BKM

U.S. ARMY CORPS OF ENGINEERS
GEOTECHNICAL BORING DATA

PROJECT NAME Victoria Ship Channel

LOG OF BORING NO. 90-60

LOCATION / STATION 460 +00

DATE / TIME STARTED 05/19/90 @ 4:45 pm

DATE / TIME COMPLETED " " 5:25 "

TIDE ELEVATION +2.50' MLT DATUM

WATER DEPTH +10.00' −7.5

DEPTH FROM WATER SURFACE TO BOTTOM OF BORING 27.50'

WEATHER Clear & Sunny

DRILL RIG MANUFACTURE
MODEL NO. CF-5

DRILLER Dempsey Fraser

LOGGER Iraj O Moiamiard

DRILLER'S / LOGGER'S COMMENTS —

BORING NO. 90-60 DATE: BEGIN 06/18/90 COMPLETE 06/18/90
JOB NO. 146404 LOGGER Ivaj PAGE 2 / 3
PROJECT Victoria Ship Channel
LOCATION/STATION/ELEVATION: Sta. 460+00 / El. +2.50' MLT

DEPTH: AUGERED _____ WASHED 17.50' 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	Gray & Tan	Silty	CLAY	—
		2	0.25	//	//	//	//	- w/ limestone
5		3	0.25	Soft	Gray & Yellowish	Clayey	SAND	- 7.5" sample
		4	1.00	Stiff	Gray & Brown	Silty	CLAY	- w/sand ; 11" sample
		5	1.00	//	//	//	//	- w/sand ; 8" sample
10		6	1.00	//	//	Silty	//	- 7" sample
		7	3.00	V/Stiff	//	//	//	- w/sand partings ; 11" sample
15		8	3.50	//	//	//	//	- 11" sample
		9	3.50	//	//	//	//	- 10.5" sample
								Bottom of Boring
20								
25								

CONTNUED: ☐ YES ☒ NO

Project : CHANNEL TO VICTORIA
VICTORIA, TEXAS

SUMMARY OF LABORATORY TEST RESULTS

Corrected

Boring No. 90-60

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					Torvane Shear Strength (tsf)	q u (tsf)
											#4	#10	#40	#100	#200		
1	0 - 2	1.00		Gray, SANDY CLAY, stiff	CL	26.9											
2	2 - 4	1.50		Bluish green, CLAY, stiff, with silt, traces of sand and calcareous nodules	CH	33.4	86.1	114.8	55	22	100.0	100.0	99.6	99.1	93.6		0.33
3	4 - 6		-	Yellowish brown, light green and dark gray, SILTY SAND, very loose, with clay	S M						99.9	99.8	99.6	93.1	30.4		
4	6 - 8	2.00		Gray and brownish yellow, SILTY CLAY, stiff, with large sand pockets	CL	19.4											
5	8 - 10	1.50		Gray and yellowish brown, SANDY CLAY, stiff, with silt and calcareous nodules	CL	21.1	106.3	128.8	25	16	99.9	99.8	99.4	96.8	67.1		0.10
6	10 - 12	2.00		Gray and brown, SILTY CLAY, stiff, with calcareous nodules	CL	21.7											
7	12 - 14	3.75		Gray and brown, CLAY, very stiff, with silt partings	CH	17.4											
8	14 - 16	4.50		Brown, CLAY, hard, with silt partings, slickensided	CH	20.4	106.7	128.5	55	20	100.0	100.0	100.0	100.0	100.0		1.45
9	16 - 17.5	4.50		Brown, CLAY, hard, with silt partings	CH	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, 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. 90-60

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		
1	0 - 2	1.00		Gray, SANDY CLAY, stiff	C L	26.9											
2	2 - 4	1.50		Bluish green, CLAY, stiff, with silt, traces of sand and calcareous nodules	C H	33.4	86.1	114.8	55	22	100.0	100.0	99.6	99.1	93.6		0.33
3	4 - 6		-	Yellowish brown, light green and dark gray, SILTY SAND, with clay	S M						99.9	99.8	99.6	93.1	30.4		
4	6 - 8	2.00		Gray and brownish yellow, SILTY CLAY, stiff, with large sand pockets	C L	19.4											
5	8 - 10	1.50		Gray and yellowish brown, SANDY CLAY, stiff, with silt and calcareous nodules	C L	21.1	106.3	128.8	25	16	99.9	99.8	99.4	96.8	67.1		0.10
6	10 - 12	2.00		Gray and brown, SILTY CLAY, stiff, with calcareous nodules	C L	21.7											
7	12 - 14	3.75		Gray and brown, CLAY, very stiff, with silt partings	C H	17.4											
8	14 - 16	4.50		Brown, CLAY, hard, with silt partings	C H	20.4	106.7	128.5	55	20	100.0	100.0	100.0	100.0	100.0		1.45
9	16 - 17.5	4.50		Brown, CLAY, hard, with silt partings	C H	19.1											

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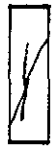
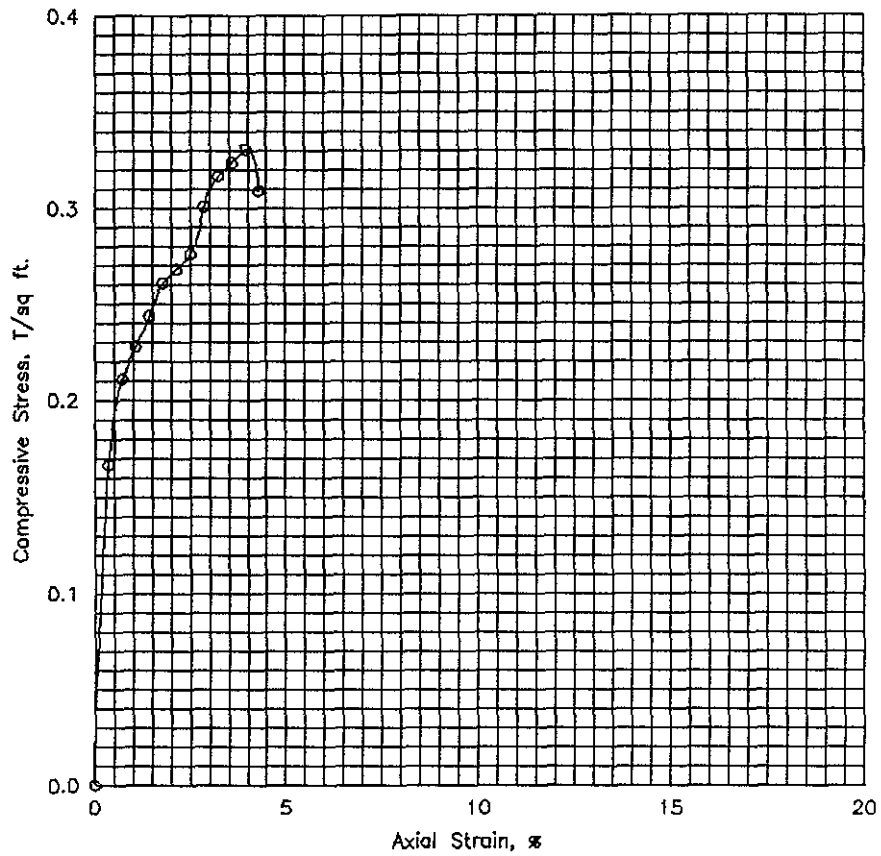
Job No. 14G404

Failure Sketches





☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_o	33.4 %	%	%	%
	Void ratio	e_o				
	Saturation	S_o	%	%	%	%
	Dry density, lb/cu ft	γ_d	86.1			
Time to failure, min		t_f	3.62			
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_o	2.825			
Initial specimen height, in.		H_o	5.590			

Classification Bluish green, Silty CLAY, stiff, with sand and calcareous nodules

LL	PL	PI	G_s
55	22	33	

Remarks

Project CHANNEL TO VICTORIA, TEXAS

Area Channel to Victoria in San Antonio Bay, Texas

Boring No. 90-60 | Sample No. 2

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

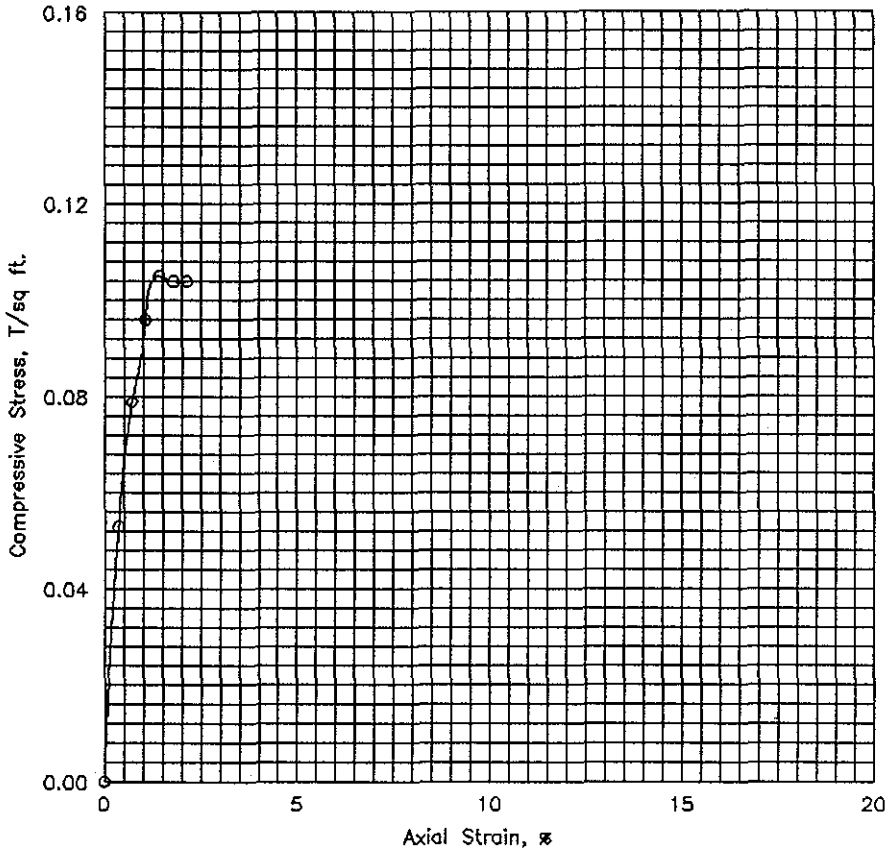
UNCONFINED COMPRESSION TEST REPORT

ENG FORM 3659
1 JUN 65

PLATE XI-2

Job No. 146404

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_o	21.1 %	%	%	%
	Void ratio	e_o				
	Saturation	S_o	%	%	%	%
	Dry density, lb/cu ft	γ_d	106.3			
Time to failure, min		t_f	1.33			
Unconfined compressive strength, T/sq ft		q_u	.10			
Undrained shear strength, T/sq ft		S_u	.05			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_o	2.825			
Initial specimen height, in.		H_o	5.590			

Classification Gray yellowish brown, Silty CLAY, stiff, with sand and calcareous nodules

LL	25	PL	16	PI	9	G_s	

Remarks

Project CHANNEL TO VICTORIA, TEXAS

Area Channel to Victoria in San Antonio Bay, Texas

Boring No. 90-60 | Sample No. 5

Depth El 8-10 ft | Date 8/1/90

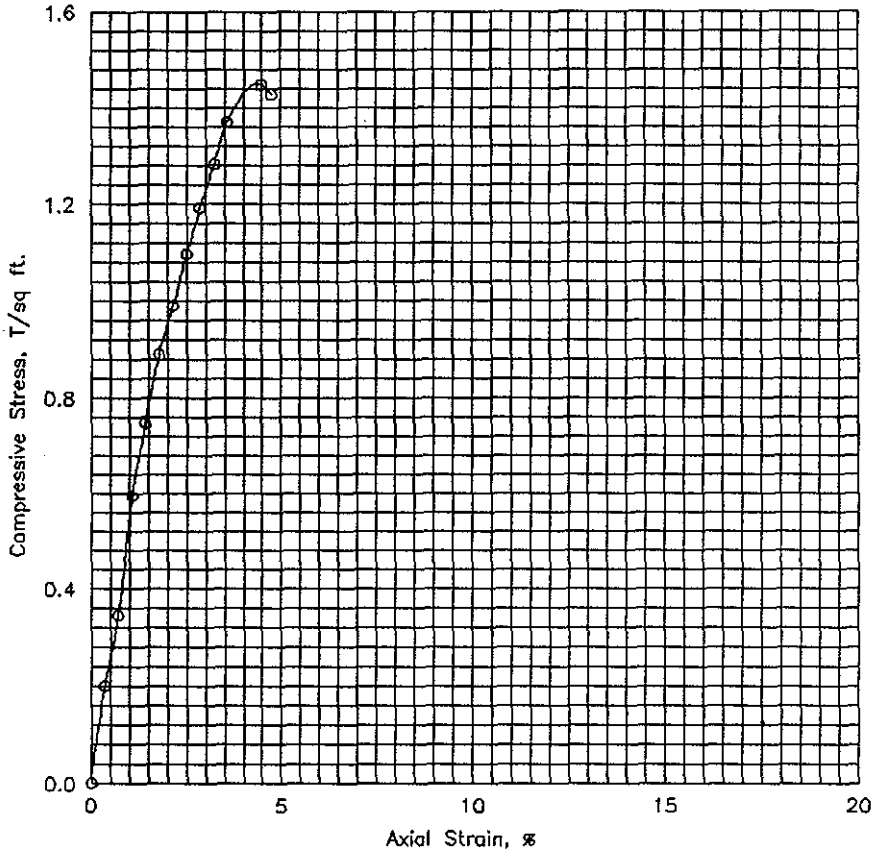
UNCONFINED COMPRESSION TEST REPORT

ENG FORM 3659
1 JUN 65

PLATE XI-2

Job No. 14G404

Failure Sketches



☐ Controlled stress
☒ Controlled strain

Test No.			1			
Type of Specimen			Undisturbed			
Initial	Water content	w_0	20.4 %	%	%	%
	Void ratio	e_0				
	Saturation	S_0	%	%	%	%
	Dry density, lb/cu ft	γ_d	106.7			
Time to failure, min		t_f	4.08			
Unconfined compressive strength, T/sq ft		q_u	1.45			
Undrained shear strength, T/sq ft		S_u	.72			
Sensitivity ratio		S_t				
Initial specimen diameter, in.		D_0	2.845			
Initial specimen height, in.		H_0	5.590			

Classification Brown, CLAY, hard, with silt partings, slickensided

LL	PL	PI	G_s
55	20	35	

Remarks

Project CHANNEL TO VICTORIA, TEXAS

Area Channel to Victoria in San Antonio Bay, Texas

Boring No. 90-60 | Sample No. 8

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

UNCONFINED COMPRESSION TEST REPORT

ENG FORM 3659
1 JUN 65

PLATE XI-2

Geotest Engineering, Inc.

PLATE