

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET	SAMPLE NO.	PEN./TORVANE	SPT.-BLOW COUNT	BORING NO. <u>97-27</u> DATE: BEGIN <u>6-28-97</u> PAGE <u>1/1</u>				
				JOB NO. <u>1140086134</u> COMPLETE <u>6-28-97</u> Thin Walled Tube				
				PROJECT <u>Upper Basin Detention Area D</u> <input checked="" type="checkbox"/> 3" <input type="checkbox"/> 6"				
				LOCATION <u>along Brays Bayou</u>				
				ELEVATION OF HOLE _____				
				MANUFACTURER'S DESIGNATION OF DRILL RIG <u>Marsh Buggy K4X4, F-36</u>				
				GROUNDWATER: DEPTH _____ ft., ELEV. _____ ft., at end of Drilling				
				WEATHER <u>PARTLY CLOUDY SUNNY & WET</u>				
				DRILLER <u>Dempsey Gorman</u> LOGGER <u>John Gentry</u>				
				COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0	1	1.0		GRAY	CLAY	STIFF		+ BROWN 0-4 - w ROOTS 0-2
	2	1.25		GRAY	CLAY	STIFF		
5	3	1.75		LT GRAY	CLAY	STIFF		YELLOWISH BROWN 4-12 - w FERROUS NODULES 4-12
	4	3.0		LT GRAY	CLAY	VERY STIFF		w/ Calc Nods 6-11 - w SAND POCKETS 6-11
	5	2.75		LT GRAY	CLAY	VERY STIFF		
10	6	2.5		LT GRAY	CLAY	VERY STIFF		+ REDDISH BROWN 10-12
	7	2.75		REDDISH BROWN	CLAY	VERY STIFF		+ GRAY 12-16
15	8	2.0		REDDISH BROWN	CLAY	VERY STIFF		- w SILTY PKTS 15-16
	9			REDDISH BROWN	SILT	MEDIUM DENSE	SANDY	+ LT GRAY 16-21
	X 10	3.5	10	REDDISH BROWN	SAND	MEDIUM DENSE	SILTY	- w SAND & SILT SEAMS 18-19
20								
	11	2.25		REDDISH BROWN	CLAY	VERY STIFF		+ GRAY 21-23 3"
	12	1.0		LT GRAY	CLAY	STIFF	SANDY	- w CLAY LAYER 23-23 3" + BROWN 23 3" - 25
25	13			LT GRAY	SAND	MEDIUM DENSE	SILTY	
	14			LT GRAY	SAND	MEDIUM DENSE	SILTNY	
30	X 15	8.6	3	LT GRAY	SAND	MEDIUM DENSE	SILTY	
35	X 16	10.6	6	LT GRAY	SAND	MEDIUM DENSE	SILTNY	

JAR SAMPLE

SUMMARY OF LABORATORY TEST RESULTS

Contract No. DACW64-95-D-0007 Delivery Order No. 0035

Boring No. 97-27

S #	Depth (ft)	P P (tsf)	SPT Blows per Foot	Visual Classification	U S C	M c (%)	Dry Unit Wt (pcf)	Wet Unit Wt (pcf)	L L (%)	P L (%)	Mechanical Analysis % Passing					Torvane Shear Strength (tsf)	q u (tsf)
											#4	#10	#40	#100	#200		
1	0 - 2	1.00		Clay,w/grass roots,Stiff,Gray	C H	24.7											
2	2 - 4	1.25		Clay,Stiff,Gray	C H	26.5	92.2	116.6	62.0	24.0							
3	4 - 6	1.75		Clay,w/fer nod,slickensided,Gray & Yellowish Brown	C H	26.1											
4	6 - 8	3.00		Clay,w/calc&fer nod&sand pockets,slickensided, Very stiff,Gray & Yellowish brown	C H	18.2											
5	8 - 10	2.75		Clay,w/calc&fer nod&sand pockets,slickensided, Very stiff,Gray & Yellowish brown	C H	21.3											
6	10 - 12	2.50		Clay,w/calc&fer nod&sand pockets,slickensided, Very stiff,Gray & Yellowish brown	C H	18.5	105.0	124.5	57.0	23.0							
7	12 - 14	2.75		Clay,w/calc&fer nod&sand pockets,slickensided, Very stiff,Reddish brown	C H	30.8											
8	14 - 16	2.00		Clay,w/calc&fer nod&sand pockets,slickensided, Very stiff,Reddish brown	C H	26.7											
9	16 - 18			Sandy Silt,Medium dense,Reddish brown	M L	21.3											
10	18-19.5		15	Silty Sand,Medium dense,Reddish brown	S M						100.0	100.0	100.0	88.9	48.5		
11	21-23	2.75		Clay,slickensided,Very stiff,Reddish brown	C H	20.3											
12	23-25	1.00		Sandy Clay,Stiff,Gray	C L	18.8	106.9	126.9	35.0	17.0	99.7	98.9	98.0	95.7	72.6		1.22
13	25-27			Silty Sand,Medium dense,Gray	S M												
14	27-29			Silty Sand,Medium dense,Gray	S M						100.0	100.0	100.0	99.2	46.7		
15	29-30.5		14	Silty Sand,Medium dense,Gray	S M												
16	33.5-35		33	Silty Sand,Dense,Gray	S M												

S # : Sample Number, P P : Pocket Penetrometer Reading, U S C : Unified Soil Classification, M c : Moisture Content
 q u : Uncogined Compressive Strength, W O H : Weight of hammer, W O P : Weight of Pipe

JOB NO. 114008613

DATE 7/8/97

PROJECT Brays Bayou PDM

AREA Houston, Texas

BORING NO. 97-27

SAMPLE NO. 12

DEPTH 23-25 ft

SPECIMEN NO. 1

CLASSIFICATION

Sandy Clay, Stiff, Gray

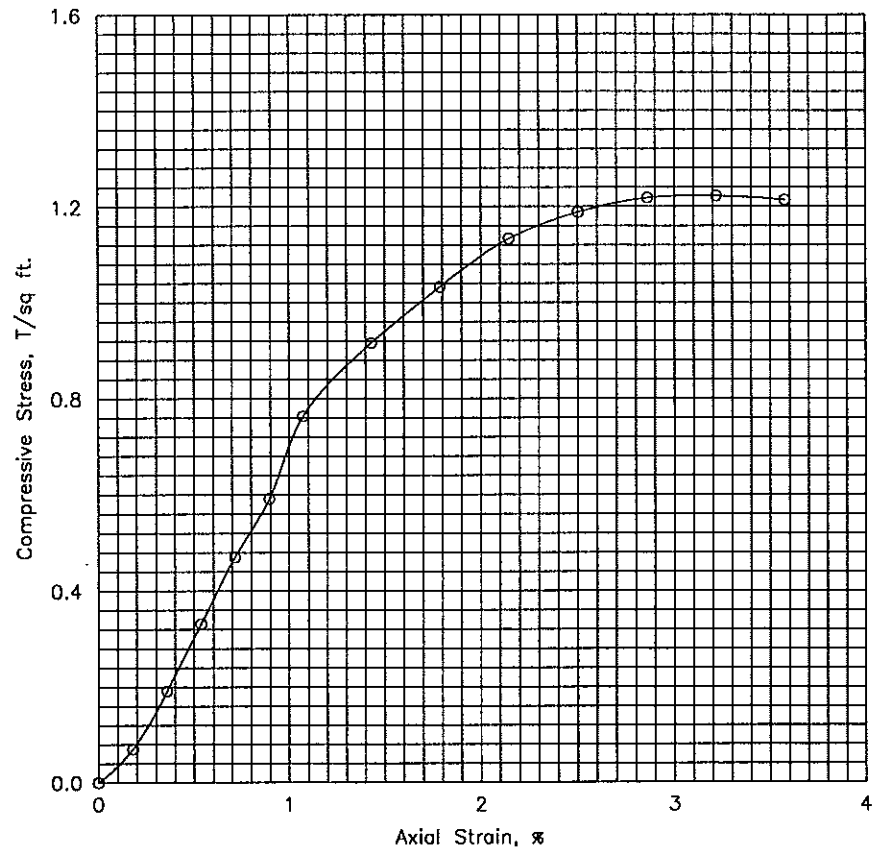
Tare No.	Im-1	Height	5.595 in.
Tare plus Wet Specimen	635.30 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	541.60 gm	Initial Area	6.290 sq in.
Water Weight	93.70 gm	Volume	35.194 cu in.
Tare Weight	42.49 gm	Volume of Solids	cu in.
Wet Specimen	1172.69 gm	Void Ratio	
Dry Specimen	987.33 gm	Saturation	%
Water Content	18.77 %	Dry Density	106.9 lb/cu ft
Specific Gravity of Solids			
LL = 35	PL = 17	PI = 18	

Proving Ring No. 10170
 Proving Ring Constant, K = .766 lbs/div.

Elapsed Time min.	Dial Reading 0.001"	Cumulative Change in.	Proving Ring Dial Reading	Axial Load lb	Axial Strain	Area Corr. sq in.	Compr. Stress tsf
.0	0.	.000	.0	.0	.000	6.29	.000
.2	10.	.010	8.0	6.1	.002	6.30	.070
.4	20.	.020	22.0	16.9	.004	6.31	.192
.6	30.	.030	38.0	29.1	.005	6.32	.331
.8	40.	.040	54.0	41.4	.007	6.34	.470
.9	50.	.050	68.0	52.1	.009	6.35	.591
1.1	60.	.060	88.0	67.4	.011	6.36	.763
1.4	80.	.080	106.0	81.2	.014	6.38	.916
1.7	100.	.100	120.0	91.9	.018	6.40	1.033
2.0	120.	.120	132.0	101.1	.021	6.43	1.133
2.3	140.	.140	139.0	106.5	.025	6.45	1.188
2.7	160.	.160	143.0	109.5	.029	6.48	1.218
3.0	180.	.180	144.0	110.3	.032	6.50	1.222
3.3	200.	.200	143.5	109.9	.036	6.52	1.213

Job No. 114008613

Failure Sketches



- Controlled stress
- Controlled strain

Test No.		1	
Type of Specimen		Undisturbed	
Initial	Water content	w_0	18.8 %
	Void ratio	e_0	
	Saturation	S_0	%
	Dry density, lb/cu ft	γ_d	106.9
Time to failure, min		t_f	2.97
Unconfined compressive strength, T/sq ft		q_u	1.22
Undrained shear strength, T/sq ft		S_u	.61
Sensitivity ratio		S_t	
Initial specimen diameter, in.		D_0	2.830
Initial specimen height, in.		H_0	5.595
Classification Sandy Clay, Stiff, Gray			
LL	35	PL	17
		PI	18
		G_s	
Remarks		Project Brays Bayou PDM	
		Area Houston, Texas	
		Boring No. 97-27	Sample No. 12
		Depth 23-25 ft	Date 7/8/97
		UNCONFINED COMPRESSION TEST REPORT	