



NOBLE ENERGY



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

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

Scale 1 inch = 1250 ft

Scale 1 inch = 1500



MS Gyro <12-1/4"> (100-2900') : 0.01° Inc, 118.00ft MD, 118.00ft TVD, -0.01ft VS

Projected MD at TD: 12724' : 6847.38ft TVD, 6738.18ft N, 1082.54ft W

Pit reference wellbore is OXF-97E-HS PWB Rev A.0 True vertical depths are referenced to Precision 543 (RKB) Measured depths are referenced to Precision 543 (RKB) Precision 543 (RKB) to Mean Sea Level: 1351.43 feet Mean Sea Level to Mud line (At Slot: Slot E): -1333.43 feet Coordinates are in feet referenced to Slot Created by: geothermal on 26/Jun/2015		Grid System: NAD83 / Lambert West Virginia SPT, Northern Zone (4701), US Feet North Reference: Grid North Scale: True distance Depths are in feet	
Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
OXF-97 Pad	1630662.770	269664.280	80°48'13.980"W
Slot	Local N (ft)	Grid North (US ft)	Latitude
Slot E	-0.04	1630662.870	38°13'58.905"N
Precision 543 (RKB) to Mud line (At Slot: Slot E)	Local E (ft)	Grid East (US ft)	Longitude
	20.20	269664.240	80°48'13.724"W
Mean Sea Level to Mud line (At Slot: Slot E)	18ft		
	-1333.43ft		
Precision 543 (RKB) to Mean Sea Level		1351.43ft	

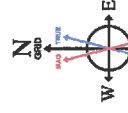
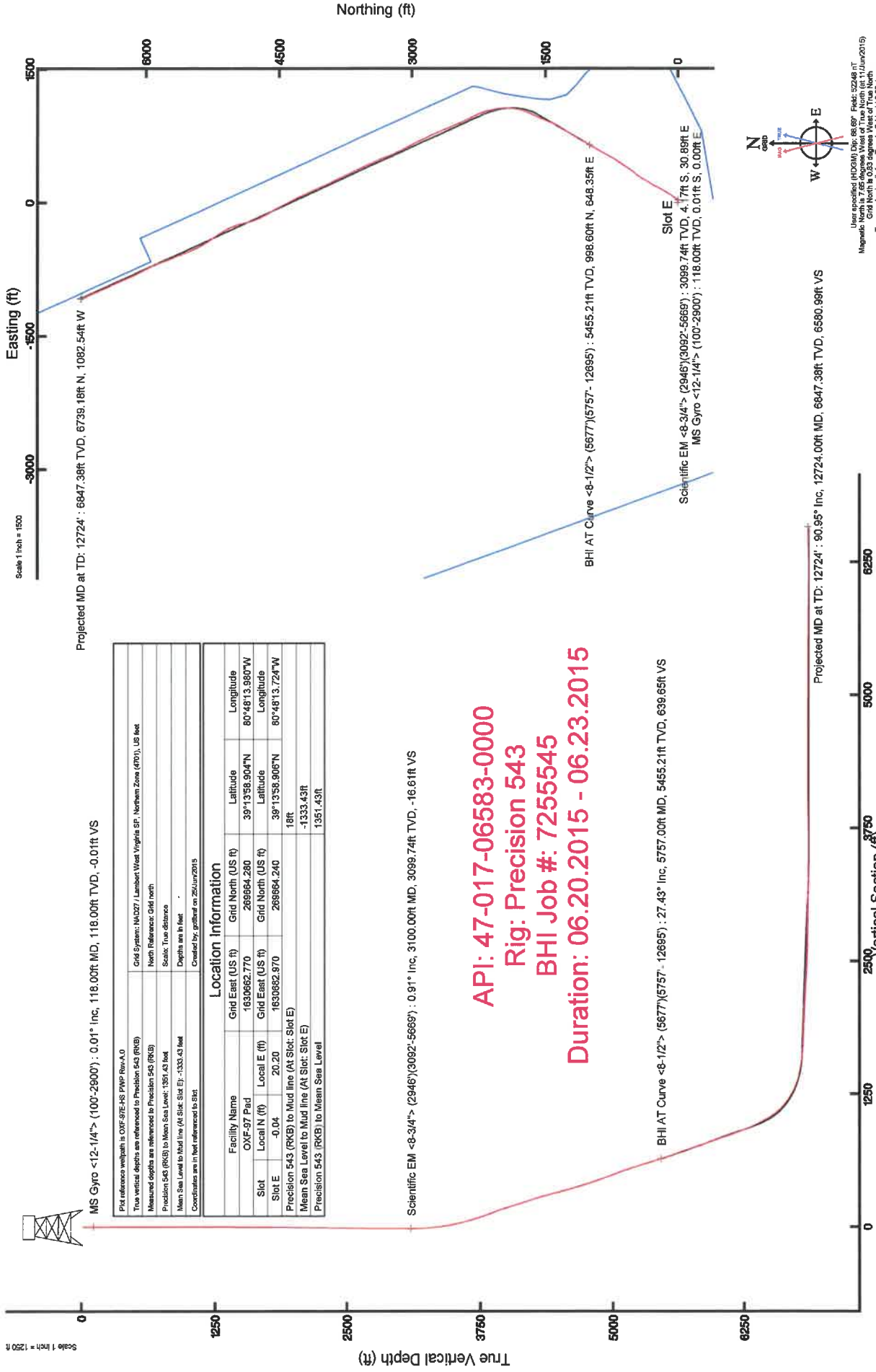
Scientific EM <8-3/4"> (2946')(3092'-5668') : 0.91° Inc, 3100.00ft MD, 3099.74ft TVD, -16.61ft VS

API: 47-017-06583-0000
Rig: Precision 543
BHI Job #: 7255545
Duration: 06.20.2015 - 06.23.2015

BHI AT Curve <8-1/2"> (5677')(5757' - 12695') : 27.43° Inc, 5757.00ft MD, 5455.21ft TVD, 699.65ft VS

BHI AT Curve <8-1/2"> (5677')(5757' - 12695') : 5455.21ft TVD, 998.60ft N, 648.35ft E

Scientific EM <8-3/4"> (2946')(3092'-5668') : 3099.74ft TVD, 4.17ft S, 30.89ft E
 MS Gyro <12-1/4"> (100-2900') : 118.00ft TVD, 0.01ft S, 0.00ft E



Units specified: NAD83 (US Feet)
 Magnetic North is 7.65 degrees West of True North (as of 11 Jun 2015)
 To convert azimuth from True to Grid add 0.63 degrees
 To convert distance from MagNorth to Grid subtract 0.63 degrees

Scale 1 inch = 1250 ft

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

Projected MD at TD: 12724' : 90.95° Inc, 12724.00ft MD, 6847.38ft TVD, 6560.98ft VS



Actual Wellpath Report

OXF-97E-HS AWP Proj: 12724'
Page 1 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot E
Area	Doddridge Co., WV	Well	OXF-97E-HS
Field	Doddridge	Wellbore	OXF-97E-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	Goffbral
Scale	0.999964	Report Generated	25/Jun/2015 at 09:21
Convergence at slot	0.83° West	Database/Source file	WANorthEast/OXF-97E-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	-0.04	20.20	1630682.97	269664.24	39°13'58.906"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	1351.43ft
Horizontal Reference Pt	Slot	Precision 543 (RKB) to Mean Sea Level	1351.43ft
Vertical Reference Pt	Precision 543 (RKB)	Precision 543 (RKB) to Mud Line at Slot (Slot E)	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°



Actual Wellpath Report

OXF-97E-HS AWP Proj: 12724'

Page 2 of 9



REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (156 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 [1/100ft]
0.00†	0.000	157.810	0.00	0.00	0.00	0.00	1630682.97	269664.24	39°13'58.906"N	80°48'13.724"W	0.00	0.000	0.00
18.00	0.000	157.810	18.00	0.00	0.00	0.00	1630682.97	269664.24	39°13'58.906"N	80°48'13.724"W	0.00	0.000	0.00
118.00	0.010	157.810	118.00	-0.01	-0.01	0.00	1630682.97	269664.23	39°13'58.906"N	80°48'13.724"W	0.01	157.810	0.01
218.00	0.200	83.740	218.00	-0.07	0.00	0.18	1630683.15	269664.24	39°13'58.906"N	80°48'13.721"W	0.18	89.087	0.20
318.00	0.370	74.390	318.00	-0.18	0.11	0.66	1630683.63	269664.35	39°13'58.907"N	80°48'13.715"W	0.67	80.703	0.18
418.00	0.400	59.990	418.00	-0.19	0.37	1.28	1630684.25	269664.61	39°13'58.910"N	80°48'13.708"W	1.33	73.840	0.10
518.00	0.150	67.930	518.00	-0.17	0.59	1.70	1630684.67	269664.83	39°13'58.912"N	80°48'13.702"W	1.80	70.754	0.25
618.00	0.100	52.530	617.99	-0.15	0.70	1.89	1630684.86	269664.94	39°13'58.913"N	80°48'13.700"W	2.02	69.795	0.06
718.00	0.120	8.850	717.99	-0.04	0.85	1.98	1630684.95	269665.09	39°13'58.915"N	80°48'13.699"W	2.15	66.668	0.08
818.00	0.100	288.200	817.99	0.10	0.98	1.91	1630684.88	269665.22	39°13'58.916"N	80°48'13.700"W	2.15	62.739	0.14
918.00	0.090	159.230	917.99	0.08	0.94	1.86	1630684.83	269665.18	39°13'58.916"N	80°48'13.700"W	2.08	63.197	0.17
1018.00	0.320	92.630	1017.99	-0.12	0.85	2.16	1630685.13	269665.09	39°13'58.915"N	80°48'13.696"W	2.32	68.513	0.30
1118.00	0.440	89.130	1117.99	-0.40	0.84	2.83	1630685.80	269665.08	39°13'58.915"N	80°48'13.688"W	2.95	73.364	0.12
1218.00	0.370	101.140	1217.99	-0.75	0.79	3.53	1630686.50	269665.03	39°13'58.915"N	80°48'13.679"W	3.61	77.408	0.11
1318.00	0.500	106.920	1317.99	-1.22	0.60	4.26	1630687.25	269664.81	39°13'58.913"N	80°48'13.670"W	4.30	82.006	0.14
1418.00	0.530	94.280	1417.98	-1.73	0.44	5.14	1630688.11	269664.68	39°13'58.911"N	80°48'13.658"W	5.16	85.142	0.12
1518.00	0.590	88.520	1517.98	-2.16	0.42	6.11	1630689.08	269664.66	39°13'58.911"N	80°48'13.646"W	6.13	86.112	0.08
1618.00	0.900	87.180	1617.97	-2.65	0.47	7.41	1630690.38	269664.71	39°13'58.912"N	80°48'13.630"W	7.43	86.392	0.31
1718.00	0.940	89.620	1717.96	-3.28	0.51	9.02	1630691.99	269664.75	39°13'58.913"N	80°48'13.609"W	9.03	86.754	0.06
1818.00	1.230	92.530	1817.94	-4.10	0.47	10.91	1630693.88	269664.71	39°13'58.912"N	80°48'13.585"W	10.92	87.536	0.30
1918.00	1.560	94.130	1917.91	-5.24	0.32	13.34	1630696.31	269664.56	39°13'58.911"N	80°48'13.554"W	13.34	88.608	0.33
2018.00	1.430	95.630	2017.87	-6.52	0.10	15.94	1630698.91	269664.34	39°13'58.910"N	80°48'13.521"W	15.94	89.627	0.14
2118.00	1.440	93.900	2117.84	-7.74	-0.10	18.44	1630701.40	269664.14	39°13'58.908"N	80°48'13.489"W	18.44	90.324	0.04
2218.00	1.150	104.030	2217.82	-8.97	-0.43	20.66	1630703.63	269663.81	39°13'58.905"N	80°48'13.461"W	20.67	91.200	0.37
2318.00	1.100	106.050	2317.80	-10.22	-0.94	22.36	1630705.53	269663.30	39°13'58.900"N	80°48'13.437"W	22.38	92.390	0.06



Actual Wellpath Report

OXF-97E-HS AWP Proj: 12724'

Page 3 of 9



REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (156 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]
2418.00	1.040	107.920	2417.78	-11.45	-1.49	24.34	1630707.31	269662.75	39°13'58.895"N	80°48'13.414"W	24.39	93.493	0.07
2518.00	0.960	113.510	2517.77	-12.69	-2.10	25.98	1630708.95	269662.14	39°13'58.889"N	80°48'13.393"W	26.06	94.621	0.13
2618.00	0.700	123.160	2617.75	-13.83	-2.77	27.26	1630710.22	269661.47	39°13'58.883"N	80°48'13.377"W	27.40	95.799	0.29
2718.00	0.490	123.550	2717.75	-14.70	-3.34	28.12	1630711.09	269660.90	39°13'58.877"N	80°48'13.366"W	28.32	96.769	0.21
2818.00	0.310	116.950	2817.75	-15.28	-3.70	28.72	1630711.69	269660.34	39°13'58.874"N	80°48'13.358"W	28.96	97.335	0.19
2918.00	0.260	121.090	2917.75	-15.68	-3.94	29.16	1630712.13	269660.30	39°13'58.872"N	80°48'13.352"W	29.42	97.690	0.05
2954.00	0.330	104.890	2953.75	-15.81	-4.01	29.33	1630712.30	269660.23	39°13'58.871"N	80°48'13.350"W	29.60	97.778	0.30
3100.00	0.910	92.980	3099.74	-16.61	-4.17	30.89	1630713.86	269660.07	39°13'58.869"N	80°48'13.330"W	31.17	97.695	0.40
3130.00	2.140	53.220	3129.73	-16.60	-3.85	31.58	1630714.55	269660.39	39°13'58.873"N	80°48'13.322"W	31.81	96.953	5.18
3160.00	3.280	43.380	3159.69	-16.16	-2.89	32.62	1630715.58	269661.35	39°13'58.882"N	80°48'13.309"W	32.74	95.067	4.09
3190.00	4.080	39.000	3189.63	-15.36	-1.44	33.88	1630716.85	269662.80	39°13'58.897"N	80°48'13.293"W	33.91	92.432	2.82
3224.00	5.720	30.490	3223.50	-13.85	0.96	35.50	1630718.47	269665.20	39°13'58.921"N	80°48'13.273"W	35.51	88.448	5.26
3254.00	7.260	26.170	3253.31	-11.79	3.95	37.09	1630720.06	269668.19	39°13'58.951"N	80°48'13.253"W	37.30	83.920	5.38
3284.00	9.200	26.690	3283.00	-9.09	7.80	39.01	1630721.97	269672.04	39°13'58.989"N	80°48'13.229"W	39.78	78.698	6.47
3314.00	10.810	30.160	3312.54	-5.96	12.37	41.50	1630724.47	269676.61	39°13'59.034"N	80°48'13.199"W	43.30	73.400	5.73
3344.00	12.570	32.090	3341.92	-2.53	17.57	44.64	1630727.61	269681.81	39°13'59.086"N	80°48'13.160"W	47.98	68.518	6.01
3375.00	14.300	34.610	3372.07	1.29	23.58	48.61	1630731.58	269687.82	39°13'59.146"N	80°48'13.110"W	54.03	64.124	5.89
3405.00	16.230	34.790	3401.01	5.33	30.07	53.11	1630736.08	269694.31	39°13'59.211"N	80°48'13.054"W	61.03	60.480	6.44
3435.00	17.860	35.290	3429.69	9.78	37.27	58.16	1630741.13	269701.51	39°13'59.283"N	80°48'12.992"W	69.08	57.347	5.46
3466.00	19.510	35.060	3459.06	14.80	45.39	63.88	1630746.85	269709.83	39°13'59.364"N	80°48'12.920"W	78.36	54.605	5.33
3496.00	20.460	35.100	3487.25	19.99	53.78	69.77	1630752.74	269718.02	39°13'59.448"N	80°48'12.847"W	88.09	52.375	3.17
3526.00	21.800	34.500	3515.23	25.51	62.66	75.94	1630758.91	269726.90	39°13'59.536"N	80°48'12.770"W	98.46	50.474	4.52
3556.00	23.370	32.530	3542.93	31.61	72.27	82.30	1630765.26	269736.51	39°13'59.632"N	80°48'12.691"W	109.52	48.712	5.81
3586.00	24.150	31.600	3570.39	38.27	82.51	88.71	1630771.68	269746.75	39°13'59.734"N	80°48'12.612"W	121.15	47.074	2.88
3616.00	24.870	29.890	3597.69	45.37	93.21	95.07	1630778.04	269757.44	39°13'59.841"N	80°48'12.539"W	133.14	45.567	3.37



Actual Wellpath Report

OXF-97E-HS AWP Proj: 12724'

Page 4 of 9



REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (156 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)
3647.00	25.660	29.950	3625.72	53.06	104.68	101.67	1630784.64	269768.91	39°13'59.955"N	80°48'12.451"W	145.93	44.166	2.55
3677.00	26.990	30.650	3652.61	60.73	116.16	108.39	1630791.35	269780.40	39°14'00.070"N	80°48'12.368"W	158.87	43.017	4.55
3707.00	28.210	31.030	3679.20	68.63	128.09	115.51	1630798.48	269792.33	39°14'00.189"N	80°48'12.280"W	172.48	42.043	4.11
3738.00	28.860	31.100	3706.43	77.00	140.78	123.15	1630806.12	269805.01	39°14'00.315"N	80°48'12.185"W	187.04	41.179	2.10
3769.00	29.640	30.890	3733.48	85.58	153.76	130.95	1630813.92	269818.00	39°14'00.445"N	80°48'12.088"W	201.97	40.419	2.54
3859.00	32.500	29.590	3810.56	112.40	193.89	154.32	1630837.29	269858.13	39°14'00.845"N	80°48'11.798"W	247.81	38.516	3.26
3950.00	31.080	26.200	3887.91	141.62	236.23	176.77	1630859.73	269900.47	39°14'01.266"N	80°48'11.521"W	295.05	36.806	2.51
4041.00	29.590	27.700	3966.45	170.26	277.21	197.58	1630880.55	269941.43	39°14'01.674"N	80°48'11.264"W	340.41	35.480	1.84
4132.00	28.950	32.360	4045.84	196.07	315.71	219.82	1630902.78	269979.94	39°14'02.058"N	80°48'10.989"W	384.70	34.848	2.60
4222.00	28.770	30.080	4124.67	220.52	352.85	242.33	1630925.29	270017.08	39°14'02.428"N	80°48'10.709"W	428.05	34.481	1.24
4313.00	29.230	29.340	4204.26	246.32	391.17	264.20	1630947.16	270055.39	39°14'02.810"N	80°48'10.439"W	472.03	34.035	0.64
4404.00	29.490	32.550	4283.57	271.60	429.42	287.13	1630970.09	270093.64	39°14'03.191"N	80°48'10.154"W	516.57	33.769	1.75
4494.00	31.150	39.100	4361.28	294.00	466.17	313.74	1630996.70	270130.39	39°14'03.558"N	80°48'09.823"W	561.91	33.942	4.11
4585.00	30.810	39.540	4439.30	314.66	502.41	343.42	1631026.38	270166.63	39°14'03.921"N	80°48'09.452"W	608.57	34.355	0.45
4675.00	27.820	34.610	4517.78	335.54	557.48	370.03	1631052.99	270201.70	39°14'04.271"N	80°48'09.121"W	657.54	34.546	4.27
4766.00	26.880	30.830	4598.61	358.14	572.62	392.64	1631075.60	270236.84	39°14'04.622"N	80°48'08.840"W	694.31	34.438	2.17
4857.00	30.750	34.870	4678.34	381.70	609.39	416.50	1631099.45	270273.61	39°14'04.988"N	80°48'08.544"W	738.12	34.351	4.76
4948.00	32.760	35.380	4755.71	405.90	648.56	444.05	1631127.01	270312.77	39°14'05.379"N	80°48'08.201"W	786.01	34.399	2.23
5038.00	33.070	33.500	4831.26	431.12	688.89	471.71	1631154.66	270353.10	39°14'05.782"N	80°48'07.857"W	834.91	34.401	1.19
5129.00	31.370	31.060	4908.25	457.67	729.89	497.63	1631180.58	270394.10	39°14'06.191"N	80°48'07.535"W	883.39	34.286	2.35
5220.00	31.320	28.090	4985.98	485.43	771.04	520.99	1631203.94	270435.26	39°14'06.601"N	80°48'07.245"W	930.56	34.047	1.70
5310.00	31.200	27.680	5062.91	513.93	812.32	542.83	1631225.78	270476.53	39°14'07.012"N	80°48'06.976"W	977.01	33.753	0.27
5404.00	29.580	28.780	5143.99	542.73	854.22	565.32	1631248.26	270518.43	39°14'07.429"N	80°48'06.698"W	1024.34	33.496	1.82
5496.00	28.050	29.750	5224.60	568.94	892.91	586.98	1631269.93	270557.11	39°14'07.815"N	80°48'06.429"W	1068.57	33.320	1.74
5586.00	27.880	29.820	5304.09	593.57	929.54	607.95	1631290.90	270593.74	39°14'08.180"N	80°48'06.170"W	1110.69	33.186	0.19



Actual Wellpath Report
OXF-97E-HS AWP Proj: 12724'
 Page 5 of 9



REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (156 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)
5677.00	28.130	30.940	5384.43	618.14	966.40	629.56	1631312.50	2706630.60	39°14'08.547"N	80°48'05.902"W	1153.37	33.082	0.64
5737.00	27.430	29.370	5455.21	639.65	998.60	648.35	1631331.29	2706680.80	39°14'08.868"N	80°48'05.669"W	1190.61	32.994	1.18
5847.00	30.960	29.650	5533.77	665.37	1036.76	670.04	1631332.98	2707000.96	39°14'09.248"N	80°48'05.400"W	1234.43	32.874	3.92
5936.00	31.020	27.490	5610.07	692.89	1077.00	691.95	16313374.89	270741.20	39°14'09.649"N	80°48'05.129"W	1280.13	32.720	1.25
6026.00	31.020	29.410	5687.20	720.83	1117.77	714.04	16313396.98	270781.97	39°14'10.055"N	80°48'04.856"W	1326.38	32.571	1.10
6115.00	30.900	33.110	5763.52	746.57	1156.90	737.79	1631420.73	270821.09	39°14'10.445"N	80°48'04.562"W	1372.13	32.527	2.14
6205.00	31.280	31.350	5840.60	772.06	1196.21	762.57	1631445.51	270860.40	39°14'10.837"N	80°48'04.254"W	1418.60	32.517	1.09
6294.00	31.340	32.590	5916.64	797.60	1235.44	787.06	1631470.00	270899.63	39°14'11.229"N	80°48'03.950"W	1464.85	32.500	0.73
6384.00	31.050	32.600	5993.62	822.92	1274.72	812.17	1631495.11	270938.91	39°14'11.620"N	80°48'03.638"W	1511.46	32.503	0.32
6474.00	31.260	32.690	6070.64	848.17	1313.92	837.28	1631520.22	270978.11	39°14'12.011"N	80°48'03.326"W	1558.02	32.507	0.24
6564.00	31.710	29.370	6147.40	874.77	1354.19	861.50	1631544.44	271018.38	39°14'12.413"N	80°48'03.026"W	1605.00	32.463	1.99
6653.00	31.450	24.830	6223.23	903.69	1395.65	882.72	1631565.66	271059.84	39°14'12.826"N	80°48'02.764"W	1651.38	32.313	2.69
6743.00	31.580	21.770	6299.96	935.28	1438.85	901.32	1631584.26	271103.03	39°14'13.255"N	80°48'02.535"W	1697.84	32.064	1.78
6832.00	36.070	21.700	6373.88	969.53	1484.86	919.66	1631602.60	271149.04	39°14'13.713"N	80°48'02.311"W	1746.59	31.772	5.05
6922.00	40.090	23.340	6444.71	1007.33	1536.11	940.95	1631623.89	271200.29	39°14'14.222"N	80°48'02.050"W	1801.39	31.490	4.61
7011.00	45.670	23.650	6509.90	1047.83	1591.62	965.09	1631648.03	271252.80	39°14'14.774"N	80°48'01.753"W	1861.36	31.231	6.27
7101.00	54.170	25.920	6567.80	1092.63	1654.04	994.01	1631676.94	271318.22	39°14'15.395"N	80°48'01.397"W	1929.74	31.004	9.64
7190.00	58.300	22.960	6617.26	1141.23	1721.39	1024.57	1631707.50	271385.57	39°14'16.065"N	80°48'01.021"W	2003.23	30.761	5.40
7280.00	61.310	12.030	6662.62	1198.97	1795.44	1047.79	1631730.72	271459.61	39°14'16.800"N	80°48'00.740"W	2078.81	30.267	11.01
7370.00	65.780	5.120	6702.75	1246.46	1875.04	1059.69	1631742.62	271539.21	39°14'17.589"N	80°48'00.403"W	2153.77	29.473	8.48
7459.00	71.040	358.540	6735.51	1340.58	1957.67	1062.25	1631745.18	271621.83	39°14'18.406"N	80°48'00.586"W	2227.29	28.485	9.06
7548.00	77.190	351.950	6759.89	1421.08	2042.87	1055.09	1631738.02	271707.04	39°14'19.247"N	80°48'00.693"W	2299.25	27.315	9.92
7638.00	80.130	345.730	6777.60	1506.89	2129.39	1037.99	1631720.92	271793.55	39°14'20.099"N	80°48'00.926"W	2368.91	25.987	7.52
7727.00	84.980	339.650	6789.14	1594.38	2213.57	1011.73	1631694.66	271877.72	39°14'20.927"N	80°48'01.275"W	2433.82	24.563	8.69
7817.00	85.260	332.370	6796.81	1683.99	2295.44	975.30	1631638.23	271959.59	39°14'21.731"N	80°48'01.753"W	2494.04	23.020	8.07



Actual Wellpath Report

OXF-97E-HS AWP Proj: 12724'

Page 6 of 9



REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (156 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]
7907.00	87.880	335.040	6802.19	1773.77	2375.97	935.51	1631618.44	272040.12	39°14'22.52"N	80°48'02.27"W	2553.51	21.491	4.15
7996.00	88.000	336.400	6805.39	1862.71	2457.04	898.93	1631581.87	272121.19	39°14'23.317"N	80°48'02.753"W	2616.32	20.096	1.53
8086.00	87.540	336.760	6808.89	1952.62	2539.56	863.19	1631546.13	272203.71	39°14'24.128"N	80°48'03.223"W	2682.25	18.773	0.65
8175.00	87.410	337.740	6812.81	2041.49	2621.56	828.81	1631511.75	272285.70	39°14'24.933"N	80°48'03.675"W	2749.45	17.544	1.11
8265.00	87.380	336.810	6816.90	2131.36	2704.49	794.08	1631477.02	272368.62	39°14'25.748"N	80°48'04.131"W	2818.65	16.363	1.03
8354.00	87.010	334.380	6821.26	2220.24	2785.43	757.35	1631440.29	272449.56	39°14'26.543"N	80°48'04.613"W	2886.55	15.211	2.76
8444.00	86.920	334.420	6826.02	2310.10	2866.48	718.52	1631401.46	272530.61	39°14'27.338"N	80°48'05.121"W	2955.16	14.072	0.11
8533.00	86.860	334.230	6830.85	2398.95	2946.38	680.01	1631362.96	272610.70	39°14'28.124"N	80°48'05.625"W	3024.02	12.995	0.22
8623.00	87.880	332.660	6834.98	2488.80	3026.99	639.82	1631322.77	272691.12	39°14'28.913"N	80°48'06.151"W	3093.87	11.935	2.08
8713.00	87.970	332.310	6838.24	2578.61	3106.77	598.29	1631281.24	272770.89	39°14'29.696"N	80°48'06.693"W	3163.85	10.900	0.37
8802.00	89.420	334.980	6840.27	2667.54	3186.50	558.82	1631241.77	272850.62	39°14'30.478"N	80°48'07.210"W	3235.13	9.947	3.38
8892.00	89.880	339.410	6840.82	2757.47	3269.44	523.94	1631206.89	272933.56	39°14'31.293"N	80°48'07.668"W	3311.16	9.104	4.95
8982.00	88.770	335.900	6841.88	2847.39	3352.66	489.73	1631172.69	273016.78	39°14'32.110"N	80°48'08.118"W	3388.24	8.311	4.09
9071.00	89.380	335.280	6843.32	2936.37	3433.70	452.96	1631135.91	273097.81	39°14'32.906"N	80°48'08.601"W	3463.45	7.515	0.98
9161.00	89.420	336.580	6844.26	3026.36	3515.87	416.26	1631099.21	273179.97	39°14'33.712"N	80°48'09.082"W	3540.42	6.752	1.45
9250.00	88.830	333.140	6845.62	3115.33	3596.41	378.46	1631061.41	273260.52	39°14'34.503"N	80°48'09.577"W	3616.27	6.007	3.92
9340.00	88.920	333.840	6847.39	3205.26	3676.93	338.29	1631021.25	273341.04	39°14'35.293"N	80°48'10.103"W	3692.46	5.257	0.78
9429.00	89.110	336.620	6848.92	3294.24	3757.73	301.01	1630983.97	273421.82	39°14'36.086"N	80°48'10.591"W	3769.76	4.580	3.13
9519.00	89.660	335.070	6849.88	3384.23	3839.84	264.19	1630947.15	273503.93	39°14'36.892"N	80°48'11.074"W	3848.92	3.936	1.83
9608.00	89.720	332.740	6850.36	3473.19	3919.76	225.04	1630908.00	273583.85	39°14'37.677"N	80°48'11.587"W	3926.21	3.286	2.62
9698.00	89.780	338.130	6850.76	3563.15	4001.58	187.64	1630870.60	273665.67	39°14'38.480"N	80°48'12.077"W	4005.98	2.685	5.99
9787.00	90.090	336.570	6850.86	3652.10	4083.72	153.37	1630836.33	273747.80	39°14'39.287"N	80°48'12.528"W	4086.60	2.151	1.79
9876.00	90.830	333.820	6850.14	3741.09	4164.49	116.04	1630799.00	273828.58	39°14'40.080"N	80°48'13.017"W	4166.11	1.596	3.20
9966.00	90.980	335.620	6848.72	3831.07	4245.86	77.61	1630760.58	273909.94	39°14'40.878"N	80°48'13.521"W	4246.57	1.047	2.01
10056.00	90.950	332.460	6847.20	3921.01	4326.76	38.22	1630721.19	273990.83	39°14'41.672"N	80°48'14.036"W	4326.93	0.506	3.51



Actual Wellpath Report

OXF-97E-HS AWP Proj: 12724'

Page 7 of 9



REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (156 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]
10145.00	90.580	333.710	6846.02	4009.92	4406.11	-2.06	1630680.91	274070.18	39°14'42.451"N	80°48'14.563"W	4406.11	359.973	1.46
10234.00	90.620	333.270	6845.08	4098.87	4485.75	-41.78	1630664.19	274149.82	39°14'43.232"N	80°48'15.082"W	4485.94	359.466	0.50
10324.00	90.220	329.900	6844.42	4188.64	4564.89	-84.60	1630598.37	274228.96	39°14'44.008"N	80°48'15.641"W	4565.67	358.938	3.77
10413.00	90.030	329.600	6844.23	4277.19	4641.77	-129.44	1630553.54	274305.84	39°14'44.761"N	80°48'16.225"W	4643.58	358.403	0.40
10503.00	90.090	334.700	6844.14	4367.01	4721.32	-171.47	1630511.51	274385.38	39°14'45.541"N	80°48'16.774"W	4724.43	357.920	5.67
10592.00	90.060	341.850	6844.02	4455.85	4803.95	-204.39	1630478.59	274468.00	39°14'46.353"N	80°48'17.208"W	4808.29	357.564	8.03
10682.00	89.750	349.140	6844.17	4544.42	4891.02	-226.92	1630456.06	274555.07	39°14'47.211"N	80°48'17.510"W	4896.28	357.344	8.11
10771.00	89.720	340.750	6844.58	4632.13	4976.89	-250.02	1630432.96	274640.94	39°14'48.056"N	80°48'17.819"W	4983.16	357.124	9.43
10864.00	89.750	333.890	6845.01	4725.03	5062.64	-285.85	1630397.13	274726.69	39°14'48.898"N	80°48'18.291"W	5070.71	356.768	7.38
10950.00	89.750	329.200	6845.39	4810.80	5138.23	-326.82	1630356.17	274812.28	39°14'49.639"N	80°48'18.825"W	5148.61	356.361	5.45
11040.00	89.780	325.060	6845.76	4899.82	5213.80	-375.65	1630307.33	274877.85	39°14'50.379"N	80°48'19.460"W	5227.32	355.879	4.60
11129.00	89.750	327.500	6846.12	4987.67	5287.83	-425.06	1630257.93	274951.86	39°14'51.104"N	80°48'20.101"W	5304.88	355.404	2.74
11219.00	89.720	329.870	6846.54	5077.03	5364.71	-471.83	1630211.16	275028.74	39°14'51.857"N	80°48'20.710"W	5385.42	354.974	2.63
11308.00	89.780	333.800	6846.93	5165.83	5443.15	-513.83	1630169.16	275107.19	39°14'52.626"N	80°48'21.258"W	5467.35	354.607	4.42
11397.00	89.820	339.380	6847.24	5254.78	5524.79	-549.17	1630133.82	275188.83	39°14'53.428"N	80°48'21.723"W	5552.02	354.323	6.27
11487.00	89.820	338.500	6847.52	5344.61	5608.78	-581.52	1630101.48	275272.81	39°14'54.253"N	80°48'22.149"W	5638.85	354.081	0.98
11577.00	89.880	336.840	6847.76	5434.54	5692.03	-615.71	1630067.28	275358.05	39°14'55.071"N	80°48'22.599"W	5725.23	353.826	1.85
11666.00	89.780	338.830	6848.02	5523.46	5774.45	-649.28	1630033.71	275438.47	39°14'55.881"N	80°48'23.041"W	5810.84	353.585	2.24
11756.00	89.780	338.120	6848.37	5613.34	5858.17	-682.31	1630000.69	275522.19	39°14'56.703"N	80°48'23.476"W	5897.77	353.357	0.79
11845.00	89.600	334.520	6848.85	5702.31	5939.66	-718.04	1629964.95	275603.68	39°14'57.503"N	80°48'23.946"W	5982.91	353.107	4.05
11935.00	89.380	332.810	6849.65	5792.26	6020.32	-757.97	1629923.46	275684.33	39°14'58.295"N	80°48'24.468"W	6067.84	352.824	1.92
12024.00	89.350	334.380	6850.63	5881.20	6100.02	-797.54	1629883.46	275764.03	39°14'59.077"N	80°48'24.986"W	6151.94	352.551	1.76
12114.00	89.510	335.610	6851.53	5971.20	6181.58	-835.58	1629847.42	275845.59	39°14'59.877"N	80°48'25.484"W	6237.80	352.302	1.38
12204.00	89.450	336.700	6852.35	6061.18	6263.89	-871.96	1629811.04	275927.90	39°15'00.686"N	80°48'25.962"W	6324.29	352.075	1.21
12293.00	89.450	335.120	6853.20	6150.17	6345.14	-908.29	1629774.72	276009.14	39°15'01.483"N	80°48'26.439"W	6409.82	351.854	1.78



Actual Wellpath Report
 OXF-97E-HS AWP Proj: 12724'
 Page 8 of 9



REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (156 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]
12383.00	90.890	333.830	6852.93	6240.16	6426.35	-947.07	1629735.94	276090.35	39°15'02.280"N	80°48'26.947"W	6495.76	351.617	2.15
12472.00	90.890	336.240	6851.55	65329.14	6507.02	-984.62	1629698.38	276171.01	39°15'03.072"N	80°48'27.439"W	6581.09	351.395	2.71
12562.00	91.020	337.490	6850.05	6419.10	6589.77	-1019.98	1629663.03	276233.76	39°15'03.885"N	80°48'27.904"W	6668.24	351.201	1.40
12651.00	90.890	337.120	6848.57	6508.04	6671.86	-1054.31	1629628.70	276335.85	39°15'04.691"N	80°48'28.355"W	6754.65	351.020	0.44
12695.00	90.930	337.310	6847.86	6552.01	6712.42	-1071.35	1629611.66	276376.41	39°15'05.090"N	80°48'28.579"W	6797.38	350.932	0.45
12724.00	90.950	337.310	6847.38	6580.99	6739.18	-1082.54	1629600.47	276403.16	39°15'05.352"N	80°48'28.726"W	6825.57	350.874	0.00

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
OXF-97E-HS LP Rev-2		6790.00	2205.16	987.94	1631670.87	271869.32	39°14'20.841"N	80°48'01.576"W	point
OXF-97E-HS BHL Rev-2		6855.00	6718.21	-1069.73	1629613.28	276382.20	39°15'05.147"N	80°48'28.560"W	point
OXF-97 LL		7198.43	0.04	-20.20	1630662.77	269664.28	39°13'58.904"N	80°48'13.980"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: OXF-97E-HS AWB Ref Wellpath: OXF-97E-HS AWP Proj: 12724'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
18.00	2954.00	Generic gyro - northseeking (Standard)	01_MS Gyro <12-1/4"> (100'-2900')	OXF-97E-HS AWB
2954.00	5677.00	ISCVSA MWD, Rev. 2 (Standard)	02_Scientific EM <-8-3/4"> (2946')X(3092'-5669')	OXF-97E-HS AWB
5677.00	12695.00	Navitrac (AT Curve Short Spaced)	03_BHI AT Curve <-8-1/2"> (5677')X(5757'-12695')	OXF-97E-HS AWB
12695.00	12724.00	Blind Drilling (std)	Projection to bit	OXF-97E-HS AWB



Actual Wellpath Report

OXF-97E-HS AWP Proj: 12724'

Page 9 of 9



REFERENCE WELLPATH IDENTIFICATION

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

COMMENTS

Wellpath general comments
 API: 47-017-06583-0000
 Rig: Precision 543
 BHI Job #: 7255545
 Duration: 06.20.2015 - 06.23.2015
 MS Gyro <12-1/4"> (100'-2900')
 Scientific EM <8-3/4"> (2946')(3092'-5669')
 BHI AT Curve <8-1/2"> (5677')(5757'- 12695')
 Projected MD at TD: 12724'