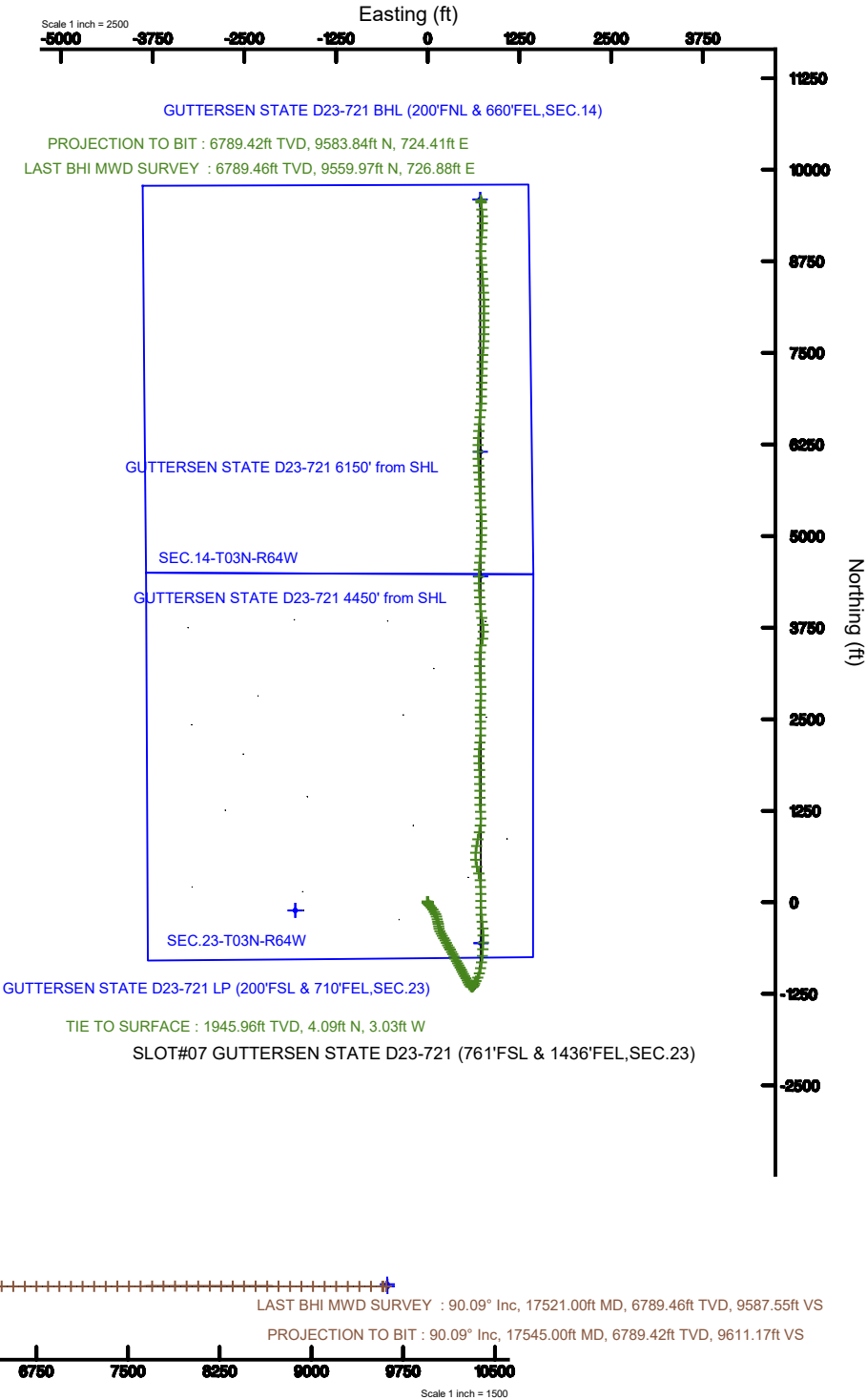
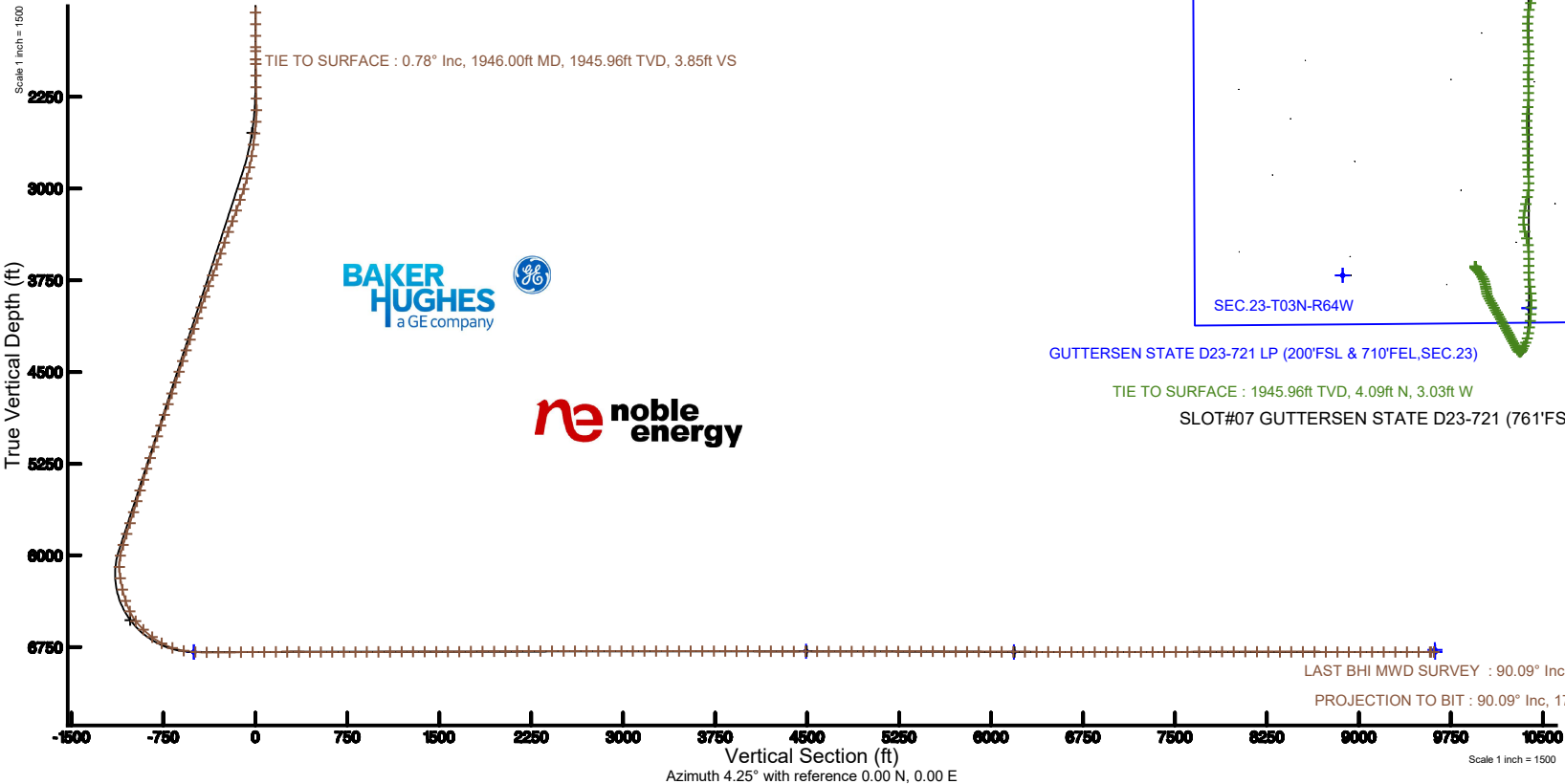


# NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#07 GUTTERSEN STATE D23-721 (761'FSL & 1436'FEL,SEC.23)  
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: GUTTERSEN STATE D23-721  
Facility: SEC.23-T03N-R64W Wellbore: GUTTERSEN STATE D23-721 PWB

Plot reference wellpath is GUTTERSEN STATE D23-721 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#07 GUTTERSEN STATE D23-721 (761'FSL & 1436'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
SEC.23-T03N-R64W			3273502.496	1319195.422	40°12'19.596"N
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
SLOT#07 GUTTERSEN STATE D23-721 (761'FSL & 1436'FEL,SEC.23)	109.98	1806.41	3273508.828	1319305.399	40°12'20.484"N
RIG (30') (RKB) to Mud line (At Slot: SLOT#07 GUTTERSEN STATE D23-721 (761'FSL & 1436'FEL,SEC.23))					4839ft
Mean Sea Level to Mud line (At Slot: SLOT#07 GUTTERSEN STATE D23-721 (761'FSL & 1436'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	17591.79	OWSG MWD rev2	OWSG MWD rev2 + IFR1 + Multi-Station Correction		GUTTERSEN STATE D23-721 PWB



### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#07 GUTTERSEN STATE D23-721 (761'FSL & 1436'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-721
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-721 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 9:01:25 AM
Convergence at slot	0.64° East	Database/Source file	WellArchitectDB/GUTTERSEN_STATE_D23-721_AWP.xml

### WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	109.98	1806.41	3275308.83	1319305.40	40°12'20.484"N	104°30'51.480"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#07 GUTTERSEN STATE D23-721 (761'FSL & 1436'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	4.25°

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#07 GUTTERSEN STATE D23-721 (761'FSL & 1436'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-721
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-721 AWP
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (190 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	301.240	0.00	0.00	0.00	0.00	40°12'20.484"N	104°30'51.480"W	0.00	
82.00	0.380	301.240	82.00	0.12	0.14	-0.23	40°12'20.485"N	104°30'51.483"W	0.46	
176.00	0.470	352.890	176.00	0.64	0.69	-0.55	40°12'20.491"N	104°30'51.487"W	0.40	
267.00	0.560	14.480	266.99	1.45	1.49	-0.48	40°12'20.499"N	104°30'51.486"W	0.23	
330.00	0.620	330.400	329.99	2.03	2.08	-0.57	40°12'20.505"N	104°30'51.487"W	0.71	
425.00	0.680	5.250	424.98	3.02	3.09	-0.78	40°12'20.515"N	104°30'51.490"W	0.41	
520.00	0.590	93.990	519.98	3.59	3.62	-0.24	40°12'20.520"N	104°30'51.483"W	0.94	
615.00	0.430	94.360	614.98	3.59	3.56	0.61	40°12'20.519"N	104°30'51.472"W	0.17	
709.00	0.140	274.410	708.98	3.59	3.54	0.84	40°12'20.519"N	104°30'51.469"W	0.61	
804.00	0.300	238.240	803.98	3.44	3.42	0.52	40°12'20.518"N	104°30'51.473"W	0.22	
899.00	0.440	225.220	898.97	3.02	3.03	0.05	40°12'20.514"N	104°30'51.479"W	0.17	
993.00	0.380	215.840	992.97	2.48	2.52	-0.39	40°12'20.509"N	104°30'51.485"W	0.10	
1088.00	0.140	203.390	1087.97	2.11	2.16	-0.62	40°12'20.505"N	104°30'51.488"W	0.26	
1183.00	0.190	294.840	1182.97	2.05	2.12	-0.81	40°12'20.505"N	104°30'51.490"W	0.25	
1278.00	0.300	76.830	1277.97	2.18	2.24	-0.71	40°12'20.506"N	104°30'51.489"W	0.49	
1372.00	0.250	351.080	1371.97	2.46	2.50	-0.50	40°12'20.509"N	104°30'51.486"W	0.40	
1467.00	0.430	235.160	1466.97	2.43	2.50	-0.83	40°12'20.509"N	104°30'51.490"W	0.62	
1562.00	0.050	4.610	1561.97	2.25	2.34	-1.12	40°12'20.507"N	104°30'51.494"W	0.49	
1656.00	0.150	336.910	1655.97	2.40	2.49	-1.16	40°12'20.509"N	104°30'51.495"W	0.12	
1751.00	0.530	317.780	1750.96	2.81	2.93	-1.51	40°12'20.513"N	104°30'51.499"W	0.41	
1846.00	0.410	310.270	1845.96	3.31	3.48	-2.06	40°12'20.519"N	104°30'51.506"W	0.14	
1877.00	0.650	297.830	1876.96	3.45	3.63	-2.30	40°12'20.520"N	104°30'51.509"W	0.85	
1946.00	0.780	305.950	1945.96	3.85	4.09	-3.03	40°12'20.525"N	104°30'51.518"W	0.24	TIE TO SURFACE
1982.00	0.960	315.620	1981.95	4.18	4.45	-3.44	40°12'20.528"N	104°30'51.524"W	0.64	
2077.00	0.700	304.030	2076.94	5.00	5.34	-4.47	40°12'20.537"N	104°30'51.537"W	0.32	
2172.00	0.850	315.570	2171.93	5.75	6.17	-5.45	40°12'20.546"N	104°30'51.549"W	0.23	
2266.00	2.800	331.470	2265.88	8.14	8.69	-7.03	40°12'20.571"N	104°30'51.569"W	2.12	
2361.00	0.500	222.310	2360.84	9.76	10.42	-8.42	40°12'20.588"N	104°30'51.587"W	3.16	
2456.00	4.770	166.300	2455.73	5.68	6.27	-7.76	40°12'20.547"N	104°30'51.579"W	4.75	
2550.00	7.360	156.080	2549.19	-3.35	-3.03	-4.40	40°12'20.455"N	104°30'51.537"W	2.97	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#07 GUTTERSEN STATE D23-721 (761'FSL & 1436'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-721
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-721 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (190 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2645.00	9.920	148.330	2643.11	-15.34	-15.56	2.37	40°12'20.330"N	104°30'51.452"W	2.95	
2739.00	12.590	140.980	2735.30	-29.36	-30.41	13.07	40°12'20.182"N	104°30'51.316"W	3.22	
2834.00	17.210	138.160	2827.08	-46.65	-48.94	28.97	40°12'19.997"N	104°30'51.114"W	4.92	
2929.00	20.400	140.320	2917.00	-68.33	-72.16	48.93	40°12'19.766"N	104°30'50.860"W	3.44	
3024.00	22.170	144.870	3005.52	-94.11	-99.56	69.81	40°12'19.492"N	104°30'50.595"W	2.55	
3119.00	22.840	150.200	3093.30	-123.24	-130.23	89.29	40°12'19.187"N	104°30'50.348"W	2.26	
3213.00	22.350	156.400	3180.09	-154.16	-162.44	105.52	40°12'18.867"N	104°30'50.143"W	2.59	
3308.00	22.570	161.800	3267.90	-186.99	-196.31	118.45	40°12'18.531"N	104°30'49.982"W	2.18	
3402.00	22.110	164.370	3354.84	-220.29	-230.49	128.85	40°12'18.192"N	104°30'49.853"W	1.15	
3497.00	19.670	166.790	3443.60	-252.36	-263.28	137.32	40°12'17.867"N	104°30'49.748"W	2.72	
3592.00	18.990	170.350	3533.24	-282.62	-294.08	143.56	40°12'17.562"N	104°30'49.672"W	1.43	
3686.00	20.670	171.640	3621.67	-313.66	-325.58	148.54	40°12'17.251"N	104°30'49.612"W	1.85	
3781.00	22.360	168.470	3710.05	-347.41	-359.87	154.59	40°12'16.911"N	104°30'49.539"W	2.16	
3876.00	22.550	157.450	3797.88	-381.07	-394.42	165.19	40°12'16.568"N	104°30'49.408"W	4.43	
3971.00	22.620	148.290	3885.62	-412.13	-426.79	181.78	40°12'16.247"N	104°30'49.198"W	3.70	
4066.00	22.350	149.130	3973.40	-441.69	-457.84	200.66	40°12'15.938"N	104°30'48.960"W	0.44	
4160.00	22.430	150.950	4060.32	-471.30	-488.86	218.53	40°12'15.629"N	104°30'48.734"W	0.74	
4255.00	22.580	149.940	4148.08	-501.51	-520.49	236.47	40°12'15.315"N	104°30'48.507"W	0.44	
4350.00	22.640	154.820	4235.79	-532.50	-552.82	253.39	40°12'14.994"N	104°30'48.294"W	1.98	
4445.00	22.460	146.510	4323.55	-562.78	-584.51	271.18	40°12'14.678"N	104°30'48.069"W	3.36	
4540.00	21.920	152.810	4411.53	-592.26	-615.42	289.30	40°12'14.371"N	104°30'47.840"W	2.57	
4634.00	21.810	149.550	4498.77	-621.59	-646.08	306.17	40°12'14.066"N	104°30'47.627"W	1.30	
4729.00	21.740	152.320	4586.99	-651.03	-676.88	323.29	40°12'13.760"N	104°30'47.411"W	1.08	
4824.00	21.650	150.270	4675.26	-680.49	-707.68	340.15	40°12'13.454"N	104°30'47.198"W	0.80	
4919.00	22.060	154.520	4763.44	-710.51	-739.00	356.52	40°12'13.142"N	104°30'46.991"W	1.72	
5013.00	21.690	151.000	4850.68	-740.37	-770.13	372.53	40°12'12.833"N	104°30'46.789"W	1.45	
5108.00	22.370	150.070	4938.74	-770.00	-801.15	390.06	40°12'12.525"N	104°30'46.568"W	0.80	
5202.00	21.800	152.090	5025.84	-799.58	-832.08	407.16	40°12'12.217"N	104°30'46.352"W	1.01	
5297.00	21.430	147.940	5114.17	-828.50	-862.38	424.63	40°12'11.916"N	104°30'46.131"W	1.66	
5392.00	20.630	153.500	5202.85	-856.87	-892.07	441.31	40°12'11.621"N	104°30'45.921"W	2.26	

### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#07 GUTTERSEN STATE D23-721 (761'FSL & 1436'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-721
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-721 AWB
Facility	SEC.23-T03N-R64W		

### WELLPATH DATA (190 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5487.00	19.810	151.640	5291.99	-884.81	-921.21	456.43	40°12'11.331"N	104°30'45.730"W	1.10	
5581.00	20.160	152.330	5380.33	-911.97	-949.57	471.51	40°12'11.049"N	104°30'45.540"W	0.45	
5676.00	20.410	149.280	5469.44	-939.44	-978.31	487.58	40°12'10.763"N	104°30'45.337"W	1.14	
5770.00	20.500	149.560	5557.52	-966.40	-1006.59	504.29	40°12'10.482"N	104°30'45.125"W	0.14	
5865.00	20.270	150.150	5646.57	-993.71	-1035.21	520.91	40°12'10.197"N	104°30'44.915"W	0.32	
5960.00	20.250	154.510	5735.69	-1021.61	-1064.32	536.18	40°12'09.908"N	104°30'44.723"W	1.59	
6054.00	20.480	149.470	5823.83	-1049.24	-1093.18	551.53	40°12'09.621"N	104°30'44.529"W	1.88	
6149.00	20.520	153.360	5912.81	-1077.18	-1122.37	567.44	40°12'09.331"N	104°30'44.328"W	1.43	
6244.00	17.700	135.400	6002.65	-1101.00	-1147.57	585.07	40°12'09.080"N	104°30'44.105"W	6.83	
6339.00	11.730	84.790	6094.84	-1108.95	-1157.02	604.92	40°12'08.985"N	104°30'43.850"W	14.31	
6433.00	11.180	43.760	6187.12	-1100.33	-1149.56	620.76	40°12'09.057"N	104°30'43.645"W	8.51	
6528.00	13.540	14.580	6280.00	-1082.26	-1132.12	629.94	40°12'09.228"N	104°30'43.524"W	6.94	
6623.00	18.570	26.470	6371.29	-1057.30	-1107.80	639.49	40°12'09.467"N	104°30'43.398"W	6.30	
6717.00	28.890	32.060	6457.23	-1023.26	-1075.06	658.27	40°12'09.789"N	104°30'43.151"W	11.22	
6812.00	38.590	23.330	6536.18	-974.81	-1028.27	682.25	40°12'10.248"N	104°30'42.835"W	11.39	
6907.00	46.090	13.600	6606.43	-912.89	-967.65	702.08	40°12'10.845"N	104°30'42.571"W	10.47	
7002.00	53.440	12.710	6667.75	-841.29	-897.07	718.55	40°12'11.541"N	104°30'42.348"W	7.77	
7096.00	61.610	8.700	6718.20	-762.57	-819.22	733.14	40°12'12.308"N	104°30'42.149"W	9.40	
7191.00	71.940	5.280	6755.62	-675.49	-732.69	743.64	40°12'13.162"N	104°30'42.001"W	11.36	
7286.00	80.070	3.240	6778.57	-583.40	-640.84	750.46	40°12'14.069"N	104°30'41.900"W	8.81	
7381.00	86.830	2.190	6789.41	-489.11	-546.62	754.92	40°12'15.000"N	104°30'41.829"W	7.20	
7475.00	90.150	358.740	6791.88	-395.37	-452.69	755.68	40°12'15.928"N	104°30'41.806"W	5.09	
7570.00	90.340	354.920	6791.48	-301.19	-357.85	750.43	40°12'16.865"N	104°30'41.860"W	4.03	
7665.00	90.250	352.660	6790.99	-207.78	-263.42	740.15	40°12'17.800"N	104°30'41.979"W	2.38	
7759.00	90.400	353.830	6790.45	-115.51	-170.07	729.10	40°12'18.723"N	104°30'42.108"W	1.25	
7854.00	90.370	359.290	6789.82	-21.40	-75.28	723.40	40°12'19.661"N	104°30'42.168"W	5.75	
7949.00	90.520	0.510	6789.08	73.32	19.71	723.23	40°12'20.599"N	104°30'42.156"W	1.29	
8043.00	90.340	359.510	6788.37	167.06	113.71	723.25	40°12'21.528"N	104°30'42.143"W	1.08	
8138.00	90.310	357.880	6787.83	261.61	208.68	721.08	40°12'22.467"N	104°30'42.157"W	1.72	
8233.00	89.570	354.440	6787.93	355.64	303.45	714.72	40°12'23.404"N	104°30'42.225"W	3.70	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#07 GUTTERSEN STATE D23-721 (761'FSL & 1436'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-721
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-721 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (190 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8327.00	89.480	343.510	6788.71	446.18	395.57	696.77	40°12'24.316"N	104°30'42.443"W	11.63	
8422.00	90.060	343.400	6789.10	534.99	486.64	669.72	40°12'25.219"N	104°30'42.779"W	0.62	
8517.00	90.030	356.330	6789.02	626.81	579.96	653.04	40°12'26.143"N	104°30'42.981"W	13.61	
8612.00	90.120	4.800	6788.90	721.53	674.87	653.98	40°12'27.081"N	104°30'42.955"W	8.92	
8707.00	90.090	9.430	6788.72	816.39	769.11	665.74	40°12'28.011"N	104°30'42.790"W	4.87	
8801.00	90.310	12.920	6788.39	909.69	861.31	683.95	40°12'28.920"N	104°30'42.542"W	3.72	
8896.00	90.090	11.100	6788.06	1003.81	954.23	703.72	40°12'29.836"N	104°30'42.274"W	1.93	
8991.00	90.310	6.390	6787.73	1098.49	1048.10	718.16	40°12'30.762"N	104°30'42.074"W	4.96	
9086.00	90.180	359.520	6787.32	1193.41	1142.91	723.06	40°12'31.698"N	104°30'41.997"W	7.23	
9180.00	90.150	355.520	6787.05	1286.74	1236.81	718.99	40°12'32.626"N	104°30'42.036"W	4.26	
9275.00	90.400	357.870	6786.60	1380.91	1331.64	713.51	40°12'33.564"N	104°30'42.093"W	2.49	
9370.00	90.060	0.190	6786.22	1475.51	1426.62	711.90	40°12'34.503"N	104°30'42.100"W	2.47	
9465.00	89.970	358.350	6786.19	1570.14	1521.61	710.69	40°12'35.441"N	104°30'42.102"W	1.94	
9559.00	90.280	357.830	6785.99	1663.60	1615.56	707.56	40°12'36.370"N	104°30'42.129"W	0.64	
9654.00	90.090	1.500	6785.68	1758.28	1710.54	707.01	40°12'37.309"N	104°30'42.123"W	3.87	
9749.00	91.110	356.980	6784.68	1852.88	1805.50	705.75	40°12'38.247"N	104°30'42.125"W	4.88	
9844.00	90.030	356.030	6783.74	1947.01	1900.31	699.96	40°12'39.185"N	104°30'42.186"W	1.51	
9938.00	90.120	0.300	6783.62	2040.46	1994.24	696.95	40°12'40.113"N	104°30'42.212"W	4.54	
10033.00	90.520	5.470	6783.08	2135.40	2089.09	701.73	40°12'41.050"N	104°30'42.136"W	5.46	
10128.00	89.970	6.790	6782.68	2230.34	2183.54	711.87	40°12'41.982"N	104°30'41.992"W	1.51	
10222.00	90.090	1.710	6782.63	2324.31	2277.25	718.83	40°12'42.907"N	104°30'41.889"W	5.41	
10317.00	90.250	359.460	6782.35	2419.11	2372.24	719.80	40°12'43.846"N	104°30'41.863"W	2.37	
10412.00	90.120	358.810	6782.04	2513.73	2467.23	718.37	40°12'44.785"N	104°30'41.868"W	0.70	
10506.00	89.910	358.960	6782.02	2607.32	2561.21	716.54	40°12'45.713"N	104°30'41.878"W	0.27	
10601.00	90.030	1.180	6782.07	2702.06	2656.21	716.66	40°12'46.652"N	104°30'41.862"W	2.34	
10696.00	89.940	4.040	6782.09	2797.01	2751.10	720.98	40°12'47.589"N	104°30'41.793"W	3.01	
10790.00	89.940	0.390	6782.19	2890.93	2845.01	724.61	40°12'48.517"N	104°30'41.733"W	3.88	
10885.00	89.940	355.830	6782.29	2985.36	2939.94	721.48	40°12'49.455"N	104°30'41.759"W	4.80	
10980.00	89.970	356.680	6782.36	3079.44	3034.73	715.28	40°12'50.393"N	104°30'41.826"W	0.90	
11075.00	89.940	358.390	6782.44	3173.78	3129.64	711.19	40°12'51.331"N	104°30'41.865"W	1.80	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#07 GUTTERSEN STATE D23-721 (761'FSL & 1436'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-721
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-721 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (190 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11170.00	90.000	358.550	6782.49	3268.30	3224.61	708.66	40°12'52.270"N	104°30'41.884"W	0.18	
11264.00	89.970	0.690	6782.51	3361.98	3318.60	708.03	40°12'53.198"N	104°30'41.878"W	2.28	
11359.00	90.060	5.340	6782.49	3456.94	3413.44	713.03	40°12'54.135"N	104°30'41.800"W	4.90	
11454.00	90.090	13.670	6782.36	3551.45	3507.05	728.70	40°12'55.058"N	104°30'41.585"W	8.77	
11548.00	89.880	10.780	6782.39	3644.54	3598.91	748.60	40°12'55.964"N	104°30'41.315"W	3.08	
11643.00	90.030	0.620	6782.46	3739.38	3693.32	758.03	40°12'56.896"N	104°30'41.180"W	10.70	
11738.00	89.880	351.460	6782.54	3833.31	3787.99	751.47	40°12'57.832"N	104°30'41.251"W	9.64	
11832.00	89.850	350.300	6782.76	3924.75	3880.80	736.57	40°12'58.751"N	104°30'41.430"W	1.23	
11927.00	89.970	353.130	6782.91	4017.48	3974.80	722.89	40°12'59.681"N	104°30'41.593"W	2.98	
12022.00	89.780	356.260	6783.11	4111.15	4069.38	714.10	40°13'00.616"N	104°30'41.692"W	3.30	
12116.00	89.940	356.320	6783.34	4204.24	4163.18	708.02	40°13'01.544"N	104°30'41.757"W	0.18	
12211.00	89.850	357.530	6783.52	4298.46	4258.05	702.93	40°13'02.482"N	104°30'41.809"W	1.28	
12305.00	89.970	358.010	6783.67	4391.86	4351.97	699.27	40°13'03.410"N	104°30'41.843"W	0.53	
12400.00	90.090	0.840	6783.62	4486.51	4446.96	698.31	40°13'04.349"N	104°30'41.842"W	2.98	
12495.00	89.970	2.490	6783.57	4581.41	4541.92	701.07	40°13'05.287"N	104°30'41.792"W	1.74	
12589.00	89.940	4.880	6783.64	4675.40	4635.71	707.12	40°13'06.213"N	104°30'41.701"W	2.54	
12684.00	90.090	5.850	6783.62	4770.38	4730.30	716.00	40°13'07.147"N	104°30'41.573"W	1.03	
12778.00	90.030	3.960	6783.52	4864.37	4823.95	724.03	40°13'08.071"N	104°30'41.456"W	2.01	
12873.00	89.940	3.020	6783.54	4959.36	4918.77	729.82	40°13'09.008"N	104°30'41.368"W	0.99	
12967.00	90.030	1.180	6783.57	5053.29	5012.70	733.26	40°13'09.936"N	104°30'41.310"W	1.96	
13062.00	89.970	359.920	6783.57	5148.09	5107.70	734.17	40°13'10.874"N	104°30'41.284"W	1.33	
13157.00	89.780	358.390	6783.77	5242.71	5202.68	732.77	40°13'11.813"N	104°30'41.289"W	1.62	
13251.00	89.690	356.710	6784.21	5336.07	5296.59	728.76	40°13'12.741"N	104°30'41.327"W	1.79	
13346.00	89.750	355.640	6784.67	5430.12	5391.38	722.42	40°13'13.679"N	104°30'41.395"W	1.13	
13441.00	89.690	356.400	6785.14	5524.14	5486.15	715.82	40°13'14.616"N	104°30'41.467"W	0.80	
13535.00	89.750	357.000	6785.60	5617.32	5579.99	710.41	40°13'15.544"N	104°30'41.523"W	0.64	
13630.00	89.720	357.510	6786.04	5711.61	5674.88	705.86	40°13'16.482"N	104°30'41.568"W	0.54	
13725.00	89.720	357.440	6786.50	5805.95	5769.79	701.68	40°13'17.420"N	104°30'41.608"W	0.07	
13820.00	89.750	357.230	6786.94	5900.25	5864.68	697.26	40°13'18.358"N	104°30'41.651"W	0.22	
13915.00	89.780	357.360	6787.33	5994.55	5959.58	692.78	40°13'19.296"N	104°30'41.696"W	0.14	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#07 GUTTERSEN STATE D23-721 (761'FSL & 1436'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-721
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-721 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (190 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14009.00	89.720	357.660	6787.74	6087.90	6053.49	688.69	40°13'20.225"N	104°30'41.735"W	0.33	
14104.00	90.030	359.870	6787.95	6182.46	6148.46	686.65	40°13'21.164"N	104°30'41.748"W	2.35	
14199.00	89.940	1.510	6787.97	6277.27	6243.45	687.79	40°13'22.102"N	104°30'41.719"W	1.73	
14294.00	89.940	2.630	6788.07	6372.20	6338.39	691.22	40°13'23.040"N	104°30'41.661"W	1.18	
14389.00	89.720	4.170	6788.35	6467.19	6433.22	696.86	40°13'23.976"N	104°30'41.575"W	1.64	
14483.00	90.000	3.950	6788.58	6561.19	6526.98	703.51	40°13'24.902"N	104°30'41.476"W	0.38	
14577.00	89.910	5.870	6788.66	6655.18	6620.63	711.56	40°13'25.826"N	104°30'41.359"W	2.04	
14672.00	89.970	6.390	6788.76	6750.12	6715.09	721.70	40°13'26.759"N	104°30'41.214"W	0.55	
14767.00	89.910	3.160	6788.86	6845.11	6809.74	729.61	40°13'27.693"N	104°30'41.099"W	3.40	
14861.00	90.000	0.310	6788.93	6939.01	6903.69	732.45	40°13'28.621"N	104°30'41.048"W	3.03	
14956.00	90.000	0.870	6788.93	7033.81	6998.69	733.43	40°13'29.560"N	104°30'41.022"W	0.59	
15050.00	89.850	2.090	6789.05	7127.70	7092.65	735.86	40°13'30.488"N	104°30'40.977"W	1.31	
15145.00	89.910	0.720	6789.25	7222.58	7187.62	738.19	40°13'31.426"N	104°30'40.934"W	1.44	
15240.00	90.520	0.850	6788.89	7317.40	7282.61	739.49	40°13'32.365"N	104°30'40.903"W	0.66	
15335.00	90.090	2.700	6788.39	7412.31	7377.56	742.43	40°13'33.303"N	104°30'40.852"W	2.00	
15429.00	90.060	6.200	6788.27	7506.29	7471.26	749.73	40°13'34.228"N	104°30'40.744"W	3.72	
15524.00	90.090	4.360	6788.14	7601.28	7565.85	758.47	40°13'35.161"N	104°30'40.618"W	1.94	
15619.00	90.340	1.480	6787.78	7696.24	7660.72	763.31	40°13'36.098"N	104°30'40.542"W	3.04	
15713.00	90.120	0.310	6787.41	7790.07	7754.71	764.77	40°13'37.027"N	104°30'40.510"W	1.27	
15808.00	89.940	359.750	6787.36	7884.82	7849.71	764.82	40°13'37.965"N	104°30'40.495"W	0.62	
15902.00	90.030	359.670	6787.38	7978.52	7943.70	764.35	40°13'38.894"N	104°30'40.488"W	0.13	
15997.00	89.850	0.310	6787.48	8073.26	8038.70	764.33	40°13'39.833"N	104°30'40.474"W	0.70	
16092.00	90.030	0.360	6787.58	8168.03	8133.70	764.89	40°13'40.772"N	104°30'40.454"W	0.20	
16186.00	89.780	358.510	6787.74	8261.70	8227.69	763.96	40°13'41.701"N	104°30'40.452"W	1.99	
16281.00	90.090	356.880	6787.84	8356.07	8322.61	760.14	40°13'42.639"N	104°30'40.488"W	1.75	
16375.00	90.060	356.170	6787.72	8449.22	8416.44	754.44	40°13'43.567"N	104°30'40.548"W	0.76	
16470.00	89.820	355.200	6787.82	8543.16	8511.17	747.29	40°13'44.504"N	104°30'40.626"W	1.05	
16565.00	89.970	356.640	6788.00	8637.15	8605.93	740.54	40°13'45.441"N	104°30'40.700"W	1.52	
16659.00	89.720	356.170	6788.25	8730.27	8699.74	734.64	40°13'46.368"N	104°30'40.762"W	0.57	
16754.00	89.690	356.260	6788.74	8824.33	8794.53	728.37	40°13'47.306"N	104°30'40.829"W	0.10	



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#07 GUTTERSEN STATE D23-721 (761'FSL & 1436'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-721
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-721 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH DATA (190 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16849.00	89.820	359.630	6789.15	8918.74	8889.46	724.96	40°13'48.244"N	104°30'40.860"W	3.55	
16943.00	89.910	3.190	6789.37	9012.61	8983.41	727.28	40°13'49.172"N	104°30'40.816"W	3.79	
17038.00	89.750	5.280	6789.65	9107.61	9078.15	734.29	40°13'50.107"N	104°30'40.712"W	2.21	
17134.00	89.780	3.680	6790.04	9203.60	9173.85	741.79	40°13'51.052"N	104°30'40.602"W	1.67	
17228.00	90.250	0.730	6790.02	9297.53	9267.77	745.41	40°13'51.980"N	104°30'40.542"W	3.18	
17323.00	89.940	357.600	6789.86	9392.14	9362.75	744.02	40°13'52.919"N	104°30'40.546"W	3.31	
17418.00	90.220	354.230	6789.73	9486.13	9457.49	737.26	40°13'53.856"N	104°30'40.619"W	3.56	
17512.00	90.090	354.220	6789.47	9578.69	9551.01	727.80	40°13'54.781"N	104°30'40.728"W	0.14	
17521.00	90.090	354.090	6789.46	9587.55	9559.97	726.88	40°13'54.869"N	104°30'40.739"W	1.44	LAST BHI MWD SURVEY
17545.00	90.090	354.090	6789.42	9611.17	9583.84	724.41	40°13'55.105"N	104°30'40.767"W	0.00	PROJECTION TO BIT

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#07 GUTTERSEN STATE D23-721 (761'FSL & 1436'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-721
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-721 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	-110.00	-1806.38	3273502.53	1319195.40	40°12'19.595"N	104°31'14.776"W	polygon
SEC.23-T03N-R64W	-19.00	-110.00	-1806.38	3273502.53	1319195.40	40°12'19.595"N	104°31'14.776"W	polygon
GUTTERSEN STATE D23-721 BHL (200'FNL & 660'FEL,SEC.14)	6771.29	9593.30	714.29	3276023.09	1328898.26	40°13'55.200"N	104°30'40.896"W	point
GUTTERSEN STATE D23-721 4450' from SHL	6783.00	4450.00	720.22	3276029.02	1323755.20	40°13'04.377"N	104°30'41.559"W	point
GUTTERSEN STATE D23-721 6150' from SHL	6789.00	6150.00	718.11	3276026.91	1325455.12	40°13'21.175"N	104°30'41.342"W	point
GUTTERSEN STATE D23-721 BHL FROM PLAN (200'FNL & 660'FEL,SEC.14)	6789.00	9594.71	713.84	3276022.64	1328899.68	40°13'55.214"N	104°30'40.902"W	point
GUTTERSEN STATE D23-721 LP (200'FSL & 710'FEL,SEC.23)	6789.00	-556.20	726.42	3276035.22	1318749.23	40°12'14.908"N	104°30'42.198"W	point
GUTTERSEN STATE D23-721 LP FROM PLAN (200'FSL & 710'FEL,SEC.23)	6789.00	-555.30	726.43	3276035.22	1318750.12	40°12'14.917"N	104°30'42.198"W	point

WELLPATH COMPOSITION - Ref Wellbore: GUTTERSEN STATE D23-721 AWB					Ref Wellpath: GUTTERSEN STATE D23-721 AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore	
0.00	1946.00	Gyrodata standard - Drop gyro or Multi-shot	3rd Party Surface Gyros <82'-1946'>		GUTTERSEN STATE D23-721 AWB	
1946.00	17521.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BH/ATC OWSG MWD rev2+IFR1+MSA <1982'-17521'>		GUTTERSEN STATE D23-721 AWB	
17521.00	17545.00	Blind Drilling (std)	Projection to bit		GUTTERSEN STATE D23-721 AWB	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#07 GUTTERSEN STATE D23-721 (761'FSL & 1436'FEL,SEC.23)
Area	COLORADO	Well	GUTTERSEN STATE D23-721
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	GUTTERSEN STATE D23-721 AWB
Facility	SEC.23-T03N-R64W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1946.00	0.780	305.950	1945.96	TIE TO SURFACE
17521.00	90.090	354.090	6789.46	LAST BHI MWD SURVEY
17545.00	90.090	354.090	6789.42	PROJECTION TO BIT