

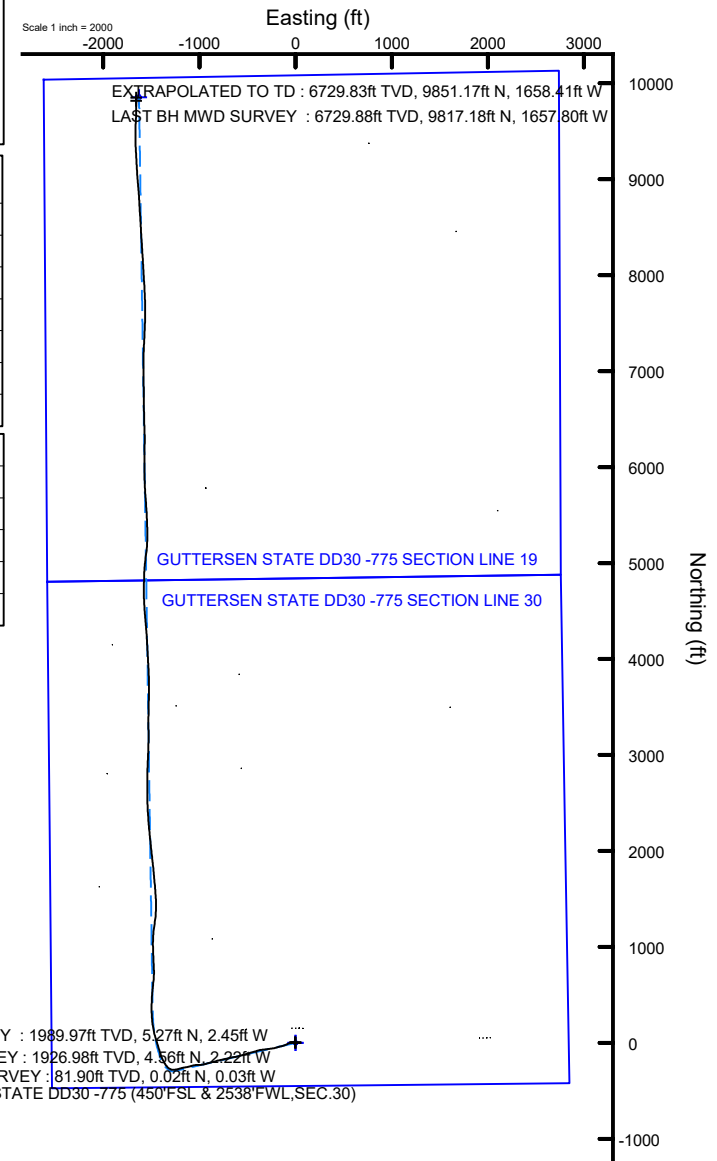
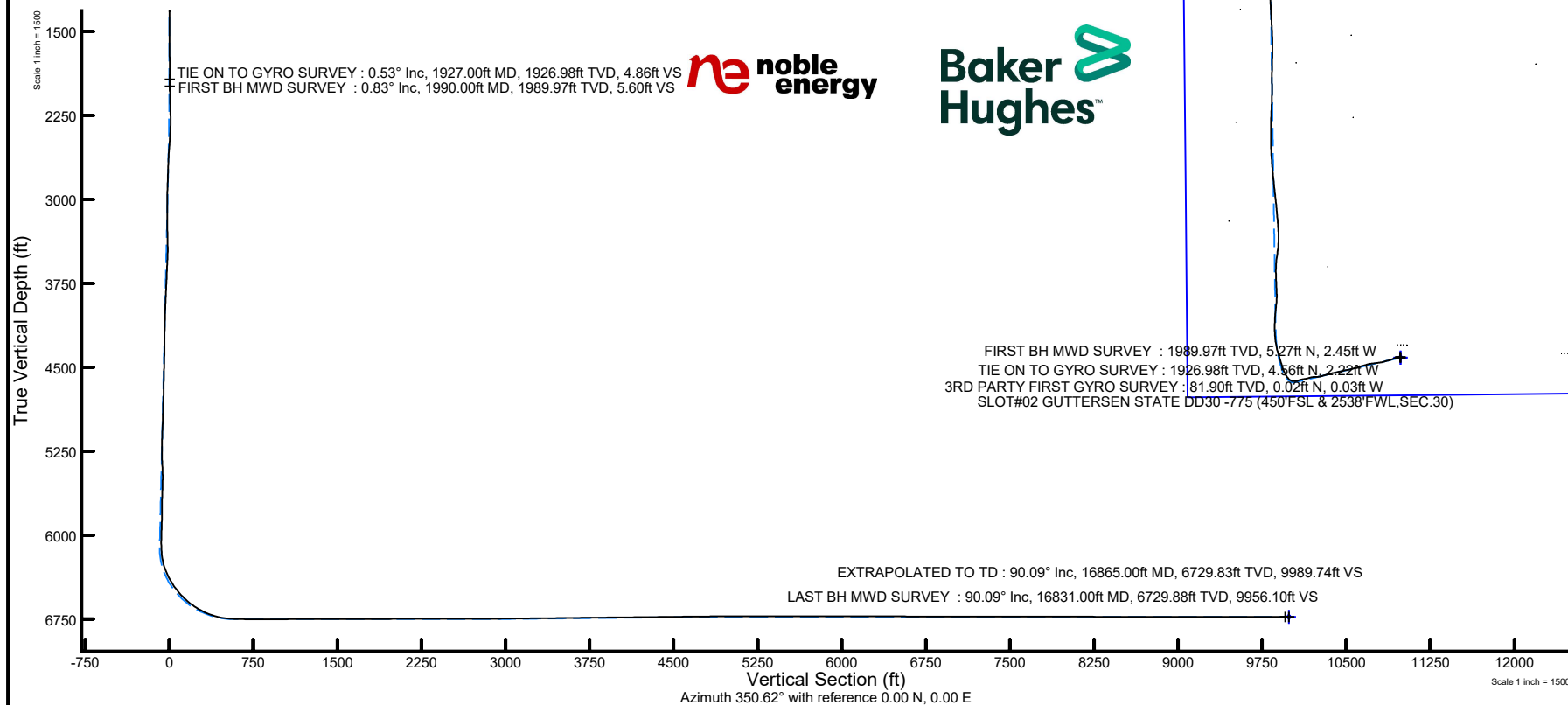
# NOBLE ENERGY, INC

Location:	COLORADO	Slot:	SLOT#02 GUTTERSEN STATE DD30 -775 (450'FSL & 2538'FWL,SEC.30)
Field:	WELD COUNTY (NOBLE NAD 83 GRID)	Well:	GUTTERSEN STATE DD30 -775
Facility:	SEC.30-T03N-R63W	Wellbore:	GUTTERSEN STATE DD30 -775 AWB

## Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.30-T03N-R63W			3284561.516	1313836.085	40°11'25.4040"N	104°28'53.0400"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#02 GUTTERSEN STATE DD30 -775 (450FSL & 2538FWL,SEC.30)	-3.23	36.36	3284597.874	1313832.860	40°11'25.3680"N	104°28'52.5720"W
RIG (30') (RKB) to Mud line (At Slot: SLOT#02 GUTTERSEN STATE DD30 -775 (450FSL & 2538FWL,SEC.30))					4824ft	
Mean Sea Level to Mud line (At Slot: SLOT#02 GUTTERSEN STATE DD30 -775 (450FSL & 2538FWL,SEC.30))					0ft	
RIG (30') (RKB) to Mean Sea Level					4824ft	

Plot reference wellpath is GUTTERSEN STATE DD30 -775 AWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (30') (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to RIG (30') (RKB)	Scale: True distance
RIG (30') (RKB) to Mean Sea Level: 4824 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Mud line (At Slot: SLOT#02 GUTTERSEN STATE DD30 -775 (450'FSL & 2538'FWL,SEC.30)): 0 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: manajohj on 2020-01-07; Database: WA_NOBLE



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -775
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -775 AWP
Slot	SLOT#02 GUTTERSEN STATE DD30 -775 (450'FSL & 2538'FWL,SEC.30)		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Manajohj
Scale	0.999957	Report Generated	1/7/2020 at 9:22:14 AM
Convergence at slot	0.66° East	Database	WA_NOBLE

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-3.23	36.36	3284597.87	1313832.86	40°11'25.3680"N	104°28'52.5720"W
Facility Reference Pt			3284561.52	1313836.09	40°11'25.4040"N	104°28'53.0400"W
Field Reference Pt			3000000.00	4454105.15	48°46'34.3150"N	105°30'0.0000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	RIG (30') (RKB) to Facility Vertical Datum	4824.00ft
Horizontal Reference Pt	Slot	RIG (30') (RKB) to Mean Sea Level	4824.00ft
Vertical Reference Pt	RIG (30') (RKB)	RIG (30') (RKB) to Mud Line at Slot (SLOT#02 GUTTERSEN STATE DD30 -775 (450'FSL & 2538'FWL,SEC.30))	4824.00ft
MD Reference Pt	RIG (30') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	350.62°

REFERENCE WELLPATH IDENTIFICATION					
Operator	NOBLE ENERGY, INC			Well	GUTTERSEN STATE DD30 -775
Field	WELD COUNTY (NOBLE NAD 83 GRID)			API/Legal	
Facility	SEC.30-T03N-R63W			Wellbore	GUTTERSEN STATE DD30 -775 AWP
Slot	SLOT#02 GUTTERSEN STATE DD30 -775 (450'FSL & 2538'FWL,SEC.30)				

WELLPATH DATA (177 stations)														
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Tooface [°]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
0.00	0.000	298.130	0.00	-4824.00	0.00	0.00	0.00	40°11'25.3680"N	104°28'52.5720"W	0.00	0.00	0.00	0.00	
81.90	0.050	298.130	81.90	-4742.10	0.02	0.02	-0.03	40°11'25.3682"N	104°28'52.5724"W	0.06	-167.71	0.06	0.00	3RD PARTY FIRST GYRO SURVEY
176.30	0.340	132.210	176.30	-4647.70	-0.17	-0.15	0.14	40°11'25.3665"N	104°28'52.5702"W	0.41	-164.41	0.31	-175.76	
267.30	0.220	352.350	267.30	-4556.70	-0.21	-0.16	0.32	40°11'25.3664"N	104°28'52.5679"W	0.58	33.81	-0.13	-153.69	
361.80	0.410	8.790	361.80	-4462.20	0.29	0.35	0.34	40°11'25.3715"N	104°28'52.5675"W	0.22	158.53	0.20	17.40	
456.10	0.190	115.150	456.10	-4367.90	0.52	0.62	0.54	40°11'25.3741"N	104°28'52.5650"W	0.53	158.25	-0.23	112.79	
550.70	0.290	259.350	550.70	-4273.30	0.43	0.51	0.44	40°11'25.3730"N	104°28'52.5662"W	0.48	150.25	0.11	152.43	
645.30	0.150	303.230	645.30	-4178.70	0.51	0.53	0.10	40°11'25.3733"N	104°28'52.5706"W	0.22	94.16	-0.15	46.38	
739.80	0.230	356.810	739.80	-4084.20	0.78	0.79	-0.01	40°11'25.3758"N	104°28'52.5720"W	0.20	179.39	0.08	56.70	
834.40	0.110	357.480	834.39	-3989.61	1.06	1.07	-0.02	40°11'25.3786"N	104°28'52.5721"W	0.13	-60.22	-0.13	0.71	
928.90	0.630	305.980	928.89	-3895.11	1.52	1.47	-0.45	40°11'25.3825"N	104°28'52.5776"W	0.60	125.58	0.55	-54.50	
1023.40	0.520	331.740	1023.39	-3800.61	2.30	2.15	-1.07	40°11'25.3894"N	104°28'52.5855"W	0.29	-148.00	-0.12	27.26	
1118.00	0.280	283.940	1117.99	-3706.01	2.79	2.58	-1.50	40°11'25.3937"N	104°28'52.5909"W	0.41	-169.76	-0.25	-50.53	
1212.50	0.050	209.850	1212.49	-3611.51	2.85	2.60	-1.74	40°11'25.3939"N	104°28'52.5941"W	0.29	72.96	-0.24	-78.40	
1307.00	0.100	254.250	1306.99	-3517.01	2.81	2.55	-1.84	40°11'25.3934"N	104°28'52.5954"W	0.08	125.13	0.05	46.98	
1401.80	0.130	340.400	1401.79	-3422.21	2.91	2.62	-1.96	40°11'25.3942"N	104°28'52.5969"W	0.17	-177.37	0.03	90.88	
1496.30	0.170	165.040	1496.29	-3327.71	2.87	2.59	-1.96	40°11'25.3938"N	104°28'52.5969"W	0.32	-147.01	0.04	-185.57	
1590.70	0.500	28.700	1590.68	-3233.32	3.06	2.82	-1.73	40°11'25.3960"N	104°28'52.5938"W	0.67	-165.07	0.35	-144.43	
1685.30	0.160	349.990	1685.28	-3138.72	3.52	3.31	-1.55	40°11'25.4009"N	104°28'52.5915"W	0.41	-70.71	-0.36	-40.92	
1780.00	0.290	310.660	1779.98	-3044.02	3.83	3.59	-1.75	40°11'25.4037"N	104°28'52.5941"W	0.21	62.76	0.14	-41.53	
1874.70	0.480	340.930	1874.68	-2949.32	4.41	4.13	-2.07	40°11'25.4090"N	104°28'52.5980"W	0.29	-18.89	0.20	31.96	
1927.00	0.530	339.090	1926.98	-2897.02	4.86	4.56	-2.22	40°11'25.4133"N	104°28'52.6000"W	0.10	15.86	0.10	-3.52	TIE ON TO GYRO SURVEY
1990.00	0.830	344.900	1989.97	-2834.03	5.60	5.27	-2.45	40°11'25.4204"N	104°28'52.6027"W	0.49	-83.52	0.48	9.22	FIRST BH MWD SURVEY
2084.00	4.440	272.060	2083.87	-2740.13	7.00	6.06	-6.26	40°11'25.4286"N	104°28'52.6518"W	4.54	7.19	3.84	-77.49	
2179.00	7.950	275.250	2178.30	-2645.70	9.39	6.79	-16.48	40°11'25.4370"N	104°28'52.7834"W	3.71	-37.07	3.69	3.36	
2274.00	10.710	264.700	2272.04	-2551.96	11.68	6.58	-31.82	40°11'25.4366"N	104°28'52.9810"W	3.41	-55.29	2.91	-11.11	
2368.00	13.090	251.550	2364.03	-2459.97	10.62	2.40	-50.62	40°11'25.3975"N	104°28'53.2239"W	3.82	-69.24	2.53	-13.99	
2463.00	13.960	243.470	2456.41	-2367.59	5.54	-6.12	-71.08	40°11'25.3156"N	104°28'53.4887"W	2.19	16.30	0.92	-8.51	
2557.00	15.730	245.370	2547.26	-2276.74	-1.15	-16.50	-92.81	40°11'25.2155"N	104°28'53.7702"W	1.95	53.86	1.88	2.02	
2651.00	17.340	252.240	2637.38	-2186.62	-6.54	-26.08	-117.73	40°11'25.1236"N	104°28'54.0928"W	2.69	81.58	1.71	7.31	
2746.00	17.480	254.970	2728.03	-2095.97	-10.01	-34.10	-145.00	40°11'25.0475"N	104°28'54.4453"W	0.87	-153.79	0.15	2.87	
2840.00	17.210	254.520	2817.76	-2006.24	-12.88	-41.47	-172.03	40°11'24.9777"N	104°28'54.7947"W	0.32	-111.25	-0.29	-0.48	
2935.00	17.120	253.720	2908.53	-1915.47	-16.05	-49.14	-199.00	40°11'24.9050"N	104°28'55.1433"W	0.27	85.41	-0.09	-0.84	
3030.00	17.330	259.290	2999.27	-1824.73	-18.06	-55.69	-226.33	40°11'24.8434"N	104°28'55.4964"W	1.75	140.49	0.22	5.86	
3124.00	16.120	262.980	3089.30	-1734.70	-17.85	-59.89	-253.04	40°11'24.8049"N	104°28'55.8411"W	1.71	-10.20	-1.29	3.93	
3313.00	19.050	261.370	3269.45	-1554.55	-16.36	-67.73	-309.58	40°11'24.7339"N	104°28'56.5709"W	1.57	135.29	1.55	-0.85	
3407.00	17.880	265.270	3358.61	-1465.39	-14.99	-71.22	-339.13	40°11'24.7027"N	104°28'56.9522"W	1.81	-64.30	-1.24	4.15	
3502.00	18.550	261.180	3448.85	-1375.15	-13.66	-74.74	-368.60	40°11'24.6713"N	104°28'57.3324"W	1.52	-87.84	0.71	-4.31	
3596.00	19.010	250.170	3537.88	-1286.12	-16.29	-82.23	-397.79	40°11'24.6006"N	104°28'57.7095"W	3.80	86.55	0.49	-11.71	
3690.00	19.200	255.650	3626.70	-1197.30	-20.41	-91.25	-427.17	40°11'24.5148"N	104°28'58.0894"W	1.92	-103.17	0.20	5.83	
3785.00	19.000	252.720	3716.48	-1107.52	-23.89	-99.72	-457.07	40°11'24.4345"N	104°28'58.4759"W	1.03	7.07	-0.21	-3.08	
3880.00	19.320	252.840	3806.21	-1017.79	-28.14	-108.95	-486.85	40°11'24.3467"N	104°28'58.8610"W	0.34	90.05	0.34	0.13	
3974.00	19.320	252.940	3894.92	-929.08	-32.32	-118.10	-516.57	40°11'24.2596"N	104°28'59.2453"W	0.04	84.13	0.00	0.11	
4163.00	19.490	256.740	4073.19	-750.81	-38.63	-134.50	-577.15	40°11'24.1044"N	104°29'0.0283"W	0.67	-68.54	0.09	2.01	
4257.00	19.600	255.920	4161.78	-662.22	-40.99	-141.94	-607.71	40°11'24.0344"N	104°29'0.4231"W	0.31	110.94	0.12	-0.87	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -775
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -775 AWB
Slot	SLOT#02 GUTTERSEN STATE DD30 -775 (450'FSL & 2538'FWL,SEC.30)		

WELLPATH DATA (177 stations)														
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Toolface [°]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
4352.00	18.950	261.940	4251.46	-572.54	-41.94	-147.98	-638.44	40°11'23.9782"N	104°29'0.8199"W	2.20	-88.38	-0.68	6.34	
4447.00	19.030	257.940	4341.29	-482.71	-42.31	-153.37	-668.86	40°11'23.9283"N	104°29'1.2127"W	1.37	-56.55	0.08	-4.21	
4541.00	19.510	255.820	4430.03	-393.97	-44.34	-160.42	-699.07	40°11'23.8621"N	104°29'1.6029"W	0.90	71.91	0.51	-2.26	
4636.00	19.680	257.310	4519.53	-304.47	-46.59	-167.82	-730.05	40°11'23.7925"N	104°29'2.0033"W	0.56	-173.25	0.18	1.57	
4730.00	18.940	257.040	4608.24	-215.76	-48.45	-174.72	-760.36	40°11'23.7277"N	104°29'2.3948"W	0.79	102.41	-0.79	-0.29	
4825.00	18.770	259.710	4698.14	-125.86	-49.66	-180.91	-790.43	40°11'23.6700"N	104°29'2.7831"W	0.93	-79.81	-0.18	2.81	
4919.00	19.340	252.500	4787.00	-37.00	-52.10	-188.29	-820.15	40°11'23.6004"N	104°29'3.1672"W	2.57	148.79	0.61	-7.67	
5014.00	17.350	256.630	4877.17	53.17	-55.31	-196.30	-848.94	40°11'23.5245"N	104°29'3.5393"W	2.50	-16.81	-2.09	4.35	
5108.00	18.900	255.190	4966.51	142.51	-57.72	-203.43	-877.30	40°11'23.4573"N	104°29'3.9057"W	1.72	-17.11	1.65	-1.53	
5203.00	19.610	254.540	5056.19	232.19	-60.87	-211.61	-907.54	40°11'23.3798"N	104°29'4.2965"W	0.78	-163.90	0.75	-0.68	
5297.00	19.460	254.410	5144.78	320.78	-64.23	-220.03	-937.82	40°11'23.3001"N	104°29'4.6880"W	0.17	135.69	-0.16	-0.14	
5392.00	17.610	260.710	5234.86	410.86	-65.92	-226.60	-967.25	40°11'23.2385"N	104°29'5.0682"W	2.87	83.27	-1.95	6.63	
5487.00	17.970	267.430	5325.33	501.33	-64.16	-229.58	-996.08	40°11'23.2123"N	104°29'5.4400"W	2.19	25.86	0.38	7.07	
5581.00	18.940	268.870	5414.49	590.49	-60.25	-230.53	-1025.82	40°11'23.2063"N	104°29'5.8233"W	1.14	-85.59	1.03	1.53	
5675.00	19.520	258.280	5503.27	679.27	-58.70	-234.02	-1056.46	40°11'23.1753"N	104°29'6.2186"W	3.76	-99.41	0.62	-11.27	
5770.00	19.330	253.830	5592.87	768.87	-61.21	-241.62	-1087.10	40°11'23.1036"N	104°29'6.6145"W	1.57	77.78	-0.20	-4.68	
5864.00	19.620	257.350	5681.50	857.50	-63.95	-249.41	-1117.44	40°11'23.0301"N	104°29'7.0066"W	1.29	100.34	0.31	3.74	
5959.00	19.410	261.650	5771.04	947.04	-64.57	-255.20	-1148.62	40°11'22.9764"N	104°29'7.4092"W	1.53	-94.11	-0.22	4.53	
6053.00	19.370	255.200	5859.72	1035.72	-65.76	-261.45	-1179.15	40°11'22.9181"N	104°29'7.8035"W	2.28	49.88	-0.04	-6.86	
6148.00	19.480	255.590	5949.31	1125.31	-68.64	-269.42	-1209.73	40°11'22.8429"N	104°29'8.1986"W	0.18	163.28	0.12	0.41	
6242.00	18.500	256.520	6038.20	1214.20	-71.08	-276.79	-1239.41	40°11'22.7733"N	104°29'8.5821"W	1.09	81.14	-1.04	0.99	
6337.00	19.470	268.130	6128.06	1304.06	-70.09	-280.82	-1269.90	40°11'22.7369"N	104°29'8.9756"W	4.10	100.63	1.02	12.22	
6431.00	19.510	291.260	6216.81	1392.81	-60.03	-275.64	-1300.23	40°11'22.7916"N	104°29'9.3657"W	8.16	68.90	0.04	24.61	
6526.00	25.030	314.390	6304.85	1480.85	-35.67	-255.77	-1329.46	40°11'22.9912"N	104°29'9.7393"W	10.80	56.56	5.81	24.35	
6621.00	30.110	327.710	6389.12	1565.12	2.56	-221.51	-1356.59	40°11'23.3328"N	104°29'10.0838"W	8.38	33.47	5.35	14.02	
6715.00	36.820	334.860	6467.52	1643.52	51.46	-176.01	-1381.19	40°11'23.7852"N	104°29'10.3941"W	8.27	34.05	7.14	7.61	
6809.00	44.130	341.730	6539.01	1715.01	111.01	-119.33	-1403.46	40°11'24.3478"N	104°29'10.6726"W	9.10	7.34	7.78	7.31	
6904.00	51.170	342.890	6602.97	1778.97	180.44	-52.48	-1424.74	40°11'25.0108"N	104°29'10.9370"W	7.47	-1.74	7.41	1.22	
6999.00	59.410	342.600	6657.02	1833.02	257.73	22.04	-1447.89	40°11'25.7497"N	104°29'11.2244"W	8.68	23.13	8.67	-0.31	
7093.00	68.080	346.550	6698.58	1874.58	341.47	103.23	-1470.18	40°11'26.5545"N	104°29'11.4996"W	9.96	34.38	9.22	4.20	
7187.00	75.370	351.640	6728.05	1904.05	430.61	190.80	-1486.97	40°11'27.4217"N	104°29'11.7030"W	9.30	31.67	7.76	5.41	
7282.00	84.700	357.360	6744.49	1920.49	523.81	283.80	-1495.86	40°11'28.3417"N	104°29'11.8038"W	11.47	37.87	9.82	6.02	
7377.00	89.200	0.850	6749.54	1925.54	617.60	378.61	-1497.33	40°11'29.2787"N	104°29'11.8089"W	5.99	61.87	4.74	3.67	
7471.00	89.970	2.290	6750.22	1926.22	709.88	472.57	-1494.76	40°11'30.2069"N	104°29'11.7618"W	1.74	90.00	0.82	1.53	
7565.00	89.970	7.620	6750.27	1926.27	800.92	566.19	-1486.64	40°11'31.1310"N	104°29'11.6435"W	5.67	-89.25	0.00	5.67	
7659.00	90.000	5.320	6750.30	1926.30	891.34	659.58	-1476.05	40°11'32.0527"N	104°29'11.4932"W	2.45	-88.81	0.03	-2.45	
7754.00	90.150	358.070	6750.17	1926.17	984.51	754.48	-1473.24	40°11'32.9901"N	104°29'11.4431"W	7.63	-96.67	0.16	-7.63	
7848.00	90.060	357.300	6750.00	1926.00	1077.80	848.40	-1477.04	40°11'33.9186"N	104°29'11.4782"W	0.82	90.00	-0.10	-0.82	
7942.00	90.060	357.380	6749.90	1925.90	1171.15	942.30	-1481.40	40°11'34.8469"N	104°29'11.5206"W	0.09	88.78	0.00	0.09	
8037.00	90.120	0.210	6749.75	1925.75	1265.17	1037.27	-1483.40	40°11'35.7856"N	104°29'11.5323"W	2.98	90.00	0.06	2.98	
8131.00	90.120	4.590	6749.55	1925.55	1357.17	1131.16	-1479.46	40°11'36.7129"N	104°29'11.4678"W	4.66	89.20	0.00	4.66	
8226.00	90.180	8.920	6749.31	1925.31	1448.41	1225.48	-1468.29	40°11'37.6436"N	104°29'11.3099"W	4.56	-89.34	0.06	4.56	
8320.00	90.220	5.440	6748.98	1924.98	1538.49	1318.73	-1456.54	40°11'38.5637"N	104°29'11.1448"W	3.70	-90.44	0.04	-3.70	
8415.00	90.180	0.360	6748.65	1924.65	1631.29	1413.57	-1451.74	40°11'39.5004"N	104°29'11.0690"W	5.35	-90.53	-0.04	-5.35	
8510.00	90.150	357.160	6748.37	1924.37	1725.32	1508.54	-1453.80	40°11'40.4390"N	104°29'11.0815"W	3.37	-89.18	-0.03	-3.37	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -775
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -775 AWB
Slot	SLOT#02 GUTTERSEN STATE DD30 -775 (450'FSL & 2538'FWL,SEC.30)		

WELLPATH DATA (177 stations)														
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Tooface [°]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
8604.00	90.180	355.050	6748.10	1924.10	1818.88	1602.32	-1460.18	40°11'41.3664"N	104°29'11.1499"W	2.24	71.57	0.03	-2.24	
8699.00	90.220	355.170	6747.77	1923.77	1913.59	1696.97	-1468.28	40°11'42.3026"N	104°29'11.2403"W	0.13	-97.50	0.04	0.13	
8794.00	90.120	354.410	6747.49	1923.49	2008.34	1791.58	-1476.90	40°11'43.2384"N	104°29'11.3376"W	0.81	-87.88	-0.11	-0.80	
8888.00	90.150	353.600	6747.27	1923.27	2102.17	1885.06	-1486.72	40°11'44.1633"N	104°29'11.4503"W	0.86	-165.07	0.03	-0.86	
8983.00	89.850	353.520	6747.27	1923.27	2197.05	1979.46	-1497.38	40°11'45.0973"N	104°29'11.5737"W	0.33	86.60	-0.32	-0.08	
9077.00	89.910	354.530	6747.46	1923.46	2290.88	2072.95	-1507.16	40°11'46.0222"N	104°29'11.6860"W	1.08	-73.91	0.06	1.07	
9172.00	90.060	354.010	6747.49	1923.49	2385.69	2167.47	-1516.65	40°11'46.9573"N	104°29'11.7943"W	0.57	81.96	0.16	-0.55	
9266.00	90.180	354.860	6747.29	1923.29	2479.48	2261.03	-1525.76	40°11'47.8828"N	104°29'11.8980"W	0.91	97.97	0.13	0.90	
9361.00	89.970	356.360	6747.17	1923.17	2574.12	2355.75	-1533.03	40°11'48.8195"N	104°29'11.9777"W	1.59	71.57	-0.22	1.58	
9456.00	90.180	356.990	6747.04	1923.04	2668.58	2450.59	-1538.54	40°11'49.7573"N	104°29'12.0348"W	0.70	91.81	0.22	0.66	
9550.00	90.120	358.890	6746.80	1922.80	2761.81	2544.52	-1541.92	40°11'50.6859"N	104°29'12.0645"W	2.02	56.66	-0.06	2.02	
9644.00	90.620	359.650	6746.19	1922.19	2854.74	2638.51	-1543.12	40°11'51.6148"N	104°29'12.0661"W	0.97	90.00	0.53	0.81	
9739.00	90.620	0.640	6745.16	1921.16	2948.43	2733.51	-1542.88	40°11'52.5534"N	104°29'12.0490"W	1.04	93.31	0.00	1.04	
9833.00	90.550	1.850	6744.20	1920.20	3040.81	2827.48	-1540.84	40°11'53.4817"N	104°29'12.0088"W	1.29	90.00	-0.07	1.29	
9928.00	90.550	2.140	6743.29	1919.29	3133.94	2922.41	-1537.53	40°11'54.4195"N	104°29'11.9522"W	0.31	88.15	0.00	0.31	
10023.00	90.580	3.070	6742.35	1918.35	3226.86	3017.31	-1533.21	40°11'55.3567"N	104°29'11.8826"W	0.98	-90.71	0.03	0.98	
10117.00	90.550	0.680	6741.43	1917.43	3319.04	3111.25	-1530.14	40°11'56.2846"N	104°29'11.8292"W	2.54	-82.60	-0.03	-2.54	
10212.00	90.650	359.910	6740.43	1916.43	3412.68	3206.24	-1529.65	40°11'57.2232"N	104°29'11.8089"W	0.82	-97.97	0.11	-0.81	
10307.00	90.580	359.410	6739.41	1915.41	3506.50	3301.23	-1530.21	40°11'58.1619"N	104°29'11.8021"W	0.53	84.57	-0.07	-0.53	
10401.00	90.710	0.780	6738.35	1914.35	3599.21	3395.23	-1530.06	40°11'59.0906"N	104°29'11.7863"W	1.46	102.87	0.14	1.46	
10496.00	90.550	1.480	6737.31	1913.31	3692.61	3490.20	-1528.18	40°12'0.0289"N	104°29'11.7482"W	0.76	-78.36	-0.17	0.74	
10591.00	90.620	1.140	6736.34	1912.34	3785.95	3585.17	-1526.01	40°12'0.9671"N	104°29'11.7062"W	0.37	-90.00	0.07	-0.36	
10686.00	90.620	0.720	6735.31	1911.31	3879.41	3680.15	-1524.47	40°12'1.9055"N	104°29'11.6723"W	0.44	-91.02	0.00	-0.44	
10780.00	90.580	358.490	6734.33	1910.33	3972.25	3774.14	-1525.12	40°12'2.8342"N	104°29'11.6668"W	2.37	-87.79	-0.04	-2.37	
10875.00	90.620	357.450	6733.33	1909.33	4066.46	3869.07	-1528.48	40°12'3.7727"N	104°29'11.6962"W	1.10	-87.67	0.04	-1.09	
10969.00	90.650	356.710	6732.29	1908.29	4159.86	3962.95	-1533.27	40°12'4.7008"N	104°29'11.7441"W	0.79	90.00	0.03	-0.79	
11064.00	90.650	356.750	6731.21	1907.21	4254.31	4057.78	-1538.69	40°12'5.6386"N	104°29'11.8000"W	0.04	96.84	0.00	0.04	
11158.00	90.620	357.000	6730.17	1906.17	4347.75	4151.64	-1543.81	40°12'6.5665"N	104°29'11.8522"W	0.27	-90.00	-0.03	0.27	
11252.00	90.620	356.310	6729.15	1905.15	4441.22	4245.47	-1549.30	40°12'7.4944"N	104°29'11.9090"W	0.73	-86.14	0.00	-0.73	
11347.00	90.680	355.420	6728.07	1904.07	4535.82	4340.22	-1556.15	40°12'8.4314"N	104°29'11.9833"W	0.94	-126.25	0.06	-0.94	
11442.00	90.460	355.120	6727.13	1903.13	4630.50	4434.89	-1563.98	40°12'9.3677"N	104°29'12.0703"W	0.39	77.47	-0.23	-0.32	
11537.00	90.680	356.110	6726.18	1902.18	4725.13	4529.61	-1571.24	40°12'10.3045"N	104°29'12.1500"W	1.07	91.99	0.23	1.04	
11631.00	90.620	357.830	6725.12	1901.12	4818.54	4623.46	-1576.21	40°12'11.2325"N	104°29'12.2002"W	1.83	88.02	-0.06	1.83	
11726.00	90.710	0.450	6724.02	1900.02	4912.48	4718.44	-1577.64	40°12'12.1711"N	104°29'12.2046"W	2.76	136.82	0.09	2.76	
11820.00	90.060	1.060	6723.38	1899.38	5005.01	4812.43	-1576.40	40°12'13.0997"N	104°29'12.1748"W	0.95	92.28	-0.69	0.65	
11915.00	90.000	2.570	6723.33	1899.33	5098.20	4907.38	-1573.39	40°12'14.0376"N	104°29'12.1220"W	1.59	89.07	-0.06	1.59	
12009.00	90.060	6.280	6723.28	1899.28	5189.47	5001.08	-1566.14	40°12'14.9627"N	104°29'12.0148"W	3.95	93.54	0.06	3.95	
12104.00	89.940	8.220	6723.28	1899.28	5280.49	5095.32	-1554.15	40°12'15.8925"N	104°29'11.8464"W	2.05	-91.09	-0.13	2.04	
12198.00	89.850	3.450	6723.46	1899.46	5371.17	5188.80	-1544.60	40°12'16.8152"N	104°29'11.7095"W	5.08	-86.24	-0.10	-5.07	
12293.00	90.090	359.800	6723.51	1899.51	5464.41	5283.75	-1541.90	40°12'17.7531"N	104°29'11.6608"W	3.85	-94.86	0.25	-3.84	
12388.00	89.970	358.390	6723.46	1899.46	5558.37	5378.73	-1543.40	40°12'18.6918"N	104°29'11.6662"W	1.49	-93.12	-0.13	-1.48	
12483.00	89.910	357.290	6723.56	1899.56	5652.61	5473.67	-1546.98	40°12'19.6303"N	104°29'11.6983"W	1.16	-90.00	-0.06	-1.16	
12577.00	89.910	356.670	6723.70	1899.70	5746.03	5567.53	-1551.94	40°12'20.5584"N	104°29'11.7483"W	0.66	-100.22	0.00	-0.66	
12672.00	89.690	355.450	6724.04	1900.04	5840.60	5662.31	-1558.46	40°12'21.4956"N	104°29'11.8185"W	1.30	79.55	-0.23	-1.28	
12766.00	89.880	356.480	6724.39	1900.39	5934.19	5756.07	-1565.08	40°12'22.4229"N	104°29'11.8899"W	1.11	87.09	0.20	1.10	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -775
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -775 AWB
Slot	SLOT#02 GUTTERSEN STATE DD30 -775 (450'FSL & 2538'FWL,SEC.30)		

WELLPATH DATA (177 stations) † = interpolated, ‡ = extrapolated station														
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Toolface [°]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
12861.00	89.970	358.250	6724.51	1900.51	6028.53	5850.97	-1569.45	40°12'23.3611"N	104°29'11.9322"W	1.87	89.21	0.09	1.86	
12955.00	90.000	0.420	6724.54	1900.54	6121.44	5944.96	-1570.54	40°12'24.2899"N	104°29'11.9324"W	2.31	-87.61	0.03	2.31	
13050.00	90.030	359.700	6724.51	1900.51	6215.15	6039.96	-1570.44	40°12'25.2286"N	104°29'11.9172"W	0.76	-167.47	0.03	-0.76	
13144.00	89.940	359.680	6724.54	1900.54	6307.98	6133.95	-1570.95	40°12'26.1575"N	104°29'11.9099"W	0.10	90.00	-0.10	-0.02	
13239.00	89.940	1.360	6724.64	1900.64	6401.56	6228.95	-1570.08	40°12'27.0961"N	104°29'11.8848"W	1.77	-92.33	0.00	1.77	
13333.00	89.850	359.150	6724.81	1900.81	6494.23	6322.94	-1569.67	40°12'28.0248"N	104°29'11.8655"W	2.35	-90.00	-0.10	-2.35	
13428.00	89.850	357.520	6725.06	1901.06	6588.36	6417.90	-1572.43	40°12'28.9634"N	104°29'11.8871"W	1.72	88.66	0.00	-1.72	
13522.00	89.880	358.800	6725.28	1901.28	6681.55	6511.85	-1575.44	40°12'29.8921"N	104°29'11.9122"W	1.36	75.07	0.03	1.36	
13617.00	90.000	359.250	6725.38	1901.38	6775.53	6606.83	-1577.06	40°12'30.8309"N	104°29'11.9190"W	0.49	61.19	0.13	0.47	
13712.00	90.220	359.650	6725.20	1901.20	6869.40	6701.83	-1577.97	40°12'31.7696"N	104°29'11.9168"W	0.48	-114.39	0.23	0.42	
13806.00	89.880	358.900	6725.11	1901.11	6962.33	6795.82	-1579.16	40°12'32.6985"N	104°29'11.9183"W	0.88	-73.30	-0.36	-0.80	
13901.00	89.970	358.600	6725.24	1901.24	7056.37	6890.80	-1581.23	40°12'33.6373"N	104°29'11.9310"W	0.33	98.29	0.09	-0.32	
13996.00	89.820	359.630	6725.41	1901.41	7150.33	6985.78	-1582.70	40°12'34.5760"N	104°29'11.9359"W	1.10	85.45	-0.16	1.08	
14090.00	89.910	0.760	6725.63	1901.63	7243.02	7079.78	-1582.38	40°12'35.5048"N	104°29'11.9179"W	1.21	94.58	0.10	1.20	
14185.00	89.850	1.510	6725.83	1901.83	7336.42	7174.76	-1580.50	40°12'36.4431"N	104°29'11.8797"W	0.79	85.60	-0.06	0.79	
14279.00	89.940	2.680	6726.01	1902.01	7428.54	7268.70	-1577.06	40°12'37.3710"N	104°29'11.8216"W	1.25	59.04	0.10	1.24	
14374.00	90.060	2.880	6726.01	1902.01	7521.41	7363.58	-1572.46	40°12'38.3081"N	104°29'11.7482"W	0.25	-106.97	0.13	0.21	
14468.00	89.880	2.290	6726.05	1902.05	7613.37	7457.49	-1568.22	40°12'39.2355"N	104°29'11.6797"W	0.66	-98.04	-0.19	-0.63	
14563.00	89.750	1.370	6726.36	1902.36	7706.55	7552.44	-1565.18	40°12'40.1734"N	104°29'11.6267"W	0.98	-86.87	-0.14	-0.97	
14752.00	89.940	357.900	6726.87	1902.87	7893.19	7741.40	-1566.39	40°12'42.0407"N	104°29'11.6143"W	1.84	-90.00	0.10	-1.84	
14847.00	89.940	357.500	6726.97	1902.97	7987.46	7836.33	-1570.20	40°12'42.9791"N	104°29'11.6495"W	0.42	-87.32	0.00	-0.42	
14941.00	90.000	356.220	6727.02	1903.02	8080.91	7930.18	-1575.35	40°12'43.9072"N	104°29'11.7020"W	1.36	133.03	0.06	-1.36	
15036.00	89.720	356.520	6727.25	1903.25	8175.43	8024.99	-1581.36	40°12'44.8447"N	104°29'11.7656"W	0.43	71.57	-0.29	0.32	
15130.00	89.880	357.000	6727.58	1903.58	8268.89	8118.84	-1586.68	40°12'45.7726"N	104°29'11.8202"W	0.54	-102.90	0.17	0.51	
15224.00	89.690	356.170	6727.93	1903.93	8362.38	8212.67	-1592.27	40°12'46.7004"N	104°29'11.8786"W	0.91	62.36	-0.20	-0.88	
15413.00	89.910	356.590	6728.59	1904.59	8550.42	8401.30	-1604.21	40°12'48.5656"N	104°29'12.0046"W	0.25	138.81	0.12	0.22	
15508.00	89.750	356.730	6728.88	1904.88	8644.89	8496.13	-1609.74	40°12'49.5034"N	104°29'12.0620"W	0.22	-84.47	-0.17	0.15	
15602.00	89.780	356.420	6729.26	1905.26	8738.38	8589.96	-1615.36	40°12'50.4312"N	104°29'12.1205"W	0.33	82.62	0.03	-0.33	
15697.00	89.850	356.960	6729.57	1905.57	8832.85	8684.81	-1620.84	40°12'51.3689"N	104°29'12.1773"W	0.57	-70.20	0.07	0.57	
15791.00	90.030	356.460	6729.67	1905.67	8926.32	8778.65	-1626.24	40°12'52.2968"N	104°29'12.2330"W	0.57	-92.96	0.19	-0.53	
15886.00	89.970	355.300	6729.67	1905.67	9020.92	8873.40	-1633.06	40°12'53.2339"N	104°29'12.3070"W	1.22	-20.85	-0.06	-1.22	
15980.00	90.180	355.220	6729.54	1905.54	9114.61	8967.08	-1640.83	40°12'54.1604"N	104°29'12.3933"W	0.24	97.43	0.22	-0.09	
16075.00	90.030	356.370	6729.37	1905.37	9209.22	9061.82	-1647.80	40°12'55.0974"N	104°29'12.4691"W	1.22	94.90	-0.16	1.21	
16169.00	89.970	357.070	6729.37	1905.37	9302.69	9155.67	-1653.17	40°12'56.0253"N	104°29'12.5246"W	0.75	-83.89	-0.06	0.74	
16263.00	90.030	356.510	6729.37	1905.37	9396.14	9249.52	-1658.44	40°12'56.9533"N	104°29'12.5787"W	0.60	95.77	0.06	-0.60	
16358.00	89.940	357.400	6729.39	1905.39	9490.56	9344.39	-1663.48	40°12'57.8913"N	104°29'12.6297"W	0.94	93.85	-0.09	0.94	
16452.00	89.780	359.780	6729.62	1905.62	9583.65	9438.35	-1665.80	40°12'58.8200"N	104°29'12.6457"W	2.54	82.76	-0.17	2.53	
16547.00	90.000	1.510	6729.81	1905.81	9677.19	9533.34	-1664.73	40°12'59.7585"N	104°29'12.6179"W	1.84	91.76	0.23	1.82	
16642.00	89.940	3.460	6729.86	1905.86	9770.16	9628.25	-1660.61	40°13'0.6959"N	104°29'12.5509"W	2.05	-89.42	-0.06	2.05	
16736.00	89.970	0.500	6729.93	1905.93	9862.31	9722.18	-1657.36	40°13'1.6237"N	104°29'12.4952"W	3.15	-85.52	0.03	-3.15	
16831.00	90.090	358.970	6729.88	1905.88	9956.10	9817.18	-1657.80	40°13'2.5624"N	104°29'12.4868"W	1.62	0.00	0.13	-1.61	LAST BH MWD SURVEY
16865.00†	90.090	358.970	6729.83	1905.83	9989.74	9851.17	-1658.41	40°13'2.8984"N	104°29'12.4897"W	0.00	0.00	0.00	0.00	EXTRAPOLATED TO TD



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -775
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -775 AWB
Slot	SLOT#02 GUTTERSEN STATE DD30 -775 (450'FSL & 2538'FWL,SEC.30)		

HOLE & CASING SECTIONS - Ref Wellbore: GUTTERSEN STATE DD30 -775 AWB Ref Wellpath: GUTTERSEN STATE DD30 -775 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]
13.5in Open Hole	30.00	1927.00	1897.00	30.00	1926.98	0.00	0.00	4.56	-2.22
9.625in Casing Surface	30.00	1927.00	1897.00	30.00	1926.98	0.00	0.00	4.56	-2.22
8.5in Open Hole	1927.00	7377.00	5450.00	1926.98	6749.54	4.56	-2.22	378.61	-1497.33

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
GUTTERSEN STATE DD30 -775 SECTION LINE 19	0.00	0.00	0.00	3284597.87	1313832.86	40°11'25.3680"N	104°28'52.5720"W	polygon
	2D Polygon: dimensions not calculated							
GUTTERSEN STATE DD30 -775 SECTION LINE 30	0.00	0.00	0.00	3284597.87	1313832.86	40°11'25.3680"N	104°28'52.5720"W	polygon
	2D Polygon: dimensions not calculated							
GUTTERSEN STATE DD30 -775 BHL REV-1 (200'FNL & 990'FWL,SEC.19)	6728.82	9855.50	-1628.11	3282969.84	1323687.92	40°13'2.9377"N	104°29'12.0985"W	point
GUTTERSEN STATE DD30 -775 TPZ REV-1 (800'FSL & 1055'FWL,SEC.30)	6750.00	336.87	-1486.39	3283111.55	1314169.71	40°11'28.8650"N	104°29'11.6740"W	point

WELLPATH COMPOSITION - Ref Wellbore: GUTTERSEN STATE DD30 -775 AWB Ref Wellpath: GUTTERSEN STATE DD30 -775 AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	1927.00	BH Generic gyro - northseeking (Standard)	3rd Party Surface Gyros <81.9'-1927'>	GUTTERSEN STATE DD30 -775 AWP
1927.00	16865.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BH/ATC 8.5" OWSG MWD rev2+IFR+MSA <1990'-16831'	GUTTERSEN STATE DD30 -775 AWP

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -775
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -775 AWB
Slot	SLOT#02 GUTTERSEN STATE DD30 -775 (450'FSL & 2538'FWL,SEC.30)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
81.90	0.050	298.130	81.90	3RD PARTY FIRST GYRO SURVEY
1927.00	0.530	339.090	1926.98	TIE ON TO GYRO SURVEY
1990.00	0.830	344.900	1989.97	FIRST BH MWD SURVEY
16831.00	90.090	358.970	6729.88	LAST BH MWD SURVEY
16865.00	90.090	358.970	6729.83	EXTRAPOLATED TO TD