

U.S. ARMY CORPS OF ENGINEERS

DEPTH, FEET	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	BORING NO. <u>97-28</u> DATE: BEGIN <u>6-28-97</u> PAGE <u>1/1</u> JOB NO. <u>1140026134</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>0</u> ft., ELEV. _____ ft., at end of Drilling WEATHER <u>PARTLY CLOUDY SUNNY & HOT</u> DRILLER <u>Dempsey Gann</u> LOGGER <u>John Gentry</u>				
			COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0	1	0.75	GRAY	CLAY	MEDIUM STIFF		-w/ROOTS 0'-2'
	2	1.25	GRAY	CLAY	STIFF		-w/FERRUS Nodules 2'-12'
5	3	1.75	GRAY	CLAY	STIFF		+ BROWN 4'-12'
	4	2.0	GRAY	CLAY	VERY STIFF		
	5	2.5	GRAY	CLAY	VERY STIFF		
10	6	2.0	GRAY	CLAY	VERY STIFF		+ GRAY 12'-14'
	7	4.25	REDDISH BROWN	CLAY	HARD		-w/SILT CLAY SILTY 12'-14'
15	8	2.0	REDDISH BROWN	CLAY	VERY STIFF	SILTY	-w/CLAY SEAMS 14'-14' 2'
	9	3.0	REDDISH BROWN	CLAY	VERY STIFF	SILTY	+ GRAY 14'
	10	1.75	REDDISH BROWN	CLAY	STIFF	SILTY	-w/CLAY LAYERS 16'-17'
20	11	2.25	REDDISH BROWN	CLAY	VERY STIFF	SILTY	-w/SILT LAYERS 20'
	12	2.75	REDDISH BROWN	CLAY	VERY STIFF		SETBACK 21' MAY 1992
	13	2.75	REDDISH BROWN	CLAY	VERY STIFF		+ GRAY 22'
25	14	3.0	REDDISH BROWN	CLAY	VERY STIFF		-w/SILT SEAMS 22'-26'
	15	3.0	REDDISH BROWN	CLAY	VERY STIFF		-w/SAND POCKETS 27'-28'
	16	3.0	LT GRAY	SAND	DENSE	CLAY	-w/Calc Nods 28'-35'
30	17	4.5	LT GRAY	CLAY	HARD	SANDY	-w/Calc Nods 28'-35'
	18	3.25	LT GRAY	CLAY	VERY STIFF	SANDY	+ YELLOW BROWN 28'-35'

JAR SAMPLE

Project: Brays Bayou PDM

SUMMARY OF LABORATORY TEST RESULTS

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

Boring No. 97-28

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	0.75		Clay,w/grass roots,Medium stiff,Gray	C H	29.1											
2	2 - 4	1.25		Clay,w/ferrous nodules,Stiff,Gray	C H	26.1											
3	4 - 6	1.75		Clay,w/ferrous nodules,slickensided,Stiff,Gray	C H	26.5											
4	6 - 8	2.00		Clay,w/ferrous nodules,slickensided,Very stiff, Gray	C H	23.8											
5	8 - 10	2.50		Clay,w/ferrous nodules,slickensided,Very stiff, Gray	C H	23.0	98.7	121.4	60.0	25.0							
6	10 - 12	2.00		Clay,w/ferrous nodules,slickensided,Very stiff, Gray	C H	27.5											
7	12 - 14	4.25		Clay,w/ferrous nodules,slickensided,Hard, Reddish brown	C H	25.7											
8	14 - 16	2.00		Silty Clay,Very stiff,Reddish brown	C L	21.3											
9	16 - 18	3.00		Silty Clay,Very stiff,Reddish brown	C L	24.1											
10	18 - 20	1.75		Silty Clay,Stiff,Reddish brown	C L	24.2											
11	20 - 22	2.25		Silty Clay,Very stiff,Reddish brown	C L	21.9											
12	22 - 24	2.75		Clay,w/silt seams,slickensided,Very stiff, Reddish brown	C H	22.4											
13	24 - 26	2.75		Clay,w/silt seams,slickensided,Very stiff, Reddish brown	C H	23.7	97.7	120.8	55.0	21.0	100.0	99.1	98.7	98.2	97.7		2.46
14	26 - 28	3.00		Clay,w/calc nod,slickensided,Very stiff, Reddish brown	C H	22.6											
15	28 - 30	3.75		Sandy Clay,w/calc & fer nod,Very stiff,Gray & Yellowish brown	C L	16.3											
16	30-31.5		49	Sandy Clay,w/calc & fer nod,Hard,Gray & Yellowish brown	C L						99.2	96.0	91.1	85.4	58.4		
17	31.5-33.5	4.50+		Sandy Clay,w/calc & fer nod,Hard,Gray & Yellowish brown	C L	17.1											
18	33.5-35	3.25		Sandy Clay,w/calc & fer nod,Very stiff,Gray & Yellowish brown	C L	15.9	112.3	130.2	30.0	15.0							

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. 97-28

SAMPLE NO. 13

DEPTH 24-26 ft

SPECIMEN NO. 1

CLASSIFICATION

Clay, w/silt seams, slickensided, Very stiff, Reddish brown

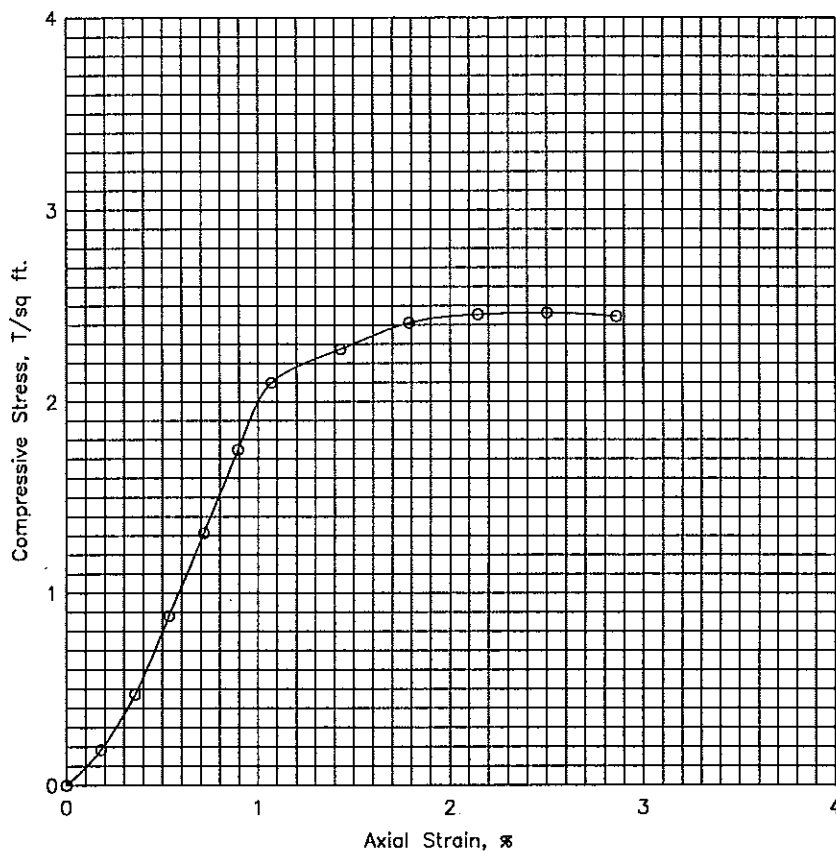
Tare No.	W29	Height	5.595 in.
Tare plus Wet Specimen	503.85 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	415.57 gm	Initial Area	6.290 sq in.
Water Weight	88.28 gm	Volume	35.194 cu in.
Tare Weight	42.89 gm	Volume of Solids	cu in.
Wet Specimen	1116.28 gm	Void Ratio	
Dry Specimen	902.50 gm	Saturation	%
Water Content	23.69 %	Dry Density	97.7 lb/cu ft
Specific Gravity of Solids			
LL = 55	PL = 21	PI = 34	

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	21.0	16.1	.002	6.30	.184
.4	20.	.020	54.0	41.4	.004	6.31	.472
.6	30.	.030	101.0	77.4	.005	6.32	.881
.8	40.	.040	151.0	115.7	.007	6.34	1.314
.9	50.	.050	201.0	154.0	.009	6.35	1.747
1.1	60.	.060	242.0	185.4	.011	6.36	2.099
1.4	80.	.080	263.0	201.5	.014	6.38	2.273
1.8	100.	.100	280.0	214.5	.018	6.40	2.411
2.1	120.	.120	286.0	219.1	.021	6.43	2.454
2.4	140.	.140	288.0	220.6	.025	6.45	2.462
2.7	160.	.160	287.0	219.8	.029	6.48	2.444

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial	Water content	w_0	23.7 %	%	%
	Void ratio	e_0			
	Saturation	S_0	%	%	%
	Dry density, lb/cu ft	γ_d	97.7		
Time to failure, min		t_f	2.37		
Unconfined compressive strength, T/sq ft		q_u	2.46		
Undrained shear strength, T/sq ft		S_u	1.23		
Sensitivity ratio		S_t			
Initial specimen diameter, in.		D_0	2.830		
Initial specimen height, in.		H_0	5.595		

Classification Clay, w/silt seams, slickensided, Very stiff, Reddish brown

LL 55 PL 21 PI 34 G_s

Remarks

Project Brays Bayou PDM

Area Houston, Texas

Boring No. 97-28

Sample No. 13

Depth 24-26 ft

Date 7/8/97

UNCONFINED COMPRESSION TEST REPORT