

NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#06 GUTTERSEN STATE D23-731 (761°FSL & 1474°FEL,SEC.23)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: GUTTERSEN STATE D23-731
Facility: SEC.23-T03N-R64W Wellbore: GUTTERSEN STATE D23-731 PWB

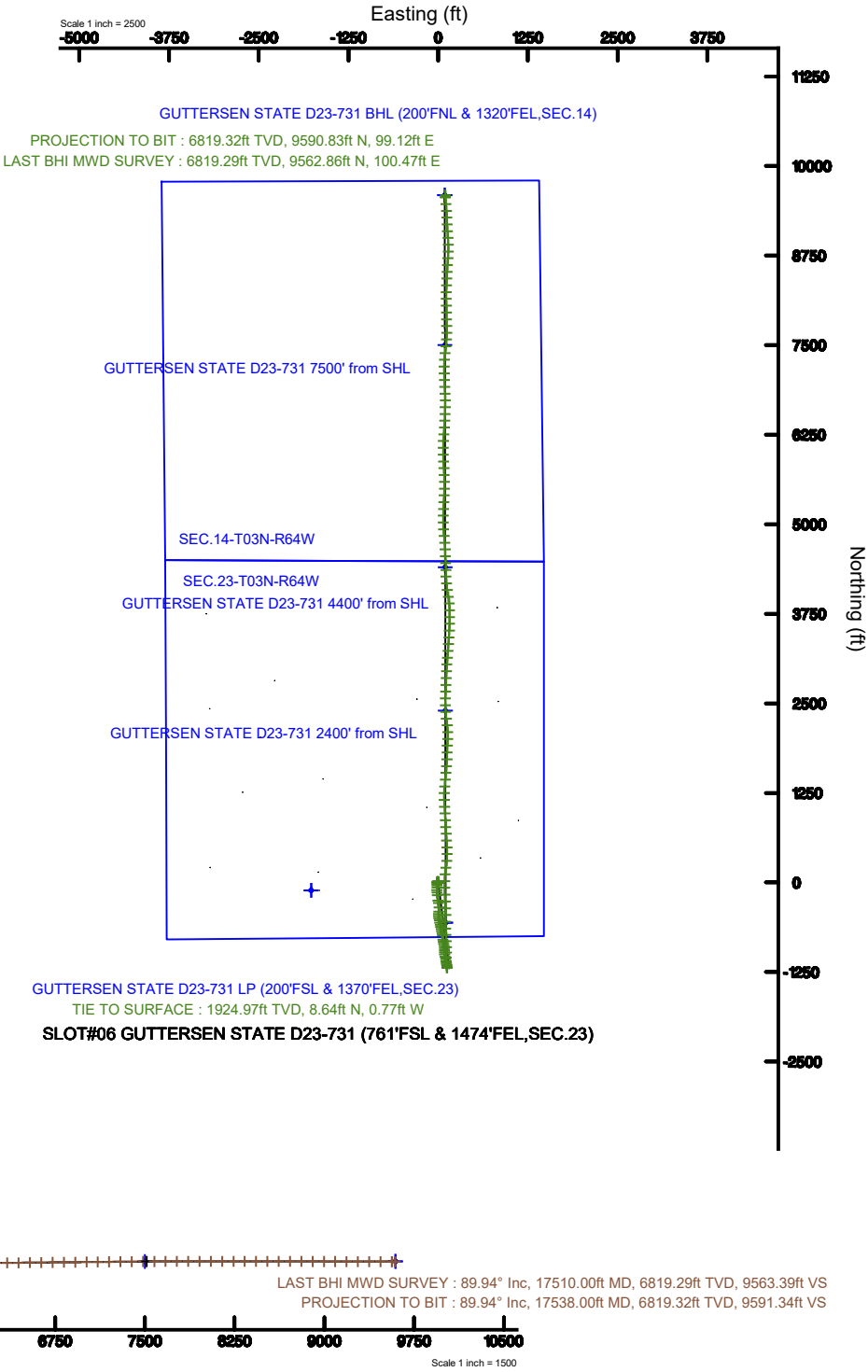
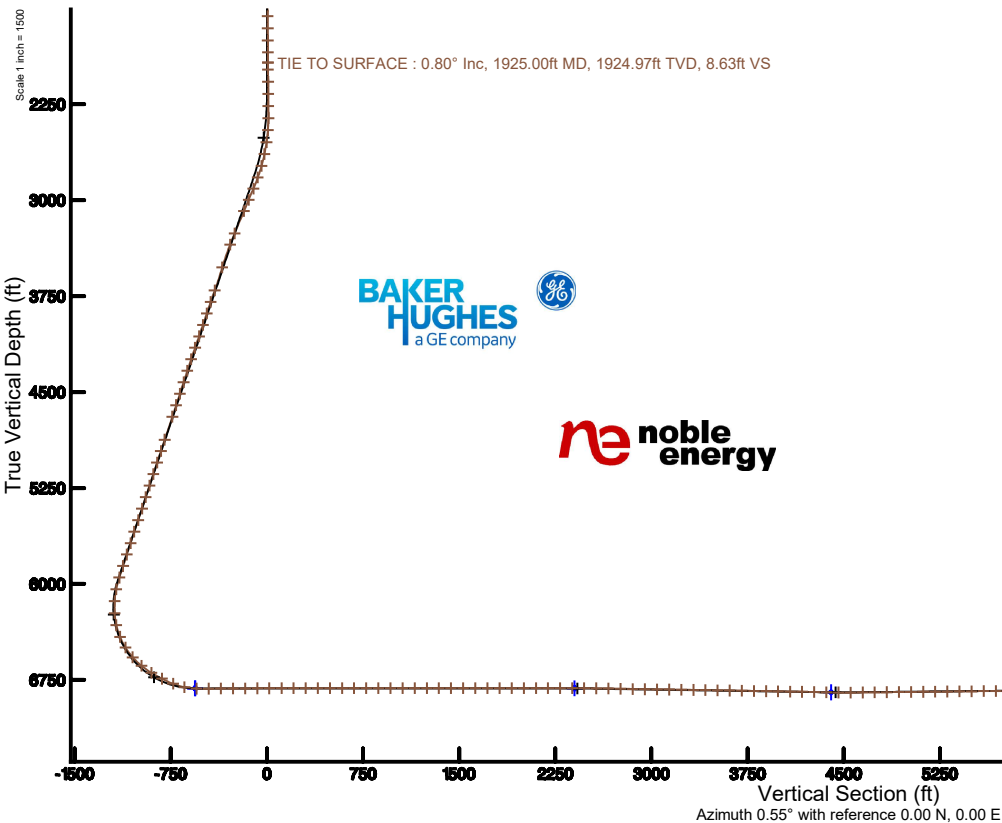
Plot reference wellpath is GUTTERSEN STATE D23-731 PWP (REV-8.0)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (30') (RKB)	North Reference: Grid north
Measured depths are referenced to RIG (30') (RKB)	Scale: True distance
RIG (30') (RKB) to Mean Sea Level: 4839 feet	Depths are in feet
Mean Sea Level to Mud line (At Slot: SLOT#06 GUTTERSEN STATE D23-731 (761°FSL & 1474°FEL,SEC.23)): 0 feet	Created by: doddanna on 2019-07-23
Coordinates are in feet referenced to Slot	Database: WellArchitectDB

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.23-T03N-R64W			3273502.496	1319195.422	40°12'19.595"N	104°31'14.776"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#06 GUTTERSEN STATE D23-731 (761°FSL & 1474°FEL,SEC.23)	109.58	1770.10	3275272.520	1319304.995	40°12'20.484"N	104°30'51.948"W
RIG (30') (RKB) to Mud line (At Slot: SLOT#06 GUTTERSEN STATE D23-731 (761°FSL & 1474°FEL,SEC.23))					4839ft	
Mean Sea Level to Mud line (At Slot: SLOT#06 GUTTERSEN STATE D23-731 (761°FSL & 1474°FEL,SEC.23))					0ft	
RIG (30') (RKB) to Mean Sea Level					4839ft	

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
30.00	17546.27	OWSG MWD rev2	OWSG MWD rev2 + IFR1 + Multi-Station Correction		GUTTERSEN STATE D23-731 PWB



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#06 GUTTERSEN STATE D23-731 (761'FSL & 1474'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-731 AWB
Facility	SEC.23-T03N-R64W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Doddanna
Scale	0.999957	Report Generated	7/23/2019 at 8:56:15 AM
Convergence at slot	0.64° East	Database/Source file	WellArchitectDB/GUTTERSEN_STATE_D23-731_AWP.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	109.58	1770.10	3275272.52	1319305.00	40°12'20.484"N	104°30'51.948"W
Facility Reference Pt			3273502.50	1319195.42	40°12'19.595"N	104°31'14.776"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') (RKB) to Facility Vertical Datum	4839.00ft
Horizontal Reference Pt	Slot	RIG (30') (RKB) to Mean Sea Level	4839.00ft
Vertical Reference Pt	RIG (30') (RKB)	RIG (30') (RKB) to Mud Line at Slot (SLOT#06 GUTTERSEN STATE D23-731 (761'FSL & 1474'FEL,SEC.23))	4839.00ft
MD Reference Pt	RIG (30') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	0.55°

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-731 AWP
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (184 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	356.510	0.00	0.00	0.00	0.00	40°12'20.484"N	104°30'51.948"W	0.00	
82.00	0.100	356.510	82.00	0.07	0.07	0.00	40°12'20.485"N	104°30'51.948"W	0.12	
176.00	0.070	17.900	176.00	0.21	0.21	0.01	40°12'20.486"N	104°30'51.948"W	0.05	
267.00	0.290	359.840	267.00	0.49	0.49	0.02	40°12'20.489"N	104°30'51.948"W	0.25	
330.00	0.570	345.860	330.00	0.95	0.95	-0.05	40°12'20.493"N	104°30'51.949"W	0.47	
425.00	0.660	358.620	424.99	1.96	1.96	-0.18	40°12'20.503"N	104°30'51.950"W	0.17	
520.00	0.210	298.570	519.99	2.59	2.59	-0.35	40°12'20.510"N	104°30'51.952"W	0.61	
615.00	0.360	33.390	614.99	2.92	2.92	-0.34	40°12'20.513"N	104°30'51.952"W	0.45	
709.00	0.430	8.280	708.99	3.52	3.52	-0.12	40°12'20.519"N	104°30'51.949"W	0.20	
804.00	0.320	344.950	803.98	4.13	4.13	-0.14	40°12'20.525"N	104°30'51.949"W	0.20	
899.00	0.520	31.050	898.98	4.75	4.75	0.01	40°12'20.531"N	104°30'51.947"W	0.40	
993.00	0.450	11.810	992.98	5.48	5.48	0.31	40°12'20.538"N	104°30'51.943"W	0.19	
1088.00	0.280	315.890	1087.98	6.01	6.01	0.22	40°12'20.543"N	104°30'51.944"W	0.39	
1183.00	0.330	74.540	1182.98	6.25	6.25	0.33	40°12'20.546"N	104°30'51.943"W	0.55	
1278.00	0.060	32.400	1277.98	6.37	6.37	0.62	40°12'20.547"N	104°30'51.939"W	0.30	
1372.00	0.250	237.570	1371.98	6.30	6.30	0.47	40°12'20.546"N	104°30'51.941"W	0.32	
1467.00	0.100	344.600	1466.98	6.27	6.27	0.27	40°12'20.546"N	104°30'51.944"W	0.31	
1562.00	0.130	331.690	1561.98	6.44	6.44	0.20	40°12'20.548"N	104°30'51.945"W	0.04	
1656.00	0.230	356.230	1655.97	6.72	6.72	0.14	40°12'20.550"N	104°30'51.945"W	0.13	
1751.00	0.450	336.620	1750.97	7.26	7.26	-0.02	40°12'20.556"N	104°30'51.947"W	0.26	
1846.00	0.440	340.540	1845.97	7.94	7.94	-0.29	40°12'20.563"N	104°30'51.951"W	0.03	
1925.00	0.800	317.690	1924.97	8.63	8.64	-0.77	40°12'20.569"N	104°30'51.957"W	0.54	TIE TO SURFACE
1980.00	0.850	303.070	1979.96	9.13	9.14	-1.37	40°12'20.574"N	104°30'51.964"W	0.39	
2075.00	0.430	278.360	2074.95	9.56	9.58	-2.31	40°12'20.579"N	104°30'51.976"W	0.52	
2170.00	0.730	307.500	2169.95	9.97	10.00	-3.14	40°12'20.583"N	104°30'51.987"W	0.43	
2265.00	2.200	304.330	2264.92	11.35	11.40	-5.13	40°12'20.597"N	104°30'52.012"W	1.55	
2359.00	4.110	266.770	2358.78	12.13	12.22	-9.98	40°12'20.606"N	104°30'52.075"W	2.89	
2454.00	5.550	202.630	2453.50	7.64	7.79	-15.15	40°12'20.563"N	104°30'52.142"W	5.55	
2549.00	7.450	177.220	2547.90	-2.76	-2.61	-16.62	40°12'20.460"N	104°30'52.163"W	3.58	
2643.00	12.180	176.980	2640.50	-18.75	-18.60	-15.80	40°12'20.302"N	104°30'52.154"W	5.03	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#06 GUTTERSEN STATE D23-731 (761'FSL & 1474'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-731 AWP
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (184 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2738.00	15.730	181.130	2732.68	-41.64	-41.50	-15.53	40°12'20.076"N	104°30'52.154"W	3.88	
2833.00	20.030	183.680	2823.08	-70.78	-70.62	-16.83	40°12'19.788"N	104°30'52.175"W	4.60	
2927.00	22.860	181.190	2910.56	-105.12	-104.95	-18.24	40°12'19.449"N	104°30'52.198"W	3.16	
3022.00	22.940	176.390	2998.08	-142.04	-141.88	-17.46	40°12'19.084"N	104°30'52.193"W	1.97	
3117.00	22.670	172.150	3085.66	-178.62	-178.49	-13.79	40°12'18.722"N	104°30'52.151"W	1.75	
3306.00	22.760	169.620	3260.01	-250.55	-250.54	-2.23	40°12'18.009"N	104°30'52.013"W	0.52	
3401.00	22.360	166.530	3347.74	-286.12	-286.19	5.29	40°12'17.656"N	104°30'51.921"W	1.32	
3590.00	16.570	177.480	3525.92	-347.99	-348.15	14.86	40°12'17.042"N	104°30'51.806"W	3.61	
3780.00	20.120	191.810	3706.33	-407.14	-407.25	9.36	40°12'16.459"N	104°30'51.886"W	3.01	
3874.00	19.100	184.710	3794.89	-438.34	-438.41	4.79	40°12'16.151"N	104°30'51.949"W	2.76	
3969.00	18.220	174.600	3884.92	-468.62	-468.69	4.91	40°12'15.852"N	104°30'51.952"W	3.52	
4064.00	19.250	169.800	3974.89	-498.78	-498.89	9.08	40°12'15.553"N	104°30'51.902"W	1.95	
4159.00	19.020	166.770	4064.64	-529.20	-529.37	15.40	40°12'15.251"N	104°30'51.825"W	1.07	
4254.00	19.610	166.770	4154.29	-559.72	-559.96	22.59	40°12'14.948"N	104°30'51.737"W	0.62	
4348.00	19.140	171.980	4242.98	-590.28	-590.58	28.35	40°12'14.645"N	104°30'51.667"W	1.90	
4443.00	18.410	167.990	4332.92	-620.33	-620.68	33.64	40°12'14.347"N	104°30'51.603"W	1.55	
4538.00	18.150	165.940	4423.13	-649.29	-649.70	40.36	40°12'14.060"N	104°30'51.521"W	0.73	
4633.00	18.750	166.760	4513.25	-678.44	-678.92	47.45	40°12'13.770"N	104°30'51.434"W	0.69	
4727.00	18.300	169.660	4602.38	-707.60	-708.14	53.56	40°12'13.481"N	104°30'51.359"W	1.09	
4822.00	18.860	168.020	4692.43	-737.24	-737.84	59.42	40°12'13.187"N	104°30'51.288"W	0.81	
5012.00	18.270	176.010	4872.57	-796.92	-797.60	67.87	40°12'12.595"N	104°30'51.188"W	1.37	
5106.00	19.060	171.520	4961.63	-826.76	-827.48	71.16	40°12'12.300"N	104°30'51.149"W	1.74	
5201.00	18.350	168.470	5051.61	-856.71	-857.47	76.44	40°12'12.003"N	104°30'51.086"W	1.27	
5295.00	18.070	169.590	5140.91	-885.49	-886.31	82.03	40°12'11.717"N	104°30'51.018"W	0.48	
5390.00	18.510	175.060	5231.11	-914.97	-915.83	85.99	40°12'11.425"N	104°30'50.971"W	1.86	
5485.00	17.900	178.910	5321.36	-944.57	-945.45	87.57	40°12'11.132"N	104°30'50.955"W	1.42	
5580.00	18.240	182.190	5411.68	-974.03	-974.90	87.28	40°12'10.841"N	104°30'50.963"W	1.13	
5674.00	19.190	170.810	5500.74	-1003.97	-1004.87	89.18	40°12'10.545"N	104°30'50.943"W	4.01	
5769.00	18.840	163.560	5590.56	-1034.03	-1034.99	96.02	40°12'10.246"N	104°30'50.859"W	2.51	
5864.00	18.150	169.740	5680.67	-1063.24	-1064.27	102.99	40°12'09.956"N	104°30'50.773"W	2.19	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#06 GUTTERSEN STATE D23-731 (761'FSL & 1474'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-731 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (184 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5958.00	18.380	168.450	5769.93	-1092.11	-1093.20	108.57	40°12'09.670"N	104°30'50.705"W	0.49	
6053.00	18.370	170.190	5860.09	-1121.48	-1122.62	114.12	40°12'09.378"N	104°30'50.638"W	0.58	
6148.00	18.540	168.760	5950.20	-1151.00	-1152.19	119.61	40°12'09.086"N	104°30'50.572"W	0.51	
6243.00	11.560	171.420	6041.89	-1175.21	-1176.44	123.98	40°12'08.846"N	104°30'50.519"W	7.38	
6337.00	3.770	193.820	6134.99	-1187.54	-1188.78	124.65	40°12'08.724"N	104°30'50.512"W	8.72	
6432.00	3.760	326.730	6229.90	-1187.99	-1189.21	122.19	40°12'08.720"N	104°30'50.544"W	7.27	
6526.00	13.410	359.580	6322.78	-1174.49	-1175.69	120.42	40°12'08.853"N	104°30'50.565"W	11.12	
6621.00	22.920	351.240	6412.95	-1145.15	-1146.32	117.51	40°12'09.144"N	104°30'50.598"W	10.35	
6716.00	31.460	355.850	6497.39	-1102.10	-1103.23	112.89	40°12'09.570"N	104°30'50.651"W	9.25	
6810.00	41.200	1.310	6573.04	-1046.55	-1047.67	111.82	40°12'10.119"N	104°30'50.657"W	10.91	
6905.00	50.780	2.290	6638.97	-978.33	-979.46	114.01	40°12'10.793"N	104°30'50.619"W	10.11	
7000.00	58.790	359.620	6693.72	-900.79	-901.93	115.22	40°12'11.559"N	104°30'50.592"W	8.74	
7095.00	62.430	357.960	6740.33	-818.07	-819.19	113.45	40°12'12.377"N	104°30'50.603"W	4.12	
7190.00	68.320	356.540	6779.90	-731.90	-732.97	109.28	40°12'13.229"N	104°30'50.645"W	6.35	
7284.00	77.980	358.280	6807.12	-642.18	-643.21	105.25	40°12'14.117"N	104°30'50.684"W	10.43	
7379.00	89.050	1.370	6817.83	-547.95	-548.97	105.00	40°12'15.048"N	104°30'50.674"W	12.09	
7474.00	90.430	359.560	6818.26	-452.96	-453.98	105.77	40°12'15.986"N	104°30'50.650"W	2.40	
7568.00	90.430	357.160	6817.56	-359.03	-360.03	103.08	40°12'16.915"N	104°30'50.671"W	2.55	
7663.00	90.400	357.740	6816.87	-264.18	-265.13	98.85	40°12'17.853"N	104°30'50.712"W	0.61	
7758.00	90.370	355.890	6816.23	-169.38	-170.28	93.57	40°12'18.791"N	104°30'50.766"W	1.95	
7853.00	90.430	359.210	6815.57	-74.53	-75.38	89.51	40°12'19.729"N	104°30'50.805"W	3.50	
7947.00	90.000	1.490	6815.22	19.46	18.61	90.09	40°12'20.658"N	104°30'50.784"W	2.47	
8042.00	90.060	5.060	6815.17	114.34	113.44	95.51	40°12'21.594"N	104°30'50.701"W	3.76	
8136.00	90.060	9.250	6815.07	207.69	206.68	107.22	40°12'22.515"N	104°30'50.537"W	4.46	
8231.00	90.090	5.500	6814.94	302.00	300.88	119.41	40°12'23.444"N	104°30'50.366"W	3.95	
8326.00	90.090	0.420	6814.79	396.89	395.72	124.31	40°12'24.381"N	104°30'50.289"W	5.35	
8421.00	90.090	357.890	6814.64	491.85	490.70	122.91	40°12'25.319"N	104°30'50.294"W	2.66	
8516.00	90.060	355.790	6814.52	586.65	585.55	117.68	40°12'26.257"N	104°30'50.348"W	2.21	
8610.00	90.120	356.370	6814.37	680.36	679.33	111.25	40°12'27.185"N	104°30'50.417"W	0.62	
8705.00	90.370	356.510	6813.97	775.12	774.15	105.35	40°12'28.122"N	104°30'50.479"W	0.30	

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-731 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (184 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8800.00	90.000	356.840	6813.66	869.90	868.99	99.84	40°12'29.060"N	104°30'50.537"W	0.52	
8895.00	89.820	357.240	6813.81	964.72	963.86	94.94	40°12'29.998"N	104°30'50.586"W	0.46	
8989.00	89.940	356.370	6814.01	1058.52	1057.71	89.70	40°12'30.926"N	104°30'50.640"W	0.93	
9084.00	89.970	358.040	6814.08	1153.36	1152.60	85.06	40°12'31.864"N	104°30'50.687"W	1.76	
9179.00	89.970	1.630	6814.13	1248.33	1247.58	84.79	40°12'32.802"N	104°30'50.676"W	3.78	
9273.00	90.030	6.090	6814.13	1342.15	1341.35	91.12	40°12'33.728"N	104°30'50.582"W	4.75	
9368.00	89.970	4.220	6814.13	1436.84	1435.96	99.65	40°12'34.662"N	104°30'50.458"W	1.97	
9463.00	89.970	5.640	6814.18	1531.56	1530.60	107.82	40°12'35.597"N	104°30'50.339"W	1.49	
9558.00	90.090	5.120	6814.13	1626.22	1625.18	116.72	40°12'36.530"N	104°30'50.211"W	0.56	
9653.00	89.970	1.560	6814.08	1721.09	1720.01	122.26	40°12'37.467"N	104°30'50.126"W	3.75	
9747.00	89.970	0.800	6814.13	1815.09	1813.99	124.19	40°12'38.395"N	104°30'50.087"W	0.81	
9842.00	89.940	2.650	6814.20	1910.06	1908.94	127.05	40°12'39.333"N	104°30'50.037"W	1.95	
9937.00	90.220	3.560	6814.07	2004.97	2003.80	132.20	40°12'40.270"N	104°30'49.957"W	1.00	
10032.00	89.720	358.180	6814.12	2099.93	2098.75	133.64	40°12'41.208"N	104°30'49.925"W	5.69	
10126.00	90.400	352.990	6814.02	2193.55	2192.44	126.41	40°12'42.134"N	104°30'50.005"W	5.57	
10221.00	89.850	351.910	6813.82	2287.60	2286.62	113.93	40°12'43.066"N	104°30'50.152"W	1.28	
10316.00	90.000	355.850	6813.94	2381.94	2381.06	103.80	40°12'44.001"N	104°30'50.269"W	4.15	
10410.00	89.320	358.650	6814.50	2475.77	2474.94	99.29	40°12'44.929"N	104°30'50.314"W	3.07	
10505.00	89.110	2.210	6815.80	2570.74	2569.91	100.00	40°12'45.867"N	104°30'50.291"W	3.75	
10600.00	88.890	3.720	6817.46	2665.64	2664.76	104.92	40°12'46.804"N	104°30'50.214"W	1.61	
10694.00	88.890	1.730	6819.28	2759.55	2758.64	109.38	40°12'47.731"N	104°30'50.143"W	2.12	
10789.00	88.860	1.480	6821.14	2854.52	2853.58	112.04	40°12'48.669"N	104°30'50.095"W	0.26	
10884.00	88.920	2.680	6822.98	2949.46	2948.50	115.49	40°12'49.606"N	104°30'50.037"W	1.26	
10979.00	89.380	5.200	6824.39	3044.28	3043.26	122.02	40°12'50.542"N	104°30'49.939"W	2.70	
11073.00	89.230	4.170	6825.53	3138.03	3136.93	129.69	40°12'51.467"N	104°30'49.827"W	1.11	
11168.00	89.110	4.000	6826.91	3232.83	3231.68	136.46	40°12'52.402"N	104°30'49.726"W	0.22	
11263.00	89.290	4.490	6828.24	3327.63	3326.41	143.49	40°12'53.338"N	104°30'49.622"W	0.55	
11357.00	89.010	3.790	6829.63	3421.43	3420.16	150.28	40°12'54.263"N	104°30'49.521"W	0.80	
11452.00	88.980	2.470	6831.30	3516.32	3515.00	155.46	40°12'55.200"N	104°30'49.441"W	1.39	
11547.00	89.110	0.480	6832.88	3611.29	3609.95	157.91	40°12'56.138"N	104°30'49.395"W	2.10	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#06 GUTTERSEN STATE D23-731 (761'FSL & 1474'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-731 AWP
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (184 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11642.00	89.140	0.140	6834.33	3706.28	3704.93	158.42	40°12'57.076"N	104°30'49.375"W	0.36	
11736.00	88.710	359.730	6836.10	3800.25	3798.92	158.32	40°12'58.005"N	104°30'49.363"W	0.63	
11831.00	89.080	355.910	6837.93	3895.11	3893.81	154.70	40°12'58.943"N	104°30'49.396"W	4.04	
11925.00	89.110	349.380	6839.41	3988.16	3986.98	142.68	40°12'59.865"N	104°30'49.538"W	6.95	
12020.00	89.040	351.350	6840.95	4081.64	4080.62	126.78	40°13'00.792"N	104°30'49.729"W	2.07	
12115.00	88.580	354.520	6842.92	4175.77	4174.87	115.10	40°13'01.725"N	104°30'49.866"W	3.37	
12209.00	88.890	358.760	6845.00	4269.51	4268.66	109.59	40°13'02.652"N	104°30'49.924"W	4.52	
12304.00	88.920	358.150	6846.81	4364.43	4363.61	107.03	40°13'03.591"N	104°30'49.943"W	0.64	
12398.00	89.110	358.330	6848.43	4458.34	4457.55	104.15	40°13'04.519"N	104°30'49.967"W	0.28	
12493.00	90.430	358.260	6848.81	4553.26	4552.51	101.32	40°13'05.458"N	104°30'49.990"W	1.39	
12588.00	90.800	357.320	6847.79	4648.15	4647.43	97.66	40°13'06.396"N	104°30'50.023"W	1.06	
12682.00	90.620	355.410	6846.63	4741.89	4741.23	91.70	40°13'07.324"N	104°30'50.087"W	2.04	
12777.00	90.460	354.810	6845.73	4836.45	4835.88	83.60	40°13'08.260"N	104°30'50.178"W	0.65	
12871.00	90.580	356.240	6844.88	4930.09	4929.58	76.27	40°13'09.187"N	104°30'50.259"W	1.53	
12966.00	90.580	358.300	6843.92	5024.92	5024.47	71.74	40°13'10.125"N	104°30'50.303"W	2.17	
13061.00	90.550	0.770	6842.98	5119.90	5119.45	70.97	40°13'11.063"N	104°30'50.300"W	2.60	
13155.00	90.770	2.940	6841.90	5213.86	5213.39	74.01	40°13'11.991"N	104°30'50.247"W	2.32	
13250.00	90.620	3.530	6840.74	5308.75	5308.23	79.37	40°13'12.928"N	104°30'50.164"W	0.64	
13345.00	90.680	1.870	6839.67	5403.67	5403.12	83.85	40°13'13.865"N	104°30'50.093"W	1.75	
13439.00	90.620	0.810	6838.60	5497.65	5497.08	86.05	40°13'14.793"N	104°30'50.051"W	1.13	
13534.00	90.490	359.630	6837.68	5592.65	5592.08	86.41	40°13'15.732"N	104°30'50.033"W	1.25	
13629.00	90.620	358.230	6836.76	5687.60	5687.05	84.64	40°13'16.670"N	104°30'50.042"W	1.48	
13724.00	90.990	356.870	6835.42	5782.46	5781.95	80.58	40°13'17.609"N	104°30'50.081"W	1.48	
13818.00	90.580	356.940	6834.14	5876.26	5875.81	75.50	40°13'18.537"N	104°30'50.133"W	0.44	
13913.00	90.580	358.440	6833.17	5971.14	5970.72	71.67	40°13'19.475"N	104°30'50.169"W	1.58	
14008.00	90.580	0.560	6832.21	6066.11	6065.71	70.84	40°13'20.414"N	104°30'50.166"W	2.23	
14103.00	90.620	2.320	6831.22	6161.09	6160.67	73.23	40°13'21.352"N	104°30'50.121"W	1.85	
14197.00	90.490	4.160	6830.31	6254.98	6254.51	78.54	40°13'22.278"N	104°30'50.039"W	1.96	
14292.00	90.520	4.770	6829.47	6349.75	6349.22	85.94	40°13'23.213"N	104°30'49.930"W	0.64	
14387.00	90.710	2.970	6828.45	6444.58	6443.99	92.35	40°13'24.149"N	104°30'49.834"W	1.91	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#06 GUTTERSEN STATE D23-731 (761'FSL & 1474'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-731 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (184 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14481.00	90.550	1.470	6827.42	6538.53	6537.91	95.99	40°13'25.077"N	104°30'49.774"W	1.60	
14576.00	90.680	0.520	6826.40	6633.52	6632.89	97.64	40°13'26.015"N	104°30'49.739"W	1.01	
14671.00	90.550	0.490	6825.38	6728.52	6727.88	98.48	40°13'26.954"N	104°30'49.715"W	0.14	
14765.00	90.580	357.580	6824.45	6822.47	6821.86	96.90	40°13'27.882"N	104°30'49.721"W	3.10	
14860.00	90.520	357.030	6823.54	6917.31	6916.75	92.43	40°13'28.821"N	104°30'49.765"W	0.58	
14955.00	90.520	357.990	6822.68	7012.17	7011.65	88.30	40°13'29.759"N	104°30'49.805"W	1.01	
15049.00	90.620	357.890	6821.74	7106.07	7105.59	84.92	40°13'30.687"N	104°30'49.835"W	0.15	
15144.00	90.680	0.770	6820.66	7201.04	7200.56	83.81	40°13'31.626"N	104°30'49.836"W	3.03	
15238.00	90.620	3.890	6819.60	7294.97	7294.47	87.63	40°13'32.554"N	104°30'49.773"W	3.32	
15333.00	90.680	6.560	6818.52	7389.64	7389.06	96.28	40°13'33.487"N	104°30'49.648"W	2.81	
15428.00	89.970	6.590	6817.98	7484.11	7483.43	107.16	40°13'34.419"N	104°30'49.494"W	0.75	
15523.00	90.280	3.830	6817.77	7578.79	7578.03	115.79	40°13'35.352"N	104°30'49.369"W	2.92	
15617.00	90.090	0.450	6817.47	7672.74	7671.95	119.30	40°13'36.280"N	104°30'49.311"W	3.60	
15712.00	90.090	358.690	6817.32	7767.72	7766.94	118.58	40°13'37.219"N	104°30'49.306"W	1.85	
15806.00	90.060	359.310	6817.20	7861.69	7860.93	116.94	40°13'38.148"N	104°30'49.314"W	0.66	
15901.00	89.820	0.170	6817.30	7956.68	7955.93	116.51	40°13'39.086"N	104°30'49.306"W	0.94	
15995.00	90.030	357.810	6817.42	8050.63	8049.91	114.85	40°13'40.015"N	104°30'49.314"W	2.52	
16090.00	90.000	359.280	6817.39	8145.57	8144.87	112.44	40°13'40.954"N	104°30'49.331"W	1.55	
16185.00	89.970	1.350	6817.42	8240.57	8239.87	112.96	40°13'41.893"N	104°30'49.311"W	2.18	
16279.00	90.090	2.190	6817.37	8334.55	8333.82	115.87	40°13'42.821"N	104°30'49.260"W	0.90	
16374.00	90.000	3.230	6817.29	8429.48	8428.71	120.36	40°13'43.758"N	104°30'49.189"W	1.10	
16468.00	89.940	2.940	6817.34	8523.38	8522.58	125.42	40°13'44.685"N	104°30'49.110"W	0.32	
16563.00	90.060	2.900	6817.34	8618.30	8617.45	130.26	40°13'45.622"N	104°30'49.034"W	0.13	
16658.00	89.820	3.260	6817.44	8713.21	8712.32	135.36	40°13'46.558"N	104°30'48.954"W	0.46	
16752.00	89.850	2.640	6817.71	8807.13	8806.19	140.20	40°13'47.486"N	104°30'48.879"W	0.66	
16847.00	89.970	357.880	6817.86	8902.10	8901.16	140.63	40°13'48.424"N	104°30'48.859"W	5.01	
16942.00	89.820	356.460	6818.04	8996.93	8996.04	135.94	40°13'49.362"N	104°30'48.906"W	1.50	
17036.00	89.880	356.670	6818.28	9090.70	9089.87	130.31	40°13'50.290"N	104°30'48.965"W	0.23	
17131.00	89.940	357.540	6818.43	9185.53	9184.75	125.51	40°13'51.228"N	104°30'49.014"W	0.92	
17226.00	89.940	357.360	6818.53	9280.39	9279.66	121.28	40°13'52.166"N	104°30'49.055"W	0.19	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#06 GUTTERSEN STATE D23-731 (761'FSL & 1474'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-731 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (184 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17320.00	89.660	355.540	6818.86	9374.15	9373.47	115.46	40°13'53.094"N	104°30'49.116"W	1.96	
17415.00	89.940	354.550	6819.19	9468.71	9468.12	107.26	40°13'54.030"N	104°30'49.208"W	1.08	
17510.00	89.940	357.250	6819.29	9563.39	9562.86	100.47	40°13'54.967"N	104°30'49.282"W	2.84	LAST BHI MWD SURVEY
17538.00	89.940	357.250	6819.32	9591.34	9590.83	99.12	40°13'55.243"N	104°30'49.296"W	0.00	PROJECTION TO BIT

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#06 GUTTERSEN STATE D23-731 (761'FSL & 1474'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-731 AWB
Facility	SEC.23-T03N-R64W		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.14-T03N-R64W	-19.00	-109.60	-1770.07	3273502.53	1319195.40	40°12'19.595"N	104°31'14.776"W	polygon
SEC.23-T03N-R64W	-19.00	-109.60	-1770.07	3273502.53	1319195.40	40°12'19.595"N	104°31'14.776"W	polygon
GUTTERSEN STATE D23-731 2400' from SHL	6816.00	2400.00	100.11	3275372.63	1321704.89	40°12'44.188"N	104°30'50.314"W	point
GUTTERSEN STATE D23-731 BHL (200'FNL & 1320'FEL,SEC.14)	6816.00	9593.65	91.62	3275364.14	1328898.21	40°13'55.272"N	104°30'49.392"W	point
GUTTERSEN STATE D23-731 LP (200'FSL & 1370'FEL,SEC.23)	6816.00	-561.23	102.70	3275375.21	1318743.79	40°12'14.927"N	104°30'50.705"W	point
GUTTERSEN STATE D23-731 LP FROM PLAN (200'FSL & 1370'FEL,SEC.23)	6816.00	-560.53	103.72	3275376.24	1318744.49	40°12'14.934"N	104°30'50.692"W	point
GUTTERSEN STATE D23-731 7500' from SHL	6818.00	7500.00	93.88	3275366.40	1326804.66	40°13'34.584"N	104°30'49.663"W	point
GUTTERSEN STATE D23-731 BHL FROM PLAN (200'FNL & 1320'FEL,SEC.14)	6818.00	9593.02	91.33	3275363.85	1328897.59	40°13'55.266"N	104°30'49.396"W	point
GUTTERSEN STATE D23-731 4400' from SHL	6847.00	4400.00	97.67	3275370.19	1323704.80	40°13'03.951"N	104°30'50.059"W	point

WELLPATH COMPOSITION - Ref Wellbore: GUTTERSEN STATE D23-731 AWB					Ref Wellpath: GUTTERSEN STATE D23-731 AWP
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
0.00	1925.00	Gyrodatta standard - Drop gyro or Multi-shot	3rd Party Surface Gyros <82'-1925'>	GUTTERSEN STATE D23-731 AWB	
1925.00	17510.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BH/ATC OWSG MWD rev2+IFR1+MSA <1980'-17510'>	GUTTERSEN STATE D23-731 AWB	
17510.00	17538.00	Blind Drilling (std)	Projection to bit	GUTTERSEN STATE D23-731 AWB	



Actual Wellpath Report
GUTTERSEN STATE D23-731 AWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#06 GUTTERSEN STATE D23-731 (761'FSL & 1474'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-731 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1925.00	0.800	317.690	1924.97	TIE TO SURFACE
17510.00	89.940	357.250	6819.29	LAST BHI MWD SURVEY
17538.00	89.940	357.250	6819.32	PROJECTION TO BIT