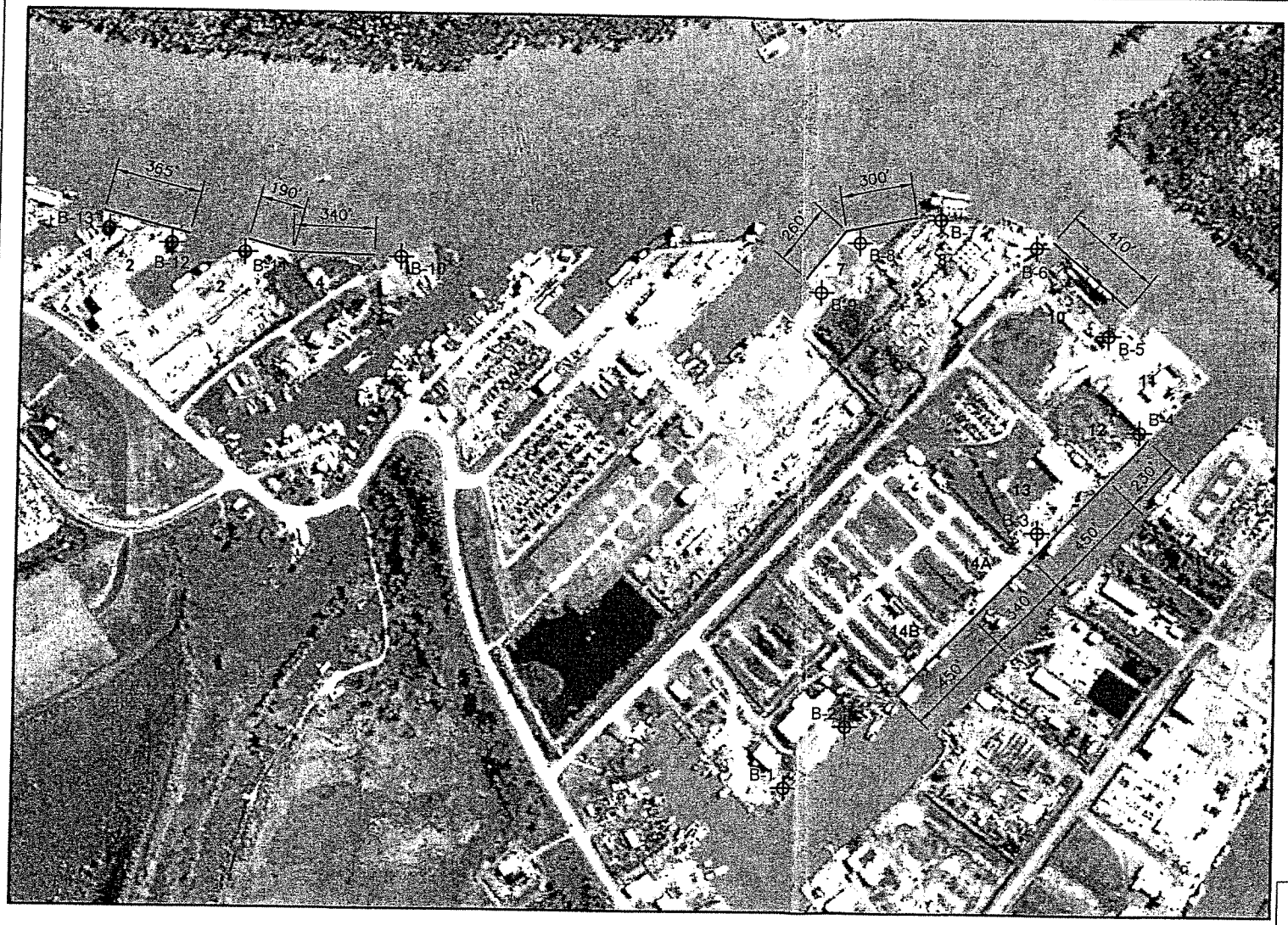


LEGEND:

⊕ STE BORING

VENICE BULKHEADS – GENERAL ARRANGEMENT

SCALE: 1" = 200'-0"

Infinity Engineering Consultants, LLC
CIVIL STRUCTURAL MECHANICAL MARINE
NEW ORLEANS, LA 504-304-0548

LOUISIANA FRUIT CO.

VENICE PROPERTIES
BULKHEAD IMPROVEMENTS
GENERAL ARRANGEMENT

06-074-GA-001 A

STE
Soil Testing Engineers, Inc.
1305 DISTRIBUTORS ROW, SUITE I
JEFFERSON, LOUISIANA 70123
PHONE (504) 835-2593 • FAX (504) 835-2982
www.steofla.com

21 September 2006

Infinity Engineering Consulting, LLC
4162 Canal Street
New Orleans, LA 70119

Attn: Mr. Bill Thomassie, P.E.

Re: Transmittal of Soil Boring Logs & Laboratory Test Results
Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish), Louisiana
STE File: 06-3049

Dear Bill,

Transmitted are our completed soil boring logs, laboratory test results, and the boring plan for the subject project. The following paragraphs describe the field and laboratory procedures used for this investigation.

FIELD EXPLORATION

Thirteen (13) soil borings were made for this project to investigate subsurface conditions. The borings were drilled on 7 July 2006 through 8 August 2006. The approximate locations of the borings are shown on the Boring Plan, Figure 1. The locations were established by a geotechnical engineer and located in the field by the drill crew with assistance from LA Fruit Company personnel.

Drilling Methods

The borings were drilled with ATV-mounted, rotary-type drilling equipment. The soil borings were advanced using a nominal four-inch diameter short flight auger. This technique allowed the proper borehole advancement to secure the appropriate samples (see "Sampling Procedures") and allowed the observation of the presence of free water in the borehole. Upon completion of the borings, the boreholes were grouted in accordance with Louisiana regulations.

Sampling Procedures

Soil samples were obtained continuously within the upper 10 feet. Continuous sampling was performed to provide detailed information for near surface stratigraphy. Below the 10 foot depth, the samples were obtained at three to five feet on center.

In these cohesive and semi-cohesive soils, relatively undisturbed samples were secured using a three-inch diameter, thin-wall steel tube sampler. In this sampling procedure, the borehole is advanced to the desired level, and the tube is lowered to the bottom of the boring. It is then pushed about two feet into the undisturbed soil in one continuous stroke. The sample and tube are retrieved from the borehole and detached from the drill string.

The sample is extruded by a hydraulic piston onto a rigid sample catcher to minimize disturbance. The sample is then visually classified. The classification includes description of soil color, strength estimates, identification of structural conditions (layering, seams, etc.) and variations (organics, oxide inclusions, etc.). A pocket penetrometer strength test is performed. Any disturbed portions are discarded, and the sample is sealed to minimize disturbance and moisture loss during transportation to the laboratory.

In the less cohesive materials, standard penetration tests were performed. These tests provide a measure of the in situ characteristics of the soil and secure a disturbed sample. In this test, a 2 inch OD, 1.37 ID, heavy-walled "split spoon" sampler is driven into the undisturbed soil at the bottom of the borehole with a drop hammer weighing 140 pounds and having a stroke of 30 inches. It is first seated 6 inches, then driven an additional two, six-inch increments.

The "Penetration Resistance" is the number of such blows required to drive the spoon the last 12 inches. It is recorded on the boring log in the following manner:

24 b/f
(7-9-15)

where the figures in parenthesis indicate the number of blows required for each 6 inch increment.

LABORATORY PROCEDURES

Certain samples from the various strata were tested in the laboratory to determine their pertinent physical characteristics. The samples and types of tests performed were selected by a geotechnical engineer to develop information necessary for appropriate analyses. The testing program, conducted in general accordance with ASTM methods, is described below.

Strength Tests

The strength characteristics of the various soil strata are important for geotechnical engineering analyses. Seventy-one (71) unconfined compression tests and seventeen (17) triaxial, one-point, unconsolidated, undrained strength tests were performed to develop this data. The testing procedures also include determination of the moisture content and wet and dry density of the sample.

The results of the compression tests are tabulated in the laboratory data portion of the soil boring logs under the column heading "Compressive Strength". The moisture content and dry density data are tabulated in the subsequent two columns within the laboratory data portion of the logs.

Classification Tests

In order to classify the soils more definitively than can be done by visual methods, thirteen (13) Atterberg limits, eleven (11) separate moisture contents, and three (3) separate unit weight determinations were made. The results of these tests are shown on the boring logs.

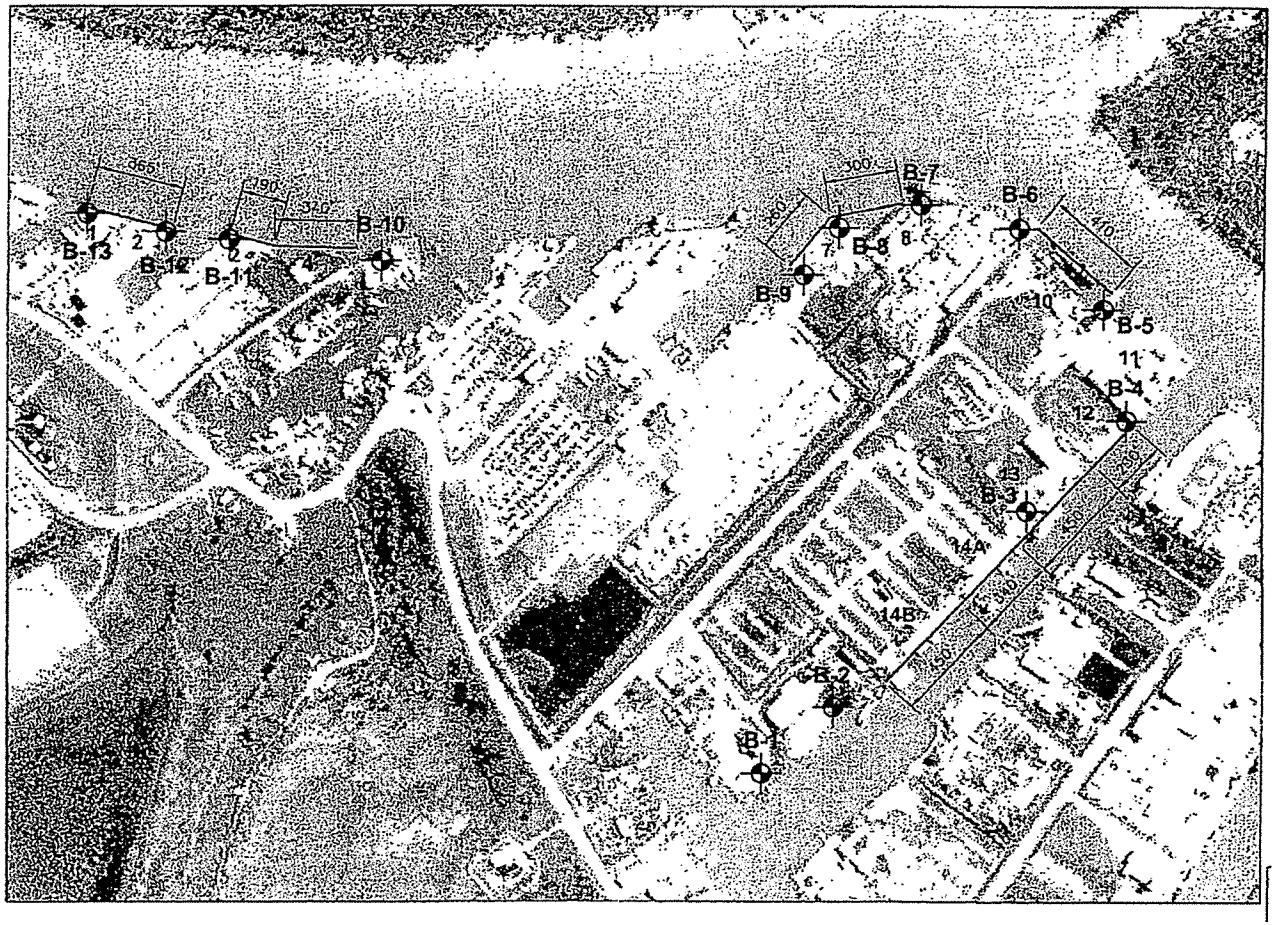
Thank you for asking us to perform these services. It has been a pleasure working with you on this project and we look forward to serving you again in the future.

Sincerely,
SOIL TESTING ENGINEERS, INC.

CHAD M. POCHE, P.E.
Vice President

RICHARD J. KNIGHT, III
Project Engineer

bbl



NOT TO SCALE

LEGEND:

STE SOIL BORINGS (2006)

REFERENCE:
Venice Properties Bulkhead Improvements
General Arrangement by Infinity
Engineering Consultants, LLC.

LOUISIANA FRUIT COMPANY
BULKHEAD IMPROVEMENTS
VENICE, LOUISIANA

for
INFINITY ENGINEERING
CONSULTING, LLC
NEW ORLEANS, LOUISIANA

STE
Soil Testing Engineers, Inc.
Baton Rouge, LA Jefferson, LA Biloxi, MS

Project Engineer:	Drawn by:	Checked by:
C.M. Poche	DMS	
File No.:	Date:	Figure No.:
06-3049	9-21-06	1

Title:
BORING PLAN

Sep 21, 2006 - 2:32pm

P:\2006\06-3049\acad\06306049-01 Boring Plan.dwg

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-1

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/09/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	0		1.25 (P)									Medium stiff gray SANDY CLAY (CL) w/wood and organic matter
			0.5 (P)									
▽	5		0.5 (P)	0.64	25	95						
			2.0 (P)									
			0.25 (P)	0.46	36	83						Soft gray SANDY CLAY (CL) w/wood
	10											
			0.75 (P)	0.34	47	73	49	22	27			
	15											
			8-WOH		31							Loose gray CLAYEY SAND (SC)
	20											
			WOH									Soft gray CLAY (CH) w/sand layers and organic matter
	25											
			0.5 (P)	0.38	53	65	75	22	53			
	30											
			0.5 (P)									
	35											
			0.75 (P)	0.45	57	68						
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish), Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-1

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/09/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		0.5 (P)									Soft gray CLAY (CH) w/sand layers and organic matter
	50		0.75 (P)	0.36	45	73						
	55		0.75 (P)									
	60		0.75 (P)									
	65		0.5 (P)	0.51	44	78						Soft to medium stiff gray CLAY (CH)
	70		0.5 (P)									
	75		0.5 (P)	0.49	53	68						
	80		0.75 (P)									Boring completed at 80 ft

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-2

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/09/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
▽			1.25 (P)	1.65	24	101						Stiff gray SANDY CLAY (CL) w/shells and organic matter
▽			1.75 (P)		26		43	23	20			
	5		0.75 (P)									
			WOH									Soft gray SANDY CLAY (CL) w/concrete, wood, and debris
	10											
			0.5 (P)	1.06	27	94						Stiff gray SILTY CLAY (CL)
	15											
			23 b/f 10-9-14									Medium dense gray SAND (SP) w/clay layers
	20											
			WOH									Very soft to soft gray SILTY CLAY (CL)
	25											
			0.5 (P)	0.40	26	95						
	30											Very soft to soft gray CLAY (CH) w/organic matter
			WOH									
	35											
			WOH									
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 4 feet
4" Dia. Rotary Wash:
4 to 6 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-2

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/09/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		WOH									Very soft to soft gray CLAY (CH) w/organic matter
	50		WOH									
	55		WOH									
	60		WOH									
												Boring completed at 60 ft.
	65											
	70											
	75											
	80											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 4 feet
4" Dia. Rotary Wash:
4 to 6 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-3

STE
Soil Testing Engineers, Inc.

File: 06-3049
Date: 08/02/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

LELAP Certificate No. 02052

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
▽			1.25 (P)									Medium stiff gray SILTY CLAY (CL) w/shells
			1.5 (P)	0.67	30	84						
	5		1.5 (P)	0.31	51	74						Very soft to soft gray CLAY (CH) w/shells
			0.5 (P)									
			0.25 (P)	0.23	42	76						
	10											
			0.75 (P)									
	15											
			0.0 (P)	0.28	27	95						
	20											
			WOH									Very loose gray CLAYEY SAND (SC)
	25											
			0.25 (P)	0.48	27	93						Soft gray SILTY CLAY (CL)
	30											
			0.75 (P)									
	35											
			0.75 (P)	0.41	53	70						Soft gray CLAY (CH)
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-3

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/02/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Soft gray CLAY (CH)
	45		0.75 (P)	0.53	70	60	94	27	67			Medium stiff gray CLAY (CH)
	50		1.25 (P)	0.35	40	79						Very soft to soft gray CLAY (CH)
	55		WOH									
	60		WOH									Boring completed at 60 ft.
	65											
	70											
	75											
	80											

Ground Water Level Data

▽ Free water first encountered

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-4

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/02/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
			2.5 (P)									Medium stiff gray and brown SANDY CLAY (CL) w/shells
	5		1.5 (P)	0.71	25	98						
			1.75 (P)		29							Medium stiff gray SILTY CLAY (CL)
▽	10		1.5 (P)	0.79	31	88						
			1.0 (P)	0.39	38	82						Soft gray SILTY CLAY (CL) w/organic matter and shells
	15											
			0.5 (P)									Soft gray CLAY (CH) w/shell fragments
	20											
			0.5 (P)	0.44	69	58						
	25											
			WOH									
	30											
			0.25 (P)	0.27	35	85						Soft gray SILTY CLAY (CL)
	35											
			0.75 (P)									
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-4

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/02/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		WOH									Soft gray SILTY CLAY (CL)
	50		29 b/f 11-9-20									Medium dense gray CLAYEY SAND (SC)
	55		0.5 (P)	0.29	47	71						Very soft to soft gray CLAY (CH)
	60		0.75 (P)									
	65		0.75 (P)	0.24	37	83						
	70		0.5 (P)	0.55	36	83						Soft to medium stiff gray CLAY (CH)
	75		WOH									
	80		WOH									

Boring completed at 80 ft

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish), Louisiana

LOG OF SOIL BORING B-5

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 07/26/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
			4.5 (P)									Medium stiff gray SILTY CLAY (CL) w/shells and rocks
			1.75 (P)	0.96	27	94						
	5		0.75 (P)									Soft to medium stiff gray and brown SILTY CLAY (CL) w/shells and sand layers
▽			0.75 (P)		25							
▽			2.5 (P)		26							
	10											
			0.25 (P)	0.29	36	100						Soft gray CLAY (CH) w/silt seams
	15											
			No (P)									
	20											
			16 b/f 10-8-8									Loose to medium dense gray CLAYEY SAND (SC) w/shells
	25											
			No (P)		36							Very soft to soft gray CLAY (CH)
	30											
			No (P)									
	35											
			0.5 (P)	0.48	61	65						
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 15 feet
4" Dia. Rotary Wash:
15 to 55 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 053049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-5

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 07/26/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Soft gray CLAY (CH) w/sand seams
	45		1.0 (P)	0.39	50	69						
	50		0.5 (P)									
	55		0.5 (P)		45	75						Boring completed at 55 ft.
	60											
	65											
	70											
	75											
	80											

Ground Water Level Data

Free water first encountered

Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 15 feet
4" Dia. Rotary Wash:
15 to 55 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-6

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/17/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
▽ ▼												Gray and brown SANDY CLAY (CL) w/shells and organic matter
	5		3.5 (P)	0.92	25	92						Medium stiff gray and brown SANDY CLAY (CL) w/shells
			0.5 (P)									
			0.5 (P)		29							
	10											Soft gray SANDY CLAY (CL) w/shells
			1.0 (P)	0.32	33	86						
	15											
			5 b/f 6-3-2									
	20											
			WOH									Very loose gray and tan CLAYEY SAND (SC) w/shells
	25											
			WOH									Very soft gray SANDY CLAY (CL)
	30											
			9 b/f 6-3-6									Loose gray CLAYEY SAND (SC)
	35											
			WOH									Very soft gray SILTY CLAY (CL)
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 8 feet
4" Dia. Rotary Wash:
8 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-6

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/17/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		WOH		63							Very soft gray SILTY CLAY (CL)
	50		27 b/f 20-15-12									Medium dense gray SILTY SAND (SM) w/clay layers
	55		WOH									Very soft to soft gray CLAY (CH) w/sand layers and organic traces
	60		0.5 (P)	0.40	43	77						
	65		1.0 (P)									
	70		0.5 (P)	0.35	47	76	66	26	40			
	75											
	80		0.5 (P)	0.36	41	73						

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 8 feet
4" Dia. Rotary Wash:
8 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-6

STE
Soil Testing Engineers, Inc.

File: 06-3049
Date: 08/17/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 3 of 3

LELAP Certificate No. 02052

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	85		1.0 (P)									Very soft to soft gray CLAY (CH) w/sand layers and organic traces
	90		0.5 (P)	0.31	36	65	57	26	31			
	95		0.5 (P)									
	100		0.5 (P)	0.30	53	61						
												Boring completed at 100 ft.
	105											
	110											
	115											
	120											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 8 feet
4" Dia. Rotary Wash:
8 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-7

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/10/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Medium stiff to stiff gray SANDY CLAY (CL) w/shells and organic matter
	5		1.25 (P)	0.48	31	85						Very soft to soft gray SILTY CLAY (CL) w/sand and organic matter
▽			1.0 (P)									
▽			0.5 (P)	0.13	38	102						Very soft gray CLAYEY SAND (SC) w/clay layers
	10											
			0.25 (P)									
	15											
			0.25 (P)	0.17	30	74	28	NP	28			
	20											
												Very soft to soft gray CLAY (CH) w/sand layers and organic matter
	25											
			WOH									
	30											
			WOH									
	35											
			0.75 (P)	0.35	59	64						
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-7

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/10/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		0.25 (P)	0.41	42	76						Very soft to soft gray CLAY (CH) w/sand layers and organic matter
	50		0.5 (P)	0.23	32	87						Very soft to soft gray SILTY CLAY (CL) w/clay layers
	55		WOH									
	60		WOH									
	65		WOH									
	70		WOH									
	75		WOH									
	80		WOH									

Boring completed at 80 ft

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-8

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/16/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
▽	0		3.0 (P)									Gray and tan SHELLS w/clay layers, organic matter, and sand layers
	5											
	10		0.5 (P)									Very soft to soft gray SILTY CLAY (CL) w/organic matter and sand seams
	15		0.5 (P)	0.29	39	85						
	20		0.5 (P)									
	25		3.0 (P)	0.24	41	83						
	30		0.5 (P)									Medium stiff gray SANDY CLAY (CL) w/shells and sand seams
	35		0.5 (P)	0.58	21	100	31	26	5			
	40		0.5 (P)									Soft to medium stiff gray CLAY (CH) w/silt and sand seams

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish), Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-8

STE
Soil Testing Engineers, Inc.

Sheet 2 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/16/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA							Soil Type	Description
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other		
	45		1.0 (P)									Soft to medium stiff gray CLAY (CH) w/silt and sand seams
	50		1.0 (P)									
	55		0.5 (P)		56	76						
	60											Medium stiff gray SANDY CLAY (CL) w/sand layers, organic matter, and silt seams
	65		0.5 (P)	0.57	33	89	35	28	7			
	70		0.5 (P)									
	75		1.0 (P)	1.08	31	90						Medium stiff gray SANDY CLAY (CL) w/organic matter and sand seams
	80		0.5 (P)									

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-8

STE
Soil Testing Engineers, Inc.

Sheet 3 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/16/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Medium stiff gray SANDY CLAY (CL) w/organic matter and sand seams
	85		0.5 (P)	0.36	34	87						Soft gray SANDY CLAY (CL) w/organic matter, shell fragments, and sand layers
	90		0.5 (P)									
	95		1.0 (P)	0.40	31	92						
	100		1.0 (P)									
												Boring completed at 100 ft.
	105											
	110											
	115											
	120											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-9

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 07/25/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
☒			3.5 (P)									Very soft gray CLAY (CH) w/silt, organic matter, and shell fragments
			4.5+ (P)									
	5		1.0 (P)	0.23	31	86						
			1.25 (P)	0.55	38	77						Medium stiff gray CLAY (CH) w/silt seams
			0.5 (P)									
	10											
			0.75 (P)	0.16	37	84						Very soft gray CLAY (CH) w/silt seams
	15											
			0.25 (P)									
	20											
			0.25 (P)	0.29	87	54						Soft gray CLAY (CH) w/shells and organic matter
	25											
			0.25 (P)									
	30											
			1.0 (P)		60	63						
	35											
			0.5 (P)									Soft gray CLAY (CH) w/organic matter
	40											

Continued Next Page

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	4" Nom. Dia. Short Flight Auger: 0 to 15 feet 4" Dia. Rotary Wash: 15 to 60 feet	
	Boring Abandonment Method Borehole grouted with cement/ bentonite upon completion	Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-9

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 07/25/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		0.0 (P)	0.40	52	67						Soft gray CLAY (CH) w/organic matter
	50		0.0 (P)									
	55		0.25 (P)	0.32	44	77						
	60											Boring completed at 60 ft.
	65											
	70											
	75											
	80											

Ground Water Level Data

☒ No free water encountered

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 15 feet
4" Dia. Rotary Wash:
15 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-10

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/18/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
			4.0 (P)									Medium stiff to stiff brown and gray SANDY CLAY (CL) w/shells and organic matter
			2.5 (P)									
▼	5		1.0 (P)									Soft gray SILTY CLAY (CL) w/organic matter and sand layers
▽			1.0 (P)									
			0.5 (P)									
	10											
			0.5 (P)	0.32	37	75						Soft gray CLAY (CH) w/organic matter, sand and silt seams
	15											
			0.5 (P)									
	20											
			0.5 (P)	0.58t	34	87						Medium stiff gray CLAY (CH) w/organic matter and silt seams
	25											
			0.75 (P)									
	30											
			0.25 (P)		52	59						Very soft to soft gray CLAY (CH) w/organic matter
	35											
			0.75 (P)									
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

t: Unconsolidated, Undrained Triaxial Compression Test
t = 13.1 psl

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-10

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/18/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Very soft to soft gray CLAY (CH) w/organic matter
	45		0.5 (P)	0.12	46	63						Soft gray SANDY CLAY (CL) w/organic matter and shell fragments
	50		0.75 (P)									
	55		0.25 (P)	0.41	29	89						
	60		1.5 (P)									
												Boring completed at 60 ft.
	65											
	70											
	75											
	80											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-11

STE
Soil Testing Engineers, Inc.

Sheet 1 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/22/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Stiff to very stiff tan SILTY CLAY (CL) w/shell fragments
												Soft gray SANDY CLAY (CL) w/shell fragments and roots
▽	5		3.5 (P)	0.41	23	99						
			0.75 (P)									Soft gray SILTY CLAY (CL) w/sand, shell fragments, and organic matter
			0.25 (P)	0.37	27	91						
	10											
			0.25 (P)									
	15											
			0.75 (P)	0.31	37	84	44	23	21			Soft gray SILTY CLAY (CL) w/wood fragments, organic matter, and shell fragments
	20											
			0.5 (P)									
	25											
			0.0 (P)		43							
	30											
			0.5 (P)									Soft gray and tan CLAY (CH) w/wood fragments
	35											
			0.5 (P)	0.43	66							
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-11

STE
Soil Testing Engineers, Inc.

Sheet 2 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/22/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		0.5 (P)									Soft gray and tan CLAY (CH) w/wood fragments
	50		0.75 (P)	0.45	30		0	15	NP			Soft gray and black SILTY CLAY (CL) w/organic matter and sand layers
	55		1.0 (P)									
	60		0.75 (P)	0.51	28	92						
	65		0.5 (P)									
	70		0.25 (P)	0.13	35	85						Very soft gray SILTY CLAY (CL)
	75		2.0 (P)									Medium stiff gray SILTY CLAY (CL)
	80		1.0 (P)	0.61	35	86	48	22	26			

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-11

STE
Soil Testing Engineers, Inc.

Sheet 3 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/22/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	85		1.0 (P)									Medium stiff gray SILTY CLAY (CL)
	90		0.75 (P)	0.57	34	86						
	95		0.5 (P)									
	100		0.25 (P)	0.51	34	81						
												Boring completed at 100 ft.
	105											
	110											
	115											
	120											

Ground Water Level Data	Boring Advancement Method	Notes
▽ Free water first encountered ▼ Water level after 15 mins.	4" Nom. Dia. Short Flight Auger: 0 to 10 feet 4" Dia. Rotary Wash: 10 to 100 feet	
	Boring Abandonment Method Borehole grouted with cement/ bentonite upon completion	Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-12

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/21/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Gray SANDY CLAY (CL) w/limestone and shells
	5		4.0 (P) 3.5 (P) 4.5+ (P)	1.13	28	92						Stiff gray and tan SILTY CLAY (CL) w/organic matter and shells
▽ ▼	10		1.75 (P)	0.50	34	87						Medium stiff gray SILTY CLAY (CL) w/sand seams
	15		0.5 (P)	0.27	44	77						Soft gray SILTY CLAY (CL) w/sand layers and organic matter
	20		0.25 (P)									
	25		0.5 (P)	0.35t1	34	84						
	30		0.0 (P)									
	35		0.25 (P)		60	63						Very soft gray CLAY (CH) w/organic matter and shell fragments
	40		0.5 (P)									

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

t: Unconsolidated, Undrained Triaxial Compression Test
t1 = 11.8 psi
t2 = 19.8 psi
t3 = 25.6 psi
t4 = 27.7 psi

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-12

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/21/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Very soft gray CLAY (CH) w/organic matter and shell fragments
	45		0.75 (P)	0.51t2	35	85						Soft gray SILTY CLAY (CL) w/organic matter
	50		0.25 (P)									
	55											
	60		1.25 (P)	0.61t3	36	85						Medium stiff gray SANDY CLAY (CL)
	65		0.75 (P)	0.40t4	30	85						Soft gray SANDY CLAY (CL)
	70											Soft gray CLAY (CH)
	75		0.75 (P)	0.41	41	72						
	80		0.5 (P)									Boring completed at 80 ft

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

t: Unconsolidated, Undrained Triaxial Compression Test
t1 = 11.8 psi
t2 = 19.8 psi
t3 = 25.6 psi
t4 = 27.7 psi

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-13

STE
Soil Testing Engineers, Inc.

File: 06-3049
Date: 08/21/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

LELAP Certificate No. 02052

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
▽	5		1.5 (P) 2.25 (P)	0.57	23	104						Medium stiff to stiff gray and brown SILTY CLAY (CL) w/iron nodes, shell fragments, and organic matter
▽	10		0.5 (P)	0.36	33	87						Soft brown and gray SILTY CLAY (CL) w/organic matter
	15		0.5 (P)									Very soft gray CLAY (CH) w/sand seams and organic matter
	20		0.25 (P)	0.19	45	75						
	25		0.25 (P)									
	30		0.75 (P)	0.32	46	75						Soft gray and tan CLAY (CH) w/silt and sand seams
	35		0.25 (P)									
	40		0.75 (P)		35		36	27	9			Soft gray SANDY CLAY (CL) w/sand layers

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-13

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/21/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		0.75 (P)									Soft gray SANDY CLAY (CL) w/sand layers
	50		1.0 (P)	0.24	38	79						
	55		0.25 (P)									Soft gray SILTY CLAY (CL)
	60		0.5 (P)	0.43	38	82						Boring completed at 60 ft.
	65											
	70											
	75											
	80											

Ground Water Level Data

- Free water first encountered
- Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

STE
Soil Testing Engineers, Inc.
1305 DISTRIBUTORS ROW, SUITE I
JEFFERSON, LOUISIANA 70123
PHONE (504) 835-2593 • FAX (504) 835-2982
www.steofla.com

21 September 2006

Infinity Engineering Consulting, LLC
4162 Canal Street
New Orleans, LA 70119

Attn: Mr. Bill Thomassie, P.E.

Re: Transmittal of Soil Boring Logs & Laboratory Test Results
Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish), Louisiana
STE File: 06-3049

Dear Bill,

Transmitted are our completed soil boring logs, laboratory test results, and the boring plan for the subject project. The following paragraphs describe the field and laboratory procedures used for this investigation.

FIELD EXPLORATION

Thirteen (13) soil borings were made for this project to investigate subsurface conditions. The borings were drilled on 7 July 2006 through 8 August 2006. The approximate locations of the borings are shown on the Boring Plan, Figure 1. The locations were established by a geotechnical engineer and located in the field by the drill crew with assistance from LA Fruit Company personnel.

Drilling Methods

The borings were drilled with ATV-mounted, rotary-type drilling equipment. The soil borings were advanced using a nominal four-inch diameter short flight auger. This technique allowed the proper borehole advancement to secure the appropriate samples (see "Sampling Procedures") and allowed the observation of the presence of free water in the borehole. Upon completion of the borings, the boreholes were grouted in accordance with Louisiana regulations.

Sampling Procedures

Soil samples were obtained continuously within the upper 10 feet. Continuous sampling was performed to provide detailed information for near surface stratigraphy. Below the 10 foot depth, the samples were obtained at three to five feet on center.

In these cohesive and semi-cohesive soils, relatively undisturbed samples were secured using a three-inch diameter, thin-wall steel tube sampler. In this sampling procedure, the borehole is advanced to the desired level, and the tube is lowered to the bottom of the boring. It is then pushed about two feet into the undisturbed soil in one continuous stroke. The sample and tube are retrieved from the borehole and detached from the drill string.

The sample is extruded by a hydraulic piston onto a rigid sample catcher to minimize disturbance. The sample is then visually classified. The classification includes description of soil color, strength estimates, identification of structural conditions (layering, seams, etc.) and variations (organics, oxide inclusions, etc.). A pocket penetrometer strength test is performed. Any disturbed portions are discarded, and the sample is sealed to minimize disturbance and moisture loss during transportation to the laboratory.

In the less cohesive materials, standard penetration tests were performed. These tests provide a measure of the in situ characteristics of the soil and secure a disturbed sample. In this test, a 2 inch OD, 1.37 ID, heavy-walled "split spoon" sampler is driven into the undisturbed soil at the bottom of the borehole with a drop hammer weighing 140 pounds and having a stroke of 30 inches. It is first seated 6 inches, then driven an additional two, six-inch increments.

The "Penetration Resistance" is the number of such blows required to drive the spoon the last 12 inches. It is recorded on the boring log in the following manner:

24 b/f
(7-9-15)

where the figures in parenthesis indicate the number of blows required for each 6 inch increment.

LABORATORY PROCEDURES

Certain samples from the various strata were tested in the laboratory to determine their pertinent physical characteristics. The samples and types of tests performed were selected by a geotechnical engineer to develop information necessary for appropriate analyses. The testing program, conducted in general accordance with ASTM methods, is described below.

Strength Tests

The strength characteristics of the various soil strata are important for geotechnical engineering analyses. Seventy-one (71) unconfined compression tests and seventeen (17) triaxial, one-point, unconsolidated, undrained strength tests were performed to develop this data. The testing procedures also include determination of the moisture content and wet and dry density of the sample.

The results of the compression tests are tabulated in the laboratory data portion of the soil boring logs under the column heading "Compressive Strength". The moisture content and dry density data are tabulated in the subsequent two columns within the laboratory data portion of the logs.

Classification Tests

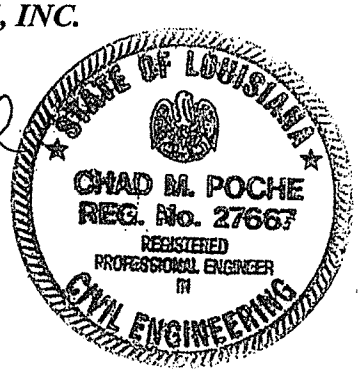
In order to classify the soils more definitively than can be done by visual methods, thirteen (13) Atterberg limits, eleven (11) separate moisture contents, and three (3) separate unit weight determinations were made. The results of these tests are shown on the boring logs.

Thank you for asking us to perform these services. It has been a pleasure working with you on this project and we look forward to serving you again in the future.

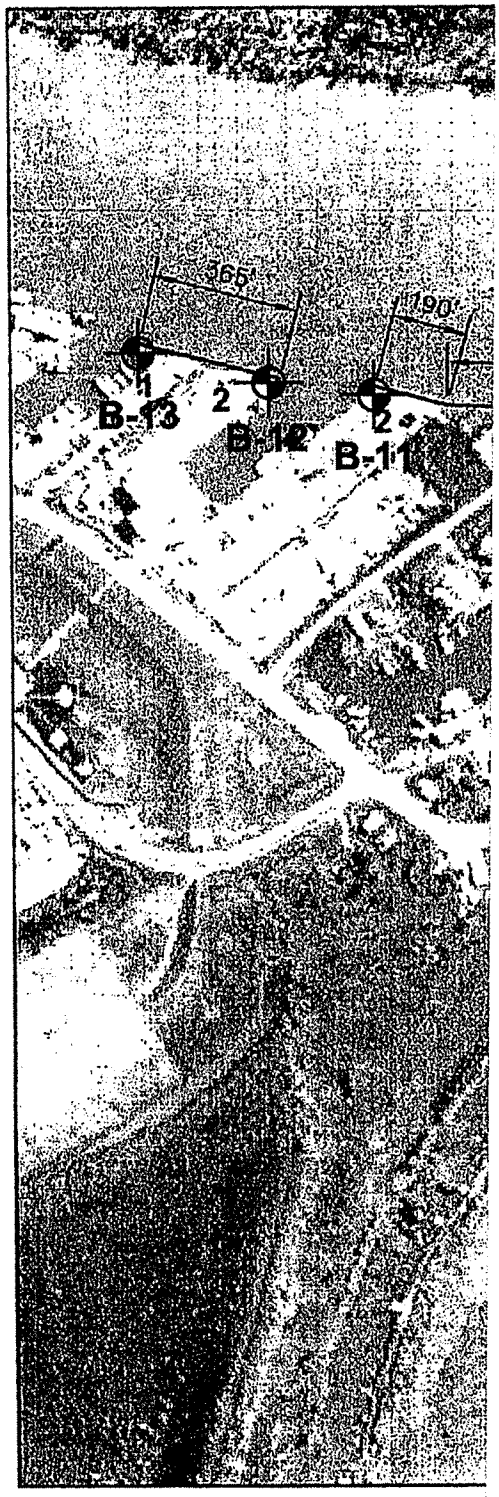
Sincerely,
SOIL TESTING ENGINEERS, INC.

CHAD M. POCHE, P.E.
Vice President

bbl



RICHARD J. KNIGHT, III
Project Engineer



LEGEND:

⊕ STE SOIL BORINGS (2006)

REFERENCE:
Venice Properties Bulkhead Improvements
General Arrangement by Infinity
Engineering Consultants, LLC.

LOUISIANA FRUIT COMPANY
BULKHEAD IMPROVEMENTS
VENICE, LOUISIANA

for

INFINITY ENGINEERING CONSULTING, LLC
NEW ORLEANS, LOUISIANA

STE
Soil Testing Engineers, Inc.
Baton Rouge, LA Jefferson, LA Biloxi, MS

Project Engineer:	Drawn by:	Checked by:
C.M. Poche	DMS	
File No.:	Date:	Figure No.:
06-3049	9-21-06	1

Title:
BORING PLAN

Sep 21, 2006 - 2:32pm

P:\2006\06-3049\cadd\063049-01 Boring Plan.dwg

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-1

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/09/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
			1.25 (P)									Medium stiff gray SANDY CLAY (CL) w/wood and organic matter
			0.5 (P)									
▽	5		0.5 (P)	0.64	25	95						
			2.0 (P)									
			0.25 (P)	0.46	36	83						Soft gray SANDY CLAY (CL) w/wood
	10											
			0.75 (P)	0.34	47	73	49	22	27			
	15											
			8-WOH		31							Loose gray CLAYEY SAND (SC)
	20											
			WOH									Soft gray CLAY (CH) w/sand layers and organic matter
	25											
			0.5 (P)	0.38	53	65	75	22	53			
	30											
			0.5 (P)									
	35											
			0.75 (P)	0.45	57	68						
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-1

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 2

File: 06-3049
Date: 08/09/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

LELAP Certificate No. 02052

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		0.5 (P)									Soft gray CLAY (CH) w/sand layers and organic matter
	50		0.75 (P)	0.36	45	73						
	55		0.75 (P)									
	60		0.75 (P)									
	65		0.5 (P)	0.51	44	78						Soft to medium stiff gray CLAY (CH)
	70		0.5 (P)									
	75		0.5 (P)	0.49	53	68						
	80		0.75 (P)									

Boring completed at 80 ft

Ground Water Level Data

Free water first encountered

Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-2

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/09/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
▼			1.25 (P)	1.65	24	101						Stiff gray SANDY CLAY (CL) w/shells and organic matter
▽			1.75 (P)		26		43	23	20			
	5		0.75 (P)									
			WOH									Soft gray SANDY CLAY (CL) w/concrete, wood, and debris
	10											
			0.5 (P)	1.06	27	94						Stiff gray SILTY CLAY (CL)
	15											
			23 b/f 10-9-14									Medium dense gray SAND (SP) w/clay layers
	20											
			WOH									Very soft to soft gray SILTY CLAY (CL)
	25											
			0.5 (P)	0.40	26	95						
	30											Very soft to soft gray CLAY (CH) w/organic matter
			WOH									
	35											
			WOH									
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 4 feet
4" Dia. Rotary Wash:
4 to 6 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-2

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/09/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		WOH									Very soft to soft gray CLAY (CH) w/organic matter
	50		WOH									
	55		WOH									
	60		WOH									
												Boring completed at 60 ft.
	65											
	70											
	75											
	80											

Ground Water Level Data

Free water first encountered

Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 4 feet
4" Dia. Rotary Wash:
4 to 6 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-3

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/02/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
▽			1.25 (P)									Medium stiff gray SILTY CLAY (CL) w/shells
			1.5 (P)	0.67	30	84						
	5		1.5 (P)	0.31	51	74						Very soft to soft gray CLAY (CH) w/shells
			0.5 (P)									
			0.25 (P)	0.23	42	76						
	10											
			0.75 (P)									
	15											
			0.0 (P)	0.28	27	95						
	20											
			WOH									Very loose gray CLAYEY SAND (SC)
	25											
			0.25 (P)	0.48	27	93						Soft gray SILTY CLAY (CL)
	30											
			0.75 (P)									
	35											
			0.75 (P)	0.41	53	70						Soft gray CLAY (CH)
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-3

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/02/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Soft gray CLAY (CH)
	45		0.75 (P)	0.53	70	60	94	27	67			Medium stiff gray CLAY (CH)
	50		1.25 (P)	0.35	40	79						Very soft to soft gray CLAY (CH)
	55		WOH									
	60		WOH									Boring completed at 60 ft.
	65											
	70											
	75											
	80											

Ground Water Level Data	Boring Advancement Method	Notes
▽ Free water first encountered	4" Nom. Dia. Short Flight Auger: 0 to 10 feet 4" Dia. Rotary Wash: 10 to 60 feet	WOH: Weight of Hammer
	Boring Abandonment Method Borehole grouted with cement/ bentonite upon completion	

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-4

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

File: 06-3049
Date: 08/02/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

LELAP Certificate No. 02052

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	5		2.5 (P) 1.5 (P)	0.71	25	98						Medium stiff gray and brown SANDY CLAY (CL) w/shells
▽ ▼	10		1.75 (P) 1.5 (P)	0.79	29 31	88						Medium stiff gray SILTY CLAY (CL)
	15		1.0 (P)	0.39	38	82						Soft gray SILTY CLAY (CL) w/organic matter and shells
	20		0.5 (P)									Soft gray CLAY (CH) w/shell fragments
	25		0.5 (P)	0.44	69	58						
	30		WOH									
	35		0.25 (P)	0.27	35	85						Soft gray SILTY CLAY (CL)
	40		0.75 (P)									

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-4

STE
Soil Testing Engineers, Inc.

File: 06-3049
Date: 08/02/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 2

LELAP Certificate No. 02052

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		WOH									Soft gray SILTY CLAY (CL)
	50		29 b/f 11-9-20									Medium dense gray CLAYEY SAND (SC)
	55		0.5 (P)	0.29	47	71						Very soft to soft gray CLAY (CH)
	60		0.75 (P)									
	65		0.75 (P)	0.24	37	83						
	70		0.5 (P)	0.55	36	83						Soft to medium stiff gray CLAY (CH)
	75		WOH									
	80		WOH									Boring completed at 80 ft

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-5

STE
Soil Testing Engineers, Inc.

File: 06-3049
Date: 07/26/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

LELAP Certificate No. 02052

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
			4.5 (P)									Medium stiff gray SILTY CLAY (CL) w/shells and rocks
			1.75 (P)	0.96	27	94						
	5		0.75 (P)									Soft to medium stiff gray and brown SILTY CLAY (CL) w/shells and sand layers
▽			0.75 (P)		25							
▼			2.5 (P)		26							
	10											
			0.25 (P)	0.29	36	100						Soft gray CLAY (CH) w/silt seams
	15											
			No (P)									
	20											
			16 b/f 10-8-8									Loose to medium dense gray CLAYEY SAND (SC) w/shells
	25											
			No (P)		36							Very soft to soft gray CLAY (CH)
	30											
			No (P)									
	35											
			0.5 (P)	0.48	61	65						
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 15 feet
4" Dia. Rotary Wash:
15 to 55 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-5

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 07/26/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		1.0 (P)	0.39	50	69						Soft gray CLAY (CH) w/sand seams
	50		0.5 (P)									
	55		0.5 (P)		45	75						Boring completed at 55 ft.
	60											
	65											
	70											
	75											
	80											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 15 feet
4" Dia. Rotary Wash:
15 to 55 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-6

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 3

File: 06-3049
Date: 08/17/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

LELAP Certificate No. 02052

FIELD DATA				LABORATORY DATA								Location: See Boring Plan Surface Elevation: N/A (ft., NGVD)
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
▽ ▼												Gray and brown SANDY CLAY (CL) w/shells and organic matter
	5		3.5 (P)	0.92	25	92						Medium stiff gray and brown SANDY CLAY (CL) w/shells
			0.5 (P)									
	10		0.5 (P)		29							
			1.0 (P)	0.32	33	86						Soft gray SANDY CLAY (CL) w/shells
	15											
			5 b/f 6-3-2									
	20											
			WOH									Very loose gray and tan CLAYEY SAND (SC) w/shells
	25											
			WOH									Very soft gray SANDY CLAY (CL)
	30											
			9 b/f 6-3-6									Loose gray CLAYEY SAND (SC)
	35											
			WOH									Very soft gray SILTY CLAY (CL)
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 8 feet
4" Dia. Rotary Wash:
8 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-6

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/17/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		WOH		63							Very soft gray SILTY CLAY (CL)
	50		27 b/f 20-15-12									Medium dense gray SILTY SAND (SM) w/clay layers
	55		WOH									Very soft to soft gray CLAY (CH) w/sand layers and organic traces
	60		0.5 (P)	0.40	43	77						
	65		1.0 (P)									
	70		0.5 (P)	0.35	47	76	66	26	40			
	75											
	80		0.5 (P)	0.36	41	73						

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 8 feet
4" Dia. Rotary Wash:
8 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-6

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 3 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/17/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	85		1.0 (P)									Very soft to soft gray CLAY (CH) w/sand layers and organic traces
	90		0.5 (P)	0.31	36	65	57	26	31			
	95		0.5 (P)									
	100		0.5 (P)	0.30	53	61						
												Boring completed at 100 ft.
	105											
	110											
	115											
	120											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 8 feet
4" Dia. Rotary Wash:
8 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-7

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/10/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Medium stiff to stiff gray SANDY CLAY (CL) w/shells and organic matter
	5		1.25 (P)	0.48	31	85						Very soft to soft gray SILTY CLAY (CL) w/sand and organic matter
▽			1.0 (P)									
▽			0.5 (P)	0.13	38	102						Very soft gray CLAYEY SAND (SC) w/clay layers
	10											
			0.25 (P)									
	15											
			0.25 (P)	0.17	30	74	28	NP	28			
	20											
	25											Very soft to soft gray CLAY (CH) w/sand layers and organic matter
			WOH									
	30											
			WOH									
	35											
			0.75 (P)	0.35	59	64						
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 053049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-7

STE
Soil Testing Engineers, Inc.

File: 06-3049
Date: 08/10/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 2

LELAP Certificate No. 02052

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		0.25 (P)	0.41	42	76						Very soft to soft gray CLAY (CH) w/sand layers and organic matter
	50		0.5 (P)	0.23	32	87						Very soft to soft gray SILTY CLAY (CL) w/clay layers
	55		WOH									
	60		WOH									
	65		WOH									
	70		WOH									
	75		WOH									
	80		WOH									Boring completed at 80 ft

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-8

STE
Soil Testing Engineers, Inc.

Sheet 1 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/16/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
▽ ▼	0		3.0 (P)									Gray and tan SHELLS w/clay layers, organic matter, and sand layers
	5											
	10		0.5 (P)									Very soft to soft gray SILTY CLAY (CL) w/organic matter and sand seams
	15		0.5 (P)	0.29	39	85						
	20		0.5 (P)									
	25		3.0 (P)	0.24	41	83						
	30		0.5 (P)									Medium stiff gray SANDY CLAY (CL) w/shells and sand seams
	35		0.5 (P)	0.58	21	100	31	26	5			
	40		0.5 (P)									Soft to medium stiff gray CLAY (CH) w/silt and sand seams

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 053049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-8

STE
Soil Testing Engineers, Inc.

Sheet 2 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/16/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		1.0 (P)									Soft to medium stiff gray CLAY (CH) w/silt and sand seams
	50		1.0 (P)									
	55		0.5 (P)		56	76						
	60											Medium stiff gray SANDY CLAY (CL) w/sand layers, organic matter, and silt seams
	65		0.5 (P)	0.57	33	89	35	28	7			
	70		0.5 (P)									
	75		1.0 (P)	1.08	31	90						Medium stiff gray SANDY CLAY (CL) w/organic matter and sand seams
	80		0.5 (P)									

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-8

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 3 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/16/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Medium stiff gray SANDY CLAY (CL) w/organic matter and sand seams
	85		0.5 (P)	0.36	34	87						Soft gray SANDY CLAY (CL) w/organic matter, shell fragments, and sand layers
	90		0.5 (P)									
	95		1.0 (P)	0.40	31	92						
	100		1.0 (P)									Boring completed at 100 ft.
	105											
	110											
	115											
	120											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-9

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 07/25/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
☒			3.5 (P)									Very soft gray CLAY (CH) w/silt, organic matter, and shell fragments
			4.5+ (P)									
	5		1.0 (P)	0.23	31	86						
			1.25 (P)	0.55	38	77						Medium stiff gray CLAY (CH) w/silt seams
			0.5 (P)									
	10											
			0.75 (P)	0.16	37	84						Very soft gray CLAY (CH) w/silt seams
	15											
			0.25 (P)									
	20											
			0.25 (P)	0.29	87	54						Soft gray CLAY (CH) w/shells and organic matter
	25											
			0.25 (P)									
	30											
			1.0 (P)		60	63						
	35											
			0.5 (P)									Soft gray CLAY (CH) w/organic matter
	40											

Continued Next Page

Ground Water Level Data

☒ No free water encountered

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 15 feet
4" Dia. Rotary Wash:
15 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-9

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 2

File: 06-3049
Date: 07/25/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

LELAP Certificate No. 02052

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		0.0 (P)	0.40	52	67						Soft gray CLAY (CH) w/organic matter
	50		0.0 (P)									
	55		0.25 (P)	0.32	44	77						
	60											Boring completed at 60 ft.
	65											
	70											
	75											
	80											

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	4" Nom. Dia. Short Flight Auger: 0 to 15 feet 4" Dia. Rotary Wash: 15 to 60 feet	
	Boring Abandonment Method Borehole grouted with cement/ bentonite upon completion	

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-10

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/18/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
			4.0 (P)									Medium stiff to stiff brown and gray SANDY CLAY (CL) w/shells and organic matter
			2.5 (P)									
▽	5		1.0 (P)									Soft gray SILTY CLAY (CL) w/organic matter and sand layers
▽			1.0 (P)									
			0.5 (P)									
	10											Soft gray CLAY (CH) w/organic matter, sand and silt seams
			0.5 (P)	0.32	37	75						
	15											
			0.5 (P)									
	20											
			0.5 (P)	0.58t	34	87						Medium stiff gray CLAY (CH) w/organic matter and silt seams
	25											
			0.75 (P)									
	30											
			0.25 (P)		52	59						Very soft to soft gray CLAY (CH) w/organic matter
	35											
			0.75 (P)									
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

t: Unconsolidated, Undrained Triaxial Compression Test
t = 13.1 psi

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-10

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/18/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Location: See Boring Plan Surface Elevation: N/A (ft., NGVD)
												Very soft to soft gray CLAY (CH) w/organic matter
	45		0.5 (P)	0.12	46	63						Soft gray SANDY CLAY (CL) w/organic matter and shell fragments
	50		0.75 (P)									
	55		0.25 (P)	0.41	29	89						
	60		1.5 (P)									
												Boring completed at 60 ft.
	65											
	70											
	75											
	80											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-11

STE
Soil Testing Engineers, Inc.

Sheet 1 of 3

File: 06-3049
Date: 08/22/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LELAP Certificate No. 02052

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Stiff to very stiff tan SILTY CLAY (CL) w/shell fragments
												Soft gray SANDY CLAY (CL) w/shell fragments and roots
▽	5		3.5 (P)	0.41	23	99						
			0.75 (P)									Soft gray SILTY CLAY (CL) w/sand, shell fragments, and organic matter
	10		0.25 (P)	0.37	27	91						
	15		0.25 (P)									
			0.75 (P)	0.31	37	84	44	23	21			Soft gray SILTY CLAY (CL) w/wood fragments, organic matter, and shell fragments
	20											
	25		0.5 (P)									
			0.0 (P)		43							
	30											
			0.5 (P)									Soft gray and tan CLAY (CH) w/wood fragments
	35											
			0.5 (P)	0.43	66							
	40											

Continued Next Page

Ground Water Level Data	Boring Advancement Method	Notes
▽ Free water first encountered ▼ Water level after 15 mins.	4" Nom. Dia. Short Flight Auger: 0 to 10 feet 4" Dia. Rotary Wash: 10 to 100 feet	
	Boring Abandonment Method Borehole grouted with cement/ bentonite upon completion	Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-11

STE
Soil Testing Engineers, Inc.

File: 06-3049
Date: 08/22/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LELAP Certificate No. 02052

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		0.5 (P)									Soft gray and tan CLAY (CH) w/wood fragments
	50		0.75 (P)	0.45	30		0	15	NP			Soft gray and black SILTY CLAY (CL) w/organic matter and sand layers
	55		1.0 (P)									
	60		0.75 (P)	0.51	28	92						
	65		0.5 (P)									
	70		0.25 (P)	0.13	35	85						Very soft gray SILTY CLAY (CL)
	75		2.0 (P)									Medium stiff gray SILTY CLAY (CL)
	80		1.0 (P)	0.61	35	86	48	22	26			

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-11

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 3 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/22/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	85		1.0 (P)									Medium stiff gray SILTY CLAY (CL)
	90		0.75 (P)	0.57	34	86						
	95		0.5 (P)									
	100		0.25 (P)	0.51	34	81						
												Boring completed at 100 ft.
	105											
	110											
	115											
	120											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-12

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/21/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Gray SANDY CLAY (CL) w/limestone and shells
			4.0 (P)									Stiff gray and tan SILTY CLAY (CL) w/organic matter and shells
	5		3.5 (P)	1.13	28	92						
			4.5+ (P)									
▽			1.75 (P)	0.50	34	87						Medium stiff gray SILTY CLAY (CL) w/sand seams
	10											
			0.5 (P)	0.27	44	77						Soft gray SILTY CLAY (CL) w/sand layers and organic matter
	15											
			0.25 (P)									
	20											
			0.5 (P)	0.35t1	34	84						
	25											
			0.0 (P)									
	30											
			0.25 (P)		60	63						Very soft gray CLAY (CH) w/organic matter and shell fragments
	35											
			0.5 (P)									
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

t: Unconsolidated, Undrained Triaxial Compression Test
t1 = 11.8 psi
t2 = 19.8 psi
t3 = 25.6 psi
t4 = 27.7 psi

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish), Louisiana

LOG OF SOIL BORING B-12

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/21/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Very soft gray CLAY (CH) w/organic matter and shell fragments
	45		0.75 (P)	0.51t2	35	85						Soft gray SILTY CLAY (CL) w/organic matter
	50		0.25 (P)									
	55											
	60		1.25 (P)	0.61t3	36	85						Medium stiff gray SANDY CLAY (CL)
	65		0.75 (P)	0.40t4	30	85						Soft gray SANDY CLAY (CL)
	70											Soft gray CLAY (CH)
	75		0.75 (P)	0.41	41	72						
	80		0.5 (P)									Boring completed at 80 ft

Ground Water Level Data

- Free water first encountered
- Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

t: Unconsolidated, Undrained Triaxial Compression Test
t1 = 11.8 psi
t2 = 19.8 psi
t3 = 25.6 psi
t4 = 27.7 psi

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-13

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/21/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
▽	0											Medium stiff to stiff gray and brown SILTY CLAY (CL) w/iron nodes, shell fragments, and organic matter
			1.5 (P)	0.57	23	104						
▽	5		2.25 (P)									
												Soft brown and gray SILTY CLAY (CL) w/organic matter
			0.5 (P)	0.36	33	87						
	10											
			0.5 (P)									Very soft gray CLAY (CH) w/sand seams and organic matter
	15											
			0.25 (P)	0.19	45	75						
	20											
			0.25 (P)									
	25											
												Soft gray and tan CLAY (CH) w/silt and sand seams
			0.75 (P)	0.32	46	75						
	30											
			0.25 (P)									
	35											
												Soft gray SANDY CLAY (CL) w/sand layers
			0.75 (P)		35		36	27	9			
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-13

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/21/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		0.75 (P)									Soft gray SANDY CLAY (CL) w/sand layers
	50		1.0 (P)	0.24	38	79						
	55		0.25 (P)									Soft gray SILTY CLAY (CL)
	60		0.5 (P)	0.43	38	82						
												Boring completed at 60 ft.
	65											
	70											
	75											
	80											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/21/06

Infinity
Engineering Consultants, LLC

Civil
Structural
Mechanical
Marine

504 304 0548
www.infinityec.com

October 10, 2006

Mr. George Pivach
Louisiana Fruit Company
8311 Highway 23
Suite 104
Belle Chasse, LA 70037

RE: Tiger Pass Properties

Mr. Pivach:

Enclosed please find soil boring logs and laboratory test results received from Soil Testing Engineers, Inc. (STE) for properties located near Tiger Pass. Please note that property specific recommendations are findings will follow as we perform engineering for each site per your direction.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Infinity Engineering Consultants, LLC

William J. Thomassie, P.E.
Principal Partner

Enclosure

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-1

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/09/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
			1.25 (P)									Medium stiff gray SANDY CLAY (CL) w/wood and organic matter
			0.5 (P)									
▽	5		0.5 (P)	0.64	25	95						
			2.0 (P)									
			0.25 (P)	0.46	36	83						Soft gray SANDY CLAY (CL) w/wood
	10											
			0.75 (P)	0.34	47	73	49	22	27			
	15											
			8-WOH		31							Loose gray CLAYEY SAND (SC)
	20											
			WOH									Soft gray CLAY (CH) w/sand layers and organic matter
	25											
			0.5 (P)	0.38	53	65	75	22	53			
	30											
			0.5 (P)									
	35											
			0.75 (P)	0.45	57	68						
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish), Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-1

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/09/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		0.5 (P)									Soft gray CLAY (CH) w/sand layers and organic matter
	50		0.75 (P)	0.36	45	73						
	55		0.75 (P)									
	60		0.75 (P)									
	65		0.5 (P)	0.51	44	78						Soft to medium stiff gray CLAY (CH)
	70		0.5 (P)									
	75		0.5 (P)	0.49	53	68						
	80		0.75 (P)									Boring completed at 80 ft

Ground Water Level Data

Free water first encountered

Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish), Louisiana

LOG OF SOIL BORING B-2

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/09/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
▽			1.25 (P)	1.65	24	101						Stiff gray SANDY CLAY (CL) w/shells and organic matter
▽			1.75 (P)		26		43	23	20			
	5		0.75 (P)									
			WOH									Soft gray SANDY CLAY (CL) w/concrete, wood, and debris
	10											
			0.5 (P)	1.06	27	94						Stiff gray SILTY CLAY (CL)
	15											
			23 b/f 10-9-14									Medium dense gray SAND (SP) w/clay layers
	20											
			WOH									Very soft to soft gray SILTY CLAY (CL)
	25											
			0.5 (P)	0.40	26	95						
	30											Very soft to soft gray CLAY (CH) w/organic matter
			WOH									
	35											
			WOH									
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger: 0 to 4 feet
4" Dia. Rotary Wash: 4 to 6 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-2

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/09/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		WOH									Very soft to soft gray CLAY (CH) w/organic matter
	50		WOH									
	55		WOH									
	60		WOH									
	65											Boring completed at 30 ft.
	70											
	75											
	80											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 4 feet
4" Dia. Rotary Wash:
4 to 6 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-3

STE
Soil Testing Engineers, Inc.

File: 06-3049
Date: 08/02/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LELAP Certificate No. 02052

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
▽			1.25 (P)									Medium stiff gray SILTY CLAY (CL) w/shells
			1.5 (P)	0.67	30	84						
	5		1.5 (P)	0.31	51	74						Very soft to soft gray CLAY (CH) w/shells
			0.5 (P)									
			0.25 (P)	0.23	42	76						
	10											
			0.75 (P)									
	15											
			0.0 (P)	0.28	27	95						
	20											
			WOH									Very loose gray CLAYEY SAND (SC)
	25											
			0.25 (P)	0.48	27	93						Soft gray SILTY CLAY (CL)
	30											
			0.75 (P)									
	35											
			0.75 (P)	0.41	53	70						Soft gray CLAY (CH)
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-3

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/02/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Soft gray CLAY (CH)
	45		0.75 (P)	0.53	70	60	94	27	67			Medium stiff gray CLAY (CH)
	50		1.25 (P)	0.35	40	79						Very soft to soft gray CLAY (CH)
	55		WOH									
	60		WOH									Boring completed at 60 ft.
	65											
	70											
	75											
	80											

Ground Water Level Data

▽ Free water first encountered

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-4

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/02/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
			2.5 (P)									Medium stiff gray and brown SANDY CLAY (CL) w/shells
	5		1.5 (P)	0.71	25	98						
			1.75 (P)		29							Medium stiff gray SILTY CLAY (CL)
▽												
▼	10		1.5 (P)	0.79	31	88						
			1.0 (P)	0.39	38	82						Soft gray SILTY CLAY (CL) w/organic matter and shells
	15											
			0.5 (P)									Soft gray CLAY (CH) w/shell fragments
	20											
			0.5 (P)	0.44	69	58						
	25											
			WOH									
	30											
			0.25 (P)	0.27	35	85						Soft gray SILTY CLAY (CL)
	35											
			0.75 (P)									
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-4

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/02/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		WOH									Soft gray SILTY CLAY (CL)
	50		29 b/f 11-9-20									Medium dense gray CLAYEY SAND (SC)
	55		0.5 (P)	0.29	47	71						Very soft to soft gray CLAY (CH)
	60		0.75 (P)									
	65		0.75 (P)	0.24	37	83						
	70		0.5 (P)	0.55	36	83						Soft to medium stiff gray CLAY (CH)
	75		WOH									
	80		WOH									Boring completed at 80 ft.

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-5

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 07/26/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
			4.5 (P)									Medium stiff gray SILTY CLAY (CL) w/shells and rocks
			1.75 (P)	0.96	27	94						
	5		0.75 (P)									Soft to medium stiff gray and brown SILTY CLAY (CL) w/shells and sand layers
▽			0.75 (P)		25							
▽			2.5 (P)		26							
	10											
			0.25 (P)	0.29	36	100						Soft gray CLAY (CH) w/silt seams
	15											
			No (P)									
	20											
			16 b/f 10-8-8									Loose to medium dense gray CLAYEY SAND (SC) w/shells
	25											
			No (P)		36							Very soft to soft gray CLAY (CH)
	30											
			No (P)									
	35											
			0.5 (P)	0.48	61	65						
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▽ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 15 feet
4" Dia. Rotary Wash:
15 to 55 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-5

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 07/26/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Soft gray CLAY (CH) w/sand seams
	45		1.0 (P)	0.39	50	69						
	50		0.5 (P)									
			0.5 (P)		45	75						
	55											Boring completed at 55 ft.
	60											
	65											
	70											
	75											
	80											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 15 feet
4" Dia. Rotary Wash:
15 to 55 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-6

STE
Soil Testing Engineers, Inc.

Sheet 1 of 3

File: 06-3049
Date: 08/17/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LELAP Certificate No. 02052

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
▽ ▼												Gray and brown SANDY CLAY (CL) w/shells and organic matter
	5		3.5 (P)	0.92	25	92						Medium stiff gray and brown SANDY CLAY (CL) w/shells
			0.5 (P)									
			0.5 (P)		29							
	10											Soft gray SANDY CLAY (CL) w/shells
			1.0 (P)	0.32	33	86						
	15											
			5 b/f 6-3-2									
	20											
			WOH									Very loose gray and tan CLAYEY SAND (SC) w/shells
	25											
			WOH									Very soft gray SANDY CLAY (CL)
	30											
			9 b/f 6-3-6									Loose gray CLAYEY SAND (SC)
	35											
			WOH									Very soft gray SILTY CLAY (CL)
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 8 feet
4" Dia. Rotary Wash:
8 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-6

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/17/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		WOH		63							Very soft gray SILTY CLAY (CL)
	50		27 b/f 20-15-12									Medium dense gray SILTY SAND (SM) w/clay layers
	55		WOH									Very soft to soft gray CLAY (CH) w/sand layers and organic traces
	60		0.5 (P)	0.40	43	77						
	65		1.0 (P)									
	70		0.5 (P)	0.35	47	76	66	26	40			
	75											
	80		0.5 (P)	0.36	41	73						

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 8 feet
4" Dia. Rotary Wash:
8 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-6

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 3 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/17/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	85		1.0 (P)									Very soft to soft gray CLAY (CH) w/sand layers and organic traces
	90		0.5 (P)	0.31	36	65	57	26	31			
	95		0.5 (P)									
	100		0.5 (P)	0.30	53	61						Boring completed at 100 ft.
	105											
	110											
	115											
	120											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 8 feet
4" Dia. Rotary Wash:
8 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-7

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/10/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Medium stiff to stiff gray SANDY CLAY (CL) w/shells and organic matter
▽	5		1.25 (P)	0.48	31	85						Very soft to soft gray SILTY CLAY (CL) w/sand and organic matter
▼			1.0 (P)									
▽	10		0.5 (P)	0.13	38	102						Very soft gray CLAYEY SAND (SC) w/clay layers
	15		0.25 (P)									
	20		0.25 (P)	0.17	30	74	28	NP	28			
	25											Very soft to soft gray CLAY (CH) w/sand layers and organic matter
			WOH									
	30											
			WOH									
	35											
			0.75 (P)	0.35	59	64						
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-7

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/10/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		0.25 (P)	0.41	42	76						Very soft to soft gray CLAY (CH) w/sand layers and organic matter
	50		0.5 (P)	0.23	32	87						Very soft to soft gray SILTY CLAY (CL) w/clay layers
	55		WOH									
	60		WOH									
	65		WOH									
	70		WOH									
	75		WOH									
	80		WOH									

Boring completed at 80 ft

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

WOH: Weight of Hammer

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-8

STE
Soil Testing Engineers, Inc.

Sheet 1 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/16/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
▽	0		3.0 (P)									Gray and tan SHELLS w/clay layers, organic matter, and sand layers
	5											
	10		0.5 (P)									Very soft to soft gray SILTY CLAY (CL) w/organic matter and sand seams
	15		0.5 (P)	0.29	39	85						
	20		0.5 (P)									
	25		3.0 (P)	0.24	41	83						
	30		0.5 (P)									Medium stiff gray SANDY CLAY (CL) w/shells and sand seams
	35		0.5 (P)	0.58	21	100	31	26	5			
	40		0.5 (P)									Soft to medium stiff gray CLAY (CH) w/silt and sand seams

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish), Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-8

STE
Soil Testing Engineers, Inc.

Sheet 2 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/16/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		1.0 (P)									Soft to medium stiff gray CLAY (CH) w/silt and sand seams
	50		1.0 (P)									
	55		0.5 (P)		56	76						
	60											Medium stiff gray SANDY CLAY (CL) w/sand layers, organic matter, and silt seams
	65		0.5 (P)	0.57	33	89	35	28	7			
	70		0.5 (P)									
	75		1.0 (P)	1.08	31	90						Medium stiff gray SANDY CLAY (CL) w/organic matter and sand seams
	80		0.5 (P)									

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-8

STE
Soil Testing Engineers, Inc.

Sheet 3 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/16/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Medium stiff gray SANDY CLAY (CL) w/organic matter and sand seams
	85		0.5 (P)	0.36	34	87						Soft gray SANDY CLAY (CL) w/organic matter, shell fragments, and sand layers
	90		0.5 (P)									
	95		1.0 (P)	0.40	31	92						
	100		1.0 (P)									Boring completed at 100 ft.
	105											
	110											
	115											
	120											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish), Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-9

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 07/25/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
☒			3.5 (P)									Very soft gray CLAY (CH) w/silt, organic matter, and shell fragments
			4.5+ (P)									
	5		1.0 (P)	0.23	31	86						
			1.25 (P)	0.55	38	77						Medium stiff gray CLAY (CH) w/silt seams
			0.5 (P)									
	10											
			0.75 (P)	0.16	37	84						Very soft gray CLAY (CH) w/silt seams
	15											
			0.25 (P)									
	20											
			0.25 (P)	0.29	87	54						Soft gray CLAY (CH) w/shells and organic matter
	25											
			0.25 (P)									
	30											
			1.0 (P)		60	63						
	35											
			0.5 (P)									Soft gray CLAY (CH) w/organic matter
	40											

Continued Next Page

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered	4" Nom. Dia. Short Flight Auger: 0 to 15 feet 4" Dia. Rotary Wash: 15 to 60 feet	
	Boring Abandonment Method Borehole grouted with cement/ bentonite upon completion	

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-9

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 07/25/06
Logged by: J. Binder, III
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		0.0 (P)	0.40	52	67						Soft gray CLAY (CH) w/organic matter
	50		0.0 (P)									
	55		0.25 (P)	0.32	44	77						
	60											Boring completed at 60 ft.
	65											
	70											
	75											
	80											

Ground Water Level Data

☒ No free water encountered

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 15 feet
4" Dia. Rotary Wash:
15 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish), Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-10

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/18/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
			4.0 (P)									Medium stiff to stiff brown and gray SANDY CLAY (CL) w/shells and organic matter
			2.5 (P)									
▽	5		1.0 (P)									Soft gray SILTY CLAY (CL) w/organic matter and sand layers
▽			1.0 (P)									
			0.5 (P)									
	10											Soft gray CLAY (CH) w/organic matter, sand and silt seams
			0.5 (P)	0.32	37	75						
	15											
			0.5 (P)									
	20											
			0.5 (P)									Medium stiff gray CLAY (CH) w/organic matter and silt seams
	25			0.58t	34	87						
			0.75 (P)									
	30											
			0.25 (P)		52	59						Very soft to soft gray CLAY (CH) w/organic matter
	35											
			0.75 (P)									
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

t: Unconsolidated, Undrained Triaxial Compression Test
t = 13.1 psi

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-10

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/18/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Very soft to soft gray CLAY (CH) w/organic matter
	45		0.5 (P)	0.12	46	63						Soft gray SANDY CLAY (CL) w/organic matter and shell fragments
	50		0.75 (P)									
	55		0.25 (P)	0.41	29	89						Boring completed at 55 ft.
	60		1.5 (P)									
	65											
	70											
	75											
	80											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-11

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 1 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/22/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Stiff to very stiff tan SILTY CLAY (CL) w/shell fragments
▽	5		3.5 (P)	0.41	23	99						Soft gray SANDY CLAY (CL) w/shell fragments and roots
	10		0.75 (P) 0.25 (P)	0.37	27	91						Soft gray SILTY CLAY (CL) w/sand, shell fragments, and organic matter
	15		0.25 (P)									
	20		0.75 (P)	0.31	37	84	44	23	21			Soft gray SILTY CLAY (CL) w/wood fragments, organic matter, and shell fragments
	25		0.5 (P)									
	30		0.0 (P)		43							
	35		0.5 (P)									Soft gray and tan CLAY (CH) w/wood fragments
	40		0.5 (P)	0.43	66							

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-11

STE
Soil Testing Engineers, Inc.

File: 06-3049
Date: 08/22/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 3

LELAP Certificate No. 02052

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		0.5 (P)									Soft gray and tan CLAY (CH) w/wood fragments
	50		0.75 (P)	0.45	30		0	15	NP			Soft gray and black SILTY CLAY (CL) w/organic matter and sand layers
	55		1.0 (P)									
	60		0.75 (P)	0.51	28	92						
	65		0.5 (P)									
	70		0.25 (P)	0.13	35	85						Very soft gray SILTY CLAY (CL)
	75		2.0 (P)									Medium stiff gray SILTY CLAY (CL)
	80		1.0 (P)	0.61	35	86	48	22	26			

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-11

STE
Soil Testing Engineers, Inc.

Sheet 3 of 3

LELAP Certificate No. 02052

File: 06-3049
Date: 08/22/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	85		1.0 (P)									Medium stiff gray SILTY CLAY (CL)
	90		0.75 (P)	0.57	34	86						
	95		0.5 (P)									
	100		0.25 (P)	0.51	34	81						
												Boring completed at 100 ft.
	105											
	110											
	115											
	120											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 100 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-12

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/21/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Gray SANDY CLAY (CL) w/limestone and shells
	5		4.0 (P) 3.5 (P) 4.5+ (P)	1.13	28	92						Stiff gray and tan SILTY CLAY (CL) w/organic matter and shells
▽ ▼	10		1.75 (P)	0.50	34	87						Medium stiff gray SILTY CLAY (CL) w/sand seams
	15		0.5 (P)	0.27	44	77						Soft gray SILTY CLAY (CL) w/sand layers and organic matter
	20		0.25 (P)									
	25		0.5 (P)	0.35t1	34	84						
	30		0.0 (P)									
	35		0.25 (P)		60	63						Very soft gray CLAY (CH) w/organic matter and shell fragments
	40		0.5 (P)									

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

t: Unconsolidated, Undrained Triaxial Compression Test
t1 = 11.8 psi
t2 = 19.8 psi
t3 = 25.6 psi
t4 = 27.7 psi

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

LOG OF SOIL BORING B-12

STE
Soil Testing Engineers, Inc.

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/21/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
												Very soft gray CLAY (CH) w/organic matter and shell fragments
	45		0.75 (P)	0.51t2	35	85						Soft gray SILTY CLAY (CL) w/organic matter
	50		0.25 (P)									
	55											
	60		1.25 (P)	0.61t3	36	85						Medium stiff gray SANDY CLAY (CL)
	65		0.75 (P)	0.40t4	30	85						Soft gray SANDY CLAY (CL)
	70											Soft gray CLAY (CH)
	75		0.75 (P)	0.41	41	72						
	80		0.5 (P)									

Boring completed at 80 ft

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 80 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

t: Unconsolidated, Undrained Triaxial Compression Test
t1 = 11.8 psi
t2 = 19.8 psi
t3 = 25.6 psi
t4 = 27.7 psi

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-13

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/21/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
			1.5 (P)	0.57	23	104						Medium stiff to stiff gray and brown SILTY CLAY (CL) w/iron nodes, shell fragments, and organic matter
▽	5		2.25 (P)									
			0.5 (P)	0.36	33	87						Soft brown and gray SILTY CLAY (CL) w/organic matter
	10											
			0.5 (P)									Very soft gray CLAY (CH) w/sand seams and organic matter
	15											
			0.25 (P)	0.19	45	75						
	20											
			0.25 (P)									
	25											
			0.75 (P)	0.32	46	75						Soft gray and tan CLAY (CH) w/silt and sand seams
	30											
			0.25 (P)									
	35											
			0.75 (P)		35		36	27	9			Soft gray SANDY CLAY (CL) w/sand layers
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06

Louisiana Fruit Company
Bulkhead Improvements
Venice (Plaquemines Parish),
Louisiana

Infinity Engineering Consultants, LLC
New Orleans, Louisiana

LOG OF SOIL BORING B-13

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

LELAP Certificate No. 02052

File: 06-3049
Date: 08/21/06
Logged by: C. Llull
Driller: Triangle Resources
Rig: Ardco K-1000

Location: See Boring Plan

Surface Elevation: N/A (ft., NGVD)

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Samples	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Soil Type	Description
	45		0.75 (P)									Soft gray SANDY CLAY (CL) w/sand layers
	50		1.0 (P)	0.24	38	79						
	55		0.25 (P)									Soft gray SILTY CLAY (CL)
	60		0.5 (P)	0.43	38	82						Boring completed at 60 ft.
	65											
	70											
	75											
	80											

Ground Water Level Data

▽ Free water first encountered

▼ Water level after 15 mins.

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 feet
4" Dia. Rotary Wash:
10 to 60 feet

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Strata Boundaries May Not Be Exact

LOG01R 063049.GPJ LOG01.GDT 09/07/06