

LOG OF BORING

Project: Bolivar DMPA No. 36

Boring No.: PA 36-3

Groundwater during drilling: ---

Groundwater after drilling: ---

Date: 11/18/2009

Northing: 13,759,359.6

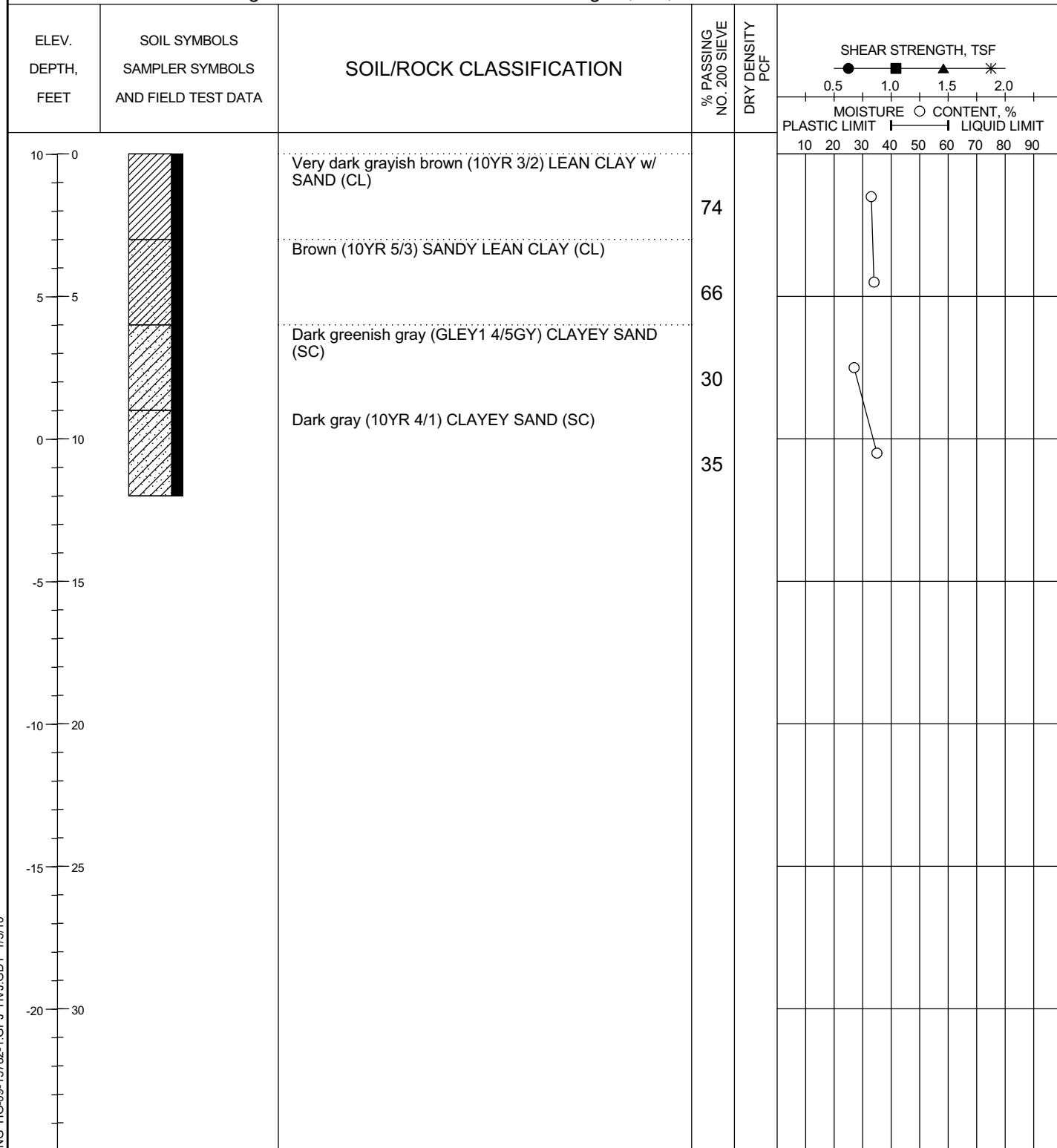
Easting: 3,386,071.8

Project No.: HG0915782

Elevation: 10.02 feet

Station: --

Offset: --



Shear Types:

● = Hand Penet.

■ = Torvane

▲ = Unconf. Comp.

* = UU Triaxial

PLATE A-3

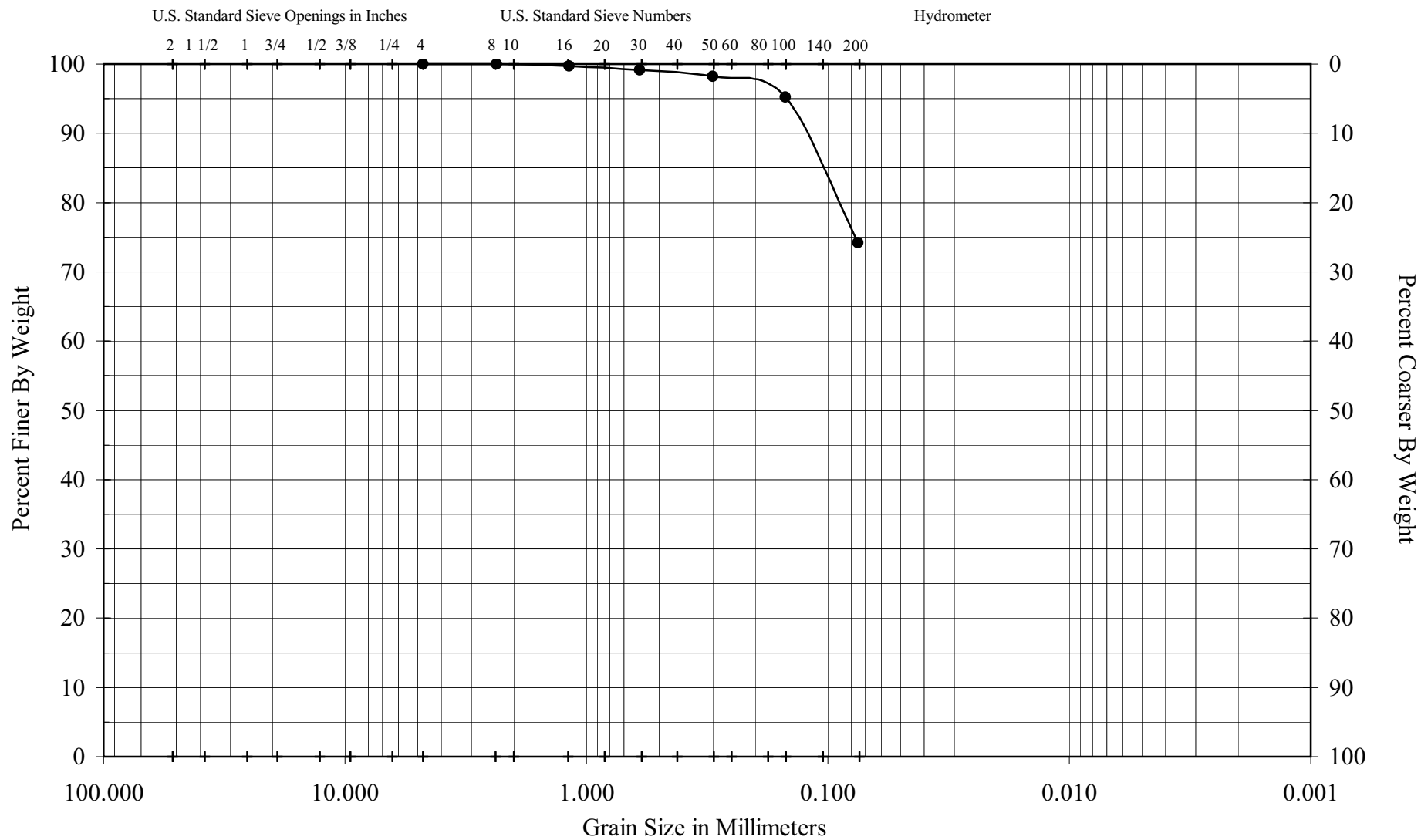
SIEVE ANALYSIS DATA

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

Tare No.	55	Init Wt. - Tare	93.55	% Ret.	25.79
Tare Wt.	6.60	Dry Wt. after test	24.13	% Pass #200	74.21
Init. Dry Wt.	100.15	Wt. Ret. on #200	24.13		

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	0.28	0.30	99.70
30	0.600	0.80	0.86	99.14
50	0.300	1.67	1.79	98.21
100	0.150	4.49	4.80	95.20
200	0.075	24.13	25.79	74.21

Tested by: LL Computed by: NL Check by: SV
Date: 12/11/09 Date: Date:



Boring No.
PA-36-3

Depth, Ft.
0'-3'

Classification
Very Dark Grayish Brown Lean Clay
with Sand

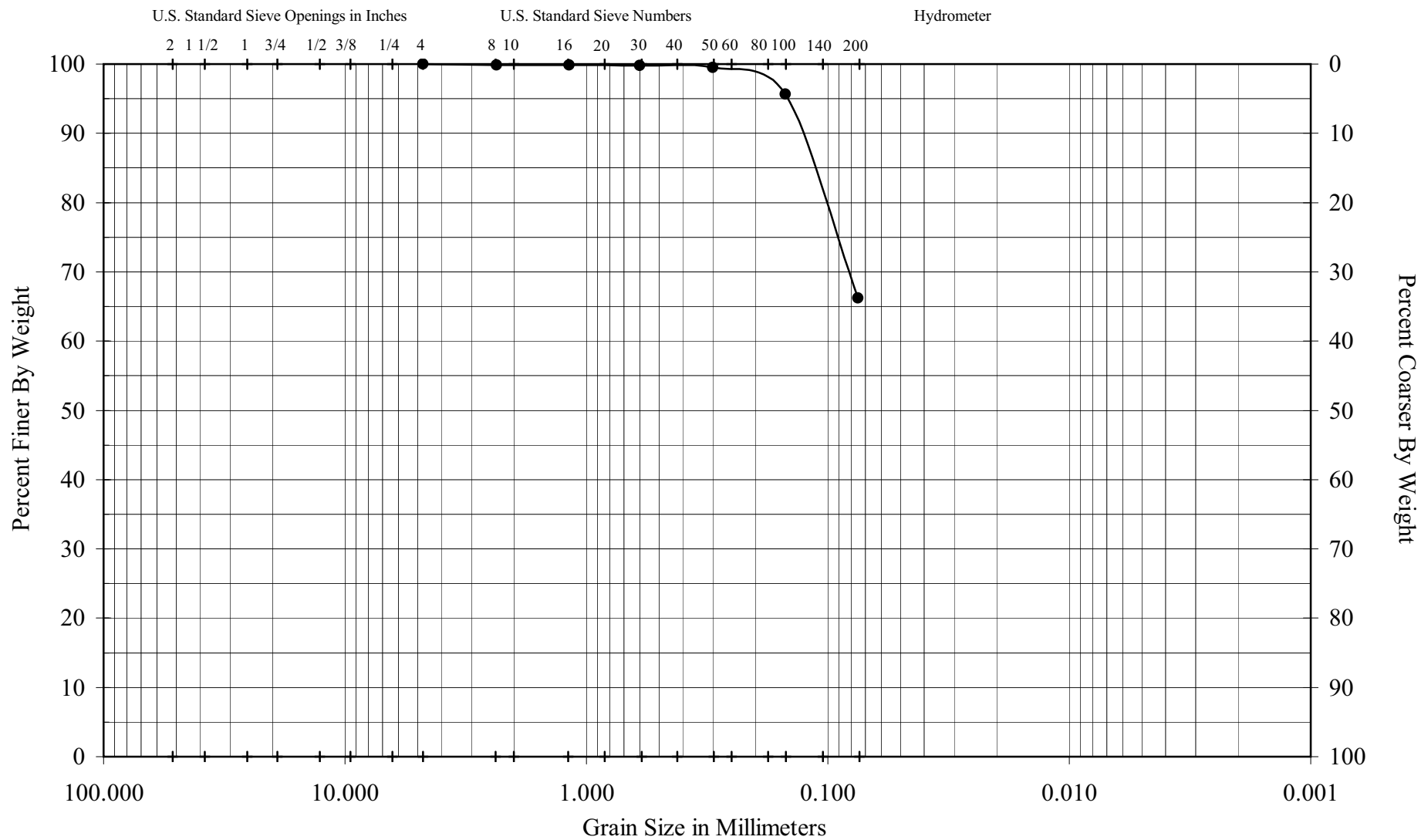
SIEVE ANALYSIS DATA

Project: Bolivar DMPA No. 36 Job No. HG09-15782 Date: December 10, 2009
Boring No. PA 36-3 Sample No. 2 Depth: 3'-6'
Matl Desc. Brown Sandy Clay

Tare No.	50	Init Wt. - Tare	90.50	% Ret.	33.79
Tare Wt.	6.52	Dry Wt. after test	30.58	% Pass #200	66.21
Init. Dry Wt.	97.02	Wt. Ret. on #200	30.58		

Sieve Size/No.	Sieve Size (mm)	Weight Ret.	% Retained	% Passing
4	4.750	0.00	0.00	100.00
8	2.360	0.14	0.15	99.85
16	1.180	0.11	0.12	99.88
30	0.600	0.22	0.24	99.76
50	0.300	0.44	0.49	99.51
100	0.150	3.93	4.34	95.66
200	0.075	30.58	33.79	66.21

Tested by: KK Computed by: NL Check by: SV
Date: 12/9/09 Date: Date:



Boring No.
PA-36-3

Depth, Ft.
3'-6'

Classification
Brown Sandy Clay

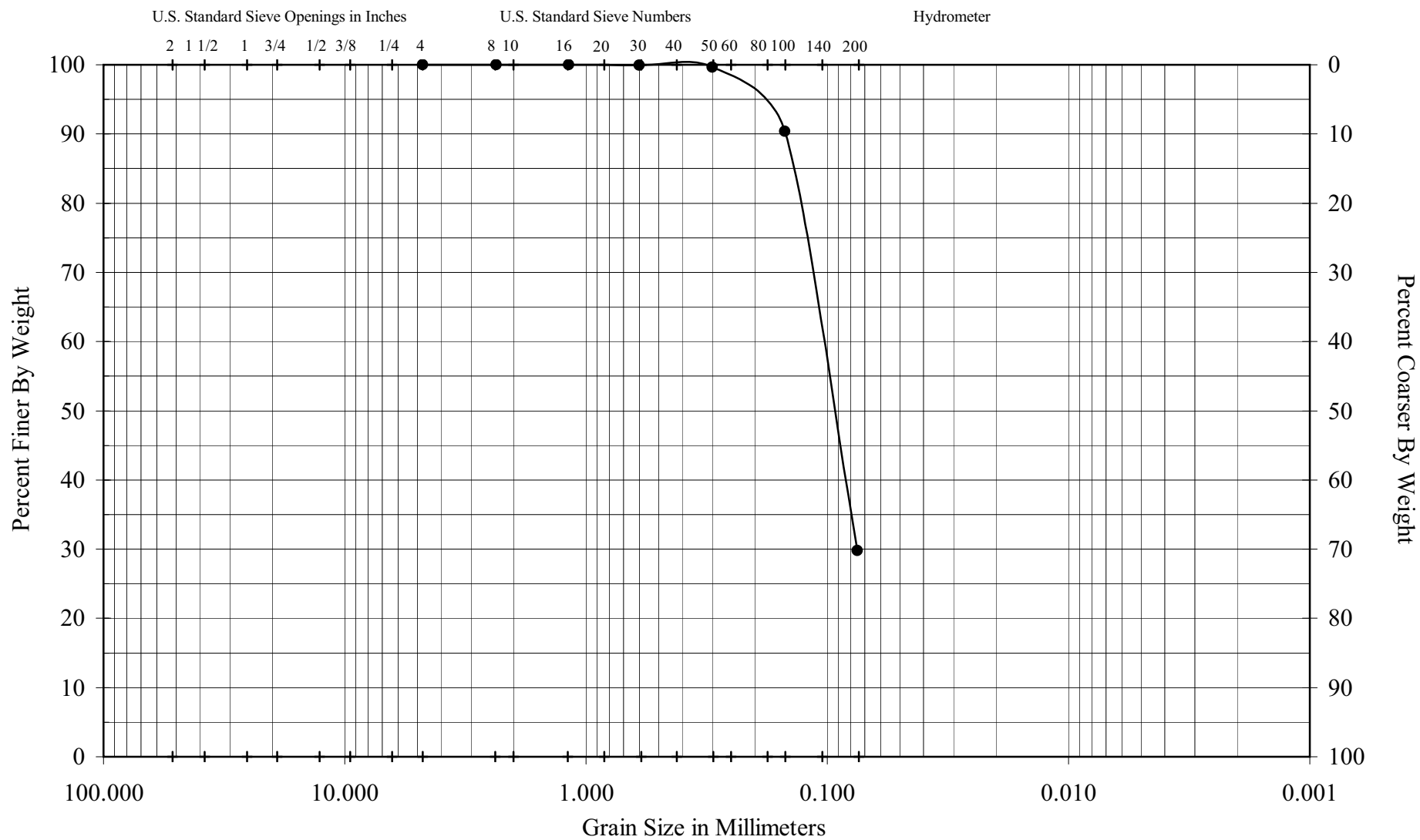
SIEVE ANALYSIS DATA

Project: Bolivar DMPA No. 36 Job No. HG09-15782 Date: December 10, 2009
Boring No. PA 36-3 Sample No. 3 Depth: 6'-9'
Matl Desc. Dark Greenish Gray Clayey Sand

Tare No.	68	Init Wt. - Tare	123.76	% Ret.	70.18
Tare Wt.	6.68	Dry Wt. after test	86.85	% Pass #200	29.82
Init. Dry Wt.	130.44	Wt. Ret. on #200	86.85		

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	0.03	0.02	99.98
30	0.600	0.10	0.08	99.92
50	0.300	0.48	0.39	99.61
100	0.150	11.88	9.60	90.40
200	0.075	86.85	70.18	29.82

Tested by: KK Computed by: NL Check by: SV
Date: 12/9/09 Date: Date:



Boring No.
PA-36-3

Depth, Ft.
6'-9'

Classification
Dark Greenish Gray Clayey Sand

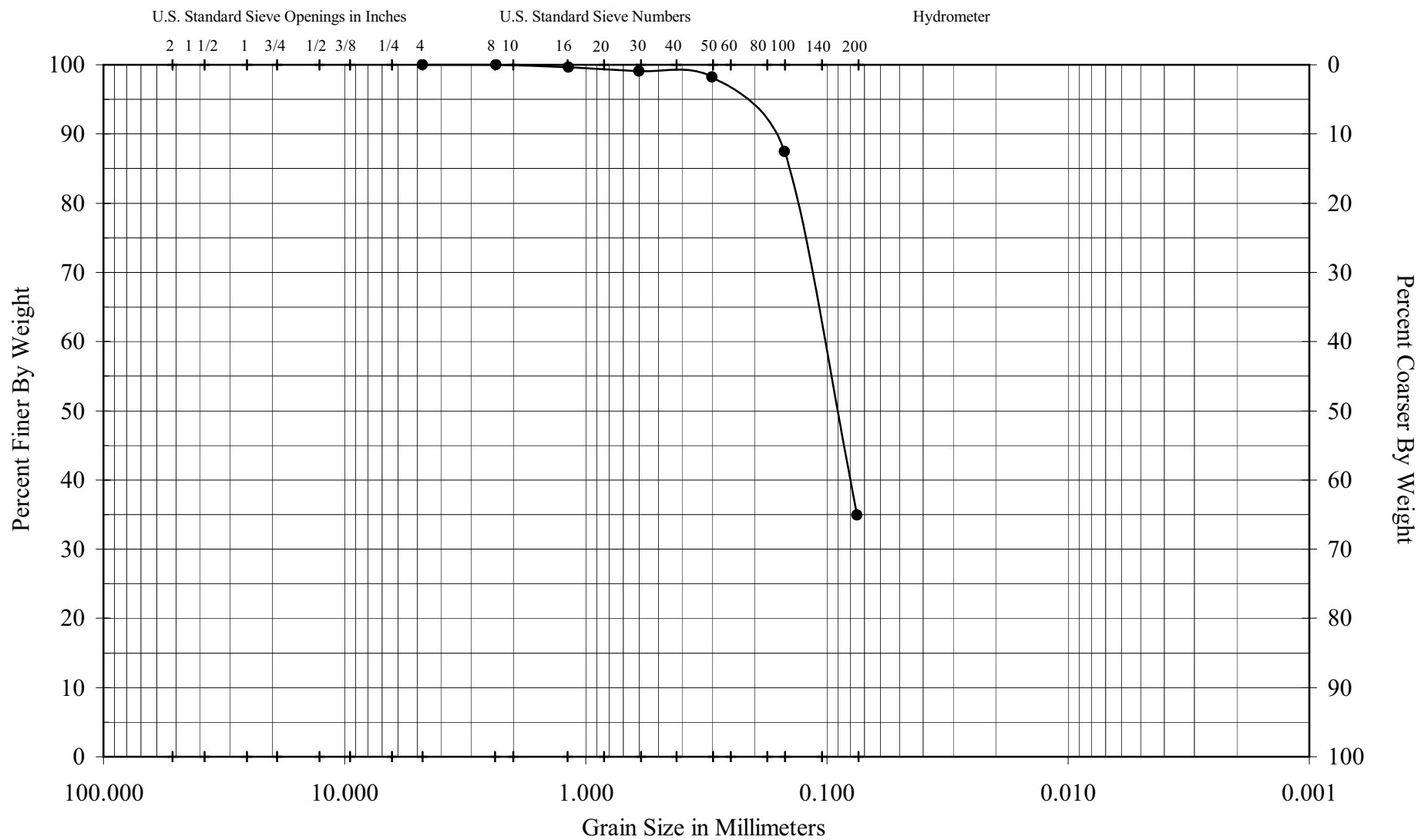
SIEVE ANALYSIS DATA

Project: Bolivar DMPA No. 36 Job No. HG09-15782 Date: December 10, 2009
Boring No. PA 36-3 Sample No. 4 Depth: 9'-12'
Matl Desc. Dark Gray Clayey Sand

Tare No.	54	Init Wt. - Tare	105.13	% Ret.	65.06
Tare Wt.	6.59	Dry Wt. after test	68.40	% Pass #200	34.94
Init. Dry Wt.	111.72	Wt. Ret. on #200	68.40		

Sieve Size/No.	Sieve Size (mm)	Weight Ret.	% Retained	% Passing
4	4.750	0.00	0.00	100.00
8	2.360	0.03	0.03	99.97
16	1.180	0.40	0.38	99.62
30	0.600	0.94	0.89	99.11
50	0.300	1.90	1.81	98.19
100	0.150	13.18	12.54	87.46
200	0.075	68.40	65.06	34.94

Tested by: LL Computed by: NL Check by: SV
Date: 12/9/09 Date: Date:

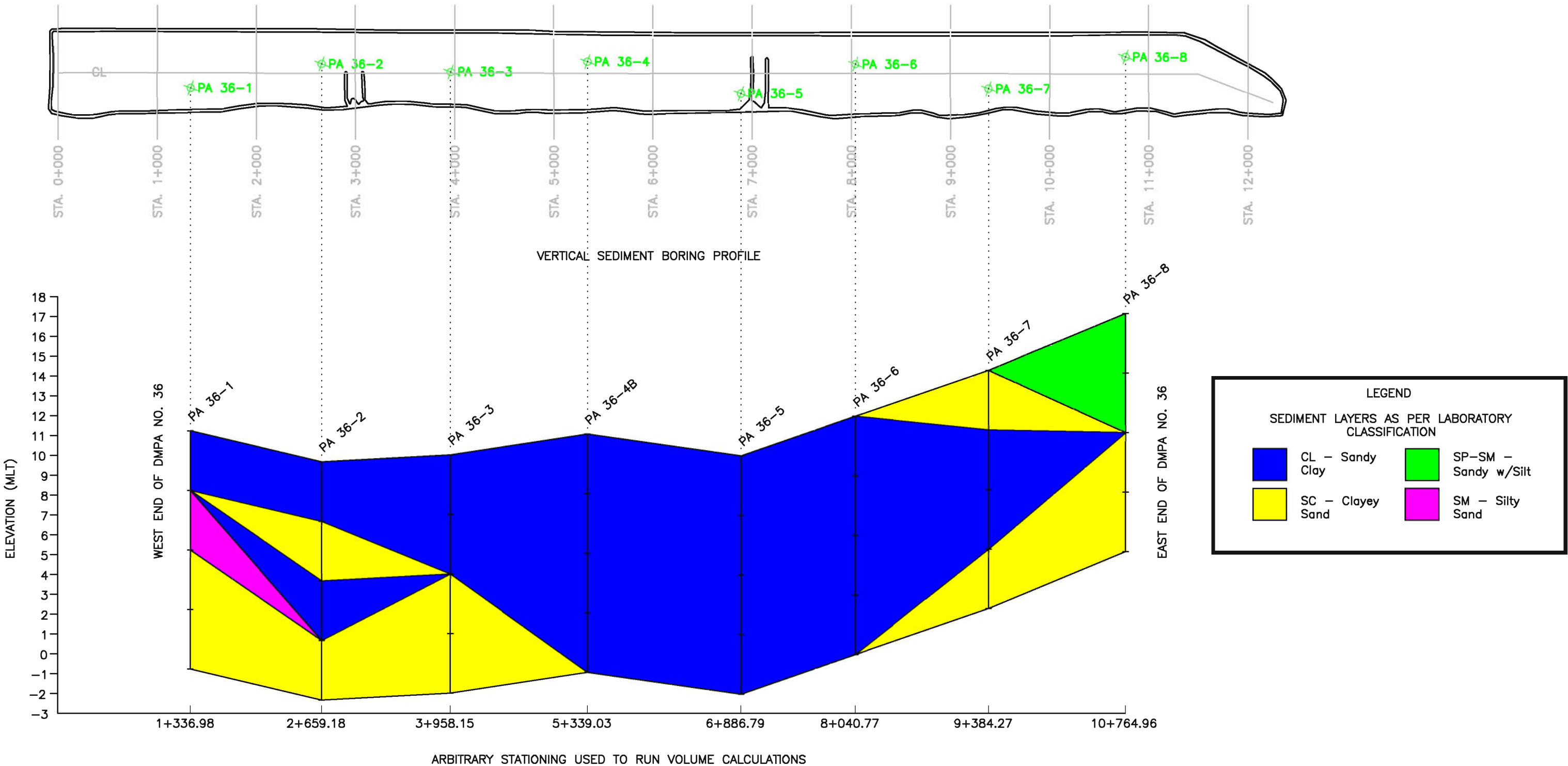


Boring No.
PA-36-3

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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19. Looking South by PA 36-3



20. Looking Northeast by PA 36-3.



21. Looking West of PA 36-3.



22. Looking East by Wier Box.



27. PA36-3, 3'-6'ft: Brown Sandy Clay, W% 33.7



28. PA36-3, 6'-9'ft: Dark Greenish Gray Clayey Sandy, W% 26.9



29. PA36-3, 9'-12'ft: Dark Gray Clayey Sand, W% 34.8