Project : BROWNSVILLE SHIP CHANNEL, TEXAS

SUMMARY OF LABORATORY TEST RESULTS

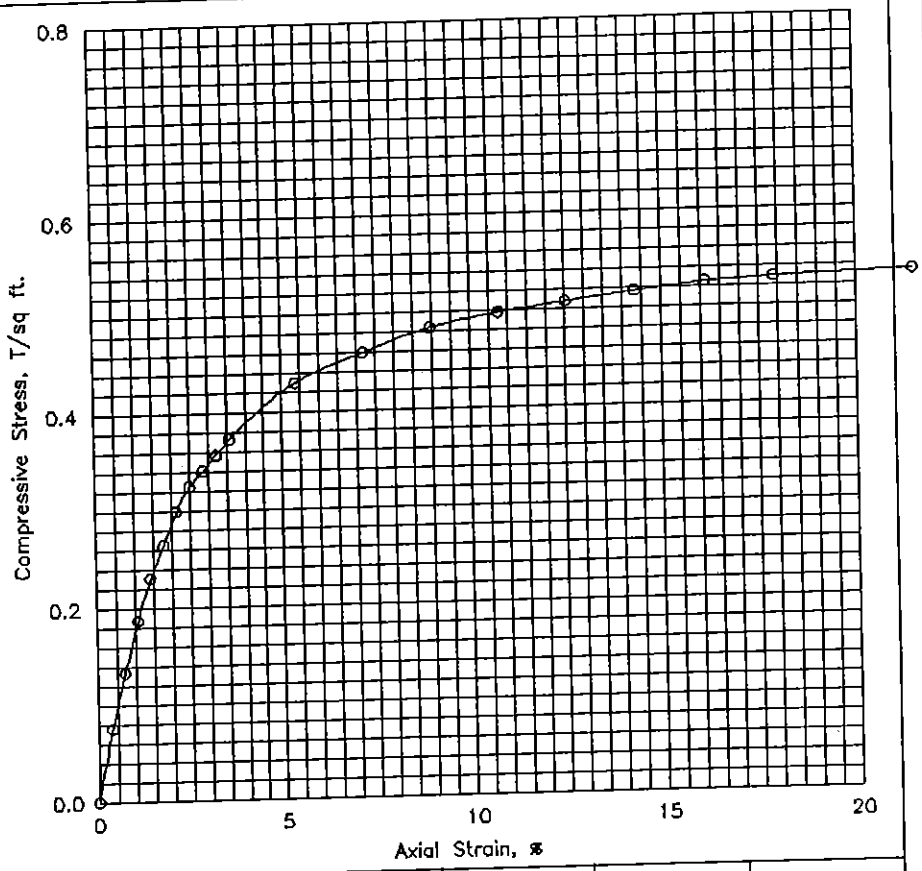
Boring No. 89-53

S #	Depth (ft)	P P (tsf)	SPT Blows per Foot	Visual Classification	U S C	M c (%)	Dry Unit Wt (pcf)	Wet Unit Wt (pcf)	L L (%)	P L (%)	Mechanical Analysis % Passing #4	#10	#40	#100	#200	Torvane Shear Strength (tsf)	q u (tsf)
1	0 - 2	1.50		Tan and gray, LEAN CLAY, stiff	CL	31.6	89.5	117.8	49	23	100.0	100.0	100.0	99.9	99.6	0.40	0.52
2	2 - 4	0.50		Tan and gray, CLAY, firm	CH	31.6											
3	4 - 6	1.00		Tan and gray, CLAY, stiff	CH	33.9	88.2	118.2	63	27	100.0	100.0	100.0	100.0	100.0	0.40	0.57
4	6 - 8	0.50		Tan, CLAY, firm	CH	29.5											
5	8 - 10	0.75		Tan, CLAY, firm	CH	28.7											
6	10 - 12	0.75		Tan, CLAY, firm	CH	29.3											
7	12 - 13.5		11	Gray, SILT, medium dense, sandy	M L						100.0	99.9	99.7	95.3	60.5		
8	17 - 18.5		12	Gray, SILTY SAND, medium dense	S M												
9	22 - 23.5		18	Gray, SILTY SAND, medium dense	S M						100.0	100.0	99.8	84.8	40.0		
10	27 - 28.7		13	Gray, SILTY SAND, medium dense	S M												
11	29 - 31	1.50		Gray, SANDY CLAY, stiff, silty	CL	23.8	98.5	122.0	45	21	100.0	100.0	100.0	86.7	58.3	0.40	0.89
12	31 - 33	2.00		Gray, SANDY CLAY, very stiff, with mica calcareous nodules and silt	CL	23.1											
13	33 - 35	2.00		Gray, SILTY CLAY, very stiff	CL	18.4											
14	35 - 36.5		19	Gray, SILTY SAND, medium dense	S M				NP	NP	100.0	99.7	99.6	82.2	31.0		
15	37 - 39	1.00		Gray, CLAYEY SAND, stiff	SC	17.1											
16	40 - 41.5		24	Gray, SILTY SAND, medium dense	S M												
17	43.5 - 45		32	Gray, SILTY SAND, dense	S M												

S # : Sample Number, P P : Pocket Penetrometer Reading, U S C : Unified Soil Classification, M c : Moisture Content, q u : Unconfined Compressive Strength

Job No. 14G403

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial: Water content	w_0	31.6 %	%	%	%
Initial: Void ratio	e_0				
Initial: Saturation	S_0	%	%	%	%
Initial: Dry density, lb/cu ft	γ_d	89.5			
Time to failure, min	t_f	13.03			
Unconfined compressive strength, T/sq ft	q_u	.52			
Undrained shear strength, T/sq ft	S_u	.26			
Sensitivity ratio	S_t				
Initial specimen diameter, in.	D_0	2.800			
Initial specimen height, in.	H_0	5.590			

Classification Tan and Gray, CLAY, Stiff

LL 49	PL 23	PI 26	G_s

Remarks

Project BROWNSVILLE SHIP CHANNEL, TEXAS

Area Between Port Isabel and Brownsville, Texas

Boring No. 89-53 | Sample No. 1

Depth El 0-2 ft | Date 7/6/90

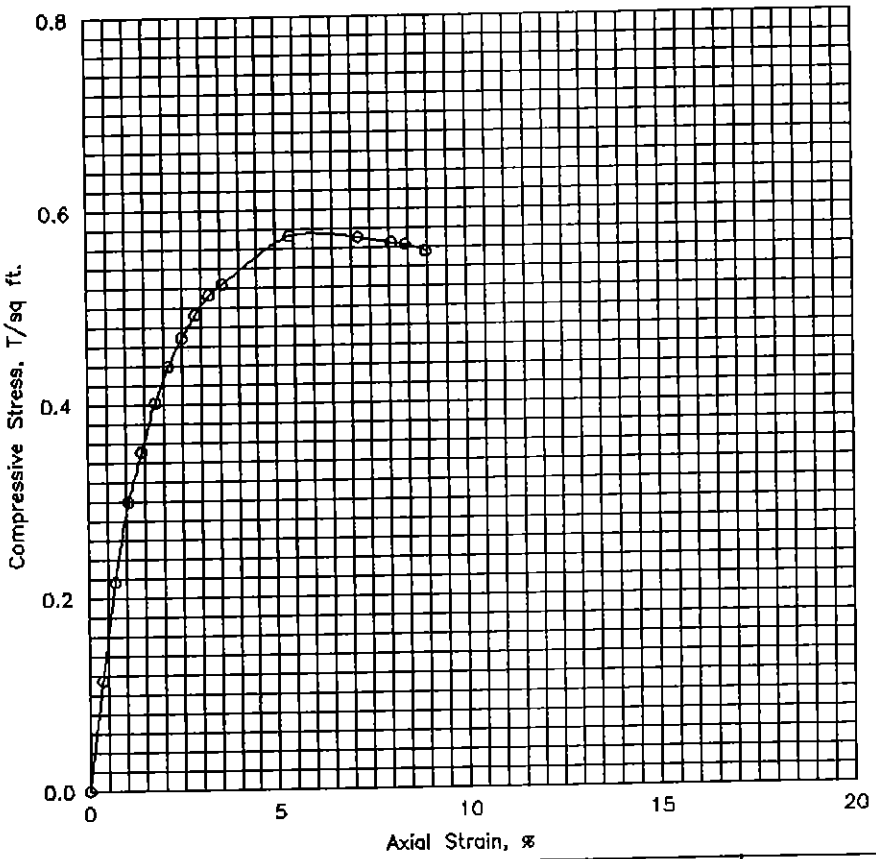
UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

Geotest Engineering, Inc.

Job No. 14G403

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial: Water content	w_0	33.9 %	%	%	%
Initial: Void ratio	e_0				
Initial: Saturation	S_0	%	%	%	%
Initial: Dry density, lb/cu ft	γ_d	88.2			
Time to failure, min	t_f	4.93			
Unconfined compressive strength, T/sq ft	q_u	.57			
Undrained shear strength, T/sq ft	S_u	.29			
Sensitivity ratio	S_t				
Initial specimen diameter, in.	D_0	2.815			
Initial specimen height, in.	H_0	5.590			

Classification Tan and Gray, CLAY, Stiff

LL 63	PL 27	PI 36	G_s

Remarks

Project BROWNSVILLE SHIP CHANNEL, TEXAS

Area Between Port Isabel and Brownsville, Texas

Boring No. 89-53 | Sample No. 3

Depth El 4-6 ft | Date 7/6/90

UNCONFINED COMPRESSION TEST REPORT

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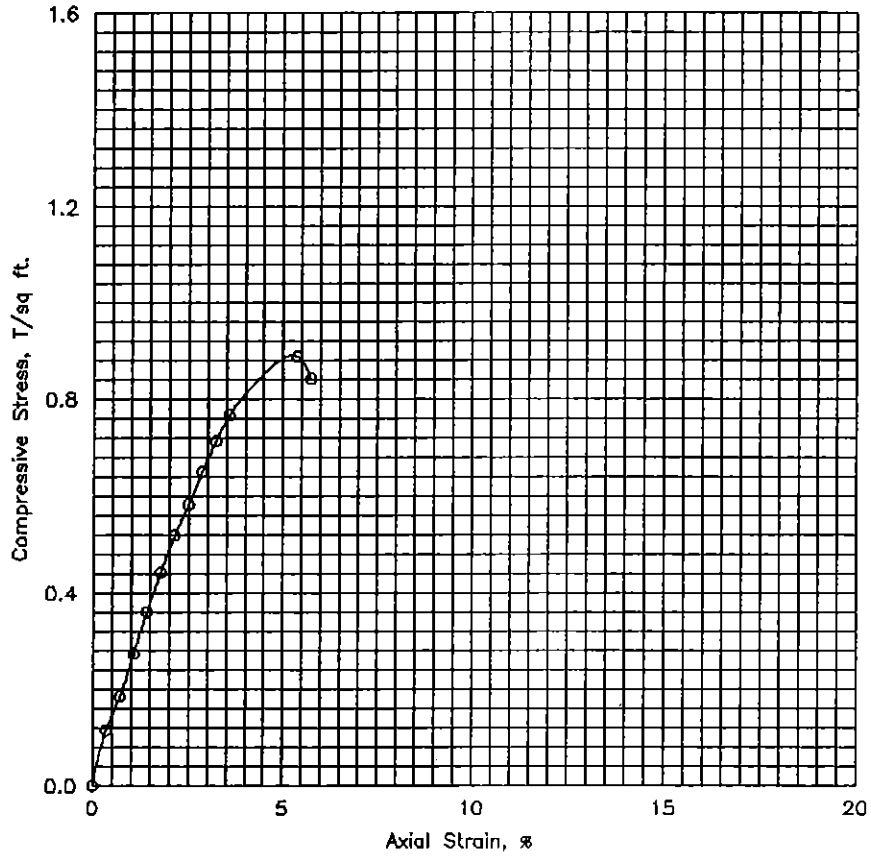
PLATE XI-2

Geotest Engineering, Inc.

PLATE

Job No. 14G403

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	23.8 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	98.5			
Time to failure, min		t_f	5.03			
Unconfined compressive strength, T/sq ft		q_u	.89			
Undrained shear strength, T/sq ft		S_u	.44			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.810			
Initial specimen height, in.		H_0	5.590			

Classification Gray, CLAY, Stiff, Silty

LL	45	PL	21	PI	24	G_s	

Remarks

Project BROWNSVILLE SHIP CHANNEL, TEXAS

Area Between Port Isabel and Brownsville, Texas

Boring No. 89-53 | Sample No. 11

Depth El 29-31 ft | Date 7/6/90

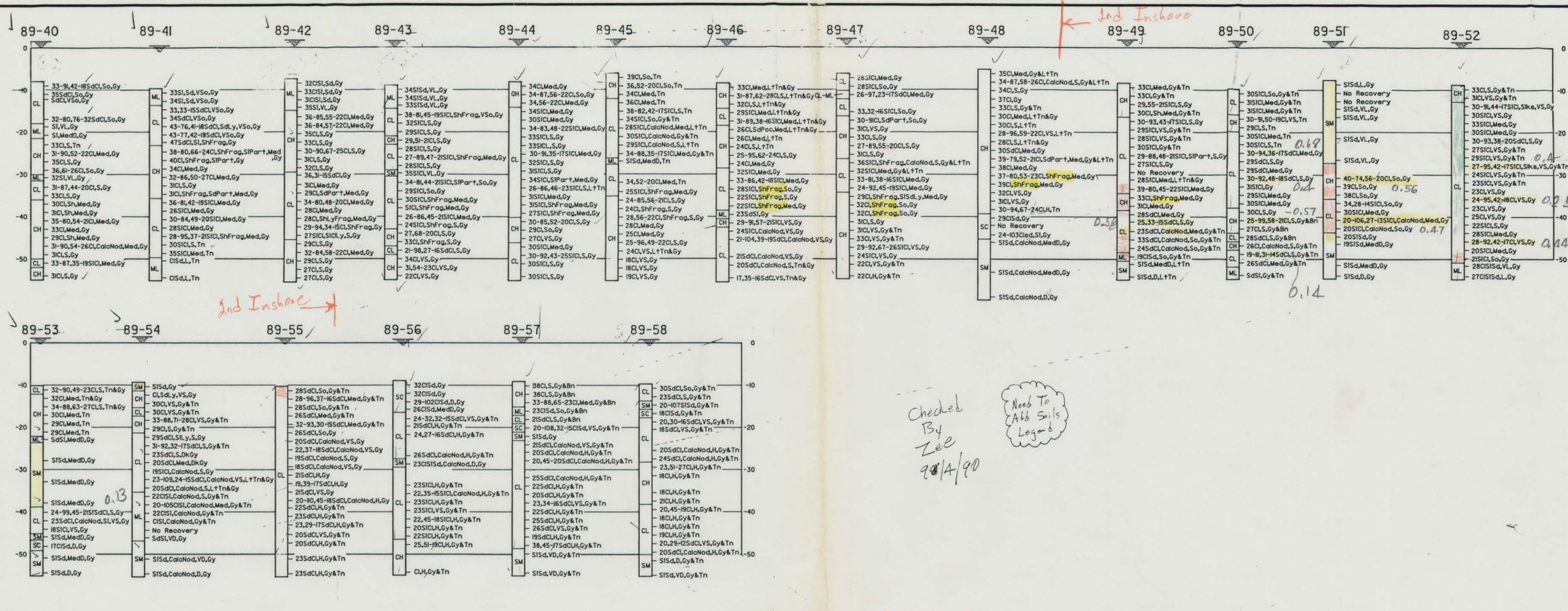
UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

PLATE XI-2

Geotest Engineering, Inc.

PLATE



REVISION	DATE	DESCRIPTION	BY

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

CADD

DRAWN BY: X
TRACED BY: X
CHECKED BY: X
SUBMITTED BY:
CHIEF, SOILS DESIGN SECTION
APPROVED:
CHIEF, GEOTECH. & SURVEY BRANCH

BIH
Brownsville Channel Borings

APPROVED:
CHIEF ENGINEERING DIVISION
DATE:

Prepared under the direction of
Brink P. Miller, Col., C.E.,
District Engineer

SCALE: AS SHOWN
SPEC. DATE:
DRAWING NUMBER X
SHEET X OF X
FILE NO. X

DESIGN FILE: ZF1:(28,2573)RONALDON1
CREATED BY: GRANDPA
ON: 30-AUG-1990
AT: 08:41