

A dark blue silhouette of the state of Louisiana is centered on the page. The text is overlaid on this silhouette.

**Exhibit V –
Franklin Farm
Additional Borings**

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Franklin Farm Additional Borings

January 6, 2012

Denmon Engineering
114 Venable Lane
Monroe, Louisiana 71203

Report No. 110512

Attention: Randy Denmon, P.E.

**Additional Geotechnical Investigation
Project Delta
Richland Parish, Louisiana**

Gentlemen:

Submitted here is the report of additional borings and laboratory testing performed for the above-captioned project. This investigation was authorized by Mr. Randy Denmon. Burns Cooley Dennis, Inc. previously conducted a preliminary geotechnical investigation for the site. That investigation is discussed in our Report No. 070556 dated January 25, 2008. Forty exploratory soil borings were made to depths of 25 ft, 50 ft and 125 ft for the previous investigation. It is our understanding that a prospective developer required that these additional borings be made at specific locations of interest.

General

The Northeast Louisiana Economic Alliance is exploring alternatives for developing a site for a large manufacturing facility. The site being explored is a large parcel located north of Interstate 20 and U.S. Highway 80 near Holly Ridge, Louisiana. The general site location is shown on Figure 1 of this report. Details regarding specific structure sizes, structure locations, finished grades, and other site grading requirements have not been established at this time.

The specific purposes of this investigation were:

- 1) to explore subsurface soil conditions by means of borings made at locations selected by others;
- 2) to determine pertinent physical properties of the soils encountered in the borings by means of visual examination of the soil samples in the laboratory and the performance of tests on selected samples; and

3) after analysis of the soil boring and laboratory test data, to provide preliminary recommendations for site preparation, earthwork construction, and building foundation design and construction.

Field Investigation

Subsurface soil conditions at the specified locations were explored by means of 12 borings. The approximate locations of the borings are shown on Figure 1 of this report. Borings 1, 2 and 3 were located in the field by Randy Denmon. The remaining borings were located using coordinates provided by Mr. Denmon and a hand-held GPS device.

A synopsis of the Unified Soil Classification System is presented on Figure 2 along with symbols and terminology typically utilized on graphical soil boring logs. Graphical logs of the borings are presented on Figures 3 through 14. The graphical logs illustrate the types of soil encountered with depth below the surface at the individual boring locations. GPS coordinates for the boring locations as determined using a hand-held device are included in the "Comments" section at the bottom of the graphical boring logs.

The borings were made with a buggy-mounted rotary drill rig. The borings were advanced by dry augering to a depth of 15 ft and then were extended to a completion depth of 50 ft using rotary wash drilling procedures. Observations were made continuously during auger drilling to detect free water entering the open boreholes. Notes pertaining to groundwater observations are included at the bottom right corner of the graphic boring logs.

Disturbed samples were obtained by driving a standard 2-in. OD split-spoon sampler 18 in. into the soil with a 140-lb hammer falling freely a distance of 30 in. The split-spoon samples were obtained in the borings at approximate 1.5-ft to 5-ft intervals of depth. The split-spoon samples were obtained within the depth intervals illustrated as crossed rectangular symbols under the "Samples" column of the graphic logs. Standard penetration test (SPT) blow counts resulting from split-spoon sampling are recorded under the "Blows Per Ft" column of the logs. Generally, the split-spoon sampler is driven 18 in. and the blow counts recorded on the logs are for the final 12 in. penetration of the split-spoon. At some depths, driving of the split-spoon was terminated at a penetration less than 18 in., upon achieving a very high blow count. For those depths, the blow count and corresponding penetration are recorded on the graphical boring logs.

All soils encountered during drilling were examined and classified in the field by a geotechnical engineering technician. Representative portions of the split-spoon samples were sealed in jars to provide material for visual examination and testing in the laboratory. In accordance with Louisiana Department of Transportation and Development requirements, the 50-ft deep boreholes were filled with cement-bentonite grout after completion of drilling and sampling.

Laboratory Testing

All of the soil samples were examined in the laboratory and tests were performed on selected samples to verify field classifications and to assist in evaluating the strengths and volume change properties of the soils encountered in the borings. The types of laboratory tests performed are described in the following paragraphs.

The strength properties of the soils encountered were evaluated from the field standard penetration test results, field and laboratory consistency and relative density estimates, and from the water content and plasticity data.

The classifications and volume change properties of the fine-grained soils encountered in the borings were investigated by means of 17 sets of Atterberg liquid and plastic limit tests. The results of the liquid and plastic limit tests are plotted as small crosses interconnected by dashed lines in the data section of the graphic boring logs. In accordance with the Unified Soil Classification System, fine-grained soils are classified as either clays or silts of low or high plasticity based on the results of liquid and plastic limit tests. The numerical difference between the liquid limit and plastic limit is defined as the plasticity index (PI). The magnitudes of the liquid limit and plasticity index and the proximity of the natural water content to the plastic limit are indicators of the potential for a fine-grained soil to shrink or swell upon changes in moisture content or to consolidate under loading.

The grain size characteristics of the coarse-grained soils were investigated by means of 20 mechanical sieve analyses and 23 determinations of the percent passing the No. 200 sieve. The results of the sieve analyses are presented as grain size distribution curves on Figures 15 through 34. The percent passing the No. 200 sieve resulting from both the full and partial sieve analyses are tabulated in the far right column of the graphic boring logs.

Water content tests were performed on 43 samples to corroborate field classifications and to extend the usefulness of the strength and plasticity data. The results of the water content tests are plotted as small shaded circles in the data section of the graphic boring logs. The water content data have been interconnected on the graphic logs to show continuous profile with depth.

General Soil Conditions

The soils encountered in this investigation were found to consist of fine-grained, braided stream (topstratum) deposits underlain by a coarse-grained substratum. The topstratum deposits were encountered to depths ranging from about 4.5 ft to 18 ft below the ground surface and include silty clays (CL), clays (CH), sandy clays (CL) and silts (ML). The topstratum soils are in turn underlain by coarse-grained substratum sands.

The soils encountered directly beneath the ground surface at the locations of 4 of the 12 borings made for this investigation were generally found to be moderately strong and stable at the time of our investigation, and the soils at the locations of the remaining borings were found to be moderately weak and unstable. The weak soils were generally encountered to a depth of

about 1.5 ft to 2 ft. It should be recognized that the strength of these surficial soils is strongly influenced by the season of the year. Expansive clays (CH) with moderate to moderate-high shrink/swell potential were encountered directly beneath the ground surface at the locations of 4 of the 12 borings made for this investigation to depths ranging from about 1.5 ft to 7 ft.

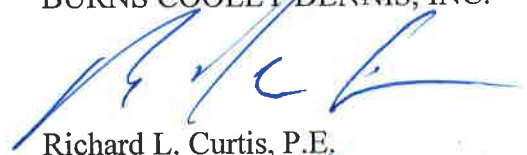
Conclusions

The borings for this investigation encountered conditions similar to those encountered in our previous preliminary geotechnical investigation. All recommendations provided in the preliminary report are still applicable. When more detailed information is available regarding the proposed construction, appropriate geotechnical engineering analyses can be performed and detailed recommendations pertaining to earthwork construction and foundation design and construction can be provided.

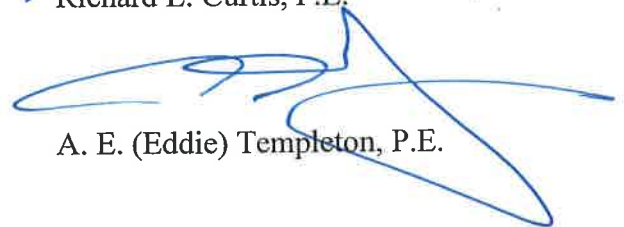
We appreciate the opportunity to be of service. If you should have any questions concerning this report, please do not hesitate to call us.

Very truly yours,

BURNS COOLEY DENNIS, INC.



Richard L. Curtis, P.E.



A. E. (Eddie) Templeton, P.E.

AET/RLC/khb
Copies Submitted: (3)

FIGURES



Boring Locations

PROJECT DELTA
RICHLAND PARISH, LOUISIANA

BURNS COOLEY DENNIS, INC.
551 SUNNYBROOK ROAD
RIDGELAND, MISSISSIPPI 39157

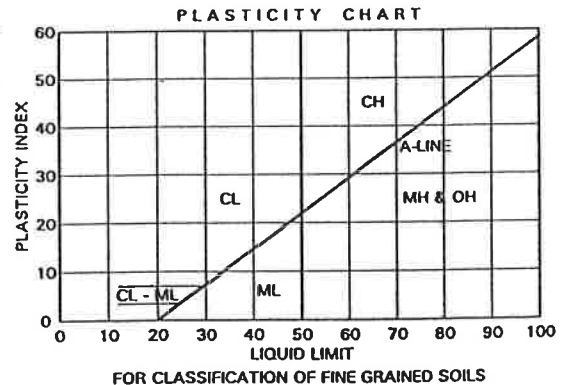
JOB NO. 110512	SCALE: 1"=1000'	FIGURE 1
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UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			SYMBOL & LETTER	DESCRIPTION
COARSE-GRAINED SOILS More than half of material larger than No. 200 sieve size	GRAVELS More than half of coarse fraction larger than No. 4 sieve size	Clean Gravels (Little or no fines)	GW	WELL GRADED GRAVEL, GRAVEL-SAND MIXTURE
			GP	POORLY GRADED GRAVEL, GRAVEL-SAND MIXTURE
		Gravels with fines (Appreciable amount of fines)	GM	SILTY GRAVEL, GRAVEL-SAND-SILT MIXTURE
			GC	CLAYEY GRAVEL, GRAVEL-SAND-CLAY MIXTURE
	SANDS More than half of coarse fraction smaller than No. 4 sieve size	Clean Sands (Little or no fines)	SW	WELL GRADED SAND, GRAVELLY SAND
			SP	POORLY GRADED SAND, GRAVELLY SAND
		Sands with fines (Appreciable amount of fines)	SM	SILTY SAND, SAND-SILT MIXTURE
			SC	CLAYEY SAND, SAND-CLAY MIXTURE
FINE-GRAINED SOILS More than half of material smaller than No. 200 sieve	SILTS AND CLAYS	Liquid limit less than 50	ML	SILT WITH LITTLE OR NO PLASTICITY
			ML	CLAYEY SILT, SILT WITH SLIGHT TO MEDIUM PLASTICITY
			CL	SILTY CLAY, LOW TO MEDIUM PLASTICITY
			CL	SANDY CLAY, LOW TO MEDIUM PLASTICITY (30% TO 50% SAND)
	SILTS AND CLAYS	Liquid limit greater than 50	MH	SILT, FINE SANDY OR SILTY SOIL WITH HIGH PLASTICITY
			CH	CLAY, HIGH PLASTICITY
			OH	ORGANIC CLAY OF MEDIUM TO HIGH PLASTICITY
			PT	PEAT, HUMUS, SWAMP SOIL
HIGHLY ORGANIC SOILS				

TERMS CHARACTERIZING SOIL STRUCTURE

- Slickensided** - Clays with polished and striated planes created as a result of volume changes related to shrinking, swelling and/or changes in overburden pressure.
- Fissured** - Clays with a blocky or jointed structure generally created by seasonal shrinking and swelling.
- Laminated** - Composed of thin alternating layers of varying color and texture.
- Calcareous** - Containing appreciable quantities of calcium carbonate.
- Parting Seam Layer** - Paper thin (less than 1/8 inch).
- 1/8 inch to 3 inch thickness.
- Greater than 3 inches in thickness.



DENSITY AND CONSISTENCY

COARSE-GRAINED SOILS		FINE-GRAINED SOILS		
DENSITY	PENETRATION RESISTANCE, N	CONSISTENCY	COHESION Kips/Sq.Ft	PENETRATION RESISTANCE, N
	Blows per Foot			Blows per Foot
Very loose	0 - 4	Very Soft	<0.25	0 - 1
Loose	5 - 10	Soft	0.25 - 0.50	2 - 4
Medium Dense	11 - 30	Medium Stiff	0.50 - 1.00	5 - 8
Dense	31 - 50	Stiff	1.00 - 2.00	9 - 15
Very Dense	>50	Very Stiff	2.00 - 4.00	16 - 30
		Hard	>4.00	>30

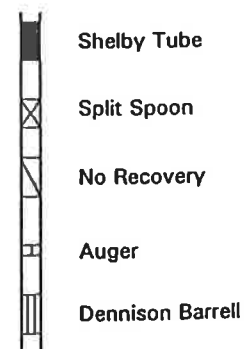
PARTICLE SIZE IDENTIFICATION

- Cobbles** - Greater than 3 inches
- Gravel** - Coarse - 3/4 inch to 3 inches
Fine - 4.76 mm to 3/4 inch
- Sand** - Coarse - 2 mm to 4.76mm
Medium - 0.42 mm to 2 mm
Fine - 0.074 mm to 0.42 mm
- Silt & Clay** - Less than 0.074 mm

RELATIVE COMPOSITION

- Slightly 5 - 15%
- With 16 - 29%
- Sandy 30 - 50% (or gravelly)

SAMPLE TYPES (Shown in Sample Column)



CLASSIFICATION, SYMBOLS AND TERMS USED ON GRAPHICAL BORING LOGS

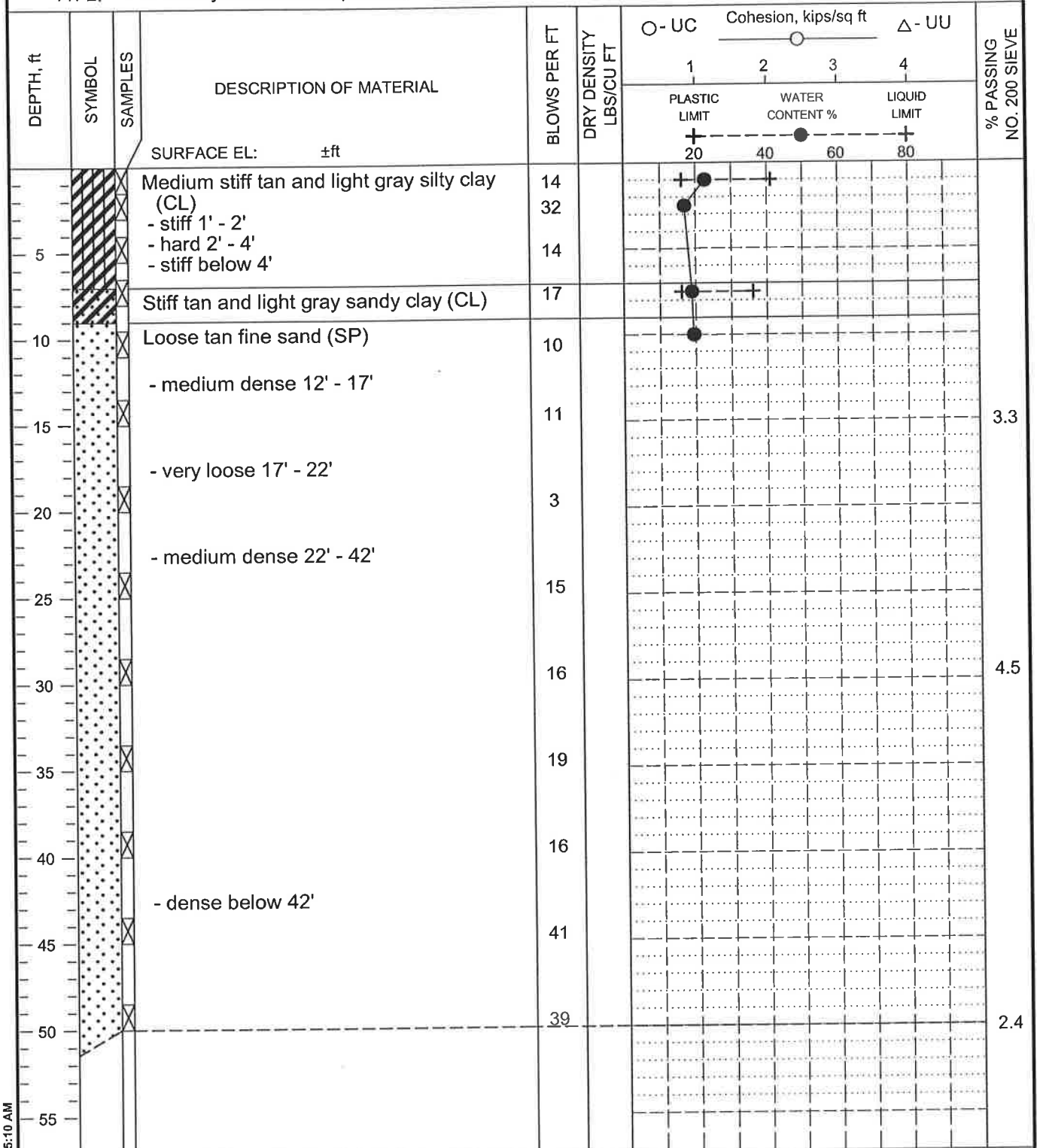
LOG OF BORING NO. 1

PROJECT DELTA

RICHLAND PARISH, LOUISIANA

TYPE: 6" Short-flight auger to 15',
then rotary wash to completion.

LOCATION: See Figure 1



BORING DEPTH: 50 ft

DATE: 12/05/11

COMMENTS: Borehole filled with cement-bentonite grout after completion of drilling and sampling.
GPS Coordinates
N 32° 30' 25.1"
W 91° 37' 56.3"

GROUNDWATER DATA: No free water encountered during auger drilling.

110512 1/16/2012 8:15:10 AM

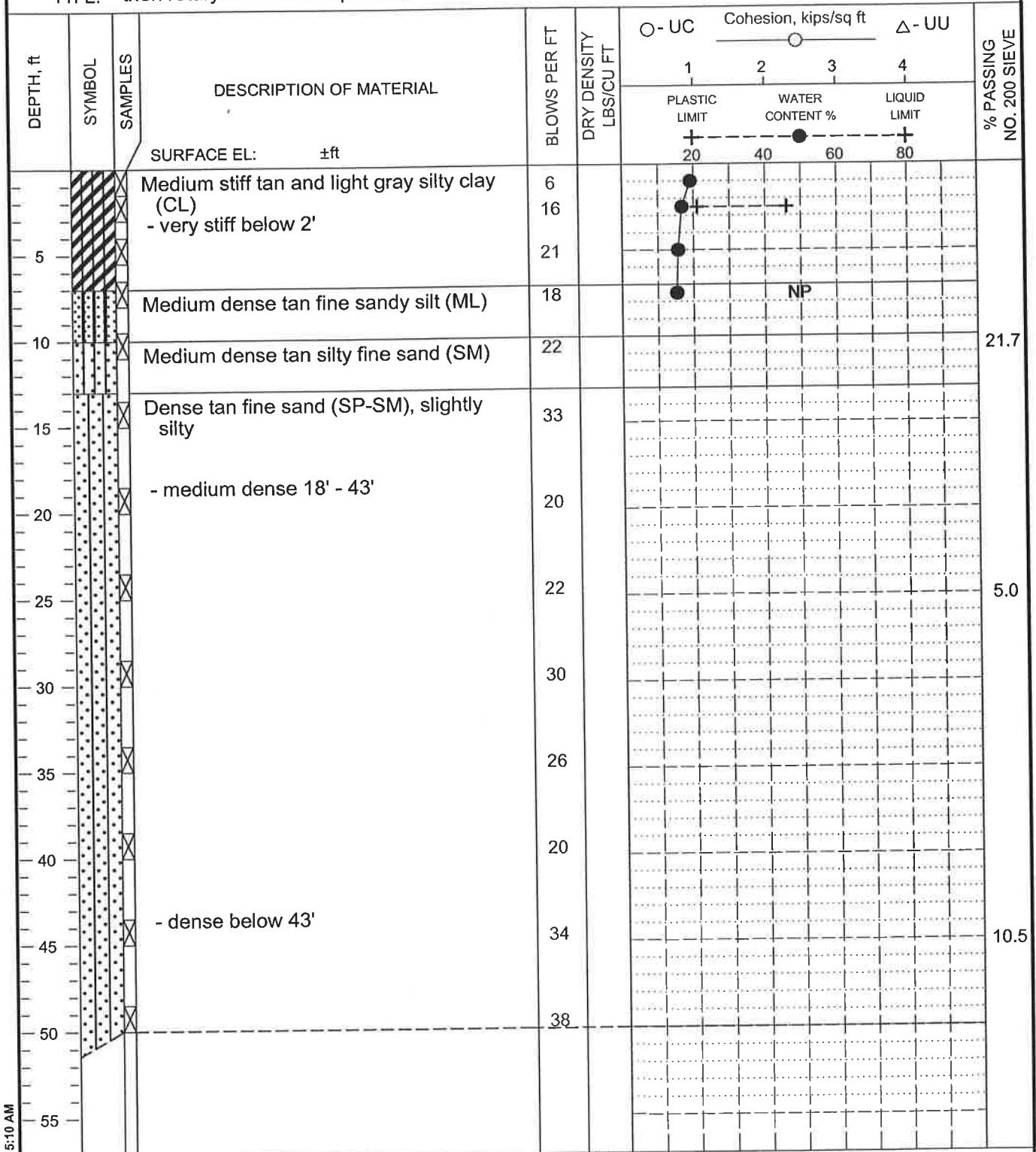
LOG OF BORING NO. 2

PROJECT DELTA

RICHLAND PARISH, LOUISIANA

TYPE: 6" Short-flight auger to 15',
then rotary wash to completion.

LOCATION: See Figure 1



BORING DEPTH: 50 ft

DATE: 12/05/11

COMMENTS: Borehole filled with cement-bentonite grout after completion of drilling and sampling.
GPS Coordinates
N 32° 29' 35.1"
W 91° 38' 1.1"

GROUNDWATER DATA: No free water encountered during auger drilling.

110512 1/6/2012 8:15:10 AM

LOG OF BORING NO. 3

PROJECT DELTA

RICHLAND PARISH, LOUISIANA

TYPE: 6" Short-flight auger to 15',
then rotary wash to completion.

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	DRY DENSITY LBS/CU FT	Cohesion, kips/sq ft			% PASSING NO. 200 SIEVE	
						○ - UC	△ - UU	+		
			SURFACE EL: ±ft			1	2	3	4	
						PLASTIC LIMIT	WATER CONTENT %	LIQUID LIMIT		
						20	40	60	80	
5	[Diagonal Hatching]	[X]	Medium stiff tan and light gray silty clay (CL) - stiff 1.5' - 3' - very stiff below 3'	8 15 22		●	●	●	●	
10	[Diagonal Hatching]	[X]	Medium dense tan and light gray clayey silt (ML)	23		●	●	●	●	
15	[Diagonal Hatching]	[X]	Medium dense tan silty fine sand (SM)	25						22.3
20	[Diagonal Hatching]	[X]		33						
25	[Diagonal Hatching]	[X]	Medium dense tan fine sand (SP-SM), slightly silty	23						
30	[Diagonal Hatching]	[X]	- dense below 29'	32						12.4
35	[Diagonal Hatching]	[X]	Medium dense tan fine sand (SP)	24						4.3
40	[Diagonal Hatching]	[X]		26						
45	[Diagonal Hatching]	[X]		18						
50	[Diagonal Hatching]	[X]		23						2.5
55										

BORING DEPTH: 50 ft

DATE: 12/05/11

COMMENTS: Borehole filled with cement-bentonite grout after completion of drilling and sampling.
GPS Coordinates
N 32° 29' 35.3"
W 91° 38' 37.1"

GROUNDWATER DATA: No free water encountered during auger drilling.

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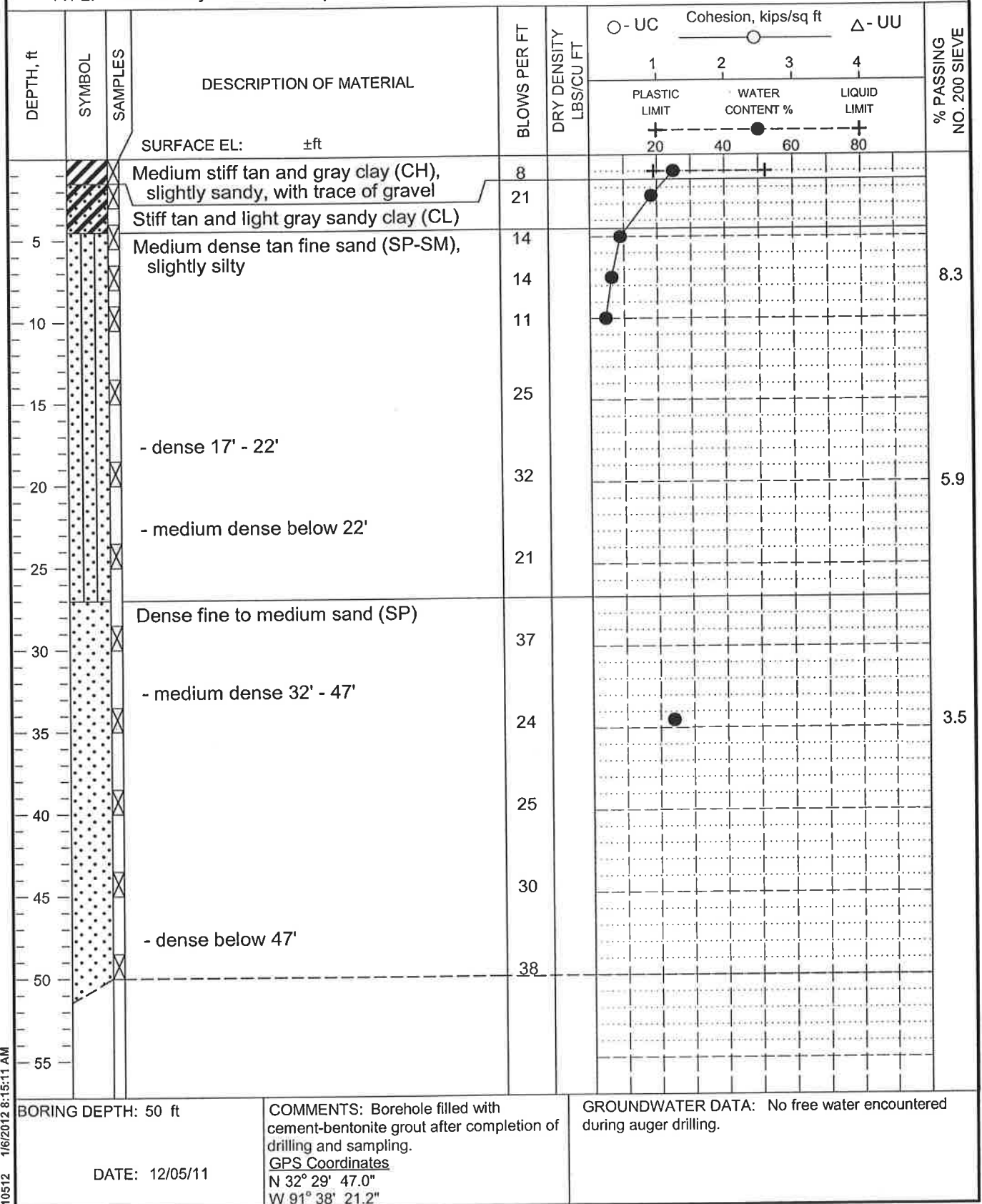
LOG OF BORING NO. 4

PROJECT DELTA

RICHLAND PARISH, LOUISIANA

TYPE: 6" Short-flight auger to 15',
then rotary wash to completion.

LOCATION: See Figure 1



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FIGURE 6

LOG OF BORING NO. 5

PROJECT DELTA
RICHLAND PARISH, LOUISIANA

TYPE: 6" Short-flight auger to 15',
then rotary wash to completion.

LOCATION: See Figure 1

DEPTH, ft	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	BLOWS PER FT	DRY DENSITY LBS/CU FT	Cohesion, kips/sq ft			% PASSING NO. 200 SIEVE
						○ - UC	△ - UU	+	
			SURFACE EL: ±ft				PLASTIC LIMIT	WATER CONTENT %	LIQUID LIMIT
							20	40 60 80	80
5	[Diagonal Hatching]		Stiff tan and light gray silty clay (CL) - very stiff, slightly sandy below 2'	12 25 22		●	+		
10	[Vertical Lines]		Medium dense tan sandy silt (ML)	16		●			66.6
15	[Dotted]		Medium dense tan fine sand (SP)	14					
20				15					4.5
25			- gray 23' - 33'	17					
30				14					
35			- with trace of gravel below 33'	16					
40				21					3.8
45			Dense light gray and tan fine sand (SP-SM), slightly silty	20					
50				44					
55				68					6.1

BORING DEPTH: 50 ft

DATE: 12/05/11

COMMENTS: Borehole filled with cement-bentonite grout after completion of drilling and sampling.

GPS Coordinates
N 32° 29' 49.4"
W 91° 38' 4.7"

GROUNDWATER DATA: No free water encountered during auger drilling.

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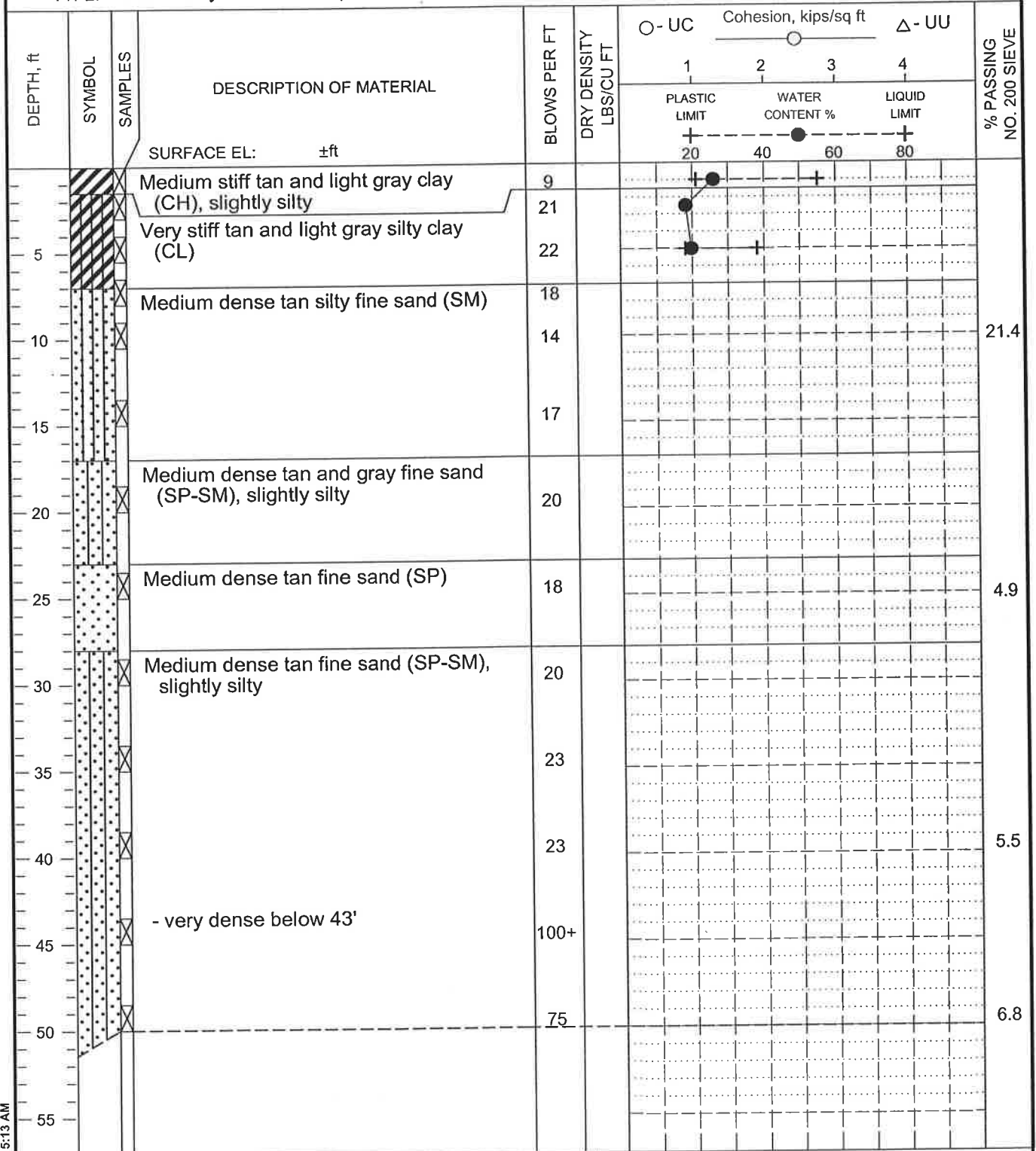
LOG OF BORING NO. 6

PROJECT DELTA

RICHLAND PARISH, LOUISIANA

TYPE: 6" Short-flight auger to 15',
then rotary wash to completion.

LOCATION: See Figure 1



BORING DEPTH: 50 ft	COMMENTS: Borehole filled with cement-bentonite grout after completion of drilling and sampling. GPS Coordinates N 32° 29' 47.7" W 91° 37' 59.6"	GROUNDWATER DATA: No free water encountered during auger drilling.
DATE: 12/05/11		

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FIGURE 8

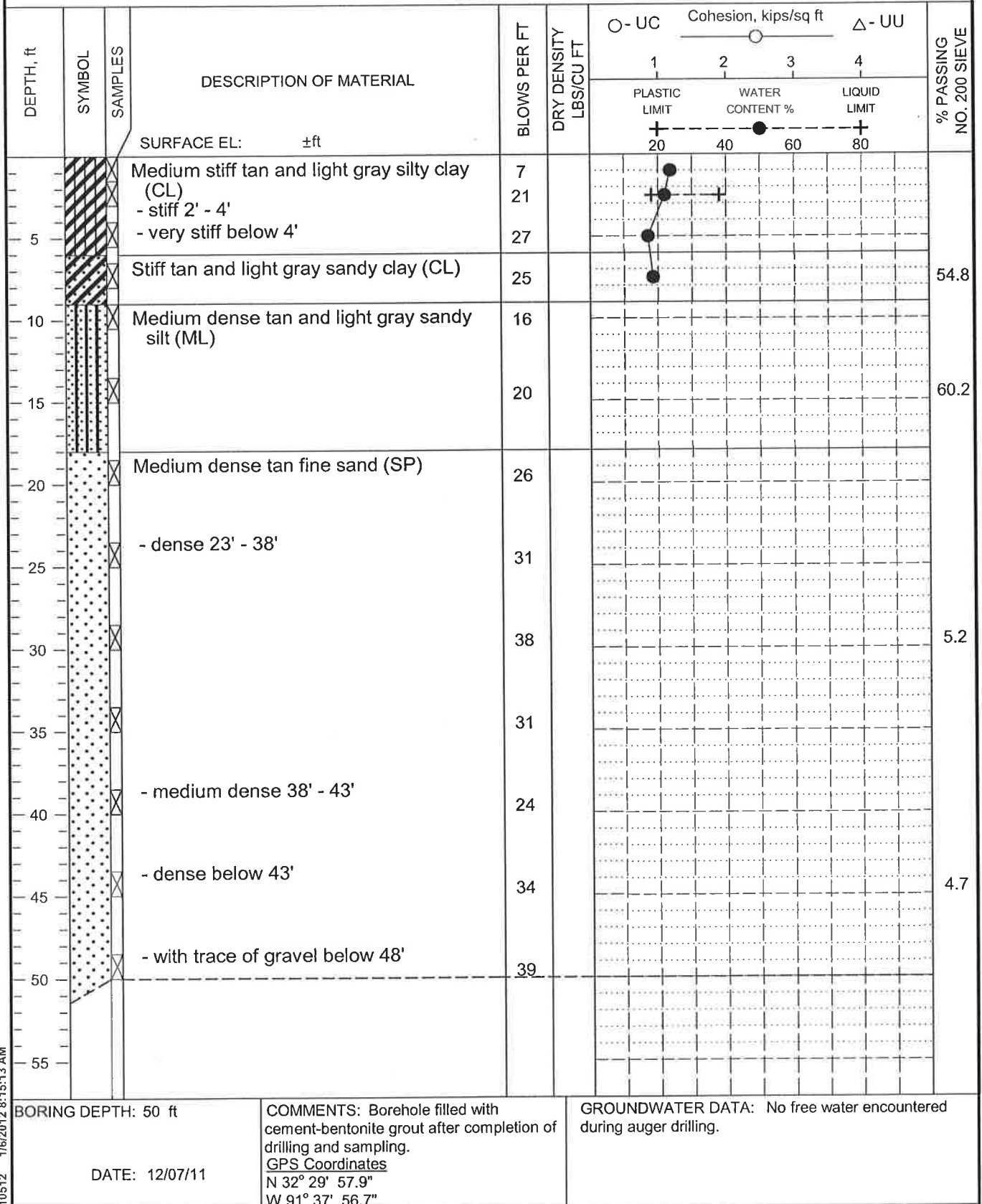
LOG OF BORING NO. 7

PROJECT DELTA

RICHLAND PARISH, LOUISIANA

TYPE: 6" Short-flight auger to 15', then rotary wash to completion.

LOCATION: See Figure 1



BORING DEPTH: 50 ft

DATE: 12/07/11

COMMENTS: Borehole filled with cement-bentonite grout after completion of drilling and sampling.
GPS Coordinates
N 32° 29' 57.9"
W 91° 37' 56.7"

GROUNDWATER DATA: No free water encountered during auger drilling.

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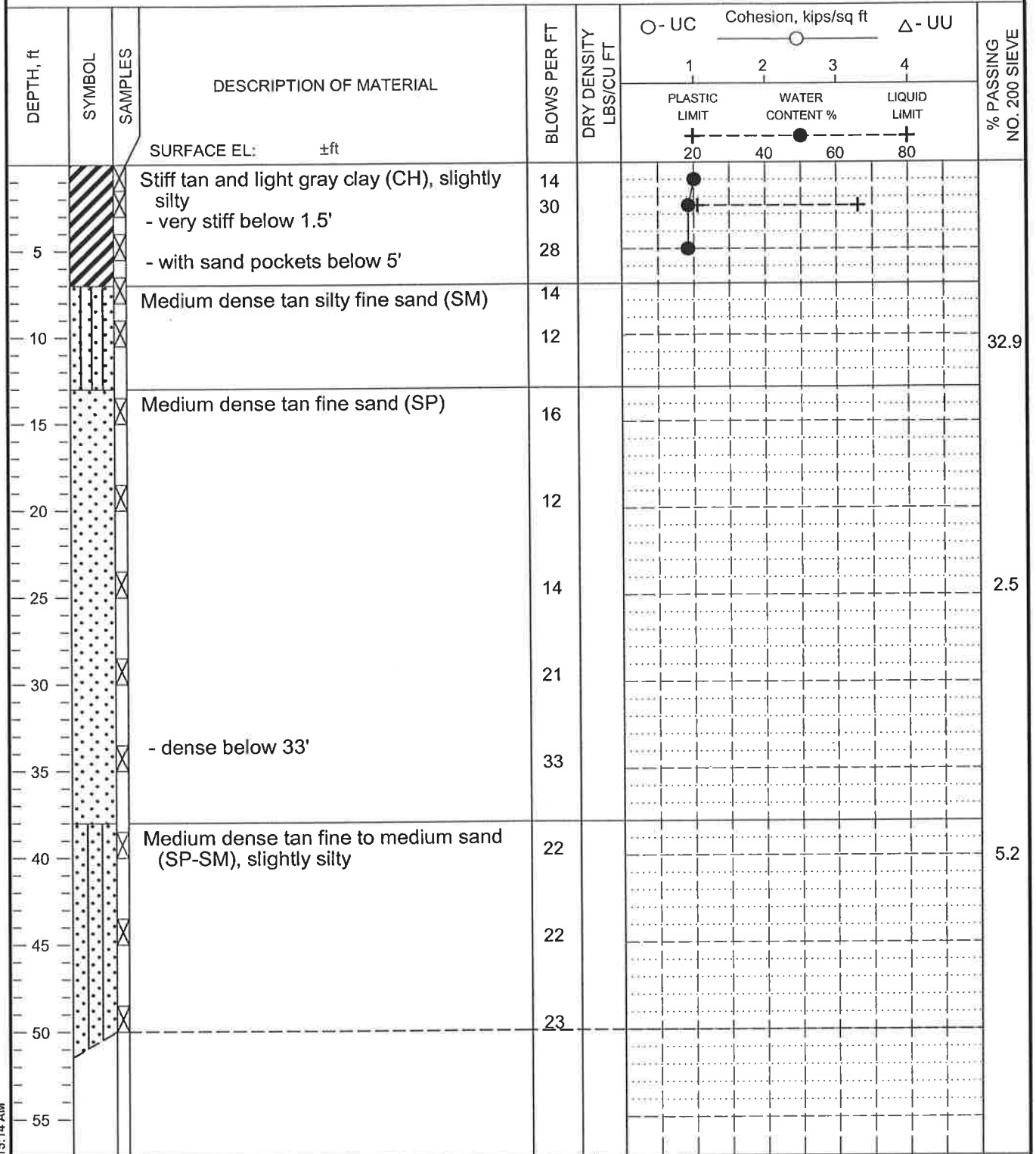
LOG OF BORING NO. 8

PROJECT DELTA

RICHLAND PARISH, LOUISIANA

TYPE: 6" Short-flight auger to 15',
then rotary wash to completion.

LOCATION: See Figure 1



BORING DEPTH: 50 ft

DATE: 12/05/11

COMMENTS: Borehole filled with cement-bentonite grout after completion of drilling and sampling.
GPS Coordinates
N 32° 29' 57.0"
W 91° 38' 17.6"

GROUNDWATER DATA: No free water encountered during auger drilling.

110512 1/6/2012 8:15:14 AM

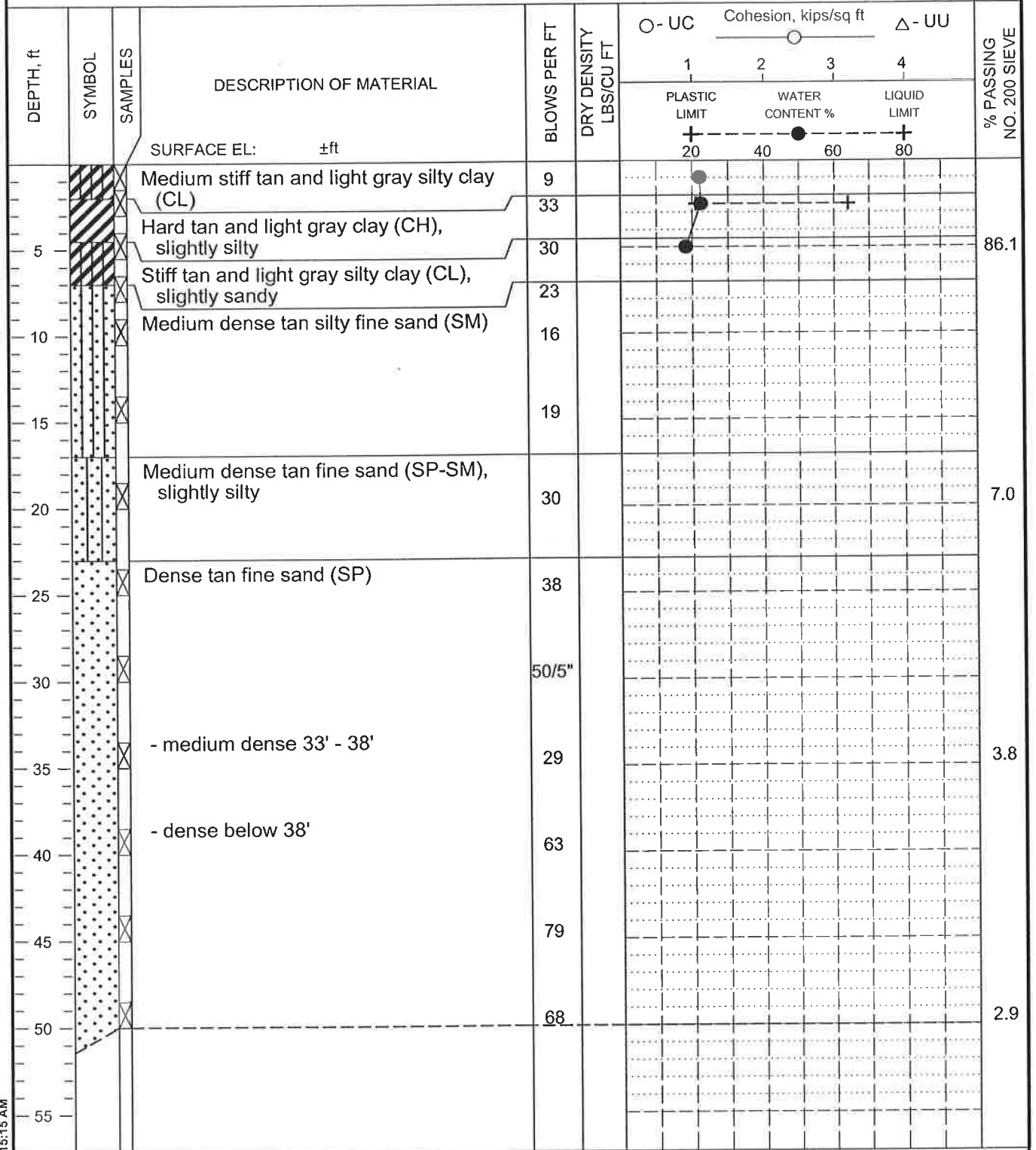
LOG OF BORING NO. 9

PROJECT DELTA

RICHLAND PARISH, LOUISIANA

TYPE: 6" Short-flight auger to 15',
then rotary wash to completion.

LOCATION: See Figure 1



BORING DEPTH: 50 ft

COMMENTS: Borehole filled with cement-bentonite grout after completion of drilling and sampling.

GROUNDWATER DATA: No free water encountered during auger drilling.

DATE: 12/07/11

GPS Coordinates
N 32° 30' 16.1"
W 91° 38' 6.1"

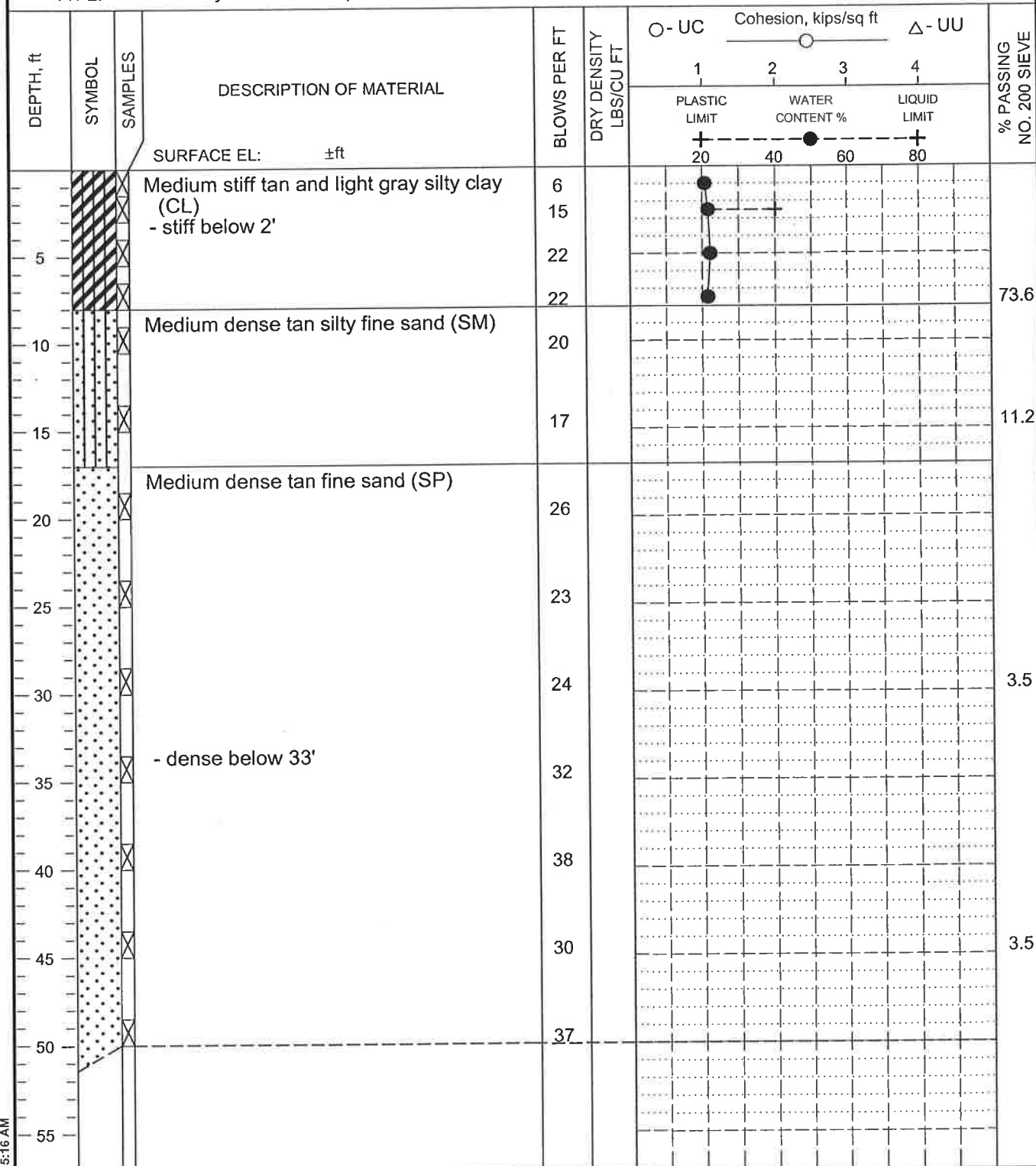
110512 1/16/2012 8:15:15 AM

LOG OF BORING NO. 10

PROJECT DELTA
RICHLAND PARISH, LOUISIANA

TYPE: 6" Short-flight auger to 15',
then rotary wash to completion.

LOCATION: See Figure 1



BORING DEPTH: 50 ft

DATE: 12/08/11

COMMENTS: Borehole filled with cement-bentonite grout after completion of drilling and sampling.
GPS Coordinates
 N 32° 30' 18.3"
 W 91° 38' 19.8"

GROUNDWATER DATA: No free water encountered during auger drilling.

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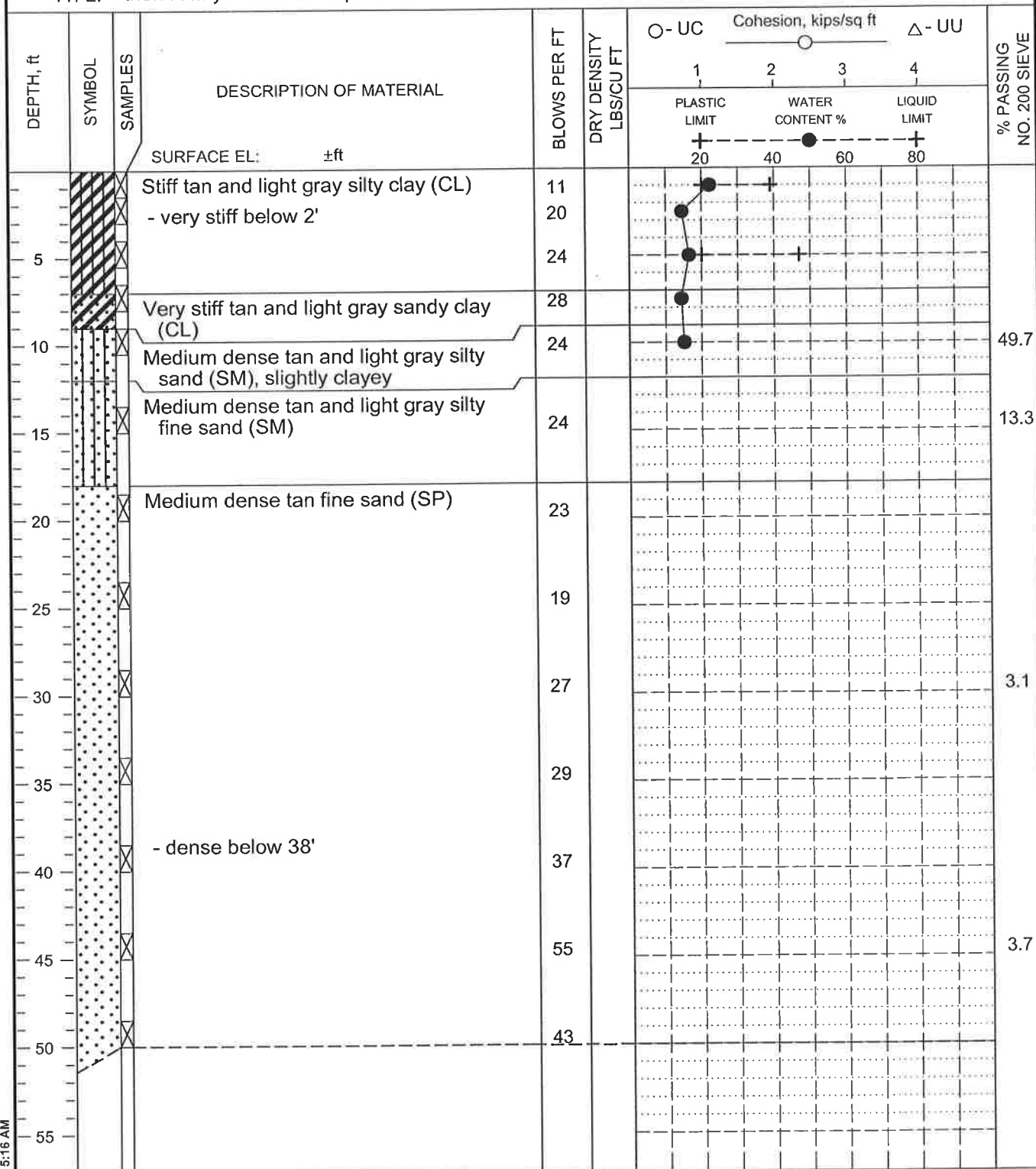
LOG OF BORING NO. 11

PROJECT DELTA

RICHLAND PARISH, LOUISIANA

TYPE: 6" Short-flight auger to 15',
then rotary wash to completion.

LOCATION: See Figure 1



110512 1/6/2012 8:15:16 AM

BORING DEPTH: 50 ft	COMMENTS: Borehole filled with cement-bentonite grout after completion of drilling and sampling. <u>GPS Coordinates</u> N 32° 30' 37.5" W 91° 38' 16.8"	GROUNDWATER DATA: No free water encountered during auger drilling.
DATE: 12/08/11		

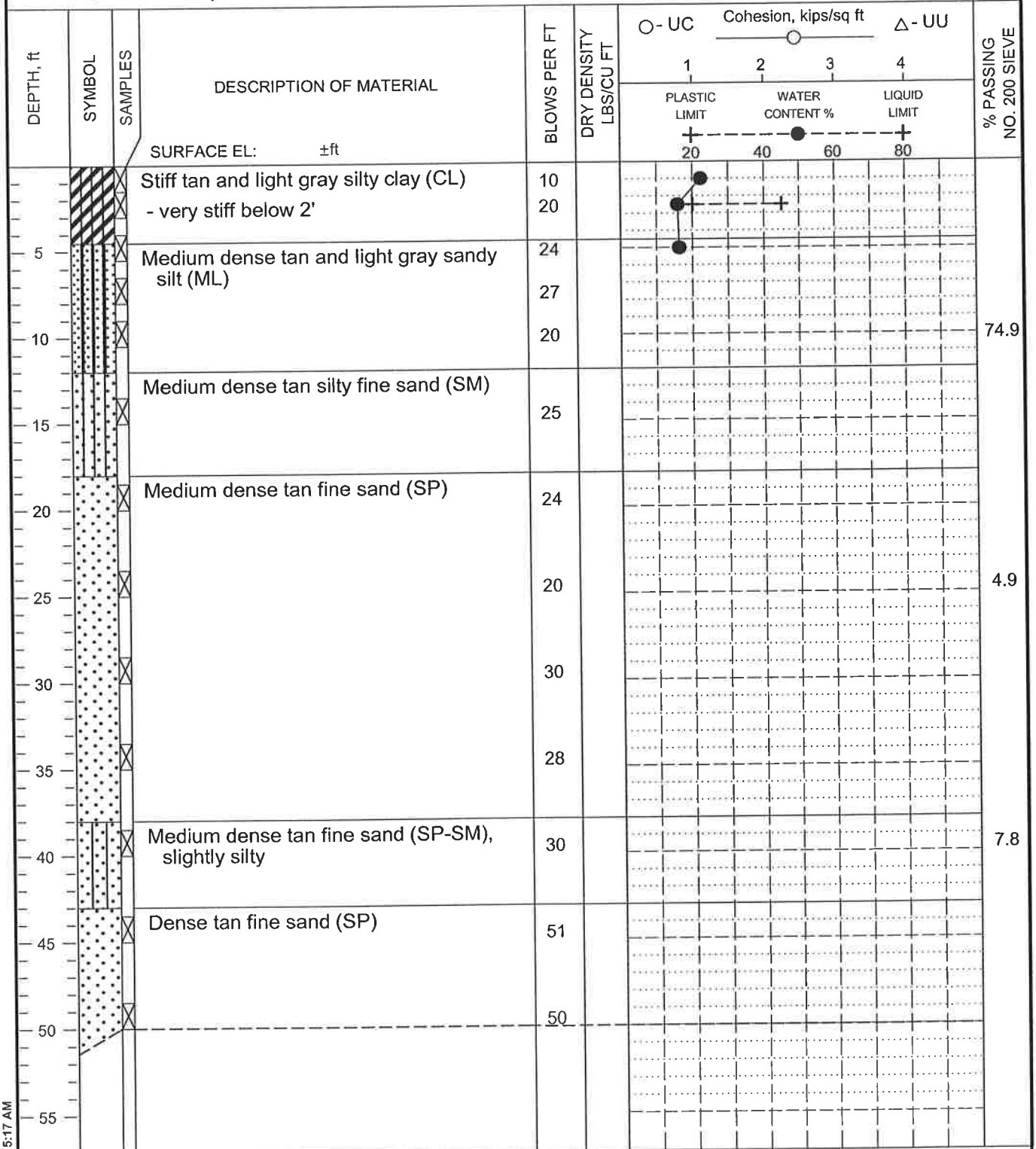
FIGURE 13

LOG OF BORING NO. 12

PROJECT DELTA
RICHLAND PARISH, LOUISIANA

TYPE: 6" Short-flight auger to 15',
then rotary wash to completion.

LOCATION: See Figure 1



BORING DEPTH: 50 ft

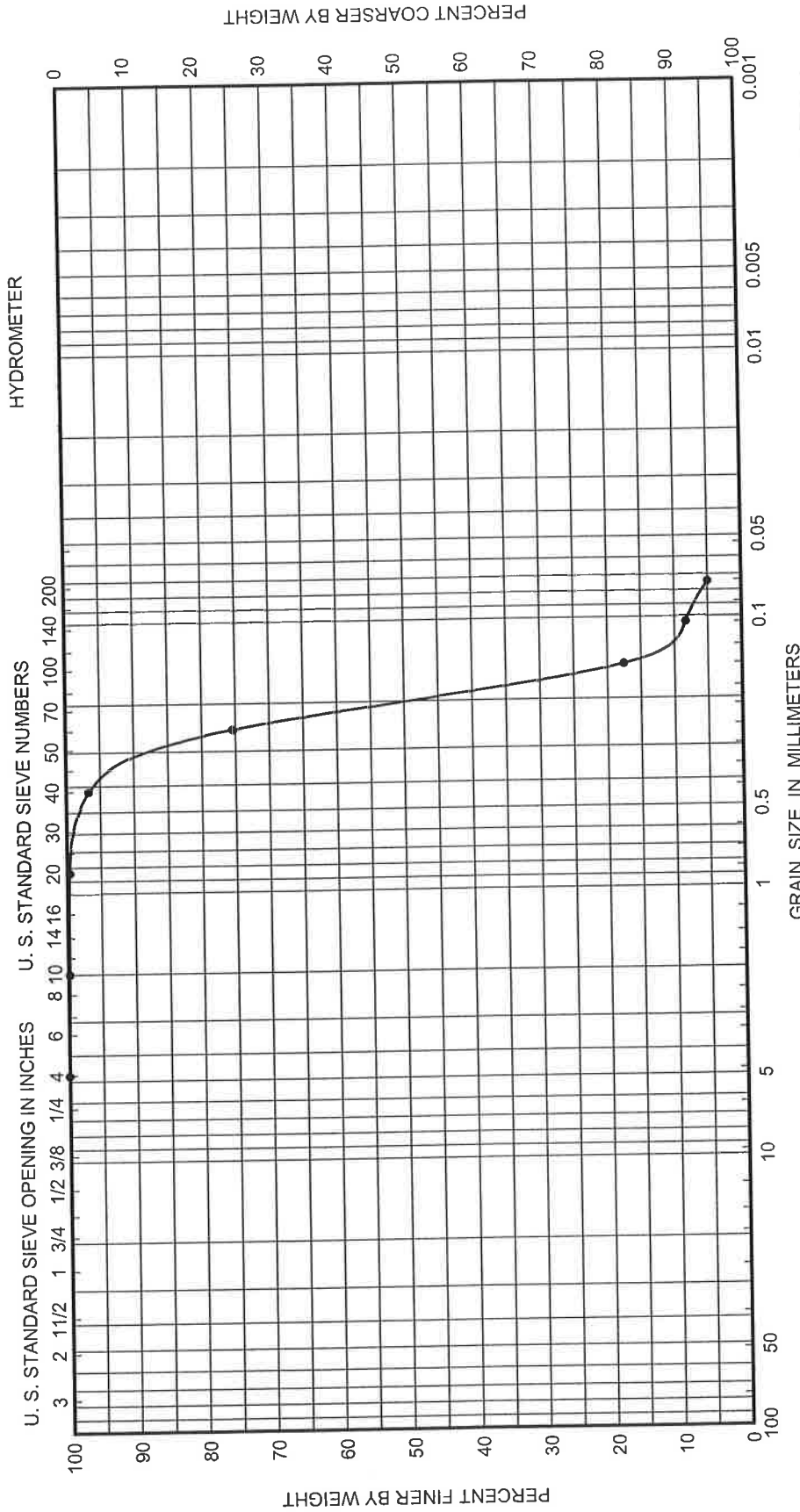
DATE: 12/09/11

COMMENTS: Borehole filled with cement-bentonite grout after completion of drilling and sampling.
GPS Coordinates
N 32° 30' 32.4"
W 91° 38' 6.6"

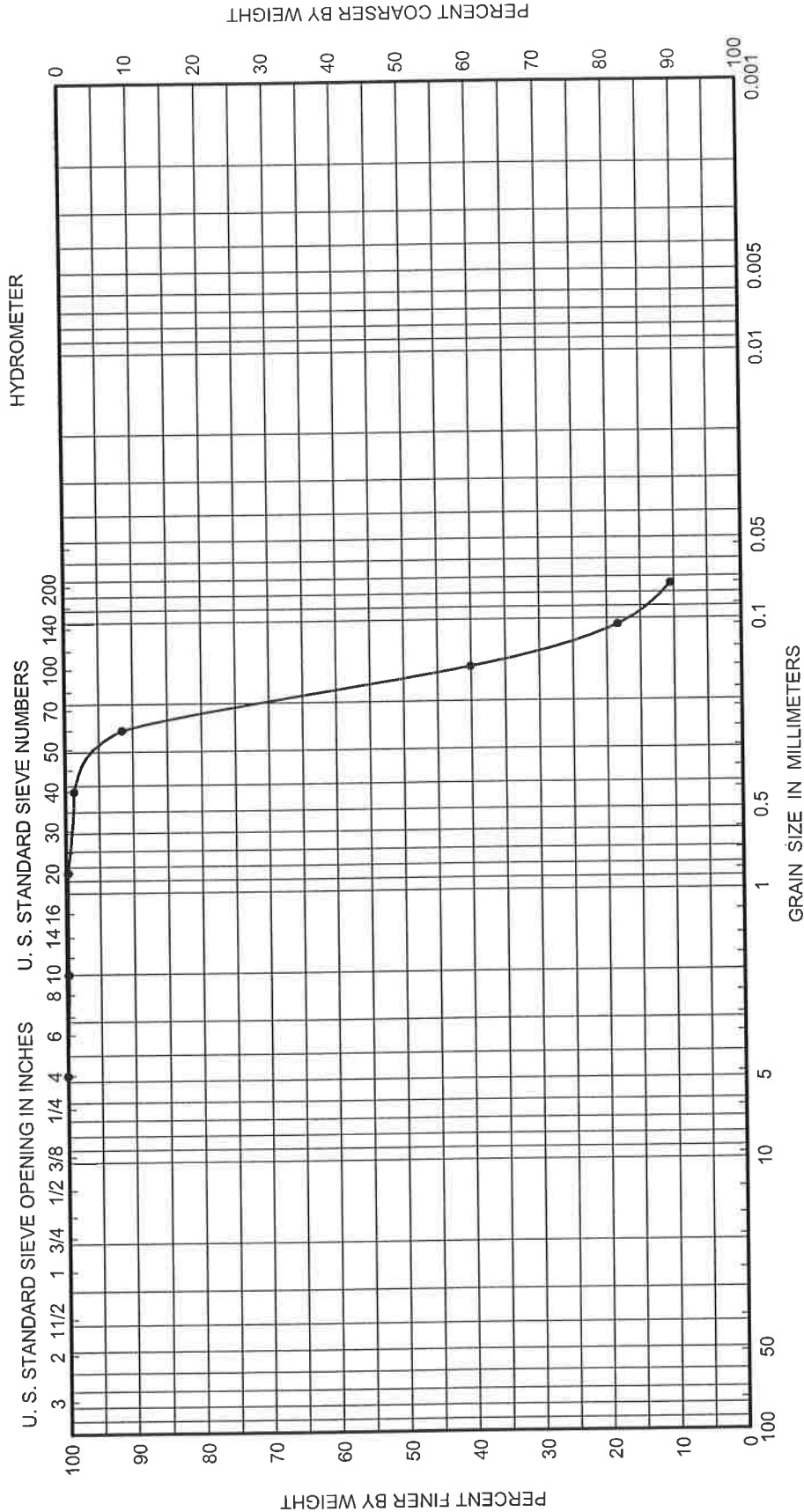
GROUNDWATER DATA: No free water encountered during auger drilling.

110512 1/16/2012 8:15:17 AM

GRAIN SIZE CURVES



GRAIN SIZE CURVES

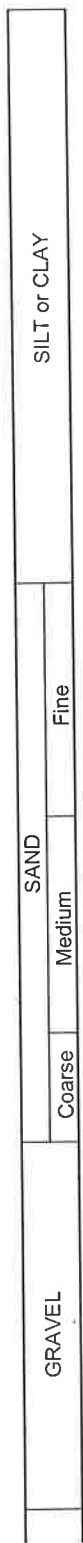
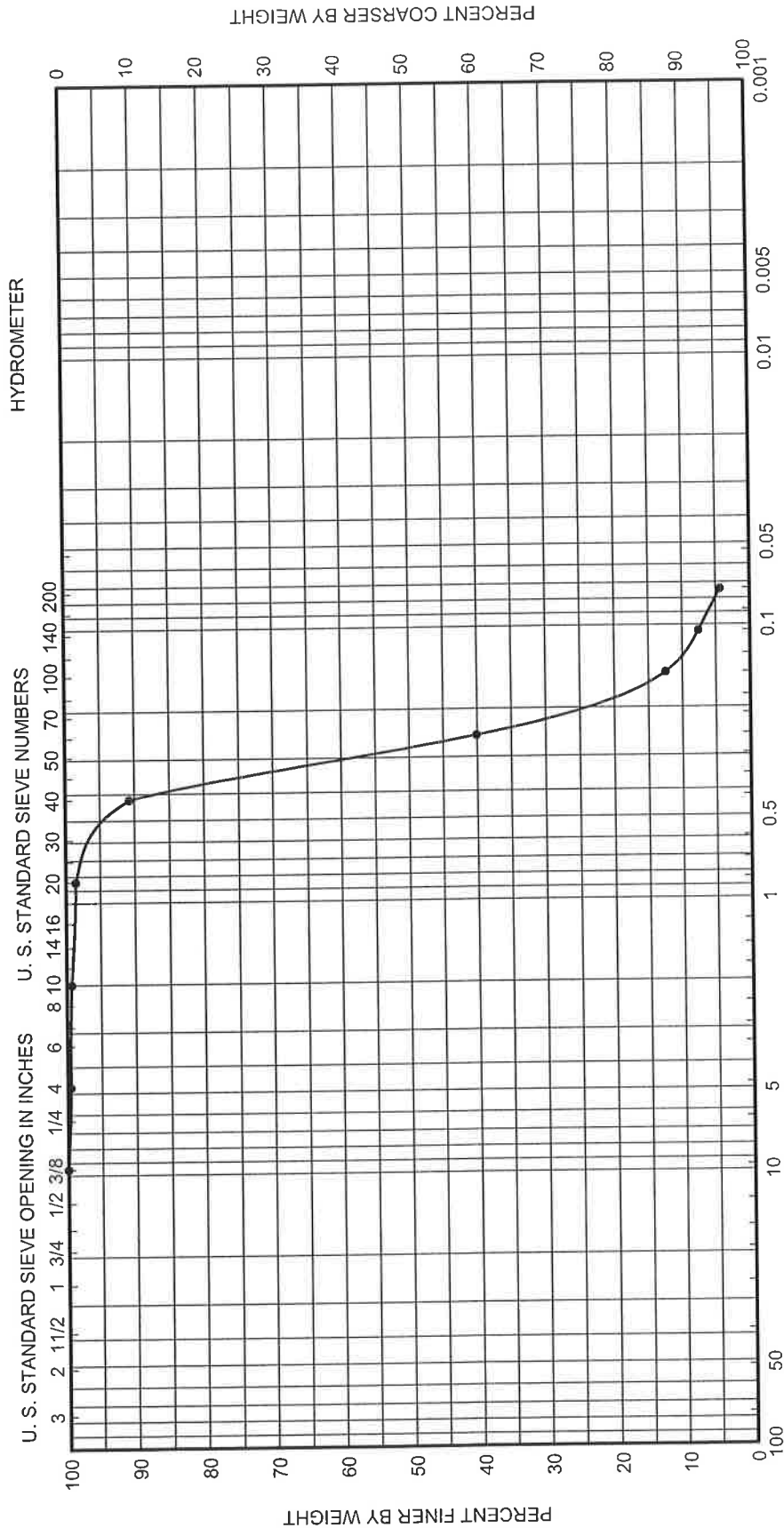


Symbol	Boring	Depth, Ft.	Sample	Classification
●	2	45	12	Tan fine sand (SP-SM), slightly silty

Project	PROJECT DELTA

Date	12/05/2011	Job No.	110512
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GRAIN SIZE CURVES

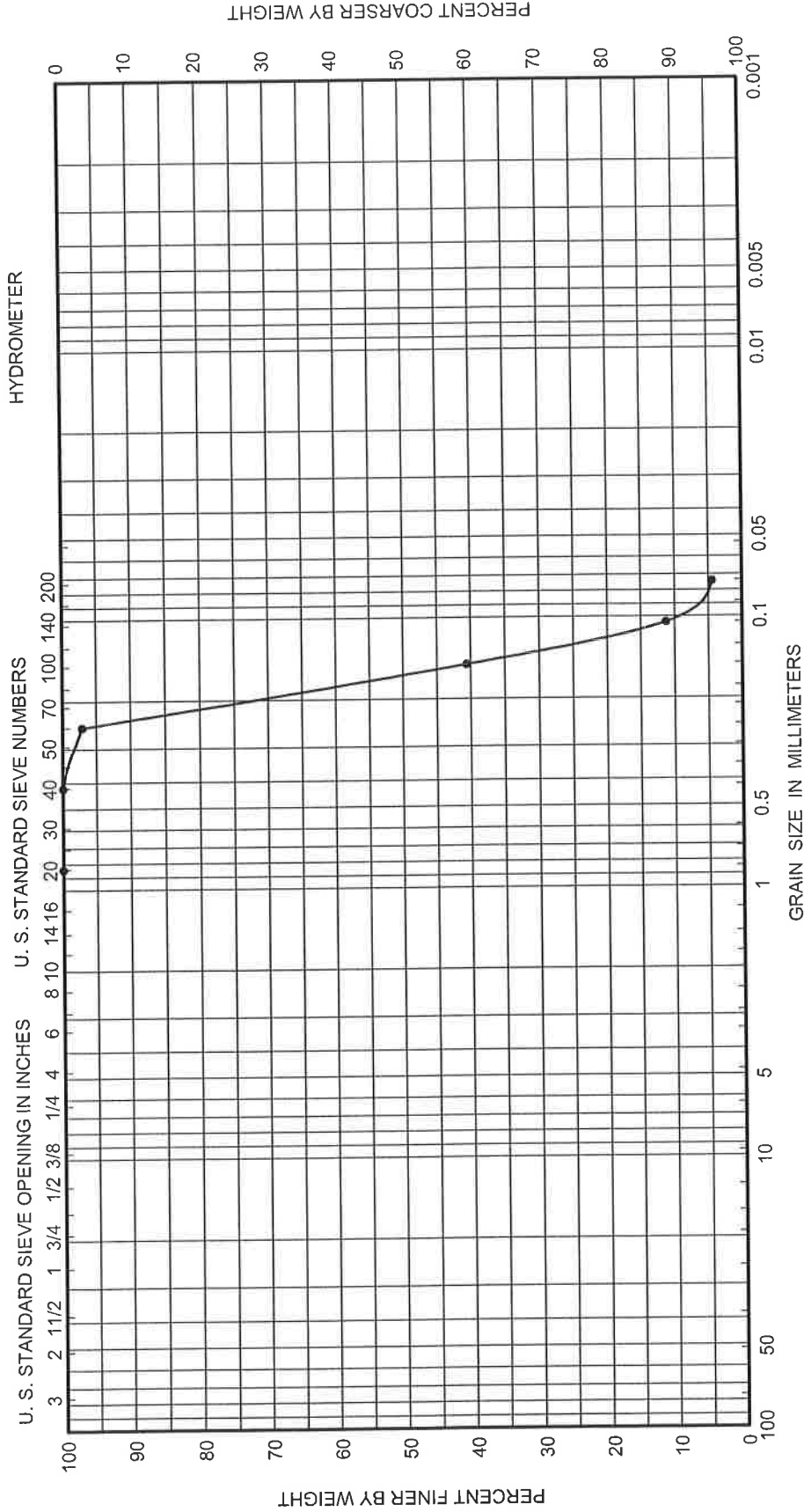


Symbol	Boring	Depth, Ft.	Sample	Classification
●	3	35	10	Tan fine sand (SP)

Project	PROJECT DELTA
Richland Parish, Louisiana	RICHLAND PARISH, LOUISIANA
Date	12/05/2011
Job No.	110512

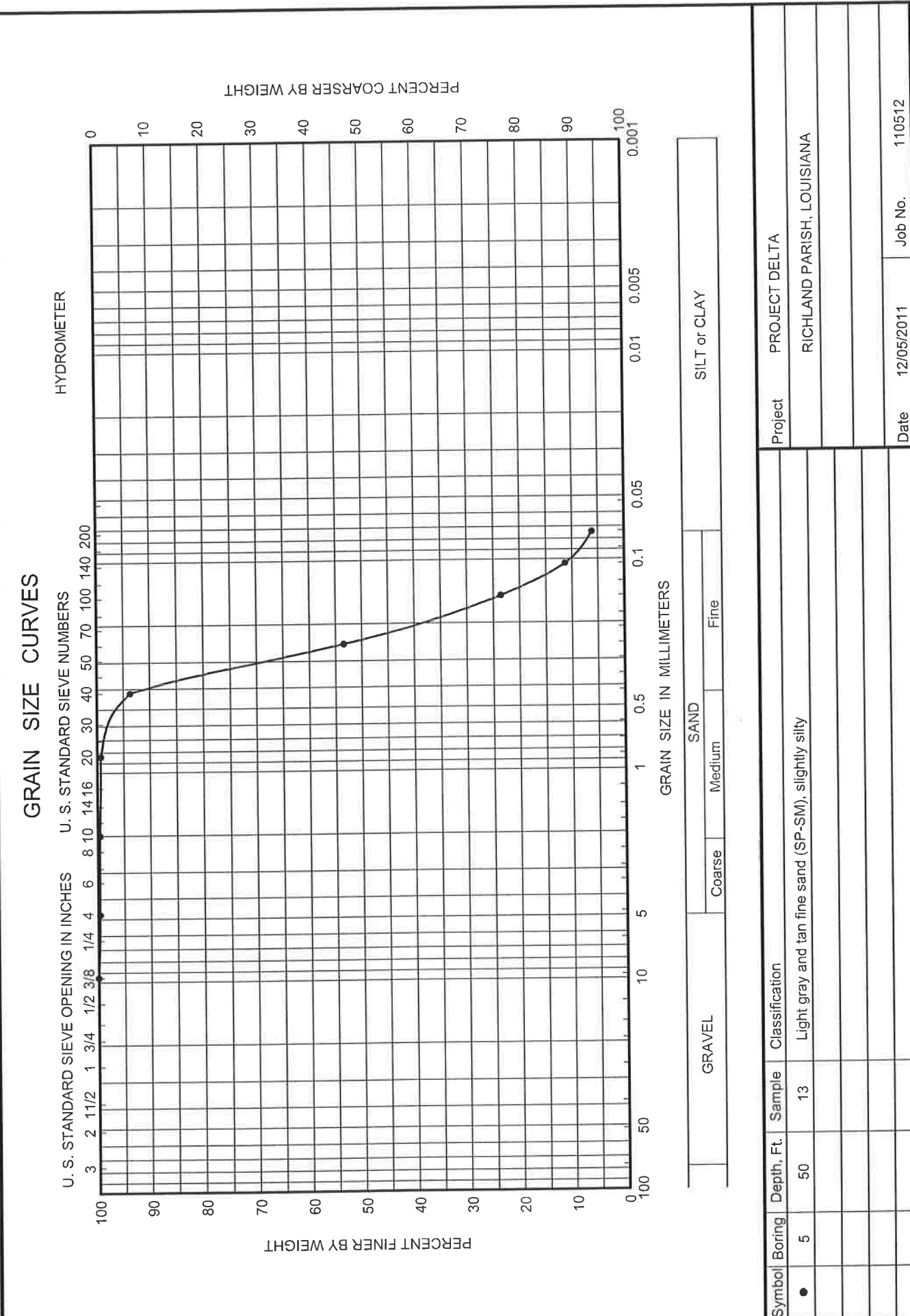
FIGURE 21

GRAIN SIZE CURVES



GRAVEL	SAND		SILT or CLAY	
	Coarse	Medium	Fine	

Symbol	Boring	Depth, Ft.	Sample	Classification	Project
•	5	15	6	Tan fine sand (SP)	PROJECT DELTA
					RICHLAND PARISH, LOUISIANA
Date			12/05/2011	Job No.	110512

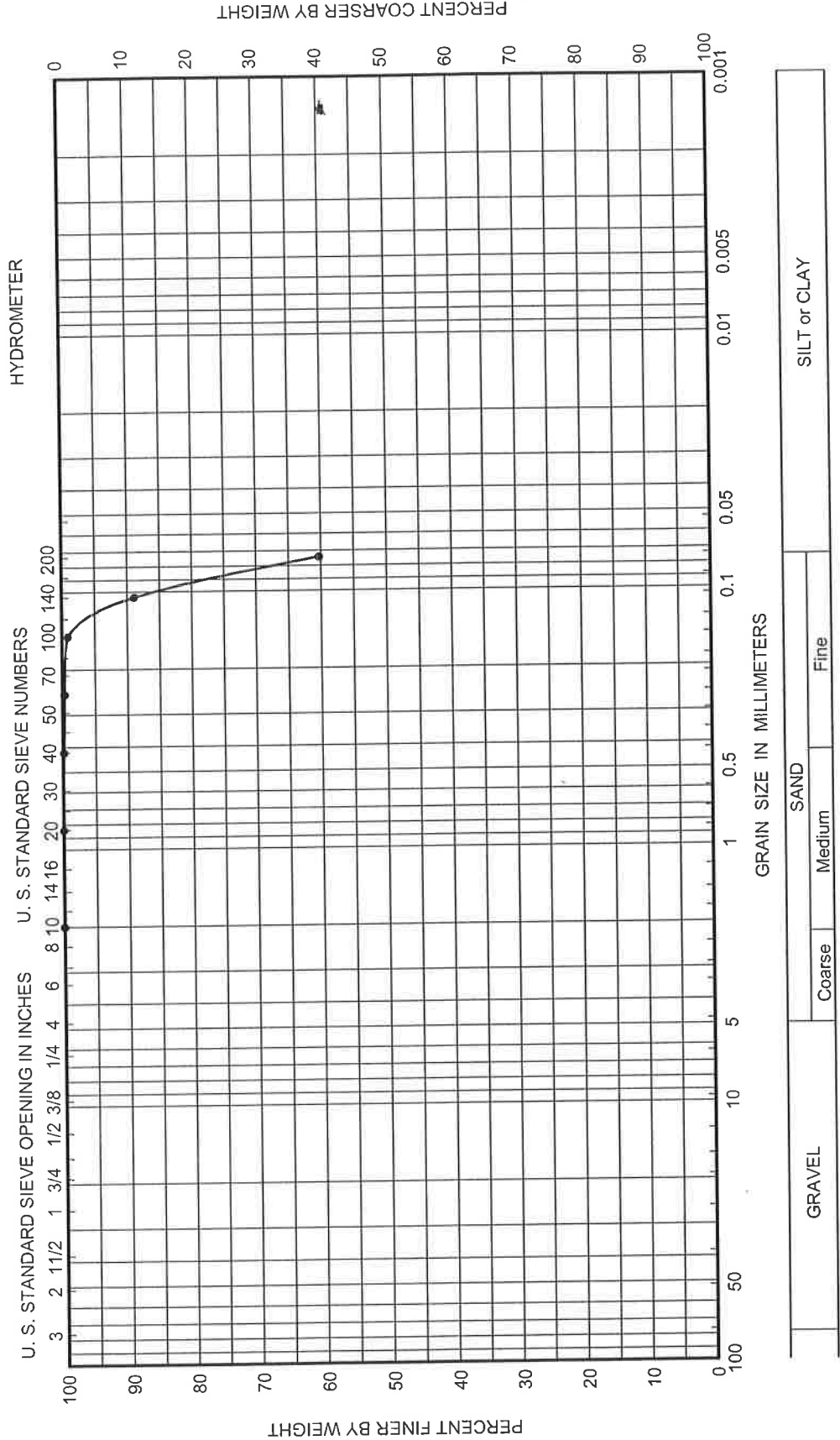


GRAVEL: Coarse, Medium, Fine; SAND: Coarse, Medium, Fine; SILT or CLAY

Symbol		Boring	Depth, Ft.	Sample	Classification	Project	
●	5		50	13	Light gray and tan fine sand (SP-SM), slightly silty	PROJECT DELTA	
						RICHLAND PARISH, LOUISIANA	
						Date	12/05/2011
						Job No.	110512

FIGURE 24

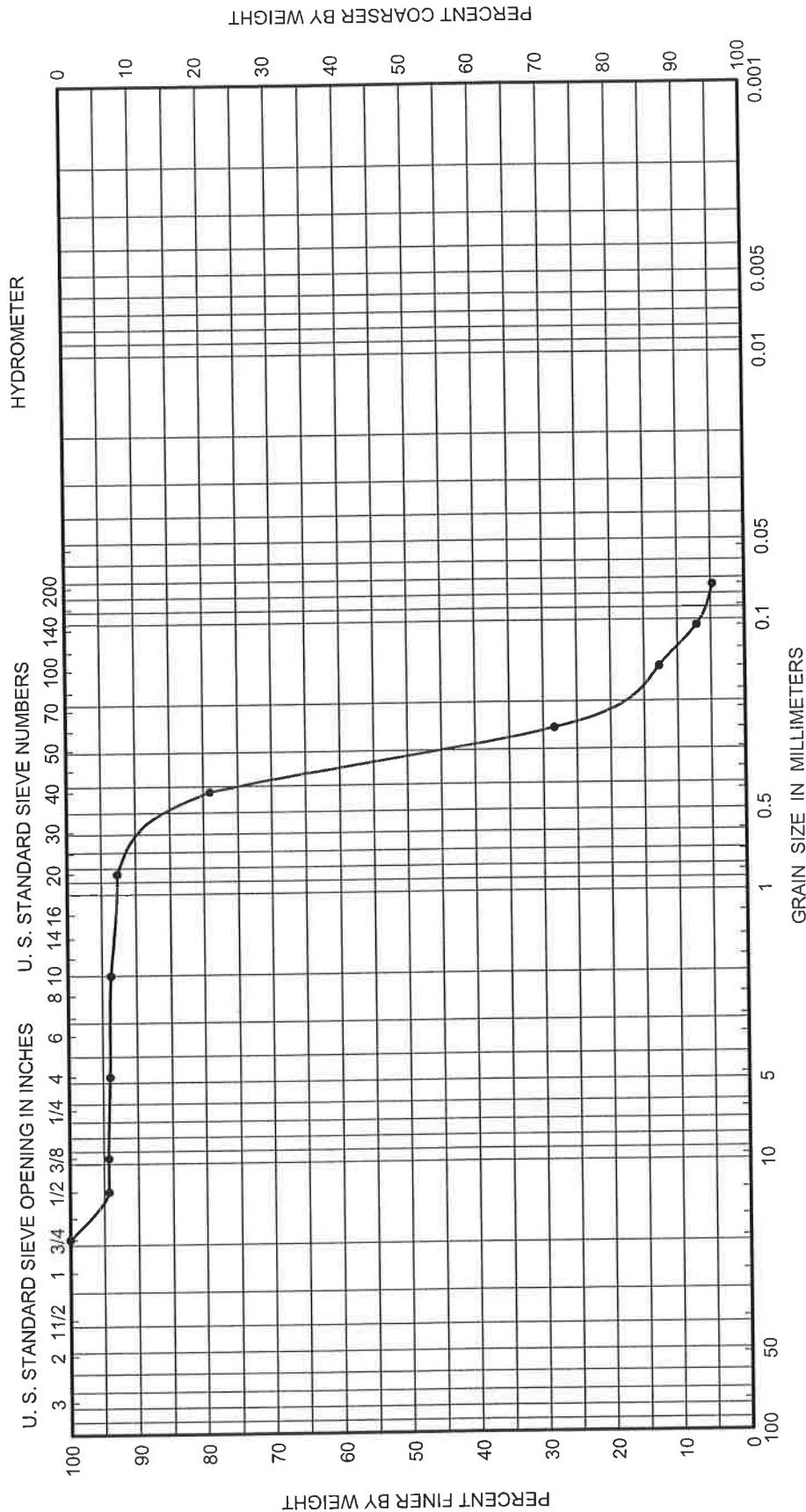
GRAIN SIZE CURVES



Symbol	Boring	Depth, Ft.	Sample	Classification
●	7	15	6	Tan and light gray sandy silt (ML)

Project	PROJECT DELTA		
Date	12/07/2011	Job No.	110512

GRAIN SIZE CURVES



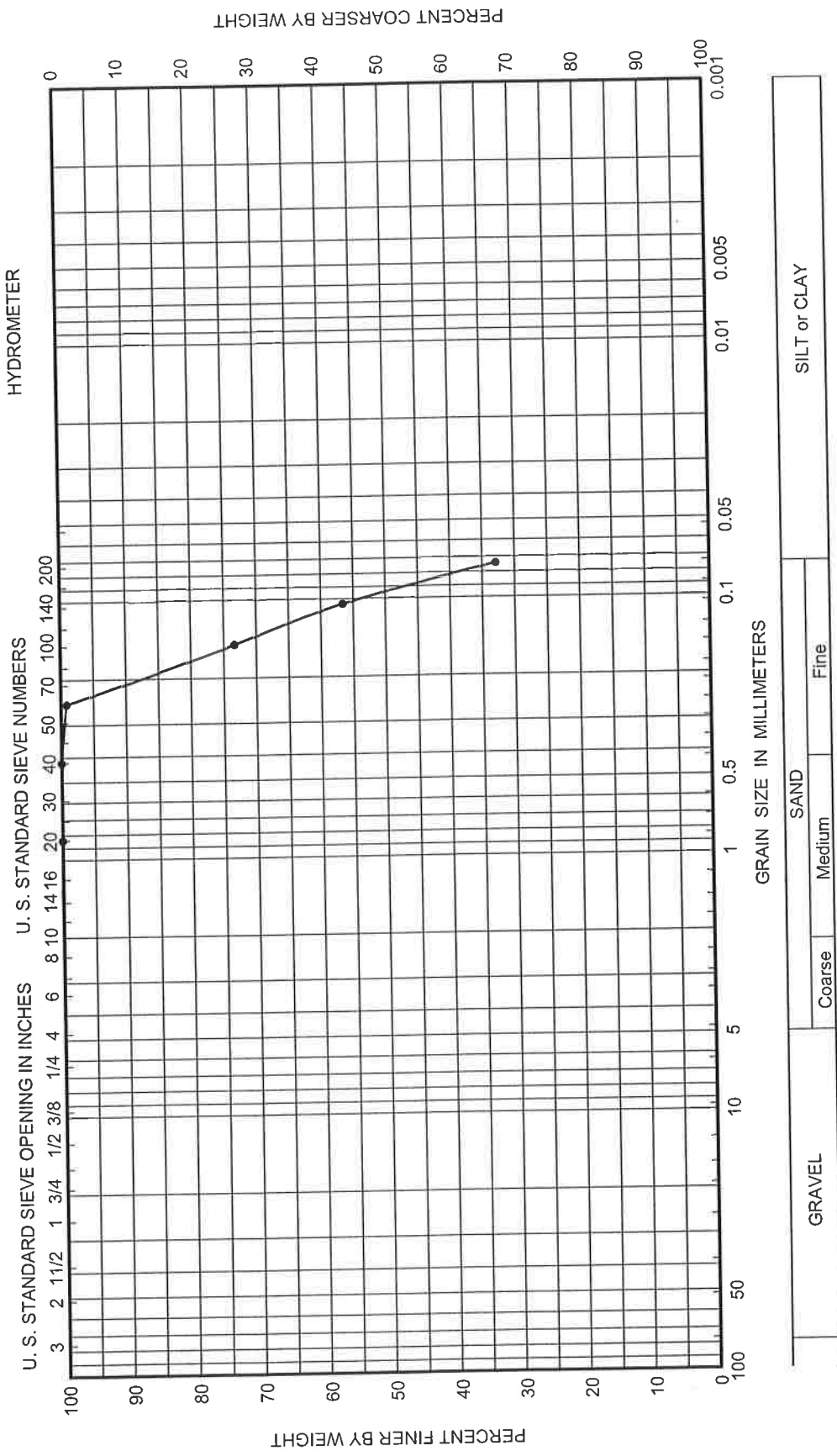
GRAVEL	SAND			SILT or CLAY
	Coarse	Medium	Fine	

Symbol	Boring	Depth, Ft.	Sample	Classification	Project
●	7	45	12	Tan fine sand (SP)	PROJECT DELTA
					RICHLAND PARISH, LOUISIANA

Date 12/07/2011 Job No. 110512

FIGURE 27

GRAIN SIZE CURVES



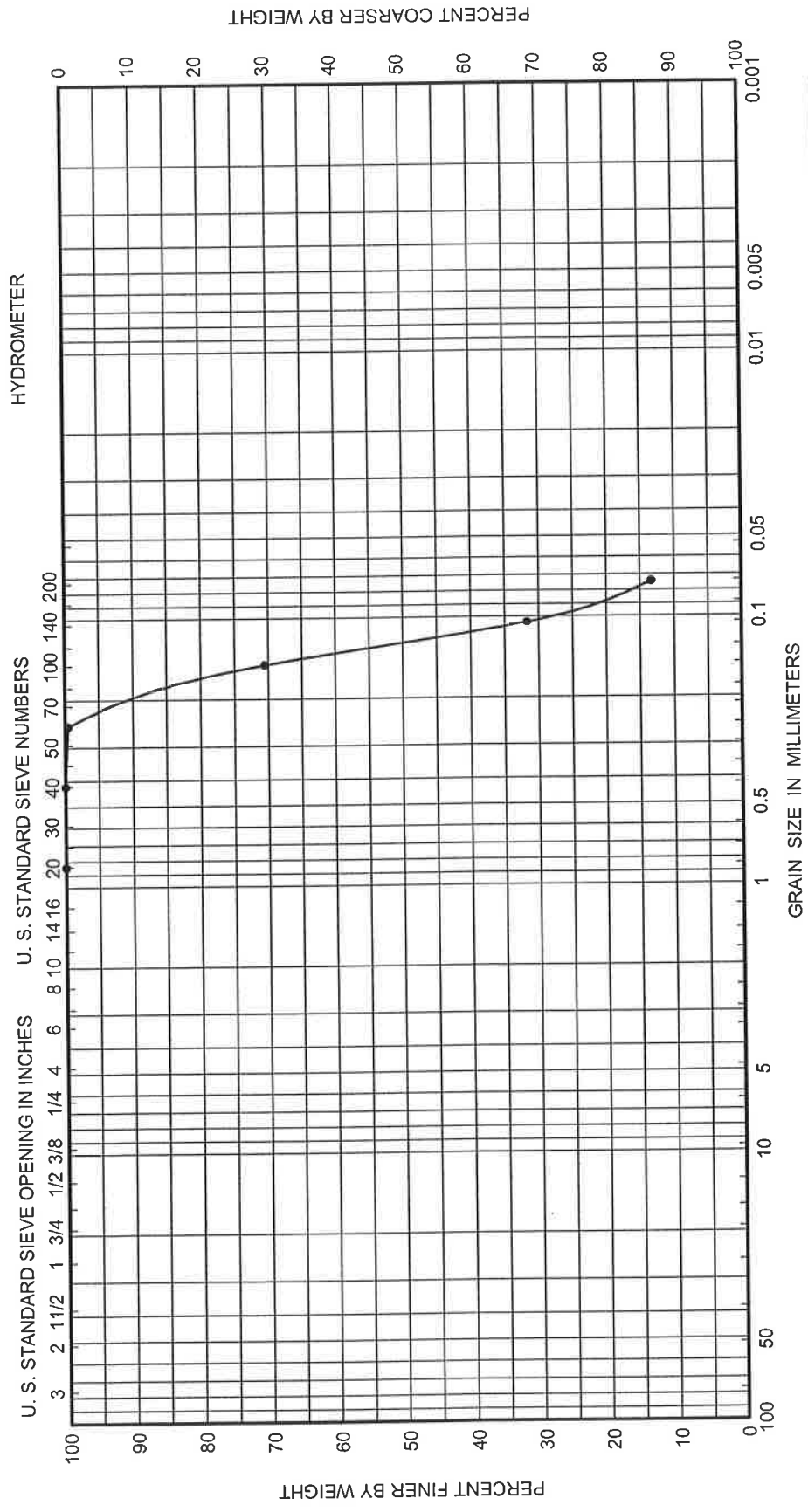
Symbol	Boring	Depth, Ft.	Sample	Classification
●	8	10.5	5	Tan silty fine sand (SM)

Project	PROJECT DELTA
	RICHLAND PARISH, LOUISIANA

Date	12/05/2011	Job No.	110512
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FIGURE 28

GRAIN SIZE CURVES

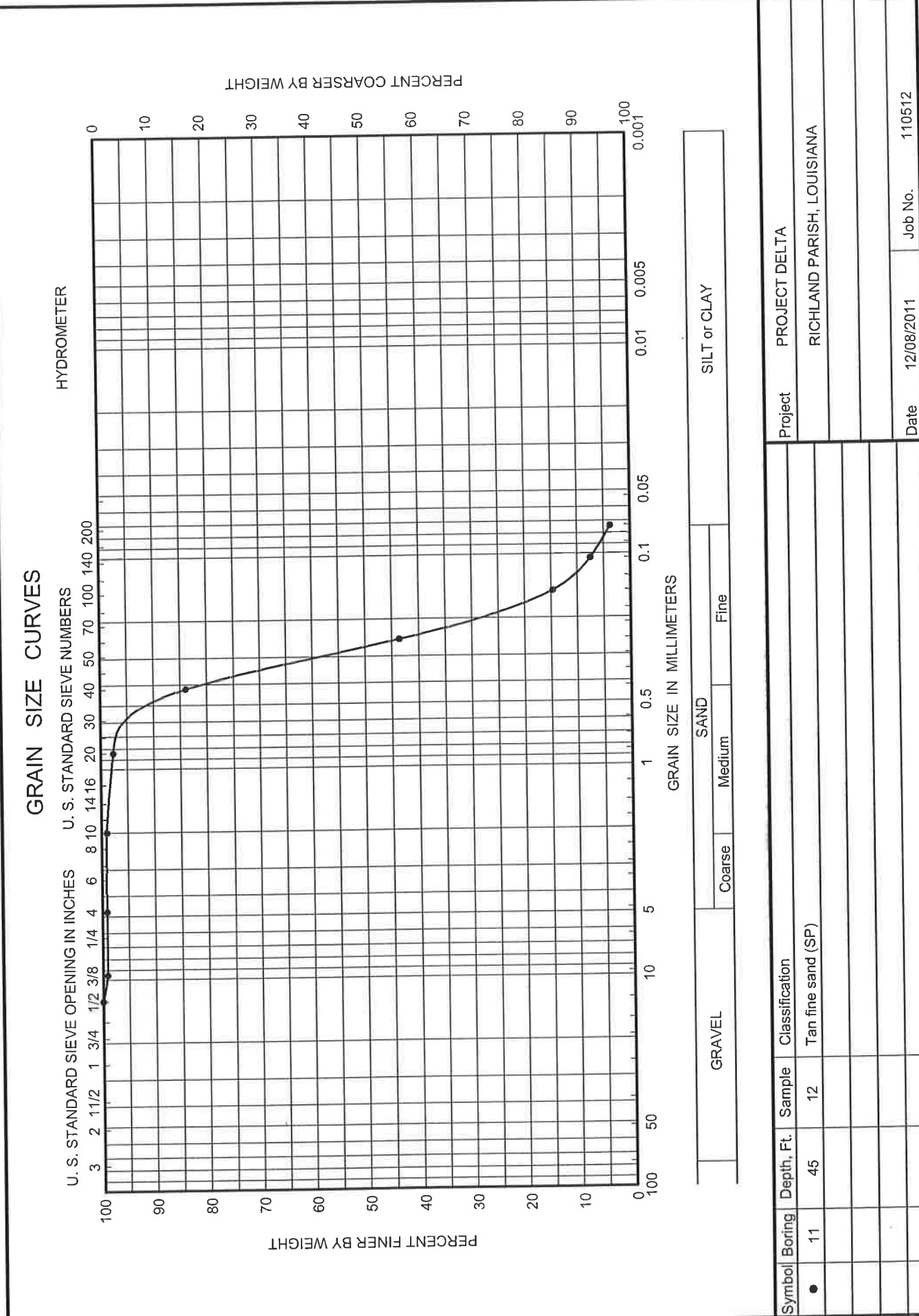


GRAVEL SAND SILT or CLAY
 Coarse Medium Fine

Symbol	Boring	Depth, Ft.	Sample	Classification	LL	PL	PI	Project
●	11	15	6	Tan and light gray silty fine sand (SM)				PROJECT DELTA
								RICHLAND PARISH, LOUISIANA

Date	12/09/2011	Job No.	110512
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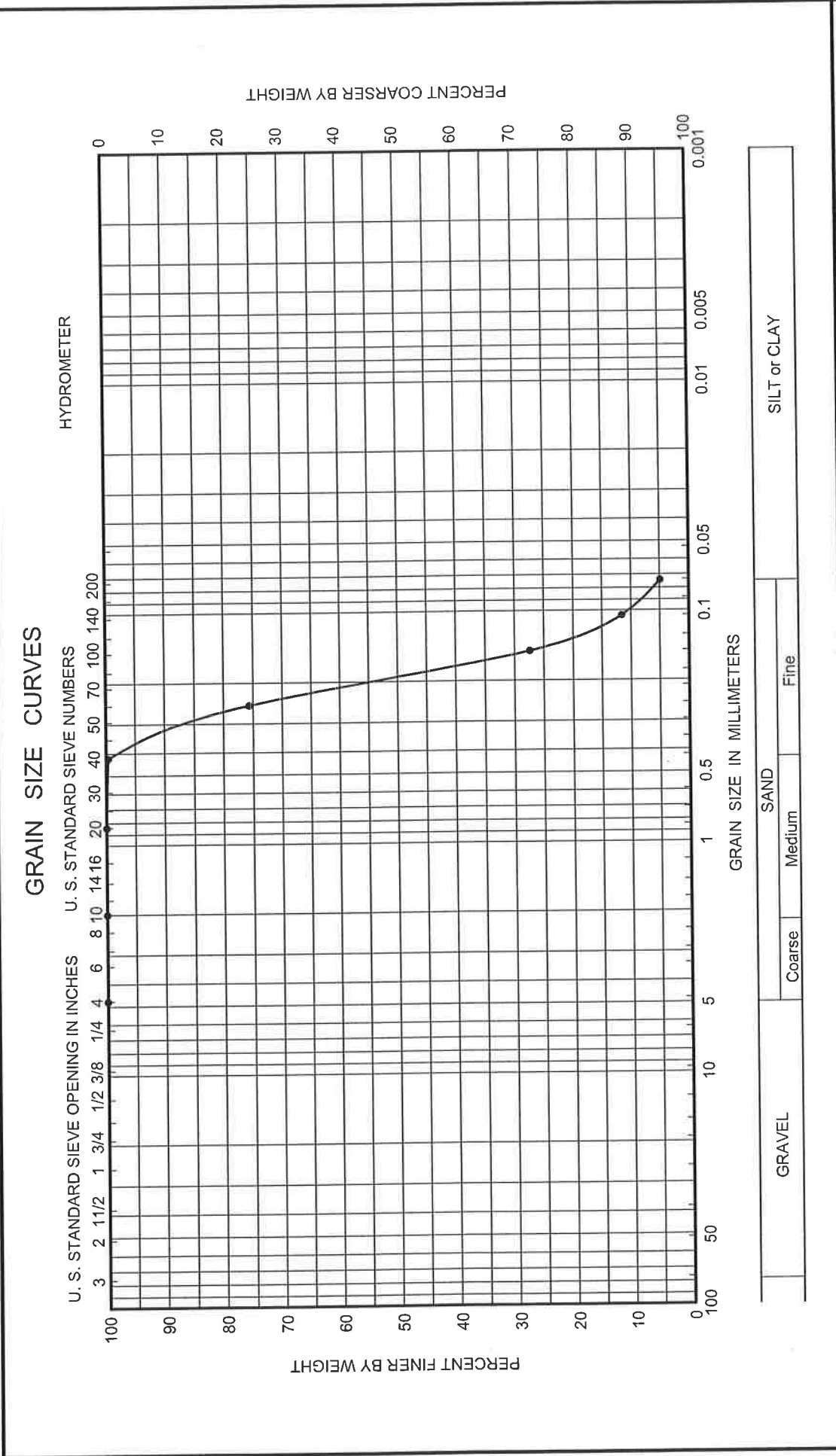
FIGURE 32



PROJECT DATA		
Project	PROJECT DELTA	
Location	RICHLAND PARISH, LOUISIANA	
Date	12/08/2011	Job No. 110512

Symbol	Boring	Depth, Ft.	Sample	Classification
•	11	45	12	Tan fine sand (SP)

FIGURE 33



Project		PROJECT DELTA
		RICHLAND PARISH, LOUISIANA
Date	12/09/2011	Job No.
		110512

FIGURE 34