



GASTAR EXPLORATION USA, INC.

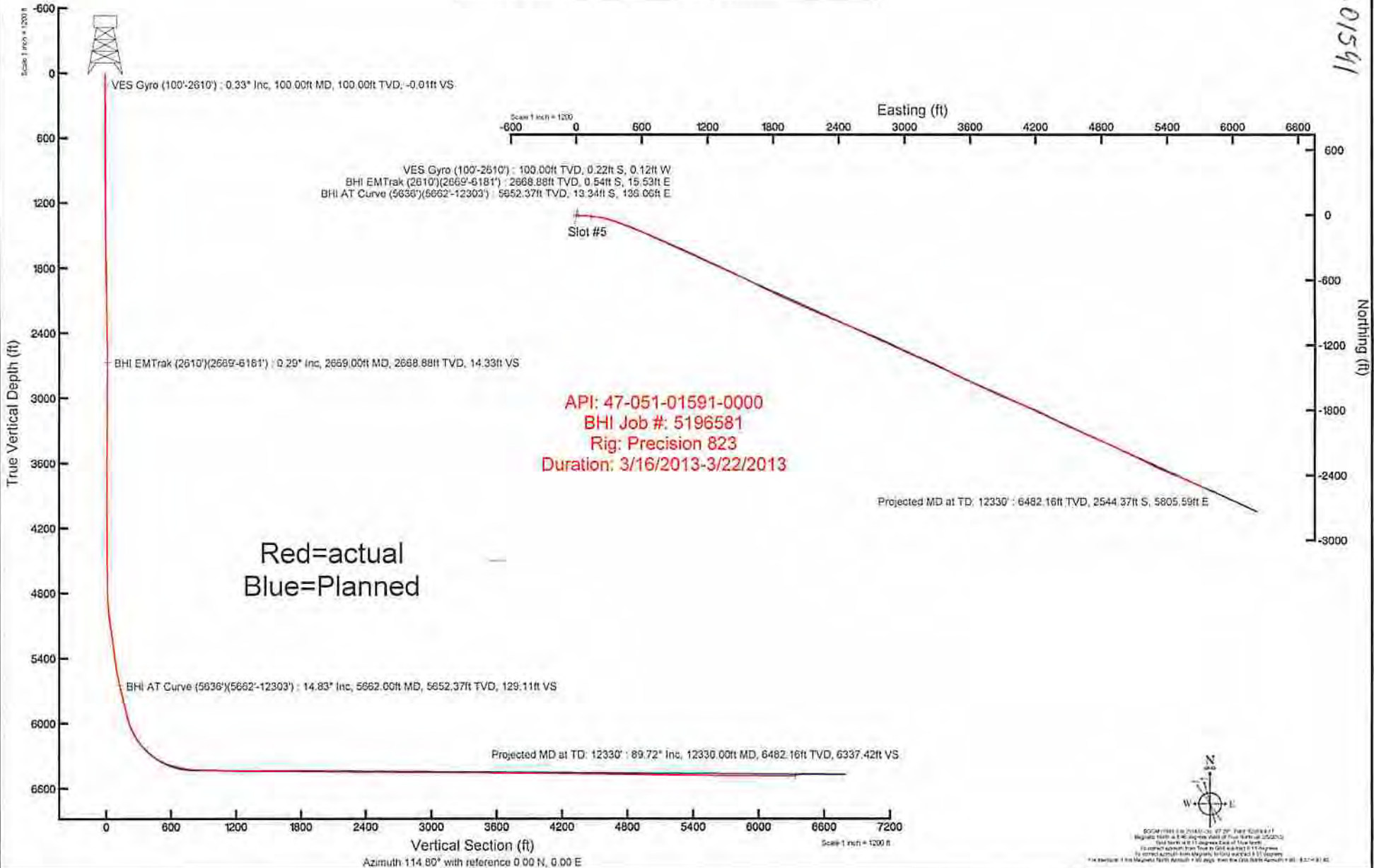
Location: Marshall County, WV
 Field: Marshall
 Facility: Goudy

Slot: Slot #5
 Well: Goudy 5H
 Wellbore: Goudy 5H (PWB)



Plot reference wellbore is Goudy 5H (PWB)	Grid System: NAD83 UTM Zone 17 North, U.S. Feet
True vertical depths are referenced to Precision 823 (RT)	North Reference: Grid system
Measured depths are referenced to Precision 823 (RT)	Scale: True distance
Precision 823 (RT) to Mean Sea Level: 1291 feet	Height: 416.0 feet
Mean Sea Level to Mean Low (M. Low Slot 5H): 12.8 feet	Created by: gstarjg on 03/22/13
Coordinates are in feet referenced to True	

51-01591



© 2013 Baker Hughes Services Corporation. All rights reserved. This document is the property of Baker Hughes Services Corporation. It is to be used only for the purposes for which it was prepared. Baker Hughes Services Corporation is not responsible for any errors or omissions in this document. Baker Hughes Services Corporation is not responsible for any damages, including consequential damages, arising from the use of this document. Baker Hughes Services Corporation is not responsible for any claims, damages, or liabilities arising from the use of this document.



Actual Wellpath Report

MWD Surveys (5636')(5662-12303)Proj:12330
Page 1 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #5
Area	Marshall County, WV	Well	Goudy 5H
Field	Marshall	Wellbore	Goudy 5H (AWB)
Facility	Goudy		

51-015-91

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 3.0.3
North Reference	Grid	User	Edsaryar
Scale	0.999603	Report Generated	4/2/2013 at 4:07:41 PM
Convergence at slot	0.11° East	Database/Source file	Well Architect Eastern US/Goudy_5H__AWB_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	1688560.10	14430943.00	39°44'12.511"N	80°49'43.486"W
Facility Reference Pt			1688560.10	14430943.00	39°44'12.511"N	80°49'43.486"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.478"W

WELLPATH DATUM

Calculation method	Minimum curvature	Precision 823 (RT) to Facility Vertical Datum	13.00ft
Horizontal Reference Pt	Slot	Precision 823 (RT) to Mean Sea Level	1251.00ft
Vertical Reference Pt	Precision 823 (RT)	Precision 823 (RT) to Mud Line at Slot (Slot #5)	13.00ft
MD Reference Pt	Precision 823 (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	114.80°



Actual Wellpath Report

MWD Surveys (5636')(5662-12303)Proj:12330
Page 2 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #5
Area	Marshall County, WV	Well	Goudy 5H
Field	Marshall	Wellbore	Goudy 5H (AWB)
Facility	Goudy		

WELLPATH DATA (240 stations) † = interpolated/extrapolated station

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 [1"/100ft]	Build Rate [1"/100ft]	Turn Rate [1"/100ft]
0.00†	0.000	207.800	0.00	0.00	0.00	0.00	1688560.10	14430943.00	39°44'12.511"N	80°49'43.486"W	0.00	0.000	0.00	0.00	0.00
13.00	0.000	207.800	13.00	0.00	0.00	0.00	1688560.10	14430943.00	39°44'12.511"N	80°49'43.486"W	0.00	0.000	0.00	0.00	0.00
103.00	0.340	207.800	103.00	-0.01	-0.24	-0.12	1688559.98	14430942.76	39°44'12.508"N	80°49'43.488"W	0.27	207.800	0.38	0.38	0.00
203.00	0.150	199.830	203.00	-0.02	-0.62	-0.31	1688559.79	14430942.38	39°44'12.505"N	80°49'43.490"W	0.69	206.301	0.19	-0.19	-7.97
303.00	0.300	157.290	303.00	0.19	-0.99	-0.25	1688559.85	14430942.01	39°44'12.501"N	80°49'43.489"W	1.02	194.257	0.21	0.15	-42.54
403.00	0.220	177.820	403.00	0.47	-1.42	-0.14	1688559.96	14430941.58	39°44'12.497"N	80°49'43.488"W	1.43	185.723	0.12	-0.08	20.53
503.00	0.290	198.020	503.00	0.58	-1.85	-0.21	1688559.89	14430941.15	39°44'12.492"N	80°49'43.489"W	1.86	186.568	0.11	0.07	20.20
603.00	0.400	149.360	602.99	0.90	-2.39	-0.11	1688559.99	14430940.61	39°44'12.487"N	80°49'43.488"W	2.40	182.719	0.30	0.11	-48.66
703.00	0.370	160.750	702.99	1.41	-3.00	0.17	1688560.27	14430940.00	39°44'12.481"N	80°49'43.484"W	3.00	176.742	0.08	-0.03	11.39
803.00	0.230	178.190	802.99	1.73	-3.50	0.28	1688560.38	14430939.50	39°44'12.476"N	80°49'43.483"W	3.52	175.375	0.17	-0.14	17.44
903.00	0.350	178.750	902.99	1.95	-4.01	0.30	1688560.40	14430938.99	39°44'12.471"N	80°49'43.483"W	4.02	175.771	0.12	0.12	0.56
1003.00	0.140	167.060	1002.99	2.16	-4.43	0.33	1688560.43	14430938.57	39°44'12.467"N	80°49'43.482"W	4.45	175.737	0.21	-0.21	-11.69
1103.00	0.190	174.000	1102.99	2.32	-4.72	0.38	1688560.48	14430938.28	39°44'12.464"N	80°49'43.482"W	4.73	175.453	0.05	0.05	6.94
1203.00	0.180	143.360	1202.99	2.54	-5.01	0.49	1688560.59	14430937.99	39°44'12.461"N	80°49'43.480"W	5.03	174.455	0.10	-0.01	-30.64
1303.00	0.140	135.470	1302.99	2.79	-5.22	0.67	1688560.77	14430937.78	39°44'12.459"N	80°49'43.478"W	5.26	172.736	0.05	-0.04	-7.89
1403.00	0.240	74.260	1402.99	3.07	-5.25	0.95	1688561.05	14430937.75	39°44'12.459"N	80°49'43.474"W	5.34	169.717	0.21	0.10	-61.21
1503.00	0.600	77.150	1502.98	3.64	-5.08	1.67	1688561.76	14430937.92	39°44'12.460"N	80°49'43.465"W	5.35	161.851	0.36	0.36	2.89
1603.00	0.790	71.290	1602.98	4.56	-4.74	2.83	1688562.93	14430938.26	39°44'12.464"N	80°49'43.450"W	5.52	149.184	0.20	0.19	-5.86
1703.00	0.870	75.110	1702.97	5.64	-4.33	4.22	1688564.31	14430938.68	39°44'12.468"N	80°49'43.432"W	6.04	135.741	0.10	0.08	3.82
1803.00	0.990	69.580	1802.95	6.83	-3.83	5.76	1688565.86	14430939.17	39°44'12.473"N	80°49'43.413"W	6.92	123.622	0.15	0.12	-5.53
1903.00	1.030	82.370	1902.94	8.20	-3.41	7.46	1688567.56	14430939.59	39°44'12.477"N	80°49'43.391"W	8.20	114.558	0.23	0.04	12.79
2003.00	1.080	79.020	2002.92	9.72	-3.11	9.27	1688569.37	14430939.89	39°44'12.480"N	80°49'43.368"W	9.78	108.534	0.08	0.05	-3.35
2103.00	0.750	77.330	2102.91	11.01	-2.79	10.84	1688570.93	14430940.21	39°44'12.483"N	80°49'43.348"W	11.19	104.418	0.33	-0.33	-1.69
2203.00	0.860	78.350	2202.90	12.13	-2.49	12.21	1688572.31	14430940.51	39°44'12.486"N	80°49'43.330"W	12.46	101.530	0.11	0.11	1.02
2303.00	0.700	65.570	2302.89	13.13	-2.09	13.50	1688573.60	14430940.91	39°44'12.490"N	80°49'43.313"W	13.66	98.786	0.24	-0.16	-12.78
2403.00	0.510	63.900	2402.88	13.81	-1.64	14.46	1688574.55	14430941.36	39°44'12.494"N	80°49'43.301"W	14.55	96.466	0.19	-0.19	-1.67
2503.00	0.350	45.100	2502.88	14.20	-1.23	15.08	1688575.17	14430941.77	39°44'12.498"N	80°49'43.293"W	15.13	94.654	0.21	-0.16	-18.80
2603.00	0.260	34.770	2602.88	14.34	-0.83	15.42	1688575.51	14430942.17	39°44'12.502"N	80°49'43.289"W	15.44	93.064	0.11	-0.09	-10.33
2613.00	0.260	29.910	2612.88	14.35	-0.79	15.45	1688575.54	14430942.21	39°44'12.503"N	80°49'43.289"W	15.47	92.917	0.22	0.00	-48.60
2672.00	0.290	8.550	2671.88	14.32	-0.52	15.53	1688575.63	14430942.48	39°44'12.505"N	80°49'43.287"W	15.54	91.930	0.18	0.05	-36.20

51-01591



Actual Wellpath Report

MWD Surveys (5636')(5662-12303)Proj:12330
Page 3 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #5
Area	Marshall County, WV	Well	Goudy 5H
Field	Marshall	Wellbore	Goudy 5H (AWB)
Facility	Goudy		

51-01591

WELLPATH DATA (240 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]
2735.00	0.190	26.030	2734.88	14.28	-0.27	15.60	1688575.70	14430942.73	39°44'12.508"N	80°49'43.286"W	15.61	90.998	0.19	-0.16	27.75
2798.00	0.220	37.710	2797.88	14.31	-0.08	15.72	1688575.82	14430942.92	39°44'12.510"N	80°49'43.285"W	15.72	90.300	0.08	0.05	18.54
2860.00	0.280	21.840	2859.88	14.33	0.15	15.85	1688575.95	14430943.15	39°44'12.512"N	80°49'43.283"W	15.85	89.449	0.15	0.10	-25.60
2924.00	0.280	34.350	2923.88	14.34	0.43	16.00	1688576.09	14430943.43	39°44'12.515"N	80°49'43.281"W	16.00	88.472	0.10	0.00	19.55
2987.00	0.220	20.430	2986.87	14.36	0.67	16.13	1688576.22	14430943.67	39°44'12.517"N	80°49'43.280"W	16.14	87.631	0.13	-0.10	-22.10
3050.00	0.180	43.630	3049.87	14.38	0.85	16.24	1688576.33	14430943.85	39°44'12.519"N	80°49'43.278"W	16.26	86.996	0.14	-0.06	36.83
3113.00	0.260	15.180	3112.87	14.39	1.06	16.34	1688576.44	14430944.06	39°44'12.521"N	80°49'43.277"W	16.38	86.283	0.21	0.13	-45.16
3176.00	0.280	31.590	3175.87	14.39	1.33	16.46	1688576.56	14430944.33	39°44'12.524"N	80°49'43.275"W	16.52	85.378	0.13	0.03	26.05
3240.00	0.250	20.720	3239.87	14.39	1.59	16.59	1688576.69	14430944.59	39°44'12.526"N	80°49'43.274"W	16.67	84.511	0.09	-0.05	-16.98
3303.00	0.280	24.810	3302.87	14.38	1.86	16.71	1688576.80	14430944.86	39°44'12.529"N	80°49'43.272"W	16.81	83.637	0.06	0.05	6.49
3365.00	0.200	21.390	3364.87	14.38	2.10	16.81	1688576.90	14430945.10	39°44'12.531"N	80°49'43.271"W	16.94	82.875	0.13	-0.13	-5.52
3429.00	0.110	345.150	3428.87	14.33	2.26	16.83	1688576.93	14430945.26	39°44'12.533"N	80°49'43.271"W	16.99	82.339	0.20	-0.14	-56.63
3491.00	0.130	302.310	3490.87	14.22	2.36	16.76	1688576.85	14430945.36	39°44'12.534"N	80°49'43.272"W	16.93	81.986	0.14	0.03	-69.10
3555.00	0.150	277.340	3554.87	14.07	2.41	16.62	1688576.71	14430945.41	39°44'12.534"N	80°49'43.273"W	16.79	81.750	0.10	0.03	-39.02
3618.00	0.260	275.210	3617.87	13.86	2.43	16.39	1688576.49	14430945.43	39°44'12.534"N	80°49'43.276"W	16.57	81.558	0.17	0.17	-3.38
3681.00	0.310	286.940	3680.87	13.56	2.50	16.09	1688576.18	14430945.49	39°44'12.535"N	80°49'43.280"W	16.28	81.182	0.12	0.08	18.62
3744.00	0.460	271.140	3743.87	13.16	2.55	15.67	1688575.76	14430945.55	39°44'12.536"N	80°49'43.286"W	15.88	80.757	0.29	0.24	-25.08
3807.00	0.500	272.980	3806.87	12.67	2.57	15.14	1688575.24	14430945.57	39°44'12.536"N	80°49'43.292"W	15.36	80.370	0.07	0.06	2.92
3871.00	0.460	277.030	3870.86	12.16	2.62	14.61	1688574.70	14430945.61	39°44'12.536"N	80°49'43.299"W	14.84	79.850	0.08	-0.06	6.33
3934.00	0.330	268.660	3933.86	11.76	2.64	14.18	1688574.27	14430945.64	39°44'12.537"N	80°49'43.305"W	14.42	79.443	0.23	-0.21	-13.29
3997.00	0.310	269.000	3996.86	11.44	2.63	13.83	1688573.92	14430945.63	39°44'12.536"N	80°49'43.309"W	14.07	79.210	0.03	-0.03	0.54
4060.00	0.300	231.800	4059.86	11.22	2.53	13.53	1688573.62	14430945.53	39°44'12.535"N	80°49'43.313"W	13.76	79.405	0.31	-0.02	-59.05
4123.00	0.220	212.270	4122.86	11.13	2.33	13.33	1688573.43	14430945.32	39°44'12.533"N	80°49'43.315"W	13.53	80.104	0.19	-0.13	-31.00
4186.00	0.130	143.760	4185.86	11.17	2.17	13.31	1688573.40	14430945.16	39°44'12.532"N	80°49'43.316"W	13.48	80.757	0.33	-0.14	-108.75
4248.00	0.290	130.290	4247.86	11.39	2.01	13.47	1688573.56	14430945.01	39°44'12.530"N	80°49'43.314"W	13.62	81.523	0.27	0.26	-21.73
4312.00	0.370	131.400	4311.86	11.74	1.77	13.75	1688573.84	14430944.77	39°44'12.528"N	80°49'43.310"W	13.86	82.680	0.13	0.13	1.73
4375.00	0.280	146.260	4374.86	12.07	1.50	13.99	1688574.08	14430944.50	39°44'12.525"N	80°49'43.307"W	14.07	83.864	0.19	-0.14	23.59
4439.00	0.490	114.840	4438.86	12.47	1.26	14.32	1688574.42	14430944.26	39°44'12.523"N	80°49'43.303"W	14.38	84.978	0.45	0.33	-49.09
4501.00	0.720	119.790	4500.85	13.13	0.95	14.90	1688574.99	14430943.95	39°44'12.520"N	80°49'43.295"W	14.93	86.338	0.38	0.37	7.98
4564.00	0.870	130.620	4563.85	13.98	0.45	15.61	1688575.70	14430943.45	39°44'12.515"N	80°49'43.286"W	15.61	88.364	0.34	0.24	17.19



Actual Wellpath Report

MWD Surveys (5636')(5662-12303)Proj:12330
Page 4 of 11



REFERENCE WELLPATH IDENTIFICATION			
Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #5
Area	Marshall County, WV	Well	Goudy 5H
Field	Marshall	Wellbore	Goudy 5H (AWB)
Facility	Goudy		

WELLPATH DATA (240 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]
4627.00	0.650	137.120	4626.84	14.77	-0.13	16.21	1688576.31	14430942.87	39°44'12.509"N	80°49'43.279"W	16.21	90.451	0.37	-0.35	10.32
4690.00	0.740	130.420	4689.84	15.49	-0.65	16.77	1688576.86	14430942.35	39°44'12.504"N	80°49'43.272"W	16.78	92.231	0.19	0.14	-10.63
4753.00	0.940	117.350	4752.83	16.40	-1.15	17.53	1688577.63	14430941.85	39°44'12.499"N	80°49'43.262"W	17.57	93.767	0.44	0.32	-20.75
4816.00	1.310	108.750	4815.82	17.63	-1.62	18.68	1688578.77	14430941.38	39°44'12.494"N	80°49'43.247"W	18.75	94.968	0.64	0.59	-13.65
4848.00	1.610	109.810	4847.81	18.45	-1.89	19.44	1688579.54	14430941.11	39°44'12.492"N	80°49'43.237"W	19.54	95.561	0.94	0.94	3.31
4879.00	2.380	108.380	4878.79	19.52	-2.24	20.47	1688580.56	14430940.76	39°44'12.488"N	80°49'43.224"W	20.59	96.257	2.49	2.48	-4.61
4911.00	3.630	109.610	4910.74	21.19	-2.79	22.05	1688582.14	14430940.21	39°44'12.483"N	80°49'43.204"W	22.23	97.220	3.91	3.91	3.84
4942.00	5.040	107.160	4941.65	23.52	-3.52	24.28	1688584.37	14430939.48	39°44'12.475"N	80°49'43.176"W	24.53	98.261	4.59	4.55	-7.90
4974.00	6.350	103.020	4973.49	26.64	-4.34	27.34	1688587.43	14430938.66	39°44'12.467"N	80°49'43.136"W	27.69	99.015	4.29	4.09	-12.94
5005.00	7.450	100.670	5004.27	30.27	-5.10	30.99	1688591.08	14430937.91	39°44'12.460"N	80°49'43.090"W	31.40	99.339	3.66	3.55	-7.58
5037.00	8.070	101.920	5035.98	34.47	-5.94	35.23	1688595.31	14430937.06	39°44'12.451"N	80°49'43.035"W	35.72	99.579	2.01	1.94	3.91
5069.00	8.340	98.110	5067.65	38.88	-6.74	39.72	1688599.80	14430936.27	39°44'12.443"N	80°49'42.978"W	40.29	99.624	1.90	0.84	-11.91
5100.00	8.440	97.000	5098.32	43.20	-7.33	44.20	1688604.29	14430935.67	39°44'12.437"N	80°49'42.921"W	44.81	99.415	0.61	0.32	-3.58
5132.00	8.340	93.150	5129.98	47.60	-7.74	48.85	1688608.93	14430935.26	39°44'12.433"N	80°49'42.861"W	49.46	99.007	1.78	-0.31	-12.03
5164.00	8.910	90.530	5161.61	52.01	-7.89	53.65	1688613.73	14430935.11	39°44'12.432"N	80°49'42.800"W	54.23	98.371	2.16	1.78	-8.19
5195.00	9.400	86.620	5192.22	56.43	-7.77	58.58	1688618.65	14430935.24	39°44'12.433"N	80°49'42.737"W	59.09	97.553	2.55	1.58	-12.61
5227.00	9.790	83.190	5223.77	61.05	-7.29	63.89	1688623.96	14430935.71	39°44'12.437"N	80°49'42.669"W	64.30	96.510	2.16	1.22	-10.72
5258.00	9.740	82.880	5254.32	65.52	-6.65	69.10	1688629.18	14430936.35	39°44'12.444"N	80°49'42.602"W	69.42	95.499	0.23	-0.16	-1.00
5290.00	9.330	82.290	5285.88	70.01	-5.97	74.36	1688634.43	14430937.03	39°44'12.450"N	80°49'42.534"W	74.60	94.590	1.32	-1.28	-1.84
5321.00	8.170	85.630	5316.52	74.05	-5.46	79.05	1688639.12	14430937.54	39°44'12.455"N	80°49'42.474"W	79.24	93.955	4.08	-3.74	10.77
5352.00	7.950	93.180	5347.21	77.97	-5.42	83.38	1688643.45	14430937.59	39°44'12.456"N	80°49'42.419"W	83.56	93.716	3.49	-0.71	24.35
5384.00	7.830	99.770	5378.91	82.13	-5.91	87.74	1688647.81	14430937.09	39°44'12.451"N	80°49'42.363"W	87.94	93.852	2.85	-0.38	20.59
5415.00	7.750	102.790	5409.63	86.21	-6.73	91.86	1688651.93	14430936.27	39°44'12.442"N	80°49'42.310"W	92.11	94.190	1.35	-0.26	9.74
5446.00	7.830	99.020	5440.34	90.29	-7.52	95.99	1688656.05	14430935.48	39°44'12.435"N	80°49'42.258"W	96.28	94.482	1.67	0.26	-12.16
5478.00	8.360	98.870	5472.02	94.62	-8.22	100.44	1688660.50	14430934.78	39°44'12.428"N	80°49'42.201"W	100.77	94.681	1.66	1.66	-0.47
5510.00	9.230	98.630	5503.64	99.33	-8.97	105.27	1688665.33	14430934.04	39°44'12.420"N	80°49'42.139"W	105.65	94.869	2.72	2.72	-0.75
5541.00	10.210	98.720	5534.20	104.35	-9.76	110.45	1688670.50	14430933.25	39°44'12.412"N	80°49'42.073"W	110.88	95.048	3.16	3.16	0.29
5573.00	11.370	99.380	5565.63	110.12	-10.70	116.36	1688676.42	14430932.30	39°44'12.403"N	80°49'41.997"W	116.85	95.254	3.65	3.63	2.06
5604.00	12.490	98.550	5595.96	116.28	-11.70	122.69	1688682.74	14430931.31	39°44'12.393"N	80°49'41.916"W	123.25	95.446	3.65	3.61	-2.68
5636.00	13.320	97.190	5627.15	123.12	-12.67	129.77	1688689.82	14430930.33	39°44'12.383"N	80°49'41.825"W	130.39	95.578	2.76	2.59	-4.25

51.01591



Actual Wellpath Report

MWD Surveys (5636')(5662-12303)Proj:12330
Page 5 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #5
Area	Marshall County, WV	Well	Goudy 5H
Field	Marshall	Wellbore	Goudy 5H (AWB)
Facility	Goudy		

51-01541

WELLPATH DATA (240 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]
5662.00	14.830	95.060	5652.37	129.11	-13.34	136.06	1688696.10	14430929.66	39°44'12.376"N	80°49'41.745"W	136.71	95.600	6.14	5.81	-8.19
5708.00	14.120	96.620	5696.91	139.98	-14.51	147.50	1688707.54	14430928.50	39°44'12.365"N	80°49'41.599"W	148.21	95.618	1.76	-1.54	3.39
5752.00	14.830	94.940	5739.52	150.37	-15.61	158.44	1688718.47	14430927.39	39°44'12.353"N	80°49'41.458"W	159.20	95.627	1.87	1.61	-3.82
5797.00	14.290	94.310	5783.07	160.99	-16.52	169.71	1688729.74	14430926.48	39°44'12.344"N	80°49'41.314"W	170.52	95.561	1.25	-1.20	-1.40
5842.00	14.300	93.340	5826.68	171.37	-17.27	180.80	1688740.83	14430925.74	39°44'12.337"N	80°49'41.172"W	181.62	95.455	0.53	0.02	-2.16
5887.00	14.430	93.620	5870.27	181.77	-17.94	191.94	1688751.97	14430925.06	39°44'12.330"N	80°49'41.030"W	192.78	95.341	0.33	0.29	0.62
5931.00	14.420	94.950	5912.88	192.03	-18.76	202.87	1688762.89	14430924.24	39°44'12.321"N	80°49'40.890"W	203.74	95.284	0.75	-0.02	3.02
5976.00	16.010	98.400	5956.31	203.26	-20.15	214.59	1688774.61	14430922.86	39°44'12.307"N	80°49'40.740"W	215.54	95.365	4.06	3.53	7.67
6021.00	19.810	101.490	5999.12	216.64	-22.58	228.21	1688788.22	14430920.43	39°44'12.283"N	80°49'40.566"W	229.33	95.650	8.70	8.44	6.87
6066.00	24.040	102.800	6040.85	233.03	-26.13	244.63	1688804.63	14430916.88	39°44'12.248"N	80°49'40.355"W	246.02	96.097	9.46	9.40	2.91
6110.00	27.840	104.590	6080.41	251.91	-30.71	263.32	1688823.31	14430912.31	39°44'12.202"N	80°49'40.116"W	265.10	96.651	8.82	8.64	4.07
6155.00	31.240	105.480	6119.56	273.78	-36.47	284.74	1688844.73	14430906.55	39°44'12.145"N	80°49'39.842"W	287.07	97.299	7.62	7.56	1.98
6200.00	34.750	106.360	6157.30	297.99	-43.20	308.30	1688868.28	14430899.82	39°44'12.078"N	80°49'39.541"W	311.31	97.976	7.87	7.80	1.96
6245.00	38.320	107.340	6193.45	324.51	-50.97	333.93	1688893.90	14430892.05	39°44'12.001"N	80°49'39.213"W	337.80	98.679	8.04	7.93	2.18
6290.00	42.610	107.930	6227.68	353.48	-59.82	361.75	1688921.71	14430883.20	39°44'11.913"N	80°49'38.857"W	366.67	99.390	9.57	9.53	1.31
6334.00	47.310	108.320	6258.80	384.36	-69.50	391.29	1688951.24	14430873.53	39°44'11.816"N	80°49'38.479"W	397.41	100.071	10.70	10.68	0.89
6379.00	51.940	109.020	6287.94	418.43	-80.47	423.76	1688983.69	14430862.56	39°44'11.707"N	80°49'38.064"W	431.33	100.753	10.36	10.29	1.56
6424.00	56.460	110.180	6314.26	454.77	-92.72	458.13	1689018.04	14430850.31	39°44'11.586"N	80°49'37.624"W	467.42	101.442	10.26	10.04	2.58
6469.00	60.950	111.600	6337.63	493.12	-106.44	494.04	1689053.94	14430836.60	39°44'11.449"N	80°49'37.165"W	505.37	102.159	10.34	9.98	3.16
6513.00	65.270	113.270	6357.53	532.32	-121.42	530.30	1689090.18	14430821.62	39°44'11.301"N	80°49'36.701"W	544.02	102.897	10.38	9.82	3.80
6557.00	69.590	113.670	6374.41	572.93	-137.60	567.55	1689127.43	14430805.45	39°44'11.140"N	80°49'36.225"W	584.00	103.628	9.85	9.82	0.91
6602.00	74.360	112.900	6388.33	615.69	-154.51	606.85	1689166.71	14430788.55	39°44'10.972"N	80°49'35.722"W	626.21	104.285	10.72	10.60	-1.71
6647.00	76.870	113.220	6399.51	659.26	-171.58	646.95	1689206.79	14430771.49	39°44'10.803"N	80°49'35.209"W	669.32	104.854	5.62	5.58	0.71
6692.00	78.220	113.660	6409.22	703.19	-189.06	687.27	1689247.09	14430754.01	39°44'10.629"N	80°49'34.693"W	712.80	105.381	3.15	3.00	0.98
6736.00	80.760	114.110	6417.24	746.44	-206.58	726.82	1689286.63	14430736.50	39°44'10.455"N	80°49'34.188"W	755.61	105.866	5.86	5.77	1.02
6781.00	83.800	114.120	6423.29	791.02	-224.80	767.52	1689327.31	14430718.29	39°44'10.274"N	80°49'33.667"W	799.76	106.325	6.76	6.76	0.02
6826.00	86.890	113.450	6426.94	835.86	-242.88	808.55	1689368.33	14430700.22	39°44'10.095"N	80°49'33.142"W	844.24	106.720	7.03	6.87	-1.49
6870.00	87.510	113.250	6429.09	879.80	-260.30	848.90	1689408.66	14430682.80	39°44'09.922"N	80°49'32.626"W	887.91	107.047	1.48	1.41	-0.45
6915.00	87.690	113.630	6430.97	924.74	-278.18	890.15	1689449.90	14430664.93	39°44'09.745"N	80°49'32.099"W	932.61	107.355	0.93	0.40	0.84
6960.00	87.810	114.660	6432.74	969.71	-296.58	931.18	1689490.91	14430646.54	39°44'09.562"N	80°49'31.574"W	977.27	107.666	2.30	0.27	2.29



Actual Wellpath Report

MWD Surveys (5636')(5662-12303)Proj:12330
Page 6 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #5
Area	Marshall County, WV	Well	Goudy 5H
Field	Marshall	Wellbore	Goudy 5H (AWB)
Facility	Goudy		

51-01591

WELLPATH DATA (240 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]
7005.00	88.370	114.970	6434.24	1014.68	-315.45	972.00	1689531.72	14430627.67	39°44'09.375"N	80°49'31.052"W	1021.91	107.980	1.42	1.24	0.69
7049.00	88.400	114.630	6435.48	1058.66	-333.90	1011.93	1689571.63	14430609.23	39°44'09.192"N	80°49'30.541"W	1065.60	108.261	0.78	0.07	-0.77
7094.00	88.400	114.470	6436.73	1103.65	-352.59	1052.85	1689612.53	14430590.55	39°44'09.006"N	80°49'30.018"W	1110.32	108.515	0.36	0.00	-0.36
7139.00	89.140	115.420	6437.70	1148.63	-371.56	1093.64	1689653.30	14430571.58	39°44'08.818"N	80°49'29.496"W	1155.03	108.765	2.68	1.64	2.11
7184.00	89.380	115.800	6438.28	1193.63	-391.01	1134.21	1689693.86	14430552.14	39°44'08.625"N	80°49'28.977"W	1199.72	109.021	1.00	0.53	0.84
7228.00	89.350	114.950	6438.77	1237.62	-409.87	1173.97	1689733.60	14430533.30	39°44'08.438"N	80°49'28.469"W	1243.46	109.246	1.93	-0.07	-1.93
7273.00	89.350	114.610	6439.28	1282.62	-428.73	1214.82	1689774.43	14430514.44	39°44'08.250"N	80°49'27.947"W	1288.25	109.439	0.76	0.00	-0.76
7318.00	89.660	114.900	6439.67	1327.62	-447.57	1255.68	1689815.28	14430495.61	39°44'08.063"N	80°49'27.424"W	1333.06	109.618	0.94	0.69	0.64
7363.00	89.660	114.590	6439.94	1372.61	-466.41	1296.55	1689856.13	14430476.78	39°44'07.877"N	80°49'26.901"W	1377.89	109.785	0.69	0.00	-0.69
7407.00	89.630	114.770	6440.21	1416.61	-484.78	1336.53	1689896.10	14430458.42	39°44'07.694"N	80°49'26.390"W	1421.73	109.936	0.41	-0.07	0.41
7452.00	89.600	114.420	6440.51	1461.61	-503.51	1377.45	1689937.00	14430439.69	39°44'07.508"N	80°49'25.867"W	1466.59	110.079	0.78	-0.07	-0.78
7497.00	90.180	115.130	6440.60	1506.61	-522.36	1418.30	1689977.84	14430420.84	39°44'07.321"N	80°49'25.344"W	1511.44	110.219	2.04	1.29	1.58
7541.00	90.060	116.170	6440.50	1550.61	-541.41	1457.97	1690017.49	14430401.81	39°44'07.132"N	80°49'24.837"W	1555.25	110.372	2.38	-0.27	2.36
7586.00	89.510	116.680	6440.67	1595.59	-561.44	1498.27	1690057.77	14430381.79	39°44'06.933"N	80°49'24.322"W	1600.00	110.542	1.67	-1.22	1.13
7631.00	89.600	116.330	6441.02	1640.57	-581.52	1538.53	1690098.02	14430361.71	39°44'06.734"N	80°49'23.807"W	1644.76	110.705	0.80	0.20	-0.78
7676.00	89.540	116.430	6441.36	1685.55	-601.51	1578.85	1690138.32	14430341.73	39°44'06.536"N	80°49'23.291"W	1689.55	110.856	0.26	-0.13	0.22
7721.00	89.510	116.900	6441.73	1730.52	-621.71	1619.06	1690178.51	14430321.54	39°44'06.335"N	80°49'22.777"W	1734.32	111.006	1.05	-0.07	1.04
7765.00	89.450	117.140	6442.13	1774.49	-641.69	1658.26	1690217.69	14430301.56	39°44'06.137"N	80°49'22.276"W	1778.08	111.155	0.56	-0.14	0.55
7810.00	89.600	116.600	6442.51	1819.46	-662.03	1698.40	1690257.82	14430281.23	39°44'05.935"N	80°49'21.762"W	1822.86	111.296	1.25	0.33	-1.20
7855.00	89.450	116.930	6442.88	1864.43	-682.30	1738.57	1690297.98	14430260.98	39°44'05.734"N	80°49'21.249"W	1867.66	111.427	0.81	-0.33	0.73
7899.00	89.450	117.500	6443.30	1908.39	-702.42	1777.70	1690337.09	14430240.86	39°44'05.535"N	80°49'20.748"W	1911.44	111.560	1.30	0.00	1.30
7944.00	89.480	116.830	6443.72	1953.35	-722.96	1817.73	1690377.11	14430220.33	39°44'05.331"N	80°49'20.236"W	1956.23	111.689	1.49	0.07	-1.49
7989.00	89.600	115.310	6444.08	1998.33	-742.74	1858.15	1690417.51	14430200.56	39°44'05.135"N	80°49'19.720"W	2001.10	111.787	3.39	0.27	-3.38
8034.00	89.450	114.470	6444.46	2043.33	-761.68	1898.97	1690458.31	14430181.63	39°44'04.947"N	80°49'19.198"W	2046.03	111.856	1.90	-0.33	-1.87
8078.00	89.480	114.490	6444.87	2087.33	-779.91	1939.01	1690498.34	14430163.40	39°44'04.766"N	80°49'18.685"W	2089.98	111.911	0.08	0.07	0.05
8123.00	89.420	114.580	6445.30	2132.33	-798.59	1979.95	1690539.26	14430144.73	39°44'04.580"N	80°49'18.162"W	2134.94	111.966	0.24	-0.13	0.20
8168.00	89.660	114.430	6445.66	2177.32	-817.26	2020.89	1690580.19	14430126.07	39°44'04.395"N	80°49'17.638"W	2179.89	112.019	0.63	0.53	-0.33
8213.00	89.600	114.150	6445.95	2222.32	-835.77	2061.91	1690621.19	14430107.57	39°44'04.211"N	80°49'17.114"W	2224.86	112.065	0.64	-0.13	-0.62
8257.00	89.630	113.640	6446.25	2266.31	-853.59	2102.14	1690661.40	14430089.75	39°44'04.034"N	80°49'16.599"W	2268.83	112.100	1.16	0.07	-1.16
8302.00	89.660	113.440	6446.52	2311.30	-871.56	2143.39	1690702.64	14430071.79	39°44'03.856"N	80°49'16.072"W	2313.82	112.128	0.45	0.07	-0.44



Actual Wellpath Report

MWD Surveys (5636')(5662-12303)Proj:12330
Page 7 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #5
Area	Marshall County, WV	Well	Goudy 5H
Field	Marshall	Wellbore	Goudy 5H (AWB)
Facility	Goudy		

51-01591

WELLPATH DATA (240 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]
8347.00	89.690	113.140	6446.78	2356.29	-889.35	2184.72	1690743.95	14430054.00	39°44'03.679"N	80°49'15.543"W	2358.81	112.150	0.67	0.07	-0.67
8391.00	89.630	113.060	6447.04	2400.27	-906.62	2225.20	1690784.41	14430036.75	39°44'03.508"N	80°49'15.026"W	2402.80	112.168	0.23	-0.14	-0.18
8436.00	89.660	112.920	6447.32	2445.24	-924.19	2266.62	1690825.82	14430019.18	39°44'03.333"N	80°49'14.496"W	2447.80	112.183	0.32	0.07	-0.31
8481.00	89.630	112.990	6447.60	2490.22	-941.74	2308.06	1690867.24	14430001.63	39°44'03.159"N	80°49'13.966"W	2492.79	112.197	0.17	-0.07	0.16
8526.00	89.720	113.070	6447.85	2535.20	-959.35	2349.47	1690908.63	14429984.04	39°44'02.984"N	80°49'13.436"W	2537.79	112.211	0.27	0.20	0.18
8570.00	89.660	113.340	6448.09	2579.18	-976.68	2389.91	1690949.06	14429966.71	39°44'02.812"N	80°49'12.919"W	2581.78	112.228	0.63	-0.14	0.61
8615.00	89.660	113.380	6448.36	2624.16	-994.53	2431.22	1690990.35	14429948.87	39°44'02.635"N	80°49'12.391"W	2626.77	112.248	0.09	0.00	0.09
8660.00	89.660	113.140	6448.63	2669.15	-1012.30	2472.56	1691031.67	14429931.11	39°44'02.459"N	80°49'11.862"W	2671.76	112.265	0.53	0.00	-0.53
8704.00	89.630	112.640	6448.90	2713.12	-1029.41	2513.10	1691072.19	14429914.00	39°44'02.289"N	80°49'11.344"W	2715.76	112.275	1.14	-0.07	-1.14
8749.00	89.630	112.530	6449.19	2758.09	-1046.69	2554.64	1691113.72	14429896.73	39°44'02.117"N	80°49'10.812"W	2760.76	112.280	0.24	0.00	-0.24
8794.00	89.570	112.230	6449.50	2803.04	-1063.82	2596.25	1691155.32	14429879.60	39°44'01.947"N	80°49'10.280"W	2805.75	112.282	0.68	-0.13	-0.67
8839.00	89.570	112.360	6449.84	2848.00	-1080.90	2637.89	1691196.94	14429862.54	39°44'01.777"N	80°49'09.748"W	2850.75	112.282	0.29	0.00	0.29
8883.00	89.600	112.950	6450.16	2891.97	-1097.84	2678.49	1691237.52	14429845.59	39°44'01.609"N	80°49'09.228"W	2894.75	112.287	1.34	0.07	1.34
8928.00	89.630	113.580	6450.46	2936.95	-1115.62	2719.83	1691278.85	14429827.83	39°44'01.433"N	80°49'08.700"W	2939.74	112.302	1.40	0.07	1.40
8973.00	89.660	114.360	6450.74	2981.94	-1133.90	2760.95	1691319.95	14429809.55	39°44'01.251"N	80°49'08.174"W	2984.72	112.328	1.73	0.07	1.73
9018.00	89.570	115.170	6451.04	3026.94	-1152.75	2801.81	1691360.79	14429790.71	39°44'01.064"N	80°49'07.651"W	3029.68	112.364	1.81	-0.20	1.80
9062.00	89.660	115.220	6451.34	3070.94	-1171.48	2841.62	1691400.59	14429771.99	39°44'00.878"N	80°49'07.142"W	3073.63	112.404	0.23	0.20	0.11
9107.00	89.540	115.210	6451.65	3115.94	-1190.65	2882.33	1691441.28	14429752.83	39°44'00.688"N	80°49'06.621"W	3118.57	112.445	0.27	-0.27	-0.02
9152.00	89.600	115.350	6451.99	3160.94	-1209.87	2923.02	1691481.96	14429733.62	39°44'00.497"N	80°49'06.101"W	3163.52	112.485	0.34	0.13	0.31
9197.00	89.690	115.380	6452.27	3205.93	-1229.14	2963.69	1691522.60	14429714.35	39°44'00.306"N	80°49'05.581"W	3208.46	112.525	0.21	0.20	0.07
9241.00	89.600	116.190	6452.54	3249.93	-1248.28	3003.30	1691562.20	14429695.22	39°44'00.116"N	80°49'05.075"W	3252.39	112.570	1.85	-0.20	1.84
9286.00	89.630	115.980	6452.85	3294.91	-1268.07	3043.72	1691602.60	14429675.44	39°43'59.919"N	80°49'04.558"W	3297.30	112.617	0.47	0.07	-0.47
9331.00	89.660	115.240	6453.12	3339.91	-1287.52	3084.30	1691643.16	14429656.00	39°43'59.726"N	80°49'04.039"W	3342.24	112.658	1.65	0.07	-1.64
9375.00	89.570	114.090	6453.42	3383.91	-1305.88	3124.28	1691683.13	14429637.64	39°43'59.544"N	80°49'03.528"W	3386.21	112.684	2.62	-0.20	-2.61
9420.00	89.600	113.270	6453.75	3428.90	-1323.95	3165.49	1691724.33	14429619.58	39°43'59.365"N	80°49'03.001"W	3431.21	112.697	1.82	0.07	-1.82
9465.00	89.630	112.980	6454.05	3473.87	-1341.62	3206.87	1691765.69	14429601.91	39°43'59.189"N	80°49'02.471"W	3476.20	112.702	0.65	0.07	-0.64
9510.00	89.600	113.800	6454.35	3518.86	-1359.49	3248.17	1691806.98	14429584.05	39°43'59.012"N	80°49'01.943"W	3521.20	112.711	1.82	-0.07	1.82
9554.00	89.690	115.150	6454.62	3562.86	-1377.72	3288.22	1691847.01	14429565.83	39°43'58.831"N	80°49'01.431"W	3565.18	112.733	3.07	0.20	3.07
9599.00	89.660	116.760	6454.88	3607.85	-1397.41	3328.68	1691887.45	14429546.15	39°43'58.635"N	80°49'00.914"W	3610.10	112.773	3.58	-0.07	3.58
9644.00	89.320	118.250	6455.28	3652.79	-1418.19	3368.59	1691927.34	14429525.37	39°43'58.429"N	80°49'00.403"W	3654.95	112.831	3.40	-0.76	3.31



Actual Wellpath Report

MWD Surveys (5636')(5662-12303)Proj:12330
Page 8 of 11



REFERENCE WELLPATH IDENTIFICATION				
Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #5	
Area	Marshall County, WV	Well	Goudy 5H	
Field	Marshall	Wellbore	Goudy 5H (AWB)	
Facility	Goudy			

51-01591

WELLPATH DATA (240 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]
9689.00	89.260	118.390	6455.84	3697.70	-1439.54	3408.20	1691966.94	14429504.04	39°43'58.217"N	80°48'59.897"W	3699.74	112.898	0.34	-0.13	0.31
9733.00	89.200	117.330	6456.43	3741.64	-1460.10	3447.10	1692005.82	14429483.49	39°43'58.013"N	80°48'59.400"W	3743.58	112.956	2.41	-0.14	-2.41
9778.00	89.320	115.600	6457.01	3786.61	-1480.15	3487.38	1692046.08	14429463.44	39°43'57.815"N	80°48'58.885"W	3788.49	112.998	3.85	0.27	-3.84
9823.00	89.510	114.650	6457.47	3831.61	-1499.25	3528.12	1692086.81	14429444.34	39°43'57.625"N	80°48'58.364"W	3833.45	113.023	2.15	0.42	-2.11
9868.00	89.450	114.850	6457.88	3876.61	-1518.09	3568.98	1692127.65	14429425.51	39°43'57.438"N	80°48'57.841"W	3878.43	113.043	0.46	-0.13	0.44
9912.00	89.510	115.080	6458.28	3920.61	-1536.66	3608.87	1692167.53	14429406.95	39°43'57.254"N	80°48'57.331"W	3922.40	113.064	0.54	0.14	0.52
9957.00	89.480	115.480	6458.67	3965.60	-1555.88	3649.56	1692208.20	14429387.74	39°43'57.063"N	80°48'56.811"W	3967.37	113.090	0.89	-0.07	0.89
10002.00	89.540	115.610	6459.06	4010.60	-1575.28	3690.16	1692248.78	14429368.35	39°43'56.870"N	80°48'56.291"W	4012.33	113.117	0.32	0.13	0.29
10046.00	89.510	115.770	6459.42	4054.59	-1594.36	3729.80	1692288.42	14429349.28	39°43'56.681"N	80°48'55.784"W	4056.28	113.145	0.37	-0.07	0.36
10091.00	89.510	115.440	6459.81	4099.58	-1613.80	3770.38	1692328.98	14429329.84	39°43'56.488"N	80°48'55.266"W	4101.24	113.172	0.73	0.00	-0.73
10136.00	89.480	115.110	6460.20	4144.58	-1633.02	3811.07	1692369.65	14429310.64	39°43'56.297"N	80°48'54.745"W	4146.21	113.195	0.74	-0.07	-0.73
10181.00	89.480	114.650	6460.61	4189.58	-1651.95	3851.90	1692410.46	14429291.71	39°43'56.109"N	80°48'54.223"W	4191.19	113.213	1.02	0.00	-1.02
10226.00	89.450	113.930	6461.03	4234.57	-1670.46	3892.91	1692451.46	14429273.21	39°43'55.925"N	80°48'53.699"W	4236.18	113.224	1.60	-0.07	-1.60
10270.00	89.450	112.990	6461.45	4278.56	-1687.97	3933.27	1692491.80	14429255.70	39°43'55.752"N	80°48'53.183"W	4280.17	113.227	2.14	0.00	-2.14
10315.00	89.480	112.280	6461.87	4323.52	-1705.29	3974.80	1692533.32	14429238.39	39°43'55.580"N	80°48'52.651"W	4325.17	113.221	1.58	0.07	-1.58
10360.00	89.420	111.280	6462.31	4368.46	-1721.99	4016.59	1692575.08	14429221.70	39°43'55.414"N	80°48'52.117"W	4370.15	113.206	2.23	-0.13	-2.22
10404.00	89.570	111.520	6462.69	4412.38	-1738.04	4057.55	1692616.03	14429205.65	39°43'55.254"N	80°48'51.593"W	4414.13	113.188	0.64	0.34	0.55
10449.00	89.450	112.920	6463.08	4457.33	-1755.06	4099.21	1692657.67	14429188.64	39°43'55.085"N	80°48'51.060"W	4459.12	113.178	3.12	-0.27	3.11
10494.00	89.540	112.990	6463.48	4502.31	-1772.61	4140.64	1692699.09	14429171.10	39°43'54.911"N	80°48'50.531"W	4504.12	113.176	0.25	0.20	0.16
10539.00	89.570	112.850	6463.83	4547.28	-1790.13	4182.09	1692740.52	14429153.58	39°43'54.737"N	80°48'50.001"W	4549.11	113.173	0.32	0.07	-0.31
10583.00	89.600	114.330	6464.14	4591.27	-1807.74	4222.41	1692780.82	14429135.98	39°43'54.562"N	80°48'49.483"W	4593.11	113.177	3.36	0.07	3.36
10628.00	89.510	116.360	6464.49	4636.26	-1827.00	4263.08	1692821.47	14429116.73	39°43'54.371"N	80°48'48.965"W	4638.08	113.198	4.52	-0.20	4.51
10673.00	89.510	117.860	6464.88	4681.22	-1847.51	4303.13	1692861.51	14429096.23	39°43'54.167"N	80°48'48.453"W	4682.97	113.236	3.33	0.00	3.33
10718.00	88.950	118.050	6465.48	4726.15	-1868.60	4342.87	1692901.24	14429075.15	39°43'53.958"N	80°48'47.945"W	4727.81	113.281	1.31	-1.24	0.42
10762.00	89.080	117.770	6466.24	4770.08	-1889.19	4381.75	1692940.10	14429054.56	39°43'53.754"N	80°48'47.448"W	4771.66	113.323	0.70	0.30	-0.64
10807.00	88.950	117.160	6467.01	4815.02	-1909.94	4421.67	1692980.01	14429033.82	39°43'53.548"N	80°48'46.937"W	4816.54	113.362	1.39	-0.29	-1.36
10852.00	89.140	115.780	6467.76	4860.00	-1930.00	4461.95	1693020.27	14429013.77	39°43'53.349"N	80°48'46.422"W	4861.47	113.391	3.10	0.42	-3.07
10896.00	88.890	114.420	6468.52	4903.99	-1948.66	4501.79	1693060.09	14428995.12	39°43'53.164"N	80°48'45.913"W	4905.44	113.406	3.14	-0.57	-3.09
10941.00	89.010	113.820	6469.34	4948.98	-1967.05	4542.85	1693101.14	14428976.74	39°43'52.981"N	80°48'45.388"W	4950.43	113.413	1.36	0.27	-1.33
10986.00	89.260	113.390	6470.02	4993.96	-1985.06	4584.08	1693142.55	14428958.73	39°43'52.802"N	80°48'44.860"W	4995.43	113.414	1.11	0.56	-0.96



Actual Wellpath Report

MWD Surveys (5636')(5662-12303)Proj:12330
Page 9 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #5
Area	Marshall County, WY	Well	Goudy 5H
Field	Marshall	Wellbore	Goudy 5H (AWB)
Facility	Goudy		

51-01591

WELLPATH DATA (240 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]
11031.00	89.140	113.670	6470.65	5038.95	-2003.03	4625.34	1693183.59	14428940.77	39°43'52.624"N	80°48'44.333"W	5040.42	113.415	0.68	-0.27	0.62
11075.00	89.290	113.930	6471.26	5082.94	-2020.78	4665.59	1693223.83	14428923.03	39°43'52.447"N	80°48'43.818"W	5084.42	113.419	0.68	0.34	0.59
11120.00	89.260	113.510	6471.82	5127.93	-2038.88	4706.78	1693265.01	14428904.93	39°43'52.268"N	80°48'43.291"W	5129.41	113.421	0.94	-0.07	-0.93
11165.00	89.260	113.420	6472.41	5172.91	-2056.80	4748.06	1693306.26	14428887.02	39°43'52.090"N	80°48'42.763"W	5174.41	113.422	0.20	0.00	-0.20
11254.00	89.110	114.080	6473.67	5261.89	-2092.64	4829.51	1693387.69	14428851.20	39°43'51.734"N	80°48'41.722"W	5263.40	113.427	0.76	-0.17	0.74
11299.00	89.140	115.230	6474.36	5306.88	-2111.41	4870.41	1693428.56	14428832.44	39°43'51.548"N	80°48'41.199"W	5308.38	113.438	2.56	0.07	2.56
11344.00	89.140	115.820	6475.03	5351.87	-2130.80	4911.01	1693469.15	14428813.05	39°43'51.355"N	80°48'40.680"W	5353.35	113.455	1.31	0.00	1.31
11388.00	89.230	115.920	6475.66	5395.86	-2149.99	4950.60	1693508.72	14428793.87	39°43'51.165"N	80°48'40.174"W	5397.30	113.475	0.31	0.20	0.23
11433.00	89.290	115.740	6476.24	5440.85	-2169.60	4991.10	1693549.20	14428774.27	39°43'50.970"N	80°48'39.656"W	5442.26	113.494	0.42	0.13	-0.40
11478.00	89.170	115.600	6476.85	5485.84	-2189.09	5031.65	1693589.74	14428754.78	39°43'50.776"N	80°48'39.137"W	5487.22	113.512	0.41	-0.27	-0.31
11523.00	89.290	115.400	6477.45	5530.83	-2208.46	5072.26	1693630.34	14428735.42	39°43'50.584"N	80°48'38.618"W	5532.19	113.528	0.52	0.27	-0.44
11567.00	89.290	115.140	6478.00	5574.83	-2227.24	5112.05	1693670.11	14428716.65	39°43'50.398"N	80°48'38.109"W	5576.17	113.542	0.59	0.00	-0.59
11612.00	89.320	115.440	6478.54	5619.82	-2246.46	5152.73	1693710.78	14428697.43	39°43'50.207"N	80°48'37.589"W	5621.15	113.556	0.67	0.07	0.67
11657.00	89.850	116.970	6478.87	5664.80	-2266.33	5193.11	1693751.13	14428677.57	39°43'50.010"N	80°48'37.073"W	5666.10	113.577	3.60	1.18	3.40
11702.00	89.660	118.080	6479.06	5709.75	-2287.13	5233.01	1693791.02	14428656.78	39°43'49.803"N	80°48'36.563"W	5710.99	113.608	2.50	-0.42	2.47
11746.00	89.690	117.480	6479.31	5753.69	-2307.64	5271.94	1693829.94	14428636.28	39°43'49.600"N	80°48'36.065"W	5754.87	113.640	1.37	0.07	-1.36
11791.00	89.690	115.440	6479.55	5798.67	-2327.69	5312.22	1693870.20	14428616.24	39°43'49.401"N	80°48'35.550"W	5799.81	113.662	4.53	0.00	-4.53
11836.00	89.720	113.300	6479.78	5843.67	-2346.25	5353.21	1693911.17	14428597.68	39°43'49.217"N	80°48'35.026"W	5844.81	113.667	4.76	0.07	-4.76
11881.00	89.780	112.280	6479.98	5888.64	-2363.68	5394.70	1693952.64	14428580.26	39°43'49.043"N	80°48'34.495"W	5889.80	113.661	2.27	0.13	-2.27
11925.00	89.720	111.460	6480.17	5932.58	-2380.07	5435.53	1693993.46	14428563.88	39°43'48.881"N	80°48'33.973"W	5933.78	113.647	1.87	-0.14	-1.86
11970.00	89.690	111.940	6480.41	5977.51	-2396.71	5477.34	1694035.25	14428547.24	39°43'48.715"N	80°48'33.438"W	5978.75	113.633	1.07	-0.07	1.07
12015.00	89.660	112.830	6480.66	6022.47	-2413.85	5518.95	1694076.84	14428530.11	39°43'48.545"N	80°48'32.906"W	6023.74	113.623	1.98	-0.07	1.98
12060.00	89.750	113.160	6480.89	6067.45	-2431.43	5560.37	1694118.25	14428512.54	39°43'48.370"N	80°48'32.376"W	6068.74	113.619	0.76	0.20	0.73
12104.00	89.690	114.100	6481.11	6111.44	-2449.06	5600.68	1694158.55	14428494.91	39°43'48.195"N	80°48'31.861"W	6112.74	113.619	2.14	-0.14	2.14
12149.00	89.660	114.800	6481.36	6156.44	-2467.69	5641.65	1694199.49	14428476.30	39°43'48.010"N	80°48'31.337"W	6157.73	113.625	1.56	-0.07	1.56
12194.00	89.820	115.610	6481.57	6201.43	-2486.85	5682.36	1694240.19	14428457.14	39°43'47.820"N	80°48'30.817"W	6202.71	113.636	1.83	0.36	1.80
12239.00	89.720	115.580	6481.75	6246.43	-2506.29	5722.94	1694280.76	14428437.71	39°43'47.627"N	80°48'30.298"W	6247.69	113.650	0.23	-0.22	-0.07
12283.00	89.780	115.120	6481.94	6290.43	-2525.13	5762.71	1694320.51	14428418.88	39°43'47.440"N	80°48'29.789"W	6291.67	113.662	1.05	0.14	-1.05
12303.00	89.720	113.900	6482.03	6310.43	-2533.43	5780.90	1694338.70	14428410.58	39°43'47.358"N	80°48'29.557"W	6311.66	113.665	6.11	-0.30	-6.10
12330.00	89.720	113.900	6482.16	6337.42	-2544.37	5805.59	1694363.57	14428399.65	39°43'47.249"N	80°48'29.241"W	6338.66	113.666	0.00	0.00	0.00



Actual Wellpath Report

MWD Surveys (5636')(5662-12303)Proj:12330
Page 10 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #5
Area	Marshall County, WV	Well	Goudy 5H
Field	Marshall	Wellbore	Goudy 5H (AWB)
Facility	Goudy		

51-01591

HOLE & CASING SECTIONS - Ref Wellbore: Goudy 5H (AWB) Ref Wellpath: MWD Surveys (5636')(5662-12303)Proj:12330

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
9.625in Casing	13.00	2543.00	2530.00	13.00	2542.88	0.00	0.00	-1.06	15.23

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Goudy 5H LP Rev-1		6431.00	-237.19	787.52	1689347.31	14430705.90	39°44'10.152"N	80°49'33.411"W	point
Goudy 5H PBHL Rev-1		6467.50	-2732.79	6221.78	1694779.40	14428211.30	39°43'45.378"N	80°48'23.919"W	point

WELLPATH COMPOSITION - Ref Wellbore: Goudy 5H (AWB) Ref Wellpath: MWD Surveys (5636')(5662-12303)Proj:12330

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
13.00	2613.00	Generic gyro - continuous (Standard)	VES / Generic gyro <100 - 2610>	Goudy 5H (AWB)
2613.00	5636.00	NaviTrak (Standard)	BHI / EMTrak <2669 - 6181>	Goudy 5H (AWB)
5636.00	12303.00	NaviTrak (AT Curve Short Spaced)	BHI / AutoTrak Curve 6-3/4" <5662'-12303'>	Goudy 5H (AWB)
12303.00	12330.00	Blind Drilling (std)	Projection to bit	Goudy 5H (AWB)



Actual Wellpath Report
MWD Surveys (5636')(5662-12303)Proj:12330
Page 11 of 11



REFERENCE WELLPATH IDENTIFICATION			
Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #5
Area	Marshall County, WV	Well	Goudy 5H
Field	Marshall	Wellbore	Goudy 5H (AWB)
Facility	Goudy		

51-01591

COMMENTS
Wellpath general comments API: 47-051-01591-0000 BHI Job #: 5196581 Rig: Precision 823 Duration: 3/16/2013-3/22/2013 VES Gyro (100'-2610') BHI EMTrak (2610')(2669'-6181') BHI AT Curve (5636')(5662'-12303') Projected MD at TD: 12330'