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. 94-50

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	3.00		Dark gray,Clay,Very stiff,w/sand pockets	C H	26.7											
2	2 - 4	1.25		Dark gray,Clay,Stiff,w/sand pockets	C H	45.6											
3	4 - 6	0.50		Dark gray,Clay,Medium stiff,w/sand seams	C H	48.6	72.2	107.2	64	25	100.0	100.0	99.8	99.2	98.8		
4	6 - 8			Gray,Sand,Loose,Clayey	S C												
5	8 - 10	0.25		Dark gray,Clay,Soft,w/ferrous nodules and sand seams	C H	45.4	76.8	111.7	56	20	100.0	100.0	99.5	97.3	96.2		0.39
6	10 - 12	0.75		Yellowish gray,Clay,Medium stiff,w/sand pockets	C H	24.9											
7	12 - 14	0.75		Dark gray,Clay,Medium stiff,w/sand seams	C H	38.0											
8	14 - 16	2.25		Yellowish gray,Clay,Very stiff,w/ferrous nodules and sand pockets	C H	22.4											
9	16 - 18	1.50		Dark gray,Clay,Stiff,w/sand seams	C H	43.2	79.2	113.5	57	22	100.0	100.0	99.6	94.7	93.6		1.25
10	18 - 20	1.25		Dark gray,Clay,Stiff,w/ferrous nodules and sand pockets	C H	32.0											
11	20 - 22	0.75		Dark gray,Clay,Medium stiff,w/ferrous nodules and sand seams	C H	35.9											
12	22 - 24	0.75		Yellowish gray,Clay,Medium stiff,w/sand pockets	C H	26.5											
13	24 - 26	0.75		Dark gray,Clay,Medium stiff,w/sand pockets	C H	41.2											
14	26 - 28	0.75		Yellowish gray,Clay,Medium stiff,w/sand seams	C H	30.6											
15	28 - 30	2.50		Brown&gray,Clay,Very stiff,w/silt seams and silt parting	C H	34.5											

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 5/4/94

PROJECT Sabine Lake North Disposal Area
No. 11

AREA Near Port Arthur, Texas

BORING NO. 94-50 SAMPLE NO. 9 DEPTH 16-18 ft

SPECIMEN NO. 1

CLASSIFICATION
Dark gray,Clay,Stiff,w/sand seams

Tare No.	K1-32	Height	5.595 in.
Tare plus Wet Specimen	464.47 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	337.05 gm	Initial Area	6.290 sq in.
Water Weight	127.42 gm	Volume	35.194 cu in.
Tare Weight	42.57 gm	Volume of Solids	cu in.
Wet Specimen	1048.17 gm	Void Ratio	
Dry Specimen	731.61 gm	Saturation	%
Water Content	43.27 %	Dry Density	79.2 lb/cu ft
Specific Gravity of Solids			

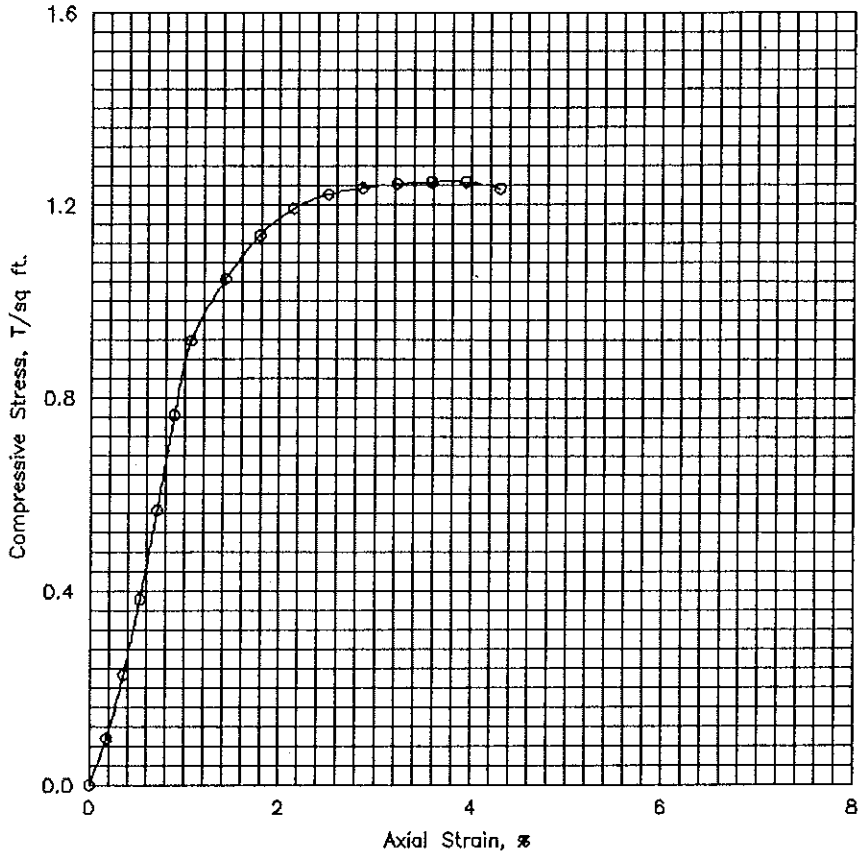
LL = 57 PL = 22 PI = 35

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
.4	20.	.020	26.0	19.9	.004	6.31	.227
.5	30.	.030	44.0	33.7	.005	6.32	.384
.7	40.	.040	65.0	49.8	.007	6.34	.566
.9	50.	.050	88.0	67.4	.009	6.35	.765
1.0	60.	.060	106.0	81.2	.011	6.36	.919
1.4	80.	.080	121.0	92.7	.014	6.38	1.046
1.7	100.	.100	132.0	101.1	.018	6.40	1.137
2.0	120.	.120	139.0	106.5	.021	6.43	1.193
2.3	140.	.140	143.0	109.5	.025	6.45	1.222
2.7	160.	.160	145.0	111.1	.029	6.48	1.235
3.0	180.	.180	146.5	112.2	.032	6.50	1.243
3.3	200.	.200	147.5	113.0	.036	6.52	1.247
3.6	220.	.220	148.0	113.4	.039	6.55	1.247
3.9	240.	.240	147.0	112.6	.043	6.57	1.234

Job No. 14G727-14

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	43.3 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	79.2			
Time to failure, min		t_f	3.30			
Unconfined compressive strength, T/sq ft		q_u	1.25			
Undrained shear strength, T/sq ft		S_u	.62			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.830			
Initial specimen height, in.		H_0	5.595			

Classification Dark gray,Clay,Stiff,w/sand seams

LL	57	PL	22	PI	35	G_s	

Remarks

Project Sabine Lake North Disposal Area
No. 11
Area Near Port Arthur, Texas
Boring No. 94-50 | Sample No. 9
Depth El 16-18 ft | Date 5/4/94

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

PLATE XI-2

Geotest Engineering, Inc.

PLATE

JOB NO. 14G727-14 DATE 5/4/94

PROJECT Sabine Lake North Disposal Area
No. 11

AREA Near Port Arthur, Texas

BORING NO. 94-50 SAMPLE NO. 5 DEPTH 8-10 ft

SPECIMEN NO. 1

CLASSIFICATION
Dark gray,Clay,Soft,w/ferrous nodules and sand seams

Tare No.	W-5	Height	5.595 in.
Tare plus Wet Specimen	473.45 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	338.85 gm	Initial Area	6.290 sq in.
Water Weight	134.60 gm	Volume	35.194 cu in.
Tare Weight	42.38 gm	Volume of Solids	cu in.
Wet Specimen	1031.68 gm	Void Ratio	
Dry Specimen	709.54 gm	Saturation	%
Water Content	45.40 %	Dry Density	76.8 lb/cu ft
Specific Gravity of Solids			

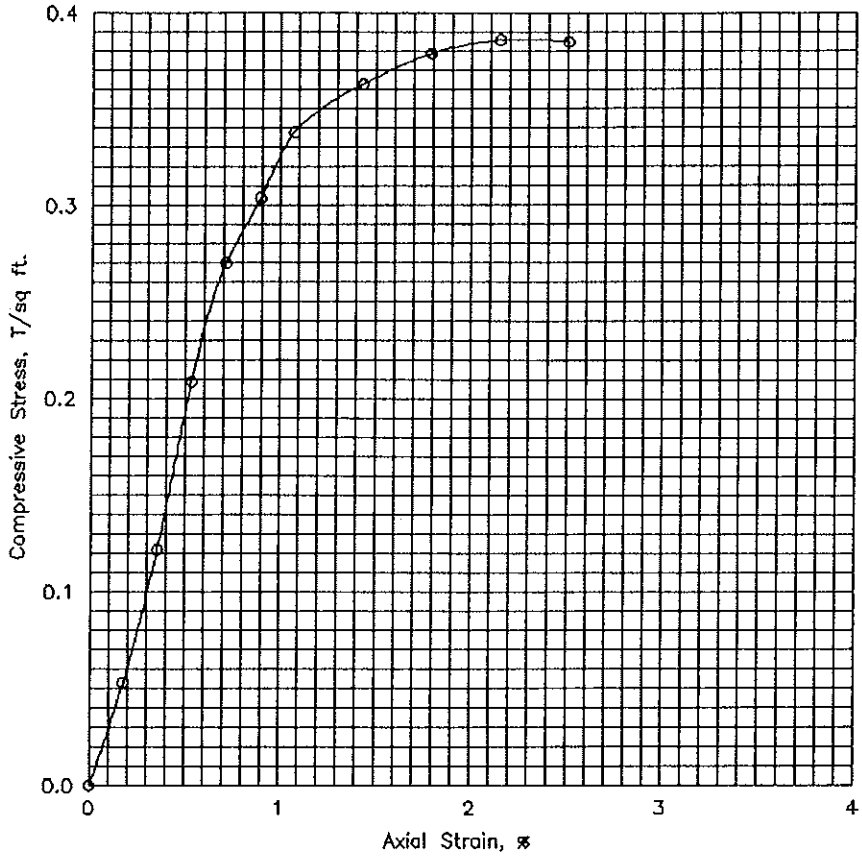
LL = 56 PL = 20 PI = 36

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	6.0	4.6	.002	6.30	.053
.3	20.	.020	14.0	10.7	.004	6.31	.122
.5	30.	.030	24.0	18.4	.005	6.32	.209
.7	40.	.040	31.0	23.7	.007	6.34	.270
.9	50.	.050	35.0	26.8	.009	6.35	.304
1.0	60.	.060	39.0	29.9	.011	6.36	.338
1.4	80.	.080	42.0	32.2	.014	6.38	.363
1.7	100.	.100	44.0	33.7	.018	6.40	.379
2.0	120.	.120	45.0	34.5	.021	6.43	.386
2.3	140.	.140	45.0	34.5	.025	6.45	.385

Job No. 14G727-14

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	45.4 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	76.8			
Time to failure, min		t_f	2.02			
Unconfined compressive strength, T/sq ft		q_u	.39			
Undrained shear strength, T/sq ft		S_u	.19			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.830			
Initial specimen height, in.		H_0	5.595			

Classification Dark gray,Clay,Soft,w/ferrous nodules and sand seams

LL	56	PL	20	PI	36	G_s	

Remarks

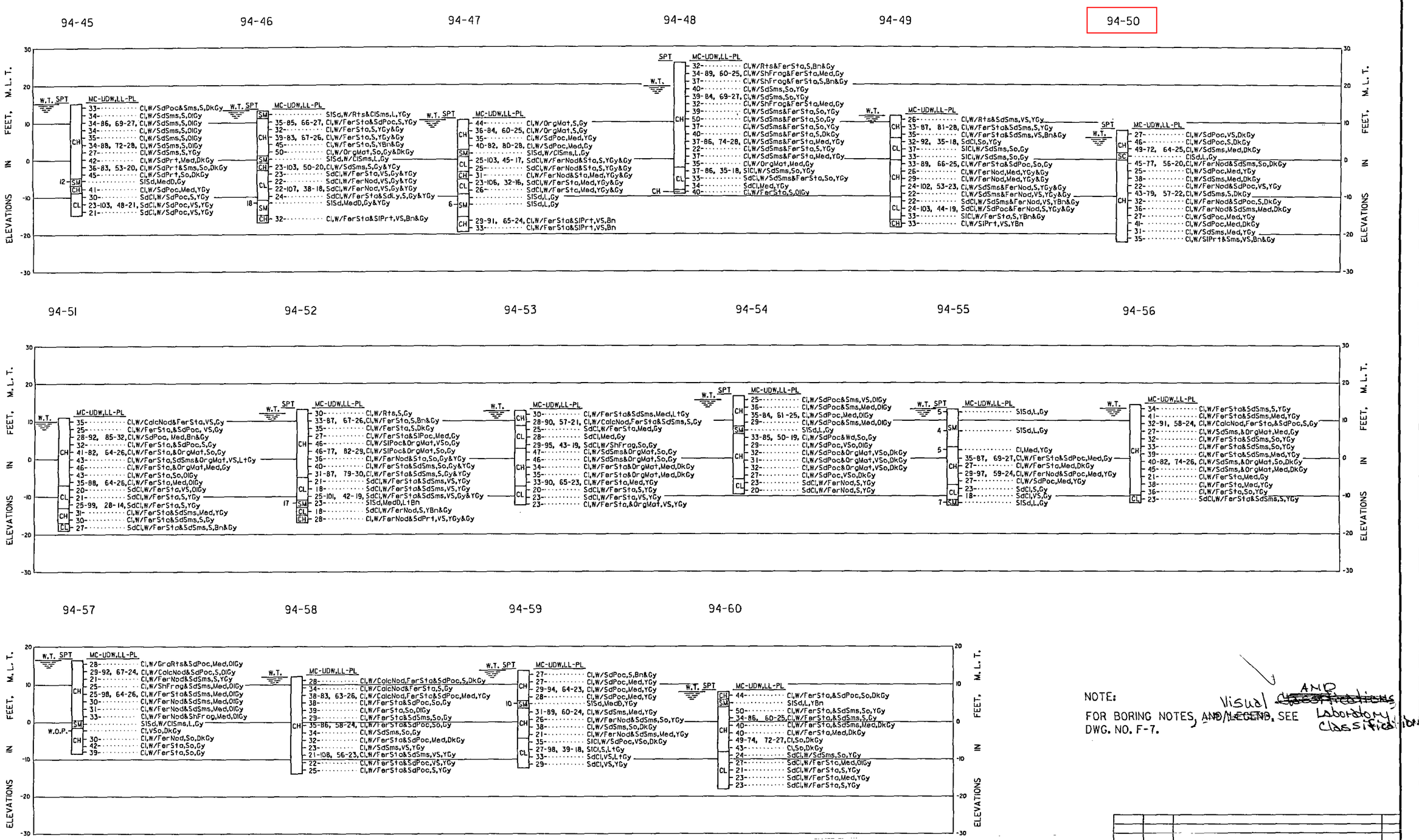
Project Sabine Lake North Disposal Area
No. 11
Area Near Port Arthur, Texas
Boring No. 94-50 Sample No. 5
Depth El 8-10 ft Date 5/4/94

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

Geotest Engineering, Inc.

PLATE



NOTE:

FOR BORING NOTES, ~~AND LEGEND~~, SEE DWG. NO. F-7.

Visual AND ~~CLASSIFICATIONS~~ Laboratory Classifications

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, GEOTECH & SURVEYS SECTION
APPROVED:
CHIEF, DESIGN BRANCH
APPROVED:
CHIEF, ENGINEERING DIVISION
DATE: JULY 1995
1 = AS REQUIRED BY ENGINEER CIRCULAR NO. 80-1-952 1
SCALE: AS SHOWN
SPEC. DATED

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

BORING LOGS

BORROW AREA NO. 1

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

DRAWING NUMBER
F-4
SHEET 26 OF 32 FILE NO. SN 103-336