

17-06001



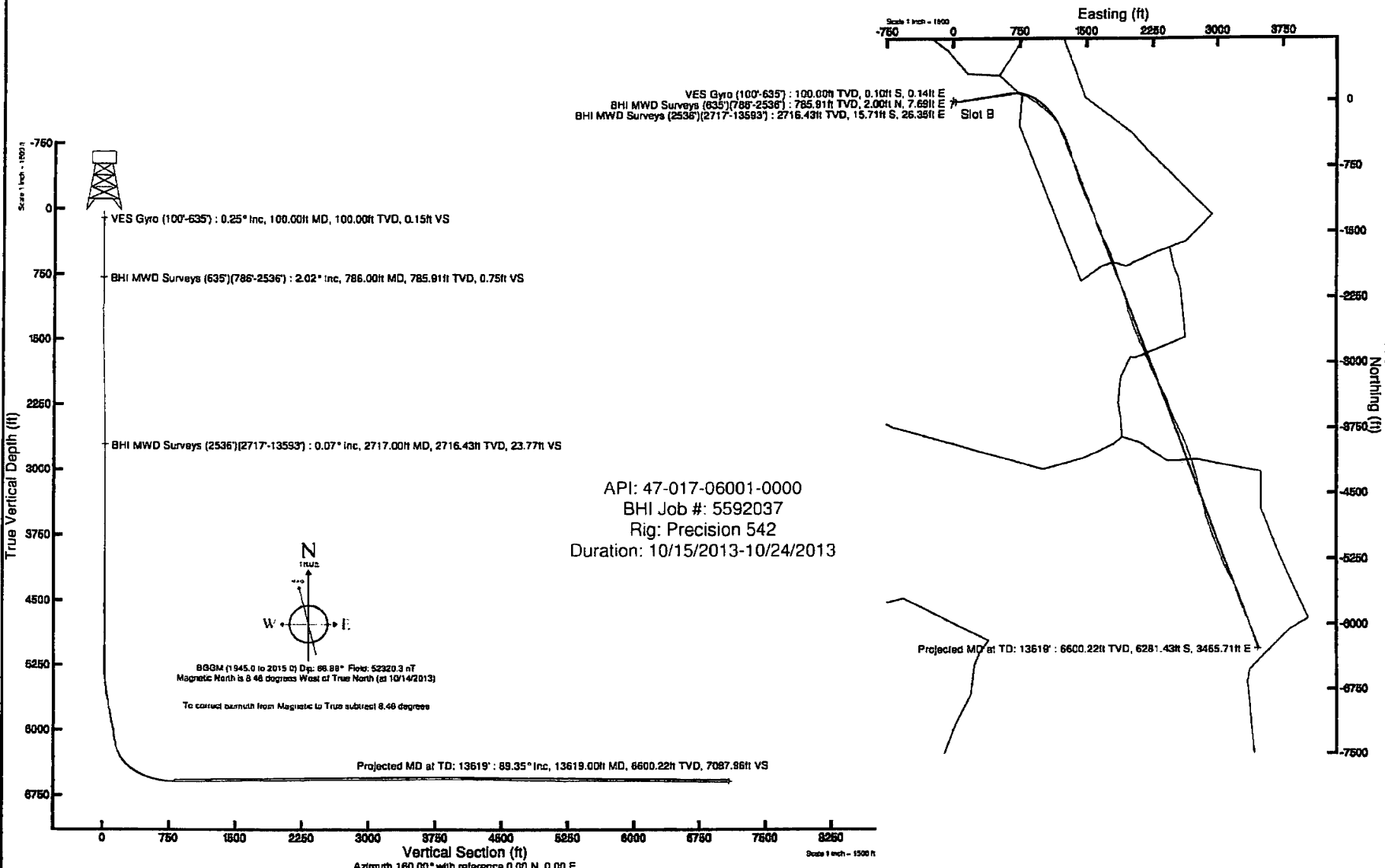
# NOBLE ENERGY

Location: Doddridge Co., WV  
 Field: Doddridge  
 Facility: Oxford Pad

Slot: Slot B  
 Well: OXFD18HS  
 Wellbore: OXFD18HS PWB



Plot reference number: 1707 (2/13) PWB Slot B-D	Drill String: 20227 / Location: West of gas & oil, Middle Area PWB, US Inc
Drawn by: J. Smith and J. Smith / Date: 10/24/2013	Scale: 1 inch = 1000 ft
Checked by: J. Smith and J. Smith / Date: 10/24/2013	Scale: 1 inch = 1000 ft
Project: 1707 (2/13) PWB Slot B-D / Date: 10/24/2013	Scale: 1 inch = 1000 ft
Map: See Legend to this Plot / Date: 10/24/2013	Scale: 1 inch = 1000 ft
Drawn by: J. Smith and J. Smith / Date: 10/24/2013	Scale: 1 inch = 1000 ft



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# Actual Wellpath Report

OXFD1BHS AWP (Curve&Lateral) Proj: 13619'  
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### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot B
Area	Doddridge Co., WV	Well	OXFD1BHS
Field	Doddridge	Wellbore	OXFD1BHS 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	10/29/2013 at 4:30:19 PM
Convergence at slot	n/a	Database/Source file	Well Architect Eastern US/OXFD1BHS_AWB.xml

### WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-19.36	-5.68	1624563.38	273213.78	39°14'33.102"N	80°49'32.153"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 B)	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°

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### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot B
Area	Doddridge Co., WV	Well	OXFD1BHS
Field	Doddridge	Wellbore	OXFD1BHS AWB
Facility	Oxford Pad		

### WELLPATH DATA (171 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	125.400	0.00	0.00	0.00	0.00	1624563.38	273213.78	39°14'33.102"N	80°49'32.153"W	0.00	0.000	0.00	0.00	0.00
18.60	0.000	125.400	18.60	0.00	0.00	0.00	1624563.38	273213.78	39°14'33.102"N	80°49'32.153"W	0.00	0.000	0.00	0.00	0.00
100.00	0.250	125.400	100.00	0.15	-0.10	0.14	1624563.52	273213.68	39°14'33.101"N	80°49'32.151"W	0.18	125.400	0.31	0.31	0.00
200.00	0.460	123.310	200.00	0.65	-0.45	0.66	1624564.03	273213.32	39°14'33.097"N	80°49'32.145"W	0.80	124.348	0.21	0.21	-2.09
300.00	0.300	118.430	300.00	1.17	-0.79	1.22	1624564.59	273212.97	39°14'33.094"N	80°49'32.138"W	1.46	123.002	0.16	-0.16	-4.88
400.00	0.510	115.010	399.99	1.68	-1.11	1.86	1624565.22	273212.65	39°14'33.091"N	80°49'32.130"W	2.16	120.809	0.21	0.21	-3.42
500.00	0.310	108.440	499.99	2.16	-1.38	2.52	1624565.88	273212.36	39°14'33.088"N	80°49'32.121"W	2.87	118.755	0.21	-0.20	-6.57
600.00	1.150	57.110	599.98	2.10	-0.92	3.62	1624566.98	273212.80	39°14'33.093"N	80°49'32.107"W	3.73	104.301	0.99	0.84	-51.33
635.00	1.240	58.950	634.97	1.95	-0.54	4.24	1624567.61	273213.18	39°14'33.096"N	80°49'32.099"W	4.27	97.210	0.28	0.26	5.26
786.00	2.020	50.440	785.91	0.75	2.00	7.69	1624571.10	273215.67	39°14'33.121"N	80°49'32.055"W	7.94	75.405	0.54	0.52	-5.64
797.00	2.230	51.360	796.90	0.61	2.26	8.00	1624571.42	273215.92	39°14'33.124"N	80°49'32.051"W	8.32	74.240	1.93	1.91	8.36
892.00	1.500	43.830	891.85	-0.52	4.31	10.31	1624573.75	273217.94	39°14'33.144"N	80°49'32.022"W	11.17	67.311	0.81	-0.77	-7.93
987.00	0.640	342.550	986.84	-1.60	5.71	11.01	1624574.47	273219.33	39°14'33.158"N	80°49'32.013"W	12.40	62.577	1.39	-0.91	-64.51
1082.00	0.290	319.060	1081.84	-2.36	6.40	10.69	1624574.17	273220.02	39°14'33.165"N	80°49'32.017"W	12.46	59.098	0.41	-0.37	-24.73
1177.00	0.180	127.510	1176.84	-2.46	6.49	10.66	1624574.13	273220.11	39°14'33.166"N	80°49'32.018"W	12.48	58.648	0.49	-0.12	177.32
1272.00	0.700	126.200	1271.83	-1.85	6.06	11.24	1624574.71	273219.67	39°14'33.162"N	80°49'32.010"W	12.77	61.680	0.55	0.55	-1.38
1367.00	1.460	121.920	1366.81	-0.41	5.08	12.74	1624576.19	273218.67	39°14'33.152"N	80°49'31.991"W	13.71	68.274	0.80	0.80	-4.51
1461.00	2.750	133.030	1460.75	2.54	2.90	15.40	1624578.82	273216.46	39°14'33.130"N	80°49'31.957"W	15.67	79.324	1.43	1.37	11.82
1556.00	1.910	132.230	1555.67	5.97	0.28	18.24	1624581.62	273213.80	39°14'33.104"N	80°49'31.921"W	18.24	89.107	0.88	-0.88	-0.84
1651.00	1.140	120.400	1650.64	8.10	-1.26	20.23	1624583.59	273212.22	39°14'33.089"N	80°49'31.896"W	20.27	93.559	0.87	-0.81	-12.45
1745.00	0.950	122.990	1744.62	9.44	-2.16	21.69	1624585.03	273211.30	39°14'33.080"N	80°49'31.878"W	21.79	95.676	0.21	-0.20	2.76
1835.00	1.240	155.520	1834.60	11.01	-3.45	22.72	1624586.04	273210.00	39°14'33.068"N	80°49'31.864"W	22.98	98.631	0.75	0.32	36.14
1924.00	1.220	201.120	1923.59	12.68	-5.21	22.77	1624586.07	273208.24	39°14'33.050"N	80°49'31.864"W	23.36	102.881	1.07	-0.02	51.24
2014.00	1.630	220.240	2013.56	14.04	-7.08	21.60	1624584.88	273206.38	39°14'33.032"N	80°49'31.879"W	22.73	108.144	0.69	0.46	21.24
2103.00	1.170	229.040	2102.53	14.99	-8.64	20.10	1624583.35	273204.84	39°14'33.016"N	80°49'31.898"W	21.88	113.264	0.57	-0.52	9.89
2193.00	0.670	162.770	2192.52	15.85	-9.75	19.56	1624582.79	273203.75	39°14'33.005"N	80°49'31.905"W	21.85	116.484	1.21	-0.56	-73.63
2282.00	0.740	143.890	2281.52	16.92	-10.71	20.05	1624583.27	273202.78	39°14'32.996"N	80°49'31.898"W	22.73	118.099	0.27	0.08	-21.21
2372.00	1.350	137.170	2371.50	18.46	-11.95	21.12	1624584.32	273201.52	39°14'32.984"N	80°49'31.885"W	24.27	119.514	0.69	0.68	-7.47
2462.00	1.380	124.180	2461.48	20.31	-13.34	22.73	1624585.91	273200.11	39°14'32.970"N	80°49'31.864"W	26.36	120.405	0.34	0.03	-14.43
2536.00	1.560	121.330	2535.45	21.82	-14.37	24.33	1624587.50	273199.06	39°14'32.960"N	80°49'31.844"W	28.26	120.557	0.26	0.24	-3.85

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# Actual Wellpath Report

OXFD1BHS AWP (Curve&Lateral) Proj: 13619'  
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### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot B
Area	Doddridge Co., WV	Well	OXFD1BHS
Field	Doddridge	Wellbore	OXFD1BHS AWB
Facility	Oxford Pad		

### WELLPATH DATA (171 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]
2717.00	0.070	235.160	2716.43	23.77	-15.71	26.35	1624589.49	273197.68	39°14'32.946"N	80°49'31.818"W	30.67	120.807	0.88	-0.82	62.89
2807.00	0.070	176.390	2806.43	23.84	-15.80	26.30	1624589.45	273197.60	39°14'32.946"N	80°49'31.819"W	30.68	120.985	0.08	0.00	-65.30
2896.00	0.000	351.540	2895.43	23.89	-15.85	26.31	1624589.45	273197.54	39°14'32.945"N	80°49'31.819"W	30.71	121.069	0.08	-0.08	0.00
2985.00	0.100	104.950	2984.43	23.94	-15.87	26.38	1624589.52	273197.52	39°14'32.945"N	80°49'31.818"W	30.79	121.028	0.11	0.11	0.00
3075.00	0.170	122.820	3074.43	24.09	-15.96	26.57	1624589.71	273197.43	39°14'32.944"N	80°49'31.815"W	31.00	120.996	0.09	0.08	19.86
3164.00	0.130	107.910	3163.43	24.25	-16.07	26.78	1624589.92	273197.32	39°14'32.943"N	80°49'31.813"W	31.23	120.962	0.06	-0.04	-16.75
3254.00	0.130	130.750	3253.43	24.41	-16.16	26.95	1624590.09	273197.22	39°14'32.942"N	80°49'31.811"W	31.43	120.951	0.06	0.00	25.38
3343.00	0.070	123.760	3342.43	24.54	-16.26	27.07	1624590.21	273197.12	39°14'32.941"N	80°49'31.809"W	31.58	120.987	0.07	-0.07	-7.85
3433.00	0.070	271.230	3432.43	24.56	-16.29	27.06	1624590.20	273197.09	39°14'32.941"N	80°49'31.809"W	31.59	121.042	0.15	0.00	163.86
3522.00	0.100	44.110	3521.43	24.51	-16.23	27.06	1624590.20	273197.15	39°14'32.941"N	80°49'31.809"W	31.56	120.953	0.18	0.03	149.30
3612.00	0.130	154.270	3611.43	24.58	-16.27	27.16	1624590.30	273197.11	39°14'32.941"N	80°49'31.808"W	31.66	120.916	0.21	0.03	122.40
3701.00	0.100	75.660	3700.43	24.68	-16.34	27.28	1624590.42	273197.04	39°14'32.940"N	80°49'31.806"W	31.80	120.917	0.17	-0.03	-88.33
3790.00	0.030	135.320	3789.43	24.71	-16.34	27.37	1624590.51	273197.04	39°14'32.940"N	80°49'31.805"W	31.88	120.828	0.10	-0.08	67.03
3879.00	0.090	121.950	3878.43	24.79	-16.39	27.45	1624590.58	273196.99	39°14'32.940"N	80°49'31.804"W	31.97	120.841	0.07	0.07	-15.02
3968.00	0.590	166.090	3967.43	25.30	-16.87	27.62	1624590.75	273196.50	39°14'32.935"N	80°49'31.802"W	32.36	121.420	0.59	0.56	49.60
4058.00	0.280	141.220	4057.42	25.97	-17.49	27.87	1624590.99	273195.88	39°14'32.929"N	80°49'31.799"W	32.90	122.117	0.40	-0.34	-27.63
4148.00	0.160	105.740	4147.42	26.25	-17.70	28.13	1624591.24	273195.67	39°14'32.927"N	80°49'31.796"W	33.23	122.180	0.20	-0.13	-39.42
4237.00	0.250	137.410	4236.42	26.50	-17.88	28.38	1624591.49	273195.49	39°14'32.925"N	80°49'31.792"W	33.54	122.207	0.16	0.10	35.58
4327.00	0.130	145.370	4326.42	26.78	-18.10	28.57	1624591.68	273195.26	39°14'32.923"N	80°49'31.790"W	33.82	122.362	0.14	-0.13	8.84
4416.00	0.320	138.200	4415.42	27.11	-18.37	28.79	1624591.90	273194.99	39°14'32.920"N	80°49'31.787"W	34.15	122.542	0.22	0.21	-8.06
4506.00	0.300	126.020	4505.42	27.54	-18.70	29.15	1624592.25	273194.65	39°14'32.917"N	80°49'31.783"W	34.63	122.678	0.08	-0.02	-13.53
4596.00	0.130	316.430	4595.42	27.64	-18.76	29.27	1624592.37	273194.59	39°14'32.916"N	80°49'31.781"W	34.77	122.661	0.48	-0.19	-188.43
4686.00	0.100	343.690	4685.42	27.47	-18.61	29.18	1624592.28	273194.74	39°14'32.918"N	80°49'31.782"W	34.61	122.535	0.07	-0.03	30.29
4775.00	0.100	277.720	4774.42	27.36	-18.53	29.08	1624592.18	273194.83	39°14'32.919"N	80°49'31.784"W	34.48	122.504	0.12	0.00	-74.12
4865.00	0.140	87.320	4864.42	27.35	-18.51	29.11	1624592.21	273194.84	39°14'32.919"N	80°49'31.783"W	34.50	122.454	0.27	0.04	188.44
4954.00	0.110	84.440	4953.42	27.41	-18.50	29.30	1624592.41	273194.85	39°14'32.919"N	80°49'31.781"W	34.66	122.263	0.03	-0.03	-3.24
5044.00	0.130	131.920	5043.42	27.52	-18.56	29.47	1624592.57	273194.79	39°14'32.918"N	80°49'31.779"W	34.82	122.204	0.11	0.02	52.76
5134.00	0.650	127.570	5133.42	28.04	-18.94	29.95	1624593.04	273194.40	39°14'32.914"N	80°49'31.773"W	35.43	122.309	0.58	0.58	-4.83
5224.00	4.620	77.300	5223.31	28.93	-18.45	33.89	1624596.99	273194.83	39°14'32.919"N	80°49'31.722"W	38.59	118.568	4.70	4.41	-55.86
5268.00	9.720	73.890	5266.95	29.41	-17.03	39.19	1624602.31	273196.17	39°14'32.933"N	80°49'31.655"W	42.73	113.489	11.63	11.59	-7.75

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Area	Doddridge Co., WV	Well	OXFD1BHS
Field	Doddridge	Wellbore	OXFD1BHS AWP
Facility	Oxford Pad		

### WELLPATH DATA (171 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]
5313.00	11.940	74.240	5311.14	30.01	-14.71	47.32	1624610.48	273198.37	39°14'32.956"N	80°49'31.552"W	49.56	107.271	4.94	4.93	0.78
5358.00	13.670	73.600	5355.02	30.69	-11.95	56.90	1624620.10	273201.00	39°14'32.984"N	80°49'31.430"W	58.14	101.857	3.86	3.84	-1.42
5403.00	15.770	76.960	5398.55	31.76	-9.07	67.96	1624631.20	273203.71	39°14'33.012"N	80°49'31.289"W	68.56	97.598	5.04	4.67	7.47
5448.00	19.210	86.600	5441.47	34.62	-7.25	81.32	1624644.58	273205.34	39°14'33.030"N	80°49'31.120"W	81.64	95.092	9.97	7.64	21.42
5493.00	23.520	90.560	5483.37	39.89	-6.89	97.69	1624660.96	273205.45	39°14'33.034"N	80°49'30.911"W	97.94	94.037	10.09	9.58	8.80
5537.00	28.000	86.030	5522.99	45.83	-6.26	116.79	1624680.06	273205.79	39°14'33.040"N	80°49'30.669"W	116.96	93.071	11.11	10.18	-10.30
5582.00	31.460	80.180	5562.07	50.83	-3.53	138.91	1624702.22	273208.20	39°14'33.067"N	80°49'30.388"W	138.95	91.455	10.03	7.69	-13.00
5627.00	34.490	78.050	5599.82	54.69	1.11	162.95	1624726.32	273212.49	39°14'33.113"N	80°49'30.082"W	162.95	89.609	7.21	6.73	-4.73
5672.00	37.290	77.330	5636.27	58.21	6.74	188.72	1624752.17	273217.74	39°14'33.168"N	80°49'29.755"W	188.84	87.954	6.29	6.22	-1.60
5716.00	41.190	77.460	5670.34	61.79	12.81	215.88	1624779.41	273223.41	39°14'33.228"N	80°49'29.409"W	216.26	86.603	8.87	8.86	0.30
5761.00	41.750	77.100	5704.06	65.57	19.38	244.95	1624808.58	273229.54	39°14'33.293"N	80°49'29.040"W	245.71	85.477	1.35	1.24	-0.80
5851.00	41.770	80.380	5771.20	74.68	31.08	303.72	1624867.51	273240.37	39°14'33.409"N	80°49'28.293"W	305.30	84.158	2.43	0.02	3.64
5940.00	41.820	82.090	5837.56	86.23	40.11	362.33	1624926.25	273248.54	39°14'33.498"N	80°49'27.548"W	364.55	83.683	1.28	0.06	1.92
6030.00	42.070	81.760	5904.50	98.66	48.56	421.90	1624985.93	273256.11	39°14'33.582"N	80°49'26.791"W	424.68	83.434	0.37	0.28	-0.37
6120.00	42.010	80.890	5971.34	110.50	57.65	481.47	1625045.63	273264.32	39°14'33.671"N	80°49'26.034"W	484.91	83.172	0.65	-0.07	-0.97
6209.00	42.020	79.730	6037.46	121.16	67.68	540.19	1625104.49	273273.48	39°14'33.771"N	80°49'25.287"W	544.41	82.859	0.87	0.01	-1.30
6299.00	42.060	81.460	6104.31	132.24	77.53	599.64	1625164.08	273282.45	39°14'33.868"N	80°49'24.532"W	604.64	82.633	1.29	0.04	1.92
6389.00	42.080	87.140	6171.14	147.12	83.51	659.60	1625224.11	273287.55	39°14'33.927"N	80°49'23.770"W	664.86	82.784	4.23	0.02	6.31
6433.00	41.680	94.990	6203.92	157.65	82.97	688.92	1625253.42	273286.58	39°14'33.922"N	80°49'23.397"W	693.90	83.132	11.94	-0.91	17.84
6478.00	41.460	103.390	6237.62	172.18	78.22	718.34	1625282.77	273281.39	39°14'33.875"N	80°49'23.023"W	722.58	83.786	12.39	-0.49	18.67
6523.00	43.090	107.830	6270.92	189.82	70.06	747.47	1625311.78	273272.80	39°14'33.794"N	80°49'22.653"W	750.75	84.645	7.56	3.62	9.87
6568.00	44.810	110.070	6303.32	209.45	59.91	777.00	1625341.15	273262.22	39°14'33.694"N	80°49'22.277"W	779.31	85.591	5.15	3.82	4.98
6612.00	46.960	112.470	6333.95	230.29	48.44	806.43	1625370.41	273250.32	39°14'33.580"N	80°49'21.903"W	807.88	86.562	6.26	4.89	5.45
6657.00	49.170	116.620	6364.03	253.78	34.52	836.86	1625400.62	273235.95	39°14'33.443"N	80°49'21.517"W	837.57	87.638	8.44	4.91	9.22
6702.00	52.400	121.780	6392.48	280.18	17.50	867.25	1625430.76	273218.48	39°14'33.274"N	80°49'21.130"W	867.43	88.844	11.42	7.18	11.47
6747.00	56.240	124.950	6418.73	309.51	-2.62	897.75	1625460.96	273197.92	39°14'33.076"N	80°49'20.743"W	897.76	90.167	10.27	8.53	7.04
6792.00	59.780	127.830	6442.57	341.30	-25.27	928.46	1625491.33	273174.81	39°14'32.852"N	80°49'20.353"W	928.80	91.559	9.56	7.87	6.40
6836.00	61.760	128.990	6464.05	374.00	-49.13	958.54	1625521.05	273150.52	39°14'32.616"N	80°49'19.970"W	959.80	92.934	5.05	4.50	2.64
6881.00	62.280	128.800	6485.17	408.03	-74.08	989.47	1625551.61	273125.11	39°14'32.369"N	80°49'19.577"W	992.24	94.282	1.21	1.16	-0.42
6926.00	64.930	130.860	6505.17	442.88	-99.90	1020.41	1625582.17	273098.84	39°14'32.114"N	80°49'19.184"W	1025.29	95.592	7.18	5.89	4.58



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# Actual Wellpath Report

OXFD1BHS AWP (Curve&Lateral) Proj: 13619'  
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 JUN 06 2017  
 WV Department of Environmental Protection

### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot B
Area	Doddridge Co., WV	Well	OXFD1BHS
Field	Doddridge	Wellbore	OXFD1BHS AWP
Facility	Oxford Pad		

### WELLPATH DATA (171 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]
6971.00	69.010	133.120	6522.77	479.44	-127.61	1051.18	1625612.52	273070.68	39°14'31.840"N	80°49'18.793"W	1058.90	96.921	10.18	9.07	5.02
7016.00	71.880	135.480	6537.84	517.64	-157.22	1081.52	1625642.42	273040.62	39°14'31.547"N	80°49'18.407"W	1092.88	98.271	8.07	6.38	5.24
7061.00	73.980	137.740	6551.05	557.12	-188.48	1111.06	1625671.49	273008.93	39°14'31.238"N	80°49'18.032"W	1126.93	99.628	6.70	4.67	5.02
7105.00	76.140	140.320	6562.39	596.81	-220.58	1138.93	1625698.88	272976.43	39°14'30.921"N	80°49'17.678"W	1160.09	100.961	7.50	4.91	5.86
7150.00	79.010	143.170	6572.08	638.54	-255.09	1166.12	1625725.57	272941.53	39°14'30.580"N	80°49'17.332"W	1193.70	102.339	8.88	6.38	6.33
7195.00	82.030	147.190	6579.49	681.44	-291.52	1191.45	1625750.36	272904.73	39°14'30.220"N	80°49'17.010"W	1226.60	103.749	11.08	6.71	8.93
7240.00	84.700	151.150	6584.69	725.33	-329.89	1214.35	1625772.69	272866.02	39°14'29.841"N	80°49'16.719"W	1258.36	105.198	10.56	5.93	8.80
7285.00	87.540	154.090	6587.74	769.84	-369.75	1234.99	1625792.74	272825.87	39°14'29.447"N	80°49'16.457"W	1289.16	106.667	9.07	6.31	6.53
7330.00	88.980	156.700	6589.10	814.67	-410.64	1253.72	1625810.85	272784.70	39°14'29.043"N	80°49'16.219"W	1319.26	108.136	6.62	3.20	5.80
7375.00	88.860	158.180	6589.95	859.62	-452.19	1270.98	1625827.50	272742.91	39°14'28.632"N	80°49'15.999"W	1349.02	109.584	3.30	-0.27	3.29
7464.00	89.200	163.250	6591.46	948.57	-536.15	1300.36	1625855.64	272658.52	39°14'27.802"N	80°49'15.626"W	1406.55	112.407	5.71	0.38	5.70
7554.00	90.150	164.720	6591.97	1038.35	-622.66	1325.19	1625879.18	272571.66	39°14'26.947"N	80°49'15.310"W	1464.18	115.167	1.94	1.06	1.63
7643.00	90.950	162.100	6591.11	1127.18	-707.94	1350.60	1625903.33	272486.02	39°14'26.104"N	80°49'14.988"W	1524.89	117.662	3.08	0.90	-2.94
7733.00	91.080	163.990	6589.52	1217.03	-794.01	1376.84	1625928.30	272399.57	39°14'25.253"N	80°49'14.654"W	1589.38	119.972	2.10	0.14	2.10
7823.00	90.830	160.560	6588.02	1306.93	-879.71	1404.23	1625954.42	272313.48	39°14'24.406"N	80°49'14.306"W	1657.03	122.066	3.82	-0.28	-3.81
7912.00	90.950	158.370	6586.64	1395.91	-963.04	1435.44	1625984.40	272229.70	39°14'23.583"N	80°49'13.909"W	1728.57	123.858	2.46	0.13	-2.46
8002.00	90.770	157.160	6585.29	1485.83	-1046.34	1469.49	1626017.22	272145.92	39°14'22.759"N	80°49'13.477"W	1803.95	125.452	1.36	-0.20	-1.34
8092.00	90.830	157.110	6584.03	1575.71	-1129.26	1504.46	1626050.96	272062.49	39°14'21.940"N	80°49'13.032"W	1881.12	126.892	0.09	0.07	-0.06
8181.00	90.680	156.500	6582.86	1664.57	-1211.06	1539.51	1626084.80	271980.19	39°14'21.131"N	80°49'12.587"W	1958.76	128.190	0.71	-0.17	-0.69
8271.00	90.740	155.180	6581.74	1754.32	-1293.17	1576.34	1626120.41	271897.55	39°14'20.320"N	80°49'12.119"W	2038.91	129.364	1.47	0.07	-1.47
8361.00	90.920	163.980	6580.43	1844.22	-1377.42	1607.71	1626150.53	271812.85	39°14'19.487"N	80°49'11.720"W	2117.08	130.589	9.78	0.20	9.78
8450.00	90.800	162.390	6579.10	1933.07	-1462.60	1633.45	1626175.01	271727.30	39°14'18.645"N	80°49'11.393"W	2192.57	131.841	1.79	-0.13	-1.79
8540.00	89.720	151.050	6578.69	2022.77	-1545.14	1668.97	1626209.30	271644.25	39°14'17.829"N	80°49'10.942"W	2274.40	132.794	12.66	-1.20	-12.60
8629.00	90.220	150.120	6578.74	2110.57	-1622.66	1712.68	1626251.86	271566.09	39°14'17.063"N	80°49'10.386"W	2359.30	133.454	1.19	0.56	-1.04
8719.00	89.970	156.930	6578.59	2199.95	-1703.18	1752.77	1626290.77	271485.00	39°14'16.267"N	80°49'09.877"W	2443.98	134.178	7.57	-0.28	7.57
8808.00	90.090	162.230	6578.54	2288.91	-1786.55	1783.82	1626320.57	271401.17	39°14'15.443"N	80°49'09.483"W	2524.63	135.044	5.96	0.13	5.96
8898.00	90.740	162.970	6577.89	2378.81	-1872.43	1810.73	1626346.21	271314.91	39°14'14.594"N	80°49'09.141"W	2604.75	135.960	1.09	0.72	0.82
8987.00	90.120	163.340	6577.22	2467.68	-1957.61	1836.52	1626370.74	271229.36	39°14'13.752"N	80°49'08.813"W	2684.22	136.828	0.81	-0.70	0.42
9077.00	90.120	161.260	6577.03	2557.60	-2043.34	1863.88	1626396.83	271143.24	39°14'12.905"N	80°49'08.465"W	2765.74	137.630	2.31	0.00	-2.31
9166.00	90.120	160.270	6576.84	2646.59	-2127.37	1893.20	1626424.91	271058.79	39°14'12.074"N	80°49'08.093"W	2847.79	138.333	1.11	0.00	-1.11

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# Actual Wellpath Report

OXFD1BHS AWP (Curve&Lateral) Proj: 13619'  
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 Environmental Protection

## REFERENCE WELLPATH IDENTIFICATION

Operator: NOBLE ENERGY  
 Area: Doddridge Co., WV  
 Field: Doddridge  
 Facility: Oxford Pad

Slot: Slot B  
 Well: OXFD1BHS  
 Wellbore: OXFD1BHS AWP

## WELLPATH DATA (171 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]
9255.00	90.280	161.120	6576.53	2735.58	-2211.37	1922.62	1626453.09	270974.37	39°14'11.244"N	80°49'07.719"W	2930.29	138.995	0.97	0.18	0.96
9345.00	90.370	165.020	6576.02	2825.43	-2297.45	1948.82	1626478.02	270887.92	39°14'10.393"N	80°49'07.386"W	3012.67	139.694	4.33	0.10	4.33
9435.00	89.570	166.570	6576.07	2914.97	-2384.69	1970.91	1626498.81	270800.36	39°14'09.531"N	80°49'07.105"W	3093.74	140.427	1.94	-0.89	1.72
9525.00	89.720	162.140	6576.63	3004.69	-2471.34	1995.17	1626521.80	270713.37	39°14'08.675"N	80°49'06.797"W	3176.20	141.085	4.92	0.17	-4.92
9614.00	90.180	159.130	6576.71	3093.67	-2555.29	2024.68	1626550.06	270628.99	39°14'07.845"N	80°49'06.422"W	3260.19	141.609	3.42	0.52	-3.38
9704.00	90.220	160.370	6576.39	3183.67	-2639.73	2055.83	1626579.96	270544.11	39°14'07.010"N	80°49'06.026"W	3345.83	142.088	1.38	0.04	1.38
9793.00	89.970	156.010	6576.24	3272.60	-2722.34	2088.89	1626611.79	270461.03	39°14'06.194"N	80°49'05.606"W	3431.41	142.500	4.91	-0.28	-4.90
9882.00	91.750	155.110	6574.91	3361.32	-2803.35	2125.71	1626647.41	270379.48	39°14'05.393"N	80°49'05.138"W	3518.15	142.828	2.24	2.00	-1.01
9972.00	91.230	157.800	6572.57	3451.11	-2885.82	2161.64	1626682.12	270296.49	39°14'04.578"N	80°49'04.682"W	3605.64	143.165	3.04	-0.58	2.99
10062.00	91.600	158.920	6570.35	3541.04	-2969.45	2194.82	1626714.06	270212.39	39°14'03.751"N	80°49'04.260"W	3692.54	143.531	1.31	0.41	1.24
10151.00	91.660	156.480	6567.81	3629.93	-3051.75	2228.58	1626746.60	270129.60	39°14'02.938"N	80°49'03.831"W	3778.86	143.861	2.74	0.07	-2.74
10241.00	90.120	155.180	6566.42	3719.67	-3133.85	2265.42	1626782.23	270046.97	39°14'02.126"N	80°49'03.363"W	3866.93	144.137	2.24	-1.71	-1.44
10331.00	89.910	152.330	6566.39	3809.13	-3214.56	2305.21	1626820.82	269965.68	39°14'01.329"N	80°49'02.858"W	3955.68	144.355	3.18	-0.23	-3.17
10420.00	89.380	154.020	6566.94	3897.50	-3293.98	2345.38	1626859.81	269885.68	39°14'00.544"N	80°49'02.347"W	4043.65	144.548	1.99	-0.60	1.90
10510.00	89.230	152.560	6568.04	3986.87	-3374.37	2385.82	1626899.06	269804.71	39°13'59.749"N	80°49'01.833"W	4132.62	144.738	1.63	-0.17	-1.62
10599.00	89.170	160.660	6569.28	4075.63	-3455.98	2421.12	1626933.15	269722.59	39°13'58.942"N	80°49'01.385"W	4219.67	144.986	9.10	-0.07	9.10
10689.00	89.110	159.900	6570.63	4165.62	-3540.69	2451.49	1626962.26	269637.44	39°13'58.105"N	80°49'00.999"W	4306.54	145.302	0.85	-0.07	-0.84
10779.00	89.350	155.590	6571.84	4255.52	-3623.96	2485.56	1626995.11	269553.68	39°13'57.282"N	80°49'00.566"W	4394.44	145.555	4.80	0.27	-4.79
10868.00	89.350	153.700	6572.85	4344.12	-3704.38	2523.67	1627032.02	269472.71	39°13'56.487"N	80°49'00.082"W	4482.33	145.735	2.12	0.00	-2.12
10958.00	89.420	153.750	6573.82	4433.58	-3785.07	2563.51	1627070.66	269391.44	39°13'55.689"N	80°48'59.576"W	4571.47	145.891	0.10	0.08	0.06
11048.00	89.230	155.930	6574.88	4523.20	-3866.52	2601.77	1627107.71	269309.44	39°13'54.884"N	80°48'59.090"W	4660.39	146.064	2.43	-0.21	2.42
11137.00	89.020	158.020	6576.24	4612.06	-3948.42	2636.57	1627141.31	269227.04	39°13'54.075"N	80°48'58.648"W	4747.79	146.267	2.36	-0.24	2.35
11226.00	89.080	159.150	6577.71	4701.02	-4031.26	2669.06	1627172.57	269143.73	39°13'53.256"N	80°48'58.235"W	4834.77	146.492	1.27	0.07	1.27
11316.00	88.860	160.620	6579.33	4791.00	-4115.76	2700.01	1627202.26	269058.79	39°13'52.421"N	80°48'57.842"W	4922.35	146.734	1.65	-0.24	1.63
11406.00	88.860	162.960	6581.12	4880.94	-4201.23	2728.13	1627229.12	268972.92	39°13'51.576"N	80°48'57.484"W	5009.29	147.002	2.60	0.00	2.60
11495.00	89.540	168.000	6582.36	4969.49	-4287.35	2750.43	1627250.15	268886.48	39°13'50.725"N	80°48'57.201"W	5093.74	147.319	5.71	0.76	5.66
11585.00	89.450	165.610	6583.16	5058.85	-4374.96	2770.97	1627269.39	268798.58	39°13'49.859"N	80°48'56.940"W	5178.67	147.651	2.66	-0.10	-2.66
11675.00	89.750	164.710	6583.79	5148.48	-4461.96	2794.02	1627291.15	268711.26	39°13'48.999"N	80°48'56.647"W	5264.56	147.946	1.05	0.33	-1.00
11764.00	89.820	166.360	6584.12	5237.06	-4548.13	2816.25	1627312.11	268624.77	39°13'48.147"N	80°48'56.365"W	5349.47	148.234	1.86	0.08	1.85
11854.00	89.910	167.280	6584.33	5326.42	-4635.76	2836.77	1627331.34	268536.85	39°13'47.281"N	80°48'56.104"W	5434.85	148.536	1.03	0.10	1.02

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# Actual Wellpath Report

OXFD1BHS AWP (Curve&Lateral) Proj: 13619'  
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### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot B
Area	Doddridge Co., WV	Well	OXFD1BHS
Field	Doddridge	Wellbore	OXFD1BHS AWB
Facility	Oxford Pad		

### WELLPATH DATA (171 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]
11943.00	89.720	165.090	6584.62	5414.90	-4722.18	2858.02	1627351.31	268450.13	39°13'46.427"N	80°48'55.834"W	5519.72	148.816	2.47	-0.21	-2.46
12033.00	89.170	162.720	6585.49	5504.68	-4808.64	2882.97	1627374.98	268363.31	39°13'45.572"N	80°48'55.518"W	5606.65	149.056	2.70	-0.61	-2.63
12123.00	89.910	159.460	6586.21	5594.65	-4893.77	2912.13	1627402.88	268277.77	39°13'44.731"N	80°48'55.147"W	5694.69	149.244	3.71	0.82	-3.62
12212.00	89.880	158.790	6586.38	5683.64	-4976.93	2943.85	1627433.36	268194.15	39°13'43.909"N	80°48'54.744"W	5782.39	149.396	0.75	-0.03	-0.75
12302.00	90.090	157.130	6586.40	5773.58	-5060.35	2977.62	1627465.90	268110.25	39°13'43.084"N	80°48'54.315"W	5871.40	149.527	1.86	0.23	-1.84
12392.00	89.910	159.840	6586.40	5863.54	-5144.07	3010.62	1627497.66	268026.05	39°13'42.257"N	80°48'53.896"W	5960.31	149.661	3.02	-0.20	3.01
12481.00	89.880	158.670	6586.56	5952.53	-5227.30	3042.15	1627527.95	267942.37	39°13'41.434"N	80°48'53.495"W	6048.08	149.802	1.32	-0.03	-1.31
12571.00	89.880	157.360	6586.75	6042.47	-5310.75	3075.84	1627560.41	267858.43	39°13'40.609"N	80°48'53.067"W	6137.17	149.922	1.46	0.00	-1.46
12661.00	89.420	153.450	6587.30	6132.16	-5392.57	3113.29	1627596.64	267776.08	39°13'39.801"N	80°48'52.592"W	6226.74	150.001	4.37	-0.51	-4.34
12751.00	89.510	150.960	6588.14	6221.32	-5472.17	3155.25	1627637.43	267695.86	39°13'39.014"N	80°48'52.059"W	6316.67	150.032	2.77	0.10	-2.77
12840.00	89.510	153.090	6588.90	6309.45	-5550.77	3197.00	1627678.00	267616.66	39°13'38.237"N	80°48'51.528"W	6405.61	150.060	2.39	0.00	2.39
12930.00	89.170	157.970	6589.94	6399.14	-5632.65	3234.26	1627714.06	267534.24	39°13'37.428"N	80°48'51.055"W	6495.17	150.136	5.43	-0.38	5.42
13019.00	88.830	160.220	6591.49	6488.11	-5715.77	3266.01	1627744.58	267450.66	39°13'36.606"N	80°48'50.652"W	6583.08	150.256	2.56	-0.38	2.53
13109.00	89.010	158.630	6593.19	6578.09	-5800.02	3297.63	1627774.95	267365.97	39°13'35.773"N	80°48'50.250"W	6671.92	150.379	1.78	0.20	-1.77
13199.00	89.050	160.820	6594.71	6668.07	-5884.42	3328.82	1627804.88	267281.11	39°13'34.939"N	80°48'49.854"W	6760.73	150.503	2.43	0.04	2.43
13288.00	89.020	161.640	6596.21	6757.04	-5968.68	3357.45	1627832.27	267196.45	39°13'34.106"N	80°48'49.490"W	6848.18	150.642	0.92	-0.03	0.92
13378.00	89.420	160.830	6597.44	6847.01	-6053.88	3386.40	1627859.95	267110.83	39°13'33.264"N	80°48'49.122"W	6936.66	150.778	1.00	0.44	-0.90
13468.00	89.350	160.010	6598.40	6937.00	-6138.67	3416.56	1627888.86	267025.60	39°13'32.426"N	80°48'48.739"W	7025.40	150.901	0.91	-0.08	-0.91
13557.00	89.260	161.810	6599.48	7025.98	-6222.77	3445.66	1627916.72	266941.09	39°13'31.595"N	80°48'48.370"W	7113.05	151.026	2.02	-0.10	2.02
13593.00	89.350	160.850	6599.92	7061.96	-6256.87	3457.18	1627927.74	266906.82	39°13'31.258"N	80°48'48.223"W	7148.47	151.078	2.68	0.25	-2.67
13619.00	89.350	160.850	6600.22	7087.96	-6281.43	3465.71	1627935.90	266882.14	39°13'31.015"N	80°48'48.115"W	7174.09	151.113	0.00	0.00	0.00



17.0600/



# Actual Wellpath Report

OXFD1BHS AWP (Curve&Lateral) Proj: 13619'  
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**REFERENCE WELLPATH IDENTIFICATION**

Operator	NOBLE ENERGY	Slot	Slot B
Area	Doddridge Co., WV	Well	OXFD1BHS
Field	Doddridge	Wellbore	OXFD1BHS AWB
Facility	Oxford Pad		

**TARGETS**

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
OXFD1BHS LP Plat		5965.00	-111.80	1127.07	1625688.63	273085.37	39°14'31.996"N	80°49'17.828"W	point
OXFD1BHS 3500' VS		6555.00	-2924.58	2198.10	1626718.00	270257.20	39°14'04.195"N	80°49'04.219"W	point
OXFD1BHS 3750' VS		6555.00	-3158.25	2287.07	1626803.51	270022.25	39°14'01.885"N	80°49'03.088"W	point
OXFD1BHS BHL Rev-1		6583.70	-6278.33	3475.11	1627945.34	266885.10	39°13'31.045"N	80°48'47.995"W	point
OXFD1BHS LP Rev-1		6586.51	-386.22	1231.56	1625789.06	272809.45	39°14'29.284"N	80°49'16.500"W	point

**WELLPATH COMPOSITION - Ref Wellbore: OXFD1BHS AWB Ref Wellpath: OXFD1BHS AWP (Curve&Lateral) Proj: 13619'**

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
18.60	635.00	Generic gyro - northseeking (Standard)	VES Gyro <13-3/8"> (100'-635')	OXFD1BHS AWB
635.00	2536.00	NaviTrak (MagCorr)	BHI MWD Surveys <12-1/4"> (635')(786'-2536')	OXFD1BHS AWB
2536.00	13593.00	NaviTrak (MagCorr)	BHI MWD Surveys (2536')(2717'-13593')	OXFD1BHS AWB
13593.00	13619.00	Blind Drilling (std)	Projection to bit	OXFD1BHS AWB

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# Actual Wellpath Report

OXFD1BHS AWP (Curve&Lateral) Proj: 13619'  
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### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot B
Area	Doddridge Co., WV	Well	OXFD1BHS
Field	Doddridge	Wellbore	OXFD1BHS AWB
Facility	Oxford Pad		

### COMMENTS

Wellpath general comments  
 API: 47-017-06001-0000  
 BHI Job #: 5592037  
 Rig: Precision 542  
 Duration: 10/15/2013-10/24/2013  
 VES Gyro <13-3/8"> (100'-635')  
 BHI MWD Surveys <12-1/4"> (635')(786'-2536')  
 BHI MWD Surveys <8-3/4"> (2536')(2717'-13593')  
 Projected MD at TD: 13619'