

51-01666

## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot F
Area	Marshall County, WV	Well	WEB-13F-HS
Field	Marshall	Wellbore	WEB-13F-HS AWB
Facility	WEB-13 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	Frisjesl
Scale	0.999957	Report Generated	4/7/2014 at 10:23:18 AM
Convergence at slot	0.67° West	Database/Source file	WA_EasternUS/WEB-13F-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	-5.26	14.08	1705666.91	531285.49	39°57'14.191"N	80°32'59.692"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	1270.60ft
Horizontal Reference Pt	Slot	Nomac 79 (RT) to Mean Sea Level	1270.60ft
Vertical Reference Pt	Nomac 79 (RT)	Nomac 79 (RT) to Mud Line at Slot (Slot F)	1270.60ft
MD Reference Pt	Nomac 79 (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	143.00°

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# Actual Wellpath Report

WEB-13F-HS AWP Proj: 12449



## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY
Area	Marshall County, WV
Field	Marshall
Facility	WEB-13 Pad

WELLPATH DATA (142 stations) † = interpolated/extrapolated station													
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DIS
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]			[ft]	[°]	[°/100ft]
0.00†	0.000	239.400	0.00	0.00	0.00	0.00	1705666.91	531285.49	39°57'14.191"N	80°32'59.692"W	0.00	0.00	0.00
26.00	0.000	239.400	100.00	-0.07	-0.33	-0.56	1705666.35	531285.16	39°57'14.188"N	80°32'59.699"W	0.65	0.65	239.400
100.00	0.000	239.400	100.00	-0.07	-0.33	-0.56	1705666.35	531285.16	39°57'14.188"N	80°32'59.699"W	0.65	0.65	239.400
200.00	0.740	242.720	199.98	-0.28	-1.07	-1.88	1705665.03	531284.42	39°57'14.180"N	80°32'59.716"W	2.16	2.16	240.390
300.00	0.480	256.240	299.98	-0.55	-1.46	-2.86	1705664.05	531284.03	39°57'14.176"N	80°32'59.728"W	3.21	3.21	242.898
400.00	0.320	320.290	399.98	-1.00	-1.35	-3.45	1705663.46	531284.14	39°57'14.178"N	80°32'59.736"W	3.70	3.70	248.622
500.00	0.320	328.050	499.98	-1.55	-0.90	-3.77	1705663.14	531284.59	39°57'14.182"N	80°32'59.740"W	3.88	3.88	256.619
600.00	0.340	350.580	599.97	-2.10	-0.37	-3.97	1705662.94	531285.12	39°57'14.187"N	80°32'59.743"W	3.99	3.99	264.705
700.00	0.330	7.880	699.97	-2.56	0.21	-3.98	1705662.93	531285.70	39°57'14.193"N	80°32'59.743"W	3.98	3.98	273.023
800.00	0.400	0.770	799.97	-3.04	0.84	-3.93	1705662.98	531286.33	39°57'14.199"N	80°32'59.742"W	4.02	4.02	282.113
900.00	0.410	7.150	899.97	-3.57	1.55	-3.89	1705663.03	531287.04	39°57'14.206"N	80°32'59.742"W	4.18	4.18	291.730
1000.00	0.580	12.290	999.96	-4.16	2.40	-3.73	1705663.18	531287.89	39°57'14.215"N	80°32'59.740"W	4.44	4.44	302.716
1100.00	0.460	25.140	1099.96	-4.68	3.26	-3.45	1705663.46	531288.75	39°57'14.223"N	80°32'59.736"W	4.75	4.75	319.134
1164.00	0.470	29.690	1163.96	-4.90	3.72	-3.22	1705663.69	531289.21	39°57'14.228"N	80°32'59.733"W	4.91	4.91	319.134
1203.00	0.150	53.120	1202.96	-4.97	3.89	-3.10	1705663.81	531289.38	39°57'14.229"N	80°32'59.732"W	4.97	4.97	321.462
1237.00	0.190	93.120	1236.96	-4.93	3.91	-3.00	1705663.91	531289.40	39°57'14.230"N	80°32'59.731"W	4.93	4.93	322.468
1268.00	0.270	175.520	1267.96	-4.84	3.83	-2.95	1705663.96	531289.32	39°57'14.229"N	80°32'59.730"W	4.84	4.84	322.458
1298.00	0.840	191.930	1297.96	-4.63	3.55	-2.99	1705663.92	531289.04	39°57'14.226"N	80°32'59.731"W	4.64	4.64	319.916
1330.00	1.490	192.970	1329.95	-4.21	2.91	-3.13	1705663.78	531288.40	39°57'14.220"N	80°32'59.732"W	4.27	4.27	312.965
1355.00	2.150	196.070	1354.94	-3.72	2.15	-3.33	1705663.58	531287.64	39°57'14.212"N	80°32'59.735"W	3.96	3.96	302.794
1506.00	5.700	200.060	1505.56	-7.62	2.06	-8.90	1705660.22	531271.87	39°57'14.115"N	80°32'59.776"W	10.14	10.14	221.265
1571.00	5.960	199.130	1570.22	-13.84	5.70	-13.84	1705658.01	531271.65	39°57'14.053"W	80°32'59.804"W	16.46	16.46	212.742
1666.00	5.340	190.570	1664.76	-22.85	11.43	-11.33	1705655.58	531262.64	39°57'13.964"N	80°32'59.834"W	23.50	23.50	206.373
1760.00	4.470	194.240	1758.42	-30.70	16.67	-13.03	1705653.88	531254.79	39°57'13.886"N	80°32'59.854"W	33.35	33.35	203.002
1855.00	4.530	190.430	1853.12	-37.98	21.53	-14.62	1705652.29	531247.51	39°57'13.814"N	80°32'59.874"W	40.29	40.29	201.058
1954.00	3.210	186.670	1951.90	-44.58	26.18	-15.65	1705651.26	531240.92	39°57'13.749"N	80°32'59.886"W	47.24	47.24	199.348
2049.00	1.760	180.840	2046.80	-48.68	29.26	-15.98	1705650.93	531236.82	39°57'13.708"N	80°32'59.890"W	51.23	51.23	198.177
2144.00	0.880	144.430	2141.78	-50.73	31.14	-15.58	1705651.33	531234.76	39°57'13.688"N	80°32'59.884"W	53.07	53.07	197.072
2292.00	1.310	131.630	2236.77	-51.64	32.33	-14.80	1705652.11	531231.86	39°57'13.679"N	80°32'59.874"W	53.71	53.71	199.995
2334.00	0.960	92.330	2331.76	-51.98	33.30	-13.65	1705653.26	531233.51	39°57'13.676"N	80°32'59.859"W	53.74	53.74	194.716
2429.00	1.050	76.690	2426.75	-51.81	34.15	-12.01	1705654.90	531233.68	39°57'13.678"N	80°32'59.838"W	53.19	53.19	193.051
2523.00	1.000	77.440	2520.73	-51.44	34.84	-10.37	1705656.54	531234.06	39°57'13.682"N	80°32'59.817"W	52.47	52.47	191.401
2618.00	1.460	51.180	2615.71	-50.50	35.14	-8.62	1705658.29	531234.99	39°57'13.691"N	80°32'59.795"W	51.23	51.23	189.687
2713.00	0.630	32.180	2710.70	-49.30	34.92	-7.40	1705659.51	531236.20	39°57'13.703"N	80°32'59.779"W	49.85	49.85	188.536
2808.00	0.940	6.340	2805.69	-48.08	34.17	-7.03	1705659.88	531237.41	39°57'13.715"N	80°32'59.775"W	48.59	48.59	188.524
2903.00	1.090	357.870	2900.67	-46.40	32.86	-6.98	1705659.93	531239.09	39°57'13.732"N	80°32'59.774"W	46.93	46.93	188.557
3092.00	0.880	331.270	3089.63	-44.49	31.09	-7.38	1705658.80	531242.67	39°57'13.767"N	80°32'59.789"W	43.10	43.10	189.423
3183.00	0.870	343.610	3180.62	-41.55	27.98	-8.64	1705658.27	531243.94	39°57'13.780"N	80°32'59.796"W	42.44	42.44	191.744
3277.00	0.710	35.040	3274.62	-40.39	27.14	-8.50	1705658.41	531245.11	39°57'13.791"N	80°32'59.795"W	41.27	41.27	191.891
3372.00	0.530	18.830	3369.61	-39.49	26.71	-8.02	1705658.89	531246.00	39°57'13.800"N	80°32'59.789"W	40.30	40.30	191.486
3467.00	0.520	8.210	3464.61	-38.65	26.16	-7.82	1705659.09	531246.85	39°57'13.808"N	80°32'59.786"W	39.43	39.43	191.440
3562.00	0.620	348.810	3559.60	-37.71	25.39	-7.86	1705659.05	531247.78	39°57'13.818"N	80°32'59.787"W	38.52	38.52	191.771
3657.00	0.570	354.250	3654.60	-36.74	24.52	-8.01	1705658.90	531248.75	39°57'13.827"N	80°32'59.789"W	37.60	37.60	192.293
3751.00	0.430	344.300	3748.59	-23.80	23.80	-35.94	1705658.76	531249.56	39°57'13.835"N	80°32'59.791"W	36.85	36.85	192.776

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# Actual Wellpath Report

WEB-13F-HS AWP Proj: 12449

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## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY
Area	Marshall County, WV
Field	Marshall
Facility	WEB-13F-HS AWP

## WELLPATH DATA (142 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [ft]	Grid North [ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
3847.00	1.090	345.020	3844.58	22.61	-34.71	-8.48	1705658.43	531250.78	39°57'13.847"N	80°32'59.795"W	35.73	193.733	0.69
3942.00	0.920	346.540	3939.57	21.08	-33.09	-8.89	1705658.02	531252.40	39°57'13.863"N	80°32'59.801"W	34.27	195.042	0.18
4037.00	0.790	350.150	4034.56	19.79	-31.70	-9.18	1705657.73	531253.79	39°57'13.877"N	80°32'59.805"W	33.01	196.152	0.15
4133.00	0.830	341.910	4130.55	18.55	-30.39	-9.51	1705657.40	531255.10	39°57'13.890"N	80°32'59.809"W	31.85	197.378	0.13
4228.00	0.580	338.550	4225.54	17.43	-29.29	-9.90	1705657.01	531256.20	39°57'13.901"N	80°32'59.814"W	30.92	198.677	0.27
4322.00	0.470	332.820	4319.54	16.60	-28.50	-10.25	1705656.66	531256.99	39°57'13.908"N	80°32'59.819"W	30.29	199.780	0.13
4416.00	0.420	306.660	4413.54	15.89	-27.96	-10.70	1705656.21	531257.54	39°57'13.914"N	80°32'59.825"W	29.93	200.950	0.22
4511.00	0.490	299.060	4508.53	15.18	-27.55	-11.34	1705655.57	531257.94	39°57'13.918"N	80°32'59.833"W	29.79	202.368	0.10
4606.00	0.480	301.550	4603.53	14.44	-27.15	-12.03	1705654.88	531258.35	39°57'13.922"N	80°32'59.842"W	29.69	203.905	0.02
4701.00	0.510	327.150	4698.53	13.65	-26.58	-12.60	1705654.31	531258.91	39°57'13.927"N	80°32'59.849"W	29.42	205.362	0.23
4796.00	0.530	300.470	4793.52	12.82	-26.00	-13.21	1705653.70	531259.49	39°57'13.933"N	80°32'59.857"W	29.17	206.928	0.25
4891.00	0.380	322.980	4888.52	12.10	-25.53	-13.78	1705653.13	531259.96	39°57'13.937"N	80°32'59.865"W	29.01	208.353	0.24
4986.00	0.310	285.270	4983.52	11.58	-25.21	-14.21	1705652.70	531260.39	39°57'13.941"N	80°32'59.870"W	28.94	209.416	0.24
5069.00	0.390	279.670	5066.52	11.20	-25.10	-14.71	1705652.20	531260.39	39°57'13.942"N	80°32'59.877"W	29.10	210.368	0.10
5143.00	1.490	279.210	5140.50	10.32	-24.91	-15.91	1705651.00	531260.58	39°57'13.943"N	80°32'59.892"W	29.55	212.565	1.49
5190.00	6.890	5187.36	5187.36	7.90	-24.44	-19.31	1705647.60	531261.05	39°57'13.948"N	80°32'59.936"W	31.15	218.310	11.49
5238.00	9.950	279.900	5234.84	2.85	-23.55	-26.25	1705640.66	531262.14	39°57'13.958"N	80°33'00.025"W	35.13	228.346	6.41
5332.00	12.650	268.790	5327.02	-9.10	-22.17	-44.55	1705622.37	531263.32	39°57'13.967"N	80°33'00.260"W	49.76	243.541	3.68
5427.00	14.590	260.110	5419.35	-20.64	-24.45	-66.74	1705600.18	531261.05	39°57'13.942"N	80°33'00.545"W	71.07	249.883	2.96
5522.00	16.490	260.320	5510.88	-32.28	-28.77	-91.82	1705575.10	531256.72	39°57'13.896"N	80°33'00.866"W	96.22	252.604	2.00
5616.00	20.180	263.900	5600.09	-40.76	-32.71	-121.10	1705545.84	531252.78	39°57'13.854"N	80°33'01.242"W	125.44	254.884	4.11
5711.00	19.670	252.690	5689.44	-60.58	-39.19	-152.68	1705514.21	531246.30	39°57'13.786"N	80°33'01.646"W	157.63	255.603	4.08
5805.00	23.000	266.270	5777.04	-76.00	-45.10	-186.14	1705480.78	531240.39	39°57'13.724"N	80°33'02.075"W	191.52	256.880	6.32
5900.00	24.060	267.800	5864.14	-97.24	-47.05	-224.01	1705442.91	531238.44	39°57'13.700"N	80°33'02.561"W	228.90	258.138	1.29
5951.00	23.430	265.470	5910.70	-108.75	-48.28	-242.75	1705422.15	531237.21	39°57'13.686"N	80°33'02.827"W	249.48	258.842	1.91
5995.00	25.820	258.230	5950.98	-117.29	-50.78	-262.28	1705404.64	531234.71	39°57'13.659"N	80°33'03.052"W	267.15	259.042	6.73
6089.00	20.130	224.250	6088.61	-122.82	-66.25	-291.99	1705374.93	531219.25	39°57'13.503"N	80°33'03.431"W	299.41	259.217	13.67
6137.00	19.720	216.950	6083.74	-119.32	-78.64	-302.62	1705364.30	531206.86	39°57'13.379"N	80°33'03.565"W	312.67	255.434	5.25
6184.00	22.770	218.010	6127.54	-114.77	-92.14	-329.14	1705333.93	531193.35	39°57'12.245"N	80°33'03.697"W	326.38	253.96	6.54
6279.00	27.690	203.060	6213.54	-98.98	-126.99	-332.99	1705333.93	531158.50	39°57'12.898"N	80°33'03.948"W	356.39	249.124	8.44
6373.00	26.950	175.960	6297.38	-70.09	-168.50	-340.07	1705326.85	531117.00	39°57'12.487"N	80°33'04.033"W	379.53	243.643	13.16
6469.00	29.990	162.560	6381.85	-29.18	-213.15	-331.34	1705335.58	531072.35	39°57'12.047"N	80°33'03.914"W	393.98	237.247	7.35
6564.00	40.270	157.770	6459.48	88.82	-264.33	-274.75	1705324.35	531021.17	39°57'11.433"N	80°33'03.665"W	409.35	229.779	11.14
6659.00	51.300	157.090	6525.65	88.82	-327.07	-286.45	1705380.47	530958.44	39°57'10.926"N	80°33'03.320"W	434.77	221.212	11.67
6753.00	61.430	157.500	6577.65	-399.18	-256.30	-256.30	1705410.63	530886.33	39°57'10.217"N	80°33'02.922"W	474.38	212.703	10.78
6848.00	70.610	159.090	6616.22	248.18	-224.27	-479.75	1705442.65	530805.76	39°57'09.425"N	80°33'02.499"W	529.58	205.055	9.78
6943.00	76.300	156.630	6643.27	336.15	-564.06	-189.97	1705428.82	530782.95	39°57'08.595"N	80°33'02.046"W	595.19	198.613	6.47
7038.00	81.720	148.330	6661.40	428.02	-646.65	-146.91	1705520.01	530638.87	39°57'07.784"N	80°33'01.481"W	663.12	192.800	10.33
7132.00	87.810	143.490	6669.98	521.36	-725.02	-95.82	1705571.09	530560.50	39°57'07.016"N	80°33'00.813"W	731.33	187.529	7.14
7159.00	89.630	143.290	6670.58	548.34	-746.96	-80.11	1705586.80	530538.56	39°57'06.801"N	80°33'00.608"W	751.25	186.121	10.57
7227.00	89.110	140.330	6671.33	616.31	-800.41	-28.69	1705688.82	530485.12	39°57'06.277"N	80°33'00.061"W	801.22	182.724	4.38
7322.00	89.140	140.140	6672.78	711.19	-873.44	-22.65	1705699.56	530412.09	39°57'05.563"N	80°32'59.270"W	873.74	178.514	0.23
7417.00	89.170	139.070	6674.18	806.02	-945.78	84.21	1705751.12	530339.75	39°57'04.855"N	80°32'58.469"W	949.53	174.912	1.13
7512.00	89.110	140.150	6675.60	900.84	-1018.13	145.76	1705812.66	530267.40	39°57'04.147"N	80°32'57.667"W	1028.51	171.853	1.14
7606.00	89.200	140.580	6676.99	994.73	-1090.52	205.72	1705872.62	530195.02	39°57'03.439"N	80°32'56.887"W	1109.75	169.317	0.47

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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY
Area	Marshall County, WV
Field	Marshall
Facility	WEB-13 Pad

WELLPATH DATA (142 stations)

MID	Inclination	Azimuth	TVP	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]	[°N]	[°W]	[ft]	[°]	[%/100ft]
7701.00	89.200	143.410	6678.32	1089.69	-1165.36	264.20	1705931.10	530120.19	39°57'02.706"N	80°32'56.125"W	1194.93	167.226	2.98
7796.00	89.230	146.030	6679.62	1184.63	-1242.90	319.06	1705855.95	530042.65	39°57'01.946"N	80°32'55.409"W	1283.19	165.603	2.76
7891.00	89.170	144.880	6680.95	1279.54	-1321.14	372.92	1706039.82	529964.41	39°57'01.179"N	80°32'54.705"W	1372.76	164.237	1.21
7986.00	89.170	144.270	6682.32	1374.49	-1398.54	427.98	1706094.87	529887.01	39°57'00.420"N	80°32'53.987"W	1462.56	162.985	0.64
8080.00	89.080	143.990	6683.76	1468.46	-1474.70	483.05	1706149.94	529810.85	39°56'59.674"N	80°32'53.268"W	1551.80	161.863	0.31
8175.00	89.110	143.010	6685.26	1563.44	-1551.06	539.55	1706206.44	529734.50	39°56'58.926"N	80°32'52.532"W	1642.23	160.819	1.03
8270.00	89.380	143.150	6686.51	1658.44	-1627.00	596.62	1706263.50	529658.56	39°56'58.182"N	80°32'51.788"W	1732.94	159.862	0.32
8365.00	89.450	141.600	6687.48	1753.42	-1702.24	654.61	1706321.49	529583.33	39°56'57.445"N	80°32'51.032"W	1823.77	158.965	1.63
8460.00	89.200	140.450	6688.60	1848.56	-1776.09	714.36	1706381.23	529509.48	39°56'56.723"N	80°32'50.254"W	1914.37	158.090	1.24
8555.00	89.230	139.510	6689.90	1943.22	-1848.83	775.44	1706442.31	529436.74	39°56'56.011"N	80°32'49.458"W	2004.87	157.246	0.99
8649.00	89.510	138.260	6690.93	2036.97	-1919.65	837.25	1706504.12	529365.93	39°56'55.318"N	80°32'48.654"W	2094.28	156.436	1.36
8744.00	89.660	139.600	6691.62	2131.72	-1991.26	899.66	1706566.53	529294.32	39°56'54.618"N	80°32'47.842"W	2185.07	155.686	1.42
8839.00	89.540	144.390	6692.29	2226.68	-2066.10	958.13	1706628.83	529219.49	39°56'53.885"N	80°32'47.080"W	2277.45	155.121	5.04
8934.00	89.540	146.560	6693.05	2321.58	-2144.36	1011.97	1706678.83	529141.23	39°56'53.118"N	80°32'46.377"W	2371.15	154.736	2.28
9029.00	89.290	146.620	6694.02	2416.59	-2223.66	1064.28	1706731.14	529061.93	39°56'52.340"N	80°32'45.694"W	2465.22	154.423	0.27
9123.00	89.290	146.280	6695.18	2510.21	-2301.99	1116.22	1706783.08	528983.60	39°56'51.572"N	80°32'45.015"W	2558.34	154.131	0.36
9218.00	89.170	144.560	6696.46	2605.11	-2380.20	1170.13	1706836.99	528905.40	39°56'50.805"N	80°32'44.312"W	2652.27	153.821	1.81
9313.00	89.170	142.530	6697.84	2700.09	-2456.59	1226.57	1706893.43	528829.01	39°56'50.057"N	80°32'43.576"W	2745.79	153.467	2.14
9408.00	89.200	139.710	6699.19	2795.02	-2530.53	1286.19	1706953.04	528755.07	39°56'49.333"N	80°32'42.799"W	2838.64	153.057	2.97
9502.00	88.920	142.670	6700.73	2888.95	-2603.76	1345.09	1707011.94	528681.84	39°56'48.616"N	80°32'42.032"W	2930.67	152.679	3.16
9596.00	88.890	143.610	6702.53	2982.92	-2679.48	1400.75	1707070.65	528606.13	39°56'47.874"N	80°32'41.306"W	3023.53	152.401	2.15
9691.00	89.140	143.610	6704.16	3077.89	-2756.47	1456.38	1707123.23	528529.14	39°56'47.120"N	80°32'40.580"W	3117.56	152.150	1.17
9785.00	89.230	142.030	6705.50	3171.88	-2831.56	1513.18	1707180.02	528454.26	39°56'46.46386"N	80°32'39.840"W	3210.34	151.878	1.68
9879.00	89.380	139.950	6706.64	3265.81	-2904.39	1572.34	1707239.18	528381.23	39°56'45.671"N	80°32'39.070"W	3302.69	151.570	2.22
9974.00	89.380	141.640	6707.67	3360.73	-2978.00	1632.39	1707299.22	528307.63	39°56'44.951"N	80°32'38.288"W	3396.05	151.271	1.78
10068.00	89.380	143.470	6708.68	3454.72	-3052.62	1689.53	1707356.37	528233.01	39°56'44.220"N	80°32'37.543"W	3488.98	151.037	1.95
10164.00	89.450	144.480	6709.66	3550.70	-3130.25	1745.99	1707412.82	528155.38	39°56'43.459"N	80°32'36.807"W	3584.27	150.848	1.05
10259.00	89.420	145.360	6710.60	3645.64	-3207.99	1800.59	1707467.41	528077.64	39°56'42.694"W	80°32'36.094"W	3678.73	150.695	0.93
10353.00	89.600	143.750	6711.40	3739.60	-3284.57	1855.09	1707521.92	528001.07	39°56'41.947"N	80°32'35.383"W	3772.23	150.543	1.72
10448.00	89.750	145.180	6711.94	3834.56	-3361.87	1910.31	1707577.13	527923.77	39°56'41.189"N	80°32'34.663"W	3866.71	150.394	1.51
10543.00	89.750	146.600	6712.36	3929.44	-3440.52	1963.58	1707630.40	527845.12	39°56'40.418"N	80°32'33.967"W	3961.42	150.286	1.49
10637.00	89.820	143.600	6712.71	4023.36	-3517.61	2017.35	1707684.17	527768.04	39°56'39.928"N	80°32'33.265"W	4055.03	150.166	3.19
10732.00	89.480	140.800	6713.29	4118.34	-3592.67	2075.57	1707742.39	527692.99	39°56'38.213"N	80°32'32.506"W	4149.13	149.984	2.97
10827.00	89.600	139.700	6714.05	4213.23	-3665.70	2136.32	1707803.13	527619.95	39°56'36.821"N	80°32'31.716"W	4242.78	149.767	1.16
10922.00	89.540	139.090	6714.77	4308.04	-3737.82	2198.14	1707864.96	527547.83	39°56'36.037"N	80°32'30.911"W	4336.26	149.541	0.65
11016.00	89.600	141.320	6715.47	4401.92	-3810.04	2258.30	1707925.11	527475.62	39°56'35.319"N	80°32'30.128"W	4429.04	149.344	2.37
11111.00	89.480	143.670	6716.23	4496.90	-3885.40	2316.14	1707982.94	527400.27	39°56'34.603"N	80°32'29.375"W	4523.36	149.200	2.48
11206.00	89.540	142.400	6717.05	4591.90	-3961.30	2373.26	1708040.06	527324.37	39°56'33.919"N	80°32'28.607"W	4617.82	149.074	1.34
11300.00	89.510	142.520	6717.83	4685.89	-4035.83	2430.53	1708097.33	527249.84	39°56'33.459"N	80°32'27.884"W	4711.20	148.942	0.13
11395.00	89.630	143.440	6718.54	4780.89	-4111.68	2487.73	1708154.53	527174.00	39°56'33.846"N	80°32'27.171"W	4805.69	148.824	0.98
11490.00	89.540	144.180	6719.23	4875.87	-4188.35	2543.82	1708210.62	527097.33	39°56'33.095"N	80°32'26.406"W	4900.33	148.727	0.78
11584.00	89.540	143.840	6719.98	4969.86	-4264.40	2599.06	1708265.85	527021.28	39°56'32.350"N	80°32'25.686"W	4994.02	148.639	0.36
11679.00	89.510	143.630	6720.77	5064.84	-4341.00	2655.25	1708322.04	526944.69	39°56'31.599"N	80°32'24.953"W	5088.67	148.547	0.22
11774.00	89.570	143.290	6721.53	5159.84	-4417.32	2711.81	1708378.60	526868.37	39°56'30.851"N	80°32'24.216"W	5183.30	148.454	0.36
11869.00	89.540	143.880	6722.27	5254.83	-4493.77	2768.20	1708434.99	526791.92	39°56'30.102"N	80°32'23.481"W	5277.96	148.367	0.62

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# Actual Wellpath Report

WEB-13F-HS AWP Proj: 12449'

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## REFERENCE WELLPATH IDENTIFICATION

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

## WELLPATH DATA (142 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]
11964.00	89.630	143.370	6722.96	5349.82	-4570.26	2824.54	1708491.33	526715.44	39°56'29.353"N	80°32'22.746"W	5372.64	148.283	0.55
12059.00	89.540	142.860	6723.65	5444.82	-4646.24	2881.56	1708548.34	526639.46	39°56'28.609"N	80°32'22.003"W	5467.26	148.193	0.55
12153.00	89.510	142.040	6724.43	5538.81	-4720.76	2938.85	1708605.63	526564.94	39°56'27.879"N	80°32'21.256"W	5560.79	148.096	0.87
12248.00	89.510	143.040	6725.24	5633.80	-4796.17	2996.62	1708663.40	526489.54	39°56'27.140"N	80°32'20.503"W	5655.35	148.003	1.05
12342.00	89.540	146.640	6726.02	5727.73	-4873.00	3050.74	1708717.52	526412.71	39°56'26.387"N	80°32'19.797"W	5749.19	147.951	3.83
12424.00	89.570	147.730	6726.65	5809.51	-4941.91	3095.18	1708761.95	526343.80	39°56'25.711"N	80°32'19.216"W	5831.18	147.941	1.33
12449.00	89.570	147.730	6726.84	5834.43	-4963.05	3108.53	1708775.30	526322.66	39°56'25.504"N	80°32'19.042"W	5856.18	147.940	0.00

## HOLE & CASING SECTIONS - Ref Wellbore: WEB-13F-HS AWB Ref Wellpath: WEB-13F-HS AWP Proj: 12449'

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	-0.10	-0.16
20in Casing Surface	26.00	436.80	410.80	26.00	436.78	0.00	0.00	-1.19	-3.57
13.375in Casing Intermediate	26.00	1208.50	1182.50	26.00	1208.46	0.00	0.00	3.89	-3.08

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
WEB-13F-HS LP:Rev-2		6672.00	-703.63	-91.77	1705575.14	530581.89	39°57'07.227"N	80°33'00.764"W	point
WEB-13F-HS BHL:Rev-2		6727.74	-4954.77	3111.69	1708778.46	526330.94	39°56'25.586"N	80°32'19.003"W	point
WEB-13 LL		7226.08	5.26	-14.08	1705652.83	531290.75	39°57'14.242"N	80°32'59.873"W	polygon

## WELLPATH COMPOSITION - Ref Wellbore: WEB-13F-HS AWB Ref Wellpath: WEB-13F-HS AWP Proj: 12449'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	1164.00	Generic gyro - northseeking (Standard)	02 Gyrodata MS Gyro <17-1/2"> (100'-1164')	WEB-13F-HS AWB
1164.00	1355.00	ISCWSA MWD, Rev. 0, axial magnetic correction (Standard)	03 BHI UPA Surveys <12-1/4"> (1164')(1203'-1355')	WEB-13F-HS AWB
1355.00	3092.00	NaviTrak (MagCorr)	04 BHI MWD Surveys <12-1/4"> (1355')(1506'-3092')	WEB-13F-HS AWB
3092.00	12424.00	NaviTrak (AT Curve Short Spaced)	05 BHI AT Curve <8-3/4"> (3092')(3183'-12424')	WEB-13F-HS AWB
12424.00	12449.00	Blind Drilling (std)	Projection to bit	WEB-13F-HS AWB

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

COMMENTS
<p><b>Wellpath general comments</b>            API#: 47-051-01666-0000            Rig: Nomac 79            BHI Job#: 6200094            Duration: 03/25/14-03/31/14            Gyrodata MS Gyro: (100'-1164')            BHI UPA Surveys: (1164')(1203'-1355')            BHI MWD Surveys: (1355')(1506'-3092')            BHI ATCurve Surveys:(3092')(3183'-12424')            TD Projected to MD: 12449</p>

Received  
 Office of Oil & Gas  
 DEC 22 2014



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

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

### 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)	Latitude	Longitude
Slot F	-5.26	14.08	1705666.910	531285.490	39°57'14.191"N	80°32'59.692"W
Nomac 79 (RT) to Mud line (At Slot: Slot F)			1270.6ft			
Mean Sea Level to Mud line (At Slot: Slot F)			0ft			
Nomac 79 (RT) to Mean Sea Level			1270.6ft			

### Well Profile Data

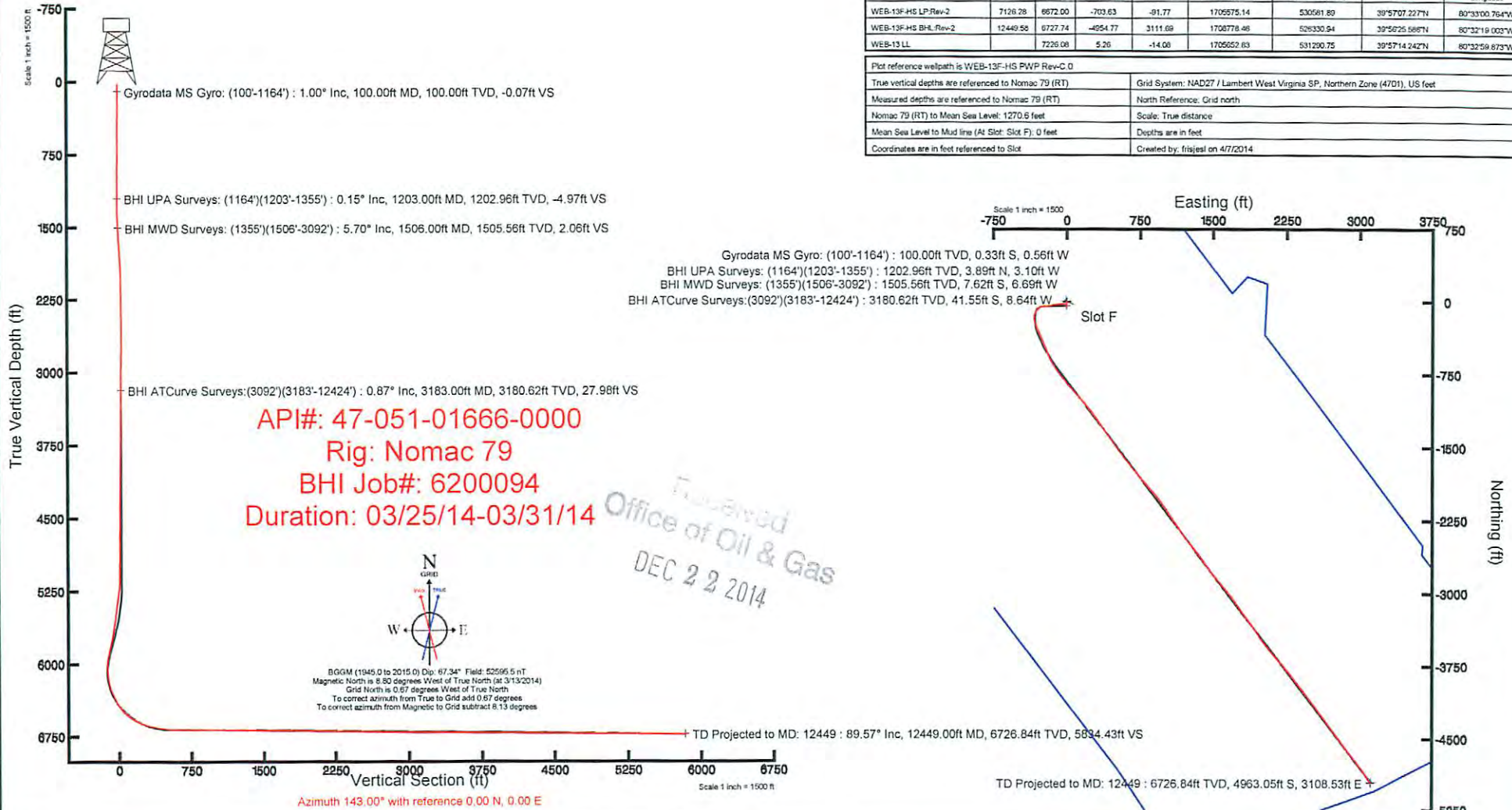
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (*100ft)	VS (ft)
Tie On	3092.00	0.880	331.270	3089.63	-42.82	-8.11	0.00	29.32
Proj. to Bottom	3145.00	0.880	331.270	3142.63	-42.11	-8.50	0.00	28.52
End of Drop	3189.00	0.000	268.448	3186.63	-41.81	-8.66	2.00	28.18
KOP	5188.62	0.000	268.448	5186.25	-41.81	-8.66	0.00	28.18
End of Build	5688.61	25.000	268.448	5670.52	-44.72	-115.98	5.00	-34.08
End of Tangent	5974.87	25.000	268.448	5929.97	-48.00	-236.91	0.00	-104.25
Landing PL	7126.28	89.400	143.000	6672.00	-703.63	-91.77	9.00	506.72
BHL	12449.58	89.400	143.000	6727.74	-4954.77	3111.69	0.00	5829.72

### Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
WEB-13F-HS LP-Rev-2	7126.28	6672.00	-703.63	-91.77	1705575.14	530561.89	39°57'07.227"N	80°33'00.764"W
WEB-13F-HS BHL-Rev-2	12449.58	6727.74	-4954.77	3111.69	1706778.46	528330.94	39°56'25.586"N	80°32'19.002"W
WEB-13 LL		7226.08	5.26	-14.08	1705552.63	531290.75	39°57'14.242"N	80°32'59.873"W

Plot reference wellpath is WEB-13F-HS RWP-Rev-C.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: 1270.6 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Slot F): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: frsjesl on 4/7/2014



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