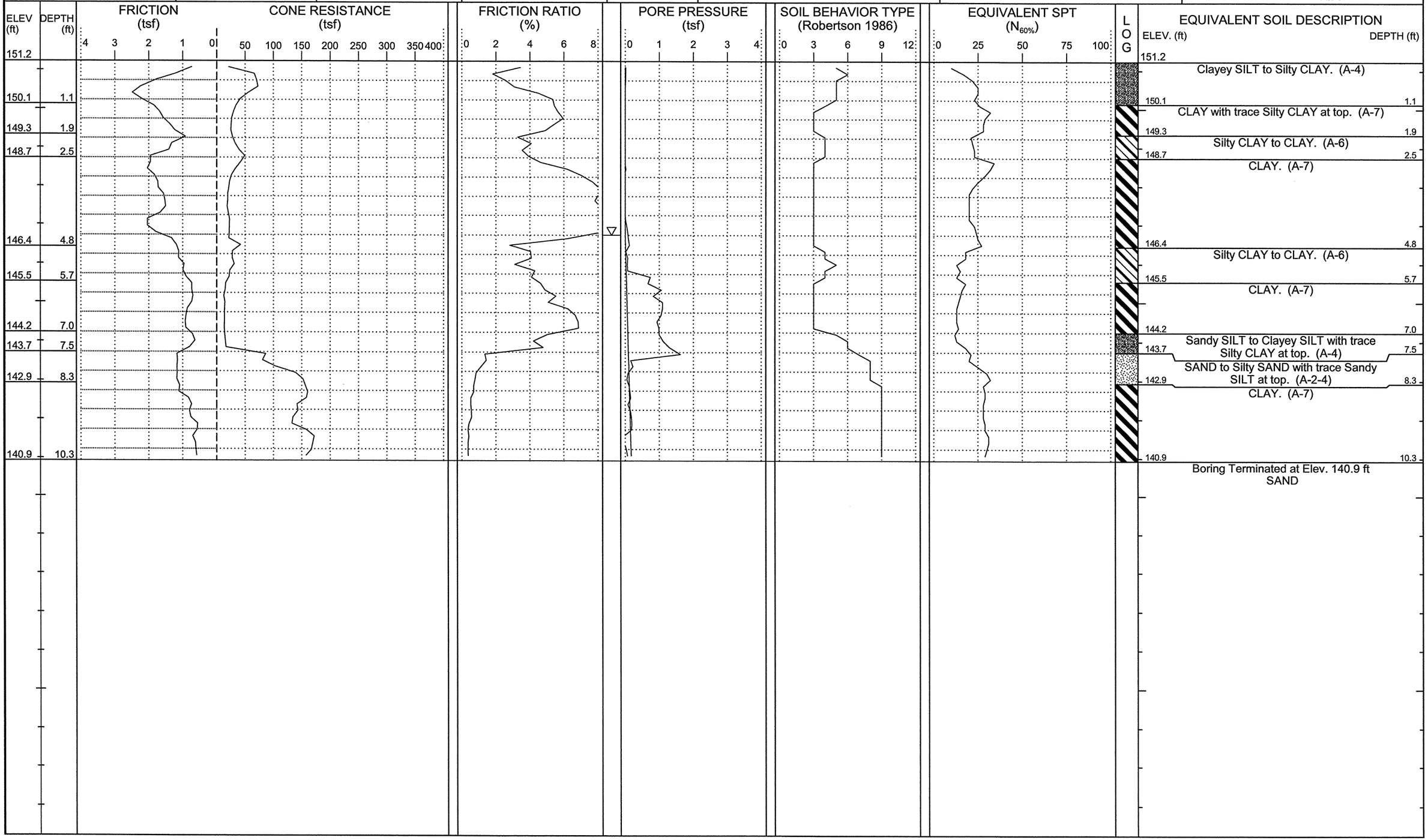
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	59	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **L-1437**	STATION: **1437+00**	OFFSET: **60ft LT**	ALIGNMENT: **-L-**	0 HR. **4.5** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **151.2 ft**	TOTAL DEPTH: **10.3 ft**	NORTHING: **453,734**	EASTING: **2,198,120**	24 HR. **N/A** / START DATE: **09/08/09**	COMP. DATE: **09/08/09** / SURFACE WATER DEPTH: **N/A**



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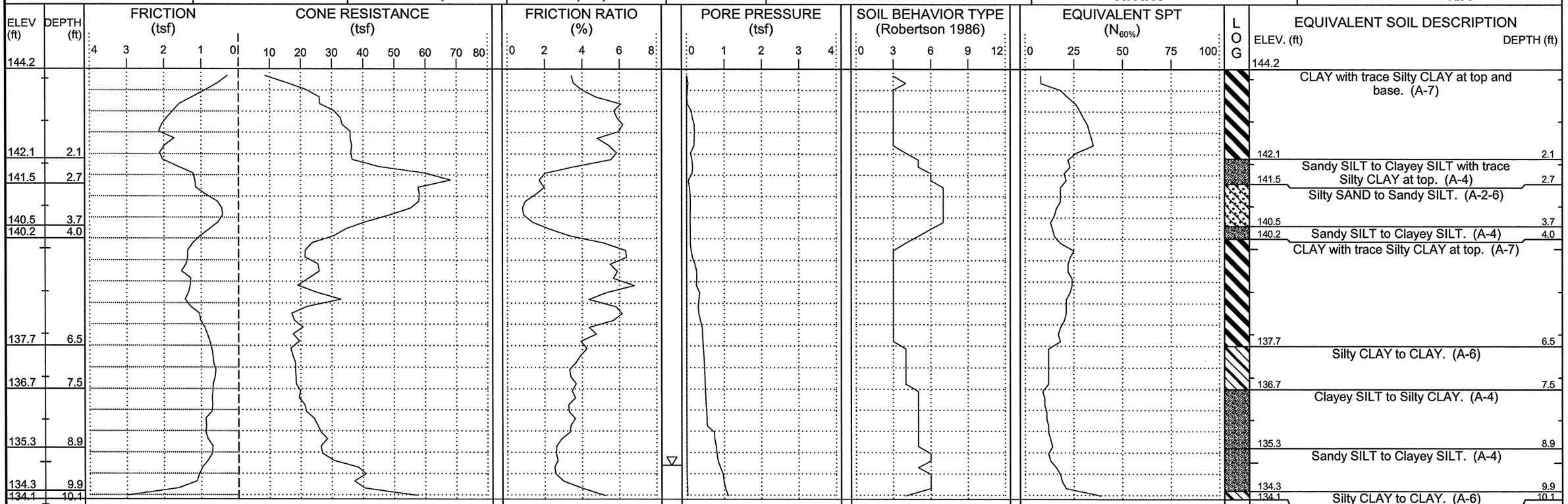
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	60	93

CATLIN #: 209059.01 PAGE 1 of 1

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone**	DRILLER: **Ronald Stewart**
BORING NO.: **L-1446**	STATION: **1446+00**	OFFSET: **47ft RT**	ALIGNMENT: **-L-**	0 HR. **9.3**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **144.2 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **454,056**	EASTING: **2,198,968**	24 HR. **N/A**	START DATE: **09/08/09**	COMP. DATE: **09/08/09**	SURFACE WATER DEPTH: **N/A**



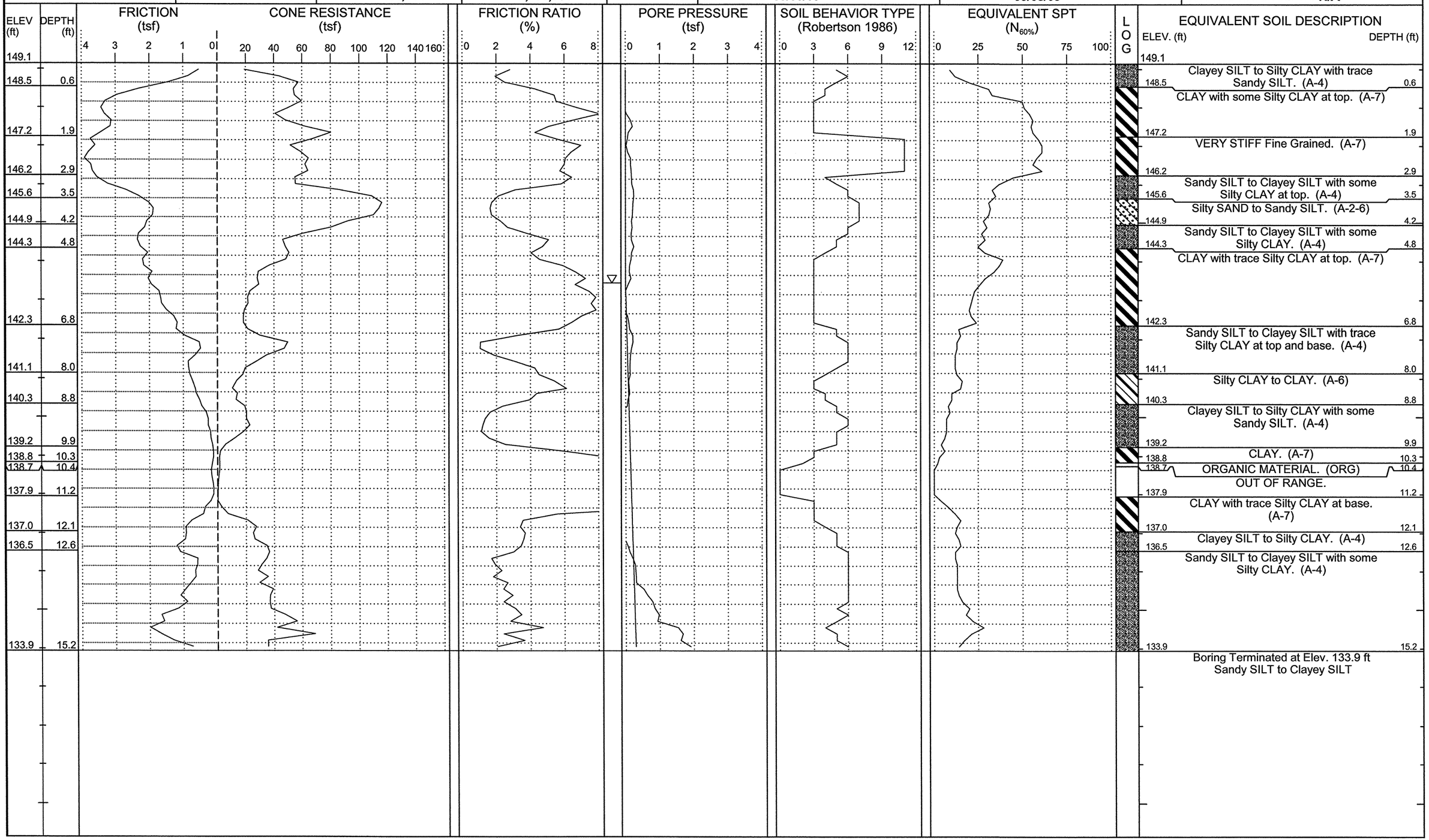
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	61	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **RPA-07**	STATION: **7+00**	OFFSET: **47ft RT**	ALIGNMENT: **-RPA-**	0 HR. **5.7** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **149.1 ft**	TOTAL DEPTH: **15.2 ft**	NORTHING: **454,714**	EASTING: **2,198,001**	24 HR. **N/A** / START DATE: **09/08/09**	COMP. DATE: **09/08/09** / SURFACE WATER DEPTH: **N/A**



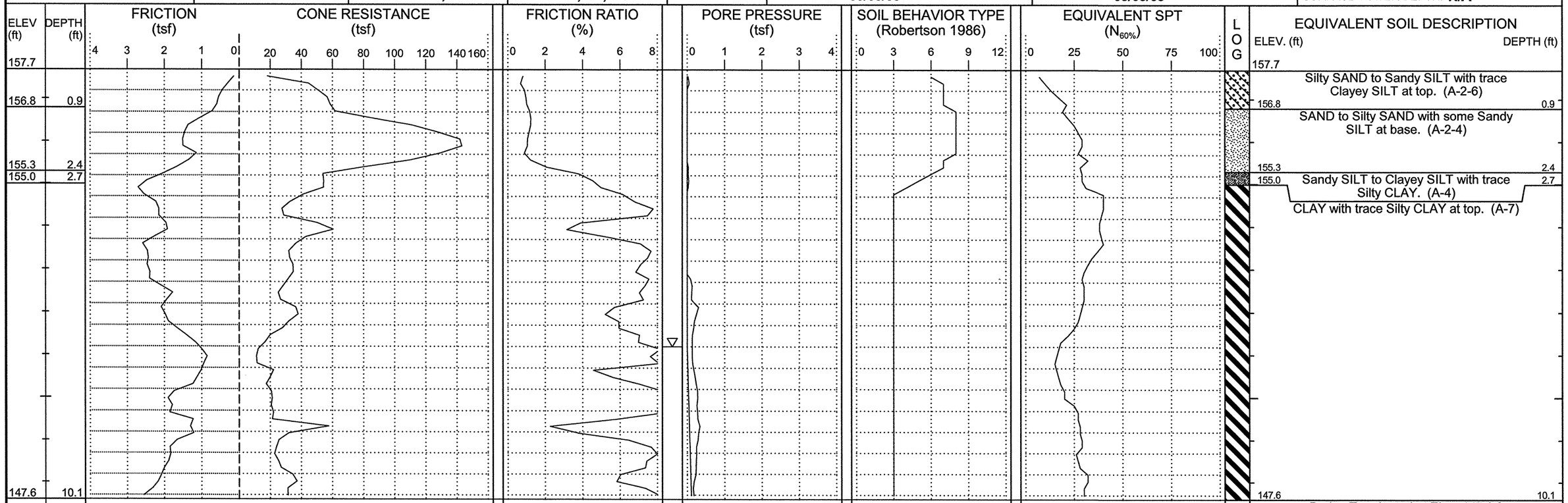
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	62	93

CATLIN #: 209059.01 PAGE 1 of 1

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **RPA-12**	STATION: **12+00**	OFFSET: **35ft LT**	ALIGNMENT: **-RPA-**	0 HR. **6.5** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **157.7 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **454,232**	EASTING: **2,198,158**	24 HR. **N/A** / START DATE: **09/08/09**	COMP. DATE: **09/08/09** / SURFACE WATER DEPTH: **N/A**



EQUIVALENT SOIL DESCRIPTION

ELEV. (ft)	DEPTH (ft)	Description
157.7		
156.8	0.9	Silty SAND to Sandy SILT with trace Clayey SILT at top. (A-2-6)
155.3	2.4	SAND to Silty SAND with some Sandy SILT at base. (A-2-4)
155.0	2.7	Sandy SILT to Clayey SILT with trace Silty CLAY. (A-4)
		CLAY with trace Silty CLAY at top. (A-7)
147.6	10.1	Boring Terminated at Elev. 147.6 ft CLAY

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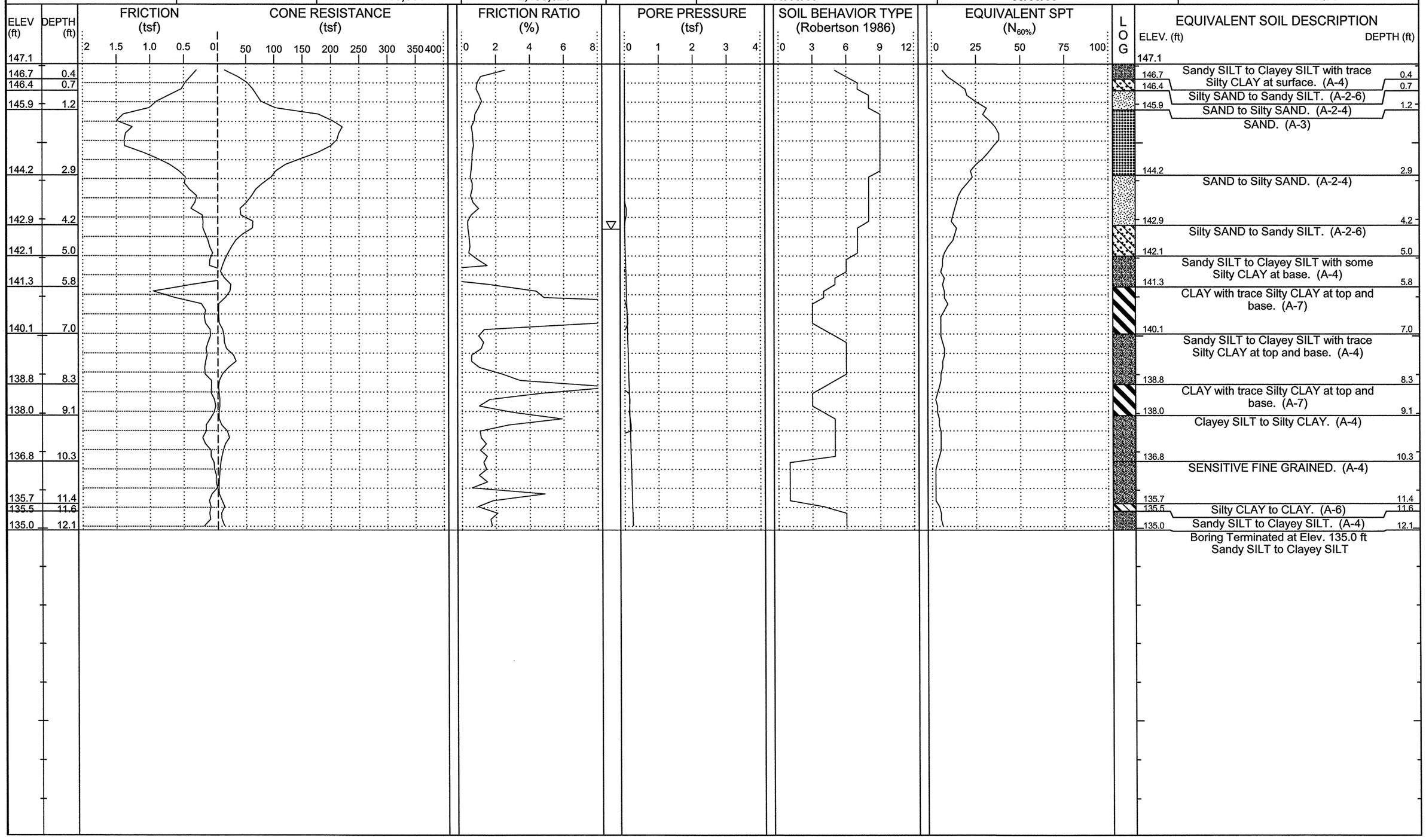
CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	63	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **RPB-12**	STATION: **12+00**	OFFSET: **0ft CL**	ALIGNMENT: **-RPB-**	0 HR. **4.3** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **147.1 ft**	TOTAL DEPTH: **12.1 ft**	NORTHING: **453,661**	EASTING: **2,198,320**	24 HR. **N/A** / START DATE: **09/09/09**	COMP. DATE: **09/09/09** / SURFACE WATER DEPTH: **N/A**



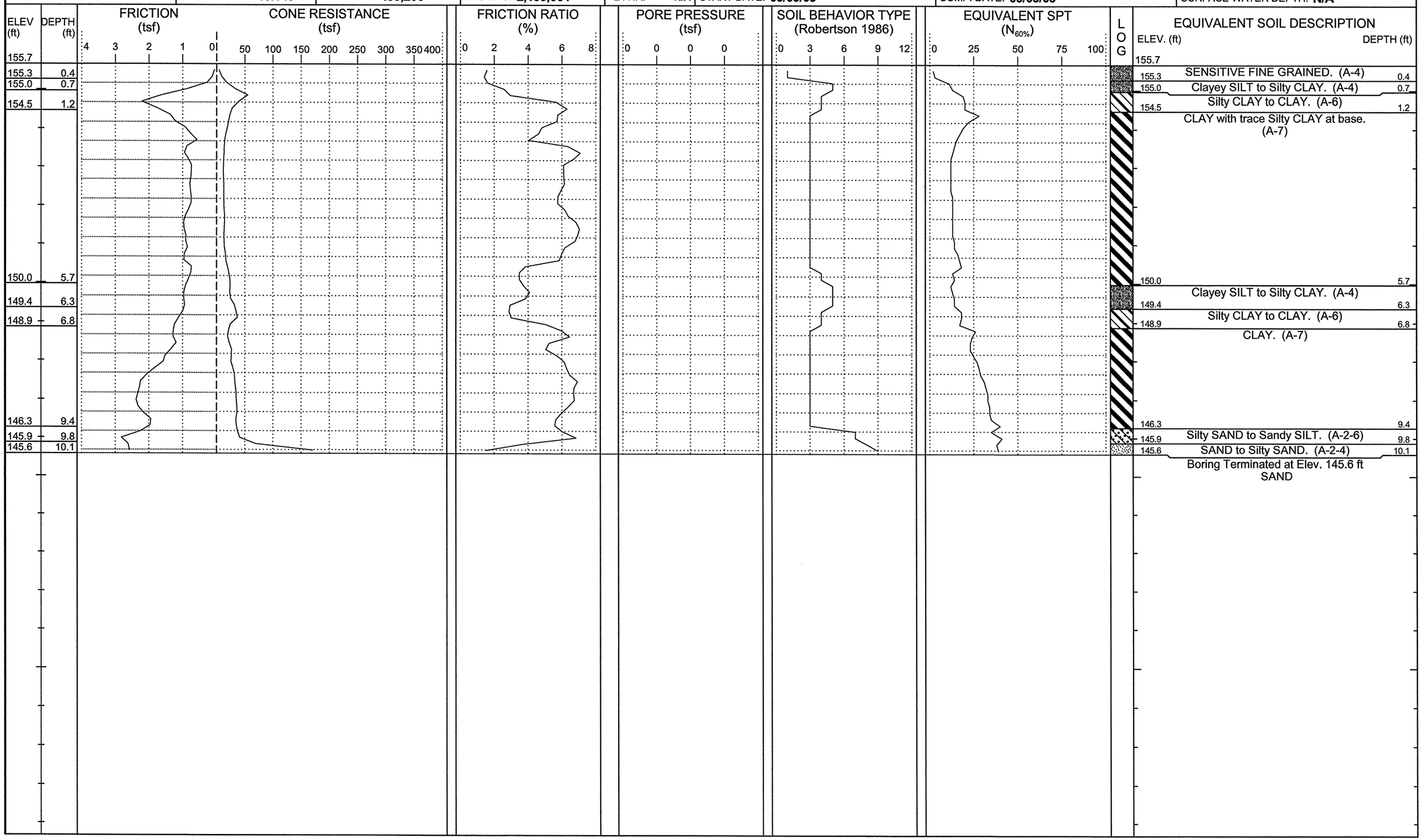
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	64	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **RPC-07**	STATION: **7+00**	OFFSET: **40ft RT**	ALIGNMENT: **-RPC-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **155.7 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **453,206**	EASTING: **2,199,064**	24 HR. **N/A** / START DATE: **09/09/09**	COMP. DATE: **09/09/09** / SURFACE WATER DEPTH: **N/A**



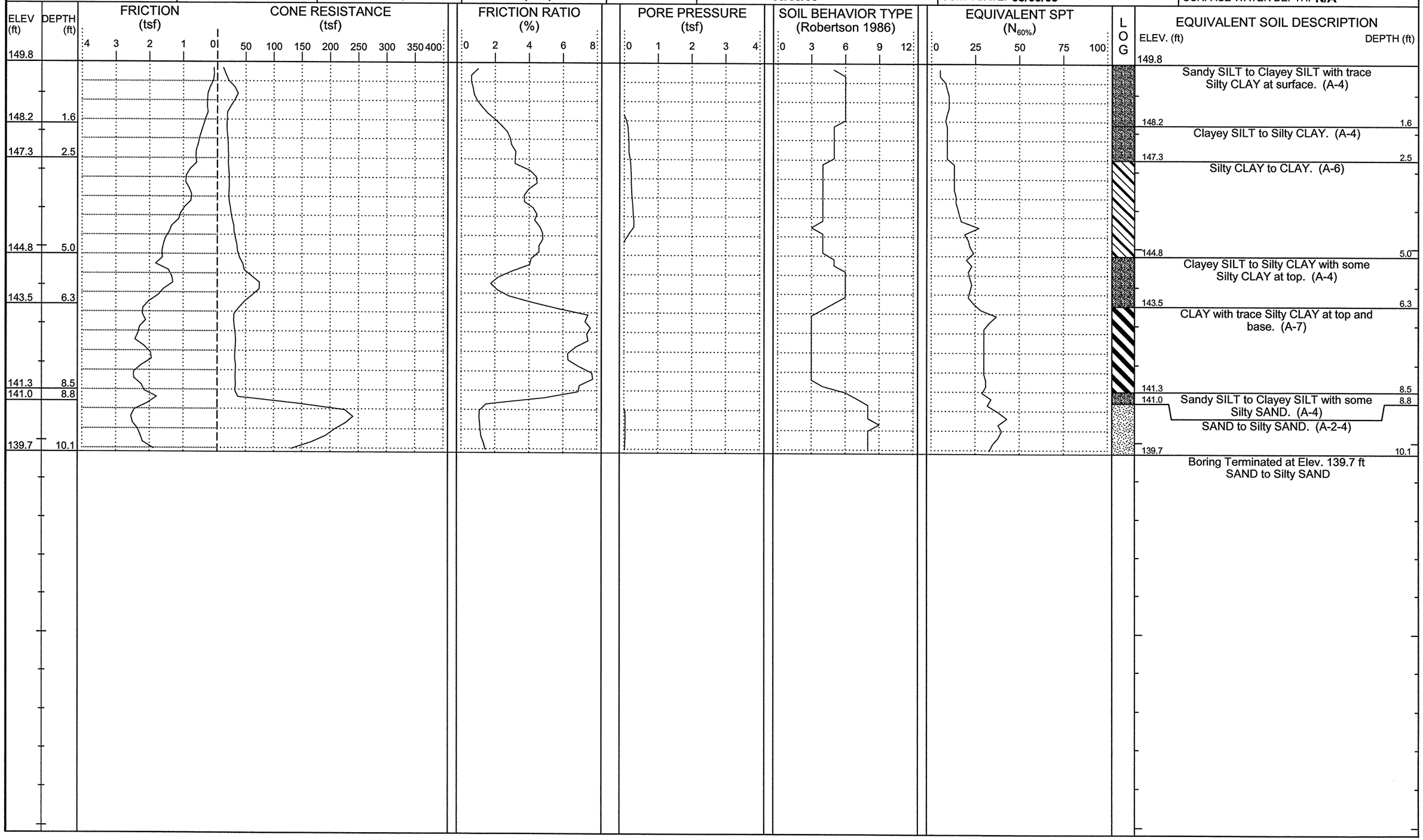
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	65	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **RPC-12**	STATION: **12+00**	OFFSET: **60ft RT**	ALIGNMENT: **-RPC-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **149.8 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **453,646**	EASTING: **2,198,835**	24 HR. **N/A** / START DATE: **09/09/09**	COMP. DATE: **09/09/09** / SURFACE WATER DEPTH: **N/A**



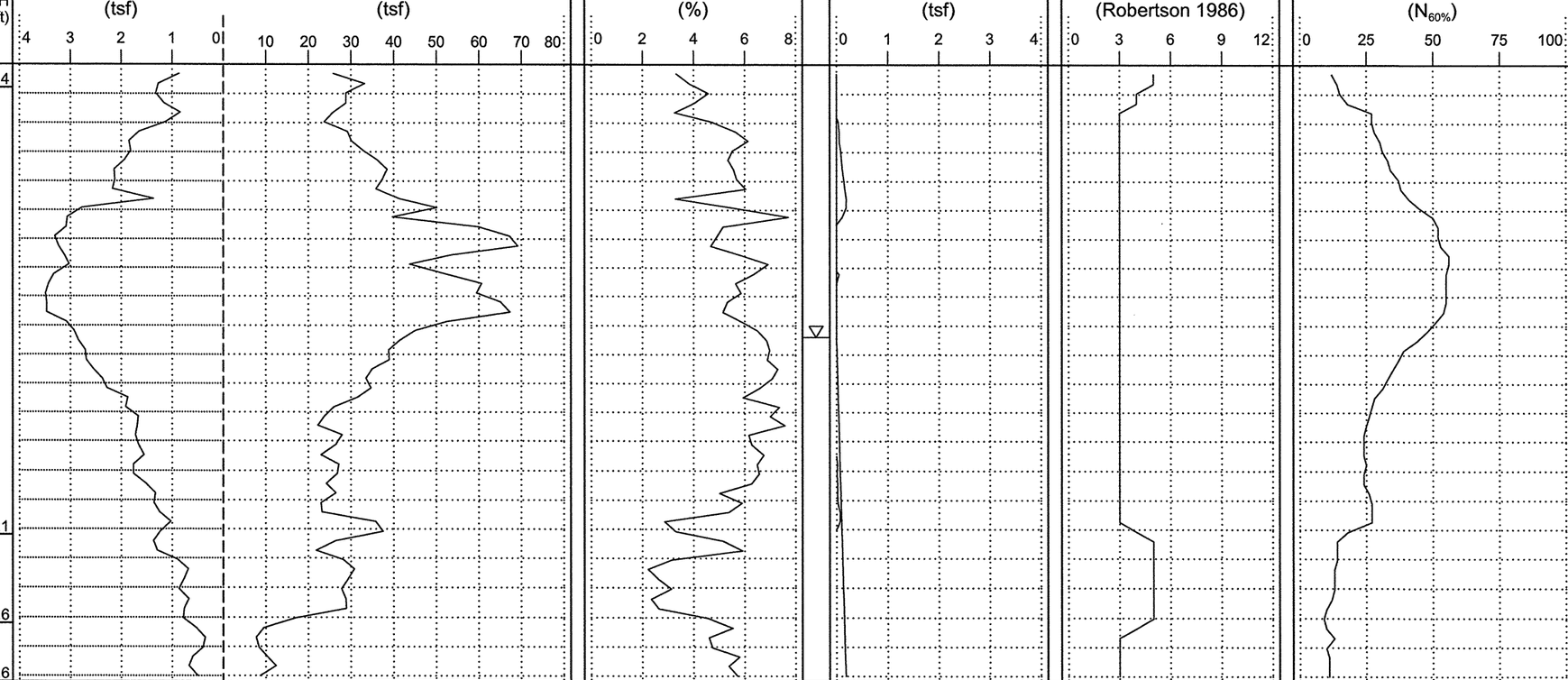
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	66	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone**	DRILLER: **Ronald Stewart**
BORING NO.: **RPD-07**	STATION: **7+00**	OFFSET: **50ft LT**	ALIGNMENT: **-RPD-**	0 HR. **4.7**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **145.0 ft**	TOTAL DEPTH: **10.6 ft**	NORTHING: **454,670**	EASTING: **2,198,203**	24 HR. **N/A**	START DATE: **09/08/09**	COMP. DATE: **09/08/09**	SURFACE WATER DEPTH: **N/A**



L O G	EQUIVALENT SOIL DESCRIPTION — ELEV. (ft)	DEPTH (ft)
	145.0	
	144.6 Clayey SILT to Silty CLAY. (A-4)	0.4
	CLAY with trace Silty CLAY at top and base. (A-7)	
	136.9	8.1
	Clayey SILT to Silty CLAY. (A-4)	
	135.4	9.6
	CLAY with trace Silty CLAY at top. (A-7)	
	134.4	10.6
	Boring Terminated at Elev. 134.4 ft CLAY	

NCDOT GEOTECHNICAL ENGINEERING UNIT

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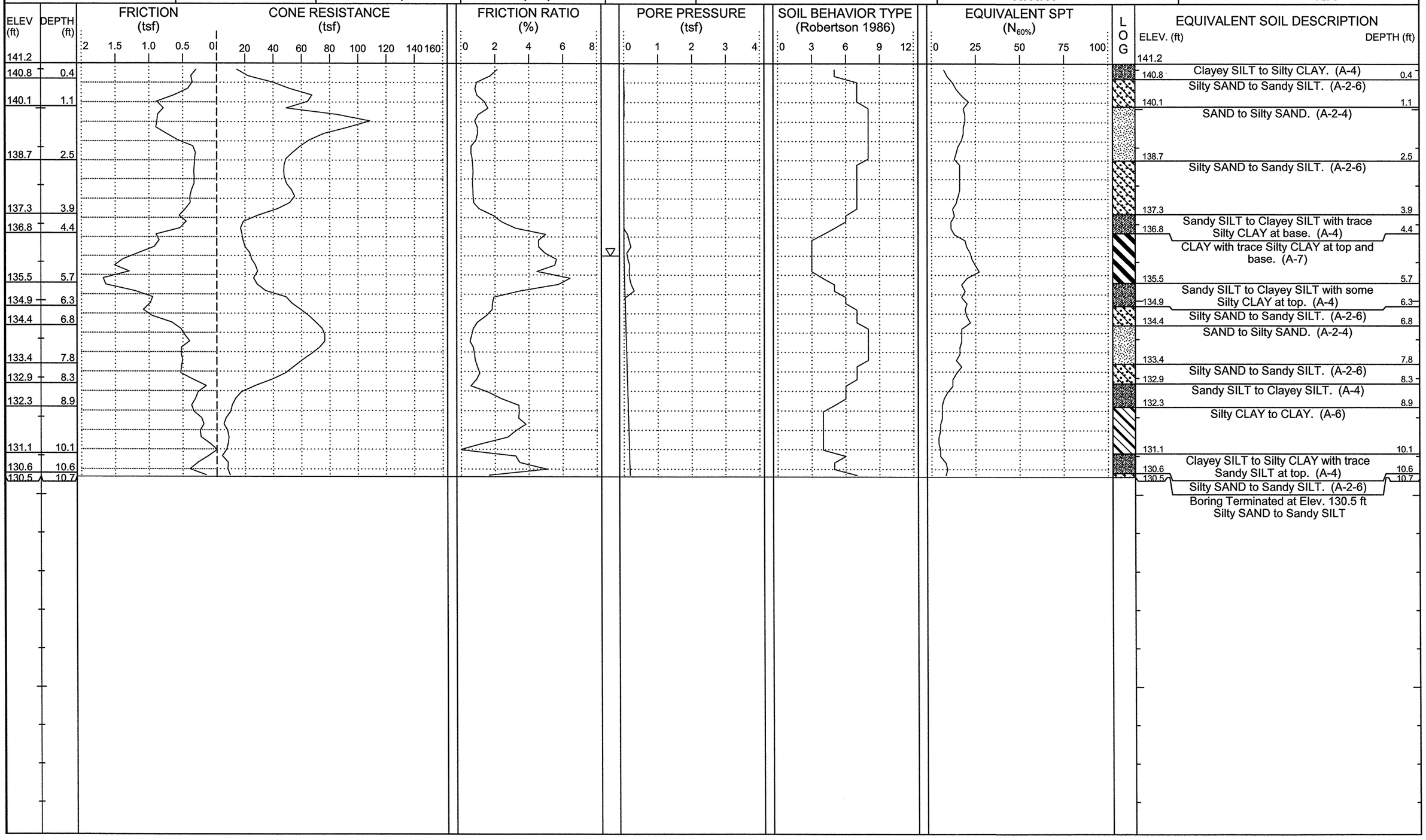
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	67	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **RPD-12**	STATION: **12+14**	OFFSET: **40ft LT**	ALIGNMENT: **-RPD-** / 0 HR. **5.0**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **141.2 ft**	TOTAL DEPTH: **10.7 ft**	NORTHING: **454,221**	EASTING: **2,198,415** / 24 HR. **N/A**	START DATE: **09/08/09**	COMP. DATE: **09/08/09** / SURFACE WATER DEPTH: **N/A**



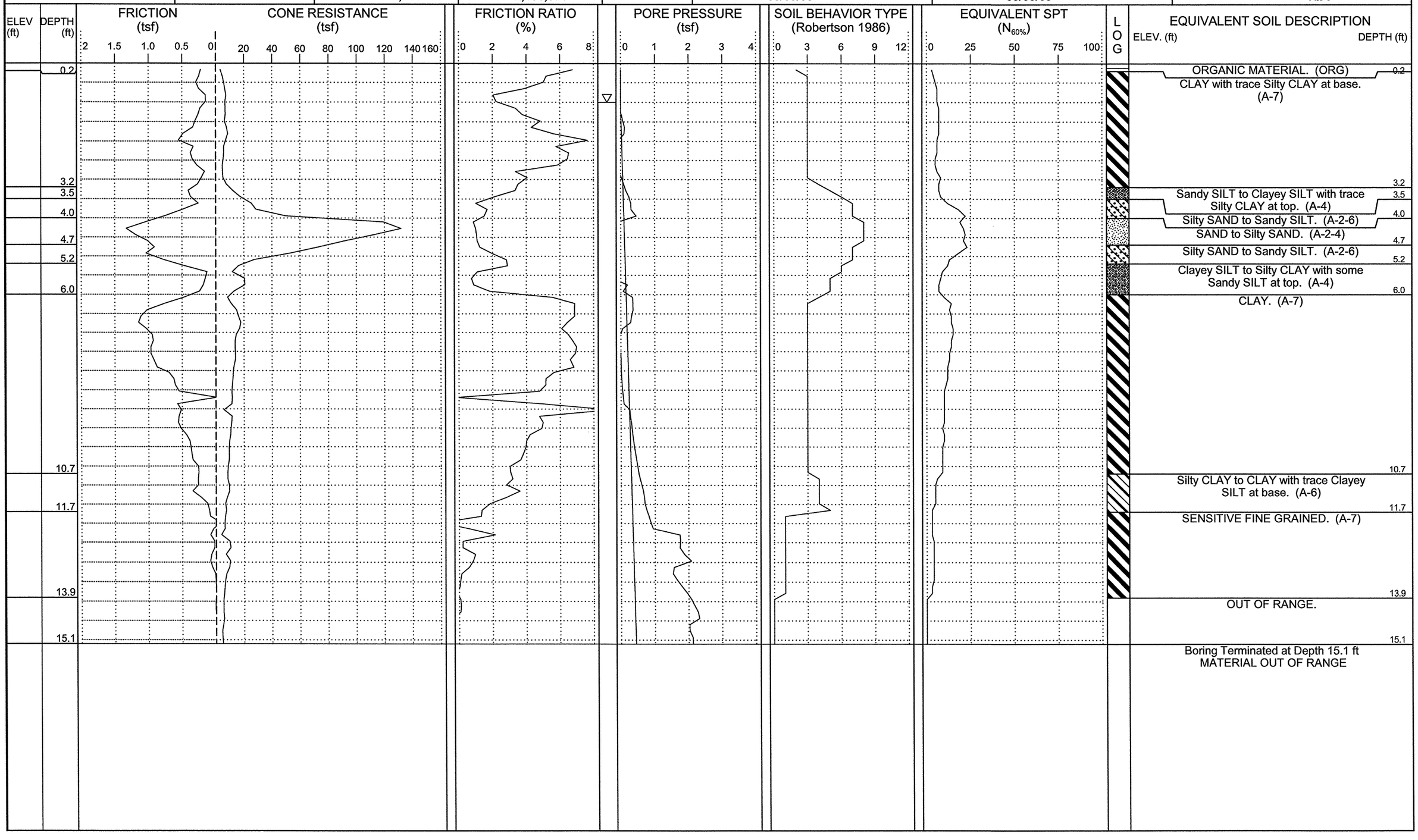
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	68	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone**	DRILLER: **Ronald Stewart**
BORING NO.: **SR1-12**	STATION: **12+14**	OFFSET: **28ft LT**	ALIGNMENT: **-SR1-**	0 HR. **1.0**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **N/A**	TOTAL DEPTH: **15.1 ft**	NORTHING: **452,398**	EASTING: **2,196,871**	24 HR. **N/A**	START DATE: **09/09/09**	COMP. DATE: **09/09/09**	SURFACE WATER DEPTH: **N/A**



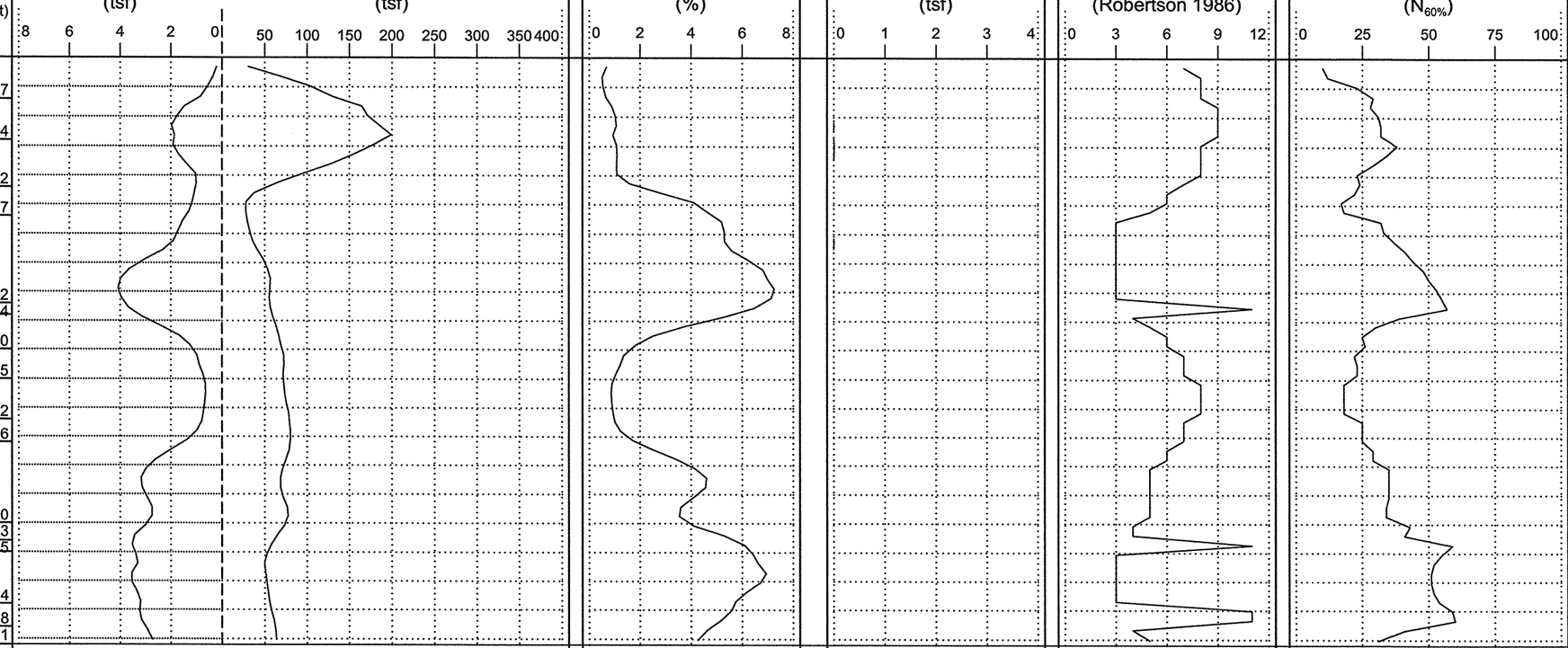
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	69	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **SR1-17+74**	STATION: **17+67**	OFFSET: **0ft CL**	ALIGNMENT: **-SR1-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **N/A**	TOTAL DEPTH: **10.1 ft**	NORTHING: **452,469**	EASTING: **2,197,420**	24 HR. **N/A** / START DATE: **09/09/09**	COMP. DATE: **09/09/09** / SURFACE WATER DEPTH: **N/A**



LOG	EQUIVALENT SOIL DESCRIPTION (ELEV. (ft) / DEPTH (ft))
	SAND to Silty SAND. (A-2-4) — 0.7
	SAND. (A-3) — 1.4
	SAND to Silty SAND. (A-2-4) — 2.2
	Sandy SILT to Clayey SILT with trace Silty CLAY at base. (A-4) — 2.7
	CLAY. (A-7) — 4.2
	VERY STIFF Fine Grained. (A-7) — 4.4
	Sandy SILT to Clayey SILT with trace Silty CLAY at top. (A-4) — 5.0
	Silty SAND to Sandy SILT. (A-2-6) — 5.5
	SAND to Silty SAND. (A-2-4) — 6.2
	Silty SAND to Sandy SILT. (A-2-6) — 6.6
	Clayey SILT to Silty CLAY with some Silty SAND at top. (A-4) — 8.0
	Silty CLAY to CLAY. (A-6) — 8.3
	VERY STIFF Fine Grained. (A-6) — 8.5
	CLAY. (A-7) — 9.4
	VERY STIFF Fine Grained. (A-6) — 9.8
	Clayey SILT to Silty CLAY with trace Clay at top. (A-4) — 10.1
	Boring Terminated at Depth 10.1 ft Clayey SILT to Silty CLAY

NCDOT GEOTECHNICAL ENGINEERING UNIT

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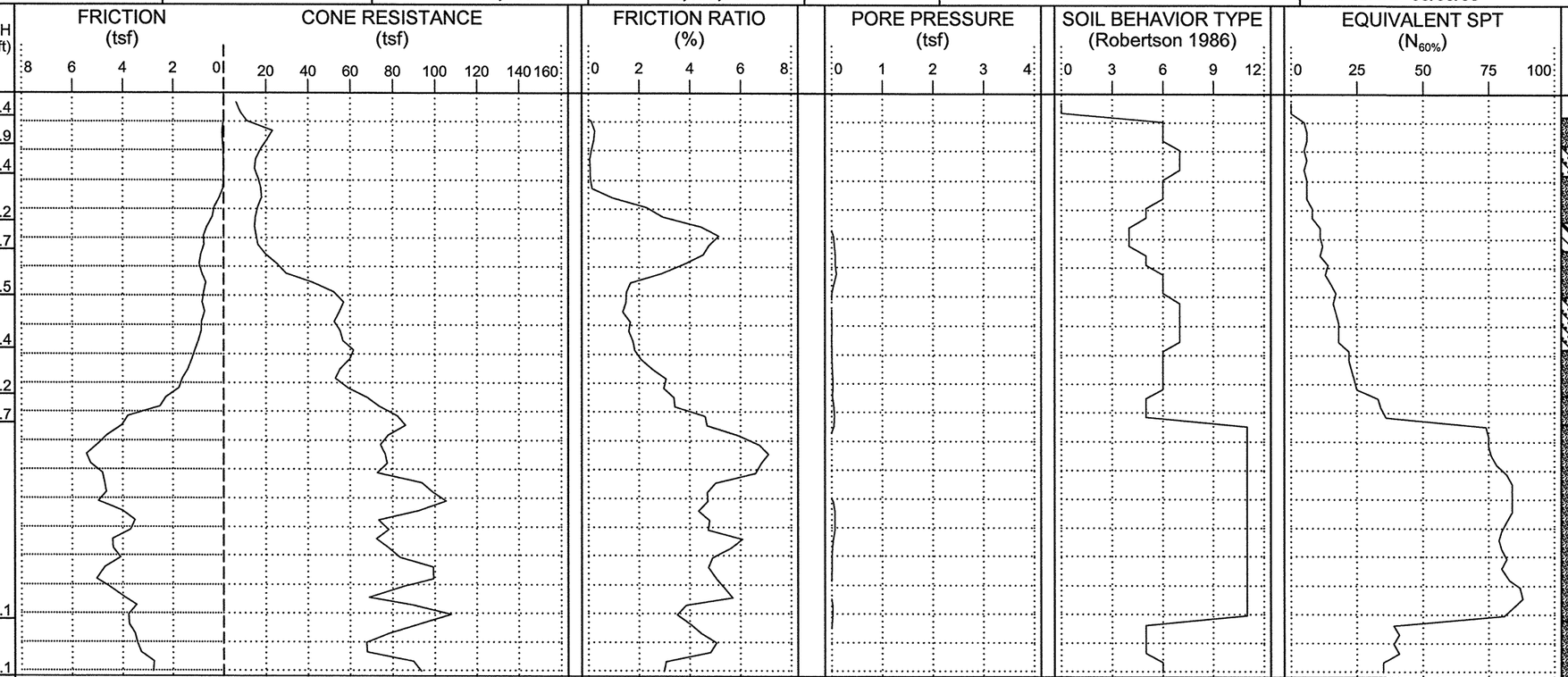
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	70	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **SR1-22**	STATION: **22+00**	OFFSET: **0ft CL**	ALIGNMENT: **-SR1-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **N/A**	TOTAL DEPTH: **10.1 ft**	NORTHING: **452,446**	EASTING: **2,197,851**	24 HR. **N/A** / START DATE: **09/09/09**	COMP. DATE: **09/09/09** / SURFACE WATER DEPTH: **N/A**



LOG	EQUIVALENT SOIL DESCRIPTION (ELEV. (ft))	DEPTH (ft)
	OUT OF RANGE.	0.4
	Sandy SILT to Clayey SILT. (A-4)	0.9
	Silty SAND to Sandy SILT. (A-2-6)	1.4
	Sandy SILT to Clayey SILT with some Silty CLAY at base. (A-4)	2.2
	Silty CLAY to CLAY. (A-6)	2.7
	Sandy SILT to Clayey SILT with some Silty CLAY at top. (A-4)	3.5
	Silty SAND to Sandy SILT. (A-2-6)	4.4
	Sandy SILT to Clayey SILT. (A-4)	5.2
	Clayey SILT to Silty CLAY. (A-4)	5.7
	VERY STIFF Fine Grained. (A-4)	9.1
	Clayey SILT to Silty CLAY with some Sandy SILT at base. (A-4)	10.1
	Boring Terminated at Depth 10.1 ft Sandy SILT to Clayey SILT	

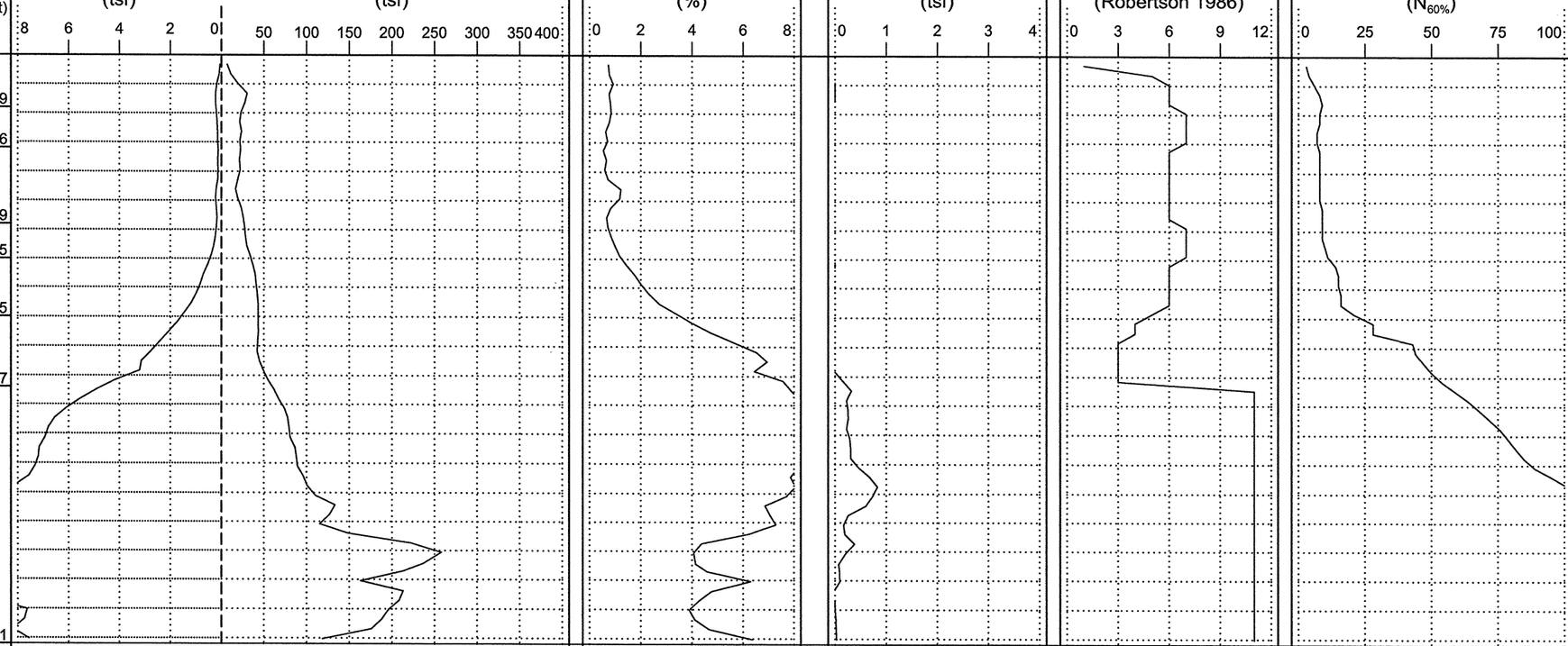
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	71	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **SR1-27**	STATION: **26+94**	OFFSET: **15ft RT**	ALIGNMENT: **-SR1-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **N/A**	TOTAL DEPTH: **10.1 ft**	NORTHING: **452,535**	EASTING: **2,198,338**	24 HR. **N/A** / START DATE: **09/08/09**	COMP. DATE: **09/08/09** / SURFACE WATER DEPTH: **N/A**



LOG	EQUIVALENT SOIL DESCRIPTION (ELEV. (ft) / DEPTH (ft))
	SAND with trace SENSITIVE FINE GRAINED at surface. (A-3) — 0.9
	Silty SAND to Sandy SILT. (A-2-6) — 1.6
	Sandy SILT to Clayey SILT. (A-4) — 2.9
	Silty SAND to Sandy SILT. (A-2-6) — 3.5
	Sandy SILT to Clayey SILT with trace Silty CLAY at base. (A-4) — 4.5
	CLAY with some Silty CLAY at top. (A-7) — 5.7
	VERY STIFF Fine Grained. (A-4) — 10.1

Boring Terminated at Depth 10.1 ft
VERY STIFF Fine Grained

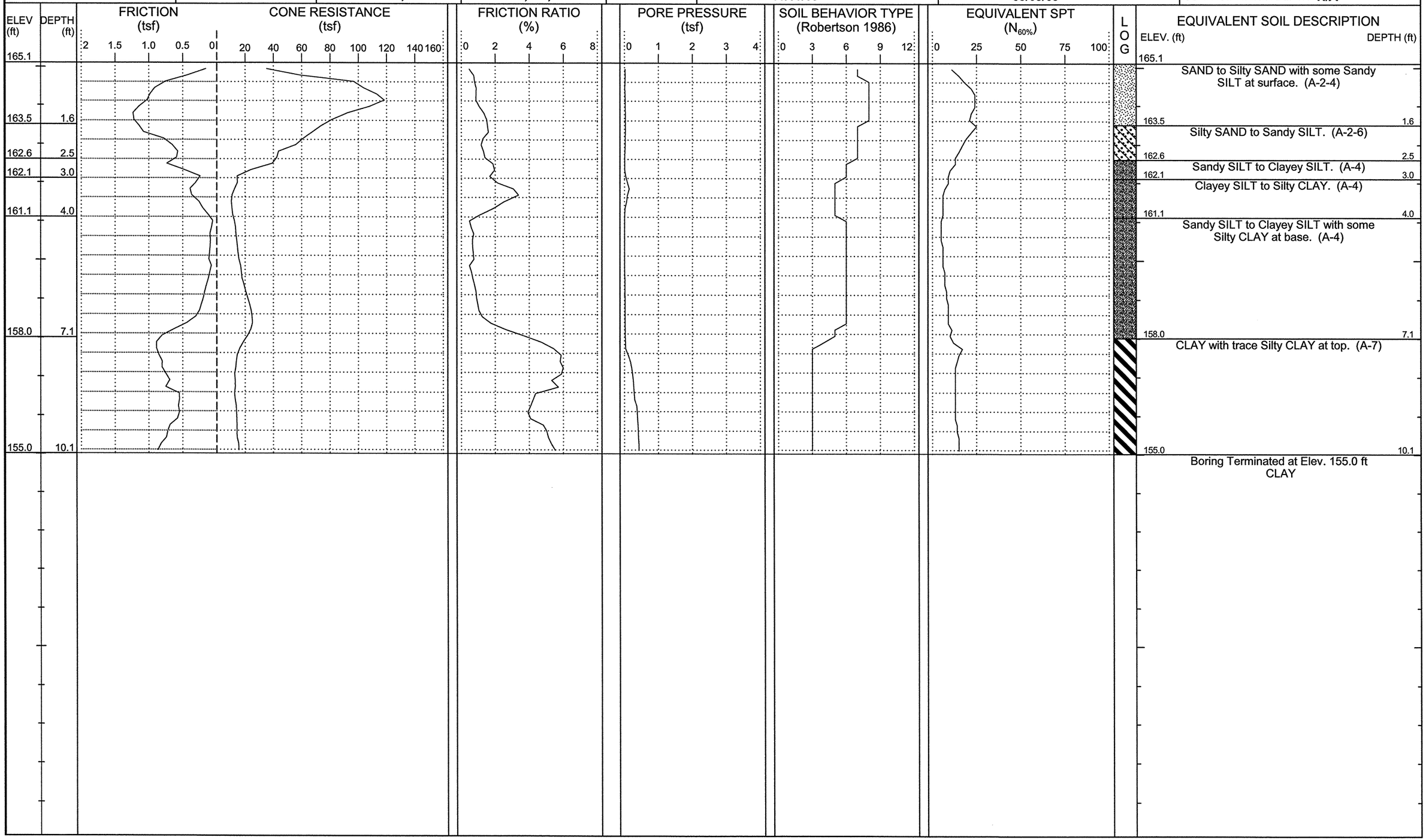
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	72	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **SR1-31+75**	STATION: **31+75**	OFFSET: **0ft CL**	ALIGNMENT: **-SR1-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **165.1 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **452,689**	EASTING: **2,198,793**	24 HR. **N/A** / START DATE: **09/09/09**	COMP. DATE: **09/09/09** / SURFACE WATER DEPTH: **N/A**



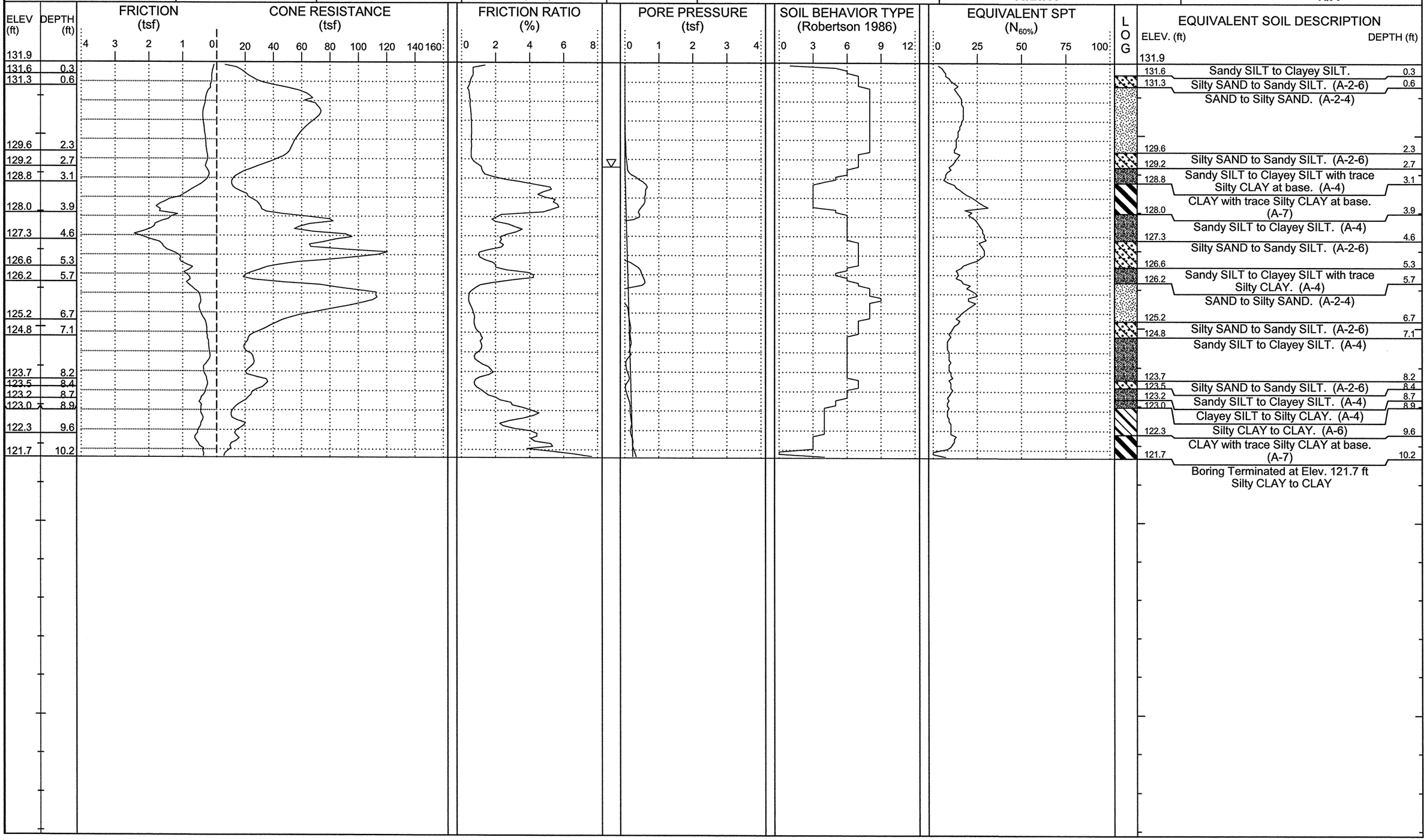
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	73	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **Y39-13**	STATION: **13+00**	OFFSET: **30ft LT**	ALIGNMENT: **-Y39-**	0 HR. **2.7** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **131.9 ft**	TOTAL DEPTH: **10.2 ft**	NORTHING: **443,705**	EASTING: **2,168,704**	24 HR. **N/A** / START DATE: **08/25/09**	COMP. DATE: **08/25/09** / SURFACE WATER DEPTH: **N/A**



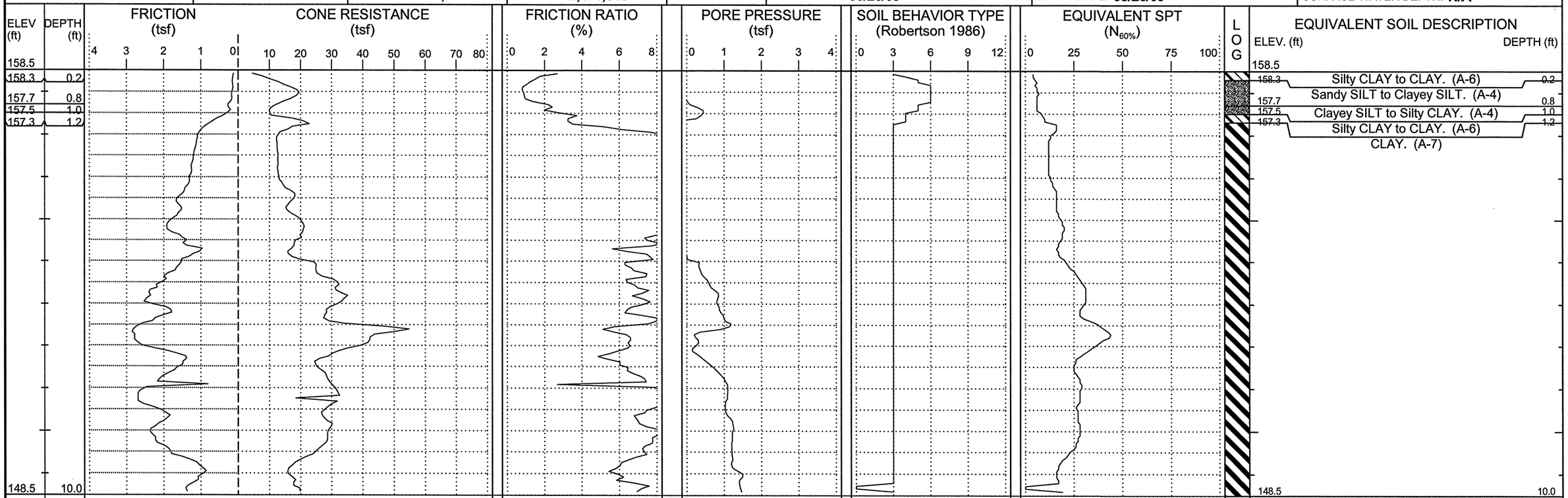
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	74	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **Y40-14**	STATION: **14+00**	OFFSET: **40ft LT**	ALIGNMENT: **-Y40-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **158.5 ft**	TOTAL DEPTH: **10.0 ft**	NORTHING: **445,922**	EASTING: **2,171,616**	24 HR. **N/A** / START DATE: **08/26/09**	COMP. DATE: **08/26/09** / SURFACE WATER DEPTH: **N/A**



Boring Terminated at Elev. 148.5 ft
CLAY

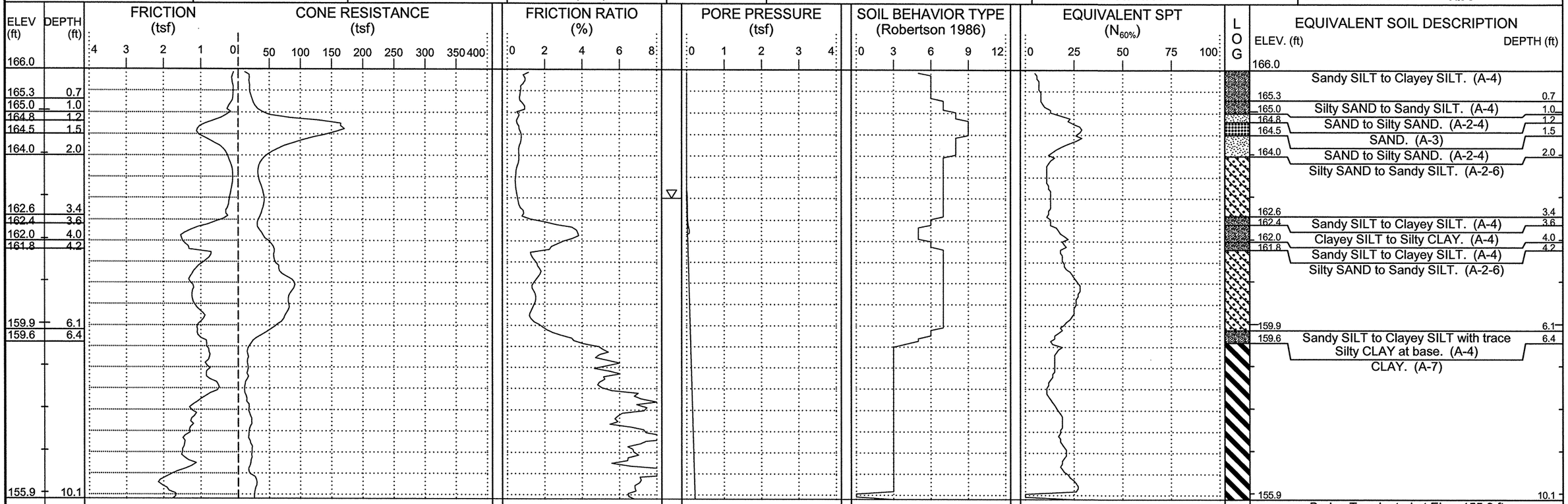
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	75	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **Y41-11+50**	STATION: **11+50**	OFFSET: **20ft RT**	ALIGNMENT: **-Y41-**	0 HR. **3.0** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **166.0 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **446,075**	EASTING: **2,172,144**	24 HR. **N/A** / START DATE: **08/26/09**	COMP. DATE: **08/26/09** / SURFACE WATER DEPTH: **N/A**



Boring Terminated at Elev. 155.9 ft
CLAY

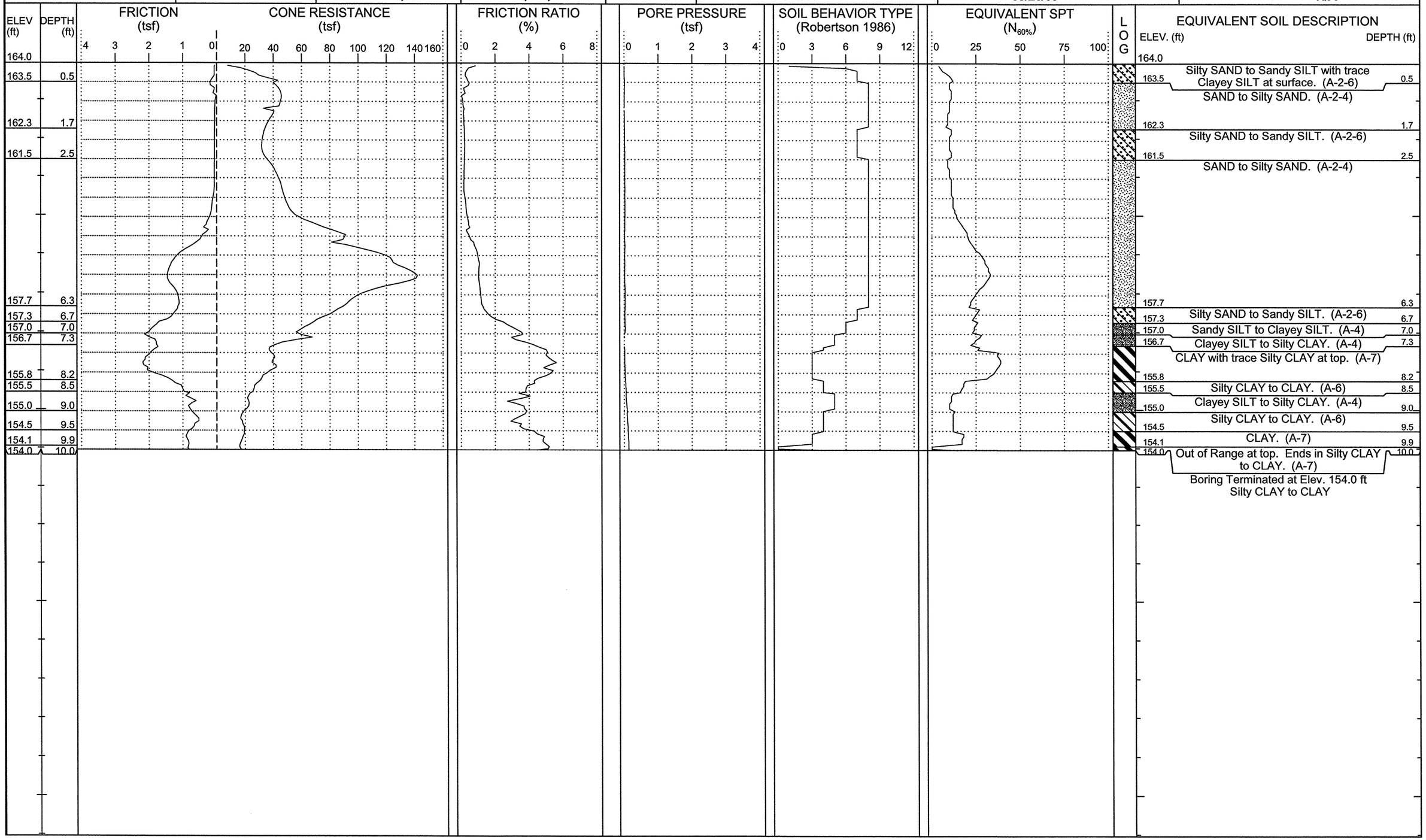
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	76	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **Y42-13+50**	STATION: **13+50**	OFFSET: **30ft RT**	ALIGNMENT: **-Y42-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **164.0 ft**	TOTAL DEPTH: **10.0 ft**	NORTHING: **449,118**	EASTING: **2,174,520**	24 HR. **N/A** / START DATE: **08/26/09**	COMP. DATE: **08/26/09** / SURFACE WATER DEPTH: **N/A**



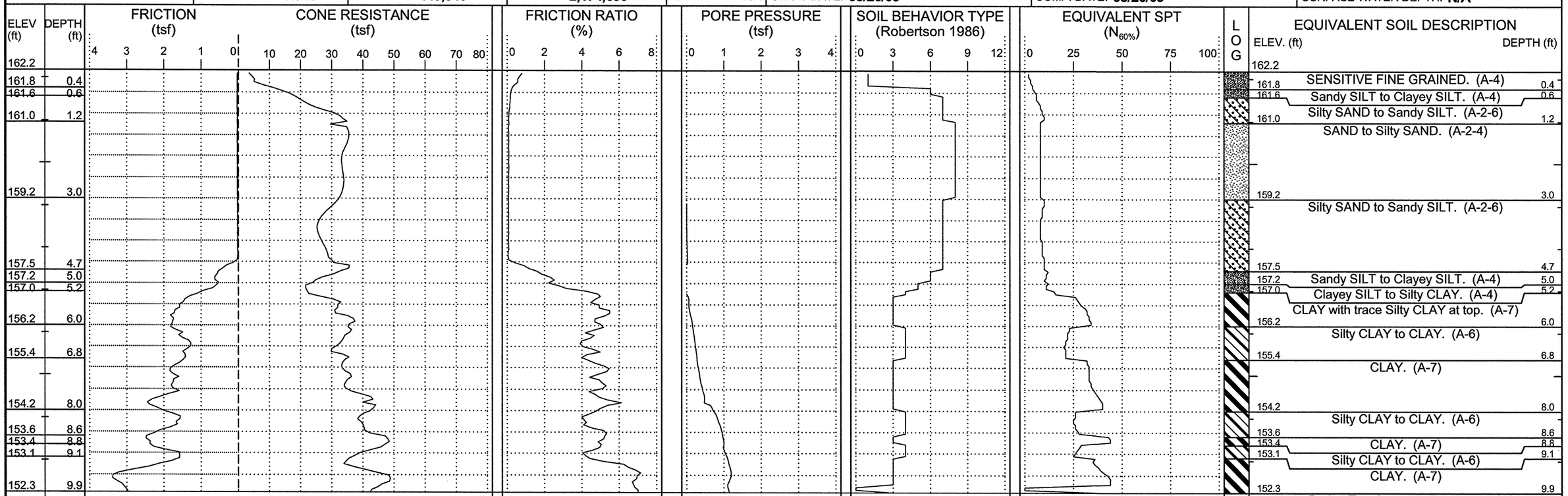
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	77	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 (Mitchell Loop Rd.) to US421-701/SR1296 (Sunset Ave.)**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Donald B. Coogan**
BORING NO.: **Y42-17**	STATION: **17+00**	OFFSET: **0ft CL**	ALIGNMENT: **-Y42-** / 0 HR. **N/A**	ROD TYPE: **Pre-strung**	CONE ID: **DSA1123** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **162.2 ft**	TOTAL DEPTH: **9.9 ft**	NORTHING: **448,840**	EASTING: **2,174,690** / 24 HR. **N/A**	START DATE: **08/26/09**	COMP. DATE: **08/26/09** / SURFACE WATER DEPTH: **N/A**



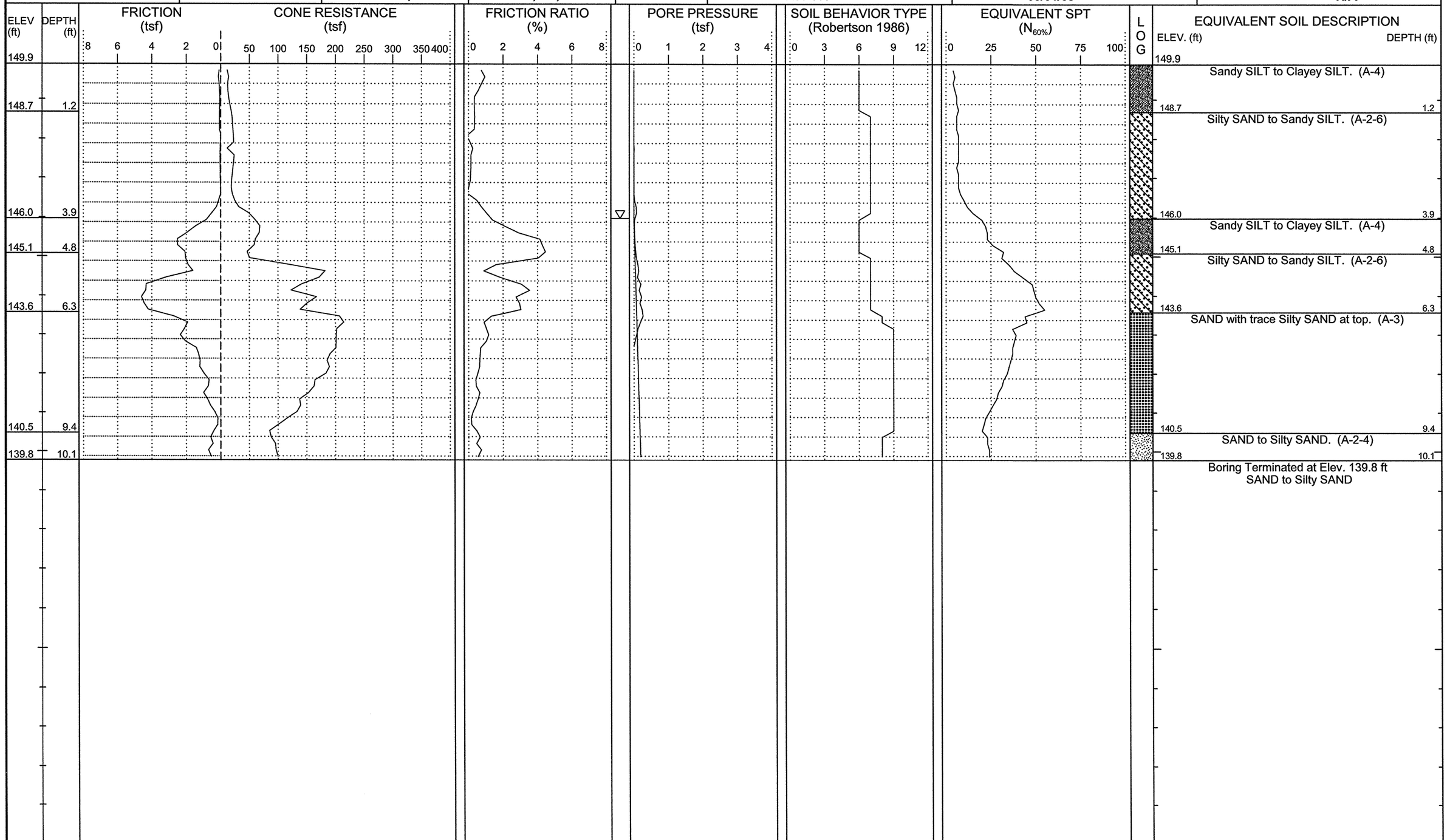
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	78	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **Y43-17**	STATION: **16+98**	OFFSET: **11ft LT**	ALIGNMENT: **-Y43-**	0 HR. **3.9** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **149.9 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **451,074**	EASTING: **2,181,774**	24 HR. **N/A** / START DATE: **09/01/09**	COMP. DATE: **09/01/09** / SURFACE WATER DEPTH: **N/A**



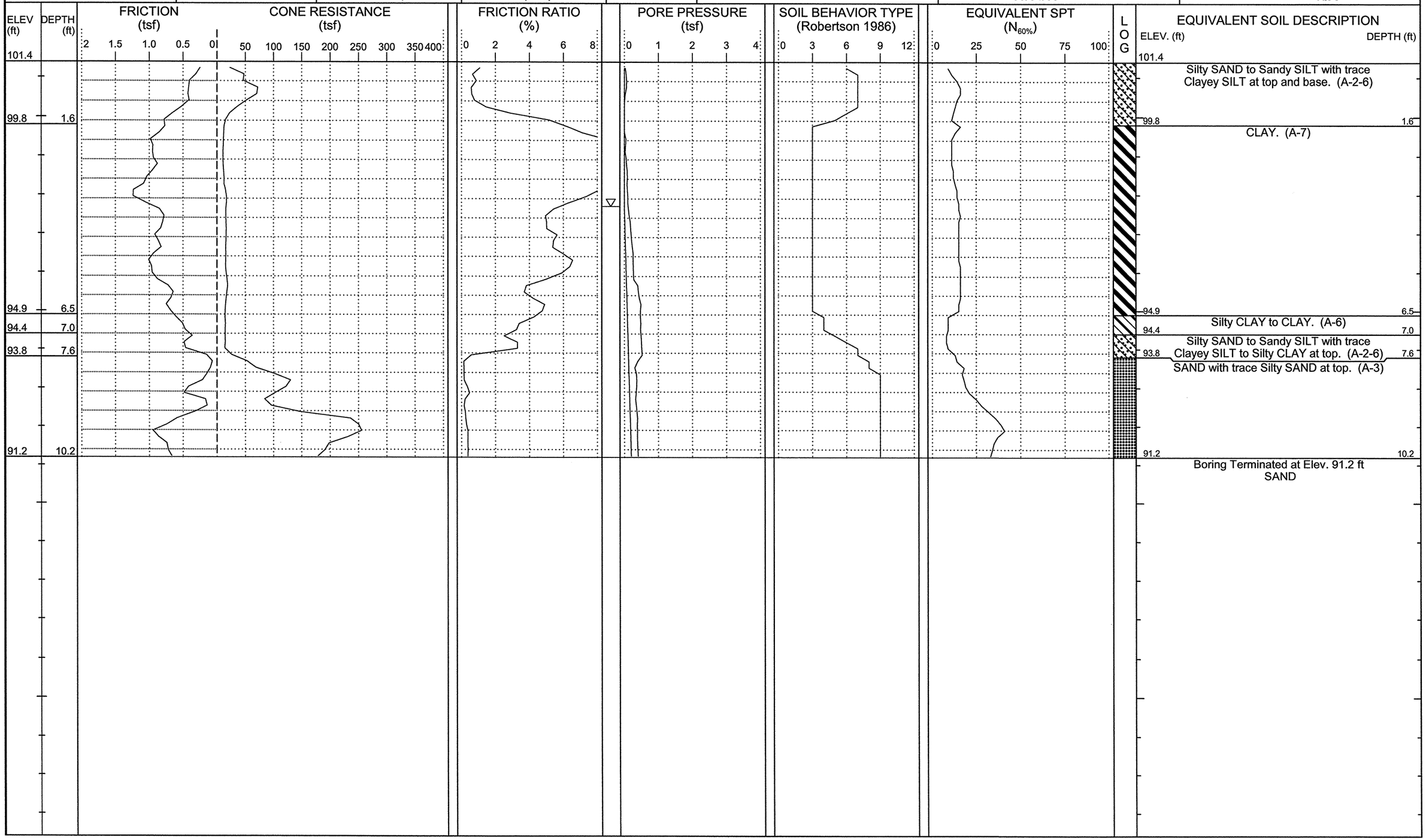
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	79	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44 Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **Y44-17**	STATION: **17+00**	OFFSET: **10ft LT**	ALIGNMENT: **-Y44-**	0 HR. 3.7 / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **101.4 ft**	TOTAL DEPTH: **10.2 ft**	NORTHING: **452,154**	EASTING: **2,183,755**	24 HR. N/A / START DATE: **09/01/09**	COMP. DATE: **09/01/09** / SURFACE WATER DEPTH: **N/A**



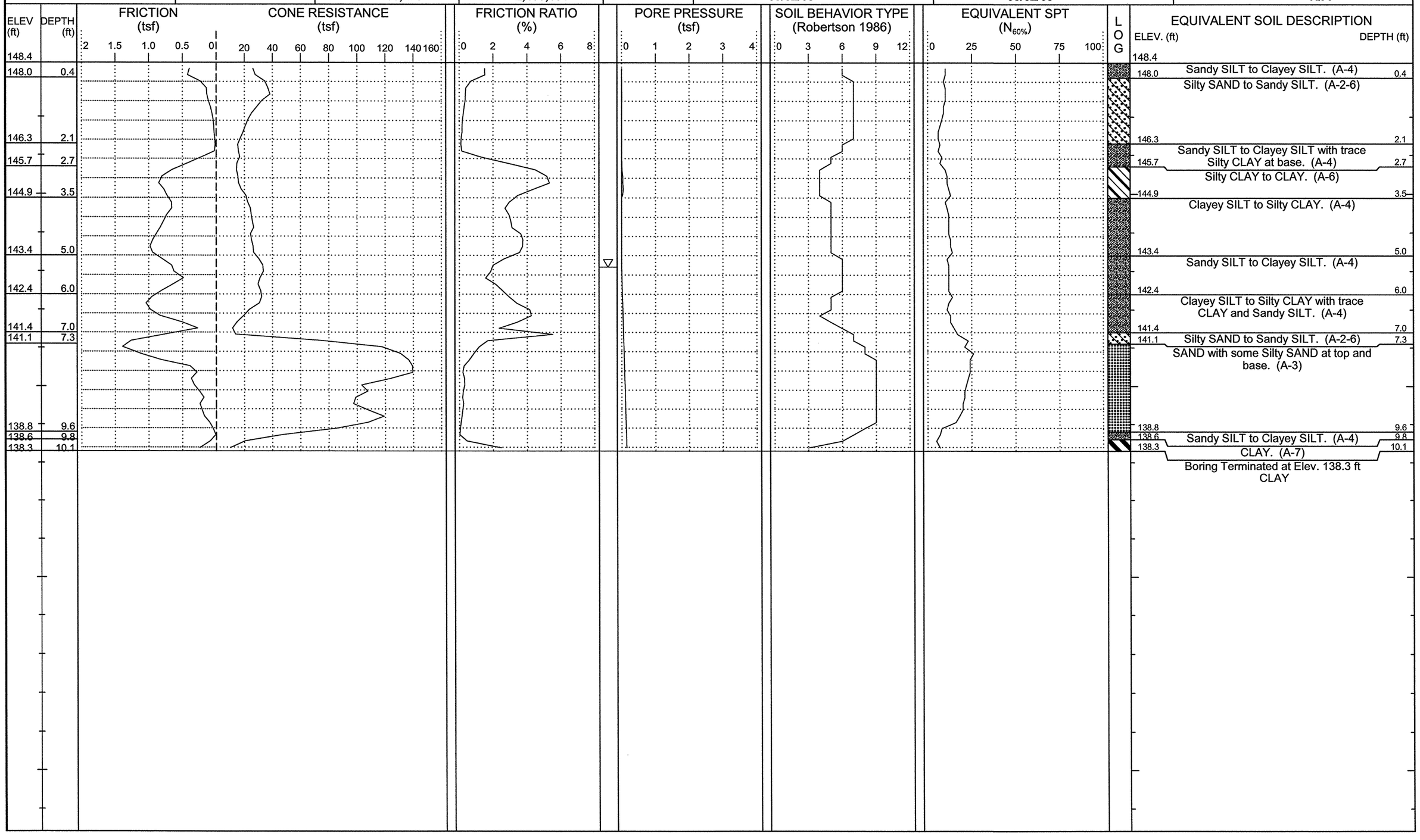
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	80	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **Y45-13+50**	STATION: **13+52**	OFFSET: **21ft LT**	ALIGNMENT: **-Y45-**	0 HR. **5.3** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **148.4 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **453,278**	EASTING: **2,189,691**	24 HR. **N/A** / START DATE: **09/02/09**	COMP. DATE: **09/02/09** / SURFACE WATER DEPTH: **N/A**



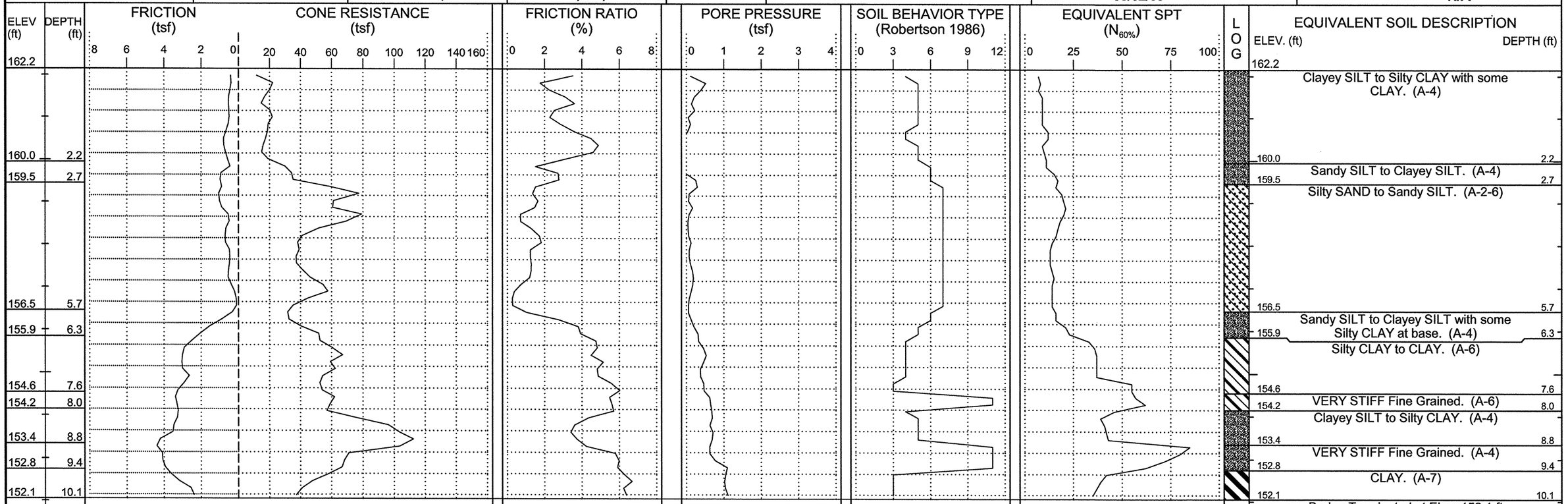
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	81	93

CATLIN #: 209059.01 PAGE 1 of 1

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **Y46-15+50**	STATION: **15+50**	OFFSET: **25ft LT**	ALIGNMENT: **-Y46-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **162.2 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **452,468**	EASTING: **2,191,712**	24 HR. **N/A** / START DATE: **09/02/09**	COMP. DATE: **09/02/09** / SURFACE WATER DEPTH: **N/A**



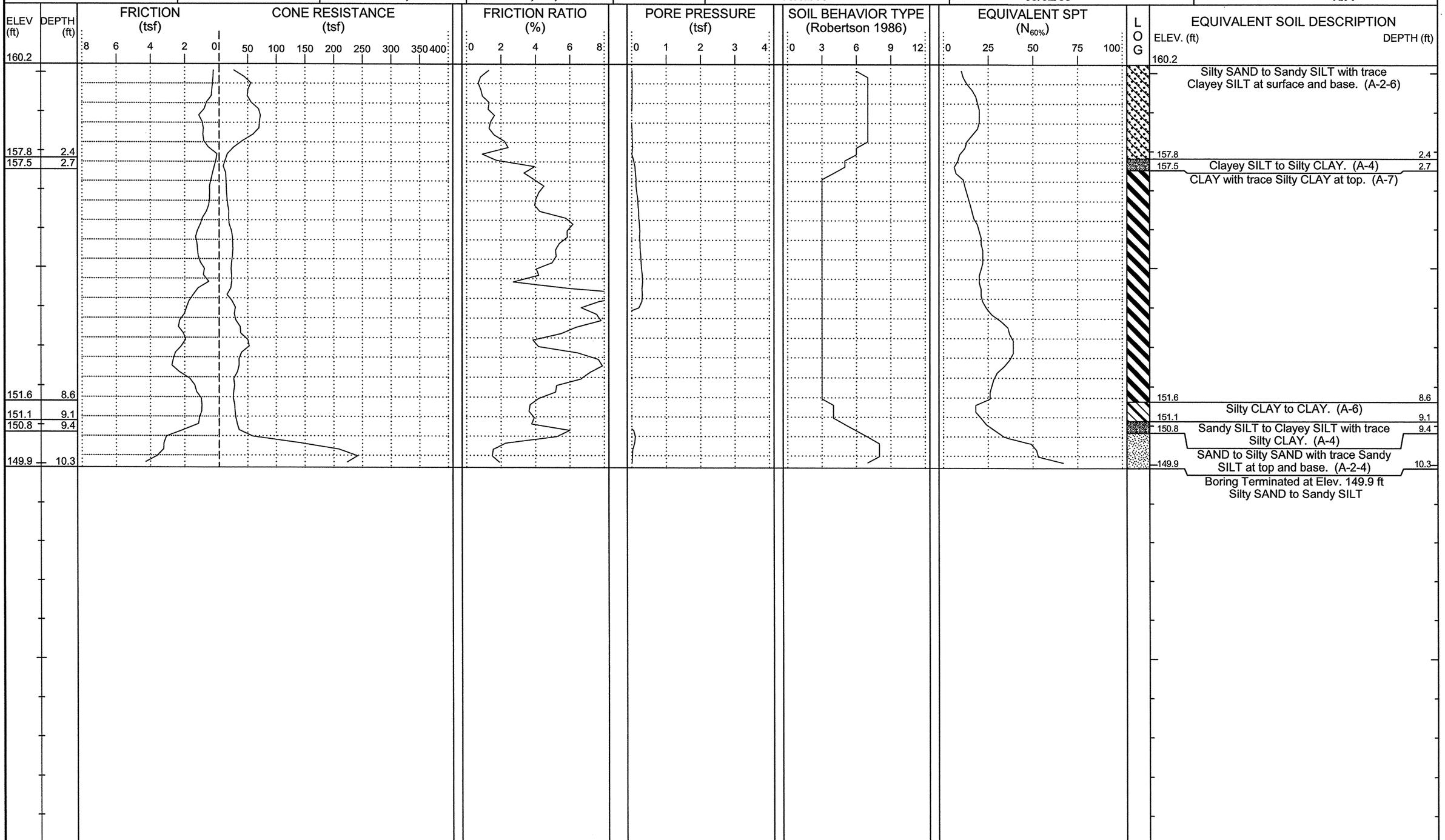
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	82	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **Y47-11**	STATION: **11+00**	OFFSET: **20ft LT**	ALIGNMENT: **-Y47-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **160.2 ft**	TOTAL DEPTH: **10.3 ft**	NORTHING: **452,422**	EASTING: **2,192,721**	24 HR. **N/A** / START DATE: **09/02/09**	COMP. DATE: **09/02/09** / SURFACE WATER DEPTH: **N/A**



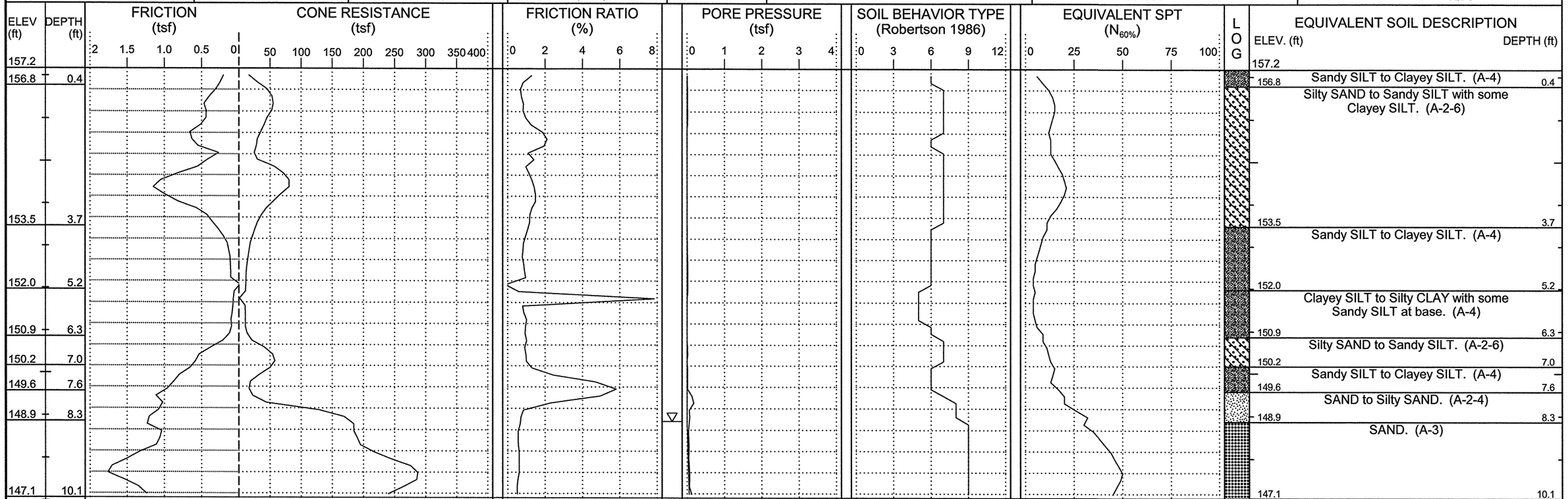
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	83	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **Y48-13**	STATION: **12+98**	OFFSET: **45ft LT**	ALIGNMENT: **-Y48-**	0 HR. **8.3** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **157.2 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **452,221**	EASTING: **2,193,806**	24 HR. **N/A** / START DATE: **09/02/09**	COMP. DATE: **09/02/09** / SURFACE WATER DEPTH: **N/A**



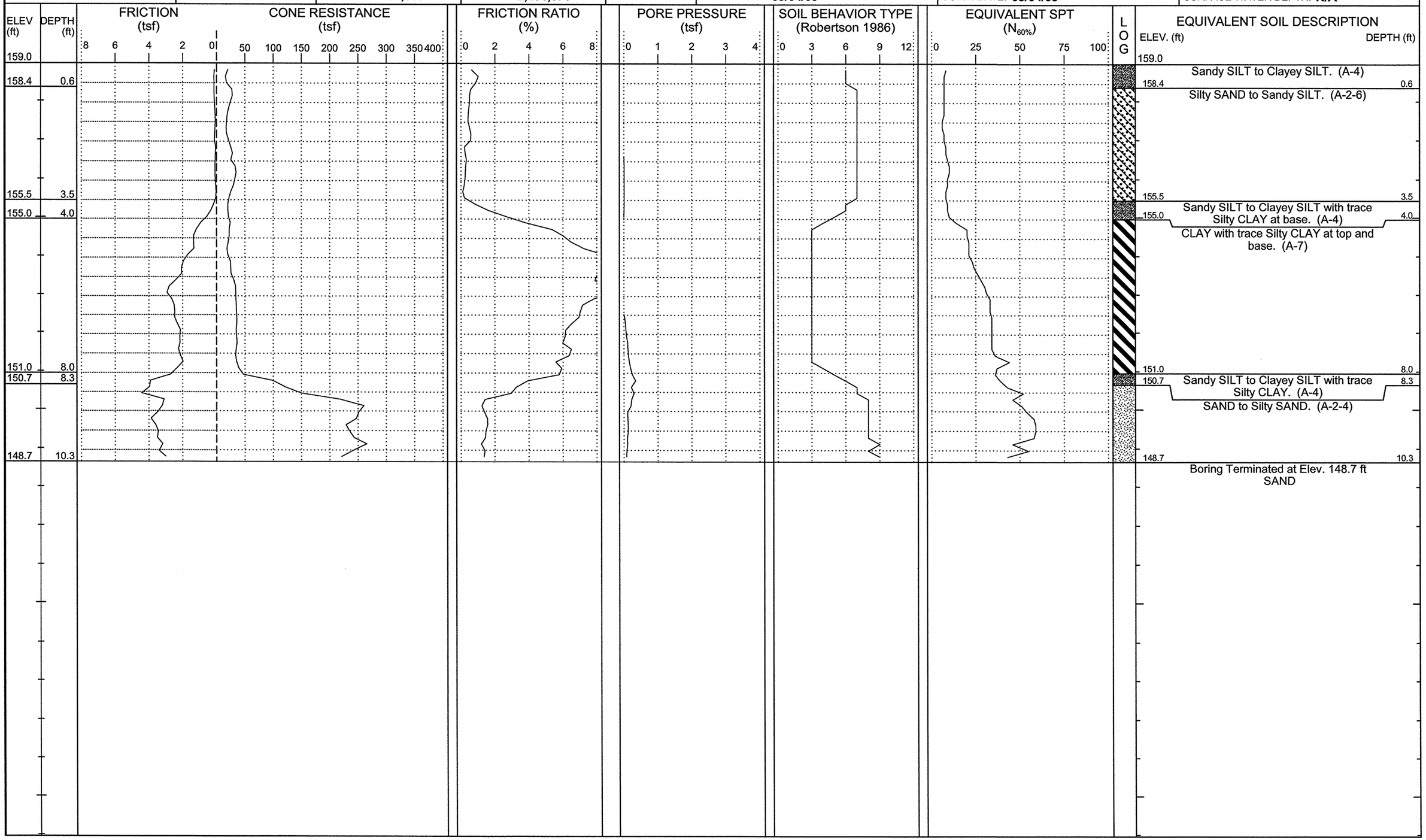
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	84	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **Y49-11+50**	STATION: **11+50**	OFFSET: **20ft LT**	ALIGNMENT: **-Y49-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **159.0 ft**	TOTAL DEPTH: **10.3 ft**	NORTHING: **452,850**	EASTING: **2,196,375**	24 HR. **N/A** / START DATE: **09/04/09**	COMP. DATE: **09/04/09** / SURFACE WATER DEPTH: **N/A**



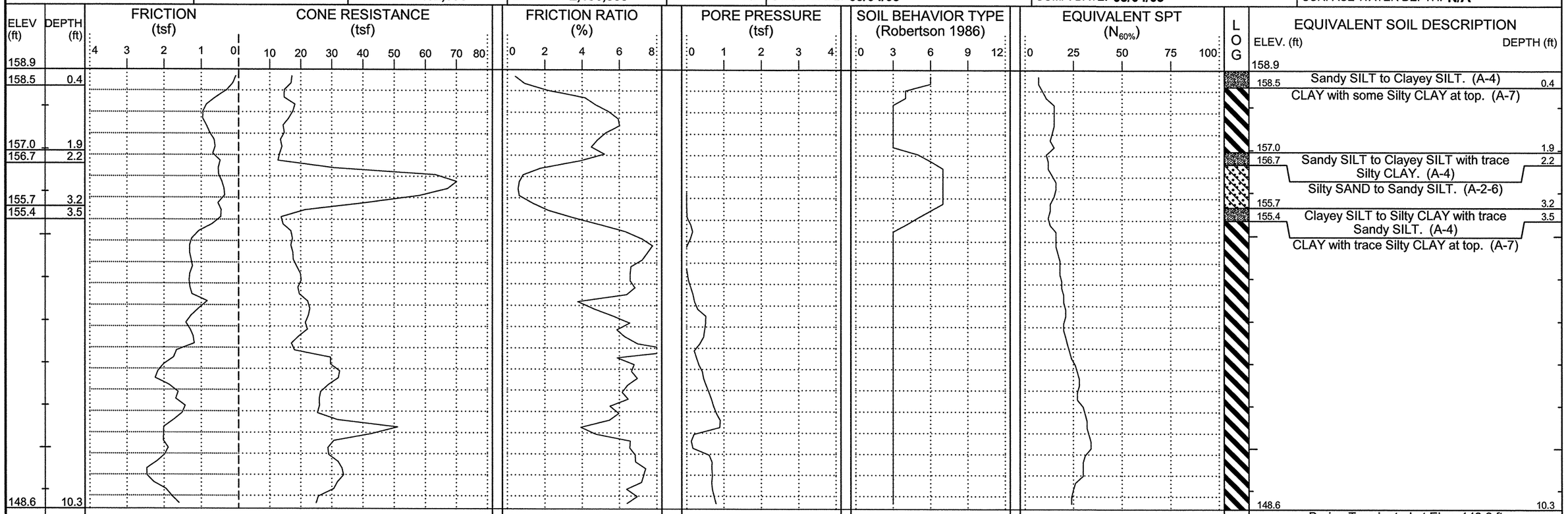
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	85	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **Y49-15**	STATION: **15+00**	OFFSET: **0ft CL**	ALIGNMENT: **-Y49-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **158.9 ft**	TOTAL DEPTH: **10.3 ft**	NORTHING: **452,536**	EASTING: **2,196,538**	24 HR. **N/A** / START DATE: **09/04/09**	COMP. DATE: **09/04/09** / SURFACE WATER DEPTH: **N/A**



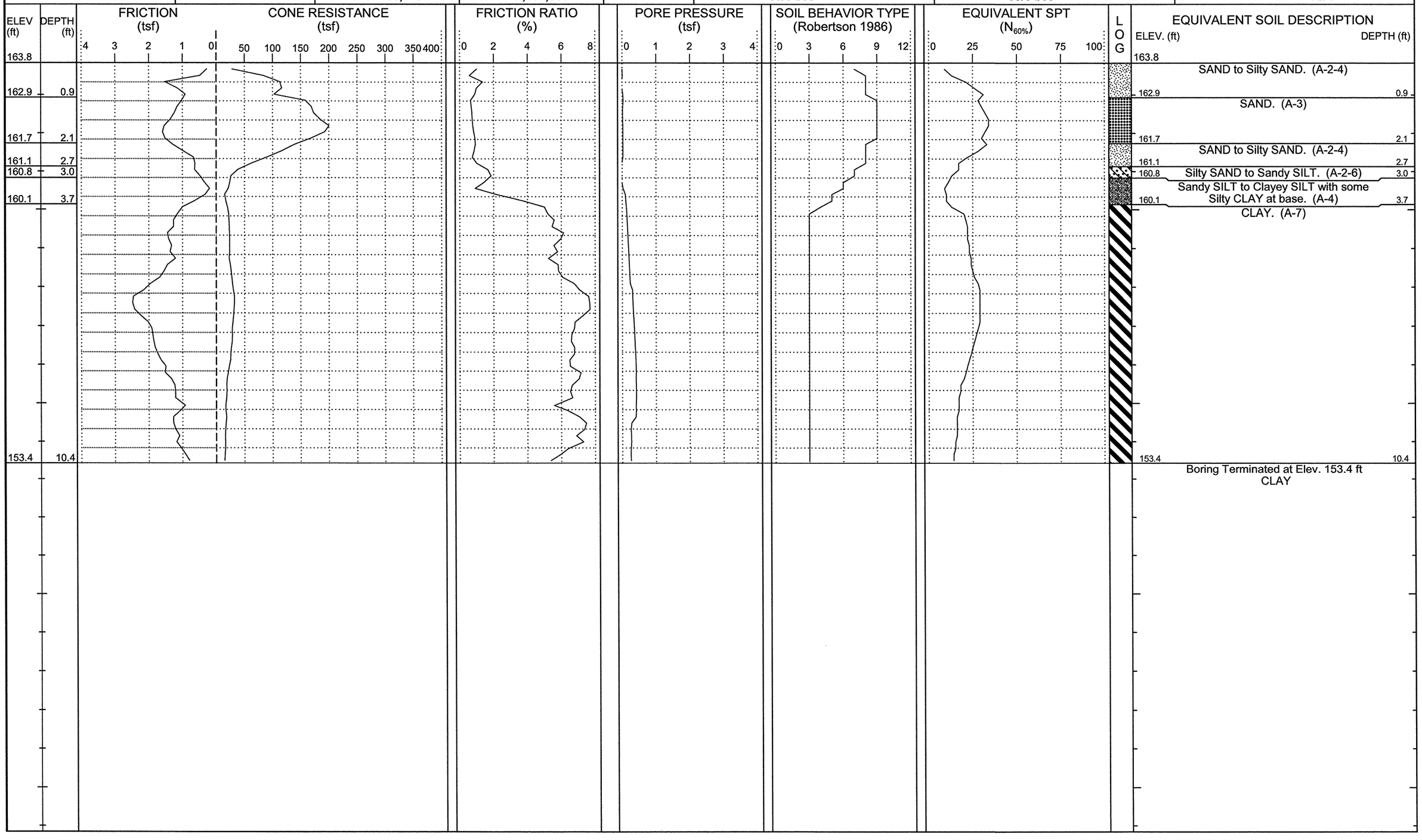
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	86	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **Y50-14**	STATION: **14+00**	OFFSET: **20ft LT**	ALIGNMENT: **-Y50-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **163.8 ft**	TOTAL DEPTH: **10.4 ft**	NORTHING: **453,148**	EASTING: **2,197,368**	24 HR. **N/A** / START DATE: **09/04/09**	COMP. DATE: **09/04/09** / SURFACE WATER DEPTH: **N/A**



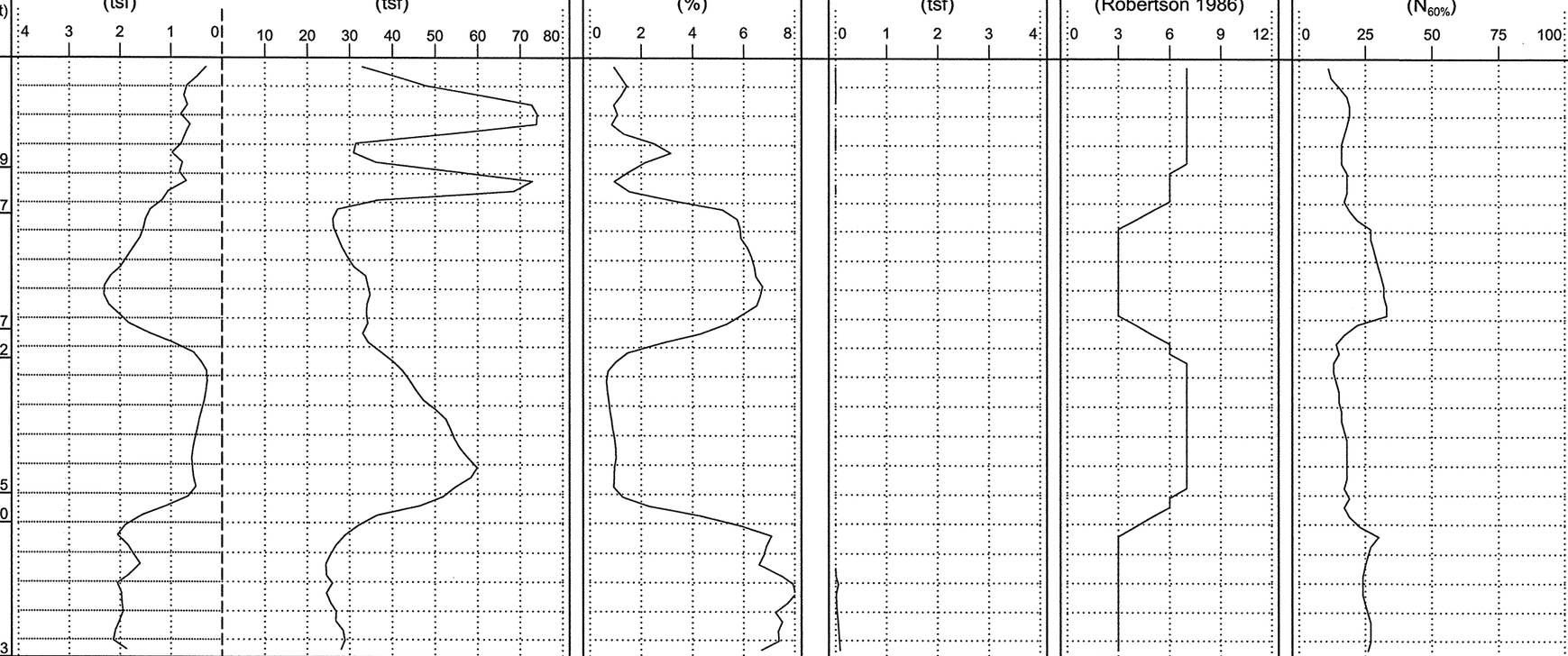
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	87	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **Y50-17**	STATION: **16+66**	OFFSET: **24ft RT**	ALIGNMENT: **-Y50-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **N/A**	TOTAL DEPTH: **10.3 ft**	NORTHING: **N/A**	EASTING: **N/A**	24 HR. **N/A** / START DATE: **09/04/09**	COMP. DATE: **09/04/09** / SURFACE WATER DEPTH: **N/A**



EQUIVALENT SOIL DESCRIPTION

ELEV. (ft)	DEPTH (ft)	
		Silty SAND to Sandy SILT. (A-2-6)
	1.9	Sandy SILT to Clayey SILT with trace Silty CLAY at base. (A-4)
	2.7	CLAY with trace Silty CLAY at top and base. (A-7)
	4.7	Sandy SILT to Clayey SILT with trace Silty CLAY. (A-4)
	5.2	Silty SAND to Sandy SILT. (A-2-6)
	7.5	Sandy SILT to Clayey SILT with trace Silty CLAY. (A-4)
	8.0	CLAY. (A-7)
	10.3	Boring Terminated at Depth 10.3 ft CLAY

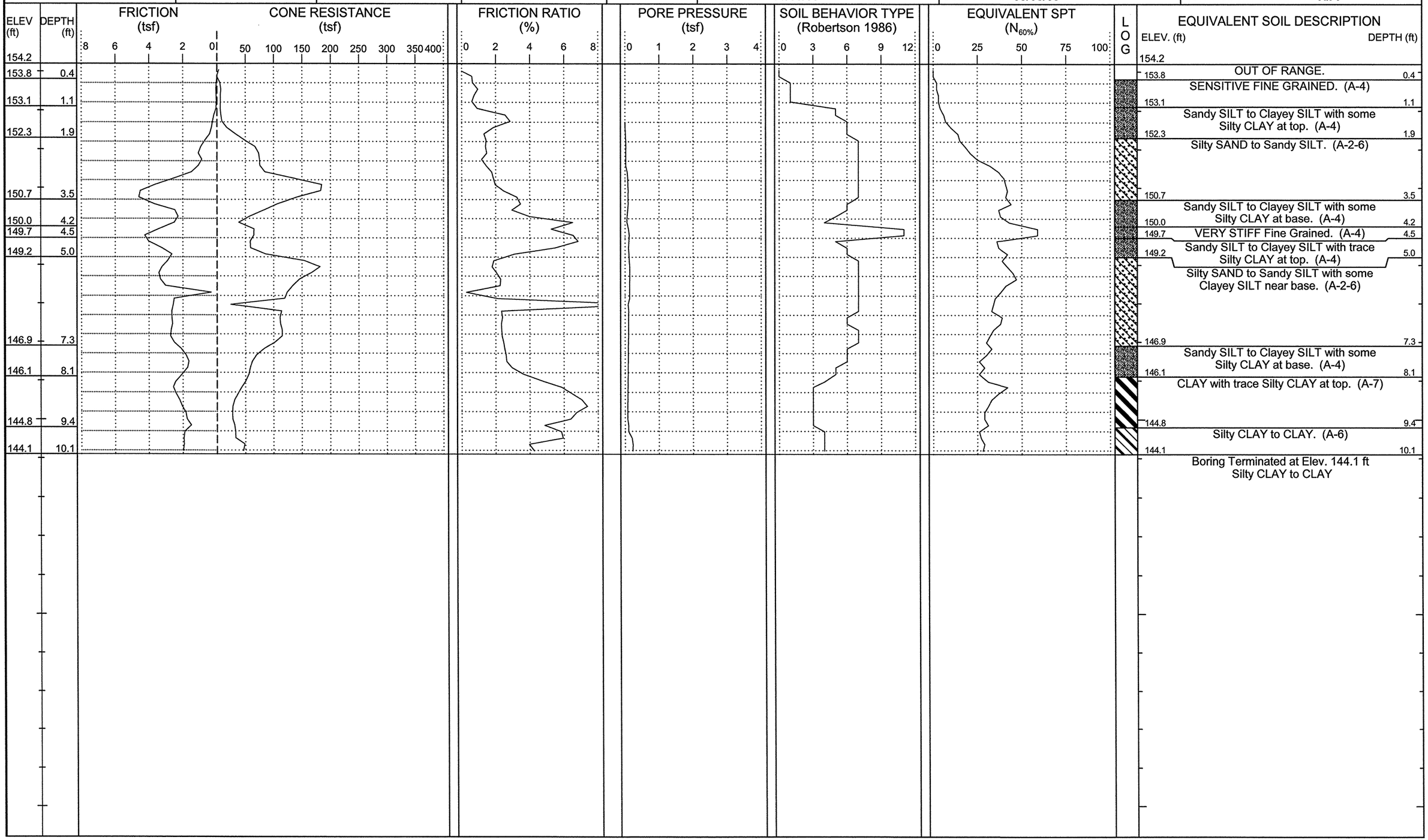
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	88	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **Y51-12**	STATION: **N/A**	OFFSET: **N/A**	ALIGNMENT: **-Y51-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **154.2 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **N/A**	EASTING: **N/A**	24 HR. **N/A** / START DATE: **09/08/09**	COMP. DATE: **09/08/09** / SURFACE WATER DEPTH: **N/A**



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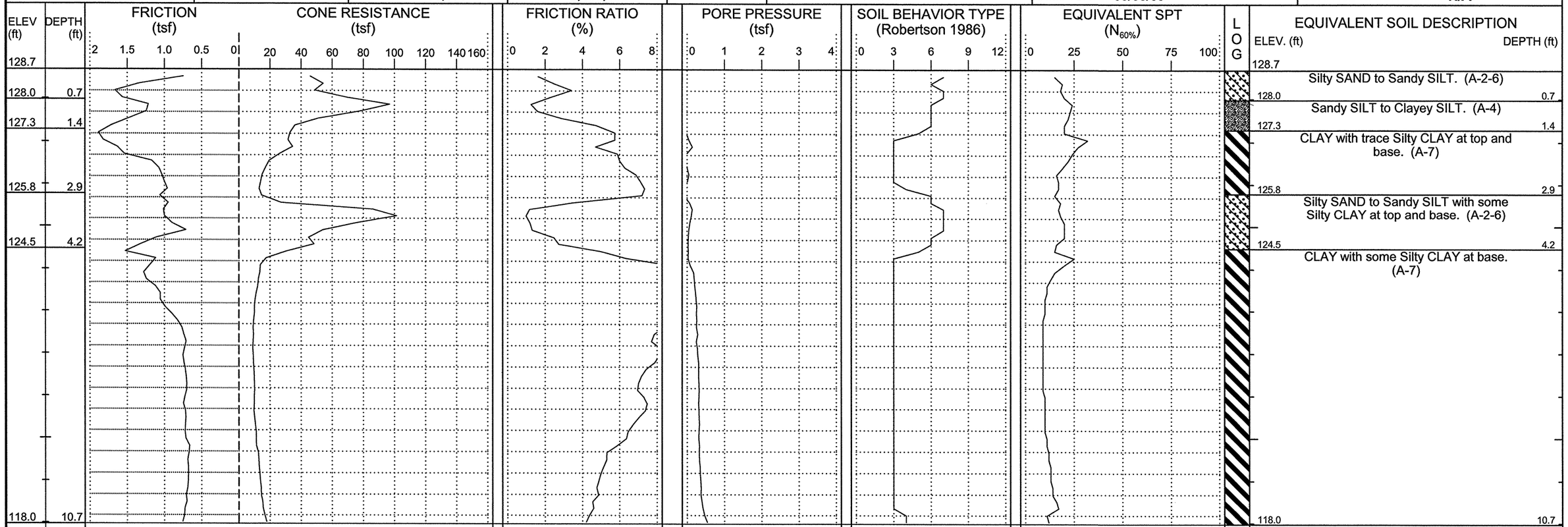
CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	89	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **Y52-17**	STATION: **17+00**	OFFSET: **60ft RT**	ALIGNMENT: **-Y52-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **128.7 ft**	TOTAL DEPTH: **10.7 ft**	NORTHING: **455,379**	EASTING: **2,197,893**	24 HR. **N/A** / START DATE: **09/08/09**	COMP. DATE: **09/08/09** / SURFACE WATER DEPTH: **N/A**



EQUIVALENT SOIL DESCRIPTION

ELEV. (ft)	DEPTH (ft)	Description
128.7		
128.0	0.7	Silty SAND to Sandy SILT. (A-2-6)
127.3	1.4	Sandy SILT to Clayey SILT. (A-4)
125.8	2.9	CLAY with trace Silty CLAY at top and base. (A-7)
124.5	4.2	Silty SAND to Sandy SILT with some Silty CLAY at top and base. (A-2-6)
118.0	10.7	CLAY with some Silty CLAY at base. (A-7)

Boring Terminated at Elev. 118.0 ft
Silty CLAY to CLAY

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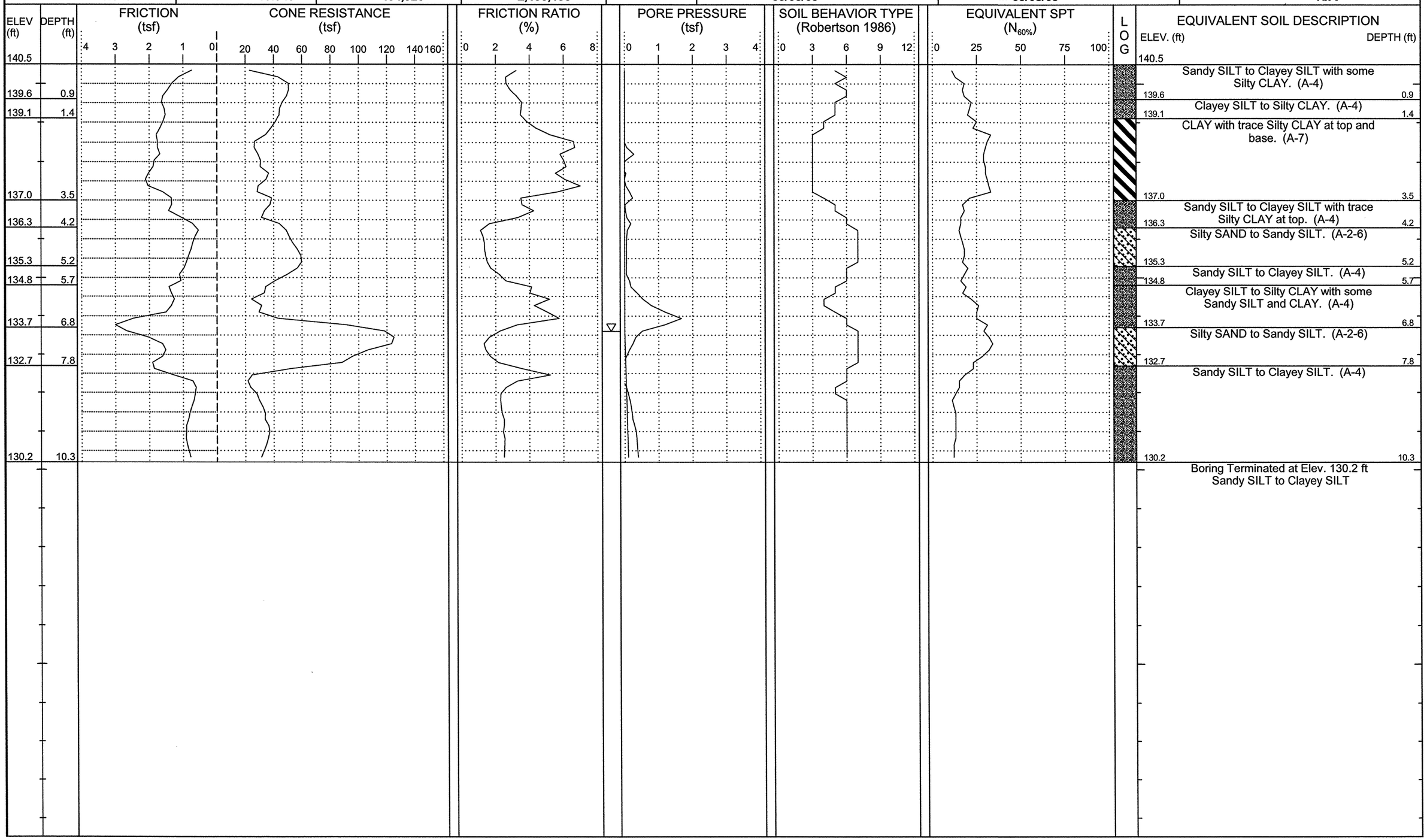
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	90	93

CATLIN #: 209059.01 PAGE 1 of 1

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**	
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone**	DRILLER: **Ronald Stewart**
BORING NO.: **Y52-22**	STATION: **22+00**	OFFSET: **80ft LT**	ALIGNMENT: **-Y52-**	0 HR. **6.9**	ROD TYPE: **Pre-strung**	CONE ID: **DSA0866**	TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **140.5 ft**	TOTAL DEPTH: **10.3 ft**	NORTHING: **454,920**	EASTING: **2,198,135**	24 HR. **N/A**	START DATE: **09/08/09**	COMP. DATE: **09/08/09**	SURFACE WATER DEPTH: **N/A**



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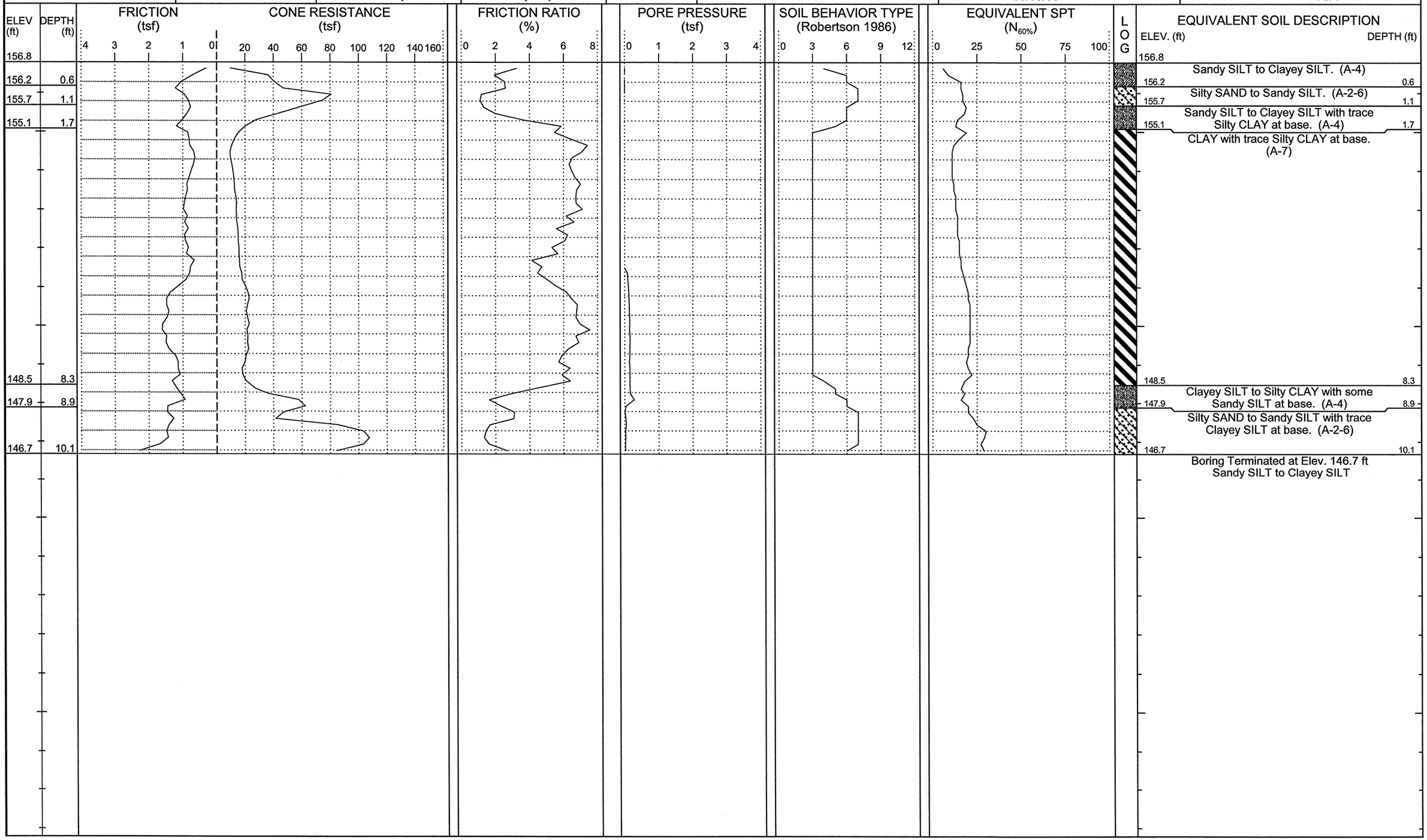
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	91	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **Y52-47**	STATION: **47+00**	OFFSET: **55ft LT**	ALIGNMENT: **-Y52-**	0 HR. **N/A** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **156.8 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **452,845**	EASTING: **2,199,353**	24 HR. **N/A** / START DATE: **09/09/09**	COMP. DATE: **09/09/09** / SURFACE WATER DEPTH: **N/A**



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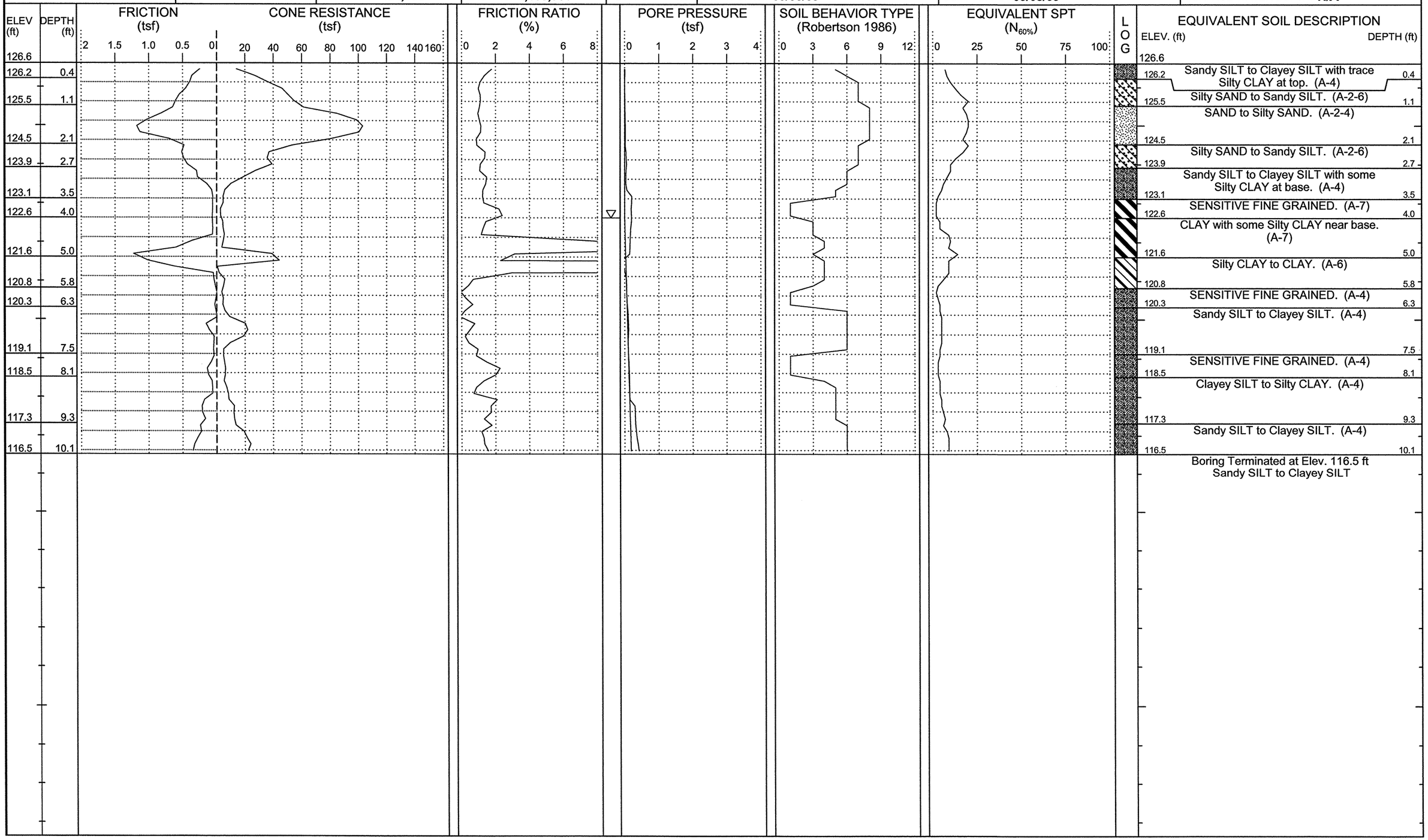
CATLIN Engineers and Scientists

ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	92	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **Y53-12**	STATION: **11+88**	OFFSET: **13ft LT**	ALIGNMENT: **-Y53-**	0 HR. **4.0** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **126.6 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **454,630**	EASTING: **2,198,961**	24 HR. **N/A** / START DATE: **09/08/09**	COMP. DATE: **09/08/09** / SURFACE WATER DEPTH: **N/A**



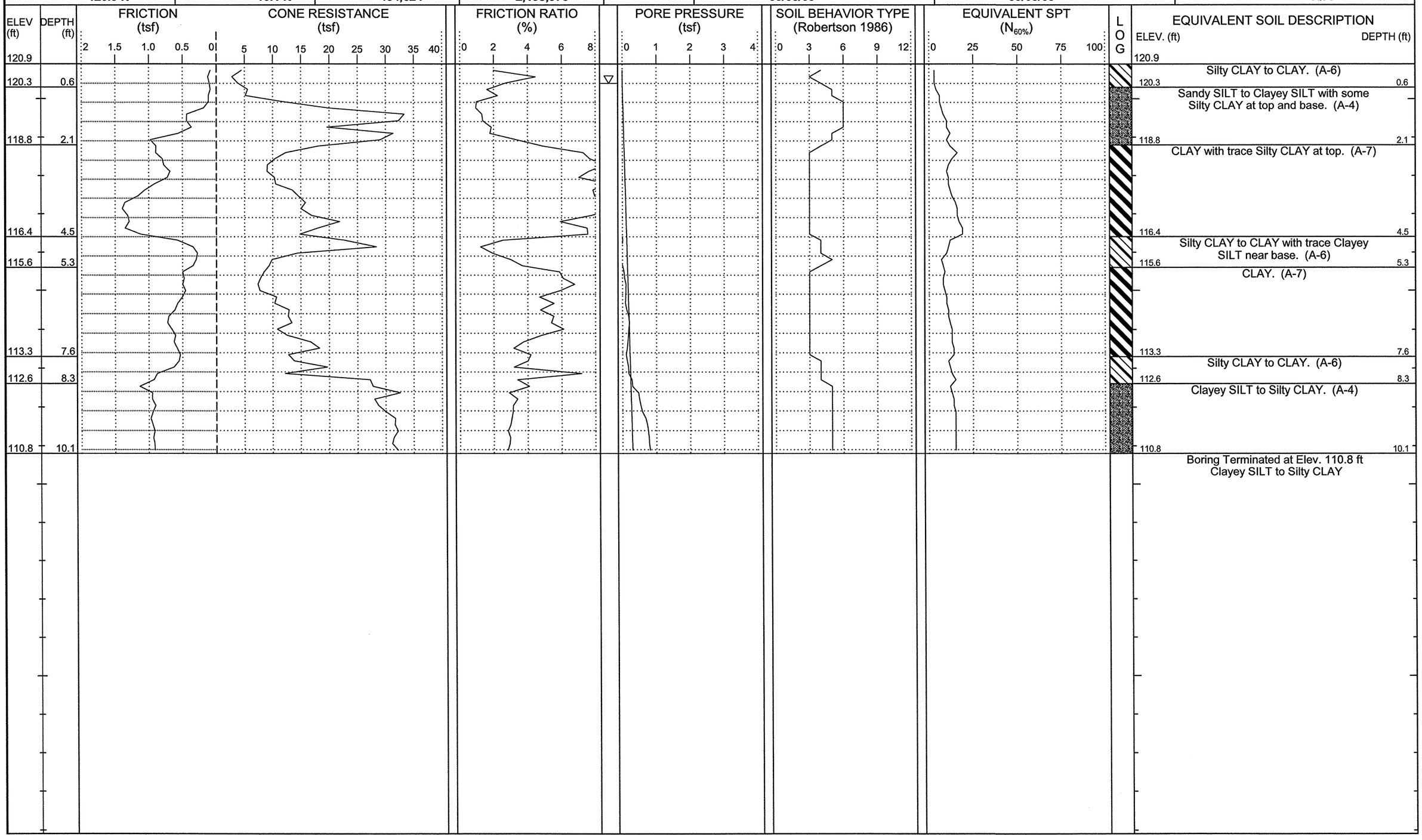
NCDOT GEOTECHNICAL ENGINEERING UNIT

CATLIN Engineers and Scientists

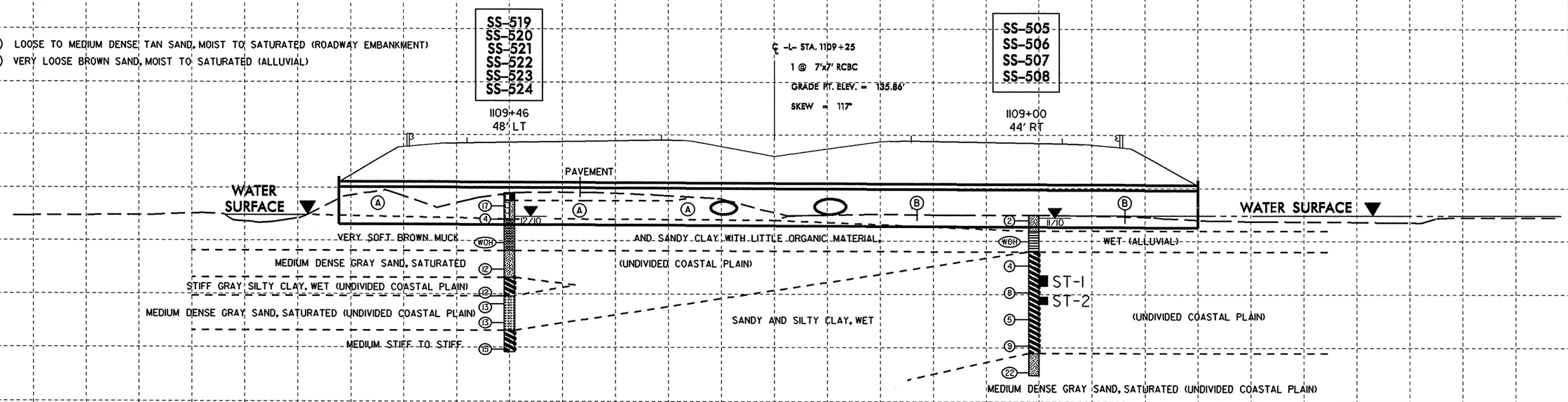
ID	WBS ELEMENT	SHEET NO.	TOTAL SHEETS
R-2303D	34416.1.1	93	93

CATLIN #: 209059.01

PROJECT NO.: **34416.1.1**	ID.: **R-2303D**	COUNTY: **Sampson**	GEOLOGIST: **Steven Hudson**	DRILL MACHINE: **Hogentogler Track**	MAX. DOWN PRESSURE: **10 Ton**
SITE DESCRIPTION: **NC24 from SR1303 to US421-701/SR1296**			GROUND WTR (ft)	DRILL METHOD: **Direct Push**	CONE TYPE: **1.44" Vertek Piezocone** / DRILLER: **Ronald Stewart**
BORING NO.: **Y54-11+50**	STATION: **11+50**	OFFSET: **25ft LT**	ALIGNMENT: **-Y54-**	0 HR. **0.5** / ROD TYPE: **Pre-strung**	CONE ID: **DSA0866** / TECHNICIAN: **M.A.D.**
COLLAR ELEV.: **120.9 ft**	TOTAL DEPTH: **10.1 ft**	NORTHING: **454,624**	EASTING: **2,198,973**	24 HR. **N/A** / START DATE: **09/08/09**	COMP. DATE: **09/08/09** / SURFACE WATER DEPTH: **N/A**



CROSS SECTION THROUGH BORINGS PROJECTED ALONG CULVERT AT -L- STA. 1109+25



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-505	44 RT	1109+00	1.0-1.5	A-2-4(0)	31	NP	58.6	24.6	10.7	6.1	97	62	18	-	-
SS-506	44 RT	1109+00	4.0-5.5	A-6(3)	36	15	27.0	29.4	11.3	32.3	98	84	44	63.9	5.9
SS-507	44 RT	1109+00	13.6-15.1	A-7-5(65)	95	58	2.0	7.2	22.5	68.3	100	99	93	-	-
SS-508	44 RT	1109+00	28.6-30.1	A-2-4(0)	25	NP	20.8	61.6	8.5	9.1	100	96	19	-	-
ST-1	44 RT	1109+00	11.4-13.4	A-7-6(14)	44	31	16.5	27.9	11.2	44.4	100	96	58	62.9	-
ST-2	44 RT	1109+00	15.4-16.8	A-7-6(42)	63	44	3.1	6.7	29.0	61.2	96	95	89	56.7	-
SS-519	48 LT	1109+46	1.5-3.0	A-2-4(0)	13	NP	62.9	25.1	3.9	8.2	98	66	14	-	-
SS-520	48 LT	1109+46	8.5-10.0	A-2-5(0)	46	NP	45.1	25.5	19.2	10.2	96	71	30	-	13.8
SS-521	48 LT	1109+46	13.5-15.0	A-2-4(0)	24	NP	16.7	60.7	8.3	14.3	100	98	25	-	-
SS-522	48 LT	1109+46	18.5-19.5	A-7-6(49)	79	56	7.1	10.0	21.6	61.2	96	94	81	-	-
SS-523	48 LT	1109+46	20.0-21.5	A-3(0)	22	NP	84.4	9.6	1.9	4.1	100	93	7	-	-
SS-524	48 LT	1109+46	28.5-30.0	A-7-6(28)	67	44	5.7	31.0	22.4	40.8	97	96	66	-	-

NOTE: GROUNDLINE PROFILE ALONG -L- TAKEN FROM BRIDGE SURVEY & HYDRAULIC REPORT DATED 10/13/10.

NOTE: INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO CROSS SECTION.

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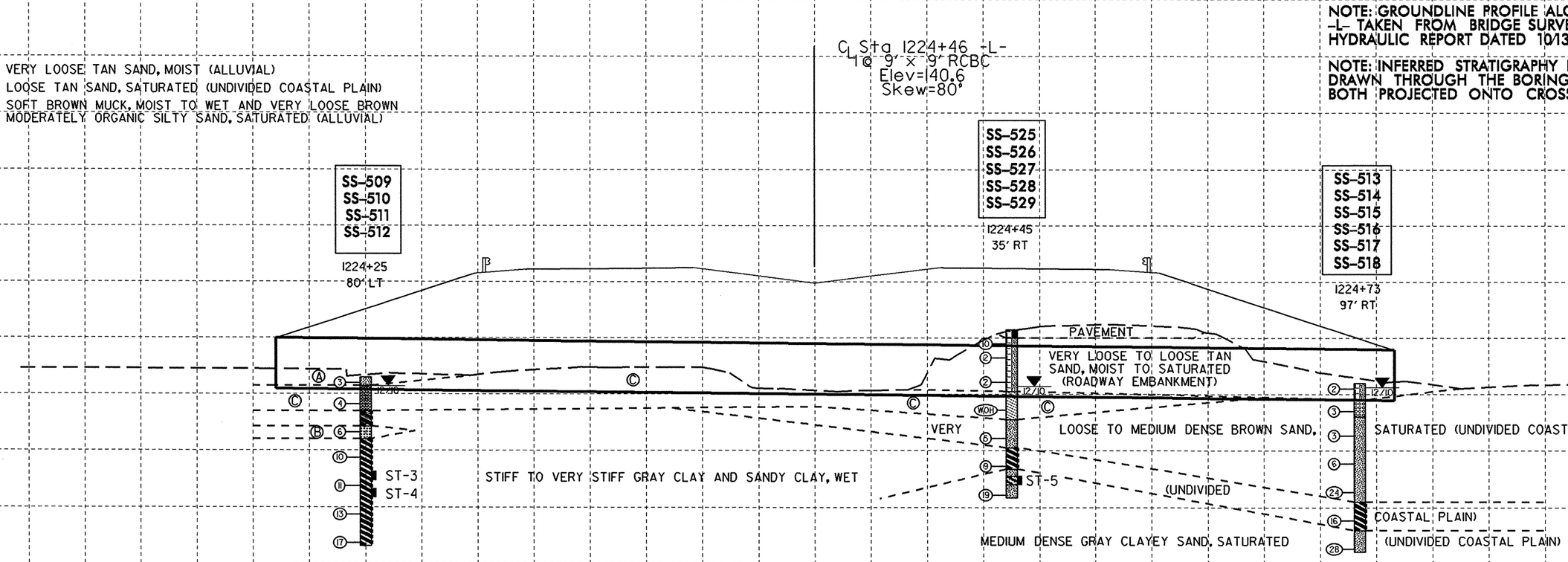
CROSS SECTION THROUGH BORINGS PROJECTED ALONG CULVERT AT -L- STA. 1224+46

NOTE: GROUNDLINE PROFILE ALONG -L- TAKEN FROM BRIDGE SURVEY & HYDRAULIC REPORT DATED 10/13/10.

NOTE: INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO CROSS SECTION.



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
ST-3	80 LT	1224+25	16.8-18.3	A-7-5(69)	95	64	4.2	3.8	15.2	76.7	100	98	92	55.4	-
ST-4	80 LT	1224+25	19.8-21.5	A-7-6(69)	90	65	4.4	2.7	6.6	86.2	100	98	93	54.7	-
SS-509	80 LT	1224+25	1.0-1.5	A-2-4(0)	21	NP	54.8	27.5	7.6	10.1	96	67	19	-	-
SS-510	80 LT	1224+25	8.8-9.8	A-3(0)	20	NP	61.9	29.3	2.7	6.1	94	68	10	-	-
SS-511	80 LT	1224+25	13.3-14.8	A-7-6(99)	15	89	1.4	2.4	15.3	80.9	100	99	96	-	-
SS-512	80 LT	1224+25	23.3-24.8	A-7-6(38)	68	50	0.6	33.4	23.6	42.5	100	100	76	-	-
ST-5	80 LT	1224+25	26.0-27.5	A-2-6(0)	35	11	22.8	45.5	9.6	22.2	91	79	33	61.4	-
SS-525	35 RT	1224+45	1.5-3.0	A-2-4(0)	16	NP	69.9	19.4	3.6	7.1	89	51	11	-	-
SS-526	35 RT	1224+45	13.3-14.8	A-2-5(0)	47	NP	29.6	42.7	21.6	6.1	99	88	31	-	9.0
SS-527	35 RT	1224+45	18.3-19.8	A-2-4(0)	25	NP	63.1	23.7	7.1	6.1	97	65	14	-	-
SS-528	35 RT	1224+45	23.3-24.8	A-7-6(68)	96	79	9.8	5.9	12.9	71.4	96	94	81	-	-
SS-529	35 RT	1224+45	28.3-29.8	A-2-4(0)	29	4	21.0	50.6	8.0	20.4	97	93	31	-	-
SS-513	97 RT	1224+73	1.0-1.5	A-2-4(0)	22	NP	53.4	31.3	8.2	7.1	96	71	16	-	-
SS-514	97 RT	1224+73	4.0-5.0	A-1-b(0)	21	NP	77.0	14.2	2.7	6.1	68	31	7	-	-
SS-515	97 RT	1224+73	8.3-9.8	A-2-4(0)	24	10	39.4	27.5	12.8	20.2	98	83	34	-	-
SS-516	97 RT	1224+73	18.3-19.8	A-2-4(0)	23	NP	30.4	59.4	5.2	5.1	100	97	12	-	-
SS-517	97 RT	1224+73	23.3-24.8	A-7-6(60)	93	72	3.8	17.4	10.0	68.8	98	96	79	-	-
SS-518	97 RT	1224+73	28.3-29.8	A-2-4(0)	28	NP	6.5	65.5	7.8	20.2	97	96	29	-	-

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