Project: Sabine Lake North Disposal Area No. 11
Near Port Arthur , Texas
Contract No. DACW64-93-D-0005 Delivery Order No. 0014

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 94-94

S #	Depth (ft)	P P (tsf)	SPT Blows per Foot	Visual Classification	U S C	Mc (%)	Dry Unit Wt (pcf)	Wet Unit Wt (pcf)	L L (%)	PL (%)	Mechanical Analysis % Passing					Torvane Shear Strength (tsf)	q u (tsf)
											#4	#10	#40	#100	#200		
1	0 - 2	0.75		Gray,Clay,Medium stiff,w/sand pockets and shell fragments	C H	40.4	78.3	110.0	67	24							
2	2-3.5		8	Brown,Sand,Loose,Silty	S M												
3	7-8.5		4	Brown,Sand,Loose,Silty	S M												
4	12-13.5	0.25	3	Gray,Clay,Soft	C H	25.1											
5	14-16	1.50		Gray,Clay,Stiff,w/ferrous nodules and sand pockets	C H	27.0											
6	16-18	1.75		Yellowish gray,Clay,Stiff,Sandy	C L	19.0	111.0	132.1	36	18	100.0	99.6	99.2	88.0	62.5		1.54
7	18-20	1.50		Yellowish,Gray,Clay,Stiff,Sandy	C L	19.5											
8	20-21.5		24	Gray,Sand,Medium dense,Silty	S M												
9	23.5-25		29	Gray,Sand,Medium dense,Silty	S M												

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

JOB NO. 14G727-14 DATE 5/18/94

PROJECT Sabine Lake North Disposal Area
No. 11

AREA Near Port Arthur, Texas

BORING NO. 94-94 SAMPLE NO. 6 DEPTH 16-18 ft

SPECIMEN NO. 1

CLASSIFICATION
Yellowish gray,Clay,Stiff,Sandy,w/sand pockets

Tare No.	P207	Height	5.595 in.
Tare plus Wet Specimen	398.74 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	341.90 gm	Initial Area	6.290 sq in.
Water Weight	56.84 gm	Volume	35.194 cu in.
Tare Weight	42.76 gm	Volume of Solids	cu in.
Wet Specimen	1220.82 gm	Void Ratio	
Dry Specimen	1025.89 gm	Saturation	%
Water Content	19.00 %	Dry Density	111.0 lb/cu ft
Specific Gravity of Solids			

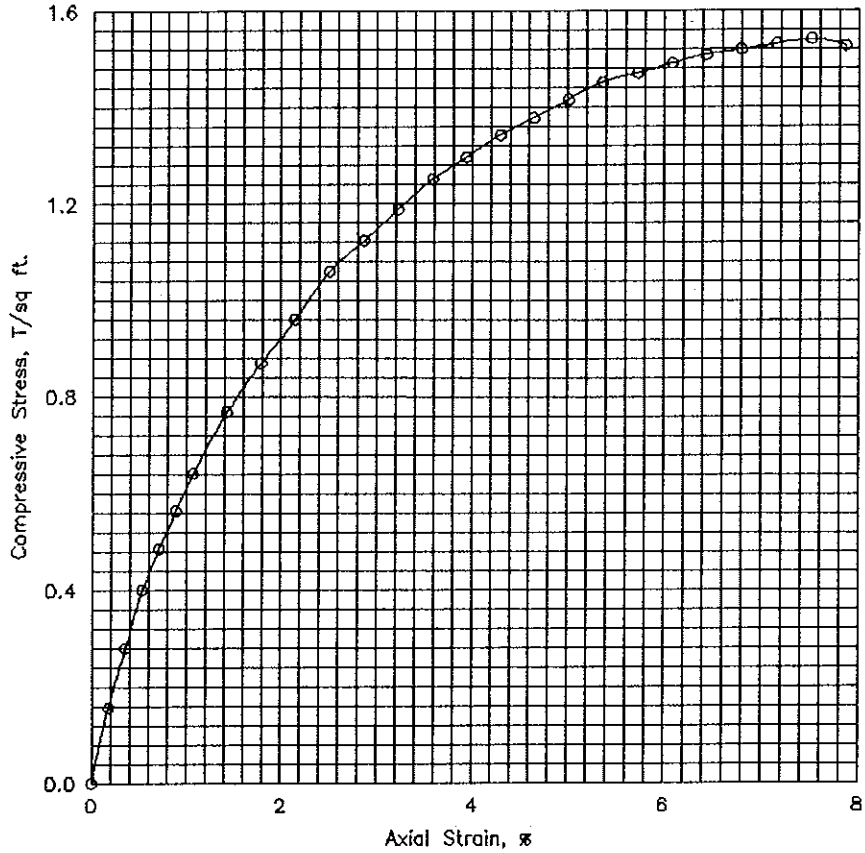
LL = 36 PL = 18 PI = 18

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	18.0	13.8	.002	6.30	.158
.4	20.	.020	32.0	24.5	.004	6.31	.280
.6	30.	.030	46.0	35.2	.005	6.32	.401
.7	40.	.040	56.0	42.9	.007	6.34	.487
.9	50.	.050	65.0	49.8	.009	6.35	.565
1.1	60.	.060	74.0	56.7	.011	6.36	.642
1.4	80.	.080	89.0	68.2	.014	6.38	.769
1.7	100.	.100	101.0	77.4	.018	6.40	.870
2.0	120.	.120	112.0	85.8	.021	6.43	.961
2.3	140.	.140	124.0	95.0	.025	6.45	1.060
2.7	160.	.160	132.0	101.1	.029	6.48	1.124
3.0	180.	.180	140.0	107.2	.032	6.50	1.188
3.3	200.	.200	148.0	113.4	.036	6.52	1.251
3.5	220.	.220	154.0	118.0	.039	6.55	1.297
3.8	240.	.240	160.0	122.6	.043	6.57	1.343
4.1	260.	.260	165.0	126.4	.046	6.60	1.379
4.4	280.	.280	170.0	130.2	.050	6.62	1.416
4.7	300.	.300	175.0	134.0	.054	6.65	1.452
5.0	320.	.320	178.0	136.3	.057	6.67	1.471
5.3	340.	.340	181.0	138.6	.061	6.70	1.491
5.7	360.	.360	184.0	140.9	.064	6.72	1.509
6.0	380.	.380	186.0	142.5	.068	6.75	1.520
6.3	400.	.400	188.0	144.0	.071	6.77	1.531
6.7	420.	.420	190.0	145.5	.075	6.80	1.541
7.0	440.	.440	189.0	144.8	.079	6.83	1.527

Job No. 14G727-14

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	19.0 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	111.0			
Time to failure, min		t_f	6.68			
Unconfined compressive strength, T/sq ft		q_u	1.54			
Undrained shear strength, T/sq ft		S_u	.77			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.830			
Initial specimen height, in.		H_0	5.595			

Classification Yellowish gray,Clay,Stiff,Sandy,w/sand pockets

LL	36	PL	18	PI	18	G_s	

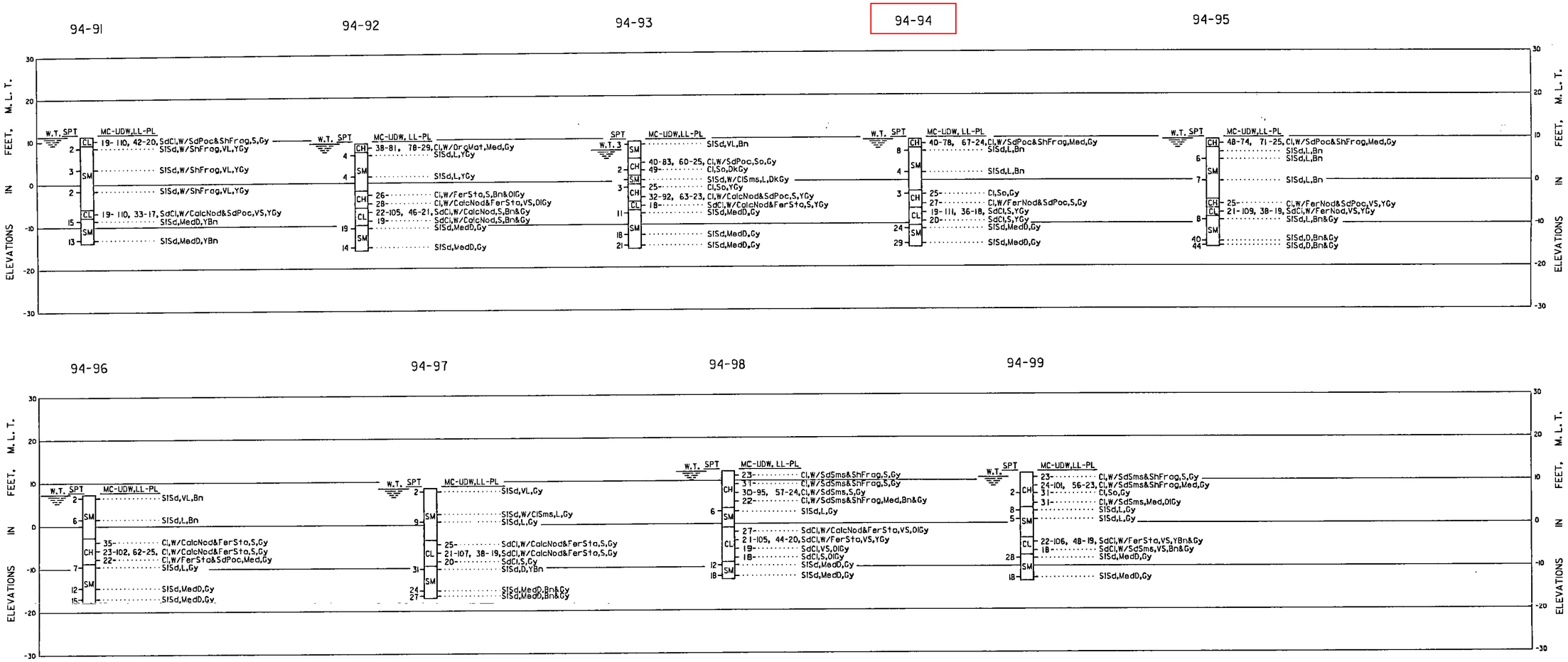
Remarks

Project Sabine Lake North Disposal Area
No. 11
Area Near Port Arthur, Texas
Boring No. 94-94 | Sample No. 6
Depth El 16-18 ft | Date 5/18/94

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

Geotest Engineering, Inc.



NOTES;

1. SOILS HAVE BEEN CLASSIFIED IN ACCORDANCE WITH MILITARY STANDARD 619B "UNIFIED SOIL CLASSIFICATION SYSTEM FOR ROADS, AIRFIELDS, EMBANKMENTS, AND FOUNDATIONS." CONSISTENCY OF SOILS SUCH AS SOFT, MEDIUM, HARD, LOOSE, DENSE, ETC., ARE RELATIVE TERMS BASED ON ESTIMATED UNDISTURBED SHEAR STRENGTH OF THE MATERIAL AS DETERMINED BY VISUAL CLASSIFICATION POCKET PENETROMETER TESTS AND PENETRATION RESISTANCE DURING SAMPLING.
2. FIGURES TO THE RIGHT OF BORING LOGS ARE WATER CONTENTS IN PERCENT OF THE DRY WEIGHT, DRY DENSITY, LIQUID LIMIT, PLASTIC LIMIT, AND BAR LINEAR SHRINKAGE. (MC-UDW),(LL-PL),(B.L.S.)• FIGURES TO THE LEFT OF BORING LOGS ARE BLOWS PER FOOT OF PENETRATION FROM STANDARD PENETRATION TESTING.
3. BORINGS WERE DRILLED USING WET ROTARY DRILLING TECHNIQUES AND UNDISTURBED SAMPLES WHERE RECOVERED WITH A 3-INCH DIAMETER THIN WALL SAMPLER WHERE COHESIVE MATERIALS WERE ENCOUNTERED. WHERE COHESIONLESS MATERIALS WERE ENCOUNTERED, DISTURBED SAMPLES WERE TAKEN WITH A SPLIT SPOON SAMPLER DURING PERFORMANCE OF STANDARD PENETRATION TESTING.
4. WATER TABLE LEVELS SHOWN ON BORING LOGS WERE DETERMINED AFTER DRILLING BORINGS BY MEASURING THE TOP OF FLUID LEVELS IN THE BORINGS. INASMUCH AS WET ROTARY DRILLING TECHNIQUES AND DRILLING MUD WERE USED TO DRILL THE HOLES, THE LEVEL OF DRILLING FLUIDS IN THE BORE HOLES MAY NOT HAVE STABILIZED TO THE LEVEL OF THE ACTUAL WATER TABLE. ADDITIONALLY, WATER TABLES IN THE FIELD ARE LIKELY TO FLUCTUATE DEPENDING ON WEATHER CONDITIONS. THEREFORE, SOME VARIATION SHOULD BE ANTICIPATED BETWEEN WATER TABLES INDICATED AND WATER TABLES ENCOUNTERED IN THE FIELD.

VISUAL CLASSIFICATIONS

Bn Brown(ish)	Ly Layer(s)	Sl Silt(y)
Calc Calcareous	Mat Material	Sms Seams
Cl Clay(ey)	Med Medium	So Soft
D Dense	Nod Nodules	St Stone(s)
Dk Dark	Ol Olive	Sta Stain(s)
Fer Ferrous	Org Organic	V Very
Frag Fragment(s)	Poc Pocket(s)	W/ With
Gv Gravel(ly)	Prt Parting	Wd Wood
Gy Gray(ish)	Rts Root(s)	W.O.P. Weight of pipe
H Hard	S Stiff	Y Yellow(ish)
L Loose	Sd Sand(y)	
Lt Light	Sh Shell(y)	

SPT Standard Penetration Tests

LABORATORY CLASSIFICATION

CH INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS.
CL INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, LEAN CLAYS.
SM SILTY SANDS, SAND-SILT MIXTURES.
SC CLAYEY SANDS, SAND-CLAY MIXTURES

REVISION	DATE	DESCRIPTION	BY

OFFICE OF THE DISTRICT ENGINEER
U.S. ARMY ENGINEER DISTRICT, GALVESTON
CORPS OF ENGINEERS
GALVESTON, TEXAS

DRAWN BY: P.N.
DESIGNED BY: G.M.
CHECKED BY: G.M./L.A.A.
SUBMITTED BY:
CHIEF, DESIGN & SURVEYS SECTION
APPROVED:
CHIEF, DESIGN BRANCH

SABINE - NECHES WATERWAY, TEXAS
SABINE - NECHES CANAL
REHABILITATION OF PLACEMENT AREA NO. 11

BORING LOGS

BORROW AREA NO. 2

APPROVED:
CHIEF, ENGINEERING DIVISION
DATE: JULY 1995
(• AS REQUIRED BY ENGINEER CIRCULAR NO. 80-1-152)
SCALE: AS SHOWN
SPEC. DATE:

Prepared under the direction of
Robert B. Gatlin, Col., C.E.,
District Engineer

DRAWING NUMBER F-7
SHEET 29 OF 32 FILE NO. SN 103-336