

NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#02 GUTTERSEN STATE D23-771 (667'FSL & 2051'FWL,SEC.23)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: GUTTERSEN STATE D23-771
Facility: SEC.23-T03N-R64W Wellbore: GUTTERSEN STATE D23-771 PWB

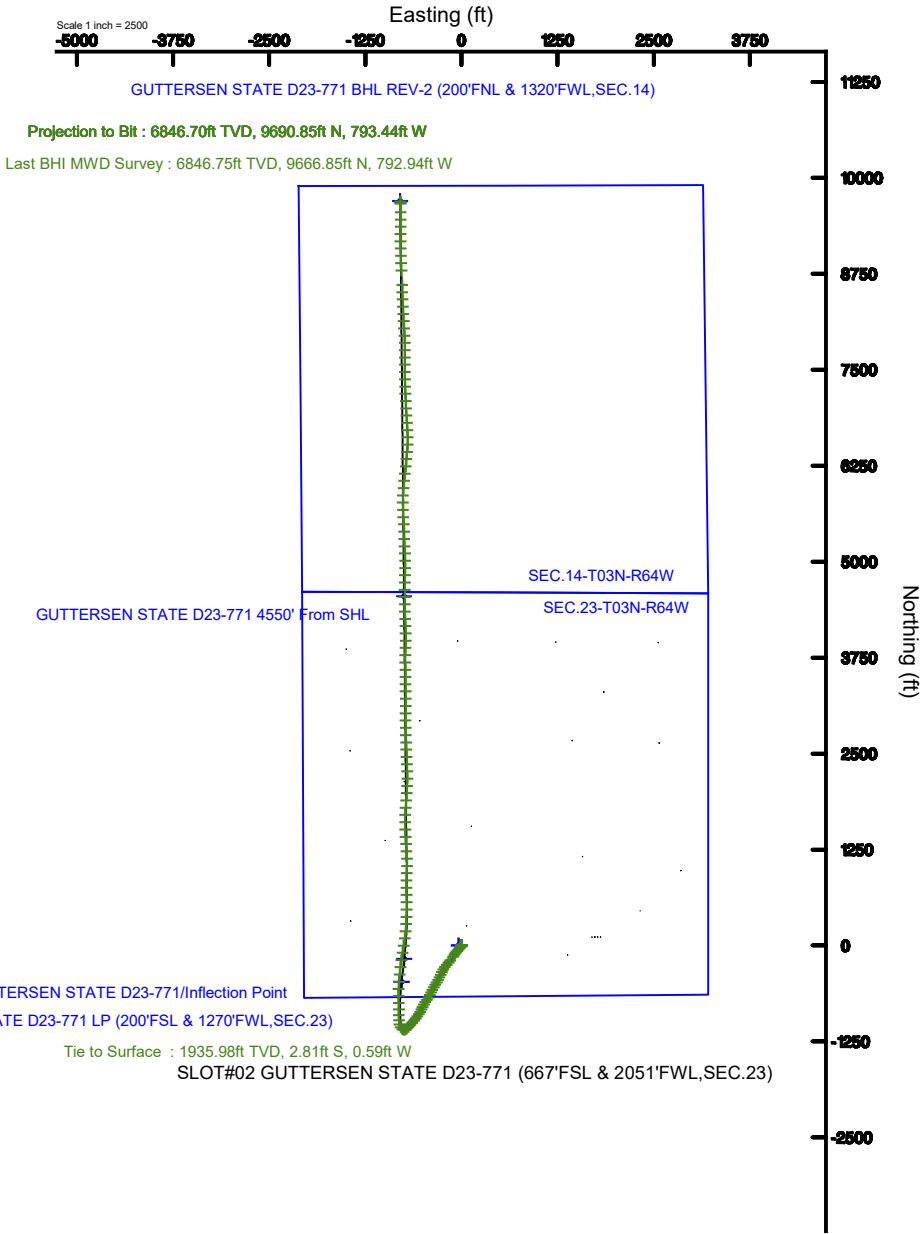
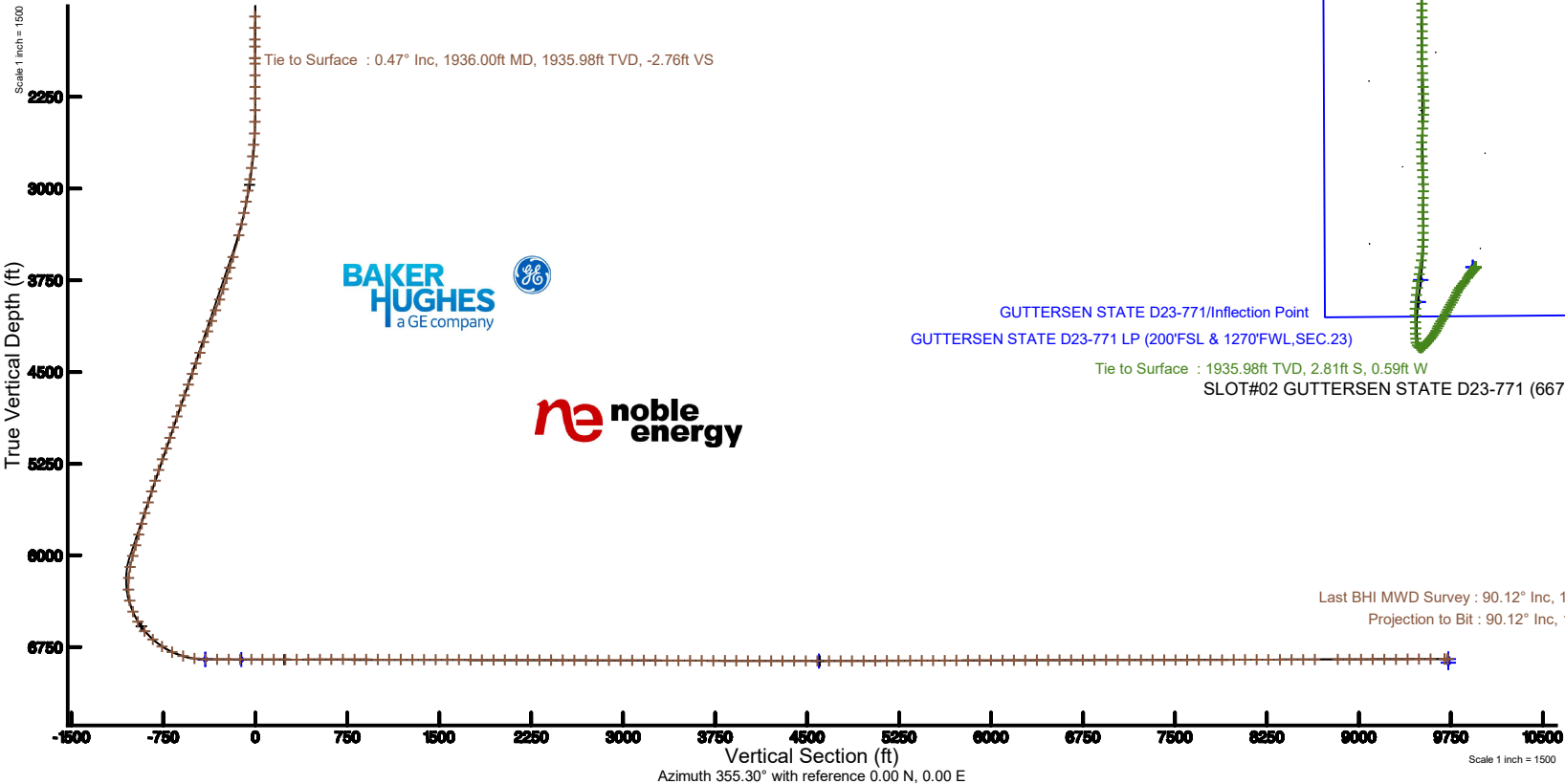
Plot reference wellpath is GUTTERSEN STATE D23-771 (REV-B.0) PWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (30') (RKB)	North Reference: Grid north
Measured depths are referenced to RIG (30') (RKB)	Scale: True distance
RIG (30') (RKB) to Mean Sea Level: 4857 feet	Depths are in feet
Mean Sea Level to Mud line (At Slot: SLOT#02 GUTTERSEN STATE D23-771 (667'FSL & 2051'FWL,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#02 GUTTERSEN STATE D23-771 (667'FSL & 2051'FWL,SEC.23)	-0.71	36.63	3273539.126	1319194.713	40°12'19.584"N	104°31'14.304"W
RIG (30') (RKB) to Mud line (At Slot: SLOT#02 GUTTERSEN STATE D23-771 (667'FSL & 2051'FWL,SEC.23))					4857ft	
Mean Sea Level to Mud line (At Slot: SLOT#02 GUTTERSEN STATE D23-771 (667'FSL & 2051'FWL,SEC.23))					0ft	
RIG (30') (RKB) to Mean Sea Level					4857ft	

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
30.00	17649.92	OWSG MWD rev2	OWSG MWD rev2 + IFR1 + Multi-Station Correction		GUTTERSEN STATE D23-771 PWB



Last BHI MWD Survey : 90.12° Inc, 17626.00ft MD, 6846.75ft TVD, 9699.32ft VS
Projection to Bit : 90.12° Inc, 17650.00ft MD, 6846.70ft TVD, 9723.27ft VS

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#02 GUTTERSEN STATE D23-771 (667'FSL & 2051'FWL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-771
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-771 AWP
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 8:25:54 AM
Convergence at slot	0.63° East	Database/Source file	WellArchitectDB/GUTTERSEN_STATE_D23-771_AWP.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-0.71	36.63	3273539.13	1319194.71	40°12'19.584"N	104°31'14.304"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	4857.00ft
Horizontal Reference Pt	Slot	RIG (30') (RKB) to Mean Sea Level	4857.00ft
Vertical Reference Pt	RIG (30') (RKB)	RIG (30') (RKB) to Mud Line at Slot (SLOT#02 GUTTERSEN STATE D23-771 (667'FSL & 2051'FWL,SEC.23))	4857.00ft
MD Reference Pt	RIG (30') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	355.30°

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#02 GUTTERSEN STATE D23-771 (667'FSL & 2051'FWL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-771
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-771 AWP
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (187 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	98.360	0.00	0.00	0.00	0.00	40°12'19.584"N	104°31'14.304"W	0.00	
82.00	0.340	98.360	82.00	-0.05	-0.04	0.24	40°12'19.584"N	104°31'14.301"W	0.41	
176.00	0.300	17.090	176.00	0.11	0.16	0.59	40°12'19.586"N	104°31'14.296"W	0.44	
268.00	0.300	49.670	268.00	0.47	0.55	0.84	40°12'19.589"N	104°31'14.293"W	0.18	
363.00	0.380	102.190	363.00	0.53	0.64	1.34	40°12'19.590"N	104°31'14.287"W	0.33	
457.00	0.360	195.470	456.99	0.16	0.29	1.57	40°12'19.587"N	104°31'14.284"W	0.57	
552.00	0.290	232.260	551.99	-0.25	-0.15	1.30	40°12'19.582"N	104°31'14.287"W	0.23	
647.00	0.250	146.080	646.99	-0.56	-0.46	1.22	40°12'19.579"N	104°31'14.288"W	0.39	
742.00	0.110	354.450	741.99	-0.65	-0.55	1.33	40°12'19.578"N	104°31'14.287"W	0.37	
836.00	0.590	246.680	835.99	-0.72	-0.65	0.88	40°12'19.578"N	104°31'14.293"W	0.67	
931.00	0.350	182.840	930.99	-1.16	-1.13	0.41	40°12'19.573"N	104°31'14.299"W	0.57	
1026.00	0.360	137.170	1025.99	-1.68	-1.64	0.60	40°12'19.568"N	104°31'14.296"W	0.29	
1120.00	0.090	139.780	1119.99	-1.98	-1.91	0.85	40°12'19.565"N	104°31'14.293"W	0.29	
1215.00	0.060	2.200	1214.99	-1.99	-1.92	0.90	40°12'19.565"N	104°31'14.293"W	0.15	
1310.00	0.220	191.970	1309.99	-2.11	-2.05	0.86	40°12'19.564"N	104°31'14.293"W	0.29	
1404.00	0.240	233.890	1403.98	-2.39	-2.34	0.67	40°12'19.561"N	104°31'14.296"W	0.18	
1499.00	0.260	242.150	1498.98	-2.58	-2.56	0.32	40°12'19.559"N	104°31'14.300"W	0.04	
1594.00	0.180	183.380	1593.98	-2.81	-2.81	0.12	40°12'19.556"N	104°31'14.303"W	0.24	
1688.00	0.190	144.040	1687.98	-3.09	-3.08	0.20	40°12'19.554"N	104°31'14.302"W	0.13	
1783.00	0.110	234.020	1782.98	-3.27	-3.26	0.22	40°12'19.552"N	104°31'14.302"W	0.23	
1841.00	0.420	287.780	1840.98	-3.22	-3.23	-0.03	40°12'19.552"N	104°31'14.305"W	0.63	
1936.00	0.470	323.070	1935.98	-2.76	-2.81	-0.59	40°12'19.556"N	104°31'14.312"W	0.29	Tie to Surface
1981.00	0.250	341.730	1980.98	-2.50	-2.57	-0.74	40°12'19.559"N	104°31'14.314"W	0.55	
2075.00	0.100	290.160	2074.98	-2.27	-2.35	-0.88	40°12'19.561"N	104°31'14.316"W	0.22	
2170.00	0.090	296.970	2169.98	-2.20	-2.29	-1.02	40°12'19.562"N	104°31'14.317"W	0.02	
2265.00	0.060	106.260	2264.98	-2.17	-2.27	-1.04	40°12'19.562"N	104°31'14.318"W	0.16	
2360.00	0.040	218.180	2359.98	-2.22	-2.31	-1.01	40°12'19.561"N	104°31'14.317"W	0.09	
2455.00	1.730	215.400	2454.96	-3.34	-3.50	-1.86	40°12'19.550"N	104°31'14.329"W	1.78	
2549.00	4.140	215.970	2548.83	-7.00	-7.41	-4.68	40°12'19.511"N	104°31'14.365"W	2.56	
2644.00	5.920	215.880	2643.46	-13.32	-14.15	-9.57	40°12'19.445"N	104°31'14.429"W	1.87	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 GUTTERSEN STATE D23-771 (667'FSL & 2051'FWL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-771
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-771 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (187 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2739.00	7.830	219.230	2737.78	-21.70	-23.13	-16.53	40°12'19.357"N	104°31'14.520"W	2.05	
2834.00	10.190	222.010	2831.60	-32.13	-34.39	-26.25	40°12'19.247"N	104°31'14.647"W	2.53	
2929.00	11.830	220.620	2924.85	-44.74	-48.03	-38.21	40°12'19.114"N	104°31'14.803"W	1.75	
3023.00	13.140	219.530	3016.62	-59.17	-63.58	-51.29	40°12'18.961"N	104°31'14.974"W	1.42	
3118.00	13.870	218.080	3108.99	-75.27	-80.88	-65.18	40°12'18.792"N	104°31'15.156"W	0.85	
3213.00	14.300	215.630	3201.14	-92.57	-99.38	-79.04	40°12'18.611"N	104°31'15.337"W	0.77	
3308.00	15.760	213.310	3292.89	-111.68	-119.69	-92.96	40°12'18.411"N	104°31'15.519"W	1.66	
3402.00	17.840	212.280	3382.87	-133.24	-142.54	-107.66	40°12'18.187"N	104°31'15.712"W	2.24	
3591.00	21.770	219.580	3560.68	-181.49	-194.06	-145.48	40°12'17.682"N	104°31'16.206"W	2.45	
3686.00	23.310	219.850	3648.42	-207.50	-222.07	-168.75	40°12'17.408"N	104°31'16.510"W	1.62	
3781.00	23.330	219.700	3735.66	-234.34	-250.97	-192.81	40°12'17.125"N	104°31'16.825"W	0.07	
3875.00	23.460	216.820	3821.94	-261.65	-280.27	-215.91	40°12'16.838"N	104°31'17.126"W	1.22	
3970.00	23.700	210.270	3909.02	-291.46	-311.90	-236.87	40°12'16.528"N	104°31'17.401"W	2.77	
4064.00	23.600	203.670	3995.14	-323.50	-345.46	-253.95	40°12'16.198"N	104°31'17.626"W	2.82	
4159.00	23.430	204.260	4082.25	-356.76	-380.10	-269.35	40°12'15.858"N	104°31'17.829"W	0.31	
4254.00	23.570	208.140	4169.38	-389.25	-414.07	-286.07	40°12'15.524"N	104°31'18.050"W	1.63	
4349.00	23.450	208.510	4256.49	-421.02	-447.42	-304.05	40°12'15.196"N	104°31'18.286"W	0.20	
4443.00	23.530	211.540	4342.71	-451.81	-479.85	-322.79	40°12'14.878"N	104°31'18.532"W	1.29	
4538.00	23.590	209.510	4429.79	-482.82	-512.56	-342.07	40°12'14.557"N	104°31'18.785"W	0.86	
4632.00	23.400	208.290	4516.00	-514.03	-545.36	-360.19	40°12'14.234"N	104°31'19.023"W	0.56	
4727.00	23.430	207.160	4603.17	-545.90	-578.78	-377.75	40°12'13.906"N	104°31'19.255"W	0.47	
4822.00	22.930	207.210	4690.50	-577.65	-612.04	-394.83	40°12'13.579"N	104°31'19.479"W	0.53	
4916.00	22.790	209.870	4777.12	-608.19	-644.12	-412.27	40°12'13.264"N	104°31'19.709"W	1.11	
5011.00	22.950	210.350	4864.65	-638.50	-676.06	-430.79	40°12'12.951"N	104°31'19.952"W	0.26	
5106.00	22.270	213.950	4952.36	-667.73	-706.97	-450.21	40°12'12.647"N	104°31'20.207"W	1.62	
5200.00	23.060	213.450	5039.10	-696.12	-737.11	-470.30	40°12'12.352"N	104°31'20.470"W	0.87	
5295.00	22.980	207.950	5126.54	-726.37	-769.02	-489.25	40°12'12.038"N	104°31'20.719"W	2.26	
5390.00	22.030	204.820	5214.31	-757.49	-801.57	-505.42	40°12'11.718"N	104°31'20.932"W	1.61	
5484.00	21.430	205.620	5301.63	-787.65	-833.06	-520.25	40°12'11.409"N	104°31'21.127"W	0.71	
5578.00	21.740	209.560	5389.04	-816.87	-863.69	-536.26	40°12'11.108"N	104°31'21.338"W	1.58	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#02 GUTTERSEN STATE D23-771 (667'FSL & 2051'FWL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-771
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-771 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (187 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5673.00	21.520	213.120	5477.36	-845.17	-893.58	-554.46	40°12'10.815"N	104°31'21.577"W	1.40	
5768.00	22.270	214.850	5565.50	-872.82	-922.95	-574.27	40°12'10.527"N	104°31'21.836"W	1.04	
5863.00	21.950	216.460	5653.52	-900.07	-952.00	-595.11	40°12'10.242"N	104°31'22.109"W	0.72	
5958.00	21.880	220.350	5741.66	-925.95	-979.78	-617.12	40°12'09.970"N	104°31'22.396"W	1.53	
6052.00	22.470	221.140	5828.71	-950.84	-1006.65	-640.28	40°12'09.707"N	104°31'22.699"W	0.70	
6147.00	22.920	224.060	5916.35	-975.68	-1033.62	-665.09	40°12'09.443"N	104°31'23.022"W	1.28	
6242.00	22.050	225.630	6004.13	-999.26	-1059.38	-690.70	40°12'09.191"N	104°31'23.356"W	1.11	
6337.00	15.870	221.990	6093.94	-1019.57	-1081.53	-712.16	40°12'08.975"N	104°31'23.636"W	6.62	
6431.00	11.500	241.640	6185.29	-1032.16	-1095.55	-729.02	40°12'08.838"N	104°31'23.855"W	6.73	
6526.00	11.740	275.910	6278.46	-1034.19	-1099.05	-746.99	40°12'08.805"N	104°31'24.087"W	7.17	
6620.00	17.880	300.500	6369.38	-1024.09	-1090.73	-768.98	40°12'08.890"N	104°31'24.369"W	9.21	
6715.00	23.940	328.590	6458.30	-998.38	-1066.80	-791.67	40°12'09.129"N	104°31'24.658"W	12.16	
6810.00	31.010	349.190	6542.72	-956.68	-1026.17	-806.35	40°12'09.532"N	104°31'24.842"W	12.37	
6904.00	40.420	356.700	6618.99	-901.99	-971.81	-812.66	40°12'10.070"N	104°31'24.915"W	11.03	
6999.00	48.540	0.460	6686.73	-835.63	-905.35	-814.15	40°12'10.727"N	104°31'24.925"W	8.98	
7094.00	56.280	0.290	6744.64	-760.70	-830.13	-813.67	40°12'11.470"N	104°31'24.908"W	8.15	
7189.00	65.960	357.720	6790.47	-677.79	-747.06	-815.20	40°12'12.291"N	104°31'24.916"W	10.46	
7283.00	74.800	358.780	6822.00	-589.46	-658.65	-817.88	40°12'13.165"N	104°31'24.938"W	9.46	
7378.00	82.130	1.750	6840.99	-496.80	-565.65	-817.41	40°12'14.084"N	104°31'24.919"W	8.30	
7472.00	89.140	4.070	6848.14	-403.97	-472.11	-812.65	40°12'15.008"N	104°31'24.844"W	7.85	
7567.00	89.780	6.250	6849.04	-310.38	-377.50	-804.11	40°12'15.941"N	104°31'24.721"W	2.39	
7662.00	89.780	7.570	6849.40	-217.33	-283.19	-792.68	40°12'16.872"N	104°31'24.560"W	1.39	
7757.00	89.850	7.430	6849.71	-124.47	-189.01	-780.28	40°12'17.801"N	104°31'24.387"W	0.16	
7852.00	89.820	8.790	6849.98	-31.84	-94.96	-766.88	40°12'18.729"N	104°31'24.201"W	1.43	
7946.00	89.780	10.000	6850.31	59.33	-2.22	-751.53	40°12'19.644"N	104°31'23.990"W	1.29	
8041.00	89.970	8.150	6850.52	151.60	91.58	-736.55	40°12'20.569"N	104°31'23.783"W	1.96	
8136.00	89.970	5.120	6850.57	244.73	185.94	-725.57	40°12'21.500"N	104°31'23.628"W	3.19	
8231.00	89.880	3.490	6850.69	338.56	280.67	-718.44	40°12'22.436"N	104°31'23.523"W	1.72	
8325.00	90.340	1.770	6850.51	431.79	374.56	-714.13	40°12'23.363"N	104°31'23.454"W	1.89	
8420.00	90.090	359.620	6850.15	526.36	469.55	-712.98	40°12'24.301"N	104°31'23.426"W	2.28	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#02 GUTTERSEN STATE D23-771 (667'FSL & 2051'FWL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-771
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-771 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (187 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8515.00	90.030	0.150	6850.05	621.06	564.55	-713.17	40°12'25.240"N	104°31'23.415"W	0.56	
8610.00	89.850	358.980	6850.15	715.79	659.54	-713.89	40°12'26.179"N	104°31'23.411"W	1.25	
8704.00	89.910	359.570	6850.35	809.57	753.54	-715.08	40°12'27.108"N	104°31'23.413"W	0.63	
8799.00	89.850	1.110	6850.55	904.20	848.53	-714.52	40°12'28.047"N	104°31'23.392"W	1.62	
8894.00	89.910	2.660	6850.75	998.57	943.48	-711.39	40°12'28.984"N	104°31'23.338"W	1.63	
8988.00	90.000	1.830	6850.82	1091.88	1037.40	-707.71	40°12'29.912"N	104°31'23.277"W	0.89	
9083.00	89.970	357.090	6850.85	1186.60	1132.37	-708.60	40°12'30.851"N	104°31'23.275"W	4.99	
9178.00	89.850	355.650	6851.00	1281.58	1227.18	-714.62	40°12'31.788"N	104°31'23.339"W	1.52	
9273.00	89.850	356.540	6851.25	1376.57	1321.96	-721.09	40°12'32.725"N	104°31'23.409"W	0.94	
9368.00	89.880	357.050	6851.47	1471.54	1416.81	-726.40	40°12'33.663"N	104°31'23.464"W	0.54	
9462.00	89.660	358.130	6851.85	1565.46	1510.72	-730.35	40°12'34.592"N	104°31'23.502"W	1.17	
9557.00	89.570	359.460	6852.49	1660.28	1605.70	-732.35	40°12'35.530"N	104°31'23.514"W	1.40	
9652.00	89.600	2.290	6853.17	1754.82	1700.67	-730.90	40°12'36.469"N	104°31'23.482"W	2.98	
9746.00	89.820	3.950	6853.65	1847.94	1794.53	-725.78	40°12'37.396"N	104°31'23.403"W	1.78	
9841.00	89.660	5.040	6854.08	1941.72	1889.24	-718.34	40°12'38.331"N	104°31'23.293"W	1.16	
9936.00	89.780	4.200	6854.54	2035.46	1983.92	-710.69	40°12'39.265"N	104°31'23.181"W	0.89	
10031.00	89.750	1.520	6854.93	2129.63	2078.80	-705.95	40°12'40.202"N	104°31'23.107"W	2.82	
10125.00	89.970	0.140	6855.16	2223.19	2172.78	-704.58	40°12'41.131"N	104°31'23.076"W	1.49	
10220.00	89.910	358.580	6855.26	2317.95	2267.78	-705.65	40°12'42.070"N	104°31'23.076"W	1.64	
10315.00	89.780	357.580	6855.52	2412.83	2362.72	-708.83	40°12'43.008"N	104°31'23.104"W	1.06	
10409.00	89.780	357.050	6855.88	2506.77	2456.62	-713.23	40°12'43.936"N	104°31'23.147"W	0.56	
10504.00	89.780	357.830	6856.25	2601.71	2551.52	-717.48	40°12'44.875"N	104°31'23.188"W	0.82	
10599.00	89.820	358.350	6856.58	2696.59	2646.47	-720.64	40°12'45.813"N	104°31'23.216"W	0.55	
10694.00	89.940	358.810	6856.78	2791.44	2741.44	-723.00	40°12'46.752"N	104°31'23.232"W	0.50	
10788.00	89.820	358.360	6856.97	2885.28	2835.41	-725.32	40°12'47.681"N	104°31'23.249"W	0.50	
10883.00	89.910	359.660	6857.20	2980.08	2930.39	-726.96	40°12'48.619"N	104°31'23.257"W	1.37	
10977.00	89.940	1.520	6857.32	3073.68	3024.38	-725.99	40°12'49.548"N	104°31'23.231"W	1.98	
11072.00	89.720	0.960	6857.60	3168.17	3119.36	-723.93	40°12'50.486"N	104°31'23.191"W	0.63	
11167.00	89.720	358.960	6858.07	3262.85	3214.35	-724.00	40°12'51.425"N	104°31'23.178"W	2.11	
11262.00	89.480	358.810	6858.73	3357.66	3309.33	-725.85	40°12'52.364"N	104°31'23.189"W	0.30	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 GUTTERSEN STATE D23-771 (667'FSL & 2051'FWL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-771
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-771 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (187 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11356.00	89.750	358.990	6859.36	3451.47	3403.31	-727.65	40°12'53.293"N	104°31'23.198"W	0.35	
11451.00	89.850	0.080	6859.69	3546.21	3498.31	-728.42	40°12'54.231"N	104°31'23.195"W	1.15	
11545.00	89.720	359.400	6860.05	3639.93	3592.31	-728.85	40°12'55.160"N	104°31'23.187"W	0.74	
11640.00	89.880	358.740	6860.38	3734.72	3687.29	-730.39	40°12'56.099"N	104°31'23.193"W	0.71	
11735.00	89.780	1.380	6860.66	3829.39	3782.28	-730.29	40°12'57.038"N	104°31'23.179"W	2.78	
11830.00	89.940	1.910	6860.89	3923.80	3877.24	-727.57	40°12'57.976"N	104°31'23.130"W	0.58	
11924.00	89.880	1.230	6861.04	4017.24	3971.21	-724.99	40°12'58.904"N	104°31'23.084"W	0.73	
12019.00	89.970	358.190	6861.16	4111.95	4066.19	-725.47	40°12'59.843"N	104°31'23.076"W	3.20	
12114.00	89.780	358.020	6861.37	4206.84	4161.14	-728.61	40°13'00.781"N	104°31'23.103"W	0.27	
12208.00	89.880	357.170	6861.65	4300.76	4255.06	-732.56	40°13'01.710"N	104°31'23.141"W	0.91	
12303.00	89.880	359.420	6861.85	4395.62	4350.01	-735.38	40°13'02.648"N	104°31'23.164"W	2.37	
12397.00	89.820	359.070	6862.10	4489.40	4444.00	-736.62	40°13'03.577"N	104°31'23.166"W	0.38	
12492.00	89.690	359.380	6862.50	4584.18	4538.99	-737.91	40°13'04.516"N	104°31'23.169"W	0.35	
12587.00	90.220	359.990	6862.58	4678.90	4633.99	-738.43	40°13'05.455"N	104°31'23.163"W	0.85	
12682.00	90.220	1.310	6862.21	4773.48	4728.98	-737.35	40°13'06.393"N	104°31'23.135"W	1.39	
12776.00	90.310	2.230	6861.78	4866.88	4822.93	-734.45	40°13'07.321"N	104°31'23.084"W	0.98	
12871.00	90.280	0.950	6861.29	4961.31	4917.89	-731.81	40°13'08.259"N	104°31'23.037"W	1.35	
12966.00	90.250	359.340	6860.85	5055.96	5012.89	-731.57	40°13'09.198"N	104°31'23.020"W	1.70	
13060.00	90.310	356.560	6860.39	5149.85	5106.82	-734.93	40°13'10.126"N	104°31'23.050"W	2.96	
13155.00	90.250	357.280	6859.92	5244.81	5201.68	-740.04	40°13'11.064"N	104°31'23.103"W	0.76	
13250.00	90.120	358.260	6859.62	5339.72	5296.61	-743.74	40°13'12.003"N	104°31'23.137"W	1.04	
13345.00	90.250	358.930	6859.31	5434.57	5391.58	-746.07	40°13'12.941"N	104°31'23.153"W	0.72	
13439.00	90.280	356.420	6858.88	5528.48	5485.49	-749.88	40°13'13.870"N	104°31'23.189"W	2.67	
13534.00	90.180	355.770	6858.49	5623.47	5580.27	-756.35	40°13'14.807"N	104°31'23.259"W	0.69	
13629.00	90.150	357.620	6858.22	5718.43	5675.11	-761.82	40°13'15.745"N	104°31'23.316"W	1.95	
13724.00	90.180	0.390	6857.95	5813.23	5770.08	-763.47	40°13'16.683"N	104°31'23.324"W	2.92	
13818.00	90.310	2.780	6857.55	5906.65	5864.04	-760.87	40°13'17.612"N	104°31'23.277"W	2.55	
13913.00	90.250	5.190	6857.08	6000.56	5958.80	-754.27	40°13'18.547"N	104°31'23.179"W	2.54	
14008.00	90.090	5.720	6856.80	6094.07	6053.37	-745.24	40°13'19.481"N	104°31'23.049"W	0.58	
14102.00	90.280	6.340	6856.50	6186.42	6146.85	-735.37	40°13'20.403"N	104°31'22.908"W	0.69	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 GUTTERSEN STATE D23-771 (667'FSL & 2051'FWL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-771
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-771 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (187 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14197.00	90.310	6.310	6856.01	6279.67	6241.27	-724.90	40°13'21.335"N	104°31'22.760"W	0.04	
14292.00	90.220	5.570	6855.57	6373.04	6335.76	-715.07	40°13'22.268"N	104°31'22.620"W	0.78	
14386.00	90.180	5.130	6855.24	6465.59	6429.35	-706.31	40°13'23.192"N	104°31'22.494"W	0.47	
14481.00	90.550	1.410	6854.63	6559.66	6524.17	-700.89	40°13'24.128"N	104°31'22.410"W	3.94	
14576.00	89.910	359.100	6854.25	6654.30	6619.17	-700.47	40°13'25.067"N	104°31'22.391"W	2.52	
14670.00	89.690	357.400	6854.58	6748.17	6713.12	-703.34	40°13'25.995"N	104°31'22.415"W	1.82	
14765.00	89.850	356.480	6854.96	6843.13	6807.98	-708.41	40°13'26.933"N	104°31'22.467"W	0.98	
14860.00	90.030	355.790	6855.06	6938.12	6902.76	-714.81	40°13'27.871"N	104°31'22.536"W	0.75	
14954.00	90.060	357.000	6854.99	7032.10	6996.58	-720.72	40°13'28.798"N	104°31'22.599"W	1.29	
15049.00	90.060	357.330	6854.89	7127.05	7091.46	-725.42	40°13'29.736"N	104°31'22.646"W	0.35	
15144.00	90.030	357.530	6854.81	7221.98	7186.36	-729.68	40°13'30.675"N	104°31'22.687"W	0.21	
15239.00	89.970	358.590	6854.81	7316.87	7281.31	-732.90	40°13'31.613"N	104°31'22.715"W	1.12	
15334.00	90.180	359.330	6854.69	7411.68	7376.29	-734.62	40°13'32.552"N	104°31'22.724"W	0.81	
15428.00	90.150	359.870	6854.42	7505.41	7470.29	-735.28	40°13'33.481"N	104°31'22.719"W	0.58	
15523.00	90.030	359.750	6854.27	7600.12	7565.29	-735.59	40°13'34.419"N	104°31'22.710"W	0.18	
15618.00	90.030	0.260	6854.22	7694.80	7660.29	-735.58	40°13'35.358"N	104°31'22.696"W	0.54	
15713.00	90.280	0.430	6853.96	7789.43	7755.29	-735.01	40°13'36.297"N	104°31'22.675"W	0.32	
15807.00	90.250	358.950	6853.53	7883.15	7849.28	-735.52	40°13'37.226"N	104°31'22.668"W	1.57	
15902.00	90.340	355.770	6853.04	7978.07	7944.17	-739.89	40°13'38.164"N	104°31'22.711"W	3.35	
15996.00	90.180	356.270	6852.61	8072.07	8037.94	-746.42	40°13'39.091"N	104°31'22.782"W	0.56	
16091.00	90.120	357.500	6852.36	8167.03	8132.80	-751.58	40°13'40.029"N	104°31'22.835"W	1.30	
16186.00	90.090	356.860	6852.19	8261.98	8227.68	-756.25	40°13'40.967"N	104°31'22.882"W	0.67	
16280.00	90.150	357.770	6851.99	8355.92	8321.58	-760.66	40°13'41.895"N	104°31'22.925"W	0.97	
16375.00	90.310	357.050	6851.61	8450.85	8416.48	-764.95	40°13'42.834"N	104°31'22.967"W	0.78	
16470.00	90.250	358.840	6851.15	8545.75	8511.41	-768.36	40°13'43.772"N	104°31'22.998"W	1.89	
16564.00	90.220	357.930	6850.76	8639.61	8605.37	-771.01	40°13'44.701"N	104°31'23.019"W	0.97	
16753.00	90.180	356.460	6850.10	8828.50	8794.14	-780.25	40°13'46.567"N	104°31'23.111"W	0.78	
16848.00	90.090	358.540	6849.88	8923.42	8889.04	-784.40	40°13'47.505"N	104°31'23.151"W	2.19	
16943.00	90.250	357.640	6849.60	9018.31	8983.99	-787.56	40°13'48.444"N	104°31'23.178"W	0.96	
17038.00	90.310	357.820	6849.13	9113.22	9078.91	-791.33	40°13'49.382"N	104°31'23.213"W	0.20	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 GUTTERSEN STATE D23-771 (667'FSL & 2051'FWL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-771
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-771 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (187 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17132.00	90.030	0.100	6848.85	9207.02	9172.89	-793.03	40°13'50.311"N	104°31'23.222"W	2.44	
17227.00	90.280	0.150	6848.59	9301.69	9267.89	-792.83	40°13'51.250"N	104°31'23.206"W	0.27	
17322.00	90.280	1.350	6848.13	9396.26	9362.88	-791.58	40°13'52.188"N	104°31'23.176"W	1.26	
17416.00	90.280	359.810	6847.67	9489.85	9456.87	-790.63	40°13'53.117"N	104°31'23.151"W	1.64	
17511.00	90.310	359.490	6847.18	9584.58	9551.87	-791.21	40°13'54.056"N	104°31'23.145"W	0.34	
17626.00	90.120	358.790	6846.75	9699.32	9666.85	-792.94	40°13'55.192"N	104°31'23.150"W	0.63	Last BHI MWD Survey
17650.00	90.120	358.790	6846.70	9723.27	9690.85	-793.44	40°13'55.429"N	104°31'23.154"W	0.00	Projection to Bit

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 GUTTERSEN STATE D23-771 (667'FSL & 2051'FWL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-771
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-771 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	-1.00	0.69	-36.60	3273502.53	1319195.40	40°12'19.595"N	104°31'14.776"W	polygon
SEC.23-T03N-R64W	-1.00	0.69	-36.60	3273502.53	1319195.40	40°12'19.595"N	104°31'14.776"W	polygon
GUTTERSEN STATE D23-771 BHL REV-2 (200'FNL & 1320'FWL,SEC.14)	6846.00	9696.77	-796.80	3272742.37	1328891.05	40°13'55.488"N	104°31'23.196"W	point
GUTTERSEN STATE D23-771 LP (200'FSL & 1270'FWL,SEC.23)	6849.00	-472.14	-777.69	3272761.47	1318722.59	40°12'15.003"N	104°31'24.394"W	point
GUTTERSEN STATE D23-771 LP FROM PLAN(200'FSL & 1270'FWL,SEC.23)	6850.00	-472.95	-778.60	3272760.56	1318721.78	40°12'14.995"N	104°31'24.405"W	point
GUTTERSEN STATE D23-771/Inflection Point	6850.77	-174.88	-744.64	3272794.52	1319019.84	40°12'17.937"N	104°31'23.925"W	point
GUTTERSEN STATE D23-771 4550' From SHL	6863.00	4550.00	-746.99	3272792.17	1323744.51	40°13'04.626"N	104°31'23.285"W	point
GUTTERSEN STATE D23-771 BHL (200'FNL & 1320'FWL,SEC.14)	6875.62	9696.77	-796.80	3272742.37	1328891.05	40°13'55.488"N	104°31'23.196"W	point

WELLPATH COMPOSITION - Ref Wellbore: GUTTERSEN STATE D23-771 AWB					Ref Wellpath: GUTTERSEN STATE D23-771 AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore	
0.00	1936.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	3rd Party Gyrodata standard <82'-1936'>		GUTTERSEN STATE D23-771 AWP	
1936.00	17626.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BH/ATC OWSG MWD rev2 + IFR1+MSA <1981'-17626'>		GUTTERSEN STATE D23-771 AWP	
17626.00	17650.00	Blind Drilling (std)	Projection to bit		GUTTERSEN STATE D23-771 AWP	



Actual Wellpath Report
GUTTERSEN STATE D23-771 AWP
Page 10 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 GUTTERSEN STATE D23-771 (667'FSL & 2051'FWL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-771
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-771 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1936.00	0.470	323.070	1935.98	Tie to Surface
17626.00	90.120	358.790	6846.75	Last BHI MWD Survey
17650.00	90.120	358.790	6846.70	Projection to Bit