U.S. ARMY CORPS OF ENGINEERS

BORING NO. 93-371 DATE: BEGIN 8-23-93 PAGE 1 / 2
JOB NO. 146638 COMPLETE 8-23-93 Thin Walled Tube
PROJECT Core Drilling for enlargement of The retaining levee ■ 3" □ 6"
LOCATION for The Sabine Lake North Disposal Area, Port Arthur, Texas
ELEVATION OF HOLE
MANUFACTURER'S DESIGNATION OF DRILL RIG Ardco K4-4, C-1000
GROUNDWATER: DEPTH 3' ft., ELEV. ft., at end of Drilling
WEATHER clear & Hot
DRILLER Scott Gregurek LOGGER Iraj Mostamand

DEPTH, FEET	SAMPLE	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSISTENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
0		1	4.5+	Brown	Clay	Hard	Sandy	w/gravel & sa sms
		2	1.25	olive gray	clay	stiff	silty	w/sa sms
5		3	1.50	olive gray	clay	stiff	silty	w/ water bearing sa sms
		4	1.25	olive gray	clay	stiff	silty	w/ water bearing sa sms
		5	0.75	olive gray	clay	M. stiff	silty	w/ water bearing sa sms
10		6		Dark gray	silt	loose	Sandy	
	X	7	2 3/4	Dark gray	silt	loose	Sandy	
15								cl @ 16'
		8	1.25	olive gray	clay	stiff	silty	w/Fe st & sa sms
		9	1.75	olive gray & Brown	clay	stiff	silty	w/Fe st & sa sms
20		10	2.00	Brown	clay	Very stiff		w/ silt parting
		11	2.50	Brown	clay	Very stiff		w/silt parting
25		12	2.00	"	"	" "		" " "
		13	2.25	"	"	" "		" " "
		14	2.50	Brown	clay	Very stiff		w/silt parting
30		15	2.25	"	"	" "		" " "
		16	3.00	Brown	clay	Very stiff		w/silt parting
35		17	4.25	Brown	clay	Hard		w/ Fe st & silt parting

U.S. ARMY CORPS OF ENGINEERS

BORING NO. 93-371 DATE: BEGIN 8-23-93 PAGE 2 / 2
JOB NO. 146638 COMPLETE 8-23-93 Thin Walled Tube
PROJECT Core Drilling for enlargement of the retaining levee ■ 3" □ 6"
LOCATION for the Sabine Lake North Disposal Area, Port Arthur, Texas
ELEVATION OF HOLE
MANUFACTURER'S DESIGNATION OF DRILL RIG Bridco K4-4, C-1000
GROUNDWATER: DEPTH 3 ft., ELEV. ____ ft., at end of Drilling
WEATHER Clear & Hot
DRILLER Scott Gregurek LOGGER Iraj Mostamand

DEPTH, FEET	SAMPLE	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	COLOR	MATERIAL TYPE	CONSIS-TENCY	SECONDARY CONSTITUENTS	STRUCTURAL FEATURES AND COMMENTS
35								
	■	18	45+	Brown	clay	Hard		-w/Fest
	■	19	45+	Brown	clay	Hard		-w/Fest
40								
45								
50								
55								
60								
65								
70								

UNC

SUMMARY OF LABORATORY TEST RESULTS

Project: Sabine lake North Disposal Area Sabine-Neches waterway Near Port Arthur, Texas

Contract No. DACW64-92-D-0005 Delivery Order No. 0025

Boring No.93-371

S#	Depth (ft.)	PP (tsf)	SPT Blows per foot	Visual Classification	U S C	M C (%)	Dry Unit Wt. (pcf)	Wet Unit Wt. (pcf)	LL (%)	PL (%)	Mechanical Analysis % passing					Torvane Shear Strength (tsf)	qu (tsf)
											#4	#10	#40	#100	#200		
1	0-2	4.50		Yellowish Brown,Clay,Hard,Sandy,w/sand seams	C L	19.7											
2	2-4	1.00		Olive Gray,Clay,Stiff,Silty,w/ferrous nodules and sand seams	C L	26.9											
3	4-6	1.50		Olive Gray,Clay,Stiff,Silty,w/ferrous nodules and sand seams	C L	29.2											
4	6-8	1.25		Olive Gray,Clay,Stiff,Silty,w/ferrous nodules and sand seams	C L	31.1	89.0	116.7	43	20	100.0	100.0	99.5	98.6	97.0		1.42
5	8-10	0.50		Olive Gray,Clay,Medium stiff,Silty,w/ferrous nodules and sand seams	C L	29.3	91.2	118.0	42	20	100.0	100.0	99.9	99.0	96.9		0.64
6	10-12	—		Gray,Sand,Loose,Silty,w/shell fragments	S M	29.5											
7	12-13.5		7	Gray,Sand,Loose,Silty,w/shell fragments	S M						100.0	100.0	99.8	93.6	29.0		
8	16-18	1.00		Olive Gray,Clay,Stiff,Silty,w/ferrous nodules and sand seams	C L	26.5											
9	18-20	1.50		Olive Gray,Clay,Stiff,Silty,w/ferrous nodules and sand seams	C L	28.7	94.3	121.4	36	17	100.0	100.0	99.6	98.5	96.7		1.25
10	20-22	1.75		Brown and Gray,Clay,Stiff,w/silt partings	C H	29.7											
11	22-24	2.00		Brown,Clay,Very stiff,w/silt partings	C H	34.4											
12	24-26	2.00		Brown,Clay,Very stiff,w/silt partings	C H	29.7											
13	26-28	2.00		Brown,Clay,Very stiff,w/silt partings	C H	34.6	88.8	119.5	69	27	100.0	100.0	100.0	99.5	98.5		2.02
14	28-30	2.25		Brown,Clay,Very stiff,w/silt partings	C H	31.9											
15	30-32	1.75		Brown,Clay,Stiff,w/silt pockets and silt partings	C H	29.6											

S#: Sample Number, PP: Pocket Penetrometer Reading, USC: Unified Soil Classification, MC: Moisture Content
qu: Unconfined Compressive Strength, WOH: Weight of Hammer, WOP: Weight of Pipe

GEOTEST ENGINEERING, INC.

SUMMARY OF LABORATORY TEST RESULTS

Project: Sabine lake North Disposal Area Sabine-Neches waterway Near Port Arthur, Texas

Contract No. DACW64-92-D-0005 Delivery Order No. 0025

Boring No.93-371

S#	Depth (ft.)	PP (tsf)	SPT Blows per foot	Visual Classification	U S C	M C (%)	Dry Unit Wt. (pcf)	Wet Unit Wt. (pcf)	LL (%)	PL (%)	Mechanical Analysis % passing					Torvane Shear Strength (tsf)	qu (tsf)
											#4	#10	#40	#100	#200		
16	32-34	2.00		Brown,Clay,Very stiff,w/silt partings	C H	32.5											
17	34-36	3.25		Brown,Clay,Very stiff,w/silt partings and ferrous stains	C H	36.9											
18	36-38	3.50		Brown,Clay,Very stiff,w/ferrous stains and mica	C H	39.1	81.8	113.8	68	27	100.0	100.0	99.5	99.0	98.3		2.46
19	38-40	4.00		Brown,Clay,Very stiff,w/ferrous stains and mica	C H	44.4											

S#: Sample Number, PP: Pocket Penetrometer Reading, USC: Unified Soil Classification, MC: Moisture Content

qu: Unconfined Compressive Strength, WOH: Weight of Hammer, WOP: Weight of Pipe

GEOTEST ENGINEERING, INC.

JOB NO. 14G719 DATE 10/09/93

PROJECT Sabine Lake North Disposal Area
Sabine-Neches Waterway

AREA Near Port Arthur, Texas

BORING NO. 93-371 SAMPLE NO. 4 DEPTH 6-8 ft

SPECIMEN NO. 1

CLASSIFICATION
Olive gray,Clay,Stiff,Silty,w/ferrous nodules & sand seams

Tare No.	KL-16	Height	5.595 in.
Tare plus Wet Specimen	439.49 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	345.21 gm	Initial Area	6.290 sq in.
Water Weight	94.28 gm	Volume	35.194 cu in.
Tare Weight	42.52 gm	Volume of Solids	cu in.
Wet Specimen	1078.22 gm	Void Ratio	
Dry Specimen	822.14 gm	Saturation	%
Water Content	31.15 %	Dry Density	89.0 lb/cu ft
Specific Gravity of Solids			

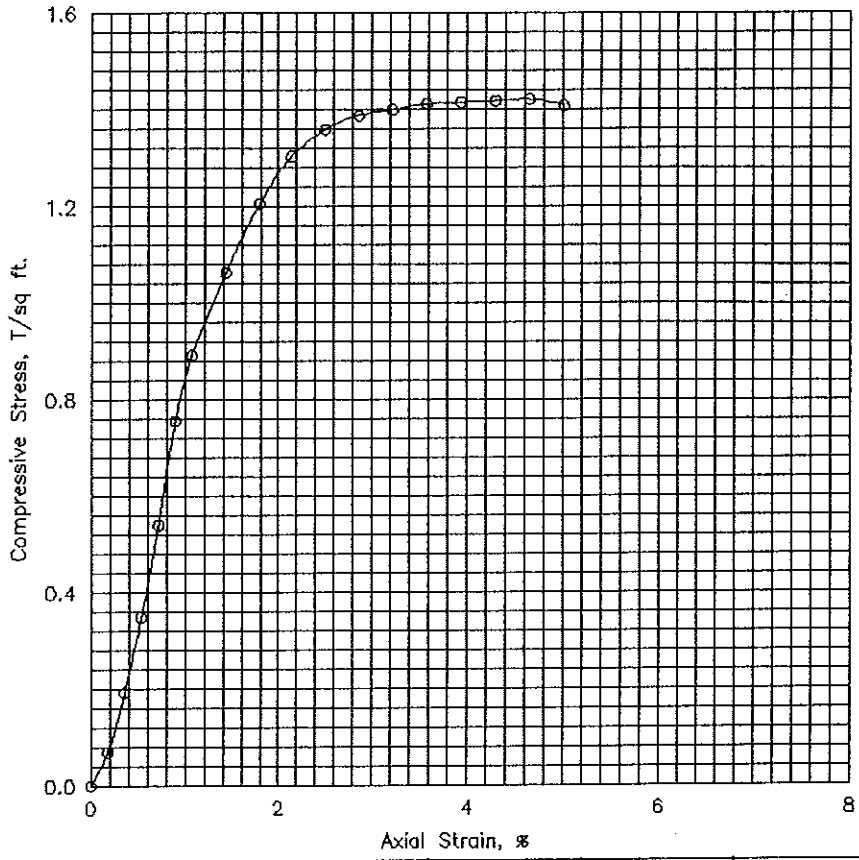
LL = 43 PL = 20 PI = 23

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	22.0	16.9	.004	6.31	.192
.5	30.	.030	40.0	30.6	.005	6.32	.349
.7	40.	.040	62.0	47.5	.007	6.34	.540
.9	50.	.050	87.0	66.6	.009	6.35	.756
1.0	60.	.060	103.0	78.9	.011	6.36	.893
1.4	80.	.080	123.0	94.2	.014	6.38	1.063
1.7	100.	.100	140.0	107.2	.018	6.40	1.206
2.0	120.	.120	152.0	116.4	.021	6.43	1.304
2.3	140.	.140	159.0	121.8	.025	6.45	1.359
2.6	160.	.160	163.0	124.9	.029	6.48	1.388
3.0	180.	.180	165.0	126.4	.032	6.50	1.400
3.3	200.	.200	167.0	127.9	.036	6.52	1.412
3.6	220.	.220	168.0	128.7	.039	6.55	1.415
3.9	240.	.240	169.0	129.5	.043	6.57	1.418
4.2	260.	.260	170.0	130.2	.046	6.60	1.421
4.5	280.	.280	169.0	129.5	.050	6.62	1.408

Job No. 14G719

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	31.1 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	89.0			
Time to failure, min		t_f	4.22			
Unconfined compressive strength, T/sq ft		q_u	1.42			
Undrained shear strength, T/sq ft		S_u	.71			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.830			
Initial specimen height, in.		H_0	5.595			

Classification Olive gray,Clay,Stiff,Silty,w/ferrous nodules & sand seams

LL	43	PL	20	PI	23	G_s	

Remarks

Project Sabine Lake North Disposal Area
Sabine-Neches Waterway
Area Near Port Arthur, Texas
Boring No. 93-371 Sample No. 4
Depth El 6-8 ft Date 10/09/93

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

PLATE XI-2

Geotest Engineering, Inc.

PLATE

JOB NO. 14G719 DATE 10/08/93

PROJECT Sabine Lake North Disposal Area
Sabine-Neches Waterway

AREA Near Port Arthur, Texas

BORING NO. 93-371 SAMPLE NO. 5 DEPTH 8-10 ft

SPECIMEN NO. 1

CLASSIFICATION
Olive gray,Clay,Medium stiff,Silty,w/ferrous nodules & sand seams

Tare No.	IM-2	Height	5.595 in.
Tare plus Wet Specimen	275.10 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	222.31 gm	Initial Area	6.290 sq in.
Water Weight	52.79 gm	Volume	35.194 cu in.
Tare Weight	42.32 gm	Volume of Solids	cu in.
Wet Specimen	1089.68 gm	Void Ratio	
Dry Specimen	842.56 gm	Saturation	%
Water Content	29.33 %	Dry Density	91.2 lb/cu ft
Specific Gravity of Solids			

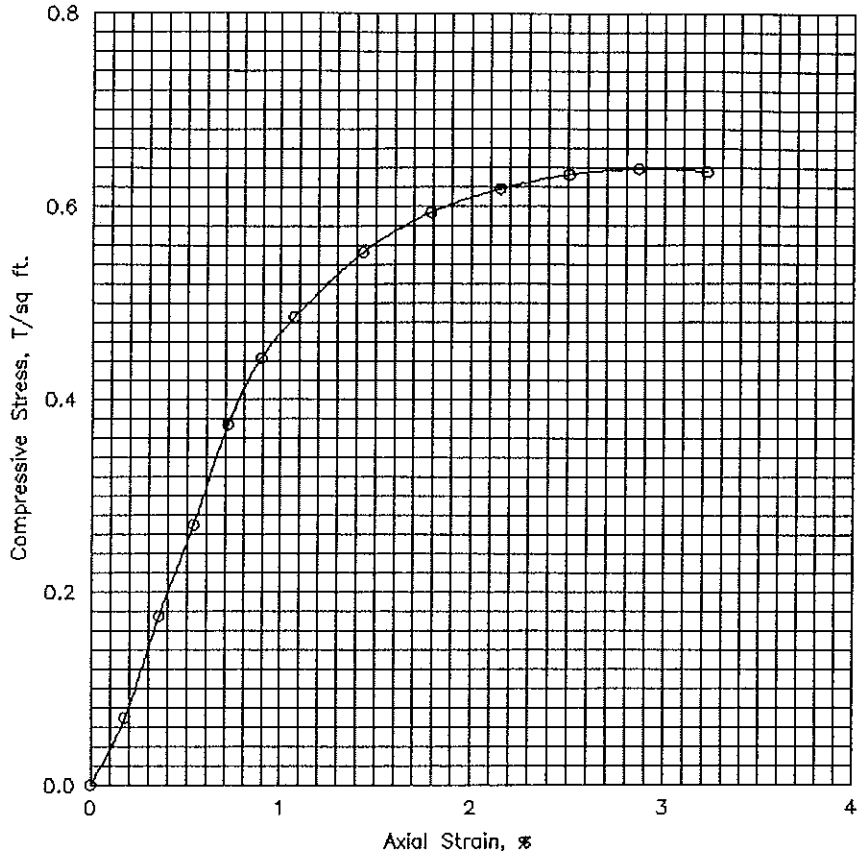
LL = 42 PL = 20 PI = 22

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	31.0	23.7	.005	6.32	.270
.7	40.	.040	43.0	32.9	.007	6.34	.374
.9	50.	.050	51.0	39.1	.009	6.35	.443
1.1	60.	.060	56.0	42.9	.011	6.36	.486
1.4	80.	.080	64.0	49.0	.014	6.38	.553
1.7	100.	.100	69.0	52.9	.018	6.40	.594
2.0	120.	.120	72.0	55.2	.021	6.43	.618
2.3	140.	.140	74.0	56.7	.025	6.45	.633
2.7	160.	.160	75.0	57.4	.029	6.48	.639
3.0	180.	.180	75.0	57.4	.032	6.50	.636

Job No. 146719

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	29.3 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	91.2			
Time to failure, min		t_f	2.65			
Unconfined compressive strength, T/sq ft		q_u	.64			
Undrained shear strength, T/sq ft		S_u	.32			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.830			
Initial specimen height, in.		H_0	5.595			

Classification Olive gray,Clay,Medium stiff,Silty,w/ferrous nodules & sand seams

LL	42	PL	20	PI	22	G_s	

Remarks

Project Sabine Lake North Disposal Area
Sabine-Neches Waterway
Area Near Port Arthur, Texas
Boring No. 93-371 Sample No. 5
Depth 8-10 ft Date 10/08/93
El

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

PLATE XI-2

Geotest Engineering, Inc.

PLATE

JOB NO. 14G719 DATE 10/08/93

PROJECT Sabine Lake North Disposal Area
Sabine-Neches Waterway

AREA Near Port Arthur, Texas

BORING NO. 93-371 SAMPLE NO. 9 DEPTH 18-20 ft

SPECIMEN NO. 1

CLASSIFICATION
Olive gray,Clay,Stiff,Silty,w/ferrous nodules & sand seams

Tare No.	P-4	Height	5.595 in.
Tare plus Wet Specimen	435.89 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	348.33 gm	Initial Area	6.290 sq in.
Water Weight	87.56 gm	Volume	35.194 cu in.
Tare Weight	42.89 gm	Volume of Solids	cu in.
Wet Specimen	1121.09 gm	Void Ratio	
Dry Specimen	871.31 gm	Saturation	%
Water Content	28.67 %	Dry Density	94.3 lb/cu ft
Specific Gravity of Solids			

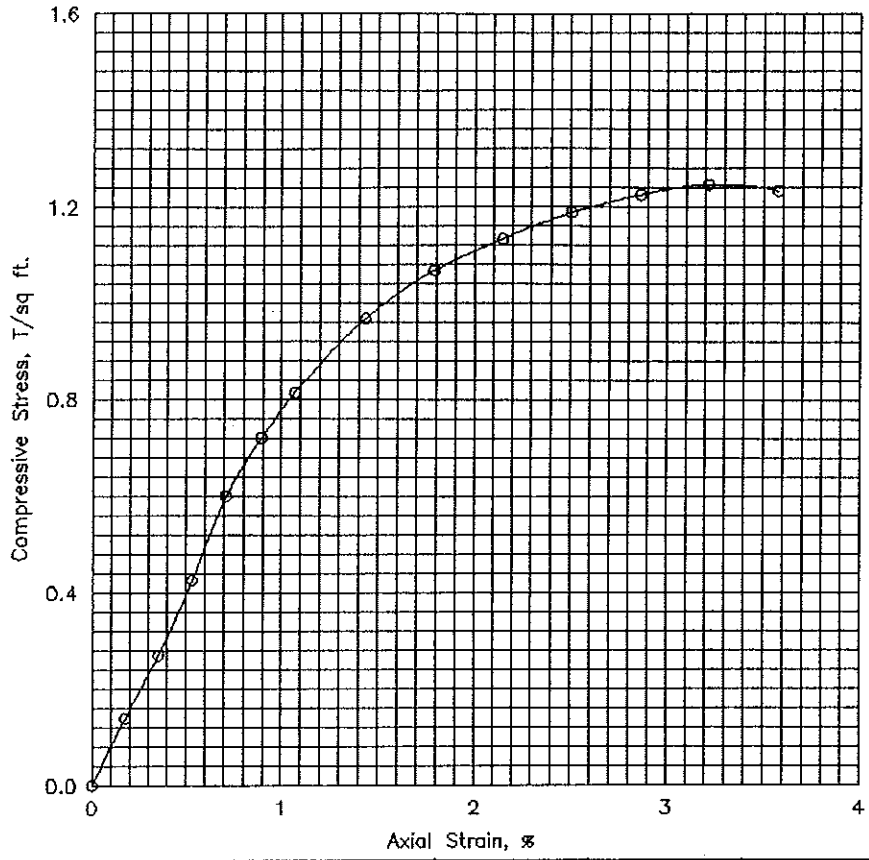
LL = 36 PL = 17 PI = 19

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	16.0	12.3	.002	6.30	.140
.4	20.	.020	31.0	23.7	.004	6.31	.271
.6	30.	.030	49.0	37.5	.005	6.32	.427
.7	40.	.040	69.0	52.9	.007	6.34	.601
.9	50.	.050	83.0	63.6	.009	6.35	.721
1.1	60.	.060	94.0	72.0	.011	6.36	.815
1.4	80.	.080	112.0	85.8	.014	6.38	.968
1.7	100.	.100	124.0	95.0	.018	6.40	1.068
1.9	120.	.120	132.0	101.1	.021	6.43	1.133
2.2	140.	.140	139.0	106.5	.025	6.45	1.188
2.5	160.	.160	144.0	110.3	.029	6.48	1.226
2.9	180.	.180	147.0	112.6	.032	6.50	1.247
3.2	200.	.200	146.0	111.8	.036	6.52	1.234

Job No. 14G719

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	28.7 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	94.3			
Time to failure, min		t_f	2.87			
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 Olive gray,Clay,Stiff,Silty,w/ferrous nodules & sand seams

LL	36	PL	17	PI	19	G_s	

Remarks

Project Sabine Lake North Disposal Area	
Sabine-Neches Waterway	
Area Near Port Arthur, Texas	
Boring No. 93-371	Sample No. 9
Depth El 18-20 ft	Date 10/08/93
UNCONFINED COMPRESSION TEST REPORT	

ENG FORM 1 JUN 65 3659

PLATE XI-2

Geotest Engineering, Inc.

JOB NO. 14G719 DATE 10/08/93

PROJECT Sabine Lake North Disposal Area
Sabine-Neches Waterway

AREA Near Port Arthur, Texas

BORING NO. 93-371 SAMPLE NO. 13 DEPTH 26-28 ft

SPECIMEN NO. 1

CLASSIFICATION
Brown,Clay,Very stiff,Silty,w/silt partings

Tare No.	W-19	Height	5.595 in.
Tare plus Wet Specimen	385.19 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	297.10 gm	Initial Area	6.290 sq in.
Water Weight	88.09 gm	Volume	35.194 cu in.
Tare Weight	42.19 gm	Volume of Solids	cu in.
Wet Specimen	1103.61 gm	Void Ratio	
Dry Specimen	820.18 gm	Saturation	%
Water Content	34.56 %	Dry Density	88.8 lb/cu ft
Specific Gravity of Solids			

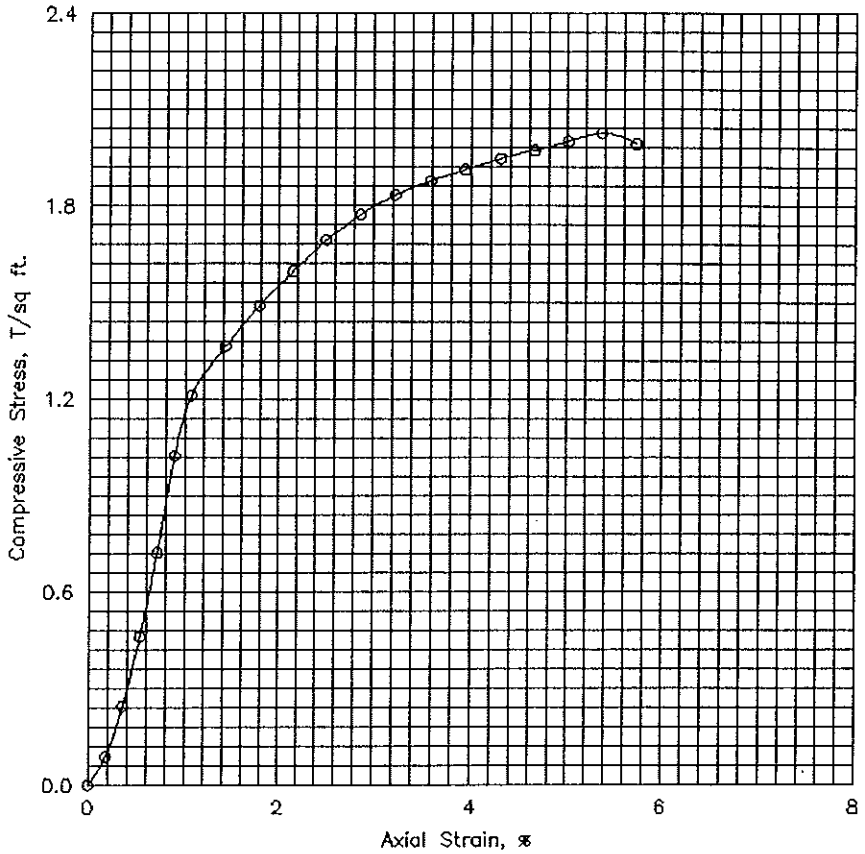
LL = 69 PL = 27 PI = 42

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	10.0	7.7	.002	6.30	.088
.3	20.	.020	28.0	21.4	.004	6.31	.245
.6	30.	.030	53.0	40.6	.005	6.32	.462
.7	40.	.040	83.0	63.6	.007	6.34	.723
.9	50.	.050	118.0	90.4	.009	6.35	1.025
1.1	60.	.060	140.0	107.2	.011	6.36	1.214
1.4	80.	.080	158.0	121.0	.014	6.38	1.366
1.7	100.	.100	173.0	132.5	.018	6.40	1.490
2.0	120.	.120	186.0	142.5	.021	6.43	1.596
2.4	140.	.140	198.0	151.7	.025	6.45	1.693
2.7	160.	.160	208.0	159.3	.029	6.48	1.772
3.0	180.	.180	216.0	165.5	.032	6.50	1.833
3.3	200.	.200	222.0	170.1	.036	6.52	1.877
3.7	220.	.220	227.0	173.9	.039	6.55	1.912
4.0	240.	.240	232.0	177.7	.043	6.57	1.947
4.3	260.	.260	236.0	180.8	.046	6.60	1.973
4.4	280.	.280	240.0	183.8	.050	6.62	1.999
4.8	300.	.300	244.0	186.9	.054	6.65	2.025
5.1	320.	.320	241.0	184.6	.057	6.67	1.992

Job No. 14G719

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	34.6 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	88.8			
Time to failure, min		t_f	4.77			
Unconfined compressive strength, T/sq ft		q_u	2.02			
Undrained shear strength, T/sq ft		S_u	1.01			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.830			
Initial specimen height, in.		H_0	5.595			

Classification Brown,Clay,Very stiff,Silty,w/silt partings

LL	69	PL	27	PI	42	G_s	

Remarks

Project Sabine Lake North Disposal Area
Sabine-Neches Waterway
Area Near Port Arthur, Texas
Boring No. 93-371 Sample No. 13
Depth El 26-28 ft Date 10/08/93

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

PLATE XI-2

Geotest Engineering, Inc.

PLATE

JOB NO. 14G719 DATE 10/08/93

PROJECT Sabine Lake North Disposal Area
Sabine-Neches Waterway

AREA Near Port Arthur, Texas

BORING NO. 93-371 SAMPLE NO. 18 DEPTH 36-38 ft

SPECIMEN NO. 1

CLASSIFICATION
Brown,Clay,Very stiff,w/ferrous stains & mica

Tare No.	W-15	Height	5.595 in.
Tare plus Wet Specimen	402.10 gm	Average Diameter	2.830 in.
Tare plus Dry Specimen	300.99 gm	Initial Area	6.290 sq in.
Water Weight	101.11 gm	Volume	35.194 cu in.
Tare Weight	42.55 gm	Volume of Solids	cu in.
Wet Specimen	1051.11 gm	Void Ratio	
Dry Specimen	755.52 gm	Saturation	%
Water Content	39.12 %	Dry Density	81.8 lb/cu ft

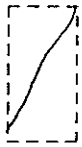
Specific Gravity of Solids
LL = 68 PL = 27 PI = 41

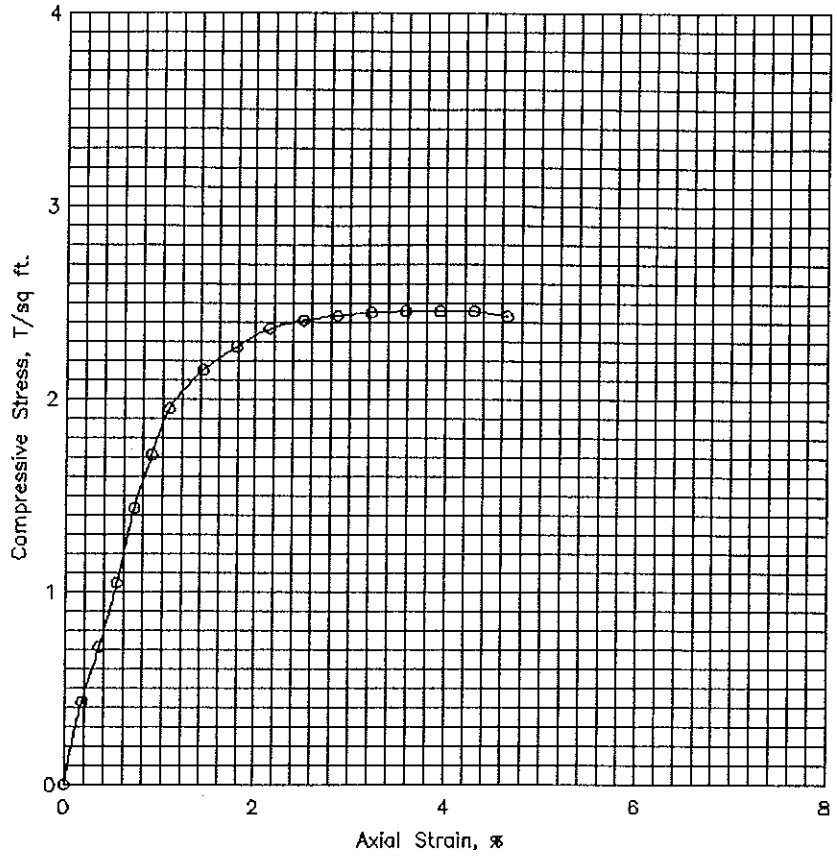
Proving Ring No. 10170
Proving Ring Constant, K = .766 lbs/div.

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	49.0	37.5	.002	6.30	.429
.4	20.	.020	82.0	62.8	.004	6.31	.716
.6	30.	.030	120.0	91.9	.005	6.32	1.047
.8	40.	.040	165.0	126.4	.007	6.34	1.436
1.0	50.	.050	197.0	150.9	.009	6.35	1.712
1.1	60.	.060	225.0	172.3	.011	6.36	1.952
1.5	80.	.080	249.0	190.7	.014	6.38	2.152
1.8	100.	.100	264.0	202.2	.018	6.40	2.273
2.1	120.	.120	276.0	211.4	.021	6.43	2.368
2.5	140.	.140	282.0	216.0	.025	6.45	2.411
2.8	160.	.160	286.0	219.1	.029	6.48	2.436
3.0	180.	.180	289.0	221.4	.032	6.50	2.452
3.4	200.	.200	291.0	222.9	.036	6.52	2.460
3.7	220.	.220	292.0	223.7	.039	6.55	2.460
4.0	240.	.240	293.0	224.4	.043	6.57	2.459
4.3	260.	.260	291.0	222.9	.046	6.60	2.433

Job No. 14G719

Failure Sketches





☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	39.1 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	81.8			
Time to failure, min		t_f	3.37			
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 Brown,Clay,Very stiff,w/ferrous stains & mica

LL	68	PL	27	PI	41	G_s	

Remarks

Project Sabine Lake North Disposal Area
Sabine-Neches Waterway
Area Near Port Arthur, Texas
Boring No. 93-371 Sample No. 18
Depth El 36-38 ft Date 10/08/93

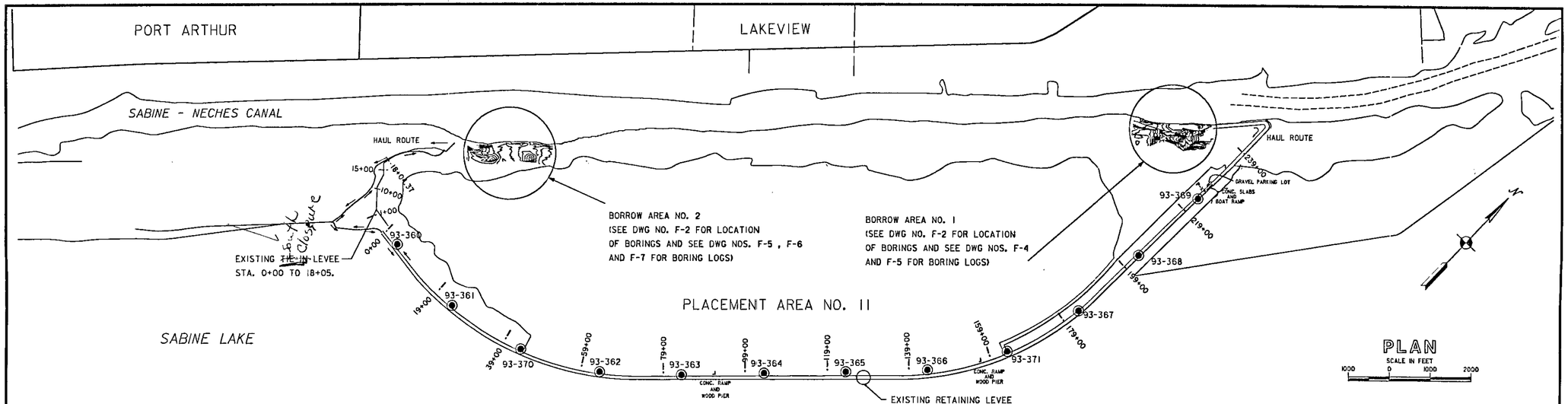
UNCONFINED COMPRESSION TEST REPORT

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,I,BL.L.SJ» 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)	Nod Nodules	Sl Silt(y)
Calc Calcerous	Ol Olive	Sms Seams
Cl Clay	Poc Pocket(s)	So Soft
Dk Dark	Prt Parting	Sta Stain(s)
Fer Ferrous	R Red	V Very
Frag Fragment(s)	Rts Root(s)	W/ With
Gra Grass	S Stiff	W.T. Water Table
Gy Gray(ish)	Sd Sand(y)	W.O.H. Weight Of Hammer
H Hard	Sh Shell(y)	Y Yellow(ish)
L Loose		
Med Medium		
Mi Mica		

LABORATORY CLASSIFICATION

CH INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS.
CL INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, LEAN CLAYS.
ML INORGANIC SILTS AND VERY FINE SANDS, WITH SLIGHT PLASTICITY.
SM SILTY SANDS, SAND-SILT MIXTURES.

REVISION	DATE	DESCRIPTION	BY

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

CADD

DRAWN BY: * J.G.
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

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

PLAN AND BORING LOGS

* AS REQUIRED BY ENGINEER CIRCULAR NO. 1110-1-1932)

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

SCALE: AS SHOWN
EFFEC. DATE:
DRAWING NUMBER
F-1
SHEET 23 OF 32 FILE NO. SN 103-336