

REFERENCE WELLPATH IDENTIFICATION	
Operator	NOBLE ENERGY
Area	Marshall County, WV
Field	Marshall
Facility	WEB-22 Pad
Slot	Slot G
Well	WEB-22G-HS
Wellbore	WEB-22G-HS (AWB)

REPORT SETUP INFORMATION	
Projection System	NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet
North Reference	Grid
Scale	0.999954
Convergence at slot	0.65° West
Software System	WellArchitect® 4.0.1
User	Frisjesl
Report Generated	5/20/2014 at 4:15:33 PM
Database/Source file	WA_EasternUS/WEB-22G-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	-42.38	42.33	1713968.14	519810.16	39°55'21.732"N	80°31'11.428"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
Horizontal Reference Pt	Slot
Vertical Reference Pt	Precision 542 (RT)
MD Reference Pt	Precision 542 (RT)
Field Vertical Reference	Mean Sea Level
	Precision 542 (RT) to Facility Vertical Datum
	Precision 542 (RT) to Mean Sea Level
	Precision 542 (RT) to Mud Line at Slot (Slot G)
	Section Origin
	Section Azimuth
	18.60ft
	1343.60ft
	18.60ft
	N 0.00, E 0.00 ft
	145.00°

Received

APR 20 2015

Office of Oil and Gas
 WV Dept. of Environmental Protection

06/12/2015

Actual Wellpath Report

WEB-22G-HS AWP Proj: 12706'

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REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (200 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]
0.00†	0.000	26.520	0.00	0.00	0.00	0.00	1713968.14	519810.16	39°55'21.732"N	80°31'11.428"W	0.00	0.000	0.00
18.60	0.000	26.520	18.60	0.00	0.00	0.00	1713968.14	519810.16	39°55'21.732"N	80°31'11.428"W	0.00	0.000	0.00
25.00	0.280	26.520	25.00	-0.01	0.01	0.01	1713968.15	519810.17	39°55'21.733"N	80°31'11.427"W	0.02	26.520	4.38
50.00	0.560	52.380	50.00	-0.04	0.14	0.13	1713968.27	519810.30	39°55'21.734"N	80°31'11.426"W	0.19	42.453	1.33
75.00	0.840	78.250	75.00	0.02	0.26	0.41	1713968.55	519810.42	39°55'21.735"N	80°31'11.422"W	0.48	57.932	1.66
100.00	1.080	101.430	99.99	0.27	0.25	0.82	1713968.96	519810.41	39°55'21.735"N	80°31'11.417"W	0.85	73.270	1.81
125.00	1.080	98.890	124.99	0.60	0.16	1.28	1713969.42	519810.32	39°55'21.734"N	80°31'11.411"W	1.29	82.765	0.19
150.00	1.130	103.700	149.98	0.95	0.07	1.75	1713969.89	519810.23	39°55'21.733"N	80°31'11.405"W	1.75	87.784	0.42
175.00	0.930	106.810	174.98	1.29	-0.05	2.19	1713970.33	519810.11	39°55'21.732"N	80°31'11.399"W	2.19	91.289	0.83
200.00	0.830	101.410	199.98	1.59	-0.14	2.56	1713970.70	519810.02	39°55'21.731"N	80°31'11.395"W	2.56	93.214	0.52
225.00	0.680	102.260	224.98	1.83	-0.21	2.88	1713971.02	519809.95	39°55'21.731"N	80°31'11.391"W	2.89	94.189	0.60
250.00	0.800	102.670	249.97	2.06	-0.28	3.20	1713971.34	519809.88	39°55'21.730"N	80°31'11.386"W	3.21	95.020	0.48
275.00	0.790	100.980	274.97	2.32	-0.35	3.54	1713971.68	519809.81	39°55'21.729"N	80°31'11.382"W	3.55	95.683	0.10
300.00	0.830	97.890	299.97	2.56	-0.41	3.88	1713972.02	519809.75	39°55'21.729"N	80°31'11.378"W	3.91	96.019	0.24
325.00	0.850	101.410	324.97	2.82	-0.47	4.25	1713972.39	519809.69	39°55'21.728"N	80°31'11.373"W	4.27	96.332	0.22
350.00	0.850	104.190	349.96	3.10	-0.55	4.61	1713972.75	519809.61	39°55'21.727"N	80°31'11.368"W	4.64	96.848	0.16
375.00	1.030	106.970	374.96	3.41	-0.66	5.00	1713973.14	519809.50	39°55'21.726"N	80°31'11.363"W	5.05	97.565	0.74
400.00	1.160	97.040	399.96	3.76	-0.76	5.47	1713973.61	519809.40	39°55'21.726"N	80°31'11.357"W	5.52	97.922	0.92
425.00	1.320	97.070	424.95	4.12	-0.83	6.01	1713974.14	519809.33	39°55'21.725"N	80°31'11.350"W	6.06	97.845	0.64
450.00	1.430	98.370	449.94	4.53	-0.91	6.60	1713974.74	519809.25	39°55'21.724"N	80°31'11.343"W	6.66	97.836	0.46
465.00	1.410	97.100	464.94	4.78	-0.96	6.97	1713975.11	519809.20	39°55'21.724"N	80°31'11.338"W	7.03	97.831	0.25
468.00	0.930	87.020	467.94	4.82	-0.96	7.03	1713975.17	519809.20	39°55'21.724"N	80°31'11.337"W	7.09	97.790	17.35
498.00	0.310	25.950	497.94	4.91	-0.88	7.31	1713975.45	519809.28	39°55'21.725"N	80°31'11.334"W	7.36	96.835	2.75
528.00	0.990	314.220	527.93	4.61	-0.62	7.16	1713975.30	519809.54	39°55'21.727"N	80°31'11.336"W	7.18	94.969	3.13
559.00	2.060	287.900	558.92	3.91	-0.26	6.43	1713974.57	519809.90	39°55'21.731"N	80°31'11.345"W	6.44	92.351	4.04
589.00	3.090	291.460	588.89	2.80	0.20	5.17	1713973.31	519810.36	39°55'21.735"N	80°31'11.361"W	5.17	87.813	3.47
622.00	3.140	290.500	621.84	1.32	0.84	3.49	1713971.63	519811.00	39°55'21.741"N	80°31'11.383"W	3.59	76.496	0.22
654.00	2.420	291.580	653.81	0.03	1.39	2.05	1713970.19	519811.55	39°55'21.746"N	80°31'11.401"W	2.48	55.716	2.26
685.00	1.520	298.700	684.79	-0.88	1.83	1.08	1713969.22	519811.99	39°55'21.751"N	80°31'11.414"W	2.13	30.428	3.00
716.00	0.510	229.700	715.78	-1.24	1.94	0.61	1713968.75	519812.10	39°55'21.752"N	80°31'11.420"W	2.03	17.463	4.58
748.00	0.130	67.910	747.78	-1.22	1.86	0.54	1713968.68	519812.02	39°55'21.751"N	80°31'11.421"W	1.94	16.044	1.98
779.00	0.880	118.890	778.78	-1.00	1.76	0.78	1713968.92	519811.92	39°55'21.750"N	80°31'11.418"W	1.92	23.802	2.60
811.00	0.790	157.820	810.78	-0.56	1.44	1.08	1713969.22	519811.60	39°55'21.747"N	80°31'11.414"W	1.80	36.787	1.76
842.00	1.200	144.720	841.77	-0.03	0.97	1.34	1713969.48	519811.13	39°55'21.742"N	80°31'11.410"W	1.66	54.028	1.50
874.00	1.470	141.080	873.76	0.72	0.38	1.79	1713969.93	519810.54	39°55'21.736"N	80°31'11.405"W	1.83	77.982	0.88
905.00	1.340	130.640	904.75	1.46	-0.16	2.32	1713970.46	519810.00	39°55'21.731"N	80°31'11.398"W	2.33	94.029	0.92
937.00	1.080	117.830	936.75	2.10	-0.55	2.87	1713971.01	519809.61	39°55'21.727"N	80°31'11.391"W	2.92	100.807	1.17
968.00	1.400	86.710	967.74	2.55	-0.66	3.51	1713971.65	519809.50	39°55'21.726"N	80°31'11.382"W	3.57	100.699	2.37
1000.00	1.520	102.090	999.73	3.07	-0.73	4.31	1713972.45	519809.43	39°55'21.726"N	80°31'11.372"W	4.37	99.596	1.28
1031.00	1.150	84.760	1030.72	3.53	-0.79	5.02	1713973.16	519809.37	39°55'21.725"N	80°31'11.363"W	5.08	98.900	1.75
1063.00	0.940	30.100	1062.72	3.57	-0.53	5.48	1713973.61	519809.63	39°55'21.728"N	80°31'11.357"W	5.50	95.532	3.05
1094.00	1.490	31.840	1093.71	3.31	0.03	5.82	1713973.95	519810.19	39°55'21.733"N	80°31'11.353"W	5.82	89.683	1.78
126.00	1.510	16.110	1125.70	2.88	0.79	6.15	1713974.29	519810.95	39°55'21.741"N	80°31'11.349"W	6.20	82.676	1.28
157.00	1.190	359.980	1156.69	2.36	1.50	6.26	1713974.40	519811.66	39°55'21.748"N	80°31'11.347"W	6.44	76.493	1.59
189.00	1.350	317.700	1188.68	1.71	2.12	6.01	1713974.15	519812.28	39°55'21.754"N	80°31'11.351"W	6.37	70.607	2.90

Actual Wellpath Report

WEB-22G-HS AWP Proj: 12706'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot G
Area	Marshall County, WV	Well	WEB-22G-HIS
Field	Marshall	Wellbore	WEB-22G-HIS (AWB)
Facility	WEB-22 Pad		

WELLPATH DATA (200 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 [°/1000]
1204.00	1.500	336.870	1203.68	1.35	2.43	5.82	1713973.95	519812.59	39°55'21.757"N	80°31'11.353"W	6.30	67.344	3.31
1333.00	1.640	332.460	1332.63	-2.15	5.54	4.16	1713972.30	519815.70	39°55'21.788"N	80°31'11.375"W	6.92	36.915	0.23
1428.00	1.240	312.360	1427.60	-4.51	7.37	2.67	1713970.81	519817.53	39°55'21.806"N	80°31'11.394"W	7.84	19.890	0.58
1522.00	1.020	329.580	1521.58	-6.34	8.78	1.49	1713969.63	519818.94	39°55'21.819"N	80°31'11.410"W	8.91	9.649	0.43
1617.00	0.850	338.110	1616.57	-7.87	10.16	0.80	1713968.94	519820.32	39°55'21.833"N	80°31'11.419"W	10.20	4.512	0.23
1711.00	0.850	355.810	1710.56	-9.14	11.51	0.49	1713968.63	519821.67	39°55'21.846"N	80°31'11.423"W	11.52	2.444	0.28
1806.00	0.590	9.500	1805.55	-10.10	12.69	0.52	1713968.66	519822.85	39°55'21.858"N	80°31'11.423"W	12.70	2.348	0.33
1896.00	0.780	89.470	1895.55	-10.08	13.15	1.21	1713969.35	519823.31	39°55'21.863"N	80°31'11.414"W	13.21	5.253	0.99
1986.00	1.090	138.320	1985.54	-8.89	12.52	2.39	1713970.53	519823.68	39°55'21.856"N	80°31'11.399"W	12.75	10.812	0.91
2075.00	1.030	132.030	2074.52	-7.26	11.35	3.55	1713971.69	519821.51	39°55'21.845"N	80°31'11.384"W	11.89	17.356	0.15
2164.00	1.130	126.720	2163.51	-5.65	10.29	4.85	1713972.99	519820.45	39°55'21.835"N	80°31'11.367"W	11.38	25.211	0.16
2254.00	1.030	144.960	2253.49	-4.00	9.10	6.02	1713974.16	519819.26	39°55'21.823"N	80°31'11.352"W	10.91	33.494	0.40
2344.00	0.680	123.460	2343.48	-2.69	8.14	6.93	1713975.07	519818.30	39°55'21.814"N	80°31'11.340"W	10.69	40.405	0.52
2433.00	0.330	140.680	2432.48	-1.95	7.65	7.53	1713975.67	519817.81	39°55'21.809"N	80°31'11.332"W	10.74	44.551	0.42
2523.00	0.400	131.800	2522.48	-1.38	7.24	7.93	1713976.07	519817.40	39°55'21.805"N	80°31'11.327"W	10.74	47.600	0.10
2612.00	0.530	152.950	2611.47	-0.67	6.67	8.35	1713976.49	519816.83	39°55'21.799"N	80°31'11.321"W	10.69	51.388	0.24
2702.00	0.360	141.670	2701.47	0.02	6.08	8.72	1713976.86	519816.24	39°55'21.793"N	80°31'11.317"W	10.63	55.113	0.21
2791.00	0.340	118.100	2790.47	0.54	5.73	9.12	1713977.26	519815.89	39°55'21.790"N	80°31'11.311"W	10.78	57.849	0.16
2881.00	0.440	136.820	2880.47	1.12	5.36	9.60	1713977.73	519815.52	39°55'21.786"N	80°31'11.305"W	10.99	60.828	0.18
2970.00	0.280	183.850	2969.46	1.62	4.89	9.81	1713977.95	519815.05	39°55'21.782"N	80°31'11.302"W	10.97	63.514	0.36
3059.00	0.170	255.700	3058.46	1.75	4.64	9.67	1713978.16	519814.80	39°55'21.779"N	80°31'11.304"W	10.73	64.368	0.31
3149.00	0.210	302.100	3148.46	1.55	4.70	9.40	1713977.54	519814.86	39°55'21.780"N	80°31'11.308"W	10.51	63.465	0.17
3239.00	0.280	292.960	3238.46	1.21	4.87	9.06	1713977.20	519815.03	39°55'21.782"N	80°31'11.312"W	10.29	61.749	0.09
3328.00	0.240	303.930	3327.46	0.85	5.06	8.71	1713976.85	519815.22	39°55'21.783"N	80°31'11.317"W	10.07	59.845	0.07
3366.00	0.260	325.820	3365.46	0.69	5.17	8.59	1713976.73	519815.52	39°55'21.785"N	80°31'11.318"W	10.03	58.945	0.26
3443.00	0.300	339.940	3442.46	0.32	5.51	8.42	1713976.56	519815.67	39°55'21.788"N	80°31'11.320"W	10.06	56.825	0.10
3488.00	0.310	326.200	3487.46	0.08	5.72	8.32	1713976.46	519815.88	39°55'21.790"N	80°31'11.322"W	10.09	55.482	0.16
3533.00	0.370	9.630	3532.46	-0.14	5.96	8.27	1713976.41	519816.12	39°55'21.792"N	80°31'11.322"W	10.20	54.212	0.57
3578.00	0.610	328.090	3577.46	-0.48	6.31	8.17	1713976.31	519816.47	39°55'21.796"N	80°31'11.324"W	10.32	52.320	0.92
3623.00	1.920	278.920	3622.45	-1.24	6.63	7.30	1713975.44	519816.79	39°55'21.799"N	80°31'11.335"W	9.86	47.747	3.53
3667.00	2.740	273.940	3666.41	-2.42	6.82	5.52	1713973.66	519816.98	39°55'21.800"N	80°31'11.358"W	8.77	39.005	1.92
3712.00	4.270	285.770	3711.32	-4.39	7.35	2.84	1713970.98	519817.51	39°55'21.805"N	80°31'11.392"W	7.87	21.107	3.74
3757.00	5.820	291.240	3756.15	-7.59	8.63	-0.90	1713967.24	519818.79	39°55'21.818"N	80°31'11.440"W	8.68	354.023	3.60
3802.00	5.170	308.990	3800.95	-11.43	10.73	-4.61	1713963.53	519820.89	39°55'21.838"N	80°31'11.488"W	11.68	336.768	4.02
3846.00	5.050	314.870	3844.77	-15.24	13.34	-7.52	1713960.62	519823.50	39°55'21.863"N	80°31'11.526"W	15.32	330.598	1.22
3890.00	6.000	329.670	3888.57	-19.44	16.70	-10.05	1713958.09	519826.85	39°55'21.896"N	80°31'11.559"W	19.49	328.945	3.87
3933.00	6.930	342.830	3933.28	-24.37	21.32	-12.04	1713956.10	519831.48	39°55'21.942"N	80°31'11.585"W	24.49	330.539	3.87
3980.00	7.990	2.140	3977.91	-29.45	27.04	-12.73	1713955.41	519837.20	39°55'21.998"N	80°31'11.595"W	29.89	334.794	6.01
4023.00	8.820	35.540	4022.45	-33.09	32.98	-10.60	1713957.54	519843.13	39°55'22.057"N	80°31'11.568"W	34.64	342.174	10.84
4070.00	10.200	30.180	4066.83	-35.92	39.23	-6.60	1713961.55	519849.39	39°55'22.119"N	80°31'11.518"W	39.78	350.456	3.64
4114.00	11.400	28.010	4110.05	-39.53	46.44	-2.59	1713965.55	519856.59	39°55'22.191"N	80°31'11.468"W	46.51	356.802	2.88
4159.00	12.220	27.940	4154.10	-43.71	54.57	1.73	1713969.87	519864.73	39°55'22.272"N	80°31'11.413"W	54.60	1.811	1.82
4204.00	12.670	30.240	4198.04	-47.94	63.04	6.44	1713974.58	519873.20	39°55'22.356"N	80°31'11.354"W	63.37	5.835	1.49
4249.00	13.050	33.520	4241.91	-51.87	71.54	11.73	1713979.87	519881.70	39°55'22.441"N	80°31'11.287"W	72.49	9.315	1.83
4294.00	13.830	34.240	4285.68	-55.64	80.22	17.57	1713985.70	519890.38	39°55'22.527"N	80°31'11.214"W	82.12	12.351	1.77

Actual Wellpath Report

WEB-22G-HS AWP Proj: 12706'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot G
Area	Marshall County, WY	Well	WEB-22G-HS
Field	Marshall	Wellbore	WEB-22G-HS (AWB)
Facility	WEB-22 Pad		

WELLPATH DATA (200 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]
4338.00	14.810	33.180	4328.31	-59.59	89.28	23.60	1713991.74	519899.43	39°55'22.617"N	80°31'11.138"W	92.34	14.809	2.31
4383.00	15.840	33.530	4371.71	-64.08	99.27	30.05	1713998.19	519909.42	39°55'22.717"N	80°31'11.056"W	103.72	16.843	2.32
4428.00	16.890	33.170	4414.89	-68.86	109.92	36.93	1714005.07	519920.07	39°55'22.823"N	80°31'10.970"W	115.96	18.572	2.37
4473.00	17.510	32.610	4457.88	-73.87	121.09	44.16	1714012.29	519931.25	39°55'22.934"N	80°31'10.878"W	128.89	20.035	1.43
4518.00	18.100	33.360	4500.72	-79.02	132.63	51.65	1714019.79	519942.79	39°55'23.049"N	80°31'10.784"W	142.33	21.277	1.41
4562.00	18.450	34.210	4542.50	-84.01	144.10	59.32	1714027.46	519954.25	39°55'23.163"N	80°31'10.687"W	155.83	22.376	1.00
4607.00	18.570	35.580	4585.18	-88.92	155.82	67.49	1714035.63	519965.97	39°55'23.280"N	80°31'10.584"W	169.81	23.421	1.00
4690.00	19.850	37.820	4663.55	-97.48	177.70	83.83	1714043.96	519987.85	39°55'23.498"N	80°31'10.378"W	196.48	25.255	1.78
4780.00	24.370	35.190	4746.92	-108.29	204.96	103.91	1714052.04	520015.11	39°55'23.769"N	80°31'10.124"W	229.79	26.884	5.14
4870.00	28.370	31.670	4827.54	-123.06	238.35	125.84	1714060.98	520048.49	39°55'24.102"N	80°31'09.847"W	269.53	27.834	4.77
4959.00	32.100	28.720	4904.42	-141.91	277.10	148.32	1714116.45	520087.24	39°55'24.487"N	80°31'09.564"W	314.29	28.158	4.51
5049.00	33.960	26.570	4979.88	-164.47	320.56	171.06	1714139.19	520130.70	39°55'24.919"N	80°31'09.279"W	363.34	28.085	2.44
5138.00	31.040	26.530	5054.93	-187.25	363.33	192.43	1714160.56	520173.47	39°55'25.344"N	80°31'09.011"W	411.14	27.907	3.28
5228.00	28.880	30.760	5132.91	-207.24	402.77	213.91	1714182.04	520212.91	39°55'25.737"N	80°31'08.741"W	456.05	27.973	3.36
5318.00	26.790	29.710	5212.49	-224.83	439.07	235.08	1714203.21	520249.21	39°55'26.098"N	80°31'08.474"W	498.04	28.165	2.39
5408.00	24.010	27.740	5293.78	-241.88	472.90	253.66	1714221.79	520283.04	39°55'26.434"N	80°31'08.241"W	536.64	28.209	3.23
5498.00	24.370	33.310	5375.89	-257.13	504.63	272.39	1714240.51	520314.76	39°55'26.750"N	80°31'08.005"W	573.45	28.359	2.57
5587.00	25.370	33.370	5456.64	-270.95	535.90	292.96	1714261.08	520346.03	39°55'27.061"N	80°31'07.746"W	610.74	28.664	1.12
5676.00	22.760	31.590	5537.90	-284.82	566.49	312.47	1714280.59	520376.62	39°55'27.366"N	80°31'07.500"W	646.95	28.880	3.04
5766.00	23.230	36.030	5620.75	-297.51	595.68	332.03	1714300.15	520405.81	39°55'27.656"N	80°31'07.253"W	681.96	29.135	2.00
5856.00	21.240	34.460	5704.06	-309.00	623.47	351.69	1714319.82	520433.60	39°55'27.933"N	80°31'07.005"W	715.83	29.427	2.31
5945.00	22.330	29.830	5786.70	-321.85	651.44	369.23	1714337.35	520461.57	39°55'28.211"N	80°31'06.784"W	748.80	29.544	2.29
6035.00	22.250	30.180	5869.98	-336.27	681.00	386.30	1714354.42	520491.13	39°55'28.505"N	80°31'06.569"W	782.93	29.564	0.17
6124.00	22.360	30.590	5952.32	-350.34	710.14	403.38	1714371.51	520520.26	39°55'28.795"N	80°31'06.354"W	816.71	29.598	0.21
6214.00	22.130	29.070	6035.62	-364.83	739.69	420.33	1714388.45	520549.82	39°55'29.089"N	80°31'06.141"W	850.78	29.608	0.69
6304.00	22.330	27.470	6118.93	-380.14	769.68	436.46	1714404.58	520579.80	39°55'29.387"N	80°31'05.938"W	884.81	29.556	0.71
6393.00	22.370	27.650	6201.25	-395.74	799.68	452.12	1714420.23	520609.80	39°55'29.686"N	80°31'05.741"W	918.64	29.483	0.09
6483.00	22.270	45.380	6284.60	-406.47	826.86	472.22	1714440.34	520636.98	39°55'29.956"N	80°31'05.487"W	952.20	29.731	7.46
6528.00	22.780	58.590	6326.19	-407.35	837.40	485.74	1714453.85	520647.52	39°55'30.062"N	80°31'05.315"W	968.08	30.116	11.28
6572.00	22.680	69.080	6366.79	-404.75	844.87	500.94	1714469.05	520654.99	39°55'30.138"N	80°31'05.121"W	982.21	30.664	9.20
6617.00	22.460	75.110	6408.35	-399.68	850.18	517.35	1714485.47	520660.29	39°55'30.192"N	80°31'04.912"W	995.21	31.321	5.16
6662.00	22.070	84.670	6450.01	-392.54	853.17	534.08	1714502.20	520663.29	39°55'30.223"N	80°31'04.697"W	1006.55	32.046	8.09
6707.00	23.370	96.090	6491.54	-382.48	853.01	551.38	1714519.50	520663.13	39°55'30.224"N	80°31'04.475"W	1015.79	32.879	10.20
6751.00	25.960	104.350	6531.53	-369.44	849.69	569.40	1714537.51	520659.81	39°55'30.193"N	80°31'04.243"W	1022.84	33.827	9.79
6796.00	29.760	110.080	6571.32	-352.80	843.42	589.44	1714557.55	520653.54	39°55'30.133"N	80°31'03.985"W	1028.98	34.949	10.32
6841.00	33.790	126.600	6609.57	-332.81	834.33	611.30	1714579.41	520644.45	39°55'30.046"N	80°31'03.703"W	1034.31	36.230	10.51
6886.00	38.720	119.300	6645.85	-309.30	822.19	634.96	1714603.07	520632.31	39°55'29.928"N	80°31'03.398"W	1038.82	37.678	12.45
6931.00	43.300	122.620	6679.81	-282.33	806.97	660.24	1714628.35	520617.09	39°55'29.781"N	80°31'03.071"W	1042.65	39.289	11.27
6976.00	47.070	125.130	6711.52	-252.56	789.16	686.72	1714654.83	520599.29	39°55'29.608"N	80°31'02.729"W	1046.12	41.030	9.26
7020.00	49.800	126.600	6740.71	-221.46	769.87	713.39	1714681.50	520579.99	39°55'29.420"N	80°31'02.384"W	1049.59	42.819	6.69
7065.00	52.300	127.470	6769.00	-188.17	748.79	741.33	1714709.43	520558.92	39°55'29.215"N	80°31'02.022"W	1053.69	44.713	5.76
7110.00	54.950	129.130	6795.68	-153.47	726.33	769.75	1714737.85	520536.46	39°55'28.996"N	80°31'01.654"W	1058.33	46.662	6.60
7155.00	58.820	131.810	6820.27	-116.99	701.86	798.40	1714766.50	520511.99	39°55'28.758"N	80°31'01.283"W	1063.04	48.682	9.94
7199.00	62.800	134.370	6841.72	-79.41	675.62	826.43	1714794.53	520485.74	39°55'28.501"N	80°31'00.919"W	1067.45	50.734	10.37
7244.00	67.260	136.340	6860.72	-39.20	646.59	855.08	1714823.18	520456.72	39°55'28.218"N	80°31'00.547"W	1072.03	52.904	10.68

Actual Wellpath Report

WEB-22G-HS AWP Proj: 12706'
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REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (200 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]
7289.00	71.240	138.110	6876.66	2.48	615.71	883.64	1714851.74	520425.84	39°55'27.916"N	80°31'00.176"W	1077.00	55.132	9.58
7334.00	76.870	140.670	6889.02	45.52	582.87	911.78	1714879.88	520393.00	39°55'27.594"N	80°30'59.810"W	1082.17	57.411	13.65
7378.00	82.410	142.300	6896.93	88.70	549.01	938.72	1714906.82	520359.15	39°55'27.263"N	80°30'59.460"W	1087.48	59.679	13.11
7423.00	85.530	143.170	6901.65	133.41	513.40	965.81	1714933.91	520323.34	39°55'26.914"N	80°30'59.107"W	1093.79	62.006	7.19
7468.00	89.880	144.030	6903.46	178.35	477.22	992.49	1714960.58	520287.36	39°55'26.559"N	80°30'58.759"W	1101.26	64.320	9.85
7558.00	89.910	144.690	6903.62	268.35	404.08	1044.93	1715013.02	520214.22	39°55'25.843"N	80°30'58.076"W	1120.34	68.858	0.73
7647.00	89.600	144.150	6904.00	357.34	331.69	1096.71	1715064.80	520141.84	39°55'25.133"N	80°30'57.400"W	1145.78	73.172	0.70
7737.00	88.980	144.440	6905.12	447.33	258.62	1149.23	1715117.32	520068.76	39°55'24.417"N	80°30'56.716"W	1177.99	77.318	0.76
7827.00	89.080	145.380	6906.64	537.31	184.99	1200.96	1715169.05	519995.14	39°55'23.695"N	80°30'56.041"W	1215.13	81.244	1.05
7916.00	89.540	145.630	6907.71	626.30	111.64	1251.36	1715219.44	519921.79	39°55'22.976"N	80°30'55.384"W	1256.33	84.902	0.59
8006.00	89.600	144.930	6908.39	716.30	37.67	1302.62	1715270.70	519847.83	39°55'22.250"N	80°30'54.715"W	1303.17	88.344	0.78
8095.00	89.780	144.960	6908.87	805.30	-35.19	1353.74	1715321.82	519774.97	39°55'21.536"N	80°30'54.049"W	1354.20	91.489	0.21
8185.00	89.750	145.590	6909.24	895.30	-109.16	1405.01	1715373.08	519701.01	39°55'20.811"N	80°30'53.380"W	1409.24	94.442	0.70
8275.00	89.720	146.350	6909.65	985.28	-183.74	1455.37	1715423.44	519626.43	39°55'20.080"N	80°30'52.723"W	1466.93	97.196	0.85
8364.00	89.750	145.470	6910.07	1074.27	-257.45	1505.26	1715473.32	519552.73	39°55'19.357"N	80°30'52.072"W	1527.11	99.706	0.99
8454.00	89.380	145.620	6910.75	1164.26	-331.66	1556.17	1715524.24	519478.52	39°55'18.629"N	80°30'51.408"W	1591.12	102.031	0.44
8543.00	89.350	145.280	6911.74	1253.25	-404.95	1606.64	1715574.71	519405.22	39°55'17.910"N	80°30'50.749"W	1656.89	104.147	0.38
8633.00	89.320	145.070	6912.78	1343.25	-478.83	1658.04	1715626.10	519331.35	39°55'17.186"N	80°30'50.079"W	1725.79	106.108	0.24
8723.00	89.350	145.640	6913.82	1433.24	-552.87	1709.20	1715677.26	519257.32	39°55'16.460"N	80°30'49.412"W	1796.39	107.925	0.63
8812.00	89.350	144.280	6914.83	1522.23	-625.73	1760.29	1715728.35	519184.46	39°55'15.746"N	80°30'48.745"W	1868.20	109.569	1.53
8902.00	89.320	142.650	6915.88	1612.19	-698.04	1813.87	1715781.92	519112.16	39°55'15.037"N	80°30'48.074"W	1943.54	111.048	1.81
8991.00	89.230	142.840	6917.01	1701.11	-768.87	1867.74	1715835.79	519041.33	39°55'14.343"N	80°30'47.346"W	2019.80	112.375	0.24
9086.00	89.380	143.350	6918.16	1796.05	-844.83	1924.78	1715892.83	518965.37	39°55'13.599"N	80°30'46.603"W	2102.03	113.698	0.56
9170.00	89.320	144.420	6919.11	1880.03	-912.68	1974.29	1715942.33	518897.52	39°55'12.934"N	80°30'45.957"W	2175.04	114.810	1.28
9260.00	89.350	144.700	6920.16	1970.02	-986.00	2026.47	1715994.51	518824.20	39°55'12.215"N	80°30'45.277"W	2253.62	115.946	0.31
9349.00	89.820	144.310	6920.80	2059.02	-1058.46	2078.14	1716046.18	518751.75	39°55'11.505"N	80°30'44.604"W	2332.17	116.991	0.69
9439.00	89.690	144.670	6921.18	2149.01	-1131.72	2130.42	1716098.46	518678.49	39°55'10.787"N	80°30'43.922"W	2412.36	117.978	0.43
9529.00	89.750	145.600	6921.62	2239.01	-1205.57	2181.87	1716149.90	518604.65	39°55'10.063"N	80°30'43.251"W	2492.78	118.922	1.04
9618.00	89.480	146.960	6922.22	2327.98	-1279.59	2231.27	1716199.30	518530.63	39°55'09.337"N	80°30'42.606"W	2572.14	119.833	1.56
9708.00	89.450	144.690	6923.06	2417.96	-1354.04	2281.82	1716249.85	518456.18	39°55'08.607"N	80°30'41.947"W	2653.32	120.685	2.52
9797.00	89.380	144.730	6923.97	2506.96	-1426.68	2333.23	1716301.26	518383.55	39°55'07.895"N	80°30'41.277"W	2734.85	121.444	0.09
9887.00	89.570	145.200	6924.80	2596.95	-1500.37	2384.90	1716352.92	518309.86	39°55'07.172"N	80°30'40.603"W	2817.60	122.175	0.56
9976.00	89.540	145.980	6925.49	2685.95	-1573.79	2435.19	1716403.44	518236.44	39°55'06.452"N	80°30'39.947"W	2899.48	122.873	0.88
10066.00	89.570	145.630	6926.19	2775.93	-1648.23	2485.77	1716453.79	518162.01	39°55'05.722"N	80°30'39.287"W	2982.57	123.547	0.39
10156.00	89.540	145.840	6926.89	2865.92	-1722.61	2536.44	1716504.46	518087.63	39°55'04.993"N	80°30'38.626"W	3066.09	124.182	0.24
10245.00	89.600	145.530	6927.55	2954.91	-1796.12	2586.61	1716554.63	518014.13	39°55'04.272"N	80°30'37.972"W	3149.06	124.776	0.35
10335.00	89.540	145.260	6928.23	3044.91	-1870.19	2637.72	1716605.74	517940.06	39°55'03.546"N	80°30'37.305"W	3233.45	125.337	0.31
10425.00	89.570	144.650	6928.93	3134.91	-1943.87	2689.40	1716657.41	517866.38	39°55'02.823"N	80°30'36.631"W	3318.36	125.859	0.68
10514.00	89.570	144.560	6929.60	3223.90	-2016.42	2740.95	1716708.96	517793.83	39°55'02.112"N	80°30'35.959"W	3402.76	126.341	0.10
10604.00	89.630	145.750	6930.22	3313.90	-2090.28	2792.37	1716760.38	517719.98	39°55'01.388"N	80°30'35.289"W	3488.07	126.817	1.32
10694.00	89.600	146.100	6930.83	3403.88	-2164.83	2842.79	1716810.80	517645.43	39°55'00.657"N	80°30'34.631"W	3573.23	127.290	0.39
10783.00	89.540	146.830	6931.50	3492.85	-2239.01	2891.96	1716859.96	517571.26	39°54'59.929"N	80°30'33.989"W	3657.40	127.748	0.82
10873.00	89.530	147.630	6932.37	3582.78	-2314.68	2940.67	1716908.67	517495.59	39°54'59.187"N	80°30'33.333"W	3742.37	128.207	0.91
10963.00	89.320	147.510	6933.41	3672.68	-2390.64	2988.93	1716956.93	517419.63	39°54'58.442"N	80°30'32.723"W	3827.39	128.654	0.14
11052.00	89.320	145.240	6934.47	3761.64	-2464.74	3038.21	1717006.20	517345.54	39°54'57.715"N	80°30'32.080"W	3912.25	129.051	2.55

Actual Wellpath Report

WEB-22G-HS AWP Proj: 12706'

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REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (200 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]
11142.00	89.290	143.940	6935.56	3851.63	-2538.09	3090.35	1717038.35	517272.19	39°54'56.996"N	80°30'31.400"W	3999.02	129.396	1.44
11232.00	89.320	143.980	6936.65	3941.61	-2610.86	3143.30	1717111.29	517199.43	39°54'56.283"N	80°30'30.710"W	4086.19	129.713	0.06
11321.00	89.320	145.600	6937.71	4030.60	-2683.57	3194.61	1717162.60	517126.72	39°54'55.570"N	80°30'30.041"W	4172.18	130.031	1.82
11411.00	89.290	145.800	6938.80	4120.59	-2757.91	3245.32	1717213.31	517052.38	39°54'54.841"N	80°30'29.380"W	4258.90	130.358	0.22
11500.00	89.350	144.520	6939.86	4209.58	-2830.95	3296.16	1717264.15	516979.35	39°54'54.125"N	80°30'28.717"W	4344.99	130.658	1.44
11590.00	89.540	142.550	6940.73	4299.54	-2903.32	3349.65	1717317.63	516906.98	39°54'53.415"N	80°30'28.020"W	4432.77	130.917	2.20
11680.00	89.570	140.600	6941.43	4389.37	-2973.82	3405.58	1717373.56	516836.48	39°54'52.725"N	80°30'27.292"W	4521.24	131.128	2.17
11769.00	89.480	142.400	6942.17	4478.20	-3043.47	3460.98	1717428.95	516766.83	39°54'52.043"N	80°30'26.571"W	4608.81	131.327	2.02
11859.00	89.420	145.620	6943.03	4568.17	-3116.28	3513.86	1717481.83	516694.03	39°54'51.329"N	80°30'25.882"W	4696.64	131.568	3.58
11949.00	89.540	145.620	6943.85	4658.16	-3190.55	3564.68	1717532.65	516619.76	39°54'50.601"N	80°30'25.219"W	4783.99	131.830	0.13
12038.00	89.510	144.420	6944.58	4747.16	-3263.47	3615.70	1717583.66	516546.84	39°54'49.886"N	80°30'24.554"W	4870.68	132.069	1.35
12128.00	89.510	144.520	6945.35	4837.15	-3336.71	3668.00	1717635.96	516473.61	39°54'49.168"N	80°30'23.873"W	4958.61	132.292	0.11
12217.00	89.600	144.680	6946.05	4926.15	-3409.26	3719.55	1717687.51	516401.07	39°54'48.457"N	80°30'23.201"W	5045.60	132.508	0.21
12307.00	89.570	145.090	6946.70	5016.14	-3482.87	3771.32	1717739.28	516327.45	39°54'47.735"N	80°30'22.526"W	5133.54	132.723	0.46
12396.00	89.510	145.070	6947.41	5105.14	-3555.85	3822.26	1717790.22	516254.48	39°54'47.019"N	80°30'21.861"W	5220.51	132.932	0.07
12486.00	89.570	145.080	6948.13	5195.14	-3629.64	3873.79	1717841.74	516180.70	39°54'46.296"N	80°30'21.190"W	5308.53	133.136	0.07
12575.00	89.570	146.480	6948.80	5284.12	-3703.23	3923.84	1717891.79	516107.11	39°54'45.574"N	80°30'20.537"W	5395.40	133.343	1.57
12665.00	89.480	147.090	6949.55	5374.08	-3778.52	3973.13	1717941.08	516031.82	39°54'44.836"N	80°30'19.893"W	5482.97	133.562	0.69
12681.00	89.540	147.060	6949.69	5390.07	-3791.95	3981.83	1717949.78	516018.39	39°54'44.704"N	80°30'19.780"W	5498.53	133.601	0.42
12706.00	89.540	147.060	6949.89	5415.05	-3812.93	3995.42	1717963.37	515997.41	39°54'44.498"N	80°30'19.602"W	5522.85	133.661	0.00



Actual Wellpath Report

WEB-22G-HS AWP Proj: 12706'
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REFERENCE WELLPATH IDENTIFICATION

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

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
WEB-22G-HS BHL:Rev-1	6895.00	6895.00	-3813.45	3995.17	1717963.12	515996.89	39°54'44.493"N	80°30'19.606"W	point
WEB-22G-HS LP:Rev-1	6913.00	6895.00	500.20	974.72	1714942.81	520310.34	39°55'26.785"N	80°30'58.991"W	point
WEB-22G-HS BHL Plat	6913.00	6913.00	-3813.45	3995.17	1717963.12	515996.89	39°54'44.493"N	80°30'19.606"W	point
WEB-22G-HS LP Plat	6913.00	6913.00	500.20	974.72	1714942.81	520310.34	39°55'26.785"N	80°30'58.991"W	point

WELLPATH COMPOSITION - Ref Wellbore: WEB-22G-HS (AWB) Ref Wellpath: WEB-22G-HS AWP Proj: 12706'

Start MD [ft]	End MD [ft]	Model	Log Name/Comment	Wellbore
18.60	465.00	Generic gyro - northseeking (Standard)	01 Gyrodatta Surveys 17 1/2" (25'-465')	WEB-22G-HS (AWB)
465.00	1204.00	ISCWISA MWD, Rev. 2 (Standard)	02 BHI MWD Surveys 17 1/2" (465'/(468'-1204) Proj:1261'	WEB-22G-HS (AWB)
1204.00	3366.00	ISCWISA MWD, Rev. 2 (Standard)	03 BHI APS Surveys <12-1/4"> (1204'/(1333'-3366) Proj:3424'	WEB-22G-HS (AWB)
3366.00	4607.00	NaviTrak (MagCorr)	04 BHI MWD <8-3/4"> (3366'/(3443'-4607')	WEB-22G-HS (AWB)
4607.00	12681.00	NaviTrak (AT Curve Short Spaced)	05 BHI AT Curve <8-3/4"> (4607'/(4690'-12681')	WEB-22G-HS (AWB)
12681.00	12706.00	Blind Drilling (std)	Projection to bit	WEB-22G-HS (AWB)

06/12/2015

REFERENCE WELLPATH IDENTIFICATION

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

COMMENTS

Wellpath general comments
 API#: 47-051-01722-0000
 Rig: Precision 542
 BHI Job#: 6260433
 Duration: 05/05/14-05/17/14
 Gyrodatta Surveys: (25'-465')
 BHI MWD / APS Surveys: (465')(468'-3366')
 BHI ATCurve Surveys: (3366')(3443'-12681')
 TTD Projected to MD: 12706'

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

Slot G
Well: WEB-22G-HS
Wellbore: WEB-22G-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)	Latitude	Longitude
Slot G	42.33	1713968.140	39°55'21.732"N	80°31'11.428"W
Precision 542 (RT) to Mud line (At Slot: Slot G)	18 ft			
Mean Sea Level to Mud line (At Slot: Slot G)	-1325ft			
Precision 542 (RT) to Mean Sea Level	1343.6ft			

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (1/100ft)	VS (ft)
Top On	1204.00	1.500	336.870	1203.68	2.43	5.82	0.00	1.35
End of Tangent	1264.00	1.500	336.870	1263.66	3.87	5.20	0.00	-0.19
End of Drop (J)	1339.00	0.000	28.922	1338.65	4.77	4.81	2.00	-1.15
End of Tangent (J)	3600.00	0.000	28.922	3599.65	4.77	4.81	0.00	-1.15
End of Build (J)	4345.74	22.372	28.922	4326.58	130.60	74.33	3.00	-64.34
End of Tangent (J)	4344.83	22.372	28.922	4326.68	829.91	460.73	0.00	-415.55
LP	7441.15	90.000	145.000	6895.00	500.21	974.71	10.00	149.33
BHL	12707.15	90.000	145.000	6895.00	-3813.45	3995.17	0.00	5415.33

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
WEB-22G-HS BHL Rev-1	12707.15	6895.00	-3813.45	3995.17	1717963.12	51996.89	39°54'44.4837"N	80°30'19.6007"W
WEB-22G-HS LP Rev-1	7441.15	6895.00	500.20	974.72	1714842.81	52010.34	39°55'26.7657"N	80°30'58.8917"W
WEB-22G-HS BHL Pat	6913.00	6913.00	-3813.45	3995.17	1717963.12	51996.89	39°54'44.4837"N	80°30'19.6007"W
WEB-22G-HS LP Pat	6913.00	6913.00	500.20	974.72	1714842.81	52010.34	39°55'26.7657"N	80°30'58.8917"W

Plot reference wellpath is WEB-22G-HS (PWP) Rev-C.0

True vertical depths are referenced to Precision 542 (RT)
 Measured depths are referenced to Precision 542 (RT)
 Precision 542 (RT) to Mean Sea Level: 1343.6 feet
 Mean Sea Level to Mud line (At Slot: Slot G): -1325 feet
 Depths are in feet
 Coordinates are in feet referenced to Slot
 Created by: fmgj on 5/20/2014
 Grid System: NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet
 North Reference: Grid north
 Scale: True distance
 Depths are in feet

