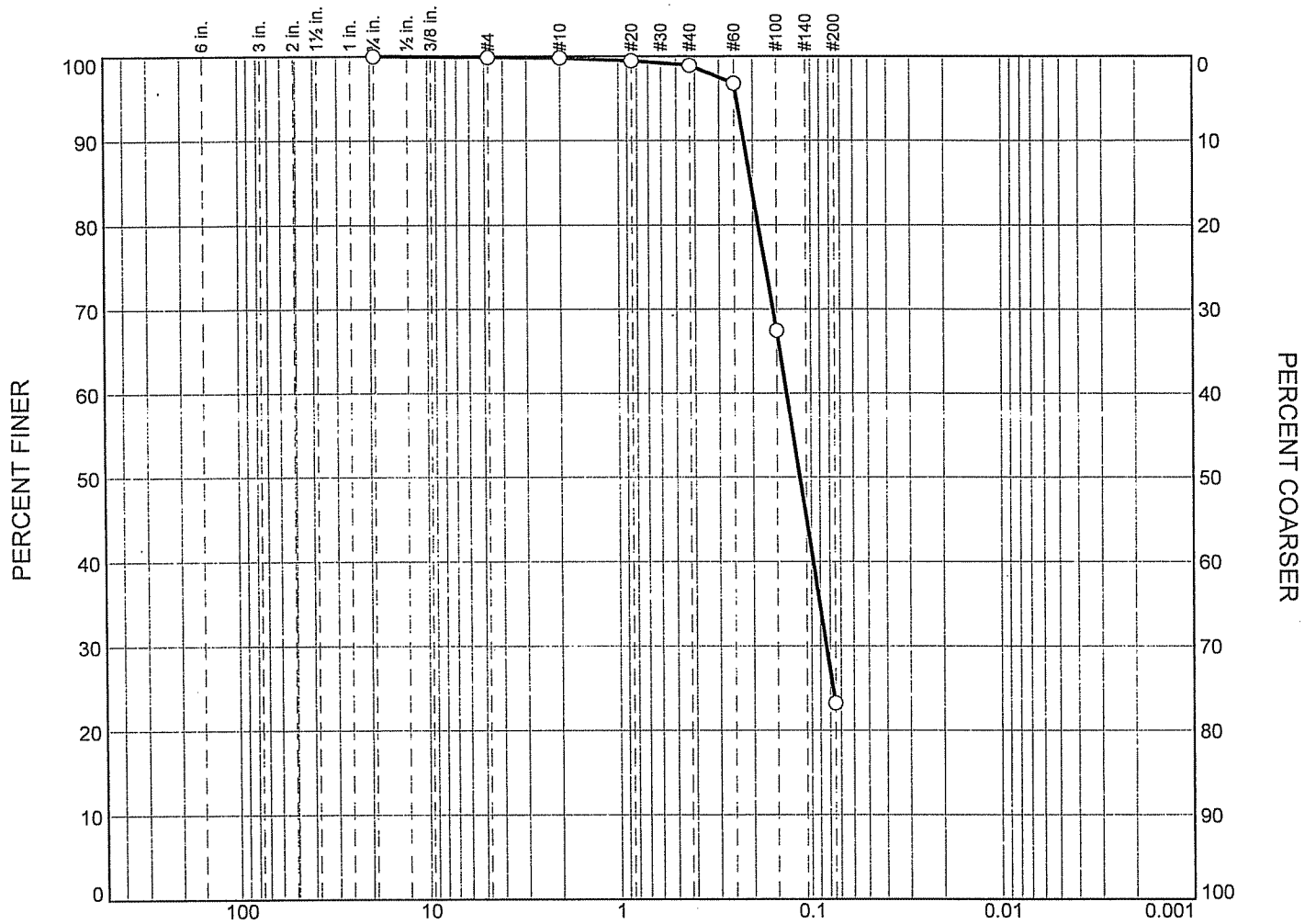


BORING LOG		DISTRICT	INSTALLATION	SHEET 1 OF 2 SHEETS
1. PROJECT Galveston Channel and Pelican Island PA			7. ELEVATION OF HOLE	
2. LOCATION (Coordinates or Station) N=13698811 E=3303582			8. DATUM FOR ELEVATION	
3. DRILLING AGENCY Dempsey (Geotest Engineering, Inc.)			9. ELEVATION OF GROUNDWATER ▽ TOD: ▼ 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)
			FAT CLAY(CH) , firm to stiff, gray & tan		1			2.75	77.6	42.3				
			SILTY SAND(SM) , tan		2									23.2
5			FAT CLAY(CH) , stiff, gray, w/ slickensides		3			1.50	69.6	49.5				
			SANDY FAT CLAY(CH) , firm, gray & tan		4			0.50	89.8	28.9	50	20	30	51.8
10			FAT CLAY(CH) , very soft, gray -w/ shell fragments, sand pockets & layer @ 8' - 10'		5			0.00	72.0	59.9				
					6			0.00	67.3	54.9	87	24	63	96.1
			FAT CLAY WITH SAND(CH) , very soft, gray & tan		7			0.00	74.7	48.8				
15			SILTY SAND(SM) , loose to medium dense, tan & gray	X	8		16							23.3
20				X	9		7							19.3
			FAT CLAY WITH SAND(CH) , very soft, gray & tan, w/ sand & clay seams		10			0.00	75.1	44.1	66	22	44	81.3
25			SILTY SAND(SM) , very loose, tan & gray, w/ shell fragments		11									27.5
				X	12		1							25.2
30			FAT CLAY WITH SAND(CH) , very soft, gray, w/ sand seams	X	13		wop			36.3				
				X	14		wop			51.2	62	21	41	83.1
			FAT CLAY(CH) , very soft, gray	X	15		3			41.1				

Particle Size Analysis - ASTM D 422



GRAIN SIZE - mm.

	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.1	0.1	0.9	75.7	23.2	

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	07-190	2	2-4	Tan SILTY SAND	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

7/18/2008

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: 07-190

Depth: 2-4

Sample Number: 2

Material Description: Tan SILTY SAND

USCS: SM

Material specification: (no specification envelope)

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer	Lower Spec. Limit, %	Upper Spec. Limit, %	Deviation From Spec., %
47.41	6.62	6.62	3"					
			0.75"	6.62	100.0			
			#4	6.66	99.9			
			#10	6.70	99.8			
			#20	6.83	99.5			
			#40	7.06	98.9			
			#60	7.94	96.8			
			#100	19.90	67.4			
			#200	37.93	23.2			

Fractional Components

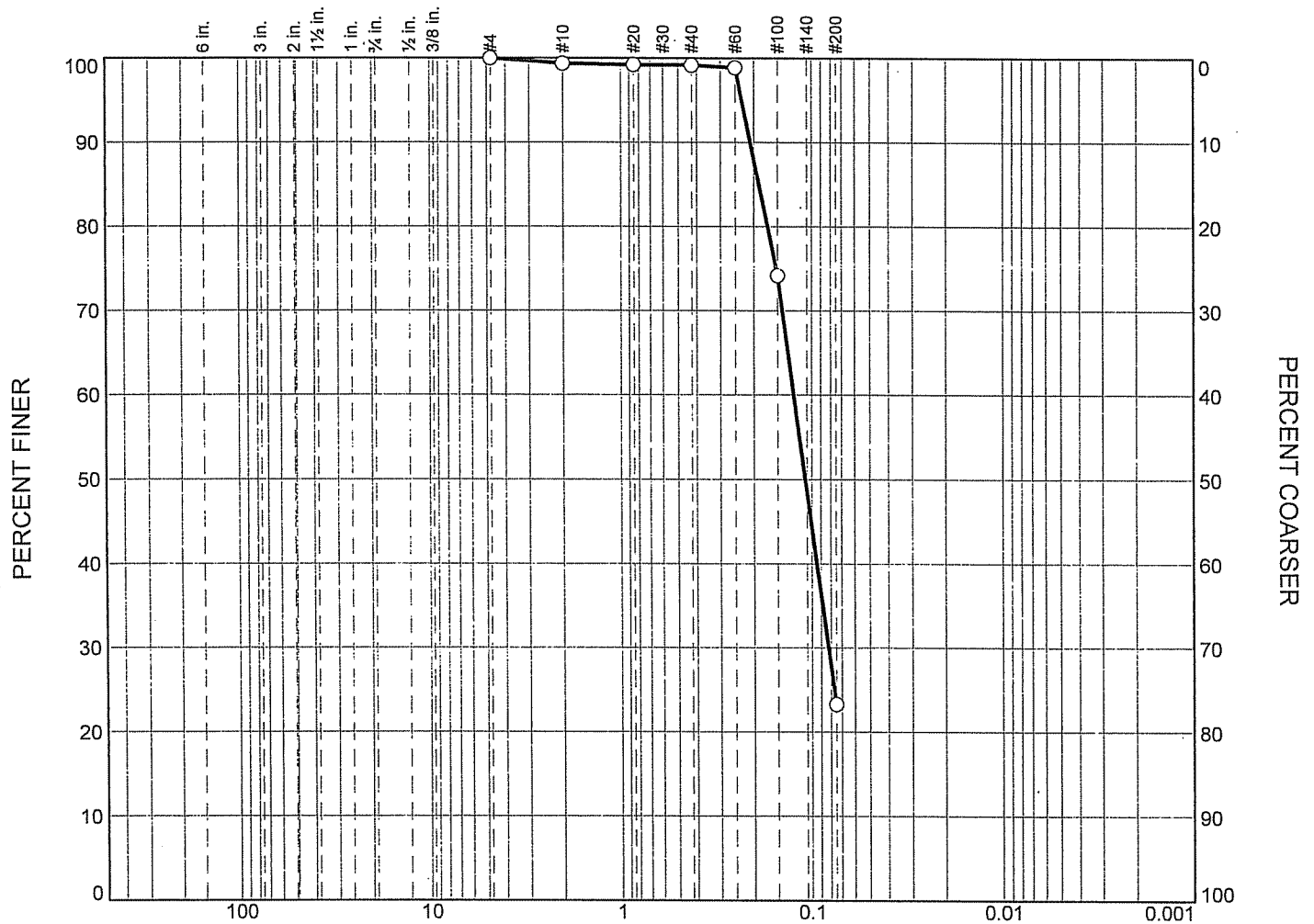
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.1	0.1	0.1	0.9	75.7	76.7			23.2

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
			0.0834	0.1141	0.1335	0.1867	0.2037	0.2222	0.2424

Fineness Modulus

0.37

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	0.6	0.2	75.9	23.3	

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	07-190	8	14-15.5	Tan and gray SILTY SAND	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

7/18/2008

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: 07-190

Depth: 14-15.5

Sample Number: 8

Material Description: Tan and gray SILTY SAND

USCS: SM

Material specification: (no specification envelope)

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer	Lower Spec. Limit, %	Upper Spec. Limit, %	Deviation From Spec., %
58.41	6.67	6.67	3"					
			0.75"					
			#4	6.67	100.0			
			#10	7.00	99.4			
			#20	7.08	99.2			
			#40	7.10	99.2			
			#60	7.26	98.9			
			#100	20.04	74.2			
			#200	46.36	23.3			

Grain Size Components

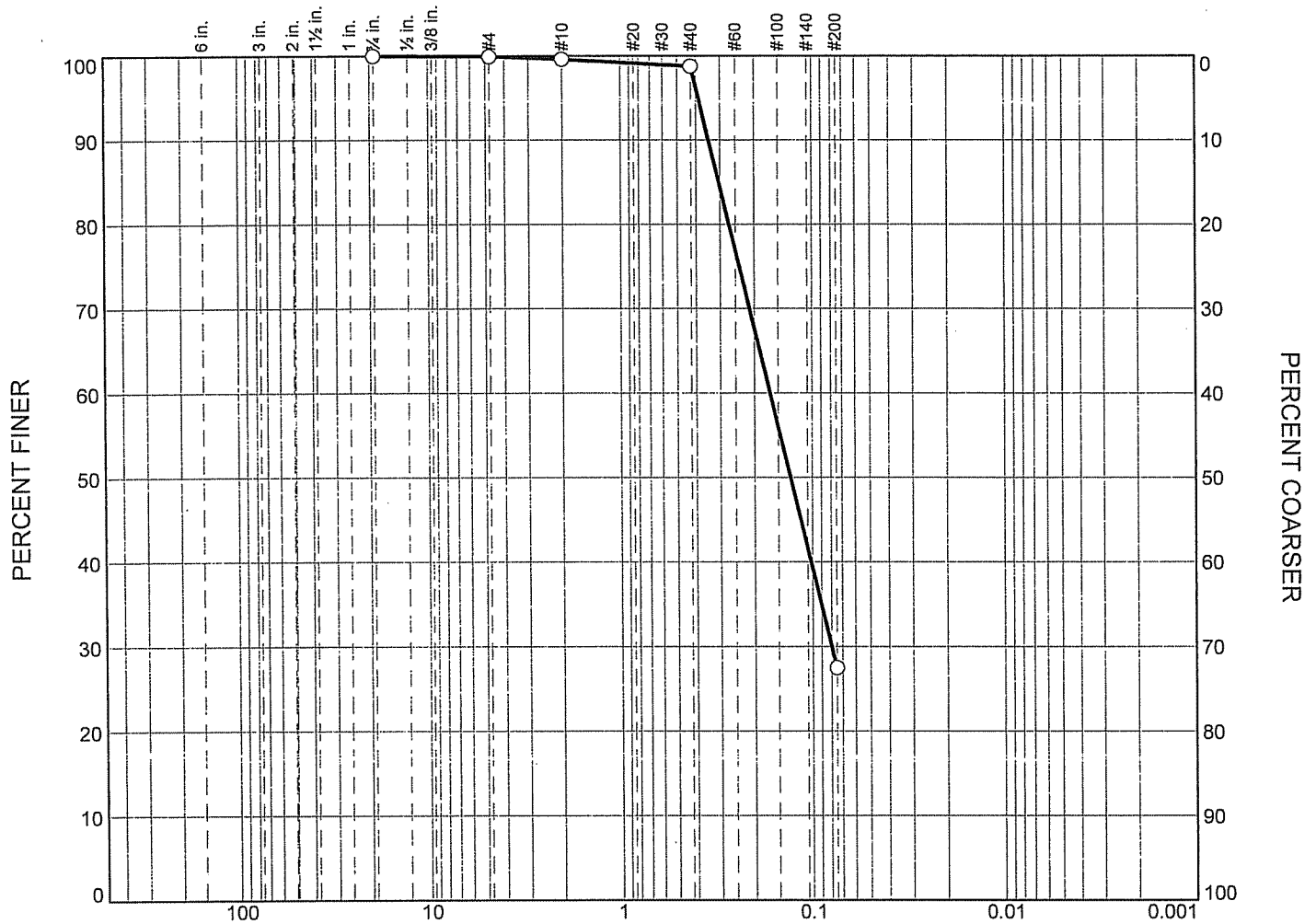
Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	0.6	0.2	75.9	76.7			23.3

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
			0.0822	0.1079	0.1237	0.1693	0.1877	0.2081	0.2308

Fineness Modulus

0.29

Particle Size Analysis - ASTM D 422



GRAIN SIZE - mm.

	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.1	0.3	0.8	71.3	27.5	

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	07-190	11	24-26	Tan and gray SILTY SAND	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

7/18/2008

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: 07-190

Depth: 24-26

Sample Number: 11

Material Description: Tan and gray SILTY SAND

USCS: SM

Material specification: (no specification envelope)

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Cumulative Pan Tare Weight (grams)	Sieve Opening Size	Cumulative Weight Retained (grams)	Percent Finer	Lower Spec. Limit, %	Upper Spec. Limit, %	Deviation From Spec., %
58.27	6.76	6.76	3/4"	6.76	100.0			
			#4	6.79	99.9			
			#10	6.97	99.6			
			#40	7.40	98.8			
			#200	44.10	27.5			

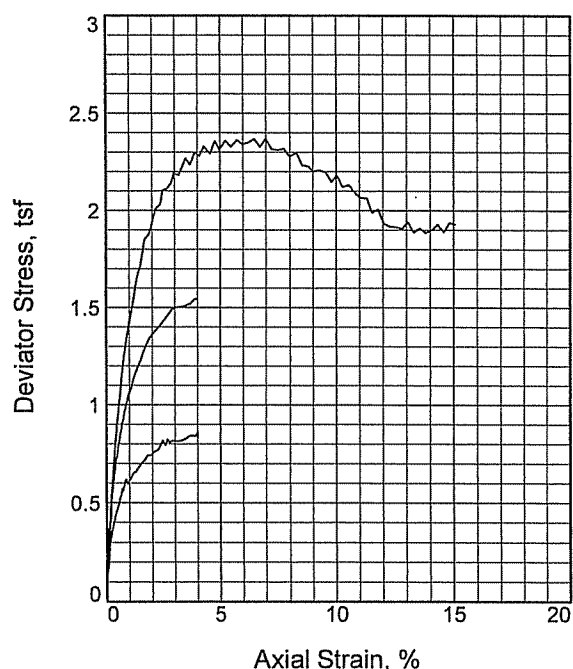
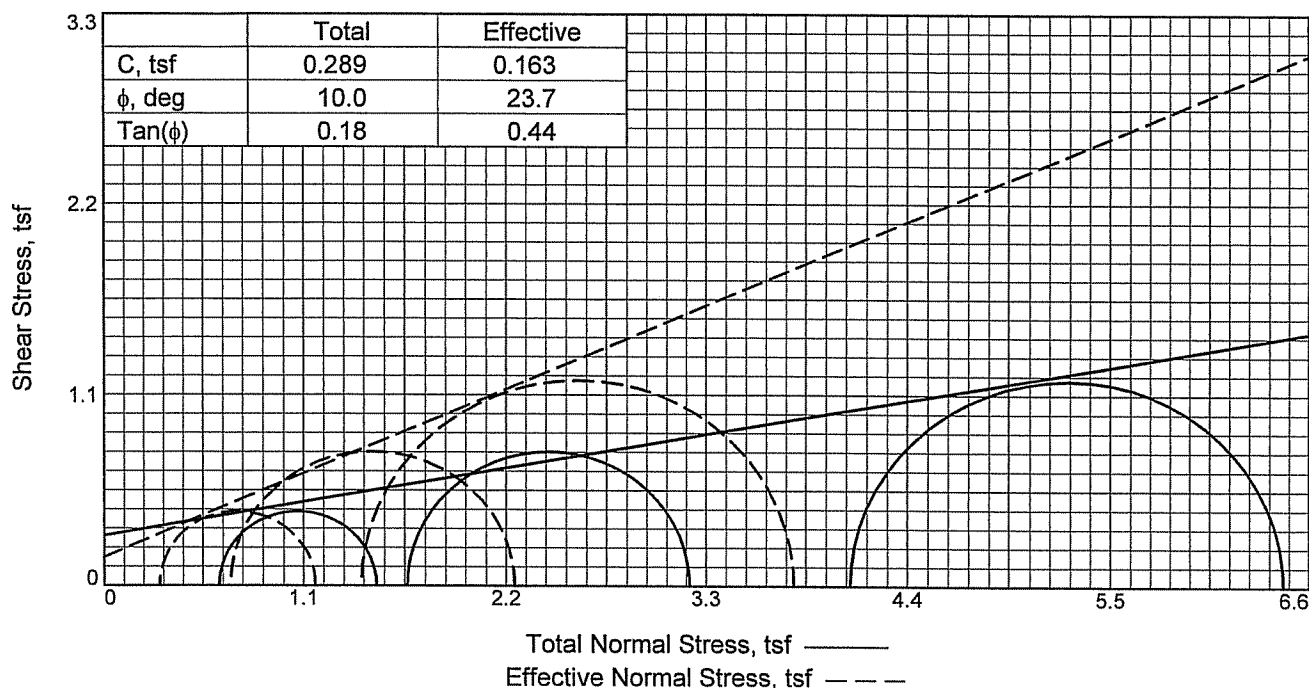
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.1	0.1	0.3	0.8	71.3	72.4			27.5

D ₁₀	D ₁₅	D ₂₀	D ₃₀	D ₅₀	D ₆₀	D ₈₀	D ₈₅	D ₉₀	D ₉₅
			0.0797	0.1297	0.1654	0.2692	0.3040	0.3434	0.3878

Fineness Modulus

0.62



Sample No.		1	2	3
Initial	Water Content, %	54.9	54.9	54.9
	Dry Density, pcf	67.3	67.3	67.3
	Saturation, %	98.5	98.5	98.5
	Void Ratio	1.5036	1.5036	1.5036
	Diameter, in.	2.76	2.76	2.76
	Height, in.	5.73	5.73	5.73
At Test	Water Content, %	38.3	38.3	38.3
	Dry Density, pcf	82.8	82.8	82.8
	Saturation, %	100.0	100.0	100.0
	Void Ratio	1.0350	1.0350	1.0350
	Diameter, in.	2.51	2.56	2.61
	Height, in.	5.65	5.43	5.20
Strain rate, %/min.		0.02	0.02	0.0045
Back Pressure, tsf		2.20	2.17	2.20
Cell Pressure, tsf		2.84	3.84	6.29
Fail. Stress, tsf		0.86	1.54	2.37
Excess Pore Pr., tsf		0.33	0.96	2.67
Ult. Stress, tsf		0.83	1.54	1.93
Excess Pore Pr., tsf		0.31	0.96	2.63
$\bar{\sigma}_1$ Failure, tsf		1.17	2.25	3.78
$\bar{\sigma}_3$ Failure, tsf		0.31	0.70	1.41

Type of Test:

CU with Pore Pressures

Sample Type: Undisturbed

Description: Gray FAT CLAY

LL= 87

PL= 24

PI= 63

Assumed Specific Gravity= 2.70

Remarks:

Test method: ASTM D 4767

Pocket pen; tsf: 0.36

Failure type: Multiple shear

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: 07-190

Depth: 10-12

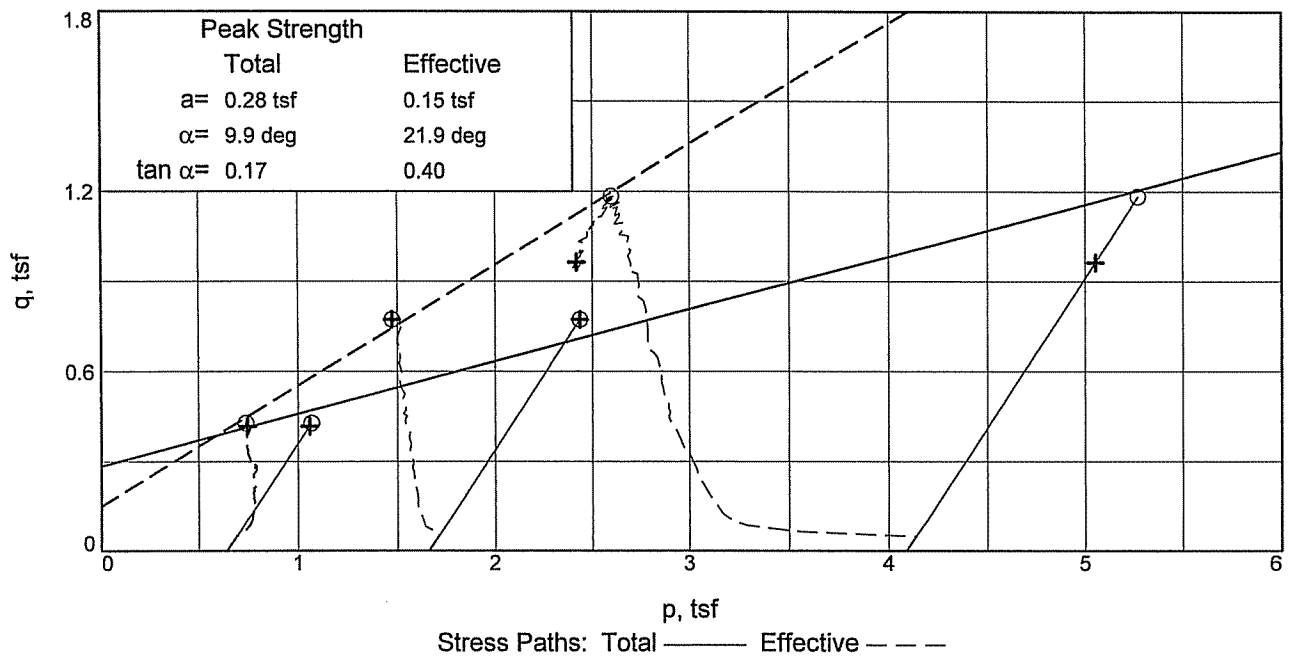
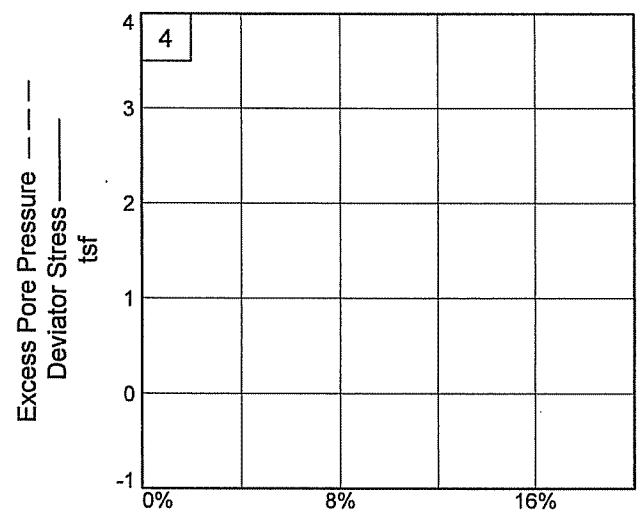
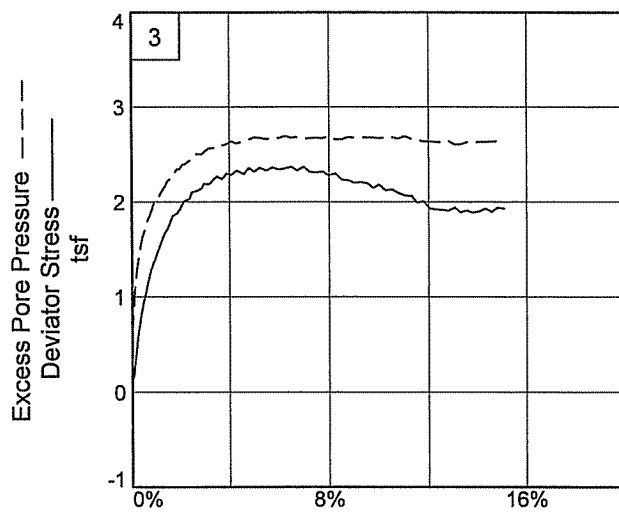
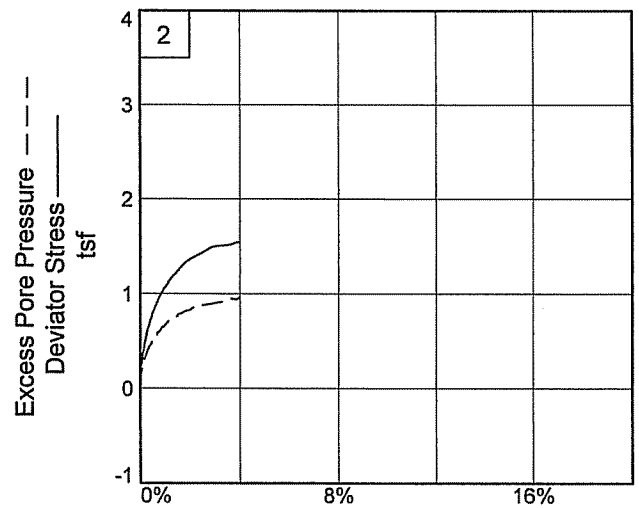
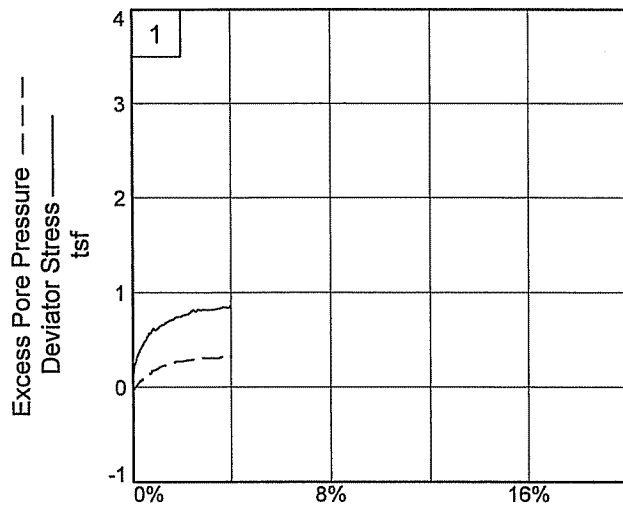
Sample Number: 6

Proj. No.: 08.18.918

Date Sampled: 7/20/08

TRIAXIAL SHEAR TEST REPORT

Tolunay-Wong Engineers, Inc.



Client: United States Army Corps of Engineers

Project: Galveston Channel and Pelican Island PA

Source of Sample: 07-190

Depth: 10-12

Sample Number: 6

Project No.: 08.18.918

TOLUNAY-WONG ENGINEERS, INC.

TRIAXIAL COMPRESSION TEST

CU with Pore Pressures

8/11/2008

5:52 PM

Date: 7/20/08
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: 07-190
Depth: 10-12 Sample Number: 6
Description: Gray FAT CLAY
Remarks:

Test method: ASTM D 4767

Pocket pen; tsf: 0.36

Failure type: Multiple shear

Type of Sample: Undisturbed

Assumed Specific Gravity=2.70

LL=87

PL=24

PI=63

Test Method: ASTM D 4767 Method B

Parameters for Specimen No. 1				
Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	102.220			74.870
Moisture content: Dry soil+tare, gms.	76.870			62.960
Moisture content: Tare, gms.	30.660			31.890
Moisture, %	54.9	41.6	38.3	38.3
Moist specimen weight, gms.	938.4			
Diameter, in.	2.76	2.55	2.51	
Area, in. ²	5.99	5.09	4.93	
Height, in.	5.73	5.72	5.65	
Net decrease in height, in.		0.01	0.07	
Net decrease in water volume, cc.			19.90	
Wet Density, pcf	104.3	112.4	114.6	
Dry density, pcf	67.3	79.4	82.8	
Void ratio	1.5036	1.1237	1.0350	
Saturation, %	98.5	100.0	100.0	

Test Readings for Specimen No. 1	
Membrane modulus = .130 kN/cm ²	
Membrane thickness = .031 cm	
Filter paper coefficient = 0.0019 kN/cm	
Filter paper coverage = 50%	
Consolidation cell pressure = 39.50 psi (2.844 tsf)	
Consolidation back pressure = 30.60 psi (2.203 tsf)	
Consolidation effective confining stress = 0.641 tsf	
Strain rate, %/min. = 0.02	
Fail. Stress = 0.857 tsf at reading no. 52	
Ult. Stress = 0.835 tsf at reading no. 53	

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress tsf	Minor Eff. Stress tsf	Major Eff. Stress tsf	1:3 Ratio	Pore Press. psi	P tsf	Q tsf
0	0.0004	0.000	0.0	0.0	0.000	0.640	0.640	1.00	30.61	0.640	0.000
1	0.0006	7.110	7.1	0.0	0.104	0.640	0.744	1.16	30.61	0.692	0.052
2	0.0007	9.471	9.5	0.0	0.138	0.665	0.803	1.21	30.27	0.734	0.069
3	0.0026	11.768	11.8	0.0	0.172	0.670	0.842	1.26	30.20	0.756	0.086
4	0.0038	14.573	14.6	0.1	0.213	0.662	0.875	1.32	30.30	0.768	0.106
5	0.0052	16.401	16.4	0.1	0.239	0.651	0.890	1.37	30.45	0.771	0.120
6	0.0071	18.321	18.3	0.1	0.267	0.640	0.907	1.42	30.61	0.773	0.134
7	0.0074	19.275	19.3	0.1	0.281	0.632	0.913	1.44	30.72	0.773	0.140
8	0.0086	20.936	20.9	0.1	0.305	0.627	0.932	1.49	30.80	0.779	0.153
9	0.0121	23.065	23.1	0.2	0.336	0.613	0.949	1.55	30.98	0.781	0.168
10	0.0130	24.045	24.0	0.2	0.350	0.599	0.949	1.58	31.18	0.774	0.175
11	0.0145	25.001	25.0	0.2	0.364	0.595	0.959	1.61	31.23	0.777	0.182
12	0.0168	26.931	26.9	0.3	0.392	0.576	0.968	1.68	31.50	0.772	0.196
13	0.0192	27.678	27.7	0.3	0.403	0.580	0.983	1.69	31.44	0.781	0.201
14	0.0199	28.804	28.8	0.3	0.419	0.565	0.984	1.74	31.66	0.774	0.209
15	0.0218	29.564	29.6	0.4	0.430	0.569	0.999	1.75	31.59	0.784	0.215
16	0.0233	30.630	30.6	0.4	0.445	0.554	0.999	1.80	31.80	0.777	0.223
17	0.0259	31.914	31.9	0.5	0.464	0.549	1.013	1.84	31.87	0.781	0.232
18	0.0277	33.046	33.0	0.5	0.480	0.538	1.018	1.89	32.03	0.778	0.240
19	0.0309	33.981	34.0	0.5	0.493	0.530	1.023	1.93	32.14	0.776	0.247
20	0.0314	35.009	35.0	0.5	0.508	0.519	1.027	1.98	32.30	0.773	0.254
21	0.0328	35.939	35.9	0.6	0.521	0.518	1.039	2.01	32.31	0.779	0.261
22	0.0361	37.429	37.4	0.6	0.543	0.517	1.060	2.05	32.32	0.788	0.271
23	0.0383	39.320	39.3	0.7	0.570	0.504	1.074	2.13	32.50	0.789	0.285
24	0.0401	38.509	38.5	0.7	0.558	0.500	1.058	2.12	32.55	0.779	0.279
25	0.0417	39.528	39.5	0.7	0.573	0.499	1.071	2.15	32.57	0.785	0.286
26	0.0441	40.504	40.5	0.8	0.587	0.483	1.069	2.22	32.80	0.776	0.293
27	0.0453	41.417	41.4	0.8	0.600	0.470	1.070	2.28	32.97	0.770	0.300
28	0.0484	42.670	42.7	0.9	0.617	0.467	1.085	2.32	33.01	0.776	0.309
29	0.0524	43.406	43.4	0.9	0.596	0.457	1.053	2.30	33.15	0.755	0.298
30	0.0553	44.263	44.3	1.0	0.606	0.457	1.064	2.33	33.15	0.761	0.303
31	0.0612	46.145	46.1	1.1	0.629	0.440	1.069	2.43	33.39	0.754	0.315
32	0.0665	47.864	47.9	1.2	0.650	0.424	1.074	2.53	33.61	0.749	0.325
33	0.0723	48.653	48.7	1.3	0.657	0.415	1.073	2.58	33.73	0.744	0.329
34	0.0778	50.188	50.2	1.4	0.675	0.410	1.086	2.65	33.80	0.748	0.338
35	0.0839	51.728	51.7	1.5	0.693	0.394	1.087	2.76	34.02	0.741	0.347
36	0.0891	52.949	52.9	1.6	0.707	0.390	1.097	2.81	34.08	0.744	0.353
37	0.0952	54.023	54.0	1.7	0.718	0.387	1.104	2.86	34.13	0.746	0.359
38	0.1011	55.798	55.8	1.8	0.739	0.372	1.110	2.99	34.34	0.741	0.369
39	0.1126	56.767	56.8	2.0	0.744	0.366	1.110	3.03	34.41	0.738	0.372
40	0.1178	57.771	57.8	2.1	0.757	0.366	1.123	3.07	34.41	0.745	0.378
41	0.1296	58.897	58.9	2.3	0.771	0.356	1.128	3.16	34.55	0.742	0.386
42	0.1403	62.145	62.1	2.5	0.816	0.352	1.167	3.32	34.62	0.759	0.408
43	0.1465	60.677	60.7	2.6	0.794	0.347	1.141	3.29	34.68	0.744	0.397
44	0.1517	62.634	62.6	2.7	0.821	0.338	1.159	3.43	34.80	0.749	0.410
45	0.1573	61.713	61.7	2.8	0.807	0.342	1.149	3.36	34.75	0.745	0.403
46	0.1629	62.471	62.5	2.9	0.817	0.334	1.151	3.44	34.85	0.743	0.408

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress tsf	Minor Eff. Stress tsf	Major Eff. Stress tsf	1:3 Ratio	Pore Press. psi	P tsf	Q tsf
47	0.1742	62.293	62.3	3.1	0.812	0.336	1.148	3.42	34.83	0.742	0.406
48	0.1862	62.704	62.7	3.3	0.816	0.335	1.151	3.44	34.85	0.743	0.408
49	0.1977	63.623	63.6	3.5	0.827	0.336	1.164	3.46	34.83	0.750	0.414
50	0.2094	64.926	64.9	3.7	0.844	0.314	1.158	3.69	35.14	0.736	0.422
51	0.2206	64.709	64.7	3.9	0.839	0.322	1.161	3.61	35.03	0.741	0.419
52	0.2263	66.040	66.0	4.0	0.857	0.309	1.165	3.78	35.21	0.737	0.428
53	0.2265	64.486	64.5	4.0	0.835	0.327	1.162	3.55	34.95	0.745	0.417

Parameters for Specimen No. 2

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	102.220			74.870
Moisture content: Dry soil+tare, gms.	76.870			62.960
Moisture content: Tare, gms.	30.660			31.890
Moisture, %	54.9	44.9	38.3	38.3
Moist specimen weight, gms.	938.4			
Diameter, in.	2.76	2.60	2.56	
Area, in. ²	5.99	5.30	5.13	
Height, in.	5.73	5.72	5.43	
Net decrease in height, in.		0.01	0.28	
Net decrease in water volume, cc.			39.80	
Wet Density, pcf	104.3	110.4	114.6	
Dry density, pcf	67.3	76.2	82.8	
Void ratio	1.5036	1.2123	1.0350	
Saturation, %	98.5	100.0	100.0	

Test Readings for Specimen No. 2

Membrane modulus = .130 kN/cm²

Membrane thickness = .031 cm

Filter paper coefficient = 0.0019 kN/cm

Filter paper coverage = 50%

Consolidation cell pressure = 53.30 psi (3.838 tsf)

Consolidation back pressure = 30.20 psi (2.174 tsf)

Consolidation effective confining stress = 1.663 tsf

Strain rate, %/min. = 0.02

Fail. Stress = 1.544 tsf at reading no. 54

Ult. Stress = 1.544 tsf at reading no. 54

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress tsf	Minor Eff. Stress tsf	Major Eff. Stress tsf	1:3 Ratio	Pore Press. psi	P tsf	Q tsf
0	0.0007	0.000	0.0	0.0	0.000	1.660	1.660	1.00	30.25	1.660	0.000
1	0.0009	8.088	8.1	0.0	0.113	1.660	1.773	1.07	30.25	1.716	0.057
2	0.0010	11.772	11.8	0.0	0.165	1.560	1.726	1.11	31.63	1.643	0.083
3	0.0017	16.055	16.1	0.0	0.225	1.515	1.740	1.15	32.26	1.628	0.113
4	0.0038	18.784	18.8	0.1	0.263	1.481	1.744	1.18	32.74	1.612	0.132
5	0.0050	21.947	21.9	0.1	0.308	1.449	1.757	1.21	33.17	1.603	0.154
6	0.0062	25.660	25.7	0.1	0.360	1.426	1.785	1.25	33.50	1.606	0.180
7	0.0080	28.529	28.5	0.1	0.400	1.401	1.800	1.29	33.85	1.600	0.200
8	0.0089	30.754	30.8	0.2	0.431	1.378	1.809	1.31	34.17	1.593	0.215
9	0.0095	33.429	33.4	0.2	0.468	1.355	1.824	1.35	34.48	1.589	0.234

Test Readings for Specimen No. 2

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress tsf	Minor Eff. Stress tsf	Major Eff. Stress tsf	1:3 Ratio	Pore Press. psi	P tsf	Q tsf
10	0.0118	36.038	36.0	0.2	0.505	1.332	1.837	1.38	34.79	1.585	0.252
11	0.0128	38.269	38.3	0.2	0.536	1.315	1.851	1.41	35.04	1.583	0.268
12	0.0139	39.760	39.8	0.2	0.557	1.298	1.854	1.43	35.28	1.576	0.278
13	0.0156	42.094	42.1	0.3	0.589	1.290	1.879	1.46	35.39	1.584	0.295
14	0.0170	44.380	44.4	0.3	0.621	1.266	1.887	1.49	35.72	1.576	0.310
15	0.0182	45.745	45.7	0.3	0.640	1.250	1.890	1.51	35.94	1.570	0.320
16	0.0197	47.139	47.1	0.3	0.659	1.232	1.891	1.54	36.19	1.562	0.330
17	0.0209	48.882	48.9	0.4	0.683	1.224	1.907	1.56	36.30	1.566	0.342
18	0.0219	50.911	50.9	0.4	0.712	1.215	1.926	1.59	36.43	1.571	0.356
19	0.0251	52.995	53.0	0.4	0.740	1.194	1.934	1.62	36.72	1.564	0.370
20	0.0262	54.833	54.8	0.5	0.766	1.176	1.942	1.65	36.96	1.559	0.383
21	0.0276	56.643	56.6	0.5	0.791	1.169	1.960	1.68	37.06	1.565	0.395
22	0.0304	58.259	58.3	0.5	0.813	1.149	1.962	1.71	37.34	1.556	0.407
23	0.0316	59.913	59.9	0.6	0.836	1.131	1.967	1.74	37.59	1.549	0.418
24	0.0341	61.667	61.7	0.6	0.860	1.111	1.971	1.77	37.87	1.541	0.430
25	0.0360	63.066	63.1	0.6	0.879	1.100	1.979	1.80	38.03	1.539	0.440
26	0.0371	64.730	64.7	0.7	0.902	1.101	2.003	1.82	38.01	1.552	0.451
27	0.0396	65.895	65.9	0.7	0.918	1.073	1.991	1.86	38.40	1.532	0.459
28	0.0410	67.369	67.4	0.7	0.938	1.073	2.011	1.87	38.40	1.542	0.469
29	0.0421	68.789	68.8	0.8	0.958	1.066	2.024	1.90	38.50	1.545	0.479
30	0.0452	70.185	70.2	0.8	0.977	1.054	2.031	1.93	38.66	1.542	0.488
31	0.0469	71.490	71.5	0.8	0.995	1.037	2.032	1.96	38.89	1.535	0.497
32	0.0500	73.334	73.3	0.9	1.020	1.019	2.039	2.00	39.15	1.529	0.510
33	0.0521	75.150	75.1	0.9	1.045	1.017	2.061	2.03	39.18	1.539	0.522
34	0.0595	78.164	78.2	1.1	1.085	0.979	2.064	2.11	39.71	1.521	0.542
35	0.0638	81.309	81.3	1.2	1.128	0.950	2.078	2.19	40.10	1.514	0.564
36	0.0691	83.976	84.0	1.3	1.164	0.925	2.089	2.26	40.45	1.507	0.582
37	0.0751	86.379	86.4	1.4	1.196	0.927	2.122	2.29	40.43	1.524	0.598
38	0.0808	88.517	88.5	1.5	1.224	0.905	2.129	2.35	40.73	1.517	0.612
39	0.0854	90.867	90.9	1.6	1.255	0.881	2.136	2.42	41.06	1.509	0.628
40	0.0910	93.107	93.1	1.7	1.285	0.873	2.158	2.47	41.17	1.516	0.642
41	0.0969	95.255	95.3	1.8	1.313	0.856	2.169	2.53	41.41	1.513	0.657
42	0.1021	97.169	97.2	1.9	1.338	0.847	2.185	2.58	41.54	1.516	0.669
43	0.1078	98.578	98.6	2.0	1.356	0.838	2.194	2.62	41.66	1.516	0.678
44	0.1184	100.845	100.8	2.2	1.384	0.809	2.194	2.71	42.06	1.502	0.692
45	0.1297	103.001	103.0	2.4	1.411	0.795	2.206	2.78	42.26	1.500	0.706
46	0.1351	104.203	104.2	2.5	1.426	0.789	2.215	2.81	42.34	1.502	0.713
47	0.1461	106.780	106.8	2.7	1.458	0.780	2.238	2.87	42.47	1.509	0.729
48	0.1568	109.327	109.3	2.9	1.490	0.772	2.263	2.93	42.57	1.518	0.745
49	0.1679	110.506	110.5	3.1	1.503	0.760	2.263	2.98	42.75	1.511	0.751
50	0.1794	110.871	110.9	3.3	1.505	0.753	2.258	3.00	42.84	1.505	0.752
51	0.1903	111.479	111.5	3.5	1.510	0.732	2.242	3.06	43.13	1.487	0.755
52	0.2011	112.492	112.5	3.7	1.520	0.714	2.234	3.13	43.39	1.474	0.760
53	0.2114	114.435	114.4	3.9	1.544	0.726	2.270	3.13	43.21	1.498	0.772
54	0.2176	114.624	114.6	4.0	1.544	0.702	2.247	3.20	43.55	1.474	0.772

Parameters for Specimen No. 3				
Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	102.220			74.870
Moisture content: Dry soil+tare, gms.	76.870			62.960
Moisture content: Tare, gms.	30.660			31.890
Moisture, %	54.9	49.2	38.3	38.3
Moist specimen weight, gms.	938.4			
Diameter, in.	2.76	2.67	2.61	
Area, in. ²	5.99	5.58	5.36	
Height, in.	5.73	5.72	5.20	
Net decrease in height, in.		0.01	0.51	
Net decrease in water volume, cc.			65.80	
Wet Density, pcf	104.3	108.0	114.6	
Dry density, pcf	67.3	72.4	82.8	
Void ratio	1.5036	1.3282	1.0350	
Saturation, %	98.5	100.0	100.0	

Test Readings for Specimen No. 3

Membrane modulus = .130 kN/cm²

Membrane thickness = .031 cm

Filter paper coefficient = 0.0019 kN/cm

Filter paper coverage = 50%

Consolidation cell pressure = 87.40 psi (6.293 tsf)

Consolidation back pressure = 30.60 psi (2.203 tsf)

Consolidation effective confining stress = 4.090 tsf

Strain rate, %/min. = 0.0045

Fail. Stress = 2.368 tsf at reading no. 66

Ult. Stress = 1.928 tsf at reading no. 100

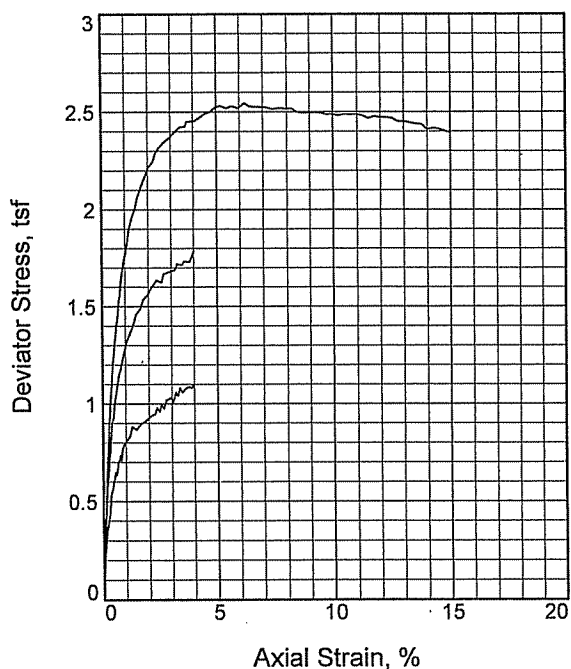
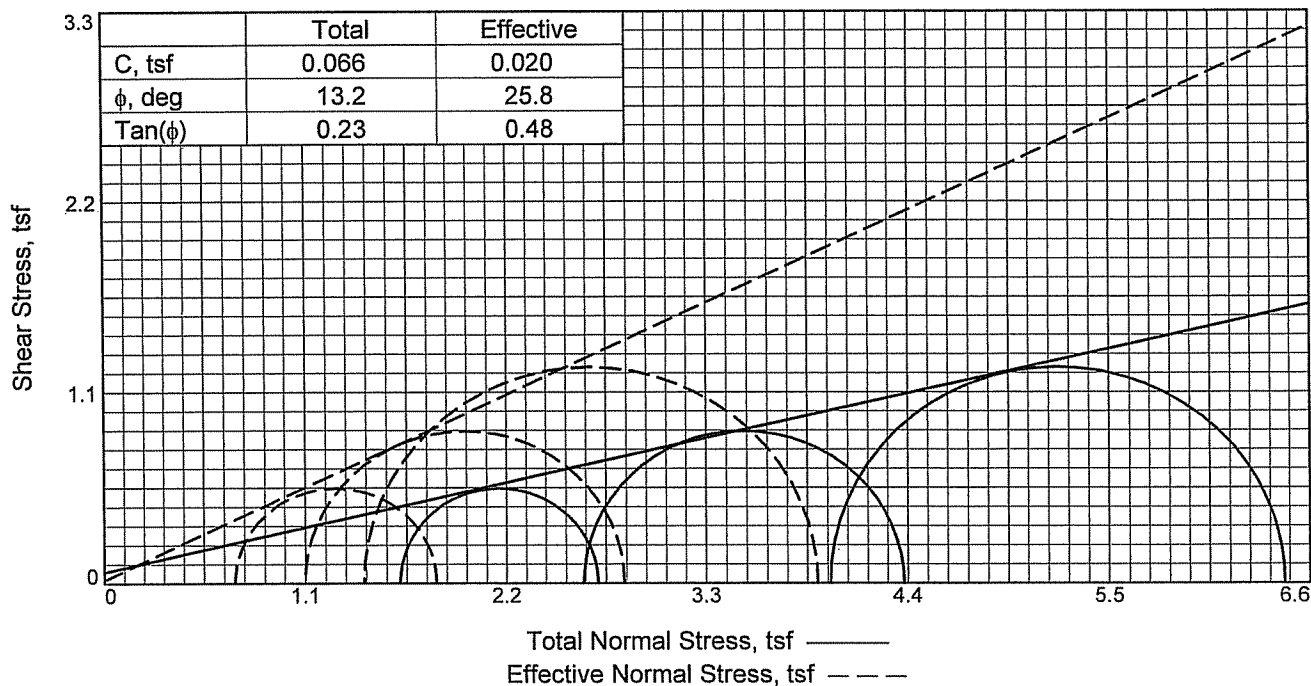
No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress tsf	Minor Eff. Stress tsf	Major Eff. Stress tsf	1:3 Ratio	Pore Press. psi	P tsf	Q tsf
0	0.0008	0.000	0.0	0.0	0.000	4.093	4.093	1.00	30.55	4.093	0.000
1	0.0010	7.300	7.3	0.0	0.098	4.093	4.191	1.02	30.55	4.142	0.049
2	0.0011	9.819	9.8	0.0	0.132	3.470	3.602	1.04	39.20	3.536	0.066
3	0.0046	12.901	12.9	0.1	0.173	3.203	3.377	1.05	42.91	3.290	0.087
4	0.0055	15.020	15.0	0.1	0.202	3.121	3.323	1.06	44.05	3.222	0.101
5	0.0066	18.577	18.6	0.1	0.249	3.044	3.293	1.08	45.12	3.169	0.125
6	0.0074	23.568	23.6	0.1	0.316	2.976	3.292	1.11	46.07	3.134	0.158
7	0.0089	28.462	28.5	0.2	0.382	2.910	3.292	1.13	46.98	3.101	0.191
8	0.0105	32.874	32.9	0.2	0.441	2.854	3.295	1.15	47.76	3.075	0.220
9	0.0110	36.951	37.0	0.2	0.496	2.800	3.295	1.18	48.51	3.048	0.248
10	0.0126	41.053	41.1	0.2	0.550	2.762	3.313	1.20	49.04	3.037	0.275
11	0.0142	44.827	44.8	0.3	0.601	2.720	3.321	1.22	49.62	3.020	0.300
12	0.0152	48.168	48.2	0.3	0.645	2.681	3.326	1.24	50.17	3.003	0.323
13	0.0164	51.079	51.1	0.3	0.684	2.634	3.319	1.26	50.81	2.976	0.342
14	0.0183	54.108	54.1	0.3	0.725	2.600	3.325	1.28	51.28	2.963	0.362
15	0.0188	56.702	56.7	0.3	0.759	2.573	3.332	1.30	51.66	2.953	0.380
16	0.0201	59.762	59.8	0.4	0.800	2.537	3.337	1.32	52.16	2.937	0.400
17	0.0214	62.334	62.3	0.4	0.834	2.507	3.341	1.33	52.58	2.924	0.417
18	0.0230	64.580	64.6	0.4	0.864	2.476	3.340	1.35	53.01	2.908	0.432
19	0.0239	67.105	67.1	0.4	0.898	2.447	3.345	1.37	53.41	2.896	0.449
20	0.0251	69.191	69.2	0.5	0.925	2.442	3.367	1.38	53.49	2.904	0.463

Test Readings for Specimen No. 3

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress tsf	Minor Eff. Stress tsf	Major Eff. Stress tsf	1:3 Ratio	Pore Press. psi	P tsf	Q tsf
21	0.0263	71.322	71.3	0.5	0.954	2.418	3.372	1.39	53.81	2.895	0.477
22	0.0281	73.973	74.0	0.5	0.989	2.401	3.390	1.41	54.05	2.896	0.494
23	0.0294	76.349	76.3	0.5	1.020	2.373	3.393	1.43	54.45	2.883	0.510
24	0.0308	78.330	78.3	0.6	1.046	2.350	3.396	1.45	54.77	2.873	0.523
25	0.0328	82.506	82.5	0.6	1.102	2.314	3.415	1.48	55.27	2.865	0.551
26	0.0341	84.509	84.5	0.6	1.128	2.293	3.422	1.49	55.55	2.857	0.564
27	0.0353	86.467	86.5	0.7	1.154	2.280	3.434	1.51	55.73	2.857	0.577
28	0.0384	90.705	90.7	0.7	1.210	2.249	3.459	1.54	56.16	2.854	0.605
29	0.0402	94.058	94.1	0.8	1.254	2.218	3.472	1.57	56.59	2.845	0.627
30	0.0422	96.126	96.1	0.8	1.281	2.201	3.482	1.58	56.83	2.841	0.641
31	0.0450	98.728	98.7	0.8	1.315	2.168	3.483	1.61	57.29	2.825	0.658
32	0.0469	101.054	101.1	0.9	1.346	2.125	3.471	1.63	57.89	2.798	0.673
33	0.0499	103.898	103.9	0.9	1.383	2.095	3.478	1.66	58.30	2.787	0.691
34	0.0562	110.324	110.3	1.1	1.467	2.054	3.520	1.71	58.88	2.787	0.733
35	0.0624	116.380	116.4	1.2	1.545	2.009	3.555	1.77	59.49	2.782	0.773
36	0.0671	121.493	121.5	1.3	1.612	1.971	3.583	1.82	60.02	2.777	0.806
37	0.0722	125.966	126.0	1.4	1.669	1.931	3.601	1.86	60.57	2.766	0.835
38	0.0775	129.094	129.1	1.5	1.709	1.875	3.584	1.91	61.35	2.730	0.854
39	0.0829	134.306	134.3	1.6	1.776	1.853	3.629	1.96	61.66	2.741	0.888
40	0.0881	139.991	140.0	1.7	1.849	1.810	3.659	2.02	62.26	2.735	0.925
41	0.0976	142.349	142.3	1.9	1.877	1.748	3.625	2.07	63.12	2.686	0.939
42	0.1032	145.217	145.2	2.0	1.913	1.745	3.657	2.10	63.17	2.701	0.956
43	0.1092	149.845	149.8	2.1	1.971	1.699	3.671	2.16	63.80	2.685	0.986
44	0.1136	152.700	152.7	2.2	2.007	1.696	3.704	2.18	63.84	2.700	1.004
45	0.1243	154.766	154.8	2.4	2.030	1.657	3.688	2.22	64.38	2.672	1.015
46	0.1298	160.332	160.3	2.5	2.101	1.639	3.740	2.28	64.63	2.690	1.050
47	0.1402	161.634	161.6	2.7	2.114	1.586	3.699	2.33	65.38	2.642	1.057
48	0.1499	164.095	164.1	2.9	2.142	1.590	3.731	2.35	65.32	2.660	1.071
49	0.1555	168.083	168.1	3.0	2.191	1.567	3.758	2.40	65.64	2.662	1.096
50	0.1661	167.751	167.8	3.2	2.182	1.525	3.707	2.43	66.22	2.616	1.091
51	0.1768	172.611	172.6	3.4	2.241	1.524	3.764	2.47	66.24	2.644	1.120
52	0.1821	174.814	174.8	3.5	2.267	1.529	3.796	2.48	66.16	2.663	1.133
53	0.1922	172.789	172.8	3.7	2.236	1.501	3.737	2.49	66.56	2.619	1.118
54	0.1974	174.871	174.9	3.8	2.261	1.492	3.753	2.52	66.68	2.622	1.130
55	0.2030	177.953	178.0	3.9	2.298	1.483	3.781	2.55	66.81	2.632	1.149
56	0.2135	176.975	177.0	4.1	2.281	1.451	3.731	2.57	67.25	2.591	1.140
57	0.2243	181.180	181.2	4.3	2.330	1.477	3.807	2.58	66.89	2.642	1.165
58	0.2390	178.807	178.8	4.6	2.292	1.449	3.741	2.58	67.28	2.595	1.146
59	0.2499	184.125	184.1	4.8	2.355	1.435	3.790	2.64	67.48	2.612	1.178
60	0.2602	181.211	181.2	5.0	2.313	1.414	3.727	2.64	67.76	2.570	1.157
61	0.2731	185.213	185.2	5.2	2.358	1.415	3.773	2.67	67.75	2.594	1.179
62	0.2862	183.283	183.3	5.5	2.327	1.428	3.755	2.63	67.57	2.592	1.164
63	0.2996	186.556	186.6	5.7	2.363	1.419	3.782	2.66	67.69	2.601	1.181
64	0.3129	185.167	185.2	6.0	2.339	1.420	3.758	2.65	67.68	2.589	1.169
65	0.3261	186.690	186.7	6.3	2.351	1.396	3.748	2.68	68.01	2.572	1.176
66	0.3385	188.453	188.5	6.5	2.368	1.415	3.783	2.67	67.75	2.599	1.184
67	0.3515	185.749	185.7	6.7	2.327	1.405	3.732	2.66	67.89	2.569	1.164

Test Readings for Specimen No. 3

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress tsf	Minor Eff. Stress tsf	Major Eff. Stress tsf	1:3 Ratio	Pore Press. psi	P tsf	Q tsf
68	0.3644	189.442	189.4	7.0	2.367	1.426	3.793	2.66	67.60	2.609	1.184
69	0.3775	185.807	185.8	7.2	2.316	1.419	3.735	2.63	67.69	2.577	1.158
70	0.3909	185.838	185.8	7.5	2.310	1.415	3.725	2.63	67.75	2.570	1.155
71	0.4043	187.075	187.1	7.8	2.319	1.418	3.736	2.64	67.71	2.577	1.159
72	0.4174	184.265	184.3	8.0	2.277	1.398	3.676	2.63	67.98	2.537	1.139
73	0.4309	186.400	186.4	8.3	2.297	1.431	3.728	2.61	67.53	2.579	1.149
74	0.4446	181.647	181.6	8.5	2.232	1.433	3.665	2.56	67.50	2.549	1.116
75	0.4576	181.775	181.8	8.8	2.228	1.410	3.638	2.58	67.82	2.524	1.114
76	0.4703	179.924	179.9	9.0	2.199	1.413	3.612	2.56	67.78	2.512	1.100
77	0.4837	181.197	181.2	9.3	2.209	1.408	3.616	2.57	67.85	2.512	1.104
78	0.4970	180.909	180.9	9.5	2.199	1.411	3.610	2.56	67.80	2.510	1.099
79	0.5102	177.157	177.2	9.8	2.147	1.411	3.559	2.52	67.80	2.485	1.074
80	0.5221	180.318	180.3	10.0	2.180	1.420	3.600	2.54	67.68	2.510	1.090
81	0.5360	175.964	176.0	10.3	2.121	1.410	3.531	2.50	67.81	2.471	1.060
82	0.5491	177.249	177.2	10.5	2.130	1.410	3.540	2.51	67.82	2.475	1.065
83	0.5619	174.798	174.8	10.8	2.095	1.425	3.520	2.47	67.61	2.473	1.048
84	0.5754	172.789	172.8	11.0	2.065	1.398	3.463	2.48	67.99	2.430	1.033
85	0.5888	173.007	173.0	11.3	2.062	1.425	3.486	2.45	67.62	2.455	1.031
86	0.6012	167.225	167.2	11.5	1.987	1.438	3.426	2.38	67.42	2.432	0.994
87	0.6144	169.155	169.2	11.8	2.005	1.452	3.457	2.38	67.23	2.454	1.002
88	0.6275	163.460	163.5	12.0	1.932	1.456	3.387	2.33	67.18	2.421	0.966
89	0.6409	162.805	162.8	12.3	1.918	1.460	3.378	2.31	67.13	2.419	0.959
90	0.6537	163.126	163.1	12.6	1.917	1.466	3.383	2.31	67.04	2.425	0.958
91	0.6673	162.662	162.7	12.8	1.905	1.450	3.356	2.31	67.26	2.403	0.953
92	0.6806	166.100	166.1	13.1	1.940	1.484	3.424	2.31	66.78	2.454	0.970
93	0.6929	162.007	162.0	13.3	1.887	1.484	3.371	2.27	66.78	2.428	0.944
94	0.7065	164.456	164.5	13.6	1.910	1.463	3.373	2.31	67.08	2.418	0.955
95	0.7198	162.816	162.8	13.8	1.885	1.467	3.352	2.29	67.03	2.409	0.943
96	0.7331	164.491	164.5	14.1	1.899	1.460	3.358	2.30	67.13	2.409	0.949
97	0.7459	167.454	167.5	14.3	1.928	1.458	3.385	2.32	67.15	2.421	0.964
98	0.7594	164.700	164.7	14.6	1.890	1.456	3.346	2.30	67.18	2.401	0.945
99	0.7721	169.333	169.3	14.8	1.938	1.452	3.390	2.33	67.23	2.421	0.969
100	0.7847	168.988	169.0	15.1	1.928	1.455	3.383	2.33	67.20	2.419	0.964



Sample No.		1	2	3
Initial	Water Content, %	56.6	56.6	56.6
	Dry Density, pcf	66.5	66.5	66.5
	Saturation, %	99.7	99.7	99.7
	Void Ratio	1.5339	1.5339	1.5339
	Diameter, in.	2.80	2.80	2.80
	Height, in.	5.73	5.73	5.73
At Test	Water Content, %	35.3	35.3	35.3
	Dry Density, pcf	86.2	86.2	86.2
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.9544	0.9544	0.9544
	Diameter, in.	2.53	2.60	2.65
	Height, in.	5.40	5.13	4.93
Strain rate, %/min.		0.0089	0.01	0.01
Back Pressure, tsf		2.17	2.17	2.21
Cell Pressure, tsf		3.78	4.80	6.18
Fail. Stress, tsf		1.09	1.75	2.49
Excess Pore Pr., tsf		0.89	1.53	2.56
Ult. Stress, tsf		1.09	1.79	2.39
Excess Pore Pr., tsf		0.89	1.51	2.60
$\bar{\sigma}_1$ Failure, tsf		1.81	2.85	3.91
$\bar{\sigma}_3$ Failure, tsf		0.72	1.10	1.42

Type of Test:

CU with Pore Pressures

Sample Type: Undisturbed

Description: Gray FAT CLAY

Assumed Specific Gravity= 2.70

Remarks:

Test method: ASTM D 4767

Pocket pen; tsf: 0.28

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: 07-190

Depth: 35.5-37.5

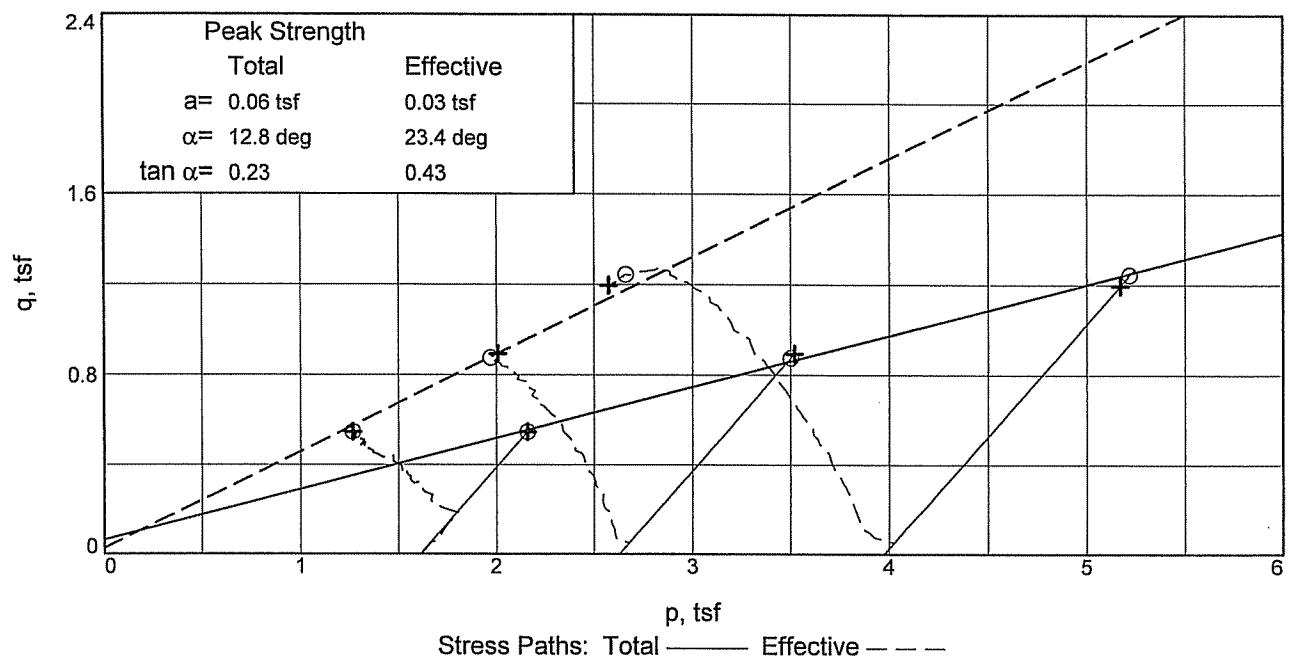
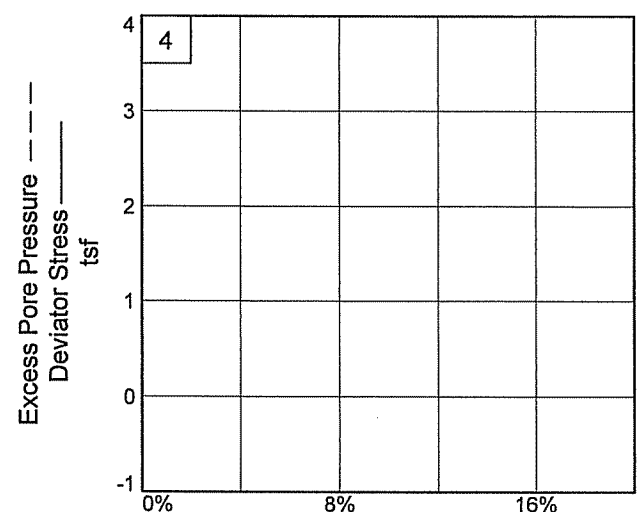
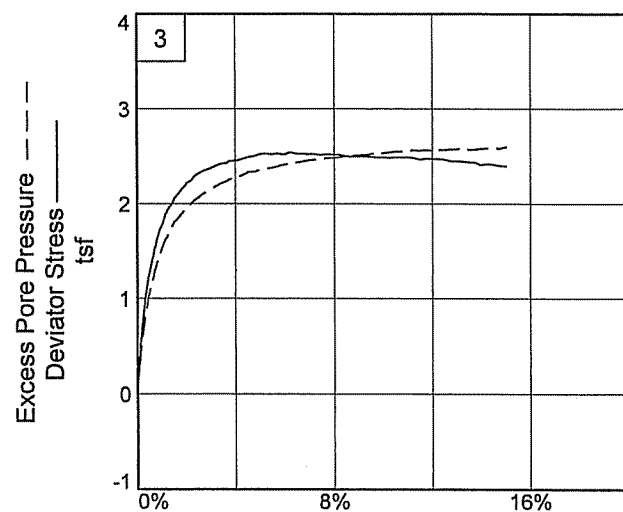
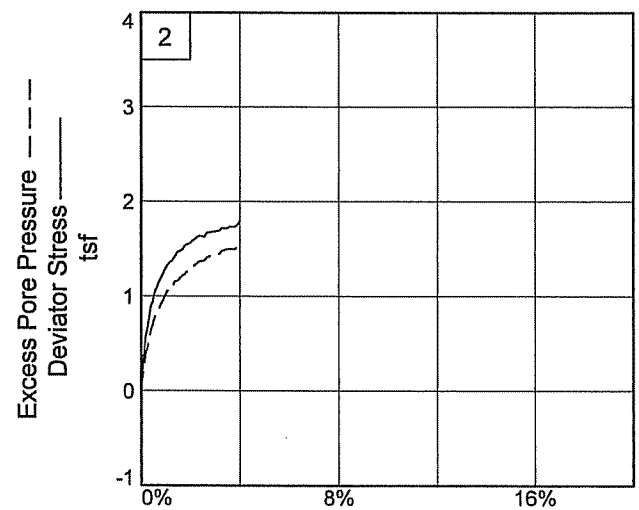
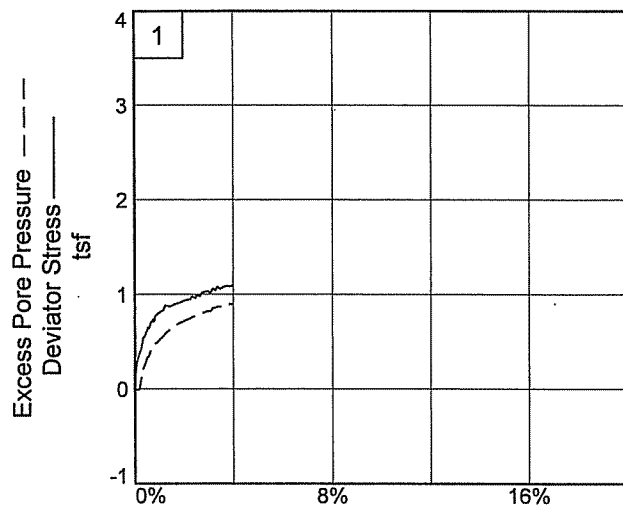
Sample Number: 16

Proj. No.: 08.18.918

Date Sampled: 7/16/08

TRIAXIAL SHEAR TEST REPORT

Tolunay-Wong Engineers, Inc.



Client: United States Army Corps of Engineers

Project: Galveston Channel and Pelican Island PA

Source of Sample: 07-190

Depth: 35.5-37.5

Sample Number: 16

Project No.: 08.18.918

TOLUNAY-WONG ENGINEERS, INC.

TRIAXIAL COMPRESSION TEST
CU with Pore Pressures

7/28/2008
11:47 AM

Date: 7/16/08
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: 07-190
Depth: 35.5-37.5 **Sample Number:** 16
Description: Gray FAT CLAY
Remarks:
Test method: ASTM D 4767
Pocket pen; tsf: 0.28
Failure type: Bulge
Type of Sample: Undisturbed
Assumed Specific Gravity=2.70 **LL**= **PL**= **PI**=
Test Method: ASTM D 4767 Method B

Parameters for Specimen No. 1				
Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	134.090			97.970
Moisture content: Dry soil+tare, gms.	96.630			80.720
Moisture content: Tare, gms.	30.490			31.920
Moisture, %	56.6	47.7	35.3	35.3
Moist specimen weight, gms.	965.2			
Diameter, in.	2.80	2.66	2.53	
Area, in. ²	6.16	5.58	5.04	
Height, in.	5.73	5.71	5.40	
Net decrease in height, in.		0.02	0.31	
Net decrease in water volume, cc.			76.00	
Wet Density, pcf	104.2	108.8	116.7	
Dry density, pcf	66.5	73.7	86.2	
Void ratio	1.5339	1.2874	0.9544	
Saturation, %	99.7	100.0	100.0	

Test Readings for Specimen No. 1
Membrane modulus = .130 kN/cm ²
Membrane thickness = .031 cm
Filter paper coefficient = 0.0019 kN/cm
Filter paper coverage = 50%
Consolidation cell pressure = 52.50 psi (3.780 tsf)
Consolidation back pressure = 30.10 psi (2.167 tsf)
Consolidation effective confining stress = 1.613 tsf
Strain rate, %/min. = 0.0089
Fail. Stress = 1.094 tsf at reading no. 51
Ult. Stress = 1.094 tsf at reading no. 51

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress tsf	Minor Eff. Stress tsf	Major Eff. Stress tsf	1:3 Ratio	Pore Press. psi	P tsf	Q tsf
0	0.0011	0.000	0.0	0.0	0.000	1.616	1.616	1.00	30.06	1.616	0.000
1	0.0012	7.419	7.4	0.0	0.106	1.616	1.722	1.07	30.06	1.669	0.053
2	0.0013	8.346	8.3	0.0	0.119	1.632	1.751	1.07	29.83	1.692	0.060
3	0.0026	10.712	10.7	0.0	0.153	1.633	1.786	1.09	29.82	1.709	0.077
4	0.0039	15.341	15.3	0.1	0.219	1.623	1.842	1.14	29.96	1.732	0.110
5	0.0062	19.937	19.9	0.1	0.285	1.616	1.901	1.18	30.05	1.759	0.142
6	0.0077	21.902	21.9	0.1	0.313	1.620	1.933	1.19	29.99	1.777	0.156
7	0.0089	23.951	24.0	0.1	0.342	1.626	1.968	1.21	29.91	1.797	0.171
8	0.0115	26.011	26.0	0.2	0.371	1.624	1.995	1.23	29.95	1.809	0.185
9	0.0147	29.282	29.3	0.3	0.417	1.516	1.933	1.28	31.44	1.725	0.209
10	0.0159	30.361	30.4	0.3	0.433	1.491	1.923	1.29	31.80	1.707	0.216
11	0.0165	32.366	32.4	0.3	0.461	1.446	1.907	1.32	32.42	1.676	0.231
12	0.0184	33.867	33.9	0.3	0.482	1.425	1.908	1.34	32.70	1.667	0.241
13	0.0191	37.234	37.2	0.3	0.530	1.410	1.940	1.38	32.92	1.675	0.265
14	0.0238	39.345	39.3	0.4	0.560	1.353	1.913	1.41	33.70	1.633	0.280
15	0.0251	41.244	41.2	0.4	0.587	1.330	1.917	1.44	34.02	1.624	0.293
16	0.0279	43.042	43.0	0.5	0.612	1.293	1.905	1.47	34.55	1.599	0.306
17	0.0302	45.407	45.4	0.5	0.645	1.278	1.923	1.51	34.75	1.600	0.323
18	0.0322	44.552	44.6	0.6	0.633	1.266	1.899	1.50	34.92	1.582	0.316
19	0.0344	46.197	46.2	0.6	0.656	1.239	1.895	1.53	35.29	1.567	0.328
20	0.0354	47.209	47.2	0.6	0.670	1.225	1.895	1.55	35.48	1.560	0.335
21	0.0371	48.988	49.0	0.7	0.695	1.217	1.912	1.57	35.60	1.565	0.348
22	0.0406	50.318	50.3	0.7	0.714	1.189	1.903	1.60	35.99	1.546	0.357
23	0.0421	51.729	51.7	0.8	0.734	1.176	1.910	1.62	36.16	1.543	0.367
24	0.0440	50.096	50.1	0.8	0.710	1.167	1.877	1.61	36.29	1.522	0.355
25	0.0454	51.178	51.2	0.8	0.725	1.163	1.889	1.62	36.34	1.526	0.363
26	0.0461	53.584	53.6	0.8	0.759	1.139	1.899	1.67	36.68	1.519	0.380
27	0.0505	55.415	55.4	0.9	0.785	1.124	1.909	1.70	36.89	1.517	0.392
28	0.0584	57.563	57.6	1.1	0.814	1.085	1.899	1.75	37.43	1.492	0.407
29	0.0642	58.829	58.8	1.2	0.831	1.058	1.889	1.79	37.81	1.473	0.415
30	0.0696	62.540	62.5	1.3	0.882	1.031	1.913	1.86	38.18	1.472	0.441
31	0.0795	65.019	65.0	1.5	0.866	0.987	1.853	1.88	38.79	1.420	0.433
32	0.0904	67.652	67.7	1.7	0.894	0.947	1.841	1.94	39.35	1.394	0.447
33	0.1018	69.411	69.4	1.9	0.910	0.915	1.825	1.99	39.79	1.370	0.455
34	0.1069	70.535	70.5	2.0	0.921	0.908	1.829	2.01	39.89	1.369	0.461
35	0.1125	71.569	71.6	2.1	0.933	0.892	1.826	2.05	40.11	1.359	0.467
36	0.1239	72.610	72.6	2.3	0.946	0.870	1.815	2.09	40.42	1.342	0.473
37	0.1286	74.908	74.9	2.4	0.977	0.855	1.832	2.14	40.62	1.344	0.488
38	0.1349	73.737	73.7	2.5	0.959	0.843	1.802	2.14	40.79	1.323	0.480
39	0.1395	76.468	76.5	2.6	0.997	0.832	1.829	2.20	40.94	1.330	0.498
40	0.1448	75.076	75.1	2.7	0.976	0.820	1.796	2.19	41.11	1.308	0.488
41	0.1505	78.081	78.1	2.8	1.017	0.817	1.834	2.24	41.15	1.326	0.508
42	0.1614	79.281	79.3	3.0	1.031	0.791	1.822	2.30	41.51	1.307	0.516
43	0.1671	77.883	77.9	3.1	1.011	0.797	1.808	2.27	41.43	1.302	0.505
44	0.1727	81.415	81.4	3.2	1.058	0.763	1.822	2.39	41.90	1.293	0.529
45	0.1780	80.246	80.2	3.3	1.041	0.755	1.796	2.38	42.02	1.275	0.520
46	0.1828	83.138	83.1	3.4	1.080	0.747	1.827	2.45	42.13	1.287	0.540

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress tsf	Minor Eff. Stress tsf	Major Eff. Stress tsf	1:3 Ratio	Pore Press. psi	P tsf	Q tsf
47	0.1889	81.554	81.6	3.5	1.057	0.746	1.802	2.42	42.14	1.274	0.528
48	0.1939	82.699	82.7	3.6	1.071	0.747	1.819	2.43	42.12	1.283	0.536
49	0.2051	84.155	84.2	3.8	1.089	0.742	1.831	2.47	42.19	1.287	0.544
50	0.2105	83.607	83.6	3.9	1.080	0.714	1.795	2.51	42.58	1.255	0.540
51	0.2152	84.660	84.7	4.0	1.094	0.720	1.813	2.52	42.51	1.266	0.547

Parameters for Specimen No. 2

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	134.090			97.970
Moisture content: Dry soil+tare, gms.	96.630			80.720
Moisture content: Tare, gms.	30.490			31.920
Moisture, %	56.6	50.4	35.3	35.3
Moist specimen weight, gms.	965.2			
Diameter, in.	2.80	2.71	2.60	
Area, in. ²	6.16	5.76	5.30	
Height, in.	5.73	5.71	5.13	
Net decrease in height, in.		0.02	0.58	
Net decrease in water volume, cc.			93.00	
Wet Density, pcf	104.2	107.4	116.7	
Dry density, pcf	66.5	71.4	86.2	
Void ratio	1.5339	1.3619	0.9544	
Saturation, %	99.7	100.0	100.0	

Test Readings for Specimen No. 2

Membrane modulus = .130 kN/cm²

Membrane thickness = .031 cm

Filter paper coefficient = 0.0019 kN/cm

Filter paper coverage = 50%

Consolidation cell pressure = 66.70 psi (4.802 tsf)

Consolidation back pressure = 30.20 psi (2.174 tsf)

Consolidation effective confining stress = 2.628 tsf

Strain rate, %/min. = 0.01

Fail. Stress = 1.752 tsf at reading no. 49

Ult. Stress = 1.787 tsf at reading no. 50

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress tsf	Minor Eff. Stress tsf	Major Eff. Stress tsf	1:3 Ratio	Pore Press. psi	P tsf	Q tsf
0	0.0008	0.000	0.0	0.0	0.000	2.629	2.629	1.00	30.19	2.629	0.000
1	0.0009	7.375	7.4	0.0	0.100	2.629	2.729	1.04	30.19	2.679	0.050
2	0.0010	9.694	9.7	0.0	0.132	2.549	2.681	1.05	31.29	2.615	0.066
3	0.0020	12.883	12.9	0.0	0.175	2.518	2.693	1.07	31.73	2.605	0.087
4	0.0030	16.112	16.1	0.0	0.219	2.494	2.713	1.09	32.06	2.604	0.109
5	0.0044	20.370	20.4	0.1	0.276	2.451	2.727	1.11	32.66	2.589	0.138
6	0.0059	27.246	27.2	0.1	0.370	2.398	2.767	1.15	33.40	2.583	0.185
7	0.0069	30.704	30.7	0.1	0.416	2.346	2.762	1.18	34.12	2.554	0.208
8	0.0080	34.825	34.8	0.1	0.472	2.307	2.779	1.20	34.66	2.543	0.236
9	0.0089	39.828	39.8	0.2	0.540	2.276	2.816	1.24	35.08	2.546	0.270
10	0.0101	43.082	43.1	0.2	0.584	2.236	2.820	1.26	35.65	2.528	0.292
11	0.0115	45.099	45.1	0.2	0.611	2.204	2.815	1.28	36.09	2.509	0.306

Test Readings for Specimen No. 2

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress tsf	Minor Eff. Stress tsf	Major Eff. Stress tsf	1:3 Ratio	Pore Press. psi	P tsf	Q tsf
12	0.0136	48.709	48.7	0.2	0.660	2.177	2.837	1.30	36.46	2.507	0.330
13	0.0145	52.193	52.2	0.3	0.707	2.141	2.847	1.33	36.97	2.494	0.353
14	0.0172	56.104	56.1	0.3	0.759	2.085	2.844	1.36	37.74	2.465	0.380
15	0.0180	59.688	59.7	0.3	0.808	2.054	2.862	1.39	38.17	2.458	0.404
16	0.0190	62.139	62.1	0.4	0.841	2.032	2.873	1.41	38.47	2.453	0.420
17	0.0202	64.652	64.7	0.4	0.875	2.008	2.882	1.44	38.81	2.445	0.437
18	0.0212	66.868	66.9	0.4	0.904	1.982	2.887	1.46	39.17	2.435	0.452
19	0.0246	68.696	68.7	0.5	0.928	1.938	2.866	1.48	39.79	2.402	0.464
20	0.0255	71.038	71.0	0.5	0.960	1.923	2.883	1.50	39.99	2.403	0.480
21	0.0265	72.878	72.9	0.5	0.985	1.897	2.882	1.52	40.35	2.389	0.492
22	0.0283	75.254	75.3	0.5	1.016	1.878	2.894	1.54	40.61	2.386	0.508
23	0.0303	77.771	77.8	0.6	1.050	1.845	2.895	1.57	41.08	2.370	0.525
24	0.0344	81.576	81.6	0.7	1.100	1.791	2.891	1.61	41.83	2.341	0.550
25	0.0365	84.070	84.1	0.7	1.134	1.771	2.905	1.64	42.10	2.338	0.567
26	0.0385	85.742	85.7	0.7	1.156	1.756	2.912	1.66	42.31	2.334	0.578
27	0.0412	87.603	87.6	0.8	1.180	1.725	2.905	1.68	42.74	2.315	0.590
28	0.0439	89.834	89.8	0.8	1.210	1.700	2.909	1.71	43.09	2.305	0.605
29	0.0465	91.562	91.6	0.9	1.232	1.680	2.912	1.73	43.36	2.296	0.616
30	0.0484	93.088	93.1	0.9	1.252	1.654	2.906	1.76	43.73	2.280	0.626
31	0.0554	98.607	98.6	1.1	1.325	1.578	2.903	1.84	44.78	2.240	0.662
32	0.0606	100.610	100.6	1.2	1.350	1.534	2.884	1.88	45.39	2.209	0.675
33	0.0654	102.572	102.6	1.3	1.375	1.532	2.908	1.90	45.42	2.220	0.688
34	0.0710	105.612	105.6	1.4	1.414	1.474	2.889	1.96	46.23	2.181	0.707
35	0.0760	108.954	109.0	1.5	1.458	1.470	2.928	1.99	46.28	2.199	0.729
36	0.0865	111.533	111.5	1.7	1.489	1.415	2.904	2.05	47.05	2.159	0.745
37	0.0917	114.881	114.9	1.8	1.532	1.397	2.930	2.10	47.29	2.163	0.766
38	0.1026	117.151	117.2	2.0	1.559	1.326	2.885	2.18	48.29	2.105	0.780
39	0.1072	119.026	119.0	2.1	1.583	1.325	2.908	2.19	48.30	2.116	0.791
40	0.1231	123.400	123.4	2.4	1.636	1.263	2.898	2.30	49.16	2.081	0.818
41	0.1331	122.767	122.8	2.6	1.624	1.256	2.880	2.29	49.26	2.068	0.812
42	0.1384	126.162	126.2	2.7	1.667	1.223	2.891	2.36	49.71	2.057	0.834
43	0.1535	127.484	127.5	3.0	1.680	1.186	2.865	2.42	50.23	2.025	0.840
44	0.1642	128.489	128.5	3.2	1.689	1.182	2.871	2.43	50.29	2.026	0.845
45	0.1693	130.824	130.8	3.3	1.718	1.151	2.869	2.49	50.71	2.010	0.859
46	0.1797	130.723	130.7	3.5	1.713	1.136	2.849	2.51	50.93	1.992	0.857
47	0.1855	132.314	132.3	3.6	1.732	1.129	2.861	2.53	51.02	1.995	0.866
48	0.1963	132.408	132.4	3.8	1.729	1.135	2.865	2.52	50.93	2.000	0.865
49	0.2013	134.250	134.3	3.9	1.752	1.097	2.849	2.60	51.46	1.973	0.876
50	0.2062	137.067	137.1	4.0	1.787	1.116	2.902	2.60	51.20	2.009	0.893

Parameters for Specimen No. 3				
Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	134.090			97.970
Moisture content: Dry soil+tare, gms.	96.630			80.720
Moisture content: Tare, gms.	30.490			31.920
Moisture, %	56.6	53.3	35.3	35.3
Moist specimen weight, gms.	965.2			
Diameter, in.	2.80	2.75	2.65	
Area, in. ²	6.16	5.95	5.52	
Height, in.	5.73	5.71	4.93	
Net decrease in height, in.		0.02	0.78	
Net decrease in water volume, cc.			110.80	
Wet Density, pcf	104.2	105.9	116.7	
Dry density, pcf	66.5	69.1	86.2	
Void ratio	1.5339	1.4399	0.9544	
Saturation, %	99.7	100.0	100.0	

Test Readings for Specimen No. 3

Membrane modulus = .130 kN/cm²

Membrane thickness = .031 cm

Filter paper coefficient = 0.0019 kN/cm

Filter paper coverage = 50%

Consolidation cell pressure = 85.90 psi (6.185 tsf)

Consolidation back pressure = 30.70 psi (2.210 tsf)

Consolidation effective confining stress = 3.974 tsf

Strain rate, %/min. = 0.01

Fail. Stress = 2.489 tsf at reading no. 82

Ult. Stress = 2.394 tsf at reading no. 98

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress tsf	Minor Eff. Stress tsf	Major Eff. Stress tsf	1:3 Ratio	Pore Press. psi	P tsf	Q tsf
0	0.0016	0.000	0.0	0.0	0.000	3.976	3.976	1.00	30.68	3.976	0.000
1	0.0017	7.955	8.0	0.0	0.104	3.976	4.079	1.03	30.68	4.028	0.052
2	0.0018	11.642	11.6	0.0	0.152	3.850	4.002	1.04	32.43	3.926	0.076
3	0.0028	14.703	14.7	0.0	0.192	3.809	4.000	1.05	33.00	3.905	0.096
4	0.0042	17.166	17.2	0.1	0.224	3.761	3.985	1.06	33.67	3.873	0.112
5	0.0049	21.011	21.0	0.1	0.274	3.721	3.995	1.07	34.22	3.858	0.137
6	0.0059	27.052	27.1	0.1	0.353	3.664	4.017	1.10	35.01	3.841	0.176
7	0.0073	33.112	33.1	0.1	0.432	3.608	4.040	1.12	35.79	3.824	0.216
8	0.0078	39.438	39.4	0.1	0.514	3.550	4.064	1.14	36.60	3.807	0.257
9	0.0095	45.337	45.3	0.2	0.591	3.492	4.083	1.17	37.40	3.787	0.295
10	0.0108	50.216	50.2	0.2	0.654	3.439	4.093	1.19	38.14	3.766	0.327
11	0.0116	55.048	55.0	0.2	0.717	3.390	4.107	1.21	38.82	3.748	0.359
12	0.0129	58.343	58.3	0.2	0.760	3.346	4.106	1.23	39.43	3.726	0.380
13	0.0140	63.728	63.7	0.3	0.830	3.293	4.123	1.25	40.17	3.708	0.415
14	0.0152	68.740	68.7	0.3	0.895	3.251	4.146	1.28	40.75	3.698	0.447
15	0.0164	72.165	72.2	0.3	0.939	3.205	4.144	1.29	41.39	3.674	0.470
16	0.0176	75.726	75.7	0.3	0.985	3.156	4.141	1.31	42.06	3.649	0.493
17	0.0186	79.436	79.4	0.3	1.033	3.123	4.156	1.33	42.53	3.639	0.517
18	0.0199	82.255	82.3	0.4	1.070	3.084	4.153	1.35	43.07	3.619	0.535
19	0.0211	85.958	86.0	0.4	1.118	3.058	4.175	1.37	43.43	3.617	0.559
20	0.0223	88.732	88.7	0.4	1.153	3.016	4.169	1.38	44.02	3.592	0.577

Test Readings for Specimen No. 3

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress tsf	Minor Eff. Stress tsf	Major Eff. Stress tsf	1:3 Ratio	Pore Press. psi	P tsf	Q tsf
21	0.0234	92.076	92.1	0.4	1.196	2.984	4.181	1.40	44.45	3.582	0.598
22	0.0244	94.767	94.8	0.5	1.231	2.948	4.179	1.42	44.95	3.564	0.616
23	0.0261	97.518	97.5	0.5	1.266	2.920	4.186	1.43	45.35	3.553	0.633
24	0.0276	100.301	100.3	0.5	1.302	2.886	4.188	1.45	45.82	3.537	0.651
25	0.0294	103.696	103.7	0.6	1.346	2.850	4.196	1.47	46.32	3.523	0.673
26	0.0319	107.876	107.9	0.6	1.399	2.799	4.198	1.50	47.03	3.498	0.700
27	0.0334	110.385	110.4	0.6	1.431	2.771	4.202	1.52	47.42	3.487	0.716
28	0.0347	112.703	112.7	0.7	1.461	2.747	4.208	1.53	47.75	3.477	0.731
29	0.0367	117.871	117.9	0.7	1.528	2.684	4.212	1.57	48.62	3.448	0.764
30	0.0395	120.175	120.2	0.8	1.556	2.652	4.208	1.59	49.07	3.430	0.778
31	0.0407	123.795	123.8	0.8	1.603	2.624	4.227	1.61	49.46	3.425	0.801
32	0.0427	126.974	127.0	0.8	1.643	2.582	4.225	1.64	50.05	3.403	0.822
33	0.0459	131.135	131.1	0.9	1.696	2.529	4.225	1.67	50.78	3.377	0.848
34	0.0480	133.535	133.5	0.9	1.727	2.505	4.232	1.69	51.11	3.368	0.863
35	0.0532	138.288	138.3	1.0	1.786	2.424	4.210	1.74	52.24	3.317	0.893
36	0.0582	145.188	145.2	1.1	1.873	2.361	4.235	1.79	53.10	3.298	0.937
37	0.0624	149.141	149.1	1.2	1.923	2.328	4.251	1.83	53.57	3.289	0.961
38	0.0674	152.949	152.9	1.3	1.970	2.257	4.226	1.87	54.56	3.241	0.985
39	0.0723	155.198	155.2	1.4	1.997	2.213	4.209	1.90	55.17	3.211	0.998
40	0.0770	159.617	159.6	1.5	2.051	2.172	4.223	1.94	55.74	3.198	1.026
41	0.0824	162.857	162.9	1.6	2.091	2.140	4.231	1.98	56.17	3.186	1.045
42	0.0923	168.132	168.1	1.8	2.154	2.080	4.234	2.04	57.02	3.157	1.077
43	0.0973	170.392	170.4	1.9	2.181	2.050	4.231	2.06	57.43	3.140	1.090
44	0.1019	173.157	173.2	2.0	2.214	2.021	4.236	2.10	57.82	3.129	1.107
45	0.1121	176.032	176.0	2.2	2.246	1.968	4.214	2.14	58.56	3.091	1.123
46	0.1167	179.222	179.2	2.3	2.285	1.946	4.230	2.17	58.88	3.088	1.142
47	0.1265	182.324	182.3	2.5	2.319	1.907	4.227	2.22	59.41	3.067	1.160
48	0.1364	184.722	184.7	2.7	2.345	1.869	4.214	2.25	59.94	3.041	1.173
49	0.1468	186.683	186.7	2.9	2.365	1.833	4.198	2.29	60.44	3.016	1.182
50	0.1570	189.262	189.3	3.2	2.392	1.801	4.193	2.33	60.89	2.997	1.196
51	0.1711	192.302	192.3	3.4	2.424	1.762	4.185	2.38	61.43	2.974	1.212
52	0.1814	192.800	192.8	3.6	2.425	1.741	4.166	2.39	61.72	2.954	1.212
53	0.1866	194.997	195.0	3.7	2.450	1.721	4.171	2.42	61.99	2.946	1.225
54	0.2016	195.896	195.9	4.1	2.453	1.696	4.149	2.45	62.35	2.922	1.227
55	0.2116	197.492	197.5	4.3	2.468	1.680	4.148	2.47	62.56	2.914	1.234
56	0.2262	199.964	200.0	4.6	2.491	1.641	4.132	2.52	63.11	2.887	1.246
57	0.2364	200.954	201.0	4.8	2.498	1.639	4.137	2.52	63.13	2.888	1.249
58	0.2462	203.197	203.2	5.0	2.521	1.624	4.144	2.55	63.35	2.884	1.260
59	0.2584	204.547	204.5	5.2	2.531	1.604	4.135	2.58	63.62	2.870	1.265
60	0.2705	204.103	204.1	5.5	2.519	1.598	4.116	2.58	63.71	2.857	1.259
61	0.2833	205.557	205.6	5.7	2.530	1.583	4.113	2.60	63.92	2.848	1.265
62	0.2958	205.143	205.1	6.0	2.518	1.561	4.079	2.61	64.22	2.820	1.259
63	0.3090	207.856	207.9	6.2	2.544	1.555	4.099	2.64	64.30	2.827	1.272
64	0.3202	207.012	207.0	6.5	2.527	1.543	4.070	2.64	64.47	2.807	1.264
65	0.3325	207.515	207.5	6.7	2.527	1.532	4.059	2.65	64.62	2.795	1.263
66	0.3449	207.831	207.8	7.0	2.524	1.517	4.041	2.66	64.83	2.779	1.262
67	0.3571	208.366	208.4	7.2	2.524	1.512	4.036	2.67	64.90	2.774	1.262

Test Readings for Specimen No. 3

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress tsf	Minor Eff. Stress tsf	Major Eff. Stress tsf	1:3 Ratio	Pore Press. psi	P tsf	Q tsf
68	0.3695	208.010	208.0	7.5	2.513	1.508	4.021	2.67	64.95	2.764	1.256
69	0.3826	209.239	209.2	7.7	2.520	1.495	4.015	2.69	65.14	2.755	1.260
70	0.3953	209.414	209.4	8.0	2.515	1.492	4.007	2.69	65.18	2.749	1.258
71	0.4071	210.161	210.2	8.2	2.518	1.484	4.001	2.70	65.29	2.742	1.259
72	0.4198	209.278	209.3	8.5	2.500	1.472	3.972	2.70	65.45	2.722	1.250
73	0.4321	209.445	209.4	8.7	2.495	1.470	3.965	2.70	65.49	2.717	1.248
74	0.4448	210.001	210.0	9.0	2.495	1.463	3.958	2.70	65.57	2.711	1.247
75	0.4573	210.738	210.7	9.2	2.497	1.460	3.957	2.71	65.62	2.708	1.248
76	0.4703	211.287	211.3	9.5	2.496	1.450	3.946	2.72	65.76	2.698	1.248
77	0.4817	211.098	211.1	9.7	2.487	1.441	3.928	2.73	65.89	2.684	1.244
78	0.4945	211.900	211.9	10.0	2.489	1.443	3.932	2.73	65.86	2.687	1.245
79	0.5069	211.904	211.9	10.2	2.483	1.436	3.919	2.73	65.95	2.678	1.241
80	0.5195	213.030	213.0	10.5	2.489	1.426	3.915	2.74	66.09	2.670	1.244
81	0.5322	213.463	213.5	10.8	2.487	1.424	3.910	2.75	66.13	2.667	1.243
82	0.5445	214.305	214.3	11.0	2.489	1.416	3.906	2.76	66.23	2.661	1.245
83	0.5565	214.213	214.2	11.2	2.481	1.412	3.894	2.76	66.29	2.653	1.241
84	0.5692	213.543	213.5	11.5	2.467	1.413	3.880	2.75	66.27	2.647	1.233
85	0.5819	215.088	215.1	11.8	2.477	1.407	3.885	2.76	66.35	2.646	1.239
86	0.5944	215.211	215.2	12.0	2.471	1.415	3.887	2.75	66.25	2.651	1.236
87	0.6065	215.852	215.9	12.3	2.472	1.409	3.880	2.75	66.34	2.645	1.236
88	0.6186	216.054	216.1	12.5	2.467	1.407	3.874	2.75	66.36	2.641	1.234
89	0.6314	215.207	215.2	12.8	2.450	1.402	3.852	2.75	66.43	2.627	1.225
90	0.6432	215.780	215.8	13.0	2.450	1.400	3.850	2.75	66.45	2.625	1.225
91	0.6559	216.076	216.1	13.3	2.446	1.386	3.832	2.76	66.65	2.609	1.223
92	0.6680	216.136	216.1	13.5	2.440	1.403	3.843	2.74	66.41	2.623	1.220
93	0.6802	216.486	216.5	13.8	2.437	1.405	3.842	2.73	66.38	2.624	1.218
94	0.6929	214.743	214.7	14.0	2.410	1.396	3.806	2.73	66.52	2.601	1.205
95	0.7057	216.061	216.1	14.3	2.418	1.392	3.810	2.74	66.57	2.601	1.209
96	0.7183	216.369	216.4	14.5	2.414	1.384	3.797	2.74	66.68	2.591	1.207
97	0.7303	216.037	216.0	14.8	2.403	1.394	3.797	2.72	66.54	2.595	1.202
98	0.7424	215.804	215.8	15.0	2.394	1.378	3.771	2.74	66.77	2.574	1.197

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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