



Received  
Office of Oil & Gas  
DEC 22 2014

# Actual Wellpath Report

WEB-13D-HS AWP Proj: 13450'

Page 1 of 9



## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot D
Area	Marshall County, WV	Well	WEB-13D-HS
Field	Marshall	Wellbore	WEB-13D-HS AWB
Facility	WEB-13 Pad		

51-01659

## 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	0.999957	Report Generated	24/Mar/2014 at 14:52
Convergence at slot	0.67° West	Database/Source file	WellArchitectEasternDB/WEB-13D-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	-16.67	41.94	1705694.77	531274.08	39°57'14.082"N	80°32'59.332"W
Facility Reference Pt			1705652.83	531290.75	39°57'14.242"N	80°32'59.873"W
Field Reference Pt			609601.22	0.00	38°23'48.753"N	84°21'09.765"W

## WELLPATH DATUM

Calculation method	Minimum curvature	Nomac 79 (RT) to Facility Vertical Datum	1270.55ft
Horizontal Reference Pt	Slot	Nomac 79 (RT) to Mean Sea Level	1270.55ft
Vertical Reference Pt	Nomac 79 (RT)	Nomac 79 (RT) to Mud Line at Slot (Slot D)	1270.55ft
MD Reference Pt	Nomac 79 (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	323.00°



Received  
Office of Oil & Gas  
DEC 22 2014

# Actual Wellpath Report

WEB-13D-HS AWP Proj: 13450'

Page 2 of 9



## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot D
Area	Marshall County, WV	Well	WEB-13D-HS
Field	Marshall	Wellbore	WEB-13D-HS AWB
Facility	WEB-13 Pad		

51-01659

## WELLPATH DATA (177 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	320.600	0.00	0.00	0.00	0.00	1705694.77	531274.08	39°57'14.082"N	80°32'59.332"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	320.600	26.00	0.00	0.00	0.00	1705694.77	531274.08	39°57'14.082"N	80°32'59.332"W	0.00	0.000	0.00	0.00	0.00
126.00	0.210	320.600	126.00	0.18	0.14	-0.12	1705694.65	531274.22	39°57'14.083"N	80°32'59.334"W	0.18	320.600	0.21	0.21	0.00
226.00	0.480	319.580	226.00	0.78	0.60	-0.50	1705694.27	531274.68	39°57'14.088"N	80°32'59.339"W	0.79	320.056	0.27	0.27	-1.02
326.00	0.360	330.770	326.00	1.51	1.20	-0.93	1705693.84	531275.28	39°57'14.093"N	80°32'59.344"W	1.51	322.135	0.14	-0.12	11.19
426.00	0.470	338.330	425.99	2.22	1.85	-1.23	1705693.54	531275.93	39°57'14.100"N	80°32'59.348"W	2.22	326.301	0.12	0.11	7.56
526.00	0.410	339.820	525.99	2.96	2.57	-1.51	1705693.26	531276.65	39°57'14.107"N	80°32'59.352"W	2.98	329.556	0.06	-0.06	1.49
626.00	0.520	357.450	625.99	3.68	3.36	-1.65	1705693.12	531277.44	39°57'14.115"N	80°32'59.354"W	3.74	333.787	0.18	0.11	17.63
726.00	0.610	6.120	725.98	4.44	4.34	-1.62	1705693.15	531278.42	39°57'14.124"N	80°32'59.354"W	4.63	339.574	0.12	0.09	8.67
826.00	0.560	28.650	825.98	5.03	5.30	-1.32	1705693.45	531279.38	39°57'14.134"N	80°32'59.350"W	5.46	345.957	0.23	-0.05	22.53
926.00	0.590	37.560	925.97	5.37	6.13	-0.78	1705693.99	531280.21	39°57'14.142"N	80°32'59.343"W	6.18	352.783	0.09	0.03	8.91
1026.00	0.630	26.020	1025.97	5.75	7.04	-0.22	1705694.55	531281.12	39°57'14.151"N	80°32'59.336"W	7.04	358.195	0.13	0.04	-11.54
1126.00	0.470	28.320	1125.96	6.17	7.89	0.21	1705694.98	531281.97	39°57'14.160"N	80°32'59.331"W	7.89	1.553	0.16	-0.16	2.30
1165.00	0.610	30.020	1164.96	6.32	8.21	0.39	1705695.16	531282.29	39°57'14.163"N	80°32'59.328"W	8.22	2.745	0.36	0.36	4.36
1221.00	0.340	67.360	1220.96	6.40	8.53	0.70	1705695.47	531282.61	39°57'14.166"N	80°32'59.325"W	8.56	4.664	0.71	-0.48	66.68
1252.00	0.660	71.690	1251.96	6.32	8.63	0.95	1705695.72	531282.71	39°57'14.167"N	80°32'59.321"W	8.68	6.289	1.04	1.03	13.97
1284.00	1.110	147.270	1283.95	5.95	8.42	1.29	1705696.06	531282.50	39°57'14.165"N	80°32'59.317"W	8.52	8.728	3.57	1.41	236.19
1315.00	1.460	150.440	1314.95	5.26	7.83	1.65	1705696.42	531281.91	39°57'14.159"N	80°32'59.312"W	8.00	11.907	1.15	1.13	10.23
1347.00	2.270	183.240	1346.93	4.37	6.84	1.82	1705696.59	531280.92	39°57'14.150"N	80°32'59.310"W	7.08	14.867	4.09	2.53	102.50
1378.00	2.790	160.530	1377.90	3.18	5.52	2.03	1705696.80	531279.59	39°57'14.136"N	80°32'59.307"W	5.88	20.230	3.61	1.68	-73.26
1410.00	3.480	157.210	1409.85	1.50	3.89	2.67	1705697.44	531277.97	39°57'14.120"N	80°32'59.299"W	4.71	34.478	2.23	2.16	-10.37
1442.00	3.860	158.170	1441.79	-0.48	1.99	3.44	1705698.21	531276.07	39°57'14.102"N	80°32'59.288"W	3.98	59.984	1.20	1.19	3.00
1473.00	4.380	146.440	1472.71	-2.67	0.04	4.49	1705699.26	531274.12	39°57'14.083"N	80°32'59.275"W	4.49	89.552	3.19	1.68	-37.84
1505.00	4.830	174.710	1504.61	-5.04	-2.32	5.29	1705700.06	531271.76	39°57'14.059"N	80°32'59.264"W	5.78	113.736	7.15	1.41	88.34
1536.00	5.380	171.150	1535.48	-7.43	-5.06	5.63	1705700.40	531269.02	39°57'14.032"N	80°32'59.259"W	7.57	131.945	2.05	1.77	-11.48
1568.00	5.500	170.860	1567.34	-10.11	-8.06	6.11	1705700.88	531266.02	39°57'14.003"N	80°32'59.253"W	10.11	142.845	0.38	0.38	-0.91
1613.00	5.610	175.580	1612.13	-13.87	-12.38	6.62	1705701.39	531261.70	39°57'13.960"N	80°32'59.245"W	14.04	151.872	1.04	0.24	10.49
1663.00	5.630	165.160	1661.89	-18.20	-17.19	7.43	1705702.20	531256.89	39°57'13.913"N	80°32'59.234"W	18.73	156.609	2.04	0.04	-20.84
1704.00	5.820	164.100	1702.69	-22.00	-21.13	8.52	1705703.29	531252.95	39°57'13.874"N	80°32'59.220"W	22.78	158.043	0.53	0.46	-2.59
1758.00	5.990	161.160	1756.40	-27.23	-26.43	10.18	1705704.95	531247.65	39°57'13.822"N	80°32'59.198"W	28.32	158.937	0.64	0.31	-5.44

Received  
Office of Oil & Gas  
DEC 2 2 2014



Actual Wellpath Report  
WEB-13D-HS AWP Proj: 13450  
Page 3 of 9



6591-0155

Operator	Area	Field	Facility
NOBLE ENERGY	Marshall County, WV	Marshall	WEB-13 Pad
		Wellbore	WEB-13D-HS AWB
		Well	WEB-13D-HS
		Slot	Slot D

WELLPATH DATA (177 stations)

MD	Inclination	Azimuth	TVP	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]			[ft]	[°]	[%/100ft]	[%/100ft]	[%/100ft]
1852.00	5.580	151.960	1849.92	-36.41	-35.11	13.91	1705708.68	531238.98	39°57'13.736"N	80°32'59.148"W	37.76	158.383	1.08	-0.44	-9.79
1947.00	4.330	141.810	1944.57	-44.56	-42.00	18.30	1705713.07	531232.08	39°57'13.669"N	80°32'59.091"W	45.81	156.457	1.60	-1.32	-10.68
2042.00	3.220	133.110	2039.36	-50.77	-46.64	22.46	1705717.23	531227.44	39°57'13.623"N	80°32'59.037"W	51.77	154.283	1.31	-1.17	-9.16
2137.00	2.130	115.880	2134.26	-54.97	-49.24	26.00	1705720.77	531224.84	39°57'13.598"N	80°32'58.991"W	55.68	152.162	1.41	-1.15	-18.14
2232.00	0.940	108.180	2229.22	-57.18	-50.25	28.33	1705723.10	531223.83	39°57'13.588"N	80°32'58.961"W	57.69	150.587	1.27	-1.25	-8.11
2327.00	1.200	75.060	2324.20	-58.20	-50.24	30.03	1705724.80	531223.84	39°57'13.589"N	80°32'58.939"W	58.53	149.129	0.69	0.27	-34.86
2422.00	0.520	48.170	2419.19	-58.53	-49.69	31.31	1705726.08	531224.39	39°57'13.594"N	80°32'58.923"W	58.74	147.783	0.81	-0.72	-28.31
2516.00	0.900	42.040	2513.19	-58.36	-48.86	32.13	1705726.89	531225.22	39°57'13.603"N	80°32'58.912"W	58.48	146.675	0.41	0.40	-6.52
2611.00	0.880	39.480	2608.18	-58.04	-47.74	33.09	1705727.86	531226.34	39°57'13.614"N	80°32'58.900"W	58.09	145.275	0.05	-0.02	-2.69
2706.00	1.180	28.630	2703.16	-57.47	-46.32	34.02	1705728.79	531227.76	39°57'13.628"N	80°32'58.888"W	57.47	143.704	0.38	0.32	-11.42
2801.00	1.230	8.700	2798.14	-56.35	-44.46	34.65	1705729.41	531229.63	39°57'13.646"N	80°32'58.881"W	56.36	142.070	0.44	0.05	-20.98
2896.00	1.550	9.270	2893.11	-54.75	-42.18	35.01	1705729.77	531231.90	39°57'13.669"N	80°32'58.876"W	54.81	140.310	0.34	0.34	0.60
2990.00	1.660	357.230	2987.07	-52.75	-39.57	35.15	1705729.91	531234.52	39°57'13.695"N	80°32'58.875"W	52.92	138.386	0.38	0.12	-12.81
3085.00	1.740	356.050	3082.03	-50.40	-36.75	34.98	1705729.75	531237.33	39°57'13.723"N	80°32'58.878"W	50.74	136.415	0.09	0.08	-1.24
3220.00	0.090	6.230	3217.01	-48.61	-34.60	34.85	1705729.62	531239.48	39°57'13.744"N	80°32'58.880"W	49.11	134.795	1.22	-1.22	7.54
3283.00	0.030	276.720	3280.01	-48.56	-34.55	34.84	1705729.61	531239.53	39°57'13.744"N	80°32'58.880"W	49.07	134.762	0.15	-0.10	-142.08
3377.00	0.030	14.070	3374.01	-48.53	-34.52	34.82	1705729.59	531239.56	39°57'13.745"N	80°32'58.880"W	49.03	134.755	0.05	0.00	103.56
3472.00	0.030	46.900	3469.01	-48.51	-34.48	34.84	1705729.61	531239.60	39°57'13.745"N	80°32'58.880"W	49.02	134.701	0.02	0.00	34.56
3567.00	0.000	351.870	3564.01	-48.51	-34.47	34.86	1705729.63	531239.62	39°57'13.745"N	80°32'58.879"W	49.02	134.672	0.03	-0.03	0.00
3662.00	0.030	71.720	3659.01	-48.51	-34.46	34.89	1705729.65	531239.62	39°57'13.745"N	80°32'58.879"W	49.03	134.646	0.03	0.03	0.00
3758.00	0.030	351.790	3755.01	-48.50	-34.43	34.91	1705729.68	531239.66	39°57'13.746"N	80°32'58.879"W	49.03	134.602	0.04	0.00	-83.26
3853.00	0.030	20.390	3850.01	-48.47	-34.38	34.91	1705729.68	531239.70	39°57'13.746"N	80°32'58.879"W	49.00	134.558	0.02	0.00	30.11
3948.00	0.030	9.750	3945.01	-48.43	-34.33	34.92	1705729.69	531239.75	39°57'13.747"N	80°32'58.879"W	48.97	134.508	0.01	0.00	-11.20
4043.00	0.030	335.110	4040.01	-48.39	-34.28	34.92	1705729.69	531239.80	39°57'13.747"N	80°32'58.879"W	48.93	134.473	0.02	0.00	-36.46
4137.00	0.030	350.030	4134.01	-48.35	-34.24	34.90	1705729.67	531239.85	39°57'13.747"N	80°32'58.879"W	48.89	134.446	0.01	0.00	15.87
4194.00	0.070	328.930	4191.01	-48.30	-34.19	34.88	1705729.65	531239.89	39°57'13.748"N	80°32'58.879"W	48.85	134.426	0.08	0.07	-37.02
4289.00	0.030	86.980	4286.01	-48.26	-34.14	34.88	1705729.65	531239.94	39°57'13.748"N	80°32'58.879"W	48.81	134.387	0.09	-0.04	124.26
4384.00	0.030	257.280	4381.01	-48.26	-34.14	34.88	1705729.65	531239.94	39°57'13.748"N	80°32'58.879"W	48.81	134.390	0.06	0.00	179.26
4479.00	0.030	18.410	4476.01	-48.23	-34.13	34.86	1705729.63	531239.96	39°57'13.749"N	80°32'58.879"W	48.78	134.389	0.06	0.00	127.51
4574.00	0.070	53.880	4571.01	-48.22	-34.07	34.92	1705729.69	531240.01	39°57'13.749"N	80°32'58.879"W	48.78	134.295	0.05	0.04	37.34



Received  
Office of Oil & Gas  
DEC 22 2014

# Actual Wellpath Report

WEB-13D-HS AWP Proj: 13450'  
Page 4 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY	Slot	Slot D
Area	Marshall County, WV	Well	WEB-13D-HS
Field	Marshall	Wellbore	WEB-13D-HS AWB
Facility	WEB-13 Pad		

51-01659

## WELLPATH DATA (177 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]
4669.00	0.070	53.880	4666.01	-48.22	-34.00	35.01	1705729.78	531240.08	39°57'13.750"N	80°32'58.878"W	48.80	134.161	0.00	0.00	0.00
4764.00	0.060	288.030	4761.01	-48.18	-33.95	35.01	1705729.78	531240.13	39°57'13.750"N	80°32'58.878"W	48.77	134.119	0.12	-0.01	-132.47
4858.00	0.030	348.660	4855.01	-48.12	-33.91	34.96	1705729.73	531240.17	39°57'13.751"N	80°32'58.878"W	48.70	134.128	0.06	-0.03	64.50
4953.00	0.030	173.070	4950.01	-48.12	-33.91	34.96	1705729.73	531240.17	39°57'13.751"N	80°32'58.878"W	48.70	134.130	0.06	0.00	-184.83
5048.00	0.030	268.610	5045.01	-48.13	-33.94	34.93	1705729.70	531240.14	39°57'13.750"N	80°32'58.879"W	48.70	134.170	0.05	0.00	100.57
5142.00	0.040	10.990	5139.01	-48.09	-33.90	34.92	1705729.68	531240.18	39°57'13.751"N	80°32'58.879"W	48.67	134.158	0.06	0.01	108.91
5205.00	0.320	167.780	5202.01	-48.24	-34.06	34.96	1705729.73	531240.03	39°57'13.749"N	80°32'58.878"W	48.80	134.251	0.57	0.44	248.87
5237.00	1.090	118.100	5234.01	-48.59	-34.29	35.25	1705730.01	531239.80	39°57'13.747"N	80°32'58.875"W	49.17	134.210	2.86	2.41	-155.25
5283.00	4.610	102.850	5279.94	-50.40	-34.90	37.43	1705732.20	531239.18	39°57'13.741"N	80°32'58.846"W	51.18	132.996	7.76	7.65	-33.15
5332.00	8.080	100.170	5328.64	-54.44	-35.95	42.75	1705737.51	531238.13	39°57'13.731"N	80°32'58.778"W	55.85	130.065	7.11	7.08	-5.47
5379.00	10.690	100.300	5375.00	-60.06	-37.31	50.29	1705745.05	531236.77	39°57'13.719"N	80°32'58.681"W	62.62	126.575	5.55	5.55	0.28
5426.00	12.810	102.760	5421.02	-67.24	-39.24	59.66	1705754.43	531234.84	39°57'13.701"N	80°32'58.560"W	71.41	123.337	4.63	4.51	5.23
5475.00	15.540	111.760	5468.53	-77.01	-42.88	71.06	1705765.82	531231.20	39°57'13.666"N	80°32'58.413"W	82.99	121.108	7.14	5.57	18.37
5521.00	18.570	117.140	5512.50	-88.87	-48.50	83.30	1705778.07	531225.58	39°57'13.612"N	80°32'58.255"W	96.39	120.212	7.42	6.59	11.70
5569.00	20.940	117.650	5557.67	-103.50	-55.97	97.70	1705792.47	531218.11	39°57'13.540"N	80°32'58.069"W	112.60	119.808	4.95	4.94	1.06
5615.00	23.130	117.740	5600.31	-119.10	-63.99	112.98	1705807.75	531210.09	39°57'13.462"N	80°32'57.872"W	129.85	119.528	4.76	4.76	0.20
5659.00	25.740	118.160	5640.36	-135.59	-72.53	129.06	1705823.82	531201.56	39°57'13.380"N	80°32'57.664"W	148.04	119.335	5.94	5.93	0.95
5710.00	29.570	117.280	5685.53	-156.99	-83.52	150.01	1705844.78	531190.56	39°57'13.274"N	80°32'57.394"W	171.70	119.108	7.55	7.51	-1.73
5773.00	33.950	115.780	5739.08	-186.65	-98.31	179.68	1705874.45	531175.78	39°57'13.131"N	80°32'57.010"W	204.82	118.684	7.06	6.95	-2.38
5805.00	35.490	113.730	5765.39	-202.70	-105.93	196.24	1705891.00	531168.15	39°57'13.058"N	80°32'56.797"W	223.00	118.361	6.04	4.81	-6.41
5836.00	34.740	109.500	5790.75	-217.92	-112.50	212.80	1705907.56	531161.58	39°57'12.995"N	80°32'56.583"W	240.71	117.864	8.21	-2.42	-13.65
5868.00	32.360	105.180	5817.42	-232.29	-117.79	229.67	1705924.43	531156.29	39°57'12.944"N	80°32'56.366"W	258.11	117.152	10.53	-7.44	-13.50
5899.00	31.850	101.020	5843.68	-244.92	-121.53	245.70	1705940.46	531152.56	39°57'12.909"N	80°32'56.159"W	274.12	116.318	7.32	-1.65	-13.42
5949.00	26.880	93.860	5887.26	-262.14	-124.81	269.95	1705964.71	531149.27	39°57'12.879"N	80°32'55.847"W	297.41	114.814	12.15	-9.94	-14.32
5994.00	23.140	86.730	5928.04	-273.71	-124.99	288.94	1705983.70	531149.09	39°57'12.880"N	80°32'55.604"W	314.82	113.393	10.66	-8.31	-15.84
6043.00	22.070	78.420	5973.29	-283.01	-122.60	307.58	1706002.33	531151.49	39°57'12.906"N	80°32'55.365"W	331.11	111.732	6.87	-2.18	-16.96
6088.00	22.110	70.930	6014.99	-289.25	-118.13	323.87	1706018.62	531155.95	39°57'12.952"N	80°32'55.156"W	344.74	110.040	6.26	0.09	-16.64
6138.00	21.920	56.480	6061.38	-292.72	-109.90	340.55	1706035.31	531164.19	39°57'13.035"N	80°32'54.943"W	357.85	107.885	10.82	-0.38	-28.90
6183.00	21.220	42.700	6103.26	-291.77	-99.27	353.09	1706047.84	531174.82	39°57'13.142"N	80°32'54.784"W	366.78	105.703	11.34	-1.56	-30.62
6237.00	21.230	28.040	6153.63	-285.89	-83.44	364.32	1706059.07	531190.64	39°57'13.299"N	80°32'54.642"W	373.75	102.901	9.81	0.02	-27.15

**REFERENCE WELLPATH IDENTIFICATION**

Operator	NOBLE ENERGY	Slot	Slot D
Area	Marshall County, WV	Well	WEB-13D-HS
Field	Marshall	Wellbore	WEB-13D-HS AWB
Facility	WEB-13 Pad		

51-01659

**WELLPATH DATA (177 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]
6278.00	22.710	22.140	6191.66	-278.70	-69.56	370.79	1706065.55	531204.52	39°57'13.437"N	80°32'54.561"W	377.26	100.625	6.48	3.61	-14.39
6326.00	25.830	17.460	6235.41	-267.87	-50.99	377.42	1706072.18	531223.09	39°57'13.621"N	80°32'54.479"W	380.85	97.695	7.63	6.50	-9.75
6373.00	28.820	8.080	6277.18	-253.90	-30.00	382.09	1706076.84	531244.08	39°57'13.829"N	80°32'54.422"W	383.27	94.489	11.14	6.36	-19.96
6421.00	30.690	356.200	6318.89	-235.47	-6.30	382.91	1706077.66	531267.78	39°57'14.064"N	80°32'54.415"W	382.96	90.942	12.87	3.90	-24.75
6468.00	33.090	346.850	6358.82	-213.68	18.18	379.19	1706073.94	531292.26	39°57'14.305"N	80°32'54.466"W	379.63	87.255	11.67	5.11	-19.89
6516.00	37.480	342.630	6397.99	-187.92	44.90	371.84	1706066.60	531318.98	39°57'14.568"N	80°32'54.565"W	374.54	83.115	10.46	9.15	-8.79
6563.00	41.990	341.900	6434.13	-159.57	73.50	362.69	1706057.44	531347.58	39°57'14.850"N	80°32'54.686"W	370.06	78.543	9.65	9.60	-1.55
6611.00	45.550	340.450	6468.79	-128.02	104.92	351.96	1706046.72	531379.00	39°57'15.159"N	80°32'54.829"W	367.27	73.401	7.71	7.42	-3.02
6658.00	49.770	339.740	6500.43	-94.82	137.58	340.13	1706034.88	531411.65	39°57'15.480"N	80°32'54.986"W	366.90	67.978	9.05	8.98	-1.51
6708.00	53.900	338.400	6531.33	-57.05	174.28	326.08	1706020.83	531448.35	39°57'15.842"N	80°32'55.172"W	369.73	61.877	8.52	8.26	-2.68
6753.00	57.850	336.360	6556.57	-20.97	208.65	311.74	1706006.50	531482.72	39°57'16.180"N	80°32'55.361"W	375.12	56.205	9.55	8.78	-4.53
6802.00	62.880	333.910	6580.79	20.65	247.27	293.82	1705988.58	531521.33	39°57'16.559"N	80°32'55.597"W	384.02	49.917	11.15	10.27	-5.00
6848.00	67.980	332.130	6599.91	61.83	284.53	274.83	1705969.59	531558.59	39°57'16.925"N	80°32'55.846"W	395.59	44.007	11.63	11.09	-3.87
6901.00	72.980	331.000	6617.62	111.22	328.44	251.05	1705945.81	531602.50	39°57'17.356"N	80°32'56.158"W	413.40	37.394	9.65	9.43	-2.13
6942.00	75.920	330.160	6628.61	150.36	362.84	231.65	1705926.41	531636.90	39°57'17.694"N	80°32'56.412"W	430.48	32.556	7.44	7.17	-2.05
6995.00	76.290	329.560	6641.34	201.45	407.33	205.81	1705900.58	531681.39	39°57'18.131"N	80°32'56.751"W	456.37	26.806	1.30	0.70	-1.13
7037.00	80.010	328.250	6649.96	242.32	442.52	184.59	1705879.35	531716.58	39°57'18.476"N	80°32'57.029"W	479.47	22.642	9.37	8.86	-3.12
7089.00	82.590	326.620	6657.82	293.57	485.83	156.92	1705851.68	531759.89	39°57'18.901"N	80°32'57.390"W	510.55	17.900	5.85	4.96	-3.13
7163.00	86.830	325.460	6664.65	367.13	546.93	115.77	1705810.53	531820.99	39°57'19.500"N	80°32'57.928"W	559.05	11.951	5.94	5.73	-1.57
7227.00	90.430	323.900	6666.18	431.07	599.13	78.78	1705773.55	531873.18	39°57'20.011"N	80°32'58.411"W	604.28	7.491	6.13	5.63	-2.44
7321.00	90.550	321.050	6665.37	525.05	673.67	21.54	1705716.30	531947.72	39°57'20.741"N	80°32'59.157"W	674.01	1.831	3.03	0.13	-3.03
7416.00	90.520	321.680	6664.48	620.01	747.87	-37.78	1705657.00	532021.92	39°57'21.468"N	80°32'59.929"W	748.82	357.108	0.66	-0.03	0.66
7511.00	90.400	323.370	6663.72	715.00	823.26	-95.57	1705599.20	532097.30	39°57'22.206"N	80°33'00.683"W	828.79	353.378	1.78	-0.13	1.78
7606.00	90.580	322.140	6662.91	809.99	898.88	-153.06	1705541.71	532172.92	39°57'22.947"N	80°33'01.432"W	911.82	350.336	1.31	0.19	-1.29
7700.00	90.490	320.160	6662.03	903.94	972.08	-212.02	1705482.76	532246.12	39°57'23.663"N	80°33'02.201"W	994.93	347.696	2.11	-0.10	-2.11
7795.00	90.580	321.290	6661.14	998.86	1045.62	-272.16	1705422.62	532319.65	39°57'24.383"N	80°33'02.984"W	1080.46	345.410	1.19	0.09	1.19
7890.00	90.400	321.890	6660.33	1093.82	1120.05	-331.18	1705363.61	532394.08	39°57'25.112"N	80°33'03.753"W	1167.99	343.528	0.66	-0.19	0.63
7985.00	90.580	322.200	6659.52	1188.81	1194.96	-389.61	1705305.18	532468.98	39°57'25.845"N	80°33'04.514"W	1256.87	341.942	0.38	0.19	0.33
8080.00	90.550	325.080	6658.58	1283.79	1271.45	-445.92	1705248.87	532545.47	39°57'26.595"N	80°33'05.249"W	1347.38	340.673	3.03	-0.03	3.03
8174.00	90.550	323.950	6657.68	1377.75	1347.99	-500.48	1705194.31	532622.01	39°57'27.345"N	80°33'05.961"W	1437.90	339.631	1.20	0.00	-1.20



Received  
Office of Oil & Gas  
DEC 22 2014

# Actual Wellpath Report

WEB-13D-HS AWP Proj: 13450'

Page 6 of 9



## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot D
Area	Marshall County, WV	Well	WEB-13D-HS
Field	Marshall	Wellbore	WEB-13D-HS AWB
Facility	WEB-13 Pad		

51-01659

## WELLPATH DATA (177 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]
8269.00	90.490	324.330	6656.82	1472.72	1424.98	-556.13	1705138.67	532698.99	39°57'28.099"N	80°33'06.687"W	1529.65	338.681	0.40	-0.06	0.40
8364.00	90.520	325.530	6655.98	1567.67	1502.73	-610.71	1705084.09	532776.74	39°57'28.861"N	80°33'07.400"W	1622.08	337.883	1.26	0.03	1.26
8459.00	90.580	327.940	6655.07	1662.45	1582.15	-662.81	1705031.99	532856.16	39°57'29.640"N	80°33'08.081"W	1715.38	337.270	2.54	0.06	2.54
8554.00	90.620	326.870	6654.07	1757.16	1662.18	-713.99	1704980.82	532936.19	39°57'30.425"N	80°33'08.750"W	1809.04	336.754	1.13	0.04	-1.13
8649.00	90.620	323.610	6653.05	1852.07	1740.21	-768.14	1704926.67	533014.22	39°57'31.190"N	80°33'09.457"W	1902.20	336.183	3.43	0.00	-3.43
8743.00	90.620	322.260	6652.03	1946.07	1815.21	-824.79	1704870.02	533089.21	39°57'31.924"N	80°33'10.195"W	1993.81	335.564	1.44	0.00	-1.44
8838.00	90.520	324.800	6651.08	2041.05	1891.60	-881.25	1704813.56	533165.60	39°57'32.672"N	80°33'10.932"W	2086.81	335.020	2.68	-0.11	2.67
8933.00	90.580	326.410	6650.17	2135.94	1969.98	-934.91	1704759.90	533243.98	39°57'33.441"N	80°33'11.633"W	2180.57	334.612	1.70	0.06	1.69
9028.00	90.580	323.340	6649.21	2230.88	2047.67	-989.56	1704705.25	533321.66	39°57'34.202"N	80°33'12.346"W	2274.25	334.207	3.23	0.00	-3.23
9123.00	90.620	321.260	6648.21	2325.86	2122.83	-1047.65	1704647.17	533396.81	39°57'34.938"N	80°33'13.104"W	2367.27	333.733	2.19	0.04	-2.19
9217.00	90.580	319.370	6647.23	2419.75	2195.16	-1107.67	1704587.15	533469.14	39°57'35.646"N	80°33'13.885"W	2458.79	333.225	2.01	-0.04	-2.01
9312.00	90.580	322.310	6646.27	2514.66	2268.81	-1167.65	1704527.17	533542.79	39°57'36.367"N	80°33'14.666"W	2551.65	332.767	3.09	0.00	3.09
9407.00	90.710	323.070	6645.20	2609.66	2344.37	-1225.23	1704469.60	533618.34	39°57'37.107"N	80°33'15.417"W	2645.23	332.407	0.81	0.14	0.80
9501.00	90.620	321.880	6644.11	2703.64	2418.91	-1282.48	1704412.35	533692.88	39°57'37.837"N	80°33'16.164"W	2737.86	332.068	1.27	-0.10	-1.27
9595.00	90.490	322.750	6643.20	2797.63	2493.30	-1339.94	1704354.89	533767.26	39°57'38.565"N	80°33'16.913"W	2830.54	331.746	0.94	-0.14	0.93
9690.00	90.370	323.840	6642.48	2892.63	2569.46	-1396.72	1704298.11	533843.42	39°57'39.311"N	80°33'17.653"W	2924.54	331.472	1.15	-0.13	1.15
9784.00	90.460	324.930	6641.80	2986.60	2645.87	-1451.46	1704243.38	533919.83	39°57'40.060"N	80°33'18.368"W	3017.84	331.252	1.16	0.10	1.16
9879.00	90.430	324.270	6641.07	3081.55	2723.30	-1506.49	1704188.35	533997.26	39°57'40.819"N	80°33'19.086"W	3112.22	331.049	0.70	-0.03	-0.69
9973.00	90.400	323.050	6640.38	3175.54	2799.02	-1562.19	1704132.65	534072.97	39°57'41.560"N	80°33'19.813"W	3205.45	330.833	1.30	-0.03	-1.30
10068.00	90.430	321.670	6639.70	3270.53	2874.24	-1620.20	1704074.64	534148.19	39°57'42.297"N	80°33'20.569"W	3299.44	330.590	1.45	0.03	-1.45
10163.00	90.460	323.110	6638.96	3365.52	2949.50	-1678.17	1704016.67	534223.44	39°57'43.034"N	80°33'21.325"W	3393.49	330.361	1.52	0.03	1.52
10258.00	90.650	323.690	6638.04	3460.52	3025.76	-1734.81	1703960.04	534299.70	39°57'43.781"N	80°33'22.064"W	3487.81	330.172	0.64	0.20	0.61
10353.00	90.430	323.080	6637.14	3555.51	3102.01	-1791.47	1703903.38	534375.95	39°57'44.528"N	80°33'22.803"W	3582.15	329.993	0.68	-0.23	-0.64
10447.00	90.370	323.100	6636.49	3649.51	3177.17	-1847.92	1703846.93	534451.10	39°57'45.264"N	80°33'23.539"W	3675.49	329.817	0.07	-0.06	0.02
10542.00	90.460	323.880	6635.80	3744.50	3253.52	-1904.44	1703790.41	534527.46	39°57'46.012"N	80°33'24.276"W	3769.92	329.658	0.83	0.09	0.82
10636.00	90.580	323.560	6634.95	3838.49	3329.29	-1960.06	1703734.80	534603.23	39°57'46.754"N	80°33'25.002"W	3863.42	329.513	0.36	0.13	-0.34
10731.00	90.620	323.300	6633.95	3933.48	3405.59	-2016.66	1703678.20	534679.52	39°57'47.502"N	80°33'25.740"W	3957.90	329.368	0.28	0.04	-0.27
10826.00	90.650	322.470	6632.90	4028.47	3481.34	-2073.98	1703620.88	534755.26	39°57'48.244"N	80°33'26.488"W	4052.30	329.216	0.87	0.03	-0.87
10921.00	90.550	321.840	6631.90	4123.46	3556.35	-2132.26	1703562.60	534830.27	39°57'48.978"N	80°33'27.248"W	4146.59	329.055	0.67	-0.11	-0.66
11015.00	90.490	321.860	6631.05	4217.43	3630.27	-2190.33	1703504.54	534904.19	39°57'49.702"N	80°33'28.004"W	4239.86	328.895	0.07	-0.06	0.02



Received  
Office of Oil & Gas  
DEC 22 2014

# Actual Wellpath Report

WEB-13D-HS AWP Proj: 13450'

Page 7 of 9



## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot D
Area	Marshall County, WV	Well	WEB-13D-HS
Field	Marshall	Wellbore	WEB-13D-HS AWB
Facility	WEB-13 Pad		

51-01659

## WELLPATH DATA (177 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]
11110.00	90.650	321.850	6630.10	4312.41	3704.98	-2249.00	1703445.87	534978.89	39°57'50.433"N	80°33'28.769"W	4334.15	328.741	0.17	0.17	-0.01
11205.00	90.520	321.040	6629.13	4407.37	3779.27	-2308.21	1703386.67	535053.18	39°57'51.160"N	80°33'29.541"W	4428.39	328.585	0.86	-0.14	-0.85
11299.00	90.520	320.360	6628.28	4501.29	3852.00	-2367.74	1703327.13	535125.91	39°57'51.872"N	80°33'30.316"W	4521.52	328.422	0.72	0.00	-0.72
11394.00	90.620	319.920	6627.34	4596.17	3924.92	-2428.63	1703266.25	535198.83	39°57'52.586"N	80°33'31.109"W	4615.54	328.252	0.47	0.11	-0.46
11489.00	90.550	320.540	6626.37	4691.05	3997.94	-2489.39	1703205.49	535271.84	39°57'53.300"N	80°33'31.901"W	4709.63	328.091	0.66	-0.07	0.65
11584.00	90.580	321.220	6625.43	4785.98	4071.64	-2549.33	1703145.55	535345.53	39°57'54.021"N	80°33'32.681"W	4803.89	327.949	0.72	0.03	0.72
11678.00	90.520	320.440	6624.53	4879.91	4144.51	-2608.70	1703086.19	535418.40	39°57'54.735"N	80°33'33.455"W	4897.17	327.812	0.83	-0.06	-0.83
11773.00	90.550	320.930	6623.64	4974.83	4218.00	-2668.89	1703026.00	535491.90	39°57'55.454"N	80°33'34.239"W	4991.45	327.677	0.52	0.03	0.52
11868.00	90.620	322.690	6622.67	5069.80	4292.66	-2727.62	1702967.27	535566.55	39°57'56.185"N	80°33'35.004"W	5085.95	327.568	1.85	0.07	1.85
11963.00	90.490	324.950	6621.75	5164.78	4369.34	-2783.69	1702911.20	535643.22	39°57'56.936"N	80°33'35.736"W	5180.74	327.499	2.38	-0.14	2.38
12058.00	90.400	326.040	6621.01	5259.68	4447.62	-2837.51	1702857.39	535721.50	39°57'57.703"N	80°33'36.439"W	5275.68	327.463	1.15	-0.09	1.15
12152.00	90.550	326.970	6620.23	5353.50	4526.01	-2889.38	1702805.52	535799.88	39°57'58.472"N	80°33'37.117"W	5369.66	327.446	1.00	0.16	0.99
12247.00	90.460	321.430	6619.39	5448.44	4603.02	-2944.93	1702749.98	535876.90	39°57'59.226"N	80°33'37.842"W	5464.47	327.390	5.83	-0.09	-5.83
12341.00	90.460	319.060	6618.64	5542.32	4675.28	-3005.03	1702689.87	535949.15	39°57'59.933"N	80°33'38.625"W	5557.74	327.269	2.52	0.00	-2.52
12436.00	90.400	317.950	6617.93	5637.03	4746.44	-3067.97	1702626.93	536020.30	39°58'00.629"N	80°33'39.444"W	5651.65	327.122	1.17	-0.06	-1.17
12530.00	90.490	318.940	6617.20	5730.72	4816.78	-3130.32	1702564.59	536090.64	39°58'01.317"N	80°33'40.255"W	5744.59	326.981	1.06	0.10	1.05
12625.00	90.400	320.570	6616.46	5825.57	4889.28	-3191.70	1702503.22	536163.14	39°58'02.026"N	80°33'41.055"W	5838.84	326.864	1.72	-0.09	1.72
12720.00	90.370	322.570	6615.82	5920.53	4963.70	-3250.74	1702444.18	536237.55	39°58'02.755"N	80°33'41.824"W	5933.43	326.779	2.11	-0.03	2.11
12815.00	90.400	323.270	6615.18	6015.53	5039.49	-3308.02	1702386.90	536313.34	39°58'03.497"N	80°33'42.571"W	6028.22	326.718	0.74	0.03	0.74
12910.00	90.430	325.710	6614.49	6110.48	5116.81	-3363.19	1702331.73	536390.66	39°58'04.255"N	80°33'43.292"W	6123.14	326.684	2.57	0.03	2.57
13004.00	90.490	329.410	6613.74	6204.17	5196.12	-3413.60	1702281.32	536469.97	39°58'05.033"N	80°33'43.951"W	6217.11	326.697	3.94	0.06	3.94
13098.00	90.520	330.040	6612.91	6297.52	5277.30	-3460.99	1702233.93	536551.14	39°58'05.829"N	80°33'44.572"W	6310.97	326.742	0.67	0.03	0.67
13193.00	90.460	328.710	6612.10	6391.92	5359.05	-3509.38	1702185.54	536632.89	39°58'06.631"N	80°33'45.206"W	6405.87	326.781	1.40	-0.06	-1.40
13288.00	90.520	325.120	6611.29	6486.68	5438.63	-3561.23	1702133.70	536712.46	39°58'07.412"N	80°33'45.884"W	6500.85	326.783	3.78	0.06	-3.78
13383.00	90.430	322.430	6610.50	6581.66	5515.25	-3617.37	1702077.57	536789.09	39°58'08.162"N	80°33'46.616"W	6595.71	326.740	2.83	-0.09	-2.83
13425.00	90.490	320.640	6610.16	6623.65	5548.14	-3643.49	1702051.44	536821.97	39°58'08.484"N	80°33'46.957"W	6637.53	326.707	4.26	0.14	-4.26
13450.00	90.490	320.640	6609.95	6648.62	5567.47	-3659.34	1702035.59	536841.30	39°58'08.673"N	80°33'47.163"W	6662.39	326.684	0.00	0.00	0.00



Received  
Office of Oil & Gas  
DEC 22 2014

# Actual Wellpath Report

WEB-13D-HS AWP Proj: 13450'

Page 8 of 9



## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot D
Area	Marshall County, WV	Well	WEB-13D-HS
Field	Marshall	Wellbore	WEB-13D-HS AWB
Facility	WEB-13 Pad		

51-01659

## HOLE & CASING SECTIONS - Ref Wellbore: WEB-13D-HS AWB Ref Wellpath: WEB-13D-HS AWP Proj: 13450'

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
30in Conductor	26.00	66.00	40.00	26.00	66.00	0.00	0.00	0.02	-0.02
20in Casing Surface	26.00	447.80	421.80	26.00	447.79	0.00	0.00	2.01	-1.30
13.375in Casing Intermediate	26.00	1200.00	1174.00	26.00	1199.96	0.00	0.00	8.46	0.58

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
WEB-13D-HS BHL Rev-1		6610.02	5566.02	-3667.45	1702027.48	536839.85	39°58'08.658"N	80°33'47.267"W	point
WEB-13D-HS LP Rev-1		6665.00	534.71	123.71	1705818.47	531808.77	39°57'19.380"N	80°32'57.824"W	point
WEB-13D-HS LP Plat		6694.00	519.74	134.99	1705829.75	531793.80	39°57'19.233"N	80°32'57.677"W	point
WEB-13 LL		7226.03	16.67	-41.94	1705652.83	531290.75	39°57'14.242"N	80°32'59.873"W	polygon

## WELLPATH COMPOSITION - Ref Wellbore: WEB-13D-HS AWB Ref Wellpath: WEB-13D-HS AWP Proj: 13450'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	1165.00	Generic gyro - northseeking (Standard)	01 VES Gyro <13-3/8"> (100'-1139')	WEB-13D-HS AWB
1165.00	3085.00	ISCWSA MWD, Rev. 2 (Standard)	02 APS <12-1/4"> (1165')(1221'-3085')	WEB-13D-HS AWB
3085.00	13425.00	NaviTrak (MagCorr)	03 BHI AT Curve <8-3/4"> (3085')(3220'-13425')	WEB-13D-HS AWB
13425.00	13450.00	Blind Drilling (std)	Projection to bit	WEB-13D-HS AWB





Received  
Office of Oil & Gas  
DEC 22 2014

# Actual Wellpath Report

WEB-13D-HS AWP Proj: 13450'

Page 9 of 9



## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot D
Area	Marshall County, WV	Well	WEB-13D-HS
Field	Marshall	Wellbore	WEB-13D-HS AWB
Facility	WEB-13 Pad		

51.01659

## COMMENTS

### Wellpath general comments

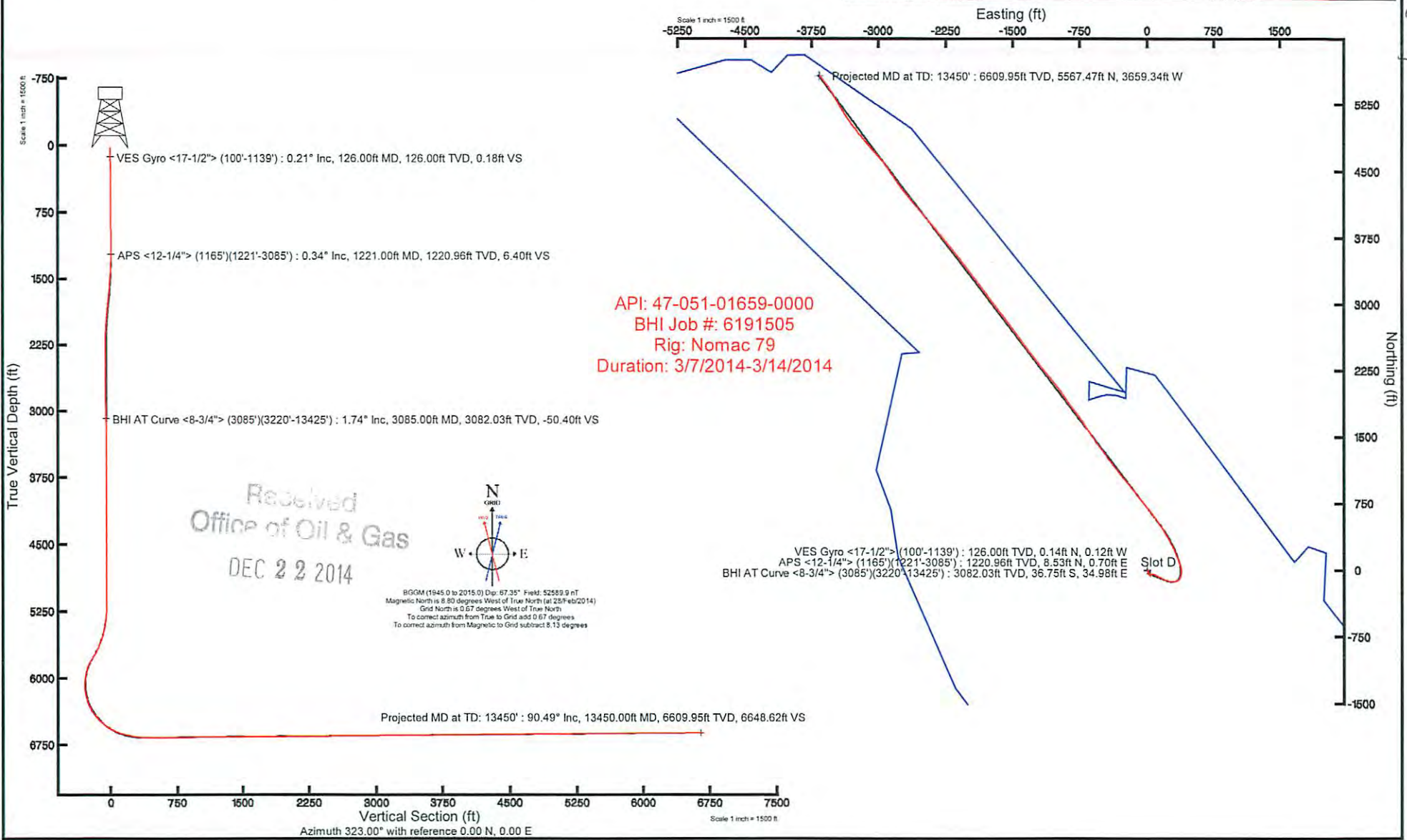
API: 47-051-01659-0000  
 BHI Job #: 6191505  
 Rig: Nomac 79  
 Duration: 3/7/2014-3/14/2014  
 VES Gyro <17-1/2"> (100'-1139')  
 APS <12-1/4"> (1165')(1221'-3085')  
 BHI AT Curve <8-3/4"> (3085')(3220'-13425')  
 Projected MD at TD: 13450'

Location: Marshall County, WV  
 Field: Marshall  
 Facility: WEB-13 Pad

Slot: Slot D  
 Well: WEB-13D-HS  
 Wellbore: WEB-13D-HS PWB

Plot reference wellpath is WEB-13D-HS PWB Rev-A-0	
True vertical depths are referenced to Nomac 79 (RT)	Grid System: NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet
Measured depths are referenced to Nomac 79 (RT)	North Reference: Grid north
Nomac 79 (RT) to Mean Sea Level: 1270.55 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Slot D): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: edsaryar on 24/Mar/2014

Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
WEB-13 Pad	1705652.830	531290.750	39°57'14.242"N	80°32'59.873"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot D	-16.67	41.94	1705694.770	531274.080
Nomac 79 (RT) to Mud line (At Slot: Slot D)			Latitude	Longitude
			1270.55ft	80°32'59.332"W
Mean Sea Level to Mud line (At Slot: Slot D)			0ft	
Nomac 79 (RT) to Mean Sea Level			1270.55ft	



51-01659