



Quaternary Resource Investigations, LLC
 13588 Florida Blvd
 Baton Rouge, LA 70819
 Telephone: 225-292-1400
 Fax: 225-292-1404

BORING NUMBER 13-B115

CLIENT _____ PROJECT NAME Peggy Lake Placement Area
 PROJECT NUMBER W912HY-13-D-0001; Task Order 0002 PROJECT LOCATION La Porte, Texas
 DATE STARTED 4/13/2013 7:35:00 AM COMPLETED 4/13/2013 6:30:00 PM GROUND ELEVATION 18.7477 ft HOLE SIZE 8.25 inches
 DRILLING CONTRACTOR Quaternary Resource Investigations, LLC NORTHING 13836684.12 ft EASTING 3215365.418 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 partly cloudy, warm, 60s - 70s, breezy to windy AT TIME OF DRILLING 12.00 ft / Elev 6.75 ft 4/13/2013 11:45:00 AM

COPY OF PEGG - GEOTECH BH - PEGGY LAKE TEMPLATE.GDT - 10/2/13 10:39 - C:\DOCUMENTS AND SETTINGS\TRU...
 KTOIPEGGY 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 and yellow orange, moist, medium plasticity, with rootlets and caliche | 0 | ST | 8 | | 2.75/1.9 | | | 29 | | | | | | | | | | |
| | | | | ST | 8 | | 1.5/1.75 | | | 26 | | | | | | | | | | |
| | | | 5 | ST | 13 | | 1.25/3.0 | | | 93 | 30 | 81 | 27 | 54 | 90 | 1.24 | 4.2 | 0 | | |
| | | | | ST | 13 | | 2.3/-- | | | | 30 | | | | | | | | | |
| | SP | SAND, light brown, moist to wet, no plasticity, fine grained with shell fragments, laminated | 10 | SS | 14 | 2-6-11-15 (17) | 0 | 0 | | 15 | | | | 10 | | | | | | |
| | | | | SS | 8 | 4-4-3 (7) | 0 | 0 | | 15 | | | | | 6 | | | | | |
| | CH | CLAY, yellow orange, moist to very moist, medium to high plasticity, with caliche | 15 | ST | 17 | | 1.0/1.0 | | 103 | 22 | 76 | 23 | 53 | 88 | 1.19 | 4.3 | 6.1 | | | |
| | | | | ST | 21 | | 1.4 | | | 29 | | | | | | | | | | |
| | | | | ST | 19 | | 1.1 | | | 25 | | | | | | | | | | |
| | | | 20 | ST | 20 | | 0.75 | | | 96 | 28 | 83 | 23 | 60 | | 2.7 | 3.8 | 0 | | |
| | | | | ST | 22 | | 0.75 | | | 34 | | | | | | | | | | |
| | | | 25 | ST | 15 | | 1.25 | | | 91 | 33 | 77 | 24 | 53 | 99 | | | | | |
| | | | | ST | 16 | | 0.75 | | | 35 | | | | | | | | | | |
| | CH | CLAY, dark gray to black, moist, soft, medium to high plasticity, with very thin light gray silt layers, hydrocarbon odor | 30 | ST | 21 | | 0 | 3.2 | 61 | 60 | | | | | | | | | | |
| | | | | ST | 22 | | 0 | 3.3 | | 75 | | | | | | | | | | |
| | | | | ST | 22 | | 0/0.35 | 1.6/-- | | 74 | | | | | | | | | | |
| | SP | | 35 | | | | | | | | | | | | | | | | | |

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G:\GEO\GEGG LAKE TEMPLATE.GDT - 10/21/13 10:39 - C:\DOCUMENTS AND SETTINGS\TRU

COPY OF PEGG

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|-------------|-------------|--|---|-------------|---------------|---------------------------|-------------------|---------------------|--------------------|----------------------|------------------|---------------|------------------|----|------------------------------|----------------------------|--------------------|--------------------------|
| | | | | | | | | | | | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX | | | | | |
| | SP | SAND, light gray to light brown, very fine grained, no plasticity, very moist (<i>continued</i>) | 35 | ST | 15 | | 0 | 0.3 | | 23 | | | | | | | | |
| | | 3" gravel layer at 37.5' | | | | | | | | | | | | | | | | |
| | CL | Silty CLAY, light brown, slightly moist, medium to high plasticity | 37.5 | SS | 20 | 1-2-3-4 (5) | 1.85 | | | | 21 | | | | | | | |
| | | Clayey SILT, light gray with yellow orange spots, low plasticity, moist, dense, cracks easily, has silt in cracks, crumbly | 40 | ST | 21 | | 2.0/1.5 | | | 113 | 18 | | | | | | | |
| | | | | | ST | 21 | | 2.15 | | 115 | 17 | | | | 85 | 1.35 | 3.4 | 10.5 |
| | | | | | ST | 21 | | >4.5 | | | 14 | | | | | | | |
| | | | | | ST | 20 | | >4.5/2.3 | | | 17 | | | | | | | |
| | | | | | ST | 17 | | 3.2 | | | | | | | | | | |
| | | | | | ST | 17 | | 3.4 | | | 17 | | | | | | | |
| | | | | | ST | 21 | | 3.7 | | | 19 | | | | | | | |
| | | | | | ST | 21 | | 2.5/>4.5 | | | 22 | | | | | | | |
| | | CL | Silty CLAY, orange, lightly dry, medium plasticity, blocky texture, hard, cracks easily, with light gray marbling | 55 | ST | 15 | | >4.5 | | | | | | | | | | |
| | | | | ST | 18 | | 4.5 | | | 21 | 70 | 22 | 48 | 99 | | | | |
| | | | | ST | 11 | | 3.5/4.2 | | | | | | | | | | | |

color change from orange to yellow orange/light gray marble, with iron oxide spots
 Bottom of borehole at 60.0 feet.