Project : BROWNSVILLE SHIP CHANNEL, TEXAS

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 89-57

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)	LL (%)	P L (%)	Mechanical Analysis % Passing #4	#10	#40	#100	#200	Torvane Shear Strength (tsf)	q u (tsf)
1	0 - 2	1.25		Gray and brown, CLAY, stiff	CH	38.3											
2	2 - 4	1.50		Gray and brown, CLAY, stiff	CH	37.7											
3	4 - 6	1.00		Gray and braown, CLAY, firm, blocky structure	CH	33.4	88.2	117.7	65	23	100.0	100.0	100.0	100.0	100.0	0.60	0.26
4	6 - 8	0.25		Gray and tan, CLAYEY SAND, soft	M L	22.6											
5	8 - 10	1.50		Gray and tan, SANDY CLAY, stiff	C L	20.7											
6	10 - 12	2.50		Gray and tan, CLAYEY SAND, very stiff	S C	19.7	107.9	129.2	32	15	100.0	100.0	99.8	67.4	34.4		0.90
7	12 - 14			Gray, SILTY SAND	S M						100.0	100.0	99.9	67.9	24.9		
8	14 - 16	2.50		Gray and tan, SANDY CLAY, very stiff, with calcareous nodules	C L	20.5											
9	16 - 17.5		47	Gray and tan, SANDY CLAY, hard, with calcareous nodules	C L	20.0											
10	18 - 19.5		51	Gray and tan, SANDY CLAY, hard, with calcareous nodules	C L	19.9			45	20							
11	22 - 23.5		30	Gray and tan, SANDY CLAY, hard, with calcareous nodules	C L	24.9											
12	24 - 25.5		35	Gray and tan, SANDY CLAY, hard	C L	21.7											
13	26 - 27.5		45	Gray and tan, SANDY CLAY, hard	C L	20.3											
14	28 - 29.5		23	Gray and tan, SANDY CLAY, very stiff	C L	22.8			34	16							
15	30 - 31.5		32	Gray and tan, SANDY CLAY, hard	C L	22.4											
16	32 - 33.5		37	Gray and tan, SANDY CLAY, hard	C L	25.0											
17	34 - 35.5		26	Gray and tan, SANDY CLAY, very stiff, with mica	C L	26.1											
18	36 - 37.5		45	Gray and tan, SANDY CLAY, hard	C L	19.1											

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

Project : BROWNSVILLE SHIP CHANNEL, TEXAS

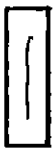
SUMMARY OF LABORATORY TEST RESULTS

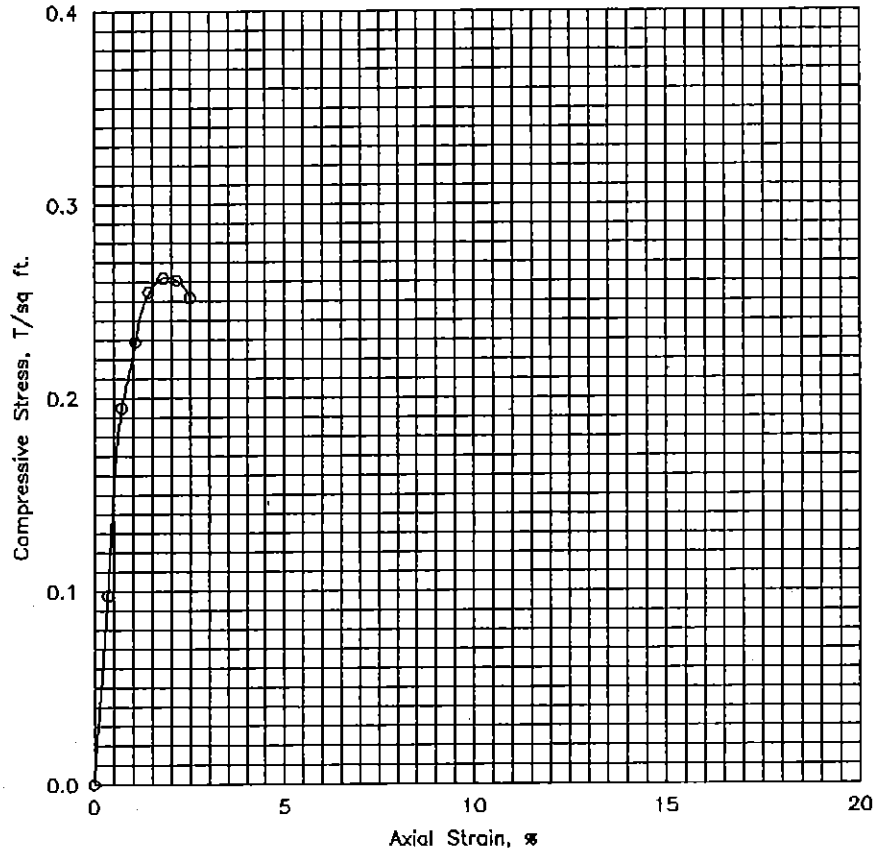
Boring No. 89-57

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					Torvane Shear Strength (tsf)	q u (tsf)
											#4	#10	#40	#100	#200		
19	38 - 39.5		53	Gray and tan, SANDY CLAY, hard, with mica	C L	38.2			45	17							
20	40 - 41.5		50/6.5"	Gray and tan, SILTY SAND, very dense	S M												
21	44.5 - 46		40	Gray and tan, SILTY SAND, very dense	S M												

Job No. 14G403

Failure Sketches





☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	33.4 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	88.2			
Time to failure, min		t_f	1.67			
Unconfined compressive strength, T/sq ft		q_u	.26			
Undrained shear strength, T/sq ft		S_u	.13			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.815			
Initial specimen height, in.		H_0	5.585			

Classification Gray and Brown, CLAY, Firm

LL	65	PL	23	PI	42	G_s

Remarks

Project BROWNSVILLE SHIP CHANNEL, TEXAS

Area Between Port Isabel and Brownsville, Texas

Boring No. 89-57 | Sample No. 3

Depth El 4-6 ft | Date 7/02/90

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

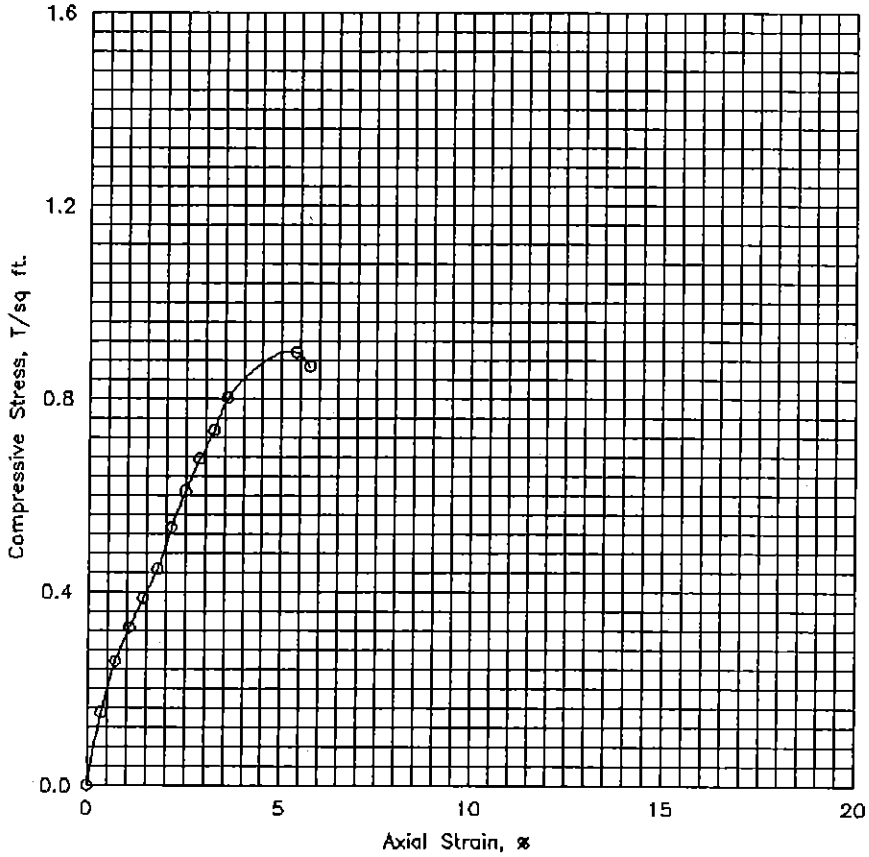
PLATE XI-2

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	19.7 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	107.9			
Time to failure, min		t_f	5.10			
Unconfined compressive strength, T/sq ft		q_u	.90			
Undrained shear strength, T/sq ft		S_u	.45			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.810			
Initial specimen height, in.		H_0	5.585			

Classification Gray and Tan, CLAY, Stiff, Sandy

LL	32	PL	15	PI	17	G_s	

Remarks

Project BROWNSVILLE SHIP CHANNEL, TEXAS

Area Between Port Isabel and Brownsville, Texas

Boring No. 89-57 | Sample No. 6

Depth El 10-12 ft | Date 7/2/90

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

Geotest Engineering, Inc.

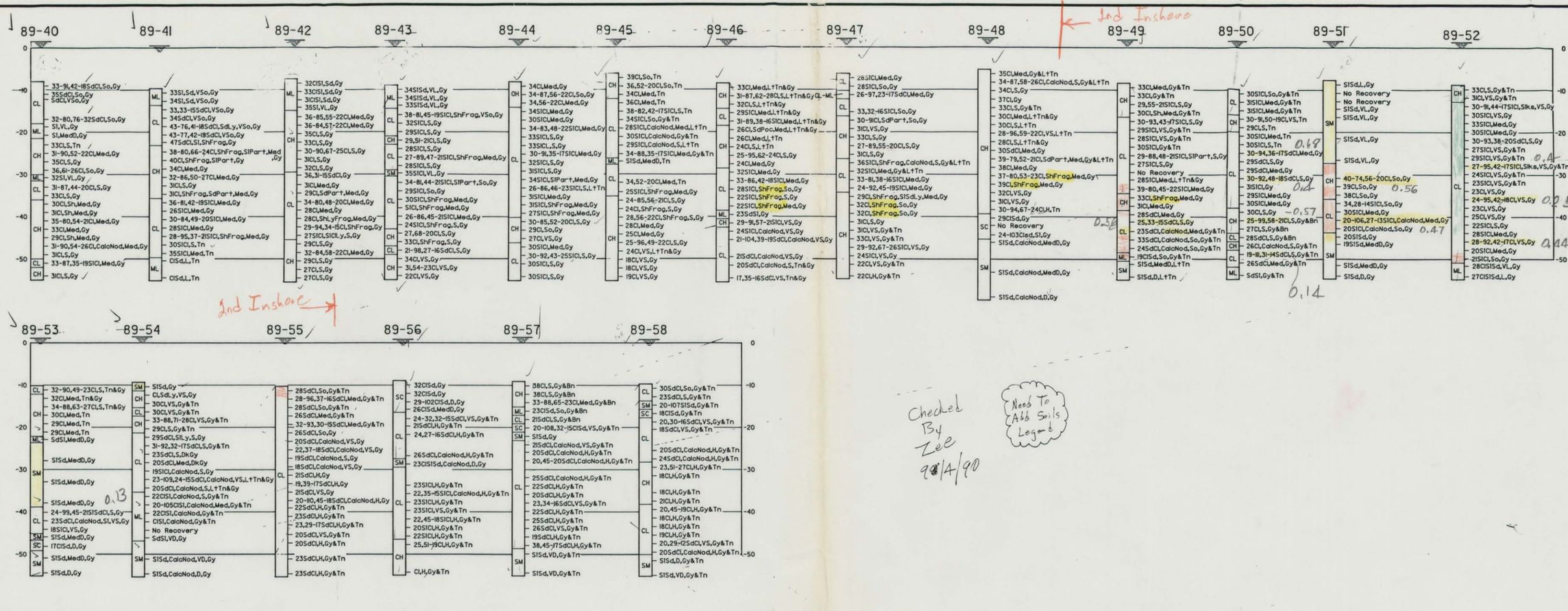
SUMMARY OF QUESTIONABLE
ERRONEOUS OR MISSING DATA
FOR
CONTRACT NO. DACW64-90-C-0024
PROJECT: LABORATORY TESTING OF SOIL SAMPLES, BROWNSVILLE SHIP CHANNEL, TEXAS

BORING NO.	SAMPLE NO.	COMMENTS ON TEST RESULTS
89-57	3 4	Unconfined compression test results appear low. Visual classification does not agree with classification under the U.S.C. system.

NOTES:

(1) In reference to comments concerning unconfined compression test results appearing low when compared to pocket penetrometer or torvane shear tests, an explanation for apparent low values which are believed to be reasonable values for undrained shear strength of the material should be provided. In addition, possible reasons for resulting low values which are not believed reasonable values should be provided.

(2) In reference to the comments concerning moisture-density relationships, an explanation should be provided to account for the unusually low or high values of specific gravity of solids required to balance the weight-volume calculations. The explanation may require a detailed discussion of laboratory procedures used for moisture content and unit dry weight tests.



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