13 KM

U.S. ARMY CORPS OF ENGINEERS
GEOTECHNICAL BORING DATA

PROJECT NAME Victoria Ship Channel

LOG OF BORING NO. 90-61

LOCATION / STATION 475+00

DATE / TIME STARTED 06/18/90 @ 5:30 pm
DATE / TIME COMPLETED " " 6:10 "

TIDE ELEVATION + 2.50' MLT DATUM

WATER DEPTH 5.50' -3

DEPTH FROM WATER SURFACE TO BOTTOM OF BORING 27.50'

WEATHER Clear & sunny

DRILL RIG MANUFACTURE MODEL NO. CF-5

DRILLER Dempsey Graves
LOGGER Iraj Mollamand

DRILLER'S / LOGGER'S COMMENTS —

BORING NO. 90-61 DATE: BEGIN 06/18/90 COMPLETE 06/18/90
JOB NO. 14G404 LOGGER Iraj PAGE 2 / 3
PROJECT Victoria Ship Channel
LOCATION/STATION/ELEVATION: Sta. 475+00 / El. +2.50' MLT

DEPTH: AUGERED _____ WASHED 22' CORED _____

GROUNDWATER READINGS

TIME	DEPTH	TIME	DEPTH	TIME	DEPTH
FIRST					

DEPTH, FEET	SAMPLE	SAMPLE NO.	PEN./TORVANE SPT.-BLOW COUNT	CONSISTENCY	COLOR	MINOR	MAJOR	MODIFICATION
0		1	1.00	Firm	Tan & Gray	Silty	CLAY	—
		2	1.00	//	//	//	//	- w/shells
5		3	1.00	//	//	//	//	- w/shells; 9" sample
		4	0.75	//	//	//	//	- w/shells
			—	—	—	—	—	- No Recovery
10		5	0.25	V/Soft	Gray & Yellowish	Silty	CLAY	- w/shells; disturbed sample, jar
		6	0.25	//	//	//	//	- Disturbed sample
15		7	2.75	V/Stiff	//	//	//	- 10" sample
		8	3.50	//	//	//	//	—
		9	3.50	//	//	//	//	- w/shells
20		10	3.50	//	//	//	//	—
								Bottom of Boring
25								

CONTNUED: ☐ YES ☒ NO

Project : CHANNEL TO VICTORIA
VICTORIA, TEXAS

SUMMARY OF LABORATORY TEST RESULTS

Corrected copy

Boring No. 90-61

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	1.00		Gray, SILTY SAND, medium dense, with silt pockets	S M	20.2											
2	2 - 4	1.00		Gray, CLAYEY SAND, medium dense, with shell fragments and silt	~~S M~~ SC	20.0	107.7	129.3	NP	NP	99.4	97.5	94.7	76.8	30.2		0.35
3	4 - 6	1.00		Gray, CLAYEY SAND, medium dense, with shell fragments	S C	20.1											
4	6 - 8	0.75		Gray, CLAYEY SAND, medium dense, with calcareous nodules	S C	20.7	108.3	130.7	30	14	86.3	83.9	81.6	75.1	38.4		0.14
	8 - 10			No recovery													
5	10 - 12			Light gray and brown, CLAYEY SAND, loose, with shell fragments	S C	22.8											
6	12 - 14	0.75		Brown and gray, CLAYEY SAND, medium dense, with shell fragments	S C	21.1											
7	14 - 16	2.50		Brown, SANDY CLAY, very stiff, with sand pockets	C L	21.8	108.1	131.6	28	15	100.0	100.0	100.0	97.3	51.1		0.30
8	16 - 18	3.00		Brown, SILTY CLAY, very stiff, with sand pockets	C L	19.1											
9	18 - 20	2.00		Brown, SILTY CLAY, very stiff, with sand pockets	C L	22.6	106.1	130.1									
10	20 - 22	2.50		Brown, SANDY CLAY, very stiff, with sand pockets and vertical sand seams	C L	24.1	104.0	129.1	27	18	100.0	100.0	99.9	97.1	52.0		0.26

S # : Sample Number, P P : Pocket Penetrometer Reading, U S C : Unified Soil Classification, M c : Moisture Content
q u : Unconfined Compressive Strength, W O H : Weight of hammer, W O P : Weight of pipe

Project : CHANNEL TO VICTORIA
VICTORIA, TEXAS

SUMMARY OF LABORATORY TEST RESULTS

Boring No. 90-61

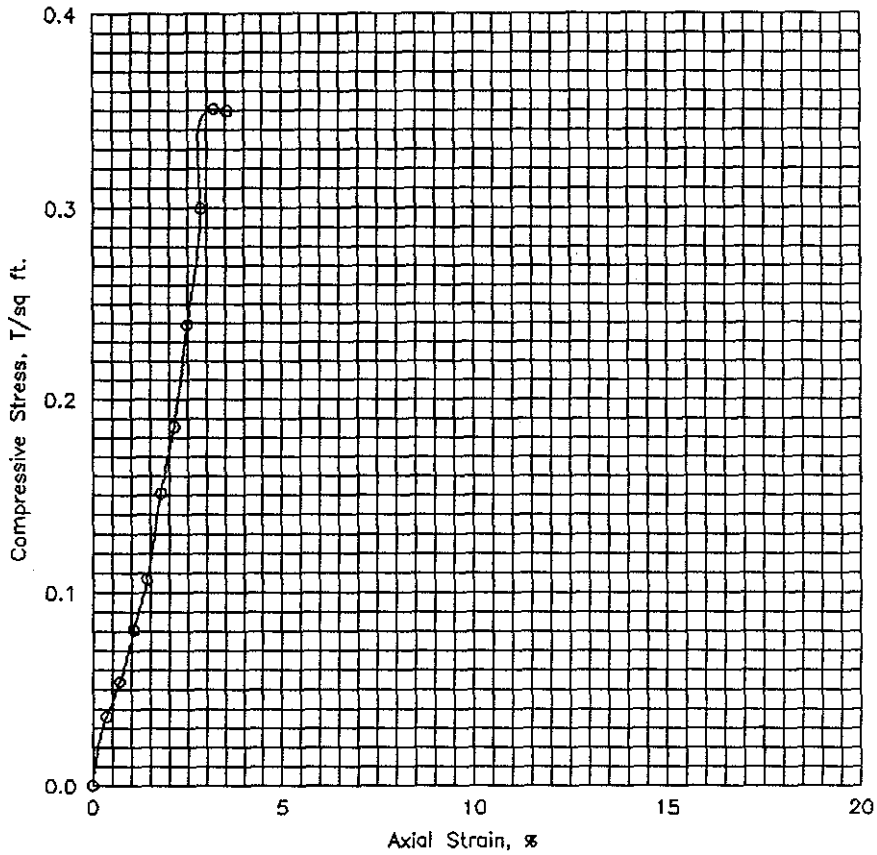
S #	Depth (ft)	P P (tsf)	SPT Blows per Foot	Visual Classification	U S C	M c (%)	Dry Unit Wt (pcf)	Wet Unit Wt (pcf)	L L (%)	P L (%)	Mechanical Analysis % Passing #4	#10	#40	#100	#200	Torvane Shear Strength (tsf)	q u (tsf)
1	0 - 2	1.00		Gray, SILTY SAND, medium dense, with silt pockets	S M	20.2											
2	2 - 4	1.00		Gray, SILTY SAND, medium dense, with shell fragments and clay pockets	S M	20.0	107.7	129.3	NP	NP	99.4	97.5	94.7	76.8	30.2		0.35
3	4 - 6	1.00		Gray, CLAYEY SAND, medium dense, with shell fragments	S C	20.1											
4	6 - 8	0.75		Gray, CLAYEY SAND, medium dense, with calcareous nodules	S C	20.7	108.3	130.7	30	14	86.3	83.9	81.6	75.1	38.4		0.14
	8 - 10			No recovery													
5	10 - 12			Light gray and brown, CLAYEY SAND, loose, with shell fragments	S C	22.8											
6	12 - 14	0.75		Brown and gray, CLAYEY SAND, medium dense, with shell fragments	S C	21.1											
7	14 - 16	2.50		Brown, SANDY CLAY, very stiff, with shell pockets	C L	21.8	108.1	131.6	28	15	100.0	100.0	100.0	97.3	51.1		0.30
8	16 - 18	3.00		Brown, SILTY CLAY, very stiff, with sand pockets	C L	19.1											
9	18 - 20	2.00		Brown, SILTY CLAY, very stiff, with sand pockets	C L	22.6	106.1	130.1									
10	20 - 22	2.50		~~Brown, SILTY SAND, medium dense~~, with clay pockets	S C	24.1	104.0	129.1	27	18	100.0	100.0	99.9	97.1	45.5		0.26

Clayey Sand

S # : Sample Number, P P : Pocket Penetrometer Reading, U S C : Unified Soil Classification, M c : Moisture Content
q u : Unconfined Compressive Strength, W O H : Weight of hammer, W O P : Weight of pipe

Job No. 14G404

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_o	20.0 %	%	%	%
	Void ratio	e_o				
	Saturation	S_o	%	%	%	%
	Dry density, lb/cu ft	γ_d	107.7			
Time to failure, min		t_f	3.15			
Unconfined compressive strength, T/sq ft		q_u	.35			
Undrained shear strength, T/sq ft		S_u	.18			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_o	2.790			
Initial specimen height, in.		H_o	5.610			

Classification Gray and brown, CLAYEY SAND

LL	NP	PL	NP	PI	NP	G_s

Remarks

Project CHANNEL TO VICTORIA, TEXAS

Area Channel to Victoria in San Antonio Bay, Texas

Boring No. 90-61 | Sample No. 2

Depth El 2-4 ft | Date 8/1/90

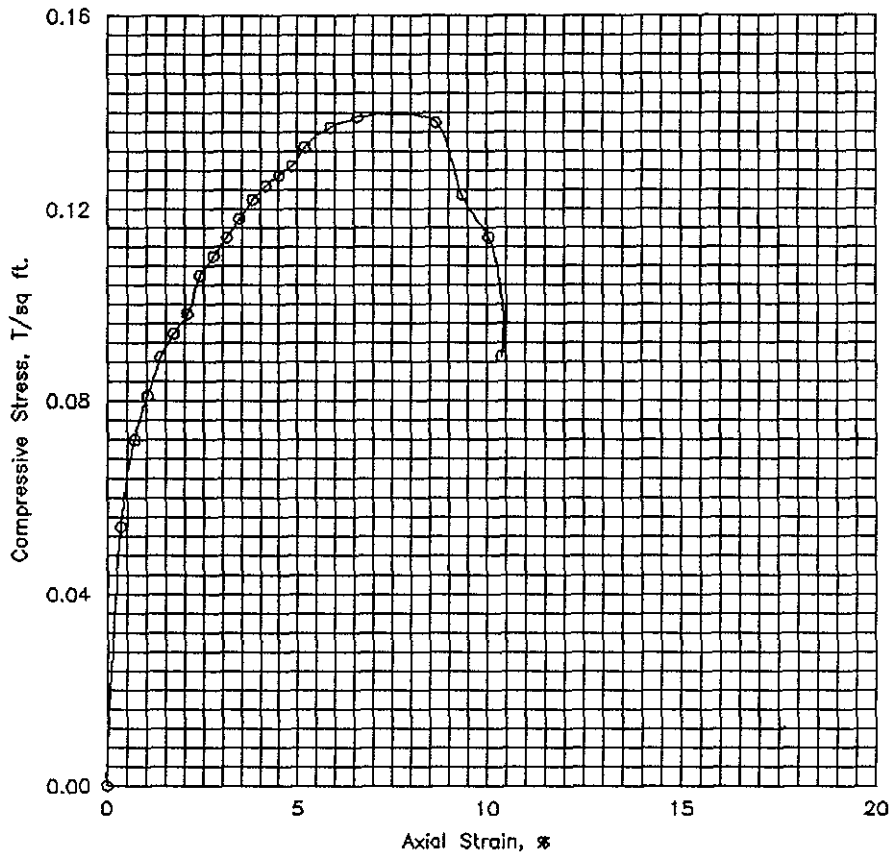
UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

Geotest Engineering, Inc.

Job No. 14G404

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_o	20.7 %	%	%	%
	Void ratio	e_o				
	Saturation	S_o	%	%	%	%
	Dry density, lb/cu ft	γ_d	108.3			
Time to failure, min		t_f	6.27			
Unconfined compressive strength, T/sq ft		q_u	.14			
Undrained shear strength, T/sq ft		S_u	.07			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_o	2.790			
Initial specimen height, in.		H_o	5.780			

Classification Gray, SANDY CLAY, firm, with calcareous nodules

LL	30	PL	14	PI	16	G_s

Remarks

Project CHANNEL TO VICTORIA, TEXAS

Area Channel to Victoria in San Antonio Bay, Texas

Boring No. 90-61 | Sample No. 4

Depth El 6-8 ft | Date 8/1/90

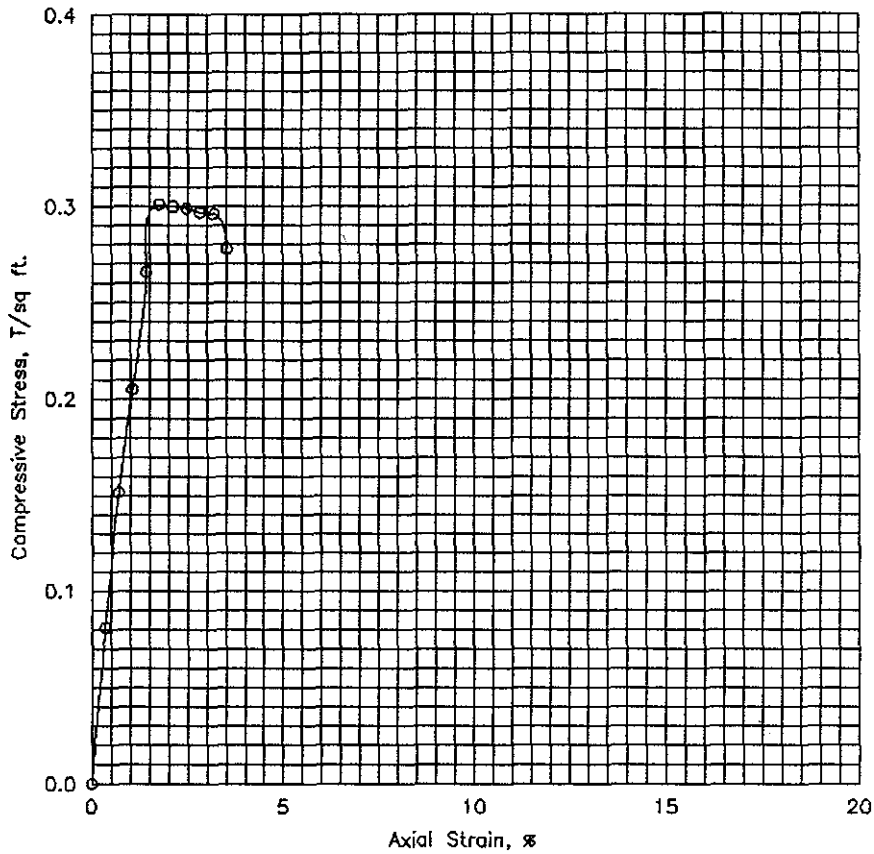
UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

Geotest Engineering, Inc.

Job No. 14G404

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	21.8 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	108.0			
Time to failure, min		t_f	1.75			
Unconfined compressive strength, T/sq ft		q_u	.30			
Undrained shear strength, T/sq ft		S_u	.15			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.800			
Initial specimen height, in.		H_0	5.650			

Classification Brown, SANDY CLAY, very stiff, with sand pockets

LL	28	PL	15	PI	13	G_s	

Remarks

Project CHANNEL TO VICTORIA, TEXAS

Area Channel to Victoria in San Antonio Bay, Texas

Boring No. 90-61 | Sample No. 7

Depth El 14-16 ft | Date 8/1/90

UNCONFINED COMPRESSION TEST REPORT

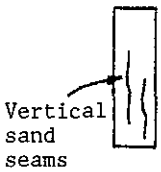
ENG FORM 1 JUN 65 3659

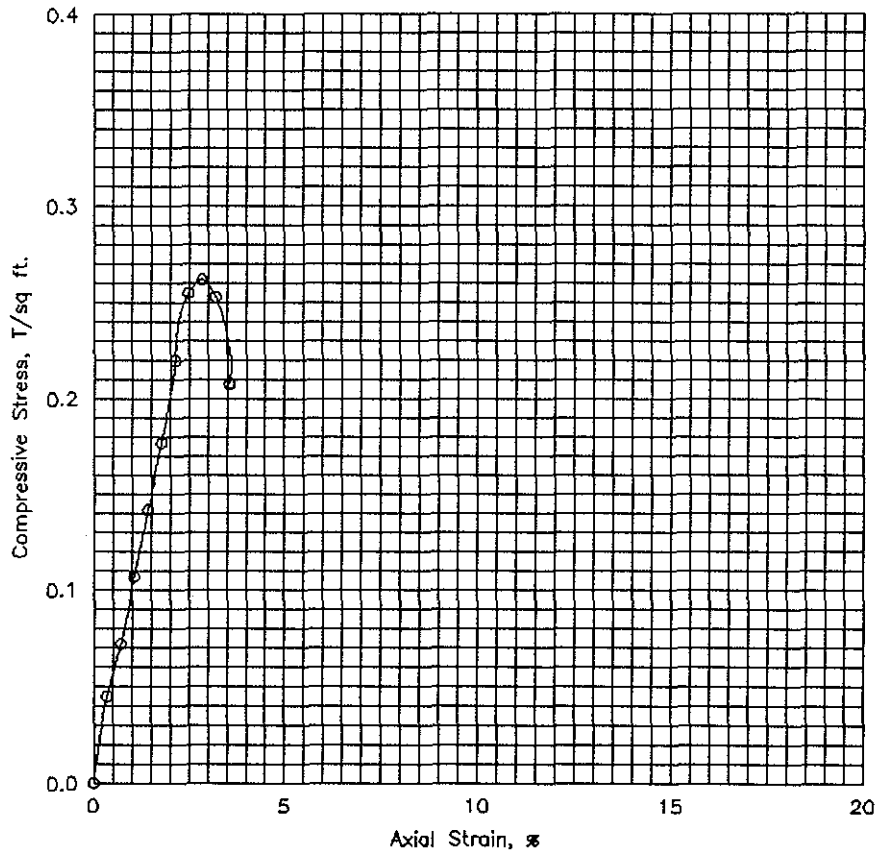
Geotest Engineering, Inc.

PLATE

Job No. 14G404

Failure Sketches





☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_o	24.1 %	%	%	%
	Void ratio	e_o				
	Saturation	S_o	%	%	%	%
	Dry density, lb/cu ft	γ_d	104.0			
Time to failure, min		t_f	2.72			
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_o	2.800			
Initial specimen height, in.		H_o	5.610			

Classification Brown, SANDY CLAY, very stiff, w/sand pockets & vertical sand seams

LL	27	PL	18	PI	9	G_s

Remarks

Project CHANNEL TO VICTORIA, TEXAS

Area Channel to Victoria in San Antonio Bay, Texas

Boring No. 90-61 | Sample No. 10

Depth El 20-22 ft | Date 8/1/90

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 1 JUN 65 3659

PLATE XI-2

Geotest Engineering, Inc.

. PLATE