



**SOILS AND FOUNDATION ENGINEERS, INC.
GEOTECHNICAL CONSULTANTS**

BILLY R. PROCHASKA, P.E.

October 28, 2003

Rudy Simoneaux
DNR
Fax 342-6801

Re: Pecan Island Terraces
Boring Locations
SFE Job No. 00-154

BORING	LATITUDE	LONGITUDE
B-1	N 29° 39' 01"	W 92° 30' 56"
B-2	N 29° 39' 02"	W 92° 54' 25"
B-3	N 29° 38' 52"	W 92° 29' 14"
B-4	N 29° 38' 50"	W 92° 28' 14"
B-5	N 29° 38' 39"	W 92° 27' 40"
B-5	N 29° 38' 16"	W 92° 27' 14"
B-6	N 29° 38' 16"	W 92° 27' 14"
B-7	N 29° 38' 17"	W 92° 28' 17"
B-8	ELIMINATED	
B-9	N 29° 38' 18"	W 92° 29' 15"
B-10	ELIMINATED	
B-11	N 29° 38' 17"	W 92° 30' 19"
B-12	N 29° 38' 32"	W 92° 30' 55"

These coordinates were obtained with a hand held GPS and should be within 25 meters of the "true" position according to the manufacturer.

Should you have any further questions, please call.

Very truly yours,

SOILS AND FOUNDATION ENGINEERS, INC.

Billy R Prochaska, P.E.
President

FAX COVER SHEET



SOILS AND FOUNDATION ENGINEERS, INC.
 11519 Cloverland Avenue
 Baton Rouge, Louisiana 70809-4287

Phone (225) 751-1727
 Fax (225) 752-1467

Company Name AUCOIN & ASSOCIATES	From Billy R. Prochaska, P.E.
Attention MR. DARL AUCOIN, P.E., P.L.S.	Date 4/5/01
Office Location EUNICE, LOUISIANA	Office Location Baton Rouge, LOUISIANA
Fax Number 1-337-457-7366 1565	Phone Number (225) 751-1727

- FYI
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Total Pages, including cover:

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REFERENCE:



SOILS AND FOUNDATION ENGINEERS, INC.
GEOTECHNICAL CONSULTANTS

April 5, 2001

BILLY R. PROCHASKA, P.E.

Fax No. 337-457-7366

Mr. Karl Aucoin, P.E., P.L.S.
Aucoin Associates
P.O. Box 968
Eunice, Louisiana 70535

Re: Supplemental Analyses
Pecan Island Terraces
DNR Project 2511-00-03
SFE Job No. 00-154

Dear Karl;

We have conducted the additional work you requested. The results are attached on Figures 4 and 5.

The section was modified to a six foot "V" ditch, 20 foot berm and ten foot crest at elevation +4. The cut slope was 1(V):3(H) and the fill slope was 1(V):4(H). The +4 crest was to check the crest required to accommodate the estimated settlement.

As you can see the factors of safety for both the overall stability and the bearing capacity are lower than previously reported. As you know a factor of safety of 1.0 indicates incipient failure.

As we previously discussed a small test section should be constructed to see if the in-situ soils may have higher strength than measured due to sample disturbance.

This transmittal should be attached to and become a part of our original report.

If we can be of further assistance, please call.

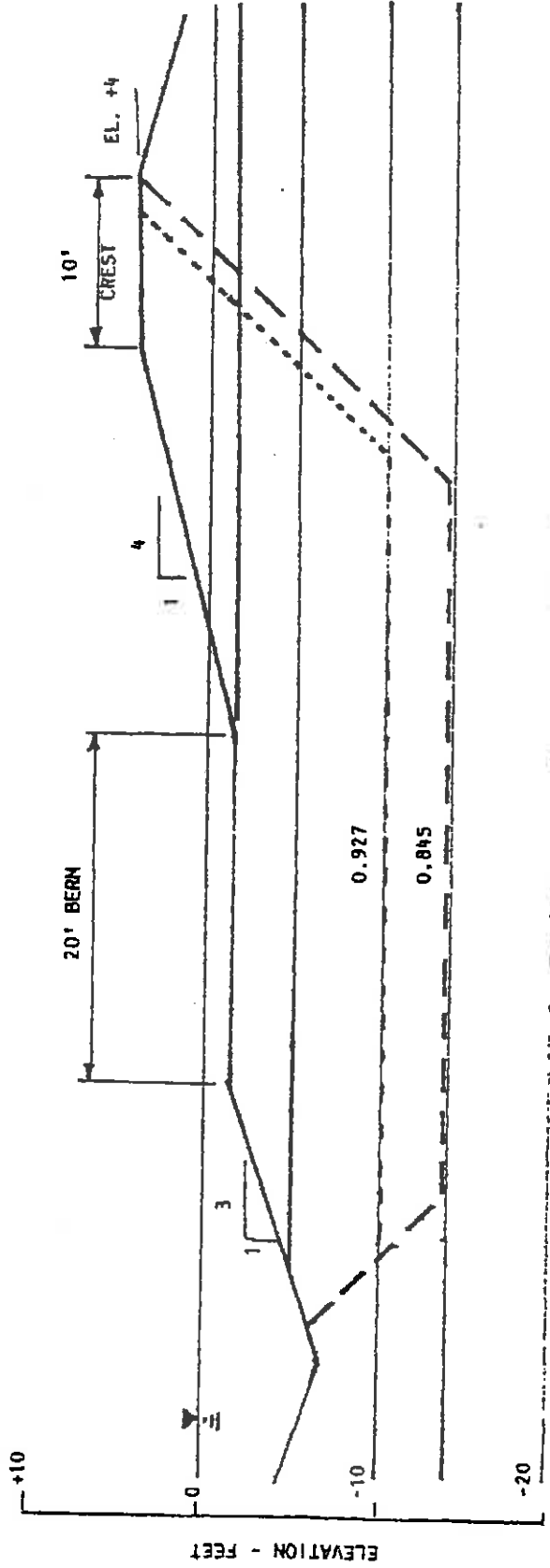
Very truly yours,

SOILS AND FOUNDATION ENGINEERS, INC.

Billy R. Prochaska, P.E.

BRP/mtp

Enclosures: Figures 4 and 5



SEE FIGURE 3
OF ORIGINAL REPORT
FOR SOIL STRENGTHS

OVERALL STABILITY

BY: BRP

DATE: 4/5/01

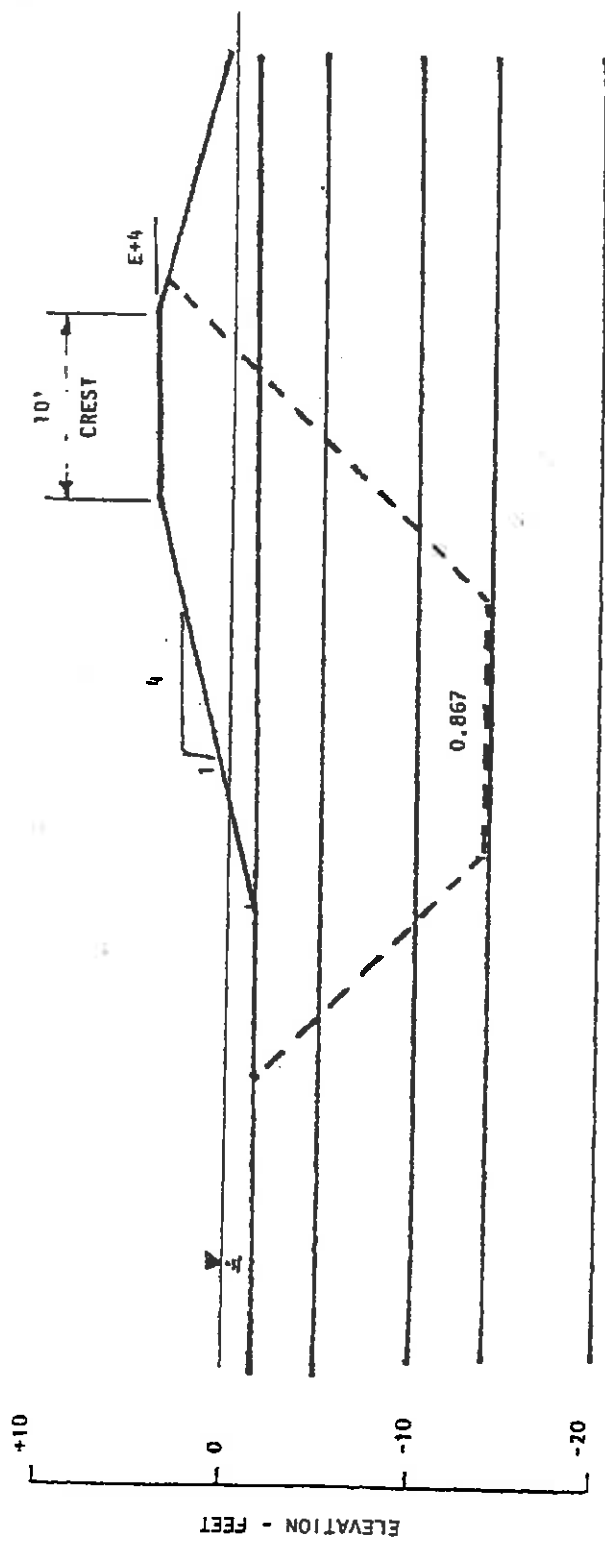
SUPPLEMENTAL ANALYSES
PECAN ISLAND TERRACES

SOILS AND FOUNDATION ENGINEERS, INC.
BATON ROUGE, LOUISIANA

SFE

JOB NO. 00-154

FIGURE: 4



SEE FIGURE 3
ORIGINAL REPORT
FOR SOIL STRENGTHS

BEARING CAPACITY

BY: BRP

DATE: 4/5/01

SUPPLEMENTARY ANALYSES
PECAN ISLAND TERRACES

SOILS AND FOUNDATION ENGINEERS, INC.
BATON ROUGE, LOUISIANA

JOB NO. 00-154

FIGURE: 5

**REPORT OF GEOTECHNICAL SERVICES
PECAN ISLAND TERRACES
VERMILLION PARISH, LOUISIANA
DNR PROJECT NO. 2511-00-03**

FOR

**AUCOIN & ASSOCIATES
EUNICE, LOUISIANA**



SOILS AND FOUNDATION ENGINEERS, INC.

GEOTECHNICAL CONSULTANTS

**BATON ROUGE, LOUISIANA
LAFAYETTE, LOUISIANA**



SOILS AND FOUNDATION ENGINEERS, INC.
GEOTECHNICAL CONSULTANTS

BILLY R. PROCHASKA, P.E.

March 27, 2001

Aucoin & Associates
433 North C.C. Duson Street
P.O. Box 968
Eunice, Louisiana 70535

Attn: Karl Aucoin, P.E.

Re: Report of Geotechnical Services
Pecan Island Terraces
Vermillion Parish
SFE Job No. 00-154
DNR Project No. 2511-00-03

Gentlemen:

Please find herein the results of the work authorized by your contract.

SITE CONDITIONS

The project area is located south of LA 82 in the Pecan Island Community in Vermillion Parish, Louisiana.

The area was previously surrounded by a levee and drained by a system of canals and a pump station. At the present time the levees on the south side have been degraded or eroded and the area is now flooded. The general elevation within the project area is 1.0 to 1.5 feet below sea level.

At the time of this field work the wind was from the south and the average depth of water was approximately 2 feet.

SUBSURFACE STRATIGRAPHY

At the mudline, the borings encountered approximately one foot of very soft organic clay underlain by very soft to soft clay. This material had silty fine sand/sandy silt lenses and shell fragments. In Borings B-7 and B-12 the soils in the zone between approximate elevations -12 and -16 were extremely weak, shear strength of 30 to 50 PSF.

Below approximate elevation -20 the soils contained increasing amounts of sand and shell with Borings B-5 and B-9 terminating in silty fine sand and shell fragments. In Boring B-1 the last foot was soft organic clay.

Idealized Subsoil Profiles have been developed and are presented on Figure 2 to assist in visualizing the stratigraphy. Details of the stratigraphy and laboratory testing are shown on the boring logs in Appendix A.

PROPOSED CONSTRUCTION

The proposed terraces must have heights sufficient to minimize over-topping by normal wave action. In addition, sufficient width will have to be incorporated into the design to allow for the erosion that will occur until vegetation is established or the slopes will have to be provided with erosion protection.

In the analyses presented herein, we have assumed that embankments will be constructed using a bucket dredge. It is our opinion that this will result in less impact on the water quality and will require handling less material.

If a suction dredge were used, the materials would be slurried and the embankment slopes would be 1(V):20(H) or flatter. The dredge water would cause serious impact on the water quality.

A suction dredge does have the advantage of being able to place the material a long distance away from the borrow source. However, at this site a channel would have to be developed to get this equipment on the site.

HEIGHT

Since the construction will be in a limited depth of water, we estimate the embankments should stand two or more feet above normal high tide.

Allowance For Settlement. Based on the consolidation tests conducted, the settlements under the center of a 4.5 foot high embankment (with unit weight of 85 PCF) will be approximately 1.25 feet. Settlements will also occur within the embankment materials since no compactive effort is anticipated to consolidate the fill.

STABILITY OF EMBANKMENTS

Conventional (limit equilibrium) slope stability analyses were conducted to determine the stability of cut and fill slopes. Bearing capacity, as manifested in mud waves, must also be considered. In the crudest form, neglecting the side slopes and shear strength of the fill, the maximum height of fill is equal to 5.2 times the shear strength divided by the weight of fill.

Cut slopes of 1(V):2(H) eight feet high have a calculated factor of safety of 1.5 or greater based on the analyses by the Janbu Method of Generalized Slices assuming and Rankine failure surface. This steep slope is possible since the cut will be fully submerged. In our analyses, we have assumed the

fill would be placed on a 1(V):4(H) slope and limited to a height of 4.5 feet as the bearing capacity, embankment failure, has a factor of safety very near 1.0.

While the computer analyses indicate the 4.5 foot maximum height of fill, past experience indicates the terraces can be constructed somewhat higher if necessary since localized failure will not endanger life or property. The writer observed construction of levees in excess of five high on the north side of the cheniere in 1960.

The modes of failure analyses are shown on Figure 3 along with the range of safety factors calculated.

Due to the extremely weak soils in the area of Borings B-7 and B-12, it may be advisable to layout the terraces so construction will not occur in these general areas.

STAGED CONSTRUCTION

Due to the magnitude of settlement in both the natural soils (between one and 1.5 feet) and the fill, as well as the limited bearing capacity of the natural soils, it may be necessary to construct the embankments in stages. The initial lift can be placed 3 to 4 feet thick with the berm 40 feet wide and still have an adequate factor of safety against general shear failure (slope stability analyses).

Based on the consolidation tests, the very soft organic materials will require up to 5 years to reach 90% of primary consolidation. If additional fill were placed at that time, the factor of safety at the end of placement should be in excess of 1.00 against shear failure.

CONCLUSIONS

Due to the low shear strengths and high compressibility, a staged construction technique may be required to construct the embankments higher than elevation +3 on the existing soils.

Four and one half feet of material can be placed and allowed to settle and to consolidate the existing soils. After a period of time, the strength of the fill and the native soils should be determined. Based on those strengths a second lift could be placed after the shear strength of the terrace and underlying soils have been determined.

If this were a land site piezometers and settlement plates could be used to monitor the consolidation and strength gain process. At this site, the plates and piezometers cannot be protected from the elements nor can the elevations be easily determined. Therefore, future sampling and laboratory testing or some reliable means of in situ strength testing is envisioned to determine the strength gains.

LIMITATIONS

These interpretations and analyses are based on site conditions, surface and subsurface, as determined by the limited number of widely spaced borings. The assumption has been made that the exploratory borings in relation to area of construction, and depth of borings, are representative of subsurface conditions throughout the project area.

The recommendations presented in this report are dependent on construction methods and procedures. Sound engineering judgement must be followed when applying the recommendations to designs, plans and also at the time of construction monitoring. If during future exploration or construction, subsurface conditions are found to vary considerably from those discussed herein, **SOILS AND FOUNDATION ENGINEERS, INC.** should be notified. Review and/or revision as necessary, of pertinent interpretations, and analyses and recommendations and design plans can then be undertaken.

Should you have any questions concerning these analyses please call.

It has been a pleasure seeing you on this project and we look forward to serving you in the future.

Very truly yours,

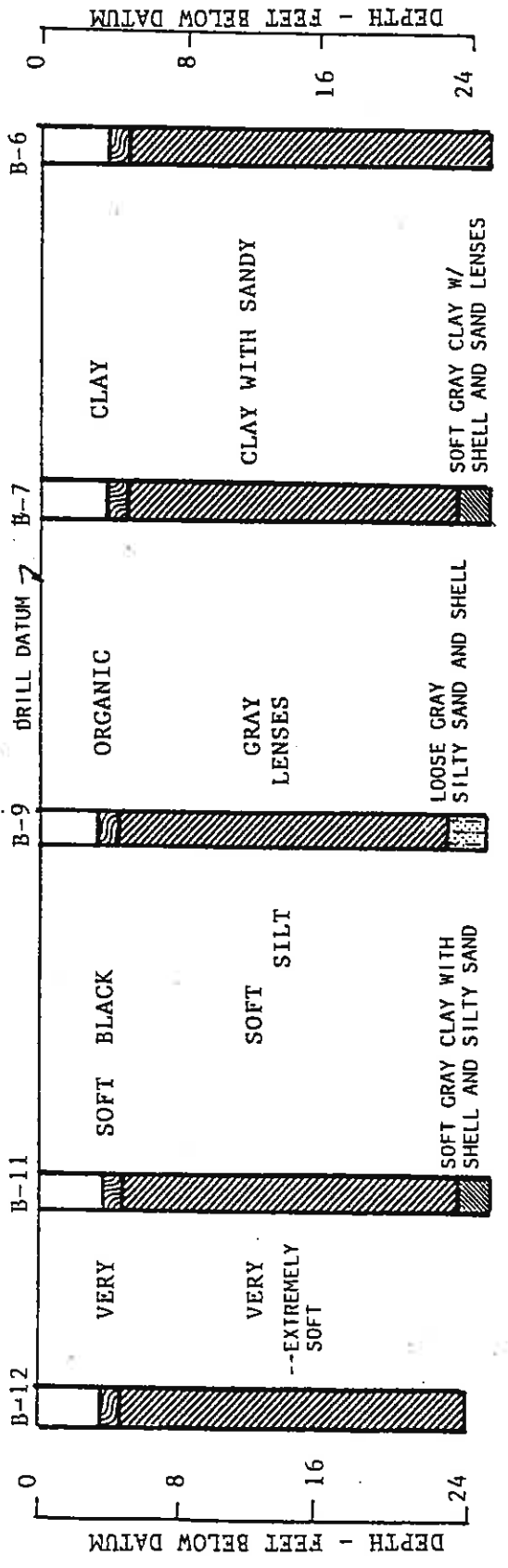
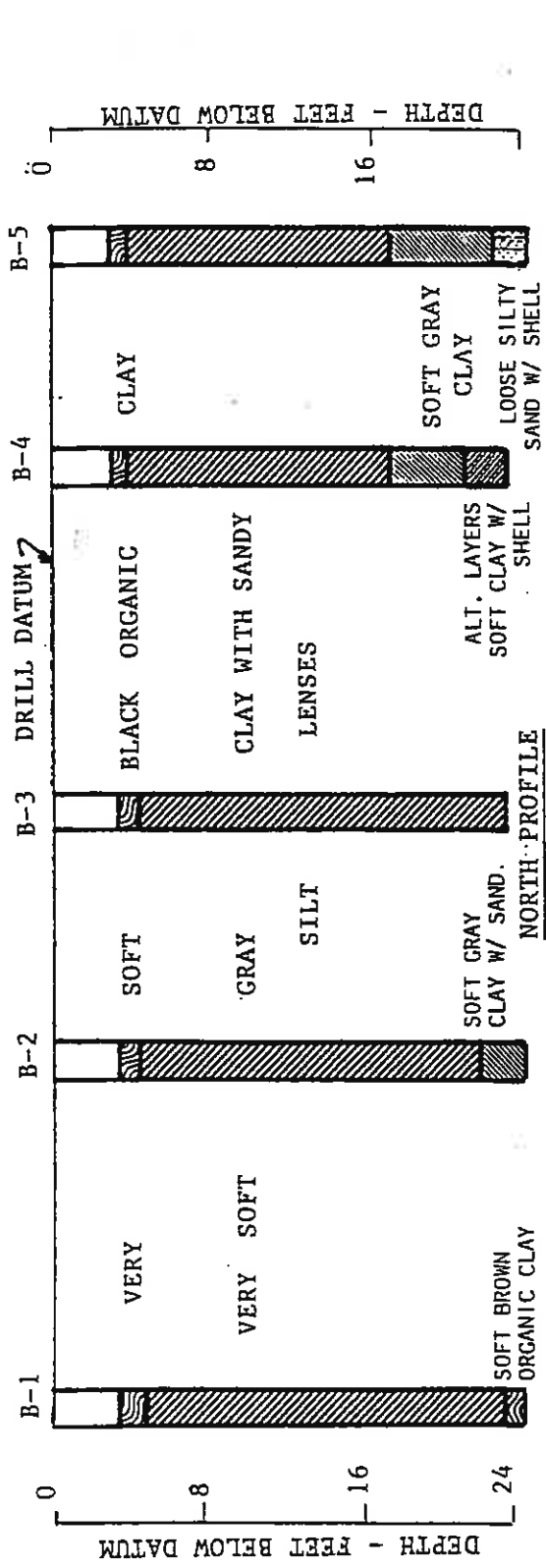
SOILS AND FOUNDATION ENGINEERS, INC.



Billy R. Prochaska, P.E.

BRP:tdw

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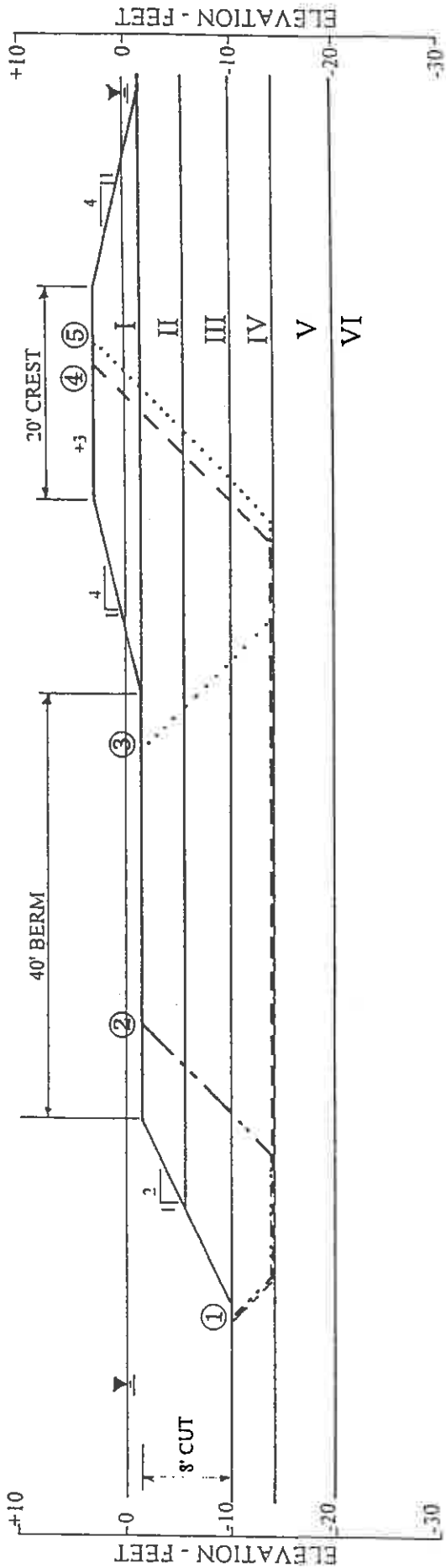
SUBSOIL PROFILES
PECAN ISLAND TERRACES

BY: BRP
DATE: 3/26/01

JOB NO. 00-154
FIGURE: 2

SOIL LEGEND			
	COHESION PSF	WET DENSITY PSF	
I	50	85	TERRACE FILL
II	100	90	VERY SOFT BLACK CLAY
III	70	86	VERY SOFT GRAY CLAY
IV	50	89	EXTREMELY SOFT GRAY CLAY
V	90	86	VERY SOFT GRAY CLAY
VI	150	94	SOFT TO VERY SOFT CLAY W/ SAND AND SHELL

RANGE OF SAFETY FACTORS	
SURFACE	FS
①-②	1.58 TO 1.89
①-③	1.04 TO 1.33
③-⑤	1.09 TO 1.20



STABILITY ANALYSES

APPENDIX A

APPENDIX A

SUBSURFACE EXPLORATION AND LABORATORY TESTING PROGRAM

SUBSURFACE EXPLORATION

General. Ten (10) exploratory soil test borings were drilled on the site during the period of February 13 and 14, 2001. The approximate locations of the borings are shown on Figure 1.

Sampling. Samples were obtained continuously in the upper reaches and then on 3 to 5 foot centers using conventional drilling methods. The total footage drilled was 252 lineal feet. Detailed logs of the borings are attached.

Undisturbed samples were recovered from the various cohesive materials with a 3 inch diameter thin walled Shelby tube (ASTM D-1587). Penetrometer readings were made as a relative measure of the soil's strength. The tubes were then wrapped and sealed to preserve their natural characteristics during transportation to the laboratory for physical testing.

Disturbed samples of the soils were obtained by pushing the slit spoon of Standard Penetration Test (ASTM D-1586). These samples were placed in plastic bags to transport to the laboratory.

LABORATORY TESTING PROGRAM

Soil mechanics laboratory tests were performed on selected samples representative of the various strata to define their physical characteristics. Thirty-eight (38) Shelby tube samples were extruded in the laboratory.

Undrained Strength Tests. Compressive strength determinations were made on samples from the various strata to determine the undrained strength of the soils.

Unconfined Compression. Twenty-nine (29) unconfined compression tests (ASTM D-2166) were conducted on the clay soils.

Unconsolidated-Undrained Triaxial Compression. Five (5) unconsolidated-undrained triaxial compression (ASTM D-2850) tests were conducted to determine the strength under in situ confining pressures.

Classification Tests. These tests are performed to classify the subsoils more accurately than attained by field methods.

Atterberg Limits Determination. Thirty-one (31) Atterberg Liquid and Plastic Limit determinations (ASTM D-4318) were made.

Individual Dry Density Test. One (1) individual dry density determination (applicable portions of ASTM D-2166) was made.

Individual Moisture Content. Nine (9) individual moisture content determinations (ASTM D-2216) were made.

Mechanical analysis. One (1) sample was subjected to gradation wet sieve analysis to determine the percentage passing the #200 sieve.

Consolidation Test. Four (4) consolidation tests (ASTM D-2435) were conducted to determine the compressibility characteristics of the soils. These test results are shown on figures A-1 through A-4.

The results of the laboratory tests are presented in the appropriate columns of the Boring Logs and on Figures A-1 through A-4.



PROJECT
FOR

BORING LOG

BORING _____

JOB NO. _____

DATE _____

TECHNICIAN _____

DRILLER _____

RIG _____

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Drill Method:					Symbol	MATERIAL CLASSIFICATION
			Initial Water Level:						
			Compressive Strength (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	Atterberg			
LL	PI								
5									
10									
15									
20									
25									
30									
35									
40									

Description of strata as follows:
Strength (or Consistency), Color, Minor Constituent, Major Constituent, additional observations.

Field evaluation of shear strength/relative density:
Standard Penetration Test (ASTM D-1586) in Blows/Ft.
Pocket penetrometer readings in Tons/Sq. Ft.

Graphical presentation of material type:

Clay
 Silt
 Sand
 Gravel or Shell

LABORATORY INFORMATION

As determined by Unconfined Compression (ASTM D-2166 or Undrained Triaxial (ASTM D-2850), if noted.

Determined using applicable portions of ASTM D-2166 and ASTM D-2216.

Determined using ASTM D-2216 or D-4959.

Determined using ASTM D-4318. Provides data for application of Unified Classification System (UCS).

COMMENTS:

- Shelby Tube Sample
- Split-spoon Sample
- Auger Sample
- Sealed in Tube
- No Recovery

Sample recovery method.

BORING LOG



PROJECT Pecan Island Terraces
 Vermillion Parish
FOR Aucoin & Associates, Inc.
 Eunice, LA

BORING E-1
JOB NO. 00-154
DATE 02/14/01
TECHNICIAN BRP

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Drill Method: Wet Rotary - Full Depth				DRILLER RJ		Symbol	MATERIAL CLASSIFICATION
			Initial Water Level:				RIG AIRBOAT			
			Compressive Strength (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	Atterberg				
		LI	PI							
			PSF						3.3' DECK TO MUDLINE 1.8' WATER	
5		0.12	0.20 (1) 460	135	38				VERY SOFT BLACK ORGANIC CLAY (OH)	
10		0.09	0.16 (4) 370	129	38				VERY SOFT GRAY CLAY with organic traces	
15		0.15	0.23 (5) 460	112	43				--with silt lenses	
20		0.16	0.22 (7.5) 440	117	42				--with silty sand lenses	
25		0.28	0.43 860	86	54				(CH) SOFT DARK BROWN ORGANIC CLAY (OH)	
30									Bottom 25' Below Deck	

() = Confining Pressure (PSI) in
UU Triaxial test

COMMENTS:

- Shelby Tube Sample
- Split-spoon Sample
- Auger Sample
- Sealed in Tube
- No Recovery

BORING LOG



PROJECT Pecan Island Terraces
 Vermillion Parish
FOR Aucoin & Associates, Inc.
 Eunice, LA

BORING B-2
JOB NO. 00-154
DATE 02/14/01
TECHNICIAN BRP

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Drill Method: Wet Rotary - Full Depth					Initial Water Level:		MATERIAL CLASSIFICATION
			Compressive Strength (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	Atterberg		DRILLER RJ	RIG AIRBOAT	
						LL	PI			
									3.5' DECK TO MUDLINE 2.0' WATER	
5		0.03	0.12 245	107	43	125	56		VERY SOFT BLACK ORGANIC CLAY (OH)	
10	No Recovery Push Split Spoon			137		135	101		VERY SOFT GRAY CLAY	
15		0.01	0.16 325	119	40					
20		0.14	0.24 480	78	55					
25	Push Split Spoon			37		33	12		SOFT GRAY CLAY WITH SAND LAYERS TO SANDY CLAY (CL)	
Bottom 25' Below Deck										

COMMENTS:

- Shelby Tube Sample
- Split-spoon Sample
- Auger Sample
- Sealed in Tube
- No Recovery

BORING LOG



PROJECT Pecan Island Terraces
 Vermillion Parish
FOR Aucoin & Associates, Inc.
 Eunice, LA

BORING B-3
JOB NO. 00-154
DATE 02/13/01
TECHNICIAN BRP

DRILLER RJ
RIG AIRBOAT

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Drill Method: Wet Rotary - Full Depth					Initial Water Level:		MATERIAL CLASSIFICATION
			Compressive Strength (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	Atterberg		Symbol		
						LL	PI			
									3.5' DECK TO MUDLINE 2" WATER	
5		0.00		77	52				VERY SOFT BLACK ORGANIC CLAY (OH)	
8		0.17	0.10 200	87	46	135	99		VERY SOFT GRAY CLAY with silty sand lenses	
13		0.25	0.25 500	35	89				--with sand	
18		0.23	0.18 (7.5) 300	77	57	58	36		(CH)	
23		No Recovery							Bottom 24' Below Deck	

() = Confining Pressure (PSI) in UU Triaxial test

COMMENTS:

- Shelby Tube Sample
- Split-spoon Sample
- Auger Sample
- Sealed in Tube
- No Recovery



PROJECT Pecan Island Terraces
 Vermillion Parish
 FOR Aucoin & Associates, Inc.
 Eunice, LA

BURING LOG

BORING B-4
 JOB NO. 00-154
 DATE 02/13/01
 TECHNICIAN BRP

DRILLER RJ
 RIG AIRBOAT

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Drill Method: Wet Rotary - Full Depth				Atterberg		Symbol	MATERIAL CLASSIFICATION
			Initial Water Level:	Compressive Strength (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI		
			PCF						3.0' DECK TO MUDLINE 15' WATER	
5	Shelby Tube Sample	0.25	0.11 220	93	48	120	81		VERY SOFT BLACK ORGANIC CLAY (OH)	
	Shelby Tube Sample	0.00	0.12 240	102	45	124	89		VERY SOFT GRAY CLAY	
10	Shelby Tube Sample	--	0.11 220	119	42	88	60		--with silty sand lenses	
15	No Recovery	No Recovery							(CH)	
20	Shelby Tube Sample	0.50	0.31 620	67	59				SOFT GRAY CLAY with silty sand lenses and pockets (CH)	
25	Pushed Split Spoon	Pushed Split Spoon		27					ALTERNATING LAYERS OF SOFT GRAY CLAY AND SHELL (CH-SH)	
30									Bottom 24' Below Deck	

COMMENTS:

- Shelby Tube Sample
- Split-spoon Sample
- Auger Sample
- Sealed in Tube
- No Recovery

BORING LOG



PROJECT Pecan Island Terraces
 Vermillion Parish, LA
FOR Aucoin & Associates, Inc.
 Eunice, LA

BORING B-5
JOB NO. 00-154
DATE 02/14/01
TECHNICIAN BRP

DRILLER RJ
RIG AIRBOAT

Drill Method: Wet Rotary - Full Depth

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Initial Water Level:				Atterberg		Symbol	MATERIAL CLASSIFICATION
			Compressive Strength (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)		LL	PI		
			PSF						3' DECK TO MUDLINE 1.5' WATER	
5	Shelby Tube Sample	0.25	0.22 220	69	54	114	63		VERY SOFT BLACK ORGANIC CLAY (OH)	
10	Shelby Tube Sample	0.11	0.11 220	117	41	125	89		VERY SOFT GRAY CLAY	
15	Shelby Tube Sample	0.14	0.14 280	91	47	127	97			
20	Shelby Tube Sample	0.25	0.31 620	75	55				SOFT GRAY CLAY (CH)	
25	Pushed Split Spoon			33		NP			LOOSE SILTY SAND AND SHELL (CH-SH)	
30									Bottom 25' Below Deck	

COMMENTS:

- Shelby Tube Sample
- Split-spoon Sample
- Auger Sample
- Sealed in Tube
- No Recovery

BORING LOG



PROJECT Pecan Island Terraces
 Vermillion Parish, LA
FOR Aucoin & Associates, Inc.
 Eunice, LA

BORING B-6
JOB NO. 00-154
DATE 02/14/01
TECHNICIAN BRP

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Drill Method: Wet Rotary - Full Depth					Initial Water Level:		MATERIAL CLASSIFICATION
			Compressive Strength (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	Atterberg		Symbol		
						LL	PI			
			PSF						4' DECK TO MUDLINE 2.5' WATER	
5		0.12	0.20 450	121	39	159	115		VERY SOFT BLACK ORGANIC CLAY (OH)	
10		0.08	0.08 160	132	37	140	97		VERY SOFT GRAY CLAY	
15		0.09	0.14 280	120	39	127	97		--with silt lenses	
20			0.11 220	90	51	94	63		--with shell fragments	
25	X	Pushed Split Spoon		77		85	60		(CH)	
Bottom 26' Below Deck										

COMMENTS:

- Shelby Tube Sample
- Sealed in Tube
- Split-spoon Sample
- No Recovery
- Auger Sample

BORING LOG



PROJECT Pecan Island Terraces
 Vermillion Parish, LA
FOR Aucoin & Associates, Inc.
 Eunice, LA

BORING B-7
JOB NO. 00-154
DATE 02/14/01
TECHNICIAN BRP

DRILLER RJ
RIG AIRBOAT

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Drill Method: Wet Rotary - Full Depth					Initial Water Level:		MATERIAL CLASSIFICATION
			Compressive Strength (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	Atterberg		Symbol		
						LL	PI			
			PSF						4' DECK TO MUDLINE 2.5' WATER	
5	[Solid Black]	0.09	0.12 240	88	50	169	115	[Diagonal Hatching]	VERY SOFT BLACK ORGANIC CLAY (OH)	
10	No Sample (1)							[Diagonal Hatching]	VERY SOFT GRAY CLAY	
15	[Solid Black]	0.06	0.05 100	149	35	141	95	[Diagonal Hatching]	EXTREMELY SOFT --with silty sand lenses	
20	[Solid Black]	0.15	0.11 220	69	55	79	50	[Diagonal Hatching]	(CH)	
25	[X in Box]	Pushed Split Spoon		34		32	14	[Diagonal Hatching]	SOFT GRAY CLAY with shell and sand layers (CL)	
30									Bottom 26' Below Deck	

(1) Drilled Through Sample Zone

COMMENTS:

- Shelby Tube Sample
- Split-spoon Sample
- Auger Sample
- Sealed in Tube
- No Recovery

BORING LOG



PROJECT Pecan Island Terraces
 Vermillion Parish, LA
 FOR Aucoin & Associates, Inc.
 Eunice, LA

BORING 6-9
 JOB NO. 00-154
 DATE 02/14/01
 TECHNICIAN BRP

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Drill Method: Wet Rotary - Full Depth					DRILLER <u>RJ</u>		MATERIAL CLASSIFICATION
			Initial Water Level:					RIG <u>AIRBOAT</u>		
			Compressive Strength (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	Atterberg		Symbol		
			LL	PI						
									3.5' DECK TO MUDLINE 2' WATER	
5		0.25	0.12 240	87	53				VERY SOFT BLACK ORGANIC CLAY (OH)	
10			0.07 140	140	35	132	92		VERY SOFT GRAY CLAY	
15		0.09	0.14 280	120	39	142	92		--with silty sand lenses	
20		0.06	0.09 180	107	54	138	98		(CH)	
25	X	Pushed Split Spoon		21					LOOSE GRAY SILTY SAND AND SHELL (SP)	
30									Bottom 25.5' Below Deck *16% Passing No. 200 sieve	

COMMENTS:

- Shelby Tube Sample
- Sealed in Tube
- Split-spoon Sample
- No Recovery
- Auger Sample

BORING LOG



PROJECT Pecan Island Terraces
 Vermillion Parish, LA
 FOR Aucoin & Associates, Inc.
 Eunice, LA

BORING B-11
 JOB NO. 00-154
 DATE 02/14/01
 TECHNICIAN BRP

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Drill Method: Wet Rotary - Full Depth				Atterberg		Symbol	MATERIAL CLASSIFICATION
			Compressive Strength (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	LL	PI			
			Initial Water Level:				DRILLER <u>RJ</u>			
									RIG <u>AIRBOAT</u>	
										3.75' DECK TO MUDLINE 2.3' WATER
5		No Recovery (1)								(BLACK ORGANIC CLAY SMEAR ON SHELBY TUBE)
10		0.11	0.09 130	129	38					EXTREMELY SOFT GRAY CLAY
15		0.12	0.12 210	123	39	125	56			--soft
20		0.13	0.14 280	109	43	94	59			--with silty sand lenses
25		Pushed Split Spoon		50		52	34			SOFT GRAY CLAY with shell fragment and sand layers (CH)
30										Bottom 26' Below Deck (1) Very soft bottom, spuds penetrated very easily

COMMENTS:

- Shelby Tube Sample
- Sealed in Tube
- Split-spoon Sample
- No Recovery
- Auger Sample

BORING LOG



PROJECT Pecan Island Terraces
 Vermillion Parish, LA
FOR Aucoin & Associates
 Eunice, LA

BORING B-12
JOB NO. 00-154
DATE 02/14/01
TECHNICIAN BRP

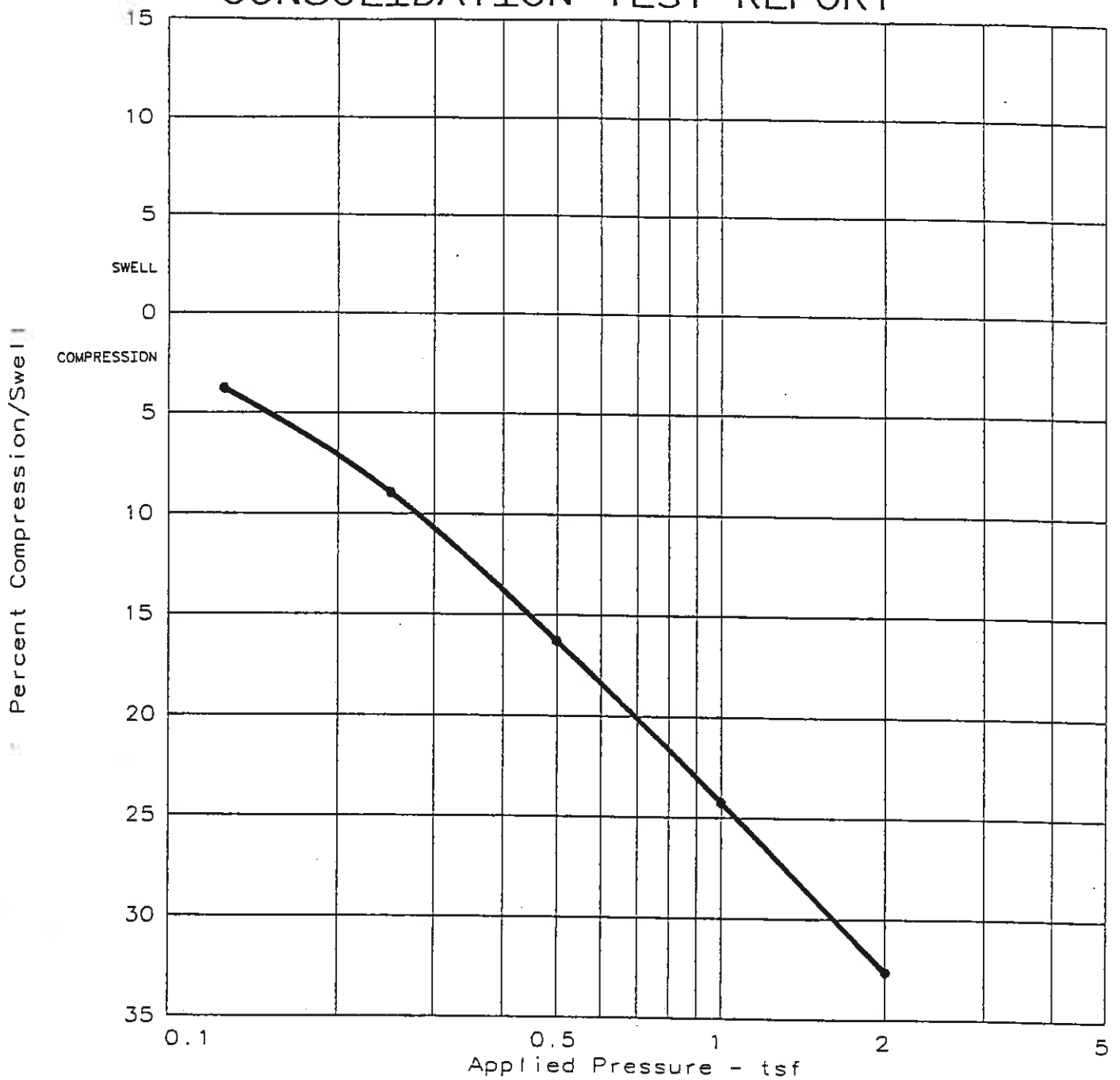
DRILLER RJ
RIG AIRBOAT

DEPTH (FEET)	SAMPLE	Standard Penetration (Blows/Ft.) or Penetrometer (TSF)	Drill Method: Wet Rotary - Full Depth				Atterberg		Symbol	MATERIAL CLASSIFICATION
			Compressive Strength (TSF)	Moisture Content (%)	Dry Unit Weight (PCF)	Initial Water Level:	LL	PI		
									3.5' DECK TO MUDLINE 2' WATER	
5		0.05	0.13 260	120	41	151	109		VERY SOFT BLACK ORGANIC CLAY (OH)	
10		0.08	0.08 160	145	35	140	100		VERY SOFT GRAY CLAY	
15		0.09	0.03 60	145	35	135	95		--extremely soft	
20		0.11	0.10 200	87	50				--with silty sand lenses	
25	X	Pushed Split Spoon		46		55	34		--with sand layers	
30									(CH) Bottom 24.5' Below Deck	

COMMENTS:

- Shelby Tube Sample
- Sealed in Tube
- X Split-spoon Sample
- No Recovery
- Auger Sample

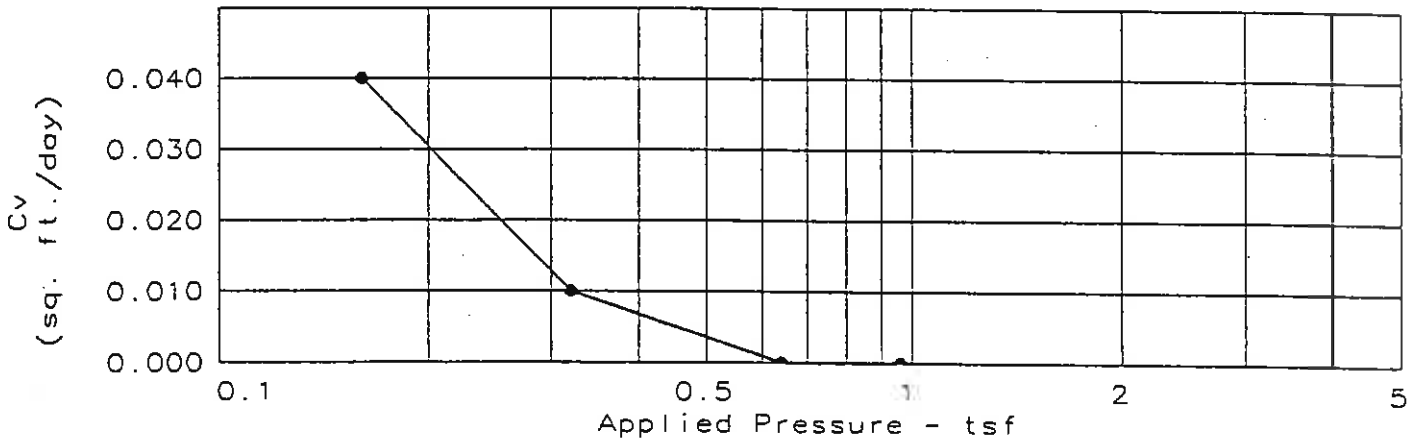
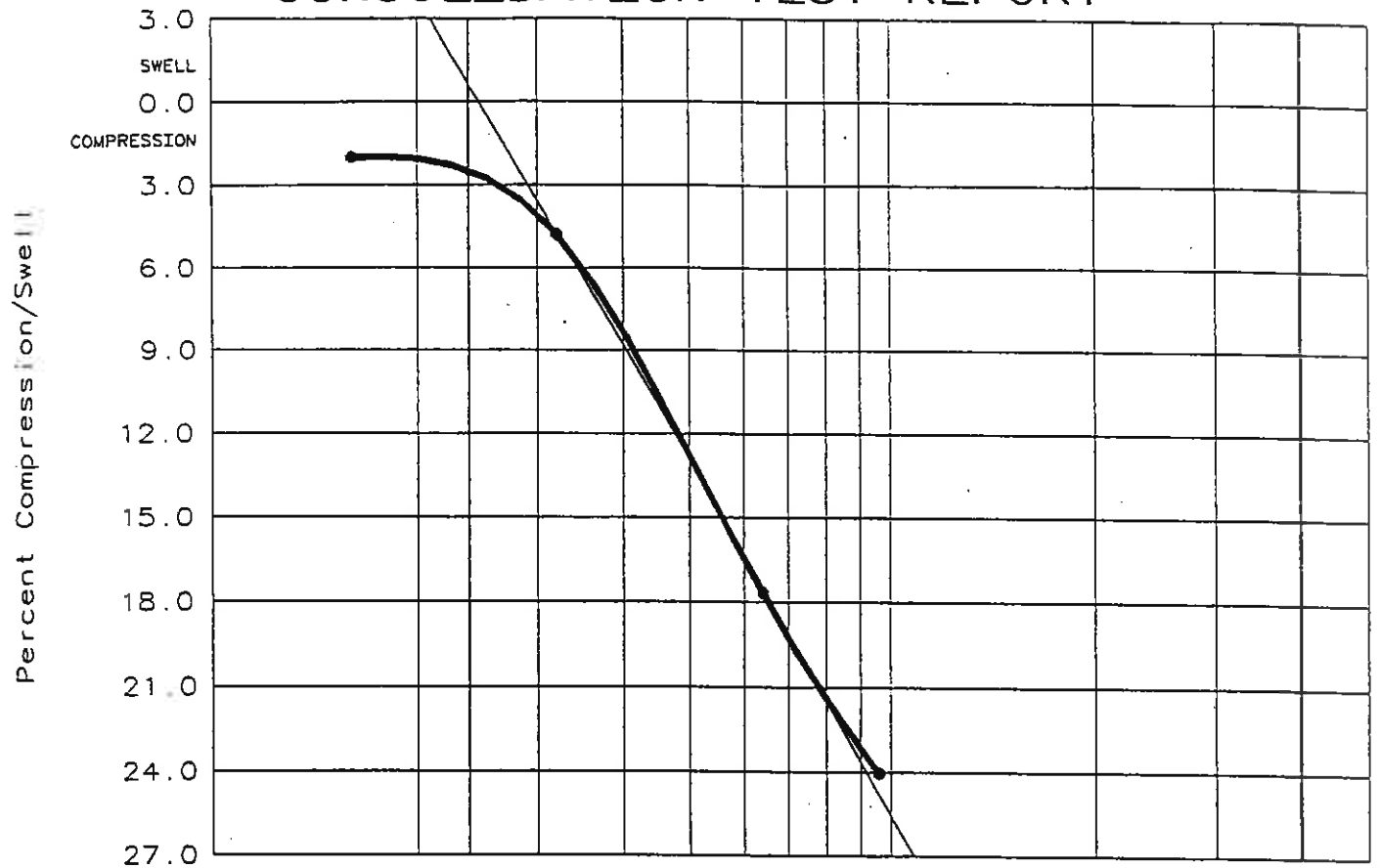
CONSOLIDATION TEST REPORT



Natural Saturation	Natural Moisture	Dry Dens. (pcf)	LL	PI	Sp.Gr.	Precons. (tsf)	C _c	e ₀
98.1 %	107.0 %	42.3	125	96	2.600		1.12	2.8365

TEST RESULTS	MATERIAL DESCRIPTION
Compression Index = 1.12	SOFT BLACK CLAY W/ORG BECOMING GRAY CLAY Class: OH-CH
Project No.: 00-154 Project: PECAN ISLAND TERRACES Location: VERMILION PARISH, LOUISIANA Date: 3/36/01	Remarks: BORING B-2 DEPTH 3.5-5.5'
CONSOLIDATION TEST REPORT SOILS AND FOUNDATION ENGINEERS, INC.	Fig. No. A-1

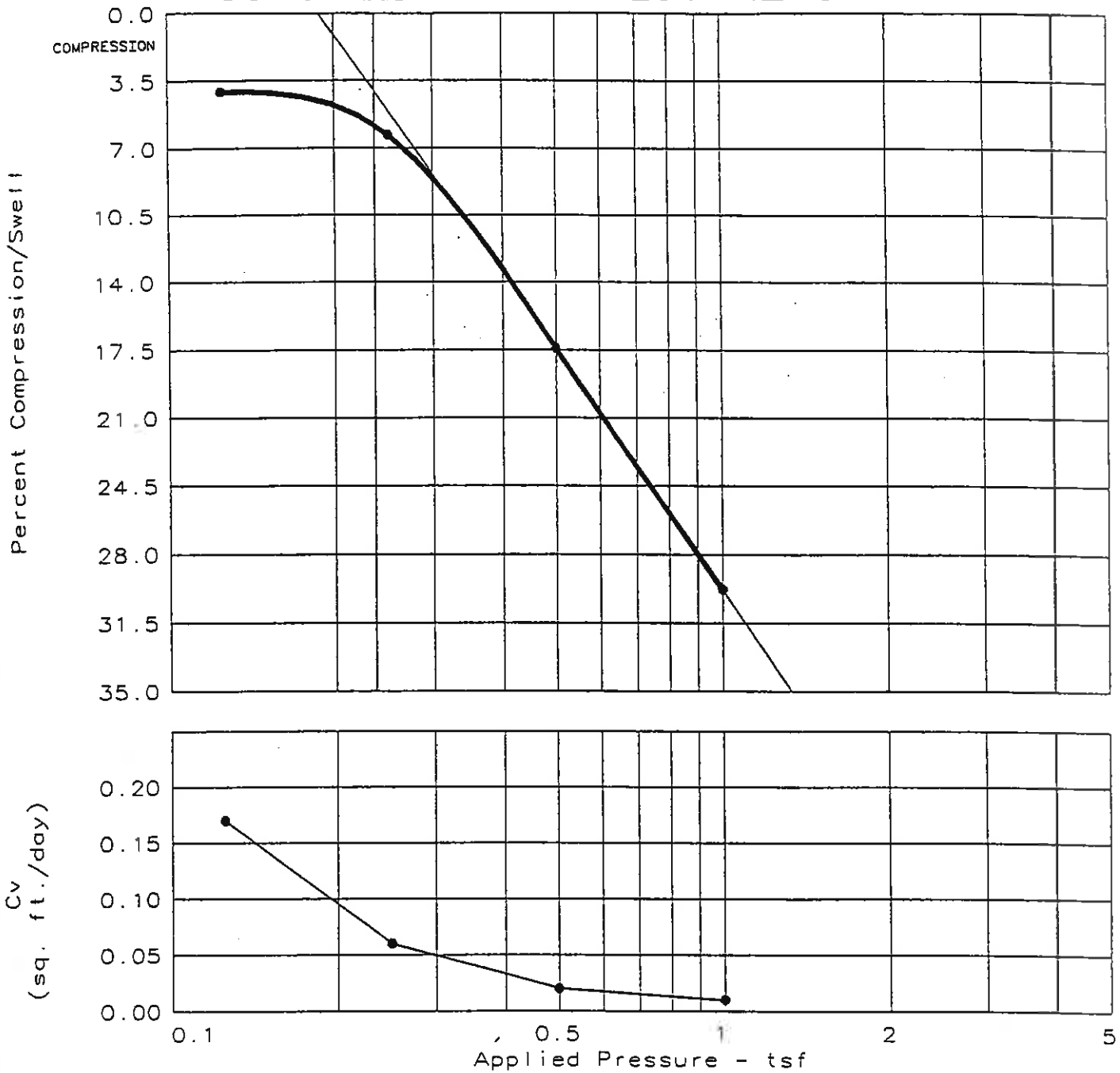
CONSOLIDATION TEST REPORT



Natural Saturation	Natural Moisture	Dry Dens. (pcf)	LL	PI	Sp.Gr.	Precons. (tsf)	Cc	e ₀
100.8 %	118.6 %	40.5	88	66	2.750	0.29	1.78	3.2367

TEST RESULTS	MATERIAL DESCRIPTION
Compression Index = 1.78	VERY SOFT GRAY CLAY
Project No.: 00-154 Project: PECAN ISLAND TERRACES Location: VERMILION PARISH, LOUISIANA Date: 3/26/01	Class: CH Remarks: BORING B-4 DEPTH 11-13'
CONSOLIDATION TEST REPORT SOILS AND FOUNDATION ENGINEERS, INC.	Fig. No. A-2

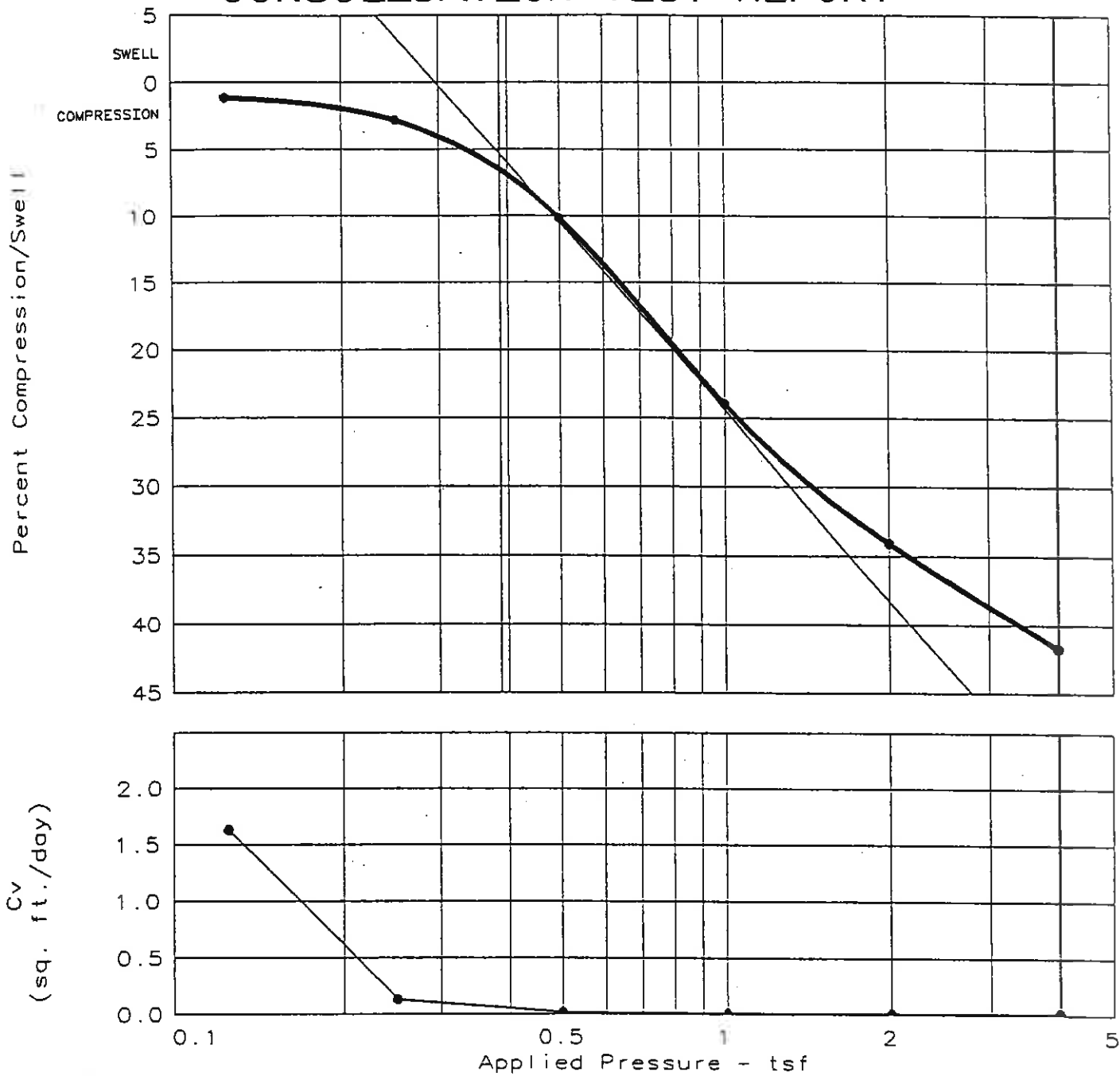
CONSOLIDATION TEST REPORT



Natural Saturation	Natural Moisture	Dry Dens. (pcf)	LL	PI	Sp.Gr.	Precons. (tsf)	C _c	e ₀
89.9 %	133.4 %	33.4	127	97	2.600	0.27	1.99	3.8554

TEST RESULTS	MATERIAL DESCRIPTION
<p>Compression Index = 1.99</p>	<p>VERY SOFT GRAY CLAY W/SILT LENSES</p> <p>Class: CH</p>
<p>Project No.: 00-154 Project: PECAN ISLAND TERRACES Location: VERMILION PARISH, LOUISIANA</p>	<p>Remarks: BORING B-6 DEPTH 14-16'</p>
<p>Date: 3/26/01</p>	<p>Fig. No. A-3</p>
<p>CONSOLIDATION TEST REPORT SOILS AND FOUNDATION ENGINEERS, INC.</p>	

CONSOLIDATION TEST REPORT



Natural Saturation	Natural Moisture	Dry Dens. (pcf)	LL	PI	Sp.Gr.	Precons. (tsf)	C_c	e_0
98.3 %	107.0 %	42.4	138	98	2.600	0.42	1.77	2.8275

TEST RESULTS	MATERIAL DESCRIPTION
<p>Compression Index = 1.77</p>	<p>VERY SOFT GRAY CLAY W/SILTY SAND LENSES Class: CH</p>
<p>Project No.: 00-154 Project: PECAN ISLAND TERRACES Location: VERMILION PARISH, LOUISIANA Date: 3/23/01</p>	<p>Remarks: BORING B-9 DEPTH 18.5-20.5'</p>
<p>CONSOLIDATION TEST REPORT SOILS AND FOUNDATION ENGINEERS, INC.</p>	<p>Fig. No. A-4</p>