

LOG OF BORING

Project: Bolivar DMPA No. 36

Boring No.: PA 36-1

Groundwater during drilling: ---

Groundwater after drilling: ---

Date: 11/18/2009

Northing: 13,758,106.6

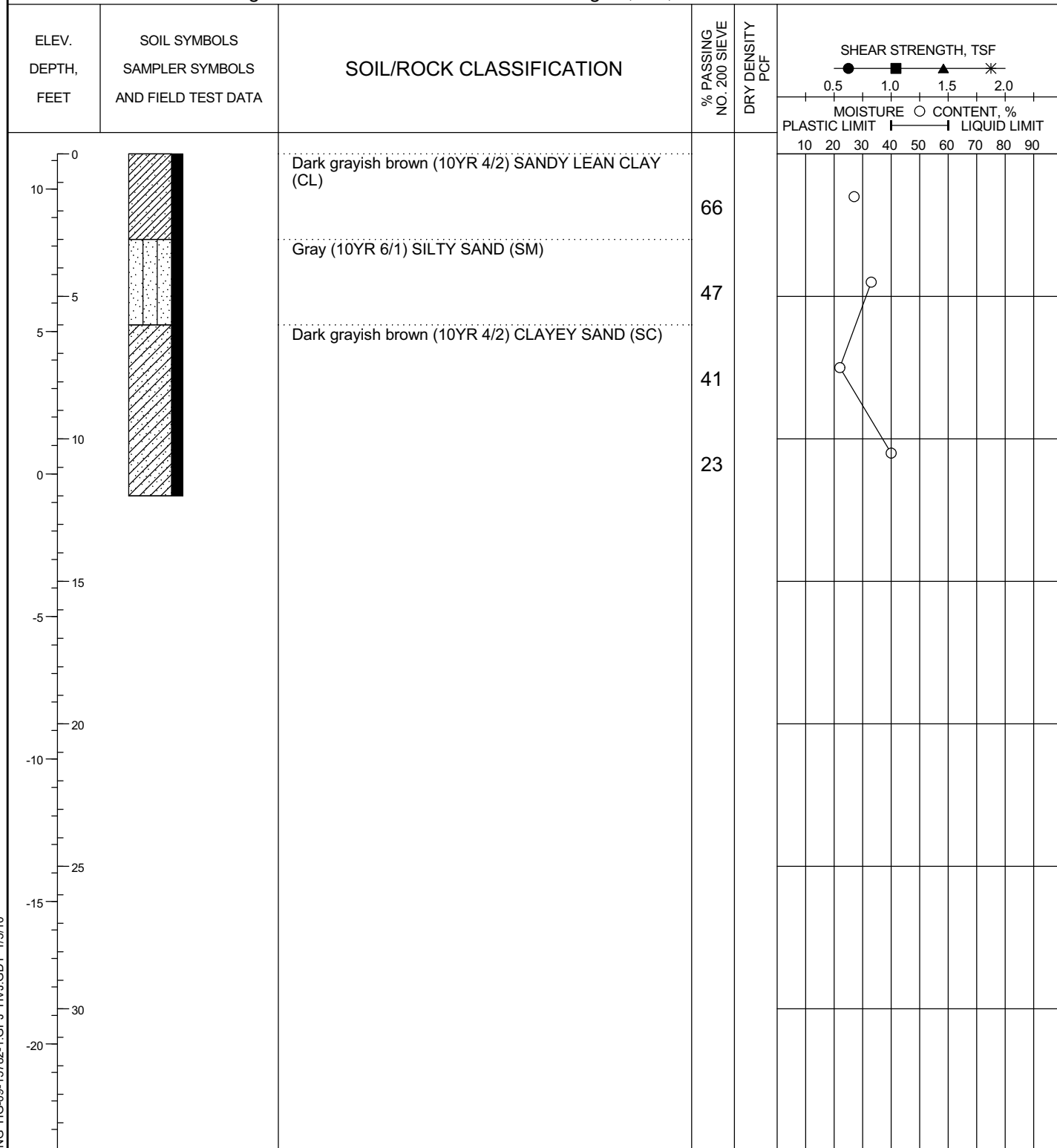
Easting: 3,383,763.9

Project No.: HG0915782

Elevation: 11.23 feet

Station: --

Offset: --



Shear Types:

● = Hand Penet.

■ = Torvane

▲ = Unconf. Comp.

✱ = UU Triaxial

PLATE A-1

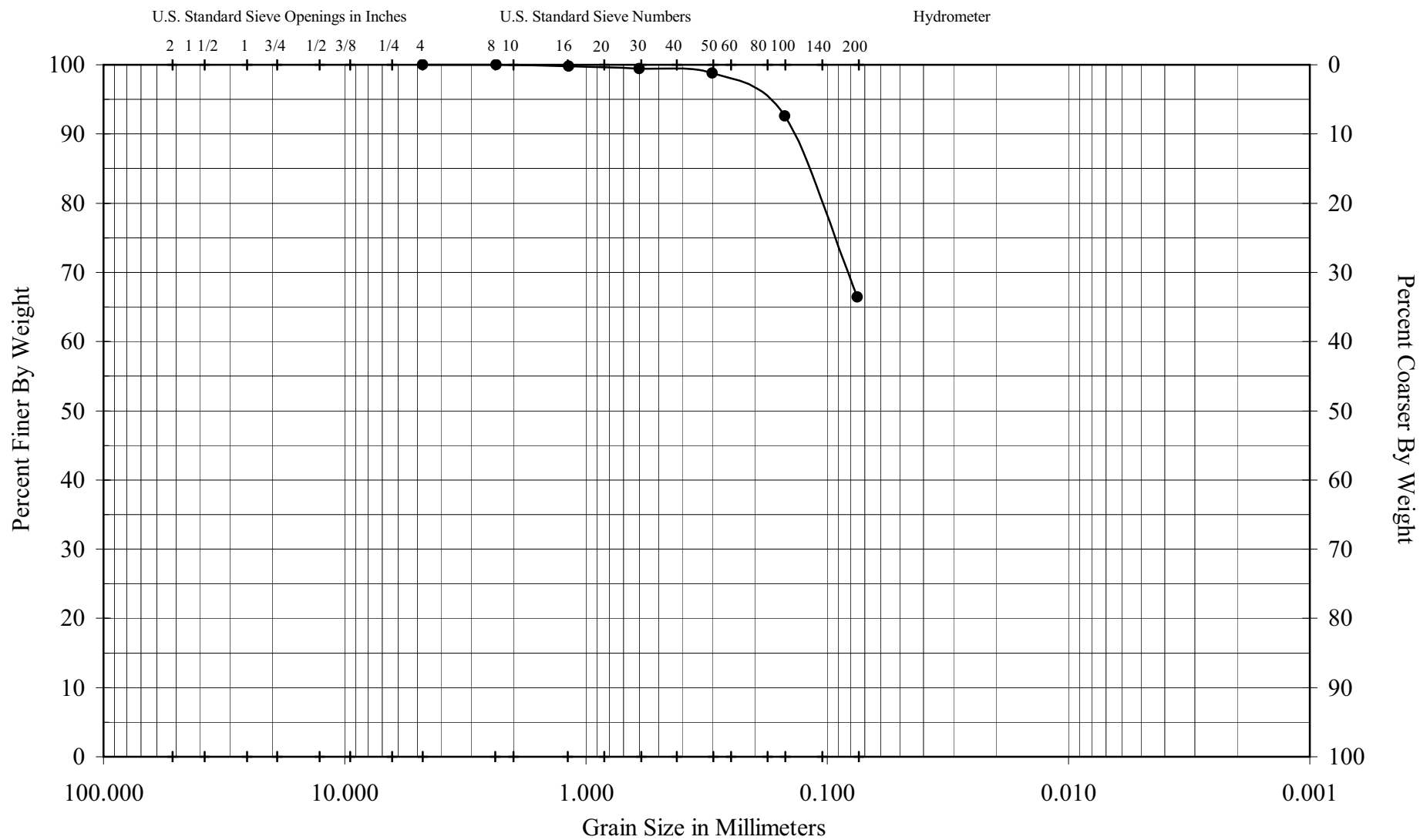
SIEVE ANALYSIS DATA

Project: Bolivar DMPA No. 36 Job No. HG09-15782 Date: December 10, 2009
Boring No. PA-36-1 Sample No. 1 Depth: 0'-3'
Matl Desc. Dark Grayish Brown Sandy Clay

Tare No.	60	Init Wt. - Tare	105.07	% Ret.	33.55
Tare Wt.	6.58	Dry Wt. after test	35.25	% Pass #200	66.45
Init. Dry Wt.	111.65	Wt. Ret. on #200	35.25		

Sieve Size/No.	Sieve Size (mm)	Weight Ret.	% Retained	% Passing
4	4.750	0.00	0.00	100.00
8	2.360	0.01	0.01	99.99
16	1.180	0.26	0.25	99.75
30	0.600	0.61	0.58	99.42
50	0.300	1.25	1.19	98.81
100	0.150	7.82	7.44	92.56
200	0.075	35.25	33.55	66.45

Tested by: KC Computed by: NL Check by: SV
Date: 12/10/09 Date: Date:



Boring No.
PA-36-1

Depth, Ft.
0'-3'

Classification
Dark Grayish Brown Sandy Clay

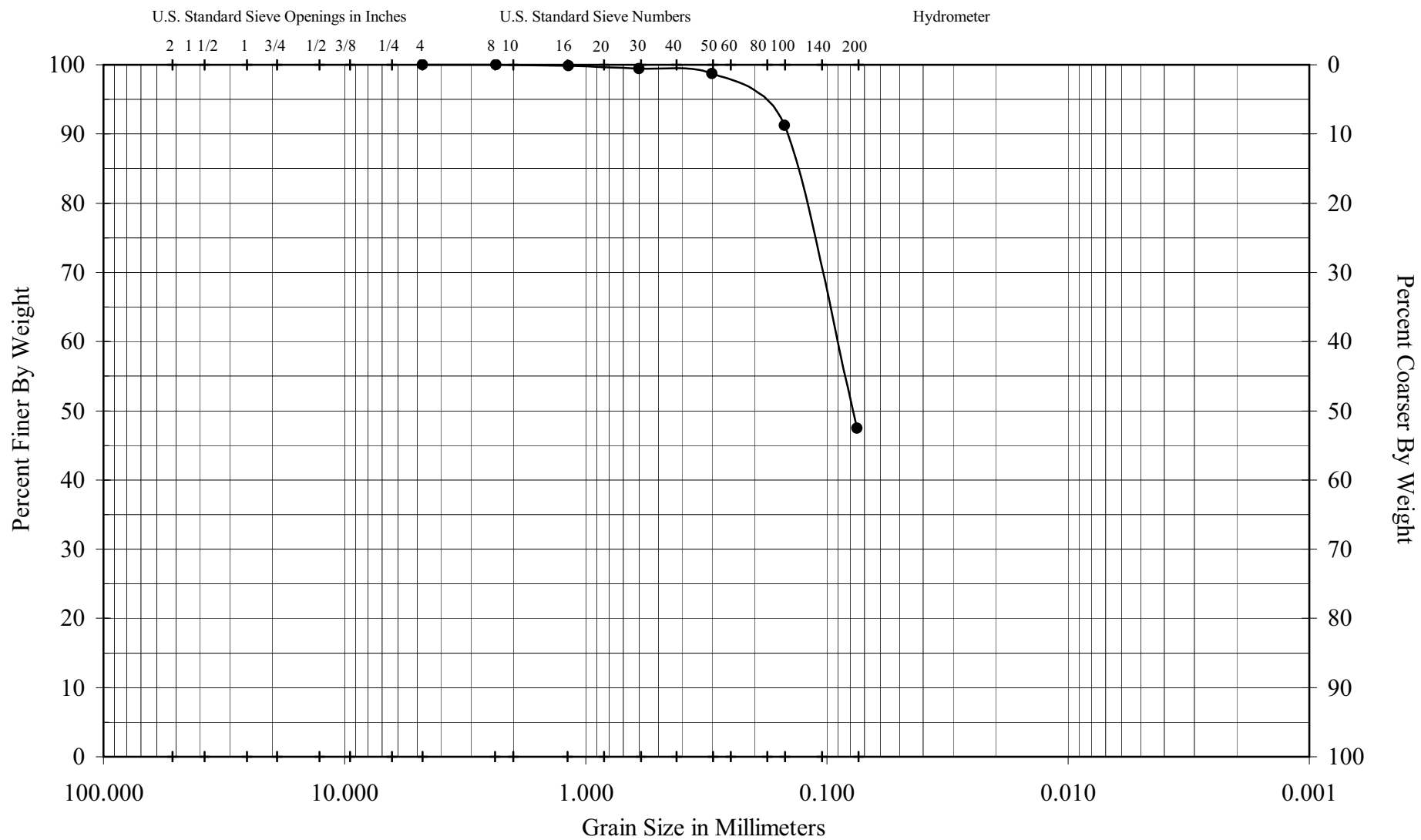
SIEVE ANALYSIS DATA

Project: Bolivar DMPA No. 36 Job No. HG09-15782 Date: December 10, 2009
Boring No. PA 36-1 Sample No. 2 Depth: 3'-6'
Matl Desc. Gray Silty Sand

Tare No.	76	Init Wt. - Tare	101.40	% Ret.	52.52
Tare Wt.	6.63	Dry Wt. after test	53.26	% Pass #200	47.48
Init. Dry Wt.	108.03	Wt. Ret. on #200	53.26		

Sieve Size/No.	Sieve Size (mm)	Weight Ret.	% Retained	% Passing
4	4.750	0.00	0.00	100.00
8	2.360	0.01	0.01	99.99
16	1.180	0.16	0.16	99.84
30	0.600	0.55	0.54	99.46
50	0.300	1.30	1.28	98.72
100	0.150	8.88	8.76	91.24
200	0.075	53.26	52.52	47.48

Tested by: KC Computed by: NL Check by: SV
Date: 12/10/09 Date: Date:



Boring No.
PA-36-1

Depth, Ft.
3'-6'

Classification
Gray Silty Sand

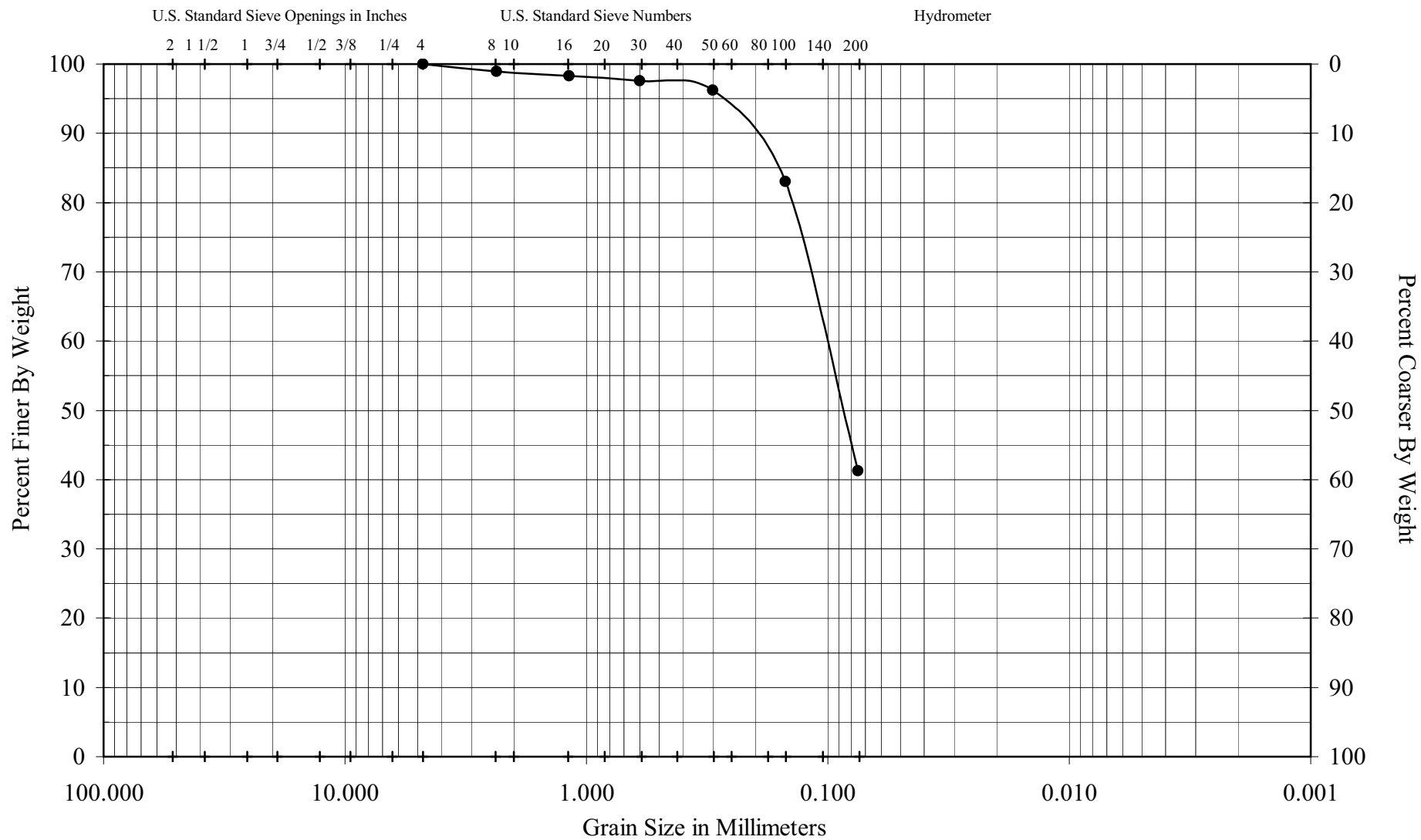
SIEVE ANALYSIS DATA

Project:	<u>Bolivar DMPA No. 36</u>	Job No.	<u>HG09-15782</u>	Date:	<u>December 10, 2009</u>
Boring No.	<u>PA 36-1</u>	Sample No.	<u>3</u>	Depth:	<u>6'-9'</u>
Matl Desc.	Dark Grayish Brown Clayey Sand				

Tare No.	81	Init Wt. - Tare	123.71	% Ret.	58.72
Tare Wt.	6.64	Dry Wt. after test	72.64	% Pass #200	41.28
Init. Dry Wt.	130.35	Wt. Ret. on #200	72.64		

[illegible]

Tested by: KK Computed by: NL Check by: SV
Date: 12/10/09 Date: _____ Date: _____



Boring No.
PA-36-1

Depth, Ft.
6'-9'

Classification
Dark Grayish Brown Clayey Sand

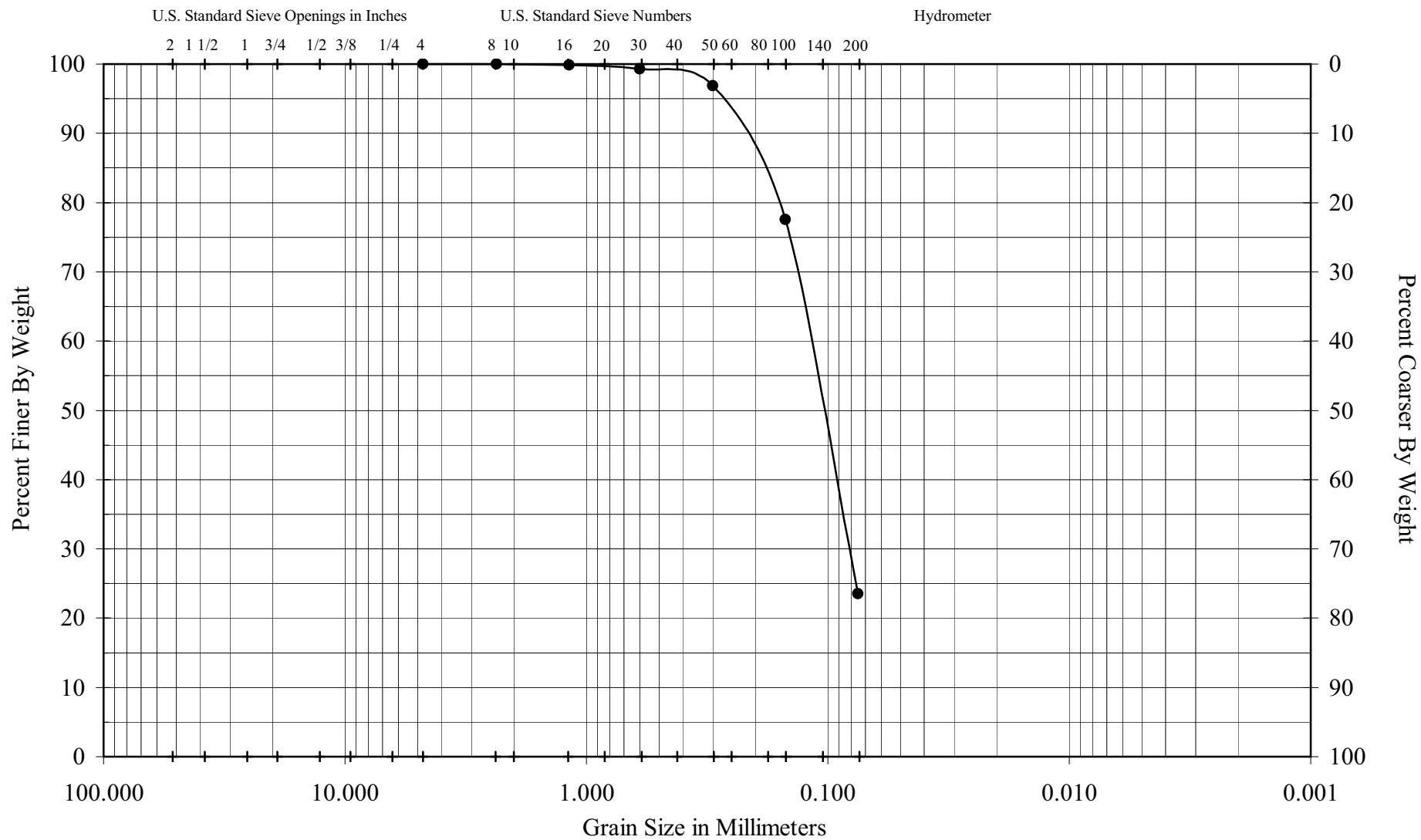
SIEVE ANALYSIS DATA

Project: Bolivar DMPA No. 36 Job No. HG09-15782 Date: December 10, 2009
Boring No. PA 36-1 Sample No. 4 Depth: 9'-12'
Matl Desc. Dark Grayish Brown Clayey Sand

Tare No.	69	Init Wt. - Tare	174.49	% Ret.	76.51
Tare Wt.	6.55	Dry Wt. after test	133.51	% Pass #200	23.49
Init. Dry Wt.	181.04	Wt. Ret. on #200	133.51		

Sieve Size/No.	Sieve Size (mm)	Weight Ret.	% Retained	% Passing
4	4.750	0.00	0.00	100.00
8	2.360	0.01	0.01	99.99
16	1.180	0.21	0.12	99.88
30	0.600	1.23	0.70	99.30
50	0.300	5.52	3.16	96.84
100	0.150	39.18	22.45	77.55
200	0.075	133.51	76.51	23.49

Tested by: KK Computed by: NL Check by: SV
Date: 12/10/09 Date: Date:

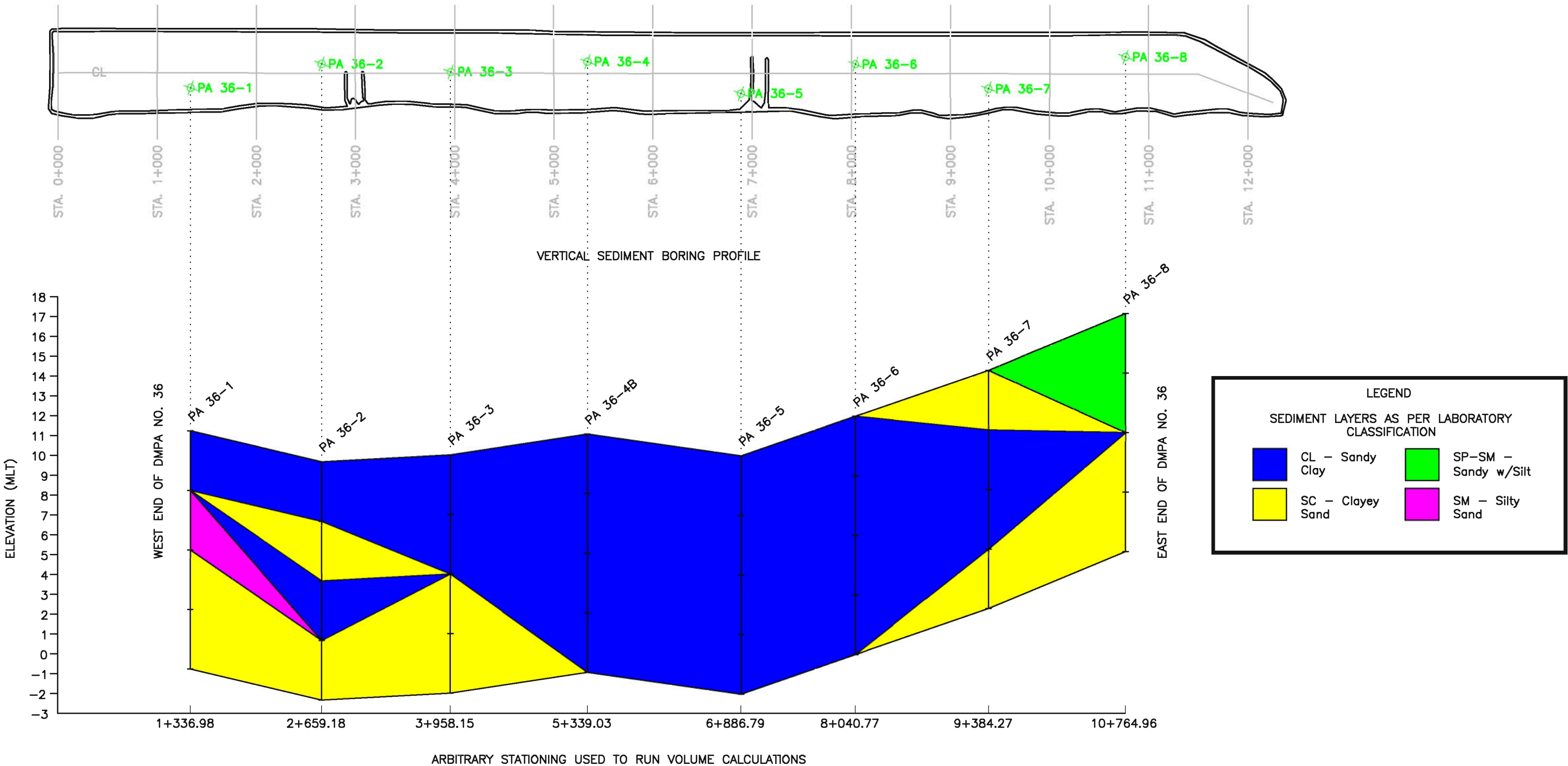


Boring No.
PA-36-1

Depth, Ft.
9'-12'

Classification
Dark Grayish Brown Clayey Sand

PLAN VIEW OF SEDIMENT BORING LOCATIONS
CENTERLINE AND STATIONING USED TO CALCULATE VOLUMES



BOLIVAR SAND SEARCH
PLACEMENT AREA NO. 36

VERTICAL BORING PROFILE

Drawing Date:	14 JANUARY 2010
Drawn By:	S. HALPIN
Checked By:	DLC
Drawing Name:	BOL2009_PA36_BorProfile.DWG
Drawing Scale:	SEE DWG
Sheet Number:	7 OF 7

CONDITION SURVEY	
Survey Date:	18 NOVEMBER 2009
Horizontal Projection:	U.S. State Plane, NAD 83
Zone:	Texas South Central - 4204
Vertical Reference:	MLT
Survey Units:	U.S. Survey Feet

NOTES:
1. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES SHOWN AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITION EXISTING AT THAT TIME.



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11. PA 36-8 looking South.



12. Looking West by PA 36-1.



13. Looking East by PA 36-1



14. Looking North by PA 36-1



15. PA36-1, 3'-6'ft: Gray Silty Sand, W% 32.8



16. PA36-1, 3'-6'ft: Gray Silty Sand, W% 32.8



17. PA36-1, 6'-9'ft: Dark Grayish Brown Clayey Sand, W% 22.2



18. PA36-1, 6'-9'ft: Dark Grayish Brown Clayey Sand, W% 22.2