Project : BROWNSVILLE SHIP CHANNEL, TEXAS

SUMMARY OF LABORATORY TEST RESULTS

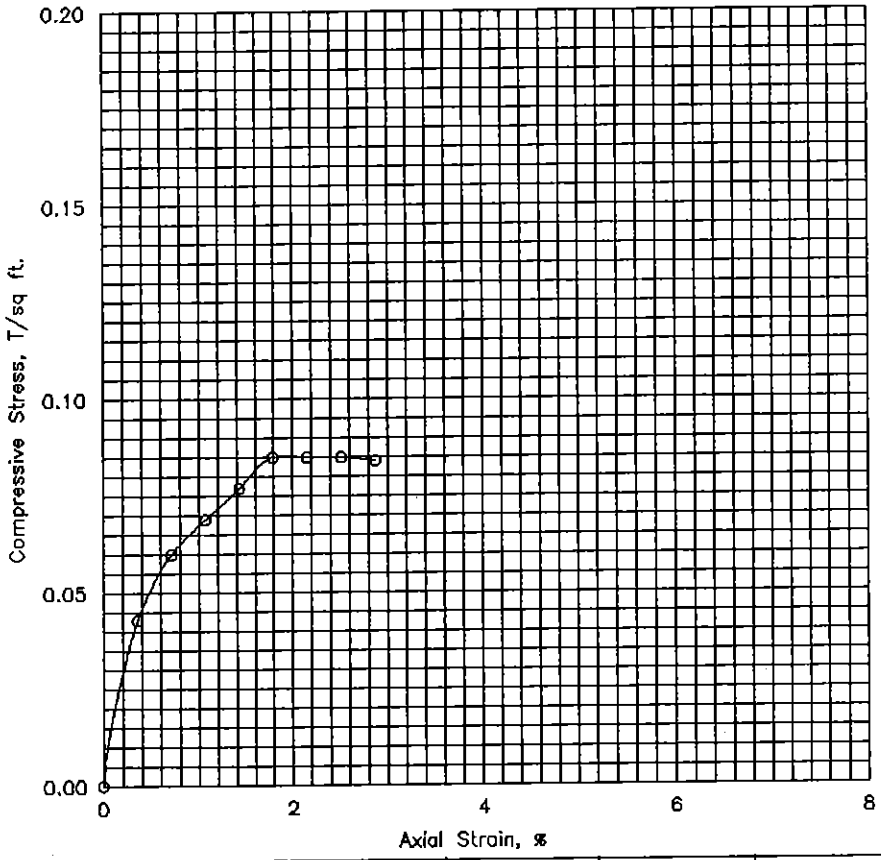
Boring No. 89-51

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	0.25		Gray, SILTY SAND, loose	S M												
2	2 - 4			No recovery													
3	4 - 6			No recovery													
4	6 - 7.5		W.O.H	Gray, SILTY SAND, very loose	S M						100.0	99.8	99.6	76.4	40.4		
5	8 - 9.5		W.O.H	Gray, SILTY SAND, very loose	S M												
6	13 - 14.5		2/18"	Gray, SILTY SAND, very loose	S M												
7	18 - 19.5		2/18"	Gray, SILTY SAND, very loose	S M						100.0	99.9	99.7	68.5	42.4		
8	22 - 24	0.25		Gray, CLAY, soft	C H	40.3	73.9	103.6	56	20	100.0	100.0	99.8	99.6	99.6	0.10	0.09
9	24 - 26	0.25		Gray, CLAY, soft	C H	38.8											
10	26 - 28	0.25		Gray, CLAY, soft	C H	38.4											
11	28 - 30	0.25		Gray, SILTY CLAY, soft	C L	33.7			28	14							
12	30 - 32	0.50		Gray, SILTY CLAY, firm	C L	30.1											
13	32 - 34	0.50		Gray, SILTY CLAY, firm, with calcareous nodules	C L	20.1	106.1	127.5	27	13	99.6	99.4	99.1	87.2	73.1		0.33
14	34 - 36	0.25		Gray, SILTY CLAY, soft, with calcareous nodules	C L	20.2											
15	36 - 38			Gray, SILTY SAND	S M	20.2											
16	38 - 39.5		24	Gray, SILTY SAND, medium dense	S M	19.1			N P	N P	99.6	99.5	99.3	43.0	27.5		
17	43 - 44.5		21	Gray, SILTY SAND, medium dense	S M												
18	45.5 - 47		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. 140403

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.		1			
Type of Specimen		Undisturbed			
Initial: Water content	w_0	40.3 %	%	%	%
Initial: Void ratio	e_0				
Initial: Saturation	S_0	%	%	%	%
Initial: Dry density, lb/cu ft	γ_d	73.8			
Time to failure, min	t_f	1.67			
Unconfined compressive strength, T/sq ft	q_u	.09			
Undrained shear strength, T/sq ft	S_u	.04			
Sensitivity ratio	S_t				
Initial specimen diameter, in.	D_0	2.850			
Initial specimen height, in.	H_0	5.590			

Classification Gray, CLAY, Soft

LL 56	PL 20	PI 36	G_s

Remarks

Project BROWNSVILLE SHIP CHANNEL, TEXAS

Area Between Port Isabel and Brownsville, Texas

Boring No. 89-51 | Sample No. 8

Depth El 22-24 ft | Date 6/29/90

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

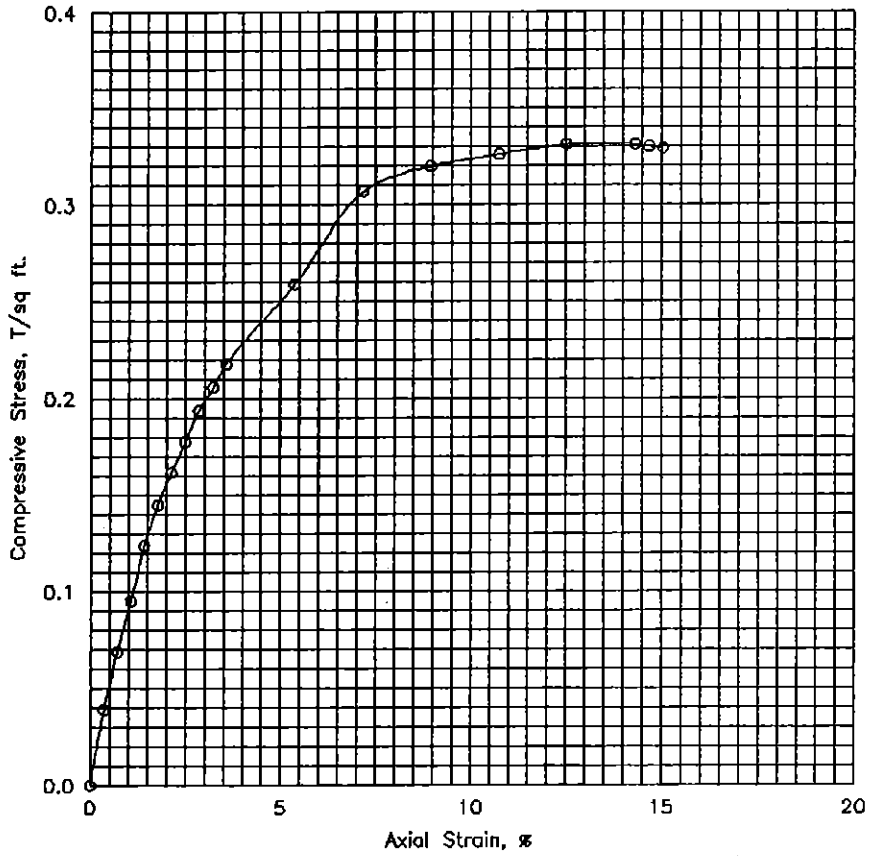
PLATE XI-2

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	20.1 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	106.1			
Time to failure, min		t_f	13.00			
Unconfined compressive strength, T/sq ft		q_u	.33			
Undrained shear strength, T/sq ft		S_u	.17			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.850			
Initial specimen height, in.		H_0	5.590			

Classification Gray, CLAY, Firm,Silty, w/calcareous nodules

LL	27	PL	13	PI	14	G_s	

Remarks

Project BROWNSVILLE SHIP CHANNEL, TEXAS

Area Between Port Isabel and Brownsville, Texas

Boring No. 89-51 | Sample No. 13

Depth El 32-34 ft | Date 6/29/90

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

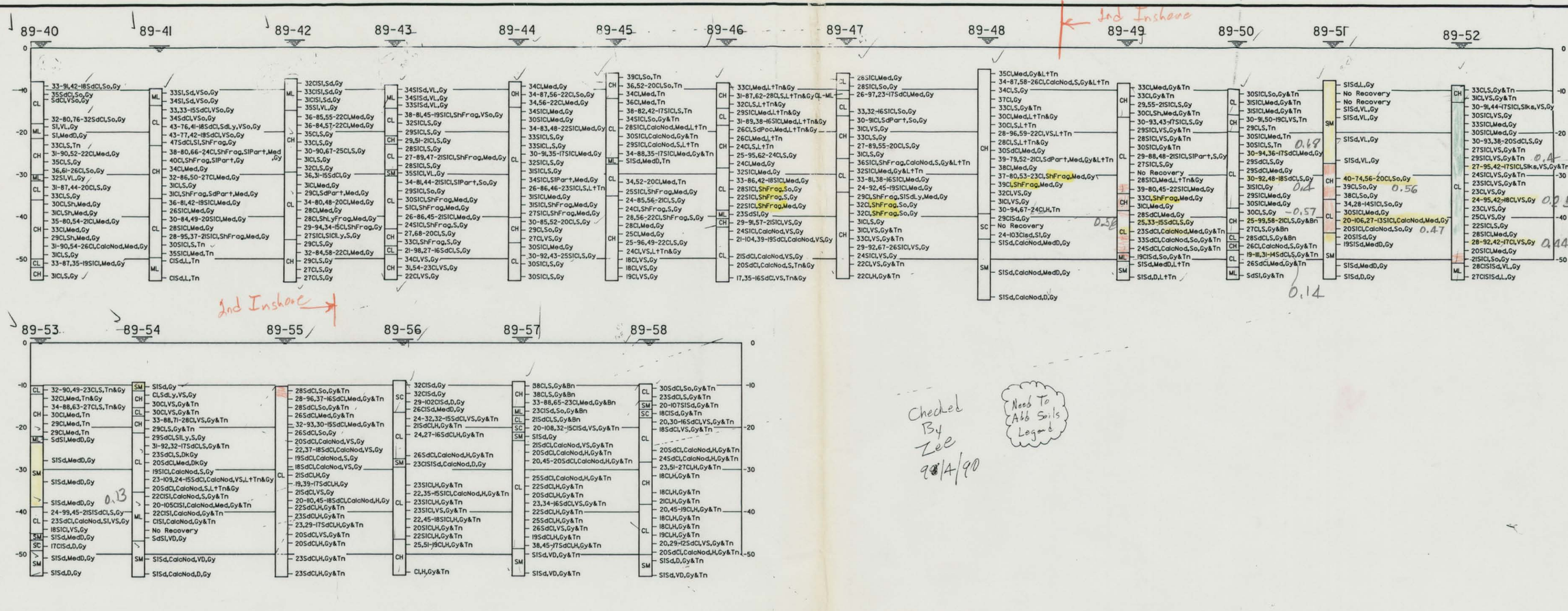
PLATE XI-2

Geotest Engineering, Inc.

PLATE

SUMMARY OF QUESTIONABLE
ERRONEOUS OR MISSING DATA
FOR
CONTRACT NO. DACW64-90-C-0024
PROJECT: LABORATORY TESTING OF SOIL SAMPLES, BROWNSVILLE SHIP CHANNEL, TEXAS

BORING NO.	SAMPLE NO.	COMMENTS ON TEST RESULTS
89-49	9	Moisture-density relationship as derived from moisture content and unit dry weight tests appears unreasonable.
89-50	4	Unconfined compression test result appears low.
89-51	8	Moisture-density relationship as derived from moisture content and unit dry weight tests appears unreasonable.
89-52	14	Moisture-density relationship as derived from moisture content and unit dry weight tests appears unreasonable.
	22, 23	Visual classifications do not agree with classifications under the U.S.C. system.
89-54	12	Moisture-density relationship as derived from moisture content and unit dry weight tests appears unreasonable.
	15	No liquid limit or plastic limits were determined for material described as clayey silt.
	17	Moisture content test not performed.
89-55	2	Stress strain curve missing.
	5	Moisture content appears high for a firm material when compared to the liquid limit.
89-56	3	Moisture-density relationship as derived from moisture content and unit dry weight tests appears low. Unconfined compression test results appears low.
	5	Unit dry weight test result appears erroneous.



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