

Exhibit Z. Noel Site Preliminary Geotechnical Engineering Report



Baton Rouge Area Chamber®



Baton Rouge, LA

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October 28, 2015

Ascension Economic Development Corp.
6967 Highway 22-A
Sorrento, Louisiana 70778

Attention: Mr. Mike Eades
President

Noel Site Preliminary Geotechnical Engineering Report

Re: Geotechnical Subsurface Exploration
Cone Penetration Test (CPT) Soundings
Noel Property
Donaldsonville, Louisiana
SESI File No.: B15-352

Dear Mr. Eades:

Southern Earth Sciences, Inc. (SESI) is pleased to submit our geotechnical subsurface exploration data report for the above referenced project. This report includes the results of the CPT soundings, general discussion of the subsurface soils encountered, and pile capacities for informational purposes.

The analyses and data presented in this report are based on the existing field conditions at the time of the investigation and should not be used for design or construction purposes. Furthermore, they are based on the assumption that the exploratory CPT data is a representation of the subsoil conditions throughout the site. Please note that variations in the subsoil conditions may occur between and beyond CPTs.

We appreciate the opportunity to perform this Geotechnical Subsurface Exploration report, and look forward to continued participation during the design and construction phases of this project. If you have any questions pertaining to this report, or if we may be of further service, please contact our office.

Respectfully submitted,
SOUTHERN EARTH SCIENCES, INC.

Mike Juneau, P.E., MBA
Baton Rouge Branch Manager

Project Description

It is understood that the proposed Noel tract of land is being marketed for future development by the Ascension Economic Development Corp. The project site is located near Highway 405 and Noel Road in Donaldsonville, Louisiana.

Purpose and Scope of Services

The purpose of this study was to explore the subsurface conditions at the site in order to identify the type(s) of subsurface soils and to develop pile capacities for various pile types and embedment depths. For this purpose, five (5) CPT Soundings were performed to a depth of about 100 feet below existing grade at various locations across the project site.

The scope of the geotechnical services did not include an environmental site assessment for determining the presence or absence of wetlands, hazardous or toxic materials in the soil, surface water, groundwater, or air on, below, or around the site. Any statement in this report or on the boring logs regarding odors, colors, and unusual or suspicious items or conditions are strictly for informational purposes. SESI can provide these services if requested.

In addition, SESI did not provide any service to investigate or detect the presence of moisture, mold, or other biological contaminants in or around any structure, or any service that was designed or intended to prevent or lower the risk of the occurrence or amplification of the same. The client acknowledges that mold is ubiquitous to the environment with mold amplification occurring when building materials are impacted by moisture. The client further acknowledges that site conditions are outside of SESI's control, and that mold amplification will likely occur, or continue to occur, in the presence of moisture. As such, SESI cannot and shall not be held responsible for the occurrence or recurrence of mold amplification.

Field Exploration

The field exploration was performed by pushing five (5) CPT Soundings to a depth of about 100 feet below existing grade. The CPT locations and depths were as proposed by SESI and understood by the client. The *Boring Location Plan* sheet in the Appendix of this report, presents the approximate location of the CPT Soundings.

The cone penetrometer soundings were advanced by means of a 20-Ton CPT rig operated in general accordance with ASTM D-5778 Standard Test Method for Electronic Friction Cone and Piezocone Penetration Testing of Soils. The CPT log sheets attached in the Appendix graphically show the cone tip resistance, friction resistance, pore water pressure, and interpreted soil type at the sounding location¹. The soil types and stratigraphy are based upon material parameters measured and evaluated as the cone is advanced.

Subsurface Conditions

The general subsurface description presented in the table below is generalized in nature to highlight the major subsurface materials features and characteristics. The CPT Log sheets, included in the Appendix, graphically show the cone tip resistance, friction resistance, pore water pressure, and interpreted soil type at the sounding location¹. This information represents the actual conditions at the CPT locations. Variations may occur and should be expected between CPT locations. The stratification represents the approximate boundary between subsurface materials and the actual transition may be gradual.

CPT Number	Depth (ft.)	General Classification
CPT-1	0-8	Stiff, Alternating layers of clayey silt/silty sand/sandy silt/sand to silty sand
	8-30	Soft to Firm, Clay
	30-50	Firm, Alternating layers of clayey silt/clay/silty clay
	50-55	Firm, Clay
	55-70	Firm stiff, Predominately clayey silt with alternating layers of silty clay/clay
	70-85	Stiff, Clay/silty clay
	85-100	Firm to stiff, Clayey silt
CPT-2	0-4	Stiff, Alternating layers of clayey silt/clay/silty clay
	4-8	Firm stiff, Clay
	8-15	Soft to firm, Alternating layers of silty clay/clayey silt
	15-70	Soft to firm, Clay with some clayey silt layers
	70-100	Firm, Clayey silt
CPT-3	0-2	Stiff, Alternating layers of clayey silt/clay/silty clay
	2-30	Soft to firm, Clay with some silty clay layers
	30-35	Soft to firm, Silty sand/clayey silt
	35-45	Soft to firm, Clay
	45-55	Firm, Alternating layers of clayey silt/sandy silt/clay
	55-85	Firm to stiff, Clay
	85-100	Firm to stiff, Clayey silt with some silty clay
CPT-4	0-2	Firm to stiff, Alternating layers of clayey silt/clay/silty clay
	2-20	Soft to firm, Clay with some clayey silt layers
	20-25	Firm, Silty sand/clayey silt
	25-40	Soft to firm, Clay
	40-45	Silty sand/clayey silt
	45-75	Firm becoming stiff, Clay with some silty clay layers
	75-90	Stiff, Silty clay
	90-100	Very stiff, Clayey silt
CPT-5	0-2	Alternating layers of clayey silt/sandy silt/clay
	2-10	Firm to stiff, Clay
	10-13	Medium dense, Alternating layers of clayey silt/sandy silt
	13-60	Medium dense, Predominately silty sand with varying silt layers
	60-75	Medium dense, Sandy silt
	75-100	Medium dense to dense, Sand

¹ Soil classifications were interpreted from methods recommended by Robertson and Campanella. Correlations between cone resistance and Standard Penetration Test "N" values were performed according to the methods developed by Robertson, Campanella and Wightman.

Anomalies		
CPT-5	13-60	Predominately silty sand with varying silt layers
CPT-5	75-100	Sand

Discussion

Generally, the subsurface soils encountered provided fair strength parameters. The clay soils at the test locations (with the exception of CPT-5) generally tend to be soft to stiff in consistency with intermediate, discontinuous silt layers typically between depths of 30 to 50 feet below existing grade. The subsurface soils encountered in CPT-1 through CPT-4 were fairly consistent pertaining to the soil types and strength. CPT-5 encountered mostly sands and silts with some clay stratus. The sands and silts encountered in CPT-5 generally tend to be medium dense in consistency.

Based on this information, a deep foundation system should be considered to support structures typically associated with industrial facilities. A shallow foundation system may be considered if structural column and wall loads are less than 20 kips and 2 kips per linear foot. However, additional analysis will be required to verify and will depend on the project specifics.

Driven Pile Foundation Recommendations

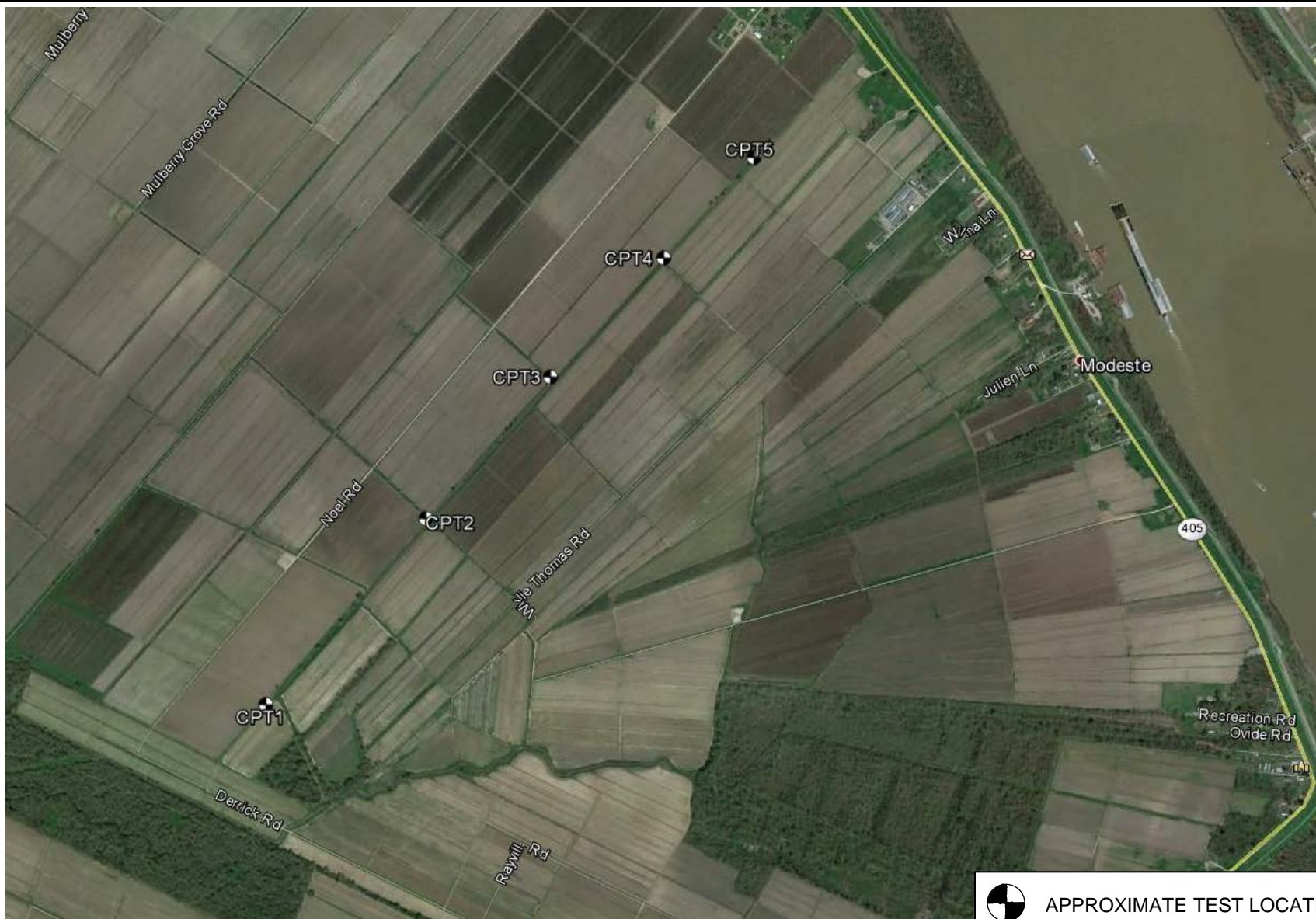
The table below presents allowable single pile capacities for driven piles using a factor of safety (FS) of two (2) in compression and three (3) in tension. **These pile capacities are for informational purposes only and shall not be used for design or construction.** Additional explorations and engineering analysis will be required. Pile capacities for pile types and/or lengths other than those listed below can be provided upon request.

Table 1.0: Estimated Capacities for Driven Piles¹

Pile Type	Size	² Pile Embedment Length	Allowable Compression Capacity	Allowable Tension Capacity
		(feet)	(Tons)	(Tons)
			FS = 2.0	FS = 3.0
ASTM D-25 Treated Timber Pile	8-in butt & minimum 6-in tip	35	6	4
		45	8	5
	12-in butt & minimum 7-in tip	45	10	6.5
		55	13	8.5
		60	15.5	10

Pile Type	Size	² Pile Embedment Length	Allowable Compression Capacity	Allowable Tension Capacity
		(feet)	(Tons)	(Tons)
			FS = 2.0	FS = 3.0
Prestressed Precast Concrete Pile	14-Inch	65	40	26.5
		75	49	32.5
		85	59	39
		95	69	46
	24-Inch	65	67	44.5
		75	85	56.5
		85	102	68
		95	117	78

Notes: 1. These are soil-pile related capacities. The structural capacity of the piles to support design loads is beyond our scope of services and must be verified by others. 2. Pile lengths are referenced from the existing ground surface at the time of field exploration. Additional pile length should be added depending on the design grade.



APPROXIMATE TEST LOCATION



NOEL-DONALDSONVILLE SITE
DONALDSONVILLE, LOUISIANA
SESI FILE NO.: B15-352



Geotechnical, Environmental & Construction Materials Testing

FIGURE 1
BORING LOCATION PLAN



Donaldsonville CPT's
(Donaldsonville, Louisiana)
Project No: B15-352

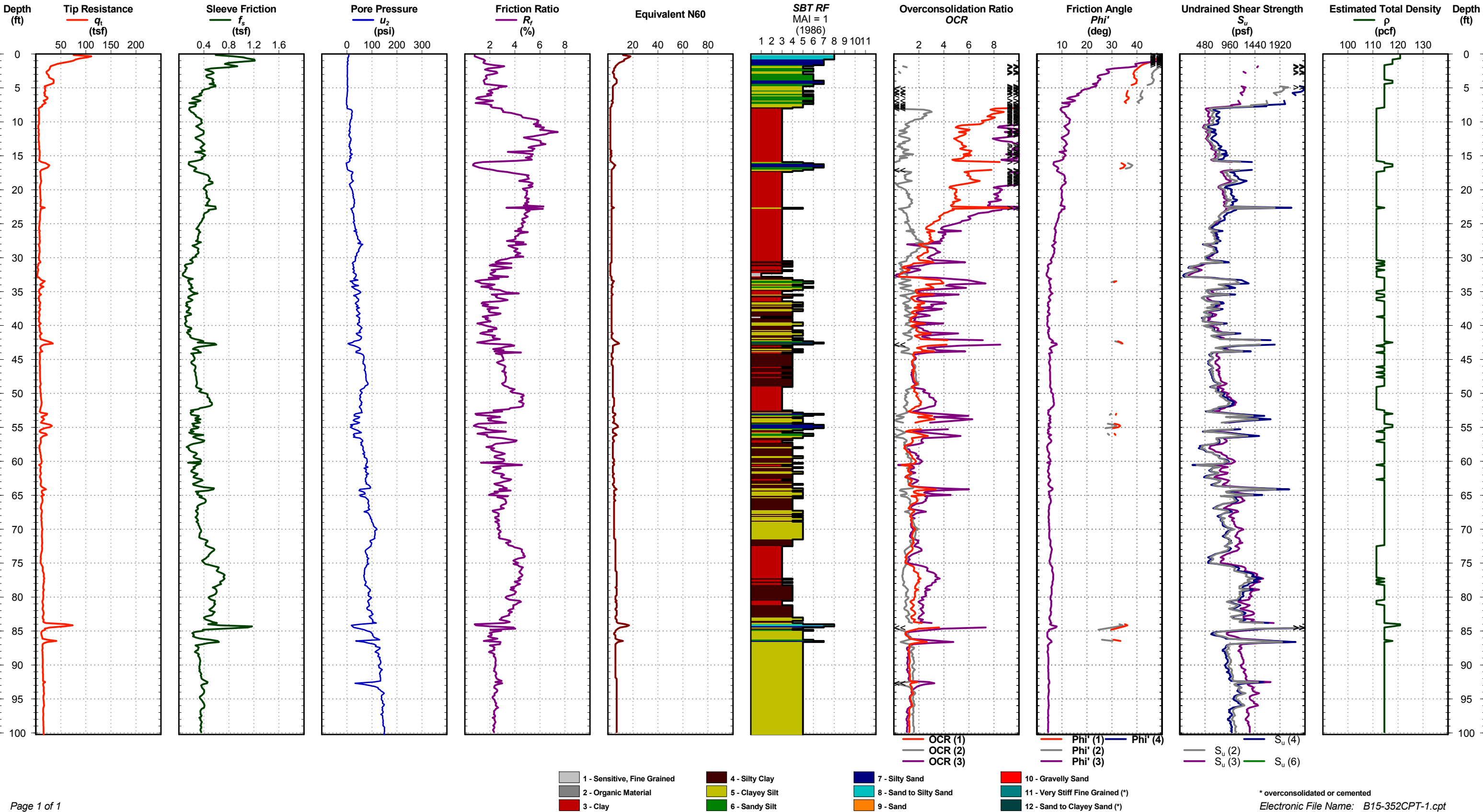
Cone Penetration Test

CPT-1

Date: Oct. 21, 2015
Operator: Peter Wright

Latitude:
Longitude:
Elevation:

Water Depth: 0
Total Depth: 100.2 ft





Donaldsonville CPT's
(Donaldsonville, Louisiana)
Project No: B15-352

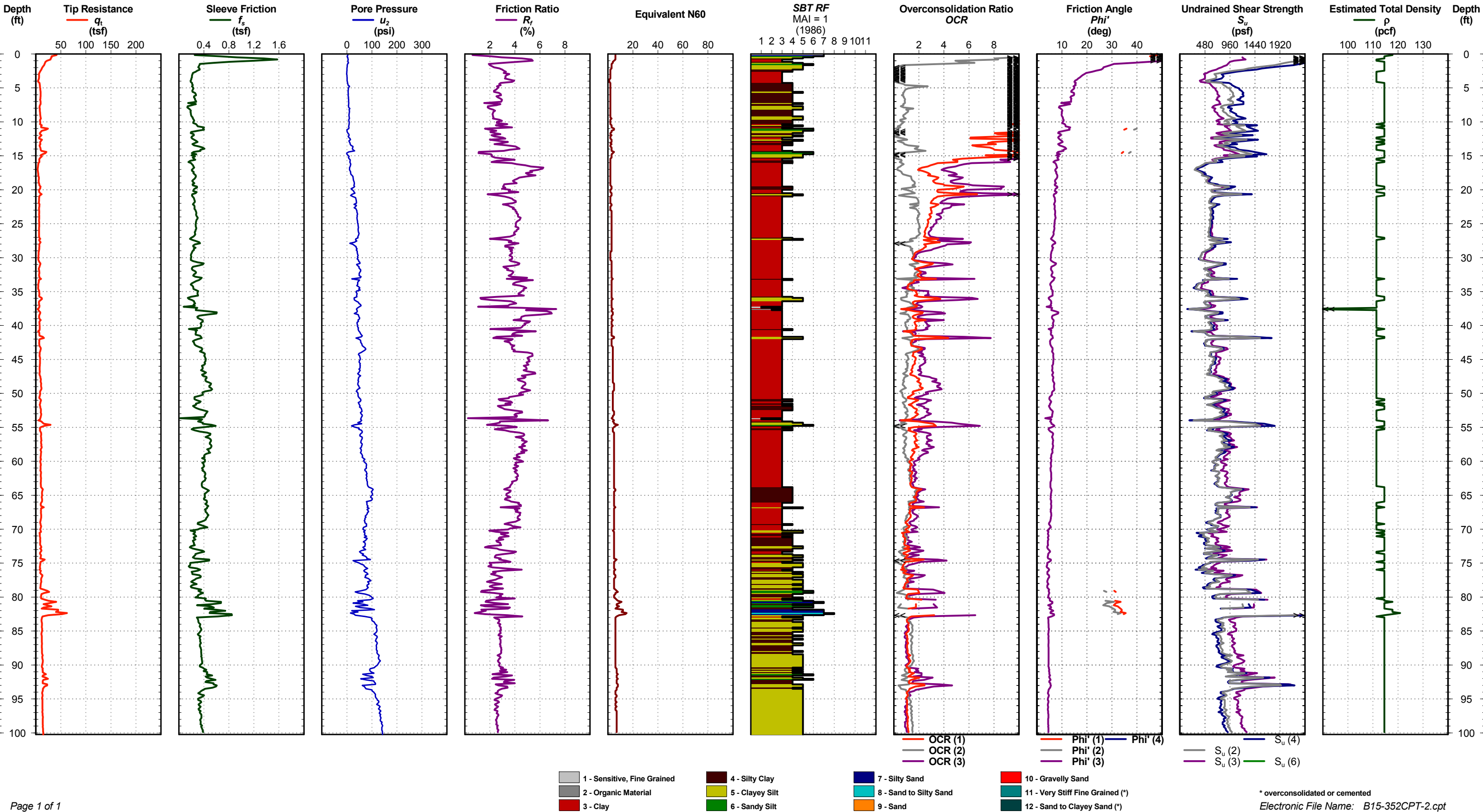
Cone Penetration Test

CPT-2

Date: Oct. 21, 2015
Operator: Peter Wright

Latitude:
Longitude:
Elevation:

Water Depth: 0
Total Depth: 100.2 ft





Donaldsonville CPT's
(Donaldsonville, Louisiana)
Project No: B15-352

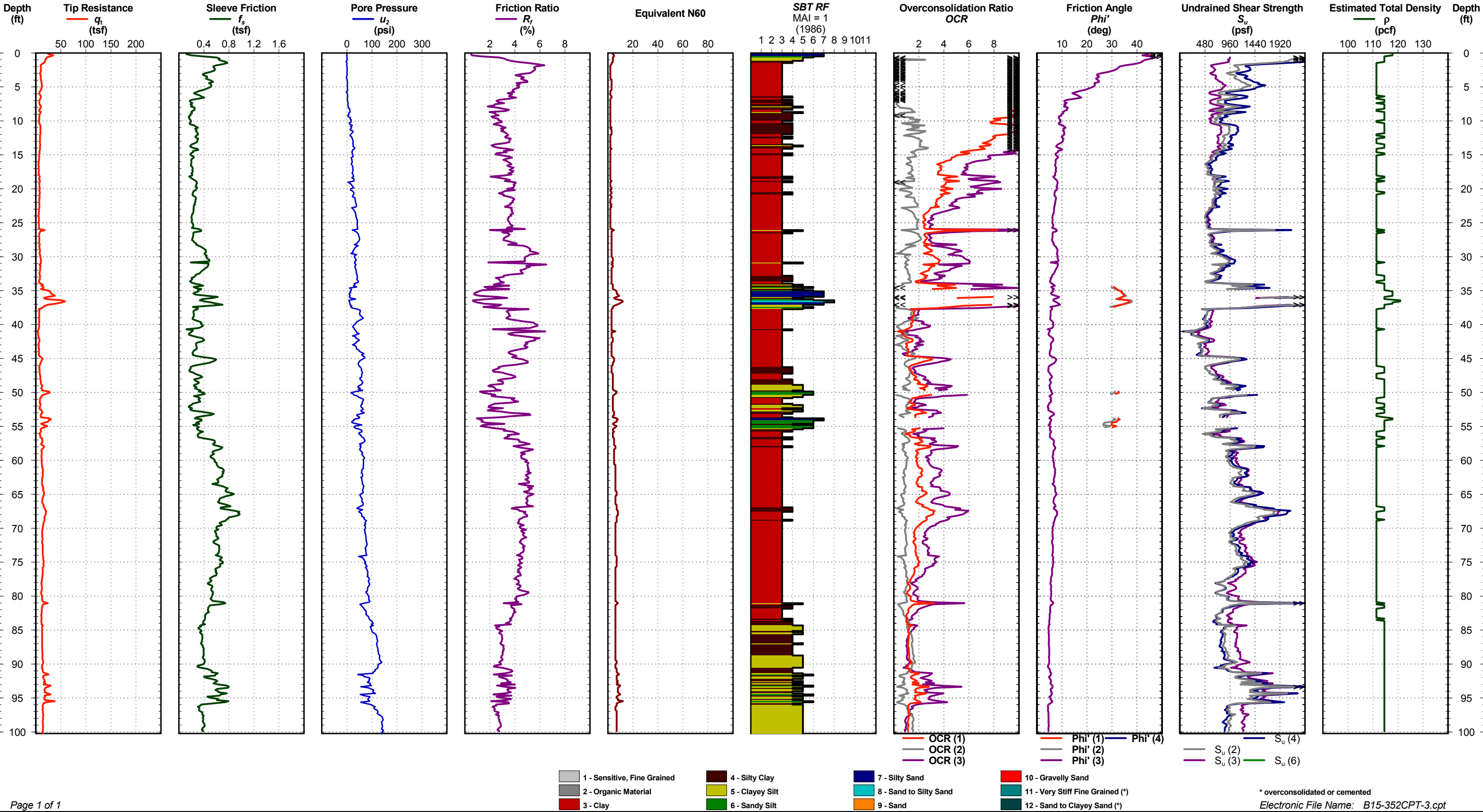
Cone Penetration Test

CPT-3

Date: Oct. 21, 2015
Operator: Peter Wright

Latitude:
Longitude:
Elevation:

Water Depth: 0
Total Depth: 100.2 ft





Donaldsonville CPT's
(Donaldsonville, Louisiana)
Project No: B15-352

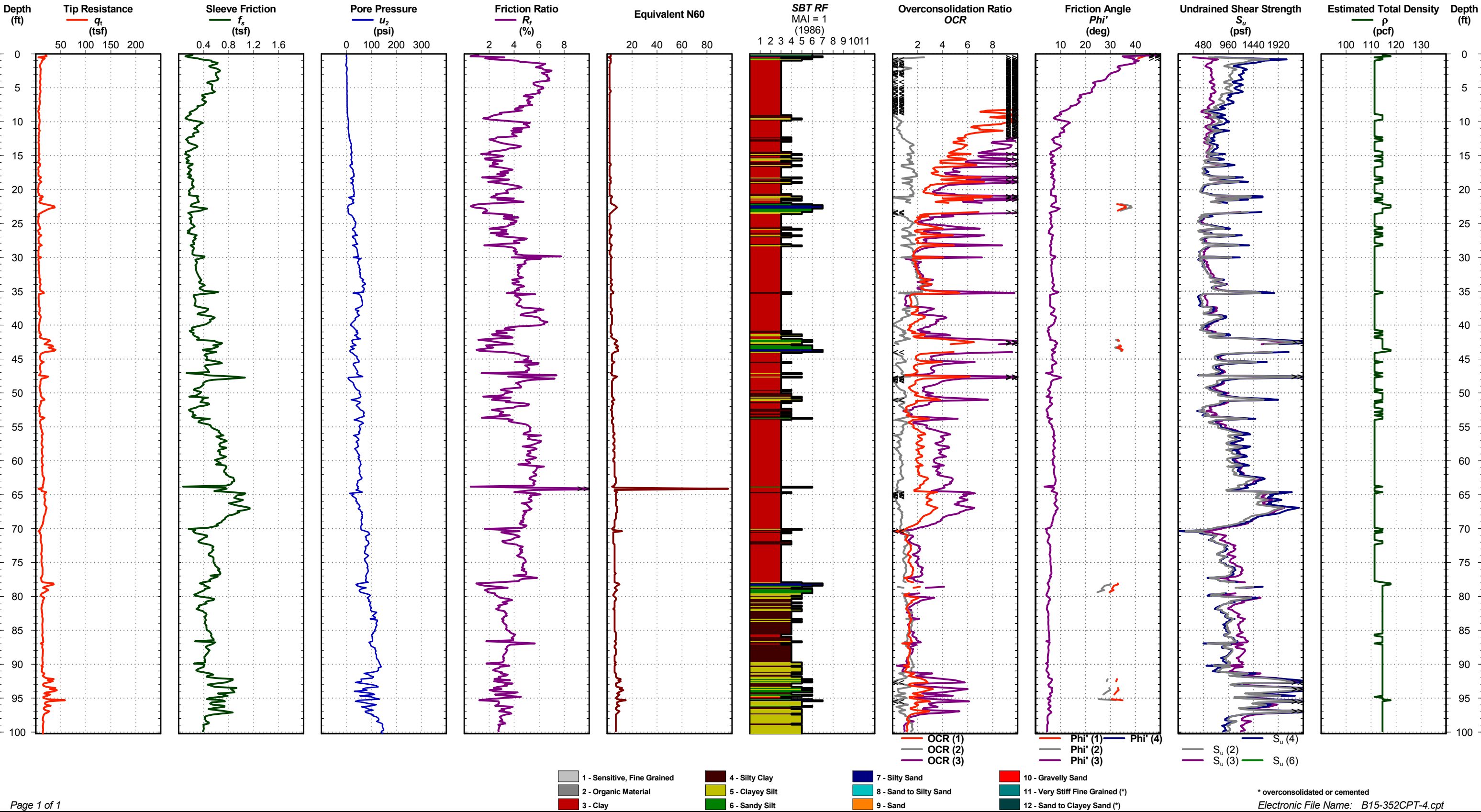
Cone Penetration Test

CPT-4

Date: Oct. 20, 2015
Operator: Peter Wright

Latitude:
Longitude:
Elevation:

Water Depth: 0
Total Depth: 100.2 ft





Donaldsonville CPT's
(Donaldsonville, Louisiana)
Project No: B15-352

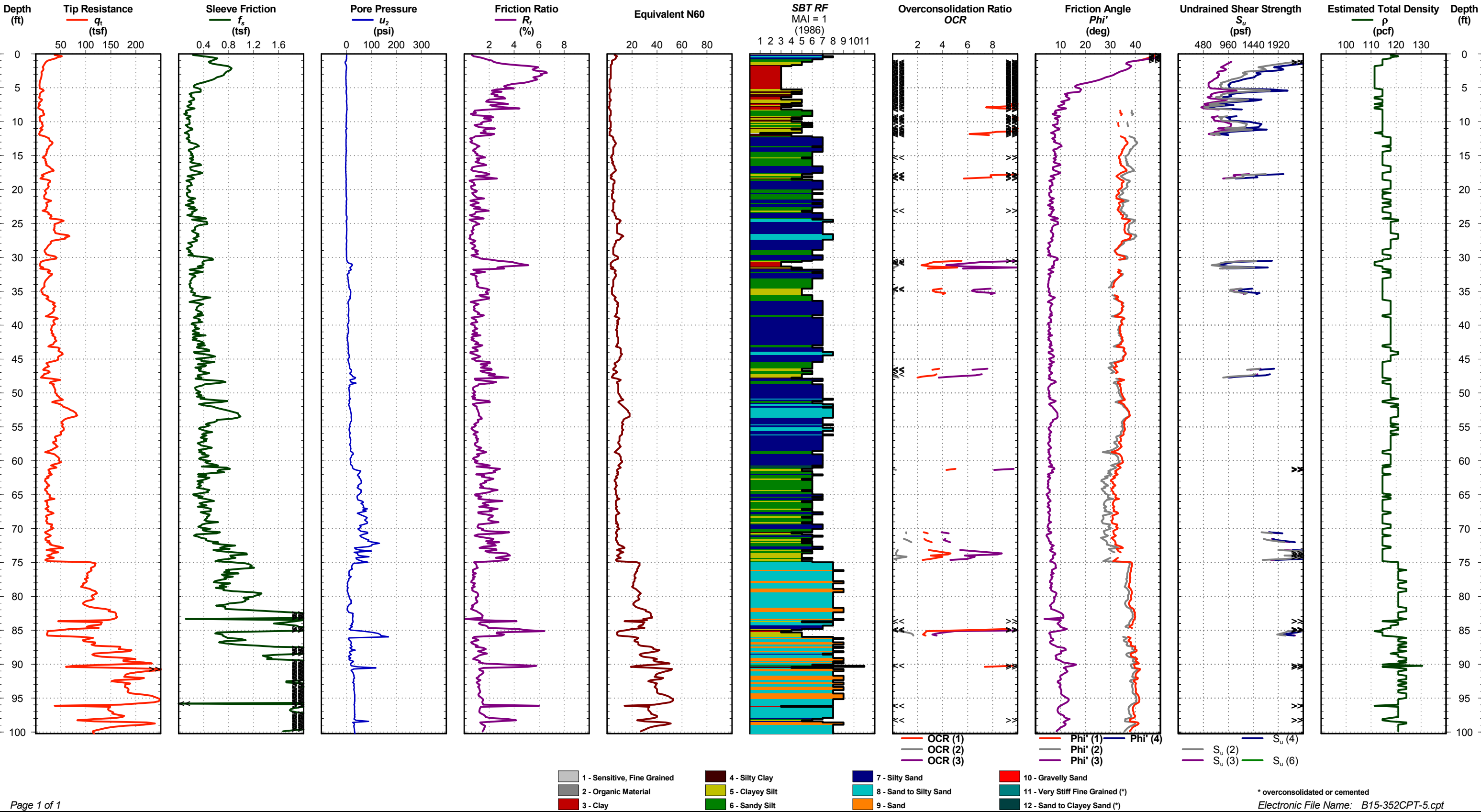
Cone Penetration Test

CPT-5

Date: Oct. 20, 2015
Operator: Peter Wright

Latitude:
Longitude:
Elevation:

Water Depth: 0
Total Depth: 100.2 ft



GENERAL NOTES FROM LITERATURE

Unified Soil Classification System

Coarse-grained soils. More than 50% retained on US # 200 Sieve	Gravels: More than 50% retained on US # 4 Sieve	Clean Gravel (little or no fines)	GW	Well graded gravels and gravel-sand mixtures with little or no fines
			GP	Poorly graded gravels and gravel-sand mixtures with little or no fines
		Gravels with fines	GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
	Gravels: More than 50% passing through US # 4 Sieve	Clean sand (little or no fines)	SW	Well graded sands and gravelly sands, little or no fines
			SP	Poorly graded sands and gravelly sands, little or no fines
		Sands with fines	SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, sand-clay mixtures
Fine-grained soils. More than 50% passed through US Sieve # 200	Silts and Clays with liquid limit (LL) less than 50	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands	
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	
		OL	Organic silts and organic silty clays of low plasticity	
	Silts and Clays with liquid limit (LL) greater than 50	MH	Inorganic silts, micaceous diatomaceous fine sand or silty soil, elastic silts	
		CH	Inorganic clays of high plasticity, fat clays	
		OH	Organic clays of medium to high plasticity	
High organic soils		PT	Peat, muck and other highly organic soils	

Classification of Granular Soils as per U.S. Standard Sieve Analysis

Description	Boulders	Cobbles	Gravel		Sand			Silt or Clay
			Coarse	Fine	Coarse	Medium	Fine	
Sieve Size	>12 inches	3-12 inches	0.75 to 3 inches	#4 to 0.75 inches	#10-#4	#40-#10	#200-#40	<#200

Note: #4=5mm, #10=5mm, #40=0.4mm, #200=0.8mm

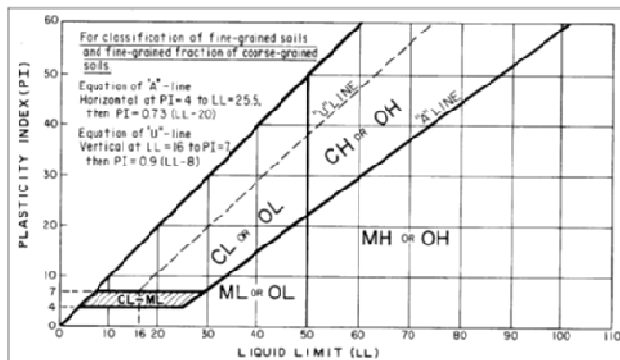
Consistency of Cohesive Soils

Consistency	Unconfined Compressive Strength, (tsf)	SPT* (N)
Very Soft	<0.25	<2
Soft	0.25 to 0.50	2 to 4
Medium Stiff	0.50 to 1.0	5 to 8
Stiff	1.0 to 2.0	9 to 15
Very Stiff	2.0 to 4.0	16 to 30
Hard	>4.0	>30

*Standard Penetration test (SPT) value (N-value) is a number of blows required to advance a standard 2-inch O.D. split-spoon sampler (SS) the last 12 inches of the total 18 inches penetration with a 140-pound hammer falling from 30 in. height.

Relative Density of Granular Soils

Relative Density	SPT* (N)
Very Loose	0 to 4
Loose	5 to 10
Medium Dense	11 to 24
Dense	25 to 50
Very Dense	>50



Plasticity Characteristics

Plasticity	Plasticity Index (PI)
Non-Plastic	0
Slight	1 to 5
Low	5 to 10
Medium	11 to 20
High	21 to 40
Very high	> 40

CONSTRUCTION MATERIALS TESTING

Full Range of Services and Unparalleled Response

Southern Earth Sciences, Inc. laboratories are certified by AASHTO, AMRL, CMEC and the U.S. Army Corps of Engineers to perform soil, concrete, asphalt and materials testing. Our professional inspectors and technicians continually participate in proficiency testing programs to ensure internal quality control.

FIELD TESTING AND INSPECTION

2014 EMR = 0.97

In addition to our laboratory testing facilities, SESI maintains a fully outfitted mobile field laboratory available for on-site testing. This allows our OSHA safety certified technicians to perform both call-out services on small projects or full-time quality control testing and inspection on major projects. The on-site testing lab offers a full range of services.

Services

- Dipstick technology for flatness testing of concrete slabs
- Soil testing—compaction, pile load testing, pile and caisson inspection, plate load bearing tests
- Asphaltic concrete testing—core density and thickness, evaluation of aggregates, mix designs, plant and field control
- Portland cement concrete—batch plant and field control, core drilling, molding, curing and testing cylinders
- Slump testing, air content and unit weight
- Pipe and block inspection
- Soundness and abrasion of aggregates
- Bridge inspection
- Pile integrity testing
- Pile dynamic analysis (PDA)
- Vibration monitoring
- Rebar location/depth of cover
- Post tensioning inspection
- Welding and steel framing inspections
- Vacuum and pressure testing



LABORATORY TESTING OF MATERIALS

Strategically located laboratories make testing of soils, concrete, asphalt and metals quick and convenient. Branch managers supervise all lab operations in accordance with ASTM Specifications E-329 and E-699. All equipment is calibrated annually to ensure accurate data. SESI technicians are certified by appropriate accrediting agencies on a routine basis.

Services

- Consolidation testing
- Flexible wall permeability testing
- Triaxial testing
- Soil classification testing
- Concrete strength testing
- Steel strength testing



Environmental • Construction Materials Testing • Geotechnical • Subsurface Investigations

Environmental • Construction Materials Testing • Geotechnical • Subsurface Investigations

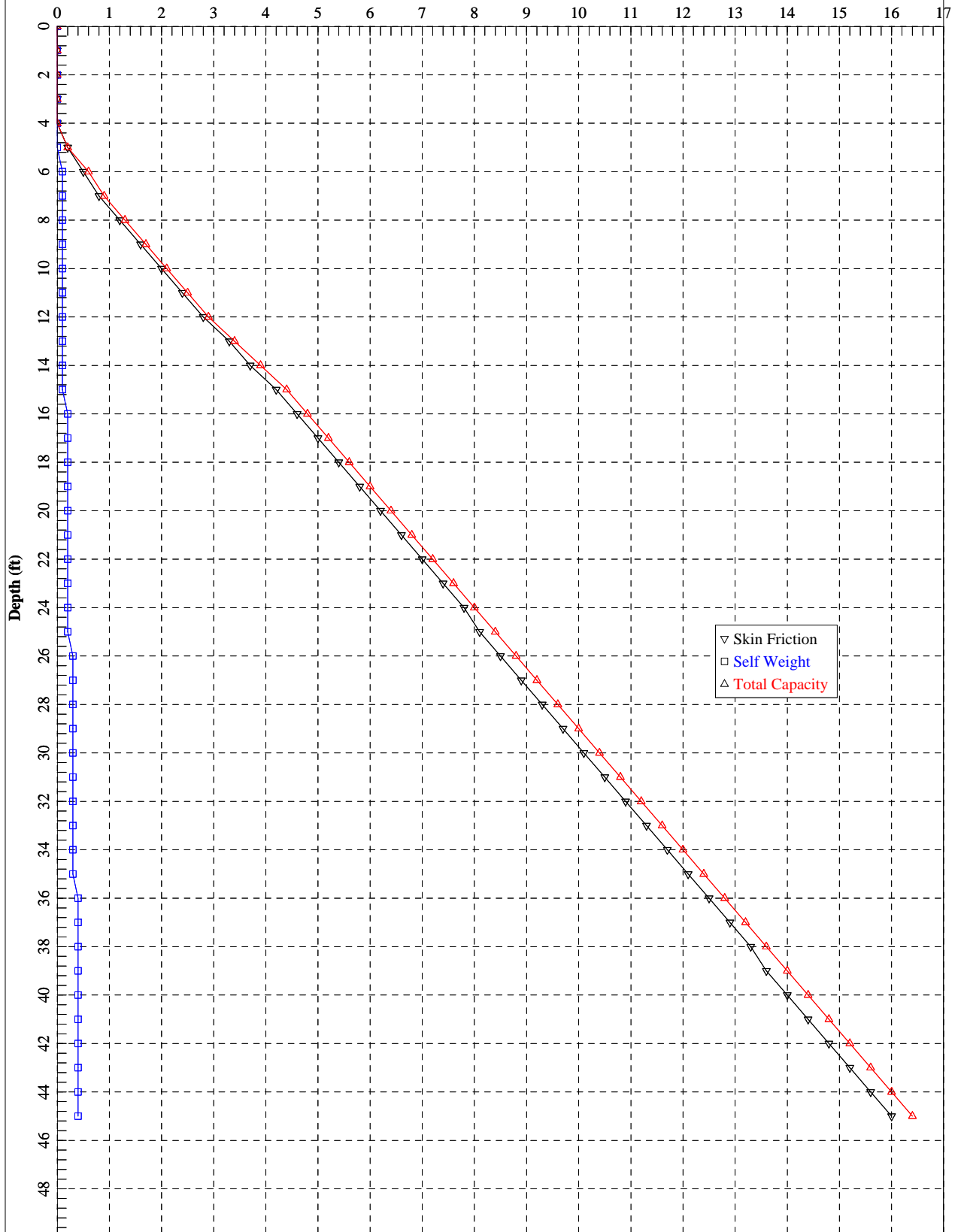


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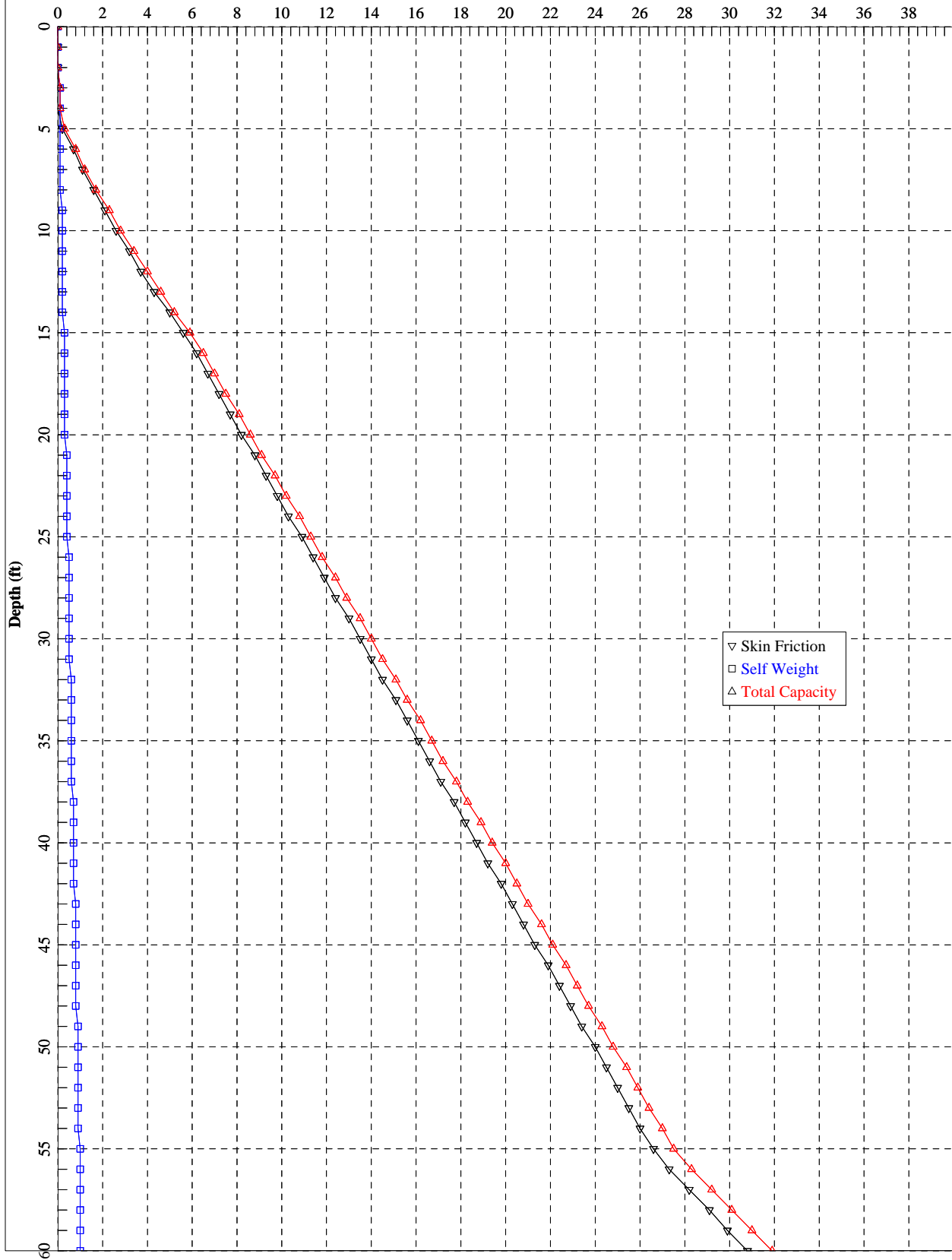
Environmental • Construction Materials Testing • Geotechnical • Subsurface Investigations

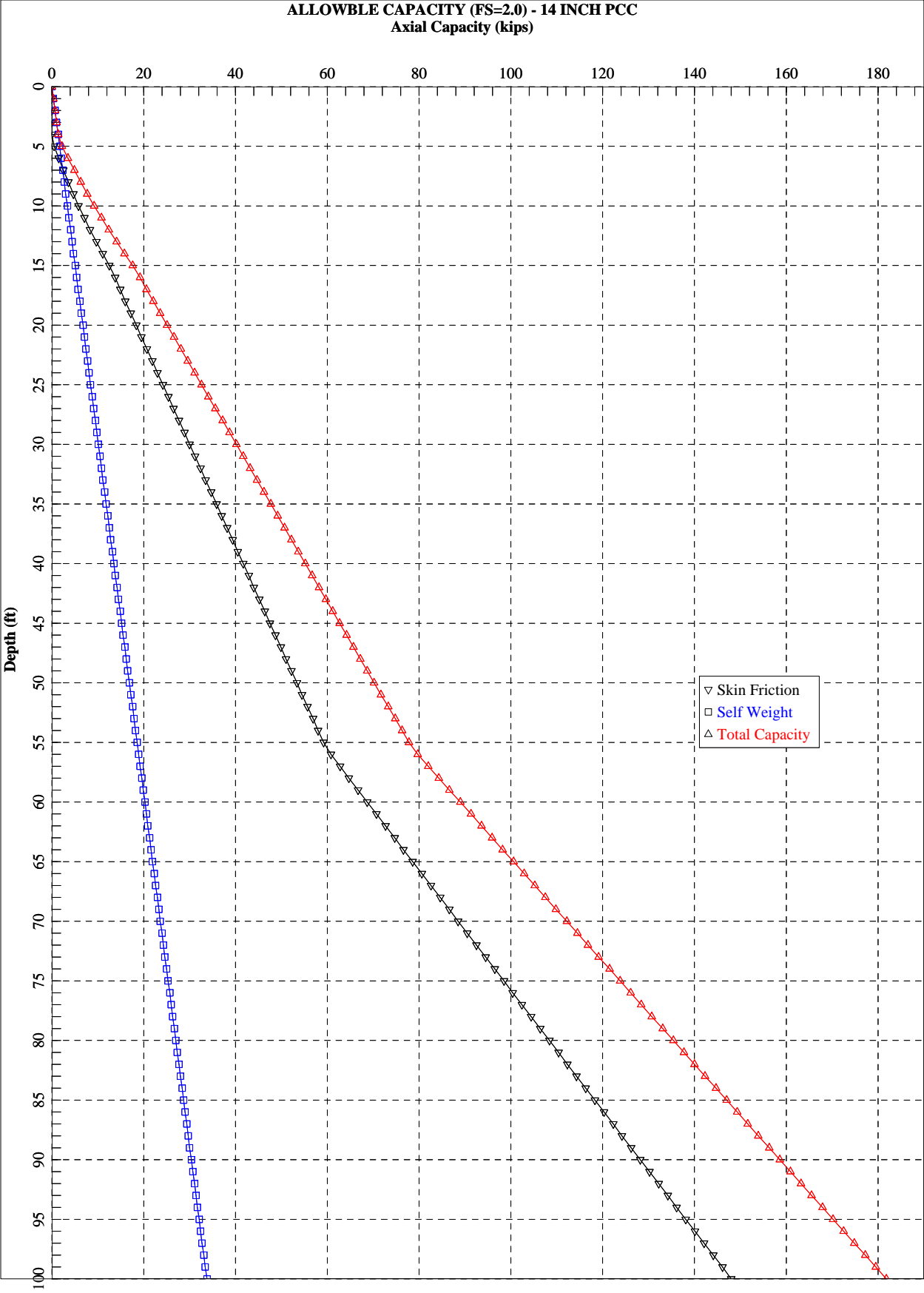
Environmental • Construction Materials Testing • Geotechnical • Subsurface Investigations

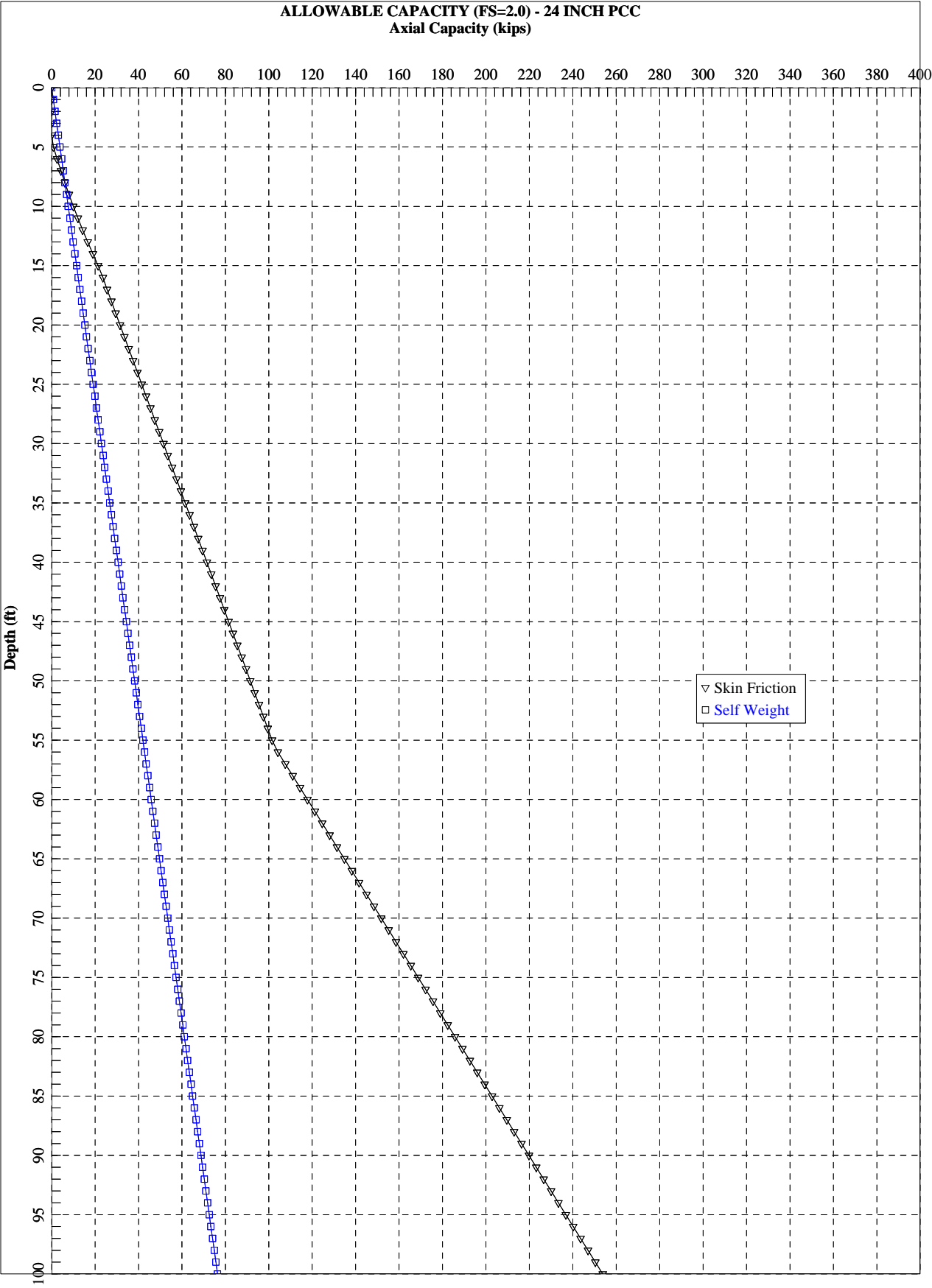
ALLOWABLE CAPACITY (FS=2.0)- SMALL TIMBER PILE (6 INCH TIP-8 INCH BUTT)
Axial Capacity (kips)



ALLOWABLE CAPACITY (FS=2.0)- LARGE TIMBER PILE (7 INCH TIP-13 INCH BUTT)
Axial Capacity (kips)







NOEL PROPERTY CLAY INVESTIGATION 9/17/07

BORING DEPTH	A1	A9	A14	B9	C3	C6	C13	D4	D9	F2	F5	F8
0-2												
2-4												
4-6				M=31			36			38		6
6-8	42	20	17	M=33							37	
8-10							50		32	16		
10-12			58		13						6	
12-14	17				21	14						14
14-16		41				31		10	44	29		
16-18			54	46							NP	
18-20					41	47	65					51
20-22	26							39				
22-24					36				66			
24-26												
26-28				103								
28-30		44										

BORING DEPTH	A1	A9	A14	C3	C6	B9	C13	D4	D9	/	F2	F5	F8
0-2	OH	OH	CL	CL	CL	CL	CL	CL	CL		OH	OH	CL
2-4	SC	CL	CL	CL	CL	CL	CL	CL	CL		CH	CL	CL
4-6	CS	CL	CL	SC	CL	SC	CH	CH	CS		CH	CH	SC
6-8	CH	CL	CL	CH	CH	SC	SC	CH	CS		CH	CH	CS
8-10	CH	CL	SC	CL	CH	CL	CH	SC	CH		CL	CH	CL
10-12	CH	CH	CL	SC	CH	CL	CL	CL	CL		CL	ML	CL
12-14	CH	CH	CH	CL	CL	CL	CL	ML	CL		CL	SC	SC
14-16	CS	CH	CH	CH	CH	CL	CL	CH	CH		CH	CL	SC
16-18	CL	CL	CH	CH	CH	CH	CH	CH	CL		SC	ML	CL
18-20	CH	CL	CH	CH	CH	OH	CL	CH	CL		CH	CH	CH
20-22	OH	CH	CH	CH	CH	OH	CL	OH	CH		OH	CH	CL
22-24	OH	CH	CH	OH	CH	OH	CL	OH	CL		CH	CH	CL
24-26	SC	CL	OH	OH	CH	OH	CL	OH	CL		CH	CH	CL
26-28	CL		CH	CL	OH	OH		OH	OH		OH	CS	OH
28-30	CL	OH	CH	CL	CL	OH	CL	OH	OH			OH	OH

Project Clay Investigation

 Boring A-1
 File 07-084
 Date 9/6/2007
 Logger CJM

Location

Client Pine Bluff Sand and Gravel

Page

Depth (Feet)	S o i l t y	PP/ SPT	Comp. Strength (tsf)	Moist Content (%)	Dry Density (pcf)	L.L. (%)	P.I. (%)	Description of Stratum
0								BROWN/GRAY CLAY W/ SILT ORGANIC
1								TAN/GRAY SILTY CLAY
2								BROWN/GRAY CLAYEY SILT
3				48		72	42	TAN/GRAY CLAY CH
4								TAN/GRAY CLAY CH
5								TAN/GRAY CLAY CH INTO TAN/GRAY CLAY CH W/ SILT LENSES
6				36		37	17	TAN/GRAY CLAYEY SILT INTO TAN/GRAY CLAY CL
7								TAN/GRAY CLAY CH
8								TAN/GRAY CL CH
9								GRAY CLAY CH
10				38		48	26	GRAY CLAY CL - ORGANIC
11								GRAY CLAY CH INTO GRAY SILTY SAND- ORGANIC
12								SILTY/GRAY CLAY INTO CLAYEY GRAY SILT
13								GRAY CLAY CH- ORGANIC
14								GRAY CLAY CH W/ BLUE TINT
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								

Legend:

-  Core
-  Standard Penetration
-  No Recovery
-  Auger Sample

Comments

Wet Rotary 2-30 FT.

Project Clay Investigation

 Boring A-9
 File 07-084
 Date 9/4/2007
 Logger CJM

Location

Client Pine Bluff Sand and Gravel

Page

Depth (Feet)	Sample Type	PP/ SPT	Comp. Strength (tsf)	Moist Content (%)	Dry Density (pcf)	L.L. (%)	P.L. (%)	Description of Stratum
0								GRAY AND BROWN CLAY/ TRACE SILT. ORGANIC-DRY
1								GRAY/TAN CLAY
2								GRAY TAN CLAY
3				34		42	20	GRAY/TAN CLAY CL W/ SILT
4								GRAY/TAN CLAY
5								GRAY/TAN CLAY CH
6								GRAY/TAN CLAY CH
7				35		66	41	GRAY TAN CLAY CH W/ TRACE SILT
8								GRAY/TAN CLAY
9								GRAY/TAN CLAY
10								GRAY/TAN CLAY CH
11								GRAY/TAN CLAY CH
12								GRAY/TAN CLAY CH
13								GRAY TAN CLAY POOR SAMPLE
14								MISSED SAMPLE. NO CHASE
15								GRAY/SOME TAN CLAY CH ORGANIC
16				53		71	44	
17								Grouted full depth.
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								

Legend:

-  Core
-  Standard Penetration
-  No Recovery
-  Auger Sample

Comments:

Wet Rotary 2-30

Project Clay Investigation							Boring A-14
Location							File 07-084
Client Pine Bluff Sand and Gravel							Date 8/28/2007
							Logger CJM
							Page
Depth (Feet)	PP/ SPT	Comp. Strength (tsf)	Mol. Content (%)	Dry Density (pcf)	L.L. (%)	P.L. (%)	Description of Stratum
0							GRAY/DARK BROWN CLAY TRACE SILT
2							GRAY /TAN CLAY
4							GRAY TAN CLAY TRACE SILT
6			35		39	17	GRAY/TAN CLAYEY SILT INTO SILTY CLAY CL
8							GRAY/TAN CLAY
10			48		87	55	GRAY/TAN CLAY CH
12							GRAY/TAN CLAY CH
14							GRAY/TAN CLAY CH
16			53		89	54	GRAY CLAY CH
18							GRAY/TAN CLAY CH
20							GRAY CLAY CH
22							GRAY CLAY CH
24							GRAY CLAY CH
26							GRAY CLAY CH- ORGANIC
28			81				GRAY CLAY CH
30							GRAY CH
32							Grouted full depth
34							
36							
38							
40							

Legend:

- Core
- Standard Penetration
- No Recovery
- Auger Sample

Comments: Wet Rotary 2-30 FT.

Project Clay Investigation								Boring B-8
Location								File 07-084
Client Pine Bluff Sand and Gravel								Date 8/27/2007
								Logger CJM
								Page
Depth (Feet)	PP/ SPT	Comp. Strength (tsf)	Moist. Content (%)	Dry Density (pcf)	L.L. (%)	P.I. (%)	Description of Stratum	
0								
4.50							DARK TAN/BROWN AND GRAY CLAY	
3.00							TAN SILTY CLAY	
0.50			31				BROWN/GRAY SILTY CLAY	
0.75							BROWN/GRAY SILTY CLAY W/ FE NODS/STREAKS BECOMING GRAY/TAN SILT	
0.50			33				GRAY/TAN CLAY	
1.25							GRAY/TAN CLAY W/ FERROUS NODULES	
1.50							GRAY/TAN CLAY	
1.75							GRAY CLAY	
2.50			71		74	46	GRAY CLAY(CH)	
1.75							GRAY CLAY W/ ORGANIC	
2.25							GRAY CLAY TRACE ORGANIC	
1.00							GRAY CLAY TRACE ORGANIC	
0.75							GRAY CLAY TRACE ORGANIC	
1.50			115		148	103	GRAY/DARK GRAY CLAY W/ ORGANIC	
1.00							GRAY/DARK GRAY CLAY W/ ORGANIC	
							Grouted full depth.	

Legend:

- Core
- Standard Penetration
- No Recovery
- Auger Sample

Comments:

Wet Rotary full depth.

Project Clay Investigation								Boring C-3
Location								File 07-084
Client Pine Bluff Sand and Gravel								Date 9/6/2007
								Logger CJM
								Page

Depth (Feet)	PP/ SPT	Comp. Strength (tsf)	Moist. Content (%)	Dry Density (pcf)	L.L. (%)	P.I. (%)	Description of Stratum
0							BROWN CLAY W/ FE NODULES
1							SILTY BROWN CLAY IN BROWN CLAY
2							BROWN CLAY W/ FE NODULES
3							BROWN CLAY CH
4							SILTY TAN/GRAY CLAY INTO CLAYEY SILT
5			30		34	13	GRAY/BROWN SILTY CLAY CL
6			34		42	21	GRAY/BROWN CLAY W/ SILT LENSES CL
7							TAN/GRAY CLAY CH
8							TAN/GRAY CLAY CH
9			50		67	41	GRAY CLAY CH
10							GRAY CLAY CH
11			45		63	36	GRAY CLAY CH ORGANIC
12							GRAY CLAY CH W/ BLUE TINT ORGANIC
13							BROWN/ BLUE GRAY CL/CH IN TO SILTY SAND
14							GRAY/BLUE CL/CH INTO CLAYEY SAND
15							Grouted full depth
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							

Legend: Core Standard Penetration No Recovery Auger Sample	Comments: Wet Rotary 2-30 FT.
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Project		Clay Investigation						Boring	C-6
Location								File	07-084
Client		Pine Bluff Sand and Gravel						Date	9/5/2007
								Logger	CJM
								Page	
Depth (Feet)	PP/ SPT	Comp. Strength (tsf)	Moist. Content (%)	Dry Density (pcf)	L.L. (%)	P.I. (%)	Description of Stratum		
0									GRAY AND BROWN CLAY
5									GRAY AND BROWN CLAY
10									GRAY/TAN CLAY
15									GRAY/TAN CLAY CH
20									GRAY/TAN CLAY CH
25									GRAY/TAN CLAY CH
30			33		38	14			GRAY/TAN CLAY W/ SILT LENSES CL
35			40		52	31			GRAY CLAY CH
40									GRAY CLAY CH
45			51		74	47			GRAY CLAY CH
50									GRAY CLAY CH
55									GRAY CLAY CH
60			69						GRAY CLAY CH ORGANIC
65									GRAY CLAY CH
70									Grouted full depth.
75									
80									
85									
90									
95									
100									

Legend:	Core	Comments:	Wet Rotary 2-30.
	Standard Penetration		
	No Recovery		
	Auger Sample		

Project		Clay Investigation					Boring		C-13	
Location		Donaldsonville, LA					File		07-084	
Client		Pine Bluff Sand and Gravel					Date		8/28/2007	
							Logger		CJM	
							Page		1 of 1	
Depth (Feet)	PP/ SPT	Comp. Strength (tsf)	Moist Content (%)	Dry Density (pcf)	LL (%)	PI (%)	Description of Stratum			
0							DARK GRAY/TAN CLAY TRACE SILT			
4.50										
0.50							DARK GRAY/TAN CLAY TRACE SILT			
0.50			34		55	36	TAN GRAY CLAY TRACE SILT CH			
0.50							TAN/GRAY SILTY CLAY			
1.00			45		75	50	TAN /GRAY CLAY CH			
1.00							TAN/GRAY CLAY TRACE SILT			
0.75							TAN/GRAY CLAY			
1.75							GRAY/ TAN CLAY			
2.50			45		85	65	GRAY CLAY CH			
2.25							GRAY CLAY			
2.00							GRAY CLAY			
1.75							GRAY CLAY			
0.75							GRAY CLAY			
N/R							NO RECOVERY			
1.75							GRAY CLAY			
<div> <div>Core</div> <div>Standard Penetration</div> <div>No Recovery</div> <div>Auger Sample</div> </div>										
<div> <div>Comments:</div> <div>Well Rotary 2-30 ft.</div> </div>										

Project: Clay Investigation							Boring: D-4
Location:							File: 07-084
Client: Pine Bluff Sand and Gravel							Date: 9/6/2007
							Logger: CJM
							Page:

Depth (Feet)	PP/ SPT	Comp Strength (tsf)	Moist. Content (%)	Dry Density (pcf)	L.L. (%)	P.I. (%)	Description of Stratum
0							BROWN/GRAY CLAY
5							BROWN/GRAY CLAY
10			25				BROWN/GRAY CLAY CH
15							BROWN/GRAY CLAY CH
20							TAN/GRAY SILTY CLAY INTO SANDY SILT
25							TAN/GRAY CLAY INTO SILTY SAND
30			38		37	10	BROWN/ CLAY TRACE SILT ML
35							GRAY CLAY CH
40							GRAY CLAY CH
45							GRAY CLAY CH
50			52		67	39	GRAY CLAY CH - ORGANIC
55							GRAY CLAY CH - ORGANIC
60							GRAY CLAY CH - ORGANIC
65							GRAY CLAY CH - ORGANIC
70							GRAY CLAY CH - ORGANIC
75							
80							
85							
90							
95							
100							

Legend:	Comments:
Core	Wet Rotary 2-30 FT
Standard Penetration	
No Recovery	
Auger Sample	

Project: Clay Investigation		Boring: D-9	
Location:		File: 07-084	
Client: Pine Bluff Sand and Gravel		Date: 8/27/2007	
		Logger: CJM	
		Page:	

Depth (Feet)	PPi SPT	Comp. Strength (tsf)	Molal Content (%)	Dry Density (pcf)	L.L. (%)	P.L. (%)	Description of Stratum
0							
4.50							BROWN TAN CLAY W/ LIMESTONE
2.25							TAN CLAY TRACE SILTY CLAY
2.00							TAN CLAYEY SILT
2.00							TAN CLAYEY SILTY BECOMING SILTY CLAY
2.00			34		54	32	GRAY CLAY CH
1.75							GRAY CLAY
1.25							GRAY CLAY W/ SILT LENSES
1.75			45		67	44	GRAY CLAY CH
2.00							GRAY CLAY
2.00							GRAY CLAY
2.00							GRAY CLAY CH
1.50			71		99	65	GRAY CLAY TRACE ORGANIC
1.25							GRAY CLAY
1.00							GRAY CLAY - ORGANIC (WOOD)
1.00							GRAY AND DARK TAN/BROWN CLAY W/ WOOD ORGANIC
							Grouted full depth.

Legend: Core Standard Penetration No Recovery Auger Sample	Comments: Wet Rotary full depth.
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Project		Clay Investigation						Boring	P-2
Location								File	07-084
Client		Pine Bluff Sand and Gravel						Date	9/7/2007
								Logger	CJM
								Page	
Depth (Feet)	PPi SPT	Comp. Strength (ksf)	Moist. Content (%)	Dry Density (pcf)	L.L. (%)	P.I. (%)	Description of Stratum		
0							BROWN/GRAY CLAY-ORGANIC		
1							BROWN/GRAY CLAY-CH		
2			37		63	38	BROWN/GRAY CLAY CH		
3							BROWN/GRAY CLAY CH-TRACE SILT		
4			32		40	16	SILTY BROWN/GRAY CLAY CL		
5							SILTY BROWN/GRAY CLAY- TRACE SAND		
6							CLAYEY SANDY SILT INTO BROWN/GRAY CLAY CH		
7			33		54	29	BROWN/GRAY CLAY W/ CLAYEY SILT LENSES CH		
8							SILTY GRAY CLAY INTO GRAY CLAY CH		
9							GRAY CLAY CH		
10							GRAY CLAY CH- ORGANIC		
11							GRAY CLAY CH		
12							GRAY CLAY CH - TRACE SILT		
13							GRAY CLAY CH- ORGANIC		
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
Legend		Core Standard Penetration No Recovery Auger Sample							
		Comments: Wet Rotary 2-30 FT.							

Project: Clay Investigation		Boring: F-5	
Location:		File: 07-084	
Client: Pine Bluff Sand and Gravel		Date: 9/7/2007	
		Logger: CJM	
Page			

Depth (Feet)	PP/ SPT	Comp. Strength (tsf)	Moist Content (%)	Dry Density (pcf)	L.L. (%)	P.I. (%)	Description of Stratum
4							BROWN/GRAY CLAY- ORGANIC
5							BROWN CLAY
6							BROWN CLAY CH
7			34		60	37	BROWN CLAY CH
8							BROWN CLAY CH
9							BROWN CLAY CH
10							BROWN CLAY CH
11			35		33	6	BROWN/GRAY CH BECOMING BROWN/GRAY SILT ML
12							SILTY BROWN CLAY
13							BROWN/GRAY CLAY W/ BLUE TINT SOME SILT
14							GRAY/TAN SILT TRACE CLAY ML
15			39			NP	GRAY CLAY CH INTO SANDY SILT
16							GRAY CLAY CH INTO SANDY SILT
17							GRAY CLAY CH
18							GRAY CLAY CH
19							CLAYEY SILT INTO SAND (FINE) INTO GRAY CLAY
20							GRAY CLAY CH W/ SILT SEAMS- ORGANIC
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							

Legend:	Comments:
Core	Wet Rotary 2-30 FT
Standard Penetration	
No Recovery	
Auger Sample	

Project	Clay Investigation						Boring	F-8
Location							File	07-084
Client	Pine Bluff Sand and Gravel						Date	8/27/2007
							Logger	CJM
							Page	

Depth (Feet)	PP/ SPT	Comp Strength (tsf)	Moist. Content (%)	Dry Density (pcf)	L.L. (%)	P.L. (%)	Description of Stratum
0							
4.50							BROWN/DARK TAN AND GRAY CLAY - DRY
2.00							BROWN/GRAY CLAY W/ SILT LENSES AND FERROUS NODULES
1.50			24		27	6	BROWN VERY SILTY CLAY
1.60							GRAY/TAN SILT INTO GRAY/TAN CLAY
1.50							GRAY TAN CLAY
1.50							GRAY TAN CLAY
1.50			32		34	14	GRAY SILTY CLAY (TRACE ORGANIC)
1.75							GRAY SILTY CLAY
1.75							GRAY CLAY W/ TRACE SILT
1.25			49		80	51	GRAY CLAY (CH TRACE ORGANIC)
1.00							GRAY CLAY
0.00							GRAY CLAY BECOMING GRAY SILTY FINE SAND
1.25							GRAY CLAY W/ SILT/SAND LENSES
1.25							GRAY CLAY W/ ORGANIC
4.50							WOOD
							Grouted full depth.

Legend:	Core Standard Penetration No Recovery Auger Sample	Comments: Auger 0-10 ft. Water noted at 7 ft Wet Rotary 10-30 ft.
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NOEL PROPERTY CLAY INVESTIGATION 9/17/07

BORING DEPTH	A1	A9	A14	B9	C3	C6	C13	D4	D9	F2	F5	F8
0-2												
2-4												
4-6				M=31			36			38		6
6-8	42	20	17	M=33							37	
8-10							50		32	16		
10-12			58		13						6	
12-14	17				21	14						14
14-16		41				31		10	44	29		
16-18			54	46							NP	
18-20					41	47	65					51
20-22	26							39				
22-24					36				66			
24-26												
26-28				103								
28-30		44										

BORING DEPTH	A1	A9	A14	C3	C6	B9	C13	D4	D9	F2	F5	F8
0-2	OH	OH	CL	CL	CL	CL	CL	CL	CL	OH	OH	CL
2-4	SC	CL	CL	CL	CL	CL	CL	CL	CL	CH	CL	CL
4-6	CS	CL	CL	SC	CL	SC	CH	CH	CS	CH	CH	SC
6-8	CH	CL	CL	CH	CH	SC	SC	CH	CS	CH	CH	CS
8-10	CH	CL	SC	CL	CH	CL	CH	SC	CH	CL	CH	CL
10-12	CH	CH	CL	SC	CH	CL	CL	CL	CL	CL	ML	CL
12-14	CH	CH	CH	CL	CL	CL	CL	ML	CL	CL	SC	SC
14-16	CS	CH	CH	CH	CH	CL	CL	CH	CH	CH	CL	SC
16-18	CL	CL	CH	CH	CH	CH	CH	CH	CL	SC	ML	CL
18-20	CH	CL	CH	CH	CH	OH	CL	CH	CL	CH	CH	CH
20-22	OH	CH	CH	CH	CH	OH	CL	OH	CH	OH	CH	CL
22-24	OH	CH	CH	OH	CH	OH	CL	OH	CL	CH	CH	CL
24-26	SC	CL	OH	OH	CH	OH	CL	OH	CL	CH	CH	CL
26-28	CL		CH	CL	OH	OH		OH	OH	OH	CS	OH
28-30	CL	OH	CH	CL	CL	OH	CL	OH	OH		OH	OH

Project		Clay Investigation		Boring		A-1	
Location				File		07-084	
Client		Pine Bluff Sand and Gravel		Date		9/6/2007	
				Logger		CJM	
				Page			
Depth (Feet)	SPT	Comp. Strength (tsf)	Moist. Content (%)	Dry Density (pcf)	L.L. (%)	P.I. (%)	Description of Stratum
0							BROWN/GRAY CLAY W/ SILT ORGANIC
5			48		72	42	TAN/GRAY SILTY CLAY BROWN/GRAY CLAYEY SILT TAN/GRAY CLAY CH
10							TAN/GRAY CLAY CH TAN/GRAY CLAY CH INTO TAN/GRAY CLAY CH W/ SILT LENSES
15			36		37	17	TAN/GRAY CLAYEY SILT INTO TAN/GRAY CLAY CL TAN/GRAY CLAY CH TAN/GRAY CL CH
20			38		48	26	GRAY CLAY CH GRAY CLAY CL - ORGANIC GRAY CLAY CH INTO GRAY SILTY SAND- ORGANIC
25							SILTY/GRAY CLAY INTO CLAYEY GRAY SILT GRAY CLAY CH- ORGANIC
30							GRAY CLAY CH W/ BLUE TINT
35							
40							

Legend:

- Core
- Standard Penetration
- No Recovery
- Auger Sample

Comments:

Wet Rotary 2-30 FT.

Project Clay Investigation

 Boring A-2
 File 07-084
 Date 9/4/2007
 Logger CJM





Location

Client Pine Bluff Sand and Gravel

Page

Depth (Feet)	Sample Type	PP/ SPT	Comp. Strength (tsf)	Moist. Content (%)	Dry Density (pcf)	L.L. (%)	P.I. (%)	Description of Stratum
0								GRAY AND BROWN CLAY/ TRACE SILT. ORGANIC-DRY
5								GRAY/TAN CLAY
								GRAY TAN CLAY
				34		42	20	GRAY/TAN CLAY CL W/ SILT
10								GRAY/TAN CLAY
								GRAY/TAN CLAY CH
								GRAY/TAN CLAY CH
15				35		66	41	GRAY TAN CLAY CH W/ TRACE SILT
								GRAY/TAN CLAY
20								GRAY/TAN CLAY
								GRAY/TAN CLAY CH
								GRAY/TAN CLAY CH
25								GRAY TAN CLAY POOR SAMPLE
								MISSED SAMPLE. NO CHASE
30				53		71	44	GRAY/SOME TAN CLAY CH ORGANIC
								Grouted full depth
36								
40								

Legend:

-  Core
-  Standard Penetration
-  No Recovery
-  Auger Sample

Comments:

Wet Rotary 2-30

Project Clay Investigation

 Boring A-14
 File 07-084
 Date 8/28/2007
 Logger CJM

Location

Client Pine Bluff Sand and Gravel

Page

Depth (Feet)	S a m p l e	PP/ SPT	Comp. Strength (tsf)	Moist. Content (%)	Dry Density (pcf)	LL (%)	P.L (%)		Description of Stratum
0									GRAY/DARK BROWN CLAY TRACE SILT
1									GRAY /TAN CLAY
2									GRAY TAN CLAY TRACE SILT
3				35		39	17		GRAY/TAN CLAYEY SILT INTO SILTY CLAY CL
4									GRAY/TAN CLAY
5				48		87	58		GRAY/TAN CLAY CH
6									GRAY/TAN CLAY CH
7									GRAY/TAN CLAY CH
8				53		89	54		GRAY CLAY CH
9									GRAY/TAN CLAY CH
10									GRAY CLAY CH
11									GRAY CLAY CH
12									GRAY CLAY CH
13									GRAY CLAY CH
14									GRAY CLAY CH
15									GRAY CLAY CH
16									GRAY CLAY CH
17									GRAY CLAY CH
18									GRAY CLAY CH
19									GRAY CLAY CH
20									GRAY CLAY CH
21									GRAY CLAY CH
22									GRAY CLAY CH
23									GRAY CLAY CH
24									GRAY CLAY CH
25									GRAY CLAY CH
26									GRAY CLAY CH
27									GRAY CLAY CH
28									GRAY CLAY CH
29									GRAY CLAY CH
30									GRAY CLAY CH
31									GRAY CLAY CH
32									GRAY CLAY CH
33									GRAY CLAY CH
34									GRAY CLAY CH
35									GRAY CLAY CH
36									GRAY CLAY CH
37									GRAY CLAY CH
38									GRAY CLAY CH
39									GRAY CLAY CH
40									GRAY CLAY CH
41									GRAY CLAY CH
42									GRAY CLAY CH
43									GRAY CLAY CH
44									GRAY CLAY CH
45									GRAY CLAY CH
46									GRAY CLAY CH
47									GRAY CLAY CH
48									GRAY CLAY CH
49									GRAY CLAY CH
50									GRAY CLAY CH
51									GRAY CLAY CH
52									GRAY CLAY CH
53									GRAY CLAY CH
54									GRAY CLAY CH
55									GRAY CLAY CH
56									GRAY CLAY CH
57									GRAY CLAY CH
58									GRAY CLAY CH
59									GRAY CLAY CH
60									GRAY CLAY CH
61									GRAY CLAY CH
62									GRAY CLAY CH
63									GRAY CLAY CH
64									GRAY CLAY CH
65									GRAY CLAY CH
66									GRAY CLAY CH
67									GRAY CLAY CH
68									GRAY CLAY CH
69									GRAY CLAY CH
70									GRAY CLAY CH
71									GRAY CLAY CH
72									GRAY CLAY CH
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75									GRAY CLAY CH
76									GRAY CLAY CH
77									GRAY CLAY CH
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81									GRAY CLAY CH
82									GRAY CLAY CH
83									GRAY CLAY CH
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112									GRAY CLAY CH
113									GRAY CLAY CH
114									GRAY CLAY CH
115									GRAY CLAY CH
116									GRAY CLAY CH
117									GRAY CLAY CH
118									GRAY CLAY CH
119									GRAY CLAY CH
120									GRAY CLAY CH
121									GRAY CLAY CH
122									GRAY CLAY CH
123									GRAY CLAY CH
124									GRAY CLAY CH
125									GRAY CLAY CH
126									GRAY CLAY CH
127									GRAY CLAY CH
128									GRAY CLAY CH
129									GRAY CLAY CH
130									GRAY CLAY CH
131									GRAY CLAY CH
132									GRAY CLAY CH
133									GRAY CLAY CH
134									GRAY CLAY CH
135									GRAY CLAY CH
136									GRAY CLAY CH
137									GRAY CLAY CH
138									GRAY CLAY CH
139									GRAY CLAY CH
140									GRAY CLAY CH
141									GRAY CLAY CH
142									GRAY CLAY CH
143									GRAY CLAY CH
144									GRAY CLAY CH
145									GRAY CLAY CH
146									GRAY CLAY CH
147									GRAY CLAY CH
148									GRAY CLAY CH
149									GRAY CLAY CH
150									GRAY CLAY CH
151									GRAY CLAY CH
152									GRAY CLAY CH
153									GRAY CLAY CH
154									GRAY CLAY CH
155									GRAY CLAY CH
156									GRAY CLAY CH
157									GRAY CLAY CH
158									GRAY CLAY CH
159									GRAY CLAY CH
160									GRAY CLAY CH
161									GRAY CLAY CH
162									GRAY CLAY CH
163									GRAY CLAY CH
164									GRAY CLAY CH
165									GRAY CLAY CH
166									GRAY CLAY CH
167									GRAY CLAY CH
168									GRAY CLAY CH
169									GRAY CLAY CH
170									GRAY CLAY CH
171									GRAY CLAY CH
172									GRAY CLAY CH
173									GRAY CLAY CH
174									GRAY CLAY CH
175									GRAY CLAY CH
176									GRAY CLAY CH
177									GRAY CLAY CH
178									GRAY CLAY CH
179									GRAY CLAY CH
180									GRAY CLAY CH
181									GRAY CLAY CH
182									GRAY CLAY CH
183									GRAY CLAY CH
184									GRAY CLAY CH
185									GRAY CLAY CH
186									GRAY CLAY CH
187									GRAY CLAY CH
188									GRAY CLAY CH
189									GRAY CLAY CH
190									GRAY CLAY CH
191									GRAY CLAY CH
192									GRAY CLAY CH
193									

Project Clay Investigation								Boring	B-9
Location								File	07-084
Client Pine Bluff Sand and Gravel								Date	8/27/2007
								Logger	CJM
								Page	
Depth (Feet)	PP/ SPT	Comp. Strength (tsf)	Moist Content (%)	Dry Density (pcf)	L.L. (%)	P.I. (%)		Description of Stratum	
0									
4.50									DARK TAN/BROWN AND GRAY CLAY
3.00									TAN SILTY CLAY
0.50			31						BROWN/GRAY SILTY CLAY
0.75									BROWN/GRAY SILTY CLAY W/ FE NODS/STREAKS BECOMING
0.50			33						GRAY/TAN SILT
1.25									GRAY/TAN CLAY
1.50									GRAY/TAN CLAY W/ FERROUS NODULES
1.75									GRAY/TAN CLAY
2.50			71		74	46			GRAY CLAY(CH)
1.75									GRAY CLAY W/ ORGANIC
2.25									GRAY CLAY TRACE ORGANIC
1.00									GRAY CLAY TRACE ORGANIC
0.75									GRAY CLAY TRACE ORGANIC
1.50			115		148	103			GRAY/DARK GRAY CLAY W/ ORGANIC
1.00									GRAY/DARK GRAY CLAY W/ ORGANIC
									Grouted full depth

Legend:

- Core
- Standard Penetration
- No Recovery
- Auger Sample

Comments:

Wet Rotary full depth.

Project		Clay Investigation		Boring		C-3	
Location				File		07-084	
Client		Pine Bluff Sand and Gravel		Date		9/6/2007	
				Logger		CJM	
				Page			
Depth (Feet)	PP/ SPT	Comp. Strength (tsf)	Moist. Content (%)	Dry Density (pcf)	L.L. (%)	P.I. (%)	Description of Stratum
0							BROWN CLAY W/ FE NODULES
1							SILTY BROWN CLAY IN BROWN CLAY
2							BROWN CLAY W/ FE NODULES
3							BROWN CLAY CH
4							SILTY TAN/GRAY CLAY INTO CLAYEY SILT
5			30		34	13	GRAY/BROWN SILTY CLAY CL
6			34		42	21	GRAY/BROWN CLAY W/ SILT LENSES CL
7							TAN/GRAY CLAY CH
8							TAN/GRAY CLAY CH
9			50		67	41	GRAY CLAY CH
10							GRAY CLAY CH
11			45		63	36	GRAY CLAY CH ORGANIC
12							GRAY CLAY CH W/ BLUE TINT ORGANIC
13							BROWN/ BLUE GRAY CL/CH IN TO SILTY SAND
14							GRAY/BLUE CL/CH INTO CLAYEY SAND
15							Grouted full depth
16							
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Legend:
 Core
 Standard Penetration
 No Recovery
 Auger Sample

Comments:
 Wet Rotary 2-30 FT.

Project Clay Investigation							Boring C-6
Location:							File 07-084
Client Pine Bluff Sand and Gravel							Date 9/5/2007
							Logger CJM
							Page

Depth (Feet)	PP/ SPT	Comp. Strength (tsf)	Moist. Content (%)	Dry Density (pcf)	L.L. (%)	P.I. (%)	Description of Stratum
0							GRAY AND BROWN CLAY
2							GRAY AND BROWN CLAY
4							GRAY/TAN CLAY
6							GRAY/TAN CLAY CH
8							GRAY/TAN CLAY CH
10							GRAY/TAN CLAY CH
12							GRAY/TAN CLAY CH
14			33		38	14	GRAY/TAN CLAY W/ SILT LENSES CL
16			40		52	31	GRAY CLAY CH
18							GRAY CLAY CH
20			51		74	47	GRAY CLAY CH
22							GRAY CLAY CH
24							GRAY CLAY CH
26							GRAY CLAY CH
28							GRAY CLAY CH
30			69				GRAY CLAY CH ORGANIC
32							GRAY CLAY CH
34							Grouted full depth
36							
38							
40							

Legend:	Comments:
<ul style="list-style-type: none"> Core Standard Penetration No Recovery Auger Sample 	Wet Rotary 2-30.

Project: Clay Investigation							Boring: C-13
Location: Donaldsonville, LA							File: 07-084
Client: Pine Bluff Sand and Gravel							Date: 8/28/2007
							Logger: CJM
							Page: 1 of 1

Depth (Feet)	PP/ SPT	Comp. Strength (tsf)	Moist. Content (%)	Dry Density (pcf)	L.L. (%)	P.I. (%)	Description of Stratum
0							DARK GRAY/TAN CLAY TRACE SILT
4.50							
0.50							DARK GRAY/TAN CLAY TRACE SILT
0.50			34		55	36	TAN GRAY CLAY TRACE SILT CH
0.50							TAN/GRAY SILTY CLAY
1.00			45		75	50	TAN /GRAY CLAY CH
1.00							TAN/GRAY CLAY TRACE SILT
0.75							TAN/GRAY CLAY
1.75							GRAY/ TAN CLAY
2.50			45		85	65	GRAY CLAY CH
2.25							GRAY CLAY
2.00							GRAY CLAY
1.75							GRAY CLAY
0.75							GRAY CLAY
N/R							NO RECOVERY
1.75							GRAY CLAY

Legend:	Comments:
<ul style="list-style-type: none"> Core Standard Penetration No Recovery Auger Sample 	Wet Rotary 2-30 ft.

Project Clay Investigation							Boring D-4
Location:							File 07-084
Client Pine Bluff Sand and Gravel							Date 9/6/2007
							Logger CJM
							Page

Depth (Feet)	PP/ SPT	Comp. Strength (tsf)	Molat. Content (%)	Dry Density (pcf)	L.L. (%)	P.I. (%)	Description of Stratum
0							BROWN/GRAY CLAY
5							BROWN/GRAY CLAY
10			25				BROWN/GRAY CLAY CH
15			36		37	10	BROWN/GRAY CLAY CH
20			52		67	39	TAN/GRAY SILTY CLAY INTO SANDY SILT
25							TAN/GRAY CLAY INTO SILTY SAND
30							BROWN/ CLAY TRACE SILT ML
35							GRAY CLAY CH
40							GRAY CLAY CH
45							GRAY CLAY CH
50							GRAY CLAY CH - ORGANIC
55							GRAY CLAY CH - ORGANIC
60							GRAY CLAY CH - ORGANIC
65							GRAY CLAY CH - ORGANIC
70							GRAY CLAY CH - ORGANIC
75							GRAY CLAY CH - ORGANIC
80							GRAY CLAY CH - ORGANIC
85							GRAY CLAY CH - ORGANIC
90							GRAY CLAY CH - ORGANIC
95							GRAY CLAY CH - ORGANIC
100							GRAY CLAY CH - ORGANIC

Legend:	Comments:
Core	Wet Rotary 2-30 FT
Standard Penetration	
No Recovery	
Auger Sample	

Project Clay Investigation							Boring D-9
Location							File 07-084
Client Pine Bluff Sand and Gravel							Date 8/27/2007
							Logger C.J.M.
							Page

Depth (Feet)	PP/ SPT	Comp. Strength (tsf)	Moist Content (%)	Dry Density (pcf)	L.L. (%)	P.L. (%)	Description of Stratum
0							
4.50							BROWN TAN CLAY W/ LIMESTONE
2.25							TAN CLAY TRACE SILTY CLAY
2.00							TAN CLAYEY SILT
2.00							TAN CLAYEY SILTY BECOMING SILTY CLAY
2.00			34		54	32	GRAY CLAY CH
1.75							GRAY CLAY
1.25							GRAY CLAY W/ SILT LENSES
1.75			45		67	44	GRAY CLAY CH
2.00							GRAY CLAY
2.00							GRAY CLAY
2.00							GRAY CLAY CH
1.50			71		99	66	GRAY CLAY TRACE ORGANIC
1.25							GRAY CLAY
1.00							GRAY CLAY - ORGANIC (WOOD)
1.00							GRAY AND DARK TAN/BROWN CLAY W/ WOOD ORGANIC
							Grouted full depth.

Lager <input type="checkbox"/> Core <input type="checkbox"/> Standard Penetration <input type="checkbox"/> No Recovery <input type="checkbox"/> Auger Sample	Comments: Wet Rotary full depth
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Project: Clay Investigation							Boring File: 07-084	Page: 13
Location:							Date: 9/7/2007	Logger: CJM
Client: Pine Bluff Sand and Gravel							Page	
Depth (Feet)	PP/ SPT	Comp. Strength (tsf)	Moist. Content (%)	Dry Density (pcf)	L.L. (%)	P.I. (%)	Description of Stratum	
0							BROWN/GRAY CLAY-ORGANIC	
1							BROWN/GRAY CLAY-CH	
2			37		63	38	BROWN/GRAY CLAY CH	
3							BROWN/GRAY CLAY CH-TRACE SILT	
4			32		40	16	SILTY BROWN/GRAY CLAY CL	
5							SILTY BROWN/GRAY CLAY- TRACE SAND	
6							CLAYEY SANDY SILT INTO BROWN/GRAY CLAY CH	
7			33		64	29	BROWN/GRAY CLAY W/ CLAYEY SILT LENSES CH	
8							SILTY GRAY CLAY INTO GRAY CLAY CH	
9							GRAY CLAY CH	
10							GRAY CLAY CH- ORGANIC	
11							GRAY CLAY CH	
12							GRAY CLAY CH - TRACE SILT	
13							GRAY CLAY CH- ORGANIC	
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Legend: Core ☐ Standard Penetration ☐ No Recovery ☐ Auger Sample ☐

Comments: Wet Rotary 2-30 FT.

Project		Clay Investigation					Boring		F-3
Location							File		07-084
Client		Pine Bluff Sand and Gravel					Date		8/7/2007
							Logger		CJM
							Page		

Depth (Feet)	PP/ SPT	Comp. Strength (tsf)	Moist. Content (%)	Dry Density (pcf)	L.L. (%)	P.I. (%)	Description of Stratum
0							BROWN/GRAY CLAY- ORGANIC
1							BROWN CLAY
2							BROWN CLAY CH
3			34		60	37	BROWN CLAY CH
4							BROWN CLAY CH
5							BROWN CLAY CH
6			36		33	6	BROWN/GRAY CH BECOMING BROWN/GRAY SILT ML
7							SILTY BROWN CLAY
8							BROWN/GRAY CLAY W/ BLUE TINT SOME SILT
9			39			NP	GRAY/TAN SILT TRACE CLAY ML
10							GRAY CLAY CH INTO SANDY SILT
11							GRAY CLAY CH INTO SANDY SILT
12							GRAY CLAY CH
13							GRAY CLAY CH
14							CLAYEY SILT INTO SAND (FINE) INTO GRAY CLAY
15							GRAY CLAY CH W/ SILT SEAMS- ORGANIC
16							
17							
18							
19							
20							
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Legend:	Comments:
Core	Wei Rotary 2-30 FT
Standard Penetration	
No Recovery	
Auger Sample	

Project	Clay Investigation						Boring	F-8
Location							File	07-084
Client	Pine Bluff Sand and Gravel						Date	8/27/2007
							Logger	CJM
							Page	

Depth (Feet)	PP/ SPT	Comp. Strength (tsf)	Moist. Content (%)	Dry Density (pcf)	L.L. (%)	P.L. (%)	Description of Stratum
0							
4.50							BROWN/DARK TAN AND GRAY CLAY - DRY
2.00							BROWN/GRAY CLAY W/ SILT LENSES AND FERROUS NODULES
1.50			24		27	6	BROWN VERY SILTY CLAY
1.50							GRAY/TAN SILT INTO GRAY/TAN CLAY
1.50							GRAY TAN CLAY
1.50							GRAY TAN CLAY
1.50			32		34	14	GRAY SILTY CLAY (TRACE ORGANIC)
1.75							GRAY SILTY CLAY
1.75							GRAY CLAY W/ TRACE SILT
1.25			49		80	61	GRAY CLAY (CH TRACE ORGANIC)
1.00							GRAY CLAY
0.00							GRAY CLAY BECOMING GRAY SILTY FINE SAND
1.25							GRAY CLAY W/ SILT/SAND LENSES
1.25							GRAY CLAY W/ ORGANIC
4.50							WOOD
							Grouted full depth.

Legend	Comments:
Core	Auger 0-10 ft. Water noted at 7 ft
Standard Penetration	Wet Rotary 10-30 ft.
No Recovery	
Auger Sample	