

FEB 02 2015



Triad Hunter



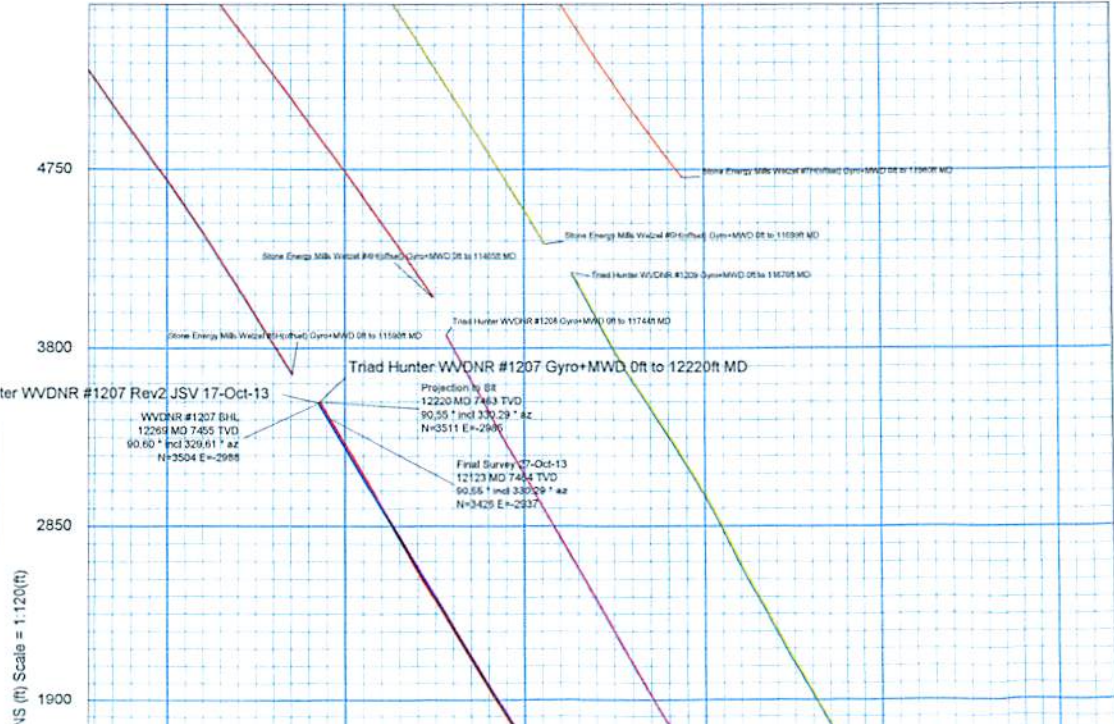
Borehole: Original Borehole			Well: WVDNR #1207			Field: WV Wetzel County (NAD 27)			Structure: Warren Drilling #12								
Gravity & Magnetic Parameters						Surface Location NAD27 West Virginia State Plane, Northern Zone, US Feet						Miscellaneous					
Model:	HDGM 2013	Dip:	67.15°	Date:	10/17/2013	Lat:	N 39 30 18.41	Northing:	368188ftUS	Grid Conv:	-0.738°	Slot:	WVDNR #1207	TVD Ref:	KB(1470ft above MSL)		
MagDec:	-7.942°	FS:	52712.601N	Gravity FS:	999.299mgn (9.80665 Based)	Lon:	W 80 39 28.04	Easting:	1673320ftUS	Scale Fact:	1	Plan:	Triad Hunter WVDNR #1207 Gyro+MWD Off to 12220ft MD				

- Triad Hunter WVDNR #1207 Gyro+MWD Off to 12220ft MD
- Triad Hunter WVDNR #1207 Rev2 JSV 17-Oct-13
- Stone Energy Mills Wetzel #1195ftMD; Gyro+MWD Off to 1195ft MD
- Stone Energy Mills Wetzel #1195ftMD; Gyro+MWD Off to 1195ft MD
- Triad Hunter WVDNR #1209 Gyro+MWD Off to 11676ft MD
- Triad Hunter WVDNR #1208 Gyro+MWD Off to 11746ft MD
- Stone Energy Mills Wetzel #1195ftMD; Gyro+MWD Off to 1195ft MD
- Stone Energy Mills Wetzel #1195ftMD; Gyro+MWD Off to 1195ft MD
- WVDNR #1207 LP on plot
- WVDNR #1207 BHL

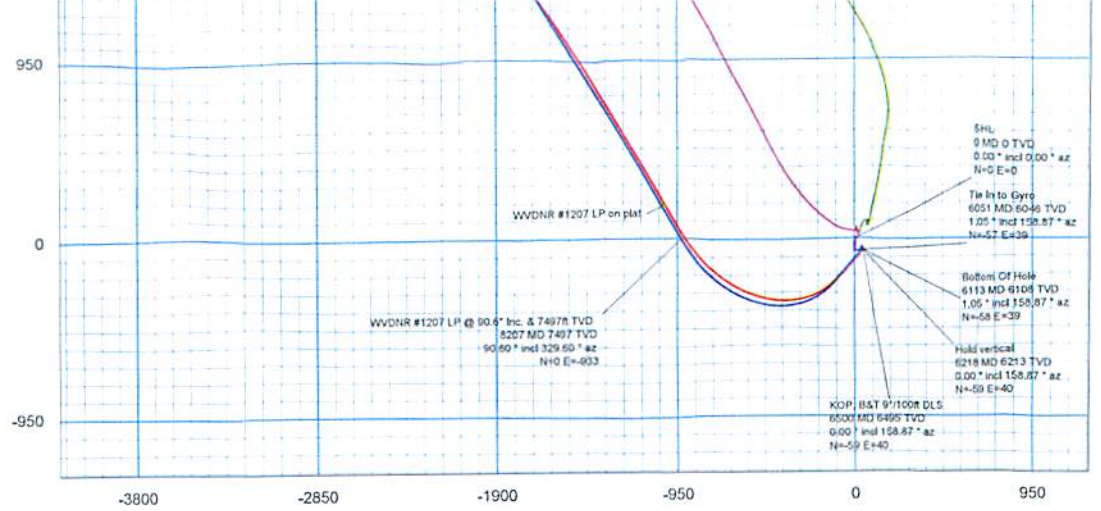
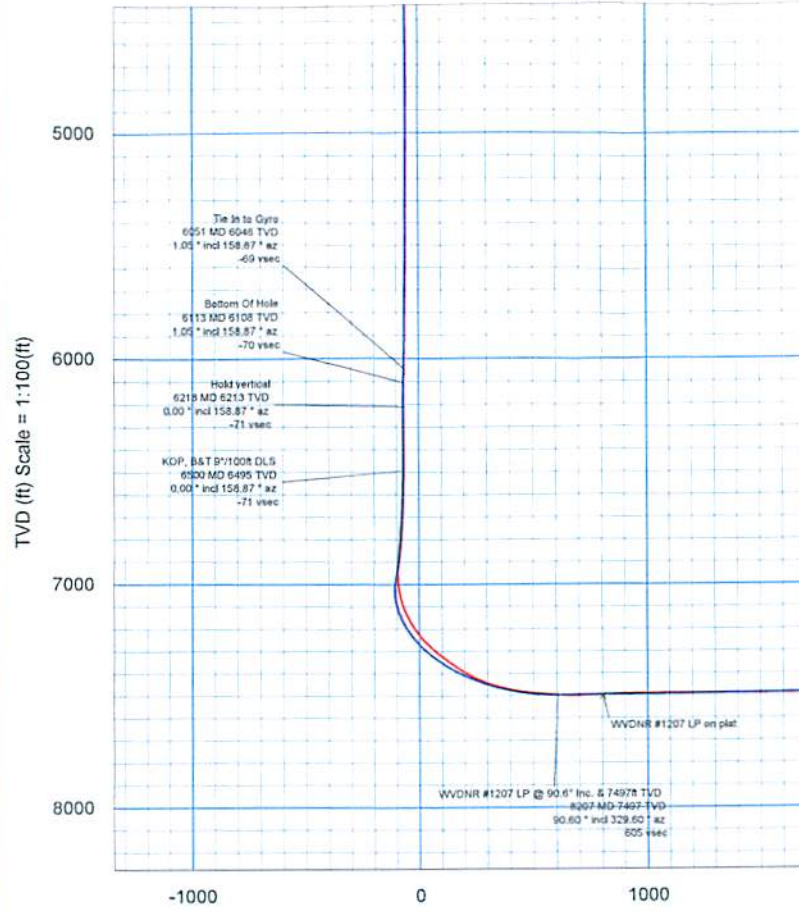
PART	Seq.	Survey Tool	Vendor/Tool	Wdg Size (in)	CRKNG Size (in)	MD From (ft)	MD To (ft)	Survey Frequency (ft)	EDU Size (ft)	EDU Size (ft)	Comments/Contingency
1	1	SLB_NSG-M5H-KIT-Depth Only		30	30	0	20	Act Str	1.25	1.25	
1	2	SLB_NSG-M5H-KIT		30	30	20	6051	Act Str	5.48	3.28	
1	3	SLB_MWD-4TD		30	30	6051	12220	Act Str	128.55	9.02	

Surface Location											
Northing: 368188		Easting: 1673329		Latitude: N 39 30 18.41		Longitude: W 80 39 28.04		V-Vec Azimuth: 319.344			
Target Description										Local Coord	
Target Name	Shape	Dimension	Altitude	Longitude	Northing	Easting	TVD	V-Vec	RA(°)S(°)	E(°)W(°)	
WVDNR #1207 LP on plot	Point	N/A	N 39 30 19.97 41.25	W 80 39 28.04	368395.00	1672287.00	7503.00	801.20	172.81	-1033.06	
WVDNR #1207 BHL	Point	N/A	N 39 30 52.65 W 80 40 6.74	371852.00	1670332.00	7503.00	4905.29	3504.21	-2988.18		

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	V-VEC	N(+)/S(-)	E(+)/W(-)	CLS



Final Survey 27-Oct-13	12123.00	90.55	330.29	7464.11	4512.90	3428.87	-2937.07	0.96
Projection to BH	12226.00	90.55	330.29	7463.16	4608.20	3510.82	-2895.14	0.90



Triad Hunter WVDNR #1207 Gyro+MWD 0ft to 12220ft MD

Final Survey 27-Oct-13	12123 MD 7464 TVD	90.55° incl 330.29° az	4513 vsec
Projection to BH	12220 MD 7463 TVD	90.55° incl 330.29° az	4508 vsec

Triad Hunter WVDNR #1207 Rev2 JSV 17-Oct-13

WVDNR #1207 BH	12269 MD 7455 TVD	90.60° incl 328.61° az	4505 vsec
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Grid
Mag True

Grid North
Tot Corr (M→G -7.204°)
Mag Dec (-7.942°)
Grid Conv (-0.738°)

Triad Hunter WVDNR #1207 Gyro+MWD 0ft to 12220ft MD Survey Report

(Def Survey)



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Report Date: October 28, 2013 - 11:03 AM
Client: Triad Hunter
Field: WV Wetzel County (NAD 27)
Structure / Slot: Triad Hunter WVDNR Pad / WVDNR #1207
Well: WVDNR #1207
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Triad Hunter WVDNR #1207 Gyro+MWD 0ft to 12220ft MD
Survey Date: October 17, 2013
Tort / AHD / DDI / ERD Ratio: 237.537 ° / 5402.681 ft / 6.320 / 0.720
Coordinate Reference System: NAD27 West Virginia State Plane, Northern Zone, US Feet
Location Lat / Long: N 39° 30' 18.40578", W 80° 39' 28.04131"
Location Grid N/E Y/X: N 368188.000 ftUS, E 1673320.000 ftUS
CRS Grid Convergence Angle: -0.7384 °
Grid Scale Factor: 0.99994296
Version / Patch: 2.7.998.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 319.544 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: KB
TVD Reference Elevation: 1470.000 ft above MSL
Seabed / Ground Elevation: 1450.000 ft above MSL
Magnetic Declination: -7.942 °
Total Gravity Field Strength: 999.2988mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 52712.601 nT
Magnetic Dip Angle: 67.150 °
Declination Date: October 17, 2013
Magnetic Declination Model: HDGM 2013
North Reference: Grid North
Grid Convergence Used: -0.7384 °
Total Corr Mag North->Grid North: -7.2037 °
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Directional Difficulty Index
SHL	0.00	0.00	0.00	0.00	-1470.00	0.00	0.00	0.00	N/A	N/A	N/A	368188.00	1673320.00	N 39 30 18.41	W 80 39 28.04	0.00
	111.00	0.36	316.47	111.00	-1359.00	0.35	0.25	-0.24	0.32	0.32	0.00	368188.25	1673319.76	N 39 30 18.41	W 80 39 28.04	0.00
	211.00	0.95	320.95	210.99	-1259.01	1.49	1.12	-0.98	0.59	0.59	4.48	368189.12	1673319.02	N 39 30 18.42	W 80 39 28.05	0.15
	311.00	1.08	336.74	310.98	-1159.02	3.22	2.63	-1.87	0.31	0.13	15.79	368190.63	1673318.13	N 39 30 18.43	W 80 39 28.07	0.61
	411.00	1.11	342.43	410.96	-1059.04	5.01	4.42	-2.54	0.11	0.03	5.69	368192.42	1673317.46	N 39 30 18.45	W 80 39 28.07	0.85
	511.00	0.23	347.11	510.95	-959.05	6.08	5.54	-2.87	0.88	-0.88	4.68	368193.54	1673317.13	N 39 30 18.46	W 80 39 28.08	1.15
	611.00	0.14	1.28	610.95	-859.05	6.35	5.86	-2.92	0.10	-0.09	14.17	368193.86	1673317.08	N 39 30 18.46	W 80 39 28.08	1.19
	711.00	0.27	9.35	710.95	-759.05	6.59	6.21	-2.88	0.13	0.13	8.07	368194.21	1673317.12	N 39 30 18.47	W 80 39 28.08	1.24
	811.00	0.19	115.90	810.95	-659.05	6.60	6.37	-2.69	0.37	-0.08	106.55	368194.37	1673317.31	N 39 30 18.47	W 80 39 28.08	1.32
	911.00	0.26	98.71	910.95	-559.05	6.27	6.27	-2.32	0.10	0.07	-17.19	368194.27	1673317.68	N 39 30 18.47	W 80 39 28.07	1.36
	1011.00	0.15	120.70	1010.95	-459.05	5.98	6.17	-1.98	0.13	-0.11	21.99	368194.17	1673318.02	N 39 30 18.47	W 80 39 28.07	1.40
	1111.00	0.26	106.20	1110.95	-359.05	5.66	6.04	-1.65	0.12	0.11	-14.50	368194.04	1673318.35	N 39 30 18.47	W 80 39 28.06	1.43
	1211.00	0.05	100.70	1210.95	-259.05	5.44	5.97	-1.39	0.21	-0.21	-5.50	368193.96	1673318.61	N 39 30 18.46	W 80 39 28.06	1.47
	1311.00	0.54	96.18	1310.94	-159.06	5.06	5.91	-0.88	0.49	0.49	-4.52	368193.91	1673319.12	N 39 30 18.46	W 80 39 28.05	1.56
	1411.00	0.63	164.64	1410.94	-59.06	4.22	5.33	-0.26	0.66	0.09	68.46	368193.33	1673319.74	N 39 30 18.46	W 80 39 28.05	1.66
	1511.00	3.48	182.52	1510.87	40.87	1.50	1.76	-0.25	2.89	2.85	17.88	368189.76	1673319.75	N 39 30 18.42	W 80 39 28.04	2.01
	1611.00	7.60	178.49	1610.38	140.38	-5.86	-7.88	-0.21	4.14	4.12	-4.03	368180.12	1673319.79	N 39 30 18.33	W 80 39 28.04	2.43
	1711.00	9.40	182.98	1709.28	239.28	-16.94	-22.65	-0.46	1.92	1.80	4.49	368165.35	1673319.54	N 39 30 18.18	W 80 39 28.04	2.71
	1811.00	8.99	179.95	1807.99	337.99	-28.82	-38.62	-0.88	0.63	-0.41	-3.03	368149.38	1673319.12	N 39 30 18.02	W 80 39 28.05	2.88
	1911.00	6.38	182.52	1907.09	437.09	-38.83	-51.99	-1.11	2.63	-2.61	2.57	368136.02	1673318.89	N 39 30 17.89	W 80 39 28.05	3.05
	2011.00	3.42	185.06	2006.71	536.71	-44.99	-60.51	-1.62	2.97	-2.96	2.54	368127.49	1673318.38	N 39 30 17.81	W 80 39 28.05	3.18
	2111.00	1.16	191.51	2106.62	636.62	-47.70	-64.47	-2.09	2.27	-2.26	6.45	368123.53	1673317.91	N 39 30 17.77	W 80 39 28.06	3.25
	2211.00	0.55	170.97	2206.61	736.61	-48.74	-65.94	-2.21	0.67	-0.61	-20.54	368122.06	1673317.79	N 39 30 17.75	W 80 39 28.06	3.27
	2311.00	1.01	103.48	2306.60	836.60	-49.86	-66.62	-1.28	0.95	0.46	-67.49	368121.39	1673318.72	N 39 30 17.75	W 80 39 28.05	3.29

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Comments	MD (R)	Incl (°)	Azim Grid (°)	TVD (R)	TVDSS (R)	VSEC (R)	NS (R)	EW (R)	DLS (°/100R)	BR (°/100R)	TR (R)	Depth (RUS)	Depth (RUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')	Directional Difficulty Index
	2411.00	1.82	87.99	2406.57	936.57	-51.56	-66.77	1.16	0.89	0.81	-15.49	368121.24	1673321.16	N 39 30 17.75	W 80 39 28.02	3.32
	2511.00	1.66	89.69	2506.53	1036.53	-53.48	-66.70	4.20	0.17	-0.16	1.70	368121.30	1673324.20	N 39 30 17.75	W 80 39 27.98	3.34
	2611.00	1.69	85.30	2606.48	1136.48	-55.28	-66.58	7.12	0.13	0.03	-4.39	368121.43	1673327.12	N 39 30 17.75	W 80 39 27.94	3.36
	2711.00	1.79	78.01	2706.44	1236.44	-56.88	-66.13	10.11	0.24	0.10	-7.29	368121.87	1673330.11	N 39 30 17.75	W 80 39 27.90	3.37
	2811.00	2.13	76.18	2806.38	1336.38	-58.46	-65.36	13.45	0.35	0.34	-1.83	368122.64	1673333.45	N 39 30 17.76	W 80 39 27.86	3.39
	2911.00	2.13	74.80	2906.31	1436.31	-60.09	-64.43	17.04	0.05	0.00	-1.38	368123.57	1673337.04	N 39 30 17.77	W 80 39 27.81	3.41
	3011.00	1.85	72.79	3006.25	1536.25	-61.52	-63.47	20.38	0.29	-0.28	-2.01	368124.54	1673340.38	N 39 30 17.78	W 80 39 27.77	3.43
	3111.00	1.68	70.32	3106.20	1636.20	-62.67	-62.50	23.30	0.19	-0.17	-2.47	368125.51	1673343.30	N 39 30 17.79	W 80 39 27.73	3.45
	3211.00	1.86	52.84	3206.16	1736.16	-63.29	-61.02	25.98	0.57	0.18	-17.48	368126.98	1673345.97	N 39 30 17.81	W 80 39 27.70	3.47
	3311.00	2.06	50.36	3306.10	1836.10	-63.40	-58.89	28.65	0.22	0.20	-2.48	368129.11	1673348.65	N 39 30 17.83	W 80 39 27.67	3.49
	3411.00	2.13	48.99	3406.03	1936.03	-63.41	-56.53	31.44	0.09	0.07	-1.37	368131.47	1673351.44	N 39 30 17.85	W 80 39 27.63	3.50
	3511.00	2.20	47.08	3505.96	2035.96	-63.31	-54.00	34.25	0.10	0.07	-1.91	368134.00	1673354.24	N 39 30 17.88	W 80 39 27.60	3.52
	3611.00	1.59	49.36	3605.90	2135.90	-63.22	-51.79	36.71	0.61	-0.61	2.28	368136.21	1673356.70	N 39 30 17.90	W 80 39 27.56	3.54
	3711.00	0.98	43.35	3705.88	2235.88	-63.13	-50.27	38.34	0.62	-0.61	-6.01	368137.74	1673358.34	N 39 30 17.91	W 80 39 27.54	3.55
	3811.00	0.59	35.54	3805.87	2335.87	-62.91	-49.22	39.23	0.40	-0.39	-7.81	368138.78	1673359.23	N 39 30 17.92	W 80 39 27.53	3.57
	3911.00	0.40	21.08	3905.87	2435.87	-62.62	-48.48	39.66	0.23	-0.19	-14.46	368139.52	1673359.65	N 39 30 17.93	W 80 39 27.53	3.57
	4011.00	0.46	336.49	4005.86	2535.86	-62.07	-47.79	39.62	0.33	0.06	-44.59	368140.22	1673359.62	N 39 30 17.94	W 80 39 27.53	3.58
	4111.00	0.49	321.99	4105.86	2635.86	-61.26	-47.08	39.20	0.12	0.03	-14.50	368140.92	1673359.20	N 39 30 17.95	W 80 39 27.53	3.58
	4211.00	0.45	330.80	4205.86	2735.86	-60.45	-46.40	38.74	0.08	-0.04	8.81	368141.60	1673358.74	N 39 30 17.95	W 80 39 27.54	3.59
	4311.00	0.62	333.71	4305.85	2835.85	-59.54	-45.57	38.31	0.17	0.17	2.91	368142.43	1673358.31	N 39 30 17.96	W 80 39 27.55	3.59
	4411.00	0.42	341.96	4405.85	2935.85	-58.67	-44.74	37.96	0.21	-0.20	8.25	368143.26	1673357.96	N 39 30 17.97	W 80 39 27.55	3.60
	4511.00	0.31	339.82	4505.85	3035.85	-58.08	-44.14	37.75	0.11	-0.11	-2.14	368143.86	1673357.75	N 39 30 17.97	W 80 39 27.55	3.60
	4611.00	0.34	330.01	4605.84	3135.84	-57.54	-43.63	37.51	0.08	0.03	-9.81	368144.38	1673357.51	N 39 30 17.98	W 80 39 27.56	3.61
	4711.00	0.51	284.15	4705.84	3235.84	-56.88	-43.26	36.93	0.37	0.17	-45.86	368144.74	1673356.93	N 39 30 17.98	W 80 39 27.56	3.61
	4811.00	0.18	218.63	4805.84	3335.84	-56.55	-43.28	36.40	0.47	-0.33	-65.52	368144.73	1673356.40	N 39 30 17.98	W 80 39 27.57	3.62
	4911.00	0.43	202.45	4905.84	3435.84	-56.75	-43.74	36.16	0.26	0.25	-16.18	368144.26	1673356.16	N 39 30 17.98	W 80 39 27.57	3.63
	5011.00	0.58	184.21	5005.83	3535.83	-57.28	-44.60	35.98	0.22	0.15	-18.24	368143.41	1673355.98	N 39 30 17.97	W 80 39 27.58	3.63
	5111.00	0.74	195.69	5105.83	3635.83	-58.00	-45.72	35.77	0.21	0.16	-11.48	368142.28	1673355.77	N 39 30 17.96	W 80 39 27.58	3.64
	5211.00	0.36	197.41	5205.82	3735.82	-58.53	-46.64	35.50	0.38	-0.38	1.72	368141.36	1673355.50	N 39 30 17.95	W 80 39 27.58	3.65
	5311.00	0.86	182.81	5305.82	3835.82	-59.24	-47.69	35.37	0.52	0.50	-14.60	368140.31	1673355.37	N 39 30 17.94	W 80 39 27.58	3.66
	5411.00	0.57	183.43	5405.81	3935.81	-60.14	-48.94	35.30	0.29	-0.29	0.62	368139.06	1673355.30	N 39 30 17.93	W 80 39 27.58	3.67
	5511.00	0.73	155.43	5505.80	4035.80	-61.12	-50.02	35.54	0.35	0.16	-28.00	368137.99	1673355.53	N 39 30 17.92	W 80 39 27.58	3.67
	5611.00	0.79	148.38	5605.79	4135.79	-62.41	-51.18	36.16	0.11	0.06	-7.05	368136.82	1673356.16	N 39 30 17.90	W 80 39 27.57	3.68
	5711.00	0.71	146.19	5705.79	4235.79	-63.71	-52.28	36.87	0.08	-0.08	-2.19	368135.72	1673356.87	N 39 30 17.89	W 80 39 27.56	3.68
	5811.00	0.64	159.10	5805.78	4335.78	-64.85	-53.32	37.41	0.17	-0.07	12.91	368134.68	1673357.41	N 39 30 17.88	W 80 39 27.56	3.69
	5911.00	1.11	157.80	5905.77	4435.77	-66.29	-54.74	37.98	0.47	0.47	-1.30	368133.26	1673357.98	N 39 30 17.87	W 80 39 27.55	3.70
	6011.00	1.12	155.02	6005.75	4535.75	-68.16	-56.52	38.76	0.06	0.01	-2.78	368131.48	1673358.75	N 39 30 17.85	W 80 39 27.54	3.71
	6051.00	1.05	158.87	6045.74	4575.74	-68.88	-57.22	39.05	0.25	-0.18	9.63	368130.79	1673359.05	N 39 30 17.85	W 80 39 27.53	3.71
	6151.00	0.99	176.75	6147.72	4677.72	-70.46	-58.97	39.44	0.32	-0.06	17.53	368129.03	1673359.44	N 39 30 17.83	W 80 39 27.53	3.72
	6211.00	0.66	158.92	6242.71	4772.71	-71.63	-60.30	39.68	0.44	-0.35	-18.77	368127.70	1673359.68	N 39 30 17.81	W 80 39 27.53	3.73
	6311.00	0.45	166.53	6338.71	4868.71	-72.49	-61.18	39.97	0.23	-0.22	7.93	368126.82	1673359.97	N 39 30 17.81	W 80 39 27.52	3.73
	6411.00	0.25	150.19	6433.71	4963.71	-73.03	-61.72	40.16	0.23	-0.21	-17.20	368126.28	1673360.16	N 39 30 17.80	W 80 39 27.52	3.74
	6511.00	4.96	226.86	6496.63	5026.63	-73.29	-63.71	38.24	7.79	7.48	121.70	368124.30	1673358.24	N 39 30 17.78	W 80 39 27.54	3.80
	6534.00	8.92	225.45	6528.39	5058.39	-73.53	-66.39	35.46	12.39	12.38	-4.41	368121.61	1673355.46	N 39 30 17.75	W 80 39 27.58	3.85
	6566.00	11.94	224.56	6559.86	5089.86	-73.99	-70.49	31.37	9.45	9.44	-2.78	368117.51	1673351.37	N 39 30 17.71	W 80 39 27.63	3.90
	6598.00	13.75	222.15	6591.05	5121.05	-74.77	-75.67	26.50	5.90	5.66	-7.53	368112.33	1673346.49	N 39 30 17.66	W 80 39 27.69	3.93
	6629.00	16.19	221.19	6621.00	5151.00	-75.87	-81.66	21.18	7.91	7.87	-3.10	368106.35	1673341.17	N 39 30 17.60	W 80 39 27.76	3.97
	6661.00	18.56	221.74	6651.54	5181.54	-77.21	-88.82	14.85	7.42	7.41	1.72	368099.19	1673334.85	N 39 30 17.53	W 80 39 27.84	4.02

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Comments	MD (ft)	Incl (°)	Azlm Grld (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Directional Difficulty Index
	8221.00	90.17	330.02	7499.96	6029.96	671.26	65.52	-957.68	11.09	10.84	2.34	368253.52	1672362.37	N 39 30 18.93	W 80 39 40.27	5.46
	8253.00	92.23	329.85	7499.29	6029.29	702.73	93.21	-973.71	6.46	6.44	-0.53	368281.20	1672346.35	N 39 30 19.20	W 80 39 40.48	5.48
	8312.00	92.55	329.79	7496.83	6026.83	760.73	144.17	-1003.35	0.55	0.54	-0.10	368332.16	1672316.71	N 39 30 19.70	W 80 39 40.86	5.50
	8407.00	91.79	329.66	7493.23	6023.23	854.17	226.15	-1051.21	0.81	-0.80	-0.14	368414.14	1672268.86	N 39 30 20.51	W 80 39 41.49	5.53
	8502.00	90.69	329.28	7491.18	6021.18	947.72	307.96	-1099.45	1.23	-1.16	-0.40	368495.94	1672220.61	N 39 30 21.31	W 80 39 42.12	5.57
	8598.00	90.89	329.04	7489.85	6019.85	1042.37	390.38	-1148.66	0.33	0.21	-0.25	368578.36	1672171.41	N 39 30 22.12	W 80 39 42.76	5.60
	8693.00	90.48	329.89	7488.72	6018.72	1135.94	472.20	-1196.92	0.99	-0.43	0.89	368660.17	1672123.15	N 39 30 22.92	W 80 39 43.39	5.63
	8789.00	89.66	330.09	7488.60	6018.60	1230.35	555.33	-1244.94	0.88	-0.85	0.21	368743.29	1672075.14	N 39 30 23.73	W 80 39 44.01	5.65
	8884.00	89.76	329.48	7489.08	6019.08	1323.83	637.42	-1292.75	0.65	0.11	-0.64	368825.38	1672027.33	N 39 30 24.54	W 80 39 44.64	5.68
	8980.00	90.27	330.26	7489.06	6019.06	1418.27	720.45	-1340.93	0.97	0.53	0.81	368908.40	1671979.15	N 39 30 25.35	W 80 39 45.27	5.71
	9076.00	90.86	331.22	7488.11	6018.11	1512.44	804.19	-1387.85	1.17	0.61	1.00	368992.15	1671932.23	N 39 30 26.18	W 80 39 45.88	5.73
	9171.00	90.55	329.91	7486.94	6016.94	1605.68	886.92	-1434.53	1.42	-0.33	-1.38	369074.87	1671885.55	N 39 30 26.99	W 80 39 46.49	5.76
	9266.00	90.93	329.02	7485.71	6015.71	1699.25	968.74	-1482.80	1.02	0.40	-0.94	369156.68	1671837.29	N 39 30 27.79	W 80 39 47.12	5.78
	9362.00	91.27	327.70	7483.87	6013.87	1794.10	1050.45	-1533.15	1.42	0.35	-1.38	369238.39	1671786.95	N 39 30 28.59	W 80 39 47.77	5.81
	9457.00	91.65	327.03	7481.45	6011.45	1888.18	1130.43	-1584.36	0.81	0.40	-0.71	369318.36	1671735.73	N 39 30 29.37	W 80 39 48.44	5.83
	9552.00	91.61	326.98	7478.75	6008.75	1982.34	1210.07	-1636.07	0.07	-0.04	-0.05	369398.00	1671684.02	N 39 30 30.16	W 80 39 49.11	5.85
	9648.00	90.27	326.46	7477.17	6007.17	2077.57	1290.32	-1688.74	1.50	-1.40	-0.54	369478.24	1671631.36	N 39 30 30.94	W 80 39 49.80	5.87
	9743.00	91.13	327.18	7476.01	6006.01	2171.80	1369.82	-1740.73	1.18	0.91	0.76	369557.74	1671579.37	N 39 30 31.72	W 80 39 50.47	5.89
	9838.00	88.90	329.31	7475.99	6005.99	2265.69	1450.59	-1790.72	3.25	-2.35	2.24	369638.50	1671529.39	N 39 30 32.51	W 80 39 51.12	5.92
	9932.00	89.42	328.84	7477.36	6007.36	2358.39	1531.22	-1839.02	0.75	0.55	-0.50	369719.13	1671481.09	N 39 30 33.30	W 80 39 51.75	5.93
	10028.00	89.86	327.04	7477.97	6007.97	2453.35	1612.57	-1889.98	1.93	0.46	-1.88	369800.48	1671430.13	N 39 30 34.10	W 80 39 52.42	5.96
	10123.00	91.68	329.81	7476.69	6006.69	2547.19	1693.49	-1939.71	3.49	1.92	2.92	369881.39	1671380.40	N 39 30 34.89	W 80 39 53.07	5.98
	10219.00	92.10	329.26	7473.52	6003.52	2641.68	1776.19	-1988.36	0.72	0.44	-0.57	369964.08	1671331.76	N 39 30 35.70	W 80 39 53.70	6.00
	10314.00	90.72	329.80	7471.19	6001.19	2735.21	1858.04	-2036.51	1.56	-1.45	0.57	370045.93	1671283.61	N 39 30 36.51	W 80 39 54.33	6.02
	10409.00	91.10	329.88	7469.68	5999.68	2828.67	1940.17	-2084.24	0.41	0.40	0.08	370128.06	1671235.89	N 39 30 37.31	W 80 39 54.95	6.03
	10504.00	92.17	329.45	7466.97	5996.97	2922.15	2022.13	-2132.20	1.21	1.13	-0.45	370210.01	1671187.93	N 39 30 38.12	W 80 39 55.58	6.05
	10600.00	90.34	329.72	7464.87	5994.87	3016.66	2104.90	-2180.78	1.93	-1.91	0.28	370292.77	1671139.35	N 39 30 38.93	W 80 39 56.21	6.07
	10696.00	89.21	329.64	7465.24	5995.24	3111.16	2187.76	-2229.25	1.18	-1.18	-0.08	370375.63	1671090.89	N 39 30 39.74	W 80 39 56.84	6.09
	10791.00	89.11	329.60	7466.63	5996.63	3204.68	2269.71	-2277.29	0.11	-0.11	-0.04	370457.57	1671042.85	N 39 30 40.55	W 80 39 57.47	6.10
	10886.00	89.86	328.47	7467.49	5997.49	3298.37	2351.16	-2326.16	1.43	0.79	-1.19	370539.03	1670993.98	N 39 30 41.34	W 80 39 58.10	6.12
	10982.00	89.97	328.97	7467.63	5997.63	3393.14	2433.21	-2376.01	0.53	0.11	0.52	370621.07	1670944.13	N 39 30 42.15	W 80 39 58.75	6.13
	11077.00	89.07	328.64	7468.43	5998.43	3486.90	2514.47	-2425.21	1.01	-0.95	-0.35	370702.32	1670894.93	N 39 30 42.95	W 80 39 59.40	6.15
	11172.00	91.27	330.63	7468.15	5998.15	3580.42	2596.43	-2473.23	3.12	2.32	2.09	370784.27	1670846.92	N 39 30 43.75	W 80 40 0.02	6.17
	11267.00	90.76	332.73	7466.46	5996.46	3673.28	2680.04	-2518.28	2.27	-0.54	2.21	370867.88	1670801.86	N 39 30 44.57	W 80 40 0.61	6.18
	11362.00	91.00	331.67	7465.00	5995.00	3765.96	2764.06	-2562.59	1.14	0.25	-1.12	370951.90	1670757.57	N 39 30 45.39	W 80 40 1.19	6.20
	11457.00	90.48	331.42	7463.78	5993.78	3858.87	2847.58	-2607.85	0.61	-0.55	-0.26	371035.41	1670712.31	N 39 30 46.21	W 80 40 1.78	6.21
	11552.00	89.52	331.72	7463.78	5993.78	3951.79	2931.12	-2653.07	1.06	-1.01	0.32	371118.95	1670667.08	N 39 30 47.03	W 80 40 2.37	6.23
	11647.00	89.73	331.66	7464.40	5994.40	4044.66	3014.76	-2698.13	0.23	0.22	-0.06	371202.58	1670622.03	N 39 30 47.85	W 80 40 2.96	6.24
	11741.00	90.00	330.57	7464.62	5994.62	4136.75	3097.06	-2743.53	1.19	0.29	-1.16	371284.88	1670576.63	N 39 30 48.66	W 80 40 3.55	6.25
	11836.00	90.69	329.61	7464.05	5994.05	4230.14	3179.41	-2790.90	1.24	0.73	-1.01	371367.22	1670529.26	N 39 30 49.47	W 80 40 4.17	6.27
	11932.00	89.55	328.41	7463.85	5993.85	4324.83	3261.70	-2840.33	1.72	-1.19	-1.25	371449.51	1670479.84	N 39 30 50.28	W 80 40 4.82	6.28
	12027.00	89.79	329.78	7464.39	5994.39	4418.51	3343.21	-2889.12	1.46	0.25	1.44	371531.01	1670431.05	N 39 30 51.08	W 80 40 5.45	6.30
Final Survey 27-Oct-13	12123.00	90.55	330.29	7464.11	5994.11	4512.90	3426.37	-2937.07	0.95	0.79	0.53	371614.17	1670383.11	N 39 30 51.89	W 80 40 6.08	6.31
Projection to Bit	12220.00	90.55	330.29	7463.18	5993.18	4608.20	3510.62	-2985.14	0.00	0.00	0.00	371698.41	1670335.04	N 39 30 52.72	W 80 40 6.70	6.32

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Survey Type: Def Survey

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Directional Difficulty Index
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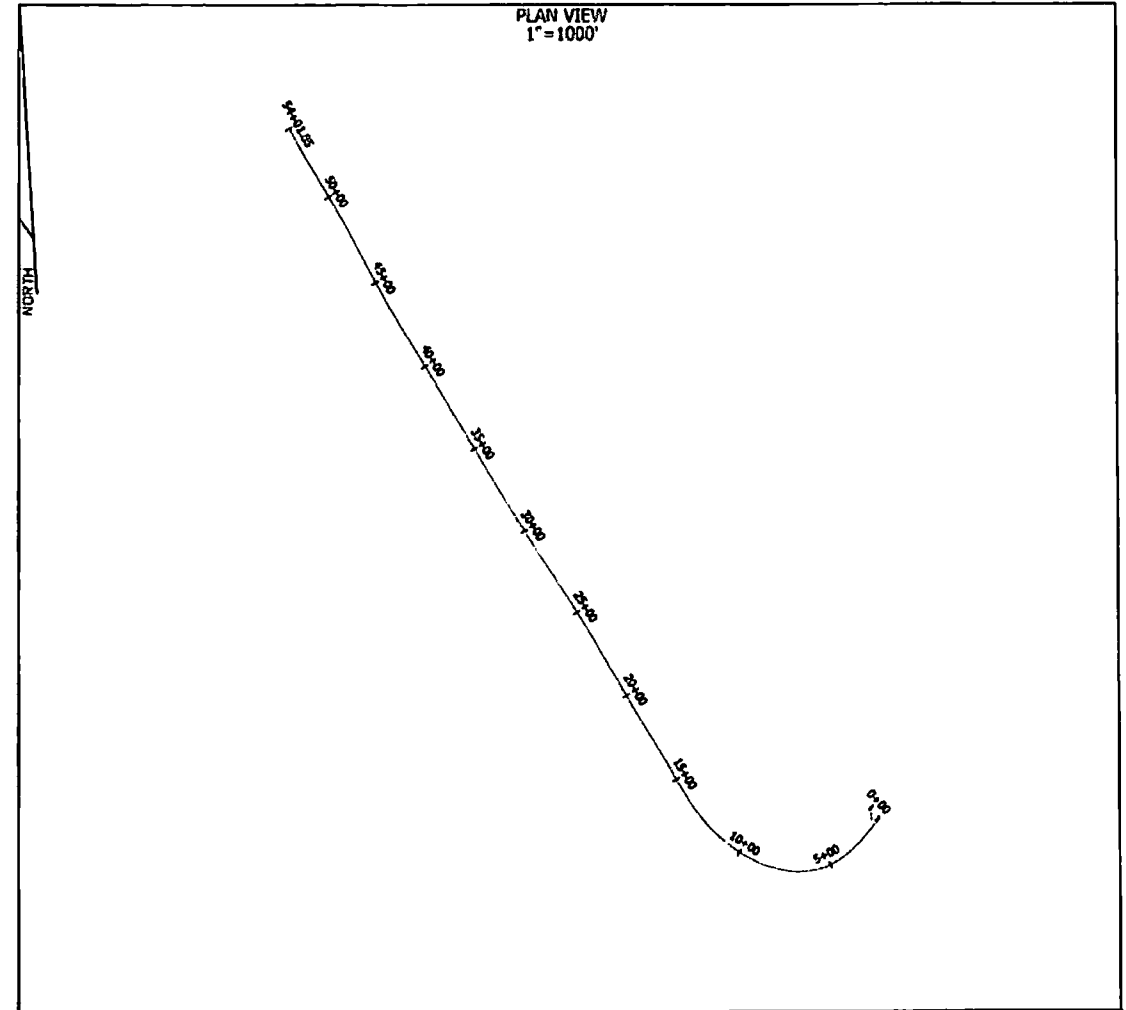
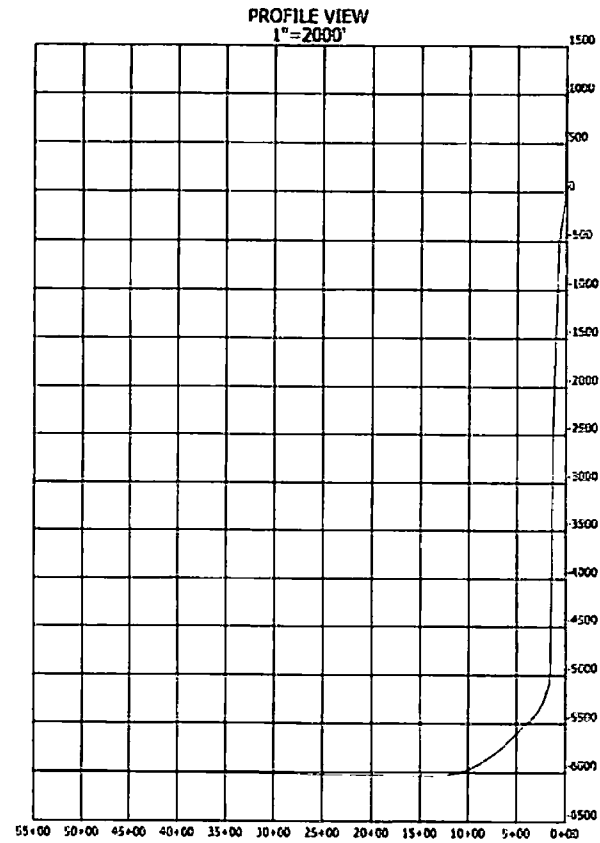
Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
 Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	20.000	Act Stns	30.000	30.000	SLB_NSG+MSHOT-Depth Only	Original Borehole / Triad Hunter WVDNR #1207 Gyro+MWD 0ft to 12220ft MD
	1	20.000	6051.000	Act Stns	30.000	30.000	SLB_NSG+MSHOT	Original Borehole / Triad Hunter WVDNR #1207 Gyro+MWD 0ft to
	1	6051.000	12220.000	Act Stns	30.000	30.000	SLB_MWD-STD	Original Borehole / Triad Hunter WVDNR #1207 Gyro+MWD 0ft to

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PLAN AND PROFILE VIEW FOR WVDNR #1207 API #47-103-02781



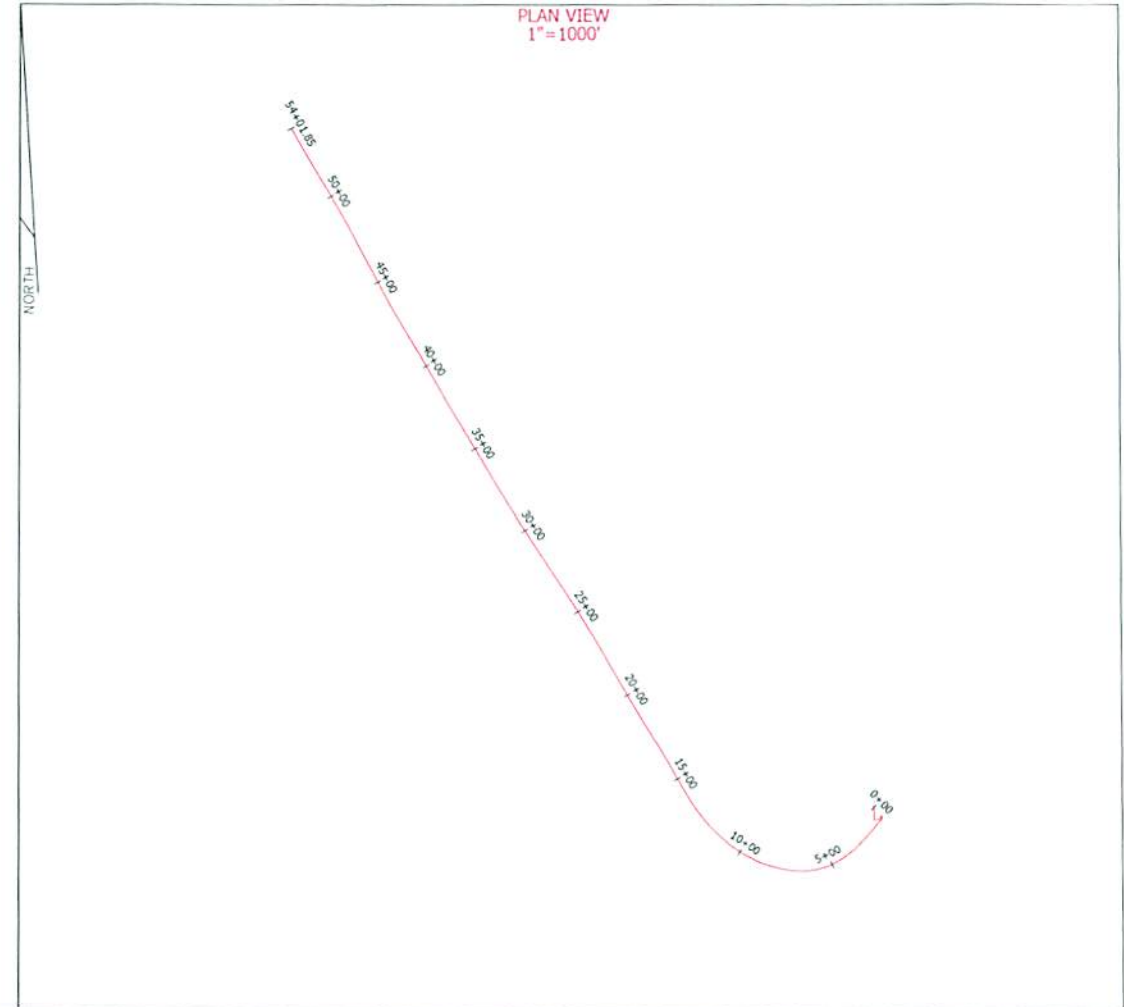
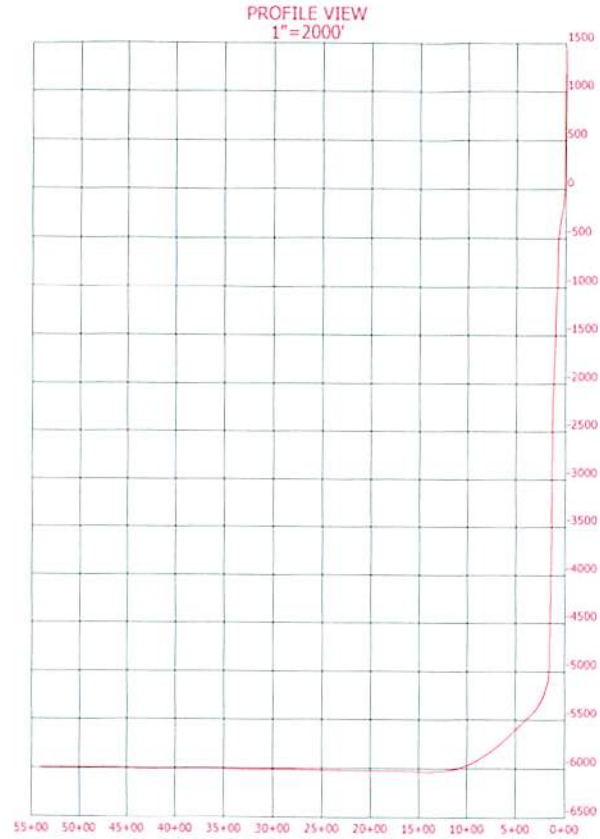
NOTES

1. AS DRILLED DATA WAS PROVIDED BY TRIAD HUNTER.
2. MSM IS NOT CERTIFYING THIS DATA AND IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA THAT HAS BEEN PROVIDED.

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HUPP Surveying & Mapping
P.O. Box 647 Grantsville, WV 26147
(304) 354-7035 EMAIL: hupp@frontiernet.net

PLAN AND PROFILE VIEW FOR WVDNR #1207 API #47-103-02781



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