

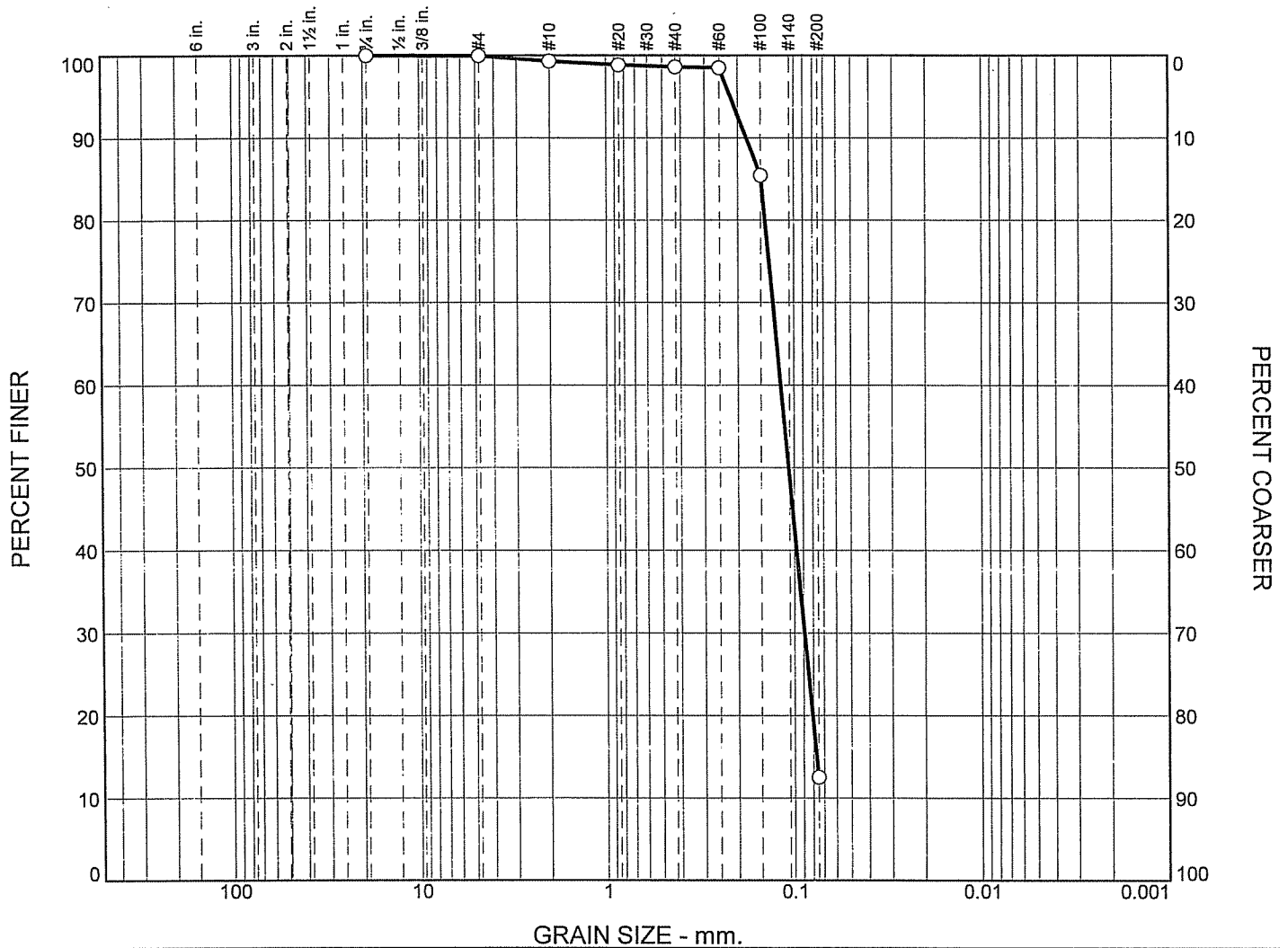
BORING LOG		DISTRICT	INSTALLATION	SHEET 1 OF 2 SHEETS
1. PROJECT Galveston Channel and Pelican Island PA			7. ELEVATION OF HOLE	
2. LOCATION (Coordinates or Station) N=13691264 E=3303460			8. DATUM FOR ELEVATION	
3. DRILLING AGENCY Dempsey (Geotest Engineering, Inc.)			9. ELEVATION OF GROUNDWATER ▽ TOD: ▼ 24-HR:	
4. LABORATORY TESTING AGENCY Tolunay-Wong Engineers, Inc.			10. DRILLING DATE and TIME STARTED: COMPLETED:	
5. DEPTH OF WATER ▽ TOD: ▼ 24-HR:			11. CLASSIFICATION REFERENCE	
6. DEPTH OF HOLE 50 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)
5			FAT CLAY(CH) , soft to very stiff, gray & tan w/ calcareous nodules -w/ roots @ 0' - 2'		1			3.00	98.2	24.0				
			-w/ ferrous nodules & slickensides @ 4' - 6'		2			1.25	84.3	32.0				
					3			0.50	66.4	54.4	89	24	65	93.6
					4			0.75	76.9	42.0				
10			-w/ ferrous nodules, sand seams & shell fragments @ 8' - 10'		5			0.75	76.6	45.0				
			-reddish brown & gray @ 10' - 12'		6			0.50	75.8	41.8	87	24	63	95.7
					7			1.75	68.5	53.4				
15			LEAN CLAY(CL) , very soft, gray & tan, w/ shell fragments	X	8		2			46.9				
			FAT CLAY(CH) , very soft to firm, gray -w/ shell fragments @ 15.5' - 17.5'		9			0.00	58.7	64.3	101	29	72	98.3
			-gray & tan @ 17.5' - 19.5'		10			0.50	73.2	45.4				
20			-reddish brown @ 19.5' - 21.5'		11			1.00	82.9	37.6				
			-reddish brown & gray @ 21.5' - 23.5'		12			0.50	83.2	34.1	85	24	61	99.7
25			-reddish brown w/ shell fragments @ 23.5' - 25'	X	13		2			40.3				
			-w/ sand seams below 25'		14			0.75	73.5	46.5				
					15			1.25	70.7	51.3				
30					16			0.50	71.3	48.8				
			-brown & gray w/ slickensides @ 31' - 33'		17			0.50	64.3	53.8	109	29	80	99.7
					18			0.50	56.8	70.1				

BORING LOG		DISTRICT	INSTALLATION	SHEET 2 OF 2 SHEETS
1. PROJECT Galveston Channel and Pelican Island PA			7. ELEVATION OF HOLE	
2. LOCATION (Coordinates or Station) N=13691264 E=3303460			8. DATUM FOR ELEVATION	
3. DRILLING AGENCY Dempsey (Geotest Engineering, Inc.)			9. ELEVATION OF GROUNDWATER ▽ TOD: ▼ 24-HR:	
4. LABORATORY TESTING AGENCY Tolunay-Wong Engineers, Inc.			10. DRILLING DATE and TIME STARTED: COMPLETED:	
5. DEPTH OF WATER ▽ TOD: ▼ 24-HR:			11. CLASSIFICATION REFERENCE	
6. DEPTH OF HOLE 50 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)
			SILTY SAND(SM) >, medium dense, gray & tan, w/ shell fragments	X	19		14							12.5
			-w/ clay seams @ 37' - 38'											
			SANDY LEAN CLAY(CL) , very soft, gray, w/ sand seams		20			0.00	81.5	39.7				
40			FAT CLAY(CH) >, very soft, gray		21			0.00	79.1	40.9	66	21	45	96.8
			SANDY LEAN CLAY(CL) , very soft to soft, gray		22			0.00	76.8	46.2				
45			-w/ shell fragments @ 44' - 46'		23			0.50	68.9	49.5				
			FAT CLAY(CH) , soft, gray, w/ sand seams		24			0.50	64.9	54.2	92	27	65	91.8
			SANDY LEAN CLAY(CL) , soft, gray		25			0.50	76.7	39.8				
50														
55														
60														
65														

Particle Size Analysis - ASTM D 422



GRAIN SIZE - mm.

	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.7	0.7	86.1	12.5	

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	07-195	19	35-36.5	Gray and tan SILTY SAND; shell fragments	SM

**Tolunay-Wong
Engineers, Inc.
Houston, Texas**

Client: United States Army Corps of Engineers
Project: Galveston Channel and Pelican Island PA
 Contract No. DACW64-03-D-0008, Task Order No. 0077
Project No.: 08.18.918

GRAIN SIZE DISTRIBUTION TEST DATA

7/22/2008

Client: United States Army Corps of Engineers

Project: Galveston Channel and Pelican Island PA

Contract No. DACW64-03-D-0008, Task Order No. 0077

Project Number: 08.18.918

Location: 07-195

Depth: 35-36.5

Sample Number: 19

Material Description: Gray and tan SILTY SAND; shell fragments

USCS: SM

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
277.48	216.15	216.15	3"		
			0.75"	216.15	100.0
			#4	216.18	100.0
			#10	216.58	99.3
			#20	216.86	98.8
			#40	217.02	98.6
			#60	217.07	98.5
			#100	225.08	85.4
			#200	269.79	12.5

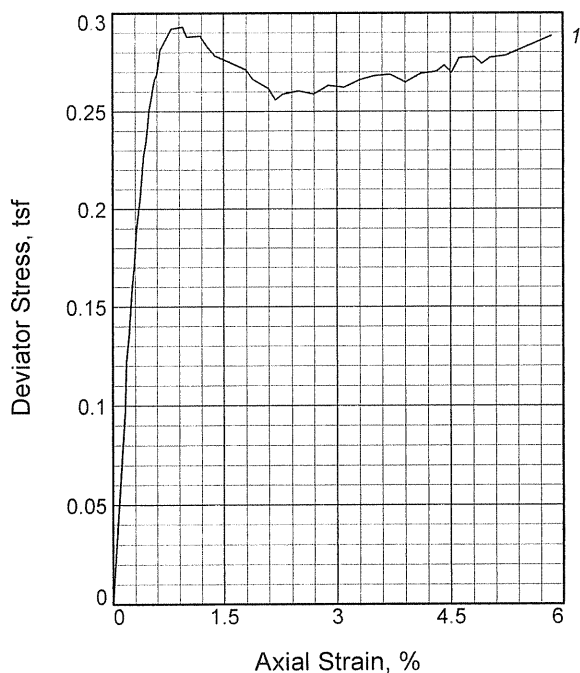
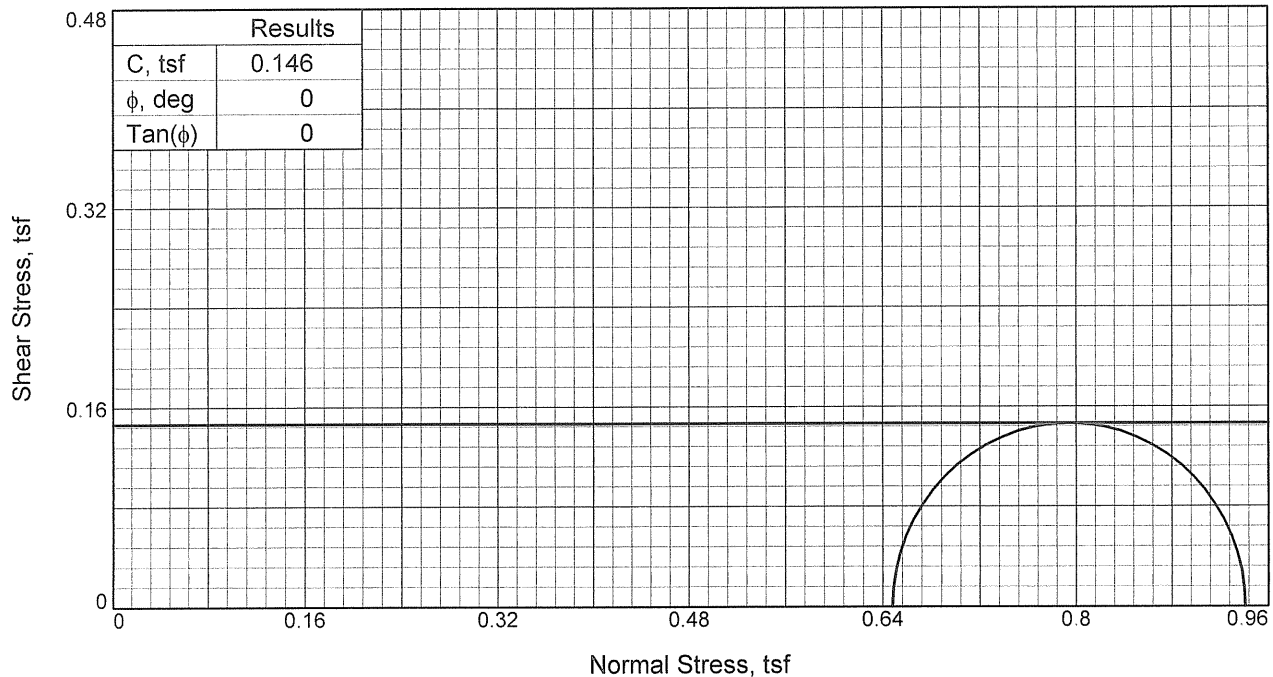
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.7	0.7	86.1	87.5			12.5

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
	0.0768	0.0805	0.0885	0.1071	0.1178	0.1424	0.1494	0.1793	0.2180

Fineness Modulus

0.19



Sample No.		1
Initial	Water Content, %	41.8
	Dry Density, pcf	75.9
	Saturation, %	92.3
	Void Ratio	1.2220
	Diameter, in.	2.80
	Height, in.	6.00
At Test	Water Content, %	38.3
	Dry Density, pcf	75.9
	Saturation, %	84.6
	Void Ratio	1.2220
	Diameter, in.	2.80
	Height, in.	6.00
Strain rate, %/min.		1.00
Back Pressure, tsf		0.00
Cell Pressure, tsf		0.65
Fail. Stress, tsf		0.29
Ult. Stress, tsf		
σ_1 Failure, tsf		0.94
σ_3 Failure, tsf		0.65

Type of Test:

Unconsolidated Undrained

Sample Type: Undisturbed

Description: Reddish-brown and gray FAT CLAY

LL= 87

PL= 24

PI= 63

Assumed Specific Gravity= 2.70

Remarks:

Test method: ASTM D 2850

Pocket pen; tsf: 0.50

Failure type: 60 degree

Client: United States Army Corps of Engineers

Project: Galveston Channel and Pelican Island PA

Contract No. DACW64-03-D-0008, Task Order No. 0077

Source of Sample: 07-195

Depth: 10-12

Sample Number: 6

Proj. No.: 08.18.918

Date Sampled: 7/18/08

TRIAXIAL SHEAR TEST REPORT

Tolunay-Wong Engineers, Inc.

TRIAXIAL COMPRESSION TEST
Unconsolidated Undrained

10/17/2008
9:50 AM

Date: 7/18/08
Client: United States Army Corps of Engineers
Project: Galveston Channel and Pelican Island PA
Contract No. DACW64-03-D-0008, Task Order No. 0077
Project No.: 08.18.918
Location: 07-195
Depth: 10-12 **Sample Number:** 6
Description: Reddish-brown and gray FAT CLAY
Remarks:

Test method: ASTM D 2850
Pocket pen; tsf: 0.50
Failure type: 60 degree

Type of Sample: Undisturbed

Assumed Specific Gravity=2.70 **LL**=87 **PL**=24 **PI**=63

Test Method: ASTM D 2850

Parameters for Specimen No. 1

Specimen Parameter	Initial	Final
Moisture content: Moist soil+tare, gms.	133.820	121.090
Moisture content: Dry soil+tare, gms.	103.710	96.140
Moisture content: Tare, gms.	31.650	31.000
Moisture, %	41.8	38.3
Moist specimen weight, gms.	1042.3	
Diameter, in.	2.80	
Area, in. ²	6.16	
Height, in.	6.00	
Wet Density, pcf	107.6	
Dry density, pcf	75.9	
Void ratio	1.2220	
Saturation, %	92.3	

Test Readings for Specimen No. 1

Membrane modulus = .130 kN/cm²
Membrane thickness = .031 cm
Cell pressure = 9.00 psi (0.648 tsf)
Back pressure = 0.00 psi (0.000 tsf)
Strain rate, %/min. = 1.00
Fail. Stress = 0.293 tsf at reading no. 24

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	0.0209	0.000	0.0	0.0	0.000	0.648	0.648	1.00	0.648	0.000
1	0.0307	8.337	8.3	0.2	0.097	0.648	0.745	1.15	0.697	0.049
2	0.0318	10.481	10.5	0.2	0.122	0.648	0.770	1.19	0.709	0.061
3	0.0339	11.540	11.5	0.2	0.135	0.648	0.783	1.21	0.715	0.067
4	0.0351	12.632	12.6	0.2	0.147	0.648	0.795	1.23	0.722	0.074
5	0.0364	13.644	13.6	0.3	0.159	0.648	0.807	1.25	0.728	0.080
6	0.0385	14.839	14.8	0.3	0.173	0.648	0.821	1.27	0.735	0.087
7	0.0397	16.155	16.2	0.3	0.188	0.648	0.836	1.29	0.742	0.094
8	0.0410	16.755	16.8	0.3	0.195	0.648	0.843	1.30	0.746	0.098
9	0.0431	17.747	17.7	0.4	0.207	0.648	0.855	1.32	0.751	0.103
10	0.0444	18.589	18.6	0.4	0.217	0.648	0.865	1.33	0.756	0.108
11	0.0456	19.466	19.5	0.4	0.227	0.648	0.875	1.35	0.761	0.113
12	0.0476	20.124	20.1	0.4	0.234	0.648	0.882	1.36	0.765	0.117
13	0.0489	20.782	20.8	0.5	0.242	0.648	0.890	1.37	0.769	0.121
14	0.0502	21.559	21.6	0.5	0.251	0.648	0.899	1.39	0.773	0.125
15	0.0523	22.126	22.1	0.5	0.257	0.648	0.905	1.40	0.777	0.129
16	0.0535	22.554	22.6	0.5	0.262	0.648	0.910	1.40	0.779	0.131
17	0.0548	22.907	22.9	0.6	0.266	0.648	0.914	1.41	0.781	0.133
18	0.0569	23.169	23.2	0.6	0.269	0.648	0.917	1.42	0.783	0.135
19	0.0581	23.644	23.6	0.6	0.275	0.648	0.923	1.42	0.785	0.137
20	0.0594	24.205	24.2	0.6	0.281	0.648	0.929	1.43	0.789	0.141
21	0.0627	24.543	24.5	0.7	0.285	0.648	0.933	1.44	0.790	0.142
22	0.0660	24.894	24.9	0.8	0.289	0.648	0.937	1.45	0.792	0.144
23	0.0686	25.170	25.2	0.8	0.292	0.648	0.940	1.45	0.794	0.146
24	0.0778	25.295	25.3	0.9	0.293	0.648	0.941	1.45	0.794	0.146
25	0.0811	24.872	24.9	1.0	0.288	0.648	0.936	1.44	0.792	0.144
26	0.0916	24.968	25.0	1.2	0.289	0.648	0.937	1.45	0.792	0.144
27	0.0981	24.481	24.5	1.3	0.283	0.648	0.931	1.44	0.789	0.141
28	0.1039	24.143	24.1	1.4	0.278	0.648	0.926	1.43	0.787	0.139
29	0.1162	23.902	23.9	1.6	0.275	0.648	0.923	1.42	0.786	0.138
30	0.1283	23.624	23.6	1.8	0.271	0.648	0.919	1.42	0.784	0.136
31	0.1341	23.231	23.2	1.9	0.267	0.648	0.915	1.41	0.781	0.133
32	0.1464	22.870	22.9	2.1	0.262	0.648	0.910	1.40	0.779	0.131
33	0.1522	22.376	22.4	2.2	0.256	0.648	0.904	1.39	0.776	0.128
34	0.1580	22.656	22.7	2.3	0.259	0.648	0.907	1.40	0.777	0.129
35	0.1702	22.849	22.8	2.5	0.261	0.648	0.909	1.40	0.778	0.130
36	0.1826	22.752	22.8	2.7	0.259	0.648	0.907	1.40	0.777	0.129
37	0.1941	23.187	23.2	2.9	0.263	0.648	0.911	1.41	0.780	0.132
38	0.2064	23.157	23.2	3.1	0.262	0.648	0.910	1.40	0.779	0.131
39	0.2186	23.534	23.5	3.3	0.266	0.648	0.914	1.41	0.781	0.133
40	0.2308	23.777	23.8	3.5	0.268	0.648	0.916	1.41	0.782	0.134
41	0.2430	23.875	23.9	3.7	0.269	0.648	0.917	1.41	0.782	0.134
42	0.2552	23.586	23.6	3.9	0.265	0.648	0.913	1.41	0.781	0.133
43	0.2674	24.020	24.0	4.1	0.269	0.648	0.917	1.42	0.783	0.135
44	0.2795	24.169	24.2	4.3	0.270	0.648	0.918	1.42	0.783	0.135
45	0.2859	24.467	24.5	4.4	0.273	0.648	0.921	1.42	0.785	0.137
46	0.2917	24.166	24.2	4.5	0.270	0.648	0.918	1.42	0.783	0.135

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	0.2975	24.854	24.9	4.6	0.277	0.648	0.925	1.43	0.787	0.139
48	0.3098	24.960	25.0	4.8	0.278	0.648	0.926	1.43	0.787	0.139
49	0.3155	24.674	24.7	4.9	0.274	0.648	0.922	1.42	0.785	0.137
50	0.3221	24.985	25.0	5.0	0.277	0.648	0.925	1.43	0.787	0.139
51	0.3342	25.126	25.1	5.2	0.278	0.648	0.926	1.43	0.787	0.139
52	0.3490	25.543	25.5	5.5	0.282	0.648	0.930	1.44	0.789	0.141
53	0.3644	25.988	26.0	5.7	0.286	0.648	0.934	1.44	0.791	0.143
54	0.3714	26.196	26.2	5.8	0.288	0.648	0.936	1.45	0.792	0.144

SUMMARY OF LABORATORY TESTS

Project No. 08.18.918

Client: United States Army Corps of Engineers

Project: Galveston Channel and Pelican Island PA

Contract No. DACW64-03-D-0008, Task Order No. 0077

Boring No.	Sample No.	Depth (ft)	Soil Description	USCS	Water Content (%)	Dry Density (pcf)	Liquid Limit	Plastic Limit	Plast. Index	Finer than #200 Sieve (%)	Lab Vane (tsf)	Uc/UU. Compr. (tsf)	Failure Strain (%)	Conf. Pres. (psi)	Failure Type
	1	0-2	Brown and gray FAT CLAY; ferrous nodules	CH	34.7	85.1									
	2	2-4	Gray and brown FAT CLAY	CH	36.8	80.1									
	3	4-6	Gray and brown FAT CLAY; sand seams and ferrous nodules	CH	48.1	69.6									
	4	6-8	Gray FAT CLAY	CH	59.0	63.8	75	24	51	90.3		0.28	5.0	6.0	Bulge
	5	8-10	Gray and brown FAT CLAY	CH	53.5	64.7									
	6	10-12	Gray FAT CLAY; ferrous nodules	CH	45.2	72.4									
	7	12-14	Gray FAT CLAY; ferrous nodules	CH	58.6	63.5						0.25	1.9		Vertical shear
	8	14-16	Gray FAT CLAY	CH	66.1	61.3	89	25	64	90.1					
	9	16-18	Gray and brown FAT CLAY; sand seams	CH	40.8	78.3									
	10	18-20	Gray FAT CLAY with SAND	CH	75.9	54.3									
	11	20-22	Gray and tan FAT CLAY; ferrous nodules	CH	61.8	58.7	97	24	73	92.3		0.59	4.5		45 degree
	12	22-24	Gray and tan FAT CLAY	CH	40.5	72.8						0.66	4.7		60 degree
	13	24-26	Gray FAT CLAY	CH	48.6	68.9	100	28	72	98.9					
	14	26-28	Gray FAT CLAY; ferrous nodules	CH	53.1	65.9									
	15	28-30	Brown and gray FAT CLAY; ferrous nodules	CH	46.5	71.2									
	16	30-32	Gray and brown FAT CLAY; ferrous nodules	CH	50.8	64.8	116	30	86	96.5		0.76	3.5		Slickensided
	17	32-34	Gray FAT CLAY	CH	65.0	58.3									
	18	34-35.5	Gray and tan CLAYEY SAND; shell fragments	SC											
	19	36-38	Gray SANDY LEAN CLAY; shell fragments	CL	28.2	95.9									
	20	38-40	Gray and tan SANDY LEAN CLAY	CL	36.2	80.5	46	17	29	57.3		0.35	10.6		Bulge
	21	40-42	Gray FAT CLAY; sand pockets	CH	47.1	78.0									
	22	42-44	Gray FAT CLAY; sand seams	CH	47.6	70.1									
	23	44-46	Gray SANDY LEAN CLAY	CL	40.9	77.7	48	20	28	57.1		0.20	5.5		Vertical shear
	24	46-48	Gray FAT CLAY	CH	47.9	66.0	90	28	62	93.3		0.25	4.9		Multiple shear
	25	48-50	Gray FAT CLAY; sand seams and shell fragments	CH	37.5	76.8									
07-195															
	1	0-2	Gray and tan FAT CLAY; calcareous nodules and grass roots	CH	24.0	98.2									
	2	2-4	Gray and tan FAT CLAY	CH	32.0	84.3									
	3	4-6	Gray and tan FAT CLAY; ferrous nodules	CH	54.4	66.4	89	24	65	93.6		0.57	3.2		Slickensided
	4	6-8	Gray and tan FAT CLAY	CH	42.0	76.9									
	5	8-10	Gray and tan FAT CLAY; calcareous and ferrous nodules	CH	45.0	76.6									
	6	10-12	Reddish-brown and gray FAT CLAY	CH	41.8	75.8	87	24	63	95.7		0.29	0.9	9.0	60 degree
	7	12-14	Gray and tan FAT CLAY; calcareous nodules	CH	53.4	68.5									
	8	14-15.5	Tan and gray LEAN CLAY; shell deposits	CL	46.9										
	9	15.5-17.5	Gray FAT CLAY; shell fragments	CH	64.3	58.7	101	29	72	98.3		0.23	12.7		Multiple shear
	10	17.5-19.5	Gray and tan FAT CLAY	CH	45.4	73.2									

Our letters and reports are for the exclusive use of the CLIENT. This document shall not be reproduced, except in full, without our prior written approval.

SUMMARY OF LABORATORY TESTS

Project No. 08.18.918

Client: United States Army Corps of Engineers

Project: Galveston Channel and Pelican Island PA

Contract No. DACW64-03-D-0008, Task Order No. 0077

Boring No.	Sample No.	Depth (ft)	Soil Description	USCS	Water Content (%)	Dry Density (pcf)	Liquid Limit	Plastic Limit	Plast. Index	Finer than #200 Sieve (%)	Lab Vane (tsf)	Uc/UU. Compr. (tsf)	Failure Strain (%)	Conf. Pres. (psi)	Failure Type
	11	19.5-21.5	Reddish-brown FAT CLAY	CH	37.6	82.9									
	12	21.5-23.5	Reddish-brown and gray FAT CLAY	CH	34.1	83.2	85	24	61	99.7		0.45	3.0		45 degree
	13	23.5-25	Reddish-brown FAT CLAY; shell fragments	CH	40.3										
	14	25-27	Gray FAT CLAY	CH	46.5	73.5									
	15	27-29	Gray FAT CLAY	CH	51.3	70.7									
	16	29-31	Gray FAT CLAY	CH	48.8	71.3									
	17	31-33	Brown and gray FAT CLAY	CH	53.8	64.3	109	29	80	99.7		0.60	4.2		Slickensided
	18	33-35	Gray FAT CLAY	CH	70.1	56.8									
	19	35-36.5	Gray and tan SILTY SAND; shell fragments	SM						12.5					
	20	38-40	Gray SANDY LEAN CLAY	CL	39.7	81.5									
	21	40-42	Gray FAT CLAY	CH	40.9	79.1	66	21	45	96.8		0.42	13.2		Bulge
	22	42-44	Gray and tan SANDY LEAN CLAY	CL	46.2	76.8									
	23	44-46	Gray SANDY LEAN CLAY; sand seams	CL	49.5	68.9									
	24	46-48	Gray FAT CLAY; sand seams	CH	54.2	64.9	92	27	65	91.8		0.49	7.2		Bulge
	25	48-50	Gray SANDY LEAN CLAY	CL	39.8	76.7									
07-196															
	1	0-2	Gray and brown FAT CLAY with SAND; shell fragments	CH	40.9	79.5									
	2	2-4	Brown and gray FAT CLAY with SAND	CH	52.8	69.2									
	3	4-6	Brown and gray FAT CLAY; ferrous nodules	CH	49.8	73.0	99	30	69	95.9		0.47	5.1		Vertical shear
	4	6-8	Gray and brown FAT CLAY with SAND	CH	44.9	71.6									
	5	8-10	Brown and gray FAT CLAY; sand seams and ferrous nodules	CH	44.8	71.3	92	29	63	85.6		0.50	4.2		60 degree
	6	10-12	Brown and gray FAT CLAY with SAND; ferrous nodules	CH	49.8	69.2									
	7	12-14	Gray and tan FAT CLAY; ferrous nodules	CH	43.7	72.4	95	29	66	95.8		1.12	3.0		Slickensided
	8	14-16	Gray LEAN CLAY; ferrous nodules	CL	60.0	61.5									
	9	16-18	Brown and gray FAT CLAY	CH	56.5	63.9						0.81	2.9	14.0	60 degree
	10	18-20	Gray and tan FAT CLAY	CH	55.7	64.6	99	30	69	95.7		0.37	3.6		60 degree
	11	20-22	Gray and reddish-brown FAT CLAY with SAND; organics	CH	39.3	71.0									
	12	22-24	Gray FAT CLAY with SAND; organics	CH	52.4	66.7									
	13	24-26	Gray FAT CLAY	CH	42.5		88	27	61	92.4					
	14	26-28	Gray and brown FAT CLAY with SAND; organics	CH	56.6	65.6									
	15	28-30	Gray FAT CLAY	CH	48.2	67.7	107	29	78	99.1					
	16	30-32	Gray FAT CLAY	CH	53.1	67.2									
	17	32-34	Gray and tan SANDY LEAN CLAY	CL	22.7	94.2						0.34	14.2		Bulge
	18	34-36	Gray SANDY LEAN CLAY	CL	33.4	92.9	29	17	12	58.1					
	19	36-38	Gray SANDY LEAN CLAY; shell fragments	CL	48.5	74.9									
	20	38-40	Gray FAT CLAY; sand seams and shell fragments	CH	52.4	66.5	81	25	56	86.9		0.42	4.1		45 degree

Our letters and reports are for the exclusive use of the CLIENT. This document shall not be reproduced, except in full, without our prior written approval.

TOLUNAY-WONG ENGINEERS, INC.

