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. 94-92

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	0.50		Gray,Clay,Medium stiff,w/organic material	C H	38.4	81.3	112.5	78	29							
2	2-3.5		4	Yellowish gray,Sand,Loose,Silty	S M						100.0	100.0	99.9	70.6	37.6		
3	7-8.5		4	Yellowish gray,Sand,Loose,Silty	S M												
4	11-13	1.50		Olive gray&brown,Clay,Stiff,w/ferrous stains	C H	26.2											
5	13-15	2.00		Olive gray,Clay,Very stiff,w/calcareous nodules and ferrous stains	C H	27.6											
6	15-17	1.50		Gray & brown,Clay,Stiff,Sandy,w/calcareous nodules	C L	21.9	105.3	128.3	46	21	100.0	99.9	99.8	96.9	75.6		1.36
7	17-19	1.50		Gray & brown,Clay,Stiff,Sandy,w/calcareous nodules	C L	18.7											
8	19-20.5		19	Gray,Sand,Medium dense,Silty	S M												
9	23.5-25		14	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 5/17/94

PROJECT Sabine Lake North Disposal Area
No. 11

AREA Near Port Arthur, Texas

BORING NO. 94-92 SAMPLE NO. 6 DEPTH 15-17 ft

SPECIMEN NO. 1

CLASSIFICATION
Gray&brown,Clay,Stiff,Sandy,w/calcareous nodules

Tare No.	100	Height	5.595 in.
Tare plus Wet Specimen	461.11 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	388.01 gm	Initial Area	6.290 sq in.
Water Weight	73.10 gm	Volume	35.194 cu in.
Tare Weight	53.61 gm	Volume of Solids	cu in.
Wet Specimen	1185.11 gm	Void Ratio	
Dry Specimen	972.52 gm	Saturation	%
Water Content	21.86 %	Dry Density	105.3 lb/cu ft
Specific Gravity of Solids			

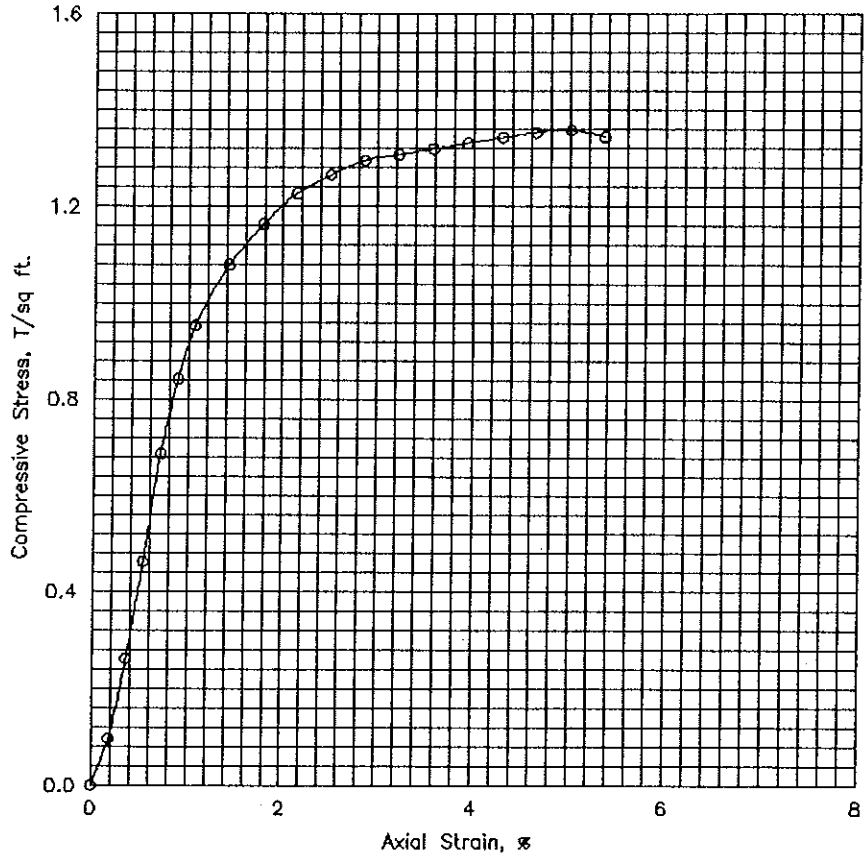
LL = 46 PL = 21 PI = 25

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	11.0	8.4	.002	6.30	.096
.3	20.	.020	30.0	23.0	.004	6.31	.262
.5	30.	.030	53.0	40.6	.005	6.32	.462
.7	40.	.040	79.0	60.5	.007	6.34	.688
.9	50.	.050	97.0	74.3	.009	6.35	.843
1.1	60.	.060	110.0	84.3	.011	6.36	.954
1.4	80.	.080	125.0	95.8	.014	6.38	1.080
1.7	100.	.100	135.0	103.4	.018	6.40	1.163
2.1	120.	.120	143.0	109.5	.021	6.43	1.227
2.4	140.	.140	148.0	113.4	.025	6.45	1.265
2.7	160.	.160	152.0	116.4	.029	6.48	1.295
3.0	180.	.180	154.0	118.0	.032	6.50	1.307
3.3	200.	.200	156.0	119.5	.036	6.52	1.319
3.7	220.	.220	158.0	121.0	.039	6.55	1.331
4.0	240.	.240	160.0	122.6	.043	6.57	1.343
4.3	260.	.260	162.0	124.1	.046	6.60	1.354
4.6	280.	.280	163.0	124.9	.050	6.62	1.358
4.9	300.	.300	162.0	124.1	.054	6.65	1.344

Job No. 14G727-14

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_o	21.9 %	%	%	%
	Void ratio	e_o				
	Saturation	S_o	%	%	%	%
	Dry density, lb/cu ft	γ_d	105.3			
Time to failure, min		t_f	4.63			
Unconfined compressive strength, T/sq ft		q_u	1.36			
Undrained shear strength, T/sq ft		S_u	.68			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_o	2.830			
Initial specimen height, in.		H_o	5.595			

Classification Gray&brown,Clay,Stiff,Sandy,w/calcareous nodules

LL 46	PL 21	PI 25	G_s

Remarks

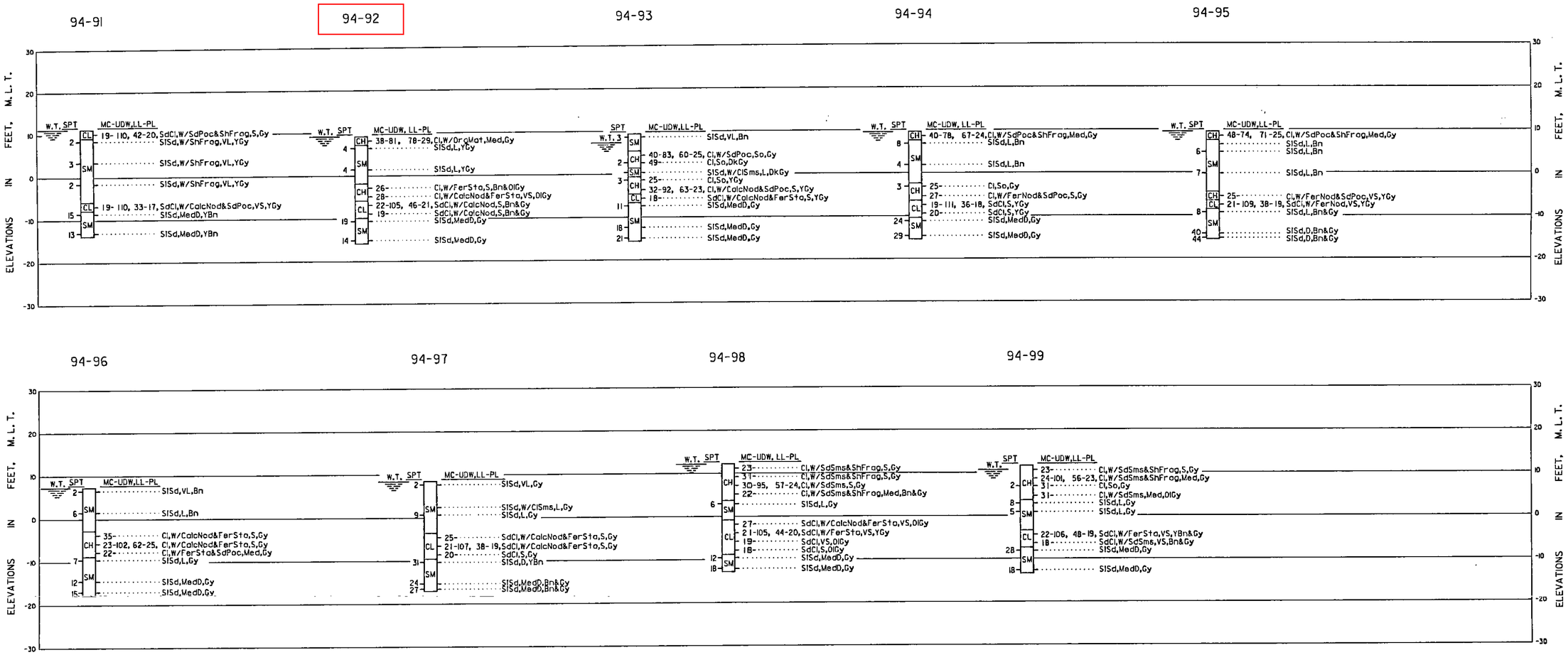
Project Sabine Lake North Disposal Area	
No. 11	
Area Near Port Arthur, Texas	
Boring No. 94-92	Sample No. 6
Depth El 15-17 ft	Date 5/17/94
UNCONFINED COMPRESSION TEST REPORT	

ENG FORM 1 JUN 65 3659

PLATE XI-2

Geotest Engineering, Inc.

PLATE



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. 1110-1-152)
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