

LOG OF BORING

Project: Bolivar DMPA No. 36

Boring No.: PA 36-2

Groundwater during drilling: ---

Groundwater after drilling: ---

Date: 11/18/2009

Northing: 13,758,883.3

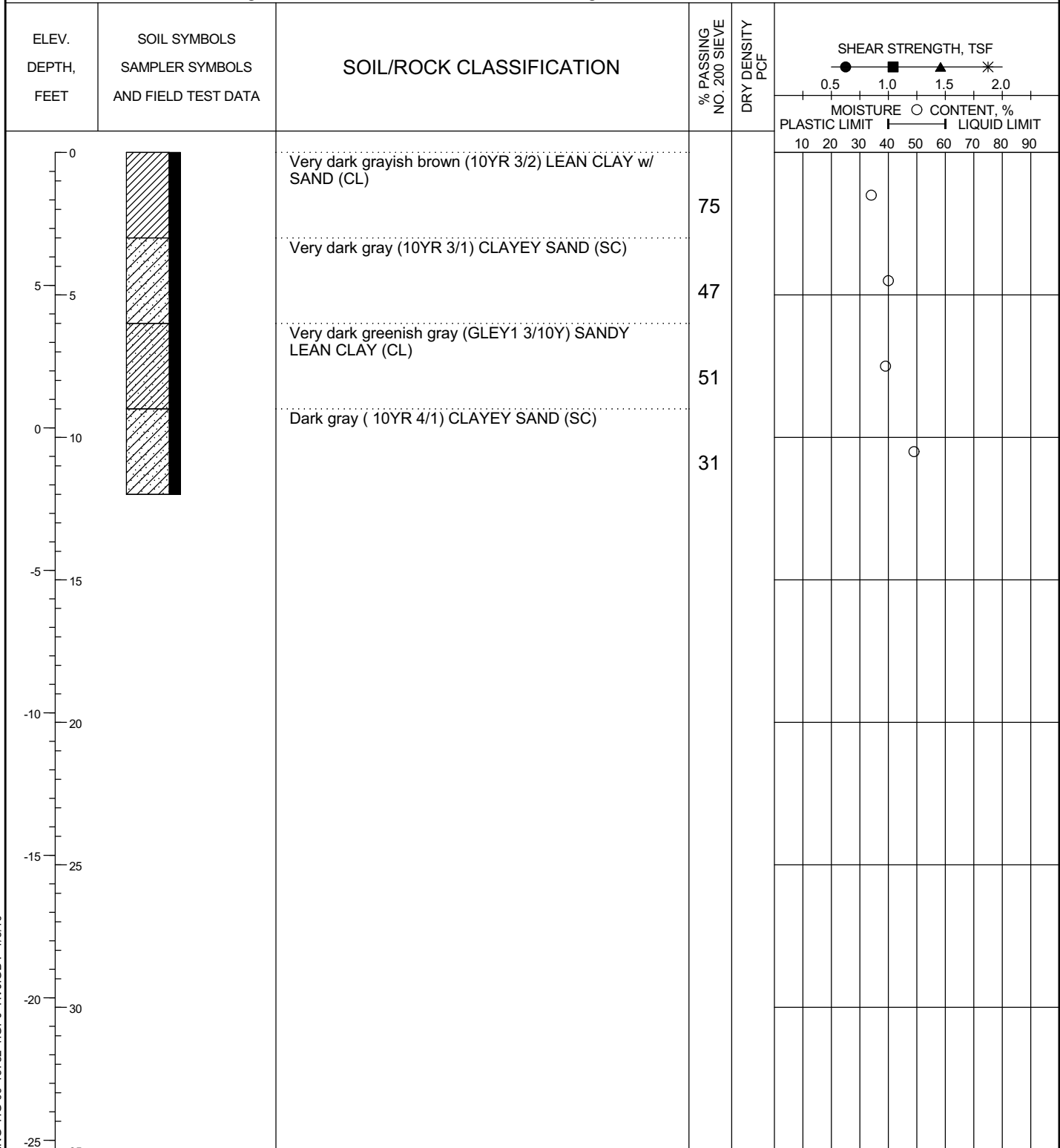
Easting: 3,384,860.6

Project No.: HG0915782

Elevation: 9.67 feet

Station: --

Offset: --



Shear Types:

● = Hand Penet.

■ = Torvane

▲ = Unconf. Comp.

* = UU Triaxial

PLATE A-2

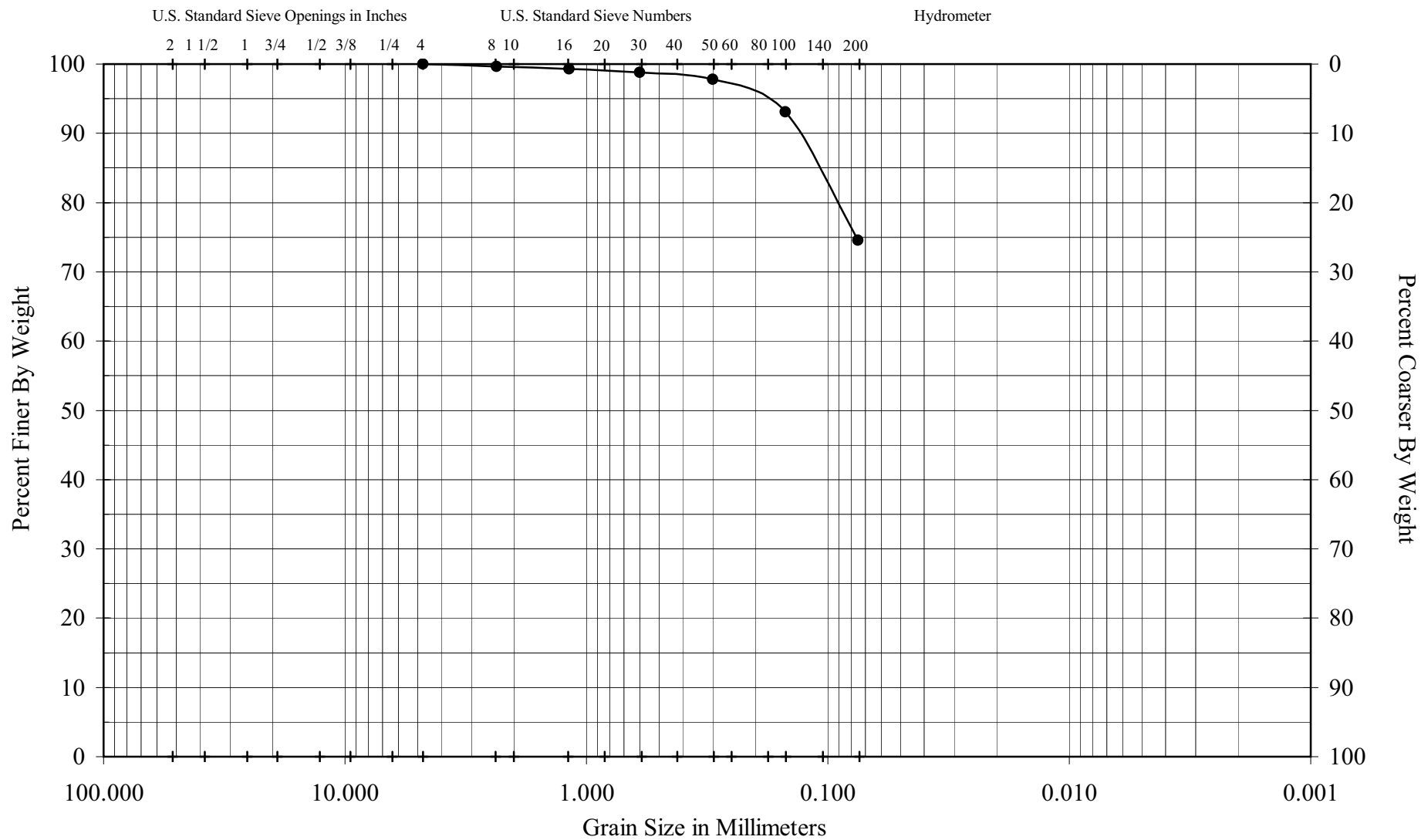
SIEVE ANALYSIS DATA

Project: Bolivar DMPA No. 36 Job No. HG09-15782 Date: December 10, 2009
Boring No. PA 36-2 Sample No. 1 Depth: 0'-3'
Matl Desc. Very Dark Grayish Brown Lean Clay w/ Sand

Tare No.	64	Init Wt. - Tare	97.12	% Ret.	25.47
Tare Wt.	6.55	Dry Wt. after test	24.74	% Pass #200	74.53
Init. Dry Wt.	103.67	Wt. Ret. on #200	24.74		

Sieve Size/No.	Sieve Size (mm)	Weight Ret.	% Retained	% Passing
4	4.750	0.00	0.00	100.00
8	2.360	0.34	0.35	99.65
16	1.180	0.68	0.70	99.30
30	0.600	1.19	1.23	98.77
50	0.300	2.15	2.21	97.79
100	0.150	6.72	6.92	93.08
200	0.075	24.74	25.47	74.53

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



Boring No.
PA-36-2

Depth, Ft.
0'-3'

Classification
Very Dark Grayish Brown Lean Clay
with Sand

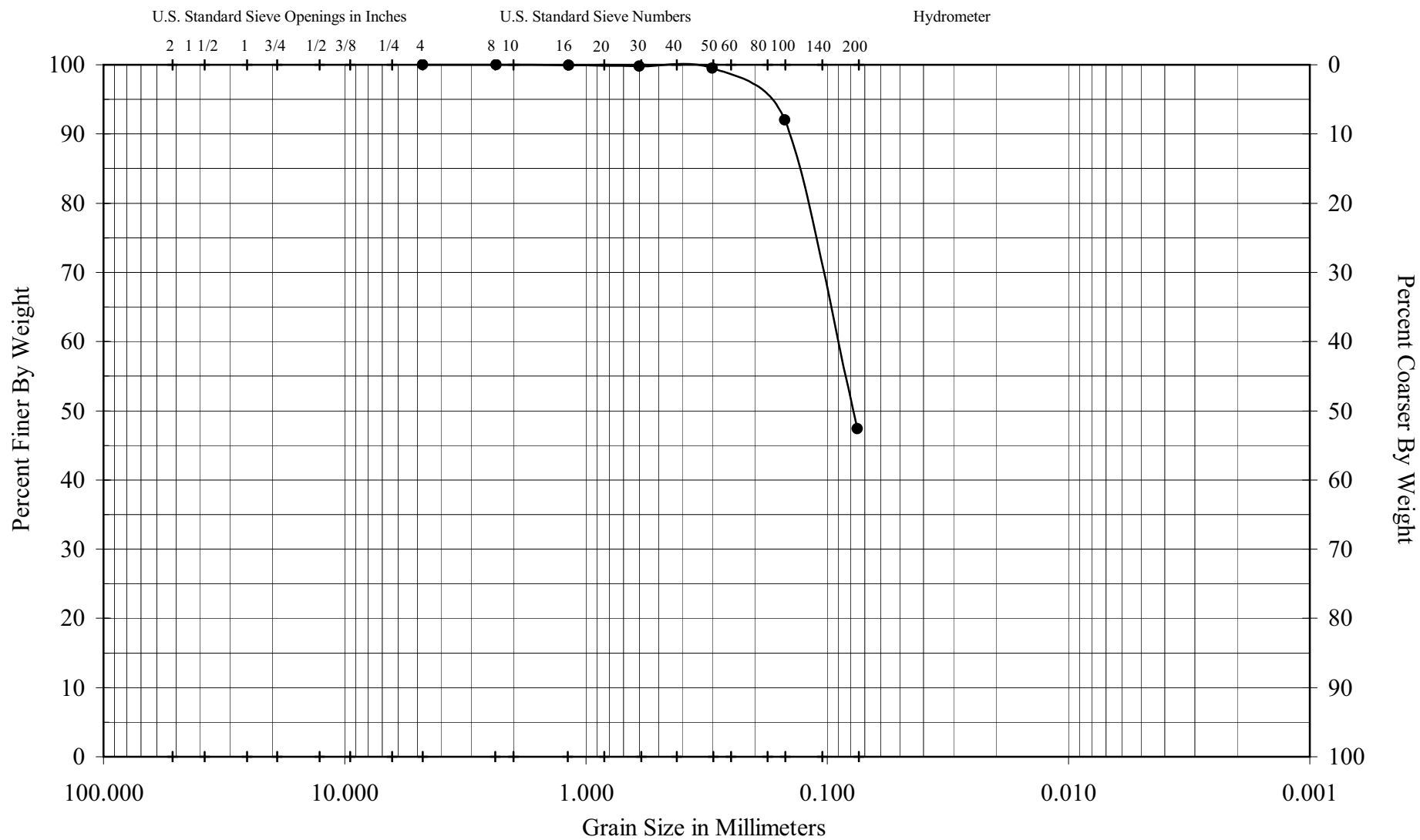
SIEVE ANALYSIS DATA

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

Tare No.	61	Init Wt. - Tare	117.22	% Ret.	52.58
Tare Wt.	6.63	Dry Wt. after test	61.63	% Pass #200	47.42
Init. Dry Wt.	123.85	Wt. Ret. on #200	61.63		

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	0.09	0.08	99.92
30	0.600	0.24	0.20	99.80
50	0.300	0.56	0.48	99.52
100	0.150	9.38	8.00	92.00
200	0.075	61.63	52.58	47.42

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



Boring No.
PA-36-2

Depth, Ft.
3'-6'

Classification
Very Dark Gray Clayey Sand

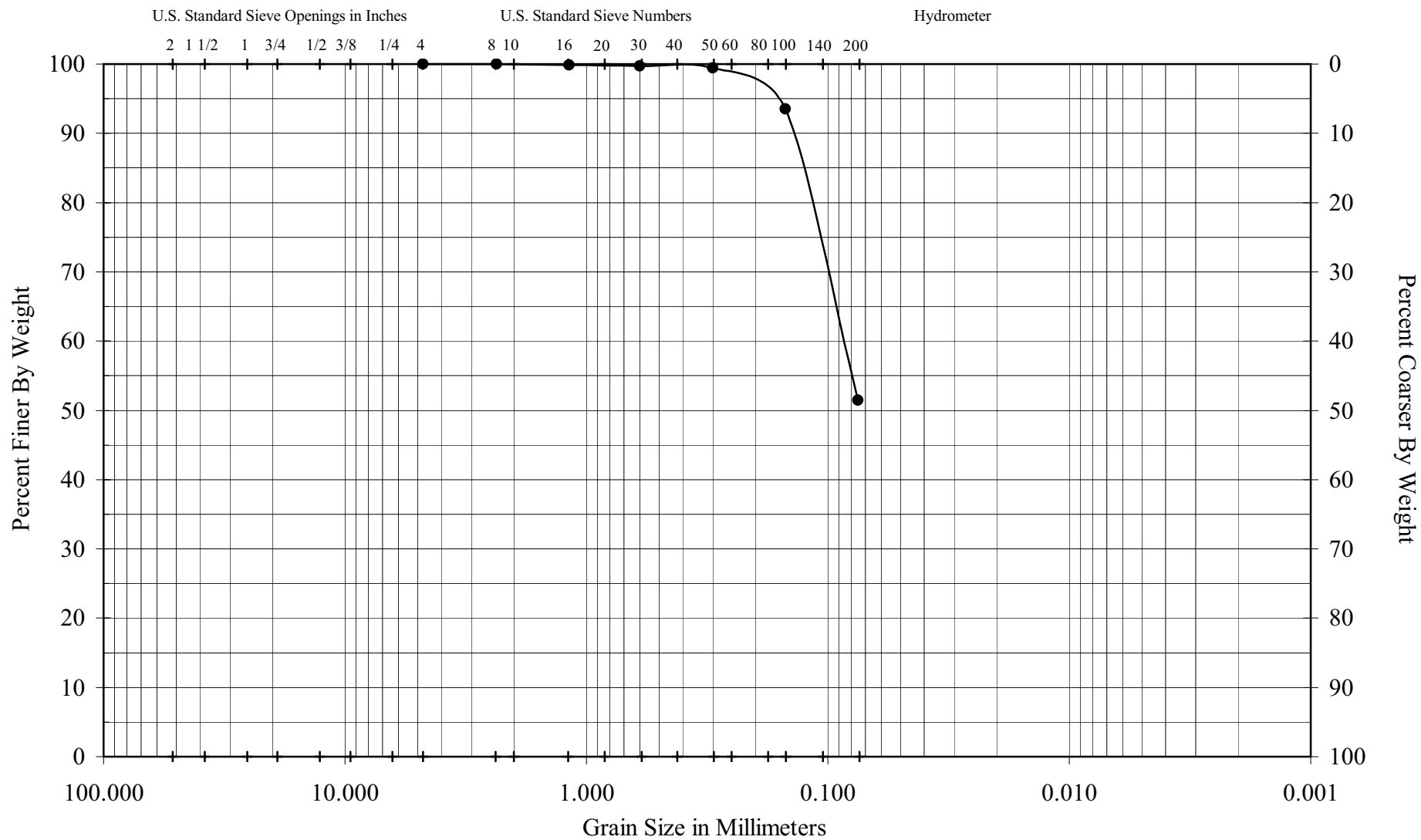
SIEVE ANALYSIS DATA

Project:	<u>Bolivar DMPA No. 36</u>	Job No.	<u>HG09-15782</u>	Date:	<u>December 10, 2009</u>
Boring No.	<u>PA 36-2</u>	Sample No.	<u>3</u>	Depth:	<u>6'-9'</u>
Matl Desc.	Very Dark Greenish Gray Sandy Clay				

Tare No.	66	Init Wt. - Tare	111.04	% Ret.	48.51
Tare Wt.	6.55	Dry Wt. after test	53.86	% Pass #200	51.49
Init. Dry Wt.	117.59	Wt. Ret. on #200	53.86		

[illegible]

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



Boring No.
PA-36-2

Depth, Ft.
6'-9'

Classification
Very Dark Greenish Gray Sandy Clay

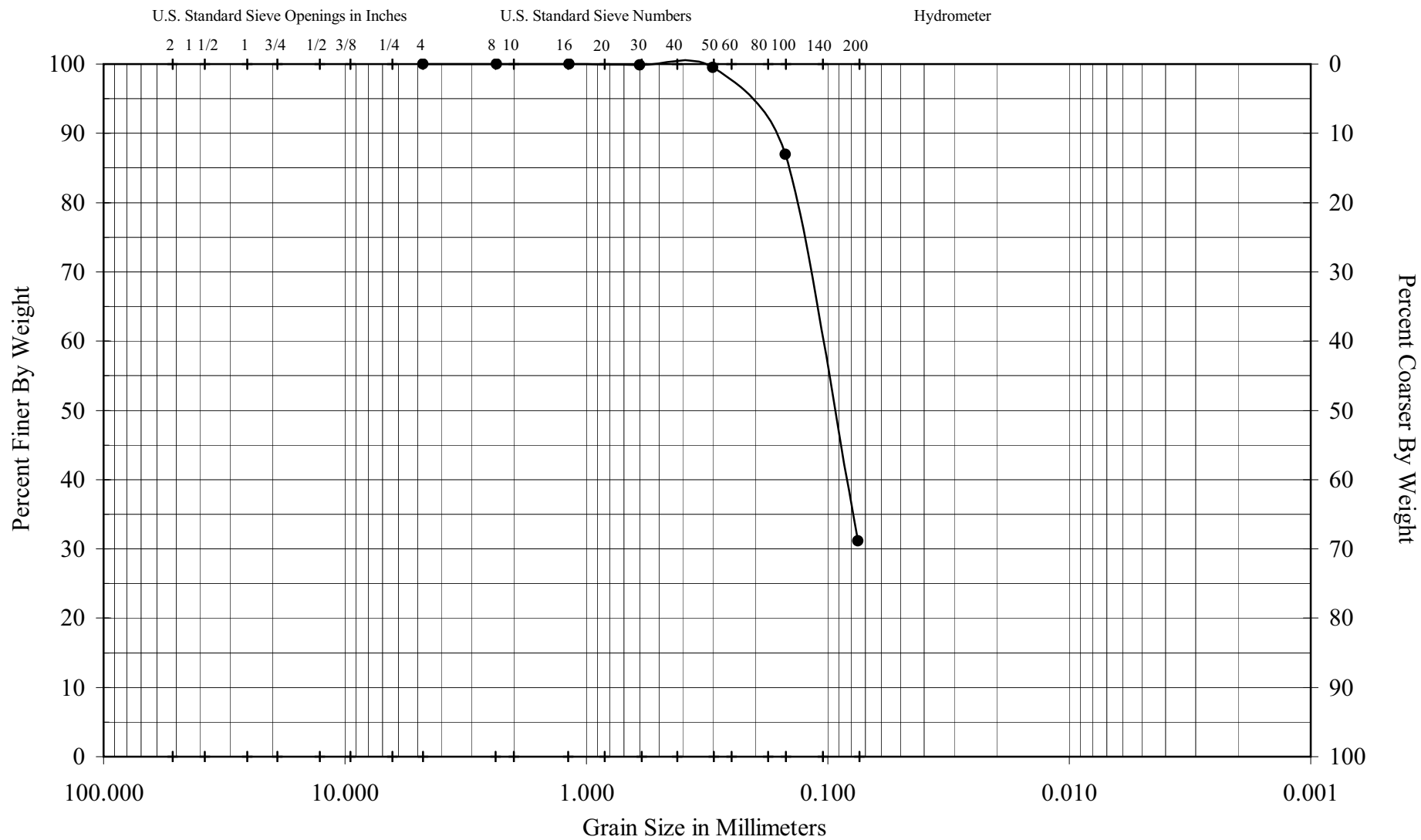
SIEVE ANALYSIS DATA

Project: Bolivar DMPA No. 36 Job No. HG09-15782 Date: December 10, 2009
Boring No. PA 36-2 Sample No. 4 Depth: 9'-12'
Matl Desc. Dark Gray Clayey Sand

Tare No.	71	Init Wt. - Tare	177.33	% Ret.	68.85
Tare Wt.	6.56	Dry Wt. after test	122.09	% Pass #200	31.15
Init. Dry Wt.	183.89	Wt. Ret. on #200	122.09		

Sieve Size/No.	Sieve Size (mm)	Weight Ret.	% Retained	% Passing
4	4.750	0.00	0.00	100.00
8	2.360	0.00	0.00	100.00
16	1.180	0.05	0.03	99.97
30	0.600	0.26	0.15	99.85
50	0.300	0.88	0.50	99.50
100	0.150	23.13	13.04	86.96
200	0.075	122.09	68.85	31.15

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

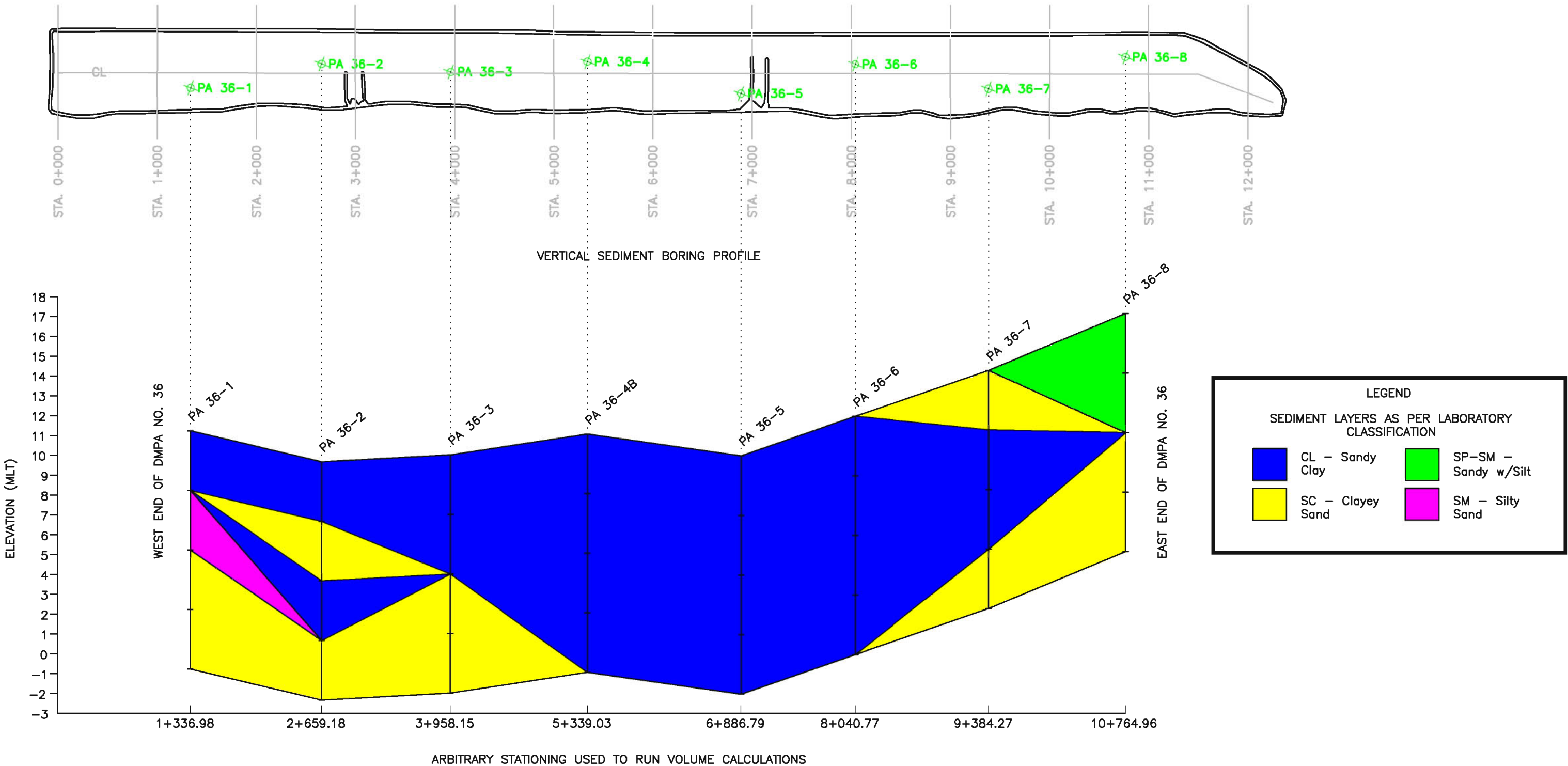


Boring No.
PA-36-2

Depth, Ft.
9'-12'

Classification
Dark Gray 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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15. Looking Southeast by PA 36-2.



16. Looking South by PA 36-2.



17. Looking West by PA 36-2.



18. Looking Northeast by PA 36-2.



19. PA36-2, 0'-3'ft: Very Dark Grayish Brown Lean Clay with Sand, W% 34.1



20. PA36-2, 3'-6'ft: Very Dark Gray Clayey Sand, W% 40.0



21. PA36-2, 3'-6'ft: Very Dark Gray Clayey Sand, W% 40.0



22. PA36-2, 3'-6'ft: Very Dark Gray Clayey Sand, W% 40.0



23. PA36-2, 6'-9'ft: Very Dark Greenish Gray Sandy Clay, W% 38.6



24. PA36-2, 6'-9'ft: Very Dark Greenish Gray Sandy Clay, W% 38.6



25. PA36-2, 9'-12': Dark Gray Clayey Sand, W% 49.0



26. PA36-2, 9'-12': Dark Gray Clayey Sand, W% 49.0