

# NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#05 GUTTERSEN STATE D23-741 (761°FSL & 1511°FEL,SEC.23)  
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: GUTTERSEN STATE D23-741  
Facility: SEC.23-T03N-R64W Wellbore: GUTTERSEN STATE D23-741 PWB

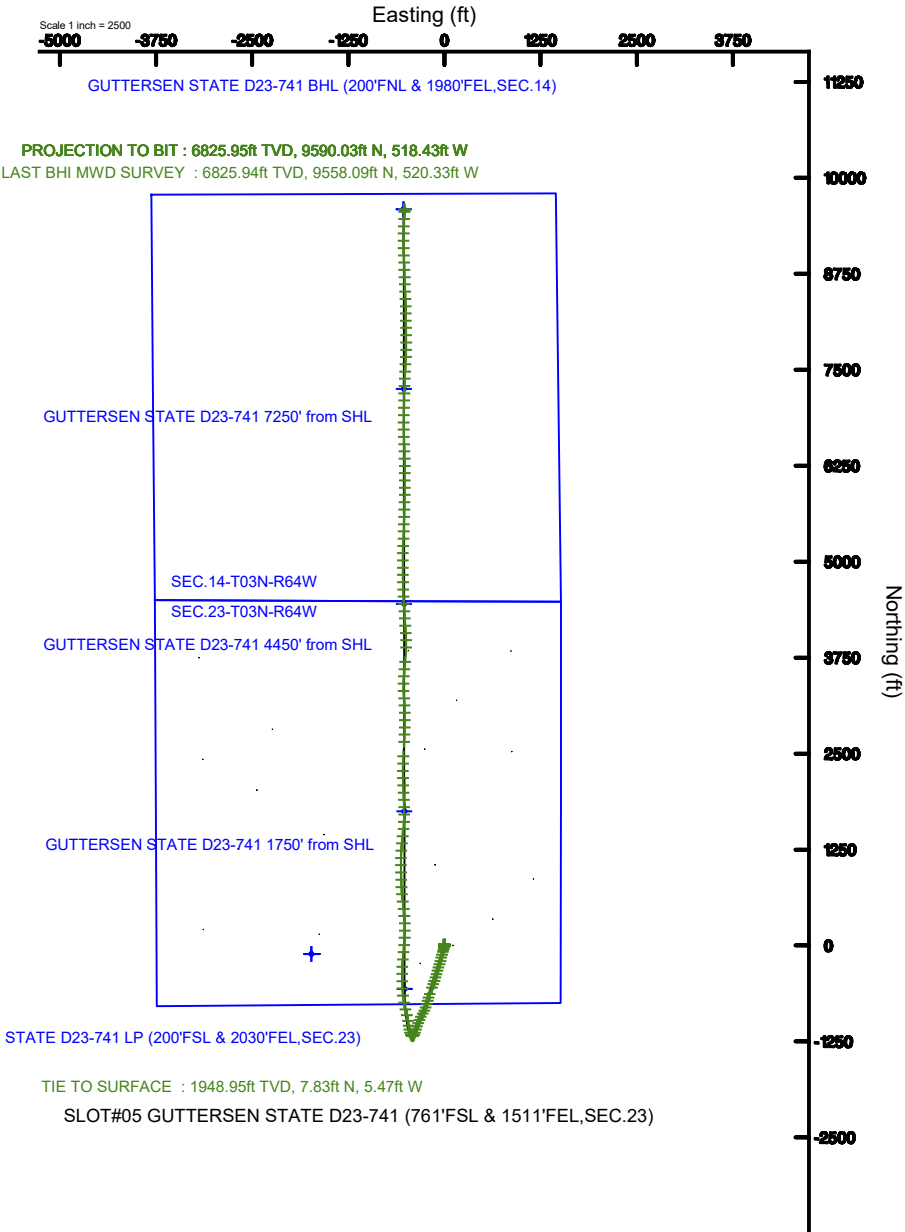
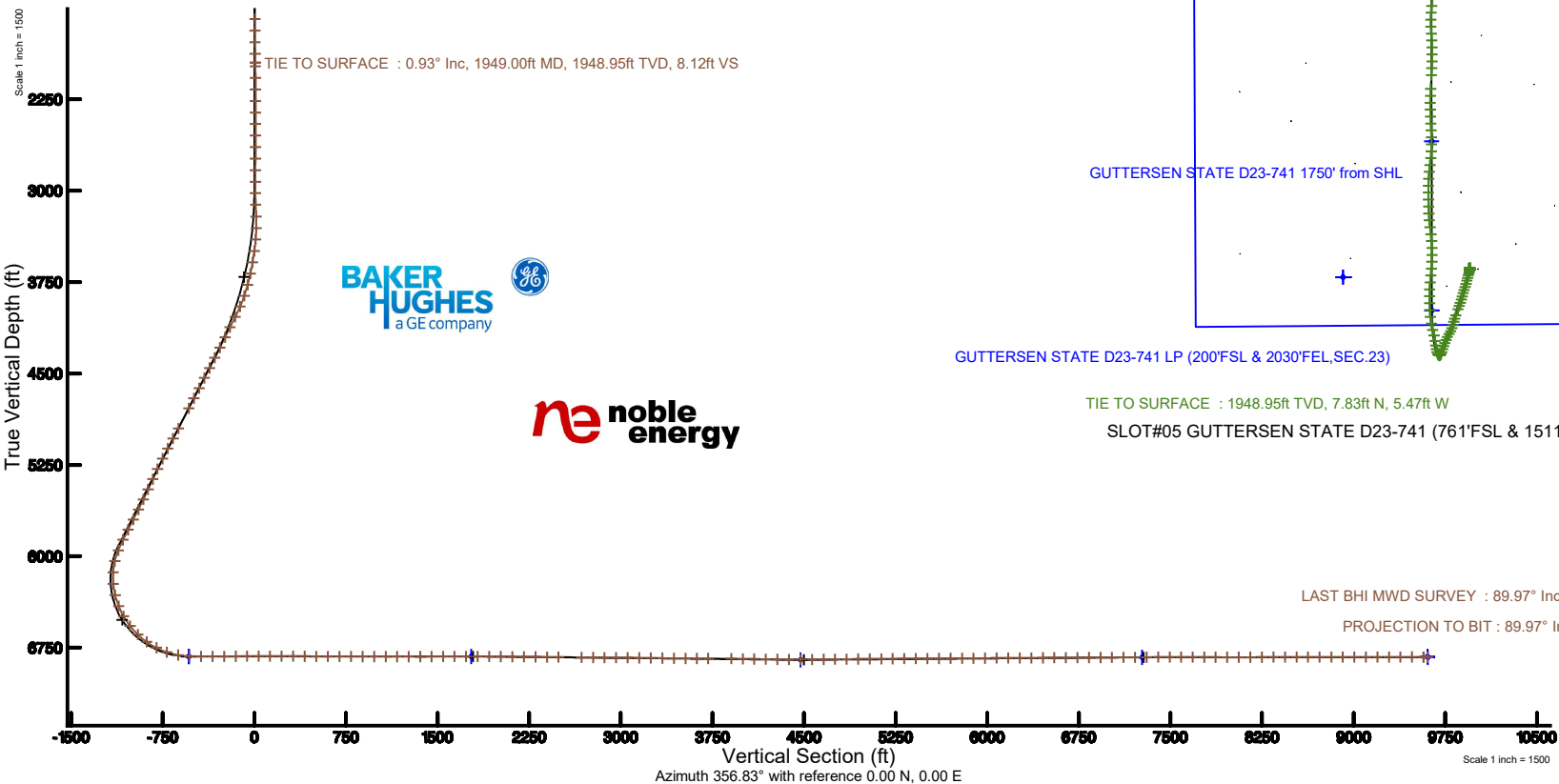
Plot reference wellpath is GUTTERSEN STATE D23-741 PWP (REV-A.0)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (30') (RKB)	North Reference: Grid north
Measured depths are referenced to RIG (30') (RKB)	Scale: True distance
RIG (30') (RKB) to Mean Sea Level: 4840 feet	Depths are in feet
Mean Sea Level to Mud line (At Slot: SLOT#05 GUTTERSEN STATE D23-741 (761°FSL & 1511°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#05 GUTTERSEN STATE D23-741 (761°FSL & 1511°FEL,SEC.23)	109.14	1731.00	3273523.420	1319304.561	40°12'20.484"N	104°30'52.452"W
RIG (30') (RKB) to Mud line (At Slot: SLOT#05 GUTTERSEN STATE D23-741 (761°FSL & 1511°FEL,SEC.23))					4840ft	
Mean Sea Level to Mud line (At Slot: SLOT#05 GUTTERSEN STATE D23-741 (761°FSL & 1511°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	17639.86	OWSG MWD rev2	OWSG MWD rev2 + IFR1 + Multi-Station Correction		GUTTERSEN STATE D23-741 PWB



LAST BHI MWD SURVEY : 89.97° Inc, 17605.00ft MD, 6825.94ft TVD, 9572.23ft VS  
PROJECTION TO BIT : 89.97° Inc, 17637.00ft MD, 6825.95ft TVD, 9604.02ft VS

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#05 GUTTERSEN STATE D23-741 (761'FSL & 1511'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-741
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-741 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 8:51:28 AM
Convergence at slot	0.64° East	Database/Source file	WellArchitectDB/GUTTERSEN_STATE_D23-741_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	109.14	1731.00	3275233.42	1319304.56	40°12'20.484"N	104°30'52.452"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#05 GUTTERSEN STATE D23-741 (761'FSL & 1511'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	356.83°

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-741 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	242.830	0.00	0.00	0.00	0.00	40°12'20.484"N	104°30'52.452"W	0.00	
82.00	0.090	242.830	82.00	-0.03	-0.03	-0.06	40°12'20.484"N	104°30'52.453"W	0.11	
176.00	0.240	54.100	176.00	0.05	0.05	0.04	40°12'20.485"N	104°30'52.452"W	0.35	
267.00	0.150	263.200	267.00	0.15	0.15	0.07	40°12'20.485"N	104°30'52.451"W	0.42	
362.00	0.570	211.140	362.00	-0.25	-0.27	-0.30	40°12'20.481"N	104°30'52.456"W	0.52	
456.00	0.540	281.240	455.99	-0.53	-0.58	-0.97	40°12'20.478"N	104°30'52.465"W	0.68	
551.00	0.450	291.190	550.99	-0.26	-0.36	-1.76	40°12'20.481"N	104°30'52.475"W	0.13	
646.00	0.450	307.040	645.99	0.13	0.00	-2.40	40°12'20.484"N	104°30'52.483"W	0.13	
741.00	0.400	314.240	740.99	0.62	0.45	-2.94	40°12'20.489"N	104°30'52.490"W	0.08	
835.00	0.380	316.870	834.98	1.10	0.91	-3.39	40°12'20.493"N	104°30'52.496"W	0.03	
930.00	0.400	338.550	929.98	1.65	1.45	-3.72	40°12'20.499"N	104°30'52.500"W	0.16	
1025.00	0.340	2.650	1024.98	2.25	2.04	-3.83	40°12'20.505"N	104°30'52.501"W	0.17	
1119.00	0.280	16.860	1118.98	2.74	2.54	-3.75	40°12'20.509"N	104°30'52.500"W	0.10	
1214.00	0.280	12.060	1213.98	3.18	2.99	-3.64	40°12'20.514"N	104°30'52.498"W	0.02	
1309.00	0.280	355.040	1308.98	3.64	3.45	-3.61	40°12'20.518"N	104°30'52.498"W	0.09	
1404.00	0.280	341.800	1403.97	4.10	3.90	-3.70	40°12'20.523"N	104°30'52.499"W	0.07	
1499.00	0.330	337.910	1498.97	4.58	4.37	-3.88	40°12'20.528"N	104°30'52.501"W	0.06	
1593.00	0.290	330.830	1592.97	5.05	4.83	-4.09	40°12'20.532"N	104°30'52.504"W	0.06	
1688.00	0.440	339.870	1687.97	5.61	5.38	-4.34	40°12'20.538"N	104°30'52.507"W	0.17	
1783.00	0.590	339.850	1782.97	6.43	6.18	-4.63	40°12'20.546"N	104°30'52.511"W	0.16	
1877.00	0.540	330.350	1876.96	7.29	7.02	-5.02	40°12'20.554"N	104°30'52.516"W	0.11	
1949.00	0.930	330.300	1948.95	8.12	7.83	-5.47	40°12'20.562"N	104°30'52.521"W	0.54	TIE TO SURFACE
1980.00	1.190	331.340	1979.95	8.63	8.33	-5.75	40°12'20.567"N	104°30'52.525"W	0.84	
2074.00	0.040	290.340	2073.94	9.53	9.19	-6.25	40°12'20.576"N	104°30'52.531"W	1.23	
2169.00	0.230	322.020	2168.94	9.70	9.36	-6.40	40°12'20.577"N	104°30'52.533"W	0.21	
2264.00	0.030	191.730	2263.94	9.83	9.48	-6.52	40°12'20.578"N	104°30'52.535"W	0.26	
2359.00	0.030	197.240	2358.94	9.78	9.43	-6.54	40°12'20.578"N	104°30'52.535"W	0.00	
2453.00	0.060	102.300	2452.94	9.75	9.40	-6.49	40°12'20.578"N	104°30'52.534"W	0.07	
2548.00	0.120	149.360	2547.94	9.64	9.30	-6.40	40°12'20.577"N	104°30'52.533"W	0.10	
2643.00	0.030	142.970	2642.94	9.53	9.20	-6.33	40°12'20.576"N	104°30'52.532"W	0.09	

## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#05 GUTTERSEN STATE D23-741 (761'FSL & 1511'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-741
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-741 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
2737.00	0.060	235.560	2736.94	9.49	9.15	-6.36	40°12'20.575"N	104°30'52.533"W	0.07	
2832.00	0.030	285.140	2831.94	9.47	9.13	-6.42	40°12'20.575"N	104°30'52.533"W	0.05	
2927.00	0.040	102.330	2926.94	9.47	9.13	-6.41	40°12'20.575"N	104°30'52.533"W	0.07	
3021.00	0.680	95.680	3020.94	9.38	9.07	-5.83	40°12'20.574"N	104°30'52.526"W	0.68	
3116.00	2.960	42.870	3115.89	10.99	10.81	-3.59	40°12'20.591"N	104°30'52.497"W	2.74	
3212.00	3.750	50.670	3211.72	14.56	14.62	0.52	40°12'20.628"N	104°30'52.443"W	0.95	
3307.00	1.360	129.440	3306.64	15.63	15.87	3.79	40°12'20.640"N	104°30'52.401"W	3.93	
3401.00	5.010	186.250	3400.50	10.83	11.08	4.21	40°12'20.593"N	104°30'52.396"W	4.70	
3496.00	8.350	194.380	3494.84	0.16	0.27	2.04	40°12'20.486"N	104°30'52.426"W	3.65	
3591.00	9.840	195.100	3588.64	-14.13	-14.25	-1.78	40°12'20.343"N	104°30'52.477"W	1.57	
3685.00	13.160	196.450	3680.74	-31.84	-32.27	-6.91	40°12'20.166"N	104°30'52.546"W	3.54	
3780.00	16.430	196.290	3772.58	-54.70	-55.55	-13.74	40°12'19.937"N	104°30'52.637"W	3.44	
3875.00	19.540	195.440	3862.93	-82.43	-83.76	-21.74	40°12'19.659"N	104°30'52.744"W	3.29	
3970.00	24.380	194.000	3951.01	-116.24	-118.12	-30.72	40°12'19.320"N	104°30'52.865"W	5.13	
4065.00	27.730	193.560	4036.34	-156.15	-158.65	-40.65	40°12'18.921"N	104°30'52.999"W	3.53	
4160.00	27.970	196.370	4120.34	-198.32	-201.51	-52.11	40°12'18.499"N	104°30'53.152"W	1.40	
4254.00	27.710	196.810	4203.46	-239.63	-243.58	-64.64	40°12'18.084"N	104°30'53.320"W	0.35	
4349.00	27.810	197.350	4287.53	-281.14	-285.88	-77.64	40°12'17.668"N	104°30'53.494"W	0.28	
4444.00	28.260	197.540	4371.38	-322.94	-328.47	-91.02	40°12'17.248"N	104°30'53.672"W	0.48	
4539.00	29.110	197.510	4454.72	-365.59	-371.95	-104.76	40°12'16.820"N	104°30'53.855"W	0.89	
4633.00	28.680	195.610	4537.02	-408.34	-415.49	-117.70	40°12'16.391"N	104°30'54.028"W	1.08	
4728.00	29.150	197.010	4620.18	-451.64	-459.57	-130.61	40°12'15.957"N	104°30'54.201"W	0.87	
4823.00	29.120	200.140	4703.16	-494.59	-503.40	-145.34	40°12'15.526"N	104°30'54.397"W	1.60	
4918.00	29.030	201.140	4786.19	-536.82	-546.60	-161.61	40°12'15.101"N	104°30'54.613"W	0.52	
5107.00	29.360	198.450	4951.19	-621.69	-633.32	-192.81	40°12'14.247"N	104°30'55.028"W	0.72	
5201.00	29.380	196.340	5033.11	-664.85	-677.31	-206.59	40°12'13.814"N	104°30'55.211"W	1.10	
5296.00	28.330	194.790	5116.32	-708.26	-721.47	-218.90	40°12'13.379"N	104°30'55.376"W	1.36	
5391.00	28.470	196.580	5199.88	-751.02	-764.97	-231.12	40°12'12.950"N	104°30'55.540"W	0.91	
5486.00	26.890	200.140	5284.02	-792.06	-806.84	-244.98	40°12'12.538"N	104°30'55.725"W	2.41	
5580.00	28.200	206.140	5367.37	-830.96	-846.75	-262.09	40°12'12.146"N	104°30'55.951"W	3.26	

REFERENCE WELLPATH IDENTIFICATION			
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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-741 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
5675.00	29.000	211.440	5450.80	-869.49	-886.55	-283.99	40°12'11.755"N	104°30'56.239"W	2.80	
5770.00	28.890	207.210	5533.94	-908.25	-926.61	-306.50	40°12'11.361"N	104°30'56.535"W	2.16	
5864.00	29.130	203.180	5616.15	-948.34	-967.85	-325.89	40°12'10.956"N	104°30'56.790"W	2.09	
5959.00	29.050	199.260	5699.18	-990.39	-1010.88	-342.60	40°12'10.533"N	104°30'57.012"W	2.01	
6054.00	28.640	198.250	5782.39	-1032.90	-1054.28	-357.34	40°12'10.106"N	104°30'57.208"W	0.67	
6148.00	28.180	198.980	5865.07	-1074.43	-1096.66	-371.61	40°12'09.688"N	104°30'57.398"W	0.61	
6243.00	23.870	199.210	5950.42	-1113.00	-1136.04	-385.24	40°12'09.301"N	104°30'57.579"W	4.54	
6338.00	14.740	204.750	6039.99	-1141.51	-1165.23	-396.65	40°12'09.013"N	104°30'57.730"W	9.79	
6432.00	10.210	242.490	6131.89	-1155.54	-1179.97	-409.07	40°12'08.869"N	104°30'57.893"W	9.67	
6527.00	10.050	298.230	6225.62	-1154.69	-1179.94	-423.87	40°12'08.871"N	104°30'58.083"W	9.93	
6622.00	15.450	331.920	6318.36	-1138.87	-1164.82	-437.16	40°12'09.022"N	104°30'58.253"W	9.45	
6717.00	22.030	342.010	6408.30	-1110.13	-1136.67	-448.64	40°12'09.301"N	104°30'58.396"W	7.70	
6811.00	29.930	350.860	6492.77	-1069.68	-1096.68	-457.82	40°12'09.698"N	104°30'58.509"W	9.34	
6906.00	37.960	353.730	6571.52	-1016.84	-1044.14	-464.79	40°12'10.217"N	104°30'58.591"W	8.62	
7001.00	46.300	350.250	6641.92	-953.43	-981.14	-473.81	40°12'10.841"N	104°30'58.699"W	9.11	
7096.00	55.340	346.670	6701.89	-880.70	-909.11	-488.67	40°12'11.554"N	104°30'58.880"W	9.95	
7190.00	62.630	346.930	6750.29	-801.42	-830.73	-507.05	40°12'12.331"N	104°30'59.105"W	7.76	
7285.00	71.940	349.270	6786.94	-714.90	-745.07	-525.04	40°12'13.179"N	104°30'59.325"W	10.06	
7380.00	79.100	353.440	6810.68	-623.41	-654.21	-538.80	40°12'14.079"N	104°30'59.489"W	8.65	
7474.00	89.020	357.720	6820.40	-530.08	-561.13	-545.96	40°12'14.999"N	104°30'59.568"W	11.48	
7569.00	90.120	359.090	6821.12	-435.12	-466.17	-548.60	40°12'15.938"N	104°30'59.589"W	1.85	
7664.00	90.000	359.550	6821.02	-340.21	-371.18	-549.73	40°12'16.877"N	104°30'59.590"W	0.50	
7759.00	90.060	2.270	6820.97	-245.46	-276.20	-548.22	40°12'17.815"N	104°30'59.557"W	2.86	
7853.00	90.370	5.100	6820.62	-152.14	-182.40	-542.18	40°12'18.741"N	104°30'59.466"W	3.03	
7948.00	90.740	6.350	6819.69	-58.29	-87.88	-532.71	40°12'19.674"N	104°30'59.330"W	1.37	
8043.00	89.780	4.470	6819.26	35.64	6.69	-523.75	40°12'20.608"N	104°30'59.201"W	2.22	
8137.00	90.030	2.760	6819.42	128.98	100.50	-517.82	40°12'21.534"N	104°30'59.111"W	1.84	
8232.00	89.600	0.670	6819.73	223.63	195.45	-514.98	40°12'22.472"N	104°30'59.061"W	2.25	
8327.00	89.940	357.110	6820.11	318.55	290.42	-516.82	40°12'23.410"N	104°30'59.071"W	3.76	
8421.00	89.750	356.110	6820.36	412.55	384.25	-522.38	40°12'24.338"N	104°30'59.129"W	1.08	

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-741 AWB
Facility	SEC.23-T03N-R64W		

### WELLPATH DATA (186 stations)

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8516.00	89.420	353.500	6821.05	507.48	478.85	-530.98	40°12'25.274"N	104°30'59.227"W	2.77	
8611.00	89.970	352.420	6821.56	602.26	573.13	-542.62	40°12'26.207"N	104°30'59.363"W	1.28	
8706.00	89.660	354.550	6821.86	697.09	667.51	-553.40	40°12'27.141"N	104°30'59.489"W	2.27	
8800.00	89.660	357.940	6822.42	791.07	761.29	-559.56	40°12'28.068"N	104°30'59.555"W	3.61	
8895.00	89.970	358.570	6822.73	886.04	856.25	-562.45	40°12'29.007"N	104°30'59.578"W	0.74	
8990.00	89.880	359.250	6822.85	980.98	951.23	-564.26	40°12'29.945"N	104°30'59.588"W	0.72	
9085.00	89.880	359.160	6823.05	1075.90	1046.22	-565.58	40°12'30.884"N	104°30'59.591"W	0.09	
9179.00	90.220	0.950	6822.97	1169.74	1140.22	-565.48	40°12'31.813"N	104°30'59.577"W	1.94	
9274.00	89.820	3.280	6822.94	1264.33	1235.15	-561.98	40°12'32.751"N	104°30'59.518"W	2.49	
9369.00	89.940	5.540	6823.13	1358.50	1329.86	-554.67	40°12'33.686"N	104°30'59.410"W	2.38	
9464.00	90.250	7.910	6822.98	1452.08	1424.20	-543.55	40°12'34.617"N	104°30'59.253"W	2.52	
9559.00	90.250	5.660	6822.56	1545.64	1518.52	-532.33	40°12'35.547"N	104°30'59.095"W	2.37	
9653.00	90.120	1.770	6822.26	1638.94	1612.31	-526.24	40°12'36.474"N	104°30'59.003"W	4.14	
9748.00	89.820	0.520	6822.31	1733.67	1707.29	-524.34	40°12'37.412"N	104°30'58.965"W	1.35	
9843.00	89.910	359.320	6822.53	1828.53	1802.29	-524.47	40°12'38.351"N	104°30'58.954"W	1.27	
9938.00	89.910	357.520	6822.68	1923.49	1897.25	-527.09	40°12'39.289"N	104°30'58.974"W	1.89	
10032.00	89.850	357.230	6822.88	2017.49	1991.15	-531.40	40°12'40.218"N	104°30'59.016"W	0.32	
10127.00	89.380	357.460	6823.52	2112.48	2086.04	-535.80	40°12'41.156"N	104°30'59.059"W	0.55	
10222.00	89.410	358.940	6824.52	2207.44	2180.99	-538.78	40°12'42.094"N	104°30'59.084"W	1.56	
10316.00	89.570	0.200	6825.36	2301.33	2274.98	-539.49	40°12'43.023"N	104°30'59.079"W	1.35	
10411.00	89.570	1.850	6826.07	2396.07	2369.96	-537.79	40°12'43.961"N	104°30'59.044"W	1.74	
10506.00	89.350	2.290	6826.97	2490.67	2464.89	-534.36	40°12'44.899"N	104°30'58.986"W	0.52	
10695.00	89.260	3.190	6829.26	2678.65	2653.66	-525.32	40°12'46.763"N	104°30'58.843"W	0.48	
10790.00	89.230	3.370	6830.51	2773.04	2748.50	-519.89	40°12'47.700"N	104°30'58.759"W	0.19	
10884.00	89.510	0.910	6831.54	2866.62	2842.42	-516.38	40°12'48.628"N	104°30'58.700"W	2.63	
10979.00	89.880	0.500	6832.05	2961.40	2937.41	-515.21	40°12'49.566"N	104°30'58.672"W	0.58	
11074.00	89.690	358.920	6832.41	3056.28	3032.40	-515.69	40°12'50.505"N	104°30'58.664"W	1.68	
11169.00	89.380	356.910	6833.18	3151.25	3127.33	-519.15	40°12'51.443"N	104°30'58.695"W	2.14	
11263.00	89.290	355.110	6834.27	3245.23	3221.09	-525.69	40°12'52.370"N	104°30'58.766"W	1.92	
11358.00	89.110	357.540	6835.59	3340.21	3315.88	-531.77	40°12'53.308"N	104°30'58.831"W	2.56	

### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#05 GUTTERSEN STATE D23-741 (761'FSL & 1511'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-741
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-741 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
11453.00	89.320	1.040	6836.90	3435.10	3410.85	-532.95	40°12'54.246"N	104°30'58.833"W	3.69	
11548.00	89.600	3.700	6837.79	3529.65	3505.76	-529.02	40°12'55.184"N	104°30'58.769"W	2.82	
11642.00	89.780	5.680	6838.30	3622.76	3599.44	-521.34	40°12'56.109"N	104°30'58.656"W	2.12	
11737.00	90.150	7.240	6838.36	3716.42	3693.83	-510.65	40°12'57.040"N	104°30'58.505"W	1.69	
11926.00	88.950	359.710	6839.85	3904.00	3882.34	-499.20	40°12'58.902"N	104°30'58.330"W	4.03	
12021.00	89.110	358.670	6841.45	3998.91	3977.31	-500.54	40°12'59.840"N	104°30'58.334"W	1.11	
12115.00	89.200	356.860	6842.84	4092.88	4071.23	-504.21	40°13'00.769"N	104°30'58.368"W	1.93	
12210.00	89.110	356.400	6844.24	4187.87	4166.05	-509.79	40°13'01.706"N	104°30'58.426"W	0.49	
12304.00	89.050	356.540	6845.75	4281.85	4259.86	-515.58	40°13'02.634"N	104°30'58.488"W	0.16	
12399.00	89.110	356.610	6847.28	4376.84	4354.68	-521.25	40°13'03.571"N	104°30'58.547"W	0.10	
12494.00	90.620	356.450	6847.50	4471.84	4449.50	-527.00	40°13'04.509"N	104°30'58.608"W	1.60	
12588.00	90.460	357.310	6846.61	4565.83	4543.36	-532.12	40°13'05.437"N	104°30'58.660"W	0.93	
12683.00	90.550	357.920	6845.78	4660.82	4638.27	-536.07	40°13'06.375"N	104°30'58.698"W	0.65	
12777.00	90.550	358.790	6844.87	4754.78	4732.23	-538.77	40°13'07.304"N	104°30'58.719"W	0.93	
12872.00	90.550	358.790	6843.96	4849.72	4827.20	-540.78	40°13'08.243"N	104°30'58.731"W	0.00	
12966.00	90.650	359.400	6842.98	4943.64	4921.19	-542.26	40°13'09.171"N	104°30'58.737"W	0.66	
13061.00	90.650	0.580	6841.90	5038.49	5016.18	-542.28	40°13'10.110"N	104°30'58.724"W	1.24	
13156.00	90.250	1.630	6841.15	5133.22	5111.16	-540.45	40°13'11.048"N	104°30'58.686"W	1.18	
13250.00	90.310	2.120	6840.69	5226.85	5205.10	-537.37	40°13'11.976"N	104°30'58.633"W	0.53	
13345.00	90.370	2.480	6840.13	5321.42	5300.03	-533.56	40°13'12.914"N	104°30'58.571"W	0.38	
13440.00	90.370	1.410	6839.52	5416.04	5394.97	-530.33	40°13'13.852"N	104°30'58.515"W	1.13	
13534.00	90.430	2.170	6838.86	5509.68	5488.92	-527.40	40°13'14.780"N	104°30'58.464"W	0.81	
13629.00	90.280	1.760	6838.27	5604.30	5583.86	-524.14	40°13'15.718"N	104°30'58.409"W	0.46	
13724.00	90.400	1.060	6837.71	5698.99	5678.83	-521.80	40°13'16.656"N	104°30'58.365"W	0.75	
13819.00	90.370	1.380	6837.07	5793.71	5773.81	-519.78	40°13'17.594"N	104°30'58.325"W	0.34	
13914.00	90.310	1.870	6836.51	5888.38	5868.77	-517.09	40°13'18.532"N	104°30'58.277"W	0.52	
14008.00	90.490	0.010	6835.85	5982.13	5962.75	-515.55	40°13'19.461"N	104°30'58.244"W	1.99	
14103.00	90.310	359.190	6835.19	6077.02	6057.74	-516.21	40°13'20.399"N	104°30'58.238"W	0.88	
14198.00	90.400	0.340	6834.60	6171.89	6152.74	-516.60	40°13'21.338"N	104°30'58.230"W	1.21	
14293.00	90.310	359.330	6834.01	6266.76	6247.73	-516.87	40°13'22.277"N	104°30'58.220"W	1.07	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#05 GUTTERSEN STATE D23-741 (761'FSL & 1511'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-741
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-741 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
14388.00	90.280	359.290	6833.52	6361.67	6342.72	-518.02	40°13'23.216"N	104°30'58.221"W	0.05	
14482.00	90.220	358.340	6833.11	6455.61	6436.70	-519.96	40°13'24.144"N	104°30'58.233"W	1.01	
14576.00	90.400	357.330	6832.60	6549.59	6530.63	-523.51	40°13'25.073"N	104°30'58.265"W	1.09	
14671.00	90.430	357.800	6831.91	6644.58	6625.54	-527.55	40°13'26.011"N	104°30'58.303"W	0.50	
14766.00	90.400	358.980	6831.23	6739.54	6720.50	-530.22	40°13'26.950"N	104°30'58.324"W	1.24	
14860.00	90.180	0.770	6830.75	6833.40	6814.50	-530.42	40°13'27.879"N	104°30'58.313"W	1.92	
14955.00	90.370	1.270	6830.29	6928.15	6909.48	-528.73	40°13'28.817"N	104°30'58.278"W	0.56	
15049.00	90.310	1.260	6829.74	7021.86	7003.46	-526.65	40°13'29.745"N	104°30'58.238"W	0.06	
15144.00	90.280	1.010	6829.25	7116.59	7098.44	-524.77	40°13'30.684"N	104°30'58.200"W	0.27	
15239.00	90.370	1.840	6828.71	7211.29	7193.40	-522.41	40°13'31.622"N	104°30'58.156"W	0.88	
15334.00	90.250	2.200	6828.19	7305.90	7288.34	-519.06	40°13'32.560"N	104°30'58.099"W	0.40	
15428.00	90.370	2.160	6827.69	7399.48	7382.27	-515.49	40°13'33.487"N	104°30'58.040"W	0.13	
15523.00	89.940	2.740	6827.43	7494.03	7477.19	-511.42	40°13'34.425"N	104°30'57.974"W	0.76	
15618.00	89.910	2.840	6827.55	7588.51	7572.07	-506.80	40°13'35.362"N	104°30'57.901"W	0.11	
15712.00	89.970	3.180	6827.65	7681.97	7665.94	-501.86	40°13'36.289"N	104°30'57.824"W	0.37	
15807.00	89.820	1.050	6827.82	7776.56	7760.87	-498.36	40°13'37.227"N	104°30'57.765"W	2.25	
15901.00	89.880	359.790	6828.07	7870.37	7854.87	-497.67	40°13'38.155"N	104°30'57.742"W	1.34	
15996.00	89.940	359.010	6828.22	7965.27	7949.86	-498.66	40°13'39.094"N	104°30'57.742"W	0.82	
16091.00	90.030	358.710	6828.25	8060.21	8044.84	-500.55	40°13'40.033"N	104°30'57.752"W	0.33	
16185.00	90.090	359.050	6828.15	8154.15	8138.83	-502.39	40°13'40.962"N	104°30'57.763"W	0.37	
16280.00	90.180	359.720	6827.92	8249.06	8233.82	-503.41	40°13'41.900"N	104°30'57.762"W	0.71	
16374.00	90.220	359.230	6827.59	8342.96	8327.81	-504.27	40°13'42.829"N	104°30'57.760"W	0.52	
16469.00	90.000	357.760	6827.41	8437.91	8422.78	-506.77	40°13'43.768"N	104°30'57.778"W	1.56	
16564.00	90.250	357.300	6827.21	8532.91	8517.69	-510.86	40°13'44.706"N	104°30'57.818"W	0.55	
16658.00	90.030	357.850	6826.98	8626.90	8611.61	-514.84	40°13'45.635"N	104°30'57.856"W	0.63	
16753.00	90.090	357.790	6826.88	8721.88	8706.54	-518.45	40°13'46.573"N	104°30'57.889"W	0.09	
16848.00	90.090	357.810	6826.73	8816.87	8801.47	-522.10	40°13'47.512"N	104°30'57.922"W	0.02	
16942.00	90.180	357.780	6826.51	8910.86	8895.40	-525.72	40°13'48.440"N	104°30'57.955"W	0.10	
17037.00	89.910	358.410	6826.43	9005.83	8990.34	-528.87	40°13'49.379"N	104°30'57.982"W	0.72	
17132.00	90.090	359.250	6826.43	9100.77	9085.32	-530.81	40°13'50.317"N	104°30'57.994"W	0.90	



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#05 GUTTERSEN STATE D23-741 (761'FSL & 1511'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-741
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-741 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
17226.00	90.120	0.160	6826.26	9194.65	9179.32	-531.30	40°13'51.246"N	104°30'57.987"W	0.97	
17321.00	90.030	0.470	6826.13	9289.48	9274.32	-530.78	40°13'52.185"N	104°30'57.966"W	0.34	
17415.00	90.120	1.430	6826.01	9383.24	9368.30	-529.22	40°13'53.113"N	104°30'57.933"W	1.03	
17510.00	90.000	2.950	6825.91	9477.82	9463.23	-525.59	40°13'54.051"N	104°30'57.872"W	1.60	
17605.00	89.970	3.400	6825.94	9572.23	9558.09	-520.33	40°13'54.988"N	104°30'57.791"W	0.47	LAST BHI MWD SURVEY
17637.00	89.970	3.400	6825.95	9604.02	9590.03	-518.43	40°13'55.303"N	104°30'57.762"W	0.00	PROJECTION TO BIT

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#05 GUTTERSEN STATE D23-741 (761'FSL & 1511'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-741
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-741 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	-109.16	-1730.97	3273502.53	1319195.40	40°12'19.595"N	104°31'14.776"W	polygon
SEC.23-T03N-R64W	-18.00	-109.16	-1730.97	3273502.53	1319195.40	40°12'19.595"N	104°31'14.776"W	polygon
GUTTERSEN STATE D23-741 1750' from SHL	6822.00	1750.00	-521.62	3274711.82	1321054.48	40°12'37.834"N	104°30'58.924"W	point
GUTTERSEN STATE D23-741 BHL (200'FNL & 1980'FEL,SEC.14)	6822.00	9590.37	-531.01	3274702.43	1328894.50	40°13'55.308"N	104°30'57.924"W	point
GUTTERSEN STATE D23-741 LP (200'FSL & 2030'FEL,SEC.23)	6822.00	-566.21	-518.23	3274715.22	1318738.38	40°12'14.946"N	104°30'59.212"W	point
GUTTERSEN STATE D23-741 LP FROM PLAN (200'FSL & 2030'FEL,SEC.23)	6822.00	-565.77	-518.79	3274714.65	1318738.82	40°12'14.950"N	104°30'59.219"W	point
GUTTERSEN STATE D23-741 7250' from SHL	6829.00	7250.00	-528.34	3274705.10	1326554.24	40°13'32.182"N	104°30'58.224"W	point
GUTTERSEN STATE D23-741 BHL FROM PLAN (200'FNL & 1980'FEL,SEC.14)	6829.00	9591.33	-531.20	3274702.24	1328895.46	40°13'55.317"N	104°30'57.926"W	point
GUTTERSEN STATE D23-741 4450' from SHL	6850.00	4450.00	-524.92	3274708.52	1323754.36	40°13'04.514"N	104°30'58.581"W	point

WELLPATH COMPOSITION - Ref Wellbore: GUTTERSEN STATE D23-741 AWB					Ref Wellpath: GUTTERSEN STATE D23-741 AWP
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore
0.00	1949.00	OWSG MWD rev2 - Standard	3rd Party Surface Surveys <82'-1949'>		GUTTERSEN STATE D23-741 AWB
1949.00	17605.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BH/ATC OWSG MWD+IFR+MSA <1980'-17605'>		GUTTERSEN STATE D23-741 AWB
17605.00	17637.00	Blind Drilling (std)	Projection to bit		GUTTERSEN STATE D23-741 AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#05 GUTTERSEN STATE D23-741 (761'FSL & 1511'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-741
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-741 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1949.00	0.930	330.300	1948.95	TIE TO SURFACE
17605.00	89.970	3.400	6825.94	LAST BHI MWD SURVEY
17637.00	89.970	3.400	6825.95	PROJECTION TO BIT