



Quaternary Resource Investigations, LLC  
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# BORING NUMBER 13-B181

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**CLIENT** USACE-Galveston District  
**PROJECT NUMBER** W912HY-13-D-0001-DY05  
**DATE STARTED** 11/6/2013 12:15:00 PM **COMPLETED** 11/6/2013 5:25:00 PM  
**DRILLING CONTRACTOR** QRI  
**DRILLING METHOD** Hollow Stem Auger  
**LOGGED BY** Pete Herold **TOTAL DEPTH** 16 ft  
**WEATHER** cloudy, 70s, windy

**PROJECT NAME** Sabine Neches Placement Area 8  
**PROJECT LOCATION** Port Arthur, TX  
**GROUND ELEVATION** 11.1819 ft **HOLE SIZE** 8.25 inches  
**NORTHING** 13886296.2 ft **EASTING** 3569686.86 ft  
**DRILLING RIG MAKE/MODEL** Geoprobe 6620  
**GROUND WATER LEVEL** ☒ **AT TIME OF DRILLING** 1.20 ft / Elev 9.98 ft  
**15 MINUTES AFTER DRILLING** 1.20 ft / Elev 9.98 ft

| 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 (%) | COMPRESSION STRENGTH (tsf) | FAILURE STRAIN (%) | CONFINING PRESSURE (psi) |
|-------------|-------------|----------------------------------------------------------------------------------|------------|-------------|---------------|---------------------------|-------------------|---------------------|--------------------|----------------------|------------------|------------------------------|----------------------------|--------------------|--------------------------|
|             |             |                                                                                  | 0          |             |               |                           |                   |                     |                    |                      |                  |                              |                            |                    |                          |
|             |             | Fat CLAY, light brown, soft, with trace iron staining, trace roots, cracks 0'-4' |            | ST          | 9.5           |                           | 0.5               | 1.4                 |                    | 46                   | 81               | 29                           | 52                         |                    |                          |
|             |             |                                                                                  |            | ST          | 20            |                           | 0.5               | 2.2                 | 94                 | 27                   |                  |                              |                            |                    |                          |
|             |             | greenish gray, very soft                                                         | 5          | SS          | 14            |                           | 0.25              | 1.5                 |                    | 35                   |                  |                              |                            |                    |                          |
|             |             |                                                                                  |            | SS          | 24            |                           | 0                 | 1.0                 |                    |                      |                  |                              |                            |                    |                          |
|             |             | with sand layers                                                                 |            | ST          | 21            |                           | 0                 | 0.8                 | 79                 | 44                   | 72               | 24                           | 48                         | 70                 | 0.07                     |
|             |             | firm                                                                             | 10         | ST          | 22            |                           | 0.75              | 3.25                |                    |                      |                  |                              |                            |                    |                          |
|             |             | greenish gray and dark gray, very soft                                           |            | ST          | 20            |                           | 0                 | 0.6                 |                    | 97                   |                  |                              |                            |                    |                          |
|             |             | greenish gray, with slight organic odor 14'-16'                                  | 15         | ST          | 22            |                           | 0                 | 1.0                 |                    |                      |                  |                              |                            |                    |                          |

Bottom of borehole at 16.0 feet.