

NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#10 BISON RIDGE Y22-779(2230'FSL&2017'FWL,SEC.10)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: BISON RIDGE Y22-779
Facility: SEC.10-T02N-R64W Wellbore: BISON RIDGE Y22-779 PWB

Comments

SURFACE LOCATION: NESW

40.15183N

104.53985W

API: 05-123-45378

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
30.00	17210.08	OWSG MWD rev2	OWSG MWD rev2 + IFR1 + Multi-Station Correction		BISON RIDGE Y22-779 PWB



Plot reference wellpath is BISON RIDGE Y22-779 (REV-A.G) PWB

True vertical depths are referenced to RIG (2018) (RWB)

Measured depths are referenced to RIG (2018) (RWB)

RIG (2018) (RWB) to Mean Sea Level: 4900 feet

Mean Sea Level to Ground level (At Slot: SLOT#10 BISON RIDGE Y22-779(2230'FSL&2017'FWL,SEC.10)) 0 feet

Contributions are in feet referenced to Slot

Grid System: NAD83 / Lambert Colorado SP, Northern Zone (2011), US feet

* a Wellpath was translated from a different geographic datum

North Reference: Grid north

Scale: True distance

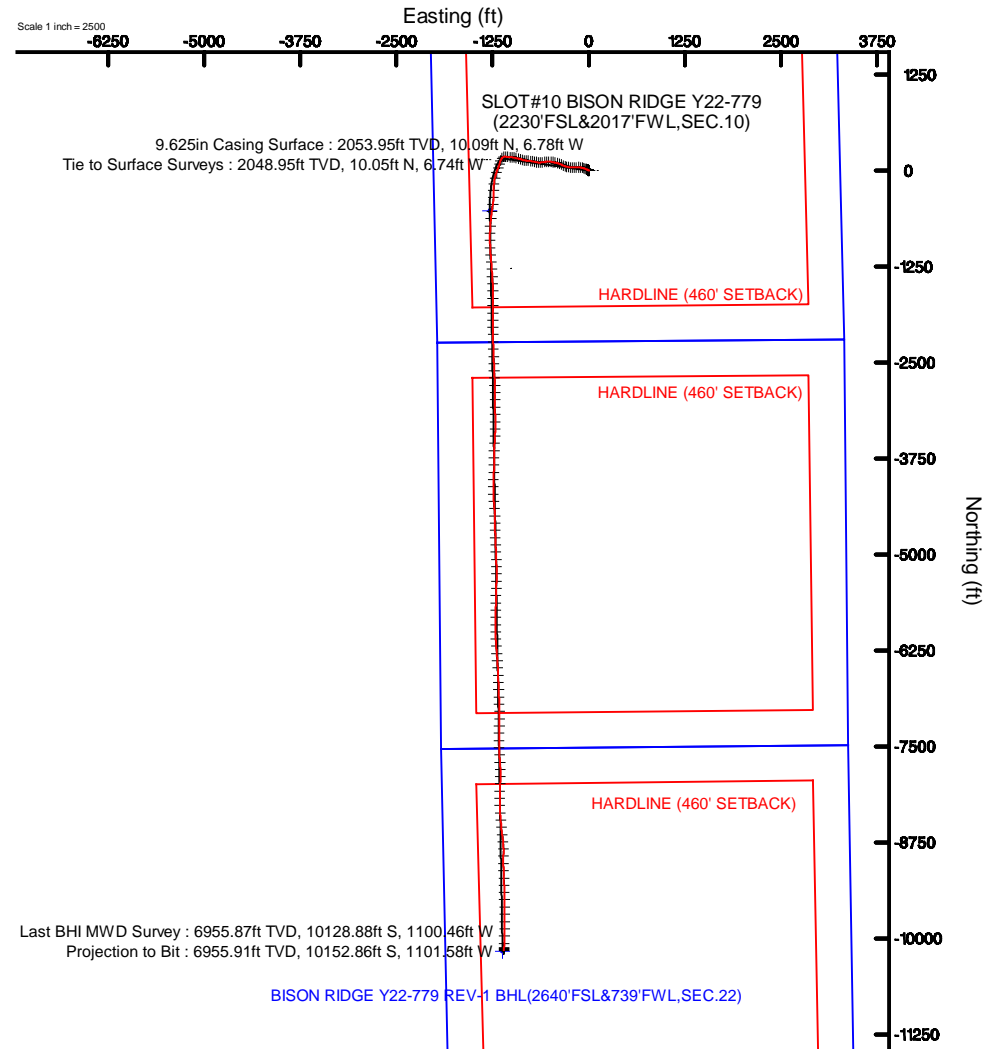
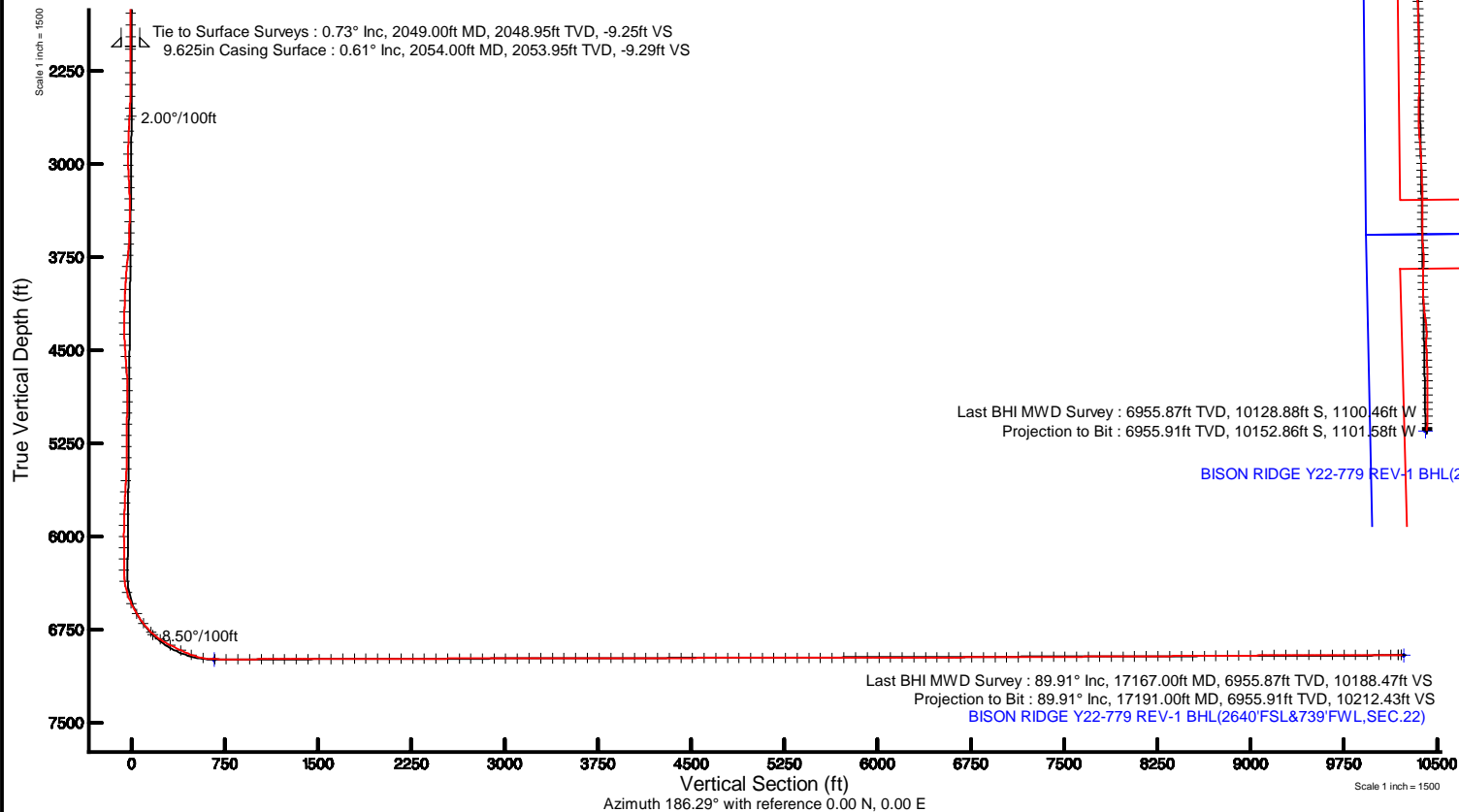
Depths are in feet

Created by: geowizard on 2018-01-08

Datums: WA, DEN, Denver, Data

Location Information

Facility Name	Grid East (US FS)	Grid North (US FS)	Latitude	Longitude
SEC.10-T02N-R64W	288524.071	1288848.012	40°15'18.327N	104°53'58.126W
Site	Local N (ft)	Local E (ft)	Grid East (US FS)	Grid North (US FS)
SLOT#10 BISON RIDGE Y22-779(2230'FSL&2017'FWL,SEC.10)	-1088	-1388.97	288524.071	1288848.012
RIG (2018) (RWB) to Ground level (At Slot: SLOT#10 BISON RIDGE Y22-779(2230'FSL&2017'FWL,SEC.10))				4900
Mean Sea Level to Ground level (At Slot: SLOT#10 BISON RIDGE Y22-779(2230'FSL&2017'FWL,SEC.10))				0
RIG (2018) (RWB) to Mean Sea Level				4900





Actual Wellpath Report

BISON RIDGE Y22-779 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#10 BISON RIDGE Y22-779(2230'FSL&2017'FWL,SEC.10)
Area	COLORADO	Well	BISON RIDGE Y22-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	BISON RIDGE Y22-779 AWB
Facility	SEC.10-T02N-R64W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Guenaler
Scale	0.999958	Report Generated	1/8/2018 at 3:13:08 PM
Convergence at slot	0.63° East	Database/Source file	WA_DEN_Denver_Defn/BISON_RIDGE_Y22-779_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-10.89	-1338.97	3268385.36	1299608.03	40°09'06.588"N	104°32'23.460"W
Facility Reference Pt			3269724.27	1299618.92	40°09'06.552"N	104°32'06.216"W
Field Reference Pt			3000000.00	4454105.15	48°46'34.315"N	105°30'00.000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	RIG (30'KB) (RKB) to Facility Vertical Datum	4960.00ft
Horizontal Reference Pt	Slot	RIG (30'KB) (RKB) to Mean Sea Level	4960.00ft
Vertical Reference Pt	RIG (30'KB) (RKB)	RIG (30'KB) (RKB) to Ground Level at Slot (SLOT#10 BISON RIDGE Y22-779 (2230'FSL&2017'FWL,SEC.10))	4960.00ft
MD Reference Pt	RIG (30'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	186.19°



Actual Wellpath Report

BISON RIDGE Y22-779 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#10 BISON RIDGE Y22-779(2230'FSL&2017'FWL,SEC.10)
Area	COLORADO	Well	BISON RIDGE Y22-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	BISON RIDGE Y22-779 AWB
Facility	SEC.10-T02N-R64W		

WELLPATH DATA (185 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	235.210	0.00	0.00	0.00	0.00	40°09'06.588"N	104°32'23.460"W	0.00	
80.00	0.120	235.210	80.00	0.05	-0.05	-0.07	40°09'06.588"N	104°32'23.461"W	0.15	
179.00	0.270	285.770	179.00	0.08	-0.04	-0.38	40°09'06.588"N	104°32'23.465"W	0.22	
273.00	0.390	316.850	273.00	-0.16	0.25	-0.81	40°09'06.591"N	104°32'23.470"W	0.22	
368.00	0.250	280.870	368.00	-0.39	0.53	-1.24	40°09'06.593"N	104°32'23.476"W	0.25	
462.00	0.350	342.570	462.00	-0.67	0.84	-1.52	40°09'06.596"N	104°32'23.479"W	0.34	
557.00	0.170	24.870	556.99	-1.07	1.24	-1.55	40°09'06.600"N	104°32'23.480"W	0.27	
651.00	0.510	2.220	650.99	-1.62	1.79	-1.48	40°09'06.606"N	104°32'23.479"W	0.38	
746.00	0.290	326.240	745.99	-2.22	2.41	-1.59	40°09'06.612"N	104°32'23.480"W	0.34	
840.00	0.330	340.820	839.99	-2.65	2.86	-1.81	40°09'06.616"N	104°32'23.483"W	0.09	
935.00	0.440	354.160	934.99	-3.25	3.48	-1.94	40°09'06.623"N	104°32'23.485"W	0.15	
1029.00	0.470	342.550	1028.98	-3.96	4.21	-2.09	40°09'06.630"N	104°32'23.486"W	0.10	
1124.00	0.580	325.750	1123.98	-4.68	4.98	-2.48	40°09'06.637"N	104°32'23.491"W	0.20	
1218.00	0.520	319.730	1217.98	-5.34	5.70	-3.02	40°09'06.645"N	104°32'23.498"W	0.09	
1313.00	0.390	343.570	1312.97	-5.93	6.34	-3.39	40°09'06.651"N	104°32'23.503"W	0.24	
1407.00	0.310	351.430	1406.97	-6.48	6.90	-3.52	40°09'06.657"N	104°32'23.504"W	0.10	
1502.00	0.290	324.990	1501.97	-6.91	7.35	-3.70	40°09'06.661"N	104°32'23.507"W	0.15	
1596.00	0.290	308.840	1595.97	-7.21	7.69	-4.02	40°09'06.664"N	104°32'23.511"W	0.09	
1691.00	0.320	272.010	1690.97	-7.32	7.85	-4.47	40°09'06.666"N	104°32'23.517"W	0.21	
1785.00	0.410	310.290	1784.97	-7.49	8.08	-4.99	40°09'06.668"N	104°32'23.523"W	0.27	
1880.00	0.570	322.230	1879.96	-8.02	8.67	-5.54	40°09'06.674"N	104°32'23.530"W	0.20	
1974.00	0.600	320.410	1973.96	-8.70	9.42	-6.14	40°09'06.682"N	104°32'23.538"W	0.04	
2049.00	0.730	313.110	2048.95	-9.26	10.05	-6.74	40°09'06.688"N	104°32'23.545"W	0.21	Tie to Surface Surveys
2077.00	0.090	8.820	2076.95	-9.39	10.19	-6.87	40°09'06.689"N	104°32'23.547"W	2.44	
2171.00	0.340	187.070	2170.95	-9.19	9.99	-6.89	40°09'06.687"N	104°32'23.547"W	0.46	
2266.00	1.810	279.470	2265.93	-8.99	9.96	-8.40	40°09'06.687"N	104°32'23.567"W	1.95	
2361.00	3.670	282.040	2360.82	-9.39	10.84	-12.86	40°09'06.696"N	104°32'23.624"W	1.96	
2455.00	6.340	285.540	2454.46	-10.54	12.86	-20.80	40°09'06.717"N	104°32'23.726"W	2.86	
2550.00	8.110	293.190	2548.70	-13.35	16.90	-32.02	40°09'06.758"N	104°32'23.870"W	2.12	
2644.00	9.630	294.760	2641.57	-17.79	22.80	-45.25	40°09'06.818"N	104°32'24.040"W	1.64	



Actual Wellpath Report
BISON RIDGE Y22-779 AWP
Page 3 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#10 BISON RIDGE Y22-779(2230'FSL&2017'FWL,SEC.10)
Area	COLORADO	Well	BISON RIDGE Y22-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	BISON RIDGE Y22-779 AWB
Facility	SEC.10-T02N-R64W		

WELLPATH DATA (185 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2739.00	11.890	291.210	2734.90	-22.86	29.67	-61.59	40°09'06.888"N	104°32'24.249"W	2.48	
2833.00	14.190	282.150	2826.48	-26.56	35.60	-81.89	40°09'06.949"N	104°32'24.510"W	3.27	
2928.00	16.500	279.050	2918.09	-28.44	40.18	-106.60	40°09'06.996"N	104°32'24.827"W	2.58	
3022.00	16.220	270.330	3008.29	-27.77	42.35	-132.91	40°09'07.021"N	104°32'25.166"W	2.63	
3117.00	16.360	264.810	3099.48	-23.77	41.22	-159.51	40°09'07.012"N	104°32'25.508"W	1.64	
3211.00	16.090	267.280	3189.74	-19.14	39.40	-185.70	40°09'06.997"N	104°32'25.846"W	0.79	
3306.00	16.060	272.560	3281.03	-16.27	39.37	-211.98	40°09'07.000"N	104°32'26.184"W	1.54	
3400.00	15.230	277.420	3371.55	-15.71	41.54	-237.22	40°09'07.024"N	104°32'26.509"W	1.65	
3495.00	15.790	280.080	3463.09	-16.85	45.41	-262.32	40°09'07.065"N	104°32'26.832"W	0.95	
3589.00	13.530	279.660	3554.03	-18.39	49.50	-285.75	40°09'07.108"N	104°32'27.133"W	2.41	
3684.00	14.920	290.920	3646.13	-22.17	55.73	-308.13	40°09'07.172"N	104°32'27.420"W	3.25	
3779.00	16.940	296.600	3737.48	-30.11	66.30	-331.94	40°09'07.279"N	104°32'27.725"W	2.68	
3873.00	17.040	293.020	3827.38	-38.87	77.82	-356.86	40°09'07.395"N	104°32'28.045"W	1.12	
3968.00	16.780	290.550	3918.28	-46.30	88.07	-382.51	40°09'07.499"N	104°32'28.374"W	0.80	
4062.00	17.330	286.060	4008.15	-52.06	96.71	-408.67	40°09'07.587"N	104°32'28.709"W	1.52	
4157.00	17.350	280.530	4098.84	-55.56	103.21	-436.20	40°09'07.655"N	104°32'29.063"W	1.73	
4252.00	17.140	282.190	4189.57	-58.09	108.76	-463.81	40°09'07.712"N	104°32'29.418"W	0.56	
4346.00	17.080	279.680	4279.41	-60.38	114.00	-490.95	40°09'07.767"N	104°32'29.766"W	0.79	
4441.00	17.250	269.420	4370.20	-59.57	116.21	-518.80	40°09'07.792"N	104°32'30.125"W	3.19	
4536.00	16.530	264.410	4461.10	-55.15	114.75	-546.33	40°09'07.780"N	104°32'30.479"W	1.71	
4630.00	16.760	263.650	4551.16	-49.47	111.95	-573.11	40°09'07.755"N	104°32'30.825"W	0.34	
4725.00	16.790	261.410	4642.12	-43.00	108.38	-600.29	40°09'07.723"N	104°32'31.175"W	0.68	
4819.00	16.410	262.960	4732.20	-36.49	104.73	-626.90	40°09'07.690"N	104°32'31.518"W	0.62	
4914.00	16.010	275.600	4823.46	-33.29	104.36	-653.26	40°09'07.689"N	104°32'31.858"W	3.73	
5008.00	16.410	282.410	4913.73	-34.59	108.48	-679.13	40°09'07.733"N	104°32'32.190"W	2.07	
5103.00	16.510	280.520	5004.83	-37.06	113.83	-705.51	40°09'07.788"N	104°32'32.529"W	0.57	
5197.00	16.580	283.440	5094.94	-39.76	119.38	-731.69	40°09'07.846"N	104°32'32.866"W	0.89	
5292.00	16.100	279.290	5186.11	-42.18	124.66	-757.87	40°09'07.901"N	104°32'33.202"W	1.33	
5386.00	16.390	274.740	5276.36	-42.55	127.86	-783.95	40°09'07.935"N	104°32'33.538"W	1.39	
5481.00	16.180	272.680	5367.55	-41.40	129.59	-810.53	40°09'07.955"N	104°32'33.880"W	0.65	



Actual Wellpath Report

BISON RIDGE Y22-779 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#10 BISON RIDGE Y22-779(2230'FSL&2017'FWL,SEC.10)
Area	COLORADO	Well	BISON RIDGE Y22-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	BISON RIDGE Y22-779 AWB
Facility	SEC.10-T02N-R64W		

WELLPATH DATA (185 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5575.00	16.180	283.480	5457.85	-42.26	133.25	-836.35	40°09'07.994"N	104°32'34.212"W	3.20	
5670.00	17.130	287.340	5548.86	-46.64	140.51	-862.58	40°09'08.069"N	104°32'34.548"W	1.53	
5764.00	16.810	286.770	5638.77	-51.82	148.56	-888.81	40°09'08.151"N	104°32'34.885"W	0.38	
5859.00	16.960	283.220	5729.68	-56.03	155.69	-915.45	40°09'08.224"N	104°32'35.227"W	1.10	
5954.00	17.010	283.640	5820.53	-59.53	162.13	-942.45	40°09'08.291"N	104°32'35.574"W	0.14	
6048.00	16.910	281.120	5910.45	-62.49	168.01	-969.22	40°09'08.352"N	104°32'35.918"W	0.79	
6143.00	17.160	275.120	6001.29	-63.41	171.93	-996.74	40°09'08.393"N	104°32'36.272"W	1.87	
6237.00	17.020	276.350	6091.14	-63.19	174.69	-1024.22	40°09'08.424"N	104°32'36.625"W	0.41	
6332.00	17.010	275.130	6181.98	-62.97	177.47	-1051.88	40°09'08.454"N	104°32'36.981"W	0.38	
6426.00	16.750	275.830	6271.93	-62.63	180.07	-1079.05	40°09'08.483"N	104°32'37.330"W	0.35	
6521.00	16.190	253.830	6363.12	-57.50	177.77	-1105.42	40°09'08.463"N	104°32'37.670"W	6.55	
6615.00	20.190	217.050	6452.69	-38.52	161.12	-1127.86	40°09'08.301"N	104°32'37.962"W	12.69	
6710.00	25.580	201.100	6540.26	-4.57	128.84	-1145.15	40°09'07.983"N	104°32'38.189"W	8.60	
6804.00	31.900	197.430	6622.65	39.45	86.17	-1159.91	40°09'07.563"N	104°32'38.385"W	6.98	
6899.00	38.170	200.420	6700.40	92.58	34.66	-1177.69	40°09'07.056"N	104°32'38.621"W	6.84	
6993.00	46.590	198.450	6769.78	154.21	-25.06	-1198.67	40°09'06.468"N	104°32'38.899"W	9.07	
7088.00	56.210	193.410	6829.00	227.30	-96.39	-1218.80	40°09'05.766"N	104°32'39.168"W	10.94	
7183.00	63.760	185.890	6876.54	309.27	-177.38	-1232.36	40°09'04.967"N	104°32'39.354"W	10.49	
7277.00	64.580	179.540	6917.53	393.66	-261.83	-1236.35	40°09'04.133"N	104°32'39.417"W	6.14	
7371.00	69.360	182.330	6954.30	479.78	-348.29	-1237.80	40°09'03.279"N	104°32'39.448"W	5.77	
7466.00	79.480	187.340	6979.80	571.11	-439.31	-1245.59	40°09'02.380"N	104°32'39.561"W	11.80	
7561.00	89.510	188.180	6988.90	665.51	-532.89	-1258.35	40°09'01.457"N	104°32'39.738"W	10.59	
7655.00	89.660	186.490	6989.58	759.49	-626.11	-1270.35	40°09'00.537"N	104°32'39.906"W	1.80	
7750.00	90.120	183.680	6989.76	854.46	-720.73	-1278.77	40°08'59.603"N	104°32'40.027"W	3.00	
7844.00	90.250	181.630	6989.46	948.28	-814.62	-1283.13	40°08'58.675"N	104°32'40.096"W	2.19	
7939.00	90.150	179.270	6989.13	1042.79	-909.61	-1283.87	40°08'57.737"N	104°32'40.119"W	2.49	
8034.00	90.250	176.830	6988.80	1136.83	-1004.55	-1280.64	40°08'56.798"N	104°32'40.091"W	2.57	
8128.00	90.280	175.140	6988.36	1229.34	-1098.32	-1274.06	40°08'55.871"N	104°32'40.019"W	1.80	
8223.00	90.000	175.930	6988.13	1322.70	-1193.03	-1266.66	40°08'54.934"N	104°32'39.937"W	0.88	
8317.00	90.250	176.030	6987.92	1415.21	-1286.79	-1260.07	40°08'54.007"N	104°32'39.865"W	0.29	



Actual Wellpath Report

BISON RIDGE Y22-779 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#10 BISON RIDGE Y22-779(2230'FSL&2017'FWL,SEC.10)
Area	COLORADO	Well	BISON RIDGE Y22-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	BISON RIDGE Y22-779 AWB
Facility	SEC.10-T02N-R64W		

WELLPATH DATA (185 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8412.00	90.280	176.320	6987.48	1508.76	-1381.58	-1253.74	40°08'53.070"N	104°32'39.797"W	0.31	
8506.00	90.250	177.280	6987.05	1601.49	-1475.43	-1248.49	40°08'52.142"N	104°32'39.742"W	1.02	
8601.00	90.400	179.030	6986.51	1695.56	-1570.38	-1245.43	40°08'51.203"N	104°32'39.716"W	1.85	
8696.00	90.340	180.570	6985.90	1789.96	-1665.37	-1245.10	40°08'50.265"N	104°32'39.725"W	1.62	
8790.00	90.030	179.800	6985.59	1883.44	-1759.37	-1245.40	40°08'49.336"N	104°32'39.742"W	0.88	
8885.00	90.280	180.050	6985.34	1977.87	-1854.37	-1245.28	40°08'48.397"N	104°32'39.753"W	0.37	
8979.00	90.220	180.160	6984.93	2071.34	-1948.37	-1245.45	40°08'47.468"N	104°32'39.769"W	0.13	
9074.00	90.030	179.480	6984.72	2165.76	-2043.37	-1245.15	40°08'46.529"N	104°32'39.778"W	0.74	
9168.00	89.780	178.850	6984.87	2259.05	-2137.36	-1243.78	40°08'45.600"N	104°32'39.773"W	0.72	
9263.00	90.250	178.640	6984.85	2353.25	-2232.33	-1241.70	40°08'44.662"N	104°32'39.760"W	0.54	
9357.00	90.150	178.160	6984.52	2446.38	-2326.30	-1239.08	40°08'43.733"N	104°32'39.739"W	0.52	
9452.00	90.280	177.940	6984.17	2540.42	-2421.24	-1235.84	40°08'42.794"N	104°32'39.711"W	0.27	
9546.00	89.970	177.870	6983.96	2633.44	-2515.18	-1232.41	40°08'41.866"N	104°32'39.679"W	0.34	
9641.00	90.250	177.510	6983.78	2727.39	-2610.10	-1228.58	40°08'40.927"N	104°32'39.643"W	0.48	
9735.00	90.120	176.970	6983.47	2820.25	-2703.99	-1224.05	40°08'39.999"N	104°32'39.598"W	0.59	
9830.00	90.310	177.770	6983.12	2914.12	-2798.89	-1219.69	40°08'39.061"N	104°32'39.555"W	0.87	
9924.00	90.340	179.570	6982.58	3007.31	-2892.86	-1217.51	40°08'38.132"N	104°32'39.540"W	1.92	
10019.00	90.120	180.250	6982.20	3101.74	-2987.86	-1217.36	40°08'37.193"N	104°32'39.551"W	0.75	
10114.00	90.250	179.700	6981.90	3196.18	-3082.86	-1217.32	40°08'36.255"N	104°32'39.564"W	0.59	
10208.00	89.970	178.490	6981.72	3289.45	-3176.84	-1215.84	40°08'35.326"N	104°32'39.558"W	1.32	
10303.00	90.060	179.070	6981.69	3383.66	-3271.82	-1213.81	40°08'34.387"N	104°32'39.545"W	0.62	
10397.00	90.090	181.050	6981.57	3477.12	-3365.82	-1213.91	40°08'33.458"N	104°32'39.559"W	2.11	
10491.00	90.310	183.850	6981.24	3570.91	-3459.72	-1217.93	40°08'32.531"N	104°32'39.624"W	2.99	
10586.00	89.910	183.710	6981.06	3665.82	-3554.51	-1224.19	40°08'31.595"N	104°32'39.718"W	0.45	
10680.00	90.370	182.200	6980.83	3759.67	-3648.38	-1229.04	40°08'30.668"N	104°32'39.793"W	1.68	
10775.00	90.280	179.900	6980.29	3854.28	-3743.36	-1230.78	40°08'29.729"N	104°32'39.829"W	2.42	
10869.00	90.220	180.170	6979.88	3947.74	-3837.36	-1230.84	40°08'28.801"N	104°32'39.843"W	0.29	
10964.00	89.880	182.480	6979.80	4042.39	-3932.33	-1233.03	40°08'27.862"N	104°32'39.884"W	2.46	
11058.00	90.060	182.960	6979.84	4136.21	-4026.22	-1237.49	40°08'26.935"N	104°32'39.954"W	0.55	
11153.00	90.180	180.410	6979.65	4230.91	-4121.17	-1240.29	40°08'25.997"N	104°32'40.004"W	2.69	



Actual Wellpath Report

BISON RIDGE Y22-779 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#10 BISON RIDGE Y22-779(2230'FSL&2017'FWL,SEC.10)
Area	COLORADO	Well	BISON RIDGE Y22-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	BISON RIDGE Y22-779 AWB
Facility	SEC.10-T02N-R64W		

WELLPATH DATA (185 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11247.00	90.000	177.900	6979.50	4324.20	-4215.15	-1238.90	40°08'25.068"N	104°32'39.999"W	2.68	
11342.00	90.000	175.780	6979.50	4417.93	-4310.00	-1233.66	40°08'24.130"N	104°32'39.945"W	2.23	
11436.00	90.250	174.390	6979.29	4510.16	-4403.66	-1225.61	40°08'23.204"N	104°32'39.854"W	1.50	
11531.00	90.030	178.760	6979.06	4603.81	-4498.46	-1219.94	40°08'22.267"N	104°32'39.794"W	4.61	
11625.00	90.280	179.340	6978.81	4697.08	-4592.45	-1218.38	40°08'21.338"N	104°32'39.787"W	0.67	
11720.00	90.250	178.720	6978.37	4791.33	-4687.43	-1216.77	40°08'20.399"N	104°32'39.779"W	0.65	
11814.00	90.000	177.850	6978.16	4884.44	-4781.39	-1213.96	40°08'19.470"N	104°32'39.756"W	0.96	
11909.00	90.000	176.870	6978.16	4978.31	-4876.29	-1209.58	40°08'18.532"N	104°32'39.713"W	1.03	
12003.00	90.220	178.290	6977.98	5071.25	-4970.20	-1205.61	40°08'17.604"N	104°32'39.675"W	1.53	
12098.00	90.220	177.930	6977.62	5165.30	-5065.15	-1202.48	40°08'16.665"N	104°32'39.648"W	0.38	
12192.00	89.910	177.480	6977.51	5258.27	-5159.07	-1198.71	40°08'15.737"N	104°32'39.612"W	0.58	
12287.00	90.000	180.150	6977.58	5352.48	-5254.05	-1196.75	40°08'14.798"N	104°32'39.600"W	2.81	
12381.00	89.880	182.060	6977.68	5446.10	-5348.02	-1198.56	40°08'13.869"N	104°32'39.637"W	2.04	
12475.00	90.180	181.840	6977.63	5539.85	-5441.97	-1201.76	40°08'12.941"N	104°32'39.691"W	0.40	
12570.00	90.400	181.280	6977.15	5634.53	-5536.93	-1204.35	40°08'12.003"N	104°32'39.737"W	0.63	
12664.00	90.000	181.480	6976.83	5728.20	-5630.90	-1206.61	40°08'11.075"N	104°32'39.780"W	0.48	
12759.00	90.220	181.000	6976.64	5822.85	-5725.88	-1208.67	40°08'10.137"N	104°32'39.819"W	0.56	
12853.00	90.000	180.430	6976.46	5916.42	-5819.87	-1209.84	40°08'09.208"N	104°32'39.847"W	0.65	
12948.00	89.940	179.430	6976.51	6010.85	-5914.87	-1209.72	40°08'08.269"N	104°32'39.859"W	1.05	
13042.00	90.280	179.960	6976.33	6104.25	-6008.87	-1209.22	40°08'07.340"N	104°32'39.866"W	0.67	
13137.00	89.970	178.730	6976.12	6198.57	-6103.86	-1208.14	40°08'06.402"N	104°32'39.865"W	1.34	
13231.00	90.120	174.920	6976.05	6291.29	-6197.70	-1202.93	40°08'05.474"N	104°32'39.811"W	4.06	
13326.00	90.370	175.080	6975.64	6384.49	-6292.34	-1194.65	40°08'04.538"N	104°32'39.717"W	0.31	
13421.00	90.090	176.110	6975.26	6477.86	-6387.05	-1187.36	40°08'03.601"N	104°32'39.637"W	1.12	
13515.00	90.340	177.150	6974.91	6570.56	-6480.89	-1181.83	40°08'02.673"N	104°32'39.578"W	1.14	
13610.00	90.400	177.630	6974.30	6664.44	-6575.79	-1177.50	40°08'01.735"N	104°32'39.536"W	0.51	
13704.00	90.340	178.310	6973.69	6757.47	-6669.73	-1174.17	40°08'00.806"N	104°32'39.506"W	0.73	
13799.00	90.340	177.340	6973.13	6851.45	-6764.66	-1170.57	40°07'59.868"N	104°32'39.473"W	1.02	
13893.00	90.250	177.480	6972.64	6944.35	-6858.56	-1166.32	40°07'58.940"N	104°32'39.431"W	0.18	
13988.00	90.180	178.140	6972.29	7038.33	-6953.49	-1162.69	40°07'58.001"N	104°32'39.398"W	0.70	



Actual Wellpath Report

BISON RIDGE Y22-779 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#10 BISON RIDGE Y22-779(2230'FSL&2017'FWL,SEC.10)
Area	COLORADO	Well	BISON RIDGE Y22-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	BISON RIDGE Y22-779 AWB
Facility	SEC.10-T02N-R64W		

WELLPATH DATA (185 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14082.00	90.340	179.280	6971.86	7131.53	-7047.46	-1160.58	40°07'57.072"N	104°32'39.383"W	1.22	
14177.00	90.340	180.360	6971.30	7225.94	-7142.46	-1160.28	40°07'56.134"N	104°32'39.393"W	1.14	
14271.00	90.090	181.620	6970.94	7319.55	-7236.44	-1161.90	40°07'55.205"N	104°32'39.427"W	1.37	
14366.00	90.120	180.490	6970.77	7414.17	-7331.42	-1163.65	40°07'54.267"N	104°32'39.462"W	1.19	
14460.00	90.180	180.400	6970.52	7507.69	-7425.42	-1164.38	40°07'53.338"N	104°32'39.485"W	0.12	
14553.00	90.740	179.340	6969.78	7600.12	-7518.42	-1164.17	40°07'52.419"N	104°32'39.495"W	1.29	
14647.00	90.430	176.770	6968.82	7693.16	-7612.35	-1160.98	40°07'51.491"N	104°32'39.467"W	2.75	
14742.00	90.370	174.990	6968.15	7786.62	-7707.10	-1154.15	40°07'50.554"N	104°32'39.392"W	1.87	
14836.00	90.340	177.100	6967.57	7879.15	-7800.87	-1147.67	40°07'49.626"N	104°32'39.322"W	2.24	
14931.00	90.280	181.350	6967.06	7973.42	-7895.83	-1146.39	40°07'48.688"N	104°32'39.318"W	4.47	
15025.00	90.340	182.990	6966.55	8067.19	-7989.76	-1149.95	40°07'47.760"N	104°32'39.377"W	1.75	
15120.00	90.370	182.310	6965.96	8162.00	-8084.66	-1154.34	40°07'46.823"N	104°32'39.447"W	0.72	
15214.00	90.550	180.770	6965.20	8255.69	-8178.62	-1156.86	40°07'45.894"N	104°32'39.493"W	1.65	
15309.00	90.430	178.170	6964.39	8350.02	-8273.60	-1155.99	40°07'44.956"N	104°32'39.494"W	2.74	
15403.00	90.220	175.640	6963.86	8442.78	-8367.46	-1150.91	40°07'44.028"N	104°32'39.442"W	2.70	
15498.00	90.150	175.700	6963.55	8536.18	-8462.19	-1143.74	40°07'43.091"N	104°32'39.363"W	0.10	
15592.00	90.710	175.030	6962.85	8628.51	-8555.87	-1136.14	40°07'42.164"N	104°32'39.278"W	0.93	
15687.00	90.890	171.760	6961.52	8721.12	-8650.22	-1125.22	40°07'41.231"N	104°32'39.151"W	3.45	
15781.00	90.280	173.530	6960.56	8812.50	-8743.44	-1113.19	40°07'40.309"N	104°32'39.009"W	1.99	
15876.00	90.180	179.860	6960.18	8906.15	-8838.23	-1107.71	40°07'39.371"N	104°32'38.951"W	6.66	
15970.00	90.340	180.610	6959.75	8999.64	-8932.23	-1108.10	40°07'38.442"N	104°32'38.969"W	0.82	
16064.00	90.890	179.680	6958.74	9093.11	-9026.22	-1108.34	40°07'37.514"N	104°32'38.985"W	1.15	
16159.00	92.030	178.290	6956.32	9187.33	-9121.17	-1106.65	40°07'36.575"N	104°32'38.977"W	1.89	
16254.00	89.880	177.240	6954.74	9281.28	-9216.08	-1102.95	40°07'35.637"N	104°32'38.943"W	2.52	
16348.00	89.970	178.470	6954.86	9374.28	-9310.01	-1099.43	40°07'34.708"N	104°32'38.910"W	1.31	
16443.00	89.880	178.850	6954.99	9468.46	-9404.99	-1097.21	40°07'33.770"N	104°32'38.895"W	0.41	
16537.00	90.030	179.070	6955.06	9561.72	-9498.97	-1095.50	40°07'32.841"N	104°32'38.886"W	0.28	
16632.00	89.910	179.690	6955.11	9656.05	-9593.97	-1094.47	40°07'31.902"N	104°32'38.886"W	0.66	
16727.00	89.940	180.040	6955.23	9750.47	-9688.96	-1094.25	40°07'30.963"N	104°32'38.896"W	0.37	
16821.00	89.940	180.060	6955.33	9843.93	-9782.96	-1094.33	40°07'30.034"N	104°32'38.910"W	0.02	



Actual Wellpath Report

BISON RIDGE Y22-779 AWP



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#10 BISON RIDGE Y22-779(2230'FSL&2017'FWL,SEC.10)
Area	COLORADO	Well	BISON RIDGE Y22-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	BISON RIDGE Y22-779 AWB
Facility	SEC.10-T02N-R64W		

WELLPATH DATA (185 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16916.00	89.940	180.410	6955.43	9938.41	-9877.96	-1094.72	40°07'29.096"N	104°32'38.928"W	0.37	
17010.00	89.940	180.920	6955.53	10031.98	-9971.96	-1095.81	40°07'28.167"N	104°32'38.956"W	0.54	
17105.00	89.820	181.780	6955.73	10126.64	-10066.93	-1098.05	40°07'27.229"N	104°32'38.998"W	0.91	
17167.00	89.910	182.670	6955.87	10188.49	-10128.88	-1100.46	40°07'26.617"N	104°32'39.037"W	1.44	Last BHI MWD Survey
17191.00	89.910	182.670	6955.91	10212.44	-10152.86	-1101.58	40°07'26.380"N	104°32'39.055"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: BISON RIDGE Y22-779 AWB Ref Wellpath: BISON RIDGE Y22-779 AWP

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.5in Open Hole	30.00	2054.00	2024.00	30.00	2053.95	-0.01	-0.01	10.09	-6.78
9.625in Casing Surface	30.00	2054.00	2024.00	30.00	2053.95	-0.01	-0.01	10.09	-6.78
8.5in Open Hole	2054.00	17191.00	15137.00	2053.95	6955.91	10.09	-6.78	-10152.86	-1101.58

WELLPATH COMPOSITION - Ref Wellbore: BISON RIDGE Y22-779 AWB Ref Wellpath: BISON RIDGE Y22-779 AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	2049.00	Gyrodata standard - Drop gyro or Multi-shot	3rd Party Surface Gyro <80'-2049'>	BISON RIDGE Y22-779 AWB
2049.00	17167.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BHGE/ATCurve 8.5" OWSG, MWD+IFR+MSA <2077'-17167'>	BISON RIDGE Y22-779 AWB
17167.00	17191.00	Blind Drilling (std)	Projection to bit	BISON RIDGE Y22-779 AWB



Actual Wellpath Report

BISON RIDGE Y22-779 AWP

Page 9 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#10 BISON RIDGE Y22-779(2230'FSL&2017'FWL,SEC.10)
Area	COLORADO	Well	BISON RIDGE Y22-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	BISON RIDGE Y22-779 AWB
Facility	SEC.10-T02N-R64W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
2049.00	0.730	313.110	2048.95	Tie to Surface Surveys
17167.00	89.910	182.670	6955.87	Last BHI MWD Survey
17191.00	89.910	182.670	6955.91	Projection to Bit

COMMENTS
<div>Wellpath general comments</div> <div>SURFACE LOCATION: NESW</div> <div>40.15183N</div> <div>104.53985W</div> <div>API: 05-123-45378</div>