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
07-22	N 13843175.52, E 3153555.49		55.64													
	1	0-2	53.64	4.50	Reddish-brown and gray FAT CLAY	CH	25.9									
	2	2-4	51.64	4.50	Reddish-brown and gray FAT CLAY	CH	28.1									
	3	4-6	49.64	4.50	Gray and tan SANDY LEAN CLAY	CL	17.3									
	4	6-8	47.64	3.00	Reddish-brown and gray FAT CLAY	CH	24.6									
	5	8-10	45.64	4.00	Gray and tan FAT CLAY	CH	21.0									
	6	10-12	43.64	3.00	Gray and reddish-brown FAT CLAY	CH	23.2									
	7	12-14	41.64	4.50	Gray and tan FAT CLAY	CH	20.4									
	8	14-16	39.64	4.00	Dark gray and tan FAT CLAY	CH	24.8									
	9	16-18	37.64	2.50	Gray and tan FAT CLAY	CH	22.9	73	21	52		102.6	2.78	7.0		Bulge
	10	18-20	35.64	3.00	Gray and reddish-brown FAT CLAY	CH	24.7									
	11	20-22	33.64	4.50	Dark gray and tan FAT CLAY	CH	21.1									
	12	22-24	31.64	4.25	Dark gray and tan FAT CLAY	CH	25.3									
	13	24-25	30.64	3.50	Dark gray and tan FAT CLAY	CH	19.8									
07-23	N 13843712.30, E 3153531.10		55.54													
	1	0-2	53.54	4.50	Dark gray and tan FAT CLAY	CH	20.9									
	2	2-4	51.54	4.50	Gray and reddish-brown FAT CLAY	CH	17.8									
	3	4-6	49.54	4.50	Gray and tan FAT CLAY	CH	20.5									
	4	6-8	47.54	3.50	Gray and tan FAT CLAY	CH	24.0									
	5	8-10	45.54	3.00	Reddish-brown and gray FAT CLAY	CH	26.2									
	6	10-12	43.54	2.50	Tan and gray FAT CLAY	CH	23.2									
	7	12-14	41.54	3.00	Dark gray and tan FAT CLAY	CH	22.9									
	8	14-16	39.54	4.25	Dark gray and tan FAT CLAY; calcareous nodules	CH	20.2									
	9	16-18	37.54	3.00	Reddish-brown and gray FAT CLAY	CH	31.5									
	10	18-20	35.54	3.25	Dark gray and tan FAT CLAY	CH	24.8									
	11	20-22	33.54	4.25	Reddish-brown and gray FAT CLAY; calcareous nodules	CH	26.4									
	12	22-24	31.54	3.50	Dark gray and tan FAT CLAY; calcareous nodules	CH	23.2									
	13	24-25	30.54	3.00	Reddish-brown and gray FAT CLAY	CH	27.2									
07-24	N 13844248.75, E 3153507.26		55.87													
	1	0-2	53.87	3.25	Gray and reddish-brown FAT CLAY	CH	26.0									
	2	2-4	51.87	2.75	Reddish-brown and gray FAT CLAY	CH	26.6									
	3	4-6	49.87	3.25	Gray and reddish-brown FAT CLAY	CH	24.3									
	4	6-8	47.87	3.00	Gray and tan FAT CLAY	CH	27.3									
	5	8-10	45.87	3.25	Gray and tan FAT CLAY	CH	23.7									
	6	10-12	43.87	4.25	Gray and tan FAT CLAY	CH	24.2									
	7	12-14	41.87	3.25	Gray and tan FAT CLAY; calcareous nodules	CH	21.1									
	8	14-16	39.87	3.25	Gray and reddish-brown FAT CLAY	CH	23.6									
	9	16-18	37.87	4.00	Gray and tan FAT CLAY	CH	20.1									
	10	18-20	35.87	4.00	Reddish-brown and gray FAT CLAY	CH	23.4	85	25	60		99.6	1.97	3.4	17	Slickensided
	11	20-22	33.87	2.25	Reddish-brown and gray FAT CLAY	CH	30.1					97.6	2.09	2.0		Slickensided
	12	22-24	31.87	3.25	Gray and tan FAT CLAY	CH	23.3									
	13	24-26	29.87	2.75	Reddish-brown and gray FAT CLAY	CH	26.7									
	14	26-28	27.87	1.75	Gray and tan FAT CLAY	CH	29.6									
	15	28-30	25.87	2.50	Gray and tan FAT CLAY	CH	30.1									
	16	30-32	23.87	2.25	Tan and gray FAT CLAY	CH	32.2									
	17	32-34	21.87	2.50	Tan and gray FAT CLAY	CH	32.8									
	18	34-36	19.87	3.75	Tan and gray FAT CLAY; calcareous and ferrous	CH	29.8									
	19	36-38	17.87	3.00	Tan and gray SANDY LEAN CLAY	CL	21.0									
	20	38-40	15.87	1.75	Tan and gray SANDY SILTY CLAY	CL-ML	21.3	28	21	7		106.2	0.56	4.8		60 degree
07-25	N 13844793.06, E 3153475.64															
	1	0-2		3.50	Reddish-brown and gray FAT CLAY	CH	33.0									
	2	2-4		3.50	Reddish-brown and gray FAT CLAY	CH	32.0									
	3	4-6		3.75	Gray, tan and dark gray FAT CLAY	CH	21.5									
	4	6-8		3.50	Reddish-brown, dark gray and tan FAT CLAY	CH	29.3									
	5	8-10			Brown and gray FAT CLAY		32.0	77	23	54		87.4	1.42	1.0		Slickensided
	6	10-12		3.50	Gray, tan and dark gray FAT CLAY; tree roots and ferrous	CH	25.3									

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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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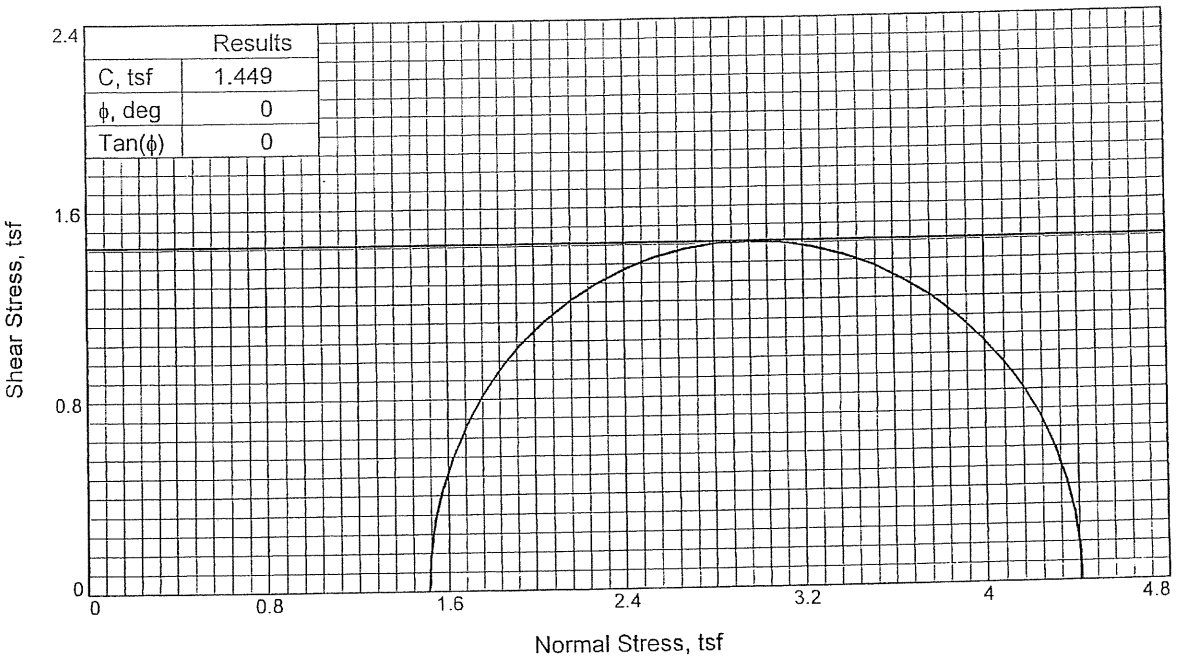
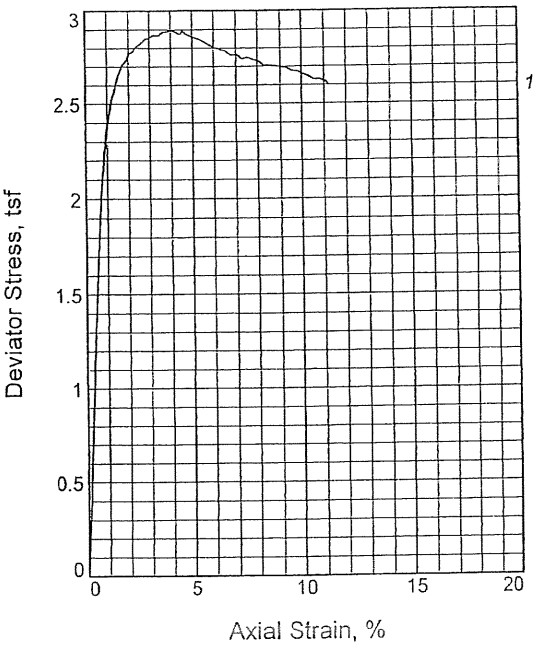




Sample No.		1
Initial	Water Content, %	29.2
	Dry Density, pcf	98.0
	Saturation, %	99.9
	Void Ratio	0.8476
	Diameter, in.	2.80
	Height, in.	5.99
At Test	Water Content, %	29.2
	Dry Density, pcf	98.0
	Saturation, %	99.9
	Void Ratio	0.8476
	Diameter, in.	2.80
	Height, in.	5.99
Strain rate, %/min.		1.00
Back Pressure, tsf		0.00
Cell Pressure, tsf		1.51
Fail. Stress, tsf		2.90
Strain, %		4.0
Ult. Stress, tsf		
Strain, %		
σ_1 Failure, tsf		4.41
σ_3 Failure, tsf		1.51

Type of Test:
Unconsolidated Undrained

Sample Type: Undisturbed

Description: Dark gray,reddish-brown and tan FAT CLAY; ferrous

LL= 80 **PL=** 24 **PI=** 56

Assumed Specific Gravity= 2.90

Remarks:
Test method: ASTM D 2850
Pocket pen; tsf: 3.25
Failure type: Multiple shear

Client: U. S. Army Corps of Engineers

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

Source of Sample: 07-25 **Depth:** 24-25

Sample Number: 13

Proj. No.: 07.18.922 **Date Sampled:** 11/9/07

TRIAXIAL SHEAR TEST REPORT

Tolunay-Wong Engineers, Inc.

TRIAXIAL COMPRESSION TEST
Unconsolidated Undrained

1/15/2008
4:20 PM

Date:	11/9/07
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:	07-25
Depth:	24-25 **Sample Number:** 13
Description:	Dark gray,reddish-brown and tan FAT CLAY; ferrous
Remarks:	
	Test method: ASTM D 2850
	Pocket pen; tsf: 3.25
	Failure type: Multiple shear
Type of Sample:	Undisturbed

Assumed Specific Gravity=2.90 **LL=**80 **PL=**24 **PI=**56

Test Method: ASTM D 2850

Parameters for Specimen No. 1

Specimen Parameter	Initial	Final
Moisture content: Moist soil+tare, gms.	77.530	77.530
Moisture content: Dry soil+tare, gms.	67.040	67.040
Moisture content: Tare, gms.	31.100	31.100
Moisture, %	29.2	29.2
Moist specimen weight, gms.	1226.9	
Diameter, in.	2.80	
Area, in.^{2}	6.17	
Height, in.	5.99	
Wet Density, pcf	126.6	
Dry density, pcf	98.0	
Void ratio	0.8476	
Saturation, %	99.9	

Test Readings for Specimen No. 1

Membrane modulus = .130 kN/cm^2

Membrane thickness = .031 cm

Cell pressure = 21.00 psi (1.512 tsf)

Back pressure = 0.00 psi (0.000 tsf)

Strain rate, %/min. = 1.00

Fail. Stress = 2.897 tsf **at reading no.** 55

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	0.8581	0.000	0.0	0.0	0.000	1.512	1.512	1.00	1.512	0.000
1	0.8582	7.772	7.8	0.0	0.091	1.512	1.603	1.06	1.557	0.045
2	0.8599	12.511	12.5	0.0	0.146	1.512	1.658	1.10	1.585	0.073
3	0.8612	16.525	16.5	0.1	0.193	1.512	1.705	1.13	1.608	0.096
4	0.8631	22.658	22.7	0.1	0.264	1.512	1.776	1.17	1.644	0.132
5	0.8644	27.526	27.5	0.1	0.321	1.512	1.833	1.21	1.673	0.161
6	0.8657	33.786	33.8	0.1	0.394	1.512	1.906	1.26	1.709	0.197
7	0.8678	40.482	40.5	0.2	0.472	1.512	1.984	1.31	1.748	0.236
8	0.8691	47.799	47.8	0.2	0.557	1.512	2.069	1.37	1.791	0.279
9	0.8703	54.209	54.2	0.2	0.632	1.512	2.144	1.42	1.828	0.316
10	0.8724	62.053	62.1	0.2	0.723	1.512	2.235	1.48	1.873	0.361
11	0.8737	69.361	69.4	0.3	0.808	1.512	2.320	1.53	1.916	0.404
12	0.8749	75.398	75.4	0.3	0.878	1.512	2.390	1.58	1.951	0.439
13	0.8770	82.365	82.4	0.3	0.959	1.512	2.471	1.63	1.991	0.479
14	0.8782	89.555	89.6	0.3	1.042	1.512	2.554	1.69	2.033	0.521
15	0.8795	97.869	97.9	0.4	1.139	1.512	2.651	1.75	2.081	0.569
16	0.8816	105.219	105.2	0.4	1.224	1.512	2.736	1.81	2.124	0.612
17	0.8828	110.809	110.8	0.4	1.289	1.512	2.801	1.85	2.156	0.644
18	0.8848	118.189	118.2	0.4	1.374	1.512	2.886	1.91	2.199	0.687
19	0.8860	123.831	123.8	0.5	1.439	1.512	2.951	1.95	2.232	0.720
20	0.8873	130.082	130.1	0.5	1.511	1.512	3.023	2.00	2.268	0.756
21	0.8893	136.398	136.4	0.5	1.584	1.512	3.096	2.05	2.304	0.792
22	0.8906	142.410	142.4	0.5	1.654	1.512	3.166	2.09	2.339	0.827
23	0.8919	147.205	147.2	0.6	1.709	1.512	3.221	2.13	2.367	0.855
24	0.8939	151.134	151.1	0.6	1.754	1.512	3.266	2.16	2.389	0.877
25	0.8952	156.473	156.5	0.6	1.816	1.512	3.328	2.20	2.420	0.908
26	0.8965	160.821	160.8	0.6	1.866	1.512	3.378	2.23	2.445	0.933
27	0.8985	165.590	165.6	0.7	1.920	1.512	3.432	2.27	2.472	0.960
28	0.8998	169.134	169.1	0.7	1.961	1.512	3.473	2.30	2.493	0.981
29	0.9011	173.996	174.0	0.7	2.017	1.512	3.529	2.33	2.521	1.009
30	0.9031	177.882	177.9	0.8	2.061	1.512	3.573	2.36	2.543	1.031
31	0.9044	180.691	180.7	0.8	2.093	1.512	3.605	2.38	2.559	1.047
32	0.9077	186.261	186.3	0.8	2.157	1.512	3.669	2.43	2.590	1.078
33	0.9090	190.205	190.2	0.8	2.202	1.512	3.714	2.46	2.613	1.101
34	0.9103	193.448	193.4	0.9	2.239	1.512	3.751	2.48	2.632	1.120
35	0.9136	197.031	197.0	0.9	2.279	1.512	3.791	2.51	2.652	1.140
36	0.9149	200.207	200.2	0.9	2.316	1.512	3.828	2.53	2.670	1.158
37	0.9182	204.859	204.9	1.0	2.368	1.512	3.880	2.57	2.696	1.184
38	0.9260	213.360	213.4	1.1	2.463	1.512	3.975	2.63	2.744	1.232
39	0.9317	219.266	219.3	1.2	2.529	1.512	4.041	2.67	2.776	1.264
40	0.9381	221.876	221.9	1.3	2.556	1.512	4.068	2.69	2.790	1.278
41	0.9439	226.596	226.6	1.4	2.608	1.512	4.120	2.72	2.816	1.304
42	0.9497	230.267	230.3	1.5	2.648	1.512	4.160	2.75	2.836	1.324
43	0.9619	235.795	235.8	1.7	2.705	1.512	4.217	2.79	2.865	1.353
44	0.9743	238.840	238.8	1.9	2.735	1.512	4.247	2.81	2.879	1.367
45	0.9800	242.020	242.0	2.0	2.768	1.512	4.280	2.83	2.896	1.384
46	0.9923	243.881	243.9	2.2	2.784	1.512	4.296	2.84	2.904	1.392

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	1.0038	246.775	246.8	2.4	2.811	1.512	4.323	2.86	2.918	1.406
48	1.0162	248.667	248.7	2.6	2.827	1.512	4.339	2.87	2.925	1.413
49	1.0283	251.190	251.2	2.8	2.850	1.512	4.362	2.88	2.937	1.425
50	1.0406	252.223	252.2	3.0	2.855	1.512	4.367	2.89	2.940	1.428
51	1.0522	254.094	254.1	3.2	2.871	1.512	4.383	2.90	2.947	1.435
52	1.0644	254.186	254.2	3.4	2.866	1.512	4.378	2.90	2.945	1.433
53	1.0768	256.384	256.4	3.7	2.884	1.512	4.396	2.91	2.954	1.442
54	1.0883	257.307	257.3	3.8	2.889	1.512	4.401	2.91	2.956	1.444
55	1.1006	258.612	258.6	4.0	2.897	1.512	4.409	2.92	2.961	1.449
56	1.1129	258.183	258.2	4.3	2.886	1.512	4.398	2.91	2.955	1.443
57	1.1244	257.431	257.4	4.4	2.872	1.512	4.384	2.90	2.948	1.436
58	1.1309	259.414	259.4	4.6	2.891	1.512	4.403	2.91	2.957	1.445
59	1.1367	258.718	258.7	4.7	2.880	1.512	4.392	2.90	2.952	1.440
60	1.1488	258.126	258.1	4.9	2.868	1.512	4.380	2.90	2.946	1.434
61	1.1609	257.876	257.9	5.1	2.859	1.512	4.371	2.89	2.941	1.429
62	1.1763	257.702	257.7	5.3	2.849	1.512	4.361	2.88	2.937	1.425
63	1.1910	257.112	257.1	5.6	2.835	1.512	4.347	2.88	2.930	1.418
64	1.2064	256.195	256.2	5.8	2.817	1.512	4.329	2.86	2.921	1.409
65	1.2211	255.492	255.5	6.1	2.802	1.512	4.314	2.85	2.913	1.401
66	1.2364	255.291	255.3	6.3	2.793	1.512	4.305	2.85	2.908	1.396
67	1.2512	255.119	255.1	6.6	2.783	1.512	4.295	2.84	2.904	1.392
68	1.2665	253.668	253.7	6.8	2.760	1.512	4.272	2.83	2.892	1.380
69	1.2813	254.733	254.7	7.1	2.764	1.512	4.276	2.83	2.894	1.382
70	1.2960	253.242	253.2	7.3	2.741	1.512	4.253	2.81	2.882	1.370
71	1.3115	254.895	254.9	7.6	2.751	1.512	4.263	2.82	2.887	1.375
72	1.3262	254.445	254.4	7.8	2.739	1.512	4.251	2.81	2.881	1.369
73	1.3416	254.173	254.2	8.1	2.728	1.512	4.240	2.80	2.876	1.364
74	1.3563	252.734	252.7	8.3	2.705	1.512	4.217	2.79	2.865	1.353
75	1.3717	253.435	253.4	8.6	2.705	1.512	4.217	2.79	2.865	1.353
76	1.3864	253.795	253.8	8.8	2.702	1.512	4.214	2.79	2.863	1.351
77	1.4017	254.059	254.1	9.1	2.697	1.512	4.209	2.78	2.861	1.349
78	1.4164	254.322	254.3	9.3	2.693	1.512	4.205	2.78	2.858	1.346
79	1.4318	253.518	253.5	9.6	2.677	1.512	4.189	2.77	2.850	1.338
80	1.4464	253.860	253.9	9.8	2.673	1.512	4.185	2.77	2.848	1.336
81	1.4618	253.269	253.3	10.1	2.659	1.512	4.171	2.76	2.842	1.330
82	1.4766	252.940	252.9	10.3	2.648	1.512	4.160	2.75	2.836	1.324
83	1.4919	251.794	251.8	10.6	2.629	1.512	4.141	2.74	2.826	1.314
84	1.5066	252.759	252.8	10.8	2.632	1.512	4.144	2.74	2.828	1.316
85	1.5219	252.435	252.4	11.1	2.621	1.512	4.133	2.73	2.822	1.310
86	1.5321	250.856	250.9	11.3	2.599	1.512	4.111	2.72	2.812	1.300

Hole No. 07-25

BORING LOG	DISTRICT	INSTALLATION	SHEET 1 OF 2 SHEETS

1. PROJECT House Tract Placement Area	7. ELEVATION OF HOLE
2. LOCATION (Coordinates or Station) N=13844793.06 E=3153475.64	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: 2/20/07 COMPLETED: 2/20/07
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", stiff, gray & reddish brown		1	54		2.50		33.0				
			-very stiff below 2'		2	63		3.50		32.0				
5			-gray & tan @ 4' - 6'		3	60		3.25		21.5				
			-reddish brown, gray & tan @ 6' - 8'		4	33		2.25		29.3				
			-brown & gray @ 8' - 10'		5	50		3.50	87.4	32.0	77	23	54	
10			-gray & tan w/ roots & ferrous nodules below 10'		6	54		3.00		25.3				
			LEAN CLAY"FILL", very stiff, tan, brown & gray, w/ ferrous nodules -w/ sand pockets @ 12' - 14'		7	63		3.50		23.2				
15					8	67		3.00		19.4				
			-gray & tan @ 16' - 18'		9	54		2.00		24.0				
					10	58		2.50		23.5				
20			-very stiff, reddish brown & gray below 20'		11	52		3.00		22.4				
					12	75		3.50	98.1	25.6				
					13	92		1.50	98.0	29.2	80	24	56	
25			Boring terminated at 25 ft.											
30														

SWG 1836 BOR 03.14.859-057.GPJ TOLUNAY-WONG ENGINEERS.GDT 3/6/08

ENG FORM: SWG 1836 BOR

Hole No. 07-25

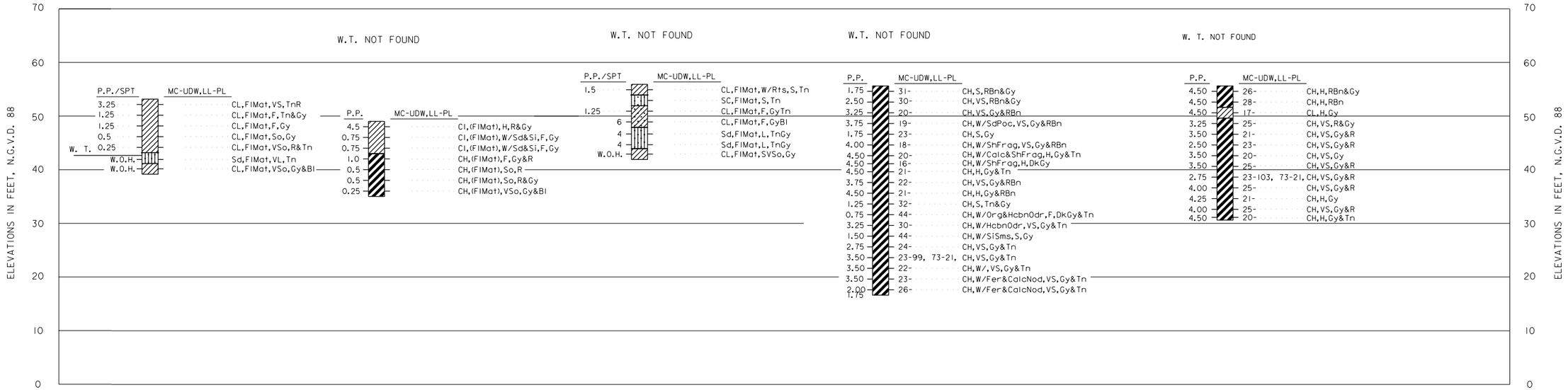
BORING LOG	DISTRICT	INSTALLATION	SHEET 2 OF 2 SHEETS

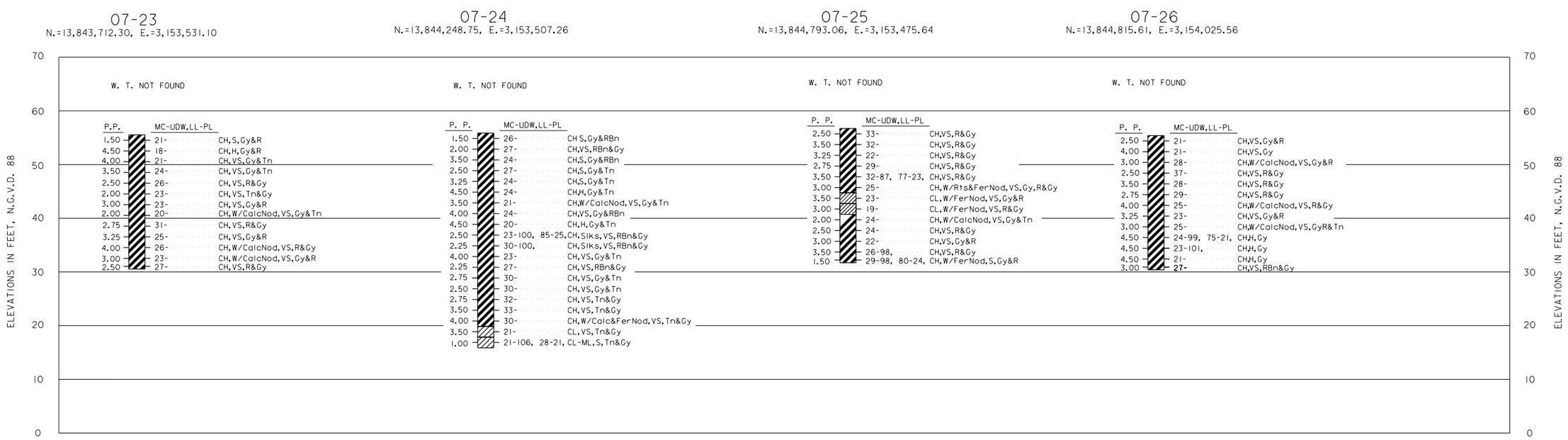
1. PROJECT House Tract Placement Area	7. ELEVATION OF HOLE
2. LOCATION (Coordinates or Station) N=13844793.06 E=3153475.64	8. DATUM FOR ELEVATION
3. DRILLING AGENCY T.R.I.	9. ELEVATION OF GROUNDWATER ▽ TOD: ▼ 24-HR:
4. LABORATORY TESTING AGENCY Tolunay-Wong Engineers, Inc.	10. DRILLING DATE and TIME STARTED: 2/20/07 COMPLETED: 2/20/07
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)
40			**FAT CLAY"FILL"**, stiff, tan & gray, w/ sand pockets & ferrous nodules											
45														
50														
55														
60														
65														

SWG 1836 BOR 03.14.859-057.GPJ TOLUNAY-WONG ENGINEERS.GDT 3/6/08

ENG FORM: SWG 1836 BOR





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	Date	By

TIME:$TIME$ DATE:$DATE$ BY:$USER$

Drawn by:
Designed by: SK,SL,RB
Checked by: SL,RB
Submitted by: LORI K. THOMAS, P.E. Chief,Section 1, Structure Section
Approved by: PETE G. PEREZ, P.E. Chief, Engineering and Construction Division
Date: APRIL, 2008
Scale: AS SHOWN
Rev. --
Approval Recommended: HARRISON T. SUTCLIFFE, P.E. Chief, Engineering Branch

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-44
Sheet 47 of 49

File:$FILE$

File No. HSC 401-515

4/14/2008 1:42:56 PM w:\cadd\projects\hsc\401-515 house tract\housetract plans\F44 Log of Borings 2.dgn