



Quaternary Resource Investigations, LLC
 13588 Florida Blvd
 Baton Rouge, LA 70819
 Telephone: 225-292-1400
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BORING NUMBER 13-B132

CLIENT _____ PROJECT NAME Peggy Lake Placement Area
 PROJECT NUMBER W912HY-13-D-0001; Task Order 0002 PROJECT LOCATION La Porte, Texas
 DATE STARTED 5/3/2013 12:06:00 PM COMPLETED 5/3/2013 7:15:00 PM GROUND ELEVATION 19.603 ft HOLE SIZE 8.25 inches
 DRILLING CONTRACTOR Quaternary Resource Investigations, LLC NORTHING 13833595.29 ft EASTING 3218048.723 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 sunny, cool, 60s, windy, dry air ∇ AT TIME OF DRILLING 36.00 ft / Elev -16.40 ft 5/3/2013 3:45:00 PM

COPY OF PEGG. E GEOTECH BH - PEGGY LAKE TEMPLATE.GDT - 10/2/13 10:40 - C:\DOCUMENTS AND SETTINGS\RL...;KTOPIEGGY 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, moist, medium high plasticity, with roots, dry at surface	0	ST	5		1.65			25										
	CL	Silty CLAY, yellow orange, slightly moist, medium high plasticity, with large (cms) caliche nodules and small (~3mm) iron/manganese oxide nodules caliche nodules smaller increased CLAY content, slightly moist at top, but moisture increasing with depth, very orange this interval	5	ST	21		3.8			22										
				ST	13		>4.5		109	21										
				ST	12		2.4				25									
			10	ST	16		2.9				29									
	CL	Silty CLAY, yellow orange, slightly moist, high plasticity, with caliche nodules fewer caliche nodules a few iron/manganese nodules with more small caliche nodules and manganese oxide staining with manganese/iron oxide nodules and less caliche fewer nodules and caliche		ST	16		2.5		96	29	76	25	51		1.43	1.1	4.2			
				ST	18		2.1				25									
			15	ST	20		2.6				26									
				ST	20		2.25			98	26	70	23	47		2.18	5.5	0		
			20	ST	18		1.75				26									
				ST	19		2.85			101	25	63	19	44	99					
	CL	Silty CLAY, yellow orange/light gray, slightly moist, high plasticity, with iron/manganese oxide staining and nodules, and caliche nodules (~1cm) some caliche nodules 2 cm		ST	18		2.35			32										
25			ST	20		2.75		96	29											
			ST	21		2.5				31										
CL	Silty CLAY, yellow orange/light gray, slightly moist, high plasticity, with iron/manganese oxide staining and nodules, and caliche nodules (~1cm) some caliche nodules 2 cm	30	ST	19		2.5		91	31	81	27	54	90	1.99	1.8	0				
			ST	20		3.0				32										
			ST	20		3.0				29										
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, yellow orange, very moist, medium plasticity, cracks easily with SILT lining the cracks, with iron oxide staining and soft iron/manganese oxide nodules (continued)	35	ST	21		2.5			22								
	CL	Silty CLAY, yellow orange, moist, medium to high plasticity, with soft iron/manganese concentrations and small caliche nodules	38	ST	20		3.4			21								
	ML	Clayey SILT, yellow orange/light gray, moist, little to no plasticity, cracks easily with white sparkly SILT lining cracks, with caliche nodules wet very moist	40	ST	21		3.5		98	26	69	23	46	97	1.97	2.3	15.1	
	ML	moist, with higher clay content and manganese oxide staining	42	ST	20		3.8			17								
	ML	slightly moist	44	ST	19		1.25			20								
	ML		46	ST	18		>4.5			16								
	ML		48	ST	20		>4.5		117	15								
	ML		50	ST	16		>4.5			14								
	ML		52	ST	19		>4.5		118	13	40	14	26	88	5.03	8.3	0	
	CL	Silty CLAY, light gray/yellow orange, slightly moist, low to medium plasticity, with grainy iron oxide inclusions	54	ST	21		>4.5			16								
	CL	Silty CLAY and CLAY, mix of light gray silty clay and orange clay (mottled), slightly moist, medium to high plasticity, with a few small caliche nodules and manganese oxide staining	56	ST	18		>4.5			18	52	17	35	95				
	CL	with black stained caliche nodules and SILT in cracks	58	ST	19		>4.5			21								
	CL		60	ST	19		>4.5											

Bottom of borehole at 60.0 feet.

COPY OF PEGG