



Actual Wellpath Report

OXF-97F-HS AWP Proj: 20115'
Page 1 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot F
Area	Doddridge Co., WV	Well	OXF-97F-HS
Field	Doddridge	Wellbore	OXF-97F-HS AWB
Facility	OXF-97 Pad		

REPORT SETUP INFORMATION

Projection System	NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect@ 4.0.1
North Reference	Grid	User	Edsaryar
Scale	0.999964	Report Generated	17/Jun/2015 at 11:04
Convergence at slot	0.83° West	Database/Source file	WellArchitectEasternDB/OXF-97F-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	-20.06	19.92	1630682.69	269644.22	39°13'58.708"N	80°48'13.724"W
Facility Reference Pt			1630662.77	269664.28	39°13'58.904"N	80°48'13.980"W
Field Reference Pt			609601.22	0.00	38°23'48.753"N	84°21'09.765"W

WELLPATH DATUM

Calculation method	Minimum curvature	Precision 543 (RKB) to Facility Vertical Datum	1351.41ft
Horizontal Reference Pt	Slot	Precision 543 (RKB) to Mean Sea Level	1351.41ft
Vertical Reference Pt	Precision 543 (RKB)	Precision 543 (RKB) to Mud Line at Slot (Slot F)	18.00ft
MD Reference Pt	Precision 543 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	335.49°

RECEIVED
Office of Oil and Gas
JAN 17 2017
WV Department of
Environmental Protection

01/27/2017



Actual Wellpath Report

OXF-97F-HS AWP Proj: 20115'
Page 2 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot F
Area	Doddridge Co., WV	Well	OXF-97F-HS
Field	Doddridge	Wellbore	OXF-97F-HS AWB
Facility	OXF-97 Pad		

WELLPATH DATA (238 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	90.650	0.00	0.00	0.00	0.00	1630682.69	269644.22	39°13'58.708"N	80°48'13.724"W	0.00	0.000	0.00	0.00	0.00
18.00	0.000	90.650	18.00	0.00	0.00	0.00	1630682.69	269644.22	39°13'58.708"N	80°48'13.724"W	0.00	0.000	0.00	0.00	0.00
118.00	0.050	90.650	118.00	-0.02	0.00	0.04	1630682.73	269644.42	39°13'58.708"N	80°48'13.723"W	0.04	90.650	0.05	0.05	0.00
218.00	0.290	50.300	218.00	0.03	0.16	0.28	1630682.97	269644.38	39°13'58.710"N	80°48'13.720"W	0.32	60.326	0.25	0.24	-40.35
318.00	0.520	36.640	318.00	0.21	0.35	0.59	1630683.31	269644.27	39°13'58.714"N	80°48'13.716"W	0.44	49.465	0.24	0.24	-41.26
418.00	0.090	338.230	418.00	0.45	0.85	0.78	1630683.47	269645.07	39°13'58.717"N	80°48'13.714"W	1.15	42.505	0.28	-0.23	-57.81
518.00	0.120	175.590	518.00	0.43	0.82	0.76	1630683.45	269645.04	39°13'58.717"N	80°48'13.714"W	1.11	42.801	0.21	0.03	-162.64
618.00	0.320	106.720	618.00	0.15	0.63	1.03	1630683.72	269644.85	39°13'58.715"N	80°48'13.711"W	1.21	58.536	0.30	0.20	-68.87
718.00	0.180	105.220	718.00	-0.14	0.51	1.45	1630684.14	269644.73	39°13'58.714"N	80°48'13.705"W	1.54	70.650	0.14	-0.14	-1.50
818.00	0.300	53.510	818.00	-0.19	0.83	2.27	1630684.96	269645.05	39°13'58.717"N	80°48'13.695"W	2.42	69.958	0.06	0.01	-12.47
1018.00	0.320	44.070	1017.99	-0.03	1.19	2.68	1630685.37	269645.41	39°13'58.720"N	80°48'13.690"W	2.93	66.120	0.05	0.02	-9.44
1118.00	0.140	62.410	1117.99	0.08	1.44	2.98	1630685.67	269645.66	39°13'58.723"N	80°48'13.686"W	3.31	64.170	0.19	-0.18	18.34
1218.00	0.500	98.670	1217.99	-0.16	1.43	3.52	1630686.21	269645.65	39°13'58.723"N	80°48'13.679"W	3.80	67.840	0.40	0.36	36.26
1318.00	0.400	85.430	1417.98	-0.62	1.58	4.96	1630687.65	269645.80	39°13'58.725"N	80°48'13.661"W	5.20	72.356	0.08	0.01	10.81
1518.00	0.490	44.060	1517.98	-0.58	1.91	5.60	1630688.29	269646.13	39°13'58.728"N	80°48'13.653"W	5.92	71.158	0.33	0.09	-41.37
1618.00	0.890	67.930	1617.97	-0.46	2.51	6.62	1630689.31	269646.73	39°13'58.734"N	80°48'13.640"W	7.08	69.227	0.48	0.40	23.87
1718.00	0.740	74.090	1717.96	-0.59	2.98	7.96	1630690.65	269647.20	39°13'58.739"N	80°48'13.623"W	8.50	69.478	0.17	-0.15	6.16
1818.00	0.940	94.980	1917.94	-1.95	2.80	10.85	1630693.54	269647.02	39°13'58.738"N	80°48'13.586"W	11.21	75.530	0.13	0.09	-6.07
2018.00	0.510	90.650	2017.93	-2.55	2.72	12.12	1630694.81	269646.94	39°13'58.737"N	80°48'13.570"W	12.42	77.326	0.43	-0.43	-4.33
2118.00	0.210	90.570	2117.93	-3.00	2.71	13.18	1630695.87	269646.93	39°13'58.737"N	80°48'13.557"W	13.46	78.367	0.20	0.20	-0.08
2218.00	0.580	87.050	2217.92	-3.45	2.73	14.31	1630696.99	269646.95	39°13'58.737"N	80°48'13.542"W	14.56	79.183	0.14	-0.13	-3.52
2318.00	0.810	83.480	2317.92	-3.48	2.80	15.27	1630697.46	269646.91	39°13'58.737"N	80°48'13.530"W	15.40	79.466	0.12	-0.11	-1.87
2418.00	0.400	83.480	2417.92	-4.07	2.80	15.96	1630698.65	269647.02	39°13'58.738"N	80°48'13.521"W	16.21	80.045	0.38	-0.19	-44.84
2518.00	0.290	86.710	2517.91	-4.23	2.83	16.41	1630699.10	269647.05	39°13'58.739"N	80°48'13.516"W	16.65	80.222	0.38	-0.05	73.23
2618.00	0.170	86.940	2617.91	-4.43	2.76	16.73	1630699.42	269646.98	39°13'58.738"N	80°48'13.511"W	16.96	80.644	0.28	-0.12	-69.77
2718.00	0.290	81.730	2717.91	-4.66	2.64	17.01	1630699.70	269646.86	39°13'58.737"N	80°48'13.508"W	17.22	81.182	0.32	0.12	84.79
2818.00	0.180	80.870	2817.91	-4.85	2.52	17.31	1630700.16	269646.74	39°13'58.736"N	80°48'13.504"W	17.48	81.775	0.12	-0.11	-84.91

01/27/2017

Gas
Environmental Protection



Actual Wellpath Report

OXF-97F-HS AWP Proj: 20115'
Page 3 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot F
Area	Doddridge Co., WV	Well	OXF-97F-HS
Field	Doddridge	Wellbore	OXF-97F-HS AWB
Facility	OXF-97 Pad		

WELLPATH DATA (238 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]
2889.00	0.170	59.910	2888.91	-4.87	2.62	17.50	1630700.19	269646.84	39°13'58.737"N	80°48'13.502"W	17.69	81.470	0.01	-0.01	-1.35
3081.00	0.390	87.700	3080.91	-5.09	2.79	18.40	1630701.09	269647.01	39°13'58.739"N	80°48'13.490"W	18.61	81.366	0.13	0.11	14.47
3112.00	0.490	97.640	3111.91	-5.20	2.78	18.63	1630701.32	269647.00	39°13'58.738"N	80°48'13.487"W	18.84	81.515	0.40	0.32	32.06
3142.00	0.520	103.010	3141.91	-5.35	2.73	18.89	1630701.58	269646.95	39°13'58.738"N	80°48'13.484"W	19.09	81.771	0.19	0.10	17.90
3232.00	2.790	81.290	3231.87	-6.13	2.97	21.29	1630703.98	269647.19	39°13'58.741"N	80°48'13.454"W	21.50	82.055	2.91	2.90	-8.83
3293.00	4.020	80.990	3292.76	-7.10	3.53	24.87	1630707.56	269647.75	39°13'58.747"N	80°48'13.408"W	25.12	81.919	2.02	2.02	-0.49
3323.00	4.830	80.920	3322.67	-7.72	3.90	27.16	1630709.85	269648.12	39°13'58.751"N	80°48'13.379"W	27.44	81.837	2.70	2.70	-0.23
3354.00	5.380	84.660	3353.55	-8.55	4.24	29.89	1630712.58	269648.46	39°13'58.754"N	80°48'13.344"W	30.19	81.933	2.07	1.77	12.06
3445.00	7.850	91.450	3443.94	-12.70	4.43	40.33	1630723.02	269648.65	39°13'58.758"N	80°48'13.212"W	40.57	83.736	2.87	2.79	5.56
3505.00	10.130	90.360	3503.20	-16.72	4.29	49.70	1630732.39	269648.51	39°13'58.758"N	80°48'13.093"W	49.89	85.067	3.81	3.80	-1.82
3566.00	11.720	87.440	3563.09	-21.29	4.53	61.26	1630743.95	269648.75	39°13'58.762"N	80°48'12.946"W	61.43	85.768	2.76	2.61	-4.79
3626.00	13.780	85.750	3621.61	-26.04	5.34	74.47	1630757.16	269649.55	39°13'58.772"N	80°48'12.778"W	74.66	85.902	3.49	3.43	-2.82
3747.00	18.740	86.110	3737.76	-37.87	7.70	108.18	1630790.86	269651.92	39°13'58.800"N	80°48'12.350"W	108.45	85.929	4.23	4.23	0.15
3807.00	21.000	87.860	3794.18	-45.36	8.75	128.54	1630811.23	269652.97	39°13'58.813"N	80°48'12.092"W	128.84	86.104	3.89	3.77	2.92
3868.00	22.630	89.240	3850.81	-54.25	9.32	151.20	1630833.88	269653.54	39°13'58.822"N	80°48'11.804"W	151.49	86.473	2.80	2.67	2.26
3928.00	22.740	89.530	3906.17	-63.62	9.57	174.34	1630857.02	269653.79	39°13'58.828"N	80°48'11.510"W	174.60	86.859	0.26	0.18	0.48
4049.00	22.010	88.700	4018.05	-82.23	10.12	220.42	1630903.10	269654.34	39°13'58.840"N	80°48'10.925"W	220.65	87.371	0.82	-0.65	-1.33
4114.00	21.350	88.000	4078.45	-91.56	10.81	244.42	1630927.10	269655.03	39°13'58.850"N	80°48'10.620"W	244.66	87.468	1.09	-1.02	-1.08
4175.00	20.830	88.560	4135.36	-100.07	11.47	266.36	1630949.04	269655.69	39°13'58.860"N	80°48'10.341"W	266.61	87.534	0.91	-0.85	0.92
4235.00	21.320	89.730	4191.35	-108.72	11.79	287.94	1630970.61	269656.01	39°13'58.866"N	80°48'10.067"W	288.18	87.655	1.08	0.82	1.95
4356.00	22.920	89.990	4304.14	-126.71	12.00	331.75	1631014.43	269656.22	39°13'58.875"N	80°48'09.510"W	331.97	87.928	0.75	-0.70	-0.78
4415.00	22.830	89.880	4361.18	-135.26	12.45	353.35	1631036.03	269656.67	39°13'58.882"N	80°48'09.236"W	353.57	87.982	0.89	-0.57	-1.92
4475.00	22.590	89.880	4417.35	-143.12	13.42	374.42	1631057.09	269657.64	39°13'58.895"N	80°48'08.968"W	374.66	87.947	1.03	0.03	-2.92
4535.00	22.070	89.880	4474.43	-150.82	14.75	395.89	1631078.57	269658.97	39°13'58.911"N	80°48'08.696"W	396.16	87.866	0.20	0.20	-0.07
4595.00	22.320	89.880	4531.44	-158.35	16.08	417.47	1631100.04	269660.27	39°13'58.928"N	80°48'08.424"W	417.61	87.785	1.02	1.02	0.14



Actual Wellpath Report

OXF-97F-HS AWP Proj: 20115'
Page 4 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot F
Area	Doddridge Co., WV	Well	OXF-97F-HS
Field	Doddridge	Wellbore	OXF-97F-HS AWB
Facility	OXF-97 Pad		

WELLPATH DATA (238 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]
4659.00	21.520	87.200	4587.23	-166.78	17.14	439.62	1631122.29	269661.36	39°13'58.941"N	80°48'08.141"W	439.95	87.767	0.37	0.33	0.48
4721.00	21.580	87.020	4644.90	-175.17	18.29	462.36	1631145.04	269662.51	39°13'58.955"N	80°48'07.852"W	462.72	87.735	0.14	0.10	-0.29
4782.00	21.540	87.090	4701.63	-183.41	19.44	484.75	1631167.42	269663.66	39°13'58.970"N	80°48'07.567"W	485.14	87.703	0.08	-0.07	0.11
4842.00	20.650	86.080	4757.61	-191.19	20.72	506.30	1631188.98	269664.94	39°13'58.986"N	80°48'07.294"W	506.73	87.656	1.60	-1.48	-1.68
4903.00	20.720	88.700	4870.87	-206.88	22.86	548.82	1631231.49	269667.08	39°13'59.013"N	80°48'06.754"W	549.30	87.614	1.14	0.33	3.08
5054.00	21.630	88.990	4955.72	-219.91	23.53	581.69	1631264.35	269667.74	39°13'59.024"N	80°48'06.336"W	582.16	87.684	1.01	1.00	0.32
5148.00	21.560	88.860	5043.13	-233.67	24.17	616.28	1631298.94	269668.39	39°13'59.036"N	80°48'05.897"W	616.75	87.754	0.09	-0.07	-0.14
5239.00	21.130	88.860	5127.88	-246.81	24.83	649.39	1631332.06	269669.05	39°13'59.047"N	80°48'05.476"W	649.87	87.810	0.47	-0.47	0.00
5390.00	20.600	88.590	5269.07	-268.06	25.89	702.94	1631385.60	269670.11	39°13'59.065"N	80°48'04.796"W	703.42	87.891	0.24	-0.05	-0.67
5480.00	20.310	87.610	5353.39	-280.15	26.93	734.37	1631417.04	269671.15	39°13'59.080"N	80°48'04.397"W	734.87	87.900	0.50	-0.32	-1.09
5571.00	21.460	88.770	5438.41	-292.68	27.95	766.80	1631449.46	269672.16	39°13'59.094"N	80°48'03.985"W	767.31	87.913	1.34	1.26	1.27
5661.00	21.210	87.510	5522.24	-305.29	29.01	799.52	1631482.18	269673.23	39°13'59.110"N	80°48'03.569"W	800.05	87.922	0.58	-0.28	-1.40
5752.00	20.380	88.990	5607.91	-317.90	30.08	831.94	1631514.40	269674.23	39°13'59.127"N	80°48'03.150"W	832.44	87.931	1.14	-0.17	-1.90
5843.00	19.590	84.530	5692.86	-327.55	33.35	862.70	1631545.35	269677.57	39°13'59.162"N	80°48'02.767"W	863.34	87.786	1.00	-0.81	-1.68
5935.00	20.940	84.900	5779.17	-338.04	36.28	894.43	1631577.08	269680.50	39°13'59.195"N	80°48'02.365"W	895.16	87.677	1.47	1.47	0.40
6025.00	21.820	90.130	5862.98	-350.36	37.67	927.17	1631609.83	269681.89	39°13'59.213"N	80°48'01.949"W	927.94	87.673	2.33	0.98	5.81
6116.00	21.700	91.020	5947.50	-364.66	37.33	960.91	1631643.56	269681.55	39°13'59.215"N	80°48'01.520"W	961.63	87.775	0.39	-0.13	0.98
6211.00	21.370	90.720	6035.87	-379.60	36.81	995.76	1631678.41	269681.03	39°13'59.215"N	80°48'01.077"W	996.44	87.883	0.30	-0.29	-0.23
6256.00	21.230	90.440	6077.80	-386.53	36.65	1012.10	1631694.76	269680.87	39°13'59.215"N	80°48'00.870"W	1012.77	87.926	0.38	-0.31	-0.62
6294.00	20.970	86.430	6113.25	-391.86	37.02	1025.77	1631708.42	269681.24	39°13'59.221"N	80°48'00.696"W	1026.44	87.933	3.86	-0.68	-10.55
6384.00	20.890	64.270	6197.44	-397.28	45.00	1056.35	1631739.00	269689.22	39°13'59.304"N	80°48'00.309"W	1057.31	87.561	8.75	-0.09	-24.62
6475.00	20.450	56.740	6280.73	-404.96	60.57	1183.38	1631800.23	269700.74	39°13'59.427"N	80°47'59.460"W	1185.2	86.500	1.52	0.49	-28.49
6563.00	25.870	30.650	6363.66	-380.68	86.22	1106.74	1631789.39	269730.44	39°13'59.719"N	80°47'59.676"W	1110.10	85.545	12.59	6.02	-28.49
6652.00	29.860	9.420	6442.52	-351.12	124.89	1120.31	1631802.96	269769.11	39°14'00.103"N	80°47'59.511"W	1127.25	83.639	11.95	4.48	-23.85
6742.00	35.600	350.660	6518.39	-307.10	173.01	1119.72	1631802.37	269817.22	39°14'00.579"N	80°47'59.527"W	1133.01	81.217	12.88	6.38	-20.84
6831.00	43.120	346.890	6587.16	-252.19	228.28	1108.60	1631791.25	269872.49	39°14'01.123"N	80°47'59.679"W	1131.86	78.364	8.86	8.45	-4.24
6921.00	48.990	17.990	6630.87	-189.82	291.52	1098.44	1631790.37	269933.72	39°14'01.400"N	80°47'59.430"W	1131.0	75.117	5.91	5.53	5.07

01/27/2017



Actual Wellpath Report

OXF-97F-HS AWP Proj: 20115'
Page 5 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot F
Area	Doddridge Co., WV	Well	OXF-97F-HS
Field	Doddridge	Wellbore	OXF-97F-HS AWB
Facility	OXF-97 Pad		

WELLPATH DATA (238 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)
7010.00	56.310	353.830	6704.52	-122.76	361.29	1088.32	1631770.97	270005.50	39°14'02.435"N	80°47'59.961"W	1146.73	71.635	9.27	9.12	2.07
7100.00	64.150	354.660	6749.17	-48.85	438.96	1080.52	1631763.17	270083.17	39°14'03.201"N	80°48'00.074"W	1166.28	67.890	8.75	8.71	0.92
7189.00	72.060	353.440	6782.33	29.38	521.03	1071.94	1631754.59	270165.23	39°14'04.011"N	80°48'00.198"W	1191.86	64.077	8.98	8.89	-1.37
7279.00	81.140	350.730	6803.17	113.20	607.64	1059.86	1631742.51	270251.84	39°14'04.865"N	80°48'00.368"W	1221.69	60.173	10.50	10.09	-3.01
7369.00	86.590	347.810	6824.07	200.15	695.63	1044.81	1631729.44	270339.62	39°14'05.739"N	80°48'00.541"W	1251.54	56.317	7.84	7.94	-3.80
7458.00	88.800	340.510	6818.53	288.06	780.81	1018.18	1631700.83	270425.00	39°14'06.571"N	80°48'00.929"W	1283.10	52.516	8.06	2.60	-7.64
7547.00	88.860	334.910	6818.35	376.94	863.11	984.44	1631667.09	270507.30	39°14'07.379"N	80°48'01.373"W	1309.23	48.757	6.29	0.07	-6.29
7637.00	88.890	329.110	6820.12	466.72	942.54	942.23	1631624.88	270586.72	39°14'08.158"N	80°48'01.924"W	1332.73	44.991	6.44	0.03	-6.44
7726.00	87.720	323.480	6822.75	554.50	1016.51	892.89	1631575.54	270660.69	39°14'08.882"N	80°48'02.565"W	1352.98	41.295	6.46	-1.31	-6.33
7816.00	87.940	318.840	6826.16	642.96	1090.52	841.51	1631524.17	270734.96	39°14'09.699"N	80°48'03.211"W	1373.75	37.841	6.44	0.04	-6.34
7906.00	87.850	330.750	6829.47	732.27	1167.23	794.93	1631477.59	270811.40	39°14'10.358"N	80°48'03.837"W	1412.21	34.256	4.34	-0.10	4.34
7995.00	88.060	333.850	6832.64	821.07	1245.97	753.59	1631436.25	270890.14	39°14'11.130"N	80°48'04.377"W	1456.14	31.166	3.49	0.24	3.48
8085.00	89.480	338.150	6834.58	911.02	1328.15	717.00	1631399.66	270972.32	39°14'11.937"N	80°48'04.857"W	1509.33	28.362	5.03	1.58	4.78
8174.00	90.490	340.640	6834.60	999.80	1411.45	685.68	1631368.34	271055.61	39°14'12.756"N	80°48'05.271"W	1569.18	25.910	3.02	1.13	2.80
8264.00	91.490	342.900	6834.90	1088.53	1499.74	654.44	1631336.76	271139.76	39°14'13.597"N	80°48'05.687"W	1622.44	23.828	1.45	0.19	2.60
8353.00	90.370	337.600	6833.30	1178.50	1578.19	620.65	1631303.32	271222.35	39°14'14.394"N	80°48'06.128"W	1695.84	21.468	0.74	-0.03	-0.74
8443.00	90.430	336.080	6832.67	1268.47	1660.93	585.26	1631267.92	271305.09	39°14'15.207"N	80°48'06.593"W	1761.03	19.411	1.69	0.07	-1.69
8532.00	90.650	334.600	6831.84	1357.46	1741.81	548.13	1631230.79	271385.96	39°14'16.001"N	80°48'07.079"W	1826.02	17.468	1.68	0.25	-1.66
8622.00	89.450	334.840	6831.76	1447.45	1823.19	509.69	1631192.36	271467.34	39°14'16.800"N	80°48'07.583"W	1893.09	15.619	1.36	-1.33	0.27
8712.00	88.340	335.350	6832.75	1537.44	1904.83	471.42	1631154.49	271549.76	39°14'17.611"N	80°48'08.079"W	1962.40	13.875	0.64	-0.11	0.01
8801.00	87.020	335.870	6833.97	1626.43	1985.89	435.12	1631117.79	271630.04	39°14'18.397"N	80°48'08.560"W	2033.00	12.358	0.67	-0.37	0.56
8891.00	85.950	336.490	6835.56	1716.41	2068.21	398.76	1631081.44	271712.35	39°14'19.205"N	80°48'09.038"W	2106.30	10.913	0.63	-0.08	0.62
8981.00	84.800	336.460	6837.33	1806.38	2150.70	362.82	1631045.49	271794.84	39°14'20.015"N	80°48'09.510"W	2181.09	9.575	0.17	-0.17	0.01
9070.00	83.550	335.900	6839.39	1895.35	2232.12	326.94	1631009.62	271876.26	39°14'20.815"N	80°48'09.981"W	2255.94	8.333	0.61	-0.28	-0.54
9160.00	82.310	335.440	6841.54	1985.16	2314.36	290.30	1630974.16	271958.52	39°14'21.625"N	80°48'10.459"W	2332.55	7.144	0.62	0.13	0.59
9249.00	81.050	335.770	6843.59	2074.29	2395.67	254.31	1630936.99	272039.80	39°14'22.421"N	80°48'10.934"W	2409.13	6.059	0.54	-0.07	-0.54
9339.00	79.790	336.460	6845.83	2164.26	2477.93	217.87	1630900.56	272122.06	39°14'23.228"N	80°48'11.412"W	2487.49	5.025	0.80	-0.18	0.78
9428.00	78.400	338.400	6848.25	2253.17	2560.11	183.79	1630866.48	272204.23	39°14'24.036"N	80°48'11.860"W	2566.70	4.106	2.28	-0.10	2.28
9518.00	76.980	335.000	6849.99	2343.11	2642.79	148.32	1630831.01	272286.91	39°14'24.848"N	80°48'12.326"W	2646.95	3.212	3.95	1.09	-3.80
9608.00	75.540	333.260	6850.85	2432.65	2722.34	108.10	1630797.16	272369.43	39°14'25.661"N	80°48'12.791"W	2724.47	2.280	3.88	0.49	-3.84

Environmental Protection

01/27/2017



Actual Wellpath Report

OXF-97F-HS AWP Proj: 20115'
Page 6 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot F
Area	Doddridge Co., WV	Well	OXF-97F-HS
Field	Doddridge	Wellbore	OXF-97F-HS AWB
Facility	OXF-97 Pad		

WELLPATH DATA (238 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]
9697.00	89.450	331.200	6851.62	2521.80	2801.34	65.34	1630748.02	272445.45	39°14'26.403"N	80°48'13.410"W	2802.10	1.336	0.48	-0.10	-0.47
9786.00	89.380	330.560	6852.53	2610.51	2879.08	22.03	1630704.72	272523.20	39°14'27.165"N	80°48'13.975"W	2879.17	0.438	0.72	-0.08	-0.72
9875.00	90.030	331.720	6852.99	2699.25	2957.03	-20.93	1630661.76	272601.14	39°14'27.929"N	80°48'14.535"W	2957.10	359.594	1.49	0.73	1.30
9965.00	90.150	334.740	6852.85	2789.17	3037.37	-61.46	1630621.23	272681.48	39°14'28.717"N	80°48'15.065"W	3037.99	358.841	3.36	0.13	3.36
10055.00	90.310	335.800	6852.80	2879.17	3118.99	-99.46	1630583.30	272763.09	39°14'29.518"N	80°48'15.562"W	3120.57	358.175	0.75	0.13	0.75
10144.00	90.490	333.890	6851.87	2968.15	3199.41	-137.51	1630545.19	272843.51	39°14'30.308"N	80°48'16.061"W	3202.36	357.539	1.71	0.20	-1.70
10233.00	90.370	332.370	6851.20	3057.07	3278.79	-177.73	1630504.97	272922.89	39°14'31.086"N	80°48'16.587"W	3283.61	356.897	1.71	-0.13	-1.71
10323.00	90.310	334.940	6850.67	3147.01	3359.44	-217.67	1630465.03	273003.53	39°14'31.878"N	80°48'17.109"W	3366.48	356.293	2.86	-0.07	2.86
10412.00	90.370	336.230	6850.14	3236.01	3440.48	-254.45	1630428.25	273084.57	39°14'32.673"N	80°48'17.592"W	3449.87	355.770	1.45	0.07	1.45
10502.00	90.430	335.800	6849.51	3326.01	3522.60	-294.12	1630391.18	273166.70	39°14'33.480"N	80°48'18.075"W	3534.07	355.256	0.69	0.07	0.69
10591.00	90.220	335.100	6849.00	3415.00	3603.58	-328.18	1630354.52	273247.66	39°14'34.275"N	80°48'18.559"W	3618.49	354.796	0.69	-0.24	-0.65
10681.00	90.430	339.270	6848.49	3504.94	3686.52	-363.07	1630319.63	273330.60	39°14'35.089"N	80°48'19.018"W	3704.35	354.375	4.64	0.23	4.63
10770.00	90.150	334.700	6848.04	3593.89	3768.41	-397.86	1630284.84	273412.49	39°14'35.894"N	80°48'19.475"W	3789.35	353.973	5.14	-0.31	-5.13
10860.00	90.030	334.510	6847.90	3683.88	3849.71	-436.46	1630246.25	273493.79	39°14'36.692"N	80°48'19.981"W	3874.38	353.532	0.25	-0.13	-0.21
10950.00	90.000	332.500	6847.78	3774.72	3930.45	-475.02	1630208.15	273574.57	39°14'37.494"N	80°48'20.531"W	3959.45	353.097	0.34	0.34	0.34
11039.00	90.060	332.500	6847.78	3862.47	4007.43	-521.04	1630161.67	273651.50	39°14'38.238"N	80°48'21.085"W	4041.16	352.592	2.68	0.03	2.68
11128.00	90.000	337.050	6847.74	3951.44	4087.92	-558.96	1630123.75	273731.98	39°14'39.028"N	80°48'21.581"W	4125.96	352.214	5.11	-0.07	5.11
11218.00	90.180	335.180	6847.60	4041.43	4170.21	-595.40	1630087.31	273814.27	39°14'39.836"N	80°48'22.060"W	4212.50	351.875	2.09	0.20	-2.08
11307.00	89.660	339.520	6847.72	4130.36	4252.32	-629.67	1630053.05	273896.38	39°14'40.643"N	80°48'22.510"W	4298.69	351.577	4.91	-0.58	4.88
11397.00	90.280	345.000	6847.89	4219.89	4337.35	-668.34	1630024.18	273979.00	39°14'41.461"N	80°48'23.031"W	4387.04	351.282	3.90	0.31	3.92
11486.00	90.280	344.470	6847.58	4307.96	4423.00	-683.43	1629999.29	274067.05	39°14'42.322"N	80°48'23.225"W	4475.49	351.216	1.61	0.18	1.60
11576.00	90.120	345.870	6847.27	4396.67	4510.00	-706.46	1629976.25	274154.05	39°14'43.178"N	80°48'23.534"W	4564.99	351.097	1.57	-0.18	1.56
11665.00	90.280	338.400	6846.96	4485.01	4594.65	-733.75	1629948.97	274238.69	39°14'44.011"N	80°48'23.896"W	4652.86	350.927	8.40	0.18	-8.39
11755.00	90.280	336.770	6846.52	4574.95	4677.84	-768.06	1629914.66	274321.88	39°14'44.828"N	80°48'24.348"W	4740.48	350.676	1.81	0.00	-1.81
11845.00	90.280	335.800	6846.08	4654.95	4759.41	-806.06	1629880.56	274403.14	39°14'45.630"N	80°48'24.840"W	4827.16	350.388	3.34	0.00	3.34
11934.00	89.880	327.900	6845.95	4753.57	4836.91	-849.74	1629832.98	274480.95	39°14'46.388"N	80°48'25.415"W	4910.99	350.036	6.06	-0.45	-6.04
12024.00	89.350	328.900	6846.56	4842.89	4913.60	-896.85	1629785.88	274557.63	39°14'47.140"N	80°48'26.028"W	4994.78	349.656	1.34	-0.59	1.20
12113.00	89.850	331.900	6847.18	4931.53	4991.10	-940.74	1629741.98	274635.04	39°14'47.898"N	80°48'26.600"W	5078.89	349.326	3.34	0.56	3.29
12203.00	90.000	338.000	6847.30	5021.47	5072.82	-978.11	1629704.61	274716.85	39°14'48.701"N	80°48'27.091"W	5166.26	349.086	7.87	0.17	7.87
12293.00	90.000	335.000	6847.30	5116.41	5154.96	-1017.80	1629670.43	274798.01	39°14'49.508"N	80°48'27.580"W	5253.45	348.857	0.57	0.17	0.57

Environmental Protection Agency
Gas

01/27/2017



Actual Wellpath Report

OXF-97F-HS AWP Proj: 20115'
Page 7 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot F
Area	Doddridge Co., WV	Well	OXF-97F-HS
Field	Doddridge	Wellbore	OXF-97F-HS AWB
Facility	OXF-97 Pad		

WELLPATH DATA (238 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]
12382.00	89.720	334.040	6848.10	5200.40	5236.50	-1050.42	1629632.31	274880.52	39°14'50.309"N	80°48'28.040"W	5340.82	348.657	1.99	0.10	-1.99
12471.00	89.780	331.520	6848.48	5289.30	5315.64	-1091.13	1629591.60	274959.66	39°14'51.085"N	80°48'28.572"W	5426.47	348.400	2.83	0.07	-2.83
12561.00	89.910	333.980	6848.73	5379.19	5395.64	-1132.33	1629550.40	275039.66	39°14'51.870"N	80°48'29.110"W	5513.18	348.148	2.74	0.14	2.73
12650.00	89.850	332.550	6848.91	5468.12	5475.13	-1172.37	1629510.37	275119.14	39°14'52.649"N	80°48'29.634"W	5599.24	347.914	1.61	-0.07	-1.61
12740.00	89.940	336.000	6849.09	5556.00	5566.19	-1211.40	1629470.11	275200.29	39°14'53.445"N	80°48'30.159"W	5686.74	347.690	3.12	0.10	3.12
12829.00	90.150	340.250	6849.01	5646.97	5638.77	-1244.58	1629438.16	275282.77	39°14'54.256"N	80°48'30.582"W	5774.48	347.553	4.78	0.24	4.78
12919.00	90.220	341.060	6848.72	5736.60	5723.68	-1274.39	1629408.35	275367.69	39°14'55.091"N	80°48'30.977"W	5863.84	347.448	0.90	0.08	0.90
13008.00	90.220	337.590	6848.38	5825.39	5806.94	-1305.81	1629376.93	275450.94	39°14'55.909"N	80°48'31.391"W	5951.95	347.327	3.90	0.00	-3.90
13098.00	90.090	335.350	6848.13	5915.37	5889.45	-1341.74	1629341.00	275533.45	39°14'56.720"N	80°48'31.863"W	6040.35	347.166	2.49	-0.14	-2.49
13188.00	90.150	336.000	6847.94	6005.31	5971.40	-1376.74	1629306.00	275616.40	39°14'57.524"N	80°48'32.287"W	6128.99	346.999	0.64	0.07	0.64
13278.00	90.120	333.470	6847.73	6095.35	6052.91	-1417.08	1629265.67	275696.90	39°14'58.324"N	80°48'32.851"W	6216.57	346.824	2.92	-0.03	-2.92
13367.00	90.180	335.850	6847.50	6184.34	6133.34	-1455.17	1629227.58	275777.33	39°14'59.114"N	80°48'33.350"W	6303.60	346.653	2.67	0.07	2.67
13457.00	90.250	340.680	6847.16	6274.20	6216.91	-1488.48	1629194.26	275860.90	39°14'59.935"N	80°48'33.789"W	6392.62	346.535	5.37	0.08	5.37
13547.00	90.150	341.320	6846.85	6363.79	6302.01	-1517.78	1629164.96	275945.99	39°15'00.771"N	80°48'34.177"W	6482.21	346.459	0.72	-0.11	0.71
13637.00	90.180	338.000	6846.50	6452.49	6383.70	-1548.00	1629134.00	276031.00	39°15'01.584"N	80°48'34.578"W	6571.66	346.376	1.72	0.07	1.72
13726.00	89.910	337.580	6846.52	6542.38	6469.28	-1581.42	1629101.32	276113.26	39°15'02.415"N	80°48'35.017"W	6659.77	346.263	1.50	-0.30	-1.47
13816.00	89.940	337.030	6846.64	6632.34	6552.31	-1616.15	1629066.60	276196.28	39°15'03.231"N	80°48'35.474"W	6748.68	346.144	0.61	0.03	-0.61
13906.00	89.820	335.080	6846.83	6722.33	6634.56	-1652.67	1629030.08	276278.53	39°15'04.039"N	80°48'35.953"W	6837.30	346.012	2.17	-0.13	-2.17
13995.00	89.690	327.150	6847.21	6811.00	6712.43	-1695.63	1628987.12	276356.39	39°15'04.802"N	80°48'36.514"W	6923.28	345.823	8.91	-0.15	-8.91
14085.00	89.420	321.000	6847.91	6899.70	6808.70	-1740.00	1628948.00	276433.00	39°15'05.557"N	80°48'37.075"W	7009.18	345.676	1.14	0.00	1.14
14175.00	89.510	332.690	6848.75	6989.09	6864.00	-1792.47	1628890.28	276507.96	39°15'06.286"N	80°48'37.773"W	7094.18	345.365	8.62	0.10	8.62
14264.00	89.480	337.770	6849.53	7078.05	6944.78	-1829.75	1628853.01	276588.74	39°15'07.079"N	80°48'38.262"W	7181.78	345.240	5.71	-0.03	5.71
14354.00	89.480	339.620	6850.35	7167.90	7028.62	-1862.45	1628820.31	276667.57	39°15'07.903"N	80°48'38.693"W	7271.19	345.159	2.06	0.00	2.06
14444.00	89.780	336.820	6851.56	7257.78	7112.18	-1895.83	1628786.93	276756.13	39°15'08.724"N	80°48'39.133"W	7360.52	345.074	3.16	-0.56	-3.11
14534.00	89.040	333.100	6853.14	7346.16	7192.90	-1930.00	1628750.00	276843.00	39°15'09.517"N	80°48'39.573"W	7449.71	344.970	3.40	0.00	3.40
14623.00	89.080	335.200	6854.67	7436.73	7274.18	-1971.87	1628710.90	276918.12	39°15'10.314"N	80°48'40.129"W	7536.71	344.833	1.66	0.11	1.66
14713.00	89.500	335.730	6856.22	7526.71	7356.04	-2009.23	1628673.53	276999.98	39°15'11.117"N	80°48'40.619"W	7625.51	344.723	0.61	-0.14	0.59
14803.00	89.980	332.320	6857.84	7616.66	7436.92	-2048.64	1628634.13	277080.86	39°15'11.911"N	80°48'41.135"W	7713.93	344.599	3.79	0.03	-3.79
14893.00	89.630	336.300	6858.92	7705.61	7517.10	-2087.21	1628595.56	277161.04	39°15'12.698"N	80°48'41.640"W	7801.49	344.482	4.53	0.73	4.47
14983.00	89.900	335.000	6860.40	7795.01	7597.40	-2123.00	1628558.10	277243.10	39°15'13.491"N	80°48'42.145"W	7890.30	344.307	0.41	0.07	0.40



Actual Wellpath Report

OXF-97F-HS AWP Proj: 20115'
Page 8 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot F
Area	Doddridge Co., WV	Well	OXF-97F-HS
Field	Doddridge	Wellbore	OXF-97F-HS AWB
Facility	OXF-97 Pad		

WELLPATH DATA (238 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]
15072.00	89.420	333.550	6860.15	7885.59	7680.79	-2162.04	1628520.74	277324.72	39°15'14.305"N	80°48'42.622"W	7979.28	344.279	2.67	-0.30	-2.66
15161.00	89.420	332.420	6861.06	7974.50	7760.07	-2202.46	1628480.31	277404.00	39°15'15.082"N	80°48'43.150"W	8066.57	344.155	1.27	0.00	-1.27
15251.00	89.350	331.620	6862.02	8064.33	7839.55	-2244.68	1628438.09	277483.47	39°15'15.862"N	80°48'43.702"W	8154.57	344.022	0.89	-0.08	-0.89
15341.00	89.510	335.310	6862.92	8154.25	7920.05	-2284.88	1628397.90	277563.97	39°15'16.652"N	80°48'44.227"W	8243.05	343.908	4.10	0.18	4.10
15430.00	89.850	339.060	6863.84	8243.17	8000.42	-2318.99	1628363.79	277643.16	39°15'17.532"N	80°48'44.760"W	8331.40	343.839	9.86	0.17	9.86
15520.00	88.710	339.100	6865.80	8332.95	8086.43	-2350.71	1628332.07	277730.34	39°15'18.286"N	80°48'45.095"W	8421.17	343.791	0.68	-0.38	-0.57
15610.00	88.090	343.530	6868.31	8422.43	8171.63	-2379.53	1628303.25	277815.54	39°15'19.124"N	80°48'45.477"W	8511.03	343.765	4.97	-0.69	4.92
15699.00	88.120	338.860	6871.25	8510.91	8255.81	-2408.19	1628274.59	277899.72	39°15'19.952"N	80°48'45.857"W	8599.87	343.738	5.24	0.03	-5.25
15789.00	87.720	335.390	6874.52	8600.80	8338.66	-2443.15	1628239.64	277982.57	39°15'20.766"N	80°48'46.317"W	8689.20	343.670	3.88	-0.44	-3.86
15878.00	87.530	335.900	6877.80	8690.69	8421.47	-2472.78	1628204.85	278065.33	39°15'21.570"N	80°48'46.770"W	8778.52	343.602	3.35	0.14	3.35
15969.00	87.850	338.370	6881.38	8780.51	8505.08	-2511.32	1628171.46	278148.98	39°15'22.401"N	80°48'47.214"W	8868.10	343.550	0.30	0.00	-0.30
16058.00	88.460	338.940	6884.24	8869.33	8587.92	-2543.74	1628139.05	278231.81	39°15'23.215"N	80°48'47.642"W	8956.73	343.501	0.98	0.69	0.70
16148.00	88.430	337.030	6886.69	8959.20	8671.32	-2577.46	1628105.33	278315.21	39°15'24.034"N	80°48'48.086"W	9046.28	343.446	2.12	-0.03	-2.12
16237.00	89.380	337.930	6888.39	9048.13	8753.52	-2611.54	1628071.25	278397.41	39°15'24.841"N	80°48'48.535"W	9134.78	343.388	1.47	1.07	1.01
16326.00	89.480	337.110	6890.37	9137.07	8835.78	-2645.30	1628037.86	278479.61	39°15'25.648"N	80°48'48.984"W	9223.27	343.332	0.61	0.11	0.11
16416.00	89.420	336.010	6890.14	9227.05	8918.38	-2681.22	1628001.57	278562.26	39°15'26.461"N	80°48'49.451"W	9312.70	343.267	1.33	-0.07	-1.33
16505.00	89.510	331.800	6890.97	9315.99	8998.29	-2720.36	1627962.43	278642.17	39°15'27.245"N	80°48'49.963"W	9400.51	343.179	4.73	0.10	-4.73
16595.00	89.350	329.940	6891.86	9405.69	9076.90	-2764.17	1627918.63	278720.77	39°15'28.015"N	80°48'50.535"W	9488.45	343.063	2.07	-0.18	-2.07
16684.00	89.420	328.350	6892.82	9494.13	9153.29	-2809.81	1627872.99	278797.17	39°15'28.764"N	80°48'51.129"W	9574.85	342.935	1.79	0.08	-1.79
16773.00	89.590	327.470	6893.81	9583.02	9232.01	-2853.94	1627829.49	278871.68	39°15'29.533"N	80°48'51.724"W	9661.24	342.853	0.88	0.06	0.06
16864.00	88.610	333.340	6896.49	9673.74	9312.57	-2893.41	1627789.39	278956.44	39°15'30.326"N	80°48'52.221"W	9751.71	342.740	0.48	-0.04	-0.48
16953.00	88.580	335.220	6898.67	9762.69	9392.73	-2932.01	1627750.79	279036.59	39°15'31.112"N	80°48'52.727"W	9839.72	342.664	2.12	-0.03	2.12
17043.00	88.650	336.600	6900.84	9852.66	9474.87	-2968.73	1627714.08	279118.73	39°15'31.919"N	80°48'53.209"W	9929.07	342.603	1.52	0.08	1.52
17132.00	89.110	334.840	6902.58	9941.64	9555.98	-3005.31	1627677.49	279199.84	39°15'32.715"N	80°48'53.689"W	10017.42	342.542	2.04	0.52	-1.98
17221.00	89.080	334.090	6903.95	10030.61	9636.27	-3043.47	1627639.12	279280.12	39°15'33.511"N	80°48'54.182"W	10104.97	342.471	0.94	0.03	0.94
17311.00	89.080	338.350	6905.44	10120.57	9718.60	-3079.95	1627602.86	279362.46	39°15'34.311"N	80°48'54.668"W	10194.97	342.416	4.73	0.00	4.73
17400.00	89.080	334.510	6906.87	10209.53	9800.15	-3115.53	1627567.28	279444.00	39°15'35.112"N	80°48'55.136"W	10283.46	342.364	4.31	0.00	-4.31
17490.00	89.050	333.030	6908.33	10299.48	9880.87	-3155.30	1627527.51	279525.72	39°15'35.904"N	80°48'55.656"W	10372.44	342.290	1.64	-0.03	-1.64
17579.00	88.980	335.220	6909.86	10388.43	9960.93	-3194.13	1627488.68	279604.78	39°15'36.690"N	80°48'56.165"W	10460.53	342.221	2.46	-0.08	2.46
17668.00	89.920	334.010	6911.51	10477.34	10042.22	-3232.17	1627450.11	279680.07	39°15'37.487"N	80°48'56.670"W	10548.62	342.151	1.35	0.07	1.35

01/27/2017



Actual Wellpath Report

OXF-97F-HS AWP Proj: 20115'
Page 9 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot F
Area	Doddridge Co., WV	Well	OXF-97F-HS
Field	Doddridge	Wellbore	OXF-97F-HS AWB
Facility	OXF-97 Pad		

WELLPATH DATA (238 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]
17758.00	88.770	333.870	6913.31	10567.36	10122.16	-3271.80	1627411.02	279766.00	39°15'38.272"N	80°48'57.182"W	10637.80	342.088	0.23	-0.17	-0.16
17848.00	88.740	336.000	6915.26	10657.33	10203.66	-3309.91	1627372.90	279847.50	39°15'39.072"N	80°48'57.682"W	10727.08	342.028	2.37	-0.03	2.37
17938.00	88.740	340.830	6917.24	10747.16	10287.31	-3343.01	1627339.81	279933.14	39°15'39.894"N	80°48'58.118"W	10816.86	341.998	5.37	0.00	5.37
18027.00	88.400	341.070	6919.46	10835.73	10371.41	-3372.05	1627310.77	280015.23	39°15'40.720"N	80°48'58.503"W	10905.81	341.989	0.47	-0.38	0.27
18117.00	88.340	339.340	6922.03	10925.53	10455.55	-3404.85	1627277.86	280098.57	39°15'41.542"N	80°48'59.000"W	10995.50	341.981	5.48	0.00	5.48
18206.00	88.180	335.600	6924.73	11014.49	10536.33	-3441.22	1627241.60	280180.15	39°15'42.340"N	80°48'59.413"W	11084.05	341.913	0.63	-0.18	-0.61
18296.00	88.340	338.290	6927.46	11104.41	10619.10	-3476.45	1627206.37	280262.91	39°15'43.153"N	80°48'59.876"W	11173.67	341.873	2.99	0.18	2.99
18385.00	88.250	336.740	6930.11	11193.31	10701.29	-3510.47	1627172.35	280345.11	39°15'43.961"N	80°49'00.324"W	11262.37	341.838	1.74	-0.10	-1.74
18475.00	88.340	332.850	6932.79	11283.25	10782.67	-3548.77	1627134.05	280426.48	39°15'44.759"N	80°49'00.826"W	11351.64	341.783	4.32	0.10	4.32
18564.00	88.120	331.520	6938.29	11461.79	10940.36	-3633.29	1627049.54	280584.17	39°15'46.305"N	80°49'01.930"W	11527.89	341.629	0.17	-0.14	0.09
18743.00	88.180	328.740	6941.16	11550.34	11017.49	-3677.58	1627005.25	280661.29	39°15'47.061"N	80°49'02.507"W	11615.06	341.541	3.12	0.07	-3.12
18833.00	88.520	334.520	6943.75	11640.07	11096.61	-3720.31	1626962.52	280740.41	39°15'47.837"N	80°49'03.065"W	11703.66	341.465	6.43	0.38	6.42
18922.00	88.550	335.480	6946.03	11729.03	11177.25	-3757.91	1626924.92	280821.05	39°15'48.629"N	80°49'03.558"W	11792.06	341.417	1.08	0.03	1.08
19012.00	88.380	334.210	6948.31	11817.94	11260.70	-3792.38	1626887.38	280900.08	39°15'49.441"N	80°49'04.044"W	11881.70	341.366	1.11	-0.07	-1.11
19101.00	88.490	338.220	6950.61	11907.77	11343.16	-3824.86	1626857.98	280986.95	39°15'50.258"N	80°49'04.440"W	11970.67	341.337	1.74	0.03	-1.74
19191.00	88.520	336.650	6952.96	11997.68	11426.24	-3859.38	1626823.46	281070.03	39°15'51.075"N	80°49'04.895"W	12060.42	341.308	1.54	0.18	1.53
19280.00	88.680	338.010	6955.13	12086.61	11508.34	-3893.67	1626789.17	281152.12	39°15'51.881"N	80°49'05.346"W	12149.18	341.280	1.22	0.72	-0.99
19369.00	89.320	337.130	6956.68	12175.53	11590.59	-3927.62	1626755.21	281234.37	39°15'52.689"N	80°49'05.793"W	12237.98	341.251	1.08	0.00	1.08
19459.00	88.860	333.160	6959.28	12265.46	11671.80	-3961.71	1626721.87	281316.62	39°15'53.517"N	80°49'06.240"W	12327.19	341.204	1.08	0.00	1.08
19549.00	88.860	333.160	6959.28	12355.42	11755.86	-3998.76	1626688.09	281399.63	39°15'54.312"N	80°49'06.728"W	12417.34	341.214	5.71	-0.44	-5.69
19638.00	88.860	333.720	6961.05	12444.34	11835.45	-4038.54	1626644.30	281479.22	39°15'55.093"N	80°49'07.249"W	12505.51	341.159	0.63	0.00	0.63
19728.00	88.710	336.000	6962.96	12534.31	11916.90	-4076.77	1626606.08	281560.67	39°15'55.892"N	80°49'07.750"W	12594.94	341.114	2.54	-0.17	2.53
19817.00	88.710	333.940	6964.96	12623.28	11997.52	-4114.41	1626568.44	281641.28	39°15'56.683"N	80°49'08.243"W	12683.41	341.071	2.31	0.00	-2.31
19907.00	89.280	332.370	6966.55	12713.15	12077.45	-4154.95	1626531.89	281721.61	39°15'57.477"N	80°49'08.740"W	12772.55	341.026	1.71	0.00	1.71
19996.00	89.420	335.200	6967.58	12802.14	12157.73	-4194.17	1626488.68	281801.49	39°15'58.255"N	80°49'09.287"W	12860.85	340.967	3.04	0.18	3.03
20086.00	89.380	330.410	6968.52	12892.01	12237.75	-4235.29	1626447.56	281881.51	39°15'59.040"N	80°49'09.825"W	12949.91	340.910	5.32	-0.04	-5.32
20115.00	89.380	330.410	6968.84	12920.90	12262.97	-4249.61	1626433.24	281906.72	39°15'59.287"N	80°49'10.012"W	12978.42	340.887	0.00	0.00	0.00

01/27/2017



Actual Wellpath Report

OXF-97F-HS AWP Proj: 20115'
Page 10 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot F
Area	Doddridge Co., WV	Well	OXF-97F-HS
Field	Doddridge	Wellbore	OXF-97F-HS AWB
Facility	OXF-97 Pad		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
OXF-97F-HS LP Rev-2		6820.00	711.34	1011.97	1631694.62	270355.53	39°14'05.883"N	80°48'00.995"W	point
OXF-97F-HS BHL Rev-2		6992.00	12267.83	-4257.07	1626425.78	281911.59	39°15'59.334"N	80°49'10.107"W	point
OXF-97 LL		7198.41	20.06	-19.92	1630662.77	269664.28	39°13'58.904"N	80°48'13.980"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: OXF-97F-HS AWB Ref Wellpath: OXF-97F-HS AWP Proj: 20115'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
18.00	2889.00	Generic gyro - northseeking (Standard)	01 MS Gyro <12-1/4"> (100'-2871')	OXF-97F-HS AWB
2889.00	6211.00	ISCWSA MWD, Rev. 2 (Standard)	02 WFD EM <8-3/4"> (2881')(3073'-6203')	OXF-97F-HS AWB
6211.00	20086.00	NaviTrak (AT Curve Short Spaced)	03 BHI AT Curve <8-1/2"> (6211')(6256'-20086')	OXF-97F-HS AWB
20086.00	20115.00	Blind Drilling (sid)	Projection to bit	OXF-97F-HS AWB



Actual Wellpath Report
 OXF-97F-HS AWP Proj: 20115'
 Page 11 of 11



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot F
Area	Doddridge Co., WV	Well	OXF-97F-HS
Field	Doddridge	Wellbore	OXF-97F-HS AWB
Facility	OXF-97 Pad		

COMMENTS

Wellpath general comments
 API: 47-017-06584-0000
 BHI Job #: 7270497
 Rig: Precision 543
 Duration: 6/5/2015-6/11/2015
 MS Gyro <12-1/4"> (100'-2871')
 WFD EM <8-3/4"> (2881')(3073'-6203')
 BHI AT Curve <8-1/2"> (6211')(6256'-20086')
 Projected MD at TD: 20115'

01/27/2017



NOBLE ENERGY

Location: Doddridge Co., WV
Field: Doddridge
Facility: OXF-97 Pad

Slot: Slot F
Well: OXF-97F-HS
Wellbore: OXF-97F-HS PWB



PHD software outputs is OXF-97F-HS PWB Rev-A.0

True vertical depths are referenced to Precision 543 (RWB)

Measured depths are referenced to Precision 543 (RWB)

Precision 543 (RWB) to Mean Sea Level: 1331.41 feet

Mean Sea Level to Mud line (At Slot Slot F): -1331.41 feet

Coordinates are in feet, referenced to Slot

Checked by: edgar on 12/Jan/2015

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
OXF-97 Pad	1631662.770	268664.290	80°48'13.980"W
Slot	Local E (ft)	Grid East (US ft)	Longitude
Slot F	-20.05	1630642.220	80°48'13.724"W
Slot F	Local N (ft)	Grid North (US ft)	Latitude
Slot F	18.92	268644.220	39°13'58.708"N
Precision 543 (RWB) to Mud line (At Slot Slot F)			18R
Mean Sea Level to Mud line (At Slot Slot F)			-1331.41ft
Precision 543 (RWB) to Mean Sea Level			1331.41ft

MS Gyro <12-1/4"> (100°-2871') : 0.05° Inc, 118.00ft MD, 118.00ft TVD, -0.02ft VS

WFD EM <8-3/4"> (2881°)(3073-6203) : 0.39° Inc, 3081.00ft MD, 3080.91ft TVD, -5.09ft VS

BHI AT Curve <8-1/2"> (6211°)(6256-20886) : 21.23° Inc, 6256.00ft MD, 6077.80ft TVD, -385.53ft VS

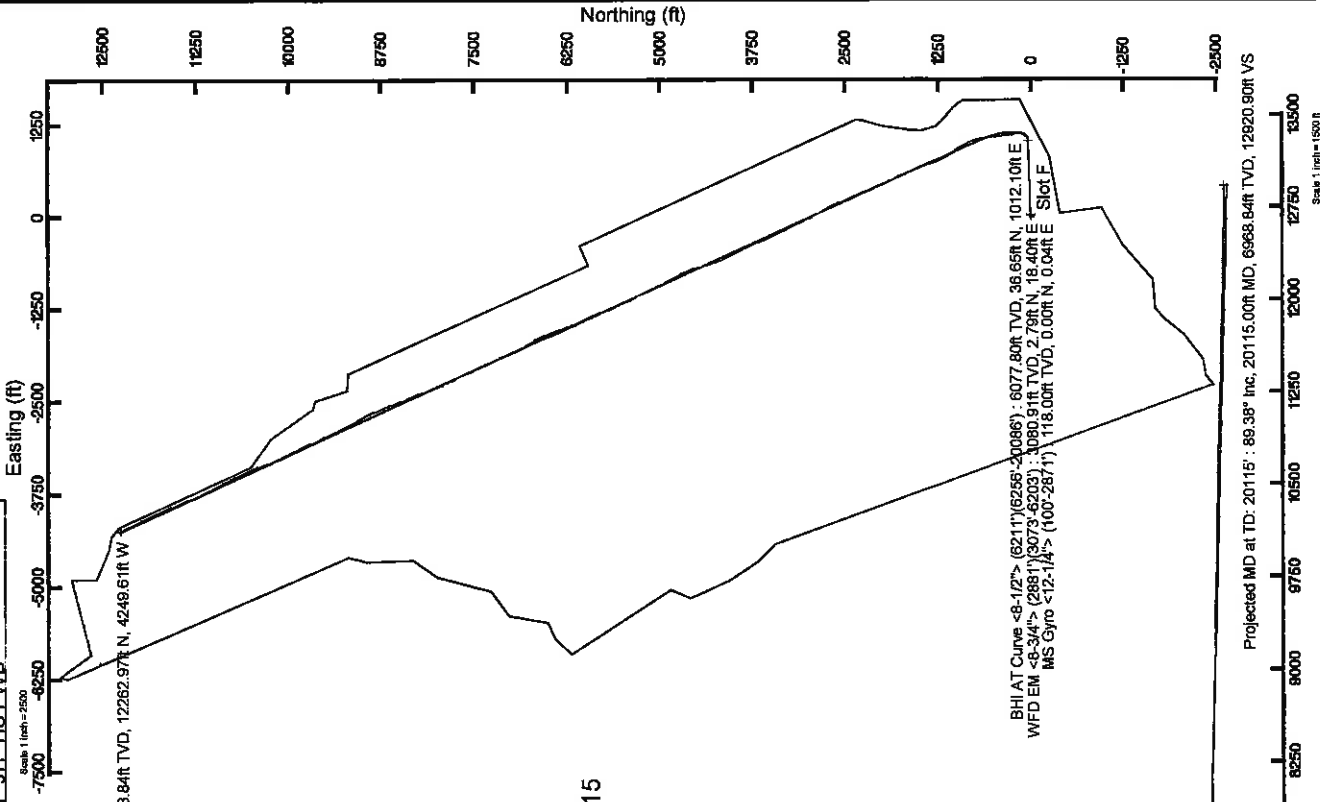
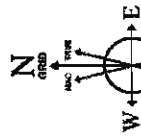
User specified HDG is 66.68° Fisk: 52253.01

Magnetic North is 7.65 deg West of True North (at 01/Aur/2015)

Grid North is 0.83 degrees West of True North

To correct azimuth from true to Grid add 0.83 degrees

To correct azimuth from Grid to true subtract 0.83 degrees



API: 47-017-06584-0000
BHI Job #: 7270497
Rig: Precision 543
Duration: 6/5/2015-6/11/2015

BHI AT Curve <8-1/2"> (6211°)(6256-20886) : 6077.80ft TVD, 36.66ft N, 1012.10ft E
WFD EM <8-3/4"> (2881°)(3073-6203) : 3080.91ft TVD, 2.79ft N, 16.40ft E
MS Gyro <12-1/4"> (100°-2871') : 118.00ft TVD, 0.00ft N, 0.04ft E

Projected MD at TD: 20115 : 89.38° Inc, 20115.00ft MD, 6688.84ft TVD, 12820.80ft VS

Vertical Section (ft)
Azimuth 335.49° with reference 0.00 N, 0.00 E

RECEIVED
Department of Environmental Protection
JAN 17 2017

01/27/2017