



GASTAR EXPLORATION USA, INC.

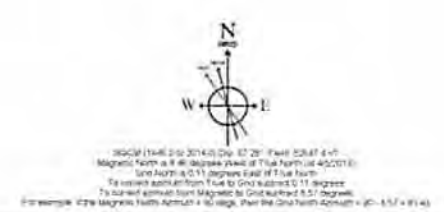
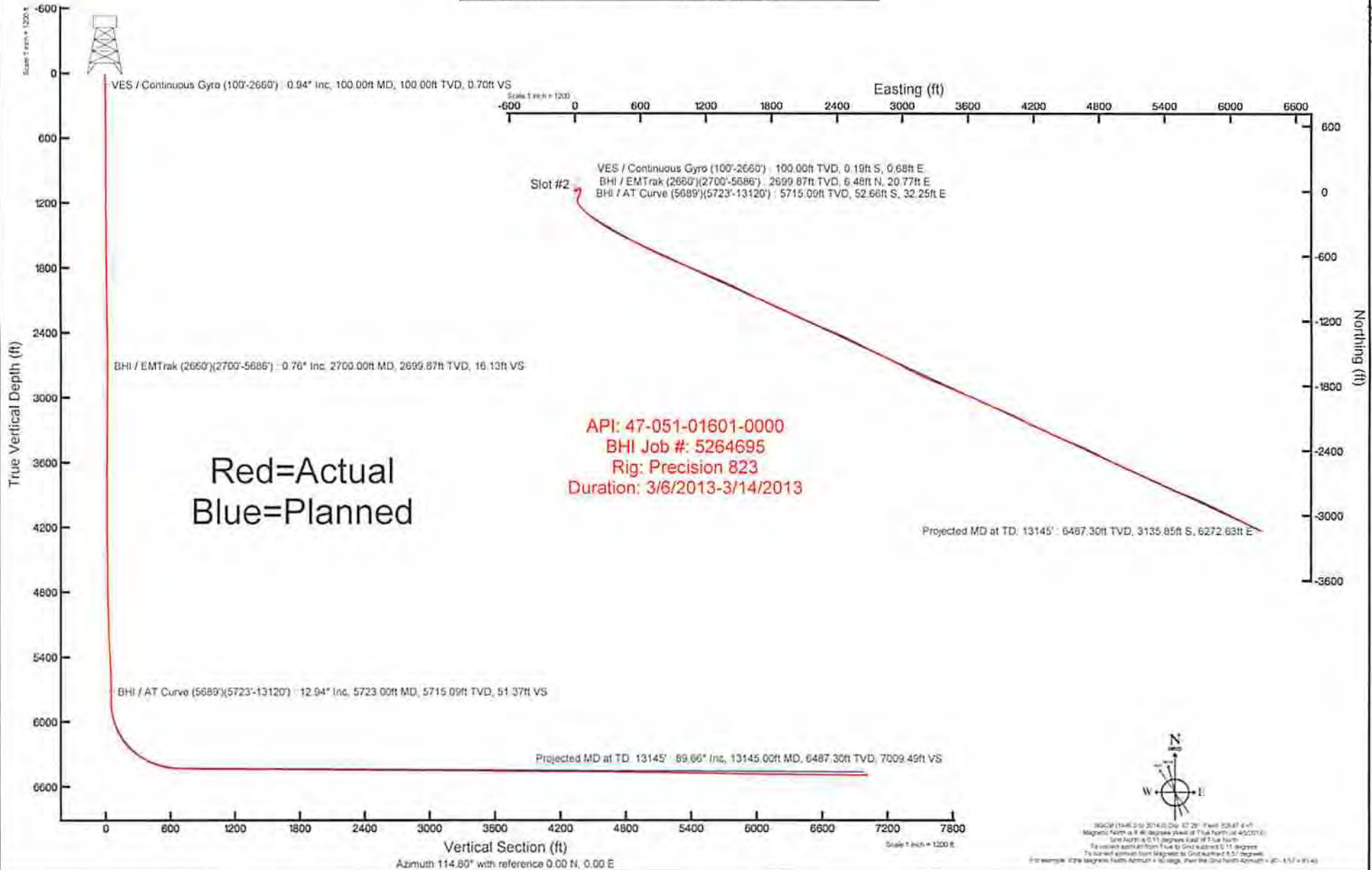
Location: Marshall County, WV
 Field: Marshall
 Facility: Goudy

Slot: Slot #2
 Well: Goudy 2H
 Wellbore: Goudy 2H (PWB)



Plot reference wellbore is Goudy 2H (PWB)	Grid System: NAD 83 (UT M Zone 17 3 South, 100 Feet)
True vertical depth are referenced to Phenacok 823 (823)	North Reference: Grid north
Measured depth are referenced to Phenacok 823 (823)	Base: True distance
Phenacok 823 (823) is Mean Sea Level (MSL) 1253 feet	Depth unit in feet
Mean Sea Level is Mean Sea Level (MSL) 1253 feet	Created by: jcmeyer on 05/10/2013
Coordinate unit is feet referenced to MSL	

51-01601





Actual Wellpath Report

MWD Surveys (5689')(5723'-13120')Proj:13145
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REFERENCE WELLPATH IDENTIFICATION

Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #2
Area	Marshall County, WV	Well	Goudy 2H
Field	Marshall	Wellbore	Goudy 2H (AWB)
Facility	Goudy		

51-01601

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	4/11/2013 at 2:37:27 PM
Convergence at slot	0.11° East	Database/Source file	Well Architect Eastern US/Goudy_2H_AWB_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-58.92	-11.20	1688548.90	14430884.10	39°44'11.929"N	80°49'43.631"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 #2)	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°



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Area	Marshall County, WV	Well	Goudy 2H	
Field	Marshall	Wellbore	Goudy 2H (AWB)	
Facility	Goudy			

51-01661

WELLPATH DATA (253 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 ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]
0.00†	0.000	105.860	0.00	0.00	0.00	0.00	1688548.90	14430884.10	39°44'11.929"N	80°49'43.631"W	0.00	0.000	0.00	0.00	0.00
13.00	0.000	105.860	13.00	0.00	0.00	0.00	1688548.90	14430884.10	39°44'11.929"N	80°49'43.631"W	0.00	0.000	0.00	0.00	0.00
103.00	0.970	105.860	103.00	0.75	-0.21	0.73	1688549.63	14430883.89	39°44'11.927"N	80°49'43.622"W	0.76	105.860	1.08	1.08	0.00
203.00	0.710	110.790	202.98	2.21	-0.66	2.13	1688551.03	14430883.44	39°44'11.922"N	80°49'43.604"W	2.23	107.231	0.27	-0.26	4.93
303.00	0.380	116.240	302.98	3.16	-1.03	3.00	1688551.90	14430883.07	39°44'11.918"N	80°49'43.593"W	3.17	108.863	0.33	-0.33	5.45
403.00	0.380	115.930	402.98	3.82	-1.32	3.60	1688552.50	14430882.78	39°44'11.915"N	80°49'43.585"W	3.83	110.110	0.00	0.00	-0.31
503.00	0.410	115.410	502.98	4.51	-1.62	4.22	1688553.12	14430882.48	39°44'11.913"N	80°49'43.577"W	4.52	110.955	0.03	0.03	-0.52
603.00	0.340	99.440	602.97	5.15	-1.82	4.84	1688553.73	14430882.28	39°44'11.911"N	80°49'43.569"W	5.17	110.606	0.13	-0.07	-15.97
703.00	0.330	95.260	702.97	5.71	-1.89	5.42	1688554.31	14430882.21	39°44'11.910"N	80°49'43.562"W	5.74	109.271	0.03	-0.01	-4.18
803.00	0.190	73.310	802.97	6.11	-1.87	5.86	1688554.76	14430882.23	39°44'11.910"N	80°49'43.556"W	6.15	107.715	0.17	-0.14	-21.95
903.00	0.090	40.910	902.97	6.25	-1.77	6.07	1688554.97	14430882.34	39°44'11.911"N	80°49'43.553"W	6.32	106.212	0.12	-0.10	-32.40
1003.00	0.060	39.180	1002.97	6.29	-1.67	6.16	1688555.05	14430882.44	39°44'11.912"N	80°49'43.552"W	6.38	105.137	0.03	-0.03	-1.73
1103.00	0.070	44.820	1102.97	6.32	-1.58	6.23	1688555.13	14430882.52	39°44'11.913"N	80°49'43.551"W	6.43	104.238	0.01	0.01	5.64
1203.00	0.100	43.190	1202.97	6.37	-1.47	6.33	1688555.23	14430882.63	39°44'11.914"N	80°49'43.550"W	6.50	103.102	0.03	0.03	-1.63
1303.00	0.250	59.130	1302.97	6.52	-1.30	6.58	1688555.48	14430882.80	39°44'11.916"N	80°49'43.547"W	6.71	101.163	0.16	0.15	15.94
1403.00	0.310	56.200	1402.97	6.78	-1.04	6.99	1688555.89	14430883.06	39°44'11.918"N	80°49'43.542"W	7.07	98.429	0.06	0.06	-2.93
1503.00	0.590	61.440	1502.97	7.23	-0.64	7.67	1688556.57	14430883.46	39°44'11.922"N	80°49'43.533"W	7.70	94.767	0.28	0.28	5.24
1603.00	0.770	64.810	1602.96	7.97	-0.11	8.73	1688557.63	14430883.99	39°44'11.927"N	80°49'43.519"W	8.73	90.706	0.18	0.18	3.37
1703.00	0.750	61.980	1702.95	8.80	0.49	9.92	1688558.81	14430884.59	39°44'11.933"N	80°49'43.504"W	9.93	87.195	0.04	-0.02	-2.83
1803.00	0.950	63.830	1802.94	9.72	1.16	11.24	1688560.13	14430885.26	39°44'11.940"N	80°49'43.487"W	11.30	84.112	0.20	0.20	1.85
1903.00	0.880	62.940	1902.93	10.71	1.87	12.67	1688561.56	14430885.97	39°44'11.947"N	80°49'43.469"W	12.80	81.585	0.07	-0.07	-0.89
2003.00	0.900	66.870	2002.91	11.71	2.53	14.07	1688562.97	14430886.63	39°44'11.953"N	80°49'43.451"W	14.30	79.801	0.06	0.02	3.93
2103.00	0.840	70.740	2102.90	12.77	3.08	15.49	1688564.38	14430887.18	39°44'11.959"N	80°49'43.433"W	15.79	78.744	0.08	-0.06	3.87
2203.00	0.580	69.100	2202.89	13.65	3.50	16.65	1688565.54	14430887.60	39°44'11.963"N	80°49'43.418"W	17.02	78.115	0.26	-0.26	-1.64
2303.00	0.690	60.640	2302.89	14.35	3.98	17.65	1688566.54	14430888.08	39°44'11.968"N	80°49'43.405"W	18.09	77.291	0.14	0.11	-8.46
2403.00	0.540	56.000	2402.88	14.95	4.54	18.56	1688567.46	14430888.64	39°44'11.973"N	80°49'43.393"W	19.11	76.261	0.16	-0.15	-4.64
2503.00	0.560	53.140	2502.88	15.42	5.10	19.35	1688568.24	14430889.19	39°44'11.979"N	80°49'43.383"W	20.01	75.244	0.03	0.02	-2.86
2603.00	0.510	47.430	2602.87	15.83	5.69	20.06	1688568.96	14430889.79	39°44'11.984"N	80°49'43.374"W	20.86	74.168	0.07	-0.05	-5.71
2663.00	0.650	44.590	2662.87	16.05	6.11	20.50	1688569.39	14430890.21	39°44'11.989"N	80°49'43.368"W	21.39	73.397	0.24	0.23	-4.73
2703.00	0.770	27.780	2702.87	16.14	6.51	20.79	1688569.68	14430890.61	39°44'11.993"N	80°49'43.365"W	21.78	72.604	0.60	0.30	-42.03



Actual Wellpath Report

MWD Surveys (5689')(5723'-13120')Proj:13145
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REFERENCE WELLPATH IDENTIFICATION			
Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #2
Area	Marshall County, WV	Well	Goudy 2H
Field	Marshall	Wellbore	Goudy 2H (AWB)
Facility	Goudy		

51.01601

WELLPATH DATA (253 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]
2766.00	0.750	16.330	2765.86	16.10	7.28	21.10	1688569.99	14430891.38	39°44'12.000"N	80°49'43.361"W	22.32	70.957	0.24	-0.03	-18.17
2829.00	0.690	24.710	2828.86	16.04	8.02	21.37	1688570.26	14430892.12	39°44'12.007"N	80°49'43.357"W	22.83	69.426	0.19	-0.10	13.30
2892.00	0.500	23.090	2891.85	16.03	8.62	21.64	1688570.53	14430892.72	39°44'12.013"N	80°49'43.354"W	23.29	68.280	0.30	-0.30	-2.57
2956.00	0.580	11.880	2955.85	15.95	9.19	21.82	1688570.71	14430893.29	39°44'12.019"N	80°49'43.352"W	23.67	67.147	0.21	0.12	-17.52
3019.00	0.650	18.490	3018.85	15.84	9.84	21.99	1688570.89	14430893.94	39°44'12.025"N	80°49'43.349"W	24.10	65.886	0.16	0.11	10.49
3082.00	0.600	12.350	3081.84	15.73	10.51	22.18	1688571.07	14430894.60	39°44'12.032"N	80°49'43.347"W	24.54	64.653	0.13	-0.08	-9.75
3146.00	0.410	15.610	3145.84	15.62	11.05	22.31	1688571.20	14430895.15	39°44'12.037"N	80°49'43.345"W	24.90	63.645	0.30	-0.30	5.09
3209.00	0.530	18.990	3208.84	15.55	11.55	22.47	1688571.36	14430895.64	39°44'12.042"N	80°49'43.343"W	25.26	62.800	0.20	0.19	5.37
3272.00	0.440	29.270	3271.84	15.54	12.03	22.68	1688571.57	14430896.13	39°44'12.047"N	80°49'43.340"W	25.67	62.052	0.20	-0.14	16.32
3335.00	0.400	357.450	3334.83	15.46	12.46	22.79	1688571.68	14430896.56	39°44'12.051"N	80°49'43.339"W	25.97	61.324	0.37	-0.06	-50.51
3398.00	0.400	357.390	3397.83	15.26	12.90	22.77	1688571.66	14430897.00	39°44'12.056"N	80°49'43.339"W	26.17	60.460	0.00	0.00	-0.10
3461.00	0.400	17.660	3460.83	15.13	13.33	22.83	1688571.72	14430897.43	39°44'12.060"N	80°49'43.339"W	26.43	59.711	0.22	0.00	32.17
3524.00	0.540	0.140	3523.83	14.98	13.84	22.89	1688571.78	14430897.93	39°44'12.065"N	80°49'43.338"W	26.75	58.847	0.32	0.22	-27.81
3588.00	0.480	344.080	3587.83	14.68	14.40	22.82	1688571.71	14430898.49	39°44'12.070"N	80°49'43.339"W	26.98	57.750	0.24	-0.09	-25.09
3651.00	0.140	314.220	3650.83	14.43	14.71	22.69	1688571.58	14430898.80	39°44'12.073"N	80°49'43.340"W	27.04	57.055	0.58	-0.54	-47.40
3714.00	0.220	288.640	3713.83	14.24	14.80	22.52	1688571.41	14430898.89	39°44'12.074"N	80°49'43.342"W	26.95	56.694	0.18	0.13	-40.60
3777.00	0.570	238.310	3776.82	13.95	14.67	22.14	1688571.03	14430898.77	39°44'12.073"N	80°49'43.347"W	26.56	56.470	0.73	0.56	-79.89
3840.00	0.850	231.640	3839.82	13.56	14.22	21.51	1688570.40	14430898.31	39°44'12.069"N	80°49'43.355"W	25.78	56.535	0.46	0.44	-10.59
3903.00	0.370	273.830	3902.82	13.16	13.94	20.94	1688569.83	14430898.04	39°44'12.066"N	80°49'43.363"W	25.16	56.345	1.00	-0.76	66.97
3966.00	0.300	329.400	3965.82	12.83	14.10	20.65	1688569.54	14430898.19	39°44'12.068"N	80°49'43.366"W	25.00	55.684	0.51	-0.11	88.21
4030.00	0.030	311.150	4029.81	12.68	14.25	20.55	1688569.45	14430898.35	39°44'12.069"N	80°49'43.368"W	25.01	55.264	0.42	-0.42	-28.52
4093.00	0.610	51.490	4092.81	12.82	14.47	20.80	1688569.70	14430898.57	39°44'12.071"N	80°49'43.364"W	25.34	55.178	0.98	0.92	159.27
4156.00	1.270	48.210	4155.80	13.24	15.15	21.59	1688570.48	14430899.24	39°44'12.078"N	80°49'43.354"W	26.37	54.947	1.05	1.05	-5.21
4219.00	1.240	57.260	4218.79	13.89	15.98	22.68	1688571.57	14430900.07	39°44'12.086"N	80°49'43.340"W	27.74	54.834	0.32	-0.05	14.37
4282.00	1.270	59.570	4281.77	14.65	16.70	23.86	1688572.75	14430900.80	39°44'12.093"N	80°49'43.325"W	29.12	55.005	0.09	0.05	3.67
4346.00	1.350	69.410	4345.76	15.58	17.33	25.17	1688574.06	14430901.42	39°44'12.099"N	80°49'43.308"W	30.56	55.462	0.37	0.12	15.37
4409.00	1.540	65.490	4408.74	16.66	17.94	26.64	1688575.53	14430902.03	39°44'12.105"N	80°49'43.290"W	32.12	56.044	0.34	0.30	-6.22
4471.00	1.550	66.390	4470.72	17.76	18.62	28.17	1688577.05	14430902.71	39°44'12.112"N	80°49'43.270"W	33.76	56.532	0.04	0.02	1.45
4534.00	1.300	55.980	4533.70	18.69	19.36	29.54	1688578.43	14430903.45	39°44'12.119"N	80°49'43.252"W	35.32	56.757	0.57	-0.40	-16.52
4597.00	1.210	43.620	4596.68	19.28	20.24	30.59	1688579.48	14430904.33	39°44'12.128"N	80°49'43.239"W	36.68	56.506	0.45	-0.14	-19.62



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WELLPATH DATA (253 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]
4660.00	1.290	33.460	4659.67	19.60	21.32	31.44	1688580.33	14430905.41	39°44'12.139"N	80°49'43.228"W	37.98	55.863	0.37	0.13	-16.13
4723.00	1.100	35.310	4722.65	19.82	22.40	32.18	1688581.07	14430906.49	39°44'12.149"N	80°49'43.219"W	39.21	55.158	0.31	-0.30	2.94
4786.00	1.560	53.580	4785.64	20.34	23.40	33.22	1688582.11	14430907.49	39°44'12.159"N	80°49'43.205"W	40.64	54.835	0.98	0.73	29.00
4849.00	1.820	67.390	4848.61	21.43	24.30	34.83	1688583.72	14430908.39	39°44'12.168"N	80°49'43.185"W	42.47	55.103	0.76	0.41	21.92
4912.00	2.100	73.880	4911.57	22.98	25.00	36.87	1688585.75	14430909.09	39°44'12.175"N	80°49'43.159"W	44.54	55.855	0.57	0.44	10.30
4975.00	2.070	77.340	4974.53	24.75	25.57	39.08	1688587.97	14430909.66	39°44'12.181"N	80°49'43.130"W	46.71	56.805	0.21	-0.05	5.49
5039.00	2.070	88.020	5038.49	26.70	25.87	41.37	1688590.25	14430909.95	39°44'12.183"N	80°49'43.101"W	48.79	57.984	0.60	0.00	16.69
5102.00	1.980	93.830	5101.45	28.74	25.83	43.59	1688592.47	14430909.92	39°44'12.183"N	80°49'43.072"W	50.67	59.349	0.36	-0.14	9.22
5164.00	1.860	100.620	5163.41	30.71	25.57	45.65	1688594.53	14430909.66	39°44'12.180"N	80°49'43.046"W	52.32	60.740	0.41	-0.19	10.95
5196.00	2.140	127.780	5195.40	31.80	25.11	46.63	1688595.51	14430909.20	39°44'12.176"N	80°49'43.034"W	52.96	61.695	3.06	0.87	84.88
5227.00	2.540	145.850	5226.37	32.95	24.19	47.47	1688596.36	14430908.28	39°44'12.167"N	80°49'43.023"W	53.28	62.999	2.69	1.29	58.29
5258.00	3.250	164.710	5257.33	34.10	22.77	48.09	1688596.97	14430906.86	39°44'12.153"N	80°49'43.015"W	53.21	64.660	3.80	2.29	60.84
5290.00	4.250	174.390	5289.26	35.29	20.72	48.45	1688597.33	14430904.81	39°44'12.132"N	80°49'43.010"W	52.69	66.846	3.69	3.12	30.25
5322.00	5.490	177.040	5321.15	36.60	18.01	48.64	1688597.52	14430902.10	39°44'12.106"N	80°49'43.008"W	51.87	69.683	3.94	3.87	8.28
5353.00	6.990	175.230	5351.96	38.22	14.65	48.87	1688597.76	14430898.74	39°44'12.072"N	80°49'43.005"W	51.02	73.315	4.88	4.84	-5.84
5385.00	8.250	177.810	5383.68	40.23	10.41	49.12	1688598.00	14430894.51	39°44'12.031"N	80°49'43.002"W	50.22	78.031	4.08	3.94	8.06
5416.00	9.220	177.730	5414.32	42.37	5.71	49.31	1688598.19	14430889.81	39°44'11.984"N	80°49'43.000"W	49.64	83.394	3.13	3.13	-0.26
5448.00	9.940	183.530	5445.87	44.53	0.39	49.24	1688598.12	14430884.49	39°44'11.932"N	80°49'43.001"W	49.24	89.544	3.76	2.25	18.12
5480.00	10.730	189.290	5477.35	46.33	-5.31	48.59	1688597.47	14430878.80	39°44'11.875"N	80°49'43.009"W	48.88	96.231	4.06	2.47	18.00
5510.00	11.050	194.440	5506.81	47.60	-10.85	47.42	1688596.30	14430873.26	39°44'11.821"N	80°49'43.024"W	48.65	102.883	3.41	1.07	17.17
5542.00	11.470	197.360	5538.20	48.56	-16.85	45.71	1688594.59	14430867.25	39°44'11.761"N	80°49'43.046"W	48.71	110.239	2.21	1.31	9.13
5573.00	11.620	196.440	5568.57	49.41	-22.79	43.90	1688592.79	14430861.32	39°44'11.703"N	80°49'43.070"W	49.47	117.432	0.77	0.48	-2.97
5605.00	11.990	197.830	5599.89	50.29	-29.04	41.97	1688590.86	14430855.07	39°44'11.641"N	80°49'43.094"W	51.04	124.681	1.46	1.16	4.34
5636.00	12.170	201.290	5630.21	50.88	-35.15	39.80	1688588.69	14430848.96	39°44'11.580"N	80°49'43.122"W	53.10	131.452	2.41	0.58	11.16
5668.00	12.520	203.170	5661.47	51.18	-41.49	37.21	1688586.10	14430842.63	39°44'11.518"N	80°49'43.156"W	55.73	138.108	1.67	1.09	5.88
5689.00	12.900	204.350	5681.95	51.26	-45.71	35.35	1688584.24	14430838.40	39°44'11.476"N	80°49'43.180"W	57.79	142.286	2.19	1.81	5.62
5723.00	12.940	203.700	5715.09	51.37	-52.66	32.25	1688581.14	14430831.46	39°44'11.408"N	80°49'43.219"W	61.75	148.511	0.44	0.12	-1.91
5768.00	13.130	203.380	5758.93	51.59	-61.96	28.20	1688577.09	14430822.16	39°44'11.316"N	80°49'43.272"W	68.08	155.528	0.45	0.42	-0.71
5813.00	12.500	202.530	5802.81	51.91	-71.15	24.31	1688573.20	14430812.98	39°44'11.225"N	80°49'43.322"W	75.19	161.139	1.46	-1.40	-1.89
5858.00	12.430	191.500	5846.76	53.22	-80.40	21.47	1688570.37	14430803.74	39°44'11.134"N	80°49'43.358"W	83.22	165.045	5.29	-0.16	-24.51



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #2
Area	Marshall County, WV	Well	Goudy 2H
Field	Marshall	Wellbore	Goudy 2H (AWB)
Facility	Goudy		

5-1-01601

WELLPATH DATA (253 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]
5902.00	13.910	180.540	5889.61	56.48	-90.33	20.48	1688569.37	14430793.81	39°44'11.036"N	80°49'43.371"W	92.62	167.225	6.58	3.36	-24.91
5947.00	16.380	166.880	5933.05	62.61	-101.92	21.87	1688570.76	14430782.22	39°44'10.921"N	80°49'43.354"W	104.24	167.889	9.61	5.49	-30.36
5992.00	19.090	153.570	5975.93	72.25	-114.70	26.59	1688575.48	14430769.45	39°44'10.795"N	80°49'43.294"W	117.74	166.948	10.80	6.02	-29.58
6037.00	22.460	146.130	6018.00	85.33	-128.43	34.66	1688583.55	14430755.72	39°44'10.659"N	80°49'43.191"W	133.03	164.898	9.50	7.49	-16.53
6081.00	25.650	142.050	6058.18	100.98	-142.92	45.20	1688594.09	14430741.23	39°44'10.515"N	80°49'43.056"W	149.90	162.449	8.17	7.25	-9.27
6126.00	28.860	138.400	6098.18	119.60	-158.73	58.41	1688607.28	14430725.43	39°44'10.359"N	80°49'42.887"W	169.14	159.798	8.04	7.13	-8.11
6171.00	32.910	134.920	6136.80	141.04	-175.49	74.28	1688623.15	14430708.68	39°44'10.193"N	80°49'42.685"W	190.57	157.058	9.83	9.00	-7.73
6216.00	37.080	130.900	6173.66	165.57	-193.02	93.20	1688642.07	14430691.16	39°44'10.019"N	80°49'42.443"W	214.34	154.225	10.58	9.27	-8.93
6260.00	41.120	127.870	6207.80	192.42	-210.59	114.66	1688663.52	14430673.59	39°44'09.845"N	80°49'42.169"W	239.78	151.433	10.15	9.18	-6.89
6305.00	45.530	126.310	6240.53	222.58	-229.19	139.29	1688688.14	14430655.00	39°44'09.661"N	80°49'41.854"W	268.20	148.711	10.08	9.80	-3.47
6350.00	50.680	123.760	6270.57	255.54	-248.39	166.72	1688715.56	14430635.81	39°44'09.471"N	80°49'41.503"W	299.16	146.130	12.20	11.44	-5.67
6395.00	55.390	122.500	6297.62	291.10	-268.02	196.83	1688745.65	14430616.18	39°44'09.276"N	80°49'41.118"W	332.53	143.707	10.70	10.47	-2.80
6439.00	58.500	121.440	6321.62	327.69	-287.54	228.11	1688776.92	14430596.67	39°44'09.083"N	80°49'40.718"W	367.04	141.574	7.35	7.07	-2.41
6484.00	62.220	120.580	6343.87	366.56	-307.68	261.63	1688810.43	14430576.54	39°44'08.883"N	80°49'40.290"W	403.88	139.624	8.43	8.27	-1.91
6529.00	65.720	120.330	6363.62	406.80	-328.17	296.48	1688845.27	14430556.06	39°44'08.680"N	80°49'39.844"W	442.27	137.904	7.79	7.78	-0.56
6574.00	69.890	120.350	6380.61	448.26	-349.22	332.44	1688881.20	14430535.02	39°44'08.471"N	80°49'39.384"W	482.15	136.410	9.27	9.27	0.04
6618.00	74.230	120.170	6394.16	489.92	-370.30	368.58	1688917.34	14430513.94	39°44'08.262"N	80°49'38.922"W	522.47	135.133	9.87	9.86	-0.41
6663.00	77.030	120.030	6405.33	533.32	-392.16	406.29	1688955.03	14430492.09	39°44'08.045"N	80°49'38.440"W	564.68	133.986	6.23	6.22	-0.31
6708.00	78.470	119.430	6414.88	577.13	-413.97	444.48	1688993.20	14430470.29	39°44'07.829"N	80°49'37.952"W	607.40	132.965	3.46	3.20	-1.33
6752.00	80.920	119.120	6422.75	620.29	-435.14	482.24	1689030.95	14430449.14	39°44'07.619"N	80°49'37.469"W	649.54	132.061	5.61	5.57	-0.70
6797.00	85.900	117.530	6427.91	664.89	-456.34	521.58	1689070.27	14430427.94	39°44'07.409"N	80°49'36.966"W	693.03	131.183	11.61	11.07	-3.53
6842.00	89.010	117.860	6429.91	709.78	-477.23	561.38	1689110.05	14430407.06	39°44'07.202"N	80°49'36.457"W	736.81	130.368	6.95	6.91	0.73
6886.00	88.680	118.450	6430.80	753.70	-497.99	600.16	1689148.82	14430386.31	39°44'06.996"N	80°49'35.961"W	779.86	129.684	1.54	-0.75	1.34
6931.00	88.650	117.330	6431.84	798.62	-519.03	639.93	1689188.57	14430365.28	39°44'06.787"N	80°49'35.453"W	823.95	129.045	2.49	-0.07	-2.49
6976.00	88.550	116.100	6432.94	843.58	-539.25	680.11	1689228.74	14430345.06	39°44'06.586"N	80°49'34.939"W	867.95	128.411	2.74	-0.22	-2.73
7021.00	88.580	115.420	6434.07	888.56	-558.80	720.62	1689269.24	14430325.52	39°44'06.392"N	80°49'34.421"W	911.90	127.792	1.51	0.07	-1.51
7065.00	89.020	115.520	6434.99	932.55	-577.72	760.34	1689308.94	14430306.61	39°44'06.205"N	80°49'33.913"W	954.92	127.228	1.03	1.00	0.23
7110.00	89.170	114.760	6435.70	977.54	-596.84	801.07	1689349.65	14430287.50	39°44'06.015"N	80°49'33.392"W	998.96	126.688	1.72	0.33	-1.69
7155.00	89.170	113.920	6436.35	1022.53	-615.38	842.07	1689390.63	14430268.96	39°44'05.831"N	80°49'32.867"W	1042.96	126.159	1.87	0.00	-1.87
7200.00	89.720	113.860	6436.79	1067.52	-633.61	883.21	1689431.76	14430250.75	39°44'05.650"N	80°49'32.341"W	1086.97	125.655	1.23	1.22	-0.13



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION				
Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #2	
Area	Marshall County, WV	Well	Goudy 2H	
Field	Marshall	Wellbore	Goudy 2H (AWB)	
Facility	Goudy			

SI-01601

WELLPATH DATA (253 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]
7245.00	89.600	113.020	6437.06	1112.51	-651.51	924.49	1689473.02	14430232.86	39°44'05.472"N	80°49'31.813"W	1130.99	125.173	1.89	-0.27	-1.87
7289.00	89.690	112.220	6437.33	1156.48	-668.43	965.11	1689513.62	14430215.94	39°44'05.304"N	80°49'31.294"W	1173.98	124.706	1.83	0.20	-1.82
7334.00	89.750	111.630	6437.55	1201.42	-685.23	1006.85	1689555.35	14430199.14	39°44'05.137"N	80°49'30.760"W	1217.91	124.238	1.32	0.13	-1.31
7379.00	89.630	112.130	6437.79	1246.36	-702.00	1048.61	1689597.09	14430182.38	39°44'04.971"N	80°49'30.226"W	1261.90	123.801	1.14	-0.27	1.11
7423.00	90.150	112.970	6437.88	1290.33	-718.87	1089.25	1689637.71	14430165.51	39°44'04.803"N	80°49'29.706"W	1305.08	123.424	2.25	1.18	1.91
7468.00	90.000	113.370	6437.82	1335.31	-736.58	1130.62	1689679.06	14430147.82	39°44'04.628"N	80°49'29.177"W	1349.39	123.084	0.95	-0.33	0.89
7513.00	90.000	113.480	6437.82	1380.29	-754.47	1171.91	1689720.34	14430129.93	39°44'04.450"N	80°49'28.649"W	1393.77	122.773	0.24	0.00	0.24
7558.00	90.060	112.900	6437.80	1425.28	-772.19	1213.27	1689761.69	14430112.22	39°44'04.274"N	80°49'28.120"W	1438.16	122.475	1.30	0.13	-1.29
7602.00	89.540	113.330	6437.95	1469.26	-789.46	1253.74	1689802.14	14430094.95	39°44'04.103"N	80°49'27.602"W	1481.59	122.198	1.53	-1.18	0.98
7647.00	89.570	113.210	6438.30	1514.24	-807.24	1295.08	1689843.46	14430077.18	39°44'03.926"N	80°49'27.074"W	1526.06	121.936	0.27	0.07	-0.27
7692.00	89.570	113.470	6438.64	1559.22	-825.07	1336.39	1689884.76	14430059.36	39°44'03.749"N	80°49'26.545"W	1570.57	121.690	0.58	0.00	0.58
7737.00	89.290	113.700	6439.08	1604.21	-843.07	1377.63	1689925.98	14430041.37	39°44'03.570"N	80°49'26.018"W	1615.13	121.465	0.81	-0.62	0.51
7781.00	89.290	114.250	6439.63	1648.20	-860.95	1417.83	1689966.17	14430023.50	39°44'03.393"N	80°49'25.504"W	1658.76	121.267	1.25	0.00	1.25
7826.00	89.320	116.250	6440.18	1693.20	-880.14	1458.53	1690006.85	14430004.31	39°44'03.202"N	80°49'24.983"W	1703.51	121.109	4.44	0.07	4.44
7871.00	89.170	117.090	6440.77	1738.17	-900.34	1498.74	1690047.04	14429984.12	39°44'03.002"N	80°49'24.469"W	1748.38	120.995	1.90	-0.33	1.87
7916.00	89.010	118.210	6441.48	1783.11	-921.22	1538.59	1690086.88	14429963.25	39°44'02.795"N	80°49'23.959"W	1793.30	120.911	2.51	-0.36	2.49
7961.00	89.320	117.310	6442.14	1828.04	-942.18	1578.41	1690126.68	14429942.30	39°44'02.587"N	80°49'23.450"W	1838.22	120.834	2.12	0.69	-2.00
8005.00	89.540	116.790	6442.58	1872.00	-962.18	1617.59	1690165.85	14429922.30	39°44'02.389"N	80°49'22.949"W	1882.13	120.745	1.28	0.50	-1.18
8050.00	89.570	116.210	6442.93	1916.98	-982.26	1657.86	1690206.10	14429902.23	39°44'02.189"N	80°49'22.434"W	1927.01	120.646	1.29	0.07	-1.29
8095.00	89.510	115.500	6443.29	1961.97	-1001.89	1698.36	1690246.58	14429882.61	39°44'01.995"N	80°49'21.916"W	1971.85	120.537	1.58	-0.13	-1.58
8139.00	89.720	114.920	6443.58	2005.97	-1020.63	1738.17	1690286.37	14429863.88	39°44'01.809"N	80°49'21.407"W	2015.66	120.421	1.40	0.48	-1.32
8184.00	89.660	114.480	6443.83	2050.97	-1039.43	1779.05	1690327.24	14429845.09	39°44'01.622"N	80°49'20.885"W	2060.44	120.296	0.99	-0.13	-0.98
8229.00	89.720	114.380	6444.07	2095.97	-1058.04	1820.02	1690368.19	14429826.48	39°44'01.437"N	80°49'20.361"W	2105.21	120.171	0.26	0.13	-0.22
8274.00	89.660	114.880	6444.31	2140.97	-1076.79	1860.92	1690409.08	14429807.74	39°44'01.251"N	80°49'19.838"W	2150.00	120.055	1.12	-0.13	1.11
8318.00	89.720	115.120	6444.55	2184.97	-1095.39	1900.80	1690448.94	14429789.15	39°44'01.067"N	80°49'19.328"W	2193.84	119.954	0.56	0.14	0.55
8363.00	89.660	115.170	6444.79	2229.97	-1114.51	1941.53	1690489.66	14429770.03	39°44'00.877"N	80°49'18.807"W	2238.68	119.857	0.17	-0.13	0.11
8408.00	89.660	114.980	6445.06	2274.96	-1133.58	1982.29	1690530.40	14429750.97	39°44'00.687"N	80°49'18.285"W	2283.53	119.763	0.42	0.00	-0.42
8453.00	89.660	114.930	6445.33	2319.96	-1152.57	2023.09	1690571.18	14429731.99	39°44'00.499"N	80°49'17.764"W	2328.37	119.670	0.11	0.00	-0.11
8497.00	89.690	115.030	6445.58	2363.96	-1171.15	2062.97	1690611.05	14429713.42	39°44'00.315"N	80°49'17.254"W	2372.22	119.584	0.24	0.07	0.23
8542.00	89.630	114.770	6445.85	2408.96	-1190.09	2103.79	1690651.85	14429694.48	39°44'00.127"N	80°49'16.732"W	2417.08	119.496	0.59	-0.13	-0.58



Actual Wellpath Report

MWD Surveys (5689')(5723'-13120')Proj:13145
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REFERENCE WELLPATH IDENTIFICATION															
Operator	GASTAR EXPLORATION USA, INC.							Slot	Slot #2						
Area	Marshall County, WV							Well	Goudy 2H						
Field	Marshall							Wellbore	Goudy 2H (AWB)						
Facility	Goudy														

WELLPATH DATA (253 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]
8587.00	89.660	114.580	6446.12	2453.96	-1208.88	2144.68	1690692.72	14429675.70	39°43'59.940"N	80°49'16.209"W	2461.92	119.408	0.43	0.07	-0.42
8632.00	89.660	114.130	6446.39	2498.96	-1227.44	2185.68	1690733.70	14429657.15	39°43'59.756"N	80°49'15.685"W	2506.75	119.318	1.00	0.00	-1.00
8677.00	89.690	113.880	6446.65	2543.95	-1245.74	2226.78	1690774.79	14429638.85	39°43'59.574"N	80°49'15.159"W	2551.56	119.224	0.56	0.07	-0.56
8721.00	89.630	113.330	6446.91	2587.94	-1263.36	2267.10	1690815.10	14429621.24	39°43'59.399"N	80°49'14.643"W	2595.35	119.129	1.26	-0.14	-1.25
8766.00	89.660	112.890	6447.19	2632.92	-1281.02	2308.49	1690856.47	14429603.59	39°43'59.224"N	80°49'14.114"W	2640.10	119.027	0.98	0.07	-0.98
8811.00	89.570	113.150	6447.49	2677.90	-1298.62	2349.90	1690897.87	14429586.00	39°43'59.049"N	80°49'13.584"W	2684.86	118.926	0.61	-0.20	0.58
8856.00	89.630	112.790	6447.80	2722.87	-1316.18	2391.33	1690939.28	14429568.44	39°43'58.875"N	80°49'13.054"W	2729.62	118.828	0.81	0.13	-0.80
8900.00	89.690	113.070	6448.06	2766.85	-1333.32	2431.86	1690979.79	14429551.31	39°43'58.705"N	80°49'12.536"W	2773.39	118.735	0.65	0.14	0.64
8945.00	89.600	114.620	6448.34	2811.84	-1351.51	2473.01	1691020.93	14429533.13	39°43'58.524"N	80°49'12.010"W	2818.22	118.657	3.45	-0.20	3.44
8990.00	89.690	116.130	6448.62	2856.84	-1370.80	2513.67	1691061.57	14429513.85	39°43'58.333"N	80°49'11.490"W	2863.15	118.605	3.36	0.20	3.36
9035.00	89.570	116.590	6448.91	2901.82	-1390.78	2553.99	1691101.87	14429493.88	39°43'58.134"N	80°49'10.974"W	2908.11	118.571	1.06	-0.27	1.02
9079.00	89.720	117.170	6449.19	2945.79	-1410.67	2593.24	1691141.10	14429473.99	39°43'57.937"N	80°49'10.473"W	2952.09	118.545	1.36	0.34	1.32
9124.00	89.690	117.630	6449.42	2990.74	-1431.38	2633.19	1691181.04	14429453.29	39°43'57.732"N	80°49'09.962"W	2997.09	118.528	1.02	-0.07	1.02
9169.00	89.660	117.410	6449.67	3035.69	-1452.17	2673.09	1691220.93	14429432.51	39°43'57.525"N	80°49'09.451"W	3042.08	118.513	0.49	-0.07	-0.49
9214.00	89.660	116.280	6449.94	3080.66	-1472.49	2713.24	1691261.06	14429412.20	39°43'57.324"N	80°49'08.938"W	3087.06	118.489	2.51	0.00	-2.51
9258.00	89.570	115.620	6450.23	3124.65	-1491.75	2752.81	1691300.61	14429392.95	39°43'57.133"N	80°49'08.432"W	3131.01	118.453	1.51	-0.20	-1.50
9303.00	89.630	115.640	6450.55	3169.65	-1511.21	2793.38	1691341.16	14429373.49	39°43'56.939"N	80°49'07.913"W	3175.96	118.413	0.14	0.13	0.04
9348.00	89.880	117.320	6450.74	3214.62	-1531.27	2833.65	1691381.42	14429353.44	39°43'56.740"N	80°49'07.398"W	3220.93	118.386	3.77	0.56	3.73
9393.00	89.660	117.570	6450.92	3259.58	-1552.01	2873.59	1691421.34	14429332.71	39°43'56.535"N	80°49'06.888"W	3265.92	118.373	0.74	-0.49	0.56
9437.00	89.780	117.400	6451.14	3303.53	-1572.32	2912.62	1691460.36	14429312.41	39°43'56.333"N	80°49'06.389"W	3309.92	118.361	0.47	0.27	-0.39
9482.00	89.630	118.030	6451.37	3348.47	-1593.25	2952.46	1691500.18	14429291.49	39°43'56.125"N	80°49'05.879"W	3354.92	118.353	1.44	-0.33	1.40
9527.00	89.450	119.190	6451.73	3393.37	-1614.80	2991.96	1691539.67	14429269.95	39°43'55.912"N	80°49'05.374"W	3399.91	118.356	2.61	-0.40	2.58
9572.00	89.230	119.320	6452.25	3438.23	-1636.79	3031.22	1691578.91	14429247.97	39°43'55.694"N	80°49'04.872"W	3444.90	118.368	0.57	-0.49	0.29
9616.00	89.170	117.780	6452.86	3482.13	-1657.81	3069.87	1691617.54	14429226.95	39°43'55.485"N	80°49'04.378"W	3488.90	118.370	3.50	-0.14	-3.50
9661.00	89.080	116.130	6453.55	3527.09	-1678.21	3109.97	1691657.63	14429206.56	39°43'55.283"N	80°49'03.865"W	3533.88	118.352	3.67	-0.20	-3.67
9706.00	89.200	114.460	6454.23	3572.08	-1697.43	3150.65	1691698.29	14429187.35	39°43'55.092"N	80°49'03.345"W	3578.81	118.314	3.72	0.27	-3.71
9751.00	89.140	113.950	6454.88	3617.07	-1715.88	3191.69	1691739.31	14429168.91	39°43'54.909"N	80°49'02.820"W	3623.69	118.263	1.14	-0.13	-1.13
9796.00	89.450	113.590	6455.43	3662.06	-1734.02	3232.87	1691780.48	14429150.78	39°43'54.729"N	80°49'02.294"W	3668.55	118.208	1.06	0.69	-0.80
9840.00	89.380	113.320	6455.88	3706.05	-1751.53	3273.23	1691820.82	14429133.27	39°43'54.555"N	80°49'01.778"W	3712.40	118.152	0.63	-0.16	-0.61
9885.00	89.480	112.610	6456.33	3751.02	-1769.08	3314.66	1691862.24	14429115.72	39°43'54.380"N	80°49'01.248"W	3757.21	118.090	1.59	0.22	-1.58

ST-016/c1



Actual Wellpath Report

MWD Surveys (5689')(5723'-13120')Proj:13145
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REFERENCE WELLPATH IDENTIFICATION

Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #2
Area	Marshall County, WV	Well	Goudy 2H
Field	Marshall	Wellbore	Goudy 2H (AWB)
Facility	Goudy		

51-01601

WELLPATH DATA (253 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]
9930.00	89.480	112.260	6456.74	3795.98	-1786.26	3356.25	1691903.81	14429098.56	39°43'54.210"N	80°49'00.716"W	3801.99	118.023	0.78	0.00	-0.78
9975.00	89.480	112.280	6457.14	3840.94	-1803.31	3397.90	1691945.44	14429081.51	39°43'54.040"N	80°49'00.183"W	3846.77	117.956	0.04	0.00	0.04
10019.00	89.420	111.910	6457.57	3884.88	-1819.86	3438.66	1691986.19	14429064.97	39°43'53.876"N	80°48'59.662"W	3890.54	117.889	0.85	-0.14	-0.84
10064.00	89.480	112.570	6458.00	3929.84	-1836.89	3480.31	1692027.82	14429047.94	39°43'53.707"N	80°48'59.129"W	3935.32	117.825	1.47	0.13	1.47
10109.00	89.910	114.340	6458.24	3974.82	-1854.80	3521.59	1692069.09	14429030.04	39°43'53.529"N	80°48'58.601"W	3980.19	117.776	4.05	0.96	3.93
10154.00	89.880	115.070	6458.32	4019.82	-1873.61	3562.47	1692109.95	14429011.24	39°43'53.342"N	80°48'58.079"W	4025.12	117.741	1.62	-0.07	1.62
10198.00	89.970	115.060	6458.38	4063.82	-1892.25	3602.33	1692149.79	14428992.61	39°43'53.157"N	80°48'57.569"W	4069.08	117.712	0.21	0.20	-0.02
10243.00	89.910	114.830	6458.43	4108.82	-1911.23	3643.13	1692190.58	14428973.64	39°43'52.969"N	80°48'57.047"W	4114.03	117.682	0.53	-0.13	-0.51
10288.00	89.910	114.610	6458.50	4153.82	-1930.05	3684.01	1692231.44	14428954.82	39°43'52.782"N	80°48'56.524"W	4158.97	117.650	0.49	0.00	-0.49
10332.00	89.910	114.510	6458.57	4197.82	-1948.33	3724.03	1692271.44	14428936.54	39°43'52.601"N	80°48'56.013"W	4202.90	117.618	0.23	0.00	-0.23
10377.00	89.720	114.440	6458.71	4242.82	-1966.98	3764.98	1692312.38	14428917.91	39°43'52.416"N	80°48'55.489"W	4247.83	117.584	0.45	-0.42	-0.16
10422.00	89.510	114.240	6459.01	4287.82	-1985.52	3805.98	1692353.36	14428899.37	39°43'52.231"N	80°48'54.965"W	4292.76	117.550	0.64	-0.47	-0.44
10467.00	89.720	112.740	6459.32	4332.80	-2003.46	3847.25	1692394.61	14428881.44	39°43'52.053"N	80°48'54.437"W	4337.65	117.508	3.37	0.47	-3.33
10511.00	89.660	111.790	6459.55	4376.76	-2020.13	3887.97	1692435.32	14428864.78	39°43'51.888"N	80°48'53.916"W	4381.47	117.456	2.16	-0.14	-2.16
10556.00	89.630	112.270	6459.83	4421.71	-2037.01	3929.68	1692477.01	14428847.90	39°43'51.720"N	80°48'53.383"W	4426.26	117.401	1.07	-0.07	1.07
10600.00	89.630	113.720	6460.12	4465.68	-2054.20	3970.18	1692517.50	14428830.72	39°43'51.549"N	80°48'52.865"W	4470.13	117.357	3.30	0.00	3.30
10645.00	89.420	115.430	6460.49	4510.68	-2072.91	4011.11	1692558.40	14428812.02	39°43'51.364"N	80°48'52.342"W	4515.08	117.330	3.83	-0.47	3.80
10690.00	89.380	117.220	6460.96	4555.66	-2092.86	4051.44	1692598.72	14428792.07	39°43'51.166"N	80°48'51.826"W	4560.07	117.320	3.98	-0.09	3.98
10734.00	89.350	117.830	6461.45	4599.61	-2113.20	4090.45	1692637.72	14428771.75	39°43'50.964"N	80°48'51.327"W	4604.06	117.322	1.39	-0.07	1.39
10779.00	89.450	117.870	6461.92	4644.54	-2134.22	4130.24	1692677.49	14428750.73	39°43'50.755"N	80°48'50.818"W	4649.06	117.327	0.24	0.22	0.09
10824.00	89.380	116.960	6462.38	4689.49	-2154.94	4170.18	1692717.42	14428730.02	39°43'50.550"N	80°48'50.308"W	4694.06	117.328	2.03	-0.16	-2.02
10869.00	89.420	115.540	6462.85	4734.47	-2174.84	4210.54	1692757.76	14428710.13	39°43'50.352"N	80°48'49.792"W	4739.04	117.317	3.16	0.09	-3.16
10913.00	89.380	114.090	6463.31	4778.47	-2193.30	4250.47	1692797.67	14428691.67	39°43'50.169"N	80°48'49.281"W	4783.00	117.294	3.30	-0.09	-3.30
10958.00	89.510	114.230	6463.75	4823.46	-2211.72	4291.53	1692838.71	14428673.26	39°43'49.986"N	80°48'48.756"W	4827.93	117.265	0.42	0.29	0.31
11003.00	89.350	114.400	6464.19	4868.46	-2230.25	4332.53	1692879.70	14428654.74	39°43'49.802"N	80°48'48.232"W	4872.87	117.238	0.52	-0.36	0.38
11048.00	89.420	114.130	6464.68	4913.45	-2248.74	4373.56	1692920.71	14428636.26	39°43'49.619"N	80°48'47.707"W	4917.81	117.211	0.62	0.16	-0.60
11092.00	89.510	113.990	6465.09	4957.45	-2266.68	4413.73	1692960.87	14428618.33	39°43'49.440"N	80°48'47.193"W	4961.74	117.183	0.38	0.20	-0.32
11137.00	89.450	113.330	6465.50	5002.44	-2284.74	4454.95	1693002.07	14428600.28	39°43'49.261"N	80°48'46.666"W	5006.65	117.151	1.47	-0.13	-1.47
11182.00	89.420	112.720	6465.94	5047.41	-2302.34	4496.36	1693043.46	14428582.68	39°43'49.086"N	80°48'46.137"W	5051.53	117.114	1.36	-0.07	-1.36
11227.00	89.230	112.360	6466.47	5092.38	-2319.58	4537.92	1693085.01	14428565.44	39°43'48.915"N	80°48'45.605"W	5096.39	117.074	0.90	-0.42	-0.80



Actual Wellpath Report

MWD Surveys (5689')(5723'-13120')Proj:13145
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REFERENCE WELLPATH IDENTIFICATION																
Operator	GASTAR EXPLORATION USA, INC.								Slot	Slot #2						
Area	Marshall County, WV								Well	Goudy 2H						
Field	Marshall								Wellbore	Goudy 2H (AWB)						
Facility	Goudy															

WELLPATH DATA (253 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]
11271.00	89.230	112.210	6467.06	5136.33	-2336.27	4578.63	1693125.70	14428548.77	39°43'48.749"N	80°48'45.085"W	5140.23	117.033	0.34	0.00	-0.34
11316.00	89.140	112.590	6467.70	5181.29	-2353.41	4620.23	1693167.28	14428531.63	39°43'48.579"N	80°48'44.553"W	5185.08	116.993	0.87	-0.20	0.84
11361.00	89.230	113.890	6468.34	5226.26	-2371.17	4661.57	1693208.61	14428513.88	39°43'48.403"N	80°48'44.024"W	5229.98	116.961	2.90	0.20	2.89
11406.00	89.230	115.740	6468.95	5271.26	-2390.05	4702.41	1693249.44	14428495.00	39°43'48.215"N	80°48'43.502"W	5274.94	116.942	4.11	0.00	4.11
11450.00	89.080	116.610	6469.60	5315.24	-2409.46	4741.90	1693288.90	14428475.60	39°43'48.023"N	80°48'42.997"W	5318.94	116.936	2.01	-0.34	1.98
11495.00	89.200	117.240	6470.27	5360.20	-2429.83	4782.01	1693329.00	14428455.24	39°43'47.820"N	80°48'42.484"W	5363.93	116.936	1.43	0.27	1.40
11540.00	89.170	117.770	6470.91	5405.15	-2450.61	4821.92	1693368.90	14428434.47	39°43'47.614"N	80°48'41.974"W	5408.92	116.941	1.18	-0.07	1.18
11585.00	89.140	117.340	6471.58	5450.09	-2471.43	4861.81	1693408.77	14428413.66	39°43'47.408"N	80°48'41.464"W	5453.92	116.946	0.96	-0.07	-0.96
11629.00	89.170	115.810	6472.22	5494.06	-2491.11	4901.16	1693448.10	14428393.99	39°43'47.212"N	80°48'40.961"W	5497.91	116.943	3.48	0.07	-3.48
11674.00	88.980	114.810	6472.95	5539.06	-2510.34	4941.83	1693488.76	14428374.76	39°43'47.021"N	80°48'40.440"W	5542.88	116.930	2.26	-0.42	-2.22
11719.00	89.080	113.910	6473.71	5584.05	-2528.90	4982.82	1693529.73	14428356.21	39°43'46.837"N	80°48'39.916"W	5587.83	116.909	2.01	0.22	-2.00
11764.00	89.010	113.630	6474.46	5629.03	-2547.04	5024.00	1693570.89	14428338.08	39°43'46.657"N	80°48'39.390"W	5632.76	116.884	0.64	-0.16	-0.62
11809.00	89.080	114.380	6475.21	5674.02	-2565.34	5065.10	1693611.98	14428319.78	39°43'46.475"N	80°48'38.864"W	5677.70	116.861	1.67	0.16	1.67
11853.00	89.080	114.410	6475.92	5718.02	-2583.51	5105.17	1693652.03	14428301.62	39°43'46.295"N	80°48'38.352"W	5721.65	116.842	0.07	0.00	0.07
11898.00	89.140	115.170	6476.62	5763.01	-2602.38	5146.02	1693692.86	14428282.76	39°43'46.108"N	80°48'37.830"W	5766.62	116.826	1.69	0.13	1.69
11943.00	88.950	115.110	6477.37	5808.00	-2621.49	5186.75	1693733.58	14428263.65	39°43'45.918"N	80°48'37.309"W	5811.59	116.813	0.44	-0.42	-0.13
11988.00	89.320	114.510	6478.05	5853.00	-2640.37	5227.59	1693774.40	14428244.78	39°43'45.730"N	80°48'36.787"W	5856.56	116.798	1.57	0.82	-1.33
12032.00	89.350	114.110	6478.56	5896.99	-2658.49	5267.68	1693814.48	14428226.68	39°43'45.551"N	80°48'36.274"W	5900.51	116.779	0.91	0.07	-0.91
12077.00	89.260	114.470	6479.10	5941.99	-2677.00	5308.70	1693855.48	14428208.17	39°43'45.367"N	80°48'35.749"W	5945.47	116.760	0.82	-0.20	0.80
12122.00	89.140	114.580	6479.73	5986.98	-2695.67	5349.63	1693896.40	14428189.50	39°43'45.181"N	80°48'35.226"W	5990.43	116.743	0.36	-0.27	0.24
12167.00	89.690	114.480	6480.19	6031.98	-2714.35	5390.57	1693937.32	14428170.83	39°43'44.996"N	80°48'34.703"W	6035.39	116.727	1.24	1.22	-0.22
12211.00	89.690	114.490	6480.43	6075.98	-2732.59	5430.61	1693977.34	14428152.60	39°43'44.815"N	80°48'34.190"W	6079.36	116.711	0.02	0.00	0.02
12256.00	89.630	114.960	6480.70	6120.98	-2751.41	5471.49	1694018.20	14428133.79	39°43'44.628"N	80°48'33.668"W	6124.33	116.696	1.05	-0.13	1.04
12301.00	89.690	113.910	6480.96	6165.98	-2770.03	5512.45	1694059.15	14428115.18	39°43'44.443"N	80°48'33.144"W	6169.29	116.680	2.34	0.13	-2.33
12346.00	89.480	113.820	6481.29	6210.97	-2788.23	5553.61	1694100.29	14428096.98	39°43'44.262"N	80°48'32.618"W	6214.24	116.659	0.51	-0.47	-0.20
12390.00	89.540	113.180	6481.67	6254.95	-2805.78	5593.95	1694140.62	14428079.44	39°43'44.088"N	80°48'32.102"W	6258.17	116.637	1.46	0.14	-1.45
12435.00	89.570	112.850	6482.02	6299.93	-2823.37	5635.37	1694182.02	14428061.86	39°43'43.913"N	80°48'31.572"W	6303.08	116.611	0.74	0.07	-0.73
12480.00	89.570	113.300	6482.35	6344.91	-2841.01	5676.77	1694223.40	14428044.23	39°43'43.738"N	80°48'31.043"W	6347.99	116.586	1.00	0.00	1.00
12525.00	89.510	113.980	6482.71	6389.90	-2859.05	5717.99	1694264.61	14428026.19	39°43'43.559"N	80°48'30.516"W	6392.93	116.565	1.52	-0.13	1.51
12569.00	89.480	114.990	6483.10	6433.90	-2877.28	5758.03	1694304.63	14428007.96	39°43'43.378"N	80°48'30.004"W	6436.90	116.551	2.30	-0.07	2.30

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Actual Wellpath Report

MWD Surveys (5689')(5723'-13120')Proj:13145
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REFERENCE WELLPATH IDENTIFICATION

Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #2
Area	Marshall County, WV	Well	Goudy 2H
Field	Marshall	Wellbore	Goudy 2H (AWB)
Facility	Goudy		

51-01601

WELLPATH DATA (253 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]
12614.00	89.570	115.450	6483.48	6478.89	-2896.46	5798.74	1694345.33	14427988.80	39°43'43.188"N	80°48'29.483"W	6481.89	116.542	1.04	0.20	1.02
12659.00	89.570	115.720	6483.81	6523.89	-2915.89	5839.33	1694385.90	14427969.37	39°43'42.995"N	80°48'28.964"W	6526.88	116.535	0.60	0.00	0.60
12704.00	89.510	116.080	6484.17	6568.88	-2935.55	5879.81	1694426.36	14427949.73	39°43'42.800"N	80°48'28.447"W	6571.88	116.531	0.81	-0.13	0.80
12749.00	89.540	116.560	6484.55	6613.86	-2955.50	5920.14	1694466.68	14427929.78	39°43'42.602"N	80°48'27.931"W	6616.88	116.530	1.07	0.07	1.07
12793.00	89.510	116.400	6484.91	6657.84	-2975.12	5959.52	1694506.04	14427910.17	39°43'42.407"N	80°48'27.428"W	6660.87	116.529	0.37	-0.07	-0.36
12838.00	89.510	116.500	6485.30	6702.82	-2995.16	5999.81	1694546.32	14427890.14	39°43'42.208"N	80°48'26.912"W	6705.87	116.529	0.22	0.00	0.22
12883.00	89.540	117.060	6485.67	6747.79	-3015.43	6039.98	1694586.47	14427869.87	39°43'42.007"N	80°48'26.399"W	6750.87	116.530	1.25	0.07	1.24
12928.00	89.630	118.010	6486.00	6792.74	-3036.24	6079.88	1694626.36	14427849.08	39°43'41.800"N	80°48'25.889"W	6795.86	116.537	2.12	0.20	2.11
12972.00	89.630	118.090	6486.28	6836.67	-3056.93	6118.72	1694665.17	14427828.39	39°43'41.595"N	80°48'25.392"W	6839.84	116.547	0.18	0.00	0.18
13017.00	89.690	118.160	6486.55	6881.59	-3078.14	6158.40	1694704.84	14427807.19	39°43'41.384"N	80°48'24.885"W	6884.83	116.557	0.20	0.13	0.16
13062.00	89.660	117.700	6486.80	6926.52	-3099.22	6198.16	1694744.58	14427786.12	39°43'41.175"N	80°48'24.377"W	6929.81	116.566	1.02	-0.07	-1.02
13120.00	89.660	115.390	6487.15	6984.49	-3125.13	6250.04	1694796.44	14427760.21	39°43'40.918"N	80°48'23.713"W	6987.81	116.566	3.98	0.00	-3.98
13145.00	89.660	115.390	6487.30	7009.49	-3135.85	6272.63	1694819.02	14427749.50	39°43'40.812"N	80°48'23.425"W	7012.80	116.562	0.00	0.00	0.00



Actual Wellpath Report

MWD Surveys (5689')(5723'-13120')Proj:13145
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REFERENCE WELLPATH IDENTIFICATION

Operator	GASTAR EXPLORATION USA, INC.	Slot	Slot #2
Area	Marshall County, WV	Well	Goudy 2H
Field	Marshall	Wellbore	Goudy 2H (AWB)
Facility	Goudy		

51-01601

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Goudy 2H LP Rev-3		6429.00	-467.03	538.35	1689087.04	14430417.26	39°44'07.303"N	80°49'36.751"W	point
Goudy 2H PBHL Rev-3		6462.00	-3117.24	6246.79	1694793.20	14427768.10	39°43'40.996"N	80°48'23.755"W	point
Goudy 2H LP Rev-2		6466.00	-474.12	535.34	1689084.03	14430410.17	39°44'07.233"N	80°49'36.790"W	point
Goudy 2H PBHL Rev-2		6499.04	-3117.24	6246.79	1694793.20	14427768.10	39°43'40.996"N	80°48'23.755"W	point

WELLPATH COMPOSITION - Ref Wellbore: Goudy 2H (AWB) Ref Wellpath: MWD Surveys (5689')(5723'-13120')Proj:13145

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
13.00	2663.00	Generic gyro - northseeking (Standard)	VES / Continuous gyro <100 - 2660>	Goudy 2H (AWB)
2663.00	5689.00	NaviTrak (Standard)	BHI / EMTrak <2700 - 5686>	Goudy 2H (AWB)
5689.00	13120.00	NaviTrak (AT Curve Short Spaced)	BHI / AutoTrak Curve <5723 - 13120>	Goudy 2H (AWB)
13120.00	13145.00	Blind Drilling (std)	Projection to bit	Goudy 2H (AWB)



Actual Wellpath Report

MWD Surveys (5689')(5723'-13120') Proj:13145
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51-01601

REFERENCE WELLPATH IDENTIFICATION

Operator	Area	Field	Facility	Slot	Well	Wellbore	Slot #2
GASTAR EXPLORATION USA, INC.	Marshall County, WV	Marshall	Goudy	Well	Wellbore		Goudy 2H
							Goudy 2H (AWB)

COMMENTS

Wellpath general comments
 API: 47-051-01601-0000
 BHI Job #: 5264695
 Rig: Precision 823
 Duration: 3/6/2013-3/14/2013
 VES / Continuous Gyro (100'-2660')
 BHI / EMTrak (2660')(2700'-5686')
 BHI / AT Curve (5689')(5723'-13120')
 Projected MD at TD: 13145'