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. 94-47

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 #4	#10	#40	#100	#200	Torvane Shear Strength (tsf)	q u (tsf)
1	0 - 2	1.25		Gray,Clay,Stiff,w/organic material	C H	43.8											
2	2 - 4	1.25		Gray,Clay,Stiff,w/organic material	C H	35.5	84.4	114.3	60	25	100.0	100.0	99.9	99.5	99.4		
3	4 - 6	0.50		Yellowish gray,Clay,Medium stiff,w/sand pockets	C H	35.1											
4	6 - 8	0.75		Gray,Clay,Medium stiff,w/sand pockets	C H	39.8	81.9	114.5	80	28	100.0	99.7	99.4	98.9	98.8		0.66
5	8 - 10			Gray,Sand,Loose,Silty,w/clay seams	S M												
6	10 - 12	1.50		Gray & yellowish gray,Clay,Stiff,Sandy,w/ ferrous nodules and ferrous stains	C L	25.1	103.3	129.2	45	17	100.0	99.9	99.0	88.6	78.1		
7	12 - 14	1.50		Gray&yellowish gray,Clay,Stiff,Sandy,w/ ferrous nodules and ferrous stains	C L	24.5											
8	14 - 16	0.75		Gray&yellowish gray,Clay,Medium stiff,w/ ferrous nodules and ferrous stains	C H	31.3											
9	16 - 18	0.75		Gray&yellowish gray,Clay,Medium stiff,Sandy ,w/ferrous stains	C L	23.1	105.5	129.8	32	16	100.0	99.6	97.1	83.0	70.6		0.68
10	18 - 20	0.50		Gray&yellowish gray,Clay,Medium stiff,Sandy , ferrous stains	C L	26.0											
11	20 - 22			Gray,Sand,Loose,Silty	S M												
12	22-23.5		6	Gray,Sand,Loose,Silty	S M												
13	26-28	2.75		Brown,Clay,Very stiff,w/ferrous stains and silt parting	C H	29.1	90.6	117.0	65	24							
14	28-30	2.50		Brown,Clay,Very stiff,w/ferrous stains and silt parting	C H	32.6											

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. 94-47 SAMPLE NO. 9 DEPTH 16-18 ft

SPECIMEN NO. 1

CLASSIFICATION
Gray&yellowish gray,Clay,Medium stiff,Sandy,w/ferrous stains

Tare No.	P230	Height	5.595 in.
Tare plus Wet Specimen	562.36 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	464.89 gm	Initial Area	6.290 sq in.
Water Weight	97.47 gm	Volume	35.194 cu in.
Tare Weight	42.78 gm	Volume of Solids	cu in.
Wet Specimen	1199.33 gm	Void Ratio	
Dry Specimen	974.34 gm	Saturation	%
Water Content	23.09 %	Dry Density	105.5 lb/cu ft
Specific Gravity of Solids			

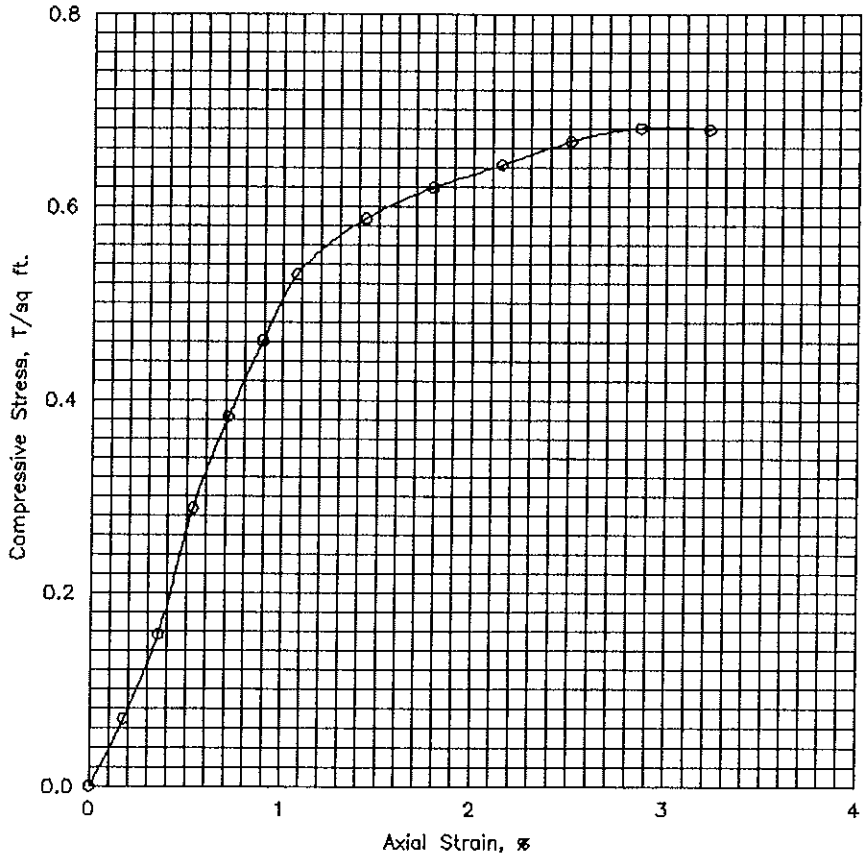
LL = 32 PL = 16 PI = 16

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	8.0	6.1	.002	6.30	.070
.3	20.	.020	18.0	13.8	.004	6.31	.157
.5	30.	.030	33.0	25.3	.005	6.32	.288
.7	40.	.040	44.0	33.7	.007	6.34	.383
.9	50.	.050	53.0	40.6	.009	6.35	.461
1.1	60.	.060	61.0	46.7	.011	6.36	.529
1.4	80.	.080	68.0	52.1	.014	6.38	.588
1.7	100.	.100	72.0	55.2	.018	6.40	.620
2.0	120.	.120	75.0	57.4	.021	6.43	.643
2.3	140.	.140	78.0	59.7	.025	6.45	.667
2.7	160.	.160	80.0	61.3	.029	6.48	.681
3.0	180.	.180	80.0	61.3	.032	6.50	.679

Job No. 14G727-14

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	23.1 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	105.5			
Time to failure, min		t_f	2.65			
Unconfined compressive strength, T/sq ft		q_u	.68			
Undrained shear strength, T/sq ft		S_u	.34			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.830			
Initial specimen height, in.		H_0	5.595			

Classification Gray&yellowish gray,Clay,Medium stiff,Sandy,w/ferrous stains

LL	32	PL	16	PI	16	G_s	

Remarks

Project	Sabine Lake North Disposal Area
	No. 11
Area	Near Port Arthur, Texas
Boring No. 94-47	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. 94-47 SAMPLE NO. 4 DEPTH 6-8 ft

SPECIMEN NO. 1

CLASSIFICATION
Gray,Clay,Medium stiff,w/sand pockets

Tare No.	KL-3	Height	5.595 in.
Tare plus Wet Specimen	450.29 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	334.20 gm	Initial Area	6.290 sq in.
Water Weight	116.09 gm	Volume	35.194 cu in.
Tare Weight	42.67 gm	Volume of Solids	cu in.
Wet Specimen	1057.44 gm	Void Ratio	
Dry Specimen	756.28 gm	Saturation	%
Water Content	39.82 %	Dry Density	81.9 lb/cu ft
Specific Gravity of Solids			

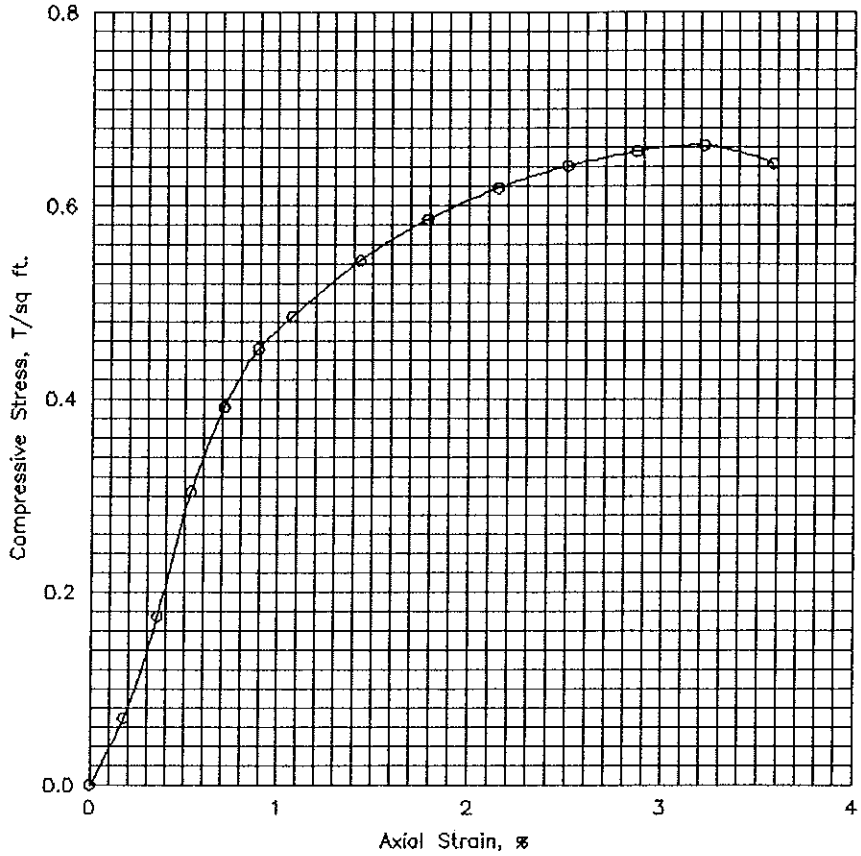
LL = 80 PL = 28 PI = 52

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	8.0	6.1	.002	6.30	.070
.4	20.	.020	20.0	15.3	.004	6.31	.175
.5	30.	.030	35.0	26.8	.005	6.32	.305
.7	40.	.040	45.0	34.5	.007	6.34	.392
.9	50.	.050	52.0	39.8	.009	6.35	.452
1.1	60.	.060	56.0	42.9	.011	6.36	.486
1.4	80.	.080	63.0	48.3	.014	6.38	.544
1.7	100.	.100	68.0	52.1	.018	6.40	.586
2.1	120.	.120	72.0	55.2	.021	6.43	.618
2.4	140.	.140	75.0	57.4	.025	6.45	.641
2.7	160.	.160	77.0	59.0	.029	6.48	.656
3.0	180.	.180	78.0	59.7	.032	6.50	.662
3.3	200.	.200	76.0	58.2	.036	6.52	.643

Job No. 14G727-14

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_o	39.8 %	%	%	%
	Void ratio	e_o				
	Saturation	S_o	%	%	%	%
	Dry density, lb/cu ft	γ_d	81.9			
Time to failure, min		t_f	3.02			
Unconfined compressive strength, T/sq ft		q_u	.66			
Undrained shear strength, T/sq ft		S_u	.33			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_o	2.830			
Initial specimen height, in.		H_o	5.595			

Classification Gray,Clay,Medium stiff,w/sand pockets

LL	80	PL	28	PI	52	G_s	

Remarks

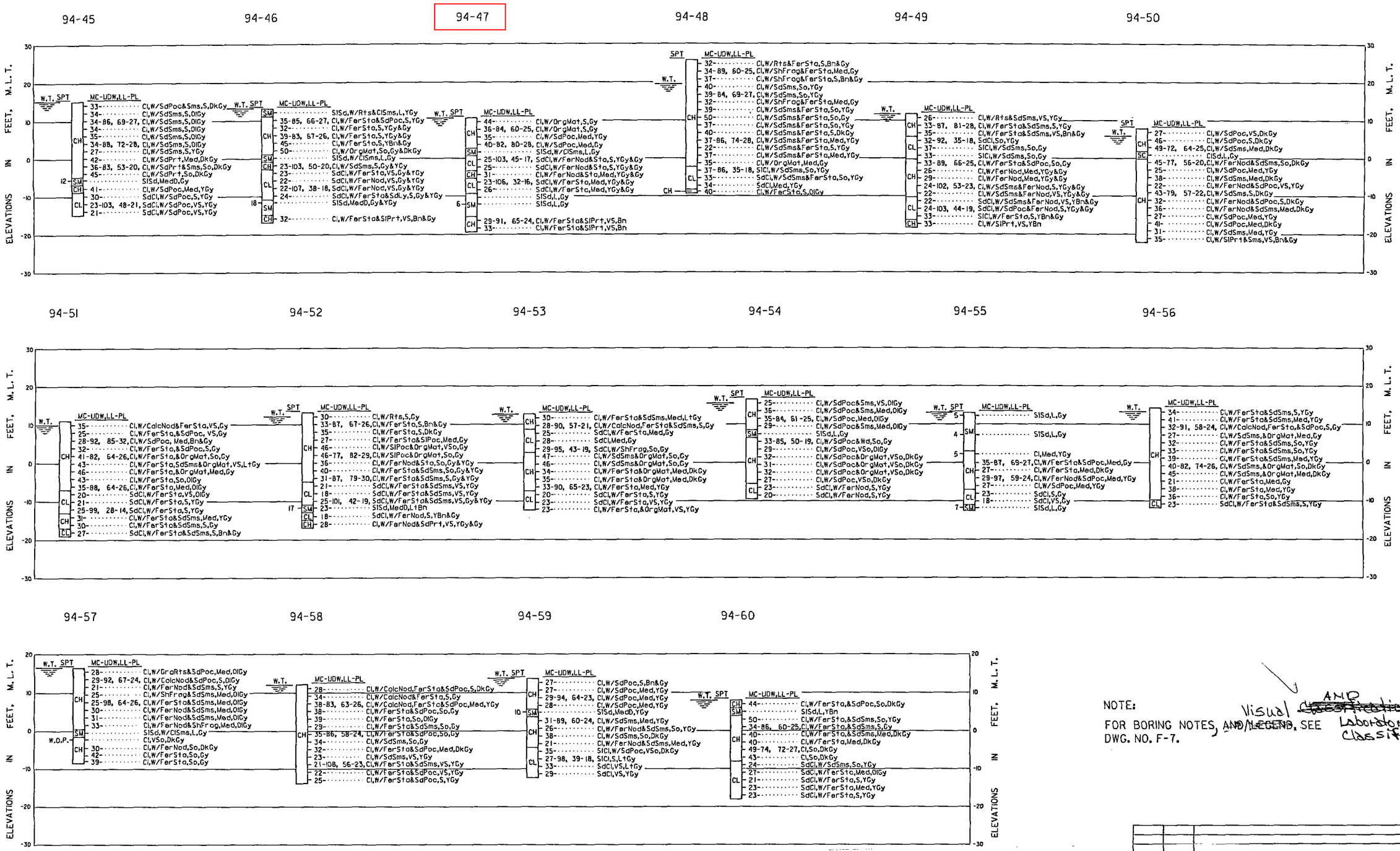
Project Sabine Lake North Disposal Area
No. 11
Area Near Port Arthur, Texas
Boring No. 94-47 Sample No. 4
Depth El 6-8 ft Date 5/4/94

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