

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	BORING NO. <u>97-29</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> ☒ 3" ☐ 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 <u>15</u> ft., ELEV. _____ ft., at end of Drilling WEATHER <u>PARTLY CLOUDY SUNNY + 140-</u> DRILLER <u>Dempsey Gannon</u> LOGGER <u>John Gentry</u>				
			COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0	1	0.5	GRAY	CLAY	MEDIUM STIFF		w/ROOTS 0'-2'
	2	1.0	GRAY	CLAY	STIFF		
5	3	1.25	GRAY	CLAY	STIFF		w/Fe Nods 6'-10'
	4	1.75	GRAY	CLAY	STIFF		+ YELLOWISH BROWN 6'-10'
	5	1.75	LT GRAY	CLAY	STIFF		w/Calc Nods 8'-10'
10	6	2.75	REDDISH BROWN	CLAY	VERY STIFF		+ GRAY 10'-20'
	7	2.75	REDDISH BROWN	CLAY	VERY STIFF		w/5" SEAMS 10'-12'
15	8	2.75	REDDISH BROWN	CLAY	VERY STIFF		w/CRACKS IN VERTICAL SEAMS 14'-17'
	9	4.25	REDDISH BROWN	CLAY	HARD		
	10	3.75	REDDISH BROWN	CLAY	VERY STIFF		
20	11	1.5	LT GRAY	CLAY	STIFF	SANDY	+ YELLOW 20'-22'
	12		LT GRAY	SAND		SILTY	
25	13	4.5	LT GRAY	CLAY	HARD	SANDY	YELLOW 24'
	14	4.5	LT GRAY	CLAY	HARD	SANDY	REDDISH BROWN 24'
	15	4.5	LT GRAY	CLAY	HARD	SANDY	w/Calc Nods 26'-29'
30	16	6.0	LT GRAY	SAND	MEDIUM DENSE	SILTY	w/Fe Nods 26'-28'
	17	4.5	LT GRAY	SAND	MEDIUM DENSE	SILTY	+ REDDISH BROWN 30'-35'
35							

Project: Brays Bayou PDM

SUMMARY OF LABORATORY TEST RESULTS

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

Boring No. 97-29

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	0.50		Clay,w/grass roots,Medium stiff,Gray	C H	35.0											
2	2 - 4	1.00		Clay,Stiff,Gray	C H	34.7											
3	4 - 6	1.25		Clay,slickensided,Stiff,Gray	C H	31.3	85.9	112.7	72.0	26.0	100.0	100.0	100.0	100.0	100.0		1.20
4	6 - 8	1.75		Clay,w/calc & fer nod,slickensided,Stiff,Gray	C H	27.8											
5	8 - 10	1.75		Clay,w/calc & fer nod,slickensided,Stiff,Gray	C H	29.6											
6	10 - 12	2.75		Clay,w/calc & fer nod,slickensided,Very stiff, Reddish brown	C H	29.8											
7	12 - 14	2.75		Clay,w/calc & fer nod,slickensided,Very stiff, Reddish brown	C H	29.1											
8	14 - 16	2.75		Clay,w/calc & fer nod,slickensided,Very stiff, Reddish brown	C H	29.8	87.8	113.9	62.0	25.0							
9	16 - 18	4.25		Clay,w/calc & fer nod,slickensided,Hard, Reddish brown	C H	27.1											
10	18 - 20	3.75		Clay,w/calc & fer nod,slickensided,Very stiff, Reddish brown	C H	22.5											
11	20 - 22	1.50		Sandy Clay,Stiff,Yellowish gray	C L	17.4											
12	22 - 24			Silty Sand,Medium dense,Gray	S M												
13	24 - 26	4.50		Sandy Clay,Hard,Gray & yellowish brown	C L	16.9											
14	26 - 28	4.50 +		Sandy Clay,w/calc&fer nod,Hard,Gray&Yellowish Brown	C L	16.5	110.4	128.7	40.0	18.0							
15	28 - 30	4.5 +		Sandy Clay,w/calc&fer nod,Hard,Gray&Yellowish Brown	C L	17.6					100.0	100.0	100.0	96.6	58.4		
16	30-31.5		15	Silty Sand,Medium dense,Gray	S M												
17	33.5-35		15	Silty Sand,Medium 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. 97-29

SAMPLE NO. 3

DEPTH 4-6 ft

SPECIMEN NO. 1

CLASSIFICATION

Clay, slickensided, Stiff, Gray

Tare No.	IM105	Height	5.595 in.
Tare plus Wet Specimen	561.83 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	438.14 gm	Initial Area	6.290 sq in.
Water Weight	123.69 gm	Volume	35.194 cu in.
Tare Weight	42.78 gm	Volume of Solids	cu in.
Wet Specimen	1041.36 gm	Void Ratio	
Dry Specimen	793.20 gm	Saturation	%
Water Content	31.29 %	Dry Density	85.9 lb/cu ft
Specific Gravity of Solids			
LL = 72	PL = 26	PI = 46	

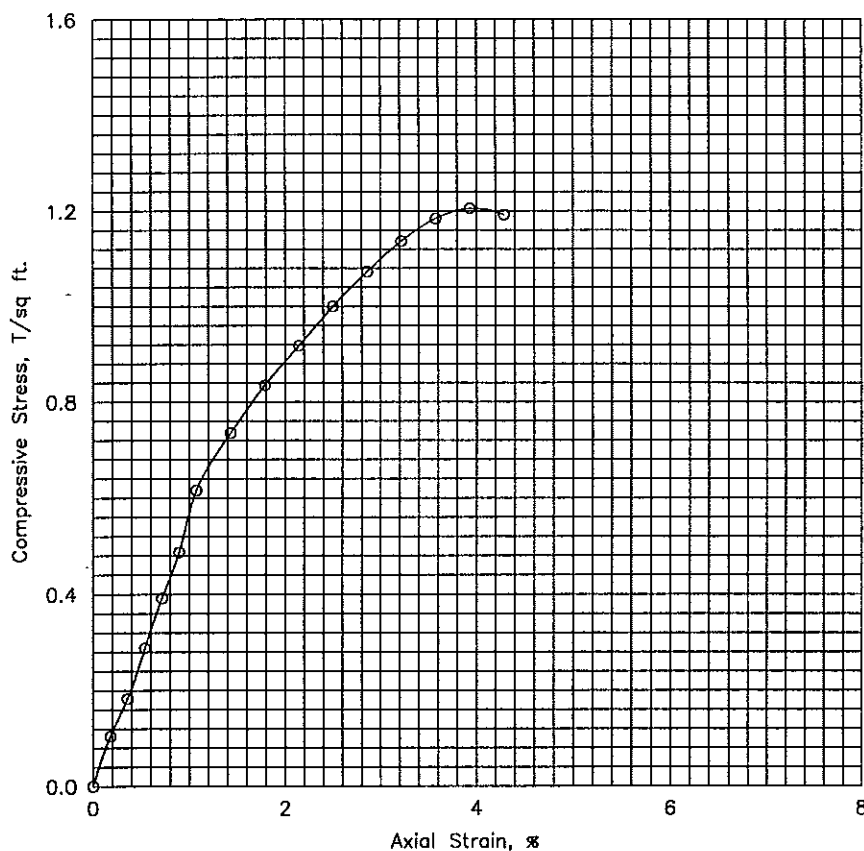
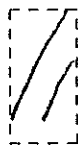
Proving Ring No. 10170

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	12.0	9.2	.002	6.30	.105
.4	20.	.020	21.0	16.1	.004	6.31	.183
.6	30.	.030	33.0	25.3	.005	6.32	.288
.8	40.	.040	45.0	34.5	.007	6.34	.392
.9	50.	.050	56.0	42.9	.009	6.35	.487
1.1	60.	.060	71.0	54.4	.011	6.36	.616
1.4	80.	.080	85.0	65.1	.014	6.38	.735
1.8	100.	.100	97.0	74.3	.018	6.40	.835
2.1	120.	.120	107.0	82.0	.021	6.43	.918
2.4	140.	.140	117.0	89.6	.025	6.45	1.000
2.7	160.	.160	126.0	96.5	.029	6.48	1.073
3.0	180.	.180	134.0	102.6	.032	6.50	1.137
3.3	200.	.200	140.0	107.2	.036	6.52	1.184
3.7	220.	.220	143.0	109.5	.039	6.55	1.205
4.0	240.	.240	142.0	108.8	.043	6.57	1.192

Job No. 114008613

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	31.3 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	85.9		
Time to failure, min		t_f	3.67		
Unconfined compressive strength, T/sq ft		q_u	1.20		
Undrained shear strength, T/sq ft		S_u	.60		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		
Classification Clay, slickensided, Stiff, Gray					
LL	72	PL	26	PI	46
				G_s	
Remarks		Project Brays Bayou PDM			
		Area Houston, Texas			
		Boring No. 97-29		Sample No. 3	
		Depth 4-6 ft		Date 7/8/97	
		UNCONFINED COMPRESSION TEST REPORT			