Report Form: LADOTD – ENGLISH Project File: P:\2014\GEOTECHNICAL\APS1406-G040 HWY 318 AND HWY 90\APS 1406 G040 HWY 318 AND HWY 90 14 OCTOBER.GPJ 10/14/14 12:32

DRILL RIG AND EQUIPMENT
DRILL RIG MODEL: SIMCO 2800
DRILLING METHOD: WET METHOD
HOLE DIAMETER: 31/8"
SPT HAMMER / ETR: AUTO

DEPTH (Feet)	SOIL TYPE AND COLOR ⊗	WET DENSITY	MOISTURE CONTENT	LIQUID LIMIT	PLASTICITY INDEX	% PASSING #200	SPT or UU	FAILURE MODE/ SPT TERMINATION	SAMPLE TYPE NUMBER	ELEVATION
0	Stiff, gray, LEAN CLAY, (CL)	130	23	46	25		1.94@0.80	M.S.	C1	10.1
	Medium stiff, gray, FAT CLAY, (CH)		31	72	52				C2	
		123	30		--		0.98@2.40	M.S.	C3	
			33		--				C4	
10	Stiff, gray, LEAN CLAY, (CL)	122	28	41	15		1.04@4.00	M.S.	C5	0.1
			29		--				C6	
	-medium stiff	116	31	44	22		0.56@5.60	M.S.	C7	
	-soft	123	33	35	10		0.43@6.40	M.S.	C8	
	Soft, gray, SILT, (ML) with clay	125	32	34	8		0.32@7.20	M.S.	C9	
20			34		--				C10	-9.9
	Medium stiff, gray, LEAN CLAY, (CL)	121	30	37	16		0.76@10.00	M.S.	C11	
30			23		--				C12	-19.9
	Medium stiff, gray, FAT CLAY, (CH)	126	26	54	37		0.79@14.00	M.S.	C13	
40			27		--				C14	-29.9
	Medium stiff, gray, LEAN CLAY, (CL)	117	33	47	25		0.86@18.00	S/S	C15	
50			31		--				C16	-39.9
	Stiff, gray, FAT CLAY, (CH)	111	43	96	64		1.65@22.00	S/S	C17	
60			40		--				C18	-49.9
		116	36	78	51		1.84@26.00	S/S	C19	
70	-soft	115	29	59	38		0.46@28.00	M.S.	C20	-59.9
			52		--				C21	
80	-very stiff	133	23	54	33		2.43@32.00	M.S.	C22	-69.9
			31	56	38				C23	
90	Soft, gray, LEAN CLAY, (CL)	124	28	43	21		0.42@36.00	S/S	C24	-79.9
	-stiff	121	29	34	15		1.11@38.00	M.S.	C25	
100	Stiff, gray, FAT CLAY, (CH)		41		--				C26	-89.9
	-medium stiff	117	32	63	38		0.93@42.00	M.S.	C27	
110	-very stiff -with sand	118	27		--	81.1	2.32@44.00	M.S.	C28	-99.9
	-very stiff		26		--	82.3	10-12-12 (24)	4	D29	
120	-very stiff		24		--	81.5	11-11-12 (23)	4	D30	-109.9
	Bottom of hole at 120 feet Backfilled with grout upon completion.									

BORING NO. BR-16 | STA.: | WATER LEVEL:
LATITUDE: 29.86624 | OFFSET: | N/A DUE TO WET DRILLING METHOD
LONGITUDE: -91.63223 | DATE TAKEN: 7/22/2014 | BACKFILL METHOD: GROUT
LRS ID: | STR. NO.: | SQD. LDR.: VG

DRILL RIG AND EQUIPMENT
DRILL RIG MODEL: SIMCO 2800
DRILLING METHOD: WET METHOD
HOLE DIAMETER: 31/8"
SPT HAMMER / ETR: AUTO

DEPTH (Feet)	SOIL TYPE AND COLOR ⊗	WET DENSITY	MOISTURE CONTENT	LIQUID LIMIT	PLASTICITY INDEX	% PASSING #200	SPT or UU	FAILURE MODE/ SPT TERMINATION	SAMPLE TYPE NUMBER	ELEVATION
0	Stiff, gray, LEAN CLAY, (CL)	124	21	43	20		1.78@0.80	M.S.	C1	8.3
			27		--				C2	
	Very soft, gray, LEAN CLAY, (CL)	129	32	39	14		0.21@2.40	M.S.	C3	
			28		--				C4	
10	-medium stiff	121	28	44	22		0.81@4.00	M.S.	C5	-1.7
			29		--				C6	
		135	31	39	15		0.55@5.60	M.S.	C7	
	Soft, gray, SILT, (ML) with clay	130	33	33	9		0.31@6.40	M.S.	C8	
	Soft, gray, LEAN CLAY, (CL)	138	35	38	13		0.34@7.20	M.S.	C9	
20			35		--				C10	-11.7
			28	41	20				C11	
30	-stiff	128	24	49	31		1.15@12.00	M.S.	C12	-21.7
	Very stiff, gray, FAT CLAY, (CH)	128	21	55	38		2.29@14.00	M.S.	C13	
40			23		--				C14	-31.7
	-stiff	118	31	60	41		1.46@18.00	S/S	C15	
50			27		--				C16	-41.7
	-stiff	112	41	91	62		1.77@22.00	S/S	C17	
60			48		--				C18	-51.7
	-stiff	109	33	73	41		1.01@26.00	S/S	C19	
70			41		--				C20	-61.7
	-very stiff	123	23	57	36		2.51@30.00	M.S.	C21	
80			25		--				C22	-71.7
	Stiff, gray, LEAN CLAY, (CL)	122	27	48	26		1.57@34.00	S/S	C23	
90			31		--				C24	-81.7
	Stiff, gray, FAT CLAY, (CH)	113	38	82	56		1.46@38.00	M.S.	C25	
100			32		--				C26	-91.7
	Medium dense, gray, CLAYEY SAND, (SC)		26		--	24.9			C27	
110		124	26		--	26.9	0.57@44.00	M.S.	C28	-101.7
					--		13-14-14 (28)	4	D29	
120			19		--	22.1	14-13-16 (29)	4	D30	-111.7
	Bottom of hole at 120 feet Backfilled with grout upon completion.									

BORING NO. BR-17 | STA.: | WATER LEVEL:
LATITUDE: 29.86631 | OFFSET: | N/A DUE TO WET DRILLING METHOD
LONGITUDE: -91.63253 | DATE TAKEN: 7/17/2014 | BACKFILL METHOD: GROUT
LRS ID: | STR. NO.: | SQD. LDR.: VG

STANDARD ABBREVIATIONS & DEFINITIONS

CL CH ML

N.P. = Non-Plastic
ORG. = Organic

FAILURE MODE:
M.S. = Multiple Shear SL. = Slump
S/S = Slickensides YLD. = Yield
V.S. = Vertical Shear 60 S. = Shear Angle

SPT TERMINATION, AASHTO T 206
1 = 7.2.1 – 50 Blows Within A 6" Interval
2 = 7.2.2 – 100 Blows Total
3 = 7.2.3 – No Advancement for 10 Blows
4 = 7.2.4 – Sampler Driven the Entire 18"
5 = Non-standard

SOIL PROPERTIES

⊗ = SOIL TYPE nomenclature is based on ASTM D 2487
WET DENSITY = Wet density of in-place soil, (pounds per cu. ft.) determined by AASHTO T 208.
MOISTURE CONTENT = Moisture Content of in-place soil, expressed as a percentage of the dry weight of the soil, (%), determined by DOTD TR 403, Method B.
LIQUID LIMIT & PLASTICITY INDEX = Atterberg limits and indices, DOTD TR 428
SPT = Standard Penetration Test, AASHTO T 206, number of blows per each 6 inch increment, unless amount of penetration is shown
UU = Unconsolidated Undrained triaxial test, AASHTO T 296, compressive strength (tons per sq. ft.), of one specimen confined at noted pressure (pounds per sq. in.)
C = Soil cohesion (tons per sq. ft.)
◦ = Soil angle of internal friction (degrees)
△ = Unconsolidated Undrained triaxial test, AASHTO T 296, three specimens, (c – ◦).
+ = Consolidated drained direct shear test, AASHTO T 236, (c – ◦).
* = Hydrometer test performed

MISCELLANEOUS:

C-3 = Location and Identification of thin-walled tube sample, AASHTO T 207
S-3 = Location and Identification of thin-walled tube sample, AASHTO T 207, with a portion of the sample saved for consolidation testing
D-3 = Location and Identification of SPT sample, AASHTO T 206
NO RECV. = No Recovery, unable to recover sample for testing or classification.
DIST. = Disturbed sample recovered with thin-walled tube sampler.
▽ 24 HRS = Water Table depth below ground surface recorded at noted time after completion of bore hole.
ETR = = Energy Transfer Ratio determined according to ASTM D4633

CORRELATION OF PENETRATION RESISTANCE AND SOIL PROPERTIES

SOIL	DESIGNATION		"N" (blows per ft.)
SAND AND SILT	RELATIVE DENSITY	VERY LOOSE	LESS THAN 4
		LOOSE	4 – 10
		MEDIUM DENSE	10 – 30
		DENSE	30 – 50
		VERY DENSE	OVER 50
CLAY	CONSISTENCY	VERY SOFT	LESS THAN 2
		SOFT	2 – 4
		MEDIUM STIFF	4 – 8
		STIFF	8 – 15
		VERY STIFF	15 – 30
		HARD	OVER 30

STATE OF LOUISIANA
SERGIO AVILES
License No. 33571
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/14/14

STATE OF LOUISIANA
SAIRAM EDDANAPUDI
License No. 35122
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
10/14/14

THIS SIGNATURE AND SEAL IS AFFIXED TO THIS DRAWING AS CERTIFICATION THAT THE LABORATORY TESTING AND ANALYSIS WAS PERFORMED ACCORDING TO THE LISTED PROCEDURES. NO DESIGN COMPUTATIONS WERE PERFORMED OR REVIEWED BY ME.

SHEET NUMBER 5

PARISH: ST. MARY
FEDERAL PROJECT:
STATE PROJECT: US 90/LA 318 INTERCHANGE H004932.5

DESIGNED:
CHECKED:
DETAILED: SP
CHECKED: SZ/SA
DATE: 10/14/2014
SHEET: 5 OF 5

NO.	DATE	REVISION DESCRIPTION	BY

US 90/LA 318 Alternative E

LOGS OF SOIL BORINGS

Field Book No.

APS DESIGN & TESTING