

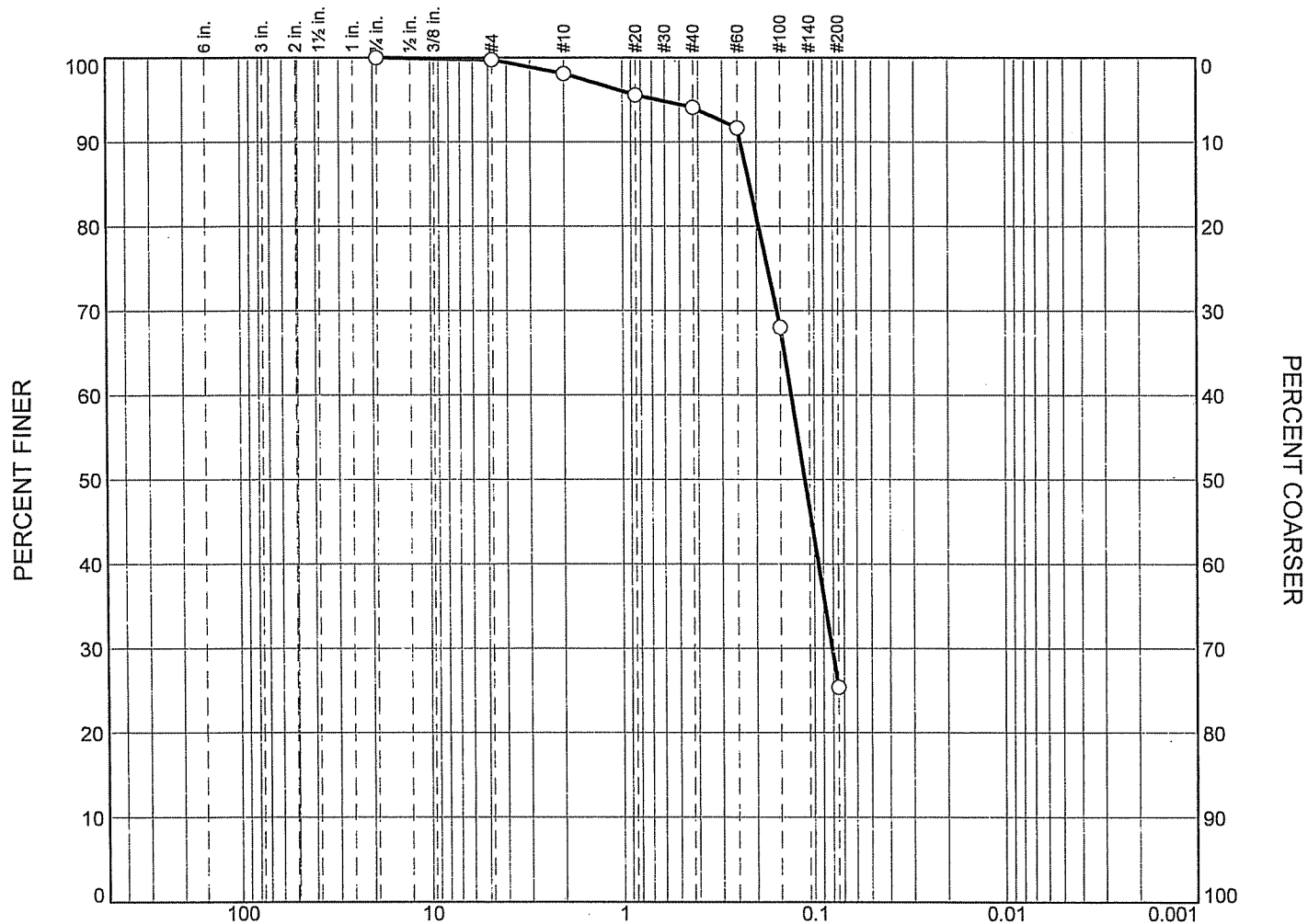
BORING LOG		DISTRICT	INSTALLATION	SHEET 1 OF 2 SHEETS
1. PROJECT Galveston Channel and Pelican Island PA			7. ELEVATION OF HOLE	
2. LOCATION (Coordinates or Station) N=13697308 E=3303868			8. DATUM FOR ELEVATION	
3. DRILLING AGENCY Dempsey (Geotest Engineering, Inc.)			9. ELEVATION OF GROUNDWATER ▽ TOD: ▼ 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)
			LEAN CLAY(CL) , stiff, gray, w/ sand seams		1			1.75	89.2	27.6				
			FAT CLAY(CH) , very soft to very stiff, gray		2			2.25	81.3	37.6	67	23	44	98.7
5			-gray & brown below 4' -w/ sand seams @ 4' - 6'		3			0.50	77.9	44.2				
			-w/ shell fragments, calcareous & ferrous nodules @ 8' - 10'		4			1.00	89.4	29.7	59	20	39	94.3
10			LEAN CLAY WITH SAND(CL) , very stiff, brown & tan, w/ calcareous & ferrous nodules -w/ sand seams @ 11' - 12'		5			3.50	93.4	33.4				
			SANDY LEAN CLAY(CL) , stiff, gray & tan, w/ shell fragments		6			3.00	107.3	17.2	40	20	20	79.9
			FAT CLAY WITH SAND(CH) , firm, gray, w/ sand seams		7		9							
15			FAT CLAY(CH) , very soft to firm, gray, w/ sand seams -w/ silt seams @ 18' - 20'		8			0.75	63.6	61.3				
			-w/ shell fragments @ 22.5' - 24'		9			0.50	60.5	64.0	123	34	89	99.8
20			CLAYEY SAND(SC) , very loose, tan & gray, w/ shell fragments		10			0.50	75.2	40.0				
					11			0.00	57.5	65.0	97	27	70	90.2
					12		WOP			43.3				
25			LEAN CLAY(CL) , very soft, gray, w/ shell fragments & sand seams		13		5							25.4
			FAT CLAY(CH) , very soft, gray -w/ shell fragments @ 31' - 32.5' -w/ sand seams @ 32.5' - 34'		14		2			30.0				
30					15		3			45.0				
			CLAYEY SAND(SC) , very loose, gray, w/		16			0.00	75.7	43.2	68	24	44	86.2

BORING LOG		DISTRICT	INSTALLATION	SHEET OF 2 SHEETS
1. PROJECT Galveston Channel and Pelican Island PA		7. ELEVATION OF HOLE		
2. LOCATION (Coordinates or Station) N=13697308 E=3303868		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		

[illegible]

Particle Size Analysis - ASTM D 422



GRAIN SIZE - mm.

	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.3	1.6	4.0	68.7	25.4	

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	07-191		24-25.5	Tan and gray CLAYEY SAND; shell fragments	SC

**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: 07-191

Depth: 24-25.5

Material Description: Tan and gray CLAYEY SAND; shell fragments

USCS: SC

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer
275.34	170.73	170.73	3"		
			0.75"	170.73	100.0
			#4	171.00	99.7
			#10	172.70	98.1
			#20	175.37	95.6
			#40	176.90	94.1
			#60	179.45	91.7
			#100	204.18	68.0
			#200	248.78	25.4

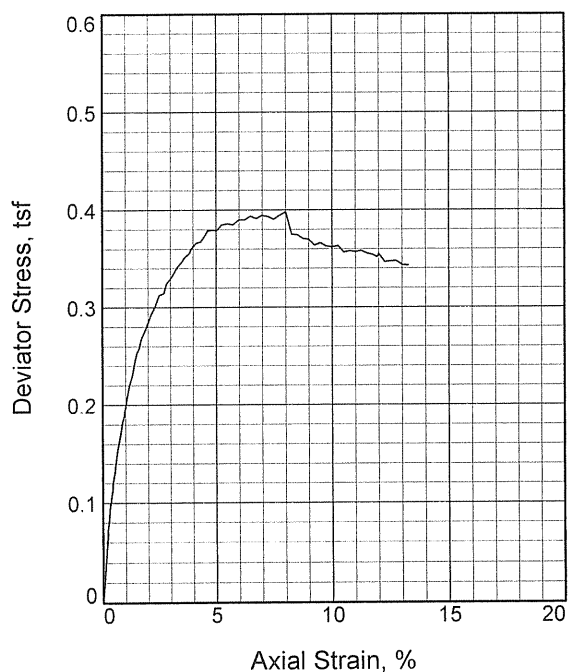
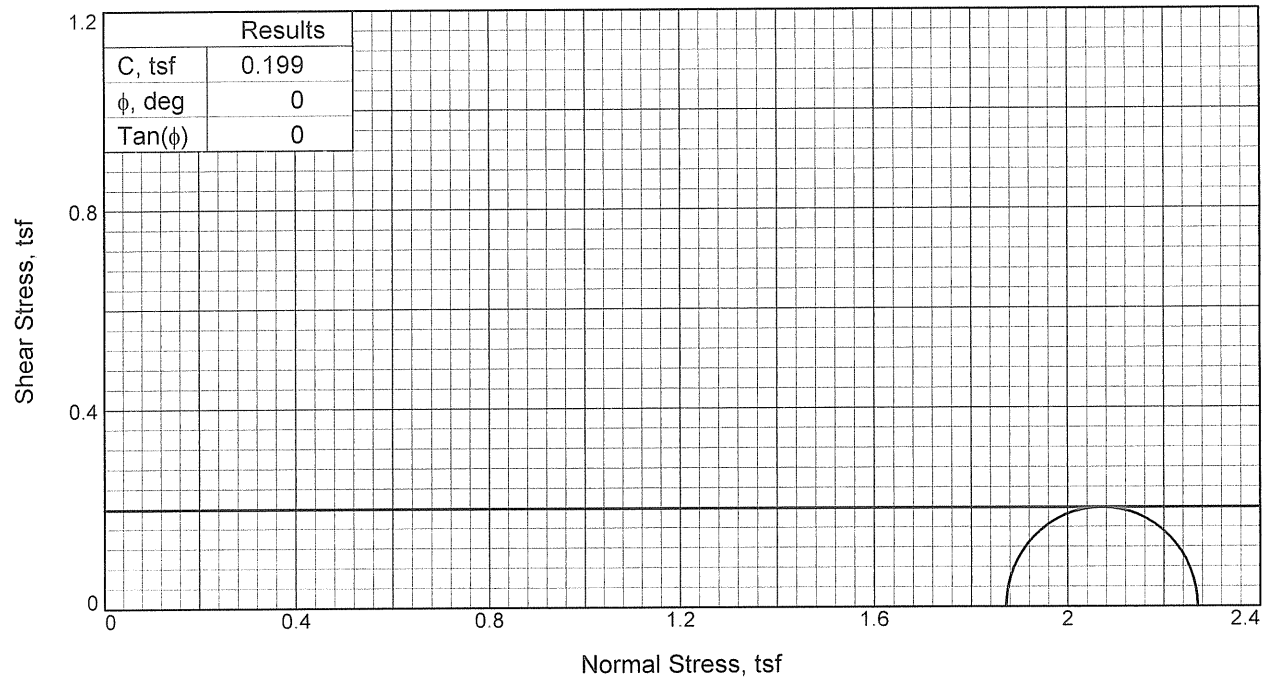
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.3	0.3	1.6	4.0	68.7	74.3			25.4

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
			0.0808	0.1119	0.1317	0.1943	0.2165	0.2412	0.6505

Fineness Modulus

0.50



Sample No.		1
Initial	Water Content, %	41.2
	Dry Density, pcf	74.6
	Saturation, %	88.3
	Void Ratio	1.2598
	Diameter, in.	2.76
	Height, in.	5.98
At Test	Water Content, %	46.6
	Dry Density, pcf	74.6
	Saturation, %	99.8
	Void Ratio	1.2598
	Diameter, in.	2.75
	Height, in.	5.98
Strain rate, %/min.		1.00
Back Pressure, tsf		0.00
Cell Pressure, tsf		1.87
Fail. Stress, tsf		0.40
Ult. Stress, tsf		
σ_1 Failure, tsf		2.27
σ_3 Failure, tsf		1.87

Type of Test:

Unconsolidated Undrained

Sample Type: Undisturbed

Description: Gray FAT CLAY; sand seams

LL= 72

PL= 24

PI= 48

Assumed Specific Gravity= 2.70

Remarks:

Test method: ASTM D 2850

Pocket pen; tsf: 0.50

Failure type: Bulge

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: 07-191

Depth: 42-44

Sample Number: 21

Proj. No.: 08.18.918

Date Sampled: 7/15/08

TRIAXIAL SHEAR TEST REPORT

Tolunay-Wong Engineers, Inc.

TRIAXIAL COMPRESSION TEST
Unconsolidated Undrained

10/17/2008
9:46 AM

Date: 7/15/08
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: 07-191
Depth: 42-44 **Sample Number:** 21
Description: Gray FAT CLAY; sand seams
Remarks:
Test method: ASTM D 2850
Pocket pen; tsf: 0.50
Failure type: Bulge
Type of Sample: Undisturbed
Assumed Specific Gravity=2.70 **LL**=72 **PL**=24 **PI**=48
Test Method: ASTM D 2850

Parameters for Specimen No. 1

Specimen Parameter	Initial	Final
Moisture content: Moist soil+tare, gms.	145.900	172.390
Moisture content: Dry soil+tare, gms.	112.170	127.580
Moisture content: Tare, gms.	30.290	31.360
Moisture, %	41.2	46.6
Moist specimen weight, gms.	985.8	
Diameter, in.	2.76	
Area, in. ²	5.96	
Height, in.	5.98	
Wet Density, pcf	105.3	
Dry density, pcf	74.6	
Void ratio	1.2598	
Saturation, %	88.3	

Test Readings for Specimen No. 1

Membrane modulus = .130 kN/cm²
Membrane thickness = .031 cm
Cell pressure = 26.00 psi (1.872 tsf)
Back pressure = 0.00 psi (0.000 tsf)
Strain rate, %/min. = 1.00
Fail. Stress = 0.398 tsf at reading no. 60

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	0.0253	0.000	0.0	0.0	0.000	1.872	1.872	1.00	1.872	0.000
1	0.0353	4.601	4.6	0.2	0.055	1.872	1.927	1.03	1.900	0.028
2	0.0370	5.310	5.3	0.2	0.064	1.872	1.936	1.03	1.904	0.032
3	0.0383	6.008	6.0	0.2	0.072	1.872	1.944	1.04	1.908	0.036
4	0.0396	6.407	6.4	0.2	0.077	1.872	1.949	1.04	1.911	0.039
5	0.0416	6.934	6.9	0.3	0.084	1.872	1.956	1.04	1.914	0.042
6	0.0442	7.948	7.9	0.3	0.096	1.872	1.968	1.05	1.920	0.048
7	0.0475	8.588	8.6	0.4	0.103	1.872	1.975	1.06	1.924	0.052
8	0.0507	9.374	9.4	0.4	0.113	1.872	1.985	1.06	1.928	0.056
9	0.0520	10.120	10.1	0.4	0.122	1.872	1.994	1.07	1.933	0.061
10	0.0565	10.873	10.9	0.5	0.131	1.872	2.003	1.07	1.937	0.065
11	0.0598	11.774	11.8	0.6	0.141	1.872	2.013	1.08	1.943	0.071
12	0.0632	12.612	12.6	0.6	0.151	1.872	2.023	1.08	1.948	0.076
13	0.0657	13.032	13.0	0.7	0.156	1.872	2.028	1.08	1.950	0.078
14	0.0709	14.023	14.0	0.8	0.168	1.872	2.040	1.09	1.956	0.084
15	0.0741	14.536	14.5	0.8	0.174	1.872	2.046	1.09	1.959	0.087
16	0.0767	15.231	15.2	0.9	0.182	1.872	2.054	1.10	1.963	0.091
17	0.0819	15.730	15.7	0.9	0.188	1.872	2.060	1.10	1.966	0.094
18	0.0832	16.156	16.2	1.0	0.193	1.872	2.065	1.10	1.969	0.097
19	0.0865	16.589	16.6	1.0	0.198	1.872	2.070	1.11	1.971	0.099
20	0.0878	17.081	17.1	1.0	0.204	1.872	2.076	1.11	1.974	0.102
21	0.0911	17.634	17.6	1.1	0.211	1.872	2.083	1.11	1.977	0.105
22	0.0957	18.363	18.4	1.2	0.219	1.872	2.091	1.12	1.982	0.110
23	0.1033	19.318	19.3	1.3	0.230	1.872	2.102	1.12	1.987	0.115
24	0.1091	20.368	20.4	1.4	0.243	1.872	2.115	1.13	1.993	0.121
25	0.1154	21.261	21.3	1.5	0.253	1.872	2.125	1.14	1.998	0.126
26	0.1212	21.656	21.7	1.6	0.257	1.872	2.129	1.14	2.001	0.129
27	0.1269	22.494	22.5	1.7	0.267	1.872	2.139	1.14	2.006	0.134
28	0.1335	23.035	23.0	1.8	0.273	1.872	2.145	1.15	2.009	0.137
29	0.1392	23.468	23.5	1.9	0.278	1.872	2.150	1.15	2.011	0.139
30	0.1450	24.005	24.0	2.0	0.284	1.872	2.156	1.15	2.014	0.142
31	0.1515	24.618	24.6	2.1	0.291	1.872	2.163	1.16	2.018	0.146
32	0.1636	25.439	25.4	2.3	0.300	1.872	2.172	1.16	2.022	0.150
33	0.1751	26.510	26.5	2.5	0.312	1.872	2.184	1.17	2.028	0.156
34	0.1874	26.764	26.8	2.7	0.315	1.872	2.187	1.17	2.029	0.157
35	0.1938	27.646	27.6	2.8	0.325	1.872	2.197	1.17	2.034	0.162
36	0.2059	28.185	28.2	3.0	0.330	1.872	2.202	1.18	2.037	0.165
37	0.2174	28.859	28.9	3.2	0.337	1.872	2.209	1.18	2.041	0.169
38	0.2239	29.277	29.3	3.3	0.342	1.872	2.214	1.18	2.043	0.171
39	0.2354	29.782	29.8	3.5	0.347	1.872	2.219	1.19	2.046	0.174
40	0.2419	30.158	30.2	3.6	0.351	1.872	2.223	1.19	2.048	0.176
41	0.2540	30.611	30.6	3.8	0.356	1.872	2.228	1.19	2.050	0.178
42	0.2598	31.068	31.1	3.9	0.361	1.872	2.233	1.19	2.052	0.180
43	0.2720	31.581	31.6	4.1	0.366	1.872	2.238	1.20	2.055	0.183
44	0.2841	31.789	31.8	4.3	0.367	1.872	2.239	1.20	2.056	0.184
45	0.2964	32.470	32.5	4.5	0.374	1.872	2.246	1.20	2.059	0.187
46	0.3021	32.858	32.9	4.6	0.378	1.872	2.250	1.20	2.061	0.189

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	0.3143	32.988	33.0	4.8	0.379	1.872	2.251	1.20	2.062	0.190
48	0.3264	33.029	33.0	5.0	0.379	1.872	2.251	1.20	2.061	0.189
49	0.3385	33.593	33.6	5.2	0.384	1.872	2.256	1.21	2.064	0.192
50	0.3533	33.805	33.8	5.5	0.386	1.872	2.258	1.21	2.065	0.193
51	0.3687	33.799	33.8	5.7	0.385	1.872	2.257	1.21	2.064	0.192
52	0.3834	34.322	34.3	6.0	0.390	1.872	2.262	1.21	2.067	0.195
53	0.3988	34.406	34.4	6.2	0.390	1.872	2.262	1.21	2.067	0.195
54	0.4135	34.813	34.8	6.5	0.393	1.872	2.265	1.21	2.069	0.197
55	0.4288	34.717	34.7	6.7	0.391	1.872	2.263	1.21	2.068	0.196
56	0.4435	35.095	35.1	7.0	0.394	1.872	2.266	1.21	2.069	0.197
57	0.4588	35.069	35.1	7.2	0.393	1.872	2.265	1.21	2.068	0.196
58	0.4735	34.953	35.0	7.5	0.391	1.872	2.263	1.21	2.067	0.195
59	0.4889	35.402	35.4	7.7	0.394	1.872	2.266	1.21	2.069	0.197
60	0.5036	35.822	35.8	8.0	0.398	1.872	2.270	1.21	2.071	0.199
61	0.5189	35.630	35.6	8.3	0.375	1.872	2.247	1.20	2.059	0.187
62	0.5336	35.740	35.7	8.5	0.375	1.872	2.247	1.20	2.059	0.187
63	0.5490	35.542	35.5	8.8	0.371	1.872	2.243	1.20	2.057	0.185
64	0.5637	35.597	35.6	9.0	0.370	1.872	2.242	1.20	2.057	0.185
65	0.5790	35.225	35.2	9.3	0.364	1.872	2.236	1.19	2.054	0.182
66	0.5937	35.591	35.6	9.5	0.366	1.872	2.238	1.20	2.055	0.183
67	0.6090	35.433	35.4	9.8	0.363	1.872	2.235	1.19	2.053	0.181
68	0.6237	35.490	35.5	10.0	0.362	1.872	2.234	1.19	2.053	0.181
69	0.6391	35.788	35.8	10.3	0.363	1.872	2.235	1.19	2.054	0.182
70	0.6538	35.336	35.3	10.5	0.357	1.872	2.229	1.19	2.050	0.178
71	0.6691	35.591	35.6	10.8	0.358	1.872	2.230	1.19	2.051	0.179
72	0.6838	35.677	35.7	11.0	0.357	1.872	2.229	1.19	2.050	0.178
73	0.6985	35.948	35.9	11.3	0.358	1.872	2.230	1.19	2.051	0.179
74	0.7140	35.819	35.8	11.5	0.355	1.872	2.227	1.19	2.050	0.178
75	0.7287	35.876	35.9	11.8	0.354	1.872	2.226	1.19	2.049	0.177
76	0.7390	35.769	35.8	11.9	0.352	1.872	2.224	1.19	2.048	0.176
77	0.7441	36.091	36.1	12.0	0.355	1.872	2.227	1.19	2.049	0.177
78	0.7588	35.494	35.5	12.3	0.347	1.872	2.219	1.19	2.045	0.173
79	0.7741	35.734	35.7	12.5	0.347	1.872	2.219	1.19	2.046	0.174
80	0.7888	35.905	35.9	12.8	0.348	1.872	2.220	1.19	2.046	0.174
81	0.8041	35.669	35.7	13.0	0.343	1.872	2.215	1.18	2.044	0.172
82	0.8189	35.783	35.8	13.3	0.343	1.872	2.215	1.18	2.043	0.171

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
	18	36-37.5	Gray SANDY SILTY CLAY	CL-ML	29.4										
	19	37.5-39.5	Gray FAT CLAY with SAND	CH	32.9	87.9									
	20	39.5-41	Gray and tan POORLY GRADED SAND with SILT	SP-SM						8.9					
	21	44.5-46	Gray POORLY GRADED SAND with SILT	SP-SM						9.1					
	22	48-50	Gray and tan FAT CLAY with SAND	CH	19.9										
07-189															
	1	0-1	Tan and gray FAT CLAY	CH											
	2	1-2	Gray FAT CLAY	CH	112.9		92	25	67	98.3					
	3	2-3	Gray and tan FAT CLAY	CH											
	4	3-4	Gray FAT CLAY	CH	64.2										
	5	4-5	Gray FAT CLAY	CH											
	6	5-6	Gray FAT CLAY	CH	73.5		103	28	75	98.2					
07-190															
	1	0-2	Gray and tan FAT CLAY	CH	42.3	77.6									
	2	2-4	Tan SILTY SAND	SM						23.2					
	3	4-6	Gray FAT CLAY	CH	49.5	69.6						0.58	4.1		Slickensided
	4	6-8	Gray and tan SANDY FAT CLAY	CH	28.9	89.8	50	20	30	51.8		0.30	4.6		Bulge
	5	8-10	Gray FAT CLAY; sand pockets	CH	59.9	72.0									
	6	10-12	Gray FAT CLAY	CH	54.9	67.3	87	24	63	96.1					
	7	12-14	Gray and tan FAT CLAY with SAND	CH	48.8	74.7									
	8	14-15.5	Tan and gray SILTY SAND	SM						23.3					
	9	19-20.5	Tan SILTY SAND	SM						19.3					
	10	22-24	FAT CLAY with SAND	CH	44.1	75.1	66	22	44	81.3		0.36	15.0		Bulge
	11	24-26	Tan and gray SILTY SAND	SM						27.5					
	12	26-27.5	Gray and tan SILTY SAND	SM						25.2					
	13	30-31.5	Gray FAT CLAY with SAND	CH	36.3										
	14	32-33.5	Gray FAT CLAY with SAND	CH	51.2		62	21	41	83.1					
	15	34-35.5	Gray FAT CLAY	CH	41.1										
	16	35.5-37.5	Gray FAT CLAY	CH	55.5	67.3									
	17	37.5-39.5	Gray FAT CLAY	CH	56.6	66.5	68	22	46	95.7					
	18	39.5-41.5	Gray FAT CLAY; sand pockets	CH	34.8	82.7									
	19	41.5-43.5	Gray LEAN CLAY with SAND	CL	26.9	84.0	49	19	30	70.3		0.48	9.3		Vertical shear
	20	43.5-45.5	Gray FAT CLAY; sand pockets	CH	34.2	83.9									
	21	45.5-47.5	Gray FAT CLAY with SAND	CH	32.7	88.8	51	19	32	81.4		0.29	5.7		45 degree
	22	47.5-49	Gray and tan FAT CLAY; sand pockets	CH	23.9	85.9									
	23	49-50	Gray FAT CLAY; sand pockets	CH	40.9	79.6									
07-191															

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TOLUNAY-WONG ENGINEERS, INC.



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	Gray LEAN CLAY; sand seams	CL	27.6	89.2									
	2	2-4	Gray FAT CLAY	CH	37.6	81.3	67	23	44	98.7		1.16	2.8		Slickensided
	3	4-6	Gray and brown FAT CLAY; sand seams	CH	44.2	77.9									
	4	6-8	Brown and gray FAT CLAY	CH	29.7	89.4	59	20	39	94.3		0.79	4.7		Slickensided
	5	8-10	Brown and gray FAT CLAY; shell fragments	CH	33.4	93.4									
	6	10-12	Brown and tan LEAN CLAY with SAND	CL	17.2	107.3	40	20	20	79.9		2.32	15.1		Bulge
	7	12-14	Gray and tan SANDY LEAN CLAY	CL											
	8	14-16	Gray FAT CLAY with SAND	CH	61.3	63.6									
	9	16-18	Gray FAT CLAY	CH	64.0	60.5	123	34	89	99.8		0.38	11.7		Bulge
	10	18-20	Gray FAT CLAY	CH	40.0	75.2									
	11	20-22	Gray FAT CLAY	CH	65.0	57.5	97	27	70	90.2		0.38	9.1		Bulge
	12	22.5-24	Gray FAT CLAY; shell fragments	CH	43.3										
	13	24-25.5	Tan and gray CLAYEY SAND; shell fragments	SC						25.4					
	14	29-30.5	Gray LEAN CLAY; shell fragments	CL	30.0										
	15	31-32.5	Gray FAT CLAY; shell fragments	CH	45.0										
	16	32.5-34	Gray FAT CLAY; sand seams	CH	43.2	75.7	68	24	44	86.2		0.33	9.7		Bulge
	17	34-36	Gray CLAYEY SAND	SC	23.6	97.3									
	18	36-38	Gray FAT CLAY with SAND	CH	41.5	77.2									
	19	38-40	Gray FAT CLAY; sand seams	CH	48.6	74.0	66	23	43	86.8		0.38	10.1		Bulge
	20	40-42	Gray FAT CLAY; sand seams	CH	39.9	79.2									
	21	42-44	Gray FAT CLAY; sand seams	CH	41.2	74.6	72	24	48	86.9		0.40	8.0	26.0	Bulge
	22	44-46	Gray FAT CLAY; sand seams	CH	50.1	71.7									
	23	46-48	Gray FAT CLAY; sand seams	CH	49.0	70.6									
	24	48-50	Gray FAT CLAY with SAND	CH	37.3	75.7	56	20	36	76.2		0.49	7.7		Bulge
07-192															
	1	0-2	Gray FAT CLAY; grass roots	CH	30.9	82.8									
	2	2-4	Gray FAT CLAY	CH	66.0	60.2									
	3	4-6	Gray FAT CLAY	CH	65.6	57.2	95	28	67	98.0		0.22	8.2		60 degree
	4	6-8	Gray FAT CLAY	CH	52.3	66.9						0.32	6.2	6.0	60 degree
	5	8-10	Gray FAT CLAY	CH	74.7	57.0									
	6	10-12	Gray FAT CLAY	CH	48.7	69.8	101	29	72	99.4		0.37	4.5		45 degree
	7	12-14	Gray FAT CLAY	CH	67.8	60.6									
	8	14-16	Gray FAT CLAY; ferrous nodules	CH	71.4	56.0						0.37	5.8		60 degree
	9	16-18	Gray and tan FAT CLAY	CH	65.5	56.4	112	30	82	99.7		0.39	3.6		45 degree
	10	18-20	Gray and tan SANDY LEAN CLAY	CH	58.7	70.9									
	11	20-22	Gray SANDY LEAN CLAY	CL	24.0	100.1									
	12	22-24	Gray FAT CLAY	CH	40.6	79.8	63	24	39	92.7		0.53	8.2	17.0	60 degree

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