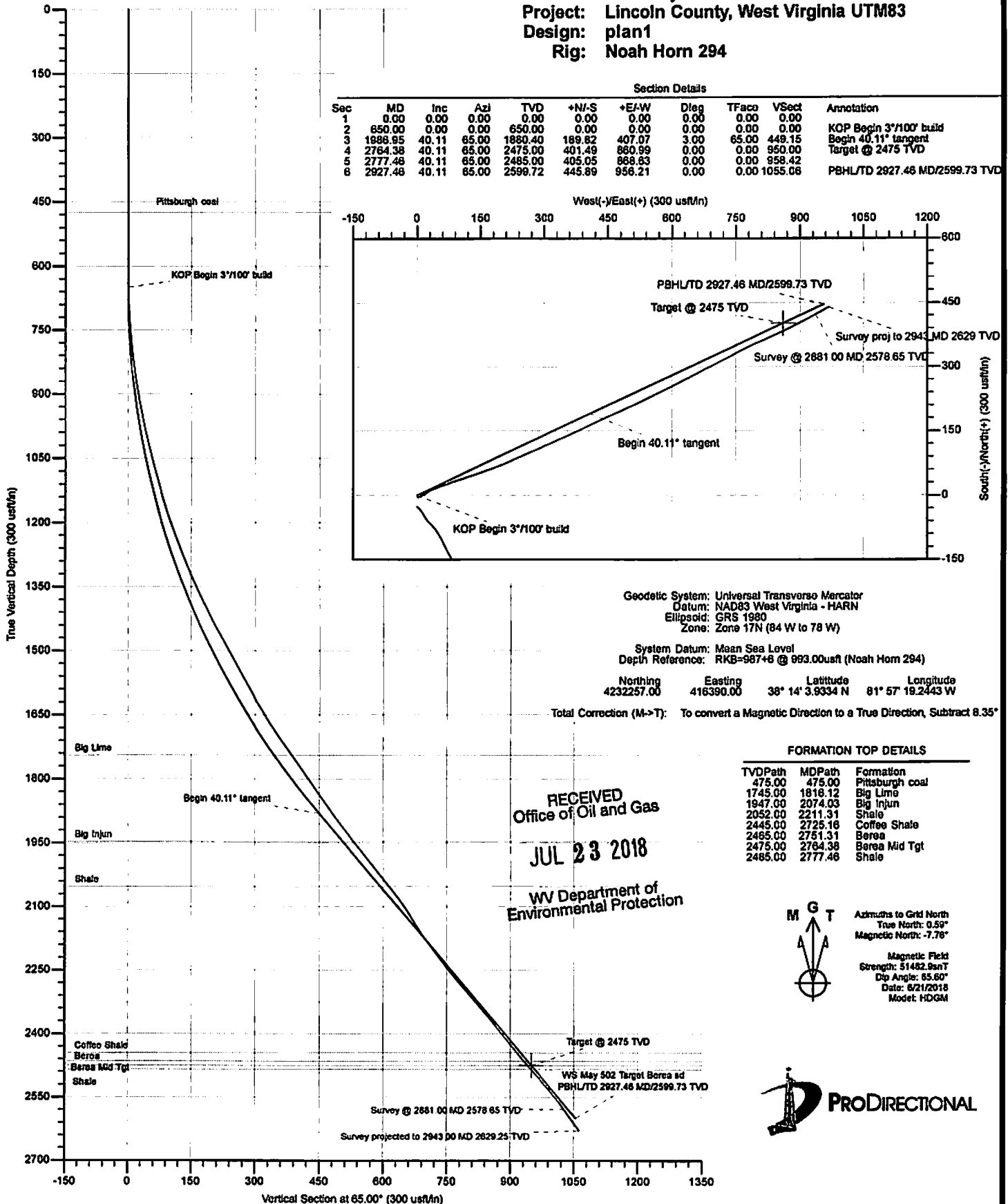
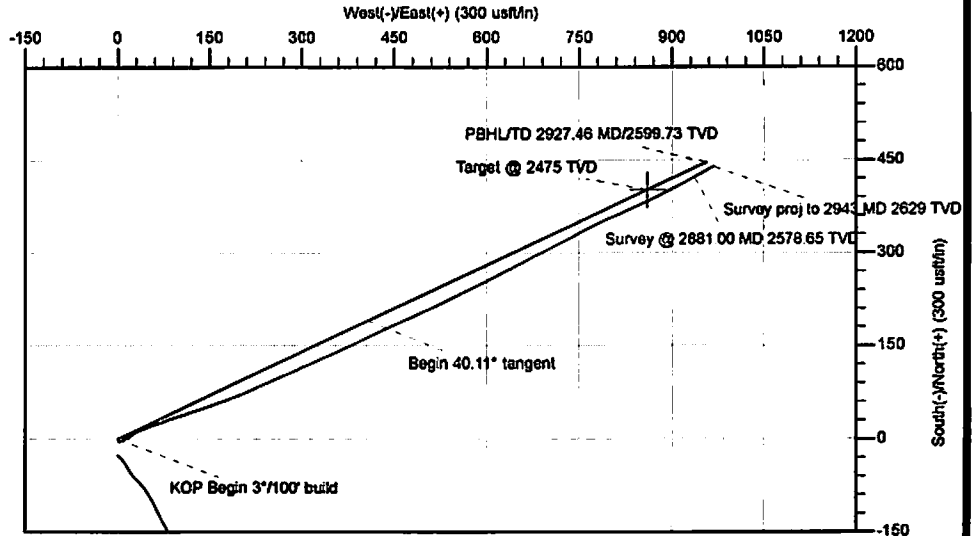


HG Energy LLC

Well: W.S. May No. 502
 Site: W.S. May
 Project: Lincoln County, West Virginia UTM83
 Design: plan1
 Rig: Noah Horn 294



Section Details										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	650.00	0.00	0.00	650.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 3°/100' build
3	1886.95	40.11	65.00	1880.40	189.82	407.07	3.00	65.00	449.15	Begin 40.11° tangent
4	2764.38	40.11	65.00	2475.00	401.49	860.99	0.00	0.00	950.00	Target @ 2475 TVD
5	2777.48	40.11	65.00	2485.00	405.05	868.63	0.00	0.00	958.42	
6	2927.48	40.11	65.00	2599.72	445.89	956.21	0.00	0.00	1055.06	PBHL/TD 2927.48 MD/2599.73 TVD



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: RKB-96748 @ 993.00usft (Noah Horn 294)

Northing: 4232257.00 Easting: 416390.00 Latitude: 38° 14' 3.9334 N Longitude: 81° 57' 19.2443 W

Total Correction (M->T): To convert a Magnetic Direction to a True Direction, Subtract 8.35°

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
475.00	475.00	Pittsburgh coal
1745.00	1816.12	Big Lime
1947.00	2074.03	Big Injun
2052.00	2211.31	Shale
2445.00	2725.16	Coffee Shale
2465.00	2751.31	Berea
2475.00	2764.38	Berea Mid Tgt
2485.00	2777.48	Shale

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 Environmental Protection



Azimuths to Grid North
 True North: 0.59°
 Magnetic North: -7.76°

Magnetic Field
 Strength: 51482.9nT
 Dip Angle: 65.60°
 Date: 6/21/2018
 Model: HDGM





Department of
Environmental Protection

Company:	HG Energy LLC	Local Co-ordinate Reference:	Well W.S. May No. 502
Project:	Lincoln County, West Virginia UTM83	TVD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Site:	W.S. May	MD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Well:	W.S. May No. 502	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	DB_Jul2216dt_v14

Project	Lincoln County, West Virginia UTM83		
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	W.S. May				
Site Position:		Northing:	4,232,249.00 m	Latitude:	38° 14' 3.6738 N
From:	Map	Easting:	416,390.00 m	Longitude:	81° 57' 19.2409 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.59 °

Well	W.S. May No. 502					
Well Position	+N/-S	0.00 usft	Northing:	4,232,257.00 m	Latitude:	38° 14' 3.9334 N
	+E/-W	0.00 usft	Easting:	416,390.00 m	Longitude:	81° 57' 19.2443 W
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft	Ground Level:	987.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/21/2018	-8.35	65.60	51,482.90000000

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	65.00	

Survey Program	Date 6/28/2018				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
571.00	2,881.00	MWD (Original Hole)	MWD	OWSG MWD - Standard	
2,943.00	2,943.00	Projeciton (Original Hole)	MWD	OWSG MWD - Standard	

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
571.00	0.79	147.64	570.98	-3.33	2.11	0.50	0.14	0.14	0.00	
MWD surveys										
601.00	0.82	128.09	600.98	-3.63	2.39	0.63	0.92	0.10	-65.17	
631.00	0.75	108.77	630.98	-3.83	2.74	0.87	0.91	-0.23	-64.40	
661.00	1.85	86.21	660.97	-3.86	3.41	1.46	3.98	3.67	-75.20	
691.00	2.70	79.23	690.94	-3.69	4.59	2.60	2.97	2.83	-23.27	
721.00	3.30	76.98	720.90	-3.37	6.12	4.13	2.04	2.00	-7.50	
751.00	4.06	70.92	750.84	-2.83	7.97	6.03	2.84	2.53	-20.20	
781.00	5.62	62.67	780.73	-1.81	10.28	8.55	5.68	5.20	-27.50	

JUL 23 2018

Survey Report



Company:	HG Energy LLC	WV Department of Environmental Protection	Local Co-ordinate Reference:	Well W.S. May No. 502
Project:	Lincoln County, West Virginia UTM83		TVD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Site:	W.S. May		MD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Well:	W.S. May No. 502		North Reference:	Grid
Wellbore:	Original Hole		Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole		Database:	DB_Jul2216dt_v14

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)
811.00	6.79	60.47	810.56	-0.26	13.13	11.79	3.98	3.90	-7.33
841.00	7.73	58.65	840.32	1.67	16.39	15.56	3.23	3.13	-6.07
871.00	8.74	57.11	870.01	3.95	20.03	19.82	3.45	3.37	-5.13
901.00	10.08	56.92	899.60	6.63	24.14	24.68	4.47	4.47	-0.63
931.00	11.15	59.99	929.09	9.51	28.85	30.17	4.03	3.57	10.23
961.00	11.70	63.27	958.49	12.33	34.08	36.10	2.84	1.83	10.93
991.00	12.16	67.81	987.85	14.89	39.73	42.30	3.48	1.53	15.13
1,021.00	13.74	68.94	1,017.08	17.36	45.98	49.01	5.33	5.27	3.77
1,051.00	14.32	70.25	1,046.19	19.90	52.79	56.26	2.20	1.93	4.37
1,081.00	14.92	69.93	1,075.22	22.48	59.91	63.80	2.02	2.00	-1.07
1,111.00	15.71	69.25	1,104.15	25.24	67.34	71.70	2.70	2.63	-2.27
1,141.00	17.00	69.45	1,132.94	28.22	75.24	80.12	4.30	4.30	0.67
1,171.00	18.01	71.12	1,161.55	31.26	83.74	89.10	3.76	3.37	5.57
1,201.00	19.05	71.99	1,189.99	34.27	92.78	98.57	3.59	3.47	2.90
1,231.00	20.32	72.82	1,218.24	37.33	102.42	108.59	4.33	4.23	2.77
1,261.00	21.62	72.78	1,246.25	40.50	112.67	119.23	4.33	4.33	-0.13
1,291.00	21.97	73.08	1,274.11	43.77	123.32	130.26	1.22	1.17	1.00
1,321.00	22.50	72.81	1,301.88	47.10	134.17	141.51	1.80	1.77	-0.90
1,351.00	23.81	71.46	1,329.46	50.72	145.40	153.21	4.71	4.37	-4.50
1,381.00	24.74	71.14	1,356.81	54.68	157.08	165.47	3.13	3.10	-1.07
1,411.00	25.87	70.22	1,383.93	58.92	169.18	178.23	3.99	3.77	-3.07
1,441.00	26.87	69.60	1,410.80	63.50	181.69	191.51	3.46	3.33	-2.07
1,471.00	27.43	68.16	1,437.50	68.43	194.46	205.16	2.88	1.87	-4.80
1,501.00	28.10	66.36	1,464.05	73.84	207.35	219.13	3.58	2.23	-6.00
1,531.00	28.61	66.48	1,490.45	79.54	220.41	233.37	1.71	1.70	0.40
1,561.00	29.12	66.23	1,516.72	85.35	233.67	247.85	1.75	1.70	-0.83
1,591.00	28.54	66.25	1,543.00	91.17	246.91	262.31	1.93	-1.93	0.07
1,621.00	28.68	66.30	1,569.34	96.95	260.06	276.67	0.47	0.47	0.17
1,651.00	28.97	66.65	1,595.62	102.73	273.33	291.13	1.12	0.97	1.17
1,681.00	30.17	66.27	1,621.71	108.64	286.90	305.93	4.05	4.00	-1.27
1,711.00	31.48	66.17	1,647.47	114.84	300.97	321.30	4.37	4.37	-0.33
1,741.00	32.53	65.97	1,672.91	121.29	315.50	337.20	3.52	3.50	-0.67
1,771.00	33.84	66.16	1,698.02	127.95	330.51	353.61	4.38	4.37	0.63
1,801.00	34.74	66.24	1,722.81	134.77	345.97	370.51	3.00	3.00	0.27
1,831.00	35.24	65.70	1,747.38	141.78	361.68	387.71	1.96	1.67	-1.80
1,861.00	35.09	65.45	1,771.91	148.92	377.41	404.99	0.69	-0.50	-0.83
1,891.00	34.22	64.11	1,796.59	156.19	392.85	422.05	3.85	-2.90	-4.47
1,921.00	34.30	64.46	1,821.38	163.51	408.06	438.93	0.71	0.27	1.17
1,951.00	34.64	64.44	1,846.11	170.84	423.38	455.91	1.13	1.13	-0.07
1,981.00	35.24	65.40	1,870.71	178.12	438.94	473.09	2.71	2.00	3.20
2,011.00	36.24	65.15	1,895.06	185.45	454.86	490.62	3.37	3.33	-0.83
2,041.00	37.46	66.05	1,919.06	192.88	471.24	508.61	4.45	4.07	3.00
2,071.00	38.31	65.92	1,942.74	200.38	488.07	527.03	2.85	2.83	-0.43

Survey Report



Company:	HG Energy LLC	Local Co-ordinate Reference:	Well W.S. May No. 502
Project:	Lincoln County, West Virginia UTM83	TVD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Site:	W.S. May	MD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Well:	W.S. May No. 502	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	DB_Jul2216dt_v14

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)
2,101.00	39.01	65.23	1,966.17	208.13	505.13	545.77	2.74	2.33	-2.30
2,131.00	38.10	64.58	1,989.63	216.06	522.07	564.46	3.32	-3.03	-2.17
2,161.00	38.10	64.60	2,013.23	224.00	538.79	582.97	0.04	0.00	0.07
2,191.00	38.74	63.92	2,036.74	232.10	555.58	601.61	2.56	2.13	-2.27
2,221.00	38.40	64.67	2,060.19	240.21	572.43	620.32	1.93	-1.13	2.50
2,251.00	35.73	63.54	2,084.13	248.10	588.70	638.39	9.18	-8.90	-3.77
2,281.00	32.74	63.54	2,108.93	255.62	603.81	655.26	9.97	-9.97	0.00
2,311.00	31.67	60.62	2,134.31	263.10	617.93	671.23	6.29	-3.57	-9.73
2,341.00	33.50	61.55	2,159.59	270.91	632.08	687.35	6.32	6.10	3.10
2,371.00	35.78	62.65	2,184.27	278.88	647.15	704.38	7.88	7.60	3.67
2,401.00	37.12	63.30	2,208.40	286.98	663.03	722.19	4.65	4.47	2.17
2,431.00	37.99	63.45	2,232.19	295.17	679.37	740.47	2.92	2.90	0.50
2,461.00	38.90	63.51	2,255.68	303.50	696.06	759.11	3.04	3.03	0.20
2,491.00	39.69	62.71	2,278.90	312.09	713.01	778.10	3.13	2.63	-2.67
2,521.00	40.43	62.31	2,301.86	321.01	730.13	797.39	2.61	2.47	-1.33
2,551.00	40.93	62.10	2,324.61	330.13	747.43	816.92	1.73	1.67	-0.70
2,581.00	40.48	62.83	2,347.35	339.17	764.78	836.47	2.18	-1.50	2.43
2,611.00	39.25	64.10	2,370.38	347.76	781.98	855.69	4.92	-4.10	4.23
2,641.00	38.56	65.85	2,393.73	355.74	799.05	874.53	4.33	-2.30	5.83
2,671.00	39.02	66.77	2,417.11	363.29	816.26	893.32	2.46	1.53	3.07
2,701.00	38.92	66.51	2,440.43	370.77	833.58	912.17	0.64	-0.33	-0.87
2,731.00	39.69	64.35	2,463.65	378.67	850.86	931.18	5.23	2.57	-7.20
2,761.00	41.68	63.48	2,486.40	387.27	868.42	950.73	6.90	6.63	-2.90
2,791.00	41.68	63.64	2,508.80	396.15	886.29	970.67	0.35	0.00	0.53
2,821.00	40.60	63.76	2,531.40	404.90	903.98	990.40	3.61	-3.60	0.40
2,851.00	38.09	62.55	2,554.59	413.48	920.95	1,009.41	8.75	-8.37	-4.03
2,881.00	35.30	61.04	2,578.65	421.95	936.75	1,027.31	9.77	-9.30	-5.03
Survey @ 2881.00 MD 2578.65 TVD									
2,943.00	35.30	61.04	2,629.25	439.29	968.10	1,063.05	0.00	0.00	0.00
Survey projected to 2943.00 MD 2629.25 TVD									

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
571.00	570.98	-3.33	2.11	MWD surveys
2,881.00	2,578.65	421.95	936.75	Survey @ 2881.00 MD 2578.65 TVD

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Environmental Protection

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Survey Report - Geographic



WV Department of
Environmental Protection

Company:	HG Energy LLC	Local Co-ordinate Reference:	Well W.S. May No. 502
Project:	Lincoln County, West Virginia UTM83	TVD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Site:	W.S. May	MD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Well:	W.S. May No. 502	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	DB_Jul2216dt_v14

Project	Lincoln County, West Virginia UTM83		
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	W.S. May				
Site Position:		Northing:	4,232,249.00 m	Latitude:	38° 14' 3.6738 N
From:	Map	Easting:	416,390.00 m	Longitude:	81° 57' 19.2409 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.59 °

Well	W.S. May No. 502					
Well Position	+N/-S	0.00 usft	Northing:	4,232,257.00 m	Latitude:	38° 14' 3.9334 N
	+E/-W	0.00 usft	Easting:	416,390.00 m	Longitude:	81° 57' 19.2443 W
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft	Ground Level:	987.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/21/2018	-8.35	65.60	51,482.90000000

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	65.00	

Survey Program	Date	6/28/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
571.00	2,881.00	MWD (Original Hole)	MWD	OWSG MWD - Standard	
2,943.00	2,943.00	Projeciton (Original Hole)	MWD	OWSG MWD - Standard	

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	4,232,257.00	416,390.00	38° 14' 3.9334 N	81° 57' 19.2443 W	
571.00	0.79	147.64	570.98	-3.33	2.11	4,232,255.99	416,390.64	38° 14' 3.9007 N	81° 57' 19.2174 W	
MWD surveys										
601.00	0.82	128.09	600.98	-3.63	2.39	4,232,255.90	416,390.73	38° 14' 3.8977 N	81° 57' 19.2139 W	
631.00	0.75	108.77	630.98	-3.83	2.74	4,232,255.84	416,390.83	38° 14' 3.8958 N	81° 57' 19.2094 W	
661.00	1.85	86.21	660.97	-3.86	3.41	4,232,255.83	416,391.04	38° 14' 3.8956 N	81° 57' 19.2010 W	
691.00	2.70	79.23	690.94	-3.69	4.59	4,232,255.88	416,391.40	38° 14' 3.8973 N	81° 57' 19.1863 W	
721.00	3.30	76.98	720.90	-3.37	6.12	4,232,255.98	416,391.87	38° 14' 3.9007 N	81° 57' 19.1671 W	
751.00	4.06	70.92	750.84	-2.83	7.97	4,232,256.14	416,392.43	38° 14' 3.9062 N	81° 57' 19.1440 W	
781.00	5.62	62.67	780.73	-1.81	10.28	4,232,256.45	416,393.13	38° 14' 3.9166 N	81° 57' 19.1152 W	
811.00	6.79	60.47	810.56	-0.26	13.13	4,232,256.93	416,394.00	38° 14' 3.9322 N	81° 57' 19.0797 W	

JUL 23 2018

Survey Report - Geographic



Department of
Environment & Natural Resources

Company:	HG Energy LLC	Local Co-ordinate Reference:	Well W.S. May No. 502
Project:	Lincoln County, West Virginia UTM83	TVD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Site:	W.S. May	MD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Well:	W.S. May No. 502	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	
841.00	7.73	58.65	840.32	1.67	16.39	4,232,257.51	416,395.00	38° 14' 3.9515 N	81° 57' 19.0390 W	
871.00	8.74	57.11	870.01	3.95	20.03	4,232,258.21	416,396.10	38° 14' 3.9745 N	81° 57' 18.9937 W	
901.00	10.08	56.92	899.60	6.63	24.14	4,232,259.02	416,397.36	38° 14' 4.0013 N	81° 57' 18.9425 W	
931.00	11.15	59.99	929.09	9.51	28.85	4,232,259.90	416,398.79	38° 14' 4.0303 N	81° 57' 18.8838 W	
961.00	11.70	63.27	958.49	12.33	34.08	4,232,260.76	416,400.39	38° 14' 4.0587 N	81° 57' 18.8186 W	
991.00	12.16	67.81	987.85	14.89	39.73	4,232,261.54	416,402.11	38° 14' 4.0847 N	81° 57' 18.7482 W	
1,021.00	13.74	68.94	1,017.08	17.36	45.98	4,232,262.30	416,404.01	38° 14' 4.1098 N	81° 57' 18.6701 W	
1,051.00	14.32	70.25	1,046.19	19.90	52.79	4,232,263.07	416,406.09	38° 14' 4.1355 N	81° 57' 18.5850 W	
1,081.00	14.92	69.93	1,075.22	22.48	59.91	4,232,263.86	416,408.26	38° 14' 4.1617 N	81° 57' 18.4961 W	
1,111.00	15.71	69.25	1,104.15	25.24	67.34	4,232,264.70	416,410.52	38° 14' 4.1898 N	81° 57' 18.4034 W	
1,141.00	17.00	69.45	1,132.94	28.22	75.24	4,232,265.61	416,412.93	38° 14' 4.2201 N	81° 57' 18.3047 W	
1,171.00	18.01	71.12	1,161.55	31.26	83.74	4,232,266.53	416,415.52	38° 14' 4.2510 N	81° 57' 18.1985 W	
1,201.00	19.05	71.99	1,189.99	34.27	92.78	4,232,267.45	416,418.28	38° 14' 4.2817 N	81° 57' 18.0856 W	
1,231.00	20.32	72.82	1,218.24	37.33	102.42	4,232,268.38	416,421.22	38° 14' 4.3129 N	81° 57' 17.9652 W	
1,261.00	21.62	72.78	1,246.25	40.50	112.67	4,232,269.35	416,424.34	38° 14' 4.3453 N	81° 57' 17.8370 W	
1,291.00	21.97	73.08	1,274.11	43.77	123.32	4,232,270.35	416,427.59	38° 14' 4.3788 N	81° 57' 17.7040 W	
1,321.00	22.50	72.81	1,301.88	47.10	134.17	4,232,271.36	416,430.90	38° 14' 4.4128 N	81° 57' 17.5683 W	
1,351.00	23.81	71.46	1,329.46	50.72	145.40	4,232,272.46	416,434.32	38° 14' 4.4497 N	81° 57' 17.4281 W	
1,381.00	24.74	71.14	1,356.81	54.68	157.08	4,232,273.67	416,437.88	38° 14' 4.4900 N	81° 57' 17.2821 W	
1,411.00	25.87	70.22	1,383.93	58.92	169.18	4,232,274.96	416,441.57	38° 14' 4.5332 N	81° 57' 17.1310 W	
1,441.00	26.87	69.60	1,410.80	63.50	181.69	4,232,276.36	416,445.38	38° 14' 4.5798 N	81° 57' 16.9747 W	
1,471.00	27.43	68.16	1,437.50	68.43	194.46	4,232,277.86	416,449.27	38° 14' 4.6299 N	81° 57' 16.8153 W	
1,501.00	28.10	66.36	1,464.05	73.84	207.35	4,232,279.51	416,453.20	38° 14' 4.6846 N	81° 57' 16.6545 W	
1,531.00	28.61	66.48	1,490.45	79.54	220.41	4,232,281.25	416,457.18	38° 14' 4.7423 N	81° 57' 16.4915 W	
1,561.00	29.12	66.23	1,516.72	85.35	233.67	4,232,283.02	416,461.22	38° 14' 4.8011 N	81° 57' 16.3259 W	
1,591.00	28.54	66.25	1,543.00	91.17	246.91	4,232,284.79	416,465.26	38° 14' 4.8601 N	81° 57' 16.1607 W	
1,621.00	28.68	66.30	1,569.34	96.95	260.06	4,232,286.56	416,469.27	38° 14' 4.9186 N	81° 57' 15.9966 W	
1,651.00	28.97	66.65	1,595.62	102.73	273.33	4,232,288.32	416,473.31	38° 14' 4.9770 N	81° 57' 15.8311 W	
1,681.00	30.17	66.27	1,621.71	108.64	286.90	4,232,290.12	416,477.45	38° 14' 5.0369 N	81° 57' 15.6617 W	
1,711.00	31.48	66.17	1,647.47	114.84	300.97	4,232,292.01	416,481.73	38° 14' 5.0996 N	81° 57' 15.4861 W	
1,741.00	32.53	65.97	1,672.91	121.29	315.50	4,232,293.97	416,486.16	38° 14' 5.1648 N	81° 57' 15.3048 W	
1,771.00	33.84	66.16	1,698.02	127.95	330.51	4,232,296.00	416,490.74	38° 14' 5.2322 N	81° 57' 15.1175 W	
1,801.00	34.74	66.24	1,722.81	134.77	345.97	4,232,298.08	416,495.45	38° 14' 5.3013 N	81° 57' 14.9245 W	
1,831.00	35.24	65.70	1,747.38	141.78	361.68	4,232,300.22	416,500.24	38° 14' 5.3721 N	81° 57' 14.7285 W	
1,861.00	35.09	65.45	1,771.91	148.92	377.41	4,232,302.40	416,505.04	38° 14' 5.4444 N	81° 57' 14.5322 W	
1,891.00	34.22	64.11	1,796.59	156.19	392.85	4,232,304.61	416,509.74	38° 14' 5.5178 N	81° 57' 14.3396 W	
1,921.00	34.30	64.46	1,821.38	163.51	408.06	4,232,306.84	416,514.38	38° 14' 5.5918 N	81° 57' 14.1498 W	
1,951.00	34.64	64.44	1,846.11	170.84	423.38	4,232,309.08	416,519.05	38° 14' 5.6658 N	81° 57' 13.9587 W	
1,981.00	35.24	65.40	1,870.71	178.12	438.94	4,232,311.30	416,523.79	38° 14' 5.7394 N	81° 57' 13.7646 W	
2,011.00	36.24	65.15	1,895.06	185.45	454.86	4,232,313.53	416,528.64	38° 14' 5.8135 N	81° 57' 13.5660 W	
2,041.00	37.46	66.05	1,919.06	192.88	471.24	4,232,315.79	416,533.63	38° 14' 5.8886 N	81° 57' 13.3616 W	
2,071.00	38.31	65.92	1,942.74	200.38	488.07	4,232,318.08	416,538.76	38° 14' 5.9644 N	81° 57' 13.1516 W	
2,101.00	39.01	65.23	1,966.17	208.13	505.13	4,232,320.44	416,543.96	38° 14' 6.0428 N	81° 57' 12.9387 W	
2,131.00	38.10	64.58	1,989.63	216.06	522.07	4,232,322.86	416,549.13	38° 14' 6.1229 N	81° 57' 12.7274 W	
2,161.00	38.10	64.60	2,013.23	224.00	538.79	4,232,325.28	416,554.22	38° 14' 6.2032 N	81° 57' 12.5188 W	
2,191.00	38.74	63.92	2,036.74	232.10	555.58	4,232,327.75	416,559.34	38° 14' 6.2850 N	81° 57' 12.3094 W	
2,221.00	38.40	64.67	2,060.19	240.21	572.43	4,232,330.22	416,564.48	38° 14' 6.3669 N	81° 57' 12.0992 W	
2,251.00	35.73	63.54	2,084.13	248.10	588.70	4,232,332.63	416,569.44	38° 14' 6.4466 N	81° 57' 11.8963 W	
2,281.00	32.74	63.54	2,108.93	255.62	603.81	4,232,334.92	416,574.04	38° 14' 6.5225 N	81° 57' 11.7078 W	
2,311.00	31.67	60.62	2,134.31	263.10	617.93	4,232,337.20	416,578.35	38° 14' 6.5979 N	81° 57' 11.5317 W	
2,341.00	33.50	61.55	2,159.59	270.91	632.08	4,232,339.58	416,582.66	38° 14' 6.6765 N	81° 57' 11.3554 W	
2,371.00	35.78	62.65	2,184.27	278.88	647.15	4,232,342.01	416,587.25	38° 14' 6.7569 N	81° 57' 11.1675 W	
2,401.00	37.12	63.30	2,208.40	286.98	663.03	4,232,344.48	416,592.09	38° 14' 6.8386 N	81° 57' 10.9695 W	
2,431.00	37.99	63.45	2,232.19	295.17	679.37	4,232,346.97	416,597.07	38° 14' 6.9213 N	81° 57' 10.7656 W	
2,461.00	38.90	63.51	2,255.68	303.50	696.06	4,232,349.51	416,602.16	38° 14' 7.0053 N	81° 57' 10.5575 W	

Survey Report - Geographic



Company:	HG Energy LLC	Local Co-ordinate Reference:	Well W.S. May No. 502
Project:	Lincoln County, West Virginia UTM83	TVD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Site:	W.S. May	MD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Well:	W.S. May No. 502	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	
2,491.00	39.69	62.71	2,278.90	312.09	713.01	4,232,352.13	416,607.32	38° 14' 7.0920 N	81° 57' 10.3462 W	
2,521.00	40.43	62.31	2,301.86	321.01	730.13	4,232,354.85	416,612.54	38° 14' 7.1819 N	81° 57' 10.1326 W	
2,551.00	40.93	62.10	2,324.61	330.13	747.43	4,232,357.63	416,617.82	38° 14' 7.2738 N	81° 57' 9.9169 W	
2,581.00	40.48	62.83	2,347.35	339.17	764.78	4,232,360.38	416,623.10	38° 14' 7.3650 N	81° 57' 9.7006 W	
2,611.00	39.25	64.10	2,370.38	347.76	781.98	4,232,363.00	416,628.35	38° 14' 7.4517 N	81° 57' 9.4861 W	
2,641.00	38.56	65.85	2,393.73	355.74	799.05	4,232,365.43	416,633.55	38° 14' 7.5323 N	81° 57' 9.2731 W	
2,671.00	39.02	66.77	2,417.11	363.29	816.26	4,232,367.73	416,638.80	38° 14' 7.6087 N	81° 57' 9.0583 W	
2,701.00	38.92	66.51	2,440.43	370.77	833.58	4,232,370.01	416,644.08	38° 14' 7.6844 N	81° 57' 8.8421 W	
2,731.00	39.69	64.35	2,463.65	378.67	850.86	4,232,372.42	416,649.34	38° 14' 7.7643 N	81° 57' 8.6265 W	
2,761.00	41.68	63.48	2,486.40	387.27	868.42	4,232,375.05	416,654.70	38° 14' 7.8512 N	81° 57' 8.4075 W	
2,791.00	41.68	63.64	2,508.80	396.15	886.29	4,232,377.75	416,660.14	38° 14' 7.9408 N	81° 57' 8.1847 W	
2,821.00	40.60	63.76	2,531.40	404.90	903.98	4,232,380.42	416,665.53	38° 14' 8.0291 N	81° 57' 7.9640 W	
2,851.00	38.09	62.55	2,554.59	413.48	920.95	4,232,383.03	416,670.71	38° 14' 8.1157 N	81° 57' 7.7524 W	
2,881.00	35.30	61.04	2,578.65	421.95	936.75	4,232,385.61	416,675.52	38° 14' 8.2010 N	81° 57' 7.5554 W	
Survey @ 2881.00 MD 2578.65 TVD										
2,943.00	35.30	61.04	2,629.25	439.29	968.10	4,232,390.90	416,685.08	38° 14' 8.3757 N	81° 57' 7.1647 W	
Survey projected to 2943.00 MD 2629.25 TVD										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
571.00	570.98	-3.33	2.11	MWD surveys	
2,881.00	2,578.65	421.95	936.75	Survey @ 2881.00 MD 2578.65 TVD	
2,943.00	2,629.25	439.29	968.10	Survey projected to 2943.00 MD 2629.25 TVD	

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WV Department of
Environmental Protection

Report

Company: HG Energy LLC	Local Co-ordinate Reference: Well W.S. May No. 502
Project: Lincoln County, West Virginia UTM83	TVD Reference: RKB=987+6 @ 993.00usft (Noah Horn 294)
Site: W.S. May	MD Reference: RKB=987+6 @ 993.00usft (Noah Horn 294)
Well: W.S. May No. 502	North Reference: Grid
Wellbore: Original Hole	Survey Calculation Method: Minimum Curvature
Design: Surveys Original Hole	Database: DB_Jul2216dt_v14

Project Lincoln County, West Virginia UTM83			
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 W.S. May			
Site Position:	Northing: 4,232,249.00 m	Latitude: 38° 14' 3.6738 N	
From: Map	Easting: 416,390.00 m	Longitude: 81° 57' 19.2409 W	
Position Uncertainty: 0.00 usft	Slot Radius: 13-3/16 "	Grid Convergence: -0.59 °	

Well W.S. May No. 502			
Well Position +N/-S	0.00 usft	Northing: 4,232,257.00 m	Latitude: 38° 14' 3.9334 N
+E/-W	0.00 usft	Easting: 416,390.00 m	Longitude: 81° 57' 19.2443 W
Position Uncertainty	0.00 usft	Wellhead Elevation: usft	Ground Level: 987.00 usft

Wellbore Original Hole					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/21/2018	-8.35	65.60	51,482.90000000

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	65.00	

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Report

WV Department of Environmental Protection

Company:	HG Energy LLC	Local Co-ordinate Reference:	Well W.S. May No. 502
Project:	Lincoln County, West Virginia UTM83	TVD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Site:	W.S. May	MD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Well:	W.S. May No. 502	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	DB_Jul2216dt_v14

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
571.00	2,881.00	MWD (Original Hole)	MWD	OWSG MWD - Standard
2,943.00	2,943.00	Projeciton (Original Hole)	MWD	OWSG MWD - Standard

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	V. Sec (usft)	Northing (m)	Easting (m)	Closure Azimuth (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,232,257.00	416,390.00	0.00
571.00	0.79	147.64	570.98	-3.33	2.11	0.14	0.50	4,232,255.99	416,390.64	147.64
MWD surveys										
601.00	0.82	128.09	600.98	-3.63	2.39	0.92	0.63	4,232,255.89	416,390.73	146.69
631.00	0.75	108.77	630.98	-3.83	2.74	0.91	0.87	4,232,255.83	416,390.84	144.39
661.00	1.85	86.21	660.97	-3.86	3.41	3.98	1.46	4,232,255.82	416,391.04	138.53
691.00	2.70	79.23	690.94	-3.69	4.59	2.97	2.60	4,232,255.87	416,391.40	128.85
721.00	3.30	76.98	720.90	-3.37	6.12	2.04	4.13	4,232,255.97	416,391.87	118.81
751.00	4.06	70.92	750.84	-2.83	7.97	2.84	6.03	4,232,256.14	416,392.43	109.53
781.00	5.62	62.67	780.73	-1.81	10.28	5.68	8.55	4,232,256.45	416,393.13	99.96
811.00	6.79	60.47	810.56	-0.26	13.13	3.98	11.79	4,232,256.92	416,394.00	91.12
841.00	7.73	58.65	840.32	1.67	16.39	3.23	15.56	4,232,257.51	416,395.00	84.19
871.00	8.74	57.11	870.01	3.95	20.03	3.45	19.82	4,232,258.21	416,396.10	78.83
901.00	10.08	56.92	899.60	6.63	24.14	4.47	24.68	4,232,259.02	416,397.36	74.65
931.00	11.15	59.99	929.09	9.51	28.85	4.03	30.17	4,232,259.90	416,398.79	71.76
961.00	11.70	63.27	958.49	12.33	34.08	2.84	36.10	4,232,260.76	416,400.39	70.11
991.00	12.16	67.81	987.85	14.89	39.73	3.48	42.30	4,232,261.54	416,402.11	69.45
1,021.00	13.74	68.94	1,017.08	17.36	45.98	5.33	49.01	4,232,262.29	416,404.01	69.31
1,051.00	14.32	70.25	1,046.19	19.90	52.79	2.20	56.26	4,232,263.06	416,406.09	69.35
1,081.00	14.92	69.93	1,075.22	22.48	59.91	2.02	63.80	4,232,263.85	416,408.26	69.44
1,111.00	15.71	69.25	1,104.15	25.24	67.34	2.70	71.70	4,232,264.69	416,410.52	69.45

JUL 23 2018

Report

WV Department of
Environmental Protection

Company:	HG Energy LLC	Local Co-ordinate Reference:	Well W.S. May No. 502
Project:	Lincoln County, West Virginia UTM83	TVD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Site:	W.S. May	MD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Well:	W.S. May No. 502	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	DB_Jul2216dt_v14

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	V. Sec (usft)	Northing (m)	Easting (m)	Closure Azimuth (°)	
1,141.00	17.00	69.45	1,132.94	28.22	75.24	4.30	80.12	4,232,265.60	416,412.93	69.44	
1,171.00	18.01	71.12	1,161.55	31.26	83.74	3.76	89.10	4,232,266.53	416,415.52	69.53	
1,201.00	19.05	71.99	1,189.99	34.27	92.78	3.59	98.57	4,232,267.45	416,418.28	69.73	
1,231.00	20.32	72.82	1,218.24	37.33	102.42	4.33	108.59	4,232,268.38	416,421.22	69.97	
1,261.00	21.62	72.78	1,246.25	40.50	112.67	4.33	119.23	4,232,269.34	416,424.34	70.23	
1,291.00	21.97	73.08	1,274.11	43.77	123.32	1.22	130.26	4,232,270.34	416,427.59	70.46	
1,321.00	22.50	72.81	1,301.88	47.10	134.17	1.80	141.51	4,232,271.36	416,430.90	70.66	
1,351.00	23.81	71.46	1,329.46	50.72	145.40	4.71	153.21	4,232,272.46	416,434.32	70.77	
1,381.00	24.74	71.14	1,356.81	54.68	157.08	3.13	165.47	4,232,273.67	416,437.88	70.81	
1,411.00	25.87	70.22	1,383.93	58.92	169.18	3.99	178.23	4,232,274.96	416,441.57	70.80	
1,441.00	26.87	69.60	1,410.80	63.50	181.69	3.46	191.51	4,232,276.35	416,445.38	70.74	
1,471.00	27.43	68.16	1,437.50	68.43	194.46	2.88	205.16	4,232,277.86	416,449.27	70.61	
1,501.00	28.10	66.36	1,464.05	73.84	207.35	3.58	219.13	4,232,279.51	416,453.20	70.40	
1,531.00	28.61	66.48	1,490.45	79.54	220.41	1.71	233.37	4,232,281.24	416,457.18	70.16	
1,561.00	29.12	66.23	1,516.72	85.35	233.67	1.75	247.85	4,232,283.01	416,461.22	69.94	
1,591.00	28.54	66.25	1,543.00	91.17	246.91	1.93	262.31	4,232,284.79	416,465.26	69.73	
1,621.00	28.68	66.30	1,569.34	96.95	260.06	0.47	276.67	4,232,286.55	416,469.27	69.55	
1,651.00	28.97	66.65	1,595.62	102.73	273.33	1.12	291.13	4,232,288.31	416,473.31	69.40	
1,681.00	30.17	66.27	1,621.71	108.64	286.90	4.05	305.93	4,232,290.11	416,477.45	69.26	
1,711.00	31.48	66.17	1,647.47	114.84	300.97	4.37	321.30	4,232,292.00	416,481.73	69.11	
1,741.00	32.53	65.97	1,672.91	121.29	315.50	3.52	337.20	4,232,293.97	416,486.16	68.97	
1,771.00	33.84	66.16	1,698.02	127.95	330.51	4.38	353.61	4,232,296.00	416,490.74	68.84	
1,801.00	34.74	66.24	1,722.81	134.77	345.97	3.00	370.51	4,232,298.08	416,495.45	68.72	
1,831.00	35.24	65.70	1,747.38	141.78	361.68	1.96	387.71	4,232,300.21	416,500.24	68.60	
1,861.00	35.09	65.45	1,771.91	148.92	377.41	0.69	404.99	4,232,302.39	416,505.04	68.47	
1,891.00	34.22	64.11	1,796.59	156.19	392.85	3.85	422.05	4,232,304.61	416,509.74	68.32	
1,921.00	34.30	64.46	1,821.38	163.51	408.06	0.71	438.93	4,232,306.84	416,514.38	68.16	

JUL 23 2018

Report

WV Department of
Environmental Protection

Company:	HG Energy LLC	Local Co-ordinate Reference:	Well W.S. May No. 502
Project:	Lincoln County, West Virginia UTM83	TVD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Site:	W.S. May	MD Reference:	RKB=987+6 @ 993.00usft (Noah Horn 294)
Well:	W.S. May No. 502	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	DB_Jul2216dt_v14

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	V. Sec (usft)	Northing (m)	Easting (m)	Closure Azimuth (°)	
1,951.00	34.64	64.44	1,846.11	170.84	423.38	1.13	455.91	4,232,309.07	416,519.05	68.03	
1,981.00	35.24	65.40	1,870.71	178.12	438.94	2.71	473.09	4,232,311.29	416,523.79	67.91	
2,011.00	36.24	65.15	1,895.06	185.45	454.86	3.37	490.62	4,232,313.53	416,528.64	67.82	
2,041.00	37.46	66.05	1,919.06	192.88	471.24	4.45	508.61	4,232,315.79	416,533.64	67.74	
2,071.00	38.31	65.92	1,942.74	200.38	488.07	2.85	527.03	4,232,318.08	416,538.76	67.68	
2,101.00	39.01	65.23	1,966.16	208.13	505.13	2.74	545.77	4,232,320.44	416,543.97	67.61	
2,131.00	38.10	64.58	1,989.63	216.06	522.07	3.32	564.46	4,232,322.85	416,549.13	67.52	
2,161.00	38.10	64.60	2,013.23	224.00	538.79	0.04	582.97	4,232,325.28	416,554.22	67.43	
2,191.00	38.74	63.92	2,036.74	232.10	555.58	2.56	601.61	4,232,327.74	416,559.34	67.33	
2,221.00	38.40	64.67	2,060.19	240.21	572.43	1.93	620.32	4,232,330.22	416,564.48	67.24	
2,251.00	35.73	63.54	2,084.13	248.10	588.70	9.18	638.39	4,232,332.62	416,569.44	67.15	
2,281.00	32.74	63.54	2,108.93	255.62	603.81	9.97	655.26	4,232,334.91	416,574.04	67.05	
2,311.00	31.67	60.62	2,134.31	263.10	617.93	6.29	671.23	4,232,337.19	416,578.35	66.94	
2,341.00	33.50	61.55	2,159.59	270.91	632.08	6.32	687.35	4,232,339.57	416,582.66	66.80	
2,371.00	35.78	62.65	2,184.27	278.88	647.15	7.88	704.38	4,232,342.00	416,587.25	66.69	
2,401.00	37.12	63.30	2,208.40	286.98	663.03	4.65	722.19	4,232,344.47	416,592.09	66.60	
2,431.00	37.99	63.45	2,232.19	295.17	679.37	2.92	740.47	4,232,346.97	416,597.07	66.52	
2,461.00	38.90	63.51	2,255.68	303.50	696.06	3.04	759.11	4,232,349.51	416,602.16	66.44	
2,491.00	39.69	62.71	2,278.90	312.09	713.01	3.13	778.10	4,232,352.13	416,607.32	66.36	
2,521.00	40.43	62.31	2,301.86	321.01	730.13	2.61	797.39	4,232,354.84	416,612.55	66.27	
2,551.00	40.93	62.10	2,324.61	330.13	747.43	1.73	816.92	4,232,357.62	416,617.82	66.17	
2,581.00	40.48	62.83	2,347.35	339.17	764.78	2.18	836.47	4,232,360.38	416,623.11	66.08	
2,611.00	39.25	64.10	2,370.38	347.76	781.98	4.92	855.69	4,232,363.00	416,628.35	66.02	
2,641.00	38.56	65.85	2,393.73	355.74	799.05	4.33	874.53	4,232,365.43	416,633.55	66.00	
2,671.00	39.02	66.77	2,417.11	363.29	816.26	2.46	893.32	4,232,367.73	416,638.80	66.01	
2,701.00	38.92	66.51	2,440.43	370.77	833.58	0.64	912.17	4,232,370.01	416,644.08	66.02	
2,731.00	39.69	64.35	2,463.65	378.67	850.86	5.23	931.18	4,232,372.42	416,649.34	66.01	

Report

Company: HG Energy LLC	Local Co-ordinate Reference: Well W.S. May No. 502
Project: Lincoln County, West Virginia UTM83	TVD Reference: RKB=987+6 @ 993.00usft (Noah Horn 294)
Site: W.S. May	MD Reference: RKB=987+6 @ 993.00usft (Noah Horn 294)
Well: W.S. May No. 502	North Reference: Grid
Wellbore: Original Hole	Survey Calculation Method: Minimum Curvature
Design: Surveys Original Hole	Database: DB_Jul2216dt_v14

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	V. Sec (usft)	Northing (m)	Easting (m)	Closure Azimuth (°)
2,761.00	41.68	63.48	2,486.40	387.27	868.42	6.90	950.73	4,232,375.04	416,654.70	65.97
2,791.00	41.68	63.64	2,508.80	396.15	886.29	0.35	970.67	4,232,377.75	416,660.14	65.92
2,821.00	40.60	63.76	2,531.40	404.90	903.98	3.61	990.40	4,232,380.41	416,665.53	65.87
2,851.00	38.09	62.55	2,554.59	413.48	920.95	8.75	1,009.41	4,232,383.03	416,670.71	65.82
2,881.00	35.30	61.04	2,578.65	421.95	936.75	9.77	1,027.31	4,232,385.61	416,675.52	65.75
Survey @ 2881.00 MD 2578.65 TVD										
2,943.00	35.30	61.04	2,629.25	439.29	968.10	0.00	1,063.05	4,232,390.90	416,685.08	65.59
Survey projected to 2943.00 MD 2629.25 TVD										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
571.00	570.98	-3.33	2.11	MWD surveys	
2,881.00	2,578.65	421.95	936.75	Survey @ 2881.00 MD 2578.65 TVD	
2,943.00	2,629.25	439.29	968.10	Survey projected to 2943.00 MD 2629.25 TVD	

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 WV Department of
 Environmental Protection