

LOG OF BORING B-1

SHEET 1 of 1



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CLIENT: HDR/Shiner Moseley and Associates, Inc.
PROJECT: New East Jetty: Mouth of Colorado River
LOCATION: Matagorda County, TX
NUMBER: G207487

DATE(S) DRILLED: 07/24/07 - 07/24/07

FIELD DATA		LABORATORY DATA							DRILLING METHOD(S): Hollow Stem Auger		
SOIL SYMBOL	DEPTH (FT)	SAMPLE NUMBER	SAMPLES N: BLOWS/FT P: TONS/SQ FT T: TONS/SQ FT PERCENT RECOVERY/ ROCK QUALITY DESIGNATION	MOISTURE CONTENT (%)	ATTERBERG LIMITS			DRY DENSITY POUNDS/CU.FT	COMPRESSIVE STRENGTH (TONS/SQ.FT)	MINUS NO. 200 SIEVE (%)	DESCRIPTION OF STRATUM
					LIQUID LIMIT / LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI				
	5										<u>WATER DEPTH= 8.5'</u>
SS	10	S-1	N= 5	23	NP	NP	NP			16	<u>SILTY SAND</u> , brown, wet, loose. (SM) Same as above, gray.
SS	12	S-2	N= 7	25							Same as above, gray.
SS	15	S-3	N= 6	26	NP	NP	NP			15	Same as above. (SM)
SS	18	S-4	N= 12	25							<u>POORLY GRADED SAND</u> , with silt, gray with brown layers, wet, medium dense.
SS	20	S-5	N= 19	27	NP	NP	NP			11	Same as above. (SP-SM)
SS	25	S-6	N= 13	37							<u>SILTY CLAYEY SAND</u> , dark gray, wet, medium dense.
SS	30	S-7	N= 4	27	NP	NP	NP			11	<u>POORLY GRADED SAND</u> , with silt, dark gray, wet, very loose. (SP-SM)
SS	35	S-8	N= 5	29	56	19	37			78	<u>FAT CLAY</u> , with sand, gray, very moist, firm. (CH)
SH	40	S-9	P= 2.5	24				104	1.7		<u>SANDY FAT CLAY</u> , brown and gray, very moist, very stiff.
SH	45	S-10	P= 1.75	21	33	16	17			40	<u>CLAYEY SAND</u> , brown and gray, moist, stiff. (SC) Total Depth of Boring= 45' Below Water Level
<p>N - STANDARD PENETRATION TEST RESISTANCE P - POCKET PENETROMETER RESISTANCE T - POCKET TORVANE SHEAR STRENGTH</p>										<p>REMARKS: Boring location was determined by RETL. Boring operations were performed by a drilling sub-contractor to RETL. Coordinates: N 28 35 24.9, W 95 58 58.3</p>	

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The soil conditions encountered at the boring locations have been summarized and soil properties including plasticity, strength, grain size and classification are provided in Tables 3 through 7. The following terms and acronyms are used in these tables:

EL = Approximate depth in feet referenced to water surface elevation.
LL = Liquid Limit, %
PI = Plasticity Index
C = Soil Cohesion, psf (undrained)
 ϕ = Angle of Internal Friction, deg. (undrained)
 γ_e = Effective soil unit weight, pcf
-#200 = % silt and clay size particles
N = Standard Penetration Value range
P = Hand Penetrometer range, tsf
NP = Non plastic material

TABLE 3: SOIL PROFILE FOR BORINGS B-1 AND B-3								
EL	Description	LL	PI	C	ϕ	γ_e	-#200	N or P
-8 to -32	Silty SAND/ Poorly Graded SAND	NP	NP	0	29	55	4-16	N=4-21
-32 to -42	Fat CLAY	51-59	33-38	1500	0	60	72-78	P=2.5
-42 to -47	Clayey SAND	33	17	1500	0	60	31-40	P=1.75-2.5
-47 to -67	Poorly Graded SAND	NP	NP	0	35	60	5-7	N=7-72
-67 to -75	Fat CLAY	69	42	1000	0	55	88-90	N=4-7

TABLE 4: SOIL PROFILE FOR BORING B-2								
EL	Description	LL	PI	C	ϕ	γ_e	-#200	N or P
-12 to -16	Silty SAND	NP	NP	0	28	55	13	N=8
-16 to -27	Clayey SAND	47	31	300	0	55	36-45	N=2-3
-27 to -32	Sandy Fat CLAY	---	---	200	0	55	---	N=2
-32 to -42	Sandy Lean CLAY	38-47	23-31	2000	0	60	59-68	P=4.25
-42 to -45	Poorly Graded SAND	NP	NP	0	30	55	7	N=7

TABLE 8: GENERALIZED SOIL STRATIGRAPHY FOR WATERSIDE ZONE A (BORINGS B-1, B-3, B-4, AND B-5)						
Approximate Elevation, ft (NAVD'88)	Description	C	ϕ	C'	ϕ'	γ_e
-8 to -32	Sand	0	29	0	30	55
-32 to -47	Clay	1500	0	520	25	60
-47 to -67	Sand	0	35	0	35	60
-67 to -75	Clay	1000	0	400	20	55

TABLE 9: GENERALIZED SOIL STRATIGRAPHY FOR LANDSIDE ZONE B (BORING B-6)						
Approximate Elevation, ft (NAVD'88)	Description	C	ϕ	C'	ϕ'	γ_e
-6 to -15	Sand	0	28	0	30	55
-15 to -32	Clay	250	0	200	17.5	50
-32 to -47	Clay	2000	0	520	25	60
-47 to -67	Sand	0	35	0	35	60
-67 to -75	Clay	1000	0	400	20	55

TABLE 10: GENERALIZED SOIL STRATIGRAPHY FOR LANDSIDE ZONE C (BORING B-7)						
Approximate Elevation, ft (NAVD'88)	Description	C	ϕ	C'	ϕ'	γ_e
0 to -32	Sand	0	30	0	30	55
-32 to -40	Clay	2500	0	520	25	60