

HG Energy LLC

Well: A.W. Edgell No. 127
 Site: A.W. Edgell
 Project: Roane County, West Virginia
 Design: plan2
 Rim

Section Details

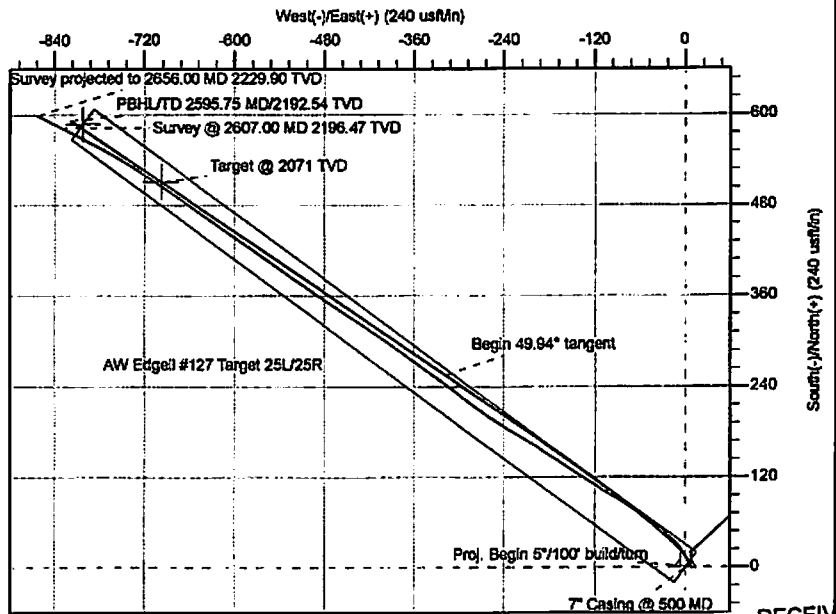
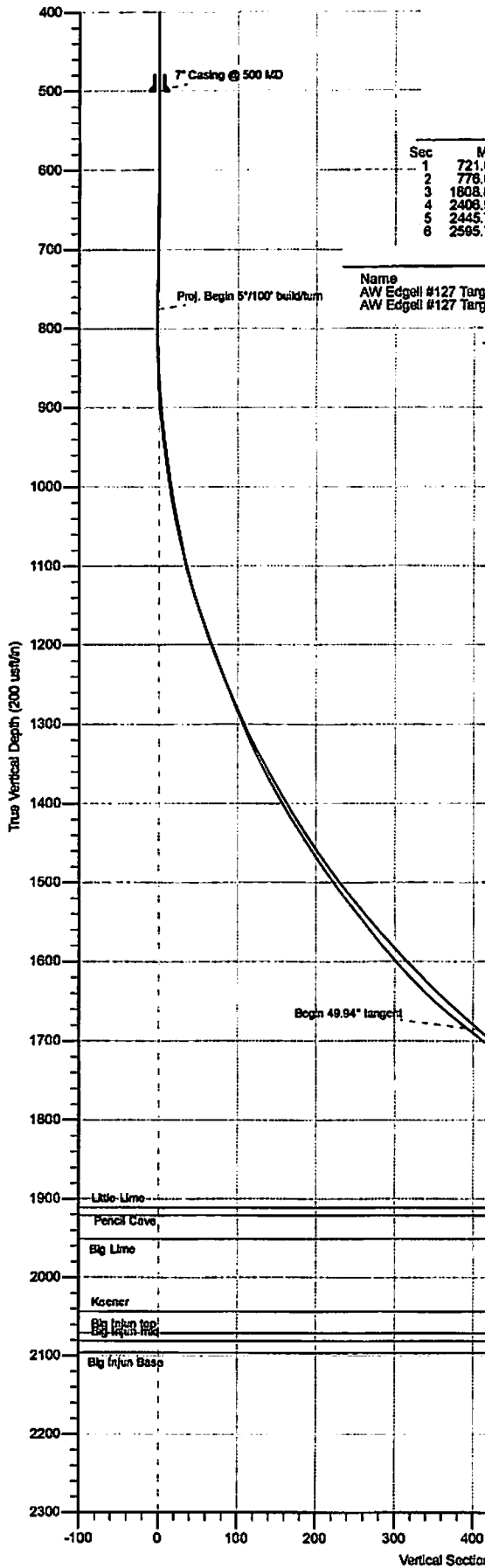
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Diag	TFace	VSEct	Annotation
1	721.00	2.37	58.14	720.88	-0.47	0.71	0.00	0.00	-0.85	Survey @ 721.00 MD 720.88 TVD
2	776.00	3.70	60.00	775.91	1.02	3.21	2.42	5.16	-1.99	Proj. Begin 5°/100' build/turn
3	1808.87	49.94	303.95	1688.11	255.89	-317.85	5.00	-116.74	407.65	Begin 49.94° tangent
4	2408.90	49.94	303.95	2071.00	511.48	-897.57	0.00	0.00	865.00	Target @ 2071 TVD
5	2445.75	49.94	303.95	2096.00	528.08	-722.24	0.00	0.00	894.71	
6	2585.75	49.94	303.95	2192.54	592.19	-817.48	0.00	0.00	1009.42	PBHL/TD 2595.75 MD/2192.54 TVD

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
AW Edgell #127 Target 25L/25R	0.00	587.71	-801.63	4285857.15	478123.88	38° 43' 15.7833 N	81° 16' 28.7715 W
AW Edgell #127 Target	2071.00	511.48	-897.57	4285833.90	478155.38	38° 43' 15.0096 N	81° 16' 27.4565 W

ANNOTATIONS

MD	Inc	Azi	TVD	+N-S	+E-W	VSEct	Annotation
600.00	0.00	0.00	600.00	0.00	0.00	0.00	Assume vertical to 600 MD
631.00	0.60	183.42	631.00	-0.16	-0.01	-0.09	ProD MWD surveys
2607.00	48.97	296.66	2196.47	583.04	-831.36	1015.20	Survey @ 2607.00 MD 2196.47 TVD
2656.00	48.97	296.66	2229.90	596.12	-863.37	1050.52	Survey projected to 2656.00 MD 2229.90 TVD



DEPTH REFERENCE IS TO GROUND ELEVATION

Geodetic System: Universal Transverse Mercator
 Datum: NAD83 West Virginia - HARN
 Ellipsoid: GRS 1980
 Zone: Zone 17N (84 W to 78 W)

System Datum: Mean Sea Level
 Depth Reference: GL @ 1042.00usf

Northing: 4285678.00 Easting: 476388.00 Latitude: 38° 43' 9.9725 N Longitude: 81° 16' 18.6323 W

Total Correction (M->T): To convert a Magnetic Direction to a True Direction, Subtract 8.3°

FORMATION TOP DETAILS

Formation	TVDPath	MDPath
Little Lime	1911.00	2158.30
Pencil Cave	1821.00	2173.84
Big Lime	1951.00	2220.45
Keener	2043.00	2383.40
Big Injun top	2071.00	2408.90
Big Injun mid	2081.00	2422.44
Big Injun Base	2096.00	2445.75



Azimuths to Grid North:
 True North: 0.17
 Magnetic North: -8.13

Magnetic Field Strength: 51388.1usf
 Dip Angle: 68.07
 Date: 10/9/2011
 Model: HDGA



03/02/2018

Survey Report



Company:	HG Energy LLC	Local Co-ordinate Reference:	Well A.W. Edgell No. 127
Project:	Roane County, West Virginia	TVD Reference:	GL @ 1042.00usft
Site:	A.W. Edgell	MD Reference:	GL @ 1042.00usft
Well:	A.W. Edgell No. 127	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	DB_Jul2216dt_v14

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	A.W. Edgell				
Site Position:		Northing:	4,285,678.00 m	Latitude:	38° 43' 9.9725 N
From:	Map	Easting:	476,368.00 m	Longitude:	81° 16' 18.6323 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.17 °

Well	A.W. Edgell No. 127					
Well Position	+N/-S	0.00 usft	Northing:	4,285,678.00 m	Latitude:	38° 43' 9.9725 N
	+E/-W	0.00 usft	Easting:	476,368.00 m	Longitude:	81° 16' 18.6323 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	1,042.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/8/2017	-8.30	66.07	51,388.10000000

Design	Surveys Original Hole				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	306.25	

Survey Program	Date	11/1/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
600.00	2,656.00	MWD ProD (Original Hole)	MWD	OWSG MWD - Standard	

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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
Assume vertical to 600 MD										
631.00	0.60	183.42	631.00	-0.16	-0.01	-0.09	1.94	1.94	0.00	
ProD MWD surveys										
661.00	0.95	184.41	661.00	-0.57	-0.04	-0.30	1.17	1.17	3.30	
691.00	0.46	85.04	691.00	-0.80	0.06	-0.53	3.74	-1.63	-331.23	
721.00	2.37	58.14	720.98	-0.47	0.71	-0.85	6.57	6.37	-89.67	
751.00	4.62	58.31	750.93	0.50	2.26	-1.53	7.50	7.50	0.57	
781.00	4.17	46.17	780.84	1.89	4.08	-2.17	3.44	-1.50	-40.47	

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Survey Report



Company:	HG Energy LLC	Local Co-ordinate Reference:	Well A.W. Edgell No. 127
Project:	Roane County, West Virginia	TVD Reference:	GL @ 1042.00usft
Site:	A.W. Edgell	MD Reference:	GL @ 1042.00usft
Well:	A.W. Edgell No. 127	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	DB_Jul2216dt_v14

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
818.00	3.34	4.66	817.77	3.89	5.14	-1.84	7.49	-2.24	-112.19
848.00	4.12	342.75	847.70	5.79	4.89	-0.52	5.37	2.60	-73.03
878.00	4.97	336.24	877.61	8.01	4.05	1.47	3.31	2.83	-21.70
908.00	6.09	336.07	907.47	10.66	2.88	3.98	3.73	3.73	-0.57
938.00	7.56	332.12	937.26	13.85	1.31	7.14	5.14	4.90	-13.17
968.00	8.80	328.82	966.95	17.56	-0.80	11.03	4.42	4.13	-11.00
998.00	9.98	326.44	996.55	21.69	-3.43	15.59	4.14	3.93	-7.93
1,028.00	11.05	323.04	1,026.04	26.16	-6.59	20.78	4.12	3.57	-11.33
1,058.00	11.94	318.46	1,055.44	30.78	-10.38	26.57	4.25	2.97	-15.27
1,088.00	13.63	315.33	1,084.70	35.61	-14.92	33.09	6.09	5.63	-10.43
1,118.00	15.41	314.51	1,113.74	40.92	-20.25	40.53	5.97	5.93	-2.73
1,148.00	17.16	313.80	1,142.53	46.78	-26.29	48.86	5.87	5.83	-2.37
1,178.00	18.73	311.87	1,171.07	53.06	-33.07	58.04	5.60	5.23	-6.43
1,208.00	19.58	308.06	1,199.41	59.37	-40.62	67.86	5.04	2.83	-12.70
1,238.00	20.75	304.79	1,227.58	65.50	-48.94	78.20	5.41	3.90	-10.90
1,268.00	21.37	303.13	1,255.57	71.52	-57.88	88.97	2.87	2.07	-5.53
1,298.00	22.73	302.79	1,283.38	77.65	-67.33	100.21	4.55	4.53	-1.13
1,328.00	23.99	301.78	1,310.92	84.00	-77.39	112.08	4.41	4.20	-3.37
1,358.00	25.70	301.03	1,338.14	90.57	-88.15	124.64	5.80	5.70	-2.50
1,388.00	27.73	300.94	1,364.94	97.51	-99.71	138.07	6.77	6.77	-0.30
1,418.00	29.93	301.85	1,391.22	105.05	-112.05	152.48	7.48	7.33	3.03
1,448.00	31.65	303.08	1,416.99	113.29	-125.01	167.80	6.11	5.73	4.10
1,478.00	32.43	303.19	1,442.42	121.99	-138.33	183.69	2.61	2.60	0.37
1,508.00	33.81	303.71	1,467.54	131.03	-152.01	200.07	4.70	4.60	1.73
1,538.00	35.71	304.25	1,492.19	140.59	-166.19	217.16	6.42	6.33	1.80
1,568.00	36.85	303.22	1,516.37	150.45	-180.95	234.89	4.31	3.80	-3.43
1,598.00	38.00	302.01	1,540.20	160.27	-196.31	253.08	4.55	3.83	-4.03
1,628.00	38.56	301.00	1,563.75	169.98	-212.16	271.60	2.80	1.87	-3.37
1,658.00	40.29	301.11	1,586.92	179.81	-228.48	290.58	5.77	5.77	0.37
1,688.00	42.61	303.30	1,609.40	190.40	-245.27	310.38	9.12	7.73	7.30
1,718.00	45.53	305.54	1,630.96	202.20	-262.48	331.23	11.03	9.73	7.30
1,748.00	47.91	306.41	1,651.52	215.03	-280.15	353.07	8.21	7.93	2.90
1,778.00	50.29	306.77	1,671.16	228.55	-298.35	375.75	7.98	7.93	1.20
1,808.00	52.28	306.46	1,689.93	242.51	-317.14	399.15	6.68	6.63	-1.03
1,838.00	53.24	306.06	1,708.08	256.63	-336.40	423.04	3.37	3.20	-1.33
1,868.00	53.63	305.59	1,725.95	270.73	-355.93	447.13	1.81	1.30	-1.57
1,898.00	53.58	304.95	1,743.75	284.68	-375.65	471.27	1.73	-0.17	-2.13
1,928.00	51.52	305.09	1,762.00	298.35	-395.15	495.08	6.88	-6.87	0.47
1,958.00	49.83	304.04	1,781.01	311.51	-414.26	518.28	6.25	-5.63	-3.50
1,988.00	49.07	303.07	1,800.51	324.11	-433.26	541.05	3.53	-2.53	-3.23
2,018.00	48.79	302.95	1,820.22	336.43	-452.22	563.63	0.98	-0.93	-0.40
2,048.00	48.83	303.60	1,839.98	348.82	-471.10	586.18	1.64	0.13	2.17
2,078.00	49.22	303.81	1,859.65	361.39	-489.94	608.80	1.40	1.30	0.70

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Survey Report - Geographic



Company:	HG Energy LLC	Local Co-ordinate Reference:	Well A.W. Edgell No. 127
Project:	Roane County, West Virginia	TVD Reference:	GL @ 1042.00usft
Site:	A.W. Edgell	MD Reference:	GL @ 1042.00usft
Well:	A.W. Edgell No. 127	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	DB_Jul2216dt_v14

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	A.W. Edgell				
Site Position:	Northing:	4,285,678.00 m	Latitude:	38° 43' 9.9725 N	
From: Map	Easting:	476,368.00 m	Longitude:	81° 16' 18.6323 W	
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.17 °

Well	A.W. Edgell No. 127					
Well Position	+N/-S	0.00 usft	Northing:	4,285,678.00 m	Latitude:	38° 43' 9.9725 N
	+E/-W	0.00 usft	Easting:	476,368.00 m	Longitude:	81° 16' 18.6323 W
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	1,042.00 usft	

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/8/2017	-8.30	66.07	51,388.10000000

Design	Surveys Original Hole				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	306.25	

Survey Program	Date	11/1/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
600.00	2,656.00	MWD ProD (Original Hole)	MWD	OWSG MWD - Standard	

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Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (m)	Map Easting (m)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	4,285,678.00	476,368.00	38° 43' 9.9725 N	81° 16' 18.6323 W	
600.00	0.00	0.00	600.00	0.00	0.00	4,285,678.00	476,368.00	38° 43' 9.9725 N	81° 16' 18.6323 W	
Assume vertical to 600 MD										
631.00	0.60	183.42	631.00	-0.16	-0.01	4,285,677.95	476,368.00	38° 43' 9.9709 N	81° 16' 18.6324 W	
ProD MWD surveys										
661.00	0.95	184.41	661.00	-0.57	-0.04	4,285,677.82	476,367.99	38° 43' 9.9669 N	81° 16' 18.6328 W	
691.00	0.46	85.04	691.00	-0.80	0.06	4,285,677.75	476,368.02	38° 43' 9.9645 N	81° 16' 18.6315 W	
721.00	2.37	58.14	720.98	-0.47	0.71	4,285,677.85	476,368.22	38° 43' 9.9679 N	81° 16' 18.6233 W	
751.00	4.62	58.31	750.93	0.50	2.26	4,285,678.15	476,368.69	38° 43' 9.9774 N	81° 16' 18.6037 W	
781.00	4.17	46.17	780.84	1.89	4.08	4,285,678.57	476,369.24	38° 43' 9.9912 N	81° 16' 18.5809 W	
818.00	3.34	4.66	817.77	3.89	5.14	4,285,679.18	476,369.57	38° 43' 10.0111 N	81° 16' 18.5676 W	
848.00	4.12	342.75	847.70	5.79	4.89	4,285,679.76	476,369.49	38° 43' 10.0299 N	81° 16' 18.5708 W	

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Survey Report - Geographic



Company: HG Energy LLC
 Project: Roane County, West Virginia
 Site: A.W. Edgell
 Well: A.W. Edgell No. 127
 Wellbore: Original Hole
 Design: Surveys Original Hole

Local Co-ordinate Reference: Well A.W. Edgell No. 127
 TVD Reference: GL @ 1042.00usft
 MD Reference: GL @ 1042.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: DB_Jul2216dt_v14

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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (m)	Map Easting (m)	Latitude	Longitude
878.00	4.97	336.24	877.61	8.01	4.05	4,285,680.44	476,369.23	38° 43' 10.0518 N	81° 16' 18.5815 W
908.00	6.09	336.07	907.47	10.66	2.88	4,285,681.24	476,368.88	38° 43' 10.0779 N	81° 16' 18.5964 W
938.00	7.56	332.12	937.26	13.85	1.31	4,285,682.22	476,368.40	38° 43' 10.1095 N	81° 16' 18.6163 W
968.00	8.80	328.82	966.95	17.56	-0.80	4,285,683.35	476,367.76	38° 43' 10.1461 N	81° 16' 18.6431 W
998.00	9.98	326.44	996.55	21.69	-3.43	4,285,684.61	476,366.96	38° 43' 10.1869 N	81° 16' 18.6764 W
1,028.00	11.05	323.04	1,026.04	26.16	-6.59	4,285,685.97	476,365.99	38° 43' 10.2309 N	81° 16' 18.7165 W
1,058.00	11.94	318.46	1,055.44	30.78	-10.38	4,285,687.38	476,364.84	38° 43' 10.2765 N	81° 16' 18.7645 W
1,088.00	13.63	315.33	1,084.70	35.61	-14.92	4,285,688.85	476,363.45	38° 43' 10.3242 N	81° 16' 18.8220 W
1,118.00	15.41	314.51	1,113.74	40.92	-20.25	4,285,690.47	476,361.83	38° 43' 10.3765 N	81° 16' 18.8894 W
1,148.00	17.16	313.80	1,142.53	46.78	-26.29	4,285,692.25	476,359.99	38° 43' 10.4343 N	81° 16' 18.9659 W
1,178.00	18.73	311.87	1,171.07	53.06	-33.07	4,285,694.17	476,357.92	38° 43' 10.4961 N	81° 16' 19.0517 W
1,208.00	19.58	308.06	1,199.41	59.37	-40.62	4,285,696.09	476,355.62	38° 43' 10.5584 N	81° 16' 19.1472 W
1,238.00	20.75	304.79	1,227.58	65.50	-48.94	4,285,697.96	476,353.08	38° 43' 10.6188 N	81° 16' 19.2525 W
1,268.00	21.37	303.13	1,255.57	71.52	-57.88	4,285,699.80	476,350.36	38° 43' 10.6780 N	81° 16' 19.3655 W
1,298.00	22.73	302.79	1,283.38	77.65	-67.33	4,285,701.66	476,347.48	38° 43' 10.7383 N	81° 16' 19.4851 W
1,328.00	23.99	301.78	1,310.92	84.00	-77.39	4,285,703.60	476,344.41	38° 43' 10.8008 N	81° 16' 19.6122 W
1,358.00	25.70	301.03	1,338.14	90.57	-88.15	4,285,705.60	476,341.13	38° 43' 10.8654 N	81° 16' 19.7483 W
1,388.00	27.73	300.94	1,364.94	97.51	-99.71	4,285,707.72	476,337.61	38° 43' 10.9337 N	81° 16' 19.8945 W
1,418.00	29.93	301.85	1,391.22	105.05	-112.05	4,285,710.01	476,333.85	38° 43' 11.0079 N	81° 16' 20.0506 W
1,448.00	31.65	303.08	1,416.99	113.29	-125.01	4,285,712.53	476,329.90	38° 43' 11.0891 N	81° 16' 20.2144 W
1,478.00	32.43	303.19	1,442.42	121.99	-138.33	4,285,715.18	476,325.84	38° 43' 11.1747 N	81° 16' 20.3829 W
1,508.00	33.81	303.71	1,467.54	131.03	-152.01	4,285,717.93	476,321.67	38° 43' 11.2637 N	81° 16' 20.5559 W
1,538.00	35.71	304.25	1,492.19	140.59	-166.19	4,285,720.85	476,317.35	38° 43' 11.3578 N	81° 16' 20.7353 W
1,568.00	36.85	303.22	1,516.37	150.45	-180.95	4,285,723.85	476,312.85	38° 43' 11.4548 N	81° 16' 20.9220 W
1,598.00	38.00	302.01	1,540.20	160.27	-196.31	4,285,726.85	476,308.16	38° 43' 11.5515 N	81° 16' 21.1162 W
1,628.00	38.56	301.00	1,563.75	169.98	-212.16	4,285,729.81	476,303.34	38° 43' 11.6471 N	81° 16' 21.3165 W
1,658.00	40.29	301.11	1,586.92	179.81	-228.48	4,285,732.80	476,298.36	38° 43' 11.7438 N	81° 16' 21.5229 W
1,688.00	42.61	303.30	1,609.40	190.40	-245.27	4,285,735.03	476,293.24	38° 43' 11.8480 N	81° 16' 21.7353 W
1,718.00	45.53	305.54	1,630.96	202.20	-262.48	4,285,739.63	476,288.00	38° 43' 11.9642 N	81° 16' 21.9529 W
1,748.00	47.91	306.41	1,651.52	215.03	-280.15	4,285,743.54	476,282.61	38° 43' 12.0905 N	81° 16' 22.1764 W
1,778.00	50.29	306.77	1,671.16	228.55	-298.35	4,285,747.66	476,277.06	38° 43' 12.2236 N	81° 16' 22.4067 W
1,808.00	52.28	306.46	1,689.93	242.51	-317.14	4,285,751.91	476,271.34	38° 43' 12.3611 N	81° 16' 22.6444 W
1,838.00	53.24	306.06	1,708.08	256.63	-336.40	4,285,756.22	476,265.47	38° 43' 12.5002 N	81° 16' 22.8880 W
1,868.00	53.63	305.59	1,725.95	270.73	-355.93	4,285,760.52	476,259.51	38° 43' 12.6391 N	81° 16' 23.1351 W
1,898.00	53.58	304.95	1,743.75	284.68	-375.65	4,285,764.77	476,253.50	38° 43' 12.7764 N	81° 16' 23.3845 W
1,928.00	51.52	305.09	1,762.00	298.35	-395.15	4,285,768.93	476,247.56	38° 43' 12.9110 N	81° 16' 23.6312 W
1,958.00	49.83	304.04	1,781.01	311.51	-414.26	4,285,772.95	476,241.73	38° 43' 13.0406 N	81° 16' 23.8729 W
1,988.00	49.07	303.07	1,800.51	324.11	-433.26	4,285,776.79	476,235.94	38° 43' 13.1647 N	81° 16' 24.1131 W
2,018.00	48.79	302.95	1,820.22	336.43	-452.22	4,285,780.54	476,230.16	38° 43' 13.2859 N	81° 16' 24.3530 W
2,048.00	48.83	303.60	1,839.98	348.82	-471.10	4,285,784.32	476,224.41	38° 43' 13.4079 N	81° 16' 24.5917 W
2,078.00	49.22	303.81	1,859.65	361.39	-489.94	4,285,788.15	476,218.67	38° 43' 13.5316 N	81° 16' 24.8300 W
2,108.00	49.95	304.28	1,879.10	374.18	-508.87	4,285,792.05	476,212.90	38° 43' 13.6575 N	81° 16' 25.0693 W
2,138.00	50.99	304.82	1,898.19	387.30	-527.92	4,285,796.05	476,207.09	38° 43' 13.7867 N	81° 16' 25.3104 W
2,168.00	52.01	305.46	1,916.87	400.81	-547.12	4,285,800.16	476,201.24	38° 43' 13.9198 N	81° 16' 25.5532 W
2,198.00	52.43	305.62	1,935.25	414.60	-566.41	4,285,804.37	476,195.36	38° 43' 14.0555 N	81° 16' 25.7973 W
2,228.00	52.67	305.18	1,953.49	428.39	-585.83	4,285,808.57	476,189.44	38° 43' 14.1913 N	81° 16' 26.0428 W
2,258.00	52.41	304.74	1,971.73	442.04	-605.34	4,285,812.73	476,183.49	38° 43' 14.3257 N	81° 16' 26.2897 W
2,288.00	51.66	304.57	1,990.19	455.49	-624.80	4,285,816.83	476,177.55	38° 43' 14.4581 N	81° 16' 26.5358 W
2,318.00	50.97	304.79	2,008.94	468.81	-644.06	4,285,820.89	476,171.69	38° 43' 14.5893 N	81° 16' 26.7793 W
2,348.00	50.91	304.95	2,027.84	482.13	-663.17	4,285,824.95	476,165.87	38° 43' 14.7204 N	81° 16' 27.0211 W
2,378.00	50.89	304.66	2,046.77	495.42	-682.29	4,285,829.00	476,160.04	38° 43' 14.8512 N	81° 16' 27.2629 W
2,408.00	50.85	304.29	2,065.70	508.59	-701.47	4,285,833.01	476,154.19	38° 43' 14.9809 N	81° 16' 27.5055 W
2,438.00	51.09	303.75	2,084.59	521.63	-720.79	4,285,836.99	476,148.30	38° 43' 15.1093 N	81° 16' 27.7498 W
2,468.00	50.34	302.06	2,103.59	534.24	-740.28	4,285,840.83	476,142.36	38° 43' 15.2334 N	81° 16' 27.9963 W
2,498.00	49.20	299.84	2,122.96	546.02	-759.92	4,285,844.42	476,136.38	38° 43' 15.3493 N	81° 16' 28.2447 W

Survey Report - Geographic



Company:	HG Energy LLC	Local Co-ordinate Reference:	Well A.W. Edgell No. 127
Project:	Roane County, West Virginia	TVD Reference:	GL @ 1042.00usft
Site:	A.W. Edgell	MD Reference:	GL @ 1042.00usft
Well:	A.W. Edgell No. 127	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	DB_Jul2216dt_v14

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (m)	Map Easting (m)	Latitude	Longitude
2,528.00	48.12	297.68	2,142.78	556.86	-779.66	4,285,847.73	476,130.36	38° 43' 15.4559 N	81° 16' 28.4943 W
2,558.00	46.97	296.66	2,163.03	566.97	-799.35	4,285,850.81	476,124.36	38° 43' 15.5553 N	81° 16' 28.7432 W
2,607.00	46.97	296.66	2,196.47	583.04	-831.36	4,285,855.71	476,114.60	38° 43' 15.7133 N	81° 16' 29.1478 W
Survey @ 2607.00 MD 2196.47 TVD									
2,656.00	46.97	296.66	2,229.90	599.12	-863.37	4,285,860.61	476,104.85	38° 43' 15.8713 N	81° 16' 29.5525 W
Survey projected to 2656.00 MD 2229.90 TVD									

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
600.00	600.00	0.00	0.00	Assume vertical to 600 MD	
631.00	631.00	-0.16	-0.01	ProD MWD surveys	
2,607.00	2,196.47	583.04	-831.36	Survey @ 2607.00 MD 2196.47 TVD	
2,656.00	2,229.90	599.12	-863.37	Survey projected to 2656.00 MD 2229.90 TVD	

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