

17-06004



Actual Wellpath Report

OXFD1EHS AWP (Curve&Lateral) Proj: 15002'
Page 1 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot E
Area	Doddridge Co., WV	Well	OXFD1EHS
Field	Doddridge	Wellbore	OXFD1EHS AWB
Facility	Oxford Pad		

REPORT SETUP INFORMATION

Projection System	NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect@ 4.0.1
North Reference	True	User	Edsaryar
Scale	0.999963	Report Generated	9/10/2013 at 10:54:04 AM
Convergence at slot	n/a	Database/Source file	Well Architect Eastern US/OXFD1EHS_AWB.xml

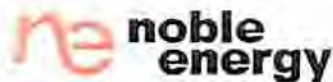
WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-76.79	-22.54	1624545.67	273156.61	39°14'32.534"N	80°49'32.368"W
Facility Reference Pt			1624569.34	273233.05	39°14'33.293"N	80°49'32.081"W
Field Reference Pt			0.00	0.00	38°17'12.460"N	86°28'23.077"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	1138.60ft
Vertical Reference Pt	Precision 542 (RT)	Precision 542 (RT) to Mud Line at Slot (Slot E)	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	160.00°

17-06004



Actual Wellpath Report

OXFD1EHS AWP (Curve&Lateral) Proj: 15002'
Page 2 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot E
Area	Doddridge Co., WV	Well	OXFD1EHS
Field	Doddridge	Wellbore	OXFD1EHS AWP
Facility	Oxford Pad		

WELLPATH DATA (190 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	198.140	0.00	0.00	0.00	0.00	1624545.67	273156.61	39°14'32.534"N	80°49'32.368"W	0.00	0.000	0.00	0.00	0.00
18.60	0.000	198.140	18.60	0.00	0.00	0.00	1624545.67	273156.61	39°14'32.534"N	80°49'32.368"W	0.00	0.000	0.00	0.00	0.00
100.00	0.260	198.140	100.00	0.15	-0.18	-0.06	1624545.61	273156.44	39°14'32.532"N	80°49'32.368"W	0.18	198.140	0.32	0.32	0.00
200.00	0.190	153.970	200.00	0.49	-0.54	-0.06	1624545.61	273156.07	39°14'32.529"N	80°49'32.368"W	0.54	185.854	0.18	-0.07	-44.17
300.00	0.230	154.880	300.00	0.85	-0.87	0.10	1624545.76	273155.74	39°14'32.525"N	80°49'32.366"W	0.88	173.281	0.04	0.04	0.91
400.00	0.290	158.080	400.00	1.31	-1.29	0.28	1624545.93	273155.32	39°14'32.521"N	80°49'32.364"W	1.32	167.633	0.06	0.06	3.20
500.00	0.580	147.130	499.99	2.05	-1.95	0.65	1624546.29	273154.65	39°14'32.515"N	80°49'32.359"W	2.05	161.502	0.30	0.29	-10.95
600.00	1.340	120.580	599.98	3.45	-2.97	1.93	1624547.56	273153.61	39°14'32.505"N	80°49'32.343"W	3.54	146.920	0.86	0.76	-26.55
640.00	1.540	119.620	639.97	4.22	-3.47	2.80	1624548.42	273153.10	39°14'32.500"N	80°49'32.332"W	4.46	141.079	0.50	0.50	-2.40
776.00	2.730	120.660	775.87	8.12	-6.03	7.18	1624552.76	273150.48	39°14'32.475"N	80°49'32.276"W	9.37	130.014	0.88	0.87	0.76
798.00	2.760	117.740	797.85	8.91	-6.54	8.10	1624553.67	273149.95	39°14'32.469"N	80°49'32.265"W	10.41	128.925	0.65	0.14	-13.27
893.00	2.060	108.770	892.76	11.68	-8.15	11.74	1624557.29	273148.28	39°14'32.453"N	80°49'32.218"W	14.29	124.784	0.83	-0.74	-9.44
988.00	1.210	60.950	987.73	12.59	-8.22	14.23	1624559.78	273148.19	39°14'32.453"N	80°49'32.187"W	16.43	119.997	1.62	-0.89	-50.34
1082.00	0.560	335.230	1081.72	11.97	-7.32	14.91	1624560.47	273149.07	39°14'32.462"N	80°49'32.178"W	16.61	116.143	1.38	-0.69	-91.19
1177.00	1.710	277.690	1176.70	10.85	-6.71	13.31	1624558.88	273149.71	39°14'32.468"N	80°49'32.198"W	14.90	116.743	1.56	1.21	-60.57
1272.00	1.180	258.760	1271.67	10.04	-6.71	10.94	1624556.51	273149.74	39°14'32.468"N	80°49'32.228"W	12.84	121.501	0.74	-0.56	-19.93
1367.00	1.420	229.840	1366.65	10.30	-7.66	9.08	1624554.64	273148.82	39°14'32.458"N	80°49'32.252"W	11.88	130.124	0.73	0.25	-30.44
1462.00	1.140	175.190	1461.62	11.62	-9.36	8.26	1624553.79	273147.13	39°14'32.442"N	80°49'32.263"W	12.48	138.550	1.26	-0.29	-57.53
1556.00	0.770	88.440	1555.62	12.72	-10.27	8.97	1624554.49	273146.21	39°14'32.433"N	80°49'32.253"W	13.64	138.858	1.42	-0.39	-92.29
1651.00	1.520	74.530	1650.60	13.02	-9.92	10.83	1624556.35	273146.53	39°14'32.436"N	80°49'32.230"W	14.68	132.494	0.84	0.79	-14.64
1745.00	0.600	53.390	1744.58	12.98	-9.29	12.42	1624557.95	273147.14	39°14'32.442"N	80°49'32.210"W	15.51	126.796	1.05	-0.98	-22.49
1835.00	0.590	51.610	1834.57	12.70	-8.72	13.16	1624558.70	273147.69	39°14'32.448"N	80°49'32.200"W	15.79	123.531	0.02	-0.01	-1.98
1924.00	0.550	26.790	1923.57	12.26	-8.06	13.72	1624559.27	273148.35	39°14'32.454"N	80°49'32.193"W	15.91	120.432	0.28	-0.04	-27.89
2015.00	1.500	276.160	2014.56	11.44	-7.54	12.73	1624558.29	273148.88	39°14'32.460"N	80°49'32.206"W	14.79	120.640	1.95	1.04	-121.57
2104.00	1.610	261.670	2103.53	10.67	-7.60	10.33	1624555.89	273148.86	39°14'32.459"N	80°49'32.236"W	12.83	126.319	0.46	0.12	-16.28
2193.00	0.340	223.850	2192.51	10.54	-7.97	8.91	1624554.46	273148.51	39°14'32.455"N	80°49'32.254"W	11.96	131.793	1.53	-1.43	-42.49
2282.00	0.660	137.610	2281.51	11.13	-8.54	9.08	1624554.62	273147.94	39°14'32.450"N	80°49'32.252"W	12.46	133.246	0.81	0.36	-96.90
2372.00	1.350	134.350	2371.50	12.56	-9.66	10.18	1624555.71	273146.80	39°14'32.439"N	80°49'32.238"W	14.04	133.490	0.77	0.77	-3.62
2462.00	0.990	145.360	2461.48	14.27	-11.04	11.38	1624556.89	273145.40	39°14'32.425"N	80°49'32.223"W	15.86	134.125	0.47	-0.40	12.23
2539.00	0.710	129.270	2538.47	15.32	-11.89	12.13	1624557.62	273144.54	39°14'32.417"N	80°49'32.213"W	16.99	134.426	0.47	-0.36	-20.90

17-06004



Actual Wellpath Report

OXFDIEHS AWP (Curve&Lateral) Proj: 15002'
Page 3 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot E
Area	Doddridge Co., WV	Well	OXFDIEHS
Field	Doddridge	Wellbore	OXFDIEHS AWB
Facility	Oxford Pad		

WELLPATH DATA (190 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]
2673.00	0.970	126.010	2672.45	16.98	-13.08	13.69	1624559.17	273143.33	39°14'32.405"N	80°49'32.194"W	18.94	133.698	0.20	0.19	-2.43
2726.00	1.230	136.800	2725.44	17.87	-13.76	14.44	1624559.91	273142.64	39°14'32.398"N	80°49'32.184"W	19.95	133.614	0.63	0.49	20.36
2816.00	1.540	151.290	2815.42	19.95	-15.53	15.69	1624561.12	273140.85	39°14'32.381"N	80°49'32.168"W	22.07	134.707	0.52	0.34	16.10
2861.00	1.790	212.520	2860.40	20.98	-16.65	15.60	1624561.02	273139.73	39°14'32.369"N	80°49'32.169"W	22.81	136.866	3.80	0.56	136.07
2905.00	2.390	218.910	2904.37	21.87	-17.94	14.65	1624560.06	273138.45	39°14'32.357"N	80°49'32.181"W	23.17	140.763	1.46	1.36	14.52
2953.00	4.200	241.300	2952.29	22.66	-19.57	12.48	1624557.86	273136.86	39°14'32.341"N	80°49'32.209"W	23.21	147.464	4.56	3.77	46.65
2998.00	5.140	251.670	2997.14	22.85	-20.99	9.12	1624554.48	273135.49	39°14'32.327"N	80°49'32.252"W	22.89	156.509	2.80	2.09	23.04
3043.00	6.220	257.990	3041.92	22.45	-22.13	4.83	1624550.17	273134.41	39°14'32.315"N	80°49'32.306"W	22.65	167.701	2.77	2.40	14.04
3087.00	7.320	261.330	3085.62	21.57	-23.05	-0.28	1624545.05	273133.57	39°14'32.306"N	80°49'32.371"W	23.05	180.690	2.65	2.50	7.59
3132.00	8.390	261.020	3130.19	20.38	-24.00	-6.35	1624538.96	273132.71	39°14'32.297"N	80°49'32.448"W	24.82	194.832	2.38	2.38	-0.69
3177.00	9.200	261.010	3174.66	19.06	-25.07	-13.15	1624532.15	273131.74	39°14'32.286"N	80°49'32.535"W	28.31	207.679	1.80	1.80	-0.02
3267.00	8.010	252.020	3263.65	17.47	-28.13	-26.22	1624519.04	273128.87	39°14'32.256"N	80°49'32.701"W	38.46	222.989	1.99	-1.32	-9.99
3357.00	7.800	259.060	3352.80	16.28	-31.23	-38.18	1624507.03	273125.95	39°14'32.225"N	80°49'32.853"W	49.32	230.725	1.10	-0.23	7.82
3448.00	9.040	266.140	3442.82	13.32	-32.88	-51.38	1624493.81	273124.49	39°14'32.209"N	80°49'33.021"W	61.00	237.384	1.77	1.36	7.78
3538.00	10.860	272.010	3531.46	8.18	-33.06	-66.91	1624478.28	273124.55	39°14'32.207"N	80°49'33.218"W	74.63	243.708	2.31	2.02	6.52
3628.00	10.850	268.230	3619.86	2.35	-33.02	-83.85	1624461.35	273124.83	39°14'32.208"N	80°49'33.433"W	90.12	248.505	0.79	-0.01	-4.20
3717.00	12.350	266.390	3707.04	-2.95	-33.88	-101.72	1624443.46	273124.24	39°14'32.199"N	80°49'33.660"W	107.22	251.579	1.74	1.69	-2.07
3807.00	9.900	262.060	3795.34	-7.29	-35.55	-118.99	1624426.17	273122.82	39°14'32.183"N	80°49'33.880"W	124.19	253.364	2.87	-2.72	-4.81
3896.00	9.390	263.840	3883.08	-10.62	-37.39	-133.79	1624411.35	273121.20	39°14'32.164"N	80°49'34.068"W	138.92	254.386	0.66	-0.57	2.00
3986.00	11.620	276.990	3971.58	-16.49	-37.07	-150.09	1624395.06	273121.76	39°14'32.168"N	80°49'34.275"W	154.60	256.125	3.62	2.48	14.61
4075.00	9.380	274.300	4059.08	-23.55	-35.44	-166.22	1624378.95	273123.63	39°14'32.184"N	80°49'34.480"W	169.96	257.964	2.58	-2.52	-3.02
4164.00	10.390	269.950	4146.76	-29.27	-34.90	-181.48	1624363.70	273124.39	39°14'32.189"N	80°49'34.674"W	184.80	259.113	1.41	1.13	-4.89
4253.00	9.620	261.350	4234.41	-33.47	-36.03	-196.86	1624348.31	273123.49	39°14'32.178"N	80°49'34.870"W	200.15	259.628	1.89	-0.87	-9.66
4343.00	9.240	256.120	4323.20	-35.72	-38.89	-211.31	1624333.82	273120.84	39°14'32.150"N	80°49'35.053"W	214.86	259.571	1.04	-0.42	-5.81
4432.00	8.570	253.500	4411.13	-36.89	-42.49	-224.60	1624320.47	273117.44	39°14'32.114"N	80°49'35.222"W	228.59	259.287	0.88	-0.75	-2.94
4521.00	9.000	261.340	4499.08	-38.66	-45.42	-237.84	1624307.19	273114.70	39°14'32.085"N	80°49'35.391"W	242.14	259.188	1.43	0.48	8.81
4611.00	9.310	261.970	4587.94	-41.56	-47.50	-252.01	1624293.00	273112.84	39°14'32.065"N	80°49'35.571"W	256.45	259.326	0.36	0.34	0.70
4700.00	7.730	261.560	4675.95	-44.25	-49.38	-265.06	1624279.92	273111.14	39°14'32.046"N	80°49'35.736"W	269.62	259.446	1.78	-1.78	-0.46
4790.00	6.240	266.550	4765.28	-46.86	-50.57	-275.93	1624269.03	273110.12	39°14'32.034"N	80°49'35.875"W	280.53	259.615	1.79	-1.66	5.54
4879.00	4.140	261.500	4853.91	-48.88	-51.33	-283.94	1624261.02	273109.47	39°14'32.027"N	80°49'35.976"W	288.54	259.752	2.41	-2.36	-5.67

17-06004



Actual Wellpath Report

OXFD1EHS AWP (Curve&Lateral) Proj: 15002'
Page 4 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot E
Area	Doddridge Co., WV	Well	OXFD1EHS
Field	Doddridge	Wellbore	OXFD1EHS AWP
Facility	Oxford Pad		

WELLPATH DATA (190 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]
4969.00	2.030	242.910	4943.78	-49.33	-52.54	-288.57	1624256.37	273108.34	39°14'32.015"N	80°49'36.035"W	293.31	259.681	2.56	-2.34	-20.66
5058.00	1.050	192.770	5032.75	-48.45	-54.05	-290.15	1624254.76	273106.85	39°14'32.000"N	80°49'36.055"W	295.15	259.447	1.77	-1.10	-56.34
5147.00	0.850	125.050	5121.74	-47.22	-55.23	-289.79	1624255.10	273105.67	39°14'31.988"N	80°49'36.051"W	295.01	259.210	1.20	-0.22	-76.09
5237.00	0.850	129.030	5211.73	-46.10	-56.03	-288.73	1624256.16	273104.85	39°14'31.980"N	80°49'36.037"W	294.11	259.018	0.07	0.00	4.42
5326.00	0.930	128.580	5300.72	-44.92	-56.90	-287.65	1624257.22	273103.97	39°14'31.972"N	80°49'36.024"W	293.22	258.812	0.09	0.09	-0.51
5416.00	1.130	137.770	5390.71	-43.47	-58.01	-286.48	1624258.37	273102.84	39°14'31.961"N	80°49'36.009"W	292.30	258.553	0.29	0.22	10.21
5506.00	1.510	142.960	5480.68	-41.52	-59.61	-285.17	1624259.66	273101.21	39°14'31.945"N	80°49'35.992"W	291.34	258.193	0.44	0.42	5.77
5581.00	0.500	127.010	5555.67	-40.30	-60.60	-284.32	1624260.50	273100.22	39°14'31.935"N	80°49'35.981"W	290.70	257.968	1.38	-1.35	-21.27
5626.00	2.370	280.900	5600.66	-40.61	-60.54	-285.07	1624259.75	273100.28	39°14'31.936"N	80°49'35.991"W	291.43	258.010	6.28	4.16	341.98
5671.00	6.280	283.700	5645.52	-42.46	-59.78	-288.38	1624256.45	273101.09	39°14'31.943"N	80°49'36.033"W	294.51	258.288	8.70	8.69	6.22
5715.00	9.790	285.180	5689.08	-45.95	-58.23	-294.33	1624250.52	273102.73	39°14'31.958"N	80°49'36.108"W	300.03	258.809	7.99	7.98	3.36
5760.00	11.780	285.190	5733.29	-50.80	-56.03	-302.46	1624242.43	273105.06	39°14'31.980"N	80°49'36.212"W	307.60	259.506	4.42	4.42	0.02
5805.00	14.230	286.910	5777.13	-56.77	-53.21	-312.18	1624232.75	273108.01	39°14'32.008"N	80°49'36.335"W	316.68	260.327	5.51	5.44	3.82
5850.00	17.450	282.070	5820.42	-63.67	-50.19	-324.08	1624220.90	273111.21	39°14'32.038"N	80°49'36.487"W	327.94	261.196	7.73	7.16	-10.76
5895.00	21.070	275.710	5862.90	-70.77	-47.98	-338.73	1624206.28	273113.64	39°14'32.060"N	80°49'36.673"W	342.11	261.939	9.29	8.04	-14.13
5940.00	22.150	274.620	5904.73	-77.81	-46.49	-355.23	1624189.80	273115.37	39°14'32.075"N	80°49'36.883"W	358.26	262.544	2.56	2.40	-2.42
5984.00	20.550	265.510	5945.72	-83.34	-46.42	-371.21	1624173.83	273115.67	39°14'32.075"N	80°49'37.086"W	374.10	262.871	8.36	-3.64	-20.70
6029.00	18.470	244.990	5988.19	-84.83	-50.06	-385.56	1624159.43	273112.25	39°14'32.039"N	80°49'37.268"W	388.79	262.602	15.83	-4.62	-45.60
6074.00	20.210	229.150	6030.67	-81.44	-58.16	-397.91	1624146.96	273104.32	39°14'31.959"N	80°49'37.425"W	402.14	261.684	12.24	3.87	-35.20
6119.00	21.750	224.780	6072.69	-75.12	-69.17	-409.66	1624135.05	273093.50	39°14'31.850"N	80°49'37.574"W	415.46	260.416	4.88	3.42	-9.71
6164.00	21.770	225.100	6114.49	-68.05	-80.98	-421.44	1624123.09	273081.86	39°14'31.734"N	80°49'37.724"W	429.15	259.124	0.27	0.04	0.71
6209.00	21.620	222.240	6156.30	-60.67	-93.01	-432.93	1624111.43	273070.01	39°14'31.615"N	80°49'37.870"W	442.81	257.876	2.37	-0.33	-6.36
6254.00	23.070	211.210	6197.94	-51.28	-106.69	-443.08	1624101.09	273056.47	39°14'31.480"N	80°49'37.999"W	455.74	256.461	9.84	3.22	-24.51
6298.00	24.950	203.670	6238.14	-39.17	-122.57	-451.27	1624092.66	273040.72	39°14'31.323"N	80°49'38.103"W	467.62	254.805	8.17	4.27	-17.14
6343.00	27.830	194.940	6278.46	-23.68	-141.42	-457.79	1624085.86	273021.96	39°14'31.136"N	80°49'38.186"W	479.14	252.833	10.72	6.40	-19.40
6388.00	30.550	186.680	6317.76	-4.84	-162.94	-461.83	1624081.50	273000.51	39°14'30.924"N	80°49'38.237"W	489.73	250.566	10.79	6.04	-18.36
6432.00	34.260	180.800	6354.91	16.74	-186.45	-463.31	1624079.68	272977.03	39°14'30.691"N	80°49'38.256"W	499.42	248.079	11.05	8.43	-13.36
6477.00	38.500	178.480	6391.13	41.88	-213.13	-463.11	1624079.48	272950.35	39°14'30.428"N	80°49'38.254"W	509.80	245.288	9.90	9.42	-5.16
6522.00	43.530	176.090	6425.08	70.07	-242.61	-461.68	1624080.47	272920.85	39°14'30.136"N	80°49'38.235"W	521.55	242.279	11.71	11.18	-5.31
6567.00	48.700	174.010	6456.26	101.39	-274.90	-458.86	1624082.82	272888.52	39°14'29.817"N	80°49'38.200"W	534.91	239.074	11.96	11.49	-4.62

17-06004



Actual Wellpath Report

OXFD1EHS AWP (Curve&Lateral) Proj: 15002'
Page 5 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot E
Area	Doddridge Co., WV	Well	OXFD1EHS
Field	Doddridge	Wellbore	OXFD1EHS AWP
Facility	Oxford Pad		

WELLPATH DATA (190 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]
6612.00	54.610	172.520	6484.17	135.72	-309.93	-454.71	1624086.46	272853.43	39°14'29.471"N	80°49'38.147"W	550.29	235.721	13.39	13.13	-3.31
6656.00	59.660	171.000	6508.04	171.90	-346.50	-449.40	1624091.23	272816.80	39°14'29.109"N	80°49'38.079"W	567.47	232.367	11.84	11.48	-3.45
6701.00	60.700	171.340	6530.42	210.20	-385.07	-443.40	1624096.65	272778.14	39°14'28.728"N	80°49'38.003"W	587.27	229.027	2.40	2.31	0.76
6746.00	62.280	170.450	6551.90	249.03	-424.12	-437.15	1624102.33	272739.01	39°14'28.342"N	80°49'37.924"W	609.07	225.867	3.92	3.51	-1.98
6791.00	67.190	168.710	6571.10	289.14	-464.12	-429.78	1624109.11	272698.90	39°14'27.947"N	80°49'37.830"W	632.55	222.799	11.46	10.91	-3.87
6836.00	72.630	166.730	6586.55	331.00	-505.40	-420.78	1624117.50	272657.50	39°14'27.539"N	80°49'37.716"W	657.63	219.780	12.77	12.09	-4.40
6881.00	77.980	164.850	6597.96	374.29	-547.57	-410.09	1624127.56	272615.17	39°14'27.122"N	80°49'37.580"W	684.11	216.830	12.56	11.89	-4.18
6926.00	82.910	163.150	6605.43	418.55	-590.22	-397.86	1624139.16	272572.35	39°14'26.700"N	80°49'37.424"W	711.79	213.983	11.57	10.96	-3.78
6970.00	87.470	161.330	6609.12	462.34	-631.96	-384.49	1624151.92	272530.42	39°14'26.288"N	80°49'37.254"W	739.73	211.316	11.15	10.36	-4.14
7015.00	90.400	161.830	6609.96	507.31	-674.64	-370.27	1624165.50	272487.53	39°14'25.866"N	80°49'37.074"W	769.57	208.760	6.61	6.51	1.11
7105.00	88.860	161.350	6610.54	597.27	-760.03	-341.85	1624192.66	272401.74	39°14'25.022"N	80°49'36.712"W	833.37	204.217	1.79	-1.71	-0.53
7194.00	89.940	161.020	6611.47	686.25	-844.27	-313.15	1624220.11	272317.09	39°14'24.189"N	80°49'36.347"W	900.47	200.350	1.27	1.21	-0.37
7284.00	90.090	160.780	6611.45	776.24	-929.31	-283.70	1624248.30	272231.62	39°14'23.349"N	80°49'35.973"W	971.65	196.976	0.31	0.17	-0.27
7374.00	90.680	162.650	6610.84	866.19	-1014.76	-255.46	1624275.27	272145.77	39°14'22.504"N	80°49'35.614"W	1046.42	194.130	2.18	0.66	2.08
7464.00	90.830	167.330	6609.65	955.82	-1101.66	-232.16	1624297.29	272058.54	39°14'21.645"N	80°49'35.318"W	1125.86	191.900	5.20	0.17	5.20
7553.00	90.740	163.620	6608.43	1044.39	-1187.79	-209.85	1624318.33	271972.09	39°14'20.794"N	80°49'35.035"W	1206.19	190.019	4.17	-0.10	-4.17
7643.00	90.920	164.040	6607.13	1134.18	-1274.22	-184.78	1624342.11	271885.30	39°14'19.940"N	80°49'34.716"W	1287.55	188.251	0.51	0.20	0.47
7732.00	91.260	161.060	6605.44	1223.06	-1359.10	-158.10	1624367.54	271800.04	39°14'19.101"N	80°49'34.377"W	1368.27	186.635	3.37	0.38	-3.35
7822.00	91.450	157.420	6603.31	1313.01	-1443.22	-126.22	1624398.18	271715.47	39°14'18.270"N	80°49'33.972"W	1448.73	184.998	4.05	0.21	-4.04
7912.00	91.720	154.440	6600.82	1402.74	-1525.35	-89.53	1624433.65	271632.80	39°14'17.458"N	80°49'33.505"W	1527.98	183.359	3.32	0.30	-3.31
8001.00	91.850	155.480	6598.05	1491.35	-1605.95	-51.88	1624470.10	271551.66	39°14'16.661"N	80°49'33.027"W	1606.79	181.850	1.18	0.15	1.17
8091.00	91.790	157.530	6595.19	1581.14	-1688.44	-16.02	1624504.74	271468.66	39°14'15.846"N	80°49'32.571"W	1688.52	180.544	2.28	-0.07	2.28
8181.00	91.510	154.830	6592.60	1670.89	-1770.73	20.31	1624539.85	271385.84	39°14'15.032"N	80°49'32.109"W	1770.85	179.343	3.01	-0.31	-3.00
8270.00	91.540	152.790	6590.23	1759.34	-1850.56	59.57	1624577.93	271305.44	39°14'14.243"N	80°49'31.610"W	1851.52	178.156	2.29	0.03	-2.29
8360.00	91.600	154.500	6587.76	1848.75	-1931.18	99.51	1624616.67	271224.25	39°14'13.447"N	80°49'31.103"W	1933.74	177.050	1.90	0.07	1.90
8450.00	91.230	157.630	6585.54	1938.50	-2013.40	136.01	1624651.95	271141.50	39°14'12.634"N	80°49'30.639"W	2017.99	176.135	3.50	-0.41	3.48
8539.00	90.800	157.550	6583.96	2027.40	-2095.67	169.93	1624684.66	271058.75	39°14'11.821"N	80°49'30.208"W	2102.54	175.364	0.49	-0.48	-0.09
8629.00	90.770	155.050	6582.73	2117.20	-2178.06	206.10	1624719.60	270975.83	39°14'11.007"N	80°49'29.748"W	2187.79	174.594	2.78	-0.03	-2.78
8718.00	90.370	154.240	6581.84	2205.81	-2258.48	244.21	1624756.52	270894.86	39°14'10.212"N	80°49'29.264"W	2271.65	173.829	1.01	-0.45	-0.91
8807.00	90.400	155.100	6581.24	2294.42	-2338.92	282.29	1624793.41	270813.87	39°14'09.417"N	80°49'28.780"W	2355.90	173.118	0.97	0.03	0.97

17-06004



Actual Wellpath Report

OXFDIEHS AWP (Curve&Lateral) Proj: 15002'
Page 6 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot E
Area	Doddridge Co., WV	Well	OXFDIEHS
Field	Doddridge	Wellbore	OXFDIEHS AWP
Facility	Oxford Pad		

WELLPATH DATA (190 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]
8897.00	90.830	157.920	6580.28	2384.24	-2421.45	318.16	1624828.05	270730.82	39°14'08.601"N	80°49'28.324"W	2442.26	172.515	3.17	0.48	3.13
8987.00	90.920	158.510	6578.90	2474.18	-2505.01	351.55	1624860.21	270646.78	39°14'07.775"N	80°49'27.900"W	2529.56	172.011	0.66	0.10	0.66
9076.00	90.890	160.560	6577.50	2563.16	-2588.38	382.66	1624890.09	270562.96	39°14'06.951"N	80°49'27.504"W	2616.52	171.590	2.30	-0.03	2.30
9165.00	90.800	158.720	6576.19	2652.15	-2671.81	413.62	1624919.81	270479.09	39°14'06.126"N	80°49'27.111"W	2703.64	171.200	2.07	-0.10	-2.07
9255.00	90.800	157.390	6574.93	2742.09	-2755.28	447.26	1624952.20	270395.14	39°14'05.301"N	80°49'26.684"W	2791.34	170.780	1.48	0.00	-1.48
9344.00	90.860	156.240	6573.64	2830.94	-2837.08	482.29	1624986.03	270312.83	39°14'04.493"N	80°49'26.238"W	2877.78	170.352	1.29	0.07	-1.29
9434.00	90.650	152.000	6572.45	2920.44	-2918.03	521.56	1625024.10	270231.32	39°14'03.693"N	80°49'25.739"W	2964.27	169.866	-4.72	-0.23	-4.71
9524.00	90.830	152.940	6571.29	3009.65	-2997.83	563.16	1625064.51	270150.91	39°14'02.904"N	80°49'25.211"W	3050.27	169.361	1.06	0.20	1.04
9613.00	90.650	151.340	6570.14	3097.80	-3076.51	604.74	1625104.93	270071.64	39°14'02.126"N	80°49'24.682"W	3135.38	168.879	1.81	-0.20	-1.80
9703.00	90.280	151.820	6569.41	3186.83	-3155.66	647.58	1625146.59	269991.87	39°14'01.344"N	80°49'24.138"W	3221.42	168.403	0.67	-0.41	0.53
9792.00	90.120	159.210	6569.10	3275.50	-3236.60	684.44	1625182.25	269910.39	39°14'00.544"N	80°49'23.669"W	3308.17	168.060	8.31	-0.18	8.30
9882.00	90.310	166.190	6568.76	3365.34	-3322.47	711.18	1625207.72	269824.14	39°13'59.695"N	80°49'23.330"W	3397.73	167.918	7.76	0.21	7.76
9971.00	90.310	165.630	6568.28	3453.87	-3408.79	732.85	1625228.11	269737.51	39°13'58.842"N	80°49'23.054"W	3486.68	167.867	0.63	0.00	-0.63
10061.00	90.430	167.060	6567.70	3543.31	-3496.24	754.09	1625248.07	269649.76	39°13'57.978"N	80°49'22.784"W	3576.64	167.828	1.59	0.13	1.59
10151.00	90.310	161.310	6567.12	3633.03	-3582.80	778.61	1625271.30	269562.85	39°13'57.122"N	80°49'22.473"W	3666.43	167.739	6.39	-0.13	-6.39
10240.00	90.770	156.580	6566.28	3721.99	-3665.83	810.58	1625302.04	269479.36	39°13'56.302"N	80°49'22.067"W	3754.38	167.532	5.34	0.52	-5.31
10330.00	90.890	158.100	6564.97	3811.88	-3748.87	845.24	1625335.47	269395.82	39°13'55.481"N	80°49'21.626"W	3842.98	167.294	1.69	0.13	1.69
10420.00	90.830	157.230	6563.62	3901.79	-3832.11	879.44	1625368.44	269312.09	39°13'54.658"N	80°49'21.192"W	3931.73	167.075	0.97	-0.07	-0.97
10509.00	90.800	155.490	6562.36	3990.60	-3913.63	915.13	1625402.91	269230.06	39°13'53.852"N	80°49'20.738"W	4019.20	166.839	1.96	-0.03	-1.96
10599.00	90.280	158.050	6561.51	4080.44	-3996.32	950.62	1625437.18	269146.85	39°13'53.035"N	80°49'20.287"W	4107.83	166.620	2.90	-0.58	2.84
10688.00	90.310	157.510	6561.05	4169.38	-4078.71	984.27	1625469.62	269063.98	39°13'52.221"N	80°49'19.859"W	4195.79	166.433	0.61	0.03	-0.61
10778.00	90.340	158.770	6560.54	4259.33	-4162.24	1017.78	1625501.89	268979.97	39°13'51.395"N	80°49'19.434"W	4284.87	166.259	1.40	0.03	1.40
10867.00	90.340	163.060	6560.01	4348.29	-4246.32	1046.88	1625529.74	268895.47	39°13'50.564"N	80°49'19.064"W	4373.47	166.151	4.82	0.00	4.82
10957.00	90.340	164.560	6559.48	4438.09	-4332.75	1071.97	1625553.55	268808.68	39°13'49.710"N	80°49'18.745"W	4463.39	166.103	1.67	0.00	1.67
11047.00	90.370	162.240	6558.92	4527.92	-4418.99	1097.68	1625577.99	268722.08	39°13'48.857"N	80°49'18.418"W	4553.28	166.050	2.58	0.03	-2.58
11136.00	90.400	159.790	6558.32	4616.90	-4503.14	1126.63	1625605.69	268637.51	39°13'48.026"N	80°49'18.051"W	4641.94	165.954	2.75	0.03	-2.75
11226.00	90.310	160.810	6557.76	4706.90	-4587.87	1156.97	1625634.77	268552.35	39°13'47.188"N	80°49'17.665"W	4731.51	165.846	1.14	-0.10	1.13
11315.00	90.310	159.060	6557.28	4795.89	-4671.47	1187.50	1625664.07	268468.31	39°13'46.362"N	80°49'17.277"W	4820.04	165.737	1.97	0.00	-1.97
11405.00	90.310	151.450	6556.79	4885.51	-4753.14	1225.15	1625700.50	268386.10	39°13'45.555"N	80°49'16.799"W	4908.49	165.546	8.46	0.00	-8.46
11495.00	90.430	151.050	6556.21	4974.47	-4832.04	1268.43	1625742.62	268306.57	39°13'44.775"N	80°49'16.249"W	4995.75	165.291	0.46	0.13	-0.44

17-06004



Actual Wellpath Report

OXFDIEHS AWP (Curve&Lateral) Proj: 15002'
Page 7 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot E
Area	Doddridge Co., WV	Well	OXFDIEHS
Field	Doddridge	Wellbore	OXFDIEHS AWB
Facility	Oxford Pad		

WELLPATH DATA (190 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]
11584.00	90.400	160.810	6555.57	5063.13	-4913.20	1304.69	1625777.67	268224.88	39°13'43.973"N	80°49'15.788"W	5083.48	165.128	10.97	-0.03	10.97
11674.00	90.370	164.990	6554.96	5152.99	-4999.20	1331.14	1625802.85	268138.50	39°13'43.123"N	80°49'15.452"W	5173.39	165.090	4.64	-0.03	4.64
11763.00	90.340	171.350	6554.41	5241.04	-5086.27	1349.38	1625819.80	268051.18	39°13'42.262"N	80°49'15.220"W	5262.22	165.142	7.15	-0.03	7.15
11853.00	90.310	168.710	6553.90	5329.66	-5174.90	1364.96	1625834.07	267962.34	39°13'41.386"N	80°49'15.022"W	5351.89	165.224	2.93	-0.03	-2.93
11943.00	90.310	161.570	6553.41	5419.24	-5261.83	1388.03	1625855.85	267875.08	39°13'40.527"N	80°49'14.729"W	5441.83	165.222	7.93	0.00	-7.93
12032.00	90.370	159.030	6552.88	5508.23	-5345.61	1418.03	1625884.61	267790.86	39°13'39.699"N	80°49'14.348"W	5530.50	165.143	2.85	0.07	-2.85
12122.00	90.120	158.080	6552.50	5598.20	-5429.38	1450.93	1625916.27	267706.62	39°13'38.871"N	80°49'13.930"W	5619.91	165.038	1.09	-0.28	-1.06
12211.00	90.150	159.510	6552.29	5687.17	-5512.35	1483.12	1625947.24	267623.19	39°13'38.051"N	80°49'13.521"W	5708.39	164.941	1.61	0.03	1.61
12301.00	89.600	158.010	6552.49	5777.15	-5596.24	1515.72	1625978.60	267538.84	39°13'37.221"N	80°49'13.107"W	5797.87	164.845	1.78	-0.61	-1.67
12391.00	89.570	155.510	6553.14	5867.00	-5678.93	1551.23	1626012.88	267455.64	39°13'36.404"N	80°49'12.656"W	5886.98	164.722	2.78	-0.03	-2.78
12481.00	89.540	157.570	6553.84	5956.83	-5761.48	1587.06	1626047.48	267372.57	39°13'35.588"N	80°49'12.201"W	5976.07	164.599	2.29	-0.03	2.29
12570.00	89.600	160.150	6554.50	6045.80	-5844.48	1619.15	1626078.35	267289.10	39°13'34.768"N	80°49'11.793"W	6064.62	164.515	2.90	0.07	2.90
12660.00	89.600	159.940	6555.13	6135.80	-5929.07	1649.87	1626107.81	267204.07	39°13'33.932"N	80°49'11.403"W	6154.35	164.450	0.23	0.00	-0.23
12750.00	89.540	158.690	6555.81	6225.79	-6013.27	1681.66	1626138.35	267119.42	39°13'33.100"N	80°49'10.999"W	6243.99	164.376	1.39	-0.07	-1.39
12839.00	89.540	160.780	6556.52	6314.78	-6096.75	1712.48	1626167.94	267035.49	39°13'32.274"N	80°49'10.607"W	6332.69	164.311	2.35	0.00	2.35
12929.00	89.630	160.360	6557.18	6404.77	-6181.62	1742.42	1626196.62	266950.19	39°13'31.435"N	80°49'10.227"W	6422.50	164.258	0.48	0.10	-0.47
13018.00	89.570	162.040	6557.80	6493.74	-6265.87	1771.10	1626224.05	266865.53	39°13'30.603"N	80°49'09.862"W	6511.37	164.217	1.89	-0.07	1.89
13108.00	89.630	160.770	6558.42	6583.71	-6351.17	1799.80	1626251.49	266779.82	39°13'29.760"N	80°49'09.498"W	6601.26	164.178	1.41	0.07	-1.41
13198.00	89.510	161.120	6559.10	6673.70	-6436.24	1829.18	1626279.61	266694.34	39°13'28.919"N	80°49'09.125"W	6691.11	164.135	0.41	-0.13	0.39
13288.00	89.600	158.850	6559.80	6763.69	-6520.79	1859.98	1626309.16	266609.34	39°13'28.083"N	80°49'08.733"W	6780.87	164.080	2.52	0.10	-2.52
13378.00	89.570	156.260	6560.45	6853.60	-6603.96	1894.34	1626342.28	266525.67	39°13'27.261"N	80°49'08.297"W	6870.29	163.995	2.88	-0.03	-2.88
13467.00	89.630	159.280	6561.07	6942.52	-6686.34	1928.00	1626374.73	266442.81	39°13'26.447"N	80°49'07.869"W	6958.76	163.915	3.39	0.07	3.39
13557.00	89.690	157.780	6561.61	7032.48	-6770.09	1960.94	1626406.43	266358.59	39°13'25.619"N	80°49'07.451"W	7048.36	163.846	1.67	0.07	-1.67
13647.00	89.170	157.150	6562.50	7122.39	-6853.21	1995.43	1626439.69	266274.97	39°13'24.797"N	80°49'07.012"W	7137.81	163.766	0.91	-0.58	-0.70
13737.00	89.140	155.740	6563.83	7212.21	-6935.70	2031.40	1626474.43	266191.96	39°13'23.982"N	80°49'06.556"W	7227.07	163.675	1.57	-0.03	-1.57
13826.00	89.110	159.800	6565.19	7301.11	-7018.06	2065.06	1626506.87	266109.12	39°13'23.168"N	80°49'06.128"W	7315.57	163.604	4.56	-0.03	4.56
13916.00	89.230	163.050	6566.49	7391.06	-7103.35	2093.72	1626534.27	266023.42	39°13'22.325"N	80°49'05.764"W	7405.49	163.577	3.61	0.13	3.61
14006.00	89.230	160.700	6567.70	7481.00	-7188.87	2121.71	1626560.99	265937.50	39°13'21.480"N	80°49'05.408"W	7495.43	163.557	2.61	0.00	-2.61
14095.00	89.080	159.090	6569.02	7569.98	-7272.44	2152.30	1626590.35	265853.49	39°13'20.654"N	80°49'05.020"W	7584.24	163.514	1.82	-0.17	-1.81
14185.00	89.140	161.410	6570.41	7659.97	-7357.13	2182.71	1626619.50	265768.37	39°13'19.817"N	80°49'04.633"W	7674.08	163.475	2.58	0.07	2.58

17-066004



Actual Wellpath Report

OXFD1EHS AWP (Curve&Lateral) Proj: 15002'
Page 8 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot E
Area	Doddridge Co., WV	Well	OXFD1EHS
Field	Doddridge	Wellbore	OXFD1EHS AWB
Facility	Oxford Pad		

WELLPATH DATA (190 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]
14274.00	89.140	165.470	6571.75	7748.78	-7442.41	2208.07	1626643.60	265682.72	39°13'18.974"N	80°49'04.311"W	7763.05	163.475	4.56	0.00	4.56
14364.00	89.320	160.690	6572.96	7838.61	-7528.48	2234.25	1626668.50	265596.28	39°13'18.123"N	80°49'03.979"W	7853.02	163.471	5.31	0.20	-5.31
14454.00	89.200	160.160	6574.12	7928.60	-7613.27	2264.40	1626697.40	265511.05	39°13'17.285"N	80°49'03.596"W	7942.88	163.436	0.60	-0.13	-0.59
14544.00	89.260	158.570	6575.33	8018.59	-7697.49	2296.11	1626727.87	265426.38	39°13'16.453"N	80°49'03.193"W	8032.65	163.390	1.77	0.07	-1.77
14633.00	89.480	159.630	6576.31	8107.57	-7780.62	2327.86	1626758.38	265342.79	39°13'15.631"N	80°49'02.790"W	8121.39	163.344	1.22	0.25	1.19
14723.00	89.540	161.250	6577.08	8197.56	-7865.42	2357.99	1626787.26	265257.56	39°13'14.793"N	80°49'02.407"W	8211.27	163.312	1.80	0.07	1.80
14812.00	89.600	159.750	6577.75	8286.55	-7949.31	2387.70	1626815.72	265173.24	39°13'13.963"N	80°49'02.029"W	8300.16	163.282	1.69	0.07	-1.69
14902.00	89.570	159.620	6578.40	8376.55	-8033.71	2418.94	1626845.72	265088.39	39°13'13.129"N	80°49'01.633"W	8389.98	163.243	0.15	-0.03	-0.14
14979.00	89.510	160.760	6579.02	8453.54	-8106.15	2445.04	1626870.74	265015.58	39°13'12.413"N	80°49'01.301"W	8466.87	163.215	1.48	-0.08	1.48
15002.00	89.510	160.760	6579.22	8476.54	-8127.87	2452.61	1626877.99	264993.76	39°13'12.199"N	80°49'01.205"W	8489.85	163.209	0.00	0.00	0.00

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
4500' VS Target		6564.00	-4391.19	1092.42	1625573.14	268749.95	39°13'49.132"N	80°49'18.485"W	point
OXFD1EHS BHL Rev-2		6603.00	-8127.61	2452.36	1626877.74	264994.02	39°13'12.201"N	80°49'01.208"W	point

WELLPATH COMPOSITION - Ref Wellbore: OXFD1EHS AWB Ref Wellpath: OXFD1EHS AWP (Curve&Lateral) Proj: 15002'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
18.60	640.00	Generic gyro - northseeking (Standard)	VES Gyro (100'-640')	OXFD1EHS AWB
640.00	2539.00	NaviTrak (MagCorr)	BHI MWD Surveys (640')(776'-2539')	OXFD1EHS AWB
2539.00	14979.00	NaviTrak (MagCorr)	BHI MWD Surveys (2539')(2673'-14979')	OXFD1EHS AWB
14979.00	15002.00	Blind Drilling (std)	Projection to bit	OXFD1EHS AWB

17.06004



Actual Wellpath Report

OXFD1EHS AWP (Curve&Lateral) Proj: 15002'
Page 9 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot E
Area	Doddridge Co., WV	Well	OXFD1EHS
Field	Doddridge	Wellbore	OXFD1EHS AWP
Facility	Oxford Pad		

COMMENTS

Wellpath general comments
 API: 47-017-06004-0000
 BHI Job #: 5591389
 Rig: Precision 542
 Duration: 8/17/2013-8/31/2013
 VES Gyro (100'-640')
 BHI MWD Surveys (640')(776'-2539')
 BHI MWD Surveys (2539')(2673'-14979')
 Projected MD at TD: 15002'

Office of C
 as
 BAKER
 HUGHES
 tec
 Environment