



DEPTH, FT	WATER LEVEL SYMBOL SAMPLES	BLOWS PER FOOT	LOCATION: See Plate 2 COORDINATES: 29° 43' 52" N 95° 03' 16" W SURFACE EL.: -6.0' (Assumed)	STRATUM DEPTH, FT	CLASSIFICATION					SHEAR STRENGTH					
					UNIT DRY WT. POF	PASSING NO. 200 SIEVE, %	WATER CONTENT, %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)	KIPS PER SQ FT				
			STRATUM DESCRIPTION							0.5	1.0	1.5	2.0	2.5	
			CLAY, very stiff, tan and gray												
45			- tan, gray and red, 43' to 48'	109		21	56	14	42						□ ●
50			- red and gray, 48' to 58'												□+
55															□+
60			- hard, gray and brown, 58' to 63'	107		21									□ ●
65			- red and gray, 63' to 68'												□+
70			- brown and gray, with silt seams below 68'			30									□+
75			SILTY CLAY, very stiff, brown and gray, with shell fragments and silt pockets	71.5											□
			- gray, 78' to 83'												□

NOTES:

1. Water depth was 6' 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.
4. PUSH - Split Barrel Sampler was advanced hydraulically.

DATE: April 24, 2011
 TOTAL DEPTH: 145'
 CAVED DEPTH: Not Applicable
 DRY AUGER: Not Applicable
 WET ROTARY: Mudline to 145'
 BACKFILL: Cuttings and Drilling Mud
 LOGGER: E. Schulak

R:1041202011 PROJECTS\0001-0069\0412-11-0003\INDUSTRIAL (WIR_MV) 6/2/2011 FUGRO_SO (LAB DATA)_INDUSTRIAL (WIR_MV)

LOG OF BORING NO. B-13
DOCKS, BRIDGE, AND BARNES ISLAND IMPROVEMENTS
BATTLEGROUNDS OIL SPECIALTY TERMINAL COMPANY
HARRIS COUNTY, TEXAS





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					UNIT DRY WT, POF	PASSING NO. 200 SIEVE, %	WATER CONTENT, %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)	KIPS PER SQ FT					
			STRATUM DESCRIPTION													
			SILTY CLAY, very stiff, gray													
85			- brown and gray, 83' to 93'													
90			- stiff below 88' - with silt seams at 88'	97		28	37	12	25							
95			- brown and gray, 93' to 98'													
100			- gray below 98'													
105				85		36										
110																
115			- with shell fragments below 113'													

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 BATTLEGROUND OIL SPECIALTY TERMINAL COMPANY
 HARRIS COUNTY, TEXAS



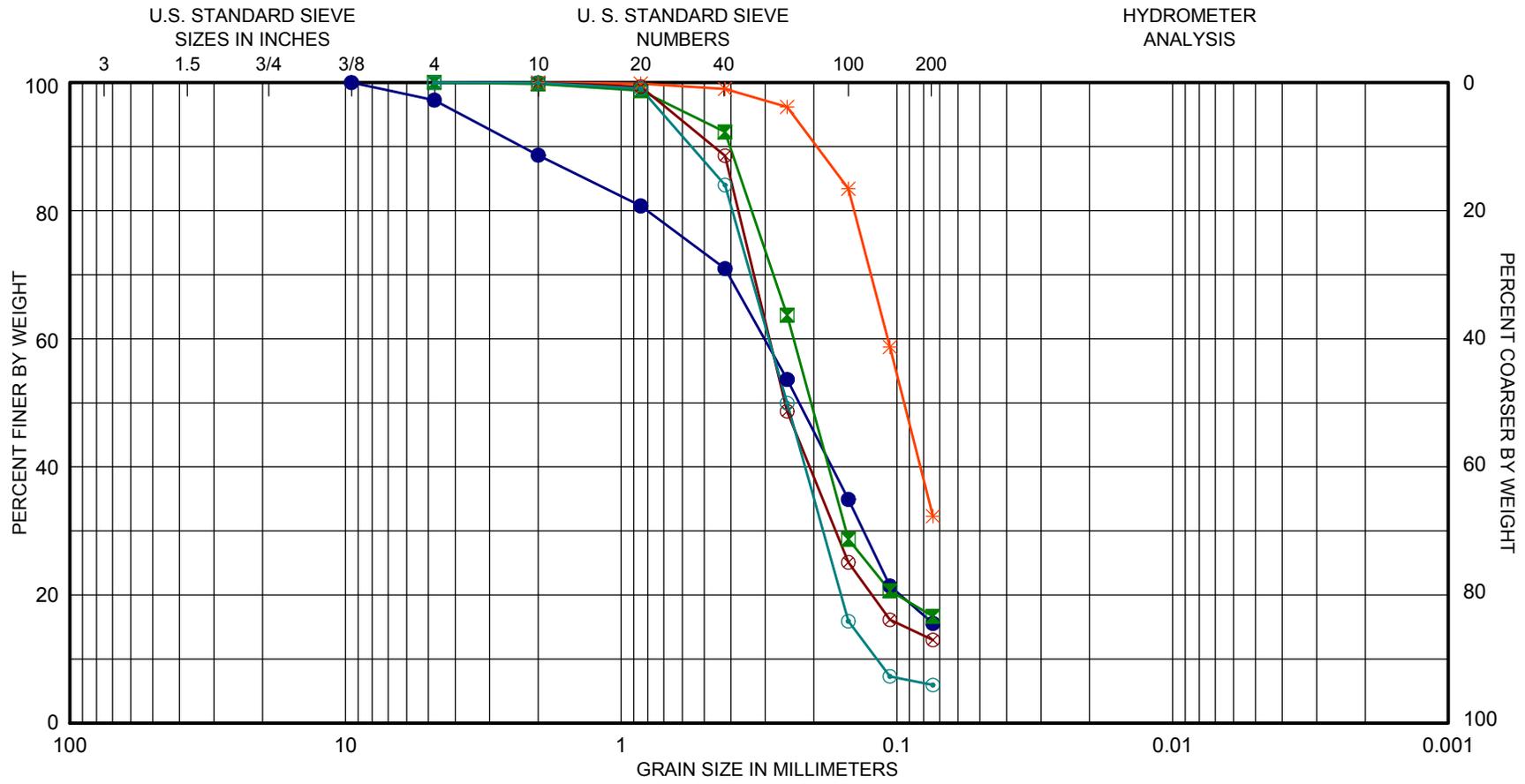


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						UNIT DRY WT. POF	PASSING NO. 200 SIEVE, %	WATER CONTENT, %	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX (PI)	KIPS PER SQ FT			
STRATUM DESCRIPTION											0.5	1.0	1.5	2.0	2.5
				SILTY CLAY, very stiff, brown and gray											
				- with siltstone nodules below 123'											
125															
130															
				- sandy silt pockets, 133' to 134.5'		104		23							
135															
140															
				- stiff below 143'											
145					145.0										
150															
155															
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HARRIS COUNTY, TEXAS





GRAVEL		SAND			SILT or CLAY
Coarse	Fine	Coarse	Medium	Fine	

SYMBOL	BORING	DEPTH, FT	CLASSIFICATION
●	B-10	5	Silty Sand, loose, fine-grained, gray, with shell fragments
■	B-12	15	Sand, very loose, fine-grained, gray
*	B-13	15	Clayey Sand, loose, fine-grained, gray
⊗	B-18	20	Silty Sand, very loose, fine-grained, gray
⊙	B-23	30	Sand, medium-dense, fine-grained, dark brown, with silt seams

GRAIN SIZE CURVES
DOCKS, BRIDGE, AND BARNES ISLAND IMPROVEMENTS
BATTLEGROUNDOIL SPECIALTY TERMINAL COMPANY
HARRIS COUNTY, TEXAS

