TOLUNAY-WONG ENGINEERS, INC.

Boring No.	Sample No.	Sample Depth (feet)	Elevation (feet)	Pocket Pen. (tsf)	Soil Description	USCS	Water Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	Finer than No. 200 (%)	Unit Dry Weight (pcf)	Dev./Compr. Stress (tsf)	Failure Strain (%)	Confining Pressure (psi)	Failure Type
	7	12-14		3.50	Gray, tan and brown LEAN CLAY; ferrous nodules	CL	23.2									
	8	14-16		4.25	Brown, tan and gray LEAN CLAY; ferrous nodules	CL	19.4									
	9	16-18		3.75	Gray and tan FAT CLAY; calcareous nodules	CH	24.0									
	10	18-20		4.00	Tan and gray FAT CLAY	CH	23.5									
	11	20-22		4.00	Dark gray and reddish-brown FAT CLAY	CH	22.4									
	12	22-24			Reddish-brown and dark gray FAT CLAY	CH	25.6					98.1	2.51	6.0		60 degree
	13	24-25		3.25	Dark gray, reddish-brown and tan FAT CLAY; traces of ferrous	CH	29.2	80	24	56		98.0	2.90	4.0	21	Multiple shear
07-26	N 13844815.61, E 3154025.56		55.40													
	1	0-2	53.40	3.00	Gray and reddish-brown FAT CLAY	CH	21.2									
	2	2-4	51.40	4.50	Gray and tan FAT CLAY	CH	20.9									
	3	4-6	49.40	3.50	Gray and tan FAT CLAY; calcareous nodules	CH	27.6									
	4	6-8	47.40	2.75	Reddish-brown and gray FAT CLAY	CH	36.7									
	5	8-10	45.40	3.50	Reddish-brown and gray FAT CLAY	CH	28.0									
	6	10-12	43.40	3.50	Reddish-brown and gray FAT CLAY	CH	29.4									
	7	12-14	41.40	3.25	Reddish-brown and gray FAT CLAY; calcareous nodules	CH	24.5									
	8	14-16	39.40	4.50	Gray and tan FAT CLAY	CH	22.9									
	9	16-18	37.40	3.00	Gray and tan FAT CLAY; calcareous nodules	CH	25.3									
	10	18-20	35.40	4.50	Dark gray and tan FAT CLAY	CH	23.9	75	21	54		99.4	3.47	3.9	17	Bulge
	11	20-22	33.40	4.50	Dark gray FAT CLAY	CH	22.7					101.0	4.18	7.0		60 degree
	12	22-24	31.40	4.50	Gray and reddish-brown FAT CLAY	CH	21.2									
	13	24-25	30.40	2.50	Reddish-brown and gray FAT CLAY	CH	26.8									
07-27	N 13844844.19, E 3154558.51		55.34													
	1	0-2	53.34	1.50	Reddish-brown and gray FAT CLAY	CH	37.2									
	2	2-4	51.34	1.75	Reddish-brown and gray	CH	34.0									
	3	4-6	49.34	2.00	Reddish-brown and gray FAT CLAY	CH	31.5									
	4	6-8	47.34	2.00	Reddish-brown and gray FAT CLAY; silt seams	CH	35.5									
	5	8-10	45.34	2.50	Reddish-brown and gray FAT CLAY	CH	30.0									
	6	10-12	43.34	2.25	Reddish-brown and gray FAT CLAY	CH	33.6									
	7	12-14	41.34	2.75	Gray and tan FAT CLAY; rotten roots	CH	25.0	74	21	53		91.6	1.83	2.1	12	60 degree
	8	14-16	39.34	2.50	Reddish-brown and gray FAT CLAY	CH	36.6					84.8	1.54	1.2		60 degree
	9	16-18	37.34	3.50	Gray and tan FAT CLAY	CH	21.8									
	10	18-20	35.34	3.00	Tan and gray FAT CLAY; calcareous nodules	CH	24.7									
	11	20-22	33.34	2.75	Tan and gray FAT CLAY; calcareous nodules	CH	23.0									
	12	22-24	31.34	3.50	Reddish-brown and gray FAT CLAY	CH	31.4									
	13	24-26	29.34	3.00	Dark gray and reddish-brown FAT CLAY	CH	22.6									
	14	26-28	27.34	2.50	Gray and tan FAT CLAY	CH	32.6									
	15	28-30	25.34	2.50	Tan and gray FAT CLAY	CH	30.6									
	16	30-32	23.34	2.50	Tan and gray FAT CLAY; ferrous and calcareous nodules	CH	29.9					95.1	1.60	2.6		45 degree
	17	32-34	21.34	2.50	Tan and gray FAT CLAY; calcareous nodules	CH	28.4	76	21	55		95.5	1.83	3.4	28	Slickensided
	18	34-36	19.34	4.50	Reddish-brown and gray FAT CLAY	CH	25.5									
	19	36-38	17.34	4.50	Reddish-brown and gray FAT CLAY	CH	23.3									
	20	38-40	15.34	4.50	Reddish-brown and gray FAT CLAY; sand seams	CH	21.8									
07-28	N 13844870.34, E 3155085.93		56.21													
	1	0-2	54.21	2.25	Gray and reddish-brown FAT CLAY	CH	28.6									
	2	2-4	52.21	3.00	Reddish-brown and gray FAT CLAY	CH	30.0									
	3	4-6	50.21	3.50	Reddish-brown and gray FAT CLAY	CH	22.7					95.6	2.12	2.8		Slickensided
	4	6-8	48.21	3.00	Tan,light gray and gray FAT CLAY	CH	21.4	79	24	55		107.4	2.32	1.9	7	Slickensided
	5	8-10	46.21	3.50	Reddish-brown and gray FAT CLAY	CH	25.8									
	6	10-12	44.21	2.75	Gray and reddish-brown FAT CLAY	CH	21.6									
	7	12-14	42.21	3.00	Gray and tan FAT CLAY	CH	21.9									
	8	14-16	40.21	4.00	Gray and reddish-brown FAT CLAY	CH	21.6									
	9	16-18	38.21	2.75	Tan and gray FAT CLAY; calcareous nodules	CH	21.2									
	10	18-20	36.21	4.00	Tan and gray FAT CLAY	CH	24.7									
	11	20-22	34.21	3.00	Tan and gray FAT CLAY; calcareous nodules	CH	22.1									
	12	22-24	32.21	2.75	Reddish-brown and gray FAT CLAY; calcareous nodules	CH	26.3									
	13	24-25	31.21	4.25	Reddish-brown and gray FAT CLAY	CH	26.9									

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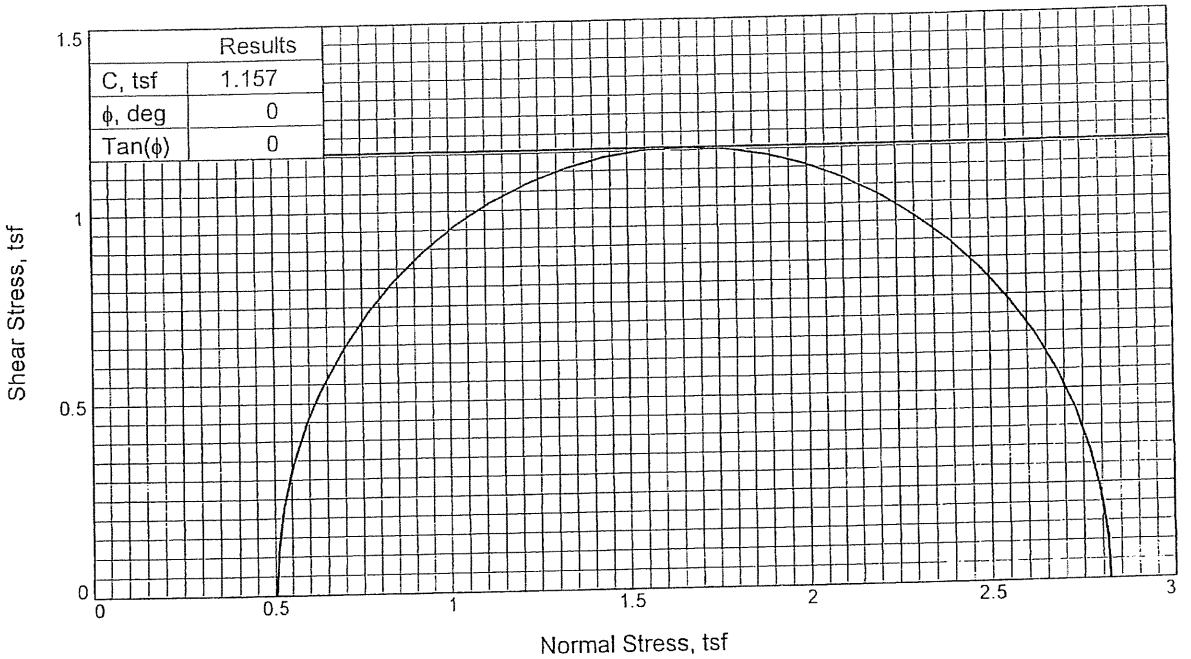
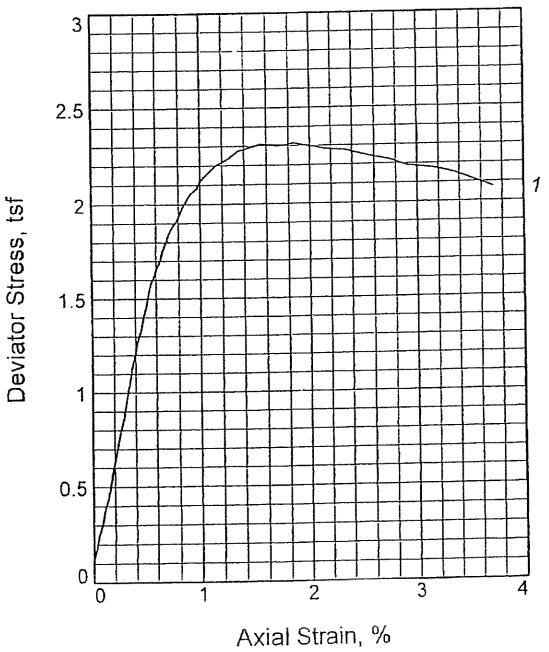


Results	
C, tsf	1.157
ϕ, deg	0
Tan(ϕ)	0



Sample No.		1
Initial	Water Content, %	21.4
	Dry Density, pcf	107.4
	Saturation, %	98.4
	Void Ratio	0.5984
	Diameter, in.	2.77
	Height, in.	6.00
At Test	Water Content, %	21.4
	Dry Density, pcf	107.4
	Saturation, %	98.4
	Void Ratio	0.5984
	Diameter, in.	2.78
	Height, in.	6.00
Strain rate, %/min.		1.00
Back Pressure, tsf		0.00
Cell Pressure, tsf		0.50
Fail. Stress, tsf		2.31
Strain, %		1.9
Ult. Stress, tsf		
Strain, %		
σ_1 Failure, tsf		2.82
σ_3 Failure, tsf		0.50

Type of Test:
Unconsolidated Undrained

Sample Type: Undisturbed

Description: Tan,light gray and gray FAT CLAY

LL= 79 PL= 24 PI= 55

Assumed Specific Gravity= 2.75

Remarks:

Test method: ASTM D 2850

Pocket pen; tsf: 3.00

Failure type: Slickensided

Client: U. S. Army Corps of Engineers

Project: House Tract Placement Area
Contract No. DACW64-03-D-0008, Task Order 0067

Source of Sample: 07-28 **Depth:** 6-8

Sample Number: 4

Proj. No.: 07.18.922 **Date Sampled:** 11/6/07

TRIAXIAL SHEAR TEST REPORT

Tolunay-Wong Engineers, Inc.

TRIAXIAL COMPRESSION TEST

Unconsolidated Undrained

11/13/2007
2:09 PM

Date:	11/6/07
Client:	U. S. Army Corps of Engineers
Project:	House Tract Placement Area Contract No. DACW64-03-D-0008, Task Order 0067
Project No.:	07.18.922
Location:	07-28
Depth:	6-8
Sample Number:	4
Description:	Tan,light gray and gray FAT CLAY
Remarks:	Test method: ASTM D 2850 Pocket pen; tsf: 3.00 Failure type: Slickensided
Type of Sample:	Undisturbed

Assumed Specific Gravity=2.75 **LL**=79 **PL**=24 **PI**=55

Test Method: ASTM D 2850

Parameters for Specimen No. 1

Specimen Parameter	Initial	Final
Moisture content: Moist soil+tare, gms.	136.960	136.960
Moisture content: Dry soil+tare, gms.	118.250	118.250
Moisture content: Tare, gms.	30.890	30.890
Moisture, %	21.4	21.4
Moist specimen weight, gms.	1242.4	
Diameter, in.	2.77	
Area, in.^{2}	6.05	
Height, in.	6.00	
Wet Density, pcf	130.4	
Dry density, pcf	107.4	
Void ratio	0.5984	
Saturation, %	98.4	

Test Readings for Specimen No. 1

Membrane modulus = .130 kN/cm^2

Membrane thickness = .031 cm

Cell pressure = 7.00 psi (0.504 tsf)

Back pressure = 0.00 psi (0.000 tsf)

Strain rate, %/min. = 1.00

Fail. Stress = 2.315 tsf at reading no. 43

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress tsf	Minor Princ. Stress tsf	Major Princ. Stress tsf	1:3 Ratio	P tsf	Q tsf
0	0.8580	0.000	0.0	0.0	0.000	0.504	0.504	1.00	0.504	0.000
1	0.8581	9.787	9.8	0.0	0.117	0.504	0.621	1.23	0.562	0.058
2	0.8597	15.079	15.1	0.0	0.179	0.504	0.683	1.36	0.594	0.090
3	0.8610	20.522	20.5	0.0	0.244	0.504	0.748	1.48	0.626	0.122
4	0.8629	25.485	25.5	0.1	0.303	0.504	0.807	1.60	0.656	0.152
5	0.8642	31.346	31.3	0.1	0.373	0.504	0.877	1.74	0.690	0.186
6	0.8661	36.776	36.8	0.1	0.437	0.504	0.941	1.87	0.723	0.219
7	0.8674	41.936	41.9	0.2	0.498	0.504	1.002	1.99	0.753	0.249
8	0.8687	48.517	48.5	0.2	0.577	0.504	1.081	2.14	0.792	0.288
9	0.8708	55.702	55.7	0.2	0.662	0.504	1.166	2.31	0.835	0.331
10	0.8721	61.444	61.4	0.2	0.730	0.504	1.234	2.45	0.869	0.365
11	0.8733	66.782	66.8	0.3	0.793	0.504	1.297	2.57	0.900	0.396
12	0.8754	73.760	73.8	0.3	0.876	0.504	1.380	2.74	0.942	0.438
13	0.8767	80.498	80.5	0.3	0.955	0.504	1.459	2.90	0.982	0.478
14	0.8786	88.096	88.1	0.3	1.045	0.504	1.549	3.07	1.027	0.523
15	0.8799	94.800	94.8	0.4	1.124	0.504	1.628	3.23	1.066	0.562
16	0.8818	101.472	101.5	0.4	1.203	0.504	1.707	3.39	1.106	0.602
17	0.8831	106.842	106.8	0.4	1.267	0.504	1.771	3.51	1.137	0.633
18	0.8850	111.444	111.4	0.5	1.321	0.504	1.825	3.62	1.164	0.660
19	0.8863	117.318	117.3	0.5	1.390	0.504	1.894	3.76	1.199	0.695
20	0.8883	123.175	123.2	0.5	1.459	0.504	1.963	3.89	1.233	0.729
21	0.8896	128.180	128.2	0.5	1.518	0.504	2.022	4.01	1.263	0.759
22	0.8908	133.081	133.1	0.5	1.576	0.504	2.080	4.13	1.292	0.788
23	0.8929	136.704	136.7	0.6	1.618	0.504	2.122	4.21	1.313	0.809
24	0.8942	140.183	140.2	0.6	1.659	0.504	2.163	4.29	1.333	0.829
25	0.8961	143.679	143.7	0.6	1.700	0.504	2.204	4.37	1.354	0.850
26	0.8974	148.097	148.1	0.7	1.751	0.504	2.255	4.48	1.380	0.876
27	0.8993	152.184	152.2	0.7	1.799	0.504	2.303	4.57	1.404	0.900
28	0.9006	155.550	155.5	0.7	1.839	0.504	2.343	4.65	1.423	0.919
29	0.9025	158.564	158.6	0.7	1.874	0.504	2.378	4.72	1.441	0.937
30	0.9058	162.503	162.5	0.8	1.919	0.504	2.423	4.81	1.464	0.960
31	0.9070	165.583	165.6	0.8	1.955	0.504	2.459	4.88	1.482	0.978
32	0.9083	167.974	168.0	0.8	1.983	0.504	2.487	4.93	1.495	0.991
33	0.9104	170.852	170.9	0.9	2.016	0.504	2.520	5.00	1.512	1.008
34	0.9129	174.046	174.0	0.9	2.053	0.504	2.557	5.07	1.530	1.026
35	0.9163	176.568	176.6	1.0	2.082	0.504	2.586	5.13	1.545	1.041
36	0.9176	179.178	179.2	1.0	2.112	0.504	2.616	5.19	1.560	1.056
37	0.9196	181.167	181.2	1.0	2.135	0.504	2.639	5.24	1.571	1.067
38	0.9267	186.917	186.9	1.1	2.200	0.504	2.704	5.36	1.604	1.100
39	0.9332	189.874	189.9	1.3	2.232	0.504	2.736	5.43	1.620	1.116
40	0.9390	193.801	193.8	1.3	2.276	0.504	2.780	5.52	1.642	1.138
41	0.9513	197.054	197.1	1.6	2.309	0.504	2.813	5.58	1.659	1.155
42	0.9628	196.969	197.0	1.7	2.304	0.504	2.808	5.57	1.656	1.152
43	0.9694	198.131	198.1	1.9	2.315	0.504	2.819	5.59	1.661	1.157
44	0.9752	197.521	197.5	2.0	2.306	0.504	2.810	5.57	1.657	1.153
45	0.9875	196.043	196.0	2.2	2.283	0.504	2.787	5.53	1.646	1.142
46	0.9990	195.722	195.7	2.4	2.275	0.504	2.779	5.51	1.642	1.138

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress tsf	Minor Princ. Stress tsf	Major Princ. Stress tsf	1:3 Ratio	P tsf	Q tsf
47	1.0114	193.406	193.4	2.6	2.244	0.504	2.748	5.45	1.626	1.122
48	1.0237	191.896	191.9	2.8	2.221	0.504	2.725	5.41	1.615	1.111
49	1.0327	189.467	189.5	2.9	2.190	0.504	2.694	5.35	1.599	1.095
50	1.0480	188.654	188.7	3.2	2.175	0.504	2.679	5.31	1.591	1.087
51	1.0597	186.745	186.7	3.4	2.148	0.504	2.652	5.26	1.578	1.074
52	1.0719	183.513	183.5	3.6	2.107	0.504	2.611	5.18	1.557	1.053
53	1.0810	180.898	180.9	3.7	2.073	0.504	2.577	5.11	1.541	1.037

Hole No. 07-28

BORING LOG	DISTRICT	INSTALLATION	SHEET 1 OF 1 SHEETS

1. PROJECT House Tract Placement Area	7. ELEVATION OF HOLE 52.81 ft
2. LOCATION (Coordinates or Station) N=13839930.29 E=3155335.57	8. DATUM FOR ELEVATION
3. DRILLING AGENCY T.R.I.	9. ELEVATION OF GROUNDWATER ▽ TOD: ▼ 24-HR:
4. LABORATORY TESTING AGENCY Tolunay-Wong Engineers, Inc.	10. DRILLING DATE and TIME STARTED: 2/22/07 COMPLETED: 2/22/07
5. DEPTH OF WATER ▽ TOD: ▼ 24-HR:	11. CLASSIFICATION REFERENCE
6. DEPTH OF HOLE 25 ft	12. ENGINEER

DEPTH (ft)	ELEVATION (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE	NUMBER	RECOVERY (%)	SPT (N)	PENETROMETER (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	FINES CONTENT (% <200)
			FAT CLAY"FILL", very stiff, gray & reddish brown		1	58		3.75		28.6				
					2	54		3.00		30.0				
			-stiff to very stiff below 4'		3	67		2.75	95.6	22.7				
5			-tan & gray @ 6' - 8'		4	67		1.75	107.4	21.4	79	24	55	
					5	58		2.25		25.8				
10					6	33		2.50		21.6				
			-tan & gray @ 12' - 22' -w/ ferrous nodules below 12' -w/ sand pockets @ 12' - 18'		7	50		3.00		21.9				
15			-w/ calcareous nodules @ 14' - 18'		8	71		3.25		21.6				
					9	63		2.00		21.2				
					10	46		3.50		24.7				
20					11	58		2.50		22.1				
			-w/ calcareous nodules @ 22' - 24'		12	63		3.00		26.3				
	27.8				13	100		4.00		26.9				
25			Boring terminated at 25 ft.											
30														

SWG 1836 BOR 03.14.859-057.GPJ TOLUNAY-WONG ENGINEERS.GDT 3/4/08

ENG FORM: SWG 1836 BOR

07-27
N.=13,844,844.19, E.=3,154,558.51

W.T. NOT FOUND

P. P.	MC-UDW,LL-PL	
1.25	37-	CH,S,R
2.00	34-	CH,VS,R
2.00	32-	CH,VS,R&Gy
2.00	36-	CH,W/SiSms,VS,R&Gy
2.00	30-	CH,VS,Gy&R
2.25	34-	CH,VS,Gy&R
4.50	25-92, 74-21,	CH,W/RtsVS,Gy&Bl
2.50	37-85,	CH,VS,R&Gy
3.50	22-	CH,VS,Gy
3.00	25-	CH,W/CalcNod,VS,GyTn&R
2.75	23-	CH,W/CalcNod,VS,Gy&Tn
3.75	31-	CH,VS,Gy&R
2.75	23-	CH,VS,Gy&R
2.50	33-	CH,VS,R&Gy
2.50	31-	CH,VS,Gy&Tn
2.50	30-95,	CH,W/Fer&CalcNod,VS,Tn&Gy
2.25	28-96, 76-21,	CH,Slks,W/CalcNod,VS,Tn&Gy
4.50	26-	CH,H,R&Gy
4.00	23-	CH,VS,R&Gy
4.25	22-	CH,W/SdSms,VS,R&Gy

07-28
N.=13,844,870.34, E.=3,155,085.93

W.T. NOT FOUND

P. P.	MC-UDW,LL-PL	
3.75	29-	CH,VS,Gy&R
3.00	30-	CH,VS,Gy&Tn
2.75	23-96,	CH,VS,Gy&R
1.75	21-107, 79-24,	CH,Slks,S,Tn,Gy&R
2.25	26-	CH,VS,Gy&R
2.50	22-	CH,VS,Gy&R
3.00	22-	CH,VS,Gy&R
3.25	22-	CH,VS,Gy&R
2.00	21-	CH,W/CalcNod,VS,Gy&R
3.50	25-	CH,VS,Gy&R
2.50	22-	CH,W/CalcNod,VS,Gy
3.00	26-	CH,W/CalcNod,VS,Gy&RBn
4.00	27-	CH,VS,Gy&R

07-29
N.=13,844,820.73, E.=3,155,536.91

W.T. NOT FOUND

P. P.	MC-UDW,LL-PL	
1.00		CH,S,R
3.50	25-	CH,VS,R
3.25	31-	CH,VS,R&Gy
4.50	24-	CH,H,R&Gy
2.50	30-	CH,VS,R&Gy
3.00	30-88,	CH,W/CalcNod,VS,Gy&R
2.75	33-83, 94-29,	CH,W/CalcNod,VS,Gy&R
3.25	22-	CH,VS,Gy&R
3.25	20-	CH,VS,Gy&R
4.50	30-	CH,H,Gy
4.50	23-	CH,H,Gy
4.50	24-	CH,W/CalcNod,H,Gy
4.25	24-	CH,H,Gy&R

07-30
N.=13,844,357.92, E.=3,155,690.69

W.T. NOT FOUND

P. P.	MC-UDW,LL-PL	
1.75	21-	CH,S,R&Gy
4.50	18-	CI,W/Sd,H,Gy
3.50	19-	CH,W/CISms,VS,Gy
3.00	33-	CH,VS,Gy&R
4.50	20-	CH,H,Gy
2.75	23-	CH,VS,Gy
3.25	21-	CH,VS,Gy&R
2.50	22-	CH,VS,Gy&R
4.00	30-	CH,VS,Gy
3.25	20-	CH,VS,Gy
3.50	19-	CH,VS,Gy&R
3.00	21-	CH,VS,Gy
2.50	21-	CH,VS,Gy&Tn
1.75	28-	CH,W/Rts,VS,Gy
2.00	28-	CH,VS,Gy
1.50	28-95, 73-22,	CH,Slks,VS,Tn&Gy
2.00	27-	CH,W/CalcNod,S,Gy&Tn
4.50	26-	CH,Slks,H,Gy&RBn
3.25	26-	CH,W/SiPoc,VS,Gy&RBn
4.50	25-	CH,Slks,W/SiPoc,H,R&Gy

07-31
N.=13,843,832.85, E.=3,155,714.45

W.T. NOT FOUND

P. P.	MC-UDW,LL-PL	
2.50	22-	CH,VS,Gy&R
3.75	18-	CI,VS,Gy&R
2.50	19-	CI,W/CalcNod,VS,Gy&R
4.50	34-	CH,VS,Gy
3.50	35-	CH,H,Gy&R
4.25	22-	CH,VS,Gy&R
3.50	20-	CH,VS,Gy&R
3.00	26-	CH,VS,Gy&RBn
3.00	26-	CH,VS,Gy&R
2.75	19-	CH,VS,Gy&Tn
2.75	40-	CH,VS,Gy&R
2.50	26-93, 91-27,	CH,W/CalcNod,VS,Gy&R
4.50	20-	CH,VS,Gy

07-32
N.=13,843,308.16, E.=3,155,741.26

W.T. NOT FOUND

P. P.	MC-UDW,LL-PL	
4.50	21-	CH,H,R&Gy
3.50	20-	CH,VS,R&Gy
2.00	30-	CH,W/SdCISms,VS,Gy&R
3.00	21-	CH,VS,Gy&R
3.50	28-	CH,W/SdSms,VS,Gy&R
3.25	30-	CH,VS,R&Gy
1.75	24-98, 90-25,	CH,Slks,S,Gy&R
3.00	21-	CH,VS,Gy
4.50	20-	CH,H,Gy&R
2.25	23-	CH,VS,Gy&R
2.00	19-	CH,VS,R&Gy
3.75	20-	CH,VS,Gy
4.25	21-	CH,W/CalcNod,VS,Gy&R

07-33
N.=13,842,900.96, E.=3,155,618.63

W.T. NOT FOUND

P. P.	MC-UDW,LL-PL	
1.75	20-	CH,VS,R&Gy
4.50	21-	CH,H,R&Gy
3.75	27-	CH,VS,R&Gy
1.50	33-	CH,S,Gy&R
1.25	40-79, 96-29,	CH,Slks,S,R&Gy
3.00	25-	CH,VS,Gy&R
2.00	28-	CH,VS,Gy&R
3.00	20-	CH,VS,Gy
3.75	32-	CH,H,R&Gy
3.00	23-	CH,VS,R&Gy
2.50	23-	CH,S,Gy&R
3.50	20-	CH,VS,Gy&Tn
4.50	20-	CH,VS,Gy
2.75	29-	CH,VS,Gy&R
2.75	29-	CH,H,Gy&R
3.00	30-	CH,VS,Gy&R
1.50	25-98.2,80-23,	CH,VS,Gy&R
2.00	26-	CH,W/CalcDep,VS,Gy&Tn
2.00	28-	CH,W/CalcNod,VS,Gy&Tn
3.75	23-	CH,S,R&Gy

ELEVATIONS IN FEET, N.G.V.D. 88

NOTE:

FOR BORING LOG NOTES AND CLASSIFICATIONS, SEE DRAWING NO. F-46.

SOLICITATION NO. W912HY-08-B-0016

US Army Corps of Engineers
Galveston District

Rev.	Description	BY:$USER$	Date	By

TIME:$TIME$ DATE:$DATE$

Drawn by: | Date: APRIL, 2008 | Rev. --
Designed by: SK,SL,RB | Scale: AS SHOWN
Checked by: SL,RB | Approval Recommended: HARRISON T. SUTCLIFFE, P.E. Chief, Engineering Branch
Submitted by: LORI K. THOMAS, P.E. Det/Section & Structure Section
Approved by: PETE G. PEREZ, P.E. Chief, Engineering and Construction Division

U.S. ARMY ENGINEER DISTRICT, GALVESTON
CORPS OF ENGINEERS
GALVESTON, TEXAS

PREPARED UNDER THE DIRECTION OF DAVID C. WESTON, COL., C.E.
DISTRICT COMMANDER

HOUSTON SHIP CHANNEL, TEXAS
HOUSE TRACT PLACEMENT AREA
INTERIOR REHABILITATION, EXTERIOR LEVEE REHABILITATION, AND DRAINAGE DITCH REPAIR

LOGS OF BORINGS

Drawing No.: F-45
Sheet 48 of 49

File No. HSC 401-515

File:$FILE$