

NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#08 GUTTERSEN D23-711 (761°FSL & 1399°FEL,SEC.23)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: GUTTERSEN D23-711
Facility: SEC.23-T03N-R64W Wellbore: GUTTERSEN D23-711 PWB

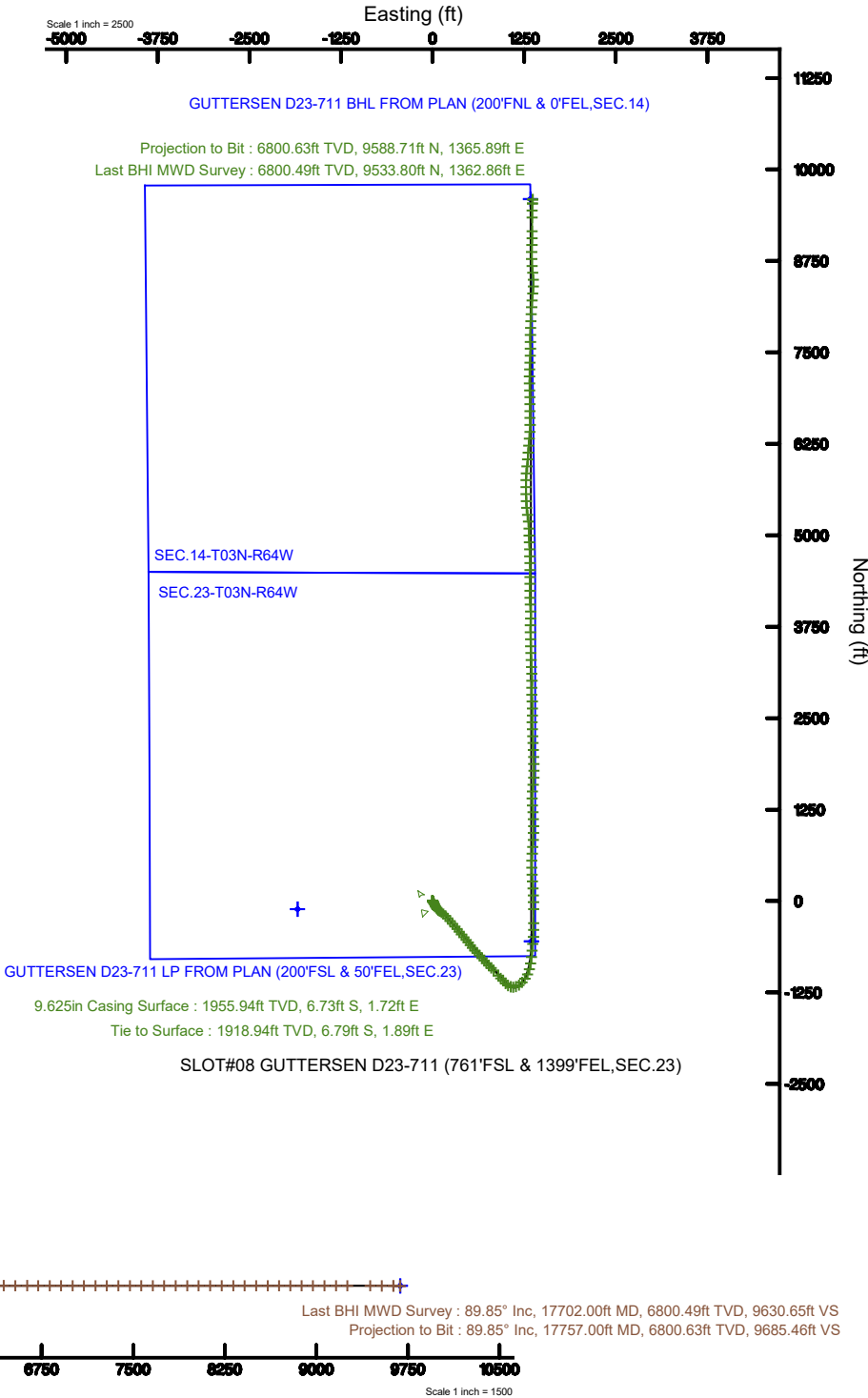
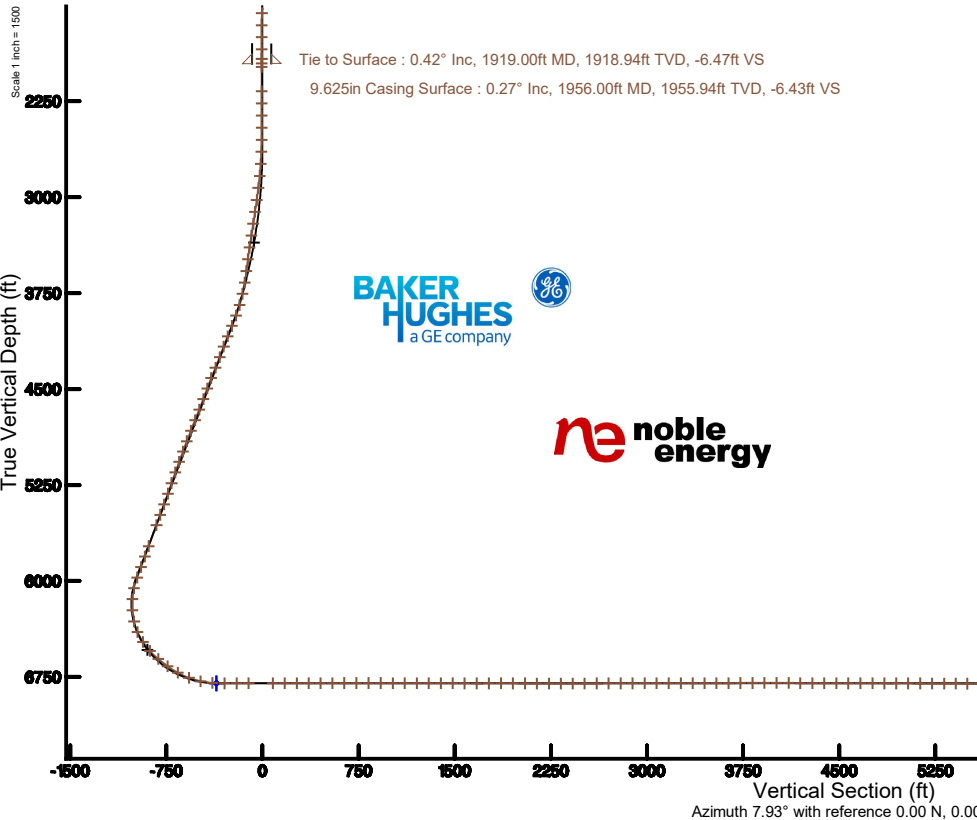
Plot reference wellpath is GUTTERSEN D23-711 PWP (REV-A.0)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (30') (RKB)	North Reference: Grid north
Measured depths are referenced to RIG (30') (RKB)	Scale: True distance
RIG (30') (RKB) to Mean Sea Level: 4840 feet	Depths are in feet
Mean Sea Level to Mud line (At Slot: SLOT#08 GUTTERSEN D23-711 (761°FSL & 1399°FEL,SEC.23)): 0 feet	Created by: doddanna on 2019-09-05
Coordinates are in feet referenced to Slot	Database: WellArchitectDB2

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#08 GUTTERSEN D23-711 (761°FSL & 1399°FEL,SEC.23)	110.39	1842.72	3275345.136	1319305.803	40°12'20.484"N	104°30'51.012"W
RIG (30') (RKB) to Mud line (At Slot: SLOT#08 GUTTERSEN D23-711 (761°FSL & 1399°FEL,SEC.23))					4840ft	
Mean Sea Level to Mud line (At Slot: SLOT#08 GUTTERSEN D23-711 (761°FSL & 1399°FEL,SEC.23))					0ft	
RIG (30') (RKB) to Mean Sea Level					4840ft	

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
30.00	17758.85	OWSG MWD rev2	OWSG MWD rev2 + IFR1 + Multi-Station Correction		GUTTERSEN D23-711 PWB



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#08 GUTTERSEN D23-711 (761'FSL & 1399'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN D23-711
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN D23-711 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	9/5/2019 at 9:34:15 AM
Convergence at slot	0.64° East	Database/Source file	WellArchitectDB2/GUTTERSEN_D23-711_AWP.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	110.39	1842.72	3275345.14	1319305.80	40°12'20.484"N	104°30'51.012"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	4840.00ft
Horizontal Reference Pt	Slot	RIG (30') (RKB) to Mean Sea Level	4840.00ft
Vertical Reference Pt	RIG (30') (RKB)	RIG (30') (RKB) to Mud Line at Slot (SLOT#08 GUTTERSEN D23-711 (761'FSL & 1399'FEL,SEC.23))	4840.00ft
MD Reference Pt	RIG (30') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	7.93°

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN D23-711 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	296.490	0.00	0.00	0.00	0.00	40°12'20.484"N	104°30'51.012"W	0.00	
82.00	0.210	296.490	82.00	0.05	0.07	-0.13	40°12'20.485"N	104°30'51.014"W	0.26	
176.00	0.190	31.630	176.00	0.25	0.28	-0.21	40°12'20.487"N	104°30'51.015"W	0.31	
267.00	0.110	293.650	267.00	0.41	0.44	-0.21	40°12'20.488"N	104°30'51.015"W	0.26	
330.00	0.280	3.760	330.00	0.58	0.62	-0.25	40°12'20.490"N	104°30'51.015"W	0.42	
425.00	0.130	157.840	425.00	0.72	0.75	-0.20	40°12'20.491"N	104°30'51.014"W	0.42	
520.00	0.360	127.590	520.00	0.47	0.47	0.08	40°12'20.489"N	104°30'51.011"W	0.27	
615.00	0.460	252.290	615.00	0.16	0.17	-0.05	40°12'20.486"N	104°30'51.013"W	0.77	
709.00	0.410	335.420	708.99	0.28	0.36	-0.55	40°12'20.488"N	104°30'51.019"W	0.62	
804.00	0.260	250.560	803.99	0.47	0.60	-0.89	40°12'20.490"N	104°30'51.023"W	0.49	
899.00	0.870	155.340	898.99	-0.24	-0.13	-0.79	40°12'20.483"N	104°30'51.022"W	0.98	
993.00	0.700	125.130	992.98	-1.10	-1.11	-0.03	40°12'20.473"N	104°30'51.012"W	0.47	
1088.00	0.440	164.890	1087.98	-1.70	-1.79	0.54	40°12'20.466"N	104°30'51.005"W	0.48	
1183.00	0.400	123.420	1182.97	-2.18	-2.33	0.92	40°12'20.461"N	104°30'51.001"W	0.32	
1278.00	0.860	151.310	1277.97	-2.90	-3.14	1.53	40°12'20.453"N	104°30'50.993"W	0.57	
1372.00	0.640	125.850	1371.96	-3.71	-4.06	2.30	40°12'20.444"N	104°30'50.983"W	0.42	
1467.00	0.490	112.450	1466.96	-4.06	-4.53	3.10	40°12'20.439"N	104°30'50.973"W	0.21	
1562.00	0.510	148.650	1561.95	-4.49	-5.05	3.70	40°12'20.434"N	104°30'50.965"W	0.33	
1656.00	0.390	211.920	1655.95	-5.10	-5.67	3.75	40°12'20.428"N	104°30'50.965"W	0.51	
1751.00	0.540	234.760	1750.95	-5.70	-6.21	3.21	40°12'20.422"N	104°30'50.971"W	0.25	
1846.00	0.510	246.760	1845.94	-6.23	-6.63	2.46	40°12'20.418"N	104°30'50.981"W	0.12	
1919.00	0.420	263.090	1918.94	-6.47	-6.79	1.89	40°12'20.417"N	104°30'50.989"W	0.22	Tie to Surface
1983.00	0.480	14.660	1982.94	-6.26	-6.56	1.73	40°12'20.419"N	104°30'50.991"W	1.16	
2173.00	0.460	171.380	2172.94	-6.20	-6.55	2.04	40°12'20.419"N	104°30'50.987"W	0.48	
2268.00	0.570	97.550	2267.93	-6.56	-6.98	2.57	40°12'20.415"N	104°30'50.980"W	0.66	
2362.00	0.480	63.170	2361.93	-6.34	-6.87	3.38	40°12'20.416"N	104°30'50.969"W	0.34	
2457.00	0.650	87.680	2456.93	-6.01	-6.67	4.28	40°12'20.418"N	104°30'50.958"W	0.31	
2552.00	0.440	97.570	2551.92	-5.91	-6.69	5.18	40°12'20.417"N	104°30'50.946"W	0.24	
2646.00	2.670	150.320	2645.88	-7.65	-8.64	6.62	40°12'20.398"N	104°30'50.928"W	2.58	
2741.00	5.130	153.780	2740.66	-12.92	-14.38	9.59	40°12'20.341"N	104°30'50.890"W	2.60	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#08 GUTTERSEN D23-711 (761'FSL & 1399'FEL, SEC.23)
Area	COLORADO	Well	GUTTERSEN D23-711
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN D23-711 AWP
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2835.00	7.330	150.620	2834.10	-21.16	-23.37	14.39	40°12'20.251"N	104°30'50.830"W	2.37	
2930.00	8.810	152.500	2928.15	-31.91	-35.11	20.72	40°12'20.135"N	104°30'50.750"W	1.58	
3025.00	9.660	153.450	3021.92	-44.41	-48.69	27.65	40°12'20.000"N	104°30'50.663"W	0.91	
3120.00	9.970	155.270	3115.53	-57.91	-63.29	34.65	40°12'19.855"N	104°30'50.575"W	0.46	
3215.00	10.690	152.550	3208.99	-72.01	-78.58	42.15	40°12'19.703"N	104°30'50.480"W	0.92	
3309.00	11.840	147.070	3301.18	-86.42	-94.41	51.41	40°12'19.545"N	104°30'50.363"W	1.67	
3404.00	12.030	141.120	3394.13	-100.57	-110.30	62.93	40°12'19.387"N	104°30'50.217"W	1.31	
3498.00	13.300	132.390	3485.85	-113.39	-125.22	77.06	40°12'19.238"N	104°30'50.037"W	2.44	
3593.00	16.810	123.480	3577.59	-125.50	-140.17	96.60	40°12'19.088"N	104°30'49.787"W	4.42	
3688.00	20.210	126.020	3667.66	-139.16	-157.40	121.34	40°12'18.915"N	104°30'49.471"W	3.68	
3782.00	21.600	130.730	3755.48	-156.18	-178.24	147.58	40°12'18.707"N	104°30'49.136"W	2.32	
3877.00	25.600	134.450	3842.52	-177.88	-204.03	175.50	40°12'18.449"N	104°30'48.779"W	4.49	
3972.00	31.160	138.700	3926.08	-206.17	-236.90	206.40	40°12'18.120"N	104°30'48.386"W	6.22	
4067.00	32.490	138.110	4006.79	-238.68	-274.36	239.66	40°12'17.747"N	104°30'47.963"W	1.44	
4162.00	30.840	138.300	4087.65	-270.92	-311.54	272.90	40°12'17.376"N	104°30'47.540"W	1.74	
4256.00	30.930	137.970	4168.32	-302.07	-347.47	305.10	40°12'17.017"N	104°30'47.130"W	0.20	
4351.00	29.560	141.270	4250.39	-333.87	-383.89	336.11	40°12'16.654"N	104°30'46.735"W	2.27	
4446.00	30.230	142.460	4332.75	-366.72	-421.14	365.34	40°12'16.282"N	104°30'46.364"W	0.94	
4541.00	30.980	139.750	4414.52	-399.80	-458.76	395.71	40°12'15.907"N	104°30'45.978"W	1.65	
4636.00	30.560	136.550	4496.15	-431.18	-494.96	428.12	40°12'15.546"N	104°30'45.566"W	1.78	
4730.00	28.940	140.460	4577.77	-461.47	-529.85	459.04	40°12'15.198"N	104°30'45.172"W	2.69	
4825.00	28.880	142.380	4660.93	-493.08	-565.75	487.68	40°12'14.840"N	104°30'44.808"W	0.98	
4920.00	29.080	143.850	4744.04	-525.73	-602.56	515.30	40°12'14.473"N	104°30'44.458"W	0.78	
5015.00	30.320	140.560	4826.56	-558.56	-639.73	544.16	40°12'14.103"N	104°30'44.091"W	2.16	
5109.00	30.840	137.350	4907.49	-589.93	-675.78	575.56	40°12'13.743"N	104°30'43.691"W	1.82	
5204.00	30.920	135.990	4989.03	-620.44	-711.24	609.01	40°12'13.389"N	104°30'43.265"W	0.74	
5298.00	30.670	136.040	5069.77	-650.13	-745.87	642.43	40°12'13.043"N	104°30'42.840"W	0.27	
5393.00	29.820	137.140	5151.84	-680.02	-780.62	675.32	40°12'12.696"N	104°30'42.421"W	1.07	
5488.00	28.010	136.800	5235.00	-708.95	-814.20	706.66	40°12'12.361"N	104°30'42.022"W	1.91	
5582.00	28.760	138.220	5317.69	-737.43	-847.16	736.84	40°12'12.032"N	104°30'41.638"W	1.07	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#08 GUTTERSEN D23-711 (761'FSL & 1399'FEL, SEC.23)
Area	COLORADO	Well	GUTTERSEN D23-711
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN D23-711 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5677.00	30.270	136.290	5400.37	-767.07	-881.51	768.61	40°12'11.689"N	104°30'41.233"W	1.88	
5772.00	29.620	137.070	5482.68	-796.75	-916.01	801.15	40°12'11.344"N	104°30'40.819"W	0.80	
5866.00	30.480	136.750	5564.05	-826.36	-950.38	833.31	40°12'11.001"N	104°30'40.409"W	0.93	
6056.00	30.570	137.580	5727.72	-887.40	-1021.15	898.92	40°12'10.295"N	104°30'39.574"W	0.23	
6151.00	30.550	136.190	5809.52	-917.77	-1056.41	931.93	40°12'09.943"N	104°30'39.154"W	0.74	
6245.00	30.000	138.000	5890.70	-947.69	-1091.11	964.19	40°12'09.596"N	104°30'38.743"W	1.13	
6340.00	30.620	135.120	5972.72	-977.61	-1125.90	997.16	40°12'09.249"N	104°30'38.323"W	1.66	
6435.00	26.630	124.020	6056.15	-1001.63	-1154.99	1031.91	40°12'08.958"N	104°30'37.879"W	6.98	
6529.00	22.090	107.540	6141.86	-1013.86	-1172.13	1066.28	40°12'08.784"N	104°30'37.439"W	8.65	
6624.00	21.740	87.690	6230.12	-1013.72	-1176.82	1100.94	40°12'08.734"N	104°30'36.993"W	7.77	
6719.00	26.010	70.260	6317.08	-1000.90	-1169.06	1138.19	40°12'08.807"N	104°30'36.512"W	8.64	
6813.00	32.770	55.770	6399.03	-974.19	-1147.73	1178.72	40°12'09.013"N	104°30'35.986"W	10.39	
6908.00	39.190	44.340	6475.96	-932.69	-1111.73	1221.05	40°12'09.364"N	104°30'35.436"W	9.76	
7003.00	44.940	34.230	6546.54	-878.34	-1062.42	1260.98	40°12'09.847"N	104°30'34.914"W	9.34	
7098.00	51.150	24.840	6610.10	-812.73	-1000.97	1295.47	40°12'10.450"N	104°30'34.461"W	9.82	
7192.00	55.040	17.100	6666.59	-739.58	-930.85	1322.21	40°12'11.140"N	104°30'34.106"W	7.77	
7287.00	60.290	8.150	6717.45	-659.72	-852.63	1339.54	40°12'11.911"N	104°30'33.871"W	9.68	
7382.00	69.790	5.360	6757.50	-573.73	-767.20	1349.58	40°12'12.754"N	104°30'33.730"W	10.35	
7477.00	77.780	5.980	6784.01	-482.65	-676.50	1358.60	40°12'13.650"N	104°30'33.600"W	8.43	
7571.00	86.340	6.360	6796.98	-389.68	-584.03	1368.60	40°12'14.562"N	104°30'33.458"W	9.12	
7666.00	89.630	4.010	6800.32	-294.87	-489.50	1377.17	40°12'15.495"N	104°30'33.334"W	4.25	
7761.00	90.250	0.260	6800.42	-200.37	-394.58	1380.71	40°12'16.433"N	104°30'33.275"W	4.00	
7855.00	90.250	359.260	6800.01	-107.33	-300.58	1380.32	40°12'17.362"N	104°30'33.266"W	1.06	
8045.00	90.280	359.570	6799.13	80.58	-110.59	1378.38	40°12'19.239"N	104°30'33.264"W	0.16	
8139.00	90.030	0.110	6798.88	173.64	-16.59	1378.12	40°12'20.168"N	104°30'33.254"W	0.63	
8234.00	89.940	358.340	6798.91	267.54	78.39	1376.83	40°12'21.107"N	104°30'33.257"W	1.87	
8329.00	90.120	355.710	6798.86	360.82	173.26	1371.90	40°12'22.045"N	104°30'33.307"W	2.77	
8424.00	90.060	354.910	6798.71	453.53	267.94	1364.13	40°12'22.981"N	104°30'33.393"W	0.84	
8518.00	90.180	357.270	6798.51	545.52	361.71	1357.72	40°12'23.909"N	104°30'33.462"W	2.51	
8613.00	90.000	359.240	6798.36	639.17	456.66	1354.83	40°12'24.847"N	104°30'33.486"W	2.08	

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN D23-711 AWP
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WELLPATH DATA (186 stations)

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8708.00	90.180	1.950	6798.21	733.38	551.65	1355.82	40°12'25.786"N	104°30'33.459"W	2.86	
8803.00	89.880	3.760	6798.16	828.00	646.53	1360.55	40°12'26.723"N	104°30'33.385"W	1.93	
8897.00	89.820	4.460	6798.41	921.79	740.28	1367.29	40°12'27.648"N	104°30'33.284"W	0.75	
8992.00	89.780	4.360	6798.74	1016.61	835.00	1374.59	40°12'28.584"N	104°30'33.177"W	0.11	
9087.00	89.820	0.050	6799.07	1111.12	929.91	1378.24	40°12'29.521"N	104°30'33.116"W	4.54	
9182.00	89.820	0.150	6799.37	1205.23	1024.91	1378.41	40°12'30.460"N	104°30'33.100"W	0.11	
9276.00	89.750	356.990	6799.72	1297.97	1118.87	1376.07	40°12'31.388"N	104°30'33.117"W	3.36	
9371.00	89.940	356.390	6799.98	1391.15	1213.71	1370.58	40°12'32.326"N	104°30'33.174"W	0.66	
9466.00	89.850	355.230	6800.15	1484.03	1308.45	1363.64	40°12'33.263"N	104°30'33.250"W	1.22	
9561.00	89.880	359.870	6800.38	1577.45	1403.34	1359.58	40°12'34.201"N	104°30'33.288"W	4.88	
9655.00	89.880	4.900	6800.57	1670.98	1497.23	1363.49	40°12'35.128"N	104°30'33.224"W	5.35	
9750.00	90.400	7.210	6800.34	1765.92	1591.69	1373.51	40°12'36.061"N	104°30'33.082"W	2.49	
9845.00	89.940	2.960	6800.06	1860.78	1686.29	1381.93	40°12'36.995"N	104°30'32.959"W	4.50	
9940.00	89.690	358.990	6800.37	1955.06	1781.26	1383.54	40°12'37.933"N	104°30'32.925"W	4.19	
10034.00	89.780	359.520	6800.80	2047.99	1875.25	1382.32	40°12'38.862"N	104°30'32.927"W	0.57	
10129.00	89.780	357.980	6801.17	2141.77	1970.22	1380.25	40°12'39.800"N	104°30'32.940"W	1.62	
10224.00	89.820	357.140	6801.50	2235.21	2065.14	1376.21	40°12'40.739"N	104°30'32.979"W	0.89	
10318.00	90.030	356.910	6801.62	2327.52	2159.01	1371.33	40°12'41.667"N	104°30'33.028"W	0.33	
10413.00	90.280	357.320	6801.36	2420.83	2253.89	1366.55	40°12'42.605"N	104°30'33.076"W	0.51	
10508.00	90.060	357.340	6801.08	2514.21	2348.79	1362.12	40°12'43.543"N	104°30'33.119"W	0.23	
10602.00	90.310	359.940	6800.78	2606.97	2442.75	1359.89	40°12'44.472"N	104°30'33.135"W	2.78	
10697.00	90.060	2.270	6800.47	2701.29	2537.73	1361.72	40°12'45.410"N	104°30'33.097"W	2.47	
10792.00	90.090	0.240	6800.35	2795.64	2632.70	1363.80	40°12'46.348"N	104°30'33.057"W	2.14	
10886.00	90.060	356.300	6800.22	2888.29	2726.64	1360.96	40°12'47.277"N	104°30'33.080"W	4.19	
10981.00	90.150	357.400	6800.05	2981.52	2821.49	1355.74	40°12'48.215"N	104°30'33.133"W	1.16	
11076.00	90.030	2.520	6799.90	3075.57	2916.46	1355.68	40°12'49.153"N	104°30'33.121"W	5.39	
11171.00	90.030	358.910	6799.85	3169.80	3011.44	1356.86	40°12'50.092"N	104°30'33.092"W	3.80	
11266.00	90.150	358.450	6799.70	3263.57	3106.41	1354.67	40°12'51.030"N	104°30'33.106"W	0.50	
11360.00	90.180	358.280	6799.43	3356.26	3200.37	1351.99	40°12'51.959"N	104°30'33.127"W	0.18	
11455.00	90.120	356.130	6799.18	3449.60	3295.25	1347.36	40°12'52.897"N	104°30'33.173"W	2.26	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#08 GUTTERSEN D23-711 (761'FSL & 1399'FEL, SEC.23)
Area	COLORADO	Well	GUTTERSEN D23-711
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN D23-711 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11550.00	90.150	357.830	6798.96	3542.86	3390.12	1342.36	40°12'53.835"N	104°30'33.224"W	1.79	
11644.00	90.430	0.140	6798.48	3635.71	3484.10	1340.69	40°12'54.764"N	104°30'33.232"W	2.48	
11739.00	90.090	358.250	6798.05	3729.61	3579.08	1339.36	40°12'55.703"N	104°30'33.236"W	2.02	
11834.00	90.060	358.060	6797.93	3823.23	3674.03	1336.30	40°12'56.641"N	104°30'33.261"W	0.20	
11928.00	90.310	2.000	6797.62	3916.32	3768.01	1336.35	40°12'57.570"N	104°30'33.247"W	4.20	
12023.00	90.120	2.810	6797.27	4010.87	3862.93	1340.33	40°12'58.507"N	104°30'33.182"W	0.88	
12118.00	89.750	357.160	6797.37	4104.92	3957.89	1340.31	40°12'59.446"N	104°30'33.169"W	5.96	
12212.00	88.590	355.200	6798.74	4196.94	4051.66	1334.05	40°13'00.373"N	104°30'33.236"W	2.42	
12307.00	90.060	359.140	6799.86	4290.24	4146.52	1329.36	40°13'01.311"N	104°30'33.283"W	4.43	
12401.00	89.850	1.640	6799.93	4383.42	4240.51	1330.00	40°13'02.239"N	104°30'33.261"W	2.67	
12496.00	89.880	359.160	6800.15	4477.60	4335.50	1330.66	40°13'03.178"N	104°30'33.239"W	2.61	
12590.00	90.030	0.800	6800.23	4570.69	4429.50	1330.63	40°13'04.107"N	104°30'33.226"W	1.75	
12685.00	90.000	1.240	6800.20	4665.00	4524.48	1332.32	40°13'05.045"N	104°30'33.190"W	0.46	
12780.00	90.000	357.230	6800.20	4758.89	4619.45	1331.05	40°13'05.984"N	104°30'33.193"W	4.22	
12874.00	89.660	359.210	6800.48	4851.54	4713.40	1328.13	40°13'06.912"N	104°30'33.217"W	2.14	
12969.00	90.310	357.450	6800.51	4945.20	4808.36	1325.36	40°13'07.851"N	104°30'33.239"W	1.97	
13063.00	89.750	357.230	6800.46	5037.60	4902.26	1321.00	40°13'08.779"N	104°30'33.282"W	0.64	
13158.00	90.030	0.480	6800.64	5131.40	4997.22	1319.10	40°13'09.718"N	104°30'33.292"W	3.43	
13253.00	89.570	357.550	6800.97	5225.24	5092.20	1317.47	40°13'10.657"N	104°30'33.300"W	3.12	
13348.00	89.510	353.690	6801.73	5318.04	5186.90	1310.22	40°13'11.593"N	104°30'33.380"W	4.06	
13442.00	89.510	349.980	6802.54	5408.34	5279.93	1296.87	40°13'12.514"N	104°30'33.538"W	3.95	
13537.00	89.750	355.240	6803.15	5499.93	5374.10	1284.65	40°13'13.446"N	104°30'33.682"W	5.54	
13631.00	90.430	358.430	6803.00	5592.16	5467.95	1279.47	40°13'14.374"N	104°30'33.736"W	3.47	
13726.00	90.280	358.690	6802.42	5685.89	5562.92	1277.08	40°13'15.312"N	104°30'33.753"W	0.32	
13821.00	90.400	0.070	6801.85	5779.83	5657.91	1276.05	40°13'16.251"N	104°30'33.752"W	1.46	
13916.00	90.000	1.200	6801.52	5874.06	5752.90	1277.10	40°13'17.190"N	104°30'33.725"W	1.26	
14011.00	90.120	4.320	6801.42	5968.66	5847.78	1281.68	40°13'18.127"N	104°30'33.652"W	3.29	
14106.00	90.770	6.090	6800.68	6063.55	5942.38	1290.29	40°13'19.061"N	104°30'33.528"W	1.98	
14200.00	90.400	4.730	6799.72	6157.45	6035.95	1299.16	40°13'19.984"N	104°30'33.400"W	1.50	
14295.00	90.770	4.630	6798.75	6252.29	6130.63	1306.91	40°13'20.919"N	104°30'33.286"W	0.40	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#08 GUTTERSEN D23-711 (761'FSL & 1399'FEL, SEC.23)
Area	COLORADO	Well	GUTTERSEN D23-711
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN D23-711 AWP
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14390.00	89.880	3.750	6798.21	6347.09	6225.37	1313.85	40°13'21.854"N	104°30'33.183"W	1.32	
14484.00	89.880	4.810	6798.41	6440.90	6319.11	1320.86	40°13'22.780"N	104°30'33.079"W	1.13	
14579.00	90.060	4.580	6798.46	6535.74	6413.79	1328.64	40°13'23.715"N	104°30'32.965"W	0.31	
14675.00	90.000	359.910	6798.41	6631.25	6509.69	1332.40	40°13'24.662"N	104°30'32.903"W	4.86	
14768.00	89.910	358.680	6798.48	6723.19	6602.68	1331.25	40°13'25.581"N	104°30'32.904"W	1.33	
14863.00	89.940	359.490	6798.61	6817.06	6697.67	1329.74	40°13'26.519"N	104°30'32.910"W	0.85	
14957.00	89.940	0.960	6798.71	6910.21	6791.66	1330.11	40°13'27.448"N	104°30'32.892"W	1.56	
15052.00	90.030	357.950	6798.73	7004.16	6886.65	1329.20	40°13'28.387"N	104°30'32.890"W	3.17	
15146.00	90.090	357.940	6798.63	7096.74	6980.59	1325.83	40°13'29.316"N	104°30'32.920"W	0.06	
15241.00	90.000	359.450	6798.56	7190.50	7075.56	1323.67	40°13'30.254"N	104°30'32.934"W	1.59	
15336.00	89.940	1.080	6798.61	7284.65	7170.56	1324.11	40°13'31.193"N	104°30'32.915"W	1.72	
15431.00	89.910	1.790	6798.73	7379.04	7265.53	1326.49	40°13'32.131"N	104°30'32.870"W	0.75	
15525.00	89.940	3.130	6798.86	7472.61	7359.44	1330.52	40°13'33.059"N	104°30'32.805"W	1.43	
15620.00	89.910	2.100	6798.98	7567.20	7454.34	1334.86	40°13'33.996"N	104°30'32.735"W	1.08	
15715.00	89.970	359.660	6799.08	7661.48	7549.32	1336.31	40°13'34.934"N	104°30'32.703"W	2.57	
15809.00	89.970	359.770	6799.13	7754.51	7643.32	1335.85	40°13'35.863"N	104°30'32.695"W	0.12	
15904.00	89.970	0.280	6799.18	7848.61	7738.32	1335.89	40°13'36.802"N	104°30'32.681"W	0.54	
15998.00	90.000	1.510	6799.20	7941.90	7832.30	1337.36	40°13'37.730"N	104°30'32.649"W	1.31	
16093.00	89.880	3.090	6799.30	8036.44	7927.22	1341.17	40°13'38.668"N	104°30'32.586"W	1.67	
16187.00	89.940	3.850	6799.45	8130.16	8021.05	1346.86	40°13'39.594"N	104°30'32.499"W	0.81	
16282.00	89.940	2.780	6799.55	8224.85	8115.89	1352.35	40°13'40.531"N	104°30'32.414"W	1.13	
16377.00	89.910	4.570	6799.67	8319.58	8210.69	1358.44	40°13'41.467"N	104°30'32.322"W	1.88	
16471.00	89.970	5.560	6799.77	8413.46	8304.32	1366.74	40°13'42.391"N	104°30'32.202"W	1.06	
16566.00	90.090	3.690	6799.72	8508.30	8399.01	1374.40	40°13'43.326"N	104°30'32.089"W	1.97	
16661.00	90.060	356.700	6799.60	8602.38	8493.95	1374.72	40°13'44.264"N	104°30'32.072"W	7.36	
16755.00	90.000	353.260	6799.55	8693.98	8587.58	1366.50	40°13'45.190"N	104°30'32.164"W	3.66	
16850.00	89.910	355.810	6799.62	8786.38	8682.14	1357.45	40°13'46.126"N	104°30'32.267"W	2.69	
16945.00	90.060	358.630	6799.65	8879.72	8777.01	1352.84	40°13'47.064"N	104°30'32.313"W	2.97	
17039.00	89.820	1.480	6799.75	8972.83	8871.00	1352.93	40°13'47.992"N	104°30'32.298"W	3.04	
17134.00	90.180	2.670	6799.75	9067.33	8965.94	1356.37	40°13'48.930"N	104°30'32.240"W	1.31	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#08 GUTTERSEN D23-711 (761'FSL & 1399'FEL, SEC.23)
Area	COLORADO	Well	GUTTERSEN D23-711
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN D23-711 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17229.00	89.940	0.600	6799.65	9161.75	9060.90	1359.08	40°13'49.868"N	104°30'32.192"W	2.19	
17323.00	89.850	359.980	6799.82	9254.92	9154.89	1359.56	40°13'50.797"N	104°30'32.172"W	0.67	
17512.00	90.000	359.270	6800.07	9441.93	9343.89	1358.32	40°13'52.664"N	104°30'32.161"W	0.38	
17607.00	89.820	1.520	6800.22	9536.11	9438.88	1358.98	40°13'53.603"N	104°30'32.138"W	2.38	
17702.00	89.850	3.160	6800.49	9630.65	9533.80	1362.86	40°13'54.541"N	104°30'32.075"W	1.73	Last BHI MWD Survey
17757.00	89.850	3.160	6800.63	9685.46	9588.71	1365.89	40°13'55.083"N	104°30'32.028"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: GUTTERSEN D23-711 AWB Ref Wellpath: GUTTERSEN D23-711 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	1956.00	1926.00	30.00	1955.94	0.01	-0.02	-6.73	1.72

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#08 GUTTERSEN D23-711 (761'FSL & 1399'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN D23-711
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN D23-711 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	-18.00	-110.41	-1842.69	3273502.53	1319195.40	40°12'19.595"N	104°31'14.776"W	polygon
SEC.23-T03N-R64W	-18.00	-110.41	-1842.69	3273502.53	1319195.40	40°12'19.595"N	104°31'14.776"W	polygon
GUTTERSEN D23-711 BHL (200'FNL & 0'FEL,SEC.14)	6800.00	9592.96	1336.97	3276682.04	1328898.33	40°13'55.128"N	104°30'32.400"W	point
GUTTERSEN D23-711 BHL FROM PLAN (200'FNL & 0'FEL,SEC.14)	6800.00	9596.41	1336.37	3276681.45	1328901.78	40°13'55.162"N	104°30'32.407"W	point
GUTTERSEN D23-711 LP (200'FSL & 50'FEL,SEC.23)	6800.00	-551.17	1350.14	3276695.22	1318754.65	40°12'14.889"N	104°30'33.691"W	point
GUTTERSEN D23-711 LP FROM PLAN (200'FSL & 50'FEL,SEC.23)	6800.00	-550.07	1348.71	3276693.79	1318755.76	40°12'14.900"N	104°30'33.710"W	point

WELLPATH COMPOSITION - Ref Wellbore: GUTTERSEN D23-711 AWB Ref Wellpath: GUTTERSEN D23-711 AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	1919.00	BHI Generic gyro - northseeking (Standard)	3rd Party Surfac Gyro <82'-1919'>	GUTTERSEN D23-711 AWB
1919.00	17702.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BH/ATC OWSG MWD rev2+IFR+MSA <1983'-17702'>	GUTTERSEN D23-711 AWB
17702.00	17757.00	Blind Drilling (std)	Projection to bit	GUTTERSEN D23-711 AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#08 GUTTERSEN D23-711 (761'FSL & 1399'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN D23-711
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN D23-711 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1919.00	0.420	263.090	1918.94	Tie to Surface
17702.00	89.850	3.160	6800.49	Last BHI MWD Survey
17757.00	89.850	3.160	6800.63	Projection to Bit