



Quaternary Resource Investigations, LLC
 13588 Florida Blvd
 Baton Rouge, LA 70819
 Telephone: 225-292-1400
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BORING NUMBER 13-B110

CLIENT _____ PROJECT NAME Peggy Lake Placement Area
 PROJECT NUMBER W912HY-13-D-0001; Task Order 0002 PROJECT LOCATION La Porte, Texas
 DATE STARTED 4/10/2013 7:15:00 AM COMPLETED 4/10/2013 4:10:00 PM GROUND ELEVATION 18.0034 ft HOLE SIZE 8.25 inches
 DRILLING CONTRACTOR Quaternary Resource Investigations, LLC NORTHING 13835394.09 ft EASTING 3216291.023 ft
 DRILLING METHOD Hollow Stem Auger DRILLING RIG MAKE/MODEL Mobile B57 on Gemco Articulated Platform
 LOGGED BY Terri Russin TOTAL DEPTH 60 ft GROUND WATER LEVEL _____
 WEATHER cloudy, 70s, windy, +/-rain, hard rain at 3:49 p.m. AT TIME OF DRILLING 8.00 ft / Elev 10.00 ft 4/10/2013 7:59:00 AM

COPY OF PEGG... E GEOTECH BH - PEGGY LAKE TEMPLATE GDT - 10/2/13 10:39 - C:\DOCUMENTS AND SETTINGS\TR... JKTOR\PEGGY LAKE PLACEMENT AREA 3_9-27-13.GPJ

GRAPHIC LOG	USCS SYMBOL	MATERIAL DESCRIPTION	DEPTH (ft)	SAMPLE TYPE	RECOVERY (in)	SPT BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	FIELD TORVANE (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS				MINUS #200 SIEVE CONTENT (%)	COMPRESSIVE STRENGTH (tsf)	FAILURE STRAIN (%)	CONFINING PRESSURE (psi)
											LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX					
	CL	Silty CLAY, light brown, slightly moist, medium to high plasticity with plastic strap and shell, and a little sand with a little yellow orange clay and the plastic strap	0	ST	6		>4.5/2.25											
			5	ST	10		0.5/1.75		106	20	53	17	36	62	1.59	4.7	0	
			7	ST	7		0.75			25								
			8	ST	8		0.75/2.1			99	25							
	SP	SAND, yellow orange to light brown (gradual change with depth), wet, medium to fine grained (grain size decreasing with depth), with small bits of shell, laminated at depth	10	ST	15		0.9/0	--/0	99	24	61	18	43	80	1.08	2	4.2	
			16	SS	16	2-2-5-7 (7)	0	0.3		17								
			15	SS	13	2-4-5 (9)	0	0		18					8			
			20	SS	17	6-9-11-16 (20)	0.75		18									
	CH	CLAY, dark gray to black, strong hydrocarbon odor, very moist, high plasticity	25	SS	15	0-0-1-8 (1)	0.5/0	--/1.3		45				38				
			25	ST	22		0	2.2	55	78	121	33	88	98	0.13	0.7	7.4	
			26	ST	21		0	1.0		79								
			30	ST	22		0/0	1.0/1.7										
	CL	Silty CLAY, light brown to light gray, moist, with caliche, low to medium plasticity	30	ST	22		0	1.5		88								
			35	ST	13		0.5/1.25		86	36	85	28	57	97	0.88	2.9	0	
	CL	Silty CLAY, yellow orange (with light gray), moist, medium-high plasticity, with caliche	35															

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COPY OF PEGG - GEOTECH BH - PEGGY LAKE TEMPLATE.GDT - 10/2/13 10:39 - C:\DOCUMENTS AND SETTINGS\RL...KTOPEGGY LAKE PLACEMENT AREA 3_9-27-13.GPJ

GRAPHIC LOG	USCS SYMBOL	MATERIAL DESCRIPTION	DEPTH (ft)	SAMPLE TYPE	RECOVERY (in)	SPT BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	FIELD TORVANE (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			MINUS #200 SIEVE CONTENT (%)	COMPRESSIVE STRENGTH (tsf)	FAILURE STRAIN (%)	CONFINING PRESSURE (psi)
											LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX				
[Hatched pattern]	CL	Silty CLAY, yellow orange (with light gray), moist, medium-high plasticity, with caliche (continued) slightly moist, blocky, crumbly, increased amount of caliche	35	ST	22		2.0			32							
				ST	21		2.15			32							
[Hatched pattern]	CL-ML	Clayey SILT, light gray and yellow orange, slightly dry, crumbly, blocky texture, little plasticity, with a little caliche and iron/manganese oxide nodules	40	ST	17		0.75/1.75		89	34	72	24	48	95			
				ST	21		2.0/2.75			19							
[Hatched pattern]	CL-ML		45	ST	22		3.5/1.6			19							
				ST	20		1.25/2.25		112	18							
[Hatched pattern]	CL	Silty CLAY, yellow orange and light gray (orange color increasing with depth), low to medium plasticity, slightly moist, crumbly, cracks easily with silt in cracks, iron and manganese oxide staining and nodules, with caliche	50	ST	21		2.95/3.5										
				ST	20		4.2/3.0		111	19				88	2.22	3.3	0
[Hatched pattern]	CL		55	ST	19		3.25/4.5			19							
				ST	19		3.25/4.0			19							
[Hatched pattern]	CL	slightly dry, blocky texture		ST	16		4.25/4.2										
				ST	12		4.1/>4.5										

Bottom of borehole at 60.0 feet.