BFI WASTE SYSTEMS OF LOUISIANA, LLC
COLONIAL LANDFILL
SORRENTO, LOUISIANA
ASCENSION PARISH

SOLID WASTE PERMIT RENEWAL APPLICATION

AGENCY INTEREST NUMBER 4803
TD-005-0532/P-0021

VOLUME III OF III

RECEIVED
JUN 29 2007
LDEQ

JUNE 2007

Prepared By:

PROVIDENCE

Providence Engineering And Environmental Group LLC
1201 Main Street
Baton Rouge, Louisiana 70802
(225) 766-7400

Providence Engineering Project No. 018-005-016

LDEQ-EDMS Document 36269008, Page 2 of 719

INTRODUCTION

LAC 33:VII.519	PART I:	PERMIT APPLICATION FORM
LAC 33:VII.520	ADDENDUM TO PERMIT APPLICATIONS/LAC 33:I.1701	
LAC 33:VII.521	PART II:	SUPPLEMENTARY INFORMATION, ALL PROCESSING AND DISPOSAL FACILITIES
LAC 33:VII.523	PART III:	ADDITIONAL SUPPLEMENTARY INFORMATION

LIST OF TABLES

Table

1 Summary of Piezometer/Monitor Well Cross Sections

2 Summary of Potentiometric Elevations

LIST OF FIGURES

Figure

1 Site Location Map

2 Flood Zone Map

3 Aerial Photograph

4 Well Location Map

4A Fault Map

5 Facility Layout Plan

6 Aquifer Recharge Map

7 Soil Cross Section Location Map

8 Boring Location Map

9 Isometric Soil Profile

10 Geological Cross-Section of Ascension Parish, Louisiana

11 1996 Quarterly Potentiometric Maps Zone 2

12 Groundwater Contour Maps Zone 2

13 1996 Quarterly Potentiometric Maps Zone 3

14 Groundwater Contour Maps Zone 3

LDEQ-EDMS Document 36269008, Page 3 of 719

15 1996 Quarterly Potentiometric Maps Zone 5
16 Groundwater Flow Net
17 NORCO Aquifer (NORC) Potentiometric Map 3/78
18 NORCO Aquifer (NORC) Potentiometric Map 6/92
19 Piezometric Surface of Major Aquifers During Annual Low and High Stage of the Mississippi River
20 Piezometers/Monitor Wells Locations Map

LIST OF APPENDICES

Appendix

A Zoning Affidavit
B Proof of Public Notice
C Proof of Signatory Authority
D Environmental Documentation
E Land Use Documentation/Population Density Documentation
F USACE Section 404 Permit Application
G Water Well Survey/Seismic Survey/Well Status Reports
H Historical Drawings
I Engineering Drawings
J R.S. 2157 Certifications
K Special Waste Acceptance Plan/Random Inspection Plan
L Engineering Analysis/Additional Engineering Calculations
M Soil Cross Sections
N Soil Boring Logs
O Geotechnical Report
P Slug Test Results
Q Certification Statement
R Soil Calculations
S Daily Cover Operations Procedure (Hydromulch Synthetic Cover)
T QA/QC Procedures for Clay Liner and Cap Construction/ CQA Plan for Synthetic Bottom and Cap Liner Installation

LDEQ-EDMS Document 36269008, Page 4 of 719

U Groundwater Sampling and Analysis Plan

V Soil Bentonite Slurry Cutoff Wall Quality Assurance Plan

W Monitoring Well Cross Sections

X Safety-Emergency - Contingency Plan

Y Training Plan

Z Operational Plan

AA Gas Monitoring Procedures

BB Implementation Schedule

CC Closure and Post-Closure Cost Estimates

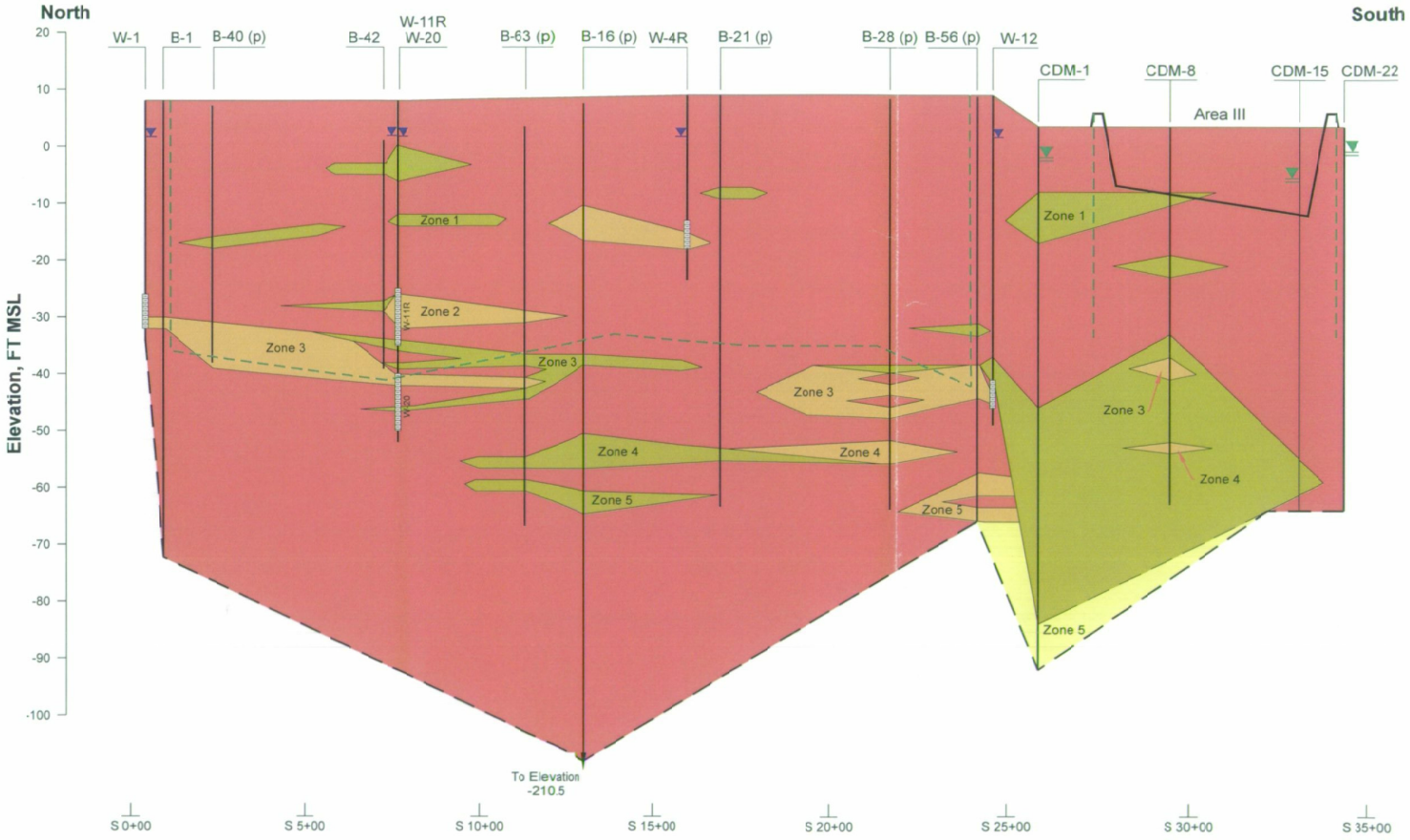
DD Example of Closure Document

EE Financial Documentation/Annual Report

APPENDIX M

SOIL CROSS SECTIONS

LDEQ-EDMS Document 36269008, Page 6 of 719



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Dense to Very Dense Gray Silty Sand to Sand (SM, SP)
- Slurry Wall
- Water Level 12/17-18/96
- Screen
- First-Encountered Groundwater Level (Aug. - Sept. 2004)

Notes

1. Strata interpoled between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slighty to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA. Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provided figure, titled: N-S Soil Profile A-A' STA. E 1+00, dated: 11-05-96, file no: 95-1154.

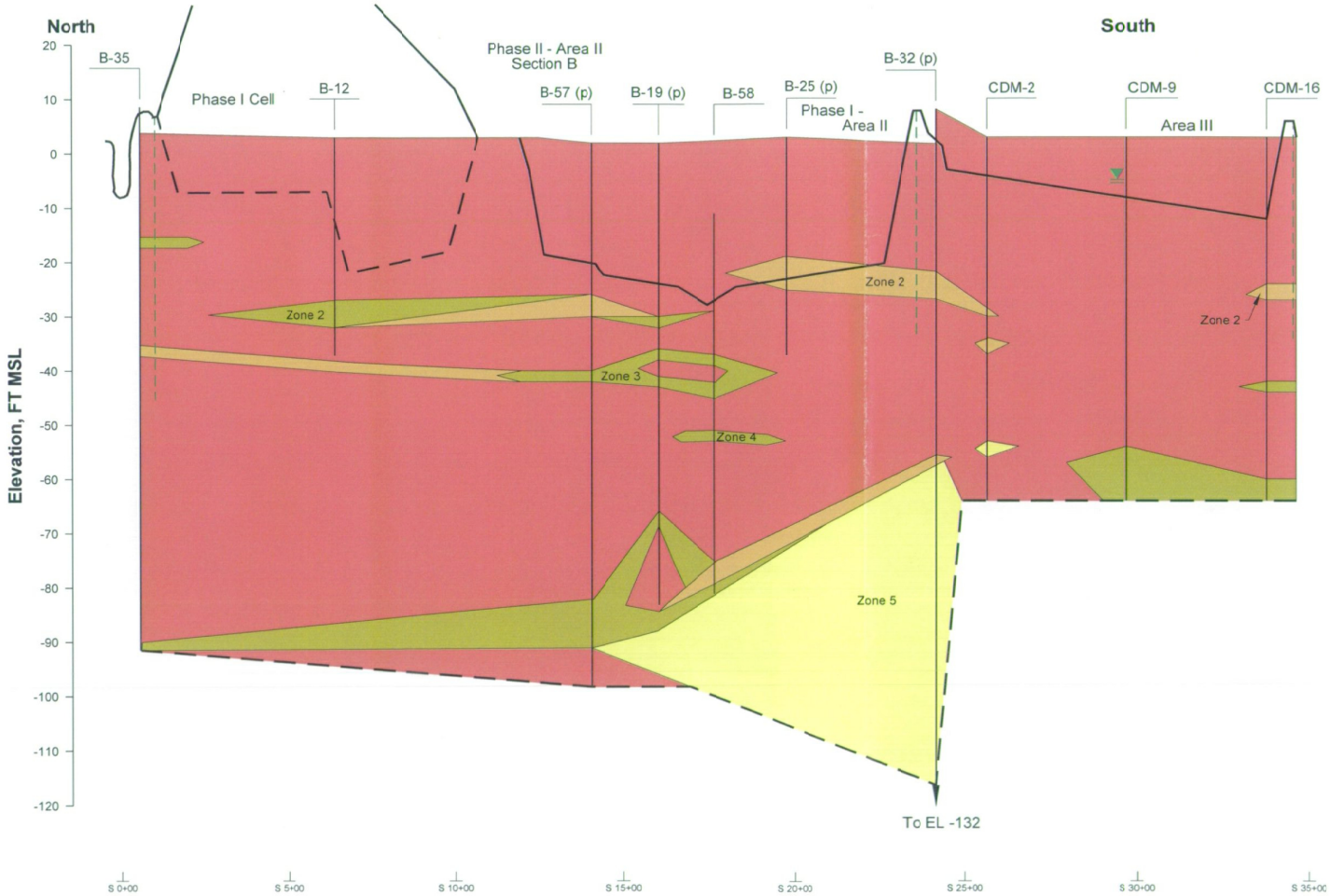
Soil Cross Section A-A'

Solid Waste Permit Renewal
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn: JET	1
Dwg. No.:	018-005-B116	Checked:	Figure
		Approved:	
		Date: 05/24/06	



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Dense to Very Dense Gray Silty Sand to Sand (SM, SP)
- Slurry Wall
- First-Encountered Groundwater Level (Aug. 2004)

Notes

1. Strata interpoled between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slighty to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA.
   Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provided figure, titled: N-S Soil Profile B-B' STA. E 4+70, dated: 11-05-96, file no: 95-1154.

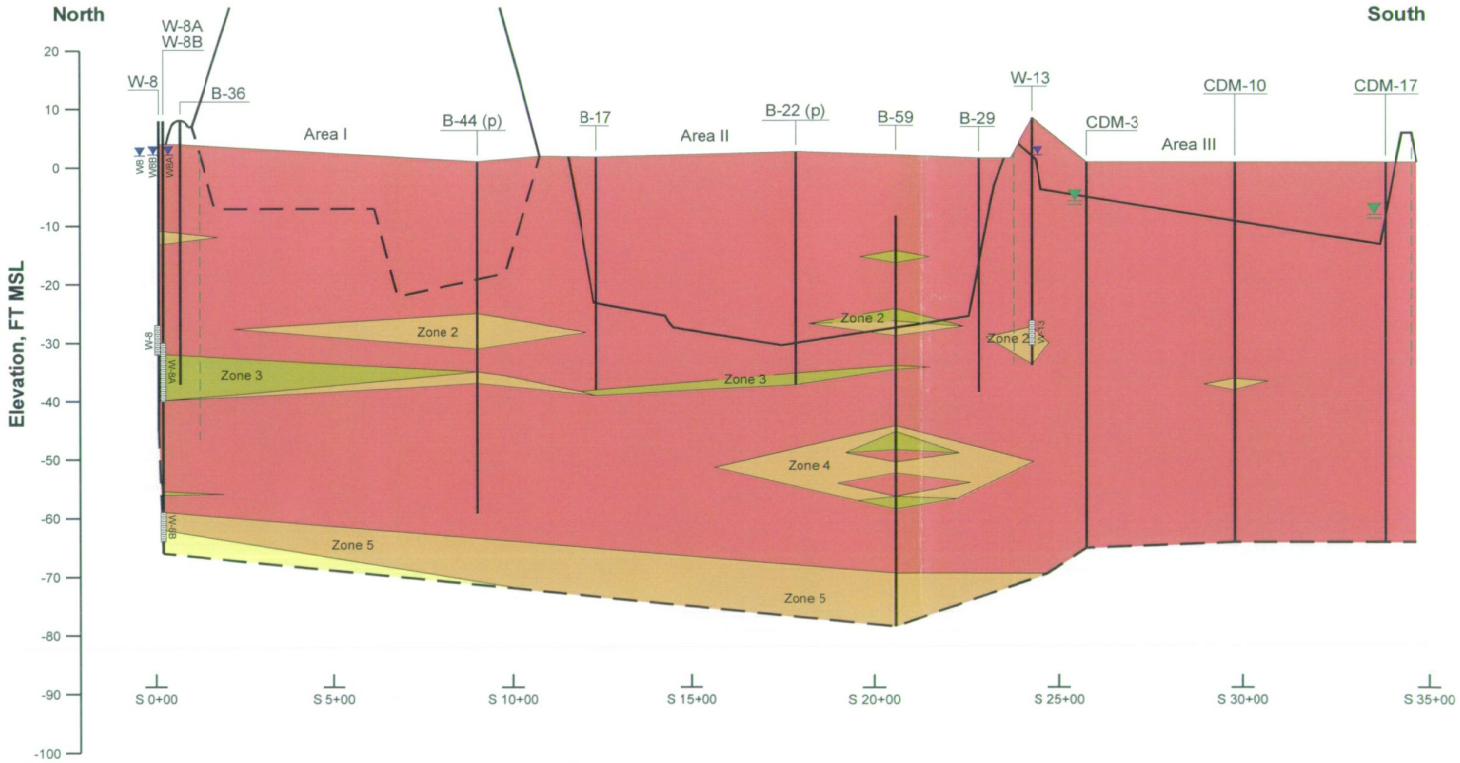
Soil Cross Section B-B'

Solid Waste Permit Renewal
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfil

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn: JET	2
		Checked:	Figure
Dwg. No.:	018-005-B117	Approved:	
		Date: 05/24/06	



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Sity Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Dense to Very Dense Gray Silty Sand to Sand (SM, SP)
- Slurry Wall
- Water Level 12/17-18/97
- Screen
- First-Encountered Groundwater Level (Aug. - Sept. 2004)

Notes

1. Strata interpoled between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slighty to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA.
   Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provided figure, titled: N-S Soil Profile C-C' STA. E 8+00, dated: 11-05-96, file no: 96-1154.

Soil Cross Section C-C'

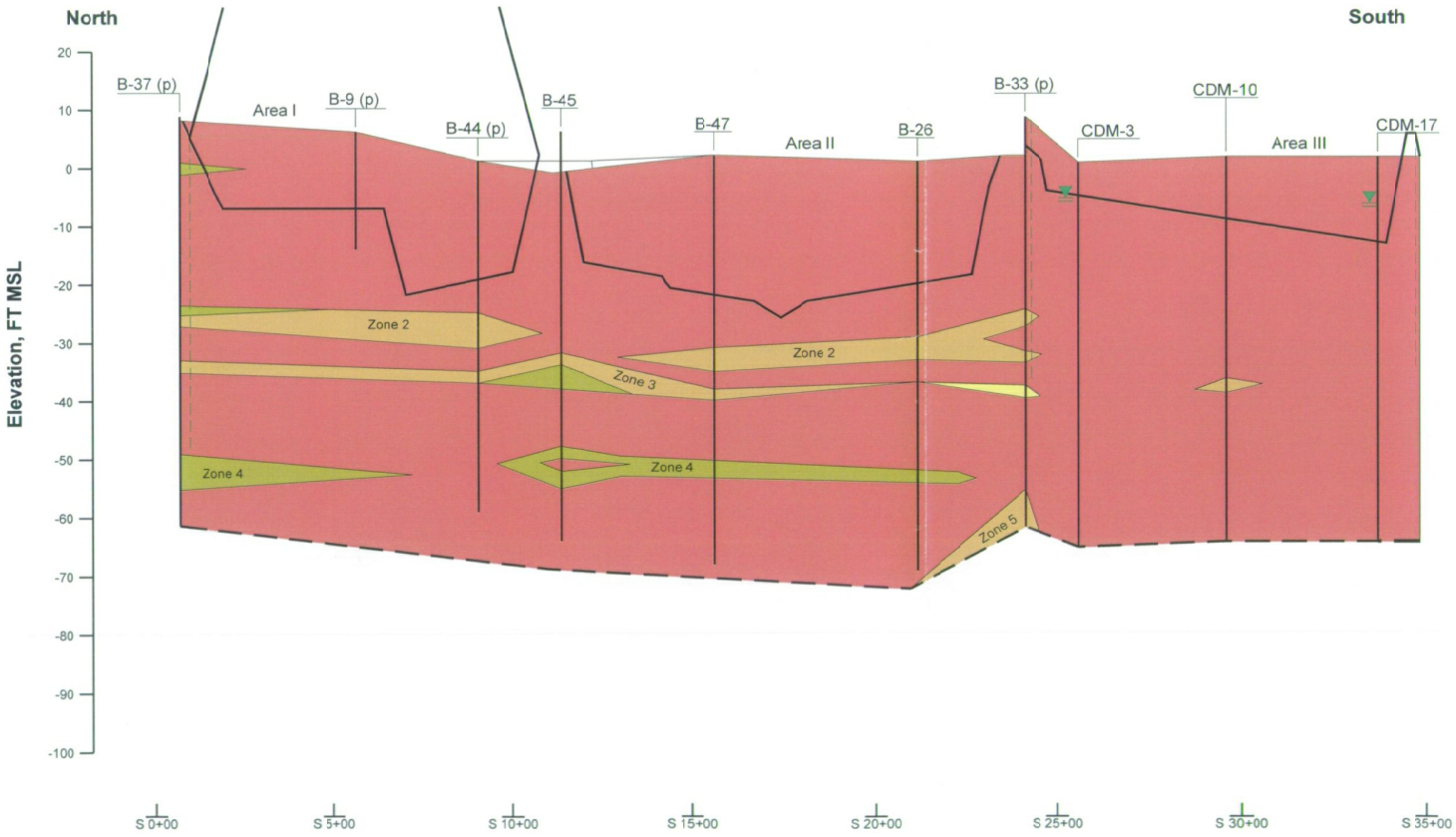
Solid Waste Permit Renewal
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn:	JET	3
		Checked:		Figure
Dwg. No.:	018-005-B118	Approved:		
		Date:	05/24/06	

LDEQ-EDMS Document 36269008, Page 8 of 719



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Dense to Very Dense Gray Silty Sand to Sand (SM, SP)
- Slurry Wall
- First-Encountered Groundwater Level (Aug. - Sept. 2004)

Notes

1. Strata interpoled between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slighty to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA.
   Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provided figure, titled: N-S Soil Profile D-D' STA. E 10+80, dated: 11-05-96, file no: 96-1154.

Soil Cross Section D-D'

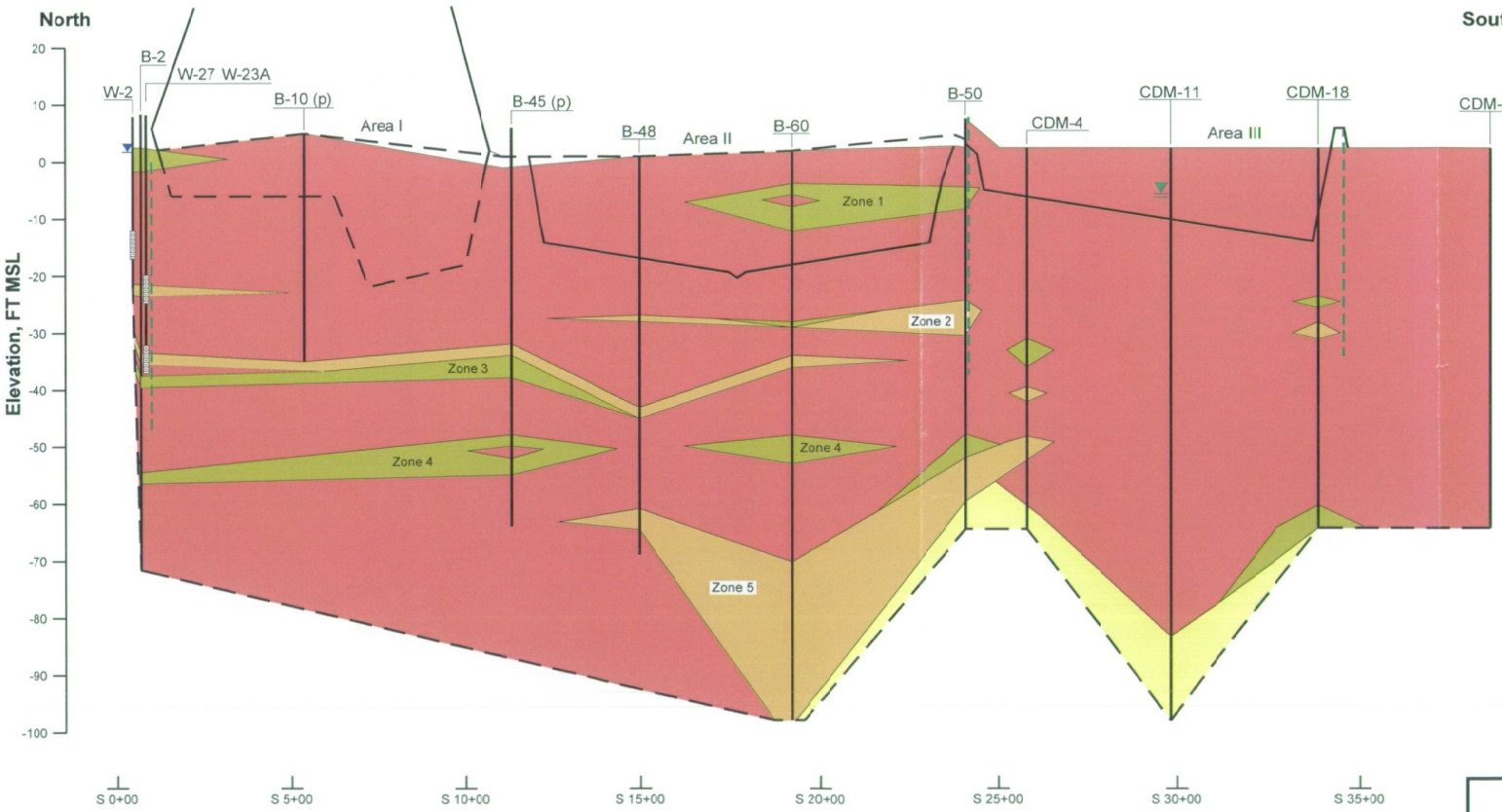
Solid Waste Permit Renewal
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn: JET	4
		Checked:	
Dwg. No.:	018-005-B119	Approved:	Figure
		Date: 05/24/06	

LDEQ-EDMS Document 36269008, Page 9 of 719



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Dense to Very Dense Gray Silty Sand to Sand (SM, SP)
- Slurry Wall
- Water Level 12/17-18/97
- Screen
- First-Encountered Groundwater Level (Sept. 2004

Notes

1. Strata interpoled between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slighty to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA. Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provided figure, titled: N-S Soil Profile E-E' STA. E 13+60, dated: 11-05-95, file no: 95-1154.

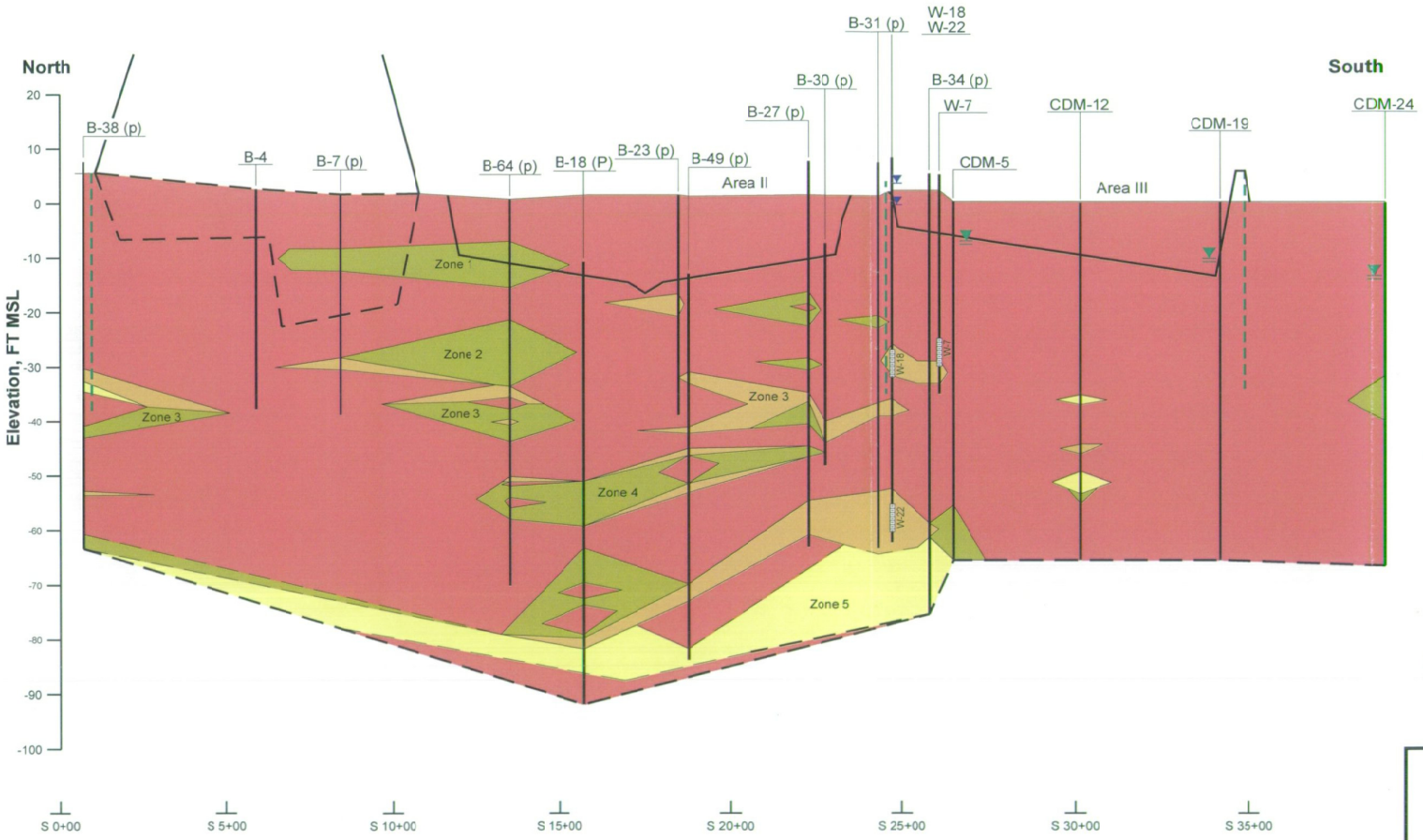
Soil Cross Section E-E'

Solid Waste Permit Renewal
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn:	JET	5
		Checked:		Figure
Dwg. No.:	018-005-B120	Approved:		
		Date:	05/24/06	



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Dense to Very Dense Gray Silty Sand to Sand (SM, SP)
- Slurry Wall
- Water Level 12/17-18/97
- Screen
- First-Encountered Groundwater Level (Sept. 2004)

Notes

1. Strata interpoled between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slighty to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA. Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provided figure, titled: N-S Soil Profile F-F' STA. E 17+40, dated: 11-05-96, file no: 96-1154.

Soil Cross Section F-F'

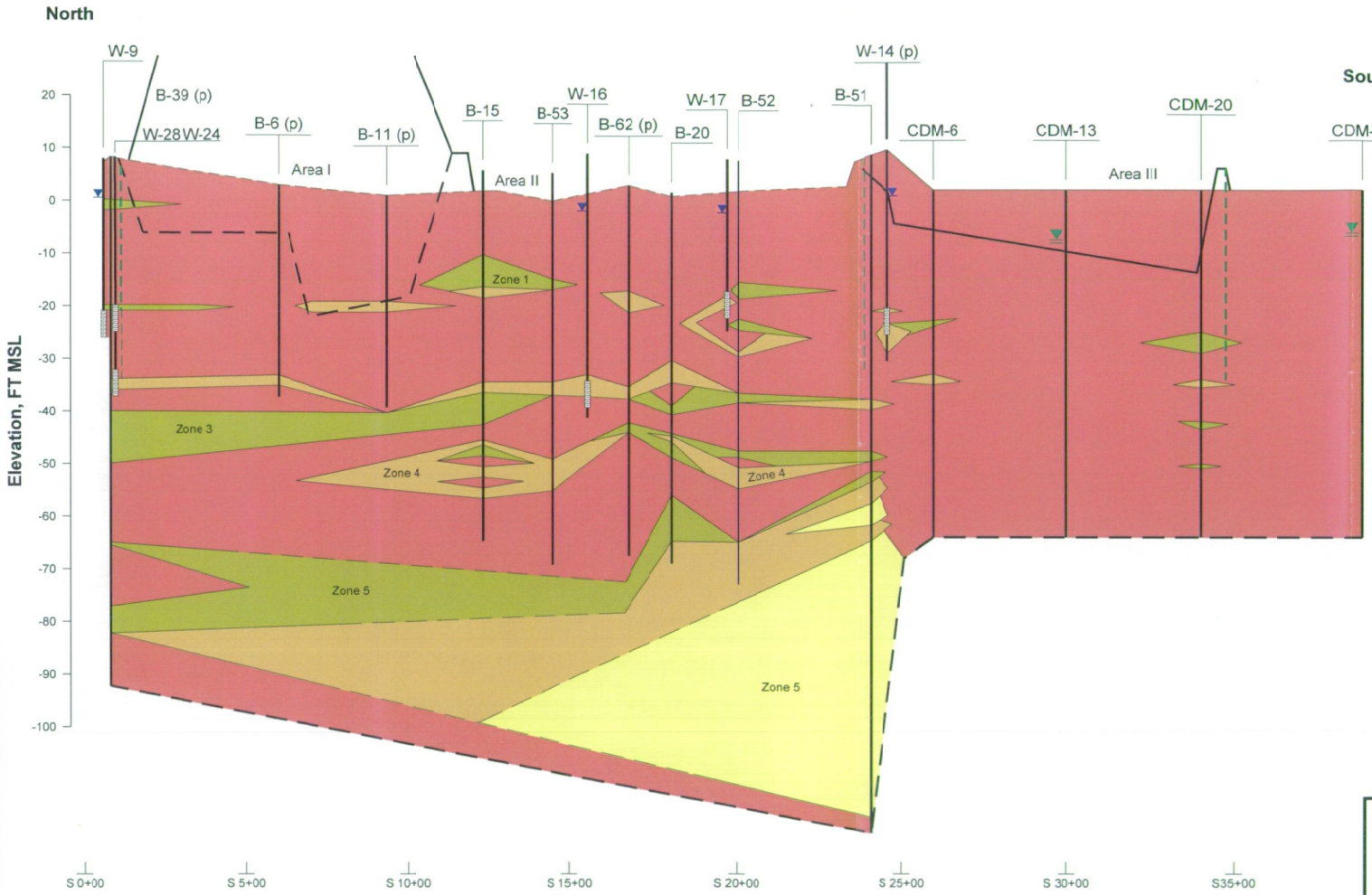
Solid Waste Permit Renewal
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn:	JET	6 Figure
		Checked:		
Dwg. No.:	018-005-B121	Approved:		
		Date:	05/24/06	

LDEQ-EDMS Document 36269008, Page 11 of 719



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Dense to Very Dense Gray Silty Sand to Sand (SM, SP)
- Slurry Wall
- Water Level 12/17-18/97
- Screen
- First-Encountered Groundwater Level (Sept. 2004)

Notes

1. Strata interpolated between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slightly to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA. Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provided figure, titled: N-S Soil Profile G-G' STA. E 22+00, dated: 11-06-96, file no: 95-1154.

Soil Cross Section G-G'

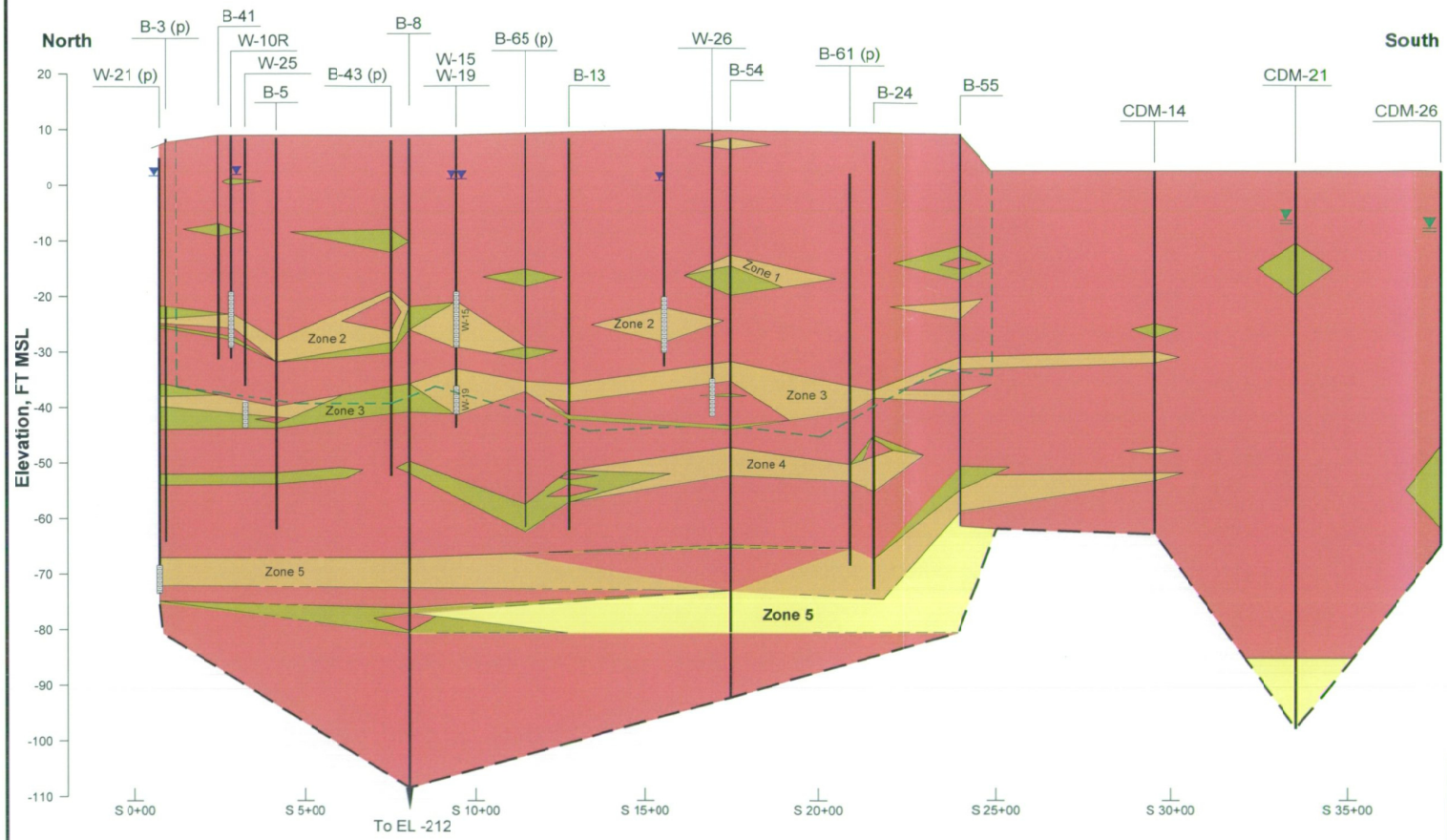
Solid Waste Permit Renewal
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn:	JET	7
		Checked:		
Dwg. No.:	018-005-B122	Approved:		Figure
		Date:	05/24/06	

LDEQ-EDMS Document 36269008, Page 12 of 719



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Dense to Very Dense Gray Silty Sand to Sand (SM, SP)
- Slurry Wall
- Water Level 12/17-18/97
- Screen
- First-Encountered Groundwater Level (Sept. 2004)

Notes

1. Strata interpolated between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slightly to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA. Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provided figure, titled: N-S Soil Profile H-H' STA. E 27+30, dated: 11-06-96, file no: 95-1154.

Soil Cross Section H-H'

Solid Waste Permit Renewal
Sorrento, Ascension Parish, Louisiana

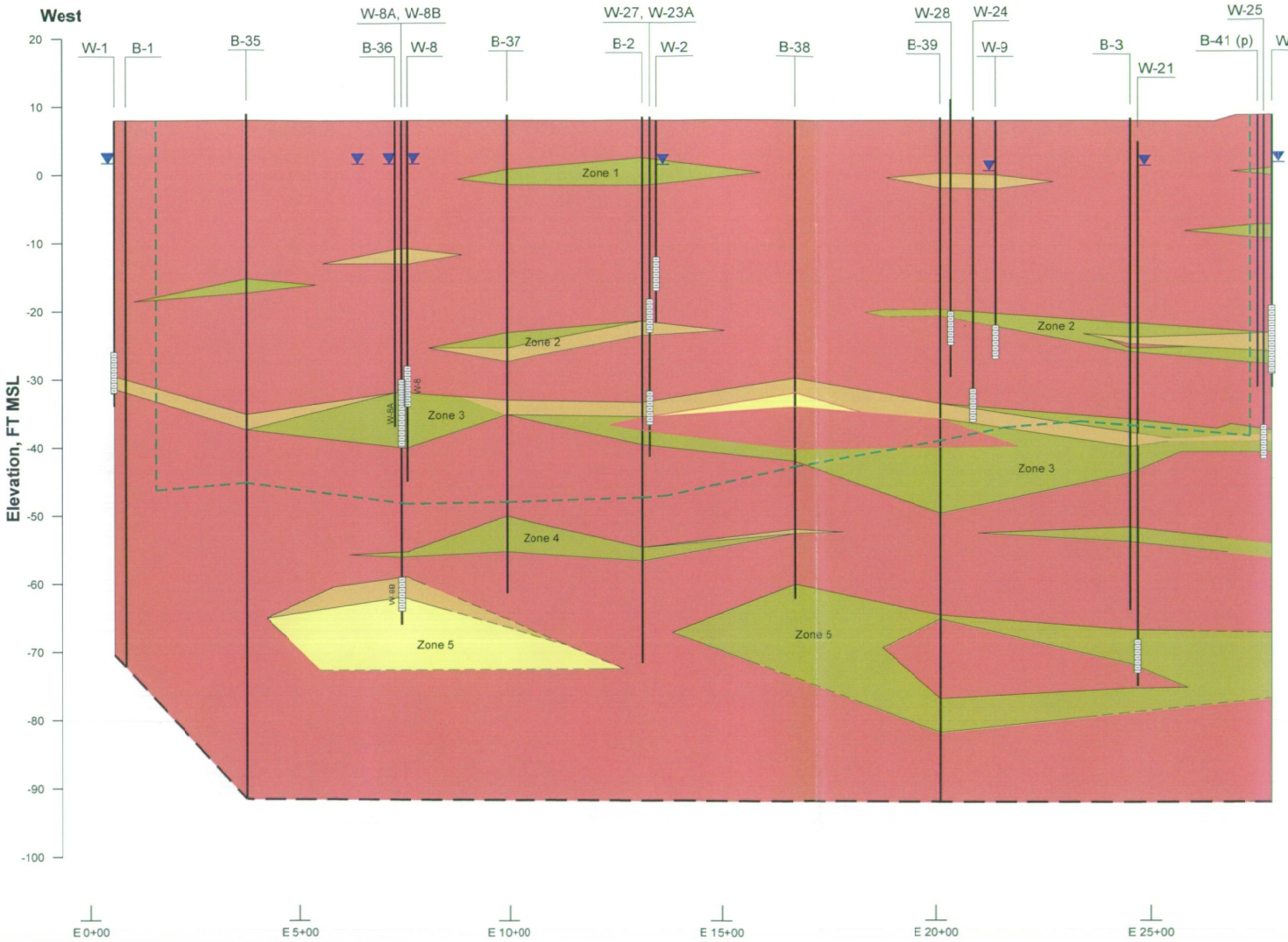
BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn:	JET	8
		Checked:		
Dwg. No.:	018-005-B123	Approved:		Figure
		Date:	05/24/06	

LDEQ-EDMS Document 36269008, Page 13 of 719

LDEQ-EDMS Document 36269008, Page 14 of 719



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Dense to Very Dense Gray Silty Sand to Sand (SM, SP)
- Slurry Wall
- Water Level 12/17-18/97
- Screen

Notes

1. Strata interpolated between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slightly to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA.
   Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provided figure, titled: W-E Soil Profile I-I' STA. S 0+80, dated: 11-06-96, file no: 95-1154.

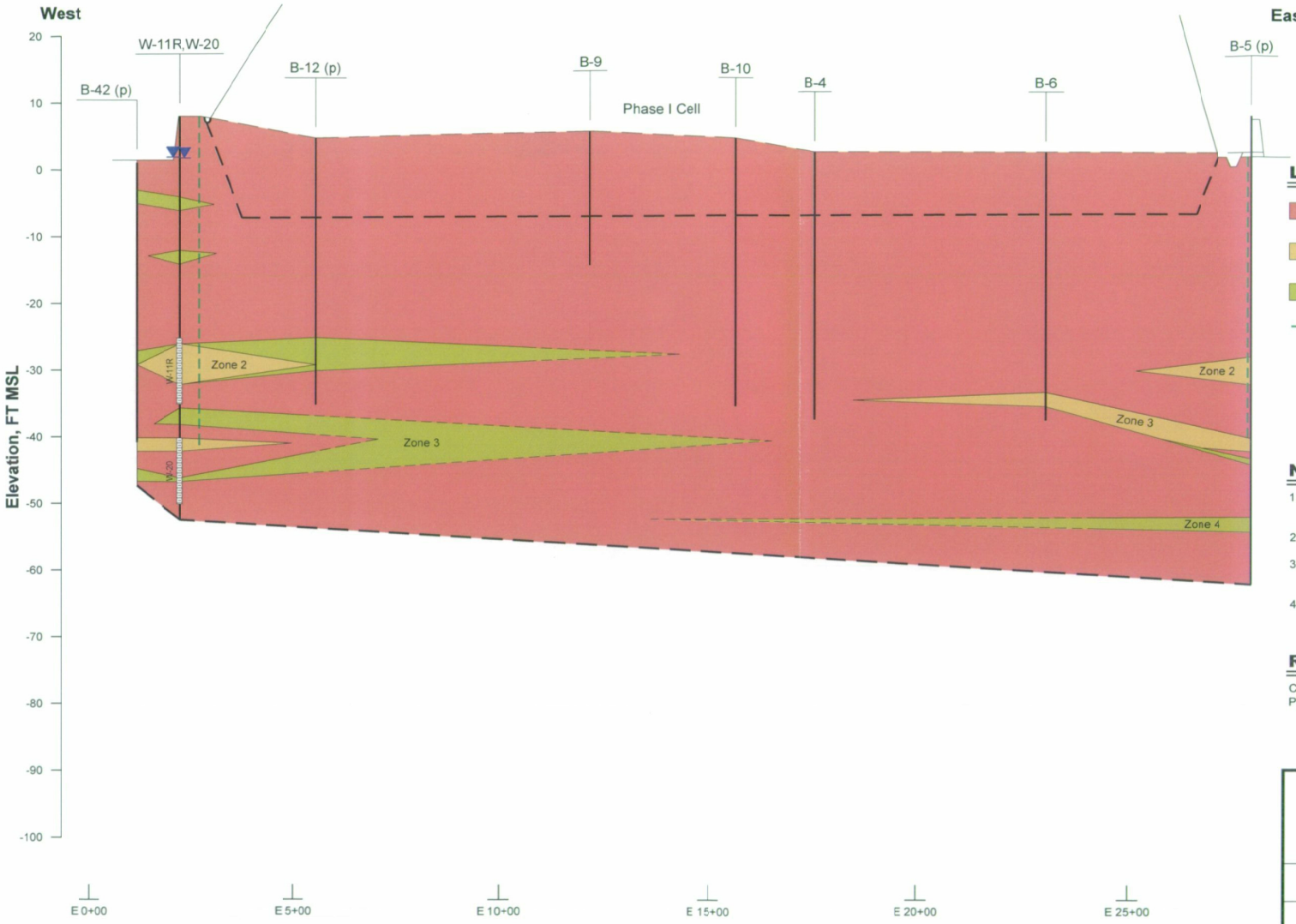
Soil Cross Section I-I'

Solid Waste Permit Renewal
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn:	JET	9
		Checked:		Figure
Dwg. No.:	018-005-B124	Approved:		
		Date:	05/25/06	



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Slurry Wall
- Water Level 12/17-18/97
- Screen

Notes

1. Strata interpolated between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slightly to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA. Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provided figure, titled: W-E Soil Profile J-J' STA. S 5+70, dated: 11-06-96, file no: 95-1154.

Soil Cross Section J-J'

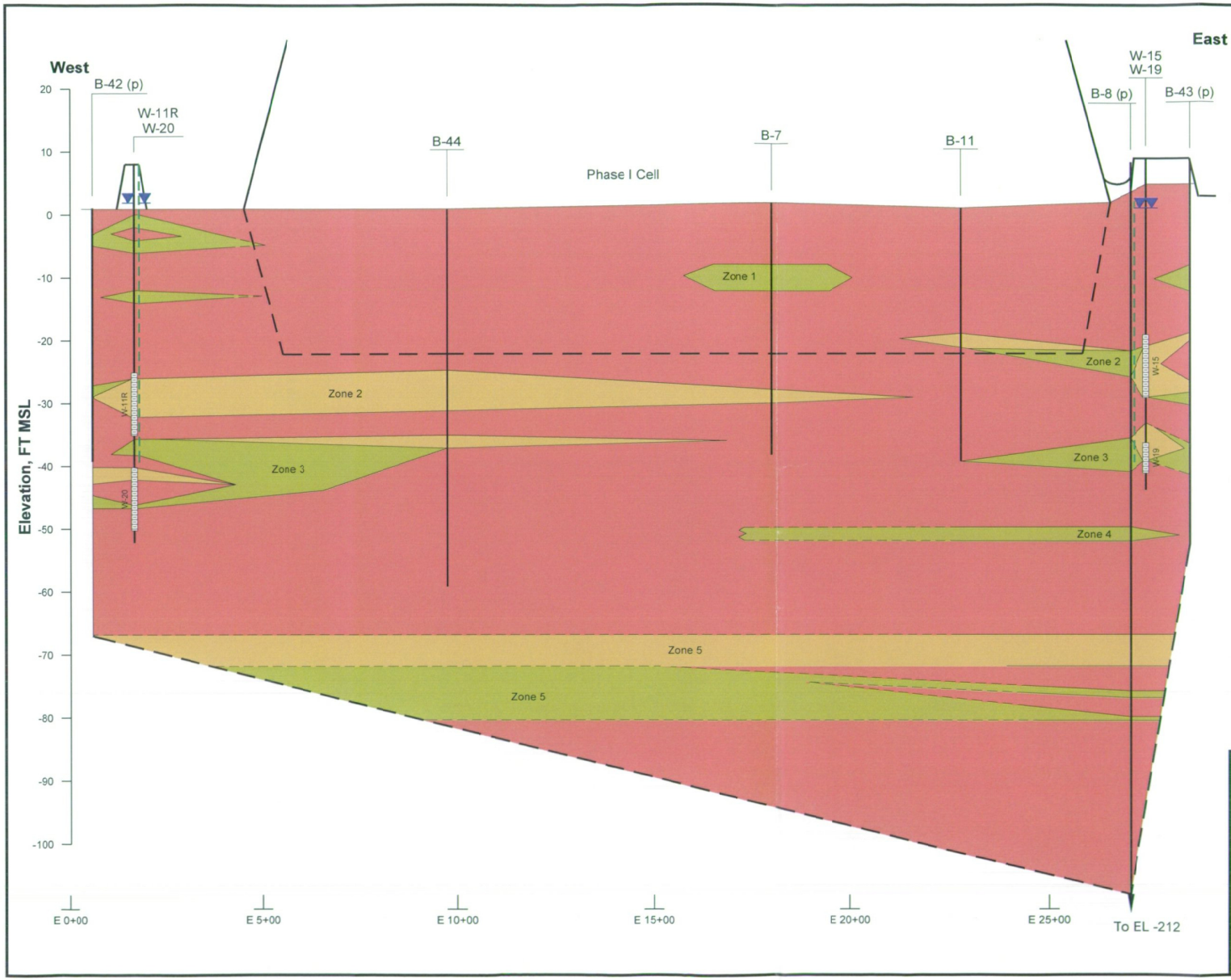
Solid Waste Permit Renewal
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn: JET	10
		Checked:	
Dwg. No.:	018-005-B125	Approved:	Figure
		Date: 05/25/06	

LDEQ-EDMS Document 36269008, Page 15 of 719



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Slurry Wall
- Water Level 12/17-18/97
- Screen

Notes

1. Strata interpolated between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slightly to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA. Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provided figure, titled: W-E Soil Profile K-K' STA. S 8+80, dated: 11-06-96, file no: 95-1154.

Soil Cross Section K-K'

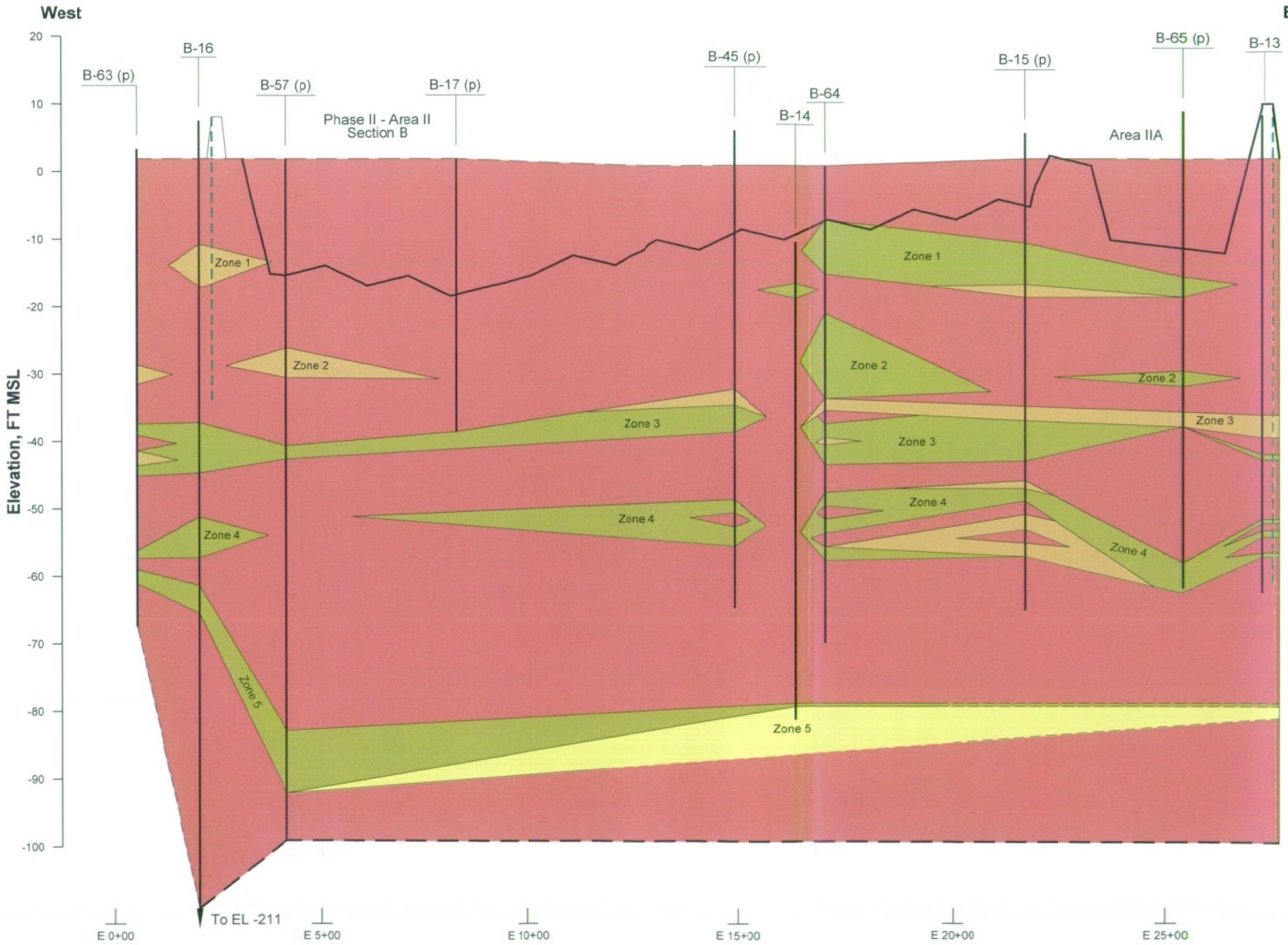
Solid Waste Permit Renewal
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn:	JET	11 Figure
		Checked:		
Dwg. No.:	018-005-B126	Approved:		
		Date:	05/25/06	

LDEQ-EDMS Document 36269008, Page 16 of 719



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Dense to Very Dense Gray Silty Sand to Sand (SM, SP)
- Slurry Wall

Notes

1. Strata interpolated between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slightly to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA. Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provded figure, titled: W-E Soil Profile L-L' STA. S 13+20, dated:11-06-96, file no: 95-1154.

Soil Cross Section L-L'

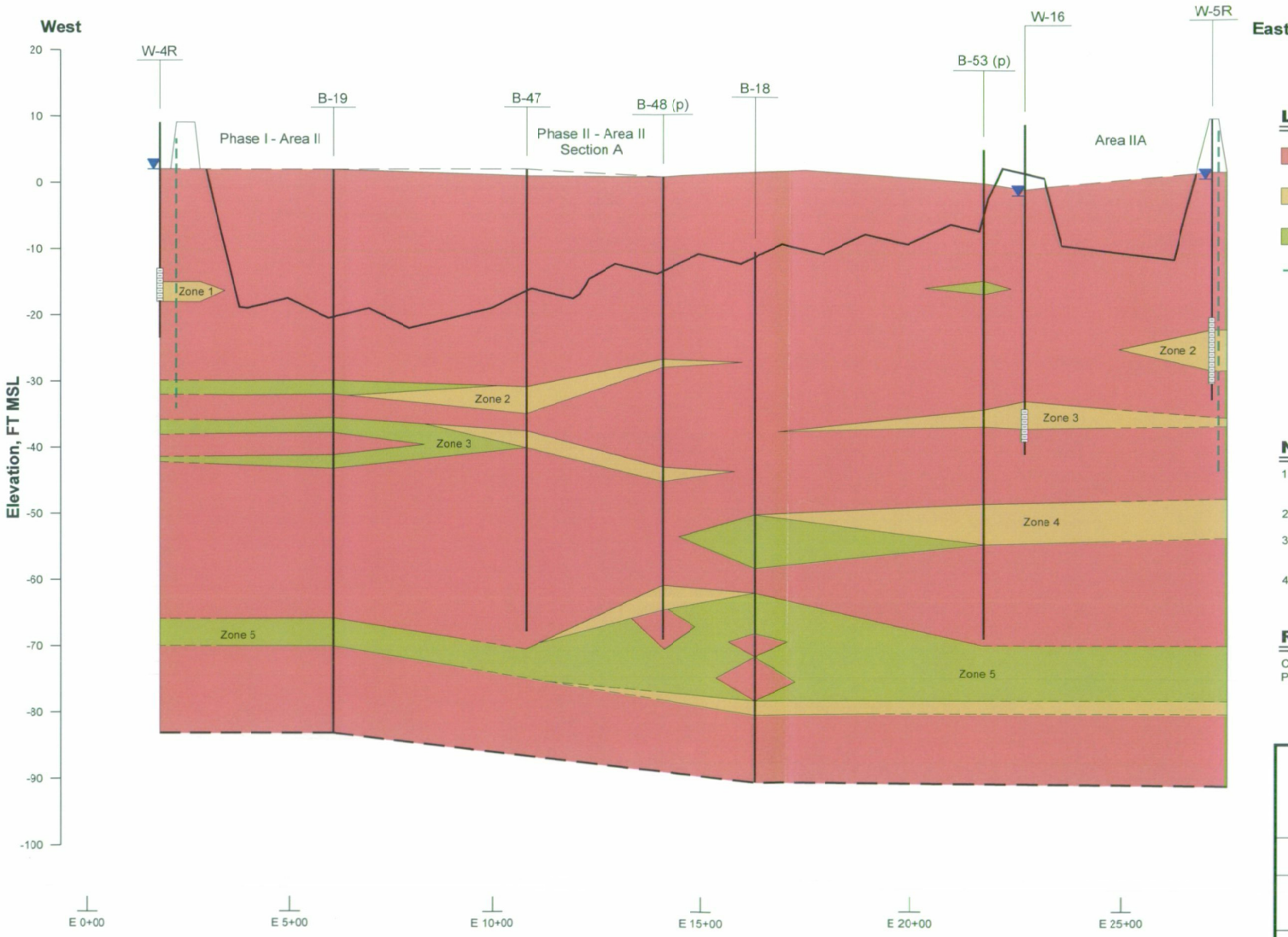
Solid Waste Permit Renewal
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn: JET	12
Dwg. No.:	018-005-B127	Checked:	Figure
		Approved:	
		Date: 05/25/06	

LDEQ-EDMS Document 36269008, Page 17 of 719



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Slurry Wall
- Water Level 12/17-18/97
- Screen

Notes

1. Strata interpolated between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slightly to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA. Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provided figure, titled: W-E Soil Profile M-M' STA. S 15+60, dated: 11-06-96, file no: 95-1154.

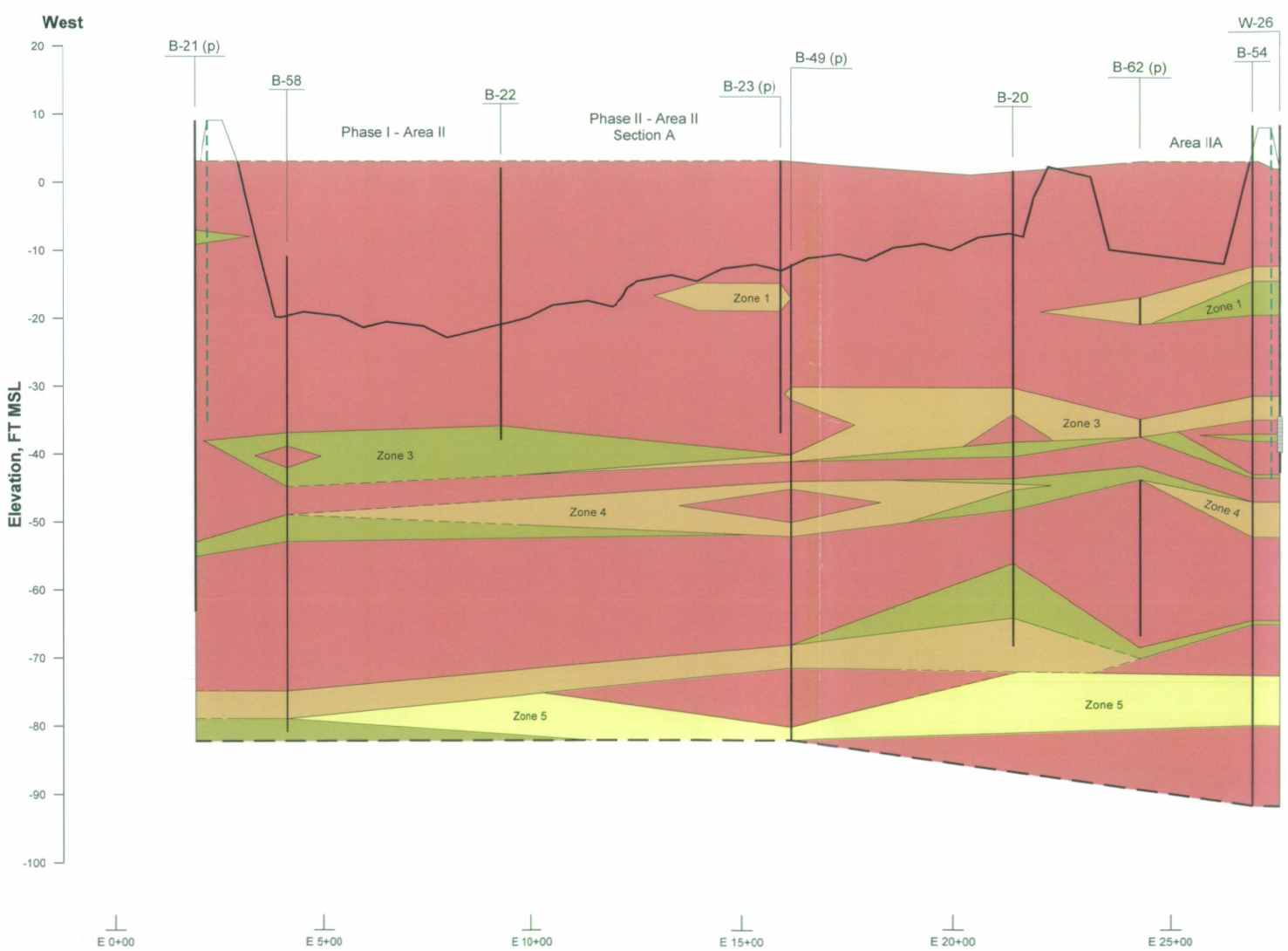
Soil Cross Section M-M'

Solid Waste Permit Renewal
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn: JET	13
		Checked:	Figure
Dwg. No.:	018-005-B128	Approved:	
		Date: 05/25/06	



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Dense to Very Dense Gray Silty Sand to Sand (SM, SP)
- Slurry Wall
- Screen

Notes

1. Strata interpoled between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slighty to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA. Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provided figure, titled: W-E Soil Profile N-N' STA. S 17+80, dated: 11-13-96, file no: 95-1154.

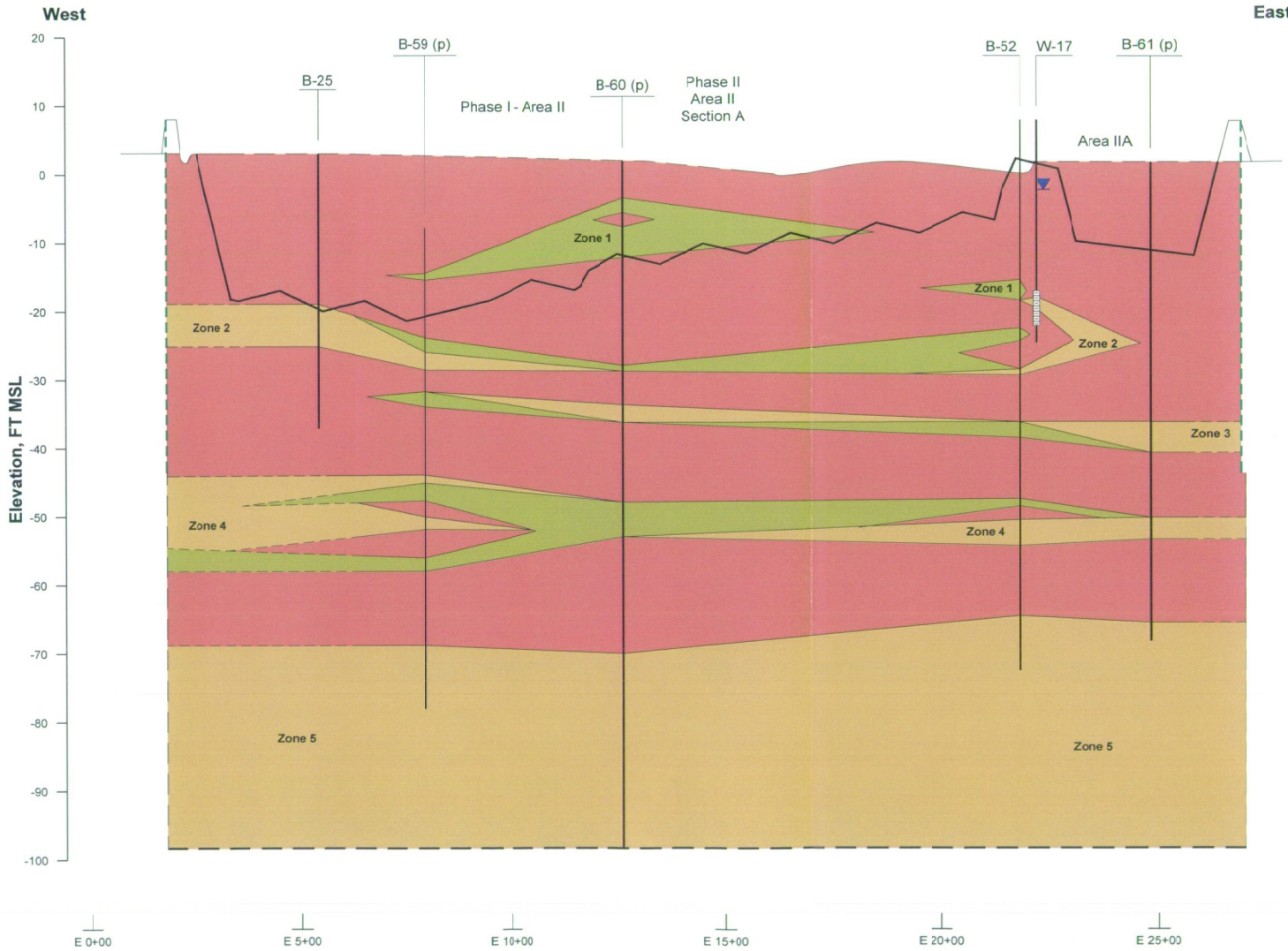
Soil Cross Section N-N'

Solid Waste Permit Renewal Application
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn:	LMH	14
		Checked:	BAG	
Dwg. No.:	018-005-B129	Approved:	TAB	Figure
		Date:	05/24/06	



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Slurry Wall
- Water Level 12/17-18/97
- Screen

Notes

1. Strata interpoled between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slighty to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA. Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provided figure, titled W-E Soil Profile O-O' STA. S 19+90, dated:11-13-96, file no: 95-1154.

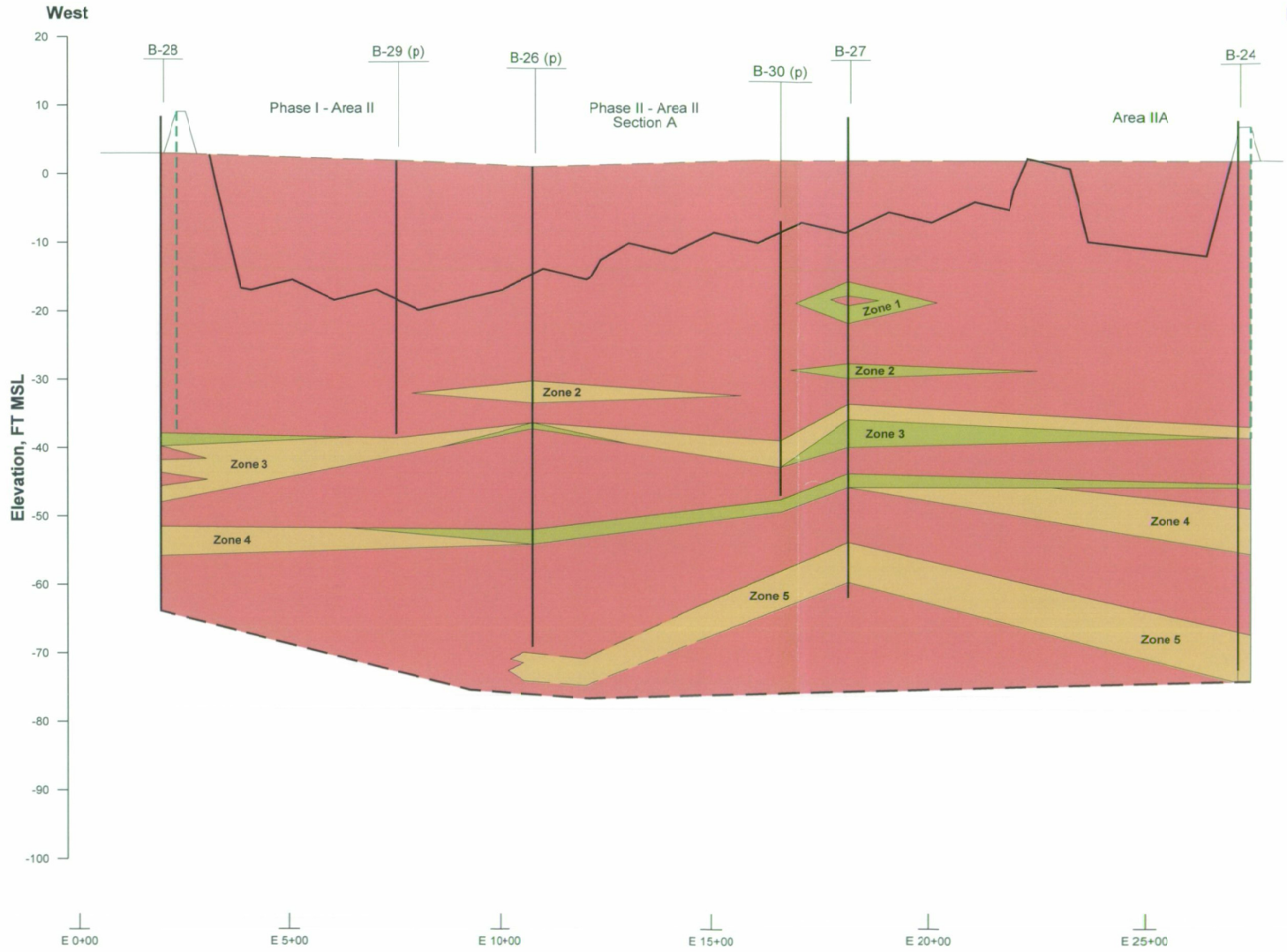
Soil Cross Section O-O'

Solid Waste Permit Renewal Application
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn:	LMH	15
		Checked:	BAG	
Dwg. No.:	018-005-B130	Approved:	TAB	Figure
		Date:	05/24/06	



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Slurry Wall

Notes

1. Strata interpoled between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slighty to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA.
   Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provided figure, titled: W-E Soil Profile P-P' STA. S 21+80, dated: 11-14-96, file no: 95-1154.

Soil Cross Section P-P'

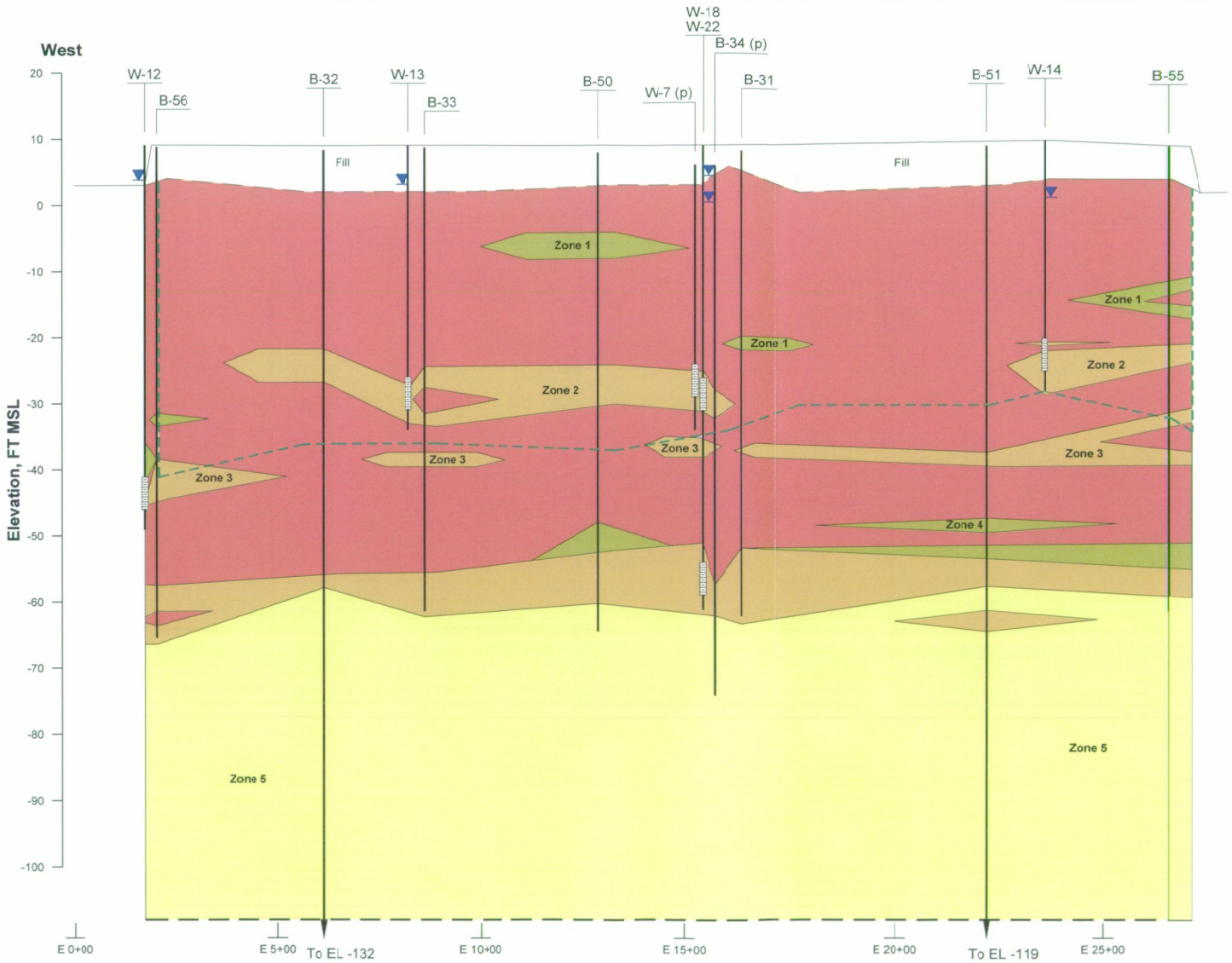
Solid Waste Permit Renewal Application
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn:	LMH	16
		Checked:	BAG	
Dwg. No.:	018-005-B131	Approved:	TAB	Figure
		Date:	05/24/06	

LDEQ-EDMS Document 36269008, Page 21 of 719



Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Dense to Very Dense Gray Silty Sand to Sand (SM, SP)
- Slurry Wall
- Water Level 12/17-18/97
- Screen

Notes

1. Strata interpoled between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Some borings offset slighty to plane of cross-section. (p) -Boring projected more than 50' to section.
4. Phase I excavation from 1982 PA. Phase II excavation from 1994 MMD.

Reference

Cross Section based on client provided figure, titled: W-E Soil Profile Q-Q' STA. S 24+60, dated: 11-14-96, file no: 95-1154.

Soil Cross Section Q-Q'

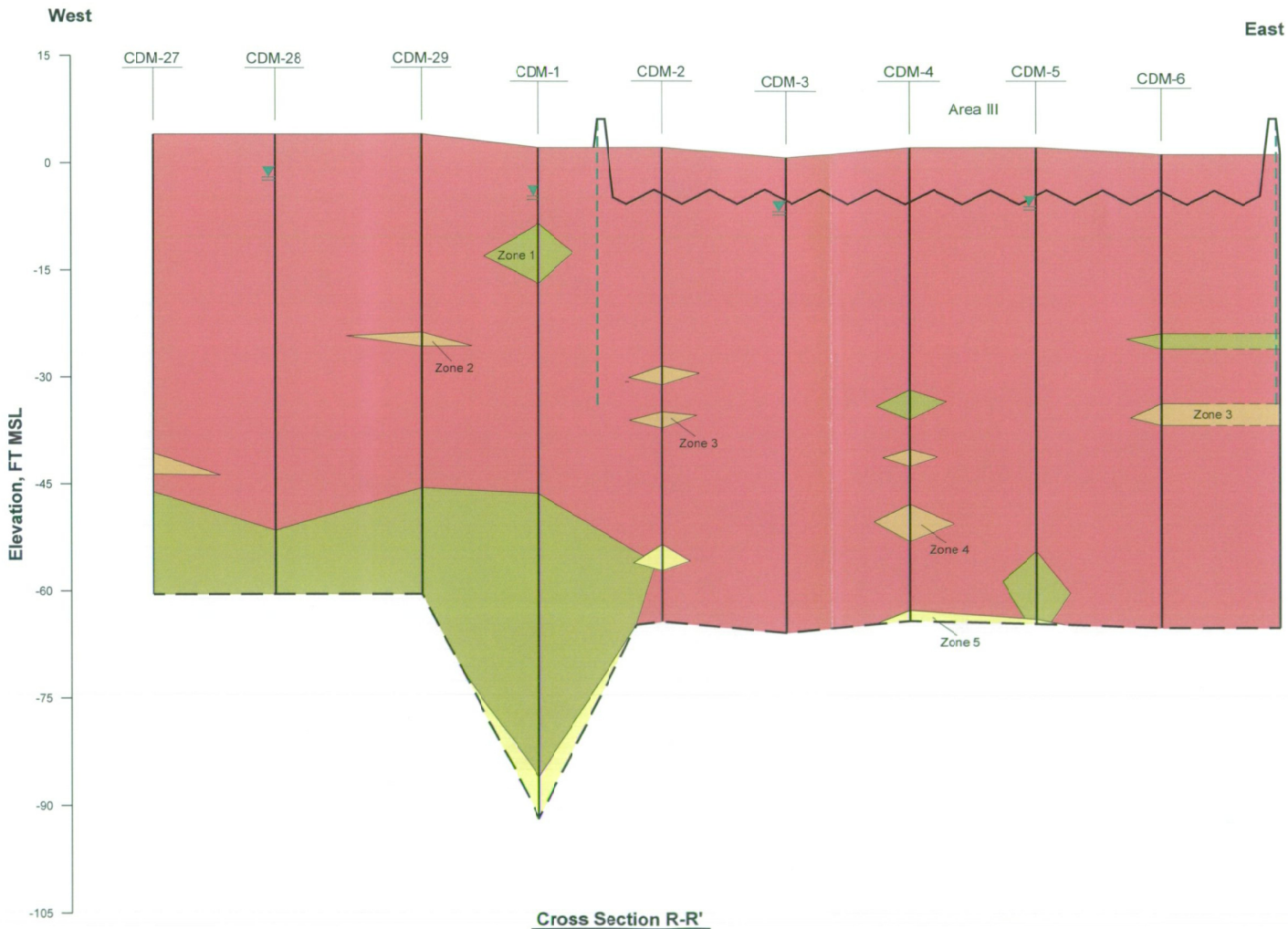
Solid Waste Permit Renewal Application
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn:	LMH	17
		Checked:	BAG	
Dwg. No.:	018-005-B132	Approved:	TAB	Figure
		Date:	05/24/06	

LDEQ-EDMS Document 36269008, Page 23 of 719



Cross Section R-R'

Horizontal Scale: 1" = 400'
Vertical Scale: 1" = 15'

Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Dense to Very Dense Gray Silty Sand to Sand (SM,SP)
- Slurry Wall
- First-Encountered Groundwater Level (Aug. - Sept. 2004)

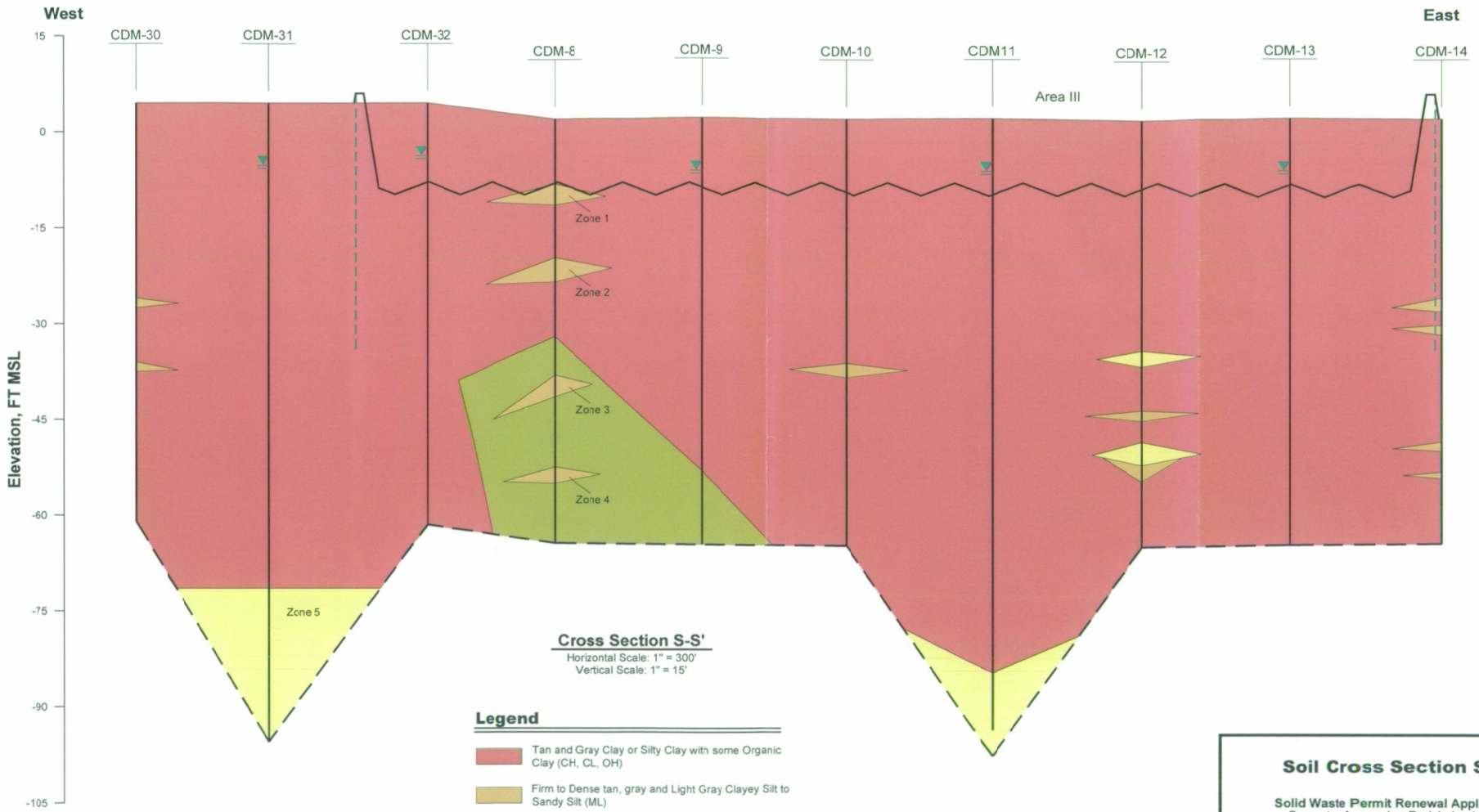
Soil Cross Section R-R'

Solid Waste Permit Renewal Application
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn:	LMH	18
		Checked:	BAG	
Dwg. No.:	018-005-B133	Approved:	TAB	Figure
		Date:	05/24/06	



Cross Section S-S'
Horizontal Scale: 1" = 300'
Vertical Scale: 1" = 15'

Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Dense to Very Dense Gray Silty Sand to Sand (SM, SP)
- Slurry Wall
- First-Encountered Groundwater Level (Aug. - Sept. 2004)

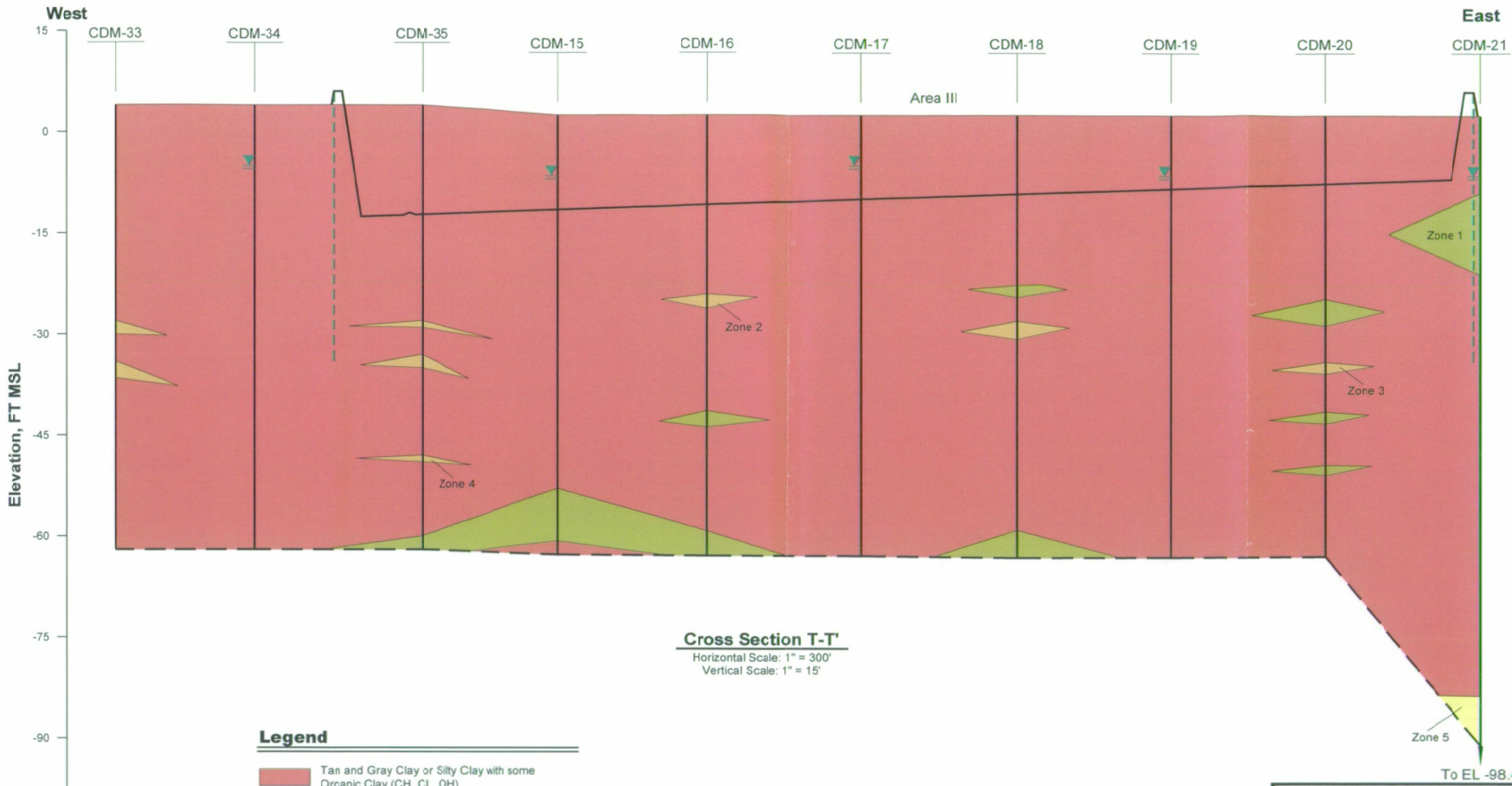
Soil Cross Section S-S'

Solid Waste Permit Renewal Application
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn:	LMH	19
		Checked:	BAG	
Dwg. No.:	018-005-B134	Approved:	TAB	Figure
		Date:	05/24/06	



Cross Section T-T'

Horizontal Scale: 1" = 300'
Vertical Scale: 1" = 15'

Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Dense to Very Dense Gray Silty Sand to Sand (SM,SP)
- Slurry Wall
- First-Encountered Groundwater Level (Sept. 2004)

Soil Cross Section T-T'

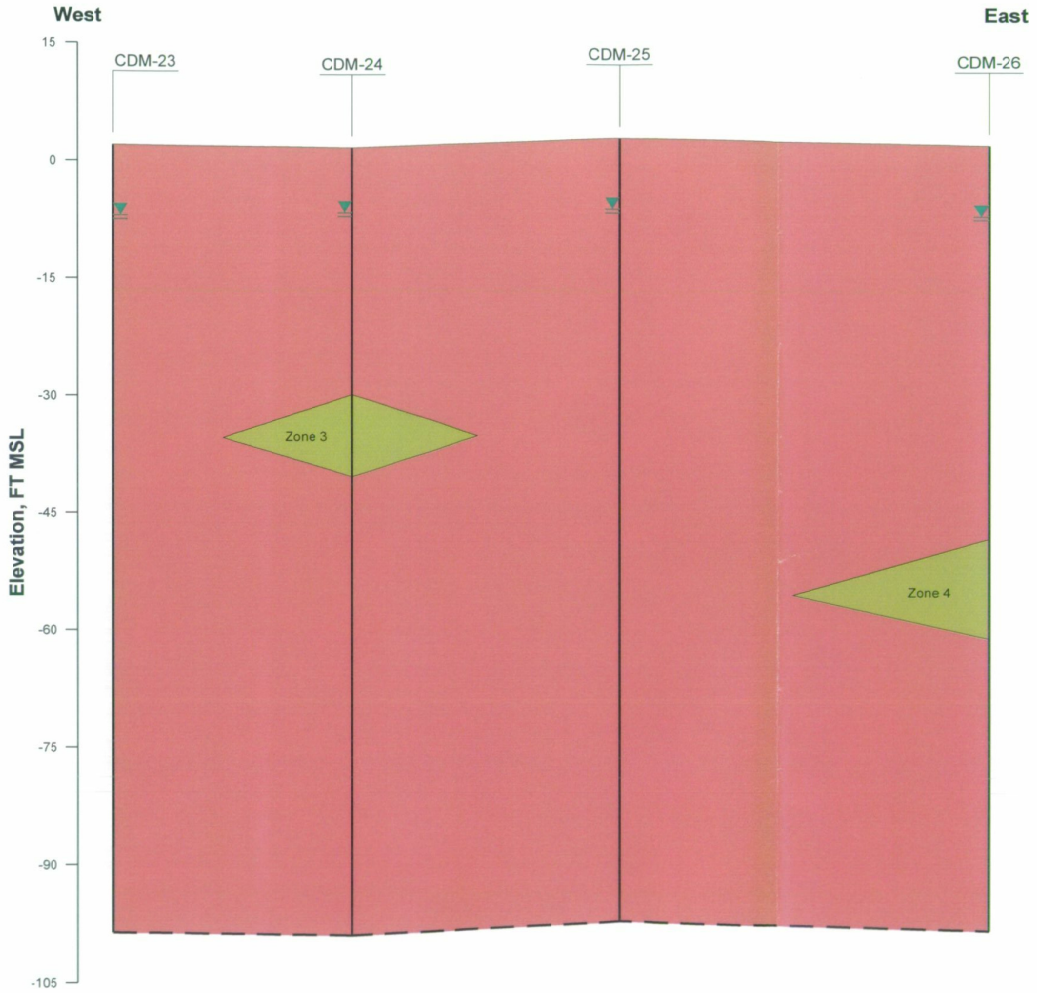
Solid Waste Permit Renewal Application
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn:	LMH	20
		Checked:	BAG	
Dwg. No.:	018-005-B135	Approved:	TAB	Figure
		Date:	05/24/06	

LDEQ-EDMS Document 36269008, Page 25 of 719



Cross Section U-U'
Horizontal Scale: 1" = 200'
Vertical Scale: 1" = 15'

Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- First-Encountered Groundwater Level (Sept. 2004)

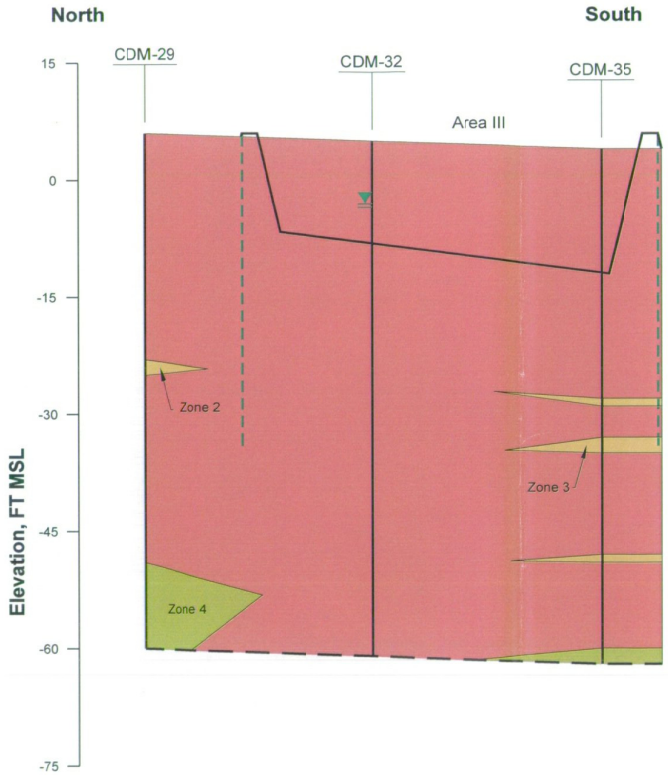
Soil Cross Section U-U'

Solid Waste Permit Renewal Application
Sorrento, Ascension Parish, Louisiana

BFI Waste Systems of Louisiana, LLC
Colonial Landfill

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn:	LMH	21
		Checked:	BAG	
Dwg. No.:	018-005-B136	Approved:	TAB	Figure
		Date:	05/24/06	



Cross Section V-V'
Horizontal Scale: 1" = 200'
Vertical Scale: 1" = 15'

Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Slurry Wall
- First-encountered Groundwater Level (Aug. 2004)

Notes

1. Strata interpolated between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Phase I excavation from 1982 PA.
   Phase II excavation from 1994 MMD.

Cross Section V-V'

Solid Waste Permit Renewal
Colonial Landfill

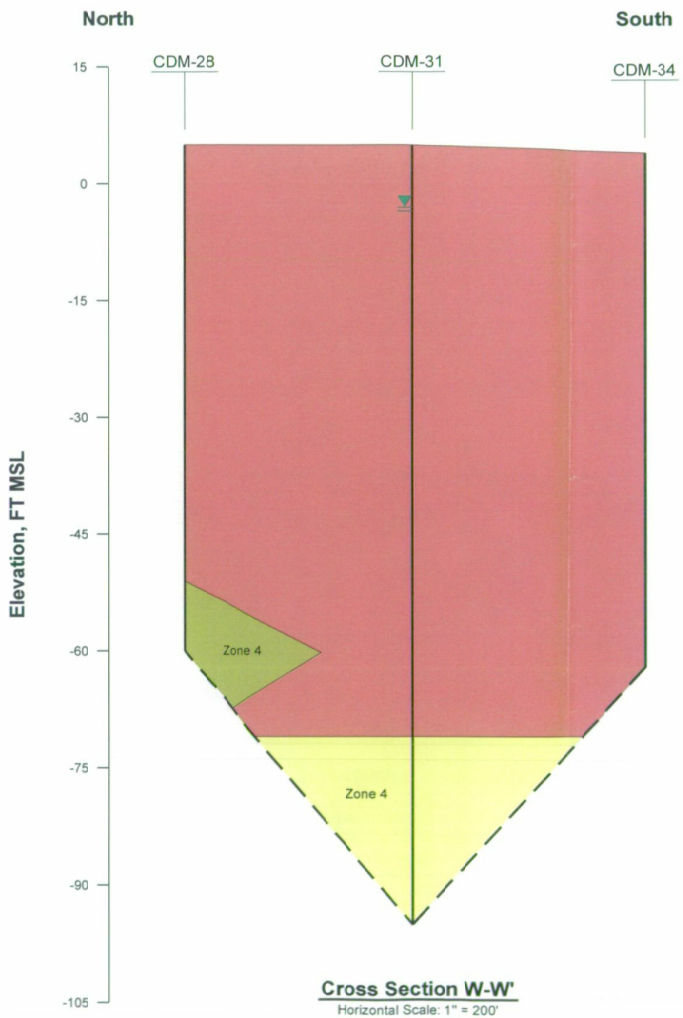
BFI Waste Systems of Louisiana, LLC
Sorrento, Ascension Parish, Louisiana

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn: JET	22
		Checked:	Figure
Dwg. No.:	018-005-B143	Approved:	
		Date: 05/26/06	

LDEQ-EDMS Document 36269008, Page 27 of 719

LDEQ-EDMS Document 36269008, Page 28 of 719



Cross Section W-W'

Horizontal Scale: 1" = 200'
Vertical Scale: 1" = 15'

Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- Dense to Very Dense Gray Silty Sand to Sand (SM,SP)
- First-Encountered Groundwater Level (Sept. 2004)

Notes

1. Strata interpolated between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Phase I excavation from 1982 PA.
   Phase II excavation from 1994 MMD.

Cross Section W-W'

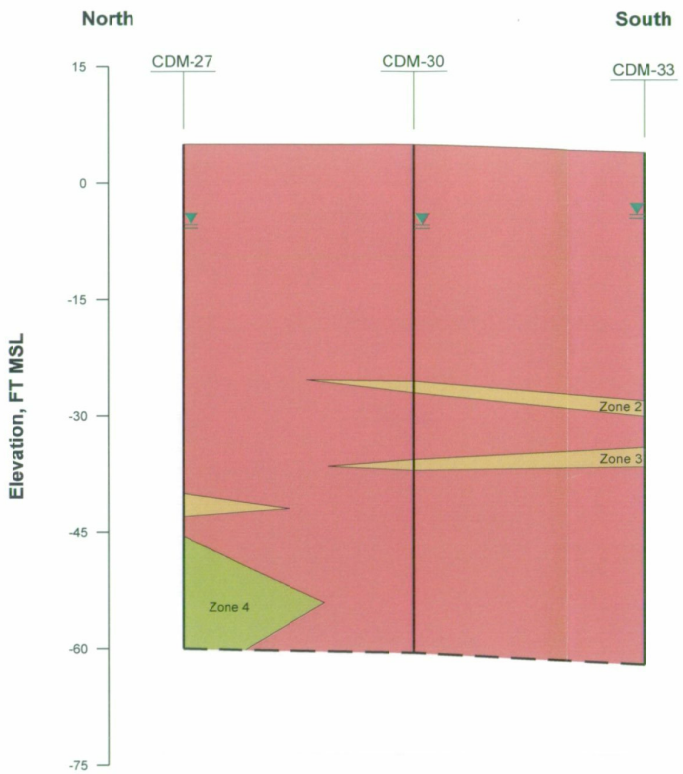
Solid Waste Permit Renewal
Colonial Landfill

BFI Waste Systems of Louisiana, LLC
Sorrento, Ascension Parish, Louisiana

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn: JET	23
		Checked:	Figure
Dwg. No.:	018-005-B144	Approved:	
		Date: 05/25/06	

LDEQ-EDMS Document 36269008, Page 29 of 719



Cross Section X-X'
Horizontal Scale: 1" = 200'
Vertical Scale: 1" = 15'

Legend

- Tan and Gray Clay or Silty Clay with some Organic Clay (CH, CL, OH)
- Firm to Dense tan, gray and Light Gray Clayey Silt to Sandy Silt (ML)
- Clay or Silty Clay with Seams, Lenses, Streaks or Layers (CH/CL + ML/SM)
- First-Encountered Groundwater Level (Sept. 2004)

Notes

1. Strata interpolated between borehole locations and do not define continuity between them.
2. Elevations for pre-1989 borings are approximate.
3. Phase I excavation from 1982 PA.
   Phase II excavation from 1994 MMD.

Cross Section X-X'

Solid Waste Permit Renewal
Colonial Landfill

BFI Waste Systems of Louisiana, LLC
Sorrento, Ascension Parish, Louisiana

PROVIDENCE
ENGINEERING & ENVIRONMENTAL GROUP LLC
BATON ROUGE, LOUISIANA

Doc Code	018-005	Drawn:	JET	24
		Checked:		
Dwg. No.:	018-005-B145	Approved:		
		Date:	05/26/06	Figure

APPENDIX N

SOIL BORING LOGS

BORING LOG

PROJECT NAME: Colonial Landfill

BORING B-1

LOCATION: Sorrento, Louisiana

PROJECT NO.
DATE
BORING TYPE
ENG./LOGGER

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
									FILL, shell and wood
		0.8(p)							CH, CLAY, gray, traces of or matter, medium stiff
	5	1.2(p)							
		1.5(p)							
		1.2(p)	72	46	92	59			
▽	10	1.2(p)							
		2.2(p)							
▽	15		100	28	37	15			CL, SILTY CLAY, tan and gray of organic matter, medi → k= 5.8 X 10^{-7} cm/sec. stiff
		1.5(p)							
		2.5(p)	92	26	58	30			CH, CLAY, tan and gray, tra organic matter, stiff
	20	2.5(p)							
		2.7(p)							very stiff
	25	2.5(p)							
		3.2(p)							
			105	26	56	35			k= 5.4 X 10^{-9} cm/sec.
	30	4.0(p)							
		4.2(p)							
	35	3.0(p)							
		3.0(p)							
		3.2(p)	81	37	85	56			

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

▽ INITIAL WATER LEVEL
▽ WATER LEVEL (AFTER 0.1 hr)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

REMARKS:

GID

BORING LOG

PROJECT NAME: Colonial Landfill

LOCATION: Sorrento, Louisiana

BORING B-1 (cont'd)

PROJECT NO. 82-530
DATE 8/19/8
BORING TYPE
ENG./LOGGER ASR/JP

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
									CH, CLAY, tan and gray, traces of organic matter, very stiff
	45	3.5(p							
	50	3.0(p							
	55	3.0(p							
									CL, SILTY CLAY, tan and gray, tr of organic matter, very sti
	60	3.5(p							
	65	4.0(p	96	25	46	22			
	70	4.0(p							
	75	4.5(p							
		4.0(p	101	23	38	16			Boring Completed

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL (AFTER _____)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

REMARKS:

GID

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-2

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 05/08/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 69.7, E 1318.7

Surface Elevation: 8.4 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒		1.5 (P)									CH, CLAY, gray and tan, traces of organic m medium stiff
▽		1.2 (P)									
	5	1.7 (P)									– gray
		1.2 (P)									– silt and fine sand lenses in the interval 6 to ft.
▽		0.2 (P)		39	79	55		32			
	10	3.5 (P)		21	103						
		3.0 (P)									– tan and gray, very stiff
	15	2.7 (P)		25	96	58		38			
		3.0 (P)									
		2.0 (P)									
	20	3.7 (P)									
				26	99	51		34	K1		
	25	4.2 (P)									
		3.2 (P)									
		2.7 (P)									
	30	1.5 (P)									ML, CLAYEY SILT, tan and gray, medium stiff
		2.2 (P)									CH, CLAY, tan and gray, traces of silt and orga matter, very stiff
	35			35	89	64		38	K2		
		3.5 (P)									
		2.7 (P)									Washed 0 to 40 ft. without sampling (1996)
	40										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" Nom. Dia. Short Flight Auger: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion (1996)

Notes

Normal Type: Boring B-2 dated 8/23/82
K: Permeability (cm/sec)
K1: 1.1 x 10(-9)
K2: 1.6 x 10(-9)

Strata Boundaries May Not Be

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-2

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 05/08/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 69.7, E 1318.7

Surface Elevation: 8.4 ft., MSL

FIELD DATA			LABORATORY DATA								
Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		2.75 (P)									Medium light greenish-gray CLAY (CH) w/silt pockets, ferrous nodules, and organic matter
		No (P)		26		25	24	1			Firm tan CLAYEY SILT (ML) w/ 1/2-inch clay layers
		~~3.5 (P)~~		~~26~~	~~95~~						Medium to stiff light greenish-gray CLAY (CH) w/tan mottling, ferrous nodules, and organic matter
	45	3.75 (P)									
		2.75 (P)		32	89	73	25	48	Kv		– w/numerous silt seams
		3.2 (P)									
		2.75 (P)									
	50										– w/shell fragments
		3.75 (P)									
		3.0 (P)									– w/silt pockets
		~~3.0 (P)~~									
	55	3.0 (P)		21	107	47	16	31			Stiff light gray SILTY CLAY (CL) w/silt pockets, ferrous nodules, and organic matter
		3.75 (P)									Medium to stiff light gray CLAY (CH) w/tan mottling, silt pockets, ferrous nodules, and organic matter
		3.0 (P)									
		2.75 (P)		25	98	54		31			
	60										
		1.5 (P)									
		2.0 (P)									
		2.5 (P)									– w/silt lenses
	65	3.25 (P)									
		2.75 (P)		35		75	24	51			
		3.2 (P)									
		3.25 (P)									
	70										Boring completed at 70 ft. (1996)
		3.5 (P)									
	75										
		3.7 (P)		31	89	66		38			Boring completed at 80 ft. (1982)
	80										

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered due to wash (1996) ▽ Free water first encountered (1982) ▽ Water level after 0.1 hr. (1982)	4" Nom. Dia. Short Flight Auger: 0 to 70 ft. (1996) Boring Abandonment Method	Kv: Vertical Permeability = 1.14 x 10(-8) cm/sec

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-3

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 05/07/96
Geol.: V. Ashwort
Driller: D. Thibodai
Rig: Ardco K-10

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 91.7, E 2453
Surface Elevation: 8.3 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒		4.5+ (P)									CL, SILTY CLAY, gray and tan, shell, stiff
		4.3 (P)									
	5	3.0 (P)		22		44		26			– tan and orange, organic matter
		2.3 (P)									CH, CLAY, gray and tan, traces of organic medium stiff
		1.5 (P)		42		89		60			
	10	1.5 (P)		45	81	90		61			
		2.5 (P)		23		48		31			CL, SILTY CLAY, gray and tan, medium stif
▽	15	2.3 (P)									
				24	107	39		21	K		
▽		3.8 (P)		22		43		27			– traces of organic matter, stiff Washed 0 to 20 ft. without sampling (1996
	20	2.25 (P)									Stiff to very stiff tan and light gray CLAY (C – slickensided at 20 to 24 ft.
		3.5 (P)									
	25	3.5 (P)									
		4.25 (P)									– w/silt pockets
		3.0 (P)		26		40	19	21			Stiff tan and light gray SILTY CLAY (CL) w/ silty clay layers
	30	3.5 (P)									– stiff light gray and tan CLAY w/silt pocket 6-inches
		No (P)		32					GS1		Very stiff light gray and tan CLAY (CH) w/or matter, ferrous nodules, numerous silt lenses several 1-inch to 2-inch silt layers
		3.0 (P)									Firm tan CLAYEY SILT (ML) w/clay nodules
	35	2.5 (P)									Stiff to very stiff light gray and tan SILTY CL (CL) w/silt layers, ferrous nodules, and calcar nodules
		3.0 (P)									Stiff to very stiff light gray and tan CLAY (CI w/ferrous nodules and calcareous nodules
		3.5 (P)									
	40										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" Nom. Dia. Short Flight Auger: 0 to 8 ft. (1996)
4" dia. Rotary Wash: 0 to 72 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion (1996)

Notes

Normal Type: Boring B-3 dated 5/04/82
k: Permeability = 4 x 10(-8) cm/sec
GS: Particle Size Analysis
GS1: Sand = 1%, Silt = 82%, Clay = 17%

Form 95115-GLB 05/05/97

Strata Boundaries May Not B

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-3

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 05/07/96
Geol.: V. Ashworth
Driller: D. Thibodaux
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 91.7, E 2453

Surface Elevation: 8.3 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Blows/6 in.	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
			3.0 (P)									Stiff to very stiff light gray and tan CLAY (CH) w/ferrous nodules and calcareous nodules
			4.0 (P)									– w/silt seams; clayey silt bottom 3-inches
	45		Push Spoon									
			No (P)		29		73	25	48	GS2		Firm light gray and tan CLAYEY SILT (ML) w/light gray and tan clay bottom 5-inches
			3.0 (P)									Stiff light gray CLAY (CH) w/tan and ferrous mottling
	50											– w/1-inch clayey silt layers, and silt seams
			3.0 (P)									– w/silt lenses and pockets, few ferrous nodules and calcareous nodules
			3.75 (P)									– w/organic matter and shell fragments
	55		3.25 (P)		30		81	24	57			– light greenish-gray w/calcareous nodules, slickensided at 54 to 58 ft.
			3.0 (P)									– w/organic matter
			4.0 (P)									
	60		3.25 (P)									– w/2-inch clayey silt layers and numerous silt pockets and lenses
			3.75 (P)									– gray and tan w/silt pockets
	65		4.0 (P)									– slickensided
			3.75 (P)									– w/silt traces and pockets, slightly silty clay top 8-inches
			3.5 (P)									– w/organic matter
	70		4.0 (P)									– w/silt traces and pockets
	75											Boring completed at 72 ft. (1996)
	80											

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" Nom. Dia. Short Flight Auger: 0 to 8 ft. (1996)
4" dia. Rotary Wash: 0 to 72 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

GS: Particle Size Analysis
GS2: Sand = 0%, Silt = 83%, Clay = 17%

Strata Boundaries May Not Be Exa

BORING LOG

PROJECT NAME: Colonial Landfill
LOCATION: Sorrento, Louisiana
BORING B-4
PROJECT NO.
DATE
BORING TYPE
ENG./LOGGER

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		2.5(p)							CL, SILTY CLAY, tan, sand p very stiff
	5								FILL, Garbage
	10	1.7(p)							CL, SILTY CLAY, gray and ta medium stiff
		2.5(p)	101	23	33	13			
	15	3.0(p)							CH, CLAY, tan and gray, ver
			106	21	56	36			k= 7.5 X 10^{-8} cm/sec.
		2.5(p)							
	20	2.7(p)	86	33	82	48			fine sand traces in the 20 to 22 feet
		4.0(p)							
	25	3.0(p)							
			97	28	42	20			CL, SILTY CLAY, tan and gra stiff
	30	3.0(p)							k = 7.0 X 10^{-8} cm/sec.
		3.5(p)							
		3.5(p)							CH, CLAY, tan and gray, sil sand pockets, very stii
	35	3.0(p)							
		3.5(p)	90	28	83	54			
		3.5(p)							Boring Completed

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL (AFTER 0.1hr)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

REMARKS:

GID

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-5

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 05/13/96
Geol.: V. Ashworth
Driller: Hull/Thibodaux
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 413.6, E 2722.8
Surface Elevation: 8.5 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒											CH, CLAY, brown, wood to a depth of 4 ft., soft
▽											– tan and gray, medium stiff
	5	1.5 (P)		28	91	59		37			
		1.0 (P)									
▽		2.0 (P)									
	10			21	107	41		25	K		CL, SILTY CLAY, tan and gray, slickensided to a depth of 26 ft. very stiff
		3.5 (P)									
	15	2.7 (P)									
		3.5 (P)									
		3.5 (P)		21	102						
	20										– traces of silt and fine sand
		4.0 (P)									
	25	2.7 (P)		23	97	32		7			
		2.7 (P)									
		2.5 (P)									
	30										CH, CLAY, tan and gray, slickensided, very stiff
		3.5 (P)									
		3.0 (P)									
	35	3.5 (P)		31	88	77		48			
		1.5 (P)									ML, CLAYEY SILT, tan and gray, medium stiff
											– stiff
		2.7 (P)		26							Washed 0 to 40 ft. without sampling (1996)
	40										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash:
0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-5 dated 7/15/82
Boring completed at 40 ft. (1982)
k: Permeability = 1.4 x 10(-7) cm/sec

Strata Boundaries May Not Be Exa

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-5

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 05/13/96
Geol.: V. Ashwort
Driller: Hull/Thibod
Rig: Failing 150

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 413.6, E 2722.8

Surface Elevation: 8.5 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
			Push Spoon									Stiff light gray and tan CLAY (CH) w/organ matter
			3.0 (P)									– w/silt pockets at 42 to 46 ft.
	45		3.75 (P)									
			3.0 (P)									– slickensided; becoming silty bottom 5-in
			No (P)		25					GS		Firm tan SILT (ML) w/numerous clay seams
	50		3.5 (P)									Stiff to very stiff light gray and tan CLAY (w/organic matter
			3.25 (P)									– silt lenses and 1-inch silt pockets (wet) – w/silt pockets, shell fragments, and 1/2-i calcareous nodules
	55		3.5 (P)									
			3.5 (P)									– slickensided
			4.0 (P)									– w/silt pockets
	60		3.25 (P)		27		63	22	41			– w/silt layers and pockets; calcareous and ferrous nodules at 60 to 66 ft.
			4.0 (P)									
	65		4.0 (P)									
			3.5 (P)									
			3.5 (P)	2.80	24	101	49	17	32			Very stiff light greenish-gray SILTY CLAY (w/silt pockets
	70											Boring completed at 70 ft. (1996)
	75											
	80											

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

GS: Particle Size Analysis
Sand = 8%, Silt = 76%, Clay = 16%

Strata Boundaries May Not

BORING LOG

PROJECT NAME: Colonial Landfill
BORING B-6
LOCATION: Sorrento, Louisiana

PROJECT NO. 82-53
DATE 11
BORING TYPE
ENG./LOGGER ASR/M

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		1.5(p)							CH, CLAY, gray and tan, wood fra ments to a depth of 6 feet, medium stiff
		1.5(p)	67	50	89	57			
	5	1.0(p)							
		2.0(p)	104	23.3					
			98	27	47	27			CL, SILTY CLAY, gray, very stif: k = 3.0 X 10^{-7} cm/sec.
	10	2.0(p)							
		2.7(p)							
	15	3.5(p)	106	20	52	36			CH, CLAY, tan and light gray, s sand size cemented partic a depth of 26 feet, very slickensided k = 1.5 x 10^{-7} cm/sec.
		3.0(p)							
			91	31	60	33			
	20	2.5(p)							
		3.0(p)							
	25	3.0(p)	86	32	69	42			
		3.0(p)							light gray and brown
		2.0(p)							tan and light gray, silt ar fine sand pockets
	30	3.5(p)							
		3.5(p)	78	40	80	51			
	35	4.0(p)							
		1.0(p)		29					ML, CLAYEY SILT, tan, soft
		3.0(p)							CH, CLAY, light gray, very sti

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL (AFTER 0.1 hr)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

Boring Completed
REMARKS:

GID

BORING LOG

PROJECT NAME: Colonial Landfill

BORING B-7

PROJECT NO..
DATE
BORING TYPE.
ENG./LOGGER.

LOCATION: Sorrento, Louisiana

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		1.0(p)							CH, CLAY, tan, wood to a c 4 feet, medium stiff
		1.5(p)							
	5	2.0(p)	85	34	74	52			gray and tan, stiff
		1.5(p)							
		3.0(p)							silt lenses and trace: organic matter in the 10 to 14 feet
	10	3.5(p)							
		2.5(p)							
	15	2.5(p)							very stiff
			95	30	51	30			k= 1.1 X 10^{-8} cm/sec
		2.5(p)							
	20	2.7(p)							
		3.0(p)							traces of organic mati interval 20 to 26 feet
	25	3.0(p)							
		3.0(p)							
		3.0(p)	89	35	77	46			
	30	1.0(p)							ML, CLAYEY SILT, tan, medi
		3.5(p)							CH, CLAY, tan and gray, ve
	35		83	39	68	42			k = 3.4 X 10^{-8} cm/sec
		3.7(p)							
		2.5(p)	93	26	34	12			CL, SILTY CLAY, tan and gr stiff

SHELBY TUBE

SPLIT SPOON

AUGER

NO RECOVERY

INITIAL WATER LEVEL

WATER LEVEL (AFTER 0.1 hr)

SPT- STANDARD PENETRATION TEST (BLOWS/FT)

P- POCKET PENETROMETER READING (TSF)

GID

Boring Completed

REMARKS:

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-8

STE
Soil Testing Engineers, Inc.

Sheet 1 of 6

File: 95-1154
Date: 04/30/96
Geol.: V. Ashworth
Driller: D. Thibodaux
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 802.2, E 2705.8

Surface Elevation: 8.4 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Undist. Sample / Dist. Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒			3.0 (P)									CH, CLAY, gray and brown, traces of organic matter, very stiff
			2.0 (P)									
	5		1.2 (P)									
▼			1.2 (P)									– stiff
			1.7 (P)		23	100	38		17			CL, SILTY CLAY, tan and gray, medium stiff
	10		2.5 (P)		21	106						CH, CLAY, tan and gray, traces of organic matter, very stiff
▽			2.5 (P)									
	15		3.0 (P)									– traces of silt
			2.7 (P)									
▽			2.6 (P)									CL, SILTY CLAY, tan and gray, very stiff
	20				24	105	47		19	K1		
			3.0 (P)									CH, CLAY, tan and light gray, traces of organic matter at 24 to 26 ft., very stiff
	25		3.0 (P)									
			2.7 (P)									
			2.2 (P)		26	93	55		32			
	30		2.6 (P)									CL, SILTY CLAY, gray and tan, fine sand streaks, stiff
			2.6 (P)									
	35		3.5 (P)									CH, CLAY, gray and tan, traces of organic matter in the interval 34 to 36 ft., very stiff
			3.0 (P)									
			3.2 (P)									Washed 0 to 40 ft. without sampling (1996)
	40											

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.2 hr. (1982)
- ▼ Long-term water level after 14 hrs. (1996)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 100 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

Normal Type: Boring B-8 dated 8/26/82
K: Permeability (cm/sec)
K1 = 1.4 x 10(-8)

Strata Boundaries May Not Be Exa

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-8

STE
Soil Testing Engineers, Inc.

Sheet 2 of 6

File: 95-1154
Date: 04/30/96
Geol.: V. Ashworth
Driller: D. Thibodau
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 802.2, E 2705.8
Surface Elevation: 8.4 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Soil Type	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
			3.0 (P)									Stiff light gray CLAY (CH) w/tan mottling, calcareous and ferrous nodules, and organic matter
			3.5 (P)		26	97	40		18	K2		
	45		3.25 (P)									– w/silt lenses and pockets at 44 to 49 ft.
			3.0 (P)									
			4.2 (P) 3.5 (P)		22	100	48		29			
	50		4.0 (P)		28		64	24	40			– very stiff w/shell fragments at 50 to 54 ft
			3.5 (P)									– w/silty clay lenses bottom 2-inches
			2.7 (P) 3.0 (P)									Stiff light greenish-gray slightly SILTY CLAY w/tan mottling and organic matter
	55											
			3.0 (P)									Stiff light greenish-gray and tan CLAY (CH) w/organic matter
			1.7 (P) 3.75 (P)		23	100						– w/silt lenses and pockets; silty clay top 8-inches
	60		3.75 (P)									– light gray w/2-inch silty clay layer at 61 ft
			3.5 (P)									– tan
			3.5 (P)									
	65		3.75 (P)									Stiff tan and light gray SILTY CLAY (CL)
			3.75 (P)									
			3.7 (P) 3.5 (P)		35 21	83 106	78 39	19	46 20	Kv		– w/ferrous nodules; very silty clay bottom 10-inches
	70		2.25 (P)									– very silty clay becoming very stiff gray cla w/silt pockets and organic matter bottom 5-
			2.5 (P) 3.25 (P)									– w/silt pockets, becoming clayey silt bottor 4-inches
	75											Firm tan CLAYEY SILT (ML), wet, w/sand tra several 1/8-inch seams to 1/2-inch clay layer becoming very stiff light gray clay bottom 6-inches
			Push Spoon		25 22 26	96				GS		
	80											

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.2 hr. (1982)
- ▼ Long-term water level after 14 hrs. (1996)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 100 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

K: Permeability (cm/sec)
K2 = 4.1 x 10(-7)
Kv: Vertical Permeability = 1.18 x 10(-8) cm/sec
GS: Particle Size Analysis
Sand = 36%

Strata Boundaries May Not I

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-8

STE
Soil Testing Engineers, Inc.

Sheet 3 of 6

File: 95-1154
Date: 04/30/96
Geol.: V. Ashworth
Driller: D. Thibodaux
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 802.2, E 2705.8

Surface Elevation: 8.4 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Sample Type	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
			3.0 (P)		37	81	91	32	59			Stiff gray CLAY (CH) – w/numerous silt seams, pockets, and lenses at 84 to 85 ft. – w/1-inch sandy silt layer at 85 ft.
	85											
			3.0 (P)									Stiff light gray CLAY (CH) w/tan mottling and silt pockets and lenses – w/alternating silt seams, 1/8-inch silt layers, and 1/8-inch clay layers at 88 to 88.5 ft.
	90											
			4.0 (P)		23		49	20	29			Stiff light greenish-gray slightly SILTY CLAY (CL) – becoming clay bottom 10-inches
	95											Very stiff tan and light gray CLAY (CH)
			3.2 (P) 4.25 (P)		35	86	47		22			
	100											Boring completed at 100 ft. (1996) CL, SILTY CLAY, tan and gray, very stiff
	105											
	110											
	115											
			4.5+ (P)		21	102	54		30			CH, CLAY, light gray and tan, very stiff
	120											

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.2 hr. (1982)
- ▼ Long-term water level after 14 hrs. (1996)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 100 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

Strata Boundaries May Not Be Ex

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-8

STE
Soil Testing Engineers, Inc.

Sheet 4 of 8

File: 95-1154
Date: 04/30/96
Geol.: V. Ashworth
Driller: D. Thibodau
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 802.2, E 2705.8
Surface Elevation: 8.4 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
												CH, CLAY, light gray and tan, very stiff
	125											
	130											
	135											
	140		4.2 (P)		21	102	47		26			CL, SILTY CLAY, gray and tan, cemented particles, traces of organic matter, very stiff
	145											
	150											
	155											
	160		1.5 (P)		26	97						ML, SANDY SILT, dark gray, traces of clay a organic matter, dense

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.2 hr. (1982)
- ▼ Long-term water level after 14 hrs. (1995)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 100 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

Strata Boundaries May Not I

Form 2511-2410 05/05/97

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-8

STE
Soil Testing Engineers, Inc.

Sheet 5 of 6

File: 95-1154
Date: 04/30/96
Geol.: V. Ashworth
Driller: D. Thibodaux
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 802.2, E 2705.8

Surface Elevation: 8.4 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Key Sample Cut	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
												CH, CLAY, gray, traces of silt, very stiff
	165											
	170											
	175											
	180		3.0 (P)		32	87	55		32			– fine sand lenses and shell
	185											
	190											
	195											
	200		3.2 (P)		27	93	37		17			CL, SILTY CLAY, dark gray, shell, very stiff

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.2 hr. (1982)
- ▼ Long-term water level after 14 hrs. (1996)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 100 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

Strata Boundaries May Not Be Ex

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-8

STE
Soil Testing Engineers, Inc.

Sheet 6 of 6

File: 95-1154
Date: 04/30/96
Geol.: V. Ashworth
Driller: D. Thibodau
Rig: Failing 150(

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 802.2, E 2705.8
Surface Elevation: 8.4 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Soil Type	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
												CL, SILTY CLAY, dark gray, very stiff
	205											SM, SILTY SAND, gray, very dense
	210											
	215											
	220		40/2"		17							
												Boring completed at 220 ft. (1982)
	225											
	230											
	235											
	240											

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.2 hr. (1982)
- ▼ Long-term water level after 14 hrs. (1996)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 100 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion (1996)

Notes

Strata Boundaries May Not

BORING LOG

PROJECT NAME: Colonial Landfill

LOCATION: Sorrento, Louisiana

BORING B-9

PROJECT NO. 82-53
DATE 5/9
BORING TYPE
ENG./LOGGER MLM/J

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		0.5(p)							CH, CLAY, gray, soft
		1.0(p)		55	86	41			
	5	1.5(p)							
		1.3(p)							
			97	32	39	14			CL, SILTY CLAY, mottled tan and traces of organic matter, s → k= 1.4 X 10^{-7} cm/sec.
	10	3.3(p)							
		1.8(p)	105	21	37	20			
	15	3.3(p)		22	50	31			CH, CLAY, mottled tan and gray, traces of organic matter stiff
		2.8(p)							
		3.3(p)		24	53	31			
	20								Boring Completed

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL (AFTER 0.1 hr)

SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

REMARKS:

GID

A-

BORING LOG

PROJECT NAME: Colonial Landfill

LOCATION: Sorrento, Louisiana

BORING B-10

PROJECT NO.
DATE
BORING TYPE
ENG./LOGGER

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		1.3(p)							CH, CLAY, brown and gray, m stiff
		1.5(p)		48	91	60			
	5	1.3(p)							
		0.8(p)	90	34	54	35			mottled gray and tan; s
		1.0(p)							CL, SILTY CLAY, gray and ta medium stiff
	10			31	44	25			
		1.8(p)							
		2.5(p)		23	52	36			CH, CLAY, gray and tan, sti
	15	2.5(p)							
			99	30	71	45			k= 2 X 10^{-9} cm/sec.
		1.3(p)	95	31	48	30			CL, SILTY CLAY, red, gray a medium stiff
	20								
		3.3(p)							CH, CLAY, gray and tan, ve
		3.0(p)		28	65	46			
	25	4.3(p)							
		3.3(p)							CL, SILTY CLAY, tan and ori
				28	42	20			
	30								CH, CLAY, gray and tan, ve
		3.0(p)		38	89	62			
	35								
		3.8(p)		37	83	56			Boring Completed

SHELBY TUBE

SPLIT SPOON

AUGER

NO RECOVERY

INITIAL WATER LEVEL

WATER LEVEL (AFTER 0.1 hr)

SPT- STANDARD PENETRATION TEST (BLOWS/FT)

P- POCKET PENETROMETER READING (TSF)

REMARKS:

GID

BORING LOG

PROJECT NAME: Colonial Landfill
LOCATION: Sorrento, Louisiana
BORING B-11
PROJECT NO. 82-53
DATE 7/
BORING TYPE
ENG./LOGGER ASR/H

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		1.5(p)							CL, SILTY CLAY, brown and gray, fragments to a depth of 10 medium stiff
		1.5(p)	70	50					
	5	2.0(p)	93	28	43	24			k = 8.9 X 10^{-8} cm/sec.
		3.5(p)							gray and tan, very stiff
	10	3.5(p)	103	22	42	18			
		3.5(p)							
	15	3.0(p)							
		3.5(p)							slickensided
		3.5(p)	100	24	37	14			silt pockets
	20	1.0(p)							ML, CLAYEY SILT, tan, soft
			87	33	69	47			CH, CLAY, light gray, slickens very stiff
	25	3.5(p)							k = 3.8 X 10^{-9} cm/sec.
		3.7(p)							light gray and tan
		3.5(p)	90	31	78	50			
	30	3.0(p)							
		4.0(p)							fine sand pockets in the i 32 to 34 feet
	35	3.7(p)							
		4.0(p)	85	35	75	49			fine sand pockets

Boring Completed

REMARKS :

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL (AFTER 0.1hr)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

GID

BORING LOG

PROJECT NAME: Colonial Landfill

LOCATION: Sorrento, Louisiana

BORING B-12

PROJECT NO.
DATE
BORING TYPE
ENG./LOGGER

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		0.5(p)							CH, CLAY, gray, wood to a d 8 feet, soft
		0.8(p)							
	5								
		1.3(p)		40	86	62			
		1.5(p)		47	82	58			
	10			28	46	26			CL, SILTY CLAY, gray and ti of organic matter, med
		2.3(p)							
	15	2.3(p)		25	34	14			
		0.5(p)	99	25	37	20			
		2.5(p)		20	46	29			
	20	2.5(p)		27	36	16			
		2.8(p)							
	25	2.3(p)	100	27	61	44			CH, CLAY, mottled tan and traces of organic clay
		2.8(p)							
		3.3(p)							
	30								CL, SILTY CLAY, mottled ta silt and fine sand le stiff
			106	26	37	16			k= 3.2 X 10^{-6}
	35								CH, CLAY, gray and tan, ve
		2.8(p)		38	72	46			Boring Completed

SHELBY TUBE

SPLIT SPOON

AUGER

NO RECOVERY

INITIAL WATER LEVEL

WATER LEVEL (AFTER 0.2hr)

SPT- STANDARD PENETRATION TEST (BLOWS/FT)

P- POCKET PENETROMETER READING (TSF)

GID

REMARKS:

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-13

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 04/25/96
Geol.: V. Ashworth
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1268.3, E 2701.2
Surface Elevation: 8.3 ft., MSL

FIELD DATA			LABORATORY DATA								
Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒		1.5 (P)									CH, CLAY, brown and gray, wood fragments to a depth of 6 ft., medium stiff
		1.5 (P)									
▽	5	1.5 (P)									
		2.0 (P)		31	85	91		63			– gray and tan
		1.0 (P)									
▽	10	1.0 (P)									
		1.5 (P)									CL, SILTY CLAY, gray and tan, medium stiff
	15			23	105	32		14	K1		– stiff, slickensided
		2.5 (P)									
		3.0 (P)									
	20	3.0 (P)									– very stiff
		3.5 (P)		28	98	56		32			CH, CLAY, tan and light gray, very stiff
	25	3.5 (P)									
		3.7 (P)									– silt pockets
		2.0 (P)		33	88	81		48			
	30	4.0 (P)									
		3.5 (P)									CL, SILTY CLAY, light gray, fine sand pockets, very stiff
	35			24	99	31		11	K2		
		3.5 (P)									
		4.0 (P)									Washed 0 to 40 ft. without sampling (1996)
	40										

Continued Next Page

Ground Water Level Data

☒ No free water encountered due to wash (1996)
▽ Free water first encountered (1982)
▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

Normal Type: Boring B-13 dated 7/21/82
K: *Permeability (cm/sec)*
K1 = 4.0 x 10(-7)
K2 = 2.8 x 10(-9)

Strata Boundaries May Not Be Ex

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-13

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 04/25/96
Geol.: V. Ashworth
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1268.3, E 2701.2

Surface Elevation: 8.3 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Dry Sample	Dist. Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
				3.25 (P)									Stiff light gray CLAY (CH) w/tan mottling and ferrous nodules
				2.75 (P)									– w/organic matter, silty pockets, and clayey bottom 2-inches
	45			No (P)		25					GS		Firm tan SILT (ML) w/sand and clay traces
				~~2.75 (P)~~									Stiff to very stiff light gray CLAY (CH) w/tan mottling, ferrous and calcareous nodules, and organic matter
				4.0 (P)									– w/silt lenses at 49.5 to 50 ft.
	50												– w/silt pockets at 50 to 50.5 ft.
				3.0 (P)									
				3.0 (P)									
	55			4.0 (P)				38	17	21			Stiff light gray and light greenish-gray SILTY CLAY (CL) w/tan mottling and organic matter
				3.5 (P)									– w/silt and clay pockets in bottom 9-inches
				3.0 (P)									Stiff light greenish-gray and tan CLAY (CH) w/organic matter and silt pockets
	60												– w/numerous silt lenses at 59.5 to 60 ft. an 1-inch clayey silt layer at 60 ft.
				2.25 (P)		27		45	19	26			Stiff light gray, tan, and light greenish-gray Si CLAY (CL) w/numerous silt layers, pockets, a seams
				3.25 (P)									– w/several 1/2-inch to 2-inch silt layers at 61 62 ft.
	65			3.25 (P)									Stiff light greenish-gray CLAY (CH) w/tan mot
				3.0 (P)									– silty clay w/silt lenses and pockets at 64 to ft.
				3.75 (P)	2.58	24	101	58	20	38			
	70												Boring completed at 70 ft. (1996)
	75												
	80												

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

GS: Particle Size Analysis
Sand = 14%, Silt = 76%, Clay = 10%

Strata Boundaries May Not E

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-14

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 06/25/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1306.0, E 1568.4
Surface Elevation: -10.3 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒		2.0 (P)									CH, CLAY, dark gray, wood fragments to a depth of 8 ft., stiff
		1.7 (P)									
	5	1.7 (P)		51	73	103		71			
		1.7 (P)									– silt streaks, medium stiff
▽		1.7 (P)									
	10	2.5 (P)									
		2.0 (P)									CL, SILTY CLAY, tan and gray, medium stiff
▽	15	2.5 (P)		23	99	49		25			
		1.7 (P)									– fine sand pockets, stiff
		3.5 (P)									– traces of organic matter
	20	3.0 (P)									
				34	86	38		14	K1		
	25	3.7 (P)									CH, CLAY, tan and gray, slickensided, very stiff
		3.5 (P)									
		3.0 (P)		24	96	63		41			
	30	3.0 (P)									
		4.0 (P)									
	35	3.7 (P)									
		4.0 (P)									
				31	90	43		21	K2		CL, SILTY CLAY, tan and gray very stiff Washed 0 to 40 ft. without sampling (1996)
	40										

Continued Next Page

Ground Water Level Data

☒ No free water encountered due to wash (1996)
▽ Free water first encountered (1982)
▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-14 dated 7/22/82
K: Permeability (cm/sec)
K1 = 4.6 x 10(-7)
K2 = 1.0 x 10(-7)

Strata Boundaries May Not Be Ex

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-14

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 06/25/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-100C

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1306.0, E 1568.4

Surface Elevation: -10.3 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Sample No.	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Boil Type	DESCRIPTION
			1.25 (P)									Stiff gray SILTY CLAY (CL) w/tan mottling an organic matter
			2.25 (P)									Stiff dark gray CLAY (CH) w/tan mottling, fer nodules, and organic matter – w/5-inches silty clay at 42.5 ft.
	45		1.5 (P)		24		44	20	25			Stiff dark brown SILTY CLAY (CL) w/light gra mottling, clay stringers, organic matter, and a 3-inch clay layer
			2.5 (P)									Stiff brown and tan CLAY (CH) w/silt pocket organic matter, and ferrous and calcareous nodules
			2.5 (P)									
	50		2.5 (P)		36		64	24	40			
			2.5 (P)									– greenish-gray w/light gray mottling
			3.25 (P)									– tan w/greenish-gray mottling
	55		3.25 (P)	1.82	28	99	66	22	44			
			2.75 (P)									– dark gray at 58 to 62 ft.
	60		2.25 (P)									
			2.25 (P)									– greenish-gray w/dark brown mottling
	65		3.0 (P)									
			2.25 (P)									– clayey silt w/sand at 67.5 to 68 ft.
			Push Spoon		28					GS		Dark brown SILTY SAND (SM) w/tan mottlin clay stringers and nodules, calcareous nodul and silt seams
	70											Boring completed at 70 ft. (1996)
	75											
	80											

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered due to wash (1996) ▽ Free water first encountered (1982) ▽ Water level after 0.1 hr. (1982)	4" dia. Rotary Wash: 0 to 70 ft. (1996)	GS: Particle Size Analysis Sand = 91%
	Boring Abandonment Method Borehole grouted upon completion (1996)	

Strata Boundaries May Not

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-15

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 06/10/96
Tech.: C. Robinson
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1225.3, E 2161.1
Surface Elevation: 5.7 ft., MSL

Ground Water Level	Depth (feet)	Key Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒			2.7 (P)							GS1		CH, CLAY, tan and gray, wood fragments, stiff
			1.5 (P)									
▽	5		1.5 (P)									CL, SILTY CLAY, tan, medium stiff
					26	99	37		15			
▽			2.5 (P)									
	10		3.5 (P)		22	102	31		9			
			3.5 (P)			103						CH, CLAY, tan and gray, stiff
	15		3.0 (P)									
			2.0 (P)									CL, SILTY CLAY, tan and gray, silt and fine sand lenses, stiff
			3.2 (P)		26	97	39		15			
	20		2.7 (P)									
			2.0 (P)		35	85						ML, CLAYEY SILT, tan, medium stiff
	25											CH, CLAY, gray and tan, very stiff
			3.0 (P)									
			3.0 (P)									CL, SILTY CLAY, gray and tan, stiff
	30		2.5 (P)									
			4.0 (P)									CH, CLAY, tan and gray, very stiff
	35		3.5 (P)		27	93	55		28			
			4.0 (P)									
			3.5 (P)									Washed 0 to 40 ft. without sampling (1996)
	40											

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal type: Boring B-15 dated 7/19/82
K: Permeability = 6.2 x 10(-7) cm/sec

Strata Boundaries May Not Be I

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-15

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 06/10/96
Tech.: C. Robinson
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1225.3, E 2151.1

Surface Elevation: 5.7 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Undisturbed Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
			1.0 (P)		25							Firm brown SILT (ML) w/sand and clay traces
			4.0 (P)									Stiff light greenish-gray and tan CLAY (CH) w/organic matter and calcareous nodules – w/1-inch brown silt layer at 43 to 44 ft.
	45		3.0 (P)	2.08	29	91	72	24	48			– w/silt seams and ferrous nodules
			2.5 (P)									
			3.0 (P)									
	50		~~2.75 (P)~~									Stiff light gray SILTY CLAY (CL) w/ferrous mottling and organic matter
			2.5 (P)									Dense light gray SILT (ML) w/clay traces and ferrous and calcareous nodules
	55		2.75 (P)		22		34	19	14			Stiff tan CLAY (CH) w/numerous silt seams a 8-inch silt layers; Medium tan very SILTY CLAY (CL) w/ferrous nodules
			3.5 (P)									Dense tan SILT (ML) w/ 1/2-inch clay pocket ferrous nodules
			2.5 (P)		27		42	20	22			Stiff tan SILTY CLAY (CL) w/ferrous nodules
	60		2.0 (P)		28					GS2		Dense brown CLAYEY SILT (ML) w/sand trac and clay pockets
			3.0 (P)									Stiff gray CLAY (CH) w/light gray mottling, ferrous nodules, and organic matter
	65		2.75 (P)									
			2.0 (P)									Stiff gray SILTY CLAY (CL) w/ferrous nodule organic matter
			2.25 (P)									Stiff gray CLAY (CH) w/silt traces and ferrou nodules
	70											Boring completed at 70 ft. (1996)
	75											
	80											

Ground Water Level Data

- No free water encountered due to wash (1996)
- Free water first encountered (1982)
- Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

GS: Particle Size Analysis
GS1: Sand = 21%
GS2: Sand = 11%, Silt = 71%, Clay = 18%

Strata Boundaries May Not

BORING LOG

PROJECT NAME: Colonial Landfill
LOCATION: Sorrento, Louisiana
BORING B-12
PROJECT NO. 82-53
DATE 5/3/
BORING TYPE
ENG./LOGGER ML

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		0.5(p)							CH, CLAY, gray, wood to a depth 8 feet, soft
		0.8(p)							
	5								
		1.3(p)		40	86	62			
		1.5(p)		47	82	58			
	10			28	46	26			CL, SILTY CLAY, gray and tan, t of organic matter, medium s
		2.3(p)							
	15	2.3(p)		25	34	14			
		0.5(p)	99	25	37	20			
		2.5(p)		20	46	29			
	20	2.5(p)		27	36	16			
		2.8(p)							
	25	2.3(p)	100	27	61	44			CH, CLAY, mottled tan and gray traces of organic clay, st
		2.8(p)							
		3.3(p)							
	30								CL, SILTY CLAY, mottled tan ar silt and fine sand lenses stiff
			106	26	37	16			$k = 3.2 \times 10^{-6}$
	35								CH, CLAY, gray and tan, very
		2.8(p)		38	72	46			Boring Completed

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL (AFTER 0.2hr)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

REMARKS:

GID

A

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-13

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

Browning-Ferris, Inc.
Sorrento, LA

File: 95-1154
Date: 04/25/96
Geol.: V. Ashworth
Driller: E. Hull
Rig: Failing 150C

Location Coordinates: S 1268.3, E 2701.2
Surface Elevation: 8.3 ft., MSL

FIELD DATA			LABORATORY DATA								
Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒		1.5 (P)									CH, CLAY, brown and gray, wood fragment depth of 6 ft., medium stiff
▽		1.5 (P)									
	5	1.5 (P)									
		2.0 (P)		31	85	91		63			– gray and tan
		1.0 (P)									
▽	10	1.0 (P)									
		1.5 (P)									CL, SILTY CLAY, gray and tan, medium stif
	15			23	105	32		14	K1		
		2.5 (P)									– stiff, slickensided
		3.0 (P)									
	20	3.0 (P)									– very stiff
		3.5 (P)		28	96	56		32			CH, CLAY, tan and light gray, very stiff
	25	3.5 (P)									
		3.7 (P)									
		2.0 (P)		33	88	81		48			– silt pockets
	30	4.0 (P)									
		3.5 (P)									CL, SILTY CLAY, light gray, fine sand pocke very stiff
	35			24	99	31		11	K2		
		3.5 (P)									
		4.0 (P)									Washed 0 to 40 ft. without sampling (1996
	40										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion (1996)

Notes

Normal Type: Boring B-13 dated 7/21/82
K: Permeability (cm/sec)
K1 = 4.0 x 10(-7)
K2 = 2.8 x 10(-9)

Strata Boundaries May Not

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-13

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 04/25/96
Geol.: V. Ashworth
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1268.3, E 2701.2

Surface Elevation: 8.3 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Raw Sample Dia. 3inch	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
			3.25 (P)									Stiff light gray CLAY (CH) w/tan mottling and ferrous nodules
			2.75 (P)									– w/organic matter, silty pockets, and clayey silt bottom 2-inches
	45		No (P)		25					GS		Firm tan SILT (ML) w/sand and clay traces
			~~2.75 (P)~~									Stiff to very stiff light gray CLAY (CH) w/tan mottling, ferrous and calcareous nodules, and organic matter
			4.0 (P)									– w/silt lenses at 49.5 to 50 ft.
	50											– w/silt pockets at 50 to 50.5 ft.
			3.0 (P)									
			3.0 (P)									
	55		4.0 (P)				38	17	21			Stiff light gray and light greenish-gray SILTY CLAY (CL) w/tan mottling and organic matter
			3.5 (P)									– w/silt and clay pockets in bottom 9-inches
			3.0 (P)									Stiff light greenish-gray and tan CLAY (CH) w/organic matter and silt pockets
	60											– w/numerous silt lenses at 59.5 to 60 ft. and 1-inch clayey silt layer at 60 ft.
			2.25 (P)		27		45	19	26			Stiff light gray, tan, and light greenish-gray SILTY CLAY (CL) w/numerous silt layers, pockets, and seams
			3.25 (P)									– w/several 1/2-inch to 2-inch silt layers at 61 to 62 ft.
	65		3.25 (P)									Stiff light greenish-gray CLAY (CH) w/tan mottling
			3.0 (P)									– silty clay w/silt lenses and pockets at 64 to 65 ft.
			3.75 (P)	2.68	24	101	58	20	38			
	70											Boring completed at 70 ft. (1996)
	75											
	80											

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

GS: Particle Size Analysis
Sand = 14%, Silt = 76%, Clay = 10%

Strata Boundaries May Not Be Ex

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-14

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 06/25/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-100

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1306.0, E 1568.4

Surface Elevation: -10.3 ft., MSL

Ground Water Level	Depth (feet)	Key Sample Det. Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒			2.0 (P)									CH, CLAY, dark gray, wood fragments to a of 8 ft., stiff
			1.7 (P)									
	5		1.7 (P)		51	73	103		71			
			1.7 (P)									– silt streaks, medium stiff
▽			1.7 (P)									
	10		2.5 (P)									
			2.0 (P)									CL, SILTY CLAY, tan and gray, medium stiff
▽	15		2.5 (P)		23	99	49		25			
			1.7 (P)									– fine sand pockets, stiff
			3.5 (P)									– traces of organic matter
	20		3.0 (P)									
					34	86	38		14	K1		
	25		3.7 (P)									CH, CLAY, tan and gray, slickensided, very
			3.5 (P)									
			3.0 (P)		24	96	63		41			
	30		3.0 (P)									
			4.0 (P)									
	35		3.7 (P)									
			4.0 (P)									
					31	90	43		21	K2		CL, SILTY CLAY, tan and gray very stiff Washed 0 to 40 ft. without sampling (1996
	40											

Continued Next Page

Ground Water Level Data

☒ No free water encountered due to wash (1996)
▽ Free water first encountered (1982)
▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-14 dated 7/22/82
K: Permeability (cm/sec)
K1 = 4.6 x 10(-7)
K2 = 1.0 x 10(-7)

Strata Boundaries May Not

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-14

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 06/25/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1306.0, E 1568.4

Surface Elevation: -10.3 ft., MSL

Ground Water Level	Depth (feet)	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)									Stiff gray SILTY CLAY (CL) w/tan mottling and organic matter
		2.25 (P)									Stiff dark gray CLAY (CH) w/tan mottling, ferrous nodules, and organic matter – w/5-inches silty clay at 42.5 ft.
	45	1.5 (P)		24		44	20	25			Stiff dark brown SILTY CLAY (CL) w/light gray mottling, clay stringers, organic matter, and a 3-inch clay layer
		2.5 (P)									Stiff brown and tan CLAY (CH) w/silt pockets, organic matter, and ferrous and calcareous nodules
		2.5 (P)									
	50	2.5 (P)		36		64	24	40			
		2.5 (P)									– greenish-gray w/light gray mottling
		3.25 (P)									– tan w/greenish-gray mottling
	55	3.25 (P)	1.82	28	99	66	22	44			
		2.75 (P)									– dark gray at 58 to 62 ft.
	60	2.25 (P)									
		2.25 (P)									– greenish-gray w/dark brown mottling
	65	3.0 (P)									
		2.25 (P)									– clayey silt w/sand at 67.5 to 69 ft.
		Push Spoon		28					GS		Dark brown SILTY SAND (SM) w/tan mottling, clay stringers and nodules, calcareous nodules, and silt seams
	70										Boring completed at 70 ft. (1996)
	75										
	80										

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

GS: Particle Size Analysis
Sand = 91%

Strata Boundaries May Not Be E

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-15

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 06/10/96
Tech.: C. Robinson
Driller: E. Hull
Rig: Failing 150

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1225.3, E 2151.1
Surface Elevation: 5.7 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒		2.7 (P)							GS1		CH, CLAY, tan and gray, wood fragments,
		1.5 (P)									
▽	5	1.5 (P)		26	99	37		15			CL, SILTY CLAY, tan, medium stiff
▽		2.5 (P)									
	10	3.5 (P)		22	102	31		9			
		3.5 (P)			103						CH, CLAY, tan and gray, stiff
	15	3.0 (P)									
		2.0 (P)									CL, SILTY CLAY, tan and gray, silt and fine lenses, stiff
		3.2 (P)		26	97	39		15			
	20	2.7 (P)									
		2.0 (P)		35	85						ML, CLAYEY SILT, tan, medium stiff
	25	3.0 (P)									CH, CLAY, gray and tan, very stiff
		3.0 (P)									CL, SILTY CLAY, gray and tan, stiff
	30	2.5 (P)									
		4.0 (P)									CH, CLAY, tan and gray, very stiff
	35	3.5 (P)		27	93	55		28			
		4.0 (P)									
		3.5 (P)									Washed 0 to 40 ft. without sampling (199
	40										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal type: Boring B-15 dated 7/19/82
K: Permeability = 6.2 x 10(-7) cm/sec

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-15

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 06/10/96
Tech.: C. Robinson
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1225.3, E 2151.1

Surface Elevation: 5.7 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Pitcher Sample	Undist. Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
				1.0 (P)		25							Firm brown SILT (ML) w/sand and clay traces
				4.0 (P)									Stiff light greenish-gray and tan CLAY (CH) w/organic matter and calcareous nodules – w/1-inch brown silt layer at 43 to 44 ft.
	45			3.0 (P)	2.08	29	91	72	24	48			– w/silt seams and ferrous nodules
				2.5 (P)									
				3.0 (P)									
	50			~~2.75 (P)~~									Stiff light gray SILTY CLAY (CL) w/ferrous mottling and organic matter
				2.5 (P)									Dense light gray SILT (ML) w/clay traces and ferrous and calcareous nodules
													Stiff tan CLAY (CH) w/numerous silt seams and 8-inch silt layers
	55			2.75 (P)		22		34	19	14			Medium tan very SILTY CLAY (CL) w/ferrous nodules
				3.5 (P)									Dense tan SILT (ML) w/ 1/2-inch clay pockets ferrous nodules
				2.5 (P)		27		42	20	22			Stiff tan SILTY CLAY (CL) w/ferrous nodules
	60			2.0 (P)		28					GS2		Dense brown CLAYEY SILT (ML) w/sand traces and clay pockets
				3.0 (P)									Stiff gray CLAY (CH) w/light gray mottling, ferrous nodules, and organic matter
	65			2.75 (P)									
				2.0 (P)									Stiff gray SILTY CLAY (CL) w/ferrous nodules and organic matter
				2.25 (P)									Stiff gray CLAY (CH) w/silt traces and ferrous nodules
	70												Boring completed at 70 ft. (1996)
	75												
	80												

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

GS: Particle Size Analysis
GS1: Sand = 21%
GS2: Sand = 11%, Silt = 71%, Clay = 18%

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-16

STE
Soil Testing Engineers, Inc.

Sheet 1 of 6

File: 95-1154
Date: 06/12/96
Tech.: C. Robinson
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1306.9, E 195.0

Surface Elevation: 7.5 ft., MSL

Ground Water Level	Depth (feet)	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
		0.7 (P)									CL, SILTY CLAY, gray and tan, traces of or matter, medium stiff
		~~0.7 (P)~~									CH, CLAY, gray, traces of organic matter, medium stiff
	5	1.7 (P)									
		1.5 (P)		33	84	62		38			
		1.5 (P)									– gray and tan
	10	3.0 (P)									– stiff
		3.0 (P)									– very stiff
	15	3.0 (P)		20	105	45		28			CL, SILTY CLAY, tan and gray, traces of or matter, very stiff
		2.0 (P)									
		2.7 (P)		25							ML, CLAYEY SILT, tan and gray, stiff
	20	0.7 (P)		62	94	31		8			
		1.2 (P)									– medium stiff
	25	3.5 (P)									CH, CLAY, tan and gray, traces of organic n very stiff
		3.0 (P)									
		2.7 (P)									
	30	2.2 (P)									
		2.7 (P)									
	35	4.2 (P)									
		3.0 (P)									
		3.5 (P)		35	83	84		52	K1		Washed 0 to 40 ft. without sampling (1996
	40										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash:
0 to 100 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-16 dated 8/09/82
K: Permeability (cm/sec)
K1 = 4.4 x 10(-8)

Strata Boundaries May Not

Form 95115ALG 05/05/87

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-16

STE
Soil Testing Engineers, Inc.

Sheet 2 of 6

File: 95-1154
Date: 06/12/96
Tech.: C. Robinson
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1306.9, E 195.0
Surface Elevation: 7.5 ft., MSL

FIELD DATA			LABORATORY DATA								
Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		2.5 (P)									Stiff greenish-gray CLAY (CH) w/light gray and ferrous mottling and organic matter
											– w/ferrous nodules at 42 to 46 ft.
		3.0 (P)									
		3.2 (P)									– w/silt seams
	45	2.5 (P)		30		61	23	38			
		3.5 (P)									
		4.0 (P)									
		3.0 (P)									
	50										
		2.5 (P)									
		3.25 (P)									
		2.0 (P)									
	55	2.5 (P)		22		47	16	31			Stiff light gray and tan SILTY CLAY (CL) w/ferrous nodules and organic matter
		2.5 (P)									
		3.2 (P)									Stiff gray CLAY (CH) w/light gray mottling
		2.75 (P)		34	84	70		41			– w/silt seams, silt pockets, and silt layers at 58 to 64 ft.
	60										
		2.25 (P)									
		1.5 (P)									
		2.5 (P)									– tan at 64 to 68 ft.
	65	3.0 (P)									
											– slickensided w/1-inch silty clay pockets
		3.25 (P)									
											– w/silt seams at 68 to 72 ft.
		3.25 (P)		23	103	33		13	K2		
	70										– greenish-gray
		2.5 (P)									
											– very stiff at 72 to 74 ft.
		4.5+ (P)	2.23	24	101	54	20	34			
		4.0 (P)									
	75	4.5+ (P)									
		3.5 (P)									
											– w/calcareous nodules and silt traces
		3.0 (P)									
		3.5 (P)		24	95	48		22			
	80										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 100 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

K: Permeability (cm/sec)
K2 = 4.4 x 10(-7)

Strata Boundaries May Not Be

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-16

STE
Soil Testing Engineers, Inc.

Sheet 3 of 6

File: 95-1154
Date: 06/12/96
Tech.: C. Robinso
Driller: E. Hull
Rig: Failing 150

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1306.9, E 195.0

Surface Elevation: 7.5 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Blow Count	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
												Stiff gray CLAY (CH) w/light gray mottling
			4.5+ (P)									– w/ferrous mottling at 83 to 90 ft.
	85											
			4.5 (P)		31		67	26	41			
	90											Stiff gray SILTY CLAY (CL) w/light gray an ferrous mottling and numerous shell fragm
			3.0 (P)									
	95											Very stiff greenish-gray CLAY (CH) w/ferro mottling, silt pockets, and organic matter
			4.0 (P)									
	100		3.2 (P)		29	90	70		48			Boring completed at 100 ft. (1996) CH, CLAY, gray and tan, very stiff
	105											
	110											
	115											
			3.5 (P)		25	91	67		51			
	120											

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 100 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Strata Boundaries May Not

Form 95115-0LG 05/05/97

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-16

STE
Soil Testing Engineers, Inc.

Sheet 4 of 6

File: 95-1154
Date: 06/12/96
Tech.: C. Robinson
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1306.9, E 195.0

Surface Elevation: 7.5 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Dry Density	Moisture	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
													CH, gray and tan, very stiff
	125												
	130												
	135												
	140												
				3.5 (P)		30	94			NP			ML, CLAYEY SILT, gray, fine sand lenses, very stiff
	145												CL, SILTY CLAY, gray, very stiff
	150												
	155												
				2.0 (P)		26	97	30		9			– silt lenses, medium stiff
	160												

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▼ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 100 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Strata Boundaries May Not Be E

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-16

STE
Soil Testing Engineers, Inc.

Sheet 5 of 6

File: 95-1154
Date: 06/12/96
Tech.: C. Robinson
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1306.9, E 195.0

Surface Elevation: 7.5 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Key Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
												CL, SILTY CLAY, gray, stiff
	165											
	170											
	175											
	180											
	185											
	190											
	195											
	200		2.2 (P)		29	90	51		28			CH, CLAY, gray, stiff

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 100 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Strata Boundaries May Not B

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-16

STE
Soil Testing Engineers, Inc.

Sheet 6 of 6

File: 95-1154
Date: 06/12/96
Tech.: C. Robinson
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1306.9, E 195.0

Surface Elevation: 7.5 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Key Strata	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
												CH, CLAY, gray, stiff
	205											
	210											
	215											SP, GRAVELLY SAND, very dense
			SPT,50/6"									
												Boring completed at 218 ft. (1982)
	220											
	225											
	230											
	235											
	240											

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered due to wash (1996) ▽ Free water first encountered (1982) ▽ Water level after 0.1 hr. (1982)	4" dia. Rotary Wash: 0 to 100 ft. (1996)	
	Boring Abandonment Method Borehole grouted upon completion (1996)	

Strata Boundaries May Not Be E

BORING LOG

PROJECT NAME: Colonial Landfill
LOCATION: Sorrento, Louisiana
BORING B-17
PROJECT NO. 82-530
DATE 8/9/82
BORING TYPE
ENG./LOGGER ASR/JP

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		0.7(p)							CH, CLAY, gray and tan, traces o organic matter, medium stiff
		1.2(p)							
	5	2.5(p)							CL, SILTY CLAY, gray and tan, tr of organic matter, medium st
		1.2(p)	93	28	33	8			
		1.0(p)							
	10	2.2(p)							
		2.5(p)	101	23	51	33			CH, CLAY, tan and gray, traces organic matter, very stiff
	15	2.2(p)							
		3.0(p)							
			91	32	36	13			CL, SILTY CLAY, tan and gray, t of organic matter, very sti → k= 1.5 X 10⁻⁶ cm/sec.
	20	1.5(p)							
		2.5(p)							CH, CLAY, gray and tan, traces organic matter, very stiff
	25	2.2(p)							
		2.7(p)							
	30	3.5(p)							
		1.2(p)							CL, SILTY CLAY, gray and tan, t of organic matter, very st
	35	2.7(p)	92	27	38	15			
		1.7(p)							CH, CLAY, gray and tan, traces organic matter, very stiff
		2.7(p)							

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL (AFTER 0.1hr)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

REMARKS: Boring Completed

GID

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-18

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 06/25/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1561.1, E 1626.5

Surface Elevation: -10.3 ft., MSL

Ground Water Level	Depth (feet)	Soil Type	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	DESCRIPTION
☒			1.0 (P)				39	21	18		CH, CLAY, brown, medium stiff
▽			2.0 (P)								
	5		1.5 (P)								– gray
			1.7 (P)								
▽			1.5 (P)		31	92	43		21		CL, SILTY CLAY, tan and gray, stiff
	10		2.5 (P)								
			2.7 (P)								– traces of organic matter at 12 to 14 foot depth and wood fragments at 14 to 16 foot depth
	15		2.5 (P)								
			3.0 (P)								
			4.0 (P)		26	97	32		10		
	20		2.7 (P)								
			2.7 (P)								CH, CLAY, gray and tan, traces of organic matte to a depth of 26 ft.
	25		3.0 (P)								
			4.0 (P)								
			3.0 (P)								
	30		3.5 (P)								
					27	96	35		24	K1	CL, SILTY CLAY, gray and tan, very stiff
	35		3.0 (P)								CH, CLAY, gray and tan, traces of organic matt very stiff
			4.0 (P)								
			4.0 (P)								Washed 0 to 40 ft. without sampling (1996)
	40										

Continued Next Page

Ground Water Level Data

☒ No free water encountered due to wash (1996)
▽ Free water first encountered (1982)
▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-18 dated 7/23/82
K: Permeability (cm/sec)
K1 = 2.8 x 10(-8)

Strata Boundaries May Not Be

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-18

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 06/25/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-10

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1561.1, E 1626.5
Surface Elevation: -10.3 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		2.25 (P)		25							Stiff light gray CLAY (CH) w/tan mottling, s lenses and pockets, ferrous nodules, and or matter
		2.75 (P)									
		3.7 (P)		33	87	62		36			
	45	1.25 (P)									
											– increase in silt lenses
		Push Spoon									
		Push Spoon		40	80	57		39	K2		Stiff dark gray and tan CLAY (CH) w/silt po ferrous nodules, and organic matter
	50										
		2.25 (P)	2.15	25	100	46	17	28			
											– w/silt seams at 52 to 58 ft.
		2.0 (P)									
		1.7 (P)									
	55	3.0 (P)									
		3.5 (P)									
		4.0 (P)		28	93	55	32	29			
		2.0 (P)		43		63		51			
	60										
		2.0 (P)									
											– 7-inches silt w/clay stringer at 61.5 ft.
											– tan w/light gray mottling
		1.25 (P)									
		4.0 (P)									– gray, slickensided, and organic matter at 68 ft.
	65	2.75 (P)									
											– clayey silt w/sand traces at 67.5 to 68 ft
		3.0 (P)									
		4.0 (P)									Dense greenish-gray SILT (ML) w/4-inch cla layers, clay stringers, and sand traces
	70										Boring completed at 70 ft. (1996)
											CH, CLAY, tan and gray, very stiff
		4.0 (P)		28	94	51		25			
	75										
		4.0 (P)							GS		
	80										

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Boring completed at 80 ft. (1982)
K: Permeability (cm/sec)
K2 = 1.0 x 10(-7)
GS: Particle Size Analysis
Sand = 3%, Silt = 80%, Clay = 17%

Strata Boundaries May Not

BORING LOG

PROJECT NAME: Colonial Landfill
BORING B-19
LOCATION: Sorrento, Louisiana

PROJECT NO. 82-530
DATE 8/5/82
BORING TYPE
ENG./LOGGER ASR/JP.

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		1.0(p)							CH, CLAY, gray and tan, traces of organic matter, medium stiff
		1.0(p)							
	5	1.5(p)	91	30	66	44			
		1.2(p)							CL, SILTY CLAY, gray and tan, traces of organic matter, medium stiff
		1.2(p)	91	31	36	12			
	10	1.5(p)							
		2.0(p)							
	15	1.7(p)							
		3.5(p)							stiff
			101	27	34	12			k= 4.3 X 10^{-6} cm/sec
	20	3.0(p)							very stiff
		3.0(p)							CH, CLAY, gray and tan, stiff
	25	2.5(p)							
		2.5(p)							
			90	35	73	45			slickensided k = 6.7 X 10^{-8}cm/s
	30	2.5(p)							ML, CLAYEY SILT, tan, fine sand lenses, stiff
		2.5(p)							
	35	3.5(p)		29					
		3.0(p)							CH, CLAY, tan and gray, traces of organic matter, very stiff
		2.5(p)	84	34	67	40			

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL (AFTER 0.1hr)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

REMARKS: Boring Completed

GID

SOIL BORING LOG

PROJECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-19

FILE: 89-0
DATE: 8/10,
TECH.: T. L

LIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 1 of 3

FIELD DATA				LABORATORY DATA					BORING ADVANCE METHOD Coord:
GROUND WATER LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	Wash: Full Depth (85') Elev
	5		Wash bored without sampling 0' - 26' See log of B-19 dated 8/5/82						
	10								
	15								
	20								
	25		1.2 (P)		32		41	21	Medium tan &light gray SILTY (
			2.0 (P)						Medium light gray & tan CLAY
	30		2.2 (P)	0.85	30	89	56	38	
			2.2 (P)						
			3.5 (P)				-		Stiff tan & light gray CLAY w/silt layers
	35		4.2 (P)						Stiff to very stiff tan & li gray CLAY (CH)
			4.2 (P)						
	40		3.7 (P)		23	100	36	18	Stiff tan & light gray SILTY (CL) w/sand lenses

(contin

SYMBOLS:

STANDARD PENETRATION TEST
140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE
3" DIA. SHELBY TUBE

NO RECOVERY

WATER LEVEL AFTER

WATER LEVEL AFTER

Compressive Strength From Unconfined Compression Test Unless Noted Otherwise

Strata Boundaries May Not Be

SOIL BORING LOG

PROJECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-19

FILE: 89-089
DATE: 8/11/89
TECH.: T. Lawrence

CLIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 2 of 3

FIELD DATA				LABORATORY DATA					
GROUND WATER LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY LBS/CU.FT.	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	
									Stiff tan & light gray SILTY CLAY (CL)
	45		No (P)		29		53	31	Stiff brown & tan CLAY (CH) — w/silt lenses at 43' - 45'
	50		3.2 (P)						— jointed below 48'
	55		4.5 (P)		25	100	52	25	— gray & tan below 53'
	60		4.0 (P)						
	65		3.7 (P)		31		87	57	— w/calcareous nodules at 63' - 65'
	70		18 b/f (4-8-10)						Stiff gray SILTY CLAY (CL) w/2" silt layers, trace of organic matter
	75		2.2 (P) Kv		22	99	46	29	Medium to stiff gray SILTY CLAY (CL)
	80		4.5 (P)						Stiff gray CLAY (CH), jointed, w/silt pockets

(continued

SYMBOLS:

STANDARD PENETRATION TEST
140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE
3" DIA. SHELBY TUBE

NO RECOVERY

Kv = 7.4x10(-9) cm/sec TX

Strength From Unconfined

Strata Boundaries May Not Be E

SOIL BORING LOG

PROJECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-19

FILE: 89-08
DATE: 8/11/
TECH.: T. La

CLIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 3 of 3

FIELD DATA				LABORATORY DATA					
GROUND WATER LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	
									Stiff gray CLAY (CH)
			4.2 (P)		32		45	18	Stiff gray & brown SILTY CLAY
	85								Boring terminated at 8
									Borehole grouted full depth

SYMBOLS:

STANDARD PENETRATION TEST
140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE
3" DIA. SHELBY TUBE

NO RECOVERY

Compressive Strength From Unconfined
... Tests Unless Noted Otherwise

Strata Boundaries May Not Be

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-20

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 07/09/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1802.5, E 2145.2

Surface Elevation: 1.6 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒		2.5 (P)				45	18	27			CH, CLAY, brown, wood fragments, very stiff
		2.5 (P)									
	5	1.5 (P)		39	82	99		65			– medium stiff
▽		2.0 (P)									– stiff
		2.2 (P)									CL, SILTY CLAY, tan and gray, medium stiff
	10	2.5 (P)		24	99	38		10			
▽		2.5 (P)									CH, CLAY, tan and gray, very stiff
	15	1.5 (P)									– slickensided
		3.0 (P)									
	20	3.0 (P)		32	93	57		29	K1		
		3.5 (P)									
	25	3.5 (P)		22	107						
		4.0 (P)									
	30	3.0 (P)		27	95	45		27	K2		CL, SILTY CLAY, light gray, stiff
		2.7 (P)		25	99	32		4			ML, CLAYEY SILT, gray and tan, stiff
	35	2.7 (P)									
		3.5 (P)									CH, CLAY, tan and gray, very stiff
	40	3.5 (P)		38							Washed 0 to 40 ft. without sampling (1996)

Continued Next Page

Ground Water Level Data

☒ No free water encountered due to wash (1996)
▽ Free water first encountered (1982)
▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-20 dated 7/20/82
K: Permeability (cm/sec)
K1 = 3.8 x 10(-5)
K2 = 8.0 x 10(-5)

Strata Boundaries May Not Be Exac

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-20

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 07/09/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-1

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1802.5, E 2145.
Surface Elevation: 1.6 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒		2.5 (P)				45	18	27			CH, CLAY, brown, wood fragments, very
		2.5 (P)									
	5	1.5 (P)		39	82	99		65			– medium stiff
▽		2.0 (P)									– stiff
		2.2 (P)									CL, SILTY CLAY, tan and gray, medium s
	10	2.5 (P)		24	99	38		10			
▽		2.5 (P)									CH, CLAY, tan and gray, very stiff
	15	1.5 (P)									
		3.0 (P)									– slickensided
	20	3.0 (P)		32	93	57		29	K1		
		3.5 (P)									
	25	3.5 (P)		22	107						
		4.0 (P)									
	30	3.0 (P)		27	95	46		27	K2		CL, SILTY CLAY, light gray, stiff
		2.7 (P)		25	99	32		4			ML, CLAYEY SILT, gray,and tan, stiff
	35	2.7 (P)									
		3.5 (P)									CH, CLAY, tan and gray, very stiff
	40	3.5 (P)		38							Washed 0 to 40 ft. without sampling (199

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Boreholes grouted upon completion (1996)

Notes

Normal Type: Boring B-20 dated 7/20/82
K: Permeability (cm/sec)
K1 = 3.8 x 10(-8)
K2 = 8.0 x 10(-8)

Form ST1154LG 03/15/97

Strata Boundaries May Not

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-20

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 07/09/95
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1802.5, E 2145.2

Surface Elevation: 1.6 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Raw Sample / Dry Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
			3.75 (P)		21	108	45	18	27	Kh		Stiff tan and light gray SILTY CLAY (CL) w/silt pockets, silt lenses, and ferrous nodules
			3.25 (P)									
	45		3.0 (P)									– w/clayey silt bottom 2-inches
			1.25 (P)									Firm CLAYEY SILT (ML) w/clay stringers and nodules
			1.25 (P)		25		40	18	22			Stiff light gray and tan SILTY CLAY (CL) w/silt pockets and organic matter
			1.75 (P)									– w/silt and silty clay lenses at 47 to 50 ft.
	50		2.5 (P)									
			2.75 (P)	1.41	35	86	77	29	48			Stiff greenish-gray CLAY (CH) w/tan mottling, ferrous nodules, and silt pockets
												– slickensided at 52 to 58 ft.
	55		3.25 (P)									
			4.5+ (P)									
												– w/silt lenses at 58 to 66 ft.
			3.25 (P)									
	60		3.75 (P)									
			2.75 (P)									– slickensided w/shell fragments and calcareous nodules at 62 to 66 ft.
	65		2.0 (P)									
			2.75 (P)		28					GS		Medium dense greenish-gray CLAYEY SILT (ML) w/tan mottling, silty clay lenses, and calcareous nodules
			2.0 (P)									
	70											Boring completed at 70 ft. (1996)
	75											
	80											

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Kh: Horizontal Permeability = 3.29 x 10(-8) cm/sec
GS: Particle Size Analysis
Sand = 13%, Silt = 71%, Clay = 16%

Strata Boundaries May Not Be Exa

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-21

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 05/29/96
Tech.: C. Robinsor
Driller: E. Hull
Rig: Failing 150(

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1692.7, E 186.6
Surface Elevation: 8.8 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		1.2 (P)									CL, SILTY CLAY, tan and gray, traces of or matter, medium stiff
		1.0 (P)									
	5	1.2 (P)		28	93	45		26			
		2.5 (P)									– stiff
		2.5 (P)									
	10	2.0 (P)									
		2.7 (P)									– very stiff
	15			22	106	37		18	K1		
		3.5 (P)									– silt lenses
		2.5 (P)		31	88	51		25			CH, CLAY, tan and gray, traces of organic n very stiff
	20	3.0 (P)		32	92						
		2.7 (P)									
	25			31	93	64		41	K2		
		3.2 (P)									
		3.0 (P)		42	77	86		50			
	30	3.2 (P)									
		2.7 (P)									
	35	3.2 (P)									
		2.5 (P)		28	94	44		23			CL, SILTY CLAY, gray and tan, traces of orgi matter, very stiff
		3.2 (P)									Washed 0 to 40 ft. without sampling (1996)
	40										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 72 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-21 dated 8/05/82
K: Permeability (cm/sec)
K1 = 3.1 x 10(-7)
K2 = 1.4 x 10(-8)

Form 3511540.0 05/05/97

Strata Boundaries May Not E

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-21

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 05/29/96
Tech.: C. Robinson
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1692.7, E 186.6

Surface Elevation: 8.8 ft., MSL

FIELD DATA			LABORATORY DATA								
Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		3.0 (P)									Stiff to very stiff light gray and tan CLAY (CH) w/organic matter
		3.5 (P)									
	45	3.5 (P)	1.79	38	83	64	33	32			
		3.75 (P)									– w/silt traces and ferrous nodules
		3.0 (P)									– w/silt pockets
	50										– w/ferrous nodules
		3.0 (P)									– slickensided
		3.0 (P)									
	55	3.0 (P)		18		28	18	10			Stiff light gray very SILTY CLAY (CL) w/organic matter
		2.75 (P)									– w/ferrous nodules at 56 to 60 ft.
		2.25 (P)		25		35	19	16			– less silty
	60										– w/clay bottom 6-inches
		2.25 (P)									
		2.75 (P)									Stiff brown CLAY (CH) w/gray mottling – w/silt seams at 62 to 64 ft. – w/ferrous nodules and silt traces at 64 to 68 ft.
	65	2.5 (P)									
		3.5 (P)									
		3.0 (P)		25	97	48	15	31	Kv		Stiff light gray SILTY CLAY (CL) w/tan mottling and silt streaks
	70										Stiff gray CLAY (CH) w/ferrous nodules
		2.75 (P)									
											Boring completed at 72 ft. (1996)
	75										
	80										

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 72 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Kv: Vertical Permeability = 6.81 x 10(-9) cm/sec

Strata Boundaries May Not Be E

BORING LOG

PROJECT NAME: Colonial Landfill
LOCATION: Sorrento, Louisiana
BORING B-22
PROJECT NO. B2-530
DATE 9/2/82
BORING TYPE
ENG./LOGGER ASR/MCC

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		3.5(p)							CH, CLAY, brown, very stiff
		3.0(p)							
	5	2.0(p)							silt pockets
			87	32	48	26			CL, SILTY CLAY, gray and tan, medi stiff
		0.7(p)							
▼	10								soft
		0.5(p)	98	27					
		2.2(p)	97	25	35	16			medium stiff
	15	1.2(p)							CH, CLAY, light gray and tan, very stiff
		4.0(p)							
		2.0(p)	91	29	61	34			slickensided
	20	1.2(p)							
	25	2.7(p)							
		3.0(p)							
			95	29	51	28			k= 5.4 X 10^{-7} cm/sec.
	30	3.5(p)							
		2.7(p)							CL, SILTY CLAY, tan and light gray slickensided, very stiff
	35	2.5(p)							
		2.5(p)							
			94	31	40	18			silt lenses k = 2.4 X 10^{-6}cm/

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

▽ INITIAL WATER LEVEL
▼ WATER LEVEL (AFTER 0.1hr)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

Boring Completed
REMARKS:

GID

BORING LOG

PROJECT NAME: Colonial Landfill

LOCATION: Sorrento, Louisiana

BORING B-23

PROJECT NO. 82-530
DATE 7/27/82
BORING TYPE
ENG./LOGGER ASR/MM

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		1.0(p)							CH, CLAY, brown, traces of organic matter, medium stiff
		2.0(p)							
	5	2.0(p)							
		2.0(p)							CL, SILTY CLAY, tan, medium stiff
			98	27	35	12			k= 3.5 X 10^{-7} cm/sec.
	10								
		3.0(p)							very stiff
		4.0(p)							
	15	2.7(p)	101	22	45	24			
		3.0(p)							
		2.0(p)	92	29	34	8			ML, CLAYEY SILT, tan, medium stiff
	20								
		2.7(p)							
		3.0(p)							CH, CLAY, tan and gray, traces of organic matter, very stiff
	25	3.0(p)							
		2.7(p)							
		3.0(p)	94	28	67	43			silt traces in the interval 30 to 34 feet
	30								
		3.0(p)							
		2.7(p)							
	35	2.7(p)							
		3.7(p)							Boring Completed

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL (AFTER 0.1hr)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

REMARKS:

GID

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-24

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 04/19/96
Geol.: V. Ashworth
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2150.1, E 2709.9
Surface Elevation: 7.8 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒ ▽		1.0 (P)									CH, CLAY, brown and gray, traces of organi matter, stiff
		1.0 (P)									
	5	1.2 (P)		39	81	78		53			
		1.2 (P)									
▽		1.5 (P)									CL, SILTY CLAY, tan and light gray, medium
	10	1.7 (P)									
		3.0 (P)									
	15	1.7 (P)		18	107	44		25			– stiff
		2.7 (P)									CH, CLAY, tan and gray, silt traces, very stif
		2.7 (P)									
	20	2.5 (P)									– slickensided
				25	104	55		37	K1		
	25	4.0 (P)									
		3.0 (P)		21	108						– traces of organic matter
		4.0 (P)									
	30	3.7 (P)									
		3.2 (P)									
	35	2.5 (P)		27	95	36		13			CL, SILTY CLAY, light gray and tan, traces o organic matter, very stiff
		2.0 (P)									
				22	107	59		35	K2		CH, CLAY, tan and gray, traces of organic m very stiff
	40										

Continued Next Page

Ground Water Level Data

☒ No free water encountered due to wash (1996)
▽ Free water first encountered (1982)
▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 80 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion (1996)

Notes

Normal Type: Boring B-24 dated 8/30/82
K: Permeability (cm/sec)
K1 = 2.7 x 10(-8)
K2 = 7.8 x 10(-9)

Strata Boundaries May Not

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-24

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 04/19/96
Geol.: V. Ashworth
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2150.1, E 2709.9
Surface Elevation: 7.8 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
											Washed 0 to 40 ft. without sampling (1996)
		2.5 (P)									Stiff light gray CLAY (CH) w/tan mottling, slickensided, jointed, ferrous nodules, and organic matter
		4.5 (P)									
		4.0 (P)									Very stiff light gray SILTY CLAY (CL) w/ferrous and tan mottling
	45	No (P)									Firm tan and light gray SILT (ML) w/silty clay at 45.5 to 46 ft.
		3.25 (P)									Stiff light gray and tan CLAY (CH), slickensided – w/ 1/2-inch silt pockets and organic matter at 46 to 48 ft.
		2.2 (P)									
		2.75 (P)									
	50										– w/clayey silt bottom 5-inches
		2.5 (P)									
		3.25 (P)									Stiff light gray very SILTY CLAY (CL) w/tan mottling
		~~4.2 (P)~~		~~22~~	~~102~~	~~33~~		~~12~~			– w/5-inch very clayey silt layer at 53 ft.
	55	3.5 (P)		21		41	20	21			Stiff greenish-gray SILTY CLAY (CL)
		No (P)									Firm greenish-gray CLAYEY SILT (ML) w/sand traces
		2.2 (P)									
		No (P)		28					GS1		
	60										
		No (P)									
		2.75 (P)									Stiff greenish-gray CLAY (CH) w/tan mottling – w/silt pockets at 62.5 to 65 ft.
		2.2 (P)									
	65	2.75 (P)				65	31	34			
											– w/calcareous nodules
		2.5 (P)									
		3.0 (P)		33	87	51		28			– w/wood and organic matter at 68 to 72 ft.
		2.5 (P)									
	70										– slickensided
		2.75 (P)									
		Push Spoon									Stiff greenish-gray SILTY CLAY (CL) w/sand traces
		4.2 (P)									
	75	No (P)									Firm greenish-gray CLAYEY SILT (ML) w/sand
		No (P)									
		2.0 (P)									
		20 b/f		31					GS2		
		5-8-12									
	80										

Ground Water Level Data

- No free water encountered due to wash (1996)
- Free water first encountered (1982)
- Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 80 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

Boring completed at 80 ft. (1982 and 1996)
GS: Particle Size Analysis
GS1: Sand = 8%, Silt = 77%, Clay = 15%
GS2: Sand = 24%, Silt = 59%, Clay = 17%

BORING LOG

PROJECT NAME: Colonial Landfill
LOCATION: Sorrento, Louisiana
BORING B-25
PROJECT NO. 82-530
DATE 9/2/82
BORING TYPE
ENG./LOGGER ASR/JP

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		2.2(p)							CH, CLAY, brown and gray, traces of organic matter, stiff
		1.2(p)							
	5	1.5(p)							
		1.0(p)	69	50	114	76			medium stiff
		1.5(p)							
	10	1.5(p)	87	36					
		1.7(p)							silt traces, stiff
	15	2.5(p)	93	25	50	31			
		2.0(p)							
		2.5(p)							
	20	2.5(p)							
		1.0(p)							ML, CLAYEY SILT, tan, traces of fine sand, medium stiff
	25	3.5(p)	99	24	25	N.P.			
		1.7(p)							
		2.7(p)							CH, CLAY, tan and gray, slickensided, very stiff
	30	2.5(p)							
		2.7(p)	94	31	67	38			$k = 2.5 \times 10^{-9}$ cm/sec.
	35	3.0(p)							
		3.2(p)							
		3.5(p)							

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL (AFTER 0.2hr)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

Boring Completed
REMARKS:

GID

BORING LOG

PROJECT NAME: Colonial Landfill
LOCATION: Sorrento, Louisiana
BORING B-26
PROJECT NO. 82-530
DATE 9/9/82
BORING TYPE
ENG./LOGGER ASR/JP

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		1.2(p)							CH, CLAY, gray and tan, traces of organic matter, medium stiff
		1.2(p)							
	5	0.5(p)	77	40	69	51			silt traces, soft
		1.0(p)							
		1.2(p)							CL, SILTY CLAY, tan and light gray, traces of organic matter, soft
	10	1.0(p)							
		1.7(p)	103	22	47	30			medium stiff
	15	2.2(p)							stiff
		3.2(p)							very stiff
		3.0(p)							
	20	3.8(p							
		3.5(p	105	21	42	26			k= 1.6 X 10^{-7} cm/sec.
	25	3.5(p							
		2.5(p							
		2.2(p							
	30	2.0(p							ML, CLAYEY SILT, tan and gray, some fine sand, stiff
		2.5(p	97	25		N.P.			
	35	3.0(p							CH, CLAY, gray and tan, traces of organic matter, slickensided, very stiff
		3.2(p							
		3.2(p	78	42	90	59			

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL (AFTER 0.1hr)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

Boring Completed
REMARKS:

GID

SOIL BORING LOG

PROJECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-26

FILE: 89-089
DATE: 8/11/89
TECH.: S. Kean
T. Lawr

CLIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 1 of 2

BORING ADVANCE METHOD: Wash: Full Depth (70')

Coord:

Elev.

FIELD DATA				LABORATORY DATA					
GROUND WATER LEVELS	Depth (Feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	
	5		Wash bored without sampling 0' - 26' See log of boring B-26 dated 9/9/82						
	10								
	15								
	20								
	25								
			4.0 (P)	0.86	27	95	43	19	Medium tan SILTY CLAY (CL) w/ seams & organic matter
	30		3.2 (P)						Medium to stiff tan & light g CLAY (CH), jointed
			No (P)						
			50 b/f (10-22-28)		27		GS1		Firm tan & light gray SILT (ML)
	35		3.5 (P)						Stiff light gray & tan CLAY (w/ferrous nodules
			3.2 (P)		39		93	66	-- 6" silt layer at 38'
			4.5 (P)						
	40								

(conti

SYMBOLS:

STANDARD PENETRATION TEST 140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE 3" DIA. SHELBY TUBE

NO RECOVERY

WATER LEVEL AFTER 24 hrs.

GS1: Sand Content = 10%
Silt Content = 88%
Clay Content = 2%

Results Based on Unconfined

Results Boundaries May Not B

SOIL BORING LOG

JECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-26

FILE: 89-089
DATE: 8/11/89
TECH.: S. Kean
T. Lawrence

LIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 2 of 2

FIELD DATA				LABORATORY DATA					
LITHOLOGY LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	
			3.2 (P)						Stiff light gray & tan CLAY (CH) w/ferrous nodules — jointed at 43' - 45'
	45								
			4.0 (P)		22	104	46	27	Stiff to very stiff tan & light gray SILTY CLAY (CL)
	50								
			2.5 (P)						— w/sand lenses at 53' - 55'
	55								
			2.7 (P)		31		60	29	Stiff gray-green CLAY (CH)
	60								
			43 b/f (14-18-25)						Hard gray-green SILTY CLAY (CL)
	65								
			4.5 (P)		29		41	19	
	70								Boring terminated at 70' Borehole grouted full depth 8/16/89

MBOLS:

STANDARD PENETRATION TEST
140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE
3" DIA. SHELBY TUBE

NO RECOVERY

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-27

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 07/10/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-100

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2207.3, E 1813.4

Surface Elevation: 8.3 ft., MSL

Ground Water Level	Depth (feet)	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)									CH, CLAY, brown, wood fragments, very stif
		2.0 (P)									
	5	2.0 (P)		28	91	57		35			– gray and tan
		1.5 (P)									
		2.5 (P)									– silt pockets
	10	3.0 (P)									CL, SILTY CLAY, gray and tan, very stiff
▽				23	101	43		26	K		
	15	2.5 (P)									CH, CLAY, light gray and tan, slickensided, vi stiff
		3.5 (P)									
		3.5 (P)		35	84	85		51			
	20	2.5 (P)									Augered 0 to 15 ft. and Washed 15 to 20 ft. without sampling
		1.5 (P)				55	23	32			Stiff light gray and tan CLAY (CH) w/silt pock silty clay lenses, ferrous nodules, and organic matter
		3.0 (P) 0.75 (P)									Medium light gray and tan SILTY CLAY (CL) w/organic matter
	25	3.5 (P) 2.0 (P)									Stiff light gray and tan CLAY (CH) w/silt lense and pockets, sand traces, and ferrous nodules
		4.0 (P) 1.25 (P)		29		36	22	14			Medium gray and tan very SILTY CLAY (CL) w/ferrous nodules
		3.0 (P) 2.75 (P)		26	92	32		8			Stiff to very stiff gray and tan CLAY (CH), slickensided, w/ferrous nodules and silt pocke – w/silt lenses at 27.5 to 30 ft.
	30	2.25 (P)	1.77	37	83	87	29	58			
		3.5 (P) 2.0 (P)									
	35	3.0 (P) 4.5+ (P)									
		3.0 (P) 4.0 (P)									Stiff to very stiff greenish-gray CLAY (CH) w/ lenses and pockets
		3.0 (P) 2.5 (P)									– w/ferrous nodules
	40										

Continued Next Page

Ground Water Level Data

▽ Free water first encountered (1996)

▼ Long-term water level after 13 hrs. (1996

Boring Advancement Method

4" Nom. Dia. Short Flight Auger: 0 to 15 ft. (1996)
4" dia. Rotary Wash: 15 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-27 dated 7/20/82
K: Permeability = 5.0 x 10(-8) cm/sec

NOTE: Free water first encountered at 10 ft. in 1982 a water level rose 5 ft. after 0.1 hrs. in 1982.

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-27

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 07/10/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2207.3, E 1813.4

Surface Elevation: 8.3 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		2.5 (P)									Stiff to very stiff greenish-gray CLAY (CH) – w/silty clay lenses
		No (P)		27					GS1		Firm greenish-gray CLAYEY SILT (ML) w/sand and a 4-inch silty clay layer
	45	2.0 (P)									Stiff to very stiff greenish-gray CLAY (CH) w/silt pockets – w/3-inches clayey silt at 44 ft. – tan and gray w/silt lenses at 44 to 48 ft.
		1.25 (P)									– w/organic matter
		3.5 (P)									
	50	2.0 (P)									– w/ferrous nodules at 50 to 54 ft.
		1.25 (P)				62	31	31			– w/wood
	55	3.5 (P)									
		3.75 (P)									
		2.5 (P)									– silty clay at 58.5 to 59.5 ft.
	60	No (P)				30	20	10			Stiff greenish-gray very SILTY CLAY (CL)
		No (P)		28					GS2		Firm greenish-gray slightly CLAYEY SILT (ML)
	65										
		Push Spoon				30	20	10			Stiff greenish-gray very SILTY CLAY (CL) w/clay stringers
	70										Boring completed at 70 ft. (1996)
	75										
	80										

Ground Water Level Data

▽ Free water first encountered (1996)

▼ Long-term water level after 13

Boring Advancement Method

4" Nom. Dia. Short Flight Auger: 0 to 15 ft. (1996)
4" dia. Rotary Wash: 15 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion

Notes

GS: Particle Size Analysis
GS1: Sand = 38%, Silt = 46%, Clay = 16%
GS2: Sand = 8%, Silt = 83%, Clay = 9%

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-28

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 05/28/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2172.5, E 190.8
Surface Elevation: 8.3 ft., MSL

Ground Water Level	Depth (feet)	Sample Dry Density	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒			2.2 (P)									CH, CLAY, dark gray and tan, traces of organic matter, very stiff
			2.2 (P)									
	5		1.7 (P)		45	74	83		51			
▽			1.5 (P)									– stiff
			2.0 (P)									– silt traces
▽	10		2.5 (P)									CL, SILTY CLAY, tan and light gray, traces of organic matter, stiff
			2.0 (P)		25	95	37		17			
	15		2.7 (P)									– very stiff
			2.5 (P)									
			3.2 (P)									
	20		3.7 (P)									
			4.0 (P)									– tan
	25		3.2 (P)		22	104	47		31			
			3.5 (P)									CH, CLAY, tan and light gray, traces of organic matter, very stiff
			2.7 (P)									Stiff light gray & tan CLAY (CH)
	30											– slickensided at 30' - 34'
			3.2 (P)									
			2.5 (P)	0.50s 1.08r	35	86	80		53			– w/ferrous nodules at 32' - 36'
	35		3.5 (P)									
			2.7 (P)		31	92	74		46	Kv		– w/calcareous nodules at 36' - 38'
			3.5 (P)									Wash 0 to 40 ft. without sampling (1996)
	40											

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ✓ Free water first encountered (1982)
- ▽ Water level after 0.2 hrs. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 72 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-28 dated 9/02/82 & 7/13/89.
Kv: Vertical Permeability = 2.1 x 10(-8) cm/sec (1982)
s: Slickensided Failure
r: Remolded Sample

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-28

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 05/28/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2172.5, E 190.8

Surface Elevation: 8.3 ft., MSL

FIELD DATA			LABORATORY DATA								
Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		2.75 (P)									Stiff light greenish-gray CLAY (CH) w/tan mottling, ferrous nodules, and organic matter
											– slickensided
		3.0 (P)									
		3.0 (P)		38	85	89		64			
	45	2.75 (P)				86	26	60			
											– w/silt layers
		2.5 (P)									
		3.2 (P)									– w/calcareous nodules
		2.75 (P)									
	50										
		No (P)		24					GS1		Firm light gray CLAYEY SILT (ML)
		3.0 (P)									Stiff light greenish-gray CLAY (CH), slickensided w/ferrous and calcareous nodules, and organic matter
		~~No (P)~~		~~24~~					~~GS~~		
	55	No (P)									Medium dense light gray and tan CLAYEY SILT (ML)
											Stiff light gray CLAY (CH)
		3.0 (P)									
		No (P)									
		2.75 (P)									
	60										
		2.0 (P)		25					GS2		Medium dense light greenish-gray CLAYEY SILT (ML) w/sand
		No (P)									
		~~1.5 (P)~~	~~1.04~~	~~45~~	~~76~~	~~62~~		~~42~~			
	65	2.5 (P)									Medium light greenish-gray CLAY (CH) w/tan mottling and silt traces
		2.5 (P)				50	20	30			
		2.7 (P)									Soft dark gray CLAY (CH)
		1.5 (P)									
	70										– w/organic matter
		1.5 (P)		39		67	23	44			
											Boring completed at 72 ft. (1996)
	75										
	80										

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.2 hrs. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 72 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

GS: Particle Size Analysis (1989)
Sand = 26%, Silt = 61%, Clay = 13%
GS: Particle Size Analysis
GS1: Sand = 5%, Silt = 80%, Clay = 15%
GS2: Sand = 27%, Silt = 52%, Clay = 21%

BORING LOG

PROJECT NAME: Colonial Landfill
LOCATION: Sorrento, Louisiana
BORING B-29
PROJECT NO. 82-547
DATE 9/9/82
BORING TYPE
ENG./LOGGER ASR/JP

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		1.5(p)							CH, CLAY, brown and gray, traces of organic matter, medium stiff
		1.0(p)							
	5	1.0(p)	85	31	60	39			
		1.5(p)							gray and tan, stiff
		0.2(p)							soft
	10								
		2.0(p)							CL, SILTY CLAY, tan and gray, traces of organic matter, medium stiff k= 4.0 X 10^{-8} cm/sec.
		2.0(p)	107	22	38	19			
	15	2.7(p)							
		3.7(p)							CH, CLAY, mottled tan, gray, and red traces of organic matter, very stiff
		4.5(p)	92	29					
	20	3.5(p)	85	35	68	40			
		3.2(p)							tan and light gray, cemented particles in the interval 22 to 26 feet
	25	3.0(p)							
		3.0(p)							
		3.5(p)							slickensided
	30	4.5(p)							
		3.5(p)							
	35	4.0(p)	78	42	76	45			
		3.0(p)							
		2.2(p)							

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL (AFTER 0.2 hr)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

REMARKS: Boring Completed

GID

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-30

STE
Soil Testing Engineers, Inc.

Sheet 1 of 1

File: 95-1154
Date: 04/10/96
Tech.: K. Thibodeaux
Driller: D. Thibodaux
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2259.5, E 1659.0

Surface Elevation: -6.9 ft., MSL

Ground Water Level	Depth (feet)	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
		2.0 (P)									CH, CLAY, brown and gray, wood fragments to a depth of 4 ft., stiff
		2.0 (P)									
	5	1.5 (P)		42	74	81		54			– tan and gray, traces of organic matter in the interval 4 to 12 ft.
		1.5 (P)									
		1.7 (P)		25	99						
	10	3.0 (P)									
				22	105	54		35	K1		
	15	3.0 (P)									
▽		3.7 (P)									– very stiff
▽		4.0 (P)		17	107	45		30			CL, SILTY CLAY, gray, very stiff
											Boring completed at 19 ft. (1996) Augered to 1st water without sampling
	20	3.0 (P)									
		4.0 (P)									
	25	3.0 (P)		25	100	37		17			– tan and gray
		3.5 (P)									
		3.5 (P)									
	30	3.0 (P)									
		1.5 (P)		22	104	29		7			ML, CLAYEY SILT, tan, medium stiff
	35	2.0 (P)									
				21	102	81		53			CH, CLAY, gray, very stiff
		3.5 (P)							K2		Boring B-30 completed at 40 ft. (1982)
	40										

Ground Water Level Data

▽ Free water first encountered (1996)
▽ Water level after 15 mins. (1996)

Boring Advancement Method

4" Nom. Dia. Short Flight Auger: 0 to 19 ft. (1996)

Boring Abandonment Method

Borehole backfilled with soil upon completion (1996)

Notes

Normal Type: Boring B-30 dated 7/23/82
NOTE: Free water first encountered at 12 ft. in 1982 water level rose 6 ft. after 0.1 hrs. in 1982.
K: Permeability (cm/sec)
K1 = 9.3 x 10(-8)
K2 = 6.4 x 10(-9)

Strata Boundaries May Not Be Ex

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-31

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 05/16/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 150(

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2409.2, E 1670.3
Surface Elevation: 8.1 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒		1.5 (P)									CL, SILTY CLAY, tan, traces of organic mat wood fragments to a depth of 6 ft., mediur
		1.7 (P)									
	5	1.7 (P)									
▽		1.5 (P)									
		2.7 (P)		22	101	46		26			– stiff
	10	2.0 (P)									CH, CLAY, tan and gray, stiff
▽		2.7 (P)									
	15			24	103	55		35	K		
		3.0 (P)			99						– very stiff
		3.0 (P)									
	20	2.6 (P)									– gray, traces of organic matter
		2.5 (P)									
	25	3.5 (P)		23	101	53		34			
		3.5 (P)									
		4.0 (P)									– silt lenses in the interval 28 to 30 ft.
	30	3.5 (P)									
	35	3.7 (P)									
		3.5 (P)									
		3.5 (P)		27	94	90		59			Washed 0 to 40 ft. without sampling (1996
	40										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-31 dated 7/21/82
K: Permeability = 5.2 x 10(-8) cm/sec

Strata Boundaries May Not

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-31

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 05/16/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2409.2, E 1670.3

Surface Elevation: 8.1 ft., MSL

Ground Water Level	Depth (feet)	Sample Type	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
			3.25 (P)									Stiff light greenish-gray CLAY (CH) w/ferrous nodules and organic matter
			3.0 (P)									
	45		No (P)				25	23	2			Medium dense light greenish-gray CLAYEY SILT (ML)
			3.25 (P)									Medium to very stiff light greenish-gray CLAY (CH) w/silt pockets
			3.5 (P)									
	50		2.25 (P)									-- w/tan mottling
			4.0 (P)									Very stiff light greenish-gray SILTY CLAY (CL)
	55		3.25 (P)				60	18	42			Stiff light greenish-gray CLAY (CH) w/tan mottling
			2.0 (P)									Medium greenish-gray SILTY CLAY (CL)
			2.75 (P)	2.19	26	98	45	19	26			-- w/silt pockets
	60		No (P)									Medium dense greenish-gray CLAYEY SILT (ML) w/clay traces
			No (P)									
	65		No (P)		25					GS		
			Push Spoon									
			Push Spoon									
	70											Boring completed at 70 ft. (1996)
	75											
	80											

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

GS: Particle Size Analysis
Sand = 10%, Silt = 70%, Clay = 20%

Strata Boundaries May Not Be E

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-32

STE
Soil Testing Engineers, Inc.

Sheet 1 of 4

File: 95-1154
Date: 05/22/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 150(

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2418.8, E 648.5

Surface Elevation: 8.3 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒		1.0 (P)									CL, SILTY CLAY, brown and dark gray, silt pockets, medium stiff
▽		1.2 (P)									
	5	1.2 (P)		29	92	46		28			
		1.5 (P)									
▽		1.0 (P)									
	10	1.2 (P)									
		1.2 (P)									CH, CLAY, tan and light gray, stiff
	15										
		2.0 (P)									– mottled red, brown and light gray, slicke very stiff
		3.0 (P)		32	89	56		35			
	20	3.7 (P)		21	107						– tan and light gray
		3.0 (P)									
	25	2.7 (P)									
		3.2 (P)									
		3.2 (P)		28	95	67		39	K1		
	30	2.0 (P)									ML, CLAYEY SILT, tan, stiff
		4.0 (P)									– very stiff
	35	~~2.7 (P)~~									CH, CLAY, tan and light gray, slickensided stiff
		3.0 (P)									
		2.7 (P)		35	84	63		39			Washed 0 to 40 ft. without sampling (199
	40										

Continued Next Page

Ground Water Level Data

☒ No free water encountered due to wash (1996)
▽ Free water first encountered (1982)
▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 72 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-32 dated 9/07/82
K: Permeability (cm/sec)
K1 = 7.5 x 10(-7)

Strata Boundaries May Nc

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-32

STE
Soil Testing Engineers, Inc.

Sheet 2 of 4

File: 95-1154
Date: 05/22/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2418.8, E 648.8

Surface Elevation: 8.3 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Bag Sample / Bar Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
			3.25 (P)									Stiff light greenish-gray CLAY (CH) w/tan mottling, ferrous nodules, and organic matter
			3.0 (P)				60	22	38			
			3.2 (P)									
	45		2.75 (P)									
			2.75 (P)									
			1.7 (P)									Medium to stiff greenish-gray SILTY CLAY (CL) w/tan mottling
			2.25 (P)		39	80	68		44	K2		
	50											
			2.0 (P)									
			1.75 (P)									
			2.7 (P)									
	55		2.0 (P)									
			3.0 (P)									
			0.5 (P)									Stiff greenish-gray CLAY (CH)
			2.75 (P)		25		64	20	44			
	60											Stiff greenish-gray SILTY CLAY (CL)
			2.25 (P)									
			2.25 (P)									
			~~2.0 (P)~~		~~35~~	~~83~~						Medium dense light greenish-gray SILT (ML) w/sand and clay traces
	65		1.75 (P)									
			No (P)									Very firm to dense SAND (SP) w/silt traces
			21 b/f 3-5-16		28							
	70		37 b/f 7-14-23									
												Boring completed at 72 ft. (1996) SM-SP, SILTY SAND-SAND, bluish gray, very dense
	75											
					27					GS		
	80											

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 72 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

K: Permeability (cm/sec)
K2 = 1.5 x 10(-8)
GS: Particle Size Analysis
Sand = 94%

Strata Boundaries May Not Be F

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-32

STE
Soil Testing Engineers, Inc.

Sheet 3 of 4

File: 95-1154
Date: 05/22/95
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 150(

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2418.8, E 648.8

Surface Elevation: 8.3 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Grab Sample	Undist. Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
													SM-SP, SILTY SAND-SAND, bluish gray, ve dense
	85												
	90												
													– gray and tan
	95												
	100			SPT,89		15							
													– tan
	105			SPT,66/6"									
	110			SPT,50/5"									
	115												
	120												

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 72 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Strata Boundaries May No

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-33

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 05/21/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2414.4, E 894.8

Surface Elevation: 8.6 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		1.0 (P)									CH, CLAY, gray and brown, traces of organic matter, medium stiff
		1.2 (P)		49	69	85		56			
	5	1.0 (P)									
		0.7 (P)									– gray and tan, silt traces at alternate depths, soft
		1.0 (P)									
	10	2.2 (P)		12	108	53		34	K		– stiff
		0.7 (P)									– soft
	15	2.7 (P)									– very stiff
		2.5 (P)									
		3.5 (P)		17	111						
	20	3.0 (P)		30	90	63		40			
		3.2 (P)									
	25	2.7 (P)									
		3.2 (P)									
		2.7 (P)		24	99	65		42			
	30	2.5 (P)									
		~~2.5 (P)~~									ML, SANDY SILT, tan and gray, clay traces, very dense
	35	1.5 (P)		25							
		2.5 (P)									CH, CLAY, tan and gray, traces of silt and fine sand, very stiff
		3.2 (P)		38	81	85		50			Washed 0 to 40 ft. without sampling (1996)
	40										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-33 dated 9/09/82
K: Permeability = 5.0 x 10(-8) cm/sec

Strata Boundaries May Not Be Exa

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-33

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 05/21/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2414.4, E 894.8

Surface Elevation: 8.6 ft., MSL

FIELD DATA			LABORATORY DATA								
Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		No (P)									Medium dense tan SANDY SILT (ML)
		3.25 (P)									Stiff light greenish-gray CLAY (CH) w/tan mottling, ferrous nodules, and organic matt
	45	3.0 (P)									
		No (P)		25					GS		Tan SILTY SAND (SM) w/clay traces and or matter
		3.0 (P)									Stiff light greenish-gray CLAY (CH) w/tan mottling, ferrous nodules, and organic matt – w/silt pockets at 48 to 50 ft.
	50	2.75 (P)									
		3.25 (P)		33		78	25	53			
	55	3.0 (P)									
		3.5 (P)		35	86	80	23	57	Kv		
		2.25 (P)									Medium greenish-gray SILTY CLAY (CL)
	60	2.0 (P)									
		2.0 (P)									
	65	No (P)									Medium dense greenish-gray CLAYEY SILT
		No (P)				27	23	4			– dense at 68.5 ft.
		42 b/f 12-17-25									
	70										Boring completed at 70 ft. (1996)
	75										
	80										

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1982)
- ▽ Water level after 0.1 hr. (1982)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

GS: Particle Size Analysis
Sand = 57%
Kv: Vertical Permeability = 6.22 x 10(-9) cm/sec

Strata Boundaries May Not

BORING LOG

PROJECT NAME: Colonial Landfill

LOCATION: Sorrento, Louisiana

BORING B-34

PROJECT NO. 82-530
DATE 9/1/82
BORING TYPE
ENG./LOGGER ASR/JP

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		0.7(p)							CH, CLAY, brown and dark gray, traces of organic matter, medium stiff
		1.2(p)							
	5	0.7(p)							
		1.0(p)	97	25	51	31			tan and gray
		2.5(p)							very stiff
	10	1.7(p)							
		2.5(p)							
	15	2.2(p)							slickensided
		2.5(p)	99	24					
		2.0(p)							silt pockets in the interval 18 to 20 feet
	20	2.7(p)							
		3.0(p)	103	22	48	31			
	25	3.2(p)							
		3.0(p)							
		3.2(p)							
	30	4.0(p)							
			94	32	68	43			k= 1.5 X 10^{-8} cm/sec.
	35	1.0(p)							ML, CLAYEY SILT, gray, medium stiff
		1.5(p)							
									CL, SILTY CLAY, gray, very stiff

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL (AFTER 0.1 hr)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

REMARKS:

GID

BORING LOG

PROJECT NAME: Colonial Landfill
LOCATION: Sorrento, Louisiana
BORING B-34 (cont'd)
PROJECT NO. 82-530
DATE 9/1/82
BORING TYPE
ENG./LOGGER ASR/JP

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
									CL, SILTY CLAY, gray, very stiff
	45	3.0(p)	94	27	35	13			
		3.2(p)							
	50								CH, CLAY, light gray, very stiff
		3.7(p)	97	26	55	35			$k = 8.9 \times 10^{-8}$ cm/sec.
	55								
		3.0(p)							
	60								
		1.5(p)	93	27					ML, SANDY SILT, gray, traces of cl medium dense
	65								
		1.0(p)							SM, SILTY SAND, tan
	70								
		0.5(p)							
	75								
		0.2(p)		25					

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL (AFTER _____)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

REMARKS: Boring Completed

GID G

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-32

STE
Soil Testing Engineers, Inc.

Sheet 4 of 4

File: 95-1154
Date: 05/22/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2418.8, E 648.6

Surface Elevation: 8.3 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Ring Sample	Bag Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
													SM-SP, SILTY SAND-SAND, tan, very dense
	125			3.0 (P)		25	98	41		22			CL, SILTY CLAY, bluish gray, silt and fine sand pockets, very stiff
	130												
	135												
				3.2 (P)		30	90	60		33			CH, CLAY, bluish gray, silt and fine sand pockets, very soft
	140												Boring completed at 140 ft. (1982)
	145												
	150												
	155												
	160												

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered due to wash (1996) ▽ Free water first encountered (1982) ▽ Water level after 0.1 hr. (1982)	4" dia. Rotary Wash: 0 to 72 ft. (1996) **Boring Abandonment Method** Borehole grouted upon completion (1996)	

Strata Boundaries May Not Be E

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-35

STE
Soil Testing Engineers, Inc.

Sheet 1 of 3

File: 95-1154
Date: 05/14/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Ardco K-100

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 54.9, E 373.9
Surface Elevation: 8.8 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		4.5 (P)									CH, CLAY, gray, traces of silt and organic m very stiff
		2.5 (P)		34	84						
		1.5 (P)		41	77						– gray and tan, medium stiff
	5	1.2 (P)		39	79	75		50			
		1.2 (P)		43	78						
		1.5 (P)		42	77	76		50			
	10	1.5 (P)		31	90						CL, SILTY CLAY, gray and tan, traces of org matter to a depth of 16 ft., medium stiff
		1.7 (P)		26	101	38		17	K1		
	15	1.5 (P)		38	89						
		2.0 (P)		25	100						– stiff
		2.5 (P)		23	102						– very stiff Washed 0 to 20 ft. without sampling (1996
	20	2.6 (P)									Medium to stiff light gray CLAY (CH) w/tan mottling, ferrous nodules, organic matter, a pockets
		2.25 (P)									
		2.0 (P)		27	99	61		36	K2		– w/silt seams
	25	2.25 (P)		24		61	20	41			
		2.5 (P)									
		3.0 (P)									– slickensided
		2.75 (P)		36	85						
	30	2.75 (P)									
		3.5 (P)									
		3.5 (P)		32	90						– light greenish-gray
	35	2.75 (P)									
		2.75 (P)									
		2.5 (P) Push Spoon		26	95	NP					
	40										

Continued Next Page

Ground Water Level Data

- No free water encountered due to wash (1996)
- Free water first encountered (1983)
- Long-term water level after 24 hrs. (1983)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 100 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-35 dated 5/09/83
K: Permeability (cm/sec)
K1 = 3.9 x 10(-8)
K2 = 1.1 x 10(-9)

Strata Boundaries May Not

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-35

STE
Soil Testing Engineers, Inc.

Sheet 2 of 3

File: 95-1154
Date: 05/14/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 54.9, E 373.9

Surface Elevation: 8.8 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Key Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
			2.25 (P)									Medium light greenish-gray CLAY (CH) w/ferrous nodules and organic matter
			1.75 (P)									Medium light gray SILTY CLAY (CL) w/ferrous nodules and organic matter
			~~2.5 (P)~~		~~40~~	~~90~~						
	45		No (P)		29		27	25	2			Firm light gray CLAYEY SILT (ML) w/tan mottling and ferrous nodules
			No (P)									Soft light gray SILTY CLAY (CL) w/tan mottling, ferrous nodules, and organic matter
			2.75 (P)									Medium to stiff light gray CLAY (CH) w/tan mottling, ferrous nodules, and organic matter
	50		2.0 (P)		28		54	20	34			
			3.25 (P)									– w/shell fragments
	55		3.5 (P)									– w/silt pockets
			2.75 (P)									
			3.5 (P)									Stiff light greenish-gray SILTY CLAY (CL) w/ferrous nodules and organic matter
	60		2.75 (P)									
			3.0 (P)									Stiff light greenish-gray CLAY (CH) w/tan mottling, ferrous nodules, and organic matter
	65		2.75 (P)				83	25	58			
			2.25 (P)									– w/shell fragments
			3.0 (P)									– w/calcareous nodules
	70											Stiff light gray SILTY CLAY (CL) w/ferrous nodules
			3.5 (P)									
	75											Stiff light greenish-gray very SILTY CLAY (CL)
			1.75 (P)		25		35	21	14			
	80											

Continued Next Page

Ground Water Level Data

☒ No free water encountered due to wash (1996)
▽ Free water first encountered (1983)
▼ Long-term water level after 24 hrs. (1983)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 100 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Strata Boundaries May Not Be E

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-35

STE
Soil Testing Engineers, Inc.

Sheet 3 of 3

File: 95-1154
Date: 05/14/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Ardco K-10(

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 54.9, E 373.9

Surface Elevation: 8.8 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Key Strata	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
			4.25 (P)									Very stiff greenish-gray CLAY (CH), slickens w/ferrous nodules
	85											
			2.0 (P)		26		34	23	11			Medium light greenish-gray very SILTY CLA w/ferrous nodules
	90											
			4.0 (P)									Stiff to very stiff light greenish-gray SILTY ((CL) w/tan mottling
	95											
			3.75 (P)									– w/ferrous nodules
	100											Boring completed at 100 ft. (1996)
	105											
	110											
	115											
	120											

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered due to wash (1996) ▽ Free water first encountered (1983) ▼ Long-term water level after 24 hrs. (1983)	4" dia. Rotary Wash: 0 to 100 ft. (1996) **Boring Abandonment Method** Borehole grouted upon completion (1996)	

Form SS1154LG 05/05/97

Strata Boundaries May Not I

BORING LOG

PROJECT NAME: Colonial Landfill

LOCATION: Sorrento, Louisiana

BORING B-36

PROJECT NO. B2-530
DATE 5/10/83
BORING TYPE
ENG./LOGGER ASR/JP

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		4.5 p							CH, CLAY, gray and tan, traces of silt and organic matter, stiff
		1.5 p	81	39					
		1.2 p	74	45					
▼	5	1.5 p	72	49	82	53			medium stiff
		1.2 p	75	44					wood fragments
		0.3 p	85	36					CL, SILTY CLAY, gray and tan, traces of organic matter, soft
	10								
▽		1.7 p	104	22	32	16			medium stiff
		3.2 p	106	23	51	34			CH, CLAY, tan and gray, silt traces, very stiff
	15	2.5 p	98	25					k = 4.8 X 10^{-9} cm/sec.
		3.0 p	87	33					traces of organic matter in the interval 16 to 20 feet
		3.0 p		37					red and gray
	20								
		2.7 p	89	33	69	46			k = 3.3 X 10^{-7} cm/sec.
	25								
		2.5 p	82	38					gray and tan
	30								
		3.0 p	85	36	76	52			
	35								
	40	3.0 p	85	35					traces of organic matter

SHELBY TUBE

SPLIT SPOON

AUGER

NO RECOVERY

▽ INITIAL WATER LEVEL

▼ WATER LEVEL (AFTER 10 min.)

SPT- STANDARD PENETRATION TEST (BLOWS/FT)

P- POCKET PENETROMETER READING (TSF)

REMARKS:

GID

BORING LOG

PROJECT NAME: Colonial Landfill

LOCATION: Sorrento, Louisiana

BORING B-36 (Continued)

PROJECT NO. 82-530
DATE 5/10/83
BORING TYPE
ENG./LOGGER ASR/JP

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		2.5 p	85	35					CH, CLAY, tan, traces of silt and organic matter, very stiff
	45								Boring terminated at 45 feet.

SHELBY TUBE

SPLIT SPOON

AUGER

NO RECOVERY

INITIAL WATER LEVEL

WATER LEVEL (AFTER _____)

SPT- STANDARD PENETRATION TEST (BLOWS/FT)

P- POCKET PENETROMETER READING (TSF)

REMARKS:

GID

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-37

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 05/09/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 68.2, E 997.2

Surface Elevation: 8.7 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
▼ ☒		1.2 (P)		29	89						CH, CLAY, gray and tan, traces of silt and organic matter, stiff
		1.5 (P)									
		1.2 (P)		42	77	80		47			
											– medium stiff
	5	1.2 (P)		35	84						
		1.0 (P)		37	83	62		41			
											– silt lenses in the interval 8 to 10 ft., soft
▽		1.0 (P)		30	93						
	10										– stiff
		2.5 (P)		26	98						
											– very stiff
		3.0 (P)		23	102						
	15	3.0 (P)		21	105	63		40	K1		
		3.5 (P)		26	97						
		3.0 (P)		38	83	76		45			Washed 0 to 20 ft. without sampling (1996)
	20	2.75 (P)									Stiff light greenish-gray CLAY (CH) w/ferrous nodules and organic matter
		2.5 (P)				36	22	14			Stiff light greenish-gray SILTY CLAY (CL) w/tan mottling and organic matter
		~~2.0 (P)~~		~~35~~	~~87~~						Stiff tan and light gray CLAY (CH) w/organic matter
	25	2.5 (P)									
		2.75 (P)									
		1.5 (P) 2.5 (P)		24	99						– slickensided at 28 to 32 ft.
	30										– light greenish-gray w/tan mottling at 30 to 34 ft.
		2.5 (P)									– w/silt pockets
		2.75 (P)									
		~~3.2 (P)~~		~~33~~	~~88~~						Medium dense tan and light gray CLAYEY SILT (ML) w/sand traces
	35	No (P)		27					GS1		
		2.75 (P)									Stiff light greenish-gray CLAY (CH) w/ferrous nodules and organic matter
		3.0 (P) 3.25 (P)		36	84	57		33	K2		– w/tan mottling
	40										

Continued Next Page

Ground Water Level Data

☒ No free water encountered due to wash (1996)
▽ Free water first encountered (1983)
▼ Long-term water level after 24 hrs. (1983)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-37 dated 5/09/83
K: Permeability (cm/sec)
K1 = 1.4 x 10(-9)
K2 = 3.0 x 10(-7)
GS: Particle Size Analysis
GS1: Sand = 12%, Silt = 70%, Clay = 18%

Strata Boundaries May Not Be Exact

Form 95115ALB 05/05/97

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-37

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 05/09/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 68.2, E 997.2

Surface Elevation: 8.7 ft., MSL

Ground Water Level	Depth (feet)	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
		2.25 (P)									Stiff light greenish-gray CLAY (CH) w/ferrous nodules and organic matter
											– w/shell fragments
		No (P)		25					GS2		Medium dense tan SANDY SILT (ML) w/clay traces
		~~2.5 (P)~~		~~25~~							
	45	3.5 (P)									Stiff light greenish-gray CLAY (CH) w/silt poc ferrous nodules, organic matter, and shell fragments
		2.0 (P)		26		39	22	17			Medium light gray SILTY CLAY (CL)
		2.25 (P)									Stiff light greenish-gray CLAY (CH) w/tan mottling, ferrous nodules, and organic matter – w/shell fragments at 48 to 62 ft.
	50	2.75 (P)									
		3.25 (P)									
	55	3.0 (P)									
		2.75 (P)									
		2.0 (P)									– w/silt pockets
	60	3.25 (P)		26		65	20	45			– w/silt traces
		2.75 (P)									– w/silt pockets
	65	2.75 (P)									
		3.75 (P)									
		3.75 (P)									– gray
		2.75 (P)									
	70										Boring completed at 70 ft. (1996)
	75										
	80										

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1983)
- ▼ Long-term water level after 24 hrs. (1983)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

GS: Particle Size Analysis
GS2: Sand = 20%, Silt = 69%, Clay = 11%

Form 95115ALG 05/05/97

Strata Boundaries May Not Be

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-38

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 04/10/96
Tech.: K. Thibodeaux
Driller: D. Thibodaux
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 72.9, E 1668.6
Surface Elevation: 7.9 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒											SI, SHELL, road fill
				11							CH, CLAY, gray and tan, shells to a depth of 4 feet, traces of organic matter, stiff
	5	1.7 (P)		46	73	96		62			
▽		1.2 (P)		47	71						
		1.2 (P)		56	66	105		70			
	10	1.0 (P)		59	64						– medium stiff, silt traces
		1.2 (P)		53	66						
	15	2.8 (P)		25	98	46		26			CL, SILTY CLAY, gray and tan, traces of organic matter, very stiff
▽		1.7 (P)		26	98						
		2.7 (P)		24	102	52		34	K		CH, CLAY, tan and gray, traces of organic matter very stiff Washed 0 to 20 ft. without sampling (1996)
	20	3.0 (P)									Stiff to very stiff tan and light gray CLAY (CH) w/organic matter and ferrous nodules – w/silt pockets
		3.5 (P)									
		2.8 (P)		23	102						
	25	3.25 (P)		24	107	65	15	50	Kh		– slickensided at 26 to 30 ft.
		4.0 (P)									
		4.5 (P) 3.25 (P)		25	98	36		18			
	30	3.5 (P)									Stiff tan and light gray SILTY CLAY (CL) – w/silt pockets
		3.0 (P)									
		~~3.2 (P)~~		~~36~~	~~85~~						Stiff light gray and tan CLAY (CH) w/silt pockets – w/4-inch silty clay layer
	35	3.5 (P)									
		2.5 (P)									
		1.7 (P) No (P)		28	94						Firm tan CLAYEY SILT (ML)
	40										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1983)
- ▽ Water level after 10 mins. (1983)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Boreholes grouted upon completion (1996)

Notes

Normal Type: Boring B-38 dated 5/11/83
K: Permeability = 5.8 x 10(-9) cm/sec
Kh: Horizontal Permeability = 7.80 x 10(-9) cm/sec

Strata Boundaries May Not Be Exac

Form 951154LG 05/05/97

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-38

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 04/10/96
Tech.: K. Thibodeaux
Driller: D. Thibodaux
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 72.9, E 1668.6
Surface Elevation: 7.9 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		No (P)		26					GS		Firm tan SILTY SAND (SM) w/clay nodules
		4.0 (P)									Stiff to very stiff light gray and tan CLAY (CH w/ferrous nodules and silt pockets
		1.7 (P)		26	95						
	45	4.0 (P)									
		4.0 (P)									
		3.75 (P)									– w/sand and silt seams
	50										
		3.5 (P)									
		3.5 (P)									– w/calcareous nodules
	55	4.5 (P)									Stiff to very stiff light gray and tan SILTY CL (CL)
		4.0 (P)		23		39	19	20			– w/silt pockets at 56 to 62 ft.
		3.75 (P)									
	60	3.5 (P)									– w/3-inch clayey silt layer
		4.0 (P)									Stiff to very stiff tan and light gray CLAY (CH w/silt pockets, ferrous and calcareous nodule
	65	3.25 (P)									
		3.75 (P)									– w/calcareous nodules
		3.5 (P)				45	16	27			– w/silt pockets and silt seams
	70										Boring completed at 70 ft. (1996)
	75										
	80										

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1983)
- ▽ Water level after 10 mins. (1983)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

GS: Particle Size Analysis
Sand = 52%

Strata Boundaries May Not B

Form: B611SHLC 05/05/87

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-39

STE
Soil Testing Engineers, Inc.

Sheet 1 of 3

File: 95-1154
Date: 04/09/96
Tech.: K. Thibodeaux
Driller: D. Thibodaux
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 78.5, E 2012.4

Surface Elevation: 8.3 ft., MSL

Ground Water Level	Depth (feet)	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)		22	103						CH, CLAY, gray and tan, traces of silt and organic matter, very stiff
		4.5 (P)									
		1.3 (P)		45	74						
▽	5	1.2 (P)		30	90	50		30			– stiff
		1.3 (P)		33	88						
▽		1.0 (P)		30	92	38		15			CL, SILTY CLAY, tan and gray, silt lenses, soft
	10	1.6 (P)		24	99						CH, CLAY, tan and gray, traces of silt and organic matter in the interval 10 to 25 ft., stiff
		2.5 (P)		21	107	50		33	K1		– very stiff
	15	2.7 (P)		24	101						
		3.5 (P)		25	99						
		3.0 (P)		34	86						– silt pockets in the interval 18 to 20 ft. Washed 0 to 20 ft. without sampling (1996)
	20										
		3.5 (P)		26	97						
	25										
		2.7 (P)		42	78						– silt lenses in the interval 28 to 29 ft.
	30										No recovery 20 to 32 ft. due to slurry wall (1996)
		3.5 (P)	0.93	31	89	42	21	21			Stiff to very stiff light gray and tan SILTY CLAY (CL) w/silt pockets
		~~3.2 (P)~~		~~33~~	~~89~~	~~79~~		~~48~~	~~K2~~		Very stiff light gray and tan CLAY (CH)
	35	4.0 (P)									
		2.75 (P)									– w/ 1/2-inch ferrous nodules at 37 to 38 ft.
		4.0 (P)									
		4.0		32	89						
	40										

Continued Next Page

Ground Water Level Data

☒ No free water encountered due to wash (1996)
▽ Free water first encountered (1983)
▽ Water level after 10 mins. (1983)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 100 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-39 dated 5/11/83
K: Permeability (cm/sec)
K1 = 2.2 x 10(-9)
K2 = 1.5 x 10(-7)

Strata Boundaries May Not Be Exact

Form 95119412.0 05/05/97

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-39

STE
Soil Testing Engineers, Inc.

Browning-Ferris, Inc.
Sorrento, LA

Sheet 2 of 3

File: 95-1154
Date: 04/09/96
Tech.: K. Thibodeaux
Driller: D. Thibodeaux
Rig: Ardco K-1000

Location Coordinates: S 78.5, E 2012.4
Surface Elevation: 8.3 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		4.0 (P)									Very stiff light gray and tan CLAY (CH) w/ferrou nodules
		No (P)		31					GS		– w/shell fragments and very silty clay bottom 4-inches
		4.5 (P)		34	88	61		36			Dense tan and light gray CLAYEY SILT (ML) – w/very silty clay top 3-inches
	45	4.0 (P)									Very stiff light gray and tan CLAY (CH) w/ferrou nodules
		3.5 (P)									– w/calcareous nodules and a 4-inch very silty clay layer
		3.5 (P)									– w/5-inch very silty clay layer, and silt pockets and seams at 48 to 52 ft.
	50	4.0 (P)									
		4.25 (P)									Very stiff light gray and tan SILTY CLAY (CL) w/silt pockets
	55	4.0 (P)									– w/silt seams at 52 to 58 ft.
		4.25 (P)		22		47	18	29			
		4.0 (P)									
	60	3.5 (P)									
		3.0 (P)									Stiff to very stiff light gray and tan CLAY (CH) w/silt pockets
	65	3.5 (P)									– w/ferrous nodules and calcareous nodules
		3.5 (P)									– light greenish-gray
		3.5 (P)	2.6	21	102	48	17	31			Medium to very stiff light gray SILTY CLAY (CL) w/silt pockets
	70										– w/ferrous nodules
		No (P)									– w/3-inch silt layer
	75										
		2.5 (P)		28		35	20	15			– w/calcareous nodules
	80										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1983)
- ▽ Water level after 10 mins. (1983)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 100 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

GS: Particle Size Analysis
Sand = 6%, Silt = 79%, Clay = 15%

Form 95115416 05/06/97

Strata Boundaries May Not Be Ex

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-39

STE
Soil Testing Engineers, Inc.

Sheet 3 of 3

File: 95-1154
Date: 04/09/96
Tech.: K. Thibodeaux
Driller: D. Thibodaux
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 78.5, E 2012.4

Surface Elevation: 8.3 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Recovery	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
			4.0 (P)									Very stiff light greenish-gray CLAY (CH) w/ferrous nodules
	85											Medium light gray SILTY CLAY (CL) w/alternating silt layers
			2.0 (P)		29		36	20	16			– w/3-inch sand layer at 88 ft.
	90											Very stiff light greenish-gray CLAY (CH)
			3.5 (P)									– w/silt traces
	95											
			4.0 (P)									
	100											Boring completed at 100 ft. (1996)
	105											
	110											
	115											
	120											

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1983)
- ▽ Water level after 10 mins. (1983)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 100 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Strata Boundaries May Not Be Exact

Form 95-1154LG 05/05/97

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-40

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 05/15/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 229.1, E 178.7

Surface Elevation: 7.1 ft., MSL

Ground Water Level	Depth (feet)	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
		1.0 (P)		42	77						CH, CLAY, gray and tan, silt traces, medium s
		1.3 (P)		41	77						
▽	5	1.3 (P)		46	72						– gray
		1.2 (P)		54	66						
▽		2.0 (P)		28	98	48		27	K1		CL, SILTY CLAY, tan and gray, traces of organ matter, medium stiff
	10										Augered 0 to 10 ft. without sampling (1996)
		1.2 (P)		30	91						Trash encountered to 10 ft. (1996)
											Boring completed at 10 ft. (1996)
		2.7 (P)		24	101						
	15	2.5 (P)		20	106						– very stiff
		3.0 (P)		25	98						
		4.0 (P)		37	87	64		33	K2		CH, CLAY, gray and red, very stiff
	20										
		2.0 (P)		28	94						– silt lenses, traces of organic matter
	25										
		2.8 (P)		41	77	84		49	K3		– gray and tan
	30										
		2.5 (P)		44							
	35										
		3.0 (P)		26	95	32		5			ML, CLAYEY SILT, tan and gray, very stiff
	40										

Continued Next Page

Ground Water Level Data

▽ Free water first encountered (1983)
▽ Water level after 10 mins. (1983)

Boring Advancement Method

4" Nom. Dia. Short Flight Auger: 0 to 10 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-40 dated 5/12/83
K: Permeability (cm/sec)
K1 = 2.0 x 10(-8)
K2 = 1.0 x 10(-7)
K3 = 3.2 x 10(-7)

Form 95115KLG 05/05/97

Strata Boundaries May Not Be I

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-40

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 05/15/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 229.1, E 178.7

Surface Elevation: 7.1 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Key Undist. Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
												ML, CLAYEY SILT, tan and gray, very stiff
			2.2 (P)		26	96						
	45											Boring completed at 45 ft. (1983)
	50											
	55											
	60											
	65											
	70											
	75											
	80											

Ground Water Level Data

▽ Free water first encountered (1983)
▽ Water level after 10 mins. (1983)

Boring Advancement Method

4" Nom. Dia. Short Flight Auger: 0 to 10 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Strata Boundaries May Not Be Exac

Form 95115416 05/05/97

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-41

STE
Soil Testing Engineers, Inc.

Sheet 1 of 1

File: 95-1154
Date: 02/15/85
Tech.: ASR
Driller: J. Porter
Rig:

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates:

Surface Elevation: ft., MSL

Ground Water Level	Depth (feet)	Sample Type	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒			0.7 (P)		41	75						CH, CLAY, tan and gray, traces of organic matter, silt lenses, soft
			1.0 (P)									
			0.7 (P)									
			1.2 (P)		35	81						
			0.7 (P)									
	5		1.0 (P)		26	90	56		34			
			1.0 (P)		28	91						CL, SILTY CLAY, tan and gray, pockets of organic matter in the interval 6 to 8 ft., medium stiff
			1.2 (P)									
					24	97	33		17	K1		
			1.2 (P)									
	10		1.2 (P)									
			2.0 (P)		20	103						
			2.0 (P)									
			3.2 (P)		22	100						
			2.5 (P)									
	15		2.2 (P)		19	108						– stiff
			2.5 (P)									
			3.2 (P)		21	103						– silt lenses
			2.5 (P)									
			2.5 (P)		20	106	44		30			– nodules of calcareous aggregate
	20		3.5 (P)									
			3.2 (P)		25	99						
			2.7 (P)			97						
			3.2 (P)		26	96						
			4.5 (P)									
	25		4.0 (P)		24	100						– very stiff
			3.5 (P)									
			4.5+ (P)		25							
			3.2 (P)									CH, CLAY, tan and gray, nodules of calcareous aggregate, very stiff
			3.75 (P)		31	93	58		35			
	30											
			2.7 (P)									
			3.7 (P)		33	87						
	35											
			3.5 (P)		25	97	57		37	K2		
	40											

Ground Water Level Data

☒ No free water encountered to 14 ft. (1985)

Boring Advancement Method

Auger: 0 to 14 ft. (1985)
Wash: 14 to 40 ft. (1985)

Boring Abandonment Method

Notes

Boring terminated at 40 ft. (1985)

K: Permeability (cm/sec)
K1 = 7.7 x 10(-7)
K2 = 4.2 x 10(-9)

Form 95115 4LG 05/05/87

Strata Boundaries May Not Be Exac

BORING LOG

PROJECT NAME: BFI/Colonial Landfill

PROJECT Nº 85-504

DATE 2/15/85

BORING B-42

LOCATION: Sorrento, Louisiana

BORING TYPE

ENG/LOGGER JP/ASR

G.S. ELEVATION _____ COORDINATES _____ N _____ E

ELEVATION (FEET)	DEPTH (FEET)	BPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		0.7p	72	47					CH, CLAY, gray and tan, rootlets to a depth of 2 feet, medium stiff
		1.2p							gray, traces of organic matter
		1.2p	86	32					
		1.5p							
	5	1.2p	81	38	81	56			silt lenses
		1.7p							
		1.2p	93	28					CL, SILTY CLAY, tan and gray, traces of organic matter, medium stiff
		2.2p							
			103	24	36	17			
	10	1.2p							$k = 5.2 \times 10^{-8}$ cm/sec
		1.5p	101	20					
		1.7p							nodules of calcareous aggregate 10 to 12 feet
		2.0p	106	19					
		2.5p							
	15	2.5p	107	18	45	31			stiff
		2.5p							
		2.5p	105	19					
		2.0p							
		2.2p	107	19					
	20	3.0p							
		1.7p	88	30					CH, CLAY, tan, gray and red, traces of organic matter, stiff
		2.0p							
		3.2p	93	27	66	41			
		3.5p							
	25	2.7p	98	24					gray and tan
		2.5p							
		2.7p	84	32					
		3.0p							
		3.0p	96	24					silt lenses
	30	1.5p							
									$k = 3.4 \times 10^{-7}$ cm/sec
	35	3.2p	89	34	71	40			Nodules of calcareous aggregate in the interval 34-40 feet
		4.5^{+}p	93	27					very stiff
		4.0p							

SHELBY TUBE

SPLIT SPOON

AUGER

▽ INITIAL WATER LEVEL

▼ WATER LEVEL (AFTER _____)

SPT - STANDARD PENETRATION TEST (BLOWS/FT)

P - POCKET PENETROMETER

REMARKS:
Boring terminated at 40 feet. Surface water percolated into the boring. No accurate ground water measurement was made.

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING BW-20

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 06/05/96
Tech.: C. Robinson
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: Adjacent to Well W-20, ne B-42
Surface Elevation: 7.9 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒		2.0 (P)									Stiff tan and gray CLAY (CH) w/silt traces, pockets, & lenses (Fill)
		3.2 (P)									– becoming tan & light gray
	5	2.7 (P)									Stiff light gray & tan CLAY (CH)
▽		2.0 (P)									
		1.0 (P)									Medium tan & light gray SLIGHTLY SILTY CLAY (CL) w/silt pockets & lenses
	10	1.2 (P)									Medium tan & light gray CLAY (CH) w/silt pocket
		0.7 (P)									– w/silt traces, pockets & lenses
	15	0.7 (P)									Soft tan & light gray SILTY CLAY (CL) w/ferrous nodules & roots
▽		1.0 (P)									– becoming clay at bottom 6"
		2.2 (P)									Stiff light gray, tan, & red CLAY (CH) w/ferrous nodules
	20	2.8 (P)									– becoming light gray & tan w/silt lenses & pockets
		3.2 (P)									– slickensided & jointed w/organics & calcareous nodules
	25	3.2 (P)									
		2.7 (P)									– slickensided
		3.6 (P)									– w/calcareous & ferrous nodules & some organics
	30	2.3 (P)									– becoming slightly silty at bottom 7"
		3.0 (P)									Light gray & tan VERY SILTY CLAY (CL) w/silt lenses & pockets
	35	3.7 (P)									Tan & light gray CLAYEY SILT (ML)
	40										Tan & light gray SILT (ML) w/clay traces

Continued Next Page

Ground Water Level Data

☒ No free water encountered due to wash (1996)
▽ Free water first encountered (1992)
▽ Water level after 15 mins. (1992)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring W-20 dated 12/02/92, Visual Classification Only

Form 95115 4LG 09/15/97

Strata Boundaries May Not Be Exa

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING BW-20

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 06/05/96
Tech.: C. Robinson
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: Adjacent to Well W-20, near B-42
Surface Elevation: 7.9 ft., MSL

Ground Water Level	Depth (feet)	Dry Sample / Undist. Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
			2.2 (P)									Stiff light gray & tan CLAY (CH) w/calcareous & ferrous nodules
			2.7 (P)									– w/silt seams in bottom 6"
	45		3.5 (P)									– w/silt seams, lenses & 1/4" layers & calcareous pockets – slickensided w/shells
												Tan SLIGHTLY CLAYEY SILT (ML) w/clay at bottom 6"
	50		3.2 (P)									Stiff light gray & tan SLIGHTLY SILTY CLAY (CL) w/silt pockets
			2.5 (P)									Stiff light gray & tan CLAY (CH) w/calcareous nodules
	55		4.0 (P)									Stiff greenish-gray & tan SILTY CLAY (CL) w/clayey silt in top 4" Washed 0 to 56 ft. without sampling (1996)
			4.2 (P) 3.25 (P) 3.0 (P) 3.0 (P)		21		49	13	36			Stiff tan and light gray slightly SILTY CLAY (CL) w/calcareous and ferrous nodules
	60		3.25 (P) 3.0 (P)	1.84	27	95	67	26	42			Stiff light greenish-gray CLAY (CH) w/ferrous mottling, silt pockets, and organic matter
	65		2.75 (P) 2.25 (P) 2.25 (P)		33	86	67	23	44			Stiff brown CLAY (CH) w/light gray mottling – light gray w/brown mottling and calcareous nodules – light gray w/ferrous mottling and silt traces
	70											Boring completed at 70 ft. (1996)
	75											
	80											

Ground Water Level Data

- No free water encountered due to wash (1996)
- Free water first encountered (1992)
- Water level after 15 mins. (1992)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Strata Boundaries May Not Be Exact

BORING LOG

BORING B-43

PROJECT NAME: BFI/COLONIAL

LOCATION: Sorrento, Louisiana

G.S. ELEVATION 0.2 MSL COORDINATES _____ N _____ E

PROJECT NO. 88-507
DATE 4/14/88
BORING TYPE
ENG./LOGGER LH/JP

ELEVATION (FEET)	DEPTH (FEET)	SPT OR P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		1.0p	72	47					CH, CLAY, gray with tan, traces of silt and wood, soft to medium
		1.0p							
		1.0p	87	31					
		2.0p							
	5	0.7p	93	25					CL, SILTY CLAY, tan, red and gray, medium to very stiff, traces of limestone in the interval 6 to 8 feet
		1.2p							
		1.0p	100	24					
		1.2p							
		1.2p	104	22	33	17			
▼	10	1.5p							
		2.7p							calcareous concretions in the interval 12 to 15 feet
		3.0p	104	22					
▽		3.0p							
	15	3.5p	101	24					
		3.5p							
		2.7p	84	27					silty in the interval 16 to 20 feet
		3.0p							
		3.0p	92	25					
	20	3.7p							
		2.0p	95	26					
		2.5p							
		3.0p	95	27					
		2.7p							
	25	2.5p	78	39					CH, CLAY, tan and gray, traces of silt and organic matter, medium to hard,
		3.7p	85	29					
		4.5p							
		2.7p	96	23					silty in the interval 26 to 27 feet
		2.7p							
	30	2.7p	79	41	99	67			clayey silt in the interval 27 to 28 feet
		3.5p							
		3.0p	79	36					
		3.0p	87	33					
		3.5p							
	35	2.5p	101	20					CL, SILTY CLAY, tan and gray, traces of organic matter, medium to very stiff
		3.7p							
		3.2p							$k_v = 1.1 \times 10^{-7}$ cm/sec (34-36')
		3.7p	92	34					clayey silt in the interval 34 to 36 and at 38 feet
		4.0p							

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

▽ INITIAL WATER LEVEL
▼ WATER LEVEL (AFTER 5 min)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P -POCKET PENETROMETER READING (TSF)

GCD

REMARKS:

PLATE NO.

BORING LOG

PROJECT NAME: BFI/COLONIAL

BORING B-43 (cont.)

LOCATION: Sorrento, Louisiana

PROJECT NO. 88-507
DATE 4/14/88
BORING TYPE
ENG./LOGGER LH/JP

G.S. ELEVATION _____ COORDINATES _____ N _____ E

ELEVATION (FEET)	DEPTH (FEET)	SPT OR P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
	45	2.7p 2.0p	102	18					
	50	2.5p 3.0p	99	24					
	55	4.2p 3.5p	92	28					
	60	4.0p 4.2p	88	29					Boring terminated at 60 feet

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL(AFTER _____)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P -POCKET PENETROMETER READING (TSF)

G D

REMARKS:

PLATE NO.

BORING LOG

PROJECT NAME: BFI/COLONIAL
BORING B-44
LOCATION: Sorrento, Louisiana
G.S. ELEVATION 0.5 MSL COORDINATES _____ N _____ E

PROJECT NO. 88-507
DATE 4/14/88
BORING TYPE
ENG./LOGGER LH/JP

ELEVATION (FEET)	DEPTH (FEET)	SPT OR P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
		1.2p 1.5p	70	48					CH, CLAY, gray, traces of silt, medium
		1.2p 1.5p	75	43					
	5	1.7p 1.7p	95	27					CL, SILTY CLAY, tan, orange and gray, traces of organic matter, medium to stiff
		3.0p 2.5p	100	24	43	27			
		2.7p 2.5p	106	22					ferrous concretions in the interval 12 to 14 feet
	10	2.2p 2.5p	103	23					
▼		3.2p 3.0p	99	23					
	15	2.7p 3.0p	92	28					CH, CLAY, tan, orange and gray, traces of silt and organic matt stiff to very stiff
▽		2.7p 2.5p	80	39	88	56			$k_v = 1.5 \times 10^{-7}$ cm/sec (18-20')
									$k_h = 7.2 \times 10^{-9}$ cm/sec
	20	2.5p 3.2p	96	27					silty clay in the interval 18 to 20 and 24 to 26 feet
		3.2p 3.0p	89	30	78	60			
		2.7p 2.7p	101	23					
	25	2.7p 2.2p	105	23					ML, CLAYEY SILT, tan, soft to stiff
		1.2p 0.5p	104	15					
	30	1.2p 0.5p	98	26					wet at 30 feet
		4.0p 3.5p	93	28					CL, SILTY CLAY, tan, orange and gray traces of organic matter and fin sand at 37 feet, very stiff
	35	3.0p 3.0p	95	30					clayey silt in the interval 36 t 38 feet
		3.0p 3.0p	97	27					
		3.5p							

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

▽ INITIAL WATER LEVEL
▼ WATER LEVEL (AFTER 5 min)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P -POCKET PENETROMETER READING (TSF)

GD

REMARKS:

PLATE NO.

BORING LOG

PROJECT NAME: BFI/COLONIAL

BORING B-44 (cont.)

LOCATION: Sorrento, Louisiana

PROJECT NO. 88-507
DATE 4/14/88
BORING TYPE
ENG./LOGGER LH/JP

G.S. ELEVATION _____ COORDINATES _____ N _____ E

ELEVATION (FEET)	DEPTH (FEET)	SPT OR P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
	45	2.7p 3.7p	96	28					CH, CLAY, tan and gray, traces of silt and organic matter, stiff to very stiff $k_v = 3.0 \times 10^{-7}$ cm/sec (38-40')
	50	4.0p 4.0p	110	20	46	30			CL, SILTY CLAY, tan, red and gray, very stiff
	55	3.2p 3.5p	101	24					
	60	3.7p	—	—	—	—			Boring terminated at 60 feet.

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL (AFTER _____)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P -POCKET PENETROMETER READING (TSF)

GD

REMARKS:

PLATE NO.

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-45

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 07/01/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1133.5. E 1468.4
Surface Elevation: 6.0 ft., MSL

Ground Water Level	Depth (feet)	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
☒		1.7 (P)									CH, CLAY, tan and gray traces of silt, medium to stiff
		3.2 (P)		26	98						
		1.2 (P)									– silty clay in the interval 2 to 4 feet
		1.2 (P)		38	82						
	5	1.2 (P)									
		1.7 (P)		51	69						
		1.2 (P)									
		1.5 (P)		45	71	90		63			
		1.0 (P)									CL, SILTY CLAY, tan and gray, soft to stiff
		1.7 (P)		28	90						
▽	10	1.0 (P)									
		1.0 (P)		37	81						
		1.2 (P)									
		1.5 (P)		24	96						
▽	15	1.7 (P)									
		0.7 (P)		25	95	40		22			
		3.0 (P)									
		3.2 (P)		21	105						
		2.2 (P)									CH, CLAY, tan, red and gray, traces of silt, stiff
		3.0 (P)		24	98						
	20	2.7 (P)									
		2.5 (P)		39	80						
		2.7 (P)									
		3.0 (P)		32	87	85		60			
	25	2.7 (P)							Kv1		
		3.2 (P)		26	96						
		2.7 (P)									
		3.0 (P)		27	95						
		3.0 (P)									
	30	2.7 (P)									CL, SILTY CLAY, tan, orange and gray, traces of organic matter, very stiff to hard
		3.7 (P)		28	93						
		3.5 (P)									
		2.7 (P)		33	83						
		4.5 (P)									
	35	4.5 (P)		27	94						
		4.5 (P)									
		4.5 (P)		25	93						
		1.0 (P)									– clayey silt, wet and soft in the interval 38 to 40 feet
		1.0 (P)		26	93						
	40										

Continued Next Page

Ground Water Level Data

☒ No free water encountered due to wash (1996)
▽ Free water first encountered (1988)
▽ Water level after 5 mins. (1988)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-45 dated 4/14/88
Kv: Vertical Permeability (cm/sec)
Kv1 = 1.8 x 10(-8)

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-45

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 07/01/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1133.5, E 1468.4

Surface Elevation: 6.0 ft., MSL

FIELD DATA			LABORATORY DATA								
Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
											Washed 0 to 40 ft. without sampling (1996)
		1.75 (P)									Medium to stiff light gray CLAY (CH) w/tan mottling, silt pockets, ferrous nodules, and organic matter
		1.4 (P)							Kv2		– w/silt layers and seams at 40 to 44 ft.
		4.0 (P)									– w/silty clay layers
	45	1.0 (P)		36		86	34	53	Kh		
		3.0 (P)									
		4.0 (P)									– w/dark brown mottling
		2.25 (P)		35	84						
	50	3.7 (P)									– w/calcareous nodules
		2.5 (P)									
		3.25 (P)									
		3.2 (P) 4.5 (P)		17	114						– w/silt lenses and much organic matter
	55	4.5 (P)									– light greenish-gray w/tan mottling
		3.0 (P)									
		4.5 (P)		23	100						Stiff tan SILTY CLAY (CL) w/light brown mottling, silt lenses and pockets, and organic matter
		1.75 (P)		28		42	21	21			
	60	4.5 (P)									
		3.25 (P)									Stiff tan and light gray CLAY (CH) w/silt pockets
		2.25 (P)									
											– slickensided
	65	2.25 (P)									
		3.0 (P)		22		49	20	29			
											– greenish-gray
		3.0 (P)									
	70										Boring completed at 70 ft. (1996)
	75										
	80										

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1988)
- ▽ Water level after 5 mins. (1988)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Kv: Vertical Permeability (cm/sec)
Kv2 = 8.3 x 10(-8)
Kh: Horizontal Permeability = 4.4 x 10(-7) cm/sec

B - 46
WAS NOT DRILLED

SOIL BORING LOG

PROJECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-47

FILE: 89-089
DATE: 8/17/89
TECH.: S. Kean
C. Tsai

CLIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 1 of 2

BORING ADVANCE METHOD
Auger: 0' - 8'
Wash: 8' - 70'
Coord:
Elev. +2.0

FIELD DATA			LABORATORY DATA					
LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	BORING ADVANCE METHOD
			2.5 (P)						Medium gray CLAY (CH)
			1.2 (P)						Medium dark gray ORGANIC CLAY (OH)
			1.2 (P)						
	5		1.0 (P)	0.60	47	70	109	82	
			2.2 (P)						Stiff tan & gray SILTY CLAY (CL)
			2.7 (P)						
	10		2.5 (P)	1.01	23	100	43	26	
			2.5 (P)						
	15		2.5 (P)						Stiff tan & light gray CLAY (CH), slickensided
			2.7 (P)						
			2.7 (P)	0.84	30	92	35	17	Medium light gray SILTY CLAY (CL)
	20		3.5 (P)						Stiff tan & light gray CLAY (CH), slickensided
			2.7 (P)						
	25		3.5 (P)						
			3.2 (P)						— w/ferrous nodules at 24'-26'
			2.7 (P)	1.73	28	93	67	44	
	30		4.2 (P)						— light gray & red at 31' - 33'
			4.2 (P)						
			No (P)						Firm light gray & tan SANDY SILT (ML)
	35		No (P)		26		GS1		
			19 b/f (7-9-10)						
			3.0 (P)		32		45	26	Stiff to very stiff light gray & tan SILTY CLAY (CL)
	40								

(continued)

SYMBOLS:

STANDARD PENETRATION TEST 140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE 3" DIA. SHELBY TUBE

NO RECOVERY

FREE WATER FIRST ENCOUNTERED

WATER LEVEL AFTER 15 mins. (PRIOR TO WASH BORING)

WATER LEVEL AFTER

GS1: Sand Content = 31%
Silt Content = 60%
Clay Content = 9%

SOIL BORING LOG

PROJECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-47

FILE: 89-089
DATE: 8/18/89
TECH.: S. Kean
C. Tsai

CLIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 2 of 2

FIELD DATA				LABORATORY DATA					
GROUND WATER LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	Stratum change at 40'
			20 b/f (9-9-11)						Firm tan CLAYEY SILT (ML)
			1.7 (P)		29		38	19	Soft light gray SILTY CLAY (CL) w/ferrous nodules
	45		3.5 (P)						Stiff tan & light gray CLAY (CH) w/ferrous nodules
	50		2.7 (P)						
	55		4.0 (P)		25		54	36	— trace of organic matter below 53'
	60		4.5 (P)						
	65		3.5 (P)		29		52	31	
	70		4.0 (P)						Boring terminated at 70'
									Borehole grouted full depth

SYMBOLS:

STANDARD PENETRATION TEST
140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE
3" DIA. SHELBY TUBE

NO RECOVERY

Compressive Strength From Unconfined Compression Tests Unless Noted Otherwise

Strata Boundaries May Not Be Ex

SOIL BORING LOG

PROJECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-48

Sheet 1 of 2

FILE: 89-089
DATE: 7/25/89
TECH.: S. Kean
T. Lawrence

CLIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

BORING ADVANCE METHOD
Auger: 0' - 18'
Wash: 18' - 70'
Coord:
Elev. +1.3

FIELD DATA				LABORATORY DATA					
GROUND WATER LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	
			2.5 (P)						Medium gray CLAY (CH) w/wood
			1.0 (P)						Soft to medium dark gray ORGANIC CLAY (OH) w/wood
	5		0.7 (P)	0.41	66	27	115	80	
			1.2 (P)						
▼			1.5 (P)						
	10		1.0 (P) Kh	0.51	55	67	107	71	
			1.0 (P)						
	15		1.5 (P)						Medium gray CLAY (CH)
			2.0 (P)						Medium tan & light gray SILTY CLAY (CL) w/ferrous nodules
			2.5 (P) Kv		24	101	46	28	
	20		3.0 (P)						
			1.5 (P)						
	25		1.7 (P)	0.78	25	98	41	25	
			2.0 (P)						
			No (P)						Firm light gray SANDY SILT (ML)
	30		3.0 (P)						Stiff gray-green SILTY CLAY (CL)
			1.5 (P)		34	88	39	18	Soft gray-green SILTY CLAY (CL)
			3.2 (P)						Stiff tan & light gray SILTY CLAY (CL)
	35		2.7 (P)						
			2.0 (P)						
			3.2 (P)						Stiff tan & light gray CLAY (CH)
	40								

(continued)

SYMBOLS:

STANDARD PENETRATION TEST 140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE 3" DIA. SHELBY TUBE

NO RECOVERY

FREE WATER FIRST ENCOUNTERED

WATER LEVEL AFTER 15 mins. (PRIOR TO WASH BORING)

WATER LEVEL AFTER 24 hrs.

Kh: 2.4x10(-8) cm/sec TX
Kv: 5.1x10(-9) cm/sec TX

Compressive Strength From Unconfined

Strata Boundaries May Not Be Exact

SOIL BORING LOG

PROJECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-48

FILE: 89-089
DATE: 7/25-26/89
TECH.: S. Kean
T. Lawrenc

CLIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 2 of 2

FIELD DATA				LABORATORY DATA					
GROUND WATER LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	
			4.0 (P)		40	82	76	49	Stiff tan & light gray CLAY (CH)
			3.5 (P)						
	45		No (P)						Firm tan SANDY SILT (ML)
			3.5 (P)		36		83	52	Stiff tan & light gray CLAY (CH) w/ferrous nodules —slickensided at 48' - 50'
	50								
			2.5 (P)						
	55								
			3.7 (P)		20	107	38	22	Stiff light gray SILTY CLAY (CL)
	60								
			No (P)						Firm tan SANDY SILT (ML)
	65		16 b/f (9-6-10)		29		47	29	Stiff tan & light gray SILTY CLA (CL) w/ferrous nodules
			2.7 (P)						
	70								Boring terminated at 70' Borehole grouted full depth upon completion

SYMBOLS:

STANDARD PENETRATION TEST
140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE
3" DIA. SHELBY TUBE

NO RECOVERY

Compressive Strength From Unconfined

Strata Boundaries May Not Be Ex

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-49

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 07/11/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates:

Surface Elevation: -12.3 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒ ▽ ▼		1.5 (P)									Medium brown CLAY (ch) w/roots
		0.7 (P)	0.46j	47	69	96		63			Soft to medium CLAY (CH), jointed, w/ferrous nodules, trace of organic matter
	5	1.5 (P)									
▽		No (P)	0.87	28	94	41		20			Medium tan & light gray SILTY CLAY (CL) w/ferrous nodules
		1.5 (P)									
	10	2.0 (P)									Stiff tan & light gray CLAY (CH) w/ferrous nodules
		2.2 (P)	1.15	22	103	55		38			– red, tan & light gray at 14' - 18'
	15	2.5 (P)									– jointed at 16' - 18'
		3.0 (P)									
		No (P)				32		13			Alternate layers: stiff tan SILTY CLAY (CL) & Firm tan CLAYEY SILT (ML)
	20	~~23 b/f~~ 8-11-12									Stiff to very stiff tan & light gray SILTY CLAY (CL) w/ferrous nodules
		2.7 (P)									
	25	3.0 (P)									
		3.0 (P)		28	96	41		21			
		No (P)									Firm tan CLAYEY SILT (ML)
	30	4.5 (P)									Very stiff tan & light gray CLAY (CH) – jointed at 30' - 32'
		4.5 (P)									
		No (P)									Firm tan CLAYEY SILT (ML)
		4.5 (P)		32		43		17			Very stiff tan SILTY CLAY (CL)
	35	3.7 (P)									Stiff light gray & tan CLAY (CH) w/ferrous nodules
		3.7 (P)		40	79	91		60			
		No (P)									Dense tan & light gray CLAYEY SILT (ML) Washed 0 to 40 ft. without sampling (1996)
	40										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1989)
- ▽ Water level after 15 mins. (1989)
- ▼ Long-term water level after 24 hrs. (1989)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-49 dated 8/9-10/89
j: Jointed Failure

Strata Boundaries May Not Be Exact

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-49

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 07/11/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates:

Surface Elevation: -12.3 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		50 b/11" 14-27-23/5 2.0 (P)		31		47	19	28	GS1		Stiff tan and gray SILTY CLAY (CL) w/ferrous nodules
		3.0 (P) 1.5 (P)									– w/clayey lenses at 42 to 45.5 ft.
	45	2.5 (P) 1.75 (P)		40	80	87		58			
	50	4.0 (P)									Stiff tan and greenish-gray CLAY (CH)
	55	50 b/11" 23-24-26/5 Push Spoon		29					GS2		
		No (P)		23					GS1		Very dense greenish-gray CLAYEY SILT (ML) w/clay nodules and sand
		42 b/f 11-21-21									
	60	2.75 (P)		29	92	54	24	30			Stiff greenish-gray CLAY (CH), slickensided w/silt pockets, ferrous and calcareous nodules, and organic matter
		3.5 (P) 24 b/f 8-11-13									
	65	3.0 (P)									– w/shell fragments
		3.25 (P)									
		3.2 (P) No (P)		24		45		28	GS2		Greenish-gray SAND (SM) w/clay stringers and silty clay lenses
	70										Boring completed at 70 ft. (1996)
	75										
	80										

Ground Water Level Data

- No free water encountered due to wash (1996)
- Free water first encountered (1989)
- Water level after 15 mins. (1989)
- Long-term water level after 24 hrs. (1989)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

GS: Particle Size Analysis
GS1: Sand = 1%, Silt = 82%, Clay = 17%
GS2: Sand = 17%, Silt = 63%, Clay = 20%
GS: Particle Size Analysis
GS1: Sand = 33%, Silt = 46%, Clay = 21%
GS2: Sand = 89%

Form 95115-GLB 05/05/97

Strata Boundaries May Not Be Exact

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-50

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 05/20/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates:

Surface Elevation: 7.8 ft., MSL

Ground Water Level	Depth (feet)	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
☒		1.2 (P)									Soft tan & gray CLAY (CH) w/organic matter
		2.7 (P)									Medium to stiff dark gray CLAY (CH) w/organic matter
	5	2.7 (P)									
▽		1.0 (P)	0.73	53	70	100		70			Medium gray ORGANIC CLAY (OH) w/wood
		1.0 (P)									
	10										
		2.0 (P)									Medium tan & light gray CLAY (CH)
		2.0 (P)									– w/silt pockets at 12' - 16'
▽	15	2.0 (P)	0.79	24	98	54		36			
		3.2 (P)									Stiff brown-red & light gray CLAY (CH)
		3.2 (P)									
	20	3.5 (P)		32		91		58			– slickensided at 20' - 22'
		3.0 (P)									
	25	2.7 (P)									
		3.0 (P)		26	97	65		45	Kv1		
		3.7 (P)									
	30	1.5 (P)	0.91	30	91	52		37			– medium at 30' - 32'
		No (P)									Dense tan SILT (ML)
		36 b/f 13-17-19		26					GS1		– w/ 1/8" clay layers at 34' - 36'
	35										
		2.7 (P)									Stiff tan & light gray CLAY (CH) w/ferrous nodules
	40										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1989)
- ▽ Water level after 15 mins. (1989)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 72 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring b-50 dated 7/26/27/89
Kv: Vertical Permeability = cm/sec
Kv1 = 9.4 x 10(-9)
GS: Particle Size Analysis
GS1: Sand = 9%, Silt = 85%, Clay = 6%

Strata Boundaries May Not Be Exact

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-50

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 05/20/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates:

Surface Elevation: 7.8 ft., MSL

Ground Water Level	Depth (feet)	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) 2.0 (P)		40	81	95		63			Washed 0 to 40 ft. without sampling (1996) Stiff light greenish-gray CLAY (CH) w/tan mottling, ferrous nodules, and organic matter
		3.2 (P) 2.25 (P)									
		30 b/f 10-16-14 1.75 (P)		35		64	20	44			– w/shell fragments
	45										
		2.5 (P)									
		4.2 (P) 3.25 (P)		19	109	32		15	Kv2		
	50										
		2.75 (P)									
		2.5 (P)				77	23	54			
		No (P)									
	55	3.25 (P) 24 b/f 10-11-13 4.0 (P)									– w/silt pockets at 56 to 60 ft.
		No (P) 3.25 (P)									
	60										
		No (P)		24					GS1		Dense greenish-gray CLAYEY SILT (ML)
		No (P) 50 b/10" 12-31-19/4		29					GS2		
	65	34 b/f 12-15-19									
		39 b/f 13-18-21									
		50 b/11" 15-20-30/5		25					GS2		Very dense greenish-gray SAND (SP)
		54 b/f 13-27-27									
	70	50 b/4" 19-35									
											Boring completed at 72 ft. (1996)
	75										
	80										

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1989)
- ▽ Water level after 15 mins. (1989)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 72 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Kv: Vertical Permeability = cm/sec
Kv2 = 3.7 x 10(-8)
GS: Particle Size Analysis
GS2: Sand = 53%, Silt = 44%, Clay = 3%
GS: Particle Size Analysis
GS1: Sand = 8%, Silt = 67%, Clay = 25%
GS2: Sand = 88%

Form 95115426 05/05/97

Strata Boundaries May Not Be Exa

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-51

STE
Soil Testing Engineers, Inc.

Sheet 1 of 4

File: 95-1154
Date: 04/24/96
Geol.: V. Ashworth
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2402.3, E 2256.0
Surface Elevation: 8.8 ft., MSL

Ground Water Level	Depth (feet)	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)									Medium tan & light gray CLAY (CH)
		2.2 (P)		29		84		61			Medium dark gray CLAY (CH) w/ferrous nodules
	5	2.7 (P)									
▽		2.5 (P)									– w/organic matter at 6' - 8'
		0.7 (P)	0.39	28	89	48		27			Soft light gray & tan SILTY CLAY (CL)
▽	10	2.0 (P)									Medium to stiff tan & light gray CLAY (CH) – w/rootlets at 10' - 12'
		2.2 (P)									
	15	2.5 (P)	1.03	26	98	63		44			
		2.2 (P)									
		2.0 (P)									– tan & red at 18' - 20'
	20	3.5 (P)									– jointed at 20' - 24'
		2.7 (P)									
	25	3.2 (P)		32	90	76		52			– slickensided at 24' - 28'
		3.2 (P)									
		4.0 (P)									
	30	4.0 (P)									– w/silt pockets at 30' - 32'
		3.5 (P)		28	92	58		34			
	35	4.0 (P)									
		3.7 (P)									– w/silt pockets at 36' - 40'
		3.7 (P)									Washed 0 to 40 ft. without sampling (1996)
	40										

Continued Next Page

Ground Water Level Data

☒ No free water encountered due to wash (1996)
▽ Free water first encountered (1989)
▽ Water level after 10 mins. (1989)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

Normal Type: Boring B-51 dated 8/01-02/89

Strata Boundaries May Not Be Exact

Form BE1154LG 05/05/97

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-51

STE
Soil Testing Engineers, Inc.

Sheet 2 of 4

File: 95-1154
Date: 04/24/96
Geol.: V. Ashworth
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2402.3, E 2256.0

Surface Elevation: 8.8 ft., MSL

FIELD DATA			LABORATORY DATA								
Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		4.2 (P) 3.0 (P) 50 b/10" 26-22-27/4 3.25 (P)		36		40		23			Stiff light gray CLAY (CH) w/tan mottling and organic matter
	45	4.5 (P) 3.0 (P)									Stiff light gray SILTY CLAY (CL)
		No (P)				27	22	4			Dense tan and light gray VERY CLAYEY SILT (ML)
		4.2 (P) 3.25 (P)		23	100	59		30			Stiff to very stiff light gray and tan CLAY (CH) w/calcareous nodules
	50	3.25 (P)		47		89	29	60			– slickensided
		4.0 (P) No (P) 4.0 (P)									– w/silt pockets at 52 to 56 ft.
		4.5 (P) 50 b/f 30-34-26 3.25 (P)		30		45	20	25	GS1		Stiff to very stiff light gray and tan SILTY CLAY (CL) w/numerous silt lenses, seams, and pockets
	60	2.75 (P)									– very silty clay w/ 1/2-inch silt layers
		No (P) 50 b/8" 36-38-12/2 No (P)									Very dense gray SILT (ML) w/clay seams
	65	50 b/9" 24-31-19/3" 50 b/7" 50-6/6/1" 20-37-13/2"		26					GS		Very dense gray SILTY SAND (SM)
	70										Boring completed at 70 ft. (1996) Very dense gray-green SANDY SILT (ML)
		20 b/f 16-13-7									Firm light gray SILTY SAND (SM)
	75	50 b/6" 50/6" NC									Very dense gray SILTY SAND (SM)
	80										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1989)
- ▽ Water level after 10 mins. (1989)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

GS: Particle Size Analysis
GS1: Sand = 41%, Silt = 53%, Clay = 6%
GS: Particle Size Analysis
Sand = 76%

Form 95115ALG 05/05/97

Strata Boundaries May Not Be Exac

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-51

STE
Soil Testing Engineers, Inc.

Sheet 3 of 4

File: 95-1154
Date: 04/24/96
Geol.: V. Ashworth
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2402.3, E 2256.0

Surface Elevation: 8.8 ft., MSL

FIELD DATA			LABORATORY DATA								
Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
											Very dense gray SILTY SAND (SM)
		25 b/f 14-12-13									– firm at 83' - 85'
	85										
		50 b/6" 50/6" NC									
	90										
		50 b/6" 39-50/6"							GS2		– 2" clay layer at 94'
	95										
		50 b/5" 50/5" NC									
	100										NOTE: Wash Bored; classification from cuttings & drilling. (1989)
	105										
	110										
	115										
	120										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1989)
- ▽ Water level after 10 mins. (1989)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

GS: Particle Size Analysis
GS2: Sand = 77%, Silt = 11%, Clay = 12%

Strata Boundaries May Not Be Exact

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-51

STE
Soil Testing Engineers, Inc.

Browning-Ferris, Inc.
Sorrento, LA

Sheet 4 of 4

File: 95-1154
Date: 04/24/96
Geol.: V. Ashworth
Driller: E. Hull
Rig: Failing 1500

Location Coordinates: S 2402.3, E 2256.0

Surface Elevation: 8.8 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Dry Sample	Dist. Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
													Very dense gray SILTY SAND (SM) – classification from cuttings –
	125												Stiff tan SILTY CLAY (CL) – classifications from cuttings –
													Boring completed at 128 ft. (1989)
	130												
	135												
	140												
	145												
	150												
	155												
	160												

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered due to wash (1996) ☑ Free water first encountered (1989) ☑ Water level after 10 mins. (1989)	4" dia. Rotary Wash: 0 to 70 ft. (1996) **Boring Abandonment Method** Borehole grouted with cement/ bentonite upon completion (1996)	

Form 8511G4LG 05/05/97

Strata Boundaries May Not Be Exac

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-52

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 06/03/96
Tech.: C. Robinson
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2004.3, E 2241.0

Surface Elevation: 7.7 ft., MSL

FIELD DATA			LABORATORY DATA								
Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒ ▽▼		1.0 (P)									Soft brown SILTY CLAY (CL) w/organic matter & roots
		1.2 (P)									
	5	1.7 (P)	0.62	34	85	62		44			Medium gray CLAY (CH) w/ferrous nodules & organic matter
		0.7 (P)		29		40		19			Soft tan & light gray SILTY CLAY (CL)
▽		2.5 (P)									Stiff tan & light gray CLAY (CH) w/ferrous nodules
	10	2.7 (P)									
		2.5 (P)	1.18	22	103	58		42	Kv		– red, tan & light gray at 14' - 18'
	15	3.0 (P)									
		2.5 (P)									– jointed at 18' - 20'
		2.5 (P)									
	20	2.5 (P)	0.98	27	95	69		49			– medium below 20'
		2.2 (P)									– silt layer at 23'
	25	3.7 (P)		24		39		21			Stiff tan & light gray SILTY CLAY (CL) w/ferrous nodules – w/sand streaks at 24' - 26'
		2.7 (P)									
		4.5 (P)									Stiff to very stiff light gray & tan CLAY (CH)
	30	3.5 (P)		31		66		40			– 3" clayey silt layer at 30' – jointed at 30' - 32' – 2" clayey silt layer at 32'
		4.0 (P)									
	35	2.0 (P)		31		38		17			Medium light gray & tan SILTY CLAY (CL)
		No (P)									Firm tan SANDY SILT (ML)
		4.5 (P)									Stiff to very stiff light gray & tan SILTY CLAY (CL) Washed 0 to 40 ft. without sampling (1996)
		3.5 (P)									
	40										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1989)
- ▽ Water level after 15 mins. (1989)
- ▼ Long-term water level after 24 hrs. (1989)

Boring Advancement Method

4" dia. Rotary Wash:
0 to 80 ft. (1996)

Boring Abandonment Method

Notes

Normal Type: Boring B-52 dated 8/09/89
Kv: Vertical Permeability = 3.3 x 10(-9) cm/sec

Strata Boundaries May Not Be Exact

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-52

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 06/03/96
Tech.: C. Robinson
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2004.3, E 2241.0

Surface Elevation: 7.7 ft., MSL

Ground Water Level	Depth (feet)	Key Sample / Alt. Sample	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)									Stiff tan & light gray CLAY (CH)
			3.25 (P)		41		93		61			Stiff light greenish-gray CLAY (CH) w/light gray mottling, ferrous nodules, and organic matter
			3.5 (P)									
			2.75 (P)									Stiff tan SILTY CLAY (CL) w/light gray mottling and ferrous nodules
			3.0 (P)									
	45		4.0 (P)									Stiff light greenish-gray CLAY (CH) w/organic matter
			2.75 (P)									– w/silt seams at 44 to 46 ft.
			4.5 (P)									
			3.0 (P)		23		44		27			
	50											– slickensided
			2.5 (P)									
			4.5+ (P)		17		29	18	11			Stiff tan and light gray SILTY CLAY (CL) w/ferrous nodules
			No (P)		24					GS		
	55		3.0 (P)									Stiff light greenish-gray CLAY (CH) w/numerous silt seams
			50 b/11" 23-26-24/5									
			2.5 (P)									Stiff light greenish-gray SILTY CLAY (CL)
			No (P)									
			50 b/7" 24-33-17/1									Very dense greenish-gray CLAYEY SILT (ML)
	60		No (P)		31					GS		
			2.75 (P)									Stiff gray CLAY (CH)
			3.0 (P)		27		45		26			
	65		2.75 (P)									
			2.25 (P)	1.35	39	83	79	25	54			
			4.5 (P)									– w/silt traces
			3.75 (P)									
	70		4.25 (P)									Stiff gray SILTY CLAY (CL) w/sand traces
			No (P)									Dense gray CLAYEY SILT (ML) w/sand traces
	75		No (P)									
			No (P)									
			No (P)		21		21	21	0			Dense gray SILT (ML) w/clay traces
	80											

Ground Water Level Data

- No free water encountered due to wash (1996)
- Free water first encountered (1989)
- Water level after 15 mins. (1989)
- Long-term water level after 24 hrs. (1989)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 80 ft. (1996)

Boring Abandonment Method

Notes

GS: Particle Size Analysis
Sand = 18%, Silt = 62%, Clay = 20%
Boring completed at 80 ft. (1996)
GS: Particle Size Analysis
Sand = 15%, Silt = 47%, Clay = 38%

Form 5511SALG 05/05/97

Strata Boundaries May Not Be Exa

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-53

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 06/04/96
Tech.: C. Robinson
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1443.5, E 2165.5

Surface Elevation: 5.2 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		1.7 (P)									Soft to medium gray CLAY (CH) w/organic matter
		1.2 (P)		57		105		71			Soft gray ORGANIC CLAY (OH)
	5	1.0 (P)									Medium gray CLAY (CH)
		1.5 (P)									Medium tan & gray CLAY (CH) w/ferrous nodules
		1.5 (P)	0.77	29	91	51		31			– w/silt pockets at 8' - 10'
	10	1.0 (P)									
		2.2 (P)									Medium to stiff tan & light gray CLAY (CH) w/ferrous nodules
	15	2.7 (P)		23	102	56		40	Kv		
		2.2 (P)									
		2.5 (P)									
	20	2.5 (P)	1.53t	29	91	44		25			Alternate 6" layers Stiff light gray & red CLAY (CH) & Firm tan SILT (ML)
		No (P)		32		38		18			Soft tan & light gray SILTY CLAY (CL)
	25	2.7 (P)									Stiff tan & light gray SILTY CLAY (CL)
		2.2 (P)	1.24	22	104	45		30			
		3.2 (P)									Stiff tan & light gray CLAY (CH) w/ferrous nodules
	30	3.0 (P)									– jointed at 30' - 32'
		4.0 (P)									
	35	3.5 (P)		39	84	82		53			– slickensided at 34' - 36'
		3.0 (P)									– traces of organic matter at 36' - 38'
		2.0 (P)									Washed 0 to 40 ft. without sampling (1996)
	40										

Continued Next Page

Ground Water Level Data

- No free water encountered due to wash (1996)
- Free water first encountered (1989)
- Water level after 10 mins. (1989)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 74 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-53 dated 7/24/89
Kv: Vertical Permeability = 5.7 x 10(-8) cm/sec
t: Unconsolidated, Undrained Triaxial Compression Test
Lateral Pressure = 1.8 ksf

Strata Boundaries May Not Be Exact

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-53

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 06/04/96
Tech.: C. Robinson
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1443.5, E 2165.5

Surface Elevation: 5.2 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		No (P) 3.25 (P)		25					GS1		Firm tan SANDY SILT (ML) Medium dense tan SILT (ML) w/ferrous mottling and clay layers
		1.7 (P) 3.75 (P) 4.0 (P)									Stiff tan and light gray CLAY (CH) w/organic matter
	45	3.0 (P)		31		59		36			
		3.5 (P)									– w/calcareous and ferrous nodules
		4.5 (P) 3.0 (P)									– w/silt traces
	50	4.5+ (P)	2.22	17	108	43	18	25			Stiff to very stiff tan and light gray SILTY CLAY (CL) w/ferrous nodules
		3.0 (P)									
		No (P)		22					GS		Dense tan CLAYEY SILT (ML) w/ferrous mottling and ferrous nodules
	55	2.75 (P)									
		2.25 (P)		23					GS2		
		No (P) 2.25 (P)				26	21	5			
	60	3.0 (P)									Stiff gray and light gray CLAY (CH) w/organic matter – slickensided at 60 to 62 ft.
		2.75 (P) 2.5 (P)		25		45		28			
	65	2.75 (P)									– w/silt pockets and ferrous nodules
		3.5 (P)		22		49	14	35			Stiff gray slightly SILTY CLAY (CL) w/light gray mottling, silt pockets, and ferrous nodules
		4.2 (P) 4.5+ (P)		23		40		21			Stiff to very stiff gray CLAY (CH) w/light gray mottling, ferrous and calcareous nodules, and silt traces
	70	4.25 (P)									– w/organic matter
		3.5 (P)									– w/silt pockets
	75										Boring completed at 74 ft. (1996)
	80										

Ground Water Level Data

- No free water encountered due to wash (1996)
- Free water first encountered (1989)
- Water level after 10 mins. (1989)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 74 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

GS: Particle Size Analysis
Sand = 39%, Silt = 47%, Clay = 14%
GS: Particle Size Analysis
GS1: Sand = 4%, Silt = 80%, Clay = 16%
GS2: Sand = 35%, Silt = 50%, Clay = 15%

Form STE116-G 05/05/97

Strata Boundaries May Not Be Exac

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-54

STE
Soil Testing Engineers, Inc.

Sheet 1 of 3

File: 95-1154
Date: 04/17/96
Geo.L.: V. Ashworth
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1741.1, E 2700.2
Surface Elevation: 8.4 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒		No (P)									Dense tan & light gray CLAYEY SILT (ML)
		1.5 (P)		27		63		44			Medium tan & light gray CLAY (CH) w/ferrous nodules
	5	2.0 (P)									
▽		1.5 (P)									
		1.0 (P)	0.93	25	94	46		27			Medium tan & light gray SILTY CLAY (CL) w/ferrous nodules
	10	1.5 (P)									
		2.2 (P)									Stiff light gray & tan CLAY (CH)
▽	15	3.5 (P)		21	102	58		41			– w/ferrous nodules at 14' - 16'
		2.7 (P)									– w/silt pockets at 16' - 18'
		2.5 (P)	1.03	24	100	57		39			
	20	2.0 (P)									
		No (P) 23 b/f 8-12-11		27					GS1		Firm light gray & red SILT (ML)
	25	No (P) 31 b/f 11-16-15									Alternate 1"-2" layers Very stiff tan SILTY CLAY (CL) & 1"-4" layers Firm tan CLAYEY SILT (ML)
		3.0 (P)		40		88		55			Stiff tan & light gray CLAY (CH) w/ferrous nodules
	30	3.2 (P)									
		2.5 (P)									– w/silt pockets at 32' - 33'
		3.5 (P)									– jointed below 34'
	35	3.7 (P)									
		2.7 (P)									– very stiff, trace of organic matter at 38' - 40'
		4.5 (P)		23	105	52		31	Kv		
	40										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1989)
- ▽ Water level after 30 mins. (1989)
- ▼ Long-term water level after 17 hrs. (1996)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

Normal Type: Boring B-54 dated 8/03/89
GS: Particle Size Analysis
GS1: Sand = 4%, Silt = 85%, Clay = 10%
Kv: Vertical Permeability = 2.2 x 10(-7) cm/sec

Strata Boundaries May Not Be Exact

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-54

STE
Soil Testing Engineers, Inc.

Sheet 2 of 3

File: 95-1154
Date: 04/17/96
Geol.: V. Ashworth
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1741.1, E 2700.2

Surface Elevation: 8.4 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		No (P) 22 b/f 12-8-14		30					GS2		Firm light gray CLAYEY SILT (ML) Washed 0 to 44 ft. without sampling (1996)
	45	4.5 (P) 2.75 (P) 3.25 (P) 3.2 (P) 3.0 (P) 50 b/0" 27-28-22/4 3.25 (P)		27		66		41			Very stiff light gray & tan CLAY (CH) w/ferrous nodules & silt seams Stiff light gray and tan CLAY (CH) w/organic matter – w/5-inch clayey silt layer at 46 ft.; slickensided and jointed – w/2-inch silt layer, silt pockets and lenses at 51.5 to 52 ft.
	50	2.75 (P) No (P)									Stiff light gray SILTY CLAY (CL) w/tan mottling – w/2-inch silt layer at 52 ft.
	55	2.5 (P)		30		65	25	40			Stiff light gray CLAY (CH) w/tan mottling and silt traces
	60	No (P) No (P) 17 b/f 6-8-9		31 33		56		33	GS		Firm tan and light gray CLAYEY SILT (ML) w/sand traces
	65	3.0 (P) 2.75 (P) 3.5 (P) 3.0 (P)									Stiff tan and light gray CLAY (CH) – w/calcareous nodules at 62 to 66 ft.
		2.5 (P)				39	21	18			Stiff light gray SILTY CLAY (CL) w/tan mottling
	70	4.5 (P) 4.25 (P)		29	93	71		41			Very stiff light gray and tan CLAY (CH) Boring completed at 70 ft. (1996) Stiff tan & light gray CLAY (CH) w/ferrous nodules
	75	3.2 (P)									Stiff gray CLAY (CH) w/calcareous nodules – 5" silt layer at 73'
	80	3.5 (P)		41		88		53			– w/silt & sand pockets at 78' - 80'

Continued Next Page

Ground Water Level Data

- ☑ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1989)
- ▽ Water level after 30 mins. (1989)
- ▼ Long-term water level after 17 hrs. (1996)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

GS: Particle Size Analysis
GS2: Sand = 2%, Silt = 76%, Clay = 22%
GS: Particle Size Analysis
Sand = 8%, Silt = 77%, Clay = 15%

Form 2511SGB 05/06/97

Strata Boundaries May Not Be Exa

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-54

STE
Soil Testing Engineers, Inc.

Sheet 3 of 3

File: 95-1154
Date: 04/17/96
Geol.: V. Ashworth
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1741.1, E 2700.2

Surface Elevation: 8.4 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Strata Boundary	Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
													Stiff gray CLAY (CH)
	85			50 b/6" 16-50/6"		24					GS3		Very dense gray SILTY SAND (SM)
	90			~~39 b/f~~ 9-16-22									Hard gray SILTY CLAY (CL) w/silt lenses
	95			4.5 (P)		21		47		29			Very stiff gray-green SILTY CLAY (CL)
	100			4.5 (P)									Boring completed at 100 ft. (1989)
	105												
	110												
	115												
	120												

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1989)
- ▽ Water level after 30 mins. (1989)
- ▼ Long-term water level after 17 hrs. (1996)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion (1996)

Notes

GS: Particle Size Analysis
GS3: Sand = 66%, Silt = 28%, Clay = 6%

Strata Boundaries May Not Be Exact

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-55

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 04/22/96
Geol.: V. Ashworth
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2391.1, E 2693.2
Surface Elevation: 9.1 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒		1.7 (P)		30		44		42			Medium tan & gray CLAY (CH)
	5	1.7 (P) 2.2 (P) 1.0 (P) 2.5 (P)	0.60	46	70	89		62			Medium gray CLAY (CH) – w/ferrous nodules below 4' – trace of organic matter at 6' - 8'
▽	10	2.0 (P) 2.2 (P)	0.82	27	95	51		31			Medium tan & light gray CLAY (CH) w/ferrous nodules
▽	15	3.7 (P) 3.0 (P) 2.5 (P)		35	83	71		39			Stiff tan & light gray CLAY (CH) w/ferrous nodules – w/silt pockets at 14' - 16' – slickensided at 18' - 20'
	20	No (P) 20 b/f 7-9-11		28		37		16			Stiff light gray SILTY CLAY (CL) w/silt layers
	25	2.5 (P) 4.5 (P) 2.2 (P)		24	99	62		44			Stiff to very stiff light gray CLAY (CH) w/ferrous nodules – w/silt seams at 24' - 26'
	30	29 b/f 11-12-17 No (P)									Firm tan & light gray CLAYEY SILT (ML) – 3" clay layer at 31'
	35	4.5 (P) 4.0 (P) 4.0 (P) 4.5 (P)		44		89		57			Stiff to very stiff light gray & tan CLAY (CH) w/ferrous nodules – slickensided at 36' - 38' – w/sand pockets at 38' - 40'
	40										

Continued Next Page

Ground Water Level Data

☒ No free water encountered due to wash (1996)
▽ Free water first encountered (1989)
▽ Water level after 15 mins. (1989)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

Normal Type: Boring B-55 dated 7/28/89

Form 3E1154L0 05/05/97

Strata Boundaries May Not Be Exa

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-55

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 04/22/96
Geol.: V. Ashworth
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2391.1, E 2693.2

Surface Elevation: 9.1 ft., MSL

Ground Water Level	Depth (feet)	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
		No (P)									Firm tan SANDY SILT (ML) Washed 0 to 44 ft. without sampling (1996)
		28 b/f 11-12-16		38		83		58			Very stiff tan & light gray CLAY (CH)
	45	4.0 (P) 3.25 (P)									Stiff light gray and tan CLAY (CH) w/silt traces and silt pockets
		No (P)		27					GS1		Medium dense tan CLAYEY SILT (ML)
	50	4.0 (P) 3.0 (P) 3.25 (P)									Stiff light gray CLAY (CH) w/ferrous mottling – w/organic matter
		3.0 (P)		23	103	48	16	32	Kv		Stiff light greenish-gray SILTY CLAY (CL) w/silt pockets
	55	~~4.5 (P)~~ 3.25 (P) 4.25 (P) No (P) 2.5 (P) 50 b/7"		~~28~~	~~94~~	~~39~~		~~18~~			Stiff to very stiff light greenish-gray CLAY (CH) w/tan mottling and silt pockets
	60	27-41-8/1" No (P) No (P) 50 b/5"		25		34	22	12			Stiff light greenish-gray SILTY CLAY (CL) w/silt lenses, pockets, and seams – numerous calcareous nodules at 60 to 62 ft. – very silty clay w/more silt lenses, pockets, and seams
	65	50/5" NC No (P) 27 b/f 5-8-19		25					GS		Very dense greenish-gray and gray SILT (ML) w/clay seams and nodules – more sandy at 66.5 ft.
		50 b/8" 24-32-18/2"		26					GS2		Very dense gray SAND (SP) w/silt traces
	70	50 b/10" 33-40-10/4									Boring completed at 70 ft. (1996)
	75										
	80										

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1989)
- ▽ Water level after 15 mins. (1989)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

GS: Particle Size Analysis
Sand = 87%, Silt = 11%, Clay = 2%
GS: Particle Size Analysis
GS1: Sand = 2%, Silt = 81%, Clay = 17%
GS2: Sand = 88%
Kv: Vertical Permeability = 3.76 x 10(-9) cm/sec

Strata Boundaries May Not Be Exact

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-56

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 05/24/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2420.4, E 229.8
Surface Elevation: 8.7 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		2.2 (P)									Medium to stiff brown & gray CLAY (CH) w/ferrous nodules
		2.0 (P)									
	5	1.5 (P)		31		97		65			– w/silt pockets at 4' - 6'
		1.7 (P)									
		1.5 (P)	0.79	32	81	67		45	Kh		Medium to stiff gray & tan CLAY (CH) w/ferrous nodules
	10										– w/silt pockets at 10' - 12'
		2.5 (P)									
		2.5 (P)									
	15	3.0 (P)		24		59		41			Stiff tan & light gray CLAY (CH) w/ferrous nodules
		3.2 (P)									
		2.2 (P)									– slickensided at 18' - 28'
	20	3.0 (P)		26		67		49			
		2.5 (P)									
	25	2.7 (P)									
		3.2 (P)									
		3.5 (P)									
	30	3.2 (P)		41	80	93		63	Kv		
		3.7 (P)									
	35	3.2 (P)									– w/calcareous nodules at 34' - 36'
		2.5 (P)									
		2.7 (P)		40	80	99		71			– slickensided at 38' - 40'
	40										

Continued Next Page

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- Z Free water first encountered (1989)
- ▽ Water level after 15 mins. (1989)
- ▼ Long-term water level after 96 hrs. (1989)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 74 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Normal Type: Boring B-56 dated 7/13-17/89
Kh: Horizontal Permeability = 1.8 x 10(-8) cm/sec
Kv: Vertical Permeability = 4.7 x 10(-9) cm/sec

Form 95115-4LG 05/05/97

Strata Boundaries May Not Be Exact

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-56

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 05/24/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 2420.4, E 229.8
Surface Elevation: 8.7 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		No (P)		27		40		20			Medium tan SILTY CLAY (CL) w/silt layers
		2.7 (P)									Stiff gray & tan CLAY (CH)
	45	3.0 (P)		39		86		58			
		No (P)		30					GS1		Firm tan CLAYEY SILT (ML) w/3" clay layers
	50										
		4.5 (P)		26	98	53		33			Stiff to very stiff gray-green CLAY (CH) w/silt pockets Washed 0 to 56 ft. without sampling (1996)
	55										
		4.0 (P)				51	14	37			Stiff light greenish-gray CLAY (CH) w/tan mottling, ferrous nodules, and organic matter
		No (P) 3.75 (P)									
	60	3.75 (P)		26		65	16	49			
		3.25 (P)									
		~~No (P)~~		~~26~~					~~GS2~~		Medium light greenish-gray SILTY CLAY (CL)
	65	2.5 (P)									
		No (P)				37	24	13			Firm greenish-gray CLAYEY SILT (ML) – very dense at 68.5 ft.
		50 b/6" 50/6" NC 20 b/ft 6-8-12									
	70	34 b/ft 8-13-21		30		35	17	18			Very stiff greenish-gray very SILTY CLAY (CL)
		43 b/ft 12-17-26									Dense greenish-gray CLAYEY SILT (ML)
	75										Boring completed at 74 ft. (1996)
	80										

Ground Water Level Data

- ☒ No free water encountered due to wash (1996)
- ▽ Free water first encountered (1989)
- ▽ Water level after 15 mins. (1989)
- ▼ Long-term water level after 96 hrs. (1989)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 74 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

GS: Particle Size Analysis
GS1: Sand = 4%, Silt = 76%, Clay = 20%
GS2: Sand = 23%, Silt = 65%, Clay = 12%

Strata Boundaries May Not Be Exact

SOIL BORING LOG

OJECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-57

FILE: 89-089
DATE: 7/19/89
TECH.: S. Kean
T. Lawrence

CLIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 1 of 3

FIELD DATA				LABORATORY DATA					BORING ADVANCE METHOD
GROUND WATER LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	Augers: 0' - 18' Coord: Wash: 18' - 100' Elev. +8.6
			4.5 (P) 4.5 (P)						Very stiff brown CLAY (CH) --w/organic matter at 2'-4'
	5		1.2 (P)	0.55	60	60	110	71	Medium dark gray ORGANIC CLAY (O) w/wood and roots
			1.0 (P) 1.2 (P)						Soft to medium tan and gray SILTY CLAY (CL) --dark gray at 8'-10'
	10		2.2 (P)						
▽			1.0 (P) Kh	0.73	25	103	36	15	Medium tan and light gray SILTY CLAY (CL) w/ferrous nodules
	15		2.2 (P)						
			2.2 (P) 3.2 (P)		22	102	49	27	Medium to stiff tan and light gray SLIGHTLY SILTY CLAY (CH-CL)
	20		4.0 (P)						
			No (P) No (P)		28		46	26	Medium light gray and brown SILTY CLAY (CL)
	25		2.2 (P)						
			No (P)						
	30		12 b/f (7-5-7)		32		GSI		Firm tan SILT (ML) --5" clay layer at 31'
			3.2 (P)						
	35		2.7 (P) KV		38	83	77	53	Stiff tan and light gray CLAY (CH), jointed
			2.7 (P) 3.7 (P)						Stiff light gray SILTY CLAY (CL)
	40								

(continued)

SYMBOLS:

TANDARD PENETRATION TEST
.40 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE
3" DIA. SHELBY TUBE

NO RECOVERY

▽ FREE WATER FIRST ENCOUNTERED

▽ WATER LEVEL AFTER 15 mins.
(PRIOR TO WASH BORING)

▼ WATER LEVEL AFTER

Kh=7.3 x 10(-8)cm/sec TX
GSI: sand content = 3%
silt content = 87%
clay content = 10%
KV = 1.1x10(-9) cm/sec TX

Compressive Strength From Unconfined
Strata Boundaries May Not Be Exa

SOIL BORING LOG

PROJECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-57

FILE: 89-089
DATE: 7/19-20/89
TECH.: S. Kean
T. Lawrence

CLIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 2 of 3

FIELD DATA			LABORATORY DATA					
LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	
			2.7 (P)						Stiff light gray SILTY CLAY (CL)
			No (P)		30		40	21	Medium tan SILTY CLAY (CL) w/silt lenses
	45		3.0 (P)						Stiff tan SILTY CLAY (CL)
	50		3.5 (P)						Stiff light gray and tan SILTY CLAY (CL)
	55		3.5 (P) KV		17	111	31	13	Stiff light gray and tan SILTY CLAY (CL)
	60		3.0 (P)						
	65		3.0 (P)		30		47	25	Stiff tan and gray SLIGHTLY SILTY CLAY (CL-CH) —w/ferrous modules at 63'-65'
	70		3.0 (P)						
	75		4.2 (P)		24	94	37	19	Stiff tan and light gray SILTY CLAY (CL) w/sand pockets
	80		4.5 (P)						Stiff to very stiff gray CLAY (CH) slickensided

(continued)

SYMBOLS:

STANDARD PENETRATION TEST
140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE
3" DIA. SHELBY TUBE

NO RECOVERY

KV = 1.8 x 10(-8) cm/sec TX

Strata Boundaries May Not Be Exact

SOIL BORING LOG

PROJECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-57

FILE: 89-089
DATE: 7/20/89
TECH.: S. Kean
T. Lawren

CLIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 3 of 3

FIELD DATA				LABORATORY DATA					
GROUND WATER LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	
			3.5 (P)						Stiff to very stiff gray CLAY
	85		No (P)		25		GS2		Alternate layers: stiff gray S CLAY (CL) and firm gray SANDY
	90		3.0 (P)						Stiff light gray SILTY CLAY (C w/½"-1" sand layers
	95		4.5 (P)		19		48	32	Very stiff gray-green SLIGHTLY SILTY CLAY (CH-CL)
	100		3.5 (P)		32	96	78	47	Stiff gray-green CLAY (CH), slickensided
									Boring terminated at 100' Borehole grouted full depth

SYMBOLS:

STANDARD PENETRATION TEST
140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE
3" DIA. SHELBY TUBE

NO RECOVERY

Undrained Strength From Unconfined

GS2: sand content = 33%
silt content = 60%
clay content = 7%

Strata Boundaries May Not Be E

SOIL BORING LOG

'ECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-58

FILE: 89-089
DATE: 8/18/89
TECH.: T. Lawrence

LIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 1 of 2

FIELD DATA				LABORATORY DATA					BORING ADVANCE METHOD
WATER LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	Auger: 0' - 8' Coord: Wash: 8' - 70' Elev. -11.3
			0.7 (P)						Soft gray & tan CLAY (CH)
			2.0 (P)		27		34	15	Medium tan & light gray SILTY CLAY (CL)
▽	5		2.5 (P)						
			1.7 (P)						Stiff tan & light gray CLAY (CH), slickensided
▽			1.7 (P)						
	10		2.0 (P)	0.63+ 0.97r	41	78	99	70	— w/ferrous nodules below 10'
			3.2 (P)						
	15		3.2 (P)						
			3.0 (P)						
			No (P)						— 6" layer clayey silt at 18'
			2.5 (P)		38	82	83	51	
	20		2.5 (P)						Stiff tan & light gray CLAY (CH) w/2" silt layers
			2.7 (P)						
	25		3.2 (P)						Stiff tan & light gray CLAY (CH)
			4.0 (P)	1.32	29	91	72	51	— w/silt seams at 26' - 28'
			3.0 (P)						
	30		4.5 (P)						
			3.5 (P)						Stiff tan & light gray CLAY (CH) w/1/4" - 4" sand layers
	35		3.0 (P)		22		36	18	Stiff light gray SILTY CLAY (CL)
			3.7 (P)						
		X	21 b/f (6-9-12)						Very stiff light gray SILTY CLAY(CL) w/2" clayey silt layers
	40								(continued)

OLS:

STANDARD PENETRATION TEST 140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE 3" DIA. SHELBY TUBE

NO RECOVERY

▽ FREE WATER FIRST ENCOUNTERED

▽ WATER LEVEL AFTER 15 mins. (PRIOR TO WASH BORING)

▼ WATER LEVEL AFTER

+: slickensided failure
r: remolded strength

Boring Boundaries May Not Be Exact

SOIL BORING LOG

ECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-58

FILE: 89-089
DATE: 8/18/89
TECH.: T. Lawrenc

CLIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 2 of 2

FIELD DATA				LABORATORY DATA					
GROUND WATER LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	Stratum change at 40'
			2.5 (P)						Stiff gray-green CLAY (CH) -- slickensided at 40' - 42' -- trace of organic matter at 42' - 44'
			2.0 (P)						
	45		3.2 (P)		38	84	74	45	
			3.5 (P)						
	50								
			3.5 (P)		36	83	82	54	
	55								
			3.2 (P)						
	60								
			1.2 (P)						
	65		1.7 (P)						Dense gray-green SANDY SILT (ML).
		X	38 b/f (7-15-23)		27		GS1		
			4.0 (P)		31		58	36	Very stiff gray-green CLAY (CH) w/sand seams & calcareous nodules
	70								Boring terminated at 70'
									Borehole grouted full depth

BOLS:

- STANDARD PENETRATION TEST 140 LB. HAMMER-30" FALL
- UNDISTURBED SAMPLE 3" DIA. SHELBY TUBE
- NO RECOVERY

GS1: Sand Content = 29%
Silt Content = 60%
Clay Content = 11%

SOIL BORING LOG

PROJECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-59

FILE: 89-089
DATE: 8/10/89
TECH.: S. Kean
T. Lawrence

CLIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 1 of 2

BORING ADVANCE METHOD
Auger: 0' - 20'
Wash: 20' - 70'
Coord:
Elev. -8.5

FIELD DATA			LABORATORY DATA					
LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	DESCRIPTION
*			2.5 (P)						Stiff tan & light gray CLAY (CH)
			2.5 (P)						— red & tan, w/silt pockets @ 2'-4'
	5		2.5 (P)	1.06	24	98	40	19	Stiff tan & light gray SILTY CLAY (CL)
			2.0 (P)						Medium to stiff tan, light gray, & red CLAY (CH) w/ferrous nodules
			2.7 (P)						— 3" silt layer at 7'
			2.7 (P)	1.00	26	92	91	67	
	10		3.0 (P)						Stiff tan & light gray SILTY CLAY (CL)
			3.0 (P)						
	15		3.2 (P)						
			3.7 (P)		24	99	40	22	— w/silt pockets at 16' - 18'
			No (P)	2.22t	25	98	GS1		Firm tan SANDY SILT (ML)
	20		20 b/f (6-8-12)						Stiff light gray & tan CLAY (CH) w/ferrous nodules
			3.0 (P)						
	25		2.5 (P)		36		82	53	— jointed at 24' - 26' — 8" silt layer at 26'
			3.2 (P)						
			3.2 (P)						
	30		3.2 (P)						
			3.2 (P)		33	86	86	59	
	35		3.0 (P)						
			50 b/11" (21-23-27/5")		22	42	24		Very dense light gray SANDY SILT (ML) Very stiff to hard light gray & tan SILTY CLAY (CL)
			3.5 (P)						— w/silt layers at 37' - 40'
	40								(continued)

SYMBOLS:

STANDARD PENETRATION TEST 140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE 3" DIA. SHELBY TUBE

NO RECOVERY

* No Free Water Encountered to 20' During Augering

WATER LEVEL AFTER (PRIOR TO WASH BORING)

WATER LEVEL AFTER

t: Unconsolidated, Undrained Triaxial Compression Test
Lateral Pressure = 1.4 ksf

GS1: Sand Content = 17%
Silt Content = 67%
Clay Content = 16%

Strata Boundaries May Not Be Exact

SOIL BORING LOG

PROJECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-59

FILE: 89-089
DATE: 8/10-11/89
TECH.: S. Kean
T. Lawrence

CLIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 2 of 2

FIELD DATA				LABORATORY DATA					
GROUND WATER LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	
			3.7 (P)		23	102	34	16	Very stiff light gray & tan SILTY CLAY (CL)
			30 b/f (11-14-16)		22		GS2		Dense tan CLAYEY SILT (ML)
	45		2.2 (P)						Medium to stiff tan SILTY CLAY (C
	50		2.7 (P)		31		56	33	Stiff gray-green CLAY (CH) — w/silt seams at 48' - 50'
	55		4.5 (P)						Very stiff gray-green SILTY CLAY (CL)
	60		4.5 (P)		23	103	44	24	
	65		No (P)						Very dense gray-green SANDY SILT (ML)
			50 b/9" (15-26-24/3")		29		GS3		
	70		50 b/7" (26-39-11/1")						
									Boring terminated at 70'
									Borehole grouted full depth 8/1(

SYMBOLS:

STANDARD PENETRATION TEST
140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE
3" DIA. SHELBY TUBE

NO RECOVERY

	GS2	GS3
Sand Content:	8%	23%
Silt Content:	70%	61%
Clay Content:	22%	16%

Compressive Strength From Unconfined

Strata Boundaries May Not Be E

SOIL BORING LOG

'ECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-60

FILE: 89-089
DATE: 8/16/89
TECH.: S. Kean
C. Tsai

LIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 1 of 3

FIELD DATA			LABORATORY DATA					BORING ADVANCE METHOD
WATER LEVELS	Depth (feet)	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	Auger: 0' - 8' Coord: Wash: 8' - 100' Elev. +2.3
		3.7 (P)						Stiff brown & gray SILTY CLAY (CL) w/roots
		1.5 (P)						Medium dark gray ORGANIC CLAY (OH) w/wood & organic matter
	5	1.0 (P)	0.57	61	60	129	91	
		1.0 (P)						— w/silt pockets at 6' - 8'
		1.2 (P)						Medium gray CLAY (CH)
	10	3.0 (P)		23		54	36	Stiff light gray & tan CLAY (CH) w/ferrous nodules
		2.7 (P)						— w/silt pockets at 10' - 14'
	15	2.0 (P)						
		2.5 (P)						
		3.2 (P)	1.26	23	103	52	34	
	20	3.0 (P)						
		2.7 (P)						
	25	3.0 (P)						
		1.7 (P)	1.04	29	94	64	43	
		4.2 (P)						Very stiff tan & light gray SILTY CLAY (CL)
	30	27 b/f (10-12-15)		31		43	25	— 6" layer of silty sand at 30'
		4.2 (P)						Stiff to very stiff tan & light gray CLAY (CH), jointed
	35	3.7 (P)		39		91	61	
		No (P)						Firm tan SANDY SILT (ML)
		2.7 (P)						Medium to stiff tan & light gray CLAY (CH)
	40							

(continued)

BOLS:

STANDARD PENETRATION TEST 140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE 3" DIA. SHELBY TUBE

NO RECOVERY

FREE WATER FIRST ENCOUNTERED

WATER LEVEL AFTER 15 mins. (PRIOR TO WASH BORING)

WATER LEVEL AFTER 24 hrs. (Boring at 45')

Strata Boundaries May Not Be Exact

SOIL BORING LOG

PROJECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-60

FILE: 89-089
DATE: 8/16-17/89
TECH.: S. Kean
C. Tsai

CLIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 2 of 3

FIELD DATA				LABORATORY DATA					
GROUND WATER LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	
			2.7 (P)		40	80	99	68	Medium to stiff tan & light gray CLAY (CH) w/ferrous nodules
			2.7 (P)						
	45		2.5 (P)						Stiff to very stiff tan & light gray SILTY CLAY (CL) w/ferrous nodules
			4.0 (P)		24	101	43	25	
	50								Medium tan SILTY CLAY (CL) w/4" silt layers
			1.0 (P)		28		38	20	
	55								
			18 b/f (5-9-9)						
	60								Stiff gray-green SILTY CLAY (CL)
			2.0 (P)		23	102	40	22	
	65								
			4.0 (P)						
	70								
			40 b/f (14-19-21)		25		GS1		Dense to very dense gray-green SANDY SILT (ML)
	75								
			50 b/10" (26-23-27/4")						
	80								

(continued

SYMBOLS:

- STANDARD PENETRATION TEST 140 LB. HAMMER-30" FALL
- UNDISTURBED SAMPLE 3" DIA. SHELBY TUBE
- NO RECOVERY

GS1: Sand Content = 47%
Silt Content = 44%
Clay Content = 9%

SOIL BORING LOG

'ECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-60

FILE: 89-089
DATE: 8/17/89
TECH.: S. Kean
C. Tsai

.IENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 3 of 3

FIELD DATA			LABORATORY DATA					
LEVELS	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	
									Very dense gray-green SANDY SILT (ML)
	85	X	50: b/10" (25-29-21/4")						Very dense gray-green CLAYEY SILT (ML)
	90	X	50 b/11" (22-20-30/5")		27		GS2		
	95	X	50 b/9" (16-27-23/3")						
	100	X	50 b/6" (50/6" NC)						— becoming sandy silt at 100'
									Boring terminated at 100'
									Borehole grouted full depth 8/17/89

'' 'BOLS:

STANDARD PENETRATION TEST
140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE
3" DIA. SHELBY TUBE

NO RECOVERY

GS2: Sand Content = 11%
Silt Content = 73%
Clay Content = 16%

Strata Boundaries May Not Be Exact

SOIL BORING LOG

ECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-61

FILE: 89-089
DATE: 8/7/89
TECH.: S. Kean
O. Boyd

CLIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 1 of 2

FIELD DATA				LABORATORY DATA					BORING ADVANCE METHOD
GROUND WATER LEVEL	Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	Auger: 0' - 8' Wash: 8' - 70' Coord: Elev. +2.2
▽			1.2 (P)						Soft to medium tan & gray SILTY CLAY (CL)
			2.0 (P)						— w/organic matter at 0' - 2'
	5		1.2 (P)	0.56	37	84	54	36	Medium light gray & tan CLAY (CH)
			1.0 (P)						
▽			1.7 (P) Kh	0.76	25	98	37	17	Medium light gray & tan SILTY CLAY (CL) w/ferrous nodules
	10		2.0 (P)						
			2.5 (P)						Medium to stiff light gray & tan CLAY (CH) w/ferrous nodules
	15		4.2 (P)		22		63	43	
			2.7 (P)						— tan & red at 16' - 18'
			2.7 (P)						— w/silt pockets at 18' - 20'
	20		2.7 (P)						
			2.5 (P)						
	25		3.0 (P)	1.08+ 1.31r	26	98	61	41	— slickensided at 24' - 26'
			4.5 (P)						
			4.5 (P)						— red, tan & light gray at 26' - 32'
	30		3.5 (P)		31	92	61	35	— jointed at 28' - 30'
			2.7 (P)						— slickensided at 32' - 38'
	35		3.5 (P)						
			2.7 (P)						
			No (P)		20		GS1		Firm tan CLAYEY SILT (ML)
	40								

(continued)

BOLS:

STANDARD PENETRATION TEST 140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE 3" DIA. SHELBY TUBE

NO RECOVERY

▽ FREE WATER FIRST ENCOUNTERED

▽ WATER LEVEL AFTER 15 mins. (PRIOR TO WASH BORING)

▼ WATER LEVEL AFTER 24 hrs.

Kh = 1.4x10(-7) cm/sec TX
+: Slickensided Failure
r: Remolded Strength
GS1: Sand Content = 21%
Silt Content = 55%
Clay Content = 24%

Strength From Unconfined

Simple Boundaries May Not Be Ex

SOIL BORING LOG

CT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-61

FILE: 89-089
DATE: 8/7/89
TECH.: S. Kean
O. Boyd

ENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 2 of 2

FIELD DATA			LABORATORY DATA					
Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	Stratum Change at 40'
	X	50 b/6" (50/6" NC)						Very dense tan SANDY SILT (ML)
	X	20 b/f (8-8-12)						Stiff to very stiff tan & light gray CLAY (CH) w/ferrous & calcareous nodules
45	■	2.7 (P)						
	■	3.7 (P)		37	82	89	56	
50								
	■	2.0 (P)						Dense gray-green SANDY SILT (ML)
55								
								Stiff to very stiff gray-green CLAY (CH)
	■	3.5 (P)		32		50	28	— w/sand pockets at 58'-60'
60								
	■	4.5 (P)						
65								
	X	50 b/7" (28-39-11/1")						Very dense gray & tan SANDY SILT (ML)
70								Boring terminated at 70'
								Borehole grouted full depth 8/8/89

SOIL BORING LOG

JECT: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-61

FILE: 89-089
DATE: 8/7/89
TECH.: S. Kean
O. Boyd

CLIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

Sheet 1 of 2

SOIL BORING LOG

T: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-62

Sheet 1 of 2

FILE: 89-089
DATE: 8/4/89
TECH.: S. Kean
O. Boyd

LIENT: Browning-Ferris, Inc.
Sorrento, Louisiana

BORING ADVANCE METHOD
Auger: 0' - 4'
Wash: 4' - 70'
Coord:
Elev. +2.9

FIELD DATA			LABORATORY DATA					
WATER LEVELS	Depth (feet)	SAMPLING / STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	
▽		1.2 (P)						Soft gray CLAY (CH) w/organic matter & roots
▽		1.2 (P)	0.44j	44	72	108	73	
	5	2.0 (P)						Medium gray-brown CLAY (CH)
		1.2 (P) Kh	0.68	31	90	61	41	Medium tan & light gray CLAY (CH)
		2.0 (P)						
	10	3.2 (P)	0.99	28	96	63	39	— w/ferrous nodules at 10' -12'
		2.5 (P)						— medium to stiff at 10'-20'
	15	2.2 (P)						
		4.5 (P)						— tan & red at 16'-18', w/silt pockets
		1.7 (P)	1.08j	30	92	52	28	— jointed at 18'-20'
	20	No (P)						Firm light gray & tan CLAYEY SILT (ML)
		29 b/f (12-13-16)		30		GS1		
	25	3.0 (P)						Stiff tan & light gray CLAY (CH)
		3.0 (P)						— w/ferrous nodules below 26'
		2.0 (P)		30	92	67	44	
	30	3.5 (P)						
		3.0 (P)						Medium to stiff light gray & tan SILTY CLAY (CL) w/ferrous nodules trace of organic matter
	35	3.2 (P)						
		2.2 (P)		25	99	43	22	
		38 b/f (17-16-22)		25		GS2		Dense light gray & tan CLAYEY SIL (ML)
	40							

(continued)

LS:

STANDARD PENETRATION TEST
140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE
3" DIA. SHELBY TUBE

NO RECOVERY

▽ FREE WATER FIRST ENCOUNTERED

▽ WATER LEVEL AFTER 10 mins. (PRIOR TO WASH BORING)
No Rise

▼ WATER LEVEL AFTER 72 hrs.

j: Jointed Failure
Kh: 6.2x10(-8) cm/sec TX

	GS1	GS2
Sand Content	10%	12%
Silt Content	78%	74%
Clay Content	12%	14%

Strength From Unconfined

Strata Boundaries May Not Be Exa

SOIL BORING LOG

'E OF: Colonial Landfill - Phase II
Sorrento, Louisiana

Boring No. B-62

Sheet 2 of 2

FILE: 89-089
DATE: 8/4/89
TECH.: S. Kean
D. Boyd

:NT: Browning-Ferris, Inc.
Sorrento, Louisiana

FIELD DATA			LABORATORY DATA					
Depth (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	COMPRESSIVE STRENGTH (TONS/SQ. FT.)	MOISTURE CONTENT (%)	DRY DENSITY (LBS/CU.FT.)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	
								Dense tan CLAYEY SILT (ML)
		2.2 (P)						Stiff tan & light gray CLAY (CH) w/ferrous nodules
		2.5 (P)						
45		3.2 (P) 50 b/5" (40-50/5")		17		29	12	Hard tan SANDY CLAY (CL) —12" sand layer at 45'
		3.7 (P)						Stiff light gray & tan CLAY (CH) w/ferrous nodules
50								
		2.7 (P)		36		61	36	— red & tan at 53' - 55' trace of organic matter
5								
60		2.2 (P)						
		3.5 (P)						Very stiff light gray & tan SILTY CLAY (CL) w/silt pockets
65								
		49 b/f (15-22-27)						Hard tan CLAY (CH), jointed
70								Boring terminated at 70'
								Borehole grouted full depth 8/8/89

ÓLS:

STANDARD PENETRATION TEST
140 LB. HAMMER-30" FALL

UNDISTURBED SAMPLE
3" DIA. SHELBY TUBE

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-63

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 06/20/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1130.0, E 36.0
Surface Elevation: 3.4 ft., MSL

Ground Water Level	Depth (feet)	Sample Type	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒			Push Spoon									Soft to very stiff gray SILTY CLAY (CL) w/gravel and organic matter
			0.75 (P)									– dark gray w/ferrous nodules
	5		0.75 (P)		36		66	16	50			Soft dark gray CLAY (CH) w/tan mottling, ferrous nodules, and organic matter
			1.0 (P)									Medium to stiff dark gray SILTY CLAY (CL) w/tan mottling, organic matter, and ferrous nodules
			0.75 (P)									
	10		0.5 (P)									
			1.25 (P)				46	18	28			
	15		1.75 (P)									– gray
			1.5 (P)	1.39	27	93						– light gray at 16 to 20 ft.
			1.5 (P)									
	20		2.25 (P)									Stiff light gray CLAY (CH), slickensided, w/tan mottling, ferrous nodules, and organic matter
			2.75 (P)									
	25		1.25 (P)									
			2.5 (P)				79	26	54			– more ferrous nodules
			1.75 (P)									Stiff gray SILTY CLAY (CL) w/tan mottling and ferrous nodules
	30		1.5 (P)									– w/silt pockets
			Push Spoon		30					GS1		Loose tan CLAYEY SILT (ML) w/clay stringers and ferrous nodules
	35		2.0 (P)									Stiff light gray CLAY (CH) w/tan mottling, silt layers, seams, and pockets, ferrous nodules, and organic matter
			3.0 (P)									
			2.75 (P)		40							
	40											

Continued Next Page

Ground Water Level Data

☒ No free water encountered due to wash (1996)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Kv: Vertical Permeability = 1.37 x 10(-8) cm/sec
GS: Particle Size Analysis
GS1: Sand = 8%, Silt = 79%, Clay = 13%

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-63

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 06/20/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1130.0, E 36.0

Surface Elevation: 3.4 ft., MSL

FIELD DATA			LABORATORY DATA								
Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		3.25 (P)									Stiff light gray CLAY (CH) w/tan mottling, silt layers, seams, and pockets, ferrous nodules, and organic matter
		3.0 (P)									– more organic matter
	45	1.0 (P)		23					GS2		Firm tan CLAYEY SILT (ML) w/clay stringers
		1.5 (P)									Stiff to very stiff light gray and gray CLAY (CH) w/tan mottling, silt pockets, ferrous nodules, and organic matter
		2.5 (P)		31	92	68	25	43			– w/silt seams at 46 to 48 ft.
	50	4.0+ (P)									– w/calcareous nodules and shell fragments at 48 to 50 ft.
		2.75 (P)									– w/4-inch silty clay layer
	55	3.0 (P)									
		1.75 (P)				57	23	34			– dark gray
		3.0 (P)									– w/silt seams
	60	No (P)									Stiff tan SILTY CLAY (CL) w/silt seams
		2.5 (P)									Stiff gray and dark gray CLAY (CH) w/tan mottling, silt pockets, ferrous nodules, and organic matter
	65	3.0 (P)									– w/silt lenses at 62 to 64 ft.
		3.5 (P)									– tan
		2.5 (P)		21							
	70										Boring completed at 70 ft. (1996)
	75										
	80										

Ground Water Level Data

☒ No free water encountered due to wash (1996)

Boring Advancement Method

4" dia. Rotary Wash:
0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

GS: Particle Size Analysis
GS2: Sand = 9%, Silt = 79%, Clay = 11%

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-64

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 07/03/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1340.0, E 1678.4
Surface Elevation: 1.1 ft., MSL

FIELD DATA			LABORATORY DATA								
Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
☒		4.5 (P)									Medium to very stiff dark gray CLAY (CH) – w/gravel at 0 to 4 ft. – w/wood at 2 to 8 ft.
		2.25 (P)									
	5										
		0.75 (P)									
		1.75 (P)									Stiff tan and gray CLAY (CH) w/silt lenses and pockets, ferrous nodules, and organic matter
	10										
		2.25 (P)									
		2.5 (P)									
	15	1.75 (P)									
		1.0 (P)	1.69	27	95	43	21	22			Medium tan and gray SILTY CLAY (CL) w/silt pockets, ferrous nodules, and organic matter
		2.5 (P)									Very stiff tan and light gray CLAY (CH) w/ferrous nodules and organic matter
	20										
		2.0 (P)									
		2.75 (P)									– w/silt lenses and pockets at 22 to 34 ft.
	25	2.5 (P)									
		2.25 (P)									
		2.75 (P)		29	94	50	23	27	Kv		
	30										
		3.0 (P)									
		3.0 (P)									
	35	1.0 (P)		28					GS		Firm tan SILT (ML) w/clay traces
		3.25 (P)									Stiff tan and light gray CLAY (CH) w/silt pockets, ferrous nodules, and organic matter
		1.5 (P)		36		63	23	40			– w/silt lenses
	40										

Continued Next Page

Ground Water Level Data

☒ No free water encountered due to wash (1996)

Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion (1996)

Notes

Kv: Vertical Permeability = 9.47 x 10(-8) cm/sec
GS: Particle Size Analysis
Sand = 1%, Silt = 90%, Clay = 9%

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-64

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 07/03/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Ardco K-1000

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1340.0, E 1678.4

Surface Elevation: 1.1 ft., MSL

FIELD DATA			LABORATORY DATA								
Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		No (P)									Medium dense tan CLAYEY SILT (ML) w/ferrous nodules
		~~2.5 (P)~~				~~42~~	~~21~~	~~21~~			
		2.5 (P)									Stiff tan CLAY (CH) w/silt lenses and pockets, organic matter, and ferrous and calcareous nodules
	45	3.5 (P)									Stiff light gray SILTY CLAY (CL) w/tan mottling, silt pockets, ferrous nodules, and organic matter
		3.0 (P)	2.25	18	109	36	18	18			
		3.25 (P)									Stiff tan and gray CLAY (CH) w/silt pockets and lenses, ferrous nodules, and organic matter
	50	1.75 (P)				32	20	12			Stiff tan SILTY CLAY (CL) w/ferrous nodules – w/clayey silt at 50.5 to 51.5 ft. – w/silt pockets and lenses, and organic matter
		1.5 (P)									
	55	2.0 (P)									Stiff to very stiff greenish-gray CLAY (CH), slickensided w/silt pockets and ferrous nodules – w/silt lenses
		2.0 (P)									
		2.0 (P)									
	60	2.0 (P)									– w/organic matter
		4.5+ (P)									
	65	3.5 (P)									
		3.5 (P)		25		73	24	49			
		3.5 (P)									
	70										Boring completed at 70 ft. (1996)
	75										
	80										

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered due to wash (1996)	4" dia. Rotary Wash: 0 to 70 ft. (1996)	
	Boring Abandonment Method	
	Borehole grouted upon completion	

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-65

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 06/17/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1139.2, E 2516.7
Surface Elevation: 8.9 ft., MSL

Ground Water Level	Depth (feet)	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
☒		1.75 (P)									Stiff light gray CLAY (CH) w/ferrous mottling, organic matter, and ferrous nodules
		2.25 (P)									– w/silt pockets
	5	1.25 (P)		37		72	27	45			– w/wood
		1.0 (P)				71	20	51			– w/wood
	10	1.5 (P)									
		0.75 (P)									– w/silt pockets
	15	0.25 (P)	0.53	32	86	54	17	37			
		1.25 (P)									
		1.25 (P)									
	20	2.75 (P)									
		2.5 (P)									– w/silt pockets
	25	2.75 (P)				94	27	67			– red w/silt seams at 24 to 27 ft.
		2.5 (P)									
		~~1.75 (P)~~									Stiff gray SILTY CLAY (CL) w/ferrous mottling
		2.5 (P)									
	30	2.25 (P)									
		2.25 (P)									
	35	1.2 (P)				48	24	24			
		1.5 (P)									Stiff light gray CLAY (CH) w/ferrous mottling, ferrous nodules, and organic matter
		3.25 (P)									– w/numerous silt seams, layers, and lenses
	40										

Continued Next Page

Ground Water Level Data
☒ No free water encountered due to wash (1996)

Boring Advancement Method
4" dia. Rotary Wash:
0 to 70 ft. (1996)

Boring Abandonment Method
Borehole grouted upon completion (1996)

Notes

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-65

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 06/17/96
Geol.: B. Weaver
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 1139.2, E 2516.7
Surface Elevation: 8.9 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
		3.0 (P)									Stiff light gray CLAY (CH) – w/large ferrous nodules at 40 to 44 ft.
		3.0 (P)		32		87	22	65			
	45	No (P)									– tan and light gray w/numerous silt seams, layers, lenses, and laminations
		3.5 (P)									
		3.0 (P)									– slickensided
	50	2.5 (P)									
		3.0 (P)									– w/calcareous nodules and shell fragments
	55	2.75 (P)									– w/silt pockets
		1.75 (P)									
		3.25 (P)	2.32	23	103	50	20	30			– w/silt traces
	60	1.25 (P)									Medium to stiff brown CLAY (CH) w/ferrous mottling, ferrous nodules, and organic matter – w/calcareous nodules
		1.0 (P)									
	65	1.0 (P)									– w/silt lenses and pockets
		1.25 (P)		34		70	23	47			– w/sandy silt lenses and pockets
		1.0 (P)									
	70										Boring completed at 70 ft. (1996)
	75										
	80										

Ground Water Level Data

☒ No free water encountered due to wash (1996)

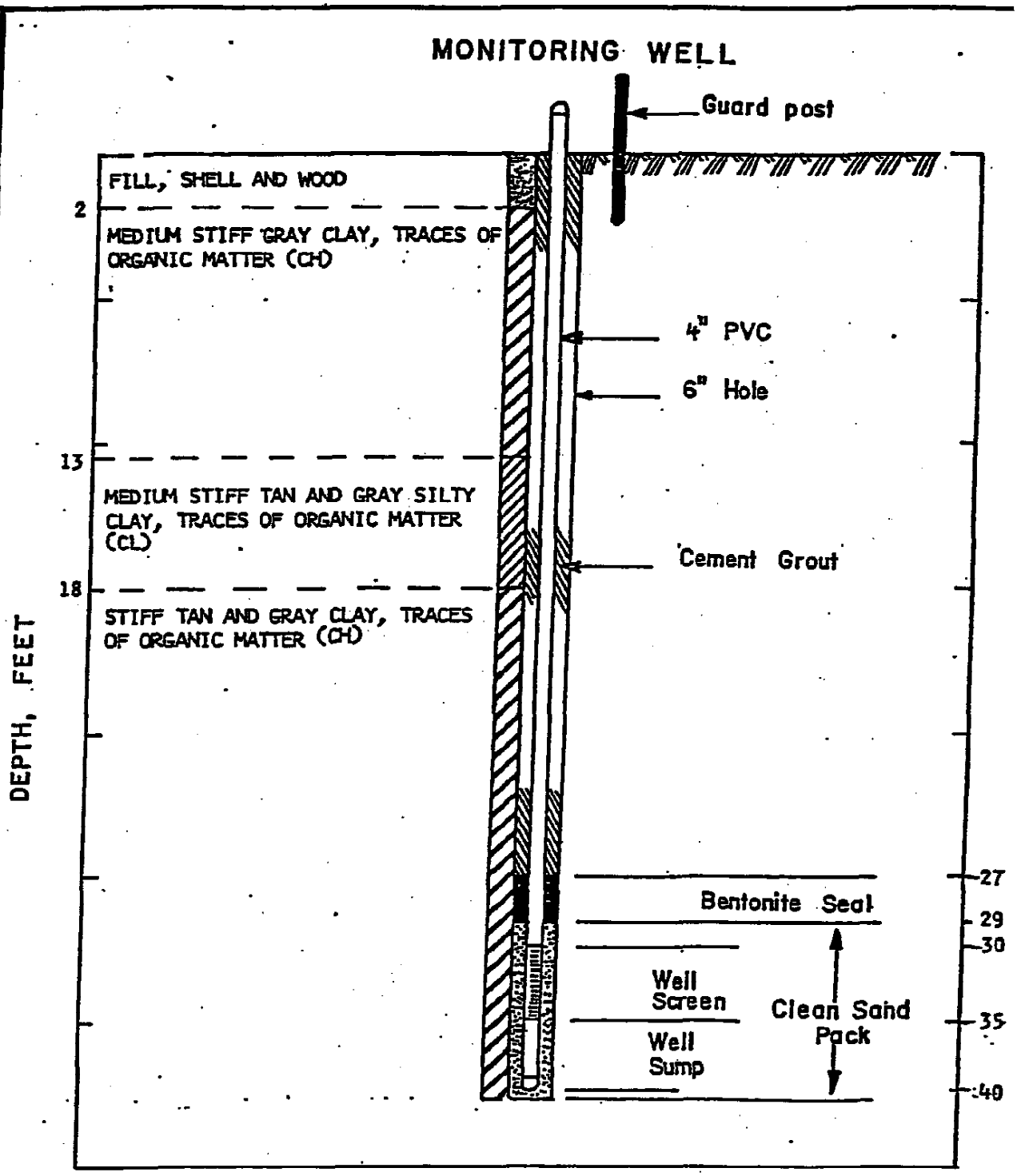
Boring Advancement Method

4" dia. Rotary Wash: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted upon completion

Notes



Boring No. B-1
Well No. W-1

COLONIAL LANDFILL
SORRENTO, LOUISIANA

Drawn by			Proj No. 82-530	GID G Gulf Drilling Co., Inc. Geotechnical Investigations
Engineer	ASR	11/29/82		

BORING LOG

PROJECT NAME: Colonial Landfill

LOCATION: Sorrento, Louisiana

BORING B-1

PROJECT NO. 82-530
DATE 8/19/81
BORING TYPE
ENG./LOGGER ASR/JP

ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
									FILL, shell and wood
		0.8(p)							CH, CLAY, gray, traces of organic matter, medium stiff
	5	1.2(p)							
		1.5(p)							
		1.2(p)	72	46	92	59			
▽ 7	10	1.2(p)							
		2.2(p)							
▽ 7	15		100	28	37	15			CL, SILTY CLAY, tan and gray, traces of organic matter, medium stiff → k= 5.8 X 10^{-7} cm/sec.
		1.5(p)							stiff
		2.5(p)	92	26	58	30			CH, CLAY, tan and gray, traces of organic matter, stiff
	20	2.5(p)							
		2.7(p)							very stiff
	25	2.5(p)							
		3.2(p)							
			105	26	56	35			k= 5.4 X 10^{-9} cm/sec.
	30	4.0(p)							
		4.2(p)							
	35	3.0(p)							
		3.0(p)							
		3.2(p)	81	37	85	55			

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

▽ INITIAL WATER LEVEL
▽ WATER LEVEL (AFTER 0.1 hr)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER READING (TSF)

REMARKS :

BORING LOG

PROJECT NAME: Colonial Landfill
LOCATION: Sorrento, Louisiana
BORING B-1 (cont'd)
PROJECT NO. 82-53
DATE 8/19/
BORING TYPE
ENG./LOGGER ASR/J

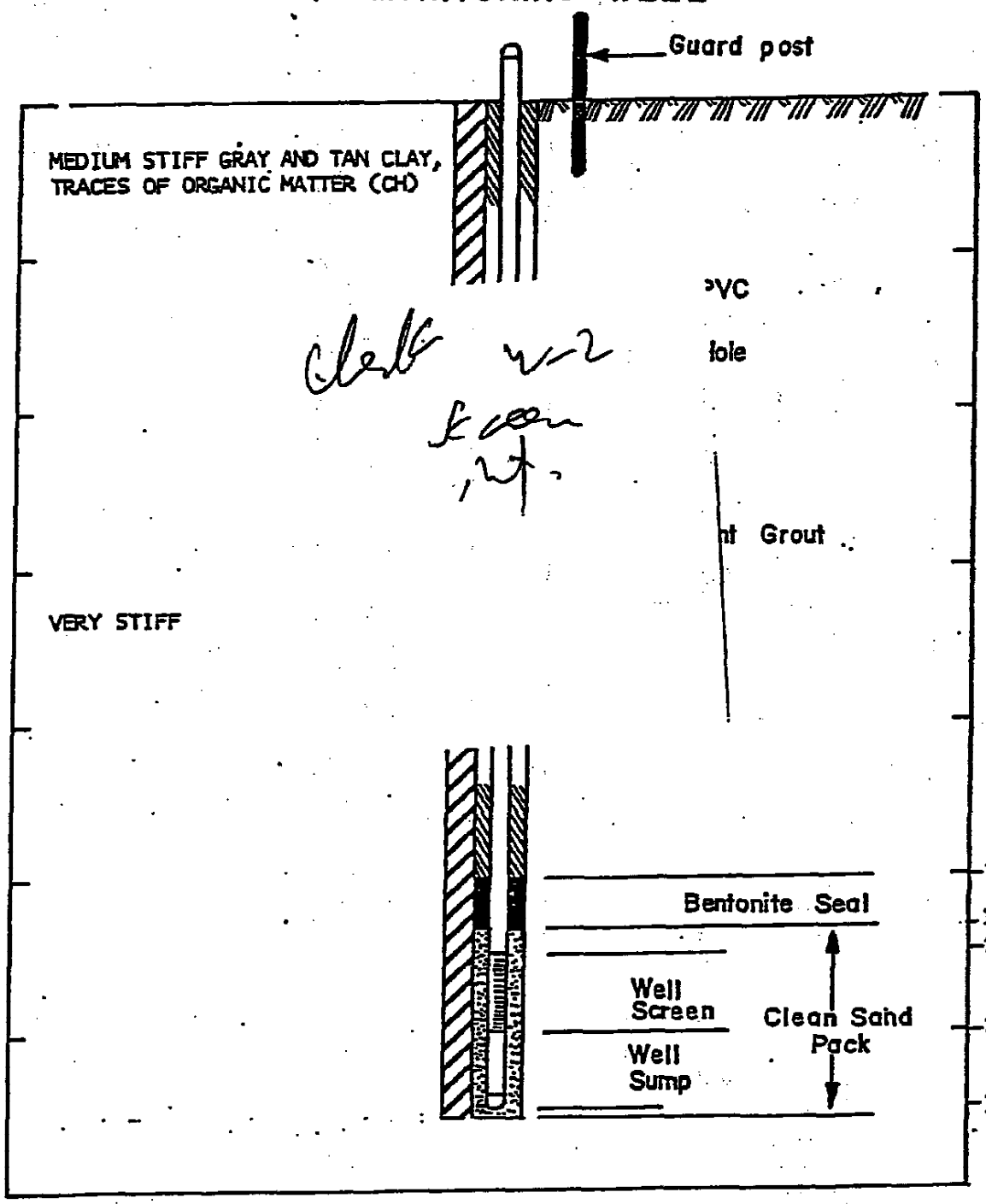
ELEVATION (FEET)	DEPTH (FEET)	SPT or P	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	SAMPLE	PROFILE	DESCRIPTION
									CH, CLAY, tan and gray, traces o organic matter, very stiff
	45	3.5(p							
	50	3.0(p							
	55	3.0(p							
									CL, SILTY CLAY, tan and gray, tr of organic matter, very stii
	60	3.5(p							
	65	4.0(p	96	25	46	22			
	70	4.0(p							
	75	4.5(p							
		4.0(p	101	23	38	16			Boring Completed

SHELBY TUBE
SPLIT SPOON
AUGER
NO RECOVERY

INITIAL WATER LEVEL
WATER LEVEL (AFTER _____)
SPT- STANDARD PENETRATION TEST (BLOWS/FT)
P- POCKET PENETROMETER

REMARKS :

MONITORING WELL



Boring No. B-2
Well No. W-2

COLONIAL LANDFILL
SORRENTO, LOUISIANA

Drawn by			Proj No. 82-530
Engineer		11/29/82	

GID Gulf Drilling Co., Inc.
Geotechnical Investigations

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-2

STE
Soil Testing Engineers, Inc.

Sheet 1 of 2

File: 95-1154
Date: 05/08/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 69.7, E 1318.7
Surface Elevation: 8.4 ft., MSL

Ground Water Level	Depth (feet)	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	Other	Boil Type	DESCRIPTION
		1.5 (P)									CH, CLAY, gray and tan, traces of organic matter medium stiff
		1.2 (P)									
	5	1.7 (P)									– gray
		1.2 (P)									– silt and fine sand lenses in the interval 6 to 10 ft.
		0.2 (P)		39	79	55		32			
	10	3.5 (P)		21	103						
		3.0 (P)									– tan and gray, very stiff
	15	2.7 (P)		25	96	58		38			
		3.0 (P)									
		2.0 (P)									
	20	3.7 (P)									
				26	99	51		34	K1		
	25	4.2 (P)									
		3.2 (P)									
		2.7 (P)									
	30	1.5 (P)									ML, CLAYEY SILT, tan and gray, medium stiff
		2.2 (P)									CH, CLAY, tan and gray, traces of silt and organic matter, very stiff
	35			35	89	64		38	K2		
		3.5 (P)									
		2.7 (P)									Washed 0 to 40 ft. without sampling (1996)
	40										

Continued Next Page

Ground Water Level Data

- No free water encountered due to wash (1996)
- Free water first encountered (1982)
- Water level after 0.1 hr. (1982)

Boring Advancement Method

4" Nom. Dia. Short Flight Auger: 0 to 70 ft. (1996)

Boring Abandonment Method

Borehole grouted with cement/bentonite upon completion (1996)

Notes

Normal Type: Boring B-2 dated 8/23/82
K: Permeability (cm/sec)
K1: 1.1 x 10(-9)
K2: 1.6 x 10(-9)

Colonial Landfill
Sorrento, LA

LOG OF SOIL BORING B-2

STE
Soil Testing Engineers, Inc.

Sheet 2 of 2

File: 95-1154
Date: 05/08/96
Tech.: J. Haydel
Driller: E. Hull
Rig: Failing 1500

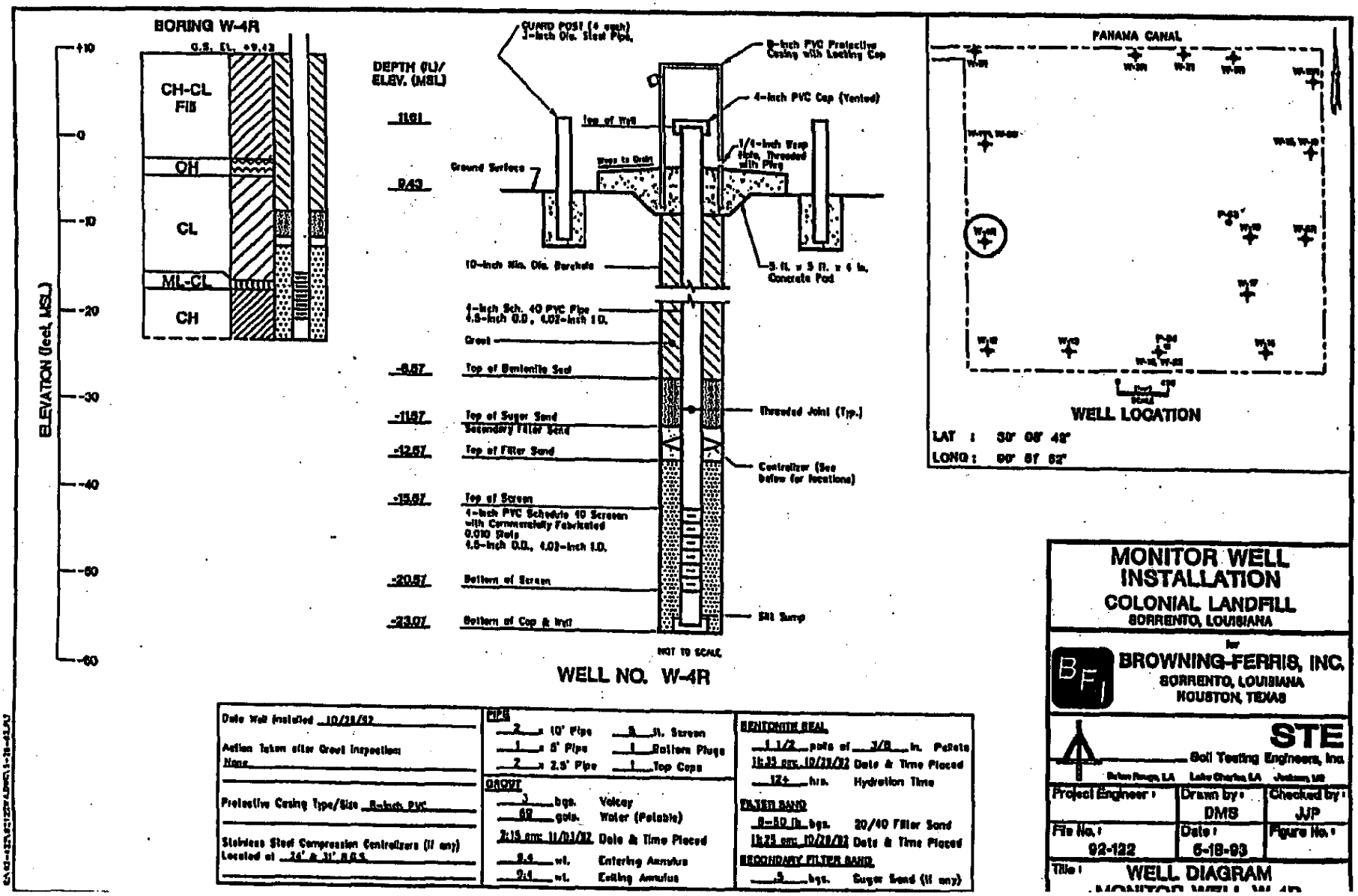
Browning-Ferris, Inc.
Sorrento, LA

Location Coordinates: S 69.7, E 1318.7

Surface Elevation: 8.4 ft., MSL

FIELD DATA				LABORATORY DATA								
Ground Water Level	Depth (feet)	Bag Sample / Cut Sample	Field Test Results	Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	Other	Soil Type	DESCRIPTION
			2.75 (P)									Medium light greenish-gray CLAY (CH) w/silt pockets, ferrous nodules, and organic matter
			No (P)		26		25	24	1			Firm tan CLAYEY SILT (ML) w/ 1/2-inch clay layers
			~~3.5 (P)~~		~~26~~	~~95~~						
	45		3.75 (P)									Medium to stiff light greenish-gray CLAY (CH) w/tan mottling, ferrous nodules, and organic matter
			2.75 (P)		32	89	73	25	48	Kv		– w/numerous silt seams
			3.2 (P)									
			~~2.75 (P)~~									
	50											– w/shell fragments
			3.75 (P)									
			3.0 (P)									– w/silt pockets
			~~3.0 (P)~~									
	55		3.0 (P)		21	107	47	16	31			Stiff light gray SILTY CLAY (CL) w/silt pockets, ferrous nodules, and organic matter
			3.75 (P)									Medium to stiff light gray CLAY (CH) w/tan mottling, silt pockets, ferrous nodules, and organic matter
			3.0 (P)									
			2.75 (P)		25	98	54		31			
	60											
			1.5 (P)									
			2.0 (P)									
			2.5 (P)									– w/silt lenses
	65		3.25 (P)									
			2.75 (P)		35		75	24	51			
			3.2 (P)									
			~~3.25 (P)~~									
	70											Boring completed at 70 ft. (1996)
			3.5 (P)									
	75											
			3.7 (P)		31	89	66		38			Boring completed at 80 ft. (1982)
	80											

Ground Water Level Data	Boring Advancement Method	Notes
☒ No free water encountered due to wash (1996) ▽ Free water first encountered (1982)	4" Nom. Dia. Short Flight Auger: 0 to 70 ft. (1996)	Kv: Vertical Permeability = 1.14 x 10(-8) cm/sec


BORING W-4R
G.S. EL. +9.43
CH-CL
Fill
OH
CL
ML-CL
CH
ELEVATION (feet, MSL)
+10
0
-10
-20
-30
-40
-50
-60
DEPTH (ft)/
ELEV. (MSL)
11.61
9.43
-8.57
-11.57
-12.57
-15.57
-20.57
-23.07
GUARD POST (4 each)
3-inch Dia. Steel Pipe
Top of Well
Ground Surface
Slope to Drain
8-inch PVC Protective Casing with Locking Cap
4-inch PVC Cap (Vented)
1/4-inch Weep Hole, Threaded with Plug
5 ft. x 5 ft. x 6 in. Concrete Pad
10-inch Nin. Dia. Borehole
4-inch Sch. 40 PVC Pipe
4.5-inch O.D., 4.02-inch I.D.
Grout
Top of Bentonite Seal
Top of Sugar Sand
Secondary Filter Sand
Top of Filter Sand
Threaded Joint (Typ.)
Centralizer (See below for locations)
Top of Screen
4-inch PVC Schedule 40 Screen with Commercially Fabricated 0.010 Slots
4.5-inch O.D., 4.02-inch I.D.
Bottom of Screen
Bottom of Cap & Well
Silt Sump
NOT TO SCALE
WELL NO. W-4R
PANAMA CANAL
WELL LOCATION
LAT : 30° 08' 48"
LONG : 90° 51' 52"
Date Well Installed 10/28/92
Action Taken after Grout Inspection
None
Protective Casing Type/Size 8-inch PVC
Stainless Steel Compression Centralizers (if any)
Located at 14' & 31' B.G.S.
PIPE
2 x 10' Pipe
1 x 5' Pipe
2 x 2.5' Pipe
8 ft. Screen
1 Bottom Plugs
1 Top Caps
GROUT
3 bags. Volcay
62 gals. Water (Potable)
9:15 am: 11/03/92 Date & Time Placed
8.4 wt. Entering Annulus
9.1 wt. Exiting Annulus
BENTONITE SEAL
1 1/2 pails of 3/8 in. Pellets
10:35 am: 10/28/92 Date & Time Placed
12+ hrs. Hydration Time
FILTER SAND
8-10 lb. bags. 20/40 Filter Sand
10:25 am: 10/28/92 Date & Time Placed
SECONDARY FILTER SAND
5 bags. Sugar Sand (if any)
MONITOR WELL INSTALLATION
COLONIAL LANDFILL
SORRENTO, LOUISIANA
for
BF
BROWNING-FERRIS, INC.
SORRENTO, LOUISIANA
HOUSTON, TEXAS
STE
Soil Testing Engineers, Inc.
Baton Rouge, LA
Lake Charles, LA
Jackson, MS
Project Engineer :
Drawn by : DMS
Checked by : JJP
File No. : 92-122
Date : 6-18-93
Figure No. :
Title : WELL DIAGRAM

SOIL BORING FIELD LOG

PROJECT : Monitor Well Installation
Colonial Landfill

CLIENT : Browning-Ferris, Inc.
Sorrento, LA

Boring No : W-4R

Sheet 1 of 1

FILE NO : 92-122

DATE : 10/28/92

TECH : V. Ashworth

DRILLER: T. Goudeau

BORING ADVANCE METHOD:

AUGER: 0 to 20 ft

WASH: 20 to 32.5 ft

RIG: 200

METHOD OF BACKFILLING: Monitor Well

GROUND WATER LEVELS	DEPTH (feet)	BORING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT)	
			2.2 (P)	Stiff brown & light gray SLIGHTLY SILTY CLAY (CH-CL) (Fill)
			2.7 (P)	Stiff brown, tan, light gray & red CLAY (CH) (Fill)
	5		4.2 (P)	becoming very stiff
			2.8 (P)	becoming tan & light gray w/silt traces
			4.5 (P)	Very stiff tan & light gray SLIGHTLY SILTY CLAY (CH-CL) (Fill)
	10		4.1 (P)	Stiff tan, brown, & light gray CLAY (CH) w/silt traces (Fill)
			1.8 (P)	Medium dark gray ORGANIC CLAY (OH)
	15		1.5 (P)	Medium tan & light gray SILTY CLAY (CL)
▽			2.0 (P)	w/ferrous nodules
			3.2 (P)	becoming light gray & tan
▽	20		3.3 (P)	becoming SLIGHTLY SILTY CLAY (CH-CL)
			3.2 (P)	becoming light gray & light gray SILTY CLAY (CL) bottom 6"
	25		3.3 (P)	w/organics & becoming tan VERY CLAYEY SILT (ML-CL)
SCREEN				Tan VERY CLAYEY SILT (ML-CL) (wet)
			3.0 (P)	Stiff light gray & red CLAY (CH) w/silt traces, ferrous nodules, & organics
	30		3.0 (P)	becoming light gray & tan w/some organics & silt traces
			3.1 (P)	
				Bottom at 32.5 ft.
	35			

UNDISTURBED SAMPLE
3" DIA. SHELBY TUBE

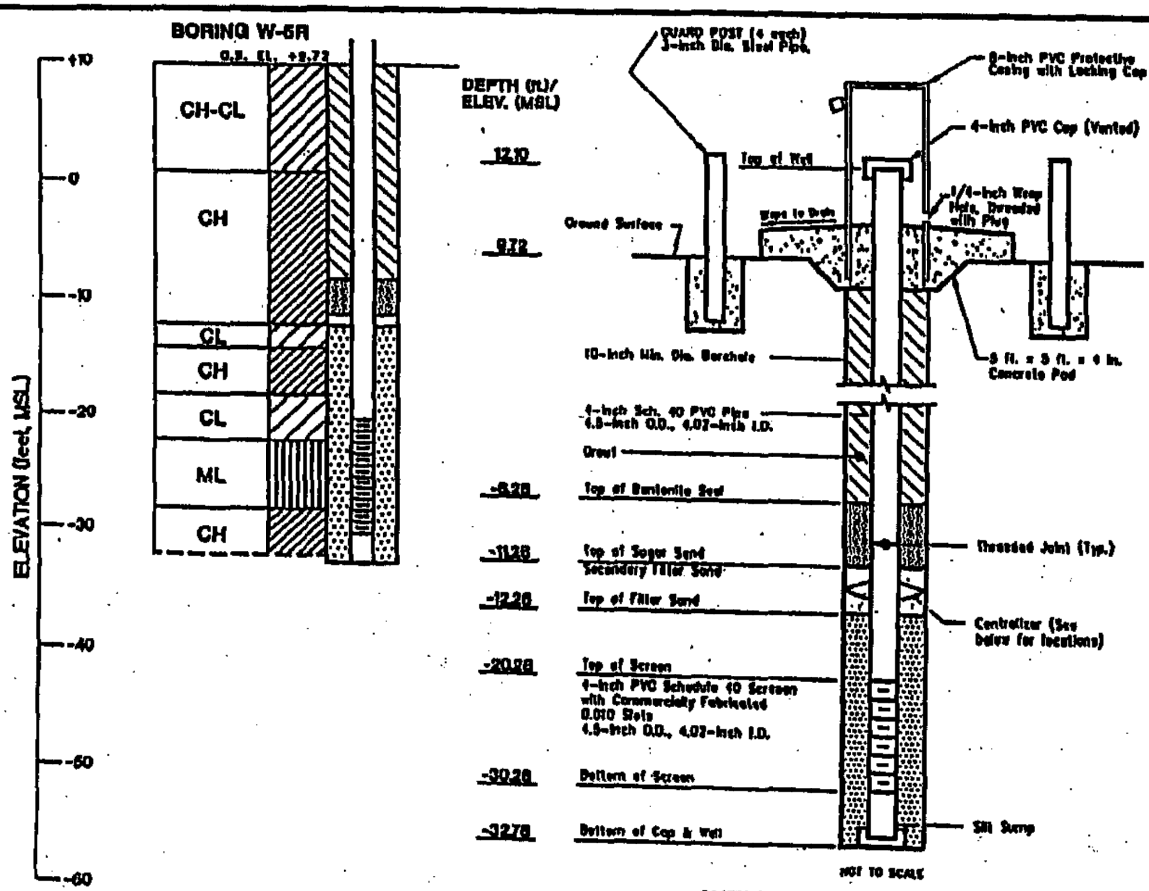
STANDARD PENETRATION TEST
140 LB. HAMMER-30" FALL

▽ FREE WATER FIRST ENCOUNTERED

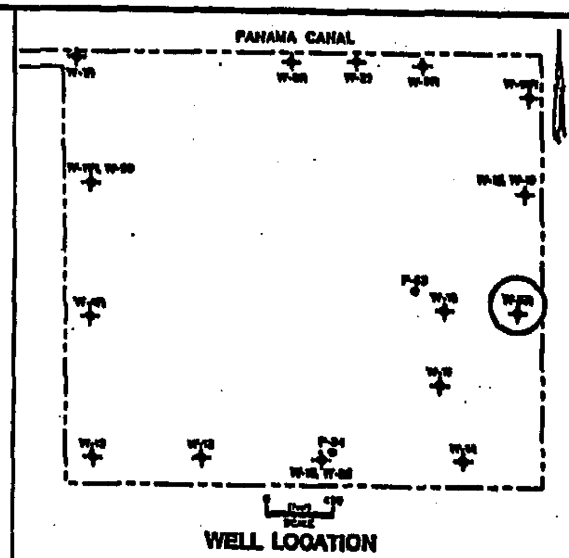
▽ WATER LEVEL AFTER 15 mins. o 17" (PRIOR TO WASH BORING)

NOTE:
VISUAL CLASSIFICATIONS ONLY.

STRATA BOUNDARIES



WELL NO. W-5R



LAT : 30° 08' 43"
LONG : 90° 61' 23"

Date Well Installed 11/18/92	**PIPE**	**BENTONITE SEAL**
Action Taken after Grout Inspection: Grout OK	3 x 10' Pipe 10 ft. Screen	2 pails of 3/8 in. Pellets
	– x 5' Pipe 1 Bottom Plugs	11:18 am 11/18/92 Date & Time Placed
	2 x 2.5' Pipe 1 Top Caps	12+ hrs. Hydration Time
Protective Casing Type/Size 8-inch PVC	**GROUT**	**FILTER SAND**
	4 bgs. Volclay	11-50 lb bgs. 20/40 Filter Sand
	32 gals. Water (Potable)	11:35 am 11/18/92 Date & Time Placed
Stainless Steel Compression Centralizers (if any) Located at 14', 28' & 41' B.G.S.	5:00 pm 11/25/92 Date & Time Placed	**SECONDARY FILTER SAND**
	6.3 wt. Entering Annulus	1 bgs. Sugar Sand (if any)
	9.3 wt. Exiting Annulus	

MONITOR WELL INSTALLATION
COLONIAL LANDFILL
BORRENTO, LOUISIANA

for

BROWNING-FERRIS, INC.
BORRENTO, LOUISIANA
HOUSTON, TEXAS

STE
Soil Testing Engineers, Inc.
Baton Rouge, LA   Lake Charles LA   Jackson, MS

Project Engineer :	Drawn by : DMB	Checked by : JJP
File No. : 92-122	Date : 5-18-93	Figure No. :

Title : WELL DIAGRAM MONITOR WELL W-5R

SOIL BORING FIELD LOG

PROJECT : Monitor Well Installation
Colonial Landfill
CLIENT : Browning-Ferris, Inc.
Sorrento, LA

Boring No : W-5R
Sheet 1 of 2

FILE NO : 92-122
DATE : 11/17/92
TECH : V. Ashworth
DRILLER: T. Goudeau

BORING ADVANCE METHOD:
AUGER: 0 to 14 ft
WASH: 14 to 42.5 ft
RIG: 200
METHOD OF BACKFILLING: Monitor Well

GROUND WATER LEVELS	DEPTH (feet)	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	FIELD DATA
		1.1 (P)	Medium tan & light gray SLIGHTLY SILTY CLAY (CH-CL) (Fill) w/ferrous nodules
		1.7 (P)	
	5	2.2 (P)	
		1.7 (P)	Medium brown, tan & gray CLAY (CH) w/silt traces (Fill)
▽		1.5 (P)	Medium gray & brown CLAY (CH) w/ferrous nodules & silt traces
	10	1.1 (P)	
		1.0 (P)	Medium light gray & tan SLIGHTLY SILTY CLAY (CH)
▽	15	0.5 (P)	becoming soft & light gray
		3.0 (P)	becoming light gray & tan
		2.3 (P)	
	20	2.8 (P)	Stiff light gray & tan CLAY (CH) w/silt traces & pockets
		3.7 (P)	Stiff light gray, tan & red SILTY CLAY (CL) w/1/2" silt pockets
	25	2.5 (P)	Stiff red, light gray & tan CLAY (CH) w/ferrous nodules & organics
		2.8 (P)	becoming light gray & jointed
		2.3 (P)	Stiff light gray & tan VERY SILTY CLAY (CL)
	30	2.2 (P)	becoming SILTY CLAY (CL)
SCREEN			Light gray & tan VERY CLAYEY SILT (ML-CL)
	35		becoming SLIGHTLY CLAYEY SILT (ML)
			Light gray & tan SILT (ML) wet w/4" silty clay layer at 37 ft.
		3.2 (P)	Stiff light gray & tan CLAY (CH) jointed w/organics
	40		

UNDISTURBED SAMPLE 3" DIA. SHELBY TUBE

STANDARD PENETRATION TEST 140 LB. HAMMER-30" FALL

▽ FREE WATER FIRST ENCOUNTERED

▽ WATER LEVEL AFTER 15 mins. @ 8'8" (PRIOR TO WASH BORING)

NOTE: VISUAL CLASSIFICATIONS ONLY.

STRATA BOUNDARIES

SOIL BORING FIELD LOG

PROJECT : Monitor Well Installation
Colonial Landfill

CLIENT : Browning-Ferris, Inc.
Sorrento, LA

Boring No : W-5R

Sheet 2 of 2

FILE NO : 92-122

DATE : 11/17/92

TECH : V. Ashworth

DRILLER: T. Goudeau

FIELD DATA				BORING ADVANCE METHOD:
GROUND WATER LEVELS	DEPTH (feet)	SAMPLING	STANDARD PENETRATION (BLOWS/FOOT) or PENETROMETER (P) (TONS/SQ. FT.)	RIG: 200 METHOD OF BACKFILLING: Monitor Well
			3.5 (P)	Stiff light gray & tan CLAY (CH) jointed & slickensided & w/organics
				Bottom at 42.5 ft.
	45			

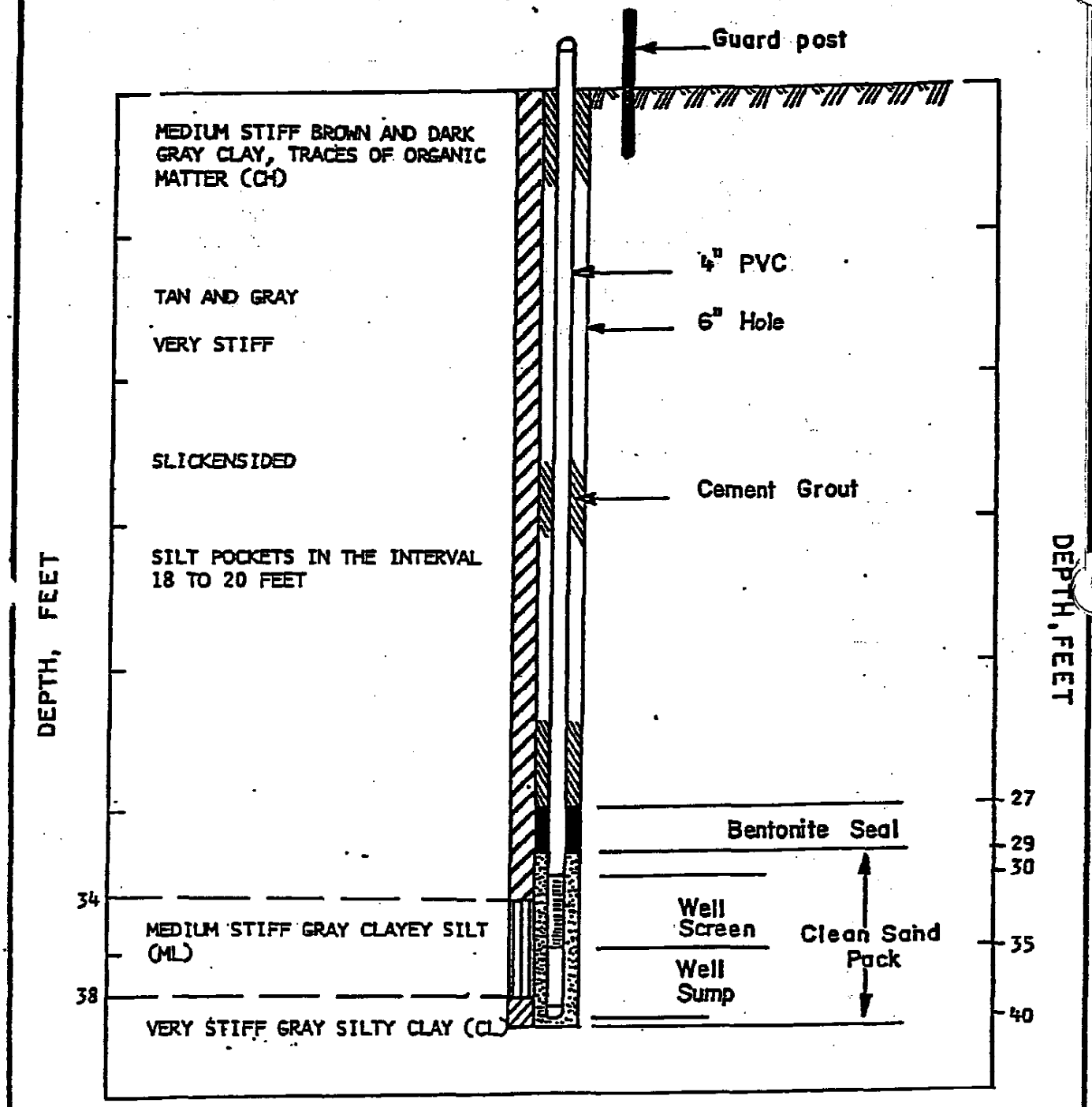
UNDISTURBED SAMPLE
3" DIA. SHELBY TUBE

STANDARD PENETRATION TEST
140 LB. HAMMER-30" FALL

STRATA BOUNDARIES

NOTE:
VISUAL CLASSIFICATIONS ONLY.

MONITORING WELL



Boring No. B-34
Well No. W-7

COLONIAL LANDFILL
SORRENTO, LOUISIANA

Drawn by			Proj No. 82-530	GID G Gulf Drilling Co., Inc. Geotechnical Investigations
Engineer	SAR	11/29/82		

BFI Colonial Landfill
Permit Renewal
Sorrento, LA

LOG OF SOIL BORING CDM-1

STE
Soil Testing Engineers, Inc.
Sheet 1 of 3

CDM
New Orleans, LA

File: 04-3010
Date: 08/17/04
Logged by: C. Rowbatham
Driller: Triangle Resources
Rig: Ardco K-1000

Location: Latitude 30° 08' 32.8"
Longitude 90° 51' 53.5"
Surface Elevation: 2.8 (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	PL	PI	Other	Soil Type	Description
			1.0 (P)									Medium stiff gray CLAY (CH) w/organic matter and silt seams
			1.0 (P)	0.71	42	73	87	25	62			
	5		1.0 (P)									
▽			0.25 (P)	0.12t1	51	66						Very soft light gray and gray CLAY (CH) w/silt pockets and organic matter
			0.75 (P)									
	10		1.75 (P)	1.74	23	101	46	18	28			Stiff tan and light gray SILTY CLAY (CL) w/organic matter
			2.0 (P)									
	15		2.0 (P)	1.51	29	93						
			2.0 (P)									
			2.75 (P)	1.17s 2.73r	37	82 84	88	28	60			Very stiff light gray and tan CLAY (CH)
	20		2.5 (P)									
			3.5 (P)									
	25		3.5 (P)	0.84s 2.49r	31	92 92						
			3.25 (P)									
			3.5 (P)									
	30		3.0 (P)	1.04s 1.94r	45	75 77	111	38	73			
			3.0 (P)		34	84	80	27	53	CON		
	35		2.75 (P)									
			2.5 (P)									
			1.75 (P)	1.02	29	92						Stiff gray CLAY (CH) w/sand pockets
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 12 ft.
4" Dia. Rotary Wash:
12 to 100 ft.

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

t: Unconsolidated, Undrained Triaxial Compression Test
t1: Lateral Pressure = 4.4 psi
s: Slickensided Failure
r: Remolded Strength
CON: Consolidation test (see curve)

Strata Boundaries May Not Be Exact

LOG01 043010.GPJ LOG01.GDT 04/29/05

BFI Colonial Landfill
Permit Renewal
Sorrento, LA

LOG OF SOIL BORING CDM-1

STE
Soil Testing Engineers, Inc.
Sheet 2 of 3

File: 04-3010
Date: 08/17/04
Logged by: C. Rowbatham
Driller: Triangle Resources
Rig: Ardco K-1000

CDM
New Orleans, LA

Location: Latitude 30° 08' 32.8"
Longitude 90° 51' 53.5"
Surface Elevation: 2.8 (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	PL	PI	Other	Soil Type	Description
			1.75 (P)									Stiff gray CLAY (CH) w/sand pockets
			3.5 (P)									Very stiff tan and light gray CLAY (CH) w/organics and sand seams
	45		2.5 (P)	2.45	35	86	73	26	47			
			2.75 (P)									
			2.5 (P)									Stiff gray SANDY CLAY (CL) w/sand seams
	50		2.75 (P)									
			3.0 (P)	1.00	27	93						
	55		3.5 (P)									
			2.5 (P)									
			2.0 (P)									
	60		2.0 (P)	1.31t2	28	92	37	21	16			
			7 b/f 2-3-4									
	65		10 b/f 3-4-6		36							
			14 b/f 2-5-9									
	70											
			1.75 (P)	1.51t3	28	93	34	20	14			
	75											
			1.5 (P)									
	80											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

Boring Advancement Method

4" Nom. Dia. Short Flight Auger: 0 to 12 ft.
4" Dia. Rotary Wash: 12 to 100 ft.

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

t: Unconsolidated, Undrained Triaxial Compression Test
t2: Lateral Pressure = 26.2 psi
t3: Lateral Pressure = 31.2 psi

Strata Boundaries May Not Be Exact

LOG01 043010.GPJ LOG01.GDT 04/29/05

BFI Colonial Landfill
Permit Renewal
Sorrento, LA

LOG OF SOIL BORING CDM-1

STE
Soil Testing Engineers, Inc.
Sheet 3 of 3

File: 04-3010
Date: 08/17/04
Logged by: C. Rowbatham
Driller: Triangle Resources
Rig: Ardco K-1000

CDM
New Orleans, LA

Location: Latitude 30° 08' 32.8"
Longitude 90° 51' 53.5"
Surface Elevation: 2.8 (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	PL	PI	Other	Soil Type	Description
												Stiff gray SANDY CLAY (CL) w/sand seams
	85		1.5 (P)	0.96t4	27	94						
												Medium dense gray CLAYEY SAND (SC) w/clay layers
	90		27 b/f 10-10-17									
	95		20 b/f 6-8-12							GS		
	100		22 b/f 17-10-12									Boring completed at 100 ft.
	105											
	110											
	115											
	120											

Ground Water Level Data

▽ Free water first encountered

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 12 ft.
4" Dia. Rotary Wash:
12 to 100 ft.

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

t: Unconsolidated, Undrained Triaxial Compression Test
t4: Lateral Pressure = 35.3 psi
GS: Particle Size Analysis
Sand Content = 43%

Strata Boundaries May Not Be Exact

LOG01 043010.GPJ LOG01.GDT 04/29/05

BFI Colonial Landfill
Permit Renewal
Sorrento, LA

LOG OF SOIL BORING CDM-11

STE
Soil Testing Engineers, Inc.
Sheet 1 of 3

File: 04-3010
Date: 09/20/04
Logged by: C. Rowbatham
Driller: Triangle Resources
Rig: Ardco K-1000

CDM
New Orleans, LA

Location: Latitude 30° 08' 28.5"
Longitude 90° 51' 37.9"
Surface Elevation: 2.3 (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	PL	PI	Other	Soil Type	Description
			2.0 (P)									Medium stiff gray and tan CLAY (CH) w/organic matter
			1.0 (P)	0.62	49	65						
	5		1.0 (P)									
			1.0 (P)									
▽			1.0 (P)									
	10		2.0 (P)	1.28	26	94	58	16	42			Stiff tan and gray CLAY (CH) w/silt seams
			2.25 (P)									
	15		2.25 (P)									
			2.5 (P)									
			2.75 (P)									Very stiff gray and tan CLAY (CH) w/organic matter and silt seams
	20		2.75 (P)	2.94	24	98						
			3.0 (P)									
	25		2.75 (P)									
			2.75 (P)									
			2.0 (P)									
	30		4.0 (P)	3.15	25	104	62	17	45			
			3.0 (P)									
	35		2.5 (P)									
			2.5 (P)									Stiff light gray and tan CLAY (CH) w/organic matter
			3.0 (P)		42	77	99	30	69	CON		
	40											

Continued Next Page

Ground Water Level Data

▽ Free water first encountered

Boring Advancement Method

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

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

CON: Consolidation test (see curve)

Strata Boundaries May Not Be Exact

LOG01 043010.GPJ LOG01.GDT 04/29/05

BFI Colonial Landfill
Permit Renewal
Sorrento, LA

LOG OF SOIL BORING CDM-11

STE
Soil Testing Engineers, Inc.
Sheet 2 of 3

File: 04-3010
Date: 09/20/04
Logged by: C. Rowbatham
Driller: Triangle Resources
Rig: Ardco K-1000

CDM
New Orleans, LA

Location: Latitude 30° 08' 28.5"
Longitude 90° 51' 37.9"
Surface Elevation: 2.3 (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	PL	PI	Other	Soil Type	Description
			2.0 (P)	1.22	42	79						Stiff light gray and tan CLAY (CH) w/organic matter
			2.0 (P)									
	45		2.25 (P)									
			3.0 (P)									Very stiff tan and light gray CLAY (CH) w/silt seams
			3.0 (P)									
	50		3.5 (P)	3.39	24	100	47	18	29			
			2.5 (P)									
	55		2.5 (P)									
			1.0 (P)									Stiff light gray SILTY CLAY (CL) w/silt lenses
			1.0 (P)									
	60		1.75 (P)	1.65	24	100						
			2.0 (P)									
	65		2.0 (P)		28	92	32	11	21	CON		
			1.0 (P)									
	70											
			1.25 (P)	1.50	49	73						Stiff gray CLAY (CH) w/organic matter and silt lenses
	75											
			1.25 (P)									
	80											

Continued Next Page

Ground Water Level Data	Boring Advancement Method	Notes
∇ Free water first encountered	4" Nom. Dia. Short Flight Auger: 0 to 10 ft. 4" Dia. Rotary Wash: 10 to 100 ft.	CON: Consolidation test (see curve)
	Boring Abandonment Method: Borehole grouted with cement/ bentonite upon completion	

Strata Boundaries May Not Be Exact

LOG01 04-3010.GPJ LOG01.GDT 04/29/05

BFI Colonial Landfill
Permit Renewal
Sorrento, LA

LOG OF SOIL BORING CDM-11

STE
Soil Testing Engineers, Inc.
Sheet 3 of 3

File: 04-3010
Date: 09/20/04
Logged by: C. Rowbatham
Driller: Triangle Resources
Rig: Ardco K-1000

CDM
New Orleans, LA

Location: Latitude 30° 08' 28.5"
Longitude 90° 51' 37.9"
Surface Elevation: 2.3 (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	PL	PI	Other	Soil Type	Description
			1.0 (P)	1.41	49	72	92	28	64			Stiff gray CLAY (CH) w/organic matter and silt lenses
	85											
			24 b/f 8-10-14		18					GS1		Medium dense gray CLAYEY SAND (SC) w/clay layers
	90											
			14 b/f 6-7-7									
	95											
			11 b/f 7-4-7		21					GS2		
	100											Boring completed at 100 ft.
	105											
	110											
	115											
	120											

Ground Water Level Data	Boring Advancement Method	Notes
▽ Free water first encountered	4" Nom. Dia. Short Flight Auger: 0 to 10 ft. 4" Dia. Rotary Wash: 10 to 100 ft.	GS: Particle Size Analysis GS1: Sand Content = 88% GS2: Sand Content = 74%
	Boring Abandonment Method Borehole grouted with cement/ bentonite upon completion	Strata Boundaries May Not Be Exact

LOG01 043010.GPJ LOG01.GDT 04/29/05

BFI Colonial Landfill
Permit Renewal
Sorrento, LA

LOG OF SOIL BORING CDM-13

STE
Soil Testing Engineers, Inc.
Sheet 1 of 2

File: 04-3010
Date: 09/22/04
Logged by: C. Rowbatham
Driller: Triangle Resources
Rig: Ardco K-1000

CDM
New Orleans, LA

Location: Latitude 30° 08' 28.4"
Longitude 90° 51' 27.6"
Surface Elevation: 2.4 (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
			0.5 (P)									Medium stiff light gray and brown CLAY (CH) w/organic matter
			0.5 (P)									
	5		0.75 (P)	0.84	43	75	104	25	79			
▽			0.5 (P)									
			0.75 (P)									Very stiff light gray and tan CLAY (CH) w/organic matter
	10		1.0 (P)									
			2.0 (P)									
	15		2.5 (P)	2.07	23	101						
			1.5 (P)									
			2.0 (P)									
	20		2.5 (P)									
			2.5 (P)									
	25		3.0 (P)	2.29	27	94	66	20	46			
			2.5 (P)									
			3.0 (P)									
	30		2.5 (P)									
			2.5 (P)									
	35		3.0 (P)	3.26	23	103						
			2.75 (P)									
	40		3.0 (P)									

Continued Next Page

Ground Water Level Data	Boring Advancement Method	Notes
▽ Free water first encountered	4" Nom. Dia. Short Flight Auger: 0 to 10 ft. 4" Dia. Rotary Wash: 10 to 66 ft.	
	Boring Abandonment Method: Borehole grouted with cement/ bentonite upon completion	Strata Boundaries May Not Be Exact

LOG01 043010.GPJ LOG01.GDT 04/29/05

BFI Colonial Landfill
Permit Renewal
Sorrento, LA

LOG OF SOIL BORING CDM-13

STE
Soil Testing Engineers, Inc.
Sheet 2 of 2

File: 04-3010
Date: 09/22/04
Logged by: C. Rowbatham
Driller: Triangle Resources
Rig: Ardco K-1000

CDM
New Orleans, LA

Location: Latitude 30° 08' 28.4"
Longitude 90° 51' 27.6"
Surface Elevation: 2.4 (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	PL	PI	Other	Soil Type	Description
			3.75 (P)									Very stiff light gray and tan CLAY (CH) w/organic matter
			3.25 (P)									Stiff light gray CLAY (CH) w/organic matter
	45		3.0 (P)	1.69	33	86	82	23	59			
			2.75 (P)		32 31	89 94	62	20	42	Kv Kh		
			3.0 (P)									
	50		4.25 (P)									
			3.5 (P)									Very stiff light gray and tan CLAY (CH)
	55		4.25 (P)	3.30	22	99						
			2.0 (P)									Stiff gray CLAY (CH)
			4.0 (P)									
	60		3.75 (P)									
			2.5 (P)									
	65		2.5 (P)	1.40	46	74	88	26	62			
												Boring completed at 66 ft.
	70											
	75											
	80											

Ground Water Level Data

∇ Free water first encountered

Boring Advancement Method

4" Nom. Dia. Short Flight Auger:
0 to 10 ft.
4" Dia. Rotary Wash:
10 to 66 ft.

Boring Abandonment Method

Borehole grouted with cement/ bentonite upon completion

Notes

Kv: Vertical Permeability = 1.8 x 10(-9) cm/sec
Kh: Horizontal Permeability = 9.6 x 10(-9) cm/sec

Strata Boundaries May Not Be Exact

LOG01 043010.GPJ LOG01.GDT 04/29/05

BFI Colonial Landfill
Permit Renewal
Sorrento, LA

LOG OF SOIL BORING CDM-15

STE
Soil Testing Engineers, Inc.
Sheet 1 of 2

File: 04-3010
Date: 09/07/04
Logged by: C. Rowbatham
Driller: Triangle Resources
Rig: Ardco K-1000

CDM
New Orleans, LA

Location: Latitude 30° 08' 24.1"
Longitude 90° 51' 53.3"
Surface Elevation: 2.4 (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	PL	PI	Other	Soil Type	Description
			2.0 (P)									Medium stiff gray and tan SILTY CLAY (CL) w/organic matter
			0.5 (P)									
	5		1.0 (P)	0.90	26	93	41	18	23			
			1.5 (P)									
▽			2.0 (P)									
	10		2.5 (P)	1.93	24	98						Stiff tan and light gray CLAY (CH) w/organic matter and silt seams
			2.75 (P)									
	15		2.0 (P)									
			2.0 (P)									
			2.5 (P)									
	20		2.5 (P)									
			2.25 (P)	1.94	27	94	70	19	51			
	25		2.25 (P)									
			3.25 (P)									
			3.5 (P)									
	30		1.25 (P)	1.03	28	92						
			2.5 (P)									
	35		2.0 (P)									
			2.5 (P)									Very stiff tan and light gray CLAY (CH)
			1.5 (P)	2.74	39	81	88	27	61			
	40											

Continued Next Page

Ground Water Level Data	Boring Advancement Method	Notes
▽ Free water first encountered	4" Nom. Dia. Short Flight Auger: 0 to 10 ft. 4" Dia. Rotary Wash: 10 to 66 ft.	
	Boring Abandonment Method: Borehole grouted with cement/ bentonite upon completion	Strata Boundaries May Not Be Exact

LOG01 043010.GPJ LOG01.GDT 04/29/05

BFI Colonial Landfill
Permit Renewal
Sorrento, LA

LOG OF SOIL BORING CDM-15

STE
Soil Testing Engineers, Inc.
Sheet 2 of 2

File: 04-3010
Date: 09/07/04
Logged by: C. Rowbatham
Driller: Triangle Resources
Rig: Ardco K-1000

CDM
New Orleans, LA

Location: Latitude 30° 08' 24.1"
Longitude 90° 51' 53.3"
Surface Elevation: 2.4 (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	PL	PI	Other	Soil Type	Description
			1.25 (P)									Very stiff tan and light gray CLAY (CH)
			1.25 (P)									
	45		1.5 (P)									
			2.0 (P)									
			2.5 (P)									
	50		2.25 (P)	1.06	35	84						Stiff greenish-gray and tan CLAY (CH)
			2.5 (P)									
	55		2.5 (P)									
			1.25 (P)	1.82	24	98	41	17	24			Stiff greenish-gray and tan SILTY CLAY (CL) w/sand seams
			1.0 (P)									
	60		1.0 (P)									
			1.0 (P)									
	65		1.25 (P)	4.53	30	91						Hard greenish-gray CLAY (CH)
												Boring completed at 66 ft.
	70											
	75											
	80											

Ground Water Level Data	Boring Advancement Method	Notes
∇ Free water first encountered	4" Nom. Dia. Short Flight Auger: 0 to 10 ft. 4" Dia. Rotary Wash: 10 to 66 ft.	
	Boring Abandonment Method Borehole grouted with cement/ bentonite upon completion	Strata Boundaries May Not Be Exact

LOG01 043010.GPJ LOG01.GDT 04/29/05

BFI Colonial Landfill
Permit Renewal
Sorrento, LA

LOG OF SOIL BORING CDM-17

STE
Soil Testing Engineers, Inc.
Sheet 1 of 2

File: 04-3010
Date: 09/09/04
Logged by: C. Rowbatham
Driller: Triangle Resources
Rig: Ardco K-1000

CDM
New Orleans, LA

Location: Latitude 30° 08' 24.0"
Longitude 90° 51' 43.0"
Surface Elevation: 2.2 (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 brown and dark gray CLAY (CH) w/organic matter and roots
			1.25 (P)									
	5		1.0 (P)	0.84	43	75	104	25	79			
			1.0 (P)									
			1.0 (P)									
	10		1.25 (P)									Medium stiff tan and light gray CLAY (CH) w/silt seams and organic matter
			1.25 (P)									
	15		1.0 (P)	2.07	23	101						Very stiff light gray and tan CLAY (CH) w/organics
			1.5 (P)									
			2.0 (P)									
	20		2.0 (P)									
			3.5 (P)									
	25		2.75 (P)	2.29	27	94	66	20	46			
			3.0 (P)									
			3.0 (P)									Very stiff light gray CLAY (CH)
	30		2.5 (P)									
			3.25 (P)									
	35		4.5 (P)	3.26	23	103						
			3.5 (P)									
			3.0 (P)									
	40											

Continued Next Page

Ground Water Level Data	Boring Advancement Method	Notes
▽ Free water first encountered	4" Nom. Dia. Short Flight Auger: 0 to 10 ft. 4" Dia. Rotary Wash: 10 to 66 ft.	
	Boring Abandonment Method: Borehole grouted with cement/ bentonite upon completion	

Strata Boundaries May Not Be Exact

LOG01_043010.GPJ LOG01.GDT 04/29/05

BFI Colonial Landfill
Permit Renewal
Sorrento, LA

LOG OF SOIL BORING CDM-17

STE
Soil Testing Engineers, Inc.
Sheet 2 of 2

File: 04-3010
Date: 09/09/04
Logged by: C. Rowbatham
Driller: Triangle Resources
Rig: Ardco K-1000

CDM
New Orleans, LA

Location: Latitude 30° 08' 24.0"
Longitude 90° 51' 43.0"
Surface Elevation: 2.2 (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	PL	PI	Other	Soil Type	Description
			3.0 (P)									Stiff tan and light gray CLAY (CH) w/silt seams and organic matter
			4.5 (P)									
	45		2.5 (P)	1.69	33	86	82	23	59			
			2.5 (P)									
			3.0 (P)									
	50		3.5 (P)									Very stiff tan and light gray CLAY (CH) w/silt seams
			3.5 (P)									
	55		3.25 (P)	3.30	22	99						
			3.0 (P)									
			3.0 (P)									Stiff bluish-gray CLAY (CH) w/organics
	60		4.0 (P)									
			3.5 (P)									
	65		2.5 (P)	1.40	46	74	88	26	62			
												Boring completed at 66 ft.
	70											
	75											
	80											

Ground Water Level Data	Boring Advancement Method	Notes
∇ Free water first encountered	4" Nom. Dia. Short Flight Auger: 0 to 10 ft. 4" Dia. Rotary Wash: 10 to 66 ft.	
	Boring Abandonment Method	
	Borehole grouted with cement/ bentonite upon completion	Strata Boundaries May Not Be Exact

LOG01 043010.GPJ LOG01.GDT 04/28/05

BFI Colonial Landfill
Permit Renewal
Sorrento, LA

LOG OF SOIL BORING CDM-19

STE
Soil Testing Engineers, Inc.
Sheet 1 of 2

File: 04-3010
Date: 09/14/04
Logged by: C. Rowbatham
Driller: Triangle Resources
Rig: Ardco K-1000

CDM
New Orleans, LA

Location: Latitude 30° 08' 24.0" Longitude 90° 51' 32.8"
Surface Elevation: 2.6 (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	PL	PI	Other	Soil Type	Description
▽			0.5 (P)									Medium stiff gray and brown CLAY (CH) w/organic matter
			1.0 (P)									
	5		1.0 (P)	0.62	49	71	111	28	83			
			0.75 (P)									
			1.0 (P)									
	10		1.0 (P)	0.68	30	87						
			2.0 (P)									Stiff tan CLAY (CH) w/silt seams and lenses
	15		1.5 (P)									
			1.25 (P)									
			2.0 (P)									
	20		1.75 (P)	1.44	25	96	49	18	31			
			2.25 (P)									
	25		2.0 (P)									Medium stiff tan and light gray CLAY (CH) w/sand seams
			1.75 (P)									
			2.0 (P)									
	30		2.25 (P)	0.65	31	88						
			3.25 (P)									
	35		3.0 (P)									
			3.25 (P)									
			3.25 (P)									Very stiff gray and tan CLAY (CH) w/organics
	40											

Continued Next Page

Ground Water Level Data	Boring Advancement Method	Notes
▽ Free water first encountered	4" Nom. Dia. Short Flight Auger: 0 to 10 ft. 4" Dia. Rotary Wash: 10 to 66 ft.	
	Boring Abandonment Method: Borehole grouted with cement/ bentonite upon completion	Strata Boundaries May Not Be Exact

LOG01 043010.GPJ LOG01.GDT 04/29/05

BFI Colonial Landfill
Permit Renewal
Sorrento, LA

LOG OF SOIL BORING CDM-19

STE
Soil Testing Engineers, Inc.
Sheet 2 of 2

File: 04-3010
Date: 09/14/04
Logged by: C. Rowbatham
Driller: Triangle Resources
Rig: Ardco K-1000

CDM
New Orleans, LA

Location: Latitude 30° 08' 24.0"
Longitude 90° 51' 32.8"
Surface Elevation: 2.6 (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	PL	PI	Other	Soil Type	Description
			3.0 (P)	3.26	32	88	82	28	54			Very stiff gray and tan CLAY (CH) w/organics
			3.0 (P)									
	45		2.75 (P)									
			3.0 (P)									
			2.5 (P)									Stiff gray and tan CLAY (CH) w/silt seams
	50		2.0 (P)	1.71	30	87						
			3.5 (P)									
	55		3.5 (P)									
			3.0 (P)									
			2.75 (P)									
	60		2.5 (P)	3.06	26	96	54	20	34			Very stiff greenish-gray and tan CLAY (CH) w/silt seams
			4.0 (P)									
	65		2.0 (P)									
												Boring completed at 66 ft.
	70											
	75											
	80											

Ground Water Level Data	Boring Advancement Method	Notes
∇ Free water first encountered	4" Nom. Dia. Short Flight Auger: 0 to 10 ft. 4" Dia. Rotary Wash: 10 to 66 ft.	
	Boring Abandonment Method: Borehole grouted with cement/ bentonite upon completion	Strata Boundaries May Not Be Exact

LOG01 043010.GPJ LOG01.GDT 04/28/05