NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

 ID
 PROJECT NO.
 SHEET NO. TOTAL SHEETS

 B-3875
 8.2561301
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SOIL DESCRIPTION GRADATION		ROCK DESCRIPTION		TERMS AND DEFINITIONS	
WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WE WELL GRADED- INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE WE WELL GRADED- INDICATES FROM FINE TO COARSE WE WELL GRADED- INDICATES FROM FINE TO COARSE WE WELL			HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WHEN TESTED, WOULD YIELD SPT REFUSAL. AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL.		ALLUVIUM (ALLUV.) - SOILS WHICH HAVE BEEN TRANSPORTED BY WATER.
WHICH CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER, AND WHICH YIELDS LESS THAN		SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.		AQUIFER - A WATER BEARING FORMATION OR STRATA.	
20 BLOWS PER FOOT ACCORDING TO STANDARD PENETRATION TEST (AASHTO T206, ASTM D-1586). SOIL LASSIFICATION IS BASED ON THE AASHTO SYSTEM AND BASIC DESCRIPTIONS GENERALLY SHALL INCLUDE: A NOT II A DITY OF COAING			IN NON-COASTAL PLAIN MATERIAL, THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK.		ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.
CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH	ANGULARITY OF GRAINS		ROCK MATERIALS ARE TYPICALLY D	DIVIDED AS FOLOWS:	ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS,
AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. EXAMPLE:	THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS ARE DESIGNATED BY THE TERMS; AN	IGULAR,	WEATHERED PARTY	NON-COASTAL PLAIN MATERIAL THAT YIELDS SPT N VALUES > 100 BLOWS	OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, AS SHALE, SLATE, ETC.
VERY STIPP, GRAY SILTY CLAY, MOIST WITH INTERBEDDED PINE SAND LAYERS, HIGHLY PLASTIC, A-7-6	SUBANGULAR, SUBROUNDED, OR ROUNDED.		ROCK (WR)	PER FOOT.	ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL
SOIL LEGEND AND AASHTO CLASSIFICATION	MINERALOGICAL COMPOSITION		CRYSTALLINE	FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT	AT WHICH IS IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE
GENERAL GRANULAR MATERIALS SILT-CLAY MATERIALS ORGANIC MATERIALS	MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DI		ROCK (CR)	WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE,	GROUND SURFACE.
CLASS. (≤ 35% PASSING #200) (>35% PASSING #200)	WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE.			GNEISS, GABBRO, SCHIST, ETC. FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN	CALCAREOUS (CALC.) - SOILS WHICH CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.
GROUP A-1 A-3 A-2 A-4 A-5 A-6 A-7 A-1, A-2 A-4, A-5	COMPRESSIBILITY		NON-CRYSTALLINE ROCK (NCR)	SEDIMENTARY ROCK THAT WOULD YEILD SPT REFUSAL IF TESTED. ROCK TYPE	COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM
CLASS. A-1-a A-1-b A-2-4 A-2-5 A-2-6 A-2-7 A-3 A-6, A-7	SLIGHTLY COMPRESSIBLE LIQUID LIMIT LESS THA	N 30		INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.	OF SLOPE.
SYMBOL DOCOGOCOGO	MODERATELY COMPRESSIBLE LIQUID LIMIT 31-50 HIGHLY COMPRESSIBLE LIQUID LIMIT GREATER		COASTAL PLAIN SEDIMENTARY ROCK	COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED	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.
00000000000000000000000000000000000000	PERCENTAGE OF MATERIAL			SHELL BEDS, ETC.	
PASSING	GRANULAR SILT-CLAY			WEATHERING	DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.
#40 30 MX 50 MX 51 MN CLAY SOILS SOILS PEAT	ORGANIC MATERIAL SOILS SOILS OTHER	MATERIAL	FRESH ROCK FRESH, CRYSTA	LS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER	DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE
# 200 15 MX 25 MX 10 MX 35 MX 35 MX 35 MX 36 MN 36 MN 36 MN 36 MN 36 MN	TRACE OF ORGANIC MATTER 2 - 3% 3 - 5% TRACE	1 - 10%	HAMMER IF CRYSTALL		HORIZONTAL.
IQUID LIMIT 40 MX 41 MN 40 MX 41 MN 40 MX 41 MN 40 MX 41 MN SOILS WITH	LITTLE ORGANIC MATTER	10 - 20% 20 - 35%	VERY SLIGHT ROCK GENERALLY FRE	SH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN,	DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF
ASTIC INDEX 6 MX N.P. 10 MX 10 MX 11 MN 11 MN 10 MX 10 MX 11 MN 11 MN LITTLE OR HIGHLY	HIGHLY ORGANIC >10% >20% HIGHLY	35% AND ABOVE		EN SPECIMEN FACE SHINE BRIGHTLY, ROCK RINGS UNDER HAMMER BLOWS IF	THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.
ROUP INDEX 0 0 0 4 MX 8 MX 12 MX 16 MX No MX MODERATE ORGANI	GROUND WATER		OF A CRYSTALLINE NA		FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE
AMOUNTS OF SOILS				ESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR	SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.
DEMAJOR GRAVELAND FINE SILTY OR CLAYEY SILTY CLAYEY		1		AND DISCOLORED. CRYSTALLINE ROCKS SOME OCCASIONAL FELDSFAR	FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.
MATERIALS SAND SAND GRAVEL AND SAND SOILS SOILS MATTER	STATIC WATER LEVEL AFTER 24 HOURS.			S OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN	FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM
EN. RATING FAIR TO POOR FAIR TO	PERCHED WATER, SATURATED ZONE OR WATER BEARING STRAT	i i		OST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS	PARENT MATERIAL.
ASA EXCELLENT TO GOOD FAIR TO POOR POOR UNSUITABLE	F	`	DULL SOUND UNDER H	AMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED	FLOOD PLAIN (F.P.) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY
SUBGRADE P.I. OF A-7-5 ≤L.L 30 : P.I. OF A-7-6 >L.L 30	SPRING OR SEEPAGE		WITH FRESH ROCK.		THE STREAM.
CONSISTENCY OR DENSENESS	MISCELLANEOUS SYMBOLS			ARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH	FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN
PANCE OF STANDARD RANGE OF UNCONFINED				ED WITH A GEOLOGIST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUCK.	THE FIELD.
PRIMARY SOIL TYPE COMPACTNESS OR PENETRATION RESISTENCE COMPRESSIVE STRENGTH	ROADWAY EMBANKMENT SPT CPT DET DMT TEST BORING WITH SOIL DESCRIPTION			YIELD SPT REFUSAL	JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.
CONSISTENCY (N-VALUE) (TONS/FT²)	WITH SOIL DESCRIPTION VST PMT	REF SPT REFUSAL		UARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED	LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO
GENERALLY VERY LOOSE <4	SOIL SYMBOL AUGER BORING	SAMPLE		ONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME	ITS LATERAL EXTENT.
GRANUIAR LOUSE 4 TO 10	M DUKKAMBIS	DESIGNATIONS		MENTS OF STRONG ROCK USUALLY REMAIN. SPT_N_VALUES > 100_BPF	LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.
MATERIAL DENSE 30 TO 50	ARTIFICIAL FILL OTHER THAN LOCATION LOCATION	S - BULK SAMPLE		ARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT	MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN
(NON-COHESIVE) VERY DENSE >50	CORE BOBING	1,2		/ELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK	SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.
VERY SOFT <2 <0.25	INFERRED SOIL BOUNDARIES	SS - SPLIT SPOON SAMPLE	REMAINING. SAPROLIT	TE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE SUCH THAT ONLY MINOR	PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN
GENERALLY SOFT 2 TO 4 0.25 TO 0.5	SITSTIE INFERRED ROCK LINE MONITORING WELL	ST - SHELBY TUBE	VESTIGES OF THE ORI	GINAL ROCK FABRIC REMAIN. IF TESTED. YIELDS SPT N VALUES < 100 BPF	
SILT-CLAY MEDIUM STIFF 4 TO 8 0.5 TO 1 MATERIAL STIFF 8 TO 15 1 TO 2				DIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND	RESIDUAL SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.
MATERIAL STIFF 8 TO 15 1 TO 2 (COHESIVE) VERY STIFF 15 TO 30 2 TO 4	TTTTT ALLUVIAL SOIL BOUNDARY A PIEZOMETER INSTALLATION	RS - ROCK SAMPLE	SCATTERED CONCENT ALSO AN EXAMPLE.	RATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS	ROCK QUALITY DESIGNATION (R.Q.D.) - A MEASURE OF ROCK QUALITY DESCRIBED BY: TOTAL LENGTH OF
HARD >30 >4	25/025 DIP/DIP DIRECTION OF	RT - RECOMPACTED	ALGO AN LOCANI EL.	DOCKLIADDNICCO	ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
TEXTURE OR GRAIN SIZE	ROCK STRUCTURES SLOPE INDICATOR INSTALLATION	TRIAXIAL SAMPLE		ROCK HARDNESS	-
	O SOUNDING ROD SPT N.VALUE	CBR - CBR SAMPLE		HED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES	SAPROLITE (SAP.) - RESIDUAL SOIL WHICH RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.
J.S. STD. SIEVE SIZE 4 10 40 60 200 270 DPENING (MM) 4.76 2.0 0.42 0.25 0.075 0.053	O SOUNDING ROD — SPT N-VALUE			VS OF THE GEOLOGISTS PICK.	SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND
	ABBREVIATIONS		HARD CAN BE SCRATCHED TO DETACH HAND SP	BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED	RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, WHICH HAS BEEN EMPLACED PARALLEL
BOULDER COBBLE GRAVEL SAND SAND SILT CLAY	AR - AUGER REFUSAL PMT - PRESSUREMETER	TEST			TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS
(BLDR.) (COB.) (GR.) (CSE. SD.) (F. SD.) (SL.) (CL.)	BT - BORING TERMINATED SD SAND, SANDY			BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE D BLOW OF A GEOLOGISTS PICK. HAND SPECIMENS CAN BE DETACHED	SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR
GRAIN MM 305 75 2.0 0.25 0.05 0.005	CL CLAY SL SILT, SILTY		BY MODERATE BLOW		SLIP PLANE.
SIZE IN. 12" 3"	CPT - CONE PENETRATION TEST SLI SLIGHTLY CSE COARSE TCR - TRICONE REFUSAI		MEDIUM CAN BE GROOVED OF	R GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT.	STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR B.P.F.) OF
COULDIOUS CORRELATION OF TERMS		-	HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE		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 LESS THAN 0.1 FOOT PENETRATION
CON MOISTING COME FIELD MOISTING	DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST 8 - VOID RATIO 7 - DRY UNIT WEIGHT		POINT OF A GEOLOG		WITH 60 BLOWS.
(ATTERBERG LIMITS) DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION	6 - VOID RATIO 7 - DRY UNIT WEIGHT F FINE W - MOISTURE CONTENT	-		GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS ERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN	STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH
- SATURATED - USUALLY LIQUID; VERY WET, USUALLY	FOSS FOSSILIFEROUS V VERY	·		KEN BY FINGER PRESSURE.	OF STRATUM AND EXPRESSED AS A PERCENTAGE.
(SAT.) FROM BELOW THE GROUND WATER TABLE	FRAC, - FRACTURED VST - VANE SHEAR TEST	7	VERY CAN BE CARVED WITH	H KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH	STRATA ROCK QUALITY DESIGNATION (S.R.Q.D.) - A MEASURE OF ROCK QUALITY DESCRIBED BY:
LL LIQUID LIMIT	FRAGS FRAGMENTS C.I CAVE IN MED MEDIUM FIAD - FILLED IMMEDIAT	TIVATTO DONUMO		SS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY 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.
LASTIC SEMISOLID; REQUIRES DRYING TO			FINGERNAIL.	200	TOPSOIL (T.S.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.
RANGE - WEI - (W) ATTAIN OPTIMUM MOISTURE	EQUIPMENT USED ON SUBJECT PRO	DJECT	FRACTURE SPA		101 301 1101) CONT. 102 CONT. 2011 1011 1011 1011 1011 1011 1011 101
PL PLASTIC LIMIT	DRILL UNITS: ADVANCING TOOLS: HAM	IMER TYPE:	TERM SP	ACING TERM THICKNESS	BENCH MARK: SURVEY POINTS 30001,30003,30005,30008 AT ELEVATIONS 371.0ft, 357.0ft,
OPTIMI IM MOISTLIRE - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTURE		AUTOMATIC X MANUAL		HAN 10 FEET VERY THICKLY BEDDED > 4 FEET THICKLY BEDDED 1.5 - 4 FEET	356.9ft, 373.1ft RESPECTIVELY
OM OPTIMUM MOISTURE - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTURE SL SHRINKAGE LIMIT	MOBILE B- CLAY BITS		WIDE 3 TO 10 MODERATELY CLOSE 1 TO 3 F	FEET THINKY PEODED 0.16 - 1.5 FEET	
		RE SIZE:	CLOSE 0.16 TO	1 EFFT VERY THINLY BEDDED 0.03 - 0.16 FEE I	NOTES:
- DRY - (D) REQUIRES ADDITIONAL WATER TO - ATTAIN OPTIMUM MOISTURE			VERY CLOSE LESS TH	IAN 0.16 FEET THICKLY LAMINATED 0.008 - 0.03 FEET THINLY LAMINATED < 0.008 FEET <	Geotechnical Exploration
	- OLLOW AUGERS	-В		INDURATION	Performed By:
PLASTICITY	CME-45 HARD FACED FINGER BITS	-N _Q			
PLASTICITY INDEX (PI) DRY STRENGTH		1,1	FUR SEDIMENTARY ROCKS, INDURATION	ON IS THE HARDENING OF THE MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.	MACTEC
NONPLASTIC 0-5 VERY LOW		-H <u>WD4</u>	FRIABLE	RUBBING WITH FINGER FREES NUMEROUS GRAINS;	
LOW PLASTICITY 6-15 SLIGHT	CASING W/ADVANCER	ND TOOLS:		GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.	
MED. PLASTICITY 16-25 MEDIUM HIGH PLASTICITY 26 OR MORE HIGH	PORTABLE HOIST X TRICONE 4 * STEEL TEETH	POST HOLE DIGGER	MODERATELY INDURATED	GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE;	MACTEC ENGINEERING AND CONSULTING OF GEORGIA, INC.
255(115)	TRICONE *TUNGCARB.	HAND AUGER		BREAKS EASILY WHEN HIT WITH HAMMER.	3301 ATLANTIC AVENUE
COLOR	I I OTHER	SOUNDING ROD	INDURATED	GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE;	RALEIGH, NORTH CAROLINA 27604 (919) 876–0416
DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YEL-BRN, BLUE-GRAY)	X CORE BIT			DIFFICULT TO BREAK WITH HAMMER.	(313) 0/0-0410
MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.	OTHEROTHER	VANE SHEAR TEST	EXTREMELY INDURATED	SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE;	
		OTHER		SAMPLE BREAKS ACROSS GRAINS.	