



NOBLE ENERGY, INC

Location:	COLORADO	Slot:	SLOT#13 BERETTA FEDERAL LC24-755 (859FNL & 1921FWL, SEC.24)
Field:	WELD COUNTY (NOBLE NAD 83 GRID)	Well:	BERETTA FEDERAL LC24-755
Facility:	SEC.24-T09N-R59W	Wellbore:	BERETTA FEDERAL LC24-755 PWB
Plot reference wellpath is BERETTA FEDERAL LC24-755 (REV-B.0) PWB			
True vertical depths are referenced to H&P 517 (30' KB) (RKB)		Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	
Measured depths are referenced to H&P 517 (30' KB) (RKB)		* = Wellpath was transformed from a different geodetic datum	
H&P 517 (30' KB) (RKB) to Mean Sea Level: 4889 feet		North Reference: Grid north	
Mean Sea Level to Mud line (At Slot: SLOT#13 BERETTA FEDERAL LC24-755 (859FNL & 1921FWL, SEC.24)): 0 feet		Scale: True distance	
Coordinates are in feet referenced to Slot		Depths are in feet	
		Created by: cookdamn on 2017-01-09	
		Database: WA_DEN_Denver_Defn	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#13 BERETTA FEDERAL LC24-755 (859'FNL & 1921'FWL, SEC.24)
Area	COLORADO	Well	BERETTA FEDERAL LC24-755
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	BERETTA FEDERAL LC24-755 AWB
Facility	SEC.24-T09N-R59W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Cookdanm
Scale	0.999993	Report Generated	1/9/17 at 12:45:48 PM
Convergence at slot	1.02° East	Database/Source file	WA_DEN_Denver_Defn/BERETTA_FEDERAL_LC24-755_AWP.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-576.25	-2875.21	3435355.89	1516746.31	40°44'28.572"N	103°55'43.860"W
Facility Reference Pt			3438231.08	1517322.55	40°44'33.760"N	103°55'06.380"W
Field Reference Pt			3000000.00	4454105.15	48°46'34.315"N	105°30'00.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	H&P 517 (30' KB) (RKB) to Facility Vertical Datum	4889.00ft
Horizontal Reference Pt	Slot	H&P 517 (30' KB) (RKB) to Mean Sea Level	4889.00ft
Vertical Reference Pt	H&P 517 (30' KB) (RKB)	H&P 517 (30' KB) (RKB) to Mud Line at Slot (SLOT#13 BERETTA FEDERAL LC24-755 (859'FNL & 1921'FWL, SEC.24))	4889.00ft
MD Reference Pt	H&P 517 (30' KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	170.05°

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	BERETTA FEDERAL LC24-755 AWB
Facility	SEC.24-T09N-R59W		

WELLPATH DATA (91 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
1896.00	0.320	278.150	1895.91	0.59	-1.15	-3.12	40°44'28.561"N	103°55'43.901"W	0.04	Tie to Surface Gyros
1990.00	2.640	36.690	1989.88	-0.98	0.62	-2.09	40°44'28.579"N	103°55'43.887"W	2.99	
2085.00	4.000	32.000	2084.72	-4.94	5.19	0.97	40°44'28.623"N	103°55'43.846"W	1.46	
2180.00	5.720	34.080	2179.37	-10.81	11.92	5.38	40°44'28.689"N	103°55'43.787"W	1.82	
2274.00	7.890	39.680	2272.71	-18.36	20.77	12.13	40°44'28.775"N	103°55'43.698"W	2.41	
2369.00	9.780	46.970	2366.58	-26.99	31.29	22.19	40°44'28.877"N	103°55'43.565"W	2.31	
2463.00	11.760	43.730	2458.92	-37.02	43.66	34.65	40°44'28.997"N	103°55'43.400"W	2.20	
2558.00	13.110	39.220	2551.69	-49.80	59.01	48.16	40°44'29.147"N	103°55'43.221"W	1.75	
2652.00	13.190	34.840	2643.23	-64.38	76.07	61.02	40°44'29.313"N	103°55'43.050"W	1.06	
2747.00	13.340	31.160	2735.69	-80.33	94.34	72.89	40°44'29.491"N	103°55'42.892"W	0.90	
2841.00	13.400	31.710	2827.15	-96.64	112.89	84.22	40°44'29.673"N	103°55'42.740"W	0.15	
2936.00	13.360	34.840	2919.57	-112.65	131.26	96.28	40°44'29.852"N	103°55'42.579"W	0.76	
3030.00	13.370	38.820	3011.02	-127.52	148.64	109.30	40°44'30.021"N	103°55'42.406"W	0.98	
3125.00	13.130	45.710	3103.50	-140.85	164.74	123.91	40°44'30.178"N	103°55'42.213"W	1.68	
3219.00	13.550	50.450	3194.97	-152.31	179.21	140.04	40°44'30.318"N	103°55'42.000"W	1.25	
3314.00	13.550	48.770	3287.32	-163.58	193.63	156.99	40°44'30.457"N	103°55'41.776"W	0.41	
3409.00	13.500	42.520	3379.69	-176.12	209.14	172.86	40°44'30.608"N	103°55'41.567"W	1.54	
3503.00	13.520	39.950	3471.09	-189.88	225.65	187.33	40°44'30.768"N	103°55'41.375"W	0.64	
3598.00	13.400	39.240	3563.48	-204.22	242.68	201.42	40°44'30.934"N	103°55'41.188"W	0.21	
3692.00	13.550	38.330	3654.90	-218.67	259.76	215.14	40°44'31.101"N	103°55'41.006"W	0.28	
3787.00	13.340	38.440	3747.29	-233.35	277.07	228.86	40°44'31.269"N	103°55'40.824"W	0.22	
3881.00	13.580	40.220	3838.71	-247.62	293.99	242.72	40°44'31.434"N	103°55'40.640"W	0.51	
3976.00	13.450	42.650	3931.08	-261.48	310.64	257.41	40°44'31.596"N	103°55'40.445"W	0.61	
4071.00	13.080	48.960	4023.55	-273.74	325.82	273.01	40°44'31.743"N	103°55'40.239"W	1.57	
4165.00	13.300	56.060	4115.08	-283.63	338.84	290.00	40°44'31.869"N	103°55'40.015"W	1.74	
4260.00	13.600	55.030	4207.47	-292.79	351.35	308.22	40°44'31.989"N	103°55'39.776"W	0.40	
4354.00	13.450	50.860	4298.87	-302.80	364.58	325.75	40°44'32.117"N	103°55'39.545"W	1.05	
4449.00	12.810	53.300	4391.38	-312.93	377.85	342.77	40°44'32.245"N	103°55'39.321"W	0.89	
4543.00	13.010	55.980	4483.01	-321.93	390.00	359.89	40°44'32.362"N	103°55'39.095"W	0.67	
4638.00	13.350	56.180	4575.51	-330.73	402.08	377.87	40°44'32.478"N	103°55'38.859"W	0.36	

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	BERETTA FEDERAL LC24-755 AWB
Facility	SEC.24-T09N-R59W		

WELLPATH DATA (91 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4732.00	13.180	55.140	4667.00	-339.63	414.25	395.68	40°44'32.595"N	103°55'38.625"W	0.31	
4827.00	13.120	53.340	4759.51	-349.04	426.88	413.21	40°44'32.717"N	103°55'38.394"W	0.44	
4921.00	13.320	43.550	4851.03	-360.28	441.10	429.23	40°44'32.855"N	103°55'38.183"W	2.39	
5016.00	13.670	38.580	4943.41	-374.22	457.80	443.78	40°44'33.017"N	103°55'37.990"W	1.27	
5110.00	13.840	41.790	5034.71	-388.54	474.87	458.19	40°44'33.183"N	103°55'37.799"W	0.83	
5205.00	13.730	45.130	5126.98	-402.03	491.30	473.76	40°44'33.343"N	103°55'37.593"W	0.85	
5299.00	13.690	41.860	5218.30	-415.29	507.45	489.09	40°44'33.500"N	103°55'37.390"W	0.83	
5394.00	6.760	85.200	5311.86	-421.76	516.31	502.19	40°44'33.585"N	103°55'37.218"W	10.43	
5488.00	8.520	108.220	5405.04	-417.97	514.60	514.32	40°44'33.566"N	103°55'37.061"W	3.72	
5582.00	11.900	139.100	5497.60	-406.36	505.09	527.30	40°44'33.470"N	103°55'36.894"W	6.72	
5677.00	19.770	162.280	5589.01	-381.98	482.32	538.63	40°44'33.243"N	103°55'36.753"W	10.48	
5772.00	27.300	168.680	5676.06	-344.22	445.60	547.81	40°44'32.878"N	103°55'36.642"W	8.36	
5866.00	36.550	169.010	5755.76	-294.58	396.88	557.40	40°44'32.395"N	103°55'36.528"W	9.84	
5961.00	45.990	169.440	5827.08	-231.99	335.38	569.08	40°44'31.786"N	103°55'36.391"W	9.94	
6055.00	54.040	171.560	5887.44	-160.04	264.40	580.88	40°44'31.082"N	103°55'36.254"W	8.74	
6150.00	59.700	172.660	5939.34	-80.57	185.63	591.77	40°44'30.302"N	103°55'36.131"W	6.04	
6244.00	68.560	173.420	5980.31	3.81	101.75	601.98	40°44'29.472"N	103°55'36.017"W	9.45	
6339.00	79.830	174.210	6006.15	94.87	11.02	611.80	40°44'28.574"N	103°55'35.911"W	11.89	
6434.00	90.580	175.220	6014.08	189.09	-83.10	620.50	40°44'27.642"N	103°55'35.819"W	11.37	
6528.00	90.550	176.180	6013.15	282.63	-176.83	627.55	40°44'26.715"N	103°55'35.749"W	1.02	
6623.00	90.460	178.840	6012.31	376.81	-271.73	631.67	40°44'25.777"N	103°55'35.718"W	2.80	
6718.00	90.710	179.520	6011.34	470.60	-366.72	633.03	40°44'24.838"N	103°55'35.722"W	0.76	
6812.00	90.830	176.260	6010.08	563.70	-460.63	636.49	40°44'23.910"N	103°55'35.699"W	3.47	
6907.00	90.460	173.380	6009.01	658.35	-555.23	645.07	40°44'22.974"N	103°55'35.609"W	3.06	
7001.00	90.620	173.370	6008.12	752.19	-648.59	655.91	40°44'22.049"N	103°55'35.490"W	0.17	
7096.00	90.800	176.660	6006.95	846.81	-743.21	664.17	40°44'21.113"N	103°55'35.404"W	3.47	
7191.00	90.740	183.260	6005.67	940.34	-838.15	664.23	40°44'20.175"N	103°55'35.425"W	6.95	
7285.00	90.830	181.890	6004.38	1032.09	-932.05	660.01	40°44'19.248"N	103°55'35.502"W	1.46	
7380.00	90.710	179.590	6003.10	1125.42	-1027.02	658.78	40°44'18.310"N	103°55'35.540"W	2.42	
7475.00	90.710	180.720	6001.93	1218.94	-1122.02	658.53	40°44'17.372"N	103°55'35.565"W	1.19	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#13 BERETTA FEDERAL LC24-755 (859'FNL & 1921'FWL, SEC.24)
Area	COLORADO	Well	BERETTA FEDERAL LC24-755
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	BERETTA FEDERAL LC24-755 AWB
Facility	SEC.24-T09N-R59W		

WELLPATH DATA (91 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7569.00	90.680	183.030	6000.79	1310.93	-1215.95	655.45	40°44'16.444"N	103°55'35.627"W	2.46	
7664.00	90.920	182.380	5999.46	1403.61	-1310.84	650.97	40°44'15.508"N	103°55'35.707"W	0.73	
7758.00	90.830	180.210	5998.02	1495.79	-1404.80	648.84	40°44'14.580"N	103°55'35.756"W	2.31	
7853.00	90.770	179.260	5996.70	1589.43	-1499.78	649.28	40°44'13.641"N	103°55'35.772"W	1.00	
7947.00	90.550	178.570	5995.61	1682.30	-1593.76	651.06	40°44'12.712"N	103°55'35.771"W	0.77	
8042.00	90.620	176.360	5994.64	1776.49	-1688.66	655.27	40°44'11.774"N	103°55'35.738"W	2.33	
8136.00	90.370	175.260	5993.83	1870.01	-1782.40	662.13	40°44'10.847"N	103°55'35.670"W	1.20	
8231.00	90.580	175.880	5993.04	1964.57	-1877.11	669.47	40°44'09.910"N	103°55'35.597"W	0.69	
8325.00	90.490	177.190	5992.17	2057.96	-1970.94	675.15	40°44'08.982"N	103°55'35.545"W	1.40	
8419.00	90.430	179.180	5991.41	2151.01	-2064.88	678.13	40°44'08.053"N	103°55'35.528"W	2.12	
8514.00	90.460	180.230	5990.67	2244.66	-2159.87	678.62	40°44'07.115"N	103°55'35.543"W	1.11	
8609.00	90.400	178.480	5989.96	2338.40	-2254.86	679.69	40°44'06.176"N	103°55'35.551"W	1.84	
8703.00	90.430	176.730	5989.28	2431.58	-2348.77	683.61	40°44'05.248"N	103°55'35.522"W	1.86	
8798.00	90.490	177.770	5988.52	2525.82	-2443.66	688.17	40°44'04.309"N	103°55'35.485"W	1.10	
8892.00	90.550	177.250	5987.66	2619.02	-2537.57	692.26	40°44'03.381"N	103°55'35.453"W	0.56	
8987.00	90.740	176.740	5986.60	2713.32	-2632.43	697.24	40°44'02.443"N	103°55'35.410"W	0.57	
9081.00	90.550	176.380	5985.54	2806.71	-2726.25	702.88	40°44'01.515"N	103°55'35.359"W	0.43	
9270.00	90.580	179.050	5983.67	2993.99	-2915.08	710.41	40°43'59.648"N	103°55'35.304"W	1.41	
9365.00	90.490	179.970	5982.79	3087.69	-3010.07	711.22	40°43'58.709"N	103°55'35.316"W	0.97	
9459.00	90.830	180.100	5981.70	3180.26	-3104.06	711.17	40°43'57.781"N	103°55'35.338"W	0.39	
9554.00	91.080	181.820	5980.12	3273.53	-3199.03	709.57	40°43'56.843"N	103°55'35.381"W	1.83	
9648.00	90.520	182.070	5978.81	3365.50	-3292.97	706.38	40°43'55.915"N	103°55'35.444"W	0.65	
9743.00	90.250	181.420	5978.17	3458.52	-3387.92	703.49	40°43'54.978"N	103°55'35.503"W	0.74	
9932.00	90.220	178.980	5977.39	3644.55	-3576.91	702.83	40°43'53.111"N	103°55'35.555"W	1.29	
10027.00	90.150	178.110	5977.09	3738.50	-3671.87	705.24	40°43'52.172"N	103°55'35.546"W	0.92	
10121.00	90.180	175.490	5976.82	3831.84	-3765.72	710.49	40°43'51.244"N	103°55'35.499"W	2.79	
10216.00	90.310	178.480	5976.41	3926.14	-3860.58	715.49	40°43'50.306"N	103°55'35.456"W	3.15	
10310.00	90.180	180.350	5976.01	4018.88	-3954.57	716.45	40°43'49.377"N	103°55'35.466"W	1.99	
10405.00	90.310	182.030	5975.60	4112.08	-4049.54	714.47	40°43'48.439"N	103°55'35.513"W	1.77	
10436.00	90.220	183.200	5975.46	4142.34	-4080.51	713.06	40°43'48.134"N	103°55'35.539"W	3.79	Last BHI MWD Surveys

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	BERETTA FEDERAL LC24-755 AWB
Facility	SEC.24-T09N-R59W		

WELLPATH DATA (91 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
10458.00	90.220	183.200	5975.37	4163.76	-4102.47	711.83	40°43'47.917"N	103°55'35.560"W	0.00	Projection to Bit

HOLE & CASING SECTIONS									
- Ref Wellbore: BERETTA FEDERAL LC24-755 AWB					Ref Wellpath: BERETTA FEDERAL LC24-755 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 Conductor	30.00	1902.00	1872.00	30.00	1901.91	-0.01	0.00	-1.14	-3.15
9.625in Casing Surface	30.00	1902.00	1872.00	30.00	1901.91	-0.01	0.00	-1.14	-3.15
8.5in Open Hole	1902.00	10458.00	8556.00	1901.91	5975.37	-1.14	-3.15	-4102.47	711.83

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.24-T09N-R59W	8.00	575.84	2874.91	3438230.78	1517322.14	40°44'33.756"N	103°55'06.384"W	polygon
BERETTA FEDERAL LC24-755 BHL (330'FSL & 2530'FWL) REV-1	5973.57	-4112.10	721.52	3436077.40	1512634.24	40°43'47.820"N	103°55'35.436"W	point
BERETTA FEDERAL LC24-755 BHL REV-2 (330'FSL & 2530'FWL)	5973.57	-4112.10	721.52	3436077.40	1512634.24	40°43'47.820"N	103°55'35.436"W	point
SECTION 24 330' SETBACK	6001.00	575.84	2874.91	3438230.78	1517322.14	40°44'33.756"N	103°55'06.384"W	polygon
BERETTA FEDERAL LC24-755 LANDING POINT (978'FNL & 2535'FWL, SEC.24)	6008.60	-100.00	614.90	3435970.79	1516646.31	40°44'27.476"N	103°55'35.896"W	point



Actual Wellpath Report

BERETTA FEDERAL LC24-755 AWP

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	BERETTA FEDERAL LC24-755 AWB
Facility	SEC.24-T09N-R59W		

WELLPATH COMPOSITION - Ref Wellbore: BERETTA FEDERAL LC24-755 AWB Ref Wellpath: BERETTA FEDERAL LC24-755 AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	1896.00	BHI Generic gyro - continuous (Standard)	Gyrodatta Surface Survey 8.5" Hole <81'-1896'>	BERETTA FEDERAL LC24-755 AWB
1896.00	10436.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BHI/ATC OWSG+IFR+MSA 8.5" Hole <1990'-10436'>	BERETTA FEDERAL LC24-755 AWB
10436.00	10458.00	Blind Drilling (std)	Projection to bit	BERETTA FEDERAL LC24-755 AWB

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Operator	NOBLE ENERGY, INC	Slot	SLOT#13 BERETTA FEDERAL LC24-755 (859'FNL & 1921'FWL, SEC.24)
Area	COLORADO	Well	BERETTA FEDERAL LC24-755
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	BERETTA FEDERAL LC24-755 AWB
Facility	SEC.24-T09N-R59W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1896.00	0.320	278.150	1895.91	Tie to Surface Gyros
10436.00	90.220	183.200	5975.46	Last BHI MWD Surveys
10458.00	90.220	183.200	5975.37	Projection to Bit