



| DEPTH, FT | WATER LEVEL SYMBOL | SAMPLES | BLOWS PER FOOT | LOCATION: See Plate 2 COORDINATES: 29° 43' 44" N 95° 03' 17" W SURFACE EL.: -8.0' (Assumed) | STRATUM DEPTH, FT | CLASSIFICATION | | | | | | SHEAR STRENGTH | | | | |
|---|--------------------|---------|----------------|--|-------------------|---|--------------------------|------------------|--------------|---------------|-----------------------|----------------|-----|-----|-----|-----|
| | | | | STRATUM DESCRIPTION | | UNIT DRY WT, POF | PASSING NO. 200 SIEVE, % | WATER CONTENT, % | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX (PI) | KIPS PER SQ FT | | | | |
| | | | | | | | | | | | | 0.5 | 1.0 | 1.5 | 2.0 | 2.5 |
| 5 | | | | CLAY, very soft, dark gray, with organic material | | | 97 | 127 | 120 | 22 | 98 | | | | | |
| 10 | | | | | | | | | | | | | | | | |
| 13.0 | | | | SILTY CLAY, stiff, gray, with sandy silt pockets | 13.0 | | | | | | | | | | | |
| 15 | | | | - very stiff below 18' | | 111 | | 18 | 48 | 12 | 36 | | | | | |
| 20 | | | | | | | | | | | | | | | | |
| 21.0 | | | | SILTY SAND, loose, brown | 21.0 | | | | | | | | | | | |
| 25 | | | 9 | | | | 16 | | | | | | | | | |
| 27.0 | | | | CLAY, very stiff, red, brown, and gray, with siltstone nodules and silt pockets | 27.0 | | | | | | | | | | | |
| 30 | | | | | | 98 | | 28 | | | | | | | | |
| 31.5 | | | | SILTY CLAY, stiff, gray, and brown, with sandy silt pockets | 31.5 | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | | | | |
| 36.0 | | | | CLAY, very stiff, red, gray, and brown, with sandy silt pockets | 36.0 | | | | | | | | | | | |
| NOTES: | | | | | | DATE: April 13, 2011 TOTAL DEPTH: 75' CAVED DEPTH: Not Applicable DRY AUGER: Not Applicable WET ROTARY: Mudline to 75' BACKFILL: Cuttings and Drilling Mud LOGGER: T. Mireles | | | | | | | | | | |
| 1. Water depth was 8' at time of drilling. | | | | | | | | | | | | | | | | |
| 2. Terms and symbols defined on Plates A-32a and A-32b. | | | | | | | | | | | | | | | | |
| 3. Coordinates were obtained by our field technician with a hand held GPS device. | | | | | | | | | | | | | | | | |

R:041202011 PROJECTS\0001-0099\0412-11-0003\INDUSTRIAL (WIR_MV) 6/2/2011 FUGRO_SO (LAB DATA)_INDUSTRIAL (WIR_MV)

LOG OF BORING NO. B-20
DOCKS, BRIDGE, AND BARNES ISLAND IMPROVEMENTS
BATTLEGROUND OIL SPECIALTY TERMINAL COMPANY
HARRIS COUNTY, TEXAS





| DEPTH, FT | WATER LEVEL SYMBOL | SAMPLES | BLOWS PER FOOT | LOCATION: See Plate 2 COORDINATES: 29° 43' 44" N 95° 03' 17" W SURFACE EL.: -8.0' (Assumed) | STRATUM DEPTH, FT | CLASSIFICATION | | | | | | SHEAR STRENGTH | | | | |
|-----------|--------------------|---------|----------------|--|-------------------|------------------|--------------------------|------------------|--------------|---------------|-----------------------|----------------|-----|-----|-----|----------------|
| | | | | STRATUM DESCRIPTION | | UNIT DRY WT, PCF | PASSING NO. 200 SIEVE, % | WATER CONTENT, % | LIQUID LIMIT | PLASTIC LIMIT | PLASTICITY INDEX (PI) | KIPS PER SQ FT | | | | |
| | | | | | | | | | | | | 0.5 | 1.0 | 1.5 | 2.0 | 2.5 |
| | | | | CLAY, stiff to very stiff, red, gray, and brown, with sandy silt pockets - with siltstone nodules, 40' to 45' | | 106 | | 22 | | | | | | | | □ ⁺ |
| 45 | | | | | | | | | | | | | | | | |
| | | | | - gray and brown below 48' - slickensided, 48' to 53' | | | | | | | | | | | | □ ⁺ |
| 50 | | | | | | | | | | | | | | | | |
| | | | | - with calcareous nodules, 53' to 58' | | | | | | | | | | | | □ ⁺ |
| 55 | | | | | | | | | | | | | | | | |
| | | | | - with silt seams, 58' to 63' | | | | | | | | | | | | □ ⁺ |
| 60 | | | | | | 108 | | 21 | | | | | | | | □ ⁺ |
| | | | | | | | | | | | | | | | | |
| 65 | | | | | | | | | | | | | | | | |
| | | | | SILTY CLAY, very stiff, brown and gray, with silt pockets | 67.0 | | | 18 | | | | | | | | □ ⁺ |
| 70 | | | | | | | | | | | | | | | | |
| | | | | - red, brown, and gray below 73' | | | | | | | | | | | | □ ⁺ |
| 75 | | | | | 75.0 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

NOTES:

1. Water depth was 8' at time of drilling.
2. Terms and symbols defined on Plates A-32a and A-32b.
3. Coordinates were obtained by our field technician with a hand held GPS device.

DATE: April 13, 2011
TOTAL DEPTH: 75'
CAVED DEPTH: Not Applicable
DRY AUGER: Not Applicable
WET ROTARY: Mudline to 75'
BACKFILL: Cuttings and Drilling Mud
LOGGER: T. Mireles

R:041202011 PROJECTS\0001-0099\0412-11-0003\DRAWING\0412-11-0003.GPJ FUGRO_SO (LAB DATA)_INDUSTRIAL (WIR_MV) 6/2/2011

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