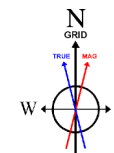


NOBLE ENERGY, INC



**BAKER
HUGHES**
a GE company

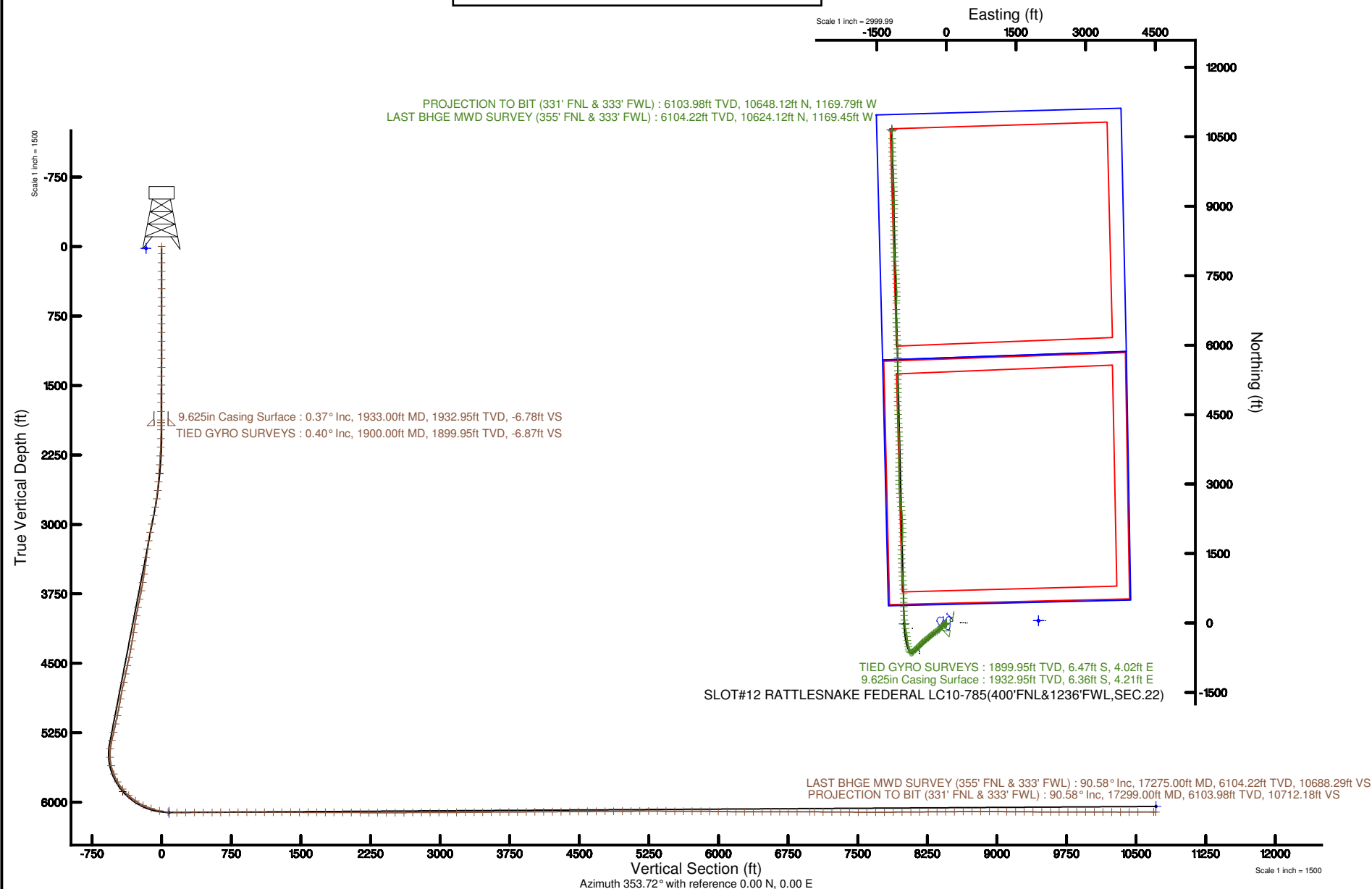


Location: COLORADO Slot: SLOT#12 RATTLESNAKE FEDERAL LC10-785(400'FNL&1236'FWL,SEC.22)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: RATTLESNAKE FEDERAL LC10-785
Facility: SEC.22-T09N-R59W Wellbore: RATTLESNAKE FEDERAL LC10-785 PWB

Plot reference wellbore is RATTLESNAKE FEDERAL LC10-785 (REV A-0) PWB	Grid System: NAD83 (Lambert Colorado SP, Northern Zone 2011), US feet
True vertical depths are referenced to RIG (2016) (RIG)	North Reference: Grid north
Measured depths are referenced to RIG (2016) (RIG)	Scale: True distance
RIG (2016) (RIG) is Mean Sea Level 4544 feet	Depths are in feet
Mean Sea Level is Ground level (A Sea: SLOT#12 RATTLESNAKE FEDERAL LC10-785(400'FNL&1236'FWL,SEC.22), 0 feet)	Created by: certified on 2017-08-01
Coordinates are in feet referenced to GDA	Disclaimer: General

SURFACE LOCATION: NWNW
40.74233N
103.96917W
API #: 05-123-42972

BGGM (1900.0 to 2019.0) Dip: 67.27° Field: 52714.9 nT
Magnetic North is 7.94 degrees East of True North (at 6/28/2017)
Grid North is 0.99 degrees East of True North
To correct azimuth from True to Grid subtract 0.99 degrees
To correct azimuth from Magnetic to Grid add 6.95 degrees





Actual Wellpath Report

RATTLESNAKE FEDERAL LC10-785 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#12 RATTLESNAKE FEDERAL LC10-785(400'FNL&1236'FWL,SEC.22)
Area	COLORADO	Well	RATTLESNAKE FEDERAL LC10-785
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	RATTLESNAKE FEDERAL LC10-785 AWP
Facility	SEC.22-T09N-R59W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Cantryat
Scale	0.999994	Report Generated	8/1/2017 at 4:08:40 PM
Convergence at slot	0.99° East	Database/Source file	Denver/RATTLESNAKE_FEDERAL_LC10-785_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-48.90	-1983.53	3424177.93	1516937.03	40°44'32.388"N	103°58'09.012"W
Facility Reference Pt			3426161.44	1516985.93	40°44'32.532"N	103°57'43.236"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	4944.00ft
Horizontal Reference Pt	Slot	RIG (30'KB) (RKB) to Mean Sea Level	4944.00ft
Vertical Reference Pt	RIG (30'KB) (RKB)	RIG (30'KB) (RKB) to Ground Level at Slot (SLOT#12 RATTLESNAKE FEDERAL LC10-785 (400'FNL&1236'FWL,SEC.22))	4944.00ft
MD Reference Pt	RIG (30'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	353.72°



Actual Wellpath Report

RATTLESNAKE FEDERAL LC10-785 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#12 RATTLESNAKE FEDERAL LC10-785(400'FNL&1236'FWL,SEC.22)
Area	COLORADO	Well	RATTLESNAKE FEDERAL LC10-785
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	RATTLESNAKE FEDERAL LC10-785 AWB
Facility	SEC.22-T09N-R59W		

WELLPATH DATA (185 stations)								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00	0.000	101.830	0.00	0.00	0.00	0.00	0.00	
78.00	0.200	101.830	78.00	-0.04	-0.03	0.13	0.26	
176.00	0.760	139.210	176.00	-0.63	-0.56	0.73	0.63	
267.00	0.220	47.380	266.99	-1.02	-0.89	1.25	0.88	
361.00	0.350	310.990	360.99	-0.71	-0.58	1.16	0.46	
455.00	0.310	248.000	454.99	-0.57	-0.49	0.71	0.37	
550.00	0.270	233.550	549.99	-0.75	-0.72	0.29	0.09	
644.00	0.180	231.910	643.99	-0.94	-0.94	0.00	0.10	
739.00	0.210	254.550	738.99	-1.04	-1.08	-0.29	0.09	
833.00	0.160	295.330	832.99	-1.00	-1.07	-0.57	0.15	
928.00	0.180	234.040	927.99	-1.01	-1.10	-0.81	0.18	
1022.00	0.130	151.110	1021.99	-1.18	-1.28	-0.88	0.22	
1117.00	0.140	162.100	1116.99	-1.39	-1.49	-0.79	0.03	
1211.00	0.320	135.170	1210.99	-1.71	-1.78	-0.57	0.22	
1306.00	0.450	127.690	1305.98	-2.17	-2.20	-0.09	0.15	
1400.00	0.770	140.980	1399.98	-2.96	-2.91	0.60	0.37	
1495.00	0.780	146.210	1494.97	-4.07	-3.95	1.36	0.08	
1590.00	0.700	152.760	1589.96	-5.19	-5.00	1.99	0.12	
1684.00	0.710	143.710	1683.96	-6.23	-5.98	2.59	0.12	
1780.00	0.410	109.120	1779.95	-6.89	-6.57	3.27	0.46	
1873.00	0.370	64.590	1872.95	-6.94	-6.55	3.86	0.32	
1900.00	0.400	59.620	1899.95	-6.87	-6.47	4.02	0.17	TIED GYRO SURVEYS
1978.00	0.340	66.280	1977.95	-6.69	-6.24	4.46	0.09	
2073.00	1.390	218.560	2072.94	-7.42	-7.02	4.00	1.79	
2167.00	3.460	221.170	2166.85	-10.15	-10.05	1.43	2.20	
2262.00	5.420	227.770	2261.56	-14.72	-15.23	-3.78	2.13	
2356.00	7.670	233.720	2354.94	-20.46	-21.92	-12.13	2.50	
2451.00	10.340	239.780	2448.77	-27.09	-29.97	-24.61	2.98	
2545.00	13.390	243.600	2540.75	-34.26	-39.05	-41.65	3.35	
2640.00	16.690	246.060	2632.48	-42.18	-49.48	-63.98	3.54	



Actual Wellpath Report

RATTLESNAKE FEDERAL LC10-785 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#12 RATTLESNAKE FEDERAL LC10-785(400'FNL&1236'FWL,SEC.22)
Area	COLORADO	Well	RATTLESNAKE FEDERAL LC10-785
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	RATTLESNAKE FEDERAL LC10-785 AWB
Facility	SEC.22-T09N-R59W		

WELLPATH DATA (185 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
2734.00	17.250	237.110	2722.40	-52.52	-62.53	-88.02	2.84	
2829.00	15.950	220.090	2813.50	-67.84	-80.18	-108.27	5.28	
2923.00	16.070	216.300	2903.85	-86.33	-100.54	-124.29	1.12	
3018.00	16.140	218.240	2995.13	-105.43	-121.51	-140.25	0.57	
3113.00	16.460	223.000	3086.31	-123.62	-141.73	-157.60	1.45	
3208.00	17.500	230.450	3177.18	-140.24	-160.67	-177.80	2.54	
3302.00	17.030	237.330	3266.95	-154.11	-177.10	-200.28	2.23	
3397.00	18.640	242.600	3357.39	-165.76	-191.60	-225.48	2.40	
3492.00	18.750	240.010	3447.38	-177.37	-206.22	-252.18	0.88	
3586.00	19.010	237.480	3536.32	-190.21	-222.00	-278.18	0.91	
3681.00	18.010	233.670	3626.41	-204.41	-239.02	-303.05	1.65	
3775.00	17.730	227.350	3715.89	-220.17	-257.33	-325.29	2.08	
3870.00	17.940	223.800	3806.32	-238.13	-277.69	-346.06	1.17	
3965.00	17.760	225.330	3896.75	-256.52	-298.43	-366.49	0.53	
4059.00	17.200	227.330	3986.41	-273.67	-317.93	-386.90	0.87	
4154.00	18.110	235.750	4076.95	-288.93	-335.77	-409.44	2.85	
4248.00	18.410	235.020	4166.22	-302.90	-352.50	-433.68	0.40	
4343.00	18.360	233.170	4256.37	-317.71	-370.07	-457.95	0.62	
4437.00	18.400	229.670	4345.58	-333.54	-388.54	-481.11	1.17	
4532.00	18.420	226.150	4435.72	-351.09	-408.65	-503.36	1.17	
4626.00	18.410	223.830	4524.90	-369.66	-429.64	-524.35	0.78	
4721.00	18.090	221.840	4615.13	-389.12	-451.45	-544.58	0.74	
4815.00	18.160	221.200	4704.46	-408.76	-473.35	-563.96	0.22	
4910.00	18.380	228.120	4794.68	-427.49	-494.49	-584.87	2.29	
5004.00	18.240	230.950	4883.93	-444.08	-513.65	-607.32	0.96	
5099.00	18.220	228.300	4974.16	-460.73	-532.90	-629.96	0.87	
5194.00	18.450	225.400	5064.34	-478.66	-553.33	-651.75	0.99	
5288.00	18.510	223.930	5153.49	-497.43	-574.52	-672.70	0.50	
5383.00	18.380	222.060	5243.61	-517.03	-596.50	-693.19	0.64	
5477.00	18.340	220.960	5332.83	-536.92	-618.67	-712.81	0.37	



Actual Wellpath Report

RATTLESNAKE FEDERAL LC10-785 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#12 RATTLESNAKE FEDERAL LC10-785(400'FNL&1236'FWL,SEC.22)
Area	COLORADO	Well	RATTLESNAKE FEDERAL LC10-785
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	RATTLESNAKE FEDERAL LC10-785 AWB
Facility	SEC.22-T09N-R59W		

WELLPATH DATA (185 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
5571.00	14.340	239.380	5423.07	-551.77	-635.79	-732.55	6.92	
5666.00	14.760	268.760	5515.15	-555.56	-642.05	-754.80	7.70	
5760.00	18.790	308.200	5605.41	-543.86	-632.92	-778.75	12.56	
5855.00	22.450	338.590	5694.57	-515.54	-606.48	-797.46	11.76	
5950.00	29.750	350.350	5779.88	-474.41	-566.28	-808.05	9.39	
6044.00	39.240	347.960	5857.26	-421.43	-514.09	-818.19	10.20	
6139.00	48.670	348.560	5925.58	-355.86	-449.60	-831.56	9.94	
6233.00	55.220	355.550	5983.53	-281.99	-376.38	-841.57	9.09	
6328.00	64.010	352.460	6031.55	-200.13	-294.98	-850.22	9.67	
6422.00	70.850	348.270	6067.62	-113.56	-209.49	-864.81	8.36	
6517.00	77.660	349.080	6093.38	-22.53	-119.89	-882.75	7.22	
6611.00	85.380	354.580	6107.24	70.28	-27.96	-895.90	10.04	
6706.00	90.400	356.470	6110.74	165.14	66.65	-903.30	5.65	
6801.00	90.280	355.770	6110.18	260.05	161.43	-909.73	0.75	
6895.00	90.400	356.470	6109.62	353.97	255.21	-916.09	0.76	
6990.00	90.180	359.170	6109.14	448.71	350.13	-919.71	2.85	
7084.00	90.120	0.230	6108.89	542.20	444.13	-920.20	1.13	
7178.00	90.310	359.190	6108.54	635.68	538.13	-920.67	1.12	
7273.00	90.120	0.620	6108.18	730.12	633.12	-920.83	1.52	
7367.00	90.030	357.680	6108.06	823.69	727.10	-922.23	3.13	
7462.00	90.220	354.620	6107.85	918.59	821.88	-928.60	3.23	
7556.00	90.060	354.150	6107.62	1012.59	915.42	-937.80	0.53	
7650.00	90.060	354.680	6107.52	1106.58	1008.98	-946.95	0.56	
7745.00	89.780	356.570	6107.66	1201.52	1103.70	-954.20	2.01	
7839.00	89.940	356.970	6107.89	1295.39	1197.55	-959.49	0.46	
7934.00	89.850	357.990	6108.06	1390.18	1292.45	-963.67	1.08	
8028.00	89.690	358.820	6108.44	1483.87	1386.42	-966.28	0.90	
8123.00	89.940	358.200	6108.74	1578.53	1481.38	-968.76	0.70	
8217.00	90.090	3.290	6108.72	1671.79	1575.34	-967.53	5.42	
8312.00	90.060	6.140	6108.59	1765.04	1670.01	-959.73	3.00	



Actual Wellpath Report

RATTLESNAKE FEDERAL LC10-785 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#12 RATTLESNAKE FEDERAL LC10-785(400'FNL&1236'FWL,SEC.22)
Area	COLORADO	Well	RATTLESNAKE FEDERAL LC10-785
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	RATTLESNAKE FEDERAL LC10-785 AWB
Facility	SEC.22-T09N-R59W		

WELLPATH DATA (185 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
8406.00	89.970	4.650	6108.57	1857.09	1763.59	-950.89	1.59	
8501.00	89.350	2.710	6109.13	1950.65	1858.39	-944.79	2.14	
8595.00	89.420	359.760	6110.14	2043.83	1952.35	-942.76	3.14	
8690.00	89.540	357.830	6111.01	2138.45	2047.32	-944.76	2.04	
8785.00	89.510	359.070	6111.79	2233.12	2142.28	-947.33	1.31	
8879.00	90.090	358.240	6112.12	2326.77	2236.26	-949.54	1.08	
8974.00	90.000	354.800	6112.05	2421.64	2331.07	-955.30	3.62	
9068.00	90.250	352.950	6111.84	2515.63	2424.53	-965.33	1.99	
9163.00	90.460	353.800	6111.25	2610.63	2518.89	-976.29	0.92	
9258.00	90.310	354.350	6110.61	2705.62	2613.38	-986.10	0.60	
9352.00	90.220	353.770	6110.18	2799.62	2706.87	-995.83	0.62	
9446.00	90.120	354.620	6109.90	2893.62	2800.39	-1005.33	0.91	
9541.00	90.310	355.910	6109.54	2988.58	2895.06	-1013.18	1.37	
9636.00	90.150	357.910	6109.16	3083.42	2989.92	-1018.30	2.11	
9730.00	90.370	359.170	6108.74	3177.09	3083.89	-1020.69	1.36	
9825.00	90.520	359.830	6108.00	3271.60	3178.88	-1021.52	0.71	
9920.00	90.430	0.230	6107.21	3366.02	3273.87	-1021.47	0.43	
10014.00	90.250	359.870	6106.65	3459.45	3367.87	-1021.39	0.43	
10108.00	90.580	2.010	6105.97	3552.69	3461.85	-1019.85	2.30	
10203.00	90.250	2.650	6105.28	3646.62	3556.77	-1015.98	0.76	
10298.00	90.280	1.250	6104.84	3740.63	3651.71	-1012.75	1.47	
10392.00	90.280	0.060	6104.39	3833.94	3745.70	-1011.68	1.27	
10487.00	90.890	359.350	6103.42	3928.42	3840.70	-1012.17	0.99	
10581.00	90.310	358.730	6102.43	4022.01	3934.68	-1013.74	0.90	
10675.00	90.370	358.230	6101.87	4115.68	4028.64	-1016.23	0.54	
10769.00	90.310	356.930	6101.32	4209.46	4122.55	-1020.20	1.38	
10864.00	90.310	356.930	6100.80	4304.31	4217.42	-1025.29	0.00	
10959.00	90.400	357.210	6100.21	4399.15	4312.29	-1030.15	0.31	
11053.00	90.490	357.150	6099.48	4492.97	4406.17	-1034.77	0.12	
11148.00	90.250	356.510	6098.87	4587.83	4501.03	-1040.03	0.72	



Actual Wellpath Report

RATTLESNAKE FEDERAL LC10-785 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#12 RATTLESNAKE FEDERAL LC10-785(400'FNL&1236'FWL,SEC.22)
Area	COLORADO	Well	RATTLESNAKE FEDERAL LC10-785
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	RATTLESNAKE FEDERAL LC10-785 AWB
Facility	SEC.22-T09N-R59W		

WELLPATH DATA (185 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
11242.00	90.460	356.540	6098.29	4681.71	4594.85	-1045.72	0.23	
11337.00	90.490	358.500	6097.50	4776.50	4689.75	-1049.83	2.06	
11432.00	90.490	0.710	6096.69	4870.99	4784.74	-1050.49	2.33	
11526.00	90.060	2.760	6096.24	4964.06	4878.69	-1047.64	2.23	
11621.00	90.120	1.190	6096.09	5058.07	4973.63	-1044.37	1.65	
11716.00	90.220	359.610	6095.80	5152.42	5068.63	-1043.70	1.67	
11810.00	90.090	359.430	6095.55	5245.94	5162.62	-1044.49	0.24	
11905.00	89.750	359.590	6095.68	5340.45	5257.62	-1045.30	0.40	
11999.00	89.660	0.310	6096.17	5433.90	5351.62	-1045.39	0.77	
12094.00	89.850	1.250	6096.57	5528.17	5446.61	-1044.09	1.01	
12188.00	89.630	359.520	6097.00	5621.53	5540.60	-1043.46	1.86	
12283.00	89.780	358.220	6097.49	5716.14	5635.58	-1045.34	1.38	
12378.00	89.970	358.800	6097.70	5810.81	5730.55	-1047.81	0.64	
12472.00	89.320	358.410	6098.28	5904.47	5824.52	-1050.09	0.81	
12567.00	89.020	358.360	6099.65	5999.14	5919.47	-1052.77	0.32	
12661.00	89.540	358.270	6100.84	6092.83	6013.42	-1055.54	0.56	
12756.00	89.510	357.250	6101.62	6187.59	6108.34	-1059.25	1.07	
12850.00	89.420	356.290	6102.50	6281.45	6202.19	-1064.54	1.03	
12945.00	90.220	356.930	6102.80	6376.33	6297.02	-1070.16	1.08	
13039.00	89.940	357.220	6102.67	6470.17	6390.90	-1074.96	0.43	
13134.00	90.060	359.340	6102.67	6564.86	6485.85	-1077.81	2.24	
13229.00	90.090	359.640	6102.54	6659.38	6580.85	-1078.66	0.32	
13323.00	89.880	359.710	6102.57	6752.87	6674.84	-1079.19	0.24	
13418.00	90.000	0.470	6102.67	6847.28	6769.84	-1079.04	0.81	
13557.00	89.750	2.230	6102.97	6985.04	6908.80	-1075.76	1.28	
13607.00	89.660	2.060	6103.23	7034.50	6958.76	-1073.89	0.38	
13701.00	89.750	1.310	6103.71	7127.59	7052.72	-1071.13	0.80	
13796.00	89.570	359.110	6104.28	7221.97	7147.71	-1070.78	2.32	
13890.00	89.510	356.830	6105.03	7315.71	7241.64	-1074.11	2.43	
13985.00	89.630	357.880	6105.74	7410.51	7336.54	-1078.49	1.11	



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RATTLESNAKE FEDERAL LC10-785 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#12 RATTLESNAKE FEDERAL LC10-785(400'FNL&1236'FWL,SEC.22)
Area	COLORADO	Well	RATTLESNAKE FEDERAL LC10-785
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	RATTLESNAKE FEDERAL LC10-785 AWB
Facility	SEC.22-T09N-R59W		

WELLPATH DATA (185 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
14080.00	89.630	357.880	6106.36	7505.26	7431.47	-1082.01	0.00	
14174.00	89.780	356.420	6106.84	7599.08	7525.35	-1086.68	1.56	
14269.00	89.970	355.880	6107.05	7694.00	7620.14	-1093.06	0.60	
14363.00	90.370	357.110	6106.77	7787.89	7713.96	-1098.81	1.38	
14458.00	90.400	355.340	6106.13	7882.79	7808.75	-1105.06	1.86	
14553.00	90.430	354.600	6105.44	7977.76	7903.38	-1113.39	0.78	
14647.00	90.340	356.290	6104.81	8071.71	7997.07	-1120.86	1.80	
14742.00	90.490	357.770	6104.12	8166.55	8091.94	-1125.78	1.57	
14836.00	90.490	359.110	6103.32	8260.22	8185.90	-1128.34	1.43	
14931.00	90.490	359.670	6102.51	8354.76	8280.89	-1129.35	0.59	
15025.00	90.370	359.420	6101.80	8448.27	8374.89	-1130.09	0.30	
15120.00	90.340	0.130	6101.21	8542.73	8469.88	-1130.47	0.75	
15214.00	90.520	0.300	6100.51	8636.13	8563.88	-1130.11	0.26	
15309.00	90.090	0.100	6100.00	8730.52	8658.88	-1129.78	0.50	
15404.00	89.910	0.400	6100.00	8824.90	8753.88	-1129.37	0.37	
15498.00	90.000	0.770	6100.08	8918.22	8847.87	-1128.41	0.41	
15592.00	89.540	0.450	6100.45	9011.54	8941.87	-1127.41	0.60	
15687.00	89.480	0.060	6101.27	9105.92	9036.86	-1126.98	0.42	
15782.00	89.540	359.650	6102.08	9200.37	9131.86	-1127.23	0.44	
15876.00	89.630	358.810	6102.76	9293.93	9225.84	-1128.49	0.90	
15970.00	89.510	358.590	6103.46	9387.58	9319.82	-1130.62	0.27	
16065.00	89.450	358.020	6104.33	9482.27	9414.77	-1133.43	0.60	
16160.00	90.060	357.640	6104.73	9577.02	9509.70	-1137.03	0.76	
16254.00	90.150	358.420	6104.56	9670.75	9603.65	-1140.26	0.84	
16349.00	90.030	357.780	6104.41	9765.47	9698.59	-1143.41	0.69	
16444.00	90.030	357.670	6104.36	9860.24	9793.52	-1147.18	0.12	
16538.00	89.850	357.530	6104.46	9954.03	9887.44	-1151.12	0.24	
16633.00	89.820	357.310	6104.73	10048.83	9982.34	-1155.39	0.23	
16727.00	89.630	358.060	6105.18	10142.60	10076.26	-1159.19	0.82	
16822.00	89.630	357.560	6105.80	10237.35	10171.19	-1162.82	0.53	



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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#12 RATTLESNAKE FEDERAL LC10-785(400'FNL&1236'FWL,SEC.22)
Area	COLORADO	Well	RATTLESNAKE FEDERAL LC10-785
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	RATTLESNAKE FEDERAL LC10-785 AWB
Facility	SEC.22-T09N-R59W		

WELLPATH DATA (185 stations)								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
16916.00	90.120	359.490	6106.00	10331.02	10265.15	-1165.24	2.12	
17011.00	90.150	359.660	6105.78	10425.52	10360.15	-1165.94	0.18	
17105.00	90.250	359.120	6105.45	10519.06	10454.14	-1166.94	0.58	
17275.00	90.580	359.190	6104.22	10688.29	10624.12	-1169.45	0.20	LAST BHGE MWD SURVEY (355' FNL & 333' FWL)
17299.00	90.580	359.190	6103.98	10712.18	10648.12	-1169.79	0.00	PROJECTION TO BIT (331' FNL & 333' FWL)

HOLE & CASING SECTIONS									
- Ref Wellbore: RATTLESNAKE FEDERAL LC10-785 AWB				Ref Wellpath: RATTLESNAKE FEDERAL LC10-785 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]
9.625in Casing Surface	30.00	1933.00	1903.00	30.00	1932.95	0.00	0.02	-6.36	4.21



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Area	COLORADO	Well	RATTLESNAKE FEDERAL LC10-785
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	RATTLESNAKE FEDERAL LC10-785 AWB
Facility	SEC.22-T09N-R59W		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
DUKES FEDERAL LC10-745 SECTION 10	20.00	48.90	1983.53	3426161.44	1516985.93	40°44'32.532"N	103°57'43.236"W	polygon
DUKES FEDERAL LC10-745 SECTION 15	20.00	48.90	1983.53	3426161.44	1516985.93	40°44'32.532"N	103°57'43.236"W	polygon
RATTLESNAKE FEDERAL LC10-785 REV-1 BHL FROM PLAT (330'FNL&330'FWL,SEC.10)	6044.81	10649.10	-1172.85	3423005.09	1527586.04	40°46'17.796"N	103°58'21.864"W	point
RATTLESNAKE FEDERAL LC10-785 Landing Point (400'FNL&328'FWL,SEC.22)	6110.00	-20.00	-910.00	3423267.94	1516917.03	40°44'32.345"N	103°58'20.837"W	point
DUKES FEDERAL LC10-745 SECTION 10 300' SETBACK	6520.00	48.90	1983.53	3426161.44	1516985.93	40°44'32.532"N	103°57'43.236"W	polygon
DUKES FEDERAL LC10-745 SECTION 15 300' SETBACK	6520.00	48.90	1983.53	3426161.44	1516985.93	40°44'32.532"N	103°57'43.236"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: RATTLESNAKE FEDERAL LC10-785 AWB					Ref Wellpath: RATTLESNAKE FEDERAL LC10-785 AWP
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
0.00	1900.00	BHI Generic gyro - continuous (Standard)	3rd Party Surface Surveys <78'-1900'>	RATTLESNAKE FEDERAL LC10-785 AWB	
1900.00	17275.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BHI/ATC OWSG MWD+IFR+MSA 8.5" Hole <1978'-17275'>	RATTLESNAKE FEDERAL LC10-785 AWB	
17275.00	17299.00	Blind Drilling (std)	Projection to bit	RATTLESNAKE FEDERAL LC10-785 AWB	



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Area	COLORADO	Well	RATTLESNAKE FEDERAL LC10-785
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	RATTLESNAKE FEDERAL LC10-785 AWB
Facility	SEC.22-T09N-R59W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1900.00	0.400	59.620	1899.95	TIED GYRO SURVEYS
17275.00	90.580	359.190	6104.22	LAST BHGE MWD SURVEY (355' FNL & 333' FWL)
17299.00	90.580	359.190	6103.98	PROJECTION TO BIT (331' FNL & 333' FWL)