



Quaternary Resource Investigations, LLC
 13588 Florida Blvd
 Baton Rouge, LA 70819
 Telephone: 225-292-1400
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BORING NUMBER 13-B135

CLIENT _____ PROJECT NAME Peggy Lake Placement Area
 PROJECT NUMBER W912HY-13-D-0001; Task Order 0002 PROJECT LOCATION La Porte, Texas
 DATE STARTED 4/27/2013 9:35:00 AM COMPLETED 4/28/2013 1:08:00 PM GROUND ELEVATION 20.1614 ft HOLE SIZE 8.25 inches
 DRILLING CONTRACTOR Quaternary Resource Investigations, LLC NORTHING 13834088.25 ft EASTING 3216682.827 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, rain on and off, thunderstorm AT TIME OF DRILLING 28.00 ft / Elev -7.84 ft 4/27/2013 1:10:00 PM

COPY OF PEGG BH - PEGGY LAKE TEMPLATE GDT - 10/2/13 10:40 - C:\DOCUMENTS AND SETTINGS\TRU... \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				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 (dry at top), medium plasticity with small amount of caliche yellow orange color (color change) medium to high plasticity increasing light gray color	0	ST	10		>4.5/1.1													
			5	ST	15		1.3/3.75			20										
				ST	10		4.25			111	19									
				ST	10		>4.5				18									
			10	ST	12		2.5				31									
				ST	15		2.8			97	28	75	23	52	98	1.3	0.9	0		
			15	CH	CLAY, yellow orange/light gray, slightly moist, medium to high plasticity with manganese oxide staining and small bits of caliche	ST	16		2.75			28								
				CL	Silty CLAY, yellow orange, slightly moist, medium to high plasticity, with caliche with manganese oxide staining	ST	18		2.75			27								
				CL		ST	19		3.1		100	27	70	22	48		2.59	5.3	0	
			20	CL		ST	17		2.6/3.75			24								
	CL		ST	16		3.1/3.0		102	24											
25	CL	Silty CLAY, orange, slightly moist, medium to high plasticity, with caliche and manganese oxide staining with iron/manganese oxide nodules (0.5 cm), decreasing orange color with depth	ST	16		3.6			20											
	CL		ST	17		1.5/3.2		100	26	61	21	40		2.36	4.2	10.4				
30	CL	Silty CLAY, yellow orange (mix of light gray and orange), moist, medium to high plasticity, with iron/manganese oxide nodules and staining, with caliche	ST	19		3.2			25											
	CL		ST	19		2.75			29											
	CL		ST	20		2.75		94	30											
	CL		ST	19		3.0			29											
35	CL	stiffer, with blocky texture																		

(Continued Next Page)



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COPY OF PEGGY LAKE TEMPLATE.GDT - 10/21/13 10:40 - C:\DOCUMENTS AND SETTINGS\TRU... \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				COMPRESSION STRENGTH (tsf)	FAILURE STRAIN (%)	CONFINING PRESSURE (psi)	
											LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	MINUS #200 SIEVE CONTENT (%)				
[Hatched pattern]	CL	Silty CLAY, yellow orange (mix of light gray and orange), moist, medium to high plasticity, with iron/manganese oxide nodules and staining, with caliche (continued) with SILT lined crack	35	ST	19		2.75/3.5		103	22	61	21	40	94				
				ST	15		3.1/2.8				21							
	CL	Silty CLAY, yellow orange/light gray, moist, medium to high plasticity, with caliche, no silt layers observed slightly moist, with a SILT lined crack with small iron/manganese oxide nodules	40	ST	21		3.0				22							
				ST	20		2.25/3.1				30							
				ST	20		2.8					31						
				ST	19		3.0/3.25			103	22	74	25	49	83	1.6	1.4	0
	ML	Clayey SILT, yellow orange, slightly moist, low to medium plasticity, cracks easily, white SILT-lined cracks, with caliche with manganese oxide staining		ST	19		>4.5/4.2				16							
				ST	10		>4.5				16							
				ST	18		>4.5			123	13	34	13	21	78	4.47	4.8	16.2
				ST	17		>4.5					15						
[Hatched pattern]	CL	Silty CLAY, orange, dense and hard, slightly moist, medium to high plasticity, with manganese oxide staining and caliche	55	ST	20		>4.5			20								
				ST	18		>4.5				23							
				ST	20		>4.5/4.25											

Bottom of borehole at 60.0 feet.