

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot C
Area	Marshall County, WV	Well	WEB-22C-HS
Field	Marshall	Wellbore	WEB-22C-HS AWB
Facility	WEB-22 Pad		

REPORT SETUP INFORMATION

Projection System	NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect@ 4.0.1
North Reference	Grid	User	Edsaryar
Scale	0.999954	Report Generated	08/May/2014 at 14:50
Convergence at slot	0.65° West	Database/Source file	WellArchitectEasternDB/WEB-22C-HS_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-27.83	28.39	1713954.20	519824.71	39°55'21.875"N	80°31'11.609"W
Facility Reference Pt			1713925.81	519852.54	39°55'22.147"N	80°31'11.977"W
Field Reference Pt			609601.22	0.00	38°23'48.753"N	84°21'09.765"W

WELLPATH DATUM

Calculation method	Minimum curvature	Precision 542 (RT) to Facility Vertical Datum	18.60ft
Horizontal Reference Pt	Slot	Precision 542 (RT) to Mean Sea Level	1343.60ft
Vertical Reference Pt	Precision 542 (RT)	Precision 542 (RT) to Mud Line at Slot (Slot C)	18.60ft
MD Reference Pt	Precision 542 (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	325.00°

Received

APR 20 2015

Office of Oil and Gas
 WV Dept. of Environmental Protection



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Field	Marshall	Wellbore	WEB-22C-HS AWB
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WELLPATH DATA (210 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	59.000	0.00	0.00	0.00	0.00	1713954.20	519824.71	39°55'21.875"N	80°31'11.609"W	0.00	0.000	0.00	0.00	0.00
18.60	0.000	59.000	18.60	0.00	0.00	0.00	1713954.20	519824.71	39°55'21.875"N	80°31'11.609"W	0.00	0.000	0.00	0.00	0.00
50.00	0.980	59.000	50.00	-0.02	0.14	0.23	1713954.43	519824.85	39°55'21.876"N	80°31'11.606"W	0.27	59.000	3.12	3.12	0.00
100.00	1.090	53.850	99.99	-0.04	0.64	0.98	1713955.18	519825.35	39°55'21.881"N	80°31'11.596"W	1.17	56.910	0.29	0.22	-10.30
150.00	0.940	55.490	149.98	-0.03	1.15	1.70	1713955.90	519825.86	39°55'21.886"N	80°31'11.587"W	2.06	55.919	0.31	-0.30	3.28
200.00	0.780	65.390	199.98	-0.10	1.53	2.35	1713956.55	519826.24	39°55'21.890"N	80°31'11.579"W	2.80	57.001	0.44	-0.32	19.80
250.00	0.790	63.560	249.97	-0.21	1.82	2.97	1713957.17	519826.53	39°55'21.893"N	80°31'11.571"W	3.48	58.466	0.05	0.02	-3.66
300.00	0.930	62.870	299.97	-0.32	2.16	3.64	1713957.84	519826.87	39°55'21.896"N	80°31'11.562"W	4.23	59.303	0.28	0.28	-1.38
350.00	0.780	64.840	349.96	-0.43	2.49	4.31	1713958.51	519827.20	39°55'21.900"N	80°31'11.554"W	4.97	59.972	0.31	-0.30	3.94
400.00	1.030	71.150	399.95	-0.61	2.78	5.04	1713959.24	519827.49	39°55'21.903"N	80°31'11.544"W	5.76	61.127	0.54	0.50	12.62
441.00	1.200	70.970	440.95	-0.83	3.04	5.79	1713960.00	519827.75	39°55'21.905"N	80°31'11.535"W	6.54	62.331	0.41	0.41	-0.44
527.00	3.700	184.250	526.89	-3.23	0.56	6.44	1713960.64	519825.27	39°55'21.881"N	80°31'11.526"W	6.47	84.999	5.82	2.91	131.72
558.00	4.130	195.370	557.82	-4.72	-1.51	6.07	1713960.27	519823.20	39°55'21.860"N	80°31'11.530"W	6.26	103.970	2.81	1.39	35.87
588.00	4.050	208.010	587.74	-5.89	-3.49	5.29	1713959.49	519821.22	39°55'21.841"N	80°31'11.540"W	6.33	123.408	3.01	-0.27	42.13
621.00	3.990	232.710	620.66	-6.46	-5.21	3.83	1713958.03	519819.50	39°55'21.824"N	80°31'11.559"W	6.47	143.716	5.21	-0.18	74.85
653.00	3.820	257.800	652.59	-6.10	-6.11	1.90	1713956.10	519818.60	39°55'21.814"N	80°31'11.583"W	6.40	162.743	5.32	-0.53	78.41
684.00	3.530	277.100	683.53	-5.06	-6.21	-0.06	1713954.14	519818.50	39°55'21.813"N	80°31'11.608"W	6.21	180.534	4.08	-0.94	62.26
716.00	3.070	286.300	715.47	-3.73	-5.85	-1.86	1713952.34	519818.86	39°55'21.817"N	80°31'11.632"W	6.14	197.621	2.19	-1.44	28.75
747.00	2.300	298.820	746.44	-2.52	-5.32	-3.20	1713951.00	519819.39	39°55'21.822"N	80°31'11.649"W	6.21	211.040	3.11	-2.48	40.39
779.00	1.960	327.940	778.42	-1.40	-4.54	-4.05	1713950.15	519820.17	39°55'21.829"N	80°31'11.660"W	6.09	221.733	3.50	-1.06	91.00
810.00	2.410	358.780	809.40	-0.33	-3.44	-4.35	1713949.85	519821.27	39°55'21.840"N	80°31'11.664"W	5.55	231.630	4.00	1.45	99.48
842.00	2.870	29.480	841.37	0.58	-2.07	-3.97	1713950.23	519822.64	39°55'21.854"N	80°31'11.659"W	4.48	242.424	4.58	1.44	95.94
873.00	2.990	25.520	872.32	1.31	-0.67	-3.24	1713950.96	519824.04	39°55'21.868"N	80°31'11.650"W	3.31	258.357	0.76	0.39	-12.77
905.00	3.640	30.820	904.27	2.14	0.96	-2.36	1713951.84	519825.67	39°55'21.884"N	80°31'11.639"W	2.55	292.118	2.24	2.03	16.56
936.00	3.220	29.470	935.22	2.92	2.56	-1.43	1713952.78	519827.27	39°55'21.900"N	80°31'11.627"W	2.93	330.904	1.38	-1.35	-4.35
968.00	2.650	17.020	967.17	3.76	4.05	-0.77	1713953.44	519828.76	39°55'21.915"N	80°31'11.619"W	4.12	349.283	2.66	-1.78	-38.91
999.00	2.160	32.380	998.15	4.42	5.23	-0.24	1713953.96	519829.94	39°55'21.926"N	80°31'11.612"W	5.24	357.328	2.60	-1.58	49.55
1031.00	1.200	48.830	1030.13	4.69	5.96	0.33	1713954.53	519830.67	39°55'21.934"N	80°31'11.605"W	5.97	3.180	3.33	-3.00	51.41
1062.00	0.280	77.160	1061.13	4.70	6.19	0.65	1713954.85	519830.90	39°55'21.936"N	80°31'11.601"W	6.22	5.988	3.11	-2.97	91.39
1094.00	0.650	244.760	1093.13	4.70	6.13	0.56	1713954.76	519830.84	39°55'21.935"N	80°31'11.602"W	6.16	5.232	2.89	1.16	523.75

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Facility	WEB-22 Pad		

WELLPATH DATA (210 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]
1125.00	0.710	200.450	1124.13	4.62	5.88	0.34	1713954.54	519830.59	39°55'21.933"N	80°31'11.605"W	5.88	3.265	1.66	0.19	-142.94
1157.00	1.050	211.250	1156.12	4.39	5.44	0.11	1713954.32	519830.15	39°55'21.928"N	80°31'11.608"W	5.44	1.199	1.18	1.06	33.75
1188.00	0.910	243.230	1187.12	4.31	5.09	-0.25	1713953.95	519829.80	39°55'21.925"N	80°31'11.613"W	5.09	357.148	1.79	-0.45	103.16
1226.00	1.510	225.430	1225.11	4.27	4.60	-0.88	1713953.32	519829.31	39°55'21.920"N	80°31'11.621"W	4.68	349.172	1.84	1.58	-46.84
1317.00	1.570	214.910	1316.08	3.64	2.73	-2.45	1713951.76	519827.44	39°55'21.901"N	80°31'11.640"W	3.67	318.172	0.32	0.07	-11.56
1348.00	1.700	213.490	1347.07	3.33	2.00	-2.94	1713951.26	519826.71	39°55'21.894"N	80°31'11.647"W	3.56	304.225	0.44	0.42	-4.58
1380.00	1.710	216.230	1379.05	3.00	1.22	-3.49	1713950.71	519825.93	39°55'21.886"N	80°31'11.653"W	3.70	289.300	0.26	0.03	8.56
1411.00	1.260	203.600	1410.04	2.67	0.54	-3.90	1713950.30	519825.25	39°55'21.880"N	80°31'11.659"W	3.93	277.830	1.79	-1.45	-40.74
1443.00	1.270	186.120	1442.03	2.22	-0.14	-4.08	1713950.13	519824.57	39°55'21.873"N	80°31'11.661"W	4.08	268.047	1.20	0.03	-54.62
1506.00	1.020	169.400	1505.02	1.19	-1.38	-4.05	1713950.15	519823.33	39°55'21.861"N	80°31'11.660"W	4.28	251.118	0.66	-0.40	-26.54
1627.00	1.190	144.430	1626.00	-1.05	-3.47	-3.12	1713951.08	519821.25	39°55'21.840"N	80°31'11.648"W	4.66	221.988	0.42	0.14	-20.64
1672.00	0.790	122.640	1670.99	-1.80	-4.01	-2.59	1713951.62	519820.70	39°55'21.835"N	80°31'11.641"W	4.77	212.798	1.21	-0.89	-48.42
1762.00	1.230	118.090	1760.98	-3.24	-4.80	-1.21	1713952.99	519819.91	39°55'21.827"N	80°31'11.623"W	4.95	194.154	0.50	0.49	-5.06
1851.00	1.160	105.500	1849.96	-4.79	-5.49	0.50	1713954.70	519819.22	39°55'21.820"N	80°31'11.601"W	5.52	174.800	0.30	-0.08	-14.15
1941.00	1.080	22.180	1939.95	-5.03	-4.95	1.70	1713955.90	519819.76	39°55'21.826"N	80°31'11.586"W	5.23	161.068	1.66	-0.09	-92.58
2030.00	1.960	351.460	2028.92	-3.21	-2.67	1.79	1713955.99	519822.04	39°55'21.849"N	80°31'11.585"W	3.21	146.167	1.31	0.99	-34.52
2120.00	1.730	348.700	2118.87	-0.59	0.19	1.29	1713955.50	519824.90	39°55'21.877"N	80°31'11.592"W	1.31	81.835	0.27	-0.26	-3.07
2209.00	1.940	339.740	2207.82	2.10	2.92	0.51	1713954.71	519827.63	39°55'21.904"N	80°31'11.602"W	2.96	9.901	0.40	0.24	-10.07
2299.00	2.080	328.390	2297.77	5.20	5.74	-0.87	1713953.33	519830.45	39°55'21.931"N	80°31'11.621"W	5.80	351.331	0.47	0.16	-12.61
2388.00	2.350	318.990	2386.70	8.63	8.49	-2.92	1713951.28	519833.20	39°55'21.958"N	80°31'11.647"W	8.98	341.027	0.51	0.30	-10.56
2478.00	2.290	312.230	2476.63	12.22	11.09	-5.46	1713948.74	519835.80	39°55'21.984"N	80°31'11.680"W	12.36	333.784	0.31	-0.07	-7.51
2567.00	1.970	303.170	2565.57	15.37	13.12	-8.06	1713946.14	519837.83	39°55'22.003"N	80°31'11.714"W	15.40	328.447	0.52	-0.36	-10.18
2657.00	1.020	276.820	2655.54	17.34	14.06	-10.15	1713944.05	519838.77	39°55'22.013"N	80°31'11.741"W	17.34	324.186	1.28	-1.06	-29.28
2746.00	1.120	248.170	2744.52	18.07	13.83	-11.74	1713942.46	519838.54	39°55'22.010"N	80°31'11.761"W	18.15	319.676	0.60	0.11	-32.19
2836.00	0.160	189.400	2834.52	18.18	13.38	-12.58	1713941.62	519838.09	39°55'22.006"N	80°31'11.772"W	18.37	316.773	1.16	-1.07	-65.30
2925.00	0.470	59.390	2923.51	18.06	13.45	-12.29	1713941.92	519838.16	39°55'22.006"N	80°31'11.768"W	18.21	317.583	0.66	0.35	-146.08
3015.00	0.620	38.200	3013.51	18.17	14.02	-11.67	1713942.54	519838.73	39°55'22.012"N	80°31'11.760"W	18.24	320.229	0.28	0.17	-23.54
3104.00	0.830	43.090	3102.50	18.45	14.87	-10.93	1713943.27	519839.58	39°55'22.020"N	80°31'11.751"W	18.45	323.679	0.25	0.24	5.49
3194.00	0.780	30.190	3192.49	18.84	15.87	-10.17	1713944.03	519840.58	39°55'22.030"N	80°31'11.741"W	18.85	327.337	0.21	-0.06	-14.33
3283.00	1.120	354.900	3281.48	19.85	17.26	-9.95	1713944.26	519841.97	39°55'22.044"N	80°31'11.739"W	19.92	330.046	0.74	0.38	-39.65

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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]
3370.00	1.530	357.370	3368.46	21.56	19.27	-10.08	1713944.13	519843.98	39°55'22.064"N	80°31'11.741"W	21.74	332.393	0.48	0.47	2.84
3455.00	1.340	354.240	3453.43	23.39	21.39	-10.23	1713943.97	519846.10	39°55'22.085"N	80°31'11.743"W	23.71	334.445	0.24	-0.22	-3.68
3545.00	1.080	2.500	3543.41	24.98	23.29	-10.30	1713943.91	519847.99	39°55'22.104"N	80°31'11.744"W	25.46	336.145	0.35	-0.29	9.18
3635.00	1.110	357.130	3633.40	26.39	25.00	-10.30	1713943.90	519849.71	39°55'22.121"N	80°31'11.744"W	27.04	337.604	0.12	0.03	-5.97
3724.00	0.960	103.340	3722.39	26.56	25.69	-9.62	1713944.58	519850.40	39°55'22.127"N	80°31'11.736"W	27.43	339.470	1.86	-0.17	119.34
3814.00	1.180	120.160	3812.37	25.16	25.05	-8.09	1713946.12	519849.76	39°55'22.121"N	80°31'11.716"W	26.33	342.111	0.42	0.24	18.69
3903.00	0.880	102.600	3901.36	23.82	24.44	-6.63	1713947.58	519849.15	39°55'22.115"N	80°31'11.697"W	25.33	344.831	0.49	-0.34	-19.73
3993.00	2.650	161.840	3991.32	21.32	22.32	-5.30	1713948.90	519847.02	39°55'22.095"N	80°31'11.680"W	22.94	346.630	2.58	1.97	65.82
4082.00	2.660	158.370	4080.22	17.34	18.44	-3.90	1713950.30	519843.15	39°55'22.056"N	80°31'11.661"W	18.85	348.054	0.18	0.01	-3.90
4172.00	0.490	19.030	4170.19	15.54	16.86	-3.01	1713951.20	519841.57	39°55'22.041"N	80°31'11.650"W	17.13	349.893	3.39	-2.41	-154.82
4262.00	0.610	60.970	4260.19	15.71	17.46	-2.46	1713951.74	519842.17	39°55'22.047"N	80°31'11.643"W	17.63	351.975	0.45	0.13	46.60
4351.00	0.580	50.150	4349.18	15.70	17.98	-1.70	1713952.50	519842.69	39°55'22.052"N	80°31'11.633"W	18.06	354.593	0.15	-0.03	-12.16
4441.00	0.410	5.340	4439.18	15.99	18.59	-1.32	1713952.88	519843.30	39°55'22.058"N	80°31'11.628"W	18.64	355.933	0.45	-0.19	-49.79
4531.00	0.720	348.820	4529.18	16.75	19.47	-1.40	1713952.80	519844.17	39°55'22.067"N	80°31'11.629"W	19.52	355.882	0.39	0.34	-18.36
4620.00	0.730	103.280	4618.17	16.84	19.88	-0.96	1713953.24	519844.59	39°55'22.071"N	80°31'11.624"W	19.91	357.241	1.37	0.01	128.61
4710.00	0.820	89.070	4708.16	16.05	19.76	0.24	1713954.45	519844.47	39°55'22.070"N	80°31'11.608"W	19.76	0.707	0.23	0.10	-15.79
4799.00	0.540	124.200	4797.16	15.30	19.54	1.23	1713955.43	519844.25	39°55'22.068"N	80°31'11.596"W	19.58	3.595	0.55	-0.31	39.47
4889.00	0.880	134.120	4887.15	14.22	18.82	2.07	1713956.28	519843.53	39°55'22.061"N	80°31'11.585"W	18.93	6.291	0.40	0.38	11.02
4979.00	1.060	178.940	4977.14	12.86	17.50	2.59	1713956.79	519842.21	39°55'22.048"N	80°31'11.578"W	17.69	8.404	0.84	0.20	49.80
5068.00	1.280	181.030	5066.12	11.37	15.69	2.58	1713956.79	519840.40	39°55'22.030"N	80°31'11.578"W	15.90	9.352	0.25	0.25	2.35
5158.00	0.870	166.040	5156.11	9.92	14.02	2.73	1713956.93	519838.73	39°55'22.014"N	80°31'11.576"W	14.28	11.020	0.55	-0.46	-16.66
5247.00	0.800	190.100	5245.10	8.85	12.75	2.78	1713956.99	519837.46	39°55'22.001"N	80°31'11.575"W	13.05	12.317	0.40	-0.08	27.03
5337.00	0.330	176.360	5335.09	8.18	11.87	2.69	1713956.89	519836.58	39°55'21.992"N	80°31'11.576"W	12.18	12.766	0.54	-0.52	-15.27
5426.00	0.460	187.380	5424.09	7.70	11.26	2.66	1713956.86	519835.97	39°55'21.986"N	80°31'11.576"W	11.57	13.291	0.17	0.15	12.38
5516.00	0.570	202.880	5514.09	7.20	10.49	2.44	1713956.64	519835.20	39°55'21.979"N	80°31'11.579"W	10.77	13.092	0.20	0.12	17.22
5605.00	0.290	207.520	5603.08	6.86	9.89	2.16	1713956.37	519834.60	39°55'21.973"N	80°31'11.582"W	10.12	12.348	0.32	-0.31	5.21
5631.00	4.390	119.180	5629.06	5.93	9.34	3.00	1713957.21	519834.05	39°55'21.967"N	80°31'11.571"W	9.81	17.820	16.89	15.77	-339.77
5676.00	6.900	117.840	5673.84	1.97	7.24	6.90	1713961.10	519831.95	39°55'21.947"N	80°31'11.521"W	10.00	43.613	5.59	5.58	-2.98
5721.00	8.110	116.240	5718.45	-3.21	4.57	12.13	1713966.34	519829.28	39°55'21.921"N	80°31'11.453"W	12.97	69.348	2.73	2.69	-3.56
5765.00	8.550	117.320	5761.99	-8.83	1.70	17.82	1713972.03	519826.41	39°55'21.893"N	80°31'11.380"W	17.91	84.551	1.06	1.00	2.45



Actual Wellpath Report

WEB-22C-HS (AWP) Proj: 14797
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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot C
Area	Marshall County, WV	Well	WEB-22C-HS
Field	Marshall	Wellbore	WEB-22C-HS AWB
Facility	WEB-22 Pad		

WELLPATH DATA (210 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]
5810.00	10.060	118.970	5806.39	-15.33	-1.74	24.24	1713978.44	519822.97	39°55'21.860"N	80°31'11.297"W	24.30	94.103	3.41	3.36	3.67
5855.00	11.370	117.890	5850.61	-22.81	-5.72	31.60	1713985.80	519818.99	39°55'21.822"N	80°31'11.202"W	32.11	100.257	2.94	2.91	-2.40
5900.00	13.020	113.210	5894.59	-31.06	-9.79	40.18	1713994.38	519814.92	39°55'21.782"N	80°31'11.092"W	41.35	103.696	4.27	3.67	-10.40
5944.00	15.010	109.420	5937.28	-39.91	-13.64	50.11	1714004.31	519811.07	39°55'21.746"N	80°31'10.964"W	51.93	105.227	4.98	4.52	-8.61
5989.00	17.240	110.300	5980.51	-50.13	-17.89	61.86	1714016.06	519806.82	39°55'21.705"N	80°31'10.812"W	64.39	106.131	4.99	4.96	1.96
6034.00	17.450	112.780	6023.46	-61.33	-22.82	74.33	1714028.53	519801.90	39°55'21.658"N	80°31'10.651"W	77.75	107.064	1.71	0.47	5.51
6079.00	16.750	116.140	6066.47	-72.71	-28.29	86.37	1714040.57	519796.43	39°55'21.605"N	80°31'10.496"W	90.89	108.133	2.69	-1.56	7.47
6124.00	14.600	115.280	6109.80	-83.32	-33.57	97.33	1714051.52	519791.15	39°55'21.554"N	80°31'10.355"W	102.95	109.028	4.81	-4.78	-1.91
6168.00	13.030	98.270	6152.54	-91.54	-36.65	107.25	1714061.45	519788.06	39°55'21.525"N	80°31'10.227"W	113.34	108.865	9.85	-3.57	-38.66
6213.00	14.330	86.810	6196.27	-97.95	-37.07	117.84	1714072.03	519787.64	39°55'21.522"N	80°31'10.091"W	123.53	107.462	6.67	2.89	-25.47
6258.00	16.290	77.010	6239.68	-103.25	-35.34	129.55	1714083.75	519789.37	39°55'21.540"N	80°31'09.941"W	134.28	105.258	7.20	4.36	-21.78
6303.00	17.080	64.320	6282.80	-106.69	-31.06	141.66	1714095.85	519793.66	39°55'21.584"N	80°31'09.786"W	145.02	102.365	8.27	1.76	-28.20
6347.00	17.260	47.180	6324.86	-106.85	-23.81	152.28	1714106.47	519800.90	39°55'21.656"N	80°31'09.651"W	154.13	98.888	11.47	0.41	-38.95
6392.00	17.850	30.710	6367.80	-103.10	-13.34	160.70	1714114.90	519811.37	39°55'21.761"N	80°31'09.544"W	161.25	94.745	11.08	1.31	-36.60
6437.00	18.490	15.910	6410.57	-95.76	-0.54	166.18	1714120.38	519824.17	39°55'21.888"N	80°31'09.476"W	166.18	90.187	10.33	1.42	-32.89
6482.00	19.010	9.450	6453.19	-86.03	13.55	169.34	1714123.54	519838.26	39°55'22.028"N	80°31'09.437"W	169.88	85.424	4.75	1.16	-14.36
6527.00	20.180	3.800	6495.59	-74.75	28.53	171.06	1714125.25	519853.24	39°55'22.176"N	80°31'09.417"W	173.42	80.532	4.95	2.60	-12.56
6572.00	22.270	359.250	6537.54	-61.65	44.80	171.46	1714125.66	519869.51	39°55'22.337"N	80°31'09.415"W	177.22	75.356	5.91	4.64	-10.11
6616.00	25.420	348.830	6577.79	-46.11	62.42	169.52	1714123.72	519887.12	39°55'22.510"N	80°31'09.442"W	180.65	69.787	11.93	7.16	-23.68
6661.00	30.690	345.030	6617.49	-26.47	83.00	164.68	1714118.88	519907.71	39°55'22.713"N	80°31'09.507"W	184.42	63.251	12.36	11.71	-8.44
6706.00	35.780	344.350	6655.12	-3.25	106.78	158.16	1714112.36	519931.48	39°55'22.948"N	80°31'09.594"W	190.83	55.976	11.34	11.31	-1.51
6751.00	40.770	343.590	6690.44	23.11	133.56	150.46	1714104.65	519958.26	39°55'23.211"N	80°31'09.697"W	201.18	48.405	11.14	11.09	-1.69
6795.00	46.320	342.390	6722.32	51.93	162.53	141.58	1714095.77	519987.23	39°55'23.497"N	80°31'09.815"W	215.54	41.059	12.75	12.61	-2.73
6840.00	50.740	340.110	6752.11	84.29	194.44	130.72	1714084.92	520019.14	39°55'23.811"N	80°31'09.959"W	234.30	33.913	10.53	9.82	-5.07
6885.00	55.770	337.070	6779.03	119.33	227.98	117.54	1714071.73	520052.68	39°55'24.141"N	80°31'10.133"W	256.49	27.274	12.42	11.18	-6.76
6930.00	60.980	333.530	6802.62	157.02	262.76	101.50	1714055.70	520087.45	39°55'24.483"N	80°31'10.344"W	281.68	21.122	13.37	11.58	-7.87
6975.00	67.010	330.720	6822.35	197.13	298.47	82.58	1714036.78	520123.17	39°55'24.833"N	80°31'10.592"W	309.69	15.466	14.53	13.40	-6.24
7019.00	72.110	328.930	6837.71	238.20	334.10	61.86	1714016.06	520158.79	39°55'25.183"N	80°31'10.863"W	339.78	10.490	12.20	11.59	-4.07
7064.00	75.860	329.160	6850.12	281.33	371.18	39.62	1713993.82	520195.88	39°55'25.547"N	80°31'11.154"W	373.29	6.092	8.35	8.33	0.51
7109.00	76.740	330.110	6860.78	324.91	408.91	17.52	1713971.72	520233.60	39°55'25.917"N	80°31'11.443"W	409.28	2.453	2.83	1.96	2.11

06/12/2015

REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot C
NOBLE ENERGY		
Area	Well	WEB-22C-HS
Field	Wellbore	WEB-22C-HS AWB
Facility	WEB-22 Pad	

WELLPATH DATA (210 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]
7154.00	80.390	332.260	6869.70	368.75	447.55	-3.73	1713950.47	520272.23	39°55'26.297"N	80°31'11.722"W	447.56	359.522	9.37	8.11	4.78
7199.00	81.910	332.980	6876.62	412.82	487.03	-24.18	1713930.02	520311.71	39°55'26.685"N	80°31'11.990"W	487.63	357.158	3.73	3.38	1.60
7243.00	85.470	332.130	6881.46	456.17	525.83	-44.33	1713909.87	520350.52	39°55'27.066"N	80°31'12.254"W	527.70	355.181	8.32	8.09	-1.93
7288.00	86.700	330.500	6884.53	500.79	565.21	-65.88	1713888.32	520389.90	39°55'27.453"N	80°31'12.536"W	569.04	353.351	4.53	2.73	-3.62
7333.00	87.040	328.870	6886.99	545.57	604.00	-88.56	1713865.64	520428.68	39°55'27.833"N	80°31'12.833"W	610.46	351.658	3.69	0.76	-3.62
7378.00	87.780	326.800	6889.02	590.46	642.05	-112.49	1713841.71	520466.73	39°55'28.207"N	80°31'13.146"W	651.83	350.062	4.88	1.64	-4.60
7424.00	90.120	325.530	6889.87	636.44	680.25	-138.10	1713816.11	520504.93	39°55'28.581"N	80°31'13.480"W	694.13	348.524	5.79	5.09	-2.76
7467.00	89.850	322.410	6889.88	679.43	715.02	-163.39	1713790.82	520539.70	39°55'28.922"N	80°31'13.810"W	733.45	347.128	7.28	-0.63	-7.26
7557.00	89.940	324.930	6890.04	769.40	787.52	-216.70	1713737.51	520612.20	39°55'29.633"N	80°31'14.505"W	816.79	344.615	2.80	0.10	2.80
7647.00	90.620	325.720	6889.60	859.39	861.54	-267.91	1713686.31	520686.21	39°55'30.358"N	80°31'15.173"W	902.23	342.726	1.16	0.76	0.88
7736.00	90.650	325.020	6888.62	948.39	934.76	-318.48	1713635.74	520759.43	39°55'31.076"N	80°31'15.832"W	987.53	341.186	0.79	0.03	-0.79
7826.00	90.890	323.930	6887.41	1038.37	1008.00	-370.77	1713583.45	520832.67	39°55'31.794"N	80°31'16.514"W	1074.03	339.805	1.24	0.27	-1.21
7915.00	91.260	323.230	6885.74	1127.33	1079.61	-423.60	1713530.62	520904.27	39°55'32.496"N	80°31'17.203"W	1159.74	338.577	0.89	0.42	-0.79
8005.00	92.310	321.090	6882.93	1217.17	1150.64	-478.78	1713475.45	520975.30	39°55'33.192"N	80°31'17.921"W	1246.28	337.408	2.65	1.17	-2.38
8094.00	90.950	318.980	6880.40	1305.79	1218.82	-535.92	1713418.31	521043.48	39°55'33.859"N	80°31'18.664"W	1331.44	336.265	2.82	-1.53	-2.37
8184.00	90.810	319.890	6879.02	1395.36	1287.19	-594.44	1713359.79	521111.83	39°55'34.528"N	80°31'19.426"W	1417.82	335.212	1.02	-0.16	1.01
8274.00	91.110	320.390	6877.51	1485.02	1356.26	-652.11	1713302.12	521180.91	39°55'35.204"N	80°31'20.176"W	1504.89	334.321	0.65	0.33	0.56
8363.00	90.620	323.040	6876.17	1573.85	1426.11	-707.24	1713246.99	521250.75	39°55'35.888"N	80°31'20.894"W	1591.84	333.622	3.03	-0.55	2.98
8453.00	88.860	327.080	6876.58	1663.83	1499.86	-758.77	1713195.47	521324.50	39°55'36.611"N	80°31'21.566"W	1680.87	333.165	4.90	-1.96	4.49
8543.00	90.800	330.170	6876.84	1753.64	1576.69	-805.62	1713148.62	521401.33	39°55'37.365"N	80°31'22.178"W	1770.59	332.935	4.05	2.16	3.43
8632.00	92.680	329.220	6874.14	1842.29	1653.49	-850.51	1713103.73	521478.12	39°55'38.119"N	80°31'22.766"W	1859.41	332.780	2.37	2.11	-1.07
8722.00	93.760	325.970	6869.08	1932.04	1729.34	-898.66	1713055.59	521553.97	39°55'38.863"N	80°31'23.395"W	1948.90	332.541	3.80	1.20	-3.61
8812.00	92.520	323.300	6864.15	2021.90	1802.62	-950.66	1713003.59	521627.24	39°55'39.581"N	80°31'24.073"W	2037.94	332.194	3.27	-1.38	-2.97
8901.00	91.260	321.570	6861.22	2110.75	1873.12	-1004.89	1712949.36	521697.74	39°55'40.272"N	80°31'24.779"W	2125.65	331.787	2.40	-1.42	-1.94
8991.00	88.860	323.350	6861.12	2200.65	1944.47	-1059.73	1712894.52	521769.09	39°55'40.971"N	80°31'25.494"W	2214.50	331.410	3.31	-2.67	1.96
9080.00	87.850	327.670	6863.68	2289.59	2017.77	-1110.11	1712844.14	521842.38	39°55'41.689"N	80°31'26.151"W	2302.98	331.182	5.00	-1.13	4.88
9170.00	91.410	332.830	6864.26	2379.17	2095.86	-1154.75	1712799.51	521920.47	39°55'42.456"N	80°31'26.735"W	2392.93	331.147	6.96	3.96	5.73
9274.00	91.140	331.830	6861.95	2482.29	2187.95	-1203.03	1712751.23	522012.55	39°55'43.361"N	80°31'27.368"W	2496.88	331.196	1.00	-0.26	-0.96
9369.00	91.850	325.350	6859.47	2577.02	2268.95	-1252.50	1712701.77	522093.56	39°55'44.156"N	80°31'28.015"W	2591.70	331.101	6.86	0.75	-6.82
9463.00	90.920	322.540	6857.19	2670.97	2344.92	-1307.80	1712646.47	522169.52	39°55'44.900"N	80°31'28.736"W	2684.95	330.851	3.15	-0.99	-2.99

REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot C
NOBLE ENERGY	Well	WEB-22C-HS
Area	Marshall County, WV	WEB-22C-HS AWB
Field	Marshall	
Facility	WEB-22 Pad	

WELLPATH DATA (210 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]
9558.00	90.550	322.670	6855.98	2765.88	2420.39	-1365.49	1712588.78	522244.98	39°55'45.639"N	80°31'29.488"W	2779.00	330.570	0.41	-0.39	0.14
9652.00	90.680	324.900	6854.97	2859.84	2496.22	-1421.02	1712533.25	522320.81	39°55'46.382"N	80°31'30.211"W	2872.35	330.348	2.38	0.14	2.37
9747.00	90.460	323.250	6854.02	2954.82	2573.14	-1476.75	1712477.52	522397.73	39°55'47.136"N	80°31'30.938"W	2966.79	330.148	1.75	-0.23	-1.74
9841.00	90.310	323.690	6853.39	3048.79	2648.67	-1532.70	1712421.57	522473.25	39°55'47.876"N	80°31'31.667"W	3060.17	329.943	0.49	-0.16	0.47
9936.00	89.910	325.690	6853.21	3143.78	2726.19	-1587.61	1712366.67	522550.77	39°55'48.636"N	80°31'32.383"W	3154.78	329.785	2.15	-0.42	2.11
10031.00	90.060	325.550	6853.23	3238.78	2804.60	-1641.26	1712313.03	522629.17	39°55'49.405"N	80°31'33.083"W	3249.53	329.664	0.22	0.16	-0.15
10125.00	90.370	323.460	6852.88	3332.77	2881.12	-1695.83	1712258.45	522705.69	39°55'50.155"N	80°31'33.795"W	3343.16	329.519	2.25	0.33	-2.22
10220.00	89.750	324.720	6852.78	3427.75	2958.06	-1751.55	1712202.74	522782.63	39°55'50.909"N	80°31'34.522"W	3437.74	329.369	1.48	-0.65	1.33
10309.00	89.910	324.790	6853.04	3516.75	3030.75	-1802.91	1712151.38	522855.31	39°55'51.622"N	80°31'35.192"W	3526.46	329.253	0.20	0.18	0.08
10399.00	90.000	325.030	6853.11	3606.75	3104.39	-1854.65	1712099.65	522928.95	39°55'52.343"N	80°31'35.866"W	3616.21	329.145	0.28	0.10	0.27
10488.00	90.520	323.200	6852.71	3695.73	3176.50	-1906.81	1712047.48	523001.05	39°55'53.050"N	80°31'36.547"W	3704.87	329.024	2.14	0.58	-2.06
10578.00	89.720	323.140	6852.52	3785.69	3248.53	-1960.76	1711993.54	523073.09	39°55'53.756"N	80°31'37.250"W	3794.41	328.886	0.89	-0.89	-0.07
10667.00	90.430	324.910	6852.41	3874.67	3320.55	-2013.04	1711941.26	523145.11	39°55'54.462"N	80°31'37.931"W	3883.09	328.774	2.14	0.80	1.99
10757.00	90.550	324.340	6851.64	3964.66	3393.94	-2065.14	1711889.16	523218.48	39°55'55.181"N	80°31'38.611"W	3972.86	328.680	0.65	0.13	-0.63
10846.00	90.430	324.200	6850.87	4053.65	3466.18	-2117.11	1711837.19	523290.73	39°55'55.889"N	80°31'39.288"W	4061.60	328.584	0.21	-0.13	-0.16
10936.00	90.400	325.100	6850.22	4143.65	3539.58	-2169.18	1711785.12	523364.13	39°55'56.608"N	80°31'39.968"W	4151.39	328.499	1.00	-0.03	1.00
11026.00	90.370	325.070	6849.62	4233.65	3613.38	-2220.69	1711733.62	523437.92	39°55'57.332"N	80°31'40.640"W	4241.23	328.426	0.05	-0.03	-0.03
11115.00	90.460	328.100	6848.97	4322.60	3687.66	-2269.70	1711684.61	523512.20	39°55'58.060"N	80°31'41.280"W	4330.17	328.388	3.41	0.10	3.40
11205.00	90.430	328.800	6848.27	4412.43	3764.36	-2316.79	1711637.53	523588.89	39°55'58.813"N	80°31'41.895"W	4420.17	328.390	0.78	-0.03	0.78
11294.00	90.370	327.270	6847.65	4501.30	3839.86	-2363.90	1711590.41	523664.38	39°55'59.554"N	80°31'42.511"W	4509.16	328.383	1.72	-0.07	-1.72
11384.00	90.430	327.200	6847.02	4591.23	3915.54	-2412.61	1711541.71	523740.06	39°56'00.296"N	80°31'43.147"W	4599.14	328.360	0.10	0.07	-0.08
11474.00	90.370	326.990	6846.40	4681.17	3991.09	-2461.50	1711492.82	523815.61	39°56'01.037"N	80°31'43.786"W	4689.12	328.336	0.24	-0.07	-0.23
11563.00	90.400	325.700	6845.80	4770.14	4065.17	-2510.82	1711443.50	523889.69	39°56'01.764"N	80°31'44.430"W	4778.06	328.299	1.45	0.03	-1.45
11653.00	90.680	323.780	6844.95	4860.13	4138.66	-2562.77	1711391.55	523963.17	39°56'02.484"N	80°31'45.108"W	4867.88	328.233	2.16	0.31	-2.13
11743.00	90.620	324.880	6843.93	4950.12	4211.77	-2615.25	1711339.08	524036.27	39°56'03.200"N	80°31'45.792"W	4957.67	328.162	1.22	-0.07	1.22
11832.00	90.620	325.530	6842.97	5039.11	4284.85	-2666.03	1711288.30	524109.35	39°56'03.917"N	80°31'46.455"W	5046.55	328.110	0.73	0.00	0.73
11922.00	90.590	325.240	6842.02	5129.11	4358.91	-2717.15	1711237.18	524183.41	39°56'04.643"N	80°31'47.122"W	5136.44	328.062	0.32	-0.03	-0.32
12012.00	91.390	324.630	6840.46	5219.09	4432.57	-2768.85	1711185.48	524257.06	39°56'05.365"N	80°31'47.796"W	5226.30	328.009	1.12	0.89	-0.68
12101.00	91.450	322.760	6838.25	5308.04	4504.26	-2821.53	1711132.81	524328.76	39°56'06.068"N	80°31'48.483"W	5315.02	327.936	2.10	0.07	-2.10
12191.00	90.740	322.130	6836.53	5397.93	4575.60	-2876.37	1711077.97	524400.09	39°56'06.766"N	80°31'49.197"W	5404.59	327.845	1.05	-0.79	-0.70



Actual Wellpath Report

WEB-22C-HS (AWP) Proj: 14797'
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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot C
Area	Marshall County, WV	Well	WEB-22C-HS
Field	Marshall	Wellbore	WEB-22C-HS AWB
Facility	WEB-22 Pad		

WELLPATH DATA (210 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]
12281.00	90.890	321.090	6835.25	5487.76	4646.13	-2932.26	1711022.08	524470.62	39°56'07.457"N	80°31'49.925"W	5494.06	327.743	1.17	0.17	-1.16
12370.00	90.620	319.930	6834.08	5576.48	4714.81	-2988.85	1710965.49	524539.29	39°56'08.129"N	80°31'50.662"W	5582.35	327.628	1.34	-0.30	-1.30
12460.00	90.580	321.500	6833.14	5666.22	4784.46	-3045.83	1710908.52	524608.95	39°56'08.811"N	80°31'51.403"W	5671.70	327.519	1.74	-0.04	1.74
12550.00	90.680	326.350	6832.15	5756.17	4857.18	-3098.81	1710855.54	524681.66	39°56'09.524"N	80°31'52.094"W	5761.49	327.463	5.39	0.11	5.39
12639.00	90.710	327.600	6831.07	5845.11	4931.79	-3147.31	1710807.04	524756.27	39°56'10.255"N	80°31'52.728"W	5850.48	327.455	1.40	0.03	1.40
12729.00	90.800	326.570	6829.88	5935.04	5007.34	-3196.21	1710758.14	524831.81	39°56'10.996"N	80°31'53.367"W	5940.47	327.450	1.15	0.10	-1.14
12818.00	90.250	326.370	6829.07	6024.01	5081.53	-3245.37	1710708.99	524905.99	39°56'11.724"N	80°31'54.009"W	6029.46	327.435	0.66	-0.62	-0.22
12908.00	90.280	326.650	6828.65	6113.98	5156.58	-3295.03	1710659.33	524981.05	39°56'12.460"N	80°31'54.657"W	6119.44	327.422	0.31	0.03	0.31
12998.00	90.310	325.400	6828.19	6203.96	5231.22	-3345.32	1710609.04	525055.68	39°56'13.192"N	80°31'55.314"W	6209.41	327.401	1.39	0.03	-1.39
13087.00	90.370	324.820	6827.66	6292.96	5304.22	-3396.23	1710558.13	525128.67	39°56'13.907"N	80°31'55.978"W	6298.34	327.369	0.66	0.07	-0.65
13177.00	90.280	326.390	6827.15	6382.95	5378.48	-3447.07	1710507.30	525202.93	39°56'14.636"N	80°31'56.642"W	6388.30	327.344	1.75	-0.10	1.74
13266.00	90.400	328.630	6826.62	6471.86	5453.54	-3494.87	1710459.50	525277.99	39°56'15.372"N	80°31'57.266"W	6477.29	327.346	2.52	0.13	2.52
13356.00	90.280	326.580	6826.09	6561.76	5529.53	-3543.09	1710411.29	525353.98	39°56'16.117"N	80°31'57.896"W	6567.28	327.350	2.28	-0.13	-2.28
13446.00	90.340	326.410	6825.60	6651.73	5604.57	-3592.77	1710361.61	525429.02	39°56'16.853"N	80°31'58.545"W	6657.27	327.338	0.20	0.07	-0.19
13535.00	90.370	325.860	6825.05	6740.71	5678.47	-3642.36	1710312.02	525502.91	39°56'17.578"N	80°31'59.193"W	6746.25	327.323	0.62	0.03	-0.62
13625.00	90.310	324.240	6824.51	6830.70	5752.24	-3693.91	1710260.46	525576.67	39°56'18.301"N	80°31'59.865"W	6836.17	327.293	1.80	-0.07	-1.80
13714.00	90.090	323.260	6824.20	6919.68	5824.01	-3746.54	1710207.84	525648.44	39°56'19.004"N	80°32'00.552"W	6925.00	327.247	1.13	-0.25	-1.10
13804.00	90.120	322.600	6824.04	7009.62	5895.82	-3800.79	1710153.59	525720.25	39°56'19.708"N	80°32'01.259"W	7014.75	327.192	0.73	0.03	-0.73
13893.00	90.030	322.140	6823.92	7098.52	5966.31	-3855.13	1710099.26	525790.73	39°56'20.398"N	80°32'01.967"W	7103.44	327.131	0.53	-0.10	-0.52
13983.00	90.030	322.090	6823.88	7188.41	6037.34	-3910.40	1710043.99	525861.76	39°56'21.094"N	80°32'02.686"W	7193.10	327.069	0.06	0.00	-0.06
14073.00	90.120	323.100	6823.76	7278.33	6108.83	-3965.07	1709989.33	525933.25	39°56'21.794"N	80°32'03.399"W	7282.83	327.014	1.13	0.10	1.12
14162.00	90.030	324.790	6823.64	7367.31	6180.78	-4017.45	1709936.95	526005.19	39°56'22.499"N	80°32'04.082"W	7371.70	326.977	1.90	-0.10	1.90
14252.00	90.220	325.010	6823.44	7457.31	6254.41	-4069.20	1709885.20	526078.82	39°56'23.221"N	80°32'04.757"W	7461.64	326.951	0.32	0.21	0.24
14342.00	90.150	325.620	6823.15	7547.31	6328.42	-4120.41	1709833.99	526152.83	39°56'23.946"N	80°32'05.426"W	7551.60	326.932	0.68	-0.08	0.68
14431.00	90.150	326.260	6822.92	7636.30	6402.15	-4170.26	1709784.14	526226.55	39°56'24.669"N	80°32'06.076"W	7640.59	326.920	0.72	0.00	0.72
14521.00	90.400	327.390	6822.49	7726.25	6477.48	-4219.50	1709734.90	526301.88	39°56'25.408"N	80°32'06.720"W	7730.58	326.919	1.29	0.28	1.26
14611.00	90.520	328.690	6821.77	7816.12	6553.83	-4267.14	1709687.27	526378.23	39°56'26.157"N	80°32'07.342"W	7820.56	326.932	1.45	0.13	1.44
14700.00	90.550	327.960	6820.94	7904.96	6629.57	-4313.87	1709640.54	526453.96	39°56'26.900"N	80°32'07.954"W	7909.53	326.948	0.82	0.03	-0.82
14772.00	90.520	324.590	6820.26	7976.93	6689.44	-4353.84	1709600.57	526513.83	39°56'27.487"N	80°32'08.475"W	7981.51	326.942	4.68	-0.04	-4.68
14797.00	90.520	324.590	6820.04	8001.93	6709.82	-4368.32	1709586.09	526534.21	39°56'27.687"N	80°32'08.664"W	8006.49	326.934	0.00	0.00	0.00

06/12/2015

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot C
Area	Marshall County, WV	Well	WEB-22C-HS
Field	Marshall	Wellbore	WEB-22C-HS AWB
Facility	WEB-22 Pad		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
WEB-22C-HS BHL.:rev-1		6890.00	6707.47	-4372.29	1709582.12	526531.86	39°56'27.663"N	80°32'08.715"W	point
WEB-22C-HS LP:Rev-1		6890.00	586.77	-86.53	1713867.68	520411.45	39°55'27.663"N	80°31'12.805"W	point
WEB-22C-HS BHL Plat		6913.00	6707.47	-4372.29	1709582.12	526531.86	39°56'27.663"N	80°32'08.715"W	point
WEB-22C-HS LP Plat		6913.00	586.77	-86.53	1713867.68	520411.45	39°55'27.663"N	80°31'12.805"W	point

WELLPATH COMPOSITION - Ref Wellbore: WEB-22C-HS AWB Ref Wellpath: WEB-22C-HS (AWP) Proj: 14797'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
18.60	441.00	Generic gyro - northseeking (Standard)	01_Gyrodata MS Gyro <17-1/2"> (50'-441')	WEB-22C-HS AWB
441.00	1226.00	NaviTrak (MagCorr)	02_BHI MWD <12-1/4"> (441')(527'-1226') Proj:1281	WEB-22C-HS AWB
1226.00	5605.00	ISCWSA MWD, Rev. 2 (Standard)	03_BHI UBHO Surveys (1226')(1317'-6916')	WEB-22C-HS AWB
5605.00	14772.00	NaviTrak (AT Curve Short Spaced)	BHI ATCurve Surveys 8.75" (5605')(5631'-14772')	WEB-22C-HS AWB
14772.00	14797.00	Blind Drilling (std)	Projection to bit	WEB-22C-HS AWB



Actual Wellpath Report
 WEB-22C-HS (AWP) Proj: 14797'
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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot C
Area	Marshall County, WV	Well	WEB-22C-HS
Field	Marshall	Wellbore	WEB-22C-HS AWB
Facility	WEB-22 Pad		

COMMENTS

Wellpath general comments
 API: 47-051-01678-0100
 BHI Job #: 6234481
 Rig: Precision 542
 Duration: 4/23/2014-5/2/2014
 Gyrodatta MS Gyro <17-1/2"> (50'-441')
 BHI MWD <12-1/4"> (441')(527'-1226')
 BHI MWD <8-3/4"> (1226')(1317'-5605')
 BHI AT Curve <8-3/4"> (5605')(5631'-14772')
 Projected MD at TD: 14797'
 API: 47-051-01678-0100
 BHI Job #: 6234481
 Rig: Precision 542
 Duration: 4/19/2014-4/23/2014
 Gyrodatta MS Gyro <17-1/2"> (50'-441')
 BHI MWD <12-1/4"> (441')(527'-1226')
 BHI MWD <8-3/4"> (1226')(1317'-6916')
 Pilot TD: 6970'

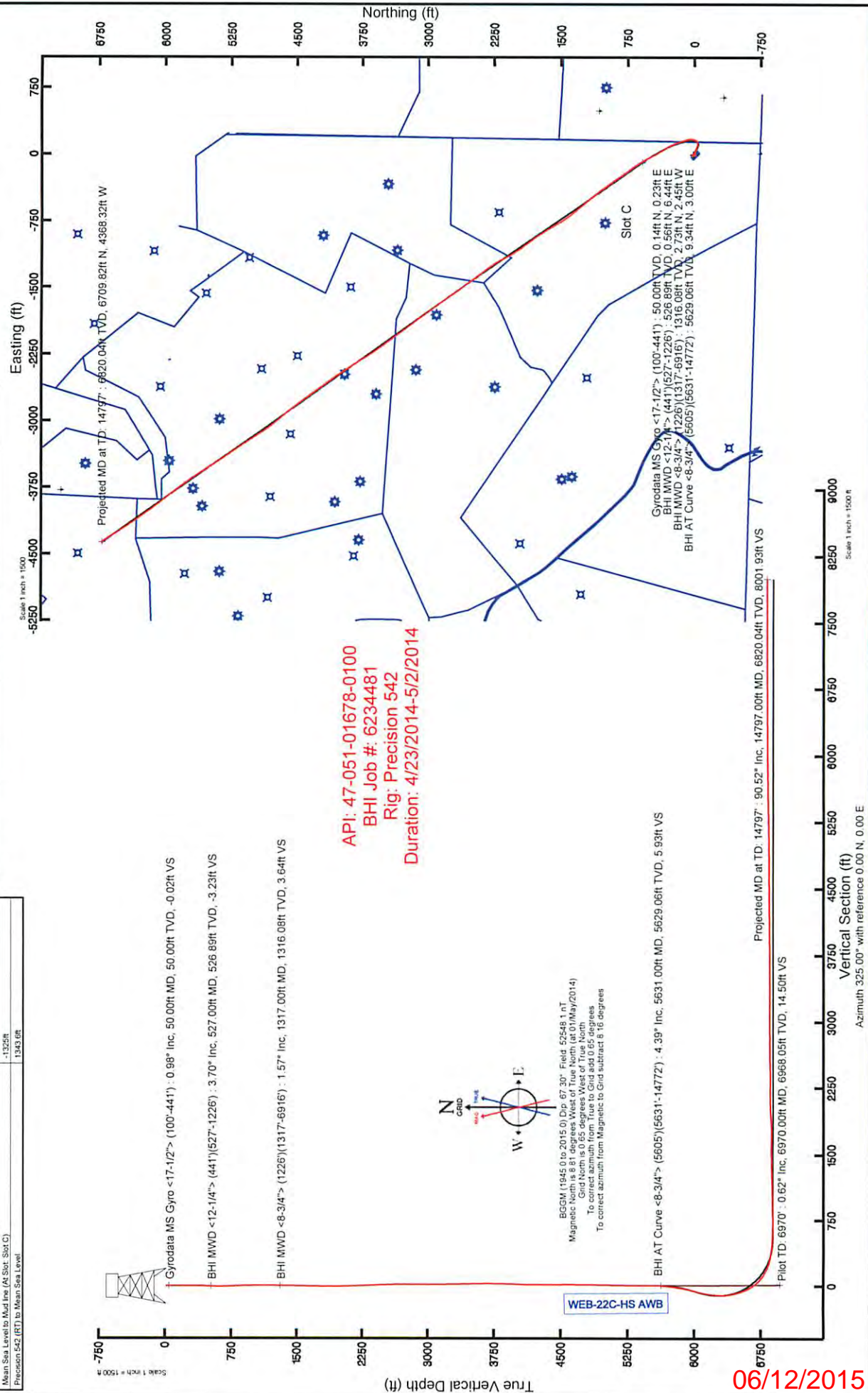
Location: Marshall County, WV
 Field: Marshall
 Facility: WEB-22 Pad

Slot: Slot C
 Well: WEB-22C-HS
 Wellbore: WEB-22C-HS-PWB

Location Information	
Facility Name	WEB-22 Pad
Grid East (US ft)	1713925.540
Grid North (US ft)	5198624.710
Local E (ft)	28.39
Local N (ft)	18.6ft
Slot C	27.83
Precision 542 (RT) to Mud line (At Slot, Slot C)	-1329ft
Mean Sea Level to Mud line (At Slot, Slot C)	1343.0ft

Location Information	
Grid East (US ft)	1713925.540
Grid North (US ft)	5198624.710
Local E (ft)	28.39
Local N (ft)	18.6ft
Slot C	27.83
Precision 542 (RT) to Mud line (At Slot, Slot C)	-1329ft
Mean Sea Level to Mud line (At Slot, Slot C)	1343.0ft

Grid System: UTM027 / Lambert West Virginia SP, Northern Zone (4201), US feet
 North Reference: Grid north
 Scale: True distance
 Deypts: are in feet
 Coordinates are in feet referenced to Slot
 Created by: abhayar on 09/May/2014



6/12/2015

Vertical Section (ft)
 Scale 1 inch = 1500 ft
 Azimuth 325.00° with reference 0.00 N, 0.00 E

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot C
Area	Marshall County, WV	Well	WEB-22C-HS
Field	Marshall	Wellbore	WEB-22C-HS AWB
Facility	WEB-22 Pad		

REPORT SETUP INFORMATION

Projection System	NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 4.0.1
North Reference	Grid	User	Edsaryar
Scale	0.999954	Report Generated	06/May/2014 at 15:24
Convergence at slot	0.65° West	Database/Source file	WellArchitectEasternDB/WEB-22C-HS_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-27.83	28.39	1713954.20	519824.71	39°55'21.875"N	80°31'11.609"W
Facility Reference Pt			1713925.81	519852.54	39°55'22.147"N	80°31'11.977"W
Field Reference Pt			609601.22	0.00	38°23'48.753"N	84°21'09.765"W

WELLPATH DATUM

Calculation method	Minimum curvature		Precision 542 (RT) to Facility Vertical Datum	18.60ft
Horizontal Reference Pt	Slot		Precision 542 (RT) to Mean Sea Level	1343.60ft
Vertical Reference Pt	Precision 542 (RT)		Precision 542 (RT) to Mud Line at Slot (Slot C)	18.60ft
MD Reference Pt	Precision 542 (RT)		Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level		Section Azimuth	325.00°



Actual Wellpath Report

WEB-22C-HS (Pilot Hole) Proj: 6970'
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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot C
Area	Marshall County, WV	Well	WEB-22C-HS
Field	Marshall	Wellbore	WEB-22C-HS AWB
Facility	WEB-22 Pad		

WELLPATH DATA (103 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	59.000	0.00	0.00	0.00	0.00	1713954.20	519824.71	39°55'21.875"N	80°31'11.609"W	0.00	0.000	0.00	0.00	0.00
18.60	0.000	59.000	18.60	0.00	0.00	0.00	1713954.20	519824.71	39°55'21.875"N	80°31'11.609"W	0.00	0.000	0.00	0.00	0.00
50.00	0.980	59.000	50.00	-0.02	0.14	0.23	1713954.43	519824.85	39°55'21.876"N	80°31'11.606"W	0.27	59.000	3.12	3.12	0.00
100.00	1.090	53.850	99.99	-0.04	0.64	0.98	1713955.18	519825.35	39°55'21.881"N	80°31'11.596"W	1.17	56.910	0.29	0.22	-10.30
150.00	0.940	55.490	149.98	-0.03	1.15	1.70	1713955.90	519825.86	39°55'21.886"N	80°31'11.587"W	2.06	55.919	0.31	-0.30	3.28
200.00	0.780	65.390	199.98	-0.10	1.53	2.35	1713956.55	519826.24	39°55'21.890"N	80°31'11.579"W	2.80	57.001	0.44	-0.32	19.80
250.00	0.790	63.560	249.97	-0.21	1.82	2.97	1713957.17	519826.53	39°55'21.893"N	80°31'11.571"W	3.48	58.466	0.05	0.02	-3.66
300.00	0.930	62.870	299.97	-0.32	2.16	3.64	1713957.84	519826.87	39°55'21.896"N	80°31'11.562"W	4.23	59.303	0.28	0.28	-1.38
350.00	0.780	64.840	349.96	-0.43	2.49	4.31	1713958.51	519827.20	39°55'21.900"N	80°31'11.554"W	4.97	59.972	0.31	-0.30	3.94
400.00	1.030	71.150	399.95	-0.61	2.78	5.04	1713959.24	519827.49	39°55'21.903"N	80°31'11.544"W	5.76	61.127	0.54	0.50	12.62
441.00	1.200	70.970	440.95	-0.83	3.04	5.79	1713960.00	519827.75	39°55'21.905"N	80°31'11.535"W	6.54	62.331	0.41	0.41	-0.44
527.00	3.700	184.250	526.89	-3.23	0.56	6.44	1713960.64	519825.27	39°55'21.881"N	80°31'11.526"W	6.47	84.999	5.02	2.91	131.72
558.00	4.130	195.370	557.82	-4.72	-1.51	6.07	1713960.27	519823.20	39°55'21.860"N	80°31'11.530"W	6.26	103.970	2.81	1.39	35.87
588.00	4.050	208.010	587.74	-5.89	-3.49	5.29	1713959.49	519821.22	39°55'21.841"N	80°31'11.540"W	6.33	123.408	3.01	-0.27	42.13
621.00	3.990	232.710	620.66	-6.46	-5.21	3.83	1713958.03	519819.50	39°55'21.824"N	80°31'11.559"W	6.47	143.716	5.21	-0.18	74.85
653.00	3.820	257.800	652.59	-6.10	-6.11	1.90	1713956.10	519818.60	39°55'21.814"N	80°31'11.583"W	6.40	162.743	5.32	-0.53	78.41
684.00	3.530	277.100	683.53	-5.06	-6.21	-0.06	1713954.14	519818.50	39°55'21.813"N	80°31'11.608"W	6.21	180.534	4.08	-0.94	62.26
716.00	3.070	286.300	715.47	-3.73	-5.85	-1.86	1713952.34	519818.86	39°55'21.817"N	80°31'11.632"W	6.14	197.621	2.19	-1.44	28.75
747.00	2.300	298.820	746.44	-2.52	-5.32	-3.20	1713951.00	519819.39	39°55'21.822"N	80°31'11.649"W	6.21	211.040	3.11	-2.48	40.39
779.00	1.960	327.940	778.42	-1.40	-4.54	-4.05	1713950.15	519820.17	39°55'21.829"N	80°31'11.660"W	6.09	221.733	3.50	-1.06	91.00
810.00	2.410	358.780	809.40	-0.33	-3.44	-4.35	1713949.85	519821.27	39°55'21.840"N	80°31'11.664"W	5.55	231.630	4.00	1.45	99.48
842.00	2.870	29.480	841.37	0.58	-2.07	-3.97	1713950.23	519822.64	39°55'21.854"N	80°31'11.659"W	4.48	242.424	4.58	1.44	95.94
873.00	2.990	25.520	872.32	1.31	-0.67	-3.24	1713950.96	519824.04	39°55'21.868"N	80°31'11.650"W	3.31	258.357	0.76	0.39	-12.77
905.00	3.640	30.820	904.27	2.14	0.96	-2.36	1713951.84	519825.67	39°55'21.884"N	80°31'11.639"W	2.55	292.118	2.24	2.03	16.56
936.00	3.220	29.470	935.22	2.92	2.56	-1.43	1713952.78	519827.27	39°55'21.900"N	80°31'11.627"W	2.93	330.904	1.38	-1.35	-4.35
968.00	2.650	17.020	967.17	3.76	4.05	-0.77	1713953.44	519828.76	39°55'21.915"N	80°31'11.619"W	4.12	349.283	2.66	-1.78	-38.91
999.00	2.160	32.380	998.15	4.42	5.23	-0.24	1713953.96	519829.94	39°55'21.926"N	80°31'11.612"W	5.24	357.328	2.60	-1.58	49.55
1031.00	1.200	48.830	1030.13	4.69	5.96	0.33	1713954.53	519830.67	39°55'21.934"N	80°31'11.605"W	5.97	3.180	3.33	-3.00	51.41
1062.00	0.280	77.160	1061.13	4.70	6.19	0.65	1713954.85	519830.90	39°55'21.936"N	80°31'11.601"W	6.22	5.988	3.11	-2.97	91.39
1094.00	0.650	244.760	1093.13	4.70	6.13	0.56	1713954.76	519830.84	39°55'21.935"N	80°31'11.602"W	6.16	5.232	2.89	1.16	523.75



Actual Wellpath Report

WEB-22C-HS (Pilot Hole) Proj: 6970'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot C
Area	Marshall County, WV	Well	WEB-22C-HS
Field	Marshall	Wellbore	WEB-22C-HS AWB
Facility	WEB-22 Pad		

WELLPATH DATA (103 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]
1125.00	0.710	200.450	1124.13	4.62	5.88	0.34	1713954.54	519830.59	39°55'21.933"N	80°31'11.605"W	5.88	3.265	1.66	0.19	-142.94
1157.00	1.050	211.250	1156.12	4.39	5.44	0.11	1713954.32	519830.15	39°55'21.928"N	80°31'11.608"W	5.44	1.199	1.18	1.06	33.75
1188.00	0.910	243.230	1187.12	4.31	5.09	-0.25	1713953.95	519829.80	39°55'21.925"N	80°31'11.613"W	5.09	3.57.148	1.79	-0.45	103.16
1226.00	1.510	225.430	1225.11	4.27	4.60	-0.88	1713953.32	519829.31	39°55'21.920"N	80°31'11.621"W	4.68	349.172	1.84	1.58	-46.84
1317.00	1.570	214.910	1316.08	3.64	2.73	-2.45	1713951.76	519827.44	39°55'21.901"N	80°31'11.640"W	3.67	318.172	0.32	0.07	-11.56
1348.00	1.700	213.490	1347.07	3.33	2.00	-2.94	1713951.26	519826.71	39°55'21.894"N	80°31'11.647"W	3.56	304.225	0.44	0.42	-4.58
1380.00	1.710	216.230	1379.05	3.00	1.22	-3.49	1713950.71	519825.93	39°55'21.886"N	80°31'11.653"W	3.70	289.300	0.26	0.03	8.56
1411.00	1.260	203.600	1410.04	2.67	0.54	-3.90	1713950.30	519825.25	39°55'21.880"N	80°31'11.659"W	3.93	277.830	1.79	-1.45	-40.74
1443.00	1.270	186.120	1442.03	2.22	-0.14	-4.08	1713950.13	519824.57	39°55'21.873"N	80°31'11.661"W	4.08	268.047	1.20	0.03	-54.62
1506.00	1.020	169.400	1505.02	1.19	-1.38	-4.05	1713950.15	519823.33	39°55'21.861"N	80°31'11.660"W	4.28	251.118	0.66	-0.40	-26.54
1627.00	1.190	144.430	1626.00	-1.05	-3.47	-3.12	1713951.08	519821.25	39°55'21.840"N	80°31'11.648"W	4.66	221.988	0.42	0.14	-20.64
1672.00	0.790	122.640	1670.99	-1.80	-4.01	-2.59	1713951.62	519820.70	39°55'21.835"N	80°31'11.641"W	4.77	212.798	1.21	-0.89	-48.42
1762.00	1.230	118.090	1760.98	-3.24	-4.80	-1.21	1713952.99	519819.91	39°55'21.827"N	80°31'11.623"W	4.95	194.154	0.50	0.49	-5.06
1851.00	1.160	105.500	1849.96	-4.79	-5.49	0.50	1713954.70	519819.22	39°55'21.820"N	80°31'11.601"W	5.52	174.800	0.30	-0.08	-14.15
1941.00	1.080	22.180	1939.95	-5.03	-4.95	1.70	1713955.90	519819.76	39°55'21.826"N	80°31'11.586"W	5.23	161.068	1.66	-0.09	-92.58
2030.00	1.960	351.460	2028.92	-3.21	-2.67	1.79	1713955.99	519822.04	39°55'21.849"N	80°31'11.585"W	3.21	146.167	1.31	0.99	-34.52
2120.00	1.730	348.700	2118.87	-0.59	0.19	1.29	1713955.50	519824.90	39°55'21.877"N	80°31'11.592"W	1.31	81.835	0.27	-0.26	-3.07
2209.00	1.940	339.740	2207.82	2.10	2.92	0.51	1713954.71	519827.63	39°55'21.904"N	80°31'11.602"W	2.96	9.901	0.40	0.24	-10.07
2299.00	2.080	328.390	2297.77	5.20	5.74	-0.87	1713953.33	519830.45	39°55'21.931"N	80°31'11.621"W	5.80	351.331	0.47	0.16	-12.61
2388.00	2.350	318.990	2386.70	8.63	8.49	-2.92	1713951.28	519833.20	39°55'21.958"N	80°31'11.647"W	8.98	341.027	0.51	0.30	-10.56
2478.00	2.290	312.230	2476.63	12.22	11.09	-5.46	1713948.74	519835.80	39°55'21.984"N	80°31'11.680"W	12.36	333.784	0.31	-0.07	-7.51
2567.00	1.970	303.170	2565.57	15.37	13.12	-8.06	1713946.14	519837.83	39°55'22.003"N	80°31'11.714"W	15.40	328.447	0.52	-0.36	-10.18
2657.00	1.020	276.820	2655.54	17.34	14.06	-10.15	1713944.05	519838.77	39°55'22.013"N	80°31'11.741"W	17.34	324.186	1.28	-1.06	-29.28
2746.00	1.120	248.170	2744.52	18.07	13.83	-11.74	1713942.46	519838.54	39°55'22.010"N	80°31'11.761"W	18.15	319.676	0.60	0.11	-32.19
2836.00	0.160	189.400	2834.52	18.18	13.38	-12.58	1713941.62	519838.09	39°55'22.006"N	80°31'11.772"W	18.37	316.773	1.16	-1.07	-65.30
2925.00	0.470	59.390	2923.51	18.06	13.45	-12.29	1713941.92	519838.16	39°55'22.006"N	80°31'11.768"W	18.21	317.583	0.66	0.35	-146.08
3015.00	0.620	38.200	3013.51	18.17	14.02	-11.67	1713942.54	519838.73	39°55'22.012"N	80°31'11.760"W	18.24	320.229	0.28	0.17	-23.54
3104.00	0.830	43.090	3102.50	18.45	14.87	-10.93	1713943.27	519839.58	39°55'22.020"N	80°31'11.751"W	18.45	323.679	0.25	0.24	5.49
3194.00	0.780	30.190	3192.49	18.84	15.87	-10.17	1713944.03	519840.58	39°55'22.030"N	80°31'11.741"W	18.85	327.337	0.21	-0.06	-14.33
3283.00	1.120	354.900	3281.48	19.85	17.26	-9.95	1713944.26	519841.97	39°55'22.044"N	80°31'11.739"W	19.92	330.046	0.74	0.38	-39.65

06/12/2015

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot C
Area	Marshall County, WV	Well	WEB-22C-HS
Field	Marshall	Wellbore	WEB-22C-HS AWB
Facility	WEB-22 Pad		

WELLPATH DATA (103 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]
3370.00	1.530	357.370	3368.46	21.56	19.27	-10.08	1713944.13	519843.98	39°55'22.064"N	80°31'11.741"W	21.74	332.393	0.48	0.47	2.84
3455.00	1.340	354.240	3453.43	23.39	21.39	-10.23	1713943.97	519846.10	39°55'22.085"N	80°31'11.743"W	23.71	334.445	0.24	-0.22	-3.68
3545.00	1.080	2.500	3543.41	24.98	23.29	-10.30	1713943.91	519847.99	39°55'22.104"N	80°31'11.744"W	25.46	336.145	0.35	-0.29	9.18
3635.00	1.110	357.130	3633.40	26.39	25.00	-10.30	1713943.90	519849.71	39°55'22.121"N	80°31'11.744"W	27.04	337.604	0.12	0.03	-5.97
3724.00	0.960	103.340	3722.39	26.56	25.69	-9.62	1713944.58	519850.40	39°55'22.127"N	80°31'11.736"W	27.43	339.470	1.86	-0.17	119.34
3814.00	1.180	120.160	3812.37	25.16	25.05	-8.09	1713946.12	519849.76	39°55'22.121"N	80°31'11.716"W	26.33	342.111	0.42	0.24	18.69
3903.00	0.880	102.600	3901.36	23.82	24.44	-6.63	1713947.58	519849.15	39°55'22.115"N	80°31'11.697"W	25.33	344.831	0.49	-0.34	-19.73
3993.00	2.650	161.840	3991.32	21.32	22.32	-5.30	1713948.90	519847.02	39°55'22.095"N	80°31'11.680"W	22.94	346.630	2.58	1.97	65.82
4082.00	2.660	158.370	4080.22	17.34	18.44	-3.90	1713950.30	519843.15	39°55'22.056"N	80°31'11.661"W	18.85	348.054	0.18	0.01	-3.90
4172.00	0.490	19.030	4170.19	15.54	16.86	-3.01	1713951.20	519841.57	39°55'22.041"N	80°31'11.650"W	17.13	349.893	3.39	-2.41	-154.82
4262.00	0.610	60.970	4260.19	15.71	17.46	-2.46	1713951.74	519842.17	39°55'22.047"N	80°31'11.643"W	17.63	351.975	0.45	0.13	46.60
4351.00	0.580	50.150	4349.18	15.70	17.98	-1.70	1713952.50	519842.69	39°55'22.052"N	80°31'11.633"W	18.06	354.593	0.13	-0.03	-12.16
4441.00	0.410	5.340	4439.18	15.99	18.59	-1.32	1713952.88	519843.30	39°55'22.058"N	80°31'11.628"W	18.64	355.933	0.45	-0.19	-49.79
4531.00	0.720	348.820	4529.18	16.75	19.47	-1.40	1713952.80	519844.17	39°55'22.067"N	80°31'11.629"W	19.52	355.882	0.39	0.34	-18.36
4620.00	0.730	103.280	4618.17	16.84	19.88	-0.96	1713953.24	519844.59	39°55'22.071"N	80°31'11.624"W	19.91	357.241	1.37	0.01	128.61
4710.00	0.820	89.070	4708.16	16.05	19.76	0.24	1713954.45	519844.47	39°55'22.070"N	80°31'11.608"W	19.76	0.707	0.23	0.10	-15.79
4799.00	0.540	124.200	4797.16	15.30	19.54	1.23	1713955.43	519844.25	39°55'22.068"N	80°31'11.596"W	19.58	3.595	0.55	-0.31	39.47
4889.00	0.880	134.120	4887.15	14.22	18.82	2.07	1713956.28	519843.53	39°55'22.061"N	80°31'11.585"W	18.93	6.291	0.40	0.38	11.02
4979.00	1.060	178.940	4977.14	12.86	17.50	2.59	1713956.79	519842.21	39°55'22.048"N	80°31'11.578"W	17.69	8.404	0.84	0.20	49.80
5068.00	1.280	181.030	5066.12	11.37	15.69	2.58	1713956.79	519840.40	39°55'22.030"N	80°31'11.578"W	15.90	9.352	0.25	0.25	2.35
5158.00	0.870	166.040	5156.11	9.92	14.02	2.73	1713956.93	519838.73	39°55'22.014"N	80°31'11.576"W	14.28	11.020	0.55	-0.46	-16.66
5247.00	0.800	190.100	5245.10	8.85	12.75	2.78	1713956.99	519837.46	39°55'22.001"N	80°31'11.575"W	13.05	12.317	0.40	-0.08	27.03
5337.00	0.330	176.360	5335.09	8.18	11.87	2.69	1713956.89	519836.58	39°55'21.992"N	80°31'11.576"W	12.18	12.766	0.54	-0.52	-15.27
5426.00	0.460	187.380	5424.09	7.70	11.26	2.66	1713956.86	519835.97	39°55'21.986"N	80°31'11.579"W	11.57	13.291	0.17	0.15	12.38
5516.00	0.570	202.880	5514.09	7.20	10.49	2.44	1713956.64	519835.20	39°55'21.979"N	80°31'11.579"W	10.77	13.092	0.20	0.12	17.22
5605.00	0.290	207.520	5603.08	6.86	9.89	2.16	1713956.37	519834.60	39°55'21.973"N	80°31'11.582"W	10.12	12.348	0.32	-0.31	5.21
5695.00	0.090	260.460	5693.08	6.78	9.67	1.99	1713956.19	519834.38	39°55'21.970"N	80°31'11.584"W	9.87	11.622	0.27	-0.22	58.82
5785.00	0.180	302.520	5783.08	6.94	9.74	1.80	1713956.00	519834.45	39°55'21.971"N	80°31'11.587"W	9.90	10.476	0.14	0.10	46.73
5875.00	0.130	353.620	5873.08	7.16	9.91	1.67	1713955.87	519834.62	39°55'21.973"N	80°31'11.589"W	10.05	9.560	0.16	-0.06	56.78
5964.00	0.200	25.700	5962.08	7.33	10.15	1.73	1713955.93	519834.86	39°55'21.975"N	80°31'11.588"W	10.30	9.646	0.13	0.08	36.04



Actual Wellpath Report

WEB-22C-HS (Pilot Hole) Proj: 6970'
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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot C
Area	Marshall County, WV	Well	WEB-22C-HS
Field	Marshall	Wellbore	WEB-22C-HS AWB
Facility	WEB-22 Pad		

WELLPATH DATA (103 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]
6054.00	0.220	32.390	6052.08	7.47	10.44	1.89	1713956.09	519835.15	39°55'21.978"N	80°31'11.586"W	10.61	10.242	0.04	0.02	7.43
6143.00	0.390	352.070	6141.08	7.81	10.89	1.94	1713956.14	519835.60	39°55'21.982"N	80°31'11.585"W	11.06	10.086	0.30	0.19	-45.30
6233.00	0.490	344.400	6231.08	8.44	11.56	1.79	1713955.99	519836.27	39°55'21.989"N	80°31'11.587"W	11.70	8.805	0.13	0.11	-8.52
6323.00	0.580	340.840	6321.07	9.24	12.36	1.54	1713955.74	519837.07	39°55'21.997"N	80°31'11.591"W	12.46	7.091	0.11	0.10	-3.96
6412.00	0.530	329.190	6410.07	10.09	13.14	1.18	1713955.38	519837.85	39°55'22.005"N	80°31'11.595"W	13.19	5.127	0.14	-0.06	-13.09
6502.00	0.520	325.330	6500.07	10.91	13.83	0.73	1713954.94	519838.54	39°55'22.011"N	80°31'11.601"W	13.85	3.035	0.04	-0.01	-4.29
6592.00	0.380	329.590	6590.06	11.62	14.43	0.35	1713954.55	519839.14	39°55'22.017"N	80°31'11.606"W	14.43	1.390	0.16	-0.16	4.73
6681.00	0.310	307.160	6679.06	12.14	14.83	0.01	1713954.21	519839.54	39°55'22.021"N	80°31'11.611"W	14.83	0.034	0.17	-0.08	-25.20
6771.00	0.500	305.390	6769.06	12.74	15.20	-0.51	1713953.70	519839.91	39°55'22.025"N	80°31'11.617"W	15.21	358.095	0.21	0.21	-1.97
6860.00	0.510	305.730	6858.06	13.48	15.66	-1.14	1713953.06	519840.37	39°55'22.029"N	80°31'11.626"W	15.70	355.823	0.01	0.01	0.38
6897.00	0.500	296.320	6895.05	13.78	15.83	-1.42	1713952.78	519840.53	39°55'22.031"N	80°31'11.629"W	15.89	354.865	0.23	-0.03	-25.43
6916.00	0.620	304.890	6914.05	13.95	15.92	-1.58	1713952.62	519840.63	39°55'22.032"N	80°31'11.631"W	16.00	354.330	0.77	0.63	45.11
6970.00	0.620	304.890	6968.05	14.50	16.25	-2.06	1713952.14	519840.96	39°55'22.035"N	80°31'11.637"W	16.38	352.778	0.00	0.00	0.00



Actual Wellpath Report

WEB-22C-HS (Pilot Hole) Proj: 6970'
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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot C
Area	Marshall County, WV	Well	WEB-22C-HS
Field	Marshall	Wellbore	WEB-22C-HS AWB
Facility	WEB-22 Pad		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
WEB-22C-HS BHL.:rev-1		6890.00	6707.47	-4372.29	1709582.12	526531.86	39°56'27.663"N	80°32'08.715"W	point
WEB-22C-HS LP:Rev-1		6890.00	586.77	-86.53	1713867.68	520411.45	39°55'27.663"N	80°31'12.805"W	point
WEB-22C-HS BHL Plat		6913.00	6707.47	-4372.29	1709582.12	526531.86	39°56'27.663"N	80°32'08.715"W	point
WEB-22C-HS LP Plat		6913.00	586.77	-86.53	1713867.68	520411.45	39°55'27.663"N	80°31'12.805"W	point

WELLPATH COMPOSITION - Ref Wellbore: WEB-22C-HS AWB Ref Wellpath: WEB-22C-HS (Pilot Hole) Proj: 6970'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
18.60	441.00	Generic gyro - northseeking (Standard)	01_Gyrodata MS Gyro <17-1/2"> (50'-441')	WEB-22C-HS AWB
441.00	1226.00	NaviTrak (MagCorr)	02_BHL MWD <12-1/4"> (441')(527'-1226') Proj:1281	WEB-22C-HS AWB
1226.00	6916.00	ISWISA MWD, Rev. 2 (Standard)	03_BHL UBHO Surveys (1226')(1317'-6916')	WEB-22C-HS AWB
6916.00	6970.00	Blind Drilling (std)	Projection to bit	WEB-22C-HS AWB

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot C
Area	Marshall County, WV	Well	WEB-22C-HS
Field	Marshall	Wellbore	WEB-22C-HS AWB
Facility	WEB-22 Pad		

COMMENTS

Wellpath general comments
 API: 47-051-01678-0100
 BHI Job #: 6234481
 Rig: Precision 542
 Duration: 4/19/2014-4/23/2014
 Gyrodatta MS Gyro <17-1/2"> (50'-441')
 BHI MWD <12-1/4"> (441')(527'-1226')
 BHI MWD <8-3/4"> (1226')(1317'-6916')
 Pilot TD: 6970'

Location: Marshall County, WV
 Field: Marshall
 Facility: WEB-22 Pad

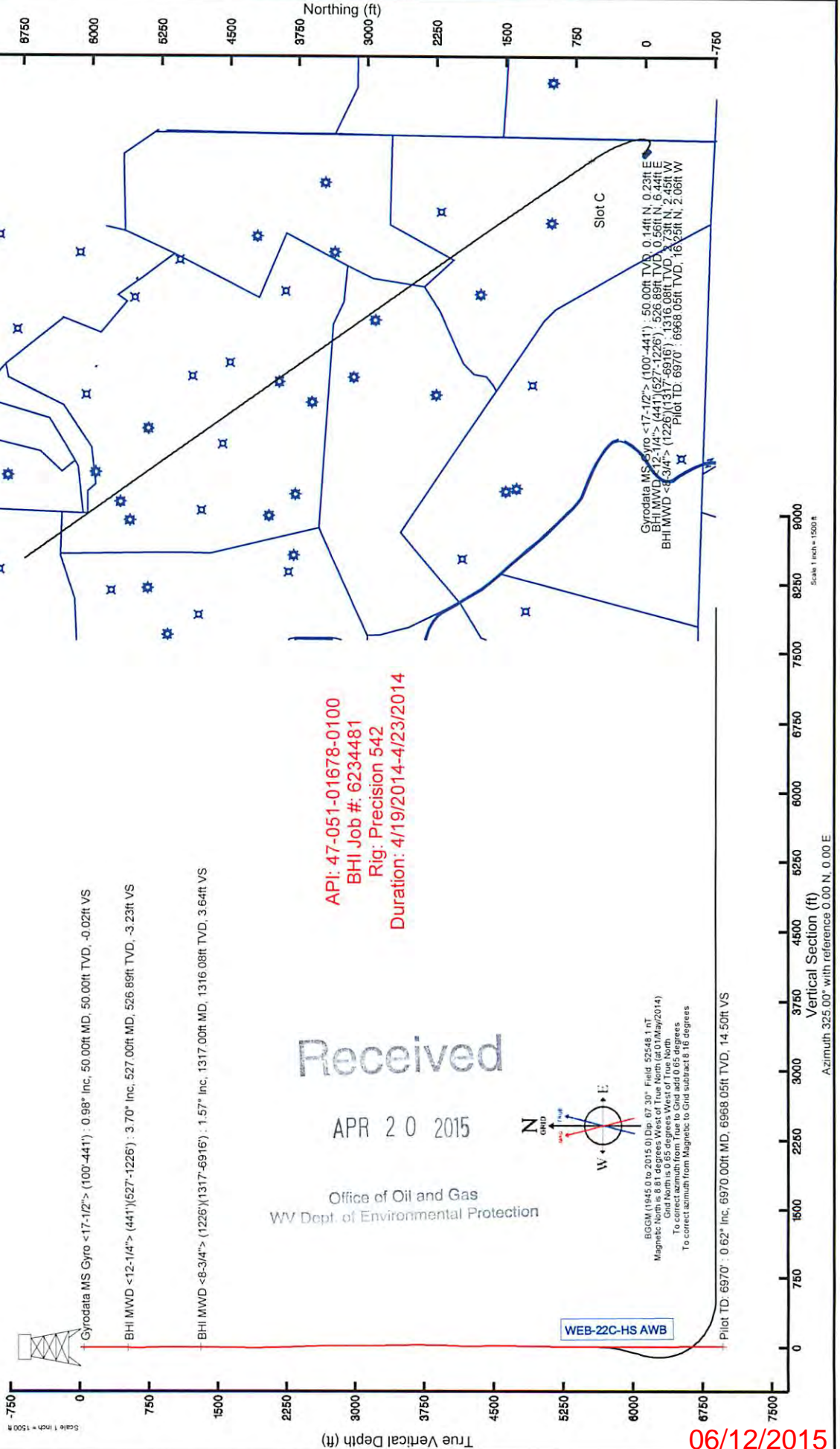
Slot: Slot C
 Well: WEB-22C-HS
 Wellbore: WEB-22C-HS PWB

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
WEB-22 Pad	1713925.810	519852.540	39°55'22.147"N	80°31'11.977"W
Slot	Local E (ft)	Local N (ft)	Local E (ft)	Local N (ft)
Slot C	-27.83	28.39	1713954.202	519824.710
Precision 542 (RT) to Mud line (At Slot Slot C)	18.6 ft			
Mean Sea Level to Mud line (At Slot Slot C)	-1325 ft			
Precision 542 (RT) to Mean Sea Level	1343.6 ft			

Reference wellbore's WEB-22C-HS PWB Rev C 0

True vertical depths are referenced to Precision 542 (RT)	Grid System: NAD27 / Lambert West Virginia SP, Northing Zone 47011, US feet
Measured depths are referenced to Precision 542 (RT)	North Reference: Grid north
Precision 542 (RT) to Mean Sea Level: 1343.6 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot Slot C): -1325 feet	Depths are in feet
Coordinates are referenced to Slot C	Created by: esbayer on 05/05/2014

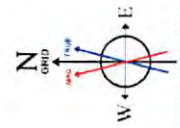


API: 47-051-01678-0100
 BHI Job #: 6234481
 Rig: Precision 542
 Duration: 4/19/2014-4/23/2014

Received

APR 20 2015

Office of Oil and Gas
 WV Dept. of Environmental Protection



06/12/2015

Scale 1 inch = 1500 ft

Vertical Section (ft)
 Azimuth: 325.00° with reference 0.00 N, 0.00 E