



Actual Wellpath Report

MWD Surveys (2733') 2858'-10341' Proj: 10407'
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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	CHESAPEAKE ENERGY	Slot	Slot 1
Area	Wetzel County, WV	Well	Well #5H
Field	Victory Prospect	Wellbore	Well #5H [AWB]
Facility	Martin R Whiteman Jr 5H	Sidetrack from	AWB at 2733.00 MD

REPORT SETUP INFORMATION

Projection System	NAD27 / Lambert West Virginia State Plane, Northern Zone (4701), US feet	Software System	WellArchitect® 2.0
North Reference	Grid	User	Lemachrl
Scale	0.999942	Report Generated	8/7/2009 at 9:21:27 AM
Convergence at slot	0.72° West	Database/Source file	WA_EasternUS/Well #5H_ST1_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	0.00	0.00	1682706.00	438724.00	39°41'56.692"N	80°37'39.596"W
Facility Reference Pt			1682706.00	438724.00	39°41'56.692"N	80°37'39.596"W
Field Reference Pt			0.00	0.00	38°17'12.460"N	86°28'23.077"W

WELLPATH DATUM

Calculation method	Minimum curvature	NOMAC 241 (RKB) to Ground Level	15.00ft
Horizontal Reference Pt	Slot	NOMAC 241 (RKB) to Mean Sea Level	1406.00ft
Vertical Reference Pt	NOMAC 241 (RKB)	Ground Level to Mud Line (Facility)	0.00ft
MD Reference Pt	NOMAC 241 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	313.02°

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Field	Victory Prospect	Wellbore	Well #5H [AWB]
Facility	Martin R Whiteman Jr 5H	Sidetrack from	AWB at 2733.00 MD

WELLPATH DATA (204 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
0.00	0.000	356.370	0.00	0.00	0.00	0.00	1682706.00	438724.00	39°41'56.692"N	80°37'39.596"W	0.00	0.000	0.00
100.00	0.650	356.370	100.00	0.41	0.57	-0.04	1682705.96	438724.57	39°41'56.698"N	80°37'39.597"W	0.57	356.370	0.65
200.00	0.810	350.200	199.99	1.39	1.83	-0.19	1682705.81	438725.83	39°41'56.710"N	80°37'39.599"W	1.84	354.002	0.18
300.00	0.940	27.510	299.98	2.17	3.25	0.07	1682706.07	438727.25	39°41'56.724"N	80°37'39.596"W	3.25	1.170	0.57
400.00	2.460	8.610	399.93	3.60	6.10	0.77	1682706.77	438730.10	39°41'56.752"N	80°37'39.587"W	6.15	7.161	1.60
500.00	3.810	9.130	499.78	6.67	11.50	1.62	1682707.62	438735.50	39°41'56.806"N	80°37'39.577"W	11.62	7.992	1.35
600.00	5.180	5.570	599.47	11.27	19.28	2.58	1682708.58	438743.28	39°41'56.883"N	80°37'39.566"W	19.45	7.624	1.40
700.00	4.140	4.260	699.14	16.27	27.37	3.29	1682709.29	438751.37	39°41'56.963"N	80°37'39.558"W	27.57	6.848	1.05
800.00	3.190	359.230	798.93	20.46	33.75	3.52	1682709.52	438757.75	39°41'57.026"N	80°37'39.556"W	33.94	5.950	1.00
900.00	1.520	348.820	898.85	23.46	37.84	3.22	1682709.22	438761.83	39°41'57.066"N	80°37'39.561"W	37.97	4.869	1.72
1000.00	1.080	344.770	998.82	25.33	40.05	2.72	1682708.72	438764.04	39°41'57.088"N	80°37'39.568"W	40.14	3.883	0.45
1100.00	0.710	338.530	1098.81	26.69	41.53	2.24	1682708.24	438765.53	39°41'57.103"N	80°37'39.574"W	41.59	3.093	0.38
1200.00	0.850	14.140	1198.80	27.61	42.83	2.20	1682708.20	438766.83	39°41'57.116"N	80°37'39.575"W	42.89	2.938	0.50
1300.00	0.700	3.030	1298.79	28.36	44.16	2.41	1682708.41	438768.16	39°41'57.129"N	80°37'39.572"W	44.22	3.126	0.21
1400.00	0.370	355.570	1398.59	29.00	45.09	2.41	1682708.41	438769.09	39°41'57.138"N	80°37'39.572"W	45.15	3.056	0.34
1500.00	0.440	292.290	1498.78	29.61	45.56	2.01	1682708.01	438769.55	39°41'57.142"N	80°37'39.577"W	45.60	2.532	0.42
1600.00	0.500	222.650	1598.78	29.96	45.38	1.36	1682707.36	438769.38	39°41'57.141"N	80°37'39.586"W	45.40	1.721	0.54
1700.00	0.490	238.110	1698.78	30.07	44.83	0.70	1682706.70	438768.83	39°41'57.135"N	80°37'39.594"W	44.84	0.901	0.13
1800.00	0.150	242.400	1798.78	30.23	44.55	0.23	1682706.23	438768.54	39°41'57.132"N	80°37'39.600"W	44.55	0.290	0.34
1900.00	0.360	259.900	1898.77	30.46	44.43	-0.20	1682705.80	438768.43	39°41'57.131"N	80°37'39.606"W	44.43	359.743	0.22
2000.00	0.300	0.960	1998.77	30.82	44.64	-0.50	1682705.50	438768.64	39°41'57.133"N	80°37'39.610"W	44.64	359.352	0.51
2100.00	0.420	352.120	2098.77	31.28	45.26	-0.55	1682705.45	438769.26	39°41'57.139"N	80°37'39.610"W	45.27	359.303	0.13
2200.00	0.440	334.900	2198.77	31.92	45.97	-0.76	1682705.24	438769.97	39°41'57.146"N	80°37'39.613"W	45.98	359.049	0.13
2300.00	0.590	224.210	2298.77	32.29	45.95	-1.29	1682704.71	438769.95	39°41'57.146"N	80°37'39.620"W	45.97	358.398	0.85
2400.00	0.380	219.280	2398.76	32.28	45.33	-1.85	1682704.15	438769.32	39°41'57.140"N	80°37'39.627"W	45.36	357.657	0.21
2500.00	0.660	275.010	2498.76	32.71	45.12	-2.64	1682703.36	438769.12	39°41'57.138"N	80°37'39.637"W	45.20	356.653	0.54
2600.00	0.960	278.690	2598.75	33.86	45.30	-4.04	1682701.96	438769.29	39°41'57.139"N	80°37'39.655"W	45.48	354.902	0.30
2700.00	0.970	266.200	2698.73	35.13	45.37	-5.71	1682700.29	438769.37	39°41'57.140"N	80°37'39.676"W	45.73	352.822	0.21
2733.00	0.890	268.280	2731.73	35.50	45.34	-6.25	1682699.75	438769.34	39°41'57.139"N	80°37'39.683"W	45.77	352.154	0.26
2858.00	0.700	291.800	2856.72	36.90	45.60	-7.93	1682698.07	438769.59	39°41'57.142"N	80°37'39.705"W	46.28	350.137	0.30

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WELLPATH DATA (204 stations)													
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
2900.00	1.500	141.200	2898.71	36.60	45.26	-7.82	1682698.18	438769.26	39°41'57.138"N	80°37'39.703"W	45.93	350.196	5.09
2941.00	4.300	135.600	2939.66	34.53	43.75	-6.41	1682699.59	438767.74	39°41'57.124"N	80°37'39.685"W	44.21	351.665	6.86
2983.00	6.400	137.700	2981.47	30.62	40.89	-3.73	1682702.27	438764.89	39°41'57.096"N	80°37'39.650"W	41.06	354.785	5.02
3025.00	8.500	138.300	3023.12	25.20	36.84	-0.09	1682705.91	438760.84	39°41'57.056"N	80°37'39.603"W	36.84	359.858	5.00
3069.00	9.100	135.200	3066.60	18.48	32.02	7.61	1682710.61	438756.03	39°41'57.009"N	80°37'39.542"W	32.36	358.187	2.24
3114.00	9.000	124.900	3111.04	11.44	27.58	10.09	1682716.09	438751.58	39°41'56.966"N	80°37'39.471"W	29.37	20.094	2.91
3157.00	8.700	116.600	3153.53	4.99	24.20	15.76	1682721.76	438748.20	39°41'56.933"N	80°37'39.398"W	28.88	33.068	3.05
3198.00	8.500	107.100	3194.07	-0.71	21.92	21.43	1682727.42	438745.92	39°41'56.911"N	80°37'39.325"W	30.65	44.346	3.49
3239.00	8.400	96.900	3234.63	-5.85	20.67	27.29	1682733.29	438744.67	39°41'56.900"N	80°37'39.250"W	34.24	52.865	3.66
3281.00	8.600	90.000	3276.17	-10.63	20.30	33.48	1682739.48	438744.30	39°41'56.892"N	80°37'39.171"W	39.15	58.770	2.47
3322.00	9.000	88.000	3316.69	-15.14	20.41	39.75	1682745.75	438744.41	39°41'56.899"N	80°37'39.091"W	44.69	62.819	1.23
3364.00	9.700	84.700	3358.13	-19.81	20.85	46.56	1682752.55	438744.85	39°41'56.904"N	80°37'39.004"W	51.01	65.871	2.10
3406.00	10.200	81.700	3399.50	-24.49	21.72	53.76	1682759.76	438745.72	39°41'56.913"N	80°37'38.912"W	57.98	68.003	1.71
3447.00	10.600	80.000	3439.82	-29.03	22.90	61.07	1682767.06	438746.90	39°41'56.926"N	80°37'38.818"W	65.22	69.447	1.23
3490.00	11.000	78.800	3482.06	-33.81	24.38	68.99	1682774.98	438748.38	39°41'56.941"N	80°37'38.717"W	73.17	70.536	1.07
3532.00	11.500	73.600	3523.25	-38.28	26.34	76.93	1682782.93	438750.34	39°41'56.962"N	80°37'38.616"W	81.32	71.100	2.69
3574.00	12.300	68.300	3564.35	-42.32	29.18	85.11	1682791.10	438753.18	39°41'56.991"N	80°37'38.512"W	89.97	71.077	3.22
3615.00	13.000	63.000	3604.36	-45.76	32.89	93.27	1682799.27	438756.88	39°41'57.029"N	80°37'38.408"W	98.90	70.579	3.30
3657.00	13.700	58.500	3645.22	-48.70	37.63	101.72	1682807.72	438761.63	39°41'57.076"N	80°37'38.301"W	108.46	69.700	2.98
3698.00	14.300	54.700	3685.01	-51.02	43.09	110.00	1682815.99	438767.09	39°41'57.131"N	80°37'38.196"W	118.14	68.607	2.68
3740.00	14.100	52.700	3725.72	-52.93	49.19	118.30	1682824.29	438773.19	39°41'57.193"N	80°37'38.091"W	128.12	67.422	1.26
3782.00	14.300	51.600	3766.44	-54.57	55.51	126.43	1682832.43	438779.51	39°41'57.256"N	80°37'37.987"W	138.08	66.296	0.80
3823.00	14.700	51.000	3806.14	-56.05	61.93	134.44	1682840.44	438785.93	39°41'57.321"N	80°37'37.886"W	148.02	65.267	1.04
3865.00	15.300	51.400	3846.70	-57.59	68.74	142.92	1682848.91	438792.74	39°41'57.389"N	80°37'37.779"W	158.59	64.313	1.45
3909.00	15.900	51.100	3889.08	-59.29	76.15	152.14	1682858.15	438800.14	39°41'57.463"N	80°37'37.662"W	170.14	63.412	1.38
3954.00	16.600	50.500	3932.28	-60.99	84.11	161.90	1682867.89	438808.10	39°41'57.543"N	80°37'37.538"W	182.44	62.548	1.60
3995.00	17.300	51.300	3971.50	-62.63	91.64	171.18	1682877.17	438815.64	39°41'57.619"N	80°37'37.421"W	194.17	61.836	1.80
4037.00	18.600	52.700	4011.46	-64.66	99.61	181.38	1682887.37	438823.60	39°41'57.699"N	80°37'37.292"W	206.93	61.226	3.26
4082.00	20.100	51.800	4053.92	-67.05	108.74	193.17	1682899.15	438832.73	39°41'57.791"N	80°37'37.142"W	221.67	60.623	3.40
4127.00	21.600	50.900	4095.97	-69.56	118.75	205.67	1682911.66	438842.74	39°41'57.891"N	80°37'36.984"W	237.49	60.000	3.41

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4171.00	21.900	50.000	4136.84	-71.47	129.13	218.24	1682924.23	438853.12	39°41'57.995"N	80°37'36.825"W	253.58	59.388	1.02
4213.00	21.300	49.900	4175.89	-73.34	139.08	230.08	1682936.06	438863.07	39°41'58.095"N	80°37'36.675"W	268.85	58.848	1.43
4255.00	20.700	50.000	4215.10	-75.15	148.76	241.60	1682947.58	438872.75	39°41'58.192"N	80°37'36.529"W	283.73	58.378	1.43
4296.00	20.300	50.300	4253.50	-76.94	157.96	252.62	1682958.61	438881.95	39°41'58.284"N	80°37'36.390"W	297.94	57.983	1.01
4341.00	20.200	51.600	4295.72	-79.08	167.77	264.72	1682970.70	438891.76	39°41'58.383"N	80°37'36.237"W	313.43	57.634	1.02
4386.00	20.700	53.000	4337.88	-81.62	177.39	277.16	1682983.14	438901.38	39°41'58.479"N	80°37'36.079"W	329.06	57.380	1.55
4430.00	21.300	52.400	4378.96	-84.27	186.94	289.70	1682995.68	438910.93	39°41'58.575"N	80°37'35.920"W	344.78	57.166	1.45
4475.00	20.800	52.000	4420.96	-86.85	196.85	302.47	1683008.45	438920.84	39°41'58.675"N	80°37'35.758"W	360.89	56.944	1.16
4520.00	19.900	50.600	4463.15	-89.11	206.63	314.69	1683020.67	438930.62	39°41'58.773"N	80°37'35.604"W	376.46	56.710	2.27
4564.00	19.500	49.800	4504.57	-90.97	216.42	326.08	1683032.06	438940.11	39°41'58.868"N	80°37'35.459"W	391.20	56.464	1.10
4609.00	19.300	49.600	4547.02	-92.71	225.79	337.48	1683043.46	438949.78	39°41'58.965"N	80°37'35.315"W	406.05	56.216	0.47
4654.00	19.200	50.200	4589.50	-94.48	235.35	348.83	1683054.81	438959.33	39°41'59.061"N	80°37'35.171"W	420.80	55.993	0.49
4698.00	19.500	51.200	4631.02	-96.43	244.58	360.11	1683066.09	438968.56	39°41'59.154"N	80°37'35.029"W	435.32	55.817	1.02
4742.00	20.400	51.200	4672.38	-98.57	253.99	371.81	1683077.79	438977.97	39°41'59.248"N	80°37'34.880"W	450.28	55.663	2.05
4787.00	21.200	53.200	4714.41	-101.12	263.78	384.44	1683090.42	438987.76	39°41'59.346"N	80°37'34.720"W	466.23	55.545	2.38
4831.00	20.900	53.800	4755.51	-104.00	273.18	397.14	1683103.12	438997.16	39°41'59.441"N	80°37'34.559"W	482.02	55.478	0.84
4877.00	20.400	52.900	4798.55	-106.91	282.86	410.16	1683116.13	439006.84	39°41'59.538"N	80°37'34.394"W	498.24	55.409	1.29
4922.00	19.700	52.000	4840.82	-109.44	292.26	422.39	1683128.37	439016.24	39°41'59.633"N	80°37'34.239"W	513.64	55.320	1.70
4967.00	19.300	54.000	4883.24	-112.04	301.30	434.38	1683140.36	439025.28	39°41'59.723"N	80°37'34.087"W	528.65	55.254	1.73
5011.00	18.200	55.300	4924.91	-114.89	309.49	445.92	1683151.89	439034.47	39°41'59.806"N	80°37'33.941"W	542.79	55.238	2.67
5058.00	17.800	54.500	4969.61	-117.88	317.84	457.80	1683163.77	439041.82	39°41'59.890"N	80°37'33.791"W	557.31	55.229	1.00
5102.00	18.100	54.100	5011.47	-120.53	325.75	468.81	1683174.78	439049.73	39°41'59.969"N	80°37'33.651"W	570.87	55.207	0.74
5147.00	18.300	52.700	5054.21	-123.06	334.13	480.09	1683186.06	439058.11	39°42'00.053"N	80°37'33.508"W	584.92	55.163	1.07
5192.00	17.800	52.200	5097.00	-125.35	342.63	491.15	1683197.12	439066.61	39°42'00.139"N	80°37'33.368"W	598.85	55.100	1.16
5235.00	17.500	52.100	5137.93	-127.44	350.71	501.56	1683207.53	439074.69	39°42'00.220"N	80°37'33.226"W	612.01	55.037	0.24
5280.00	17.900	51.600	5180.75	-129.56	359.26	512.43	1683218.40	439083.24	39°42'00.306"N	80°37'33.098"W	625.82	54.966	0.34
5324.00	17.300	52.600	5222.69	-131.66	367.43	522.93	1683228.90	439091.41	39°42'00.388"N	80°37'32.965"W	639.11	54.907	1.53
5369.00	15.500	53.200	5265.86	-133.84	375.10	533.06	1683239.03	439099.07	39°42'00.465"N	80°37'32.837"W	651.81	54.867	4.02
5414.00	15.900	52.700	5309.18	-135.94	382.43	542.78	1683248.75	439106.41	39°42'00.539"N	80°37'32.714"W	663.98	54.832	0.94
5459.00	17.100	53.000	5352.33	-138.12	390.35	552.97	1683258.93	439114.13	39°42'00.616"N	80°37'32.585"W	676.75	54.795	2.67

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Area	Wetzel County, WV	Well	Well #5H
Field	Victory Prospect	Wellbore	Well #5H [AWB]
Facility	Martin R Whiteman Jr 5H	Sidetrack from	AWB at 2733.00 MD

WELLPATH DATA (204 stations)													
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
5504.00	18.600	56.300	5395.16	-140.92	398.12	564.22	1683270.19	439122.09	39°42'00.696"N	80°37'32.442"W	690.54	54.793	4.02
5547.00	19.900	57.400	5435.75	-144.31	405.86	576.09	1683282.06	439129.84	39°42'00.774"N	80°37'32.291"W	704.70	54.835	3.14
5591.00	19.800	59.200	5477.14	-148.25	413.71	588.80	1683294.77	439137.69	39°42'00.853"N	80°37'32.130"W	719.62	54.907	1.41
5636.00	18.700	57.500	5519.62	-152.18	421.49	601.43	1683307.40	439145.47	39°42'00.932"N	80°37'31.970"W	734.42	54.977	2.74
5681.00	18.600	56.200	5562.26	-155.62	429.36	613.48	1683319.44	439153.34	39°42'01.011"N	80°37'31.817"W	748.81	55.033	0.95
5726.00	18.500	56.300	5604.92	-158.89	437.32	625.38	1683331.35	439161.29	39°42'01.091"N	80°37'31.666"W	763.12	55.036	0.23
5769.00	18.400	55.800	5645.71	-161.96	444.91	636.67	1683342.63	439168.89	39°42'01.168"N	80°37'31.523"W	776.72	55.054	0.44
5814.00	19.500	57.100	5688.27	-165.36	452.99	648.85	1683354.81	439176.96	39°42'01.249"N	80°37'31.368"W	791.33	55.080	2.62
5859.00	19.700	57.400	5730.67	-169.07	461.15	661.55	1683367.51	439185.12	39°42'01.331"N	80°37'31.207"W	806.42	55.120	0.50
5900.00	19.100	59.100	5769.34	-172.65	468.32	673.33	1683379.09	439192.29	39°42'01.403"N	80°37'31.060"W	820.01	55.172	2.01
5942.00	18.600	57.000	5809.09	-176.17	475.50	684.64	1683390.60	439199.47	39°42'01.476"N	80°37'30.914"W	833.57	55.219	2.01
5984.00	18.600	56.800	5848.89	-179.38	482.81	695.86	1683401.82	439206.78	39°42'01.550"N	80°37'30.772"W	846.96	55.246	0.15
6025.00	18.700	55.900	5887.74	-182.41	490.08	706.78	1683412.73	439214.05	39°42'01.623"N	80°37'30.633"W	860.06	55.263	0.74
6070.00	20.600	56.900	5930.12	-185.91	498.45	719.38	1683425.34	439222.42	39°42'01.707"N	80°37'30.473"W	875.19	55.283	4.29
6115.00	22.500	57.300	5971.97	-189.94	507.42	733.26	1683439.22	439231.39	39°42'01.797"N	80°37'30.297"W	891.71	55.316	4.23
6159.00	22.700	56.200	6012.59	-193.95	516.69	747.40	1683453.36	439240.66	39°42'01.891"N	80°37'30.118"W	908.62	55.343	1.06
6201.00	23.200	54.900	6051.27	-197.50	525.96	760.90	1683466.86	439249.93	39°42'01.984"N	80°37'29.946"W	924.99	55.347	1.70
6243.00	21.700	54.000	6090.08	-200.69	535.28	773.96	1683479.91	439259.25	39°42'02.078"N	80°37'29.781"W	941.03	55.332	3.66
6287.00	20.300	53.100	6131.16	-203.57	544.65	786.64	1683492.59	439268.61	39°42'02.172"N	80°37'29.620"W	956.79	55.302	3.27
6332.00	20.500	54.000	6173.34	-206.43	553.96	799.26	1683505.24	439277.93	39°42'02.265"N	80°37'29.460"W	972.47	55.274	0.83
6377.00	20.200	54.500	6215.53	-209.49	563.11	811.96	1683517.91	439287.07	39°42'02.357"N	80°37'29.299"W	988.11	55.258	0.77
6421.00	18.700	54.600	6257.02	-212.42	571.60	823.89	1683529.84	439295.57	39°42'02.443"N	80°37'29.148"W	1002.76	55.248	3.41
6466.00	18.900	53.800	6299.62	-215.23	580.09	835.65	1683541.60	439304.05	39°42'02.528"N	80°37'28.999"W	1017.26	55.233	0.73
6508.00	17.700	52.300	6339.49	-217.53	588.01	846.20	1683552.14	439311.97	39°42'02.608"N	80°37'28.865"W	1030.44	55.205	3.07
6552.00	15.400	53.400	6381.67	-219.66	595.58	856.18	1683562.13	439319.55	39°42'02.684"N	80°37'28.739"W	1042.96	55.176	5.28
6597.00	13.500	55.200	6425.24	-221.85	602.15	865.29	1683571.24	439326.11	39°42'02.750"N	80°37'28.623"W	1054.18	55.166	4.34
6641.00	12.800	54.100	6468.09	-223.87	607.93	873.46	1683579.40	439331.90	39°42'02.808"N	80°37'28.520"W	1064.19	55.162	1.69
6686.00	13.900	56.700	6511.87	-226.10	613.83	882.01	1683587.96	439337.79	39°42'02.867"N	80°37'28.411"W	1074.58	55.164	2.78
6728.00	14.900	58.900	6552.55	-228.78	619.38	890.85	1683596.80	439343.35	39°42'02.923"N	80°37'28.299"W	1085.01	55.190	2.71
6769.00	16.800	61.700	6591.99	-231.12	624.92	900.58	1683606.59	439348.88	39°42'02.979"N	80°37'28.175"W	1096.16	55.243	4.99

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Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	CHESAPEAKE ENERGY	Slot	Slot 1
Area	Wetzel County, WV	Well	Well #5H
Field	Victory Prospect	Wellbore	Well #5H [AWB]
Facility	Martin R Whiteman Jr 5H	Sidetrack from	AWB at 2733.00 MD

WELLPATH DATA (204 stations)													
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
6814.00	19.600	64.200	6634.74	-236.93	631.29	913.11	1683619.05	439355.25	39°42'03.044"N	80°37'28.016"W	1110.08	55.342	6.46
6859.00	18.600	63.200	6677.26	-242.13	637.81	926.31	1683632.25	439361.77	39°42'03.110"N	80°37'27.848"W	1124.65	55.451	2.34
6903.00	18.600	64.600	6718.96	-247.13	643.98	938.91	1683644.85	439367.94	39°42'03.172"N	80°37'27.688"W	1138.54	55.555	1.01
6944.00	19.700	66.800	6757.69	-252.32	649.51	951.17	1683657.11	439373.47	39°42'03.228"N	80°37'27.532"W	1151.77	55.673	3.21
6986.00	21.500	69.300	6797.03	-258.56	654.99	964.31	1683670.76	439378.95	39°42'03.284"N	80°37'27.359"W	1166.14	55.828	4.34
7028.00	21.500	66.000	6836.14	-264.94	660.82	978.98	1683684.92	439384.78	39°42'03.344"N	80°37'27.178"W	1181.14	55.980	2.91
7070.00	23.000	53.600	6875.03	-269.46	668.83	992.62	1683698.56	439392.79	39°42'03.424"N	80°37'27.005"W	1196.93	56.028	11.71
7111.00	24.900	40.700	6912.52	-270.58	680.13	1004.71	1683710.65	439404.09	39°42'03.538"N	80°37'26.852"W	1213.27	55.904	13.56
7153.00	26.100	29.300	6950.46	-268.03	694.90	1015.00	1683720.94	439418.86	39°42'03.685"N	80°37'26.723"W	1230.09	55.603	12.01
7195.00	27.800	17.100	6989.92	-261.55	712.33	1027.41	1683728.35	439436.29	39°42'03.858"N	80°37'26.631"W	1246.09	55.134	13.75
7241.00	31.500	4.700	7027.93	-249.40	734.59	1026.56	1683732.49	439458.55	39°42'04.079"N	80°37'26.582"W	1262.32	54.413	15.54
7282.00	30.700	356.200	7063.05	-235.12	755.72	1026.74	1683732.68	439479.68	39°42'04.287"N	80°37'26.583"W	1274.88	53.645	10.88
7324.00	30.300	349.500	7099.25	-218.77	776.84	1024.10	1683730.04	439500.80	39°42'04.496"N	80°37'26.620"W	1285.40	52.817	8.15
7368.00	29.900	345.200	7137.32	-200.57	798.36	1019.27	1683725.21	439522.31	39°42'04.708"N	80°37'26.685"W	1294.72	51.930	4.98
7413.00	31.800	339.900	7175.96	-180.41	820.28	1012.16	1683718.09	439544.23	39°42'04.921"N	80°37'26.779"W	1302.81	50.978	8.23
7458.00	35.100	335.700	7213.51	-157.80	843.15	1002.58	1683708.52	439567.10	39°42'05.148"N	80°37'26.906"W	1309.99	49.937	8.37
7503.00	38.700	336.700	7249.49	-132.98	867.87	991.69	1683697.63	439591.82	39°42'05.391"N	80°37'27.049"W	1317.82	48.809	8.11
7547.00	44.200	334.300	7282.46	-106.06	894.35	979.58	1683685.53	439618.29	39°42'05.652"N	80°37'27.208"W	1326.44	47.604	13.01
7577.00	49.800	331.500	7302.91	-85.44	913.86	969.57	1683675.52	439637.80	39°42'05.843"N	80°37'27.339"W	1332.37	46.694	19.87
7619.00	55.400	329.200	7328.11	-53.59	942.83	953.05	1683659.00	439666.77	39°42'06.127"N	80°37'27.555"W	1340.61	45.309	14.02
7663.00	62.300	327.200	7351.16	-17.27	974.80	933.21	1683639.15	439698.74	39°42'06.441"N	80°37'27.814"W	1349.48	43.751	16.16
7705.00	69.800	327.000	7368.20	19.93	1007.00	912.37	1683618.31	439730.94	39°42'06.756"N	80°37'28.086"W	1358.85	42.177	17.86
7747.00	77.100	327.400	7380.16	58.94	1040.82	890.58	1683596.52	439764.76	39°42'07.088"N	80°37'28.370"W	1369.83	40.552	17.40
7788.00	82.700	328.800	7387.34	97.90	1075.07	869.26	1683575.21	439799.01	39°42'07.424"N	80°37'28.648"W	1382.53	38.958	14.07
7829.00	87.400	327.500	7390.88	137.33	1109.72	847.65	1683553.60	439833.66	39°42'07.764"N	80°37'28.930"W	1396.42	37.371	12.03
7871.00	86.700	322.900	7393.04	178.34	1144.11	823.66	1683529.61	439868.05	39°42'08.100"N	80°37'29.243"W	1409.76	35.750	10.59
7913.00	87.600	319.600	7395.13	219.85	1176.82	797.40	1683503.36	439900.75	39°42'08.420"N	80°37'29.584"W	1421.54	34.121	8.13
7954.00	93.500	319.700	7394.74	260.55	1208.06	770.87	1683476.83	439931.98	39°42'08.726"N	80°37'29.928"W	1433.05	32.542	14.39
7996.00	96.200	319.700	7391.19	302.12	1239.97	743.81	1683449.76	439963.89	39°42'09.038"N	80°37'30.280"W	1445.95	30.958	6.43
8038.00	96.500	318.800	7386.54	343.61	1271.59	716.56	1683422.52	439995.51	39°42'09.347"N	80°37'30.633"W	1459.59	29.402	2.25

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Actual Wellpath Report

MWD Surveys (2733') 2858'-10341' Proj: 10407'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	CHESAPEAKE ENERGY	Slot	Slot 1
Area	Wetzel County, WV	Well	Well #5H
Field	Victory Prospect	Wellbore	Well #5H [AWB]
Facility	Martin R Whiteman Jr 5H	Sidetrack from	AWB at 2733.00 MD

WELLPATH DATA (204 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
8079.00	96.800	319.600	7381.79	384.10	1302.42	689.95	1683395.91	440026.34	39°42'09.648"N	80°37'30.979"W	1473.88	27.912	2.07
8121.00	97.500	318.200	7376.57	425.55	1333.82	662.56	1683368.52	440057.74	39°42'09.955"N	80°37'31.334"W	1489.32	26.415	3.70
8162.00	98.900	317.400	7370.72	465.99	1363.88	635.30	1683341.26	440087.80	39°42'10.249"N	80°37'31.688"W	1504.59	24.976	3.92
8204.00	98.000	315.100	7364.55	507.46	1393.89	606.57	1683312.53	440117.81	39°42'10.542"N	80°37'32.060"W	1520.15	23.517	5.83
8246.00	96.200	312.800	7359.35	549.13	1422.81	576.57	1683282.53	440146.73	39°42'10.824"N	80°37'32.448"W	1535.20	22.059	6.92
8288.00	94.300	312.000	7355.51	590.95	1451.01	545.68	1683251.65	440174.92	39°42'11.099"N	80°37'32.848"W	1550.23	20.610	4.91
8329.00	92.800	311.400	7352.97	631.86	1478.23	515.13	1683221.10	440202.14	39°42'11.364"N	80°37'33.243"W	1565.42	19.212	3.94
8370.00	92.600	312.700	7351.04	672.81	1505.66	484.72	1683190.69	440229.57	39°42'11.631"N	80°37'33.637"W	1581.76	17.845	3.20
8412.00	91.600	312.000	7349.50	714.78	1533.94	453.70	1683159.68	440257.84	39°42'11.907"N	80°37'34.038"W	1599.63	16.477	2.91
8453.00	91.300	313.100	7348.46	755.76	1561.65	423.51	1683129.48	440285.56	39°42'12.177"N	80°37'34.429"W	1618.06	15.173	2.78
8495.00	91.500	313.400	7347.44	797.75	1590.42	392.93	1683098.90	440314.33	39°42'12.458"N	80°37'34.825"W	1638.24	13.877	0.86
8537.00	92.100	313.300	7346.12	839.73	1619.24	362.40	1683068.38	440343.14	39°42'12.739"N	80°37'35.220"W	1659.30	12.615	1.45
8578.00	92.500	314.000	7344.47	880.69	1647.52	332.76	1683038.74	440371.42	39°42'13.014"N	80°37'35.604"W	1680.78	11.419	1.97
8623.00	92.500	314.400	7342.51	925.64	1678.86	300.53	1683006.51	440402.76	39°42'13.320"N	80°37'36.021"W	1705.55	10.149	0.89
8668.00	92.700	314.900	7340.47	970.57	1710.45	268.55	1682974.53	440434.35	39°42'13.628"N	80°37'36.435"W	1731.40	8.923	1.20
8712.00	91.700	313.400	7338.78	1014.53	1741.07	237.00	1682942.99	440464.97	39°42'13.927"N	80°37'36.844"W	1757.13	7.752	4.10
8757.00	92.100	312.600	7337.29	1059.50	1771.75	204.11	1682910.10	440495.64	39°42'14.226"N	80°37'37.269"W	1783.47	6.572	1.99
8802.00	92.400	313.900	7335.52	1104.47	1802.56	171.36	1682877.35	440526.45	39°42'14.527"N	80°37'37.693"W	1810.68	5.430	2.96
8846.00	91.800	314.100	7333.91	1148.43	1833.10	139.73	1682845.72	440556.99	39°42'14.824"N	80°37'38.103"W	1838.42	4.359	1.44
8891.00	90.500	314.600	7333.01	1193.41	1864.55	107.56	1682813.55	440588.41	39°42'15.131"N	80°37'38.519"W	1867.65	3.301	3.10
8936.00	90.600	313.200	7332.57	1238.40	1895.75	75.13	1682781.13	440619.64	39°42'15.436"N	80°37'38.939"W	1897.24	2.270	3.12
8980.00	90.900	313.200	7332.00	1282.40	1925.87	43.06	1682749.06	440649.75	39°42'15.729"N	80°37'39.354"W	1926.35	1.281	0.68
9025.00	91.000	313.300	7331.25	1327.39	1956.70	10.29	1682716.29	440680.58	39°42'16.030"N	80°37'39.779"W	1956.72	0.301	0.31
9070.00	91.600	313.200	7330.23	1372.38	1987.52	-22.48	1682683.52	440711.40	39°42'16.330"N	80°37'40.203"W	1987.65	359.352	1.35
9115.00	92.000	313.600	7328.32	1417.36	2018.43	-55.16	1682650.35	440742.50	39°42'16.632"N	80°37'40.626"W	2019.18	358.435	1.26
9159.00	90.900	312.700	7327.70	1461.34	2048.51	-87.25	1682618.76	440772.38	39°42'16.925"N	80°37'41.041"W	2050.36	357.561	3.23
9204.00	91.300	314.200	7326.84	1506.33	2079.45	-119.91	1682586.10	440803.32	39°42'17.227"N	80°37'41.464"W	2082.90	356.700	3.45
9248.00	92.600	315.600	7325.34	1550.28	2110.49	-151.06	1682554.95	440834.36	39°42'17.530"N	80°37'41.867"W	2115.89	355.906	4.34
9293.00	91.700	316.400	7323.66	1595.18	2142.83	-182.29	1682523.72	440866.70	39°42'17.845"N	80°37'42.272"W	2150.57	355.137	2.68
9338.00	90.800	315.800	7322.67	1640.11	2175.25	-213.49	1682492.52	440899.12	39°42'18.162"N	80°37'42.677"W	2185.70	354.395	2.40

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Actual Wellpath Report

MWD Surveys (2733') 2858'-10341' Proj: 10407'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	CHESAPEAKE ENERGY	Slot	Slot 1
Area	Wetzel County, WV	Well	Well #5H
Field	Victory Prospect	Wellbore	Well #5H [AWB]
Facility	Martin R Whiteman Jr 5H	Sidetrack from	AWB at 2733.00 MD

WELLPATH DATA (204 stations) † = interpolated/extrapolated station													
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
9382.00	90.300	314.900	7322.25	1684.07	2206.55	-244.41	1682461.61	440930.42	39°42'18.467"N	80°37'43.077"W	2220.05	353.679	2.34
9426.00	90.100	314.700	7322.10	1728.05	2237.55	-275.63	1682430.39	440961.42	39°42'18.770"N	80°37'43.482"W	2254.47	352.977	0.64
9471.00	91.500	314.900	7321.47	1773.02	2269.26	-307.56	1682398.46	440993.12	39°42'19.079"N	80°37'43.895"W	2290.01	352.282	3.14
9516.00	93.000	316.200	7319.70	1817.94	2301.36	-339.04	1682366.98	441025.22	39°42'19.392"N	80°37'44.303"W	2326.20	351.619	4.41
9561.00	91.800	316.300	7317.03	1867.79	2333.81	-370.11	1682335.91	441057.66	39°42'19.709"N	80°37'44.706"W	2362.97	350.989	1.79
9606.00	92.800	314.800	7314.44	1907.67	2365.87	-401.57	1682304.46	441089.73	39°42'20.022"N	80°37'45.113"W	2399.71	350.367	4.00
9651.00	90.600	312.900	7313.11	1952.64	2397.03	-434.00	1682272.02	441120.89	39°42'20.326"N	80°37'45.533"W	2436.00	349.737	6.46
9695.00	89.900	311.300	7312.92	1996.63	2426.53	-466.65	1682239.38	441150.38	39°42'20.614"N	80°37'45.956"W	2470.99	349.114	3.97
9739.00	91.200	311.800	7312.49	2040.61	2455.71	-499.57	1682206.46	441179.56	39°42'20.898"N	80°37'46.382"W	2506.01	348.501	3.17
9784.00	92.900	311.400	7310.88	2085.57	2485.57	-533.20	1682172.83	441209.42	39°42'21.189"N	80°37'46.817"W	2542.12	347.892	3.88
9829.00	93.500	313.200	7308.37	2130.49	2515.80	-566.43	1682139.60	441239.65	39°42'21.483"N	80°37'47.247"W	2578.78	347.311	4.21
9874.00	94.100	312.900	7305.39	2175.39	2546.46	-599.24	1682106.79	441270.30	39°42'21.782"N	80°37'47.671"W	2616.01	346.758	1.49
9919.00	94.100	311.500	7302.17	2220.27	2576.60	-632.49	1682073.55	441300.45	39°42'22.076"N	80°37'48.102"W	2653.10	346.208	3.10
9963.00	94.500	312.300	7298.87	2264.14	2605.91	-665.15	1682040.89	441329.75	39°42'22.362"N	80°37'48.524"W	2689.46	345.681	2.03
10008.00	94.900	312.400	7295.19	2308.99	2636.12	-698.30	1682007.75	441359.96	39°42'22.656"N	80°37'48.953"W	2727.04	345.163	0.92
10053.00	94.300	312.000	7291.58	2353.84	2666.25	-731.52	1681974.52	441390.09	39°42'22.950"N	80°37'49.383"W	2764.78	344.658	1.60
10097.00	93.500	310.900	7288.58	2397.72	2695.31	-764.43	1681941.62	441419.14	39°42'23.233"N	80°37'49.809"W	2801.61	344.166	3.09
10142.00	93.600	311.700	7285.80	2442.61	2724.95	-798.17	1681907.88	441448.79	39°42'23.521"N	80°37'50.245"W	2839.44	343.674	1.79
10186.00	92.800	311.700	7283.34	2486.53	2754.17	-830.97	1681875.08	441478.01	39°42'23.806"N	80°37'50.669"W	2876.80	343.211	1.82
10231.00	92.700	311.500	7281.18	2531.46	2784.02	-864.58	1681841.41	441507.85	39°42'24.097"N	80°37'51.104"W	2915.18	342.748	0.50
10275.00	91.900	310.000	7279.42	2575.39	2812.71	-897.89	1681808.17	441536.54	39°42'24.376"N	80°37'51.535"W	2952.55	342.296	3.86
10318.00	92.900	310.400	7277.62	2618.30	2840.44	-930.70	1681775.36	441564.27	39°42'24.646"N	80°37'51.959"W	2989.03	341.858	2.50
10341.00	92.700	311.000	7276.49	2641.26	2855.42	-948.12	1681757.94	441579.25	39°42'24.792"N	80°37'52.184"W	3008.72	341.632	2.75
10407.00†	92.700	311.000	7273.38	2707.14	2898.68	-997.87	1681708.19	441622.50	39°42'25.213"N	80°37'52.828"W	3065.63	341.004	0.00

103-2440

08/12/2011



Actual Wellpath Report

MWD Surveys (2733') 2858'-10341' Proj: 10407'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	CHESAPEAKE ENERGY	Slot	Slot 1
Area	Wetzel County, WV	Well	Well #5H
Field	Victory Prospect	Wellbore	Well #5H [AWB]
Facility	Martin R Whiteman Jr 5H	Sidetrack from	AWB at 2733.00 MD

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
PBHL (rev3)		7304.20	2883.17	-1008.06	1681698.00	441607.00	39°42'25.059"N	80°37'52.956"W	point
Target Entry		7334.50	1167.07	831.05	1683537.00	439891.00	39°42'08.328"N	80°37'29.152"W	point
LEASE LINE		8000.00	1300.38	1171.61	1683877.54	440024.30	39°42'09.688"N	80°37'24.816"W	polygon

WELLPATH COMPOSITION Ref Wellbore: Well #5H ST1 [AWB] Ref Wellpath: MWD Surveys (2733') 2858'-10341' Proj: 10407'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
0.00	2733.00	Generic gyro - northseeking (Standard)	VES Gyro (0') 100'-2733'	AWB	
2733.00	10341.00	NaviTrak (Standard)	BHI MWD (2733') 2858'-10341'	Well #5H ST1 [AWB]	
10341.00	10407.00	Blind Drilling (std)	Projection to bit	Well #5H ST1 [AWB]	

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Actual Wellpath Report

MWD Surveys (2733') 2858'-10341' Proj: 10407'
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REFERENCE WELLPATH IDENTIFICATION

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Field	Victory Prospect	Wellbore	Well #5H [AWB]
Facility	Martin R Whiteman Jr 5H	Sidetrack from	AWB at 2733.00 MD

COMMENTS

Wellpath general comments
 API: 47-103-02440-00
 Rig: Nomac 241
 BHI Job: 2556596
 Duration: 6/3/09-7/2/09
 FSE's: J. Bruner, M. Muaket, L. Murray
 VES Gyro (0') 100'-2733'
 BHI MWD (2733') 2858'-10341'
 TD Projected To MD: 10407'

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