

87-04756

HG Energy, LLC

Roane County, West Virginia

P.A. Bays #113

P.A. Bays #113

Wellbore #1

Design: Wellbore #1

Survey Report - Geographic

18 August, 2015

Received
Office of
OCT 08 2015



10/30/2015

87-04756

HP
Survey Report - Geographic



Company: HG Energy, LLC	Local Co-ordinate Reference: Well P.A. Bays #113
Project: Roane County, West Virginia	TVD Reference: WELL @ 1072.0usft (Decker #9)
Site: P.A. Bays #113	MD Reference: WELL @ 1072.0usft (Decker #9)
Well: P.A. Bays #113	North Reference: Grid
Wellbore: Wellbore #1	Survey Calculation Method: Minimum Curvature
Design: Wellbore #1	Database: Compass

Project	Roane County, West Virginia		
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level
Geo Datum:	NAD83 West Virginia - HARN		
Map Zone:	Zone 17N (84 W to 78 W)		

Site P.A. Bays #113

Site Position:

From:	Lat/Long	Northing: 14,057,841.10 usft	Latitude: 38° 42' 42.600 N
Position Uncertainty: 0.0 usft		Easting: 1,558,298.63 usft	Longitude: 81° 17' 16.400 W
		Slot Radius: 13-3/16 "	Grd Convergence: -0.18 °

Well P.A. Bays #113

Well Position

+N/-S	0.0 usft	Northing: 14,057,841.10 usft	Latitude: 38° 42' 42.600 N
+E/-W	0.0 usft	Easting: 1,558,298.63 usft	Longitude: 81° 17' 16.400 W
Position Uncertainty 0.0 usft		Wellhead Elevation: 0.0 usft	Ground Level: 1,064.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/6/2015	-8.00	66.34	51,903

Design Wellbore #1

Audit Notes:

Version: 1.0 **Phase:** ACTUAL **Tie On Depth:** 0.0

Vertical Section:

	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	60.69

Survey Program	Date 8/18/2015
From (usft)	To (usft)
527.0	2,540.0
Survey (Wellbore)	
DDC MWD (Wellbore #1)	
Tool Name	Description
MWD default	MWD - Standard

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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	14,057,841.10	1,558,298.63	38° 42' 42.600 N	81° 17' 16.400 W
527.0	0.49	159.37	527.0	-2.1	0.8	14,057,838.99	1,558,299.43	38° 42' 42.579 N	81° 17' 16.390 W
First Survey @ 527' MD / 527' TVD									
557.0	0.88	195.20	557.0	-2.5	0.8	14,057,838.65	1,558,299.41	38° 42' 42.576 N	81° 17' 16.390 W
587.0	0.88	160.47	587.0	-2.9	0.8	14,057,838.21	1,558,299.43	38° 42' 42.571 N	81° 17' 16.390 W
617.0	1.81	106.27	617.0	-3.2	1.3	14,057,837.86	1,558,299.96	38° 42' 42.568 N	81° 17' 16.383 W
647.0	3.31	93.49	647.0	-3.4	2.6	14,057,837.68	1,558,301.28	38° 42' 42.566 N	81° 17' 16.366 W
677.0	4.51	86.09	676.9	-3.4	4.7	14,057,837.70	1,558,303.32	38° 42' 42.567 N	81° 17' 16.341 W
707.0	5.70	82.30	706.8	-3.1	7.3	14,057,837.98	1,558,305.98	38° 42' 42.569 N	81° 17' 16.307 W
737.0	6.58	79.57	736.6	-2.6	10.5	14,057,838.50	1,558,309.14	38° 42' 42.575 N	81° 17' 16.267 W
767.0	7.60	76.70	766.4	-1.8	14.1	14,057,839.26	1,558,312.76	38° 42' 42.582 N	81° 17' 16.222 W
797.0	8.79	72.69	796.1	-0.7	18.2	14,057,840.40	1,558,316.88	38° 42' 42.594 N	81° 17' 16.170 W

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Company: HG Energy, LLC
Project: Roane County, West Virginia
Site: P.A. Bays #113
Well: P.A. Bays #113
Wellbore: Wellbore #1
Desgn: Wellbore #1

Local Co-ordinate Reference: Well P.A. Bays #113
TVD Reference: WELL @ 1072.0usft (Decker #9)
MD Reference: WELL @ 1072.0usft (Decker #9)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
827.0	9.99	69.56	825.6	0.9	22.9	14,057,841.99	1,558,321.51	38° 42' 42.610 N	81° 17' 16.111 W
857.0	11.09	67.09	855.1	2.9	28.0	14,057,844.02	1,558,326.61	38° 42' 42.630 N	81° 17' 16.047 W
887.0	12.02	64.76	884.5	5.4	33.5	14,057,846.48	1,558,332.09	38° 42' 42.654 N	81° 17' 15.978 W
917.0	12.99	62.69	913.8	8.3	39.3	14,057,849.36	1,558,337.91	38° 42' 42.683 N	81° 17' 15.905 W
947.0	14.01	60.48	943.0	11.6	45.4	14,057,852.69	1,558,344.07	38° 42' 42.716 N	81° 17' 15.827 W
977.0	15.38	58.68	972.0	15.4	52.0	14,057,856.55	1,558,350.63	38° 42' 42.754 N	81° 17' 15.744 W
1,007.0	16.39	56.87	1,000.9	19.8	58.9	14,057,860.93	1,558,357.57	38° 42' 42.798 N	81° 17' 15.657 W
1,037.0	17.59	56.47	1,029.6	24.6	66.3	14,057,865.75	1,558,364.89	38° 42' 42.846 N	81° 17' 15.565 W
1,067.0	18.52	57.27	1,058.1	29.7	74.0	14,057,870.83	1,558,372.68	38° 42' 42.896 N	81° 17' 15.467 W
1,097.0	19.31	59.16	1,086.5	34.8	82.3	14,057,875.95	1,558,380.95	38° 42' 42.947 N	81° 17' 15.363 W
1,127.0	20.28	60.48	1,114.7	40.0	91.1	14,057,881.06	1,558,389.73	38° 42' 42.998 N	81° 17' 15.252 W
1,157.0	21.39	60.88	1,142.7	45.2	100.4	14,057,886.28	1,558,399.03	38° 42' 43.050 N	81° 17' 15.135 W
1,187.0	22.71	61.19	1,170.5	50.6	110.3	14,057,891.73	1,558,408.89	38° 42' 43.104 N	81° 17' 15.011 W
1,217.0	23.69	60.66	1,198.1	56.4	120.6	14,057,897.48	1,558,419.22	38° 42' 43.161 N	81° 17' 14.880 W
1,247.0	24.70	60.18	1,225.5	62.4	131.3	14,057,903.55	1,558,429.91	38° 42' 43.222 N	81° 17' 14.746 W
1,277.0	25.72	59.38	1,252.6	68.9	142.3	14,057,909.98	1,558,440.95	38° 42' 43.285 N	81° 17' 14.607 W
1,307.0	26.38	58.28	1,279.6	75.7	153.6	14,057,916.80	1,558,452.22	38° 42' 43.353 N	81° 17' 14.465 W
1,337.0	27.31	57.80	1,306.3	82.9	165.1	14,057,923.97	1,558,463.71	38° 42' 43.425 N	81° 17' 14.320 W
1,367.0	28.19	57.58	1,332.9	90.3	176.9	14,057,931.44	1,558,475.52	38° 42' 43.499 N	81° 17' 14.171 W
1,397.0	28.68	57.09	1,359.3	98.0	188.9	14,057,939.15	1,558,487.54	38° 42' 43.575 N	81° 17' 14.020 W
1,427.0	29.52	56.87	1,385.5	106.0	201.1	14,057,947.10	1,558,499.78	38° 42' 43.654 N	81° 17' 13.866 W
1,457.0	30.40	57.27	1,411.5	114.1	213.7	14,057,955.24	1,558,512.35	38° 42' 43.735 N	81° 17' 13.707 W
1,487.0	31.51	58.37	1,437.2	122.4	226.8	14,057,963.46	1,558,525.41	38° 42' 43.817 N	81° 17' 13.543 W
1,517.0	32.48	59.56	1,462.8	130.5	240.4	14,057,971.65	1,558,539.03	38° 42' 43.898 N	81° 17' 13.371 W
1,547.0	32.61	59.47	1,487.9	138.7	254.3	14,057,979.84	1,558,552.94	38° 42' 43.980 N	81° 17' 13.196 W
1,577.0	32.39	59.16	1,513.2	147.0	268.2	14,057,988.06	1,558,566.80	38° 42' 44.062 N	81° 17' 13.021 W
1,607.0	32.08	58.37	1,538.6	155.3	281.9	14,057,996.36	1,558,580.49	38° 42' 44.144 N	81° 17' 12.849 W
1,637.0	32.08	58.19	1,564.0	163.6	295.4	14,058,004.74	1,558,594.04	38° 42' 44.227 N	81° 17' 12.678 W
1,667.0	32.21	58.90	1,589.4	172.0	309.0	14,058,013.07	1,558,607.65	38° 42' 44.310 N	81° 17' 12.507 W
1,697.0	31.82	58.68	1,614.9	180.2	322.6	14,058,021.31	1,558,621.26	38° 42' 44.392 N	81° 17' 12.335 W
1,727.0	32.30	59.47	1,640.3	188.4	336.3	14,058,029.49	1,558,634.92	38° 42' 44.473 N	81° 17' 12.163 W
1,757.0	32.79	60.26	1,665.6	196.5	350.2	14,058,037.59	1,558,648.88	38° 42' 44.554 N	81° 17' 11.987 W
1,787.0	33.89	60.79	1,690.6	204.6	364.6	14,058,045.70	1,558,663.23	38° 42' 44.634 N	81° 17' 11.807 W
1,817.0	34.82	61.19	1,715.4	212.8	379.4	14,058,053.91	1,558,678.04	38° 42' 44.716 N	81° 17' 11.620 W
1,847.0	36.19	61.37	1,739.8	221.2	394.7	14,058,062.29	1,558,693.31	38° 42' 44.799 N	81° 17' 11.428 W
1,877.0	35.79	60.57	1,764.1	229.7	410.1	14,058,070.84	1,558,708.73	38° 42' 44.884 N	81° 17' 11.233 W
1,907.0	35.88	60.00	1,788.4	238.4	425.3	14,058,079.55	1,558,723.98	38° 42' 44.971 N	81° 17' 11.041 W
1,937.0	36.90	59.47	1,812.6	247.4	440.7	14,058,088.52	1,558,739.35	38° 42' 45.060 N	81° 17' 10.848 W
1,967.0	37.52	60.00	1,836.5	256.6	456.4	14,058,097.66	1,558,755.02	38° 42' 45.151 N	81° 17' 10.650 W
1,997.0	38.31	59.78	1,860.1	265.8	472.3	14,058,106.91	1,558,770.97	38° 42' 45.243 N	81° 17' 10.449 W
2,027.0	39.11	59.56	1,883.5	275.3	488.5	14,058,116.38	1,558,787.16	38° 42' 45.337 N	81° 17' 10.245 W
2,057.0	39.68	59.29	1,906.7	285.0	504.9	14,058,126.07	1,558,803.56	38° 42' 45.433 N	81° 17' 10.039 W
2,087.0	39.99	59.29	1,929.8	294.8	521.4	14,058,135.88	1,558,820.08	38° 42' 45.531 N	81° 17' 9.831 W
2,147.0	38.00	57.88	1,976.4	314.4	553.7	14,058,155.55	1,558,852.30	38° 42' 45.727 N	81° 17' 9.425 W
2,177.0	38.49	57.80	1,999.9	324.3	569.4	14,058,165.43	1,558,868.02	38° 42' 45.825 N	81° 17' 9.227 W
2,207.0	38.89	57.80	2,023.4	334.3	585.3	14,058,175.43	1,558,883.89	38° 42' 45.924 N	81° 17' 9.027 W
2,237.0	39.11	57.80	2,046.7	344.4	601.2	14,058,185.49	1,558,899.87	38° 42' 46.024 N	81° 17' 8.828 W
2,267.0	39.51	57.66	2,069.9	354.5	617.3	14,058,195.64	1,558,915.94	38° 42' 46.125 N	81° 17' 8.623 W
2,297.0	39.99	57.40	2,093.0	364.8	633.5	14,058,205.93	1,558,932.12	38° 42' 46.227 N	81° 17' 8.419 W
2,327.0	40.39	56.56	2,115.9	375.4	649.7	14,058,216.48	1,558,948.35	38° 42' 46.332 N	81° 17' 8.215 W
2,357.0	39.20	55.77	2,138.9	386.1	665.7	14,058,227.17	1,558,964.30	38° 42' 46.438 N	81° 17' 8.014 W
2,387.0	37.80	54.56	2,162.4	396.7	681.0	14,058,237.84	1,558,979.63	38° 42' 46.544 N	81° 17' 7.821 W
2,417.0	36.01	53.70	2,188.4	407.3	695.6	14,058,248.39	1,558,994.23	38° 42' 46.649 N	81° 17' 7.637 W
2,447.0	34.11	52.68	2,210.9	417.6	709.4	14,058,258.71	1,559,008.03	38° 42' 46.751 N	81° 17' 7.463 W
2,477.0	32.61	51.89	2,236.0	427.7	722.4	14,058,268.80	1,559,021.08	38° 42' 46.852 N	81° 17' 7.299 W

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Company: HG Energy, LLC	Local Co-ordinate Reference: Well P.A. Bays #113
Project: Roane County, West Virginia	TVD Reference: WELL @ 1072.0usft (Decker #9)
Site: P.A. Bays #113	MD Reference: WELL @ 1072.0usft (Decker #9)
Well: P.A. Bays #113	North Reference: Grid
Wellbore: Wellbore #1	Survey Calculation Method: Minimum Curvature
Design: Wellbore #1	Database: Compass

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
2,540.0	32.61	51.89	2,289.1	448.7	749.2	14,058,289.76	1,559,047.80	38° 42' 47.060 N	81° 17' 6.963 W
TD @ 2540' MD / 2289' TVD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
527.0	527.0	-2.1	0.8	First Survey @ 527' MD / 527' TVD
2,540.0	2,289.1	448.7	749.2	TD @ 2540' MD / 2289' TVD

Checked By: _____	Approved By: _____	Date: _____
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HG Energy, LLC
Roane County, West Virginia
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Wellbore #1

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 MD Reference: WELL @ 1072.0usft (Decker #9)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Compass

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	Closure Distance (usft)	Closure Azimuth (°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	0.00	
527.0	0.49	159.37	527.0	-2.1	0.8	-0.3	0.09	2.3	159.37	
First Survey @ 527' MD / 527' TVD										
557.0	0.88	195.20	557.0	-2.5	0.8	-0.5	1.87	2.6	162.38	
587.0	0.88	160.47	587.0	-2.9	0.8	-0.7	1.75	3.0	164.62	
617.0	1.81	106.27	617.0	-3.2	1.3	-0.4	4.93	3.5	157.73	
647.0	3.31	93.49	647.0	-3.4	2.6	0.6	5.32	4.3	142.31	
677.0	4.51	86.09	676.9	-3.4	4.7	2.4	4.33	5.8	125.94	
707.0	5.70	82.30	706.8	-3.1	7.3	4.9	4.12	8.0	113.01	
737.0	6.58	79.57	736.6	-2.6	10.5	7.9	3.09	10.8	103.94	
767.0	7.60	76.70	766.4	-1.8	14.1	11.4	3.60	14.2	97.42	
787.0	8.79	72.89	786.1	-0.7	18.2	15.6	4.40	18.3	92.20	
827.0	9.99	69.56	825.6	0.9	22.9	20.4	4.35	22.9	87.77	
857.0	11.09	67.09	855.1	2.9	28.0	25.8	3.96	28.1	84.04	
887.0	12.02	64.76	884.5	5.4	33.5	31.8	3.47	33.9	80.87	
917.0	12.99	62.69	913.8	8.3	39.3	38.3	3.56	40.1	78.13	
947.0	14.01	60.48	943.0	11.6	45.4	45.3	3.81	46.9	75.69	
977.0	15.38	58.68	972.0	15.4	52.0	52.9	4.81	54.2	73.45	
1,007.0	16.39	56.87	1,000.9	19.8	58.9	61.1	3.75	62.2	71.40	
1,037.0	17.59	56.47	1,029.6	24.8	66.3	69.8	4.02	70.7	69.59	
1,067.0	18.52	57.27	1,058.1	29.7	74.0	79.1	3.21	79.8	68.13	
1,087.0	19.31	59.16	1,086.5	34.8	82.3	88.8	3.33	89.4	67.05	
1,127.0	20.28	60.48	1,114.7	40.0	91.1	99.0	3.56	99.5	66.32	
1,157.0	21.39	60.88	1,142.7	45.2	100.4	109.7	3.73	110.1	65.77	
1,187.0	22.71	61.19	1,170.5	50.6	110.3	120.9	4.42	121.3	65.33	
1,217.0	23.69	60.66	1,198.1	56.4	120.6	132.7	3.34	133.1	64.94	
1,247.0	24.70	60.18	1,225.5	62.4	131.3	145.0	3.43	145.4	64.56	

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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	NIS (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Closure Distance (usft)	Closure Azimuth (°)
1,277.0	25.72	59.38	1,252.6	68.9	142.3	157.8	3.58	158.1	64.17
1,307.0	26.38	58.28	1,279.6	75.7	153.6	171.0	2.73	171.2	63.76
1,337.0	27.31	57.80	1,306.3	82.9	165.1	184.5	3.18	184.7	63.34
1,367.0	28.19	57.58	1,332.9	90.3	176.9	198.5	2.95	198.6	62.95
1,397.0	28.68	57.09	1,359.3	98.0	188.9	212.7	1.81	212.8	62.57
1,427.0	29.52	56.87	1,385.5	106.0	201.1	227.3	2.82	227.4	62.21
1,457.0	30.40	57.27	1,411.5	114.1	213.7	242.2	3.01	242.3	61.89
1,487.0	31.51	58.37	1,437.2	122.4	226.8	257.6	4.15	257.7	61.65
1,517.0	32.48	59.56	1,462.6	130.5	240.4	273.5	3.86	273.6	61.50
1,547.0	32.61	59.47	1,487.9	138.7	254.3	289.7	0.46	289.7	61.39
1,577.0	32.39	59.16	1,513.2	147.0	268.2	305.8	0.92	305.8	61.28
1,607.0	32.08	58.37	1,538.6	155.3	281.9	321.8	1.74	321.8	61.15
1,637.0	32.08	58.19	1,564.0	163.6	295.4	337.7	0.32	337.7	61.02
1,667.0	32.21	58.90	1,589.4	172.0	309.0	353.6	1.33	353.6	60.90
1,697.0	31.82	58.68	1,614.9	180.2	322.6	369.5	1.36	369.5	60.81
1,727.0	32.30	58.47	1,640.3	188.4	336.3	385.5	2.12	385.5	60.74
1,757.0	32.79	60.26	1,665.6	196.5	350.2	401.6	2.16	401.6	60.71
1,787.0	33.89	60.79	1,690.6	204.6	364.6	418.1	3.79	418.1	60.70
1,817.0	34.82	61.19	1,715.4	212.8	378.4	435.0	3.19	435.0	60.71
1,847.0	36.19	61.37	1,739.8	221.2	394.7	452.4	4.58	452.4	60.73
1,877.0	35.79	60.57	1,764.1	229.7	410.1	470.1	2.06	470.1	60.74
1,907.0	35.88	60.00	1,788.4	238.4	425.3	487.6	1.15	487.6	60.73
1,937.0	36.90	59.47	1,812.6	247.4	440.7	505.4	3.56	505.4	60.69
1,967.0	37.52	60.00	1,836.5	256.6	456.4	523.6	2.33	523.6	60.66
1,997.0	38.31	59.78	1,860.1	265.8	472.3	542.0	2.67	542.0	60.63
2,027.0	39.11	59.56	1,883.5	275.3	488.5	560.7	2.71	560.7	60.60
2,057.0	39.68	59.29	1,906.7	285.0	504.9	579.8	1.98	579.8	60.56

Received HP
Office of Oil & Gas Energy EOW Report



87-04756

OCT 08 2015

Company: HG Energy, LLC
Project: Roane County, West Virginia
Site: P.A. Bays #113
Well: P.A. Bays #113
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well P.A. Bays #113
TVD Reference: WELL @ 1072.0usft (Decker #9)
MD Reference: WELL @ 1072.0usft (Decker #9)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	D/Leg (°/100usft)	Closure Distance (usft)	Closure Azimuth (°)
2,087.0	39.99	59.29	1,929.8	294.8	521.4	599.0	1.03	599.0	60.52
2,147.0	38.00	57.88	1,976.4	314.4	553.7	636.7	3.63	636.7	60.41
2,177.0	38.49	57.80	1,999.9	324.3	569.4	655.3	1.84	655.3	60.33
2,207.0	38.89	57.80	2,023.4	334.3	585.3	674.0	1.33	674.0	60.26
2,237.0	39.11	57.80	2,046.7	344.4	601.2	692.9	0.73	692.9	60.20
2,267.0	39.51	57.66	2,069.9	354.5	617.3	711.8	1.37	711.9	60.13
2,297.0	39.99	57.40	2,093.0	364.8	633.5	731.0	1.69	731.0	60.06
2,327.0	40.39	56.56	2,115.9	375.4	649.7	750.3	2.25	750.4	59.99
2,357.0	39.20	55.77	2,138.9	386.1	665.7	769.4	4.31	769.5	59.89
2,387.0	37.80	54.56	2,162.4	396.7	681.0	788.0	5.30	788.1	59.78
2,417.0	36.01	53.70	2,186.4	407.3	695.6	805.9	6.21	806.1	59.65
2,447.0	34.11	52.68	2,210.9	417.6	709.4	823.0	6.63	823.2	59.52
2,477.0	32.61	51.89	2,236.0	427.7	722.4	839.3	5.21	839.6	59.37
2,540.0	32.61	51.89	2,289.1	448.7	749.2	872.9	0.00	873.2	59.08
TD @ 2540' MD / 2289' TVD									

Design Annotations	Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
			+N/-S (usft)	+E/-W (usft)	
	527.0	527.0	-2.1	0.8	First Survey @ 527' MD / 527' TVD
	2,540.0	2,289.1	448.7	749.2	TD @ 2540' MD / 2289' TVD

Checked By: _____ Approved By: _____ Date: _____

10/30/2015

Company Name: HG Energy, LLC
 P.A. Bays #113
 Roane County, West Virginia
 Rig: Decker #9
 Created By: Shane Robbins
 Date: 8/18/2015

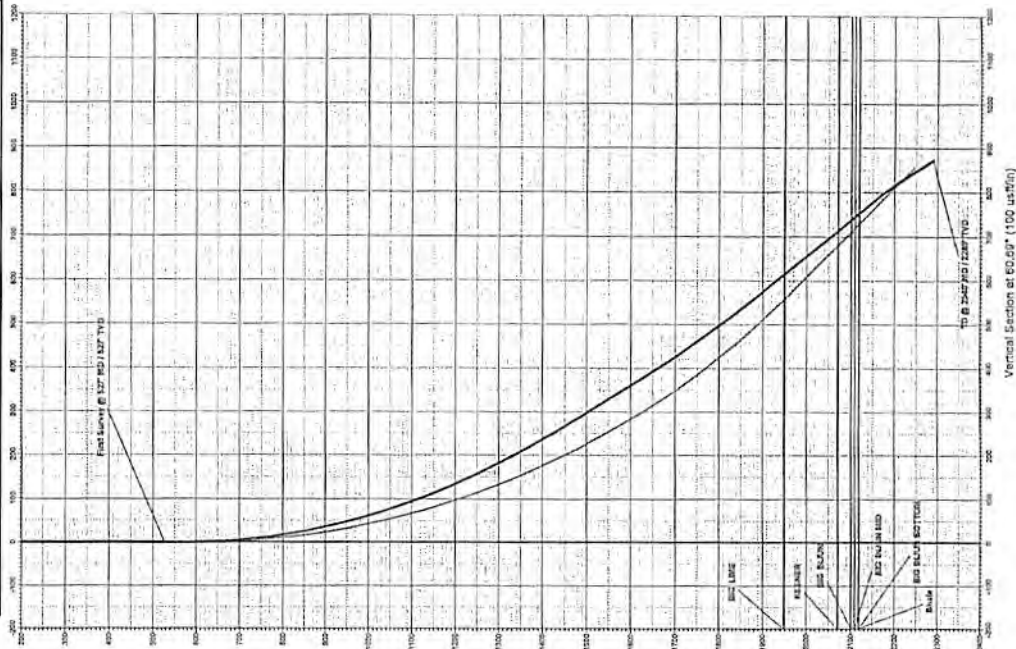
P.A. Bays #113
 Roane County, West Virginia
 Q150639 & AM-150553
 Design #1

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
Target P.A. Bays #113	2105.0	382.0	477.1	14505932.09	15188755.68	39° 47' 46.100 N	81° 17' 8.500 W
* plan view target center							

ASSUMPTIONS

ID	NAME	ASU	ASD	ASR	ASL	ASB	Vertical Distance Assumption
001	15.0	15.0	15.0	15.0	15.0	15.0	15.0
002	15.0	15.0	15.0	15.0	15.0	15.0	15.0
003	15.0	15.0	15.0	15.0	15.0	15.0	15.0



PROJECT DETAILS:

Roane County, West Virginia
 Universal Transverse Mercator
 MAD83 West Virginia - HARN
 Ellipsoid: GRS 1930
 Zone: 17N (84 W to 78 W)
 System Datum: Mean Sea Level

Received
 OCT 08 2015

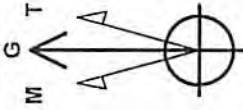
Office of Oil & Gas

HG Energy



WELL DETAILS:

P.A. Bays #113
 1055.0
 Ground Level: 1055.0
 Northing: 14507841.10
 Easting: 1528239.83
 Longitude: 81° 17' 16.430 W



Mag Strength: 51903.28nT
 Dip Angle: 66.34°
 Date: 8/6/2015
 Model: IGRF2015

Correction: -7.82°
 Azimuths to Grid North

