



Quaternary Resource Investigations, LLC
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BORING NUMBER 13-B121

PAGE 1 OF 2

CLIENT _____ PROJECT NAME Peggy Lake Placement Area
 PROJECT NUMBER W912HY-13-D-0001; Task Order 0002 PROJECT LOCATION La Porte, Texas
 DATE STARTED 4/16/2013 12:50:00 PM COMPLETED 4/17/2013 5:49:00 PM GROUND ELEVATION 18.6173 ft HOLE SIZE 8.25 inches
 DRILLING CONTRACTOR Quaternary Resource Investigations, LLC NORTHING 13836803.3 ft EASTING 3218081.19 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, warm, 70s, humid, windy, +/-drizzle ∇ AT TIME OF DRILLING 18.00 ft / Elev 0.62 ft 4/16/2013 2:14:00 PM

COPY OF PEGG E GEOTECH BH - PEGGY LAKE TEMPLATE GDT - 10/2/13 10:39 - C:\DOCUMENTS AND SETTINGS\RL 3\KTO\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				COMPRESSIONIVE STRENGTH (tsf)	FAILURE STRAIN (%)	CONFINING PRESSURE (psi)
											LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	MINUS #200 SIEVE CONTENT (%)			
	CL	Silty CLAY, yellow orange to light brown, dry at top, moist at depth, medium plasticity, with caliche and dry silt	0	ST	7		1.8/>4.5			18							
				ST	12		1.5/2.25			25							
			5	SS	16	4-6-6-8 (12)	3.75			25							
				ST	17		3.75		96	27	77	23	54	92	2.31	2.3	0
	SP	SAND, light brown, slightly moist, no plasticity, with shell fragments, a few pebbles and decaying wood	10	SS	16	20-44-45-46 (89)	1.25			7				10			
				SS	15	2-5-6-7 (11)	1.0			43							
	CL	Silty CLAY, yellow orange to light brown, slightly moist, medium to high plasticity, with caliche	15	ST	15		1.35			25							
				ST	21		1.1		93	31	70	20	50	98			
	SP	SAND, light brown, moist, no plasticity															
	CL	Silty/Sandy CLAY, yellow orange and light gray, moist, medium to high plasticity															
	SW	SAND, light brown, moist, no plasticity	20														
	SP	SAND, light brown, wet, medium grained grading to fine grained, no plasticity		ST	19		0	0		25							
			25														
	CH	CLAY, black, very soft, moist, medium to high plasticity, hydrocarbon odor		ST	15		0.3										
	SP	SAND, light brown and black (stained), wet, fine grained, hydrocarbon odor, with shell fragments		SS	19	3-1-0-16 (1)	0	0		20				12			
			30														
	CL	Silty CLAY, light brown, moist, with some black staining, low to medium plasticity		ST	22		0/0	0/3.0									
				SS	24	6-8-5-4 (13)	0	0.4		27							
	ML		35														

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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						
	ML	Clayey SILT/SAND, light brown to olive gray, wet, low to medium plasticity, laminated, laminations increasing in clay content with depth (also thicker clay layers with depth), with shell fragments (<i>continued</i>)	35	ST	0														
			X	SS	24	0-0-0 (0)	0/0	0.5/3.0		25									
				ST	20			0/0	0.5/0.9		30								
				ST	21			0/0.25	0.5/1.5	108	21	21	13	8	46	0.3	9.9	12.2	
				ST	21			0/0	0.7/1.5		25								
				ST	21			0/0	0.2/1.0		24								
				ST	18			0/0	1.2/1.7		25								
				ST	13			0	0										
				X	SS	24	0-0-1-1 (1)	0.5	0.5		20								
				X	SS	24	0-0-1-3 (1)	0/0	0.7/2.5		33				58				
	SP	SAND, olive gray, wet, no plasticity, not laminated, with occasional pebbles	60	X	SS	24	0-0-0-0 (0)	0	0										

Bottom of borehole at 60.0 feet.