

Location: Weitzel County, WV
 Field: Weitzel (UTM 17N MAD 27)
 Facility: Long 408 Pad

HG ENERGY

Well: Slot #04
 Wellbore: Long 408 S-4H PWB



Received
 Office of Oil & Gas

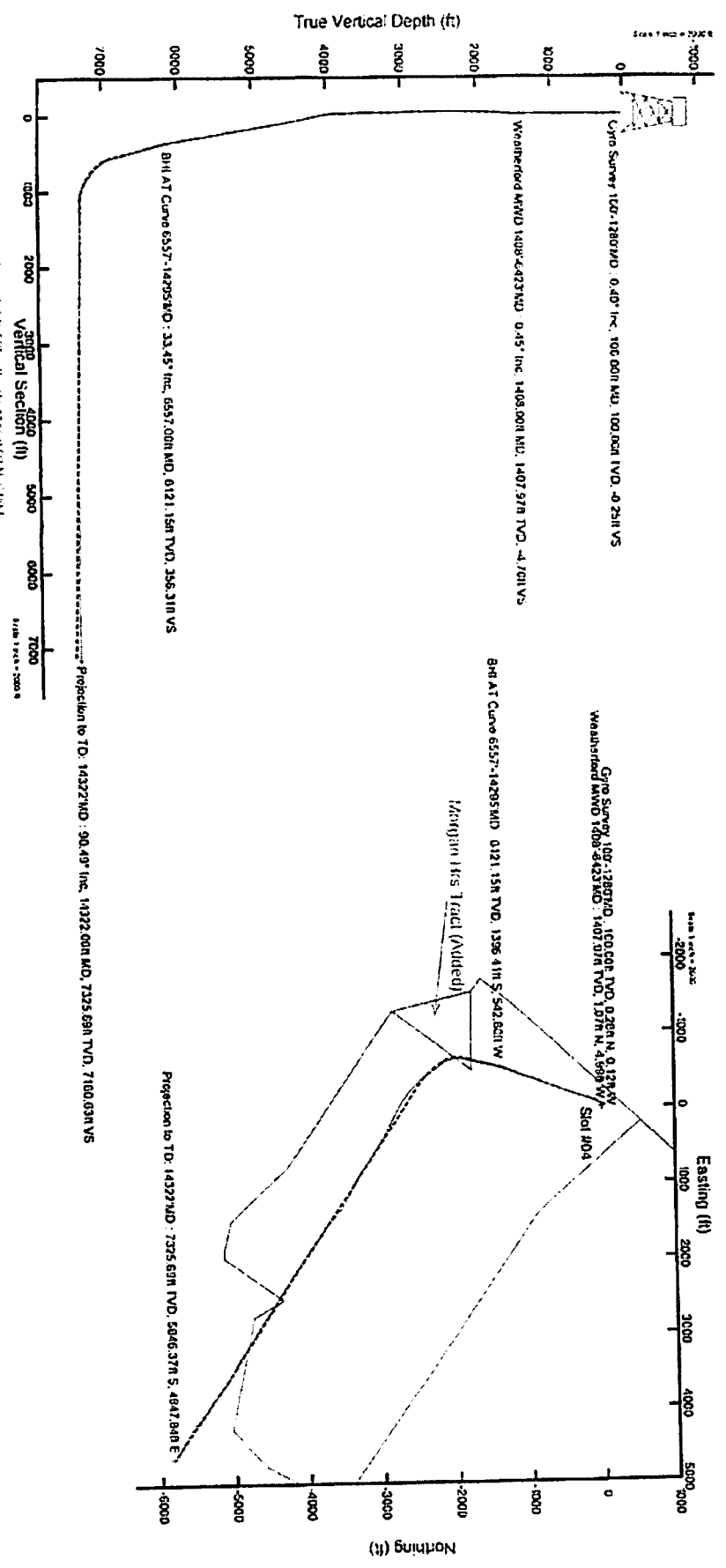
JUL 05 2016

Well Information		Location Information	
Well Name	Slot #04	County	Weitzel
Well Type	Production	State	West Virginia
Well Status	Active	Latitude	38.811111
Well Depth	13972.0	Longitude	-80.811111
Well Completion	Open Hole	UTM Zone	17N MAD 27
Well Completion Date	06/15/2016	UTM Easting	1700000
Well Completion By	HG Energy	UTM Northing	4100000
Well Completion Notes		UTM Zone	17N MAD 27
Well Completion Reference		UTM Easting	1700000
Well Completion Reference		UTM Northing	4100000

Well Profile Data		Target	
Depth (ft)	13972.0	Target Type	Open Hole
Depth (ft)	13972.0	Target Depth (ft)	13972.0
Depth (ft)	13972.0	Target Diameter (in)	10.75
Depth (ft)	13972.0	Target Completion Date	06/15/2016
Depth (ft)	13972.0	Target Completion By	HG Energy
Depth (ft)	13972.0	Target Completion Notes	
Depth (ft)	13972.0	Target Completion Reference	
Depth (ft)	13972.0	Target Completion Reference	

Well Data	
Well Name	Slot #04
Well Type	Production
Well Status	Active
Well Depth	13972.0
Well Completion	Open Hole
Well Completion Date	06/15/2016
Well Completion By	HG Energy
Well Completion Notes	
Well Completion Reference	
Well Completion Reference	

Acquired in 2016 by HG Energy. All rights reserved.
 All other rights reserved. This document is the property of HG Energy and is not to be distributed, copied, or otherwise used without the express written permission of HG Energy.



Acquired in 2016 by HG Energy. All rights reserved.

Actual Wellpath Report

Long 408 S-4H AWB Proj: 14322'
Page 1 of 9



REFERENCE WELLPATH INFORMATION			
Operator	HG ENERGY	Slot	Slot #04
Area	Weizel County, WV	Well	Long 408 S-4H
Field	Weizel (UTM 17N NAD 27)	Wellbore	Long 408 S-4H AWB
Facility	Long 408 Pad		

REPORT SETTING INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect@ 4.0.1
North Reference	Grid	User	Stevdenk
Scale	0.99961	Report Generated	6/24/2014 at 9:46:43 AM
Convergence at slot	0.21° East	Database/Source file	WA_P\Long_408_S-4H_AWB.xml

WELLPATH INFORMATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North(ft)	East(ft)	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-9.30	-14.02	1731535.70	14374532.30	39°35'00.406"N	80°40'35.758"W
Facility Reference Pt			1731579.70	14374541.60	39°35'00.496"N	80°40'35.195"W
Field Reference Pt			1731860.70	14374712.90	39°35'02.180"N	80°40'31.597"W

WELLPATH DATA			
Calculation method	Minimum curvature	HAD 105 (RT) to Facility Vertical Datum	17.00ft
Horizontal Reference Pt	Slot	HAD 105 (RT) to Mean Sea Level	1358.50ft
Vertical Reference Pt	HAD 105 (RT)	HAD 105 (RT) to Mud Line at Slot (Slot #04)	17.00ft
MID Reference Pt	HAD 105 (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	125.00°

Actual Wellpath Report

Long 408 S-4H AWB Proj: 14322'
Page 2 of 9



JUL 05 2016

07/08/2016

OPERATOR		WELL		SLOT	
HG ENERGY		Well		Slot #04	
Wetzel County, WV		Wellbore		Long 408 S-4H	
Wetzel (UTM 17N NAD 27)		Wellbore		Long 408 S-4H AWB	
Facility		Long 408 Pad			

WELLPATH DATA (199 stations) † = interpolated/extrapolated station															
Mid	Inclination	Azimuth	TYD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate
ft	°	°	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft/100ft	ft/100ft	ft/100ft
17.00	0.000	336.040	0.00	0.00	0.00	0.00	1731535.70	14374532.30	39°35'00.406"N	80°40'35.758"W	0.00	0.000	0.00	0.00	0.00
100.00	0.400	336.040	17.00	0.00	0.00	0.00	1731535.70	14374532.30	39°35'00.406"N	80°40'35.758"W	0.29	336.040	0.48	0.48	0.00
150.00	0.410	275.440	150.00	-0.25	0.26	-0.12	1731535.58	14374532.56	39°35'00.408"N	80°40'35.750"W	0.57	320.275	0.82	0.02	-121.20
200.00	0.620	301.650	200.00	-0.55	0.44	-0.37	1731535.33	14374532.74	39°35'00.410"N	80°40'35.762"W	0.98	307.752	0.62	0.42	52.42
250.00	0.620	298.210	249.99	-0.98	0.60	-0.77	1731534.93	14374533.90	39°35'00.412"N	80°40'35.768"W	1.52	304.973	0.07	0.00	-6.88
300.00	0.660	310.550	299.99	-1.52	0.87	-1.24	1731534.46	14374533.17	39°35'00.414"N	80°40'35.774"W	2.07	304.866	0.29	0.08	24.68
350.00	0.350	318.010	349.99	-2.07	1.19	-1.70	1731534.00	14374533.48	39°35'00.417"N	80°40'35.779"W	2.51	306.310	0.63	-0.62	14.92
400.00	0.470	289.850	399.99	-2.51	1.49	-2.02	1731533.68	14374533.79	39°35'00.420"N	80°40'35.784"W	2.86	305.766	0.46	0.24	-56.32
450.00	0.310	275.010	449.99	-2.86	1.67	-2.32	1731533.38	14374533.97	39°35'00.422"N	80°40'35.787"W	3.17	303.499	0.38	-0.32	-29.68
500.00	0.430	297.210	499.98	-3.17	1.75	-2.64	1731533.06	14374534.05	39°35'00.423"N	80°40'35.791"W	3.48	302.098	0.37	0.24	44.40
550.00	0.520	315.920	549.98	-3.47	1.85	-2.95	1731532.76	14374534.15	39°35'00.424"N	80°40'35.795"W	3.89	302.661	0.36	0.18	37.42
600.00	0.390	336.600	599.98	-3.88	2.10	-3.27	1731532.43	14374534.40	39°35'00.426"N	80°40'35.799"W	4.22	304.362	0.52	-0.44	-41.36
650.00	0.290	338.680	649.98	-4.22	2.38	-3.48	1731532.22	14374534.68	39°35'00.429"N	80°40'35.802"W	4.43	305.186	0.03	-0.02	-4.16
700.00	0.350	247.550	699.98	-4.43	2.68	-3.58	1731532.12	14374534.92	39°35'00.432"N	80°40'35.803"W	4.67	305.412	0.92	0.12	-182.26
750.00	0.200	187.330	740.98	-4.62	2.68	-3.77	1731531.94	14374534.98	39°35'00.432"N	80°40'35.808"W	4.67	302.878	0.61	-0.30	-120.44
800.00	0.230	224.920	799.98	-4.66	2.53	-3.92	1731531.78	14374534.83	39°35'00.437"N	80°40'35.806"W	4.65	300.699	0.28	0.06	75.18
850.00	0.130	205.240	849.98	-4.64	2.37	-4.00	1731531.70	14374534.67	39°35'00.429"N	80°40'35.809"W	4.67	298.813	0.23	-0.20	-39.36
900.00	0.070	221.300	899.98	-4.65	2.25	-4.10	1731531.61	14374534.55	39°35'00.428"N	80°40'35.810"W	4.68	297.755	0.13	-0.12	32.12
950.00	0.190	272.430	949.98	-4.64	2.18	-4.14	1731531.56	14374534.48	39°35'00.427"N	80°40'35.811"W	4.76	296.970	0.31	0.24	102.26
1000.00	0.160	194.860	999.98	-4.71	2.16	-4.24	1731531.46	14374534.46	39°35'00.427"N	80°40'35.812"W	4.82	295.750	0.44	-0.06	-155.14
1050.00	0.250	203.820	1049.98	-4.76	2.09	-4.34	1731531.36	14374534.39	39°35'00.426"N	80°40'35.813"W	4.81	293.634	0.19	0.18	17.92
1100.00	0.260	184.720	1099.98	-4.71	1.93	-4.41	1731531.30	14374534.23	39°35'00.425"N	80°40'35.814"W	4.78	291.037	0.23	0.02	-38.20
1150.00	0.320	163.530	1149.98	-4.64	1.71	-4.46	1731531.24	14374534.01	39°35'00.420"N	80°40'35.814"W	4.67	288.339	0.17	0.12	-42.38
1200.00	0.390	128.600	1190.98	-4.47	1.47	-4.43	1731531.27	14374533.77	39°35'00.418"N	80°40'35.815"W	4.47	286.515	0.54	0.17	-85.20
1250.00	0.300	261.230	1234.98	-4.24	1.27	-4.28	1731531.42	14374533.57	39°35'00.417"N	80°40'35.812"W	4.44	285.152	1.44	-0.20	301.43
1280.00	0.110	311.260	1279.98	-4.17	1.16	-4.28	1731531.27	14374533.47	39°35'00.417"N	80°40'35.814"W	4.58	284.793	0.54	-0.42	-11.78
1400.00	0.450	248.850	1407.97	-4.30	1.17	-4.43	1731531.27	14374533.47	39°35'00.417"N	80°40'35.814"W	5.11	282.096	0.32	0.27	-48.76
1452.00	0.880	294.260	1451.97	-4.70	1.07	-4.99	1731530.71	14374533.37	39°35'00.416"N	80°40'35.822"W	5.58	281.855	1.47	0.98	103.20
1498.00	1.980	308.680	1497.96	-5.13	1.15	-5.46	1731530.24	14374533.45	39°35'00.417"N	80°40'35.828"W	6.65	285.601	2.50	2.39	31.35

Actual Wellpath Report

Long 408 S-4H AWB Proj: 143221
Page 3 of 9



JUL 05 2016

07/08/2016

Operator	HG ENERGY	Slot	Slot #04
Area	Wetzel County, WV	Well	Long 408 S-4H
Field	Wetzel (UTM 17N NAD 27)	Wellbore	Long 408 S-4H AWB
Facility	Long 408 Pad		

WELLPATH DATA (199 stations)															
MID	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]			[ft]	[°]	[%/100ft]	[%/100ft]	[%/100ft]
1539.00	3.190	310.810	1538.91	-8.11	2.98	-7.82	1731527.88	14374535.28	39°35'00.435"N	80°40'35.658"W	8.37	290.836	2.96	2.95	5.20
1583.00	3.640	311.920	1582.84	-10.72	4.71	-9.79	1731525.92	14374537.01	39°35'00.452"N	80°40'35.883"W	10.86	295.698	1.03	1.02	2.52
1627.00	3.880	309.280	1626.74	-13.59	6.59	-11.98	1731523.73	14374538.88	39°35'00.471"N	80°40'35.910"W	13.67	298.800	0.67	0.55	-6.00
1714.00	3.940	305.490	1713.54	-19.51	10.18	-16.69	1731519.02	14374542.48	39°35'00.507"N	80°40'35.971"W	19.55	301.390	0.30	0.07	-4.36
1799.00	3.960	311.210	1798.34	-25.35	13.81	-21.28	1731514.43	14374546.11	39°35'00.543"N	80°40'36.029"W	25.37	302.993	0.46	0.02	6.73
1888.00	4.000	322.070	1887.12	-31.37	18.29	-25.50	1731510.21	14374550.58	39°35'00.587"N	80°40'36.083"W	31.38	305.648	0.85	0.04	12.20
1976.00	3.260	335.070	1974.95	-36.47	22.98	-28.44	1731507.27	14374555.27	39°35'00.634"N	80°40'36.120"W	36.56	308.936	1.25	-0.84	14.77
2064.00	1.870	3.010	2062.86	-39.40	26.68	-29.42	1731506.29	14374558.97	39°35'00.670"N	80°40'36.132"W	39.71	312.206	2.08	-1.58	31.75
2149.00	1.510	20.390	2147.83	-40.42	29.11	-28.96	1731506.76	14374561.40	39°35'00.694"N	80°40'36.126"W	41.06	315.158	0.73	-0.42	20.45
2236.00	1.640	16.050	2234.79	-41.11	31.39	-28.21	1731507.50	14374563.67	39°35'00.717"N	80°40'36.117"W	42.20	318.049	0.20	0.15	-4.99
2326.00	1.830	23.450	2324.75	-41.82	33.94	-27.28	1731508.43	14374566.23	39°35'00.742"N	80°40'36.105"W	43.55	321.206	0.33	0.21	8.22
2414.00	1.450	44.220	2412.72	-41.92	36.03	-25.95	1731509.76	14374568.31	39°35'00.763"N	80°40'36.088"W	44.40	324.339	0.79	-0.43	23.60
2507.00	1.850	50.250	2505.68	-41.34	37.83	-23.97	1731511.74	14374570.12	39°35'00.780"N	80°40'36.062"W	44.79	327.639	0.47	0.45	6.48
2594.00	1.950	74.530	2592.63	-40.03	39.12	-21.47	1731514.24	14374571.41	39°35'00.793"N	80°40'36.030"W	44.63	331.247	0.93	0.11	27.91
2681.00	1.870	113.000	2679.59	-37.69	38.96	-18.73	1731516.97	14374571.25	39°35'00.791"N	80°40'35.995"W	43.23	334.323	1.45	-0.09	44.22
2770.00	1.670	130.410	2768.54	-34.98	37.56	-16.41	1731519.30	14374569.84	39°35'00.777"N	80°40'35.966"W	40.98	336.399	0.64	-0.22	19.56
2855.00	1.280	159.000	2853.52	-32.96	35.87	-15.13	1731520.58	14374568.15	39°35'00.761"N	80°40'35.949"W	38.93	337.134	0.97	-0.46	33.64
2942.00	1.460	152.880	2940.49	-31.18	33.97	-14.27	1731521.43	14374566.26	39°35'00.742"N	80°40'35.939"W	36.85	337.213	0.27	0.21	-7.03
3033.00	1.500	147.850	3030.46	-29.08	31.96	-13.12	1731522.58	14374564.24	39°35'00.722"N	80°40'35.924"W	34.55	337.674	0.15	0.04	-5.59
3121.00	1.450	148.980	3119.43	-26.98	30.00	-11.92	1731523.78	14374562.29	39°35'00.703"N	80°40'35.909"W	32.29	338.329	0.06	-0.06	1.27
3210.00	1.590	181.640	3208.40	-25.27	27.81	-11.38	1731524.33	14374560.09	39°35'00.681"N	80°40'35.902"W	30.04	337.246	0.97	0.16	36.70
3298.00	1.750	203.800	3296.37	-23.84	25.36	-11.96	1731522.75	14374557.65	39°35'00.657"N	80°40'35.924"W	28.03	334.356	0.75	0.18	25.18
3387.00	1.860	204.710	3385.32	-23.81	22.80	-13.11	1731522.60	14374555.34	39°35'00.631"N	80°40'35.924"W	26.30	330.106	0.13	0.12	1.02
3475.00	1.900	205.060	3474.25	-23.09	19.05	-14.85	1731520.86	14374551.09	39°35'00.594"N	80°40'35.947"W	24.15	322.069	0.03	0.03	0.28
3563.00	1.760	202.350	3562.23	-22.81	17.76	-15.41	1731520.29	14374550.06	39°35'00.582"N	80°40'35.954"W	23.52	319.055	0.37	-0.32	-6.16
3651.00	3.410	209.080	3599.19	-22.53	16.00	-16.31	1731519.40	14374548.29	39°35'00.564"N	80°40'35.965"W	22.84	314.451	3.81	3.75	15.30
3648.00	7.360	215.280	3642.98	-22.41	12.55	-18.57	1731517.14	14374544.85	39°35'00.530"N	80°40'35.994"W	22.41	304.052	9.06	8.98	14.09
3687.00	10.240	214.510	3684.48	-22.39	7.28	-22.24	1731513.47	14374539.57	39°35'00.478"N	80°40'36.042"W	23.40	288.118	6.86	6.86	-1.83
3731.00	13.120	213.200	3727.57	-22.20	-0.13	-27.19	1731508.52	14374532.17	39°35'00.405"N	80°40'36.105"W	27.19	269.734	6.57	6.55	-2.98
3772.00	15.850	210.270	3767.26	-21.59	-8.86	-32.56	1731503.15	14374523.45	39°35'00.319"N	80°40'36.174"W	33.75	254.783	6.89	6.66	-7.15

Actual Wellpath Report

Long 408 S-4H AWB Proj: 14322'
Page 4 of 9



Operator		HIG ENERGY	
Area		Wetzel County, WV	
Field		Wetzel (UTM 17N NAD 27)	
Facility		Long 408 Pad	

WELLPATH DATA (199 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TYD [ft]	Vert Secl [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
3816.00	18.440	206.880	3809.30	-20.11	-20.26	-38.74	1731496.98	14374512.05	39°35'00.207"N	80°40'36.254"W	43.71	242.396	6.31	5.89	-7.70
3861.00	22.120	205.600	3851.51	-17.72	-34.25	-45.62	1731490.10	14374498.06	39°35'00.069"N	80°40'36.342"W	57.05	233.102	8.24	8.18	-2.84
3906.00	25.320	205.880	3892.70	-14.82	-50.55	-53.48	1731482.24	14374481.77	39°34'59.908"N	80°40'36.443"W	73.59	226.614	7.12	7.11	0.62
3949.00	28.350	206.280	3931.07	-11.81	-67.98	-62.02	1731473.71	14374464.34	39°34'59.736"N	80°40'36.553"W	92.02	222.373	7.06	7.05	0.93
3995.00	31.700	205.570	3970.89	-8.17	-88.68	-72.07	1731463.65	14374443.65	39°34'59.532"N	80°40'36.682"W	114.28	219.101	7.32	7.28	-1.54
4040.00	35.020	203.140	4008.47	-3.58	-111.23	-82.25	1731453.48	14374421.11	39°34'59.309"N	80°40'36.813"W	138.34	216.483	7.95	7.38	-5.40
4082.00	37.220	200.330	4042.40	2.11	-134.23	-91.40	1731444.33	14374398.15	39°34'59.082"N	80°40'36.931"W	162.39	214.254	6.56	5.24	-6.69
4128.00	37.290	198.200	4079.01	9.67	-160.51	-100.59	1731435.15	14374371.85	39°34'58.823"N	80°40'37.050"W	189.43	212.075	2.81	0.15	-0.63
4172.00	36.340	198.130	4114.24	17.30	-185.56	-108.81	1731426.93	14374346.81	39°34'58.575"N	80°40'37.156"W	215.11	210.387	2.16	-2.16	-0.16
4215.00	35.390	196.900	4147.46	24.52	-208.47	-116.04	1731419.70	14374323.91	39°34'58.349"N	80°40'37.249"W	238.59	209.102	2.91	-2.32	-2.00
4257.00	35.740	196.890	4183.25	32.47	-232.95	-123.48	1731412.27	14374299.44	39°34'58.108"N	80°40'37.346"W	263.66	207.926	0.80	0.80	-0.02
4300.00	35.880	196.340	4218.13	40.40	-257.06	-130.67	1731405.08	14374275.34	39°34'57.870"N	80°40'37.439"W	288.37	206.946	0.82	0.33	-1.28
4368.00	33.690	196.060	4288.75	56.21	-304.17	-144.36	1731391.39	14374228.25	39°34'57.404"N	80°40'37.616"W	336.69	205.389	2.55	-2.55	-0.33
4477.00	32.150	198.870	4365.14	71.13	-351.34	-159.18	1731376.58	14374181.09	39°34'56.939"N	80°40'37.807"W	385.72	204.373	2.38	-1.69	3.09
4561.00	30.750	199.380	4436.80	83.12	-392.75	-173.53	1731362.23	14374139.70	39°34'56.530"N	80°40'37.992"W	429.38	203.838	1.70	-1.67	0.61
4649.00	30.160	199.580	4512.66	95.06	-434.80	-188.41	1731347.37	14374097.67	39°34'56.115"N	80°40'38.184"W	473.87	203.428	0.68	-0.67	0.23
4737.00	29.890	198.710	4588.85	107.09	-476.40	-202.85	1731332.93	14374056.09	39°34'55.704"N	80°40'38.370"W	517.79	203.064	0.58	-0.31	-0.99
4785.00	32.630	199.920	4629.88	113.81	-499.90	-211.10	1731324.69	14374032.60	39°34'55.472"N	80°40'38.477"W	542.64	202.893	5.86	5.71	2.52
4874.00	34.780	201.990	4703.92	125.77	-546.00	-228.78	1731307.01	14373986.51	39°34'55.017"N	80°40'38.705"W	592.00	202.734	2.74	2.42	2.33
4960.00	31.990	200.320	4775.72	137.07	-590.12	-245.88	1731289.92	14373942.41	39°34'54.582"N	80°40'38.925"W	639.29	202.619	3.42	-3.24	-1.94
5048.00	30.750	198.290	4850.86	149.44	-633.34	-261.03	1731274.77	14373899.27	39°34'54.155"N	80°40'39.121"W	685.03	202.399	1.85	-1.41	-0.73
5090.00	31.540	197.960	4886.80	155.75	-653.99	-281.79	1731258.81	14373858.51	39°34'53.920"N	80°40'39.208"W	706.69	202.268	1.92	1.88	-0.39
5179.00	30.630	197.870	4964.02	169.25	-697.71	-267.93	1731243.88	14373814.86	39°34'53.530"N	80°40'39.301"W	752.52	202.092	1.92	-1.02	-0.10
5245.00	33.960	201.680	5033.72	181.24	-740.90	-297.53	1731228.29	14373791.69	39°34'53.094"N	80°40'39.592"W	798.41	201.879	4.54	3.87	4.43
5349.00	34.590	202.170	5105.13	191.94	-784.78	-315.19	1731220.63	14373747.83	39°34'52.661"N	80°40'39.819"W	845.71	201.882	0.82	0.75	0.58
5444.00	34.670	203.060	5175.07	202.30	-829.37	-333.77	1731202.06	14373703.26	39°34'52.221"N	80°40'40.059"W	894.01	201.922	0.60	0.09	1.05
5519.00	33.990	203.740	5245.26	211.94	-873.36	-352.80	1731183.04	14373659.28	39°34'51.786"N	80°40'40.304"W	941.93	201.977	0.92	-0.80	0.80
5601.00	32.140	198.980	5313.99	222.44	-914.98	-369.13	1731166.72	14373617.68	39°34'51.376"N	80°40'40.514"W	986.63	201.971	3.89	-2.26	-5.80
5686.00	31.280	197.270	5386.31	235.40	-957.44	-383.03	1731152.82	14373575.24	39°34'50.927"N	80°40'40.694"W	1031.21	201.805	1.46	-1.01	-2.01
5771.00	30.920	197.010	5459.09	248.86	-999.39	-395.97	1731139.88	14373533.30	39°34'50.542"N	80°40'40.861"W	1074.98	201.614	0.45	-0.42	-0.31

Actual Wellpath Report

Long 408 S-4H AWB Proj: 143321
Page 5 of 9



REPORTING METHODOLOGY INFORMATION

Operator	HC ENERGY	Slot	Slot #04
Area	Wetzel County, WV	Well	Long 408 S-4H
Field	Wetzel (ITM 17N NAD 27)	Wellbore	Long 408 S-4H AWB
Facility	Long 408 Pad		

WELLPATH DATA (199 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
5858.00	31.810	197.350	5533.37	262.72	-1042.65	-409.35	1731126.51	14373490.06	39°34'50.115"N	80°40'41.034"W	1120.13	201.435	1.04	1.02	0.39
5947.00	32.120	198.900	5608.88	276.36	-1087.41	-424.05	1731111.82	14373445.31	39°34'49.673"N	80°40'41.223"W	1167.17	201.304	1.04	0.35	1.84
6035.00	33.560	205.368	5682.84	286.89	-1131.53	-442.08	1731093.79	14373401.21	39°34'49.238"N	80°40'41.456"W	1214.82	201.340	4.25	1.64	7.24
6121.00	32.030	200.640	5755.14	296.53	-1174.36	-460.31	1731075.57	14373338.40	39°34'48.815"N	80°40'41.690"W	1261.35	201.403	3.46	1.64	-5.49
6211.00	32.070	200.710	5831.42	308.34	-1219.05	-477.17	1731058.72	14373313.73	39°34'48.374"N	80°40'41.908"W	1309.11	201.377	0.06	0.04	0.08
6296.00	33.130	201.280	5903.03	319.42	-1261.80	-493.58	1731042.31	14373271.00	39°34'47.952"N	80°40'42.119"W	1354.90	201.364	1.30	1.25	0.67
6381.00	33.630	209.060	5974.01	331.00	-1305.55	-510.08	1731025.82	14373227.26	39°34'47.521"N	80°40'42.332"W	1401.66	201.341	0.98	0.59	-1.44
6423.00	33.060	200.090	6009.10	336.95	-1327.24	-518.01	1731017.90	14373205.58	39°34'47.307"N	80°40'42.434"W	1424.74	201.320	1.36	-1.36	0.07
6557.00	33.450	199.360	6121.15	356.31	-1396.41	-542.80	1730993.11	14373136.44	39°34'46.624"N	80°40'42.754"W	1498.20	201.242	0.42	0.29	-0.54
6643.00	33.150	193.810	6192.21	371.65	-1442.82	-556.58	1730979.34	14373090.04	39°34'46.166"N	80°40'42.932"W	1546.45	201.094	4.14	1.98	-6.45
6734.00	35.030	191.870	6266.67	391.38	-1493.82	-568.20	1730967.72	14373039.06	39°34'45.662"N	80°40'43.083"W	1598.24	200.825	1.23	-0.13	-2.13
6823.00	34.770	190.920	6339.67	411.77	-1543.74	-578.26	1730957.66	14372989.17	39°34'45.169"N	80°40'43.214"W	1648.49	200.535	0.68	-0.29	-1.07
6908.00	35.110	190.120	6409.35	431.94	-1591.60	-587.15	1730948.78	14372941.33	39°34'44.696"N	80°40'43.329"W	1696.45	200.249	0.67	0.40	-0.94
6994.00	35.000	190.920	6479.75	452.41	-1640.16	-596.17	1730939.77	14372892.78	39°34'44.217"N	80°40'43.447"W	1745.15	199.975	0.55	-0.13	0.93
7083.00	35.100	191.320	6552.61	473.10	-1689.32	-606.02	1730929.91	14372842.65	39°34'43.721"N	80°40'43.575"W	1795.67	199.724	0.28	0.11	0.45
7171.00	35.130	190.710	6624.59	493.68	-1740.00	-615.70	1730920.25	14372792.98	39°34'43.231"N	80°40'43.701"W	1845.72	199.486	0.40	0.03	-0.69
7260.00	35.210	191.520	6697.34	514.43	-1790.30	-625.58	1730910.37	14372742.70	39°34'42.734"N	80°40'43.829"W	1896.45	199.261	0.53	0.09	0.91
7346.00	35.000	196.130	6767.71	532.29	-1838.30	-637.38	1730898.57	14372694.72	39°34'42.260"N	80°40'43.982"W	1945.66	199.123	3.09	-0.24	5.36
7433.00	35.370	197.640	6838.82	547.87	-1886.26	-651.95	1730884.01	14372646.78	39°34'41.786"N	80°40'44.170"W	1995.75	199.067	1.09	0.43	1.74
7475.00	37.330	191.630	6872.66	568.65	-1910.33	-658.20	1730877.76	14372622.72	39°34'41.549"N	80°40'44.251"W	2020.54	199.011	9.68	4.67	-14.31
7517.00	39.300	183.290	6905.63	586.41	-1936.10	-661.53	1730874.93	14372596.96	39°34'41.294"N	80°40'44.295"W	2046.00	198.864	13.16	4.69	-19.86
7561.00	40.620	174.800	6939.38	585.19	-1964.30	-661.04	1730870.27	14372558.77	39°34'41.015"N	80°40'44.290"W	2072.55	198.599	12.74	3.00	-19.30
7605.00	42.760	167.980	6972.27	605.36	-1993.18	-656.63	1730879.33	14372539.91	39°34'40.730"N	80°40'44.235"W	2098.55	198.234	11.33	4.73	-15.50
7649.00	46.060	162.730	7003.72	628.82	-2022.91	-648.81	1730887.14	14372510.18	39°34'40.436"N	80°40'44.137"W	2124.42	197.783	11.31	7.64	-11.93
7692.00	46.710	162.190	7033.38	653.53	-2052.60	-639.43	1730896.52	14372480.51	39°34'40.142"N	80°40'44.018"W	2149.89	197.303	1.76	1.51	-1.26
7735.00	48.120	158.610	7062.49	679.34	-2082.41	-628.80	1730907.14	14372450.71	39°34'39.847"N	80°40'43.884"W	2175.28	196.802	6.95	3.28	-8.33
7778.00	51.390	152.400	7099.28	707.61	-2112.23	-615.17	1730920.77	14372420.90	39°34'39.552"N	80°40'43.711"W	2199.99	196.238	13.39	7.60	-14.44
7821.00	55.030	146.690	7116.04	738.92	-2141.87	-597.69	1730938.24	14372391.27	39°34'39.258"N	80°40'43.489"W	2223.70	195.592	13.59	8.47	-13.28
7865.00	55.880	143.110	7141.00	772.99	-2171.51	-576.86	1730959.07	14372361.65	39°34'38.965"N	80°40'43.224"W	2246.82	194.877	6.97	1.93	-8.14
7908.00	55.840	142.750	7165.13	806.85	-2199.90	-555.40	1730980.51	14372333.26	39°34'38.683"N	80°40'42.952"W	2268.93	194.169	0.70	-0.09	-0.84

Actual Wellpath Report

Long 408 S-4H AWB Proj: 14322'
Page 6 of 9



Office

JUN 05 2016

Operator	Area	Field	Facility	Slot	Slot #04
HG ENERGY	Weizel County, WY	Weizel (UTM 17N NAD 27)	Long 408 Pad	Well	Long 408 S-4H
				Wellbore	Long 408 S-4H AWB

WELLPATH DATA (199 stations)

Mid [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Secl [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dis [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
7952.00	55.850	143.640	7189.83	841.44	-2220.06	-533.59	1731002.32	14372304.12	39°34'38.394"N	80°40'42.675"W	2292.03	193.462	1.67	0.02	2.02
7998.00	58.270	143.740	7214.84	878.01	-2260.16	-510.73	1731025.17	14372273.02	39°34'38.086"N	80°40'42.384"W	2317.15	192.733	5.26	5.26	0.23
8043.00	63.670	144.050	7236.67	915.22	-2291.94	-487.56	1731048.33	14372241.26	39°34'37.771"N	80°40'42.090"W	2343.23	192.009	12.02	12.00	0.69
8088.00	69.070	144.280	7254.70	954.15	-2325.35	-463.43	1731072.45	14372207.86	39°34'37.440"N	80°40'41.783"W	2371.08	191.271	12.01	12.00	0.51
8129.00	73.690	143.930	7267.79	990.85	-2356.82	-440.66	1731095.22	14372176.41	39°34'37.128"N	80°40'41.494"W	2397.66	190.590	11.30	11.27	-0.85
8173.00	78.220	142.940	7278.47	1031.34	-2391.09	-415.23	1731120.63	14372142.15	39°34'36.789"N	80°40'41.170"W	2426.88	189.852	10.52	10.30	-2.25
8215.00	82.190	141.750	7285.61	1070.83	-2423.85	-389.95	1731145.90	14372109.40	39°34'36.464"N	80°40'40.849"W	2455.02	189.139	9.86	9.45	-2.83
8260.00	86.490	139.730	7292.05	1113.92	-2458.51	-361.62	1731174.22	14372074.75	39°34'35.789"N	80°40'40.489"W	2484.96	188.368	10.55	9.56	-4.49
8305.00	89.910	136.250	7291.46	1157.74	-2491.92	-331.52	1731204.31	14372041.36	39°34'35.293"N	80°40'40.106"W	2513.88	187.578	10.84	7.66	-7.73
8392.00	89.720	132.190	7291.74	1243.60	-2552.58	-269.19	1731266.62	14371980.72	39°34'35.188"N	80°40'39.313"W	2566.74	186.020	4.67	-0.22	-4.67
8480.00	89.660	129.460	7292.22	1331.13	-2610.11	-202.60	1731333.18	14371923.22	39°34'34.617"N	80°40'38.465"W	2617.96	184.439	3.10	-0.07	-3.10
8565.00	89.380	127.070	7292.93	1435.98	-2662.74	-135.87	1731399.88	14371870.61	39°34'34.094"N	80°40'37.615"W	2666.20	182.921	2.83	-0.33	-2.81
8653.00	89.230	122.890	7294.00	1503.96	-2713.17	-63.79	1731471.93	14371820.19	39°34'33.593"N	80°40'36.697"W	2713.92	181.347	4.75	-0.17	-4.75
8739.00	89.110	119.830	7295.24	1589.77	-2757.92	9.63	1731545.32	14371775.46	39°34'33.148"N	80°40'34.793"W	2757.94	179.800	3.56	-0.14	-3.56
8825.00	89.170	116.040	7296.54	1675.09	-2798.20	85.59	1731621.25	14371735.20	39°34'32.747"N	80°40'34.793"W	2799.51	178.248	4.41	0.07	-4.41
8913.00	90.430	117.850	7296.84	1762.21	-2838.07	164.03	1731699.66	14371695.34	39°34'32.351"N	80°40'33.793"W	2842.81	176.692	2.51	1.43	2.06
8995.00	89.850	119.090	7296.64	1843.68	-2877.16	236.11	1731771.72	14371656.27	39°34'31.962"N	80°40'32.875"W	2886.83	175.309	1.67	-0.71	1.51
9082.00	89.750	119.260	7297.95	1930.23	-2919.57	312.07	1731847.65	14371613.88	39°34'31.540"N	80°40'31.907"W	2936.20	173.899	0.23	-0.11	0.20
9167.00	89.200	120.320	7297.72	2014.87	-2961.80	385.83	1731921.38	14371571.67	39°34'31.120"N	80°40'30.967"W	2986.82	172.578	1.40	-0.65	1.25
9254.00	89.720	122.850	7298.54	2101.71	-3007.36	459.94	1731995.46	14371528.12	39°34'30.684"N	80°40'30.022"W	3042.32	171.305	2.97	0.60	2.91
9341.00	90.310	125.110	7299.52	2188.09	-3055.98	532.07	1732067.57	14371477.52	39°34'30.184"N	80°40'29.103"W	3101.95	170.123	2.68	0.68	2.60
9428.00	90.150	122.970	7298.17	2275.67	-3104.68	604.16	1732139.62	14371428.84	39°34'29.700"N	80°40'28.185"W	3162.91	168.988	2.47	-0.18	-2.46
9514.00	90.340	123.500	7297.80	2361.63	-3151.81	676.09	1732211.53	14371381.73	39°34'29.222"N	80°40'27.269"W	3223.51	167.893	0.65	0.22	0.62
9596.00	90.250	125.360	7297.38	2443.62	-3198.17	743.72	1732279.13	14371335.39	39°34'28.771"N	80°40'26.407"W	3283.51	166.909	2.27	-0.11	2.27
9685.00	89.630	122.760	7297.48	2527.60	-3248.01	817.45	1732352.83	14371285.56	39°34'28.276"N	80°40'25.468"W	3349.30	165.873	3.00	-0.70	-2.92
9770.00	89.450	121.940	7298.16	2612.50	-3293.49	889.26	1732424.61	14371240.10	39°34'27.824"N	80°40'24.553"W	3411.43	164.800	0.99	-0.21	-0.96
9858.00	89.200	116.450	7298.20	2705.01	-3336.40	966.04	1732496.36	14371197.21	39°34'27.377"N	80°40'23.574"W	3473.44	163.852	6.24	-0.28	-6.24
9946.00	89.140	116.400	7300.47	2792.02	-3375.55	1044.84	1732580.13	14371158.07	39°34'27.007"N	80°40'22.570"W	3533.56	162.801	0.09	-0.07	-0.06
10032.00	88.890	119.060	7301.95	2877.31	-3415.56	1120.94	1732656.20	14371118.08	39°34'26.609"N	80°40'21.600"W	3594.80	161.831	3.11	-0.29	3.09
10120.00	88.920	117.460	7303.63	2964.68	-3457.22	1198.44	1732733.67	14371070.44	39°34'26.194"N	80°40'20.612"W	3659.05	160.881	1.82	0.03	-1.82

Actual Wellpath Report

Long 408 S-4H AWB Proj: 143322
Page 7 of 9



Received
Office of Oil & Gas

JUL 05 2016

07/08/2016

REFERENCE WELLPATH IDENTIFICATION

Operator	HG ENERGY	Slot	Slot #04
Area	Wetzel County, WV	Well	Long 408 S-4H
Field	Wetzel (UTM 17N NAD 27)	Wellbore	Long 408 S-4H AWB
Facility	Long 408 Pad		

WELLPATH DATA (199 stations)

ID	Elevation [ft]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	D1S [°/100ft]	Built Rate [°/100ft]	Turn Rate [°/100ft]
10207.00	89.290	124.520	7304.99	3051.40	-3501.98	1272.96	1732808.16	14371031.69	39°34'25.749"N	80°40'19.663"W	3726.16	160.024	8.13	0.43	8.11
10297.00	89.260	127.310	7306.13	3141.38	-3554.76	1345.84	1732881.01	14370978.93	39°34'25.225"N	80°40'18.734"W	3801.00	159.263	3.10	-0.03	3.10
10380.00	89.320	130.430	7307.16	3224.17	-3606.84	1410.45	1732945.59	14370926.88	39°34'24.708"N	80°40'17.912"W	3872.81	158.642	3.76	0.07	3.76
10466.00	89.320	130.520	7308.18	3309.77	-3662.66	1475.86	1733010.98	14370871.08	39°34'24.154"N	80°40'17.079"W	3948.83	158.053	0.10	0.09	0.10
10553.00	89.350	129.450	7309.19	3396.43	-3718.56	1542.52	1733077.61	14370815.20	39°34'23.599"N	80°40'16.231"W	4025.80	157.471	1.23	0.03	-1.23
10638.00	89.420	129.640	7310.10	3481.16	-3772.68	1608.06	1733143.13	14370761.11	39°34'23.062"N	80°40'15.396"W	4101.09	156.914	0.24	0.08	0.22
10724.00	89.140	126.260	7311.18	3567.03	-3825.55	1675.86	1733210.90	14370708.25	39°34'22.537"N	80°40'14.533"W	4176.52	156.343	3.94	-0.33	-3.93
10813.00	89.230	125.800	7312.45	3656.01	-3877.90	1747.83	1733282.84	14370655.93	39°34'22.017"N	80°40'13.616"W	4253.58	155.738	0.53	0.10	-0.52
10901.00	89.230	127.300	7313.63	3743.96	-3930.30	1818.51	1733353.50	14370504.53	39°34'21.497"N	80°40'12.716"W	4330.61	155.170	1.70	0.00	1.70
10990.00	89.230	124.400	7314.83	3832.94	-3982.41	1890.64	1733425.60	14370351.45	39°34'20.979"N	80°40'11.797"W	4408.41	154.604	3.26	0.01	-3.26
11076.00	89.260	121.770	7315.96	3918.87	-4029.35	1962.68	1733497.61	14370200.59	39°34'20.512"N	80°40'10.880"W	4481.94	154.029	3.06	0.03	-3.06
11161.00	89.720	123.090	7316.72	4003.78	-4074.93	2034.42	1733569.32	14370048.97	39°34'20.059"N	80°40'09.966"W	4554.55	153.469	1.64	0.54	1.55
11246.00	89.660	125.900	7317.18	4088.77	-4123.06	2104.47	1733639.34	14370010.86	39°34'19.581"N	80°40'09.073"W	4629.08	152.960	3.31	-0.07	3.31
11331.00	89.170	127.270	7318.05	4173.73	-4173.72	2172.71	1733707.56	14370360.22	39°34'19.078"N	80°40'08.204"W	4705.38	152.500	1.71	-0.58	1.61
11418.00	89.660	125.240	7318.93	4260.70	-4223.16	2242.86	1733777.68	14370308.80	39°34'18.567"N	80°40'07.311"W	4783.56	152.039	2.40	0.56	-2.33
11506.00	89.940	121.500	7319.24	4348.65	-4273.56	2316.34	1733851.13	14370260.42	39°34'18.086"N	80°40'06.375"W	4860.94	151.542	4.26	0.32	-4.25
11594.00	89.820	122.750	7319.43	4436.53	-4320.35	2390.87	1733925.63	14370213.64	39°34'17.621"N	80°40'05.425"W	4937.78	151.040	1.43	-0.14	1.12
11681.00	89.910	124.570	7319.63	4523.51	-4368.57	2463.28	1733998.01	14370165.44	39°34'17.142"N	80°40'04.503"W	5015.19	150.583	2.09	0.10	2.09
11770.00	89.600	123.550	7320.01	4612.49	-4418.41	2537.01	1734071.71	14370115.62	39°34'16.646"N	80°40'03.564"W	5094.98	150.136	1.20	-0.35	-1.15
11857.00	89.660	124.170	7320.57	4699.47	-4466.89	2609.25	1734143.93	14370067.17	39°34'16.165"N	80°40'02.644"W	5173.13	149.709	0.72	0.07	0.71
11946.00	89.660	125.670	7321.10	4788.47	-4517.83	2682.22	1734216.87	14370016.34	39°34'15.658"N	80°40'01.714"W	5254.06	149.303	1.69	0.00	1.69
12037.00	89.260	125.700	7321.96	4879.46	-4570.91	2756.13	1734290.75	14369963.18	39°34'15.151"N	80°40'00.773"W	5337.56	148.911	0.44	-0.44	0.03
12128.00	89.850	124.190	7322.67	4970.45	-4623.03	2830.72	1734365.31	14369911.08	39°34'14.613"N	80°39'59.823"W	5420.83	148.521	1.78	0.65	-1.66
12214.89	89.698	124.220	7323.01	5056.44	-4671.38	2901.84	1734436.41	14369862.76	39°34'14.133"N	80°39'58.917"W	5499.31	148.152	0.19	-0.19	0.03
12301.00	89.690	120.330	7323.48	5143.33	-4717.82	2975.39	1734509.92	14369816.33	39°34'13.671"N	80°39'57.980"W	5577.71	147.762	4.47	0.00	-4.47
12390.00	89.690	124.570	7323.96	5232.22	-4765.57	3050.47	1734584.98	14369768.60	39°34'13.196"N	80°39'57.024"W	5658.27	147.376	4.76	0.00	4.76
12479.00	89.970	126.140	7324.23	5321.21	-4817.06	3123.06	1734657.53	14369717.13	39°34'12.685"N	80°39'56.099"W	5740.87	147.043	1.79	0.31	1.76
12568.00	89.630	124.730	7324.54	5410.21	-4868.66	3195.57	1734730.02	14369665.55	39°34'12.172"N	80°39'55.176"W	5823.70	146.721	1.63	-0.38	-1.58
12652.00	89.720	121.770	7325.02	5494.16	-4914.71	3265.81	1734800.23	14369619.52	39°34'11.715"N	80°39'54.281"W	5900.84	146.396	3.53	0.11	-3.52
12742.00	89.630	119.430	7325.53	5583.88	-4960.52	3343.27	1734877.66	14369573.72	39°34'11.259"N	80°39'53.294"W	5981.99	146.021	2.60	-0.10	-2.60

Actual Wellpath Report

Long 408 S-4H AWB Proj: 14322'
Page 8 of 9



JUL 05 2016

07/08/2016

REFERENCE WELLPATH IDENTIFICATION

Operator	HG ENERGY	Slot	Slot #04
Area	Wetzel Conully, WV	Well	Long 408 S-4H
Field	Wetzel (UTM 17N NAD 27)	Wellbore	Long 408 S-4H AWB
Facility	Long 408 Pad		

WELLPATH DATA (199 stations)

ID	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]	[°N]	[°W]	[ft]	[°]	[ft/100ft]	[°/100ft]	[°/100ft]
12831.00	89.660	117.550	7326.08	5672.30	-5002.97	3421.49	1734955.84	14369531.29	39°34'10.836"N	80°39'52.297"W	6061.05	145.632	2.11	0.03	-2.11
12918.00	88.980	119.100	7327.11	5758.71	-5044.25	3498.06	1735032.39	14369490.03	39°34'10.426"N	80°39'51.321"W	6138.47	145.260	1.95	-0.78	1.78
13003.00	88.920	123.670	7328.67	5843.50	-5088.50	3570.59	1735104.89	14369445.80	39°34'09.986"N	80°39'50.397"W	6216.26	144.943	5.38	-0.07	5.38
13090.00	89.080	124.600	7330.19	5930.48	-5137.31	3642.59	1735176.86	14369397.01	39°34'09.501"N	80°39'49.480"W	6297.65	144.662	1.08	0.18	1.07
13176.00	89.050	128.160	7331.59	6016.43	-5188.30	3711.81	1735246.05	14369346.03	39°34'08.994"N	80°39'48.599"W	6379.34	144.419	4.14	-0.03	4.14
13263.00	89.050	128.020	7333.03	6103.29	-5241.97	3780.27	1735314.49	14369292.39	39°34'08.461"N	80°39'47.727"W	6462.87	144.203	0.16	0.00	-0.16
13349.00	89.630	126.710	7334.02	6189.21	-5294.15	3848.62	1735382.81	14369240.23	39°34'07.943"N	80°39'46.857"W	6545.22	143.984	1.67	0.67	-1.52
13437.00	90.490	121.410	7333.93	6277.16	-5343.42	3921.50	1735455.66	14369190.98	39°34'07.453"N	80°39'45.929"W	6627.99	143.725	6.10	0.98	-6.02
13523.00	90.490	125.690	7333.20	6363.11	-5390.94	3993.15	1735527.28	14369143.48	39°34'06.981"N	80°39'45.016"W	6708.76	143.472	4.98	0.00	4.98
13612.00	90.620	130.850	7332.33	6451.93	-5446.04	4063.00	1735597.10	14369088.40	39°34'06.434"N	80°39'44.127"W	6794.65	143.275	5.80	0.15	5.80
13701.00	90.430	126.990	7331.52	6540.70	-5501.94	4132.23	1735666.30	14369032.52	39°34'05.879"N	80°39'43.245"W	6880.89	143.092	4.34	-0.21	-4.34
13788.00	90.400	126.530	7330.89	6627.66	-5554.00	4201.92	1735735.97	14368980.48	39°34'05.362"N	80°39'42.358"W	6964.42	142.890	0.53	-0.03	-0.53
13878.00	90.490	124.600	7330.19	6717.65	-5606.35	4275.13	1735809.15	14368928.15	39°34'04.842"N	80°39'40.467"W	7050.38	142.673	2.15	0.10	-2.14
13967.00	90.460	119.870	7329.45	6806.52	-5653.80	4350.39	1735884.38	14368880.72	39°34'04.270"N	80°39'40.467"W	7133.82	142.423	5.31	-0.03	-5.31
14051.00	90.740	118.340	7328.57	6890.07	-5694.66	4423.77	1735957.74	14368839.88	39°34'03.963"N	80°39'39.532"W	7211.03	142.159	1.85	0.33	-1.82
14138.00	90.680	122.490	7327.49	6976.76	-5738.69	4498.78	1736032.71	14368795.86	39°34'03.525"N	80°39'38.576"W	7291.88	141.906	4.77	-0.07	4.77
14225.00	90.550	125.670	7326.56	7063.73	-5787.43	4570.82	1736104.73	14368747.14	39°34'03.041"N	80°39'37.659"W	7374.74	141.699	3.66	-0.15	3.66
14295.00	90.490	128.420	7325.92	7153.68	-5829.60	4656.69	1736160.57	14368704.99	39°34'02.622"N	80°39'36.947"W	7442.47	141.563	3.93	-0.09	3.93
14322.00	90.490	128.420	7325.69	7160.63	-5846.37	4647.84	1736181.72	14368688.22	39°34'02.456"N	80°39'36.678"W	7468.77	141.515	0.00	0.00	0.00

Actual Wellpath Report

Long 408 S-4H AWB Proj: 14322'
Page 9 of 9



REFERENCE WELLPATH TO CORRELATE ANTIION			
Operator	HG ENERGY	Slot	Slot #04
Area	Wetzel County, WV	Well	Long 408 S-4H
Field	Wetzel (UTM 17N NAD 27)	Wellbore	Long 408 S-4H AWB
Facility	Long 408 Pad		

TARGETS									
Name	MID	TVD	North	East	Grid East	Grid North	Latitude	Longitude	Shape
Long 408 S-4H LP Rev-1	101	7285.00	-2468.37	-315.92	1731219.90	14372064.90	39°34'36.021"N	80°40'39.906"W	point
Long 408 S-4H PHH Rev-1		7389.80	-5839.89	4652.33	1736186.20	14368694.70	39°34'02.519"N	80°39'36.620"W	point

WELLPATH COMPOSITION - Ref Wellbore: Long 408 S-4H AWB Ref Wellpath: Long 408 S-4H AWB Proj: 14322'								
Start MID	End MID	Positional Uncertainty Model			Log Name/Comment			Wellbore
17.00	1280.00	Generic gyro - northseeking (Standard)			01 Gyro Survey 100'-1280'			Long 408 S-4H AWB
1280.00	6423.00	ESCW/SA MWD, Rev 2 (Standard)			02 Weatherford MWD <8-1/2"> 1408'-6423'			Long 408 S-4H AWB
6423.00	14295.00	Navitrac (AT Curve Short Spaced)			03_BHI AT Curve <8-1/2"> (6423')(6557'-14295')			Long 408 S-4H AWB
14295.00	14322.00	Blind Drilling (std)			Projection to bit			Long 408 S-4H AWB