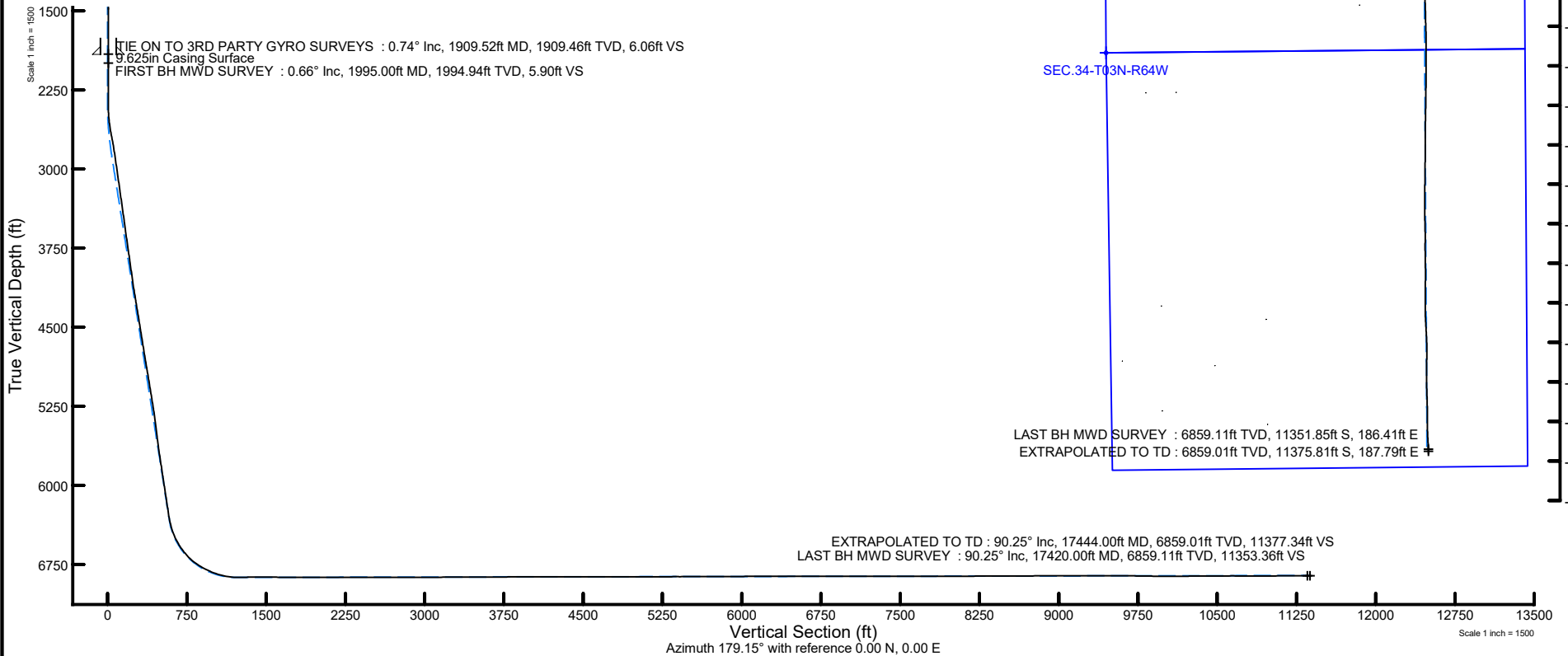
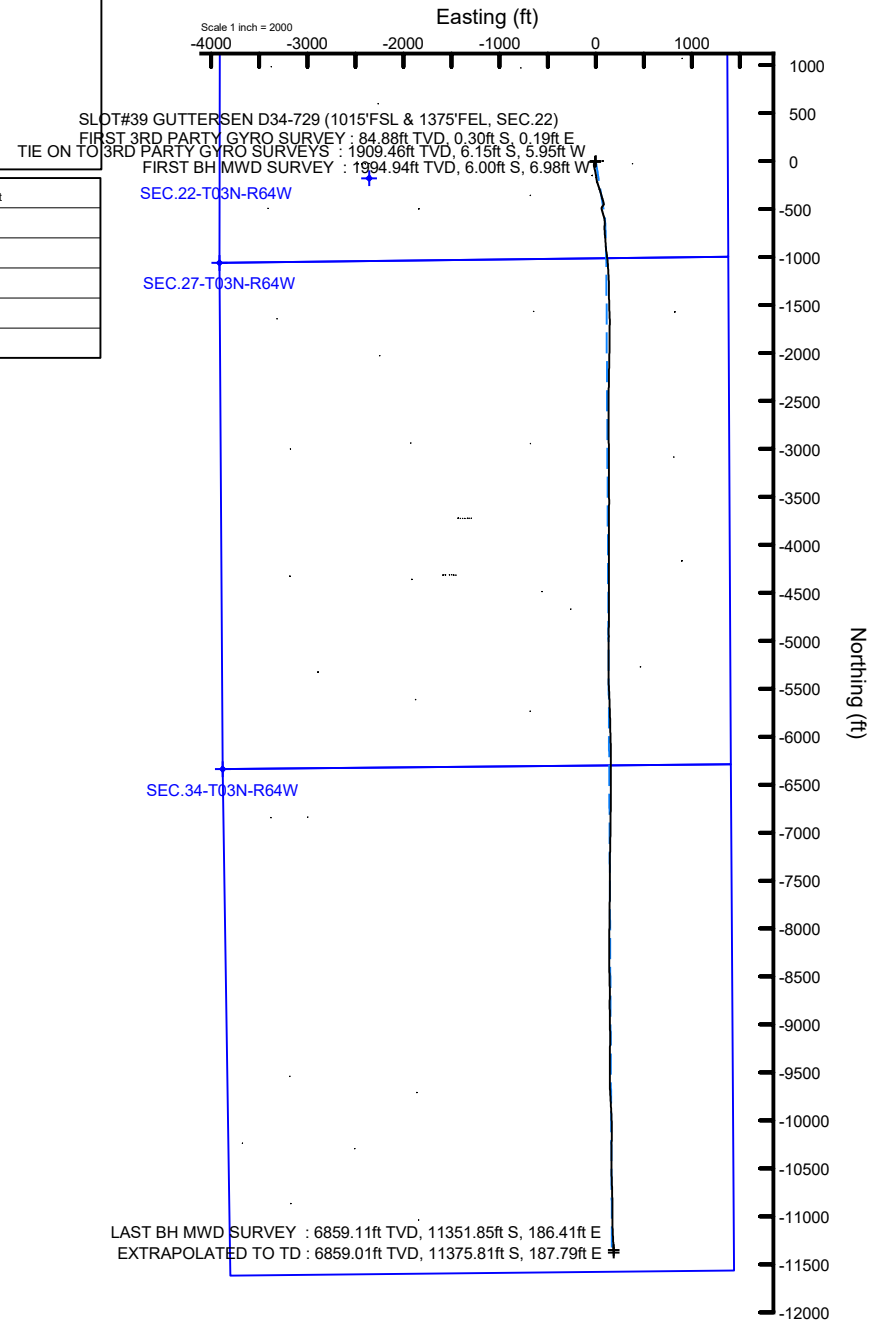


NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#39 GUTTERSEN D34-729 (1015'FSL & 1375'FEL, SEC.22)
 Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: GUTTERSEN D34-729
 Facility: SEC.22-T03N-R64W Wellbore: GUTTERSEN D34-729 AWB

Plot reference wellpath is GUTTERSEN D34-729 AWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to H&P 517 (4832'GL+30'KB@4862') (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to H&P 517 (4832'GL+30'KB@4862') (RKB)	Scale: True distance
H&P 517 (4832'GL+30'KB@4862') (RKB) to Mean Sea Level: 4862 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Mud line (At Slot: SLOT#39 GUTTERSEN D34-729 (1015'FSL & 1375'FEL, SEC.22)): 0 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: manajohj on 2020-05-05; Database: WA_NOBLE



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-729
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-729 AWB
Slot	SLOT#39 GUTTERSEN D34-729 (1015'FSL & 1375'FEL, SEC.22)		

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	5/5/2020 at 1:22:35 PM
Convergence at slot	0.62° 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	179.34	2357.32	3270112.81	1319511.21	40°12'23.0832"N	104°31'58.4184"W
Facility Reference Pt			3267755.60	1319331.88	40°12'21.5640"N	104°32'28.8240"W
Field Reference Pt			3000000.00	4454105.15	48°46'34.3150"N	105°30'0.0000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	H&P 517 (4832'GL+30'KB@4862') (RKB) to Facility Vertical Datum	4862.00ft
Horizontal Reference Pt	Slot	H&P 517 (4832'GL+30'KB@4862') (RKB) to Mean Sea Level	4862.00ft
Vertical Reference Pt	H&P 517 (4832'GL+30'KB@4862') (RKB)	H&P 517 (4832'GL+30'KB@4862') (RKB) to Mud Line at Slot (SLOT#39 GUTTERSEN D34-729 (1015'FSL & 1375'FEL, SEC.22))	4862.00ft
MD Reference Pt	H&P 517 (4832'GL+30'KB@4862') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.15°

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-729
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-729 AWB
Slot	SLOT#39 GUTTERSEN D34-729 (1015'FSL & 1375'FEL, SEC.22)		

WELLPATH DATA (183 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	147.980	0.00	-4862.00	0.00	0.00	0.00	40°12'23.0832"N	104°31'58.4184"W	0.00	0.00	0.00	0.00	
84.88	0.480	147.980	84.88	-4777.12	0.30	-0.30	0.19	40°12'23.0802"N	104°31'58.4160"W	0.57	-81.73	0.57	0.00	FIRST 3RD PARTY GYRO SURVEY
177.72	0.490	142.040	177.72	-4684.28	0.95	-0.94	0.64	40°12'23.0738"N	104°31'58.4103"W	0.06	-16.44	0.01	-6.40	
270.38	0.730	136.550	270.37	-4591.63	1.70	-1.69	1.29	40°12'23.0664"N	104°31'58.4020"W	0.27	-148.11	0.26	-5.92	
365.41	0.550	123.920	365.39	-4496.61	2.41	-2.38	2.08	40°12'23.0595"N	104°31'58.3919"W	0.24	157.12	-0.19	-13.29	
460.19	0.470	253.980	460.17	-4401.83	2.77	-2.74	2.09	40°12'23.0559"N	104°31'58.3919"W	0.98	-122.78	-0.08	137.22	
555.06	0.530	179.400	555.04	-4306.96	3.31	-3.29	1.72	40°12'23.0505"N	104°31'58.3967"W	0.64	160.43	0.06	-78.61	
648.77	0.230	210.360	648.75	-4213.25	3.91	-3.88	1.63	40°12'23.0447"N	104°31'58.3980"W	0.38	-11.31	-0.32	33.04	
744.36	0.480	204.440	744.34	-4117.66	4.43	-4.41	1.36	40°12'23.0395"N	104°31'58.4014"W	0.26	90.89	0.26	-6.19	
837.82	0.480	206.220	837.79	-4024.21	5.13	-5.12	1.03	40°12'23.0325"N	104°31'58.4058"W	0.02	95.60	0.00	1.90	
933.38	0.610	250.270	933.35	-3928.65	5.66	-5.65	0.37	40°12'23.0273"N	104°31'58.4144"W	0.45	-134.12	0.14	46.10	
1028.22	0.440	211.720	1028.19	-3833.81	6.13	-6.13	-0.29	40°12'23.0227"N	104°31'58.4230"W	0.40	116.65	-0.18	-40.65	
1121.82	0.460	269.620	1121.78	-3740.22	6.43	-6.44	-0.86	40°12'23.0197"N	104°31'58.4304"W	0.47	-135.15	0.02	61.86	
1217.21	0.350	246.510	1217.17	-3644.83	6.53	-6.56	-1.51	40°12'23.0186"N	104°31'58.4387"W	0.20	121.09	-0.12	-24.23	
1310.91	0.300	280.040	1310.87	-3551.13	6.60	-6.63	-2.01	40°12'23.0179"N	104°31'58.4453"W	0.21	-8.37	-0.05	35.78	
1405.53	0.340	279.050	1405.49	-3456.51	6.50	-6.54	-2.53	40°12'23.0188"N	104°31'58.4520"W	0.04	-28.00	0.04	-1.05	
1501.23	0.440	272.320	1501.19	-3360.81	6.43	-6.48	-3.18	40°12'23.0195"N	104°31'58.4603"W	0.11	-129.86	0.10	-7.03	
1595.18	0.360	252.710	1595.13	-3266.87	6.50	-6.56	-3.82	40°12'23.0188"N	104°31'58.4686"W	0.17	4.38	-0.09	-20.87	
1690.17	0.510	254.000	1690.12	-3171.88	6.69	-6.76	-4.51	40°12'23.0169"N	104°31'58.4775"W	0.16	148.43	0.16	1.36	
1784.98	0.280	329.980	1784.93	-3077.07	6.60	-6.68	-5.04	40°12'23.0178"N	104°31'58.4842"W	0.55	-57.17	-0.24	80.14	
1879.93	0.620	295.110	1879.88	-2982.12	6.17	-6.26	-5.62	40°12'23.0220"N	104°31'58.4917"W	0.44	-57.53	0.36	-36.72	
1909.52	0.740	282.560	1909.46	-2952.54	6.06	-6.15	-5.95	40°12'23.0231"N	104°31'58.4959"W	0.64	-128.54	0.41	-42.41	TIE ON TO 3RD PARTY GYRO SURVEYS
1995.00	0.660	272.740	1994.94	-2867.06	5.90	-6.00	-6.98	40°12'23.0246"N	104°31'58.5092"W	0.17	-167.74	-0.09	-11.49	FIRST BH MWD SURVEY
2090.00	0.220	144.570	2089.94	-2772.06	6.02	-6.13	-7.42	40°12'23.0235"N	104°31'58.5149"W	0.86	54.72	-0.46	-134.92	
2185.00	0.910	187.910	2184.93	-2677.07	6.91	-7.02	-7.42	40°12'23.0146"N	104°31'58.5150"W	0.81	-160.07	0.73	45.62	
2279.00	1.160	43.350	2278.92	-2583.08	6.97	-7.07	-6.87	40°12'23.0141"N	104°31'58.5079"W	2.10	172.58	0.27	-153.79	
2468.00	1.760	211.050	2467.90	-2394.10	8.06	-8.17	-7.05	40°12'23.0033"N	104°31'58.5104"W	1.54	-0.59	0.32	88.73	
2563.00	9.400	210.570	2562.38	-2299.62	15.93	-16.11	-11.76	40°12'22.9253"N	104°31'58.5722"W	8.04	-65.12	8.04	-0.51	
2658.00	10.760	197.780	2655.92	-2206.08	30.96	-31.23	-18.41	40°12'22.7766"N	104°31'58.6601"W	2.75	-103.30	1.43	-13.46	
2752.00	10.930	167.350	2748.32	-2113.68	48.01	-48.30	-19.14	40°12'22.6080"N	104°31'58.6718"W	6.02	-179.44	0.18	-32.37	
2847.00	8.500	167.190	2841.95	-2020.05	63.70	-63.93	-15.61	40°12'22.4531"N	104°31'58.6286"W	2.56	-26.77	-2.56	-0.17	
2942.00	8.610	166.820	2935.89	-1926.11	77.51	-77.70	-12.43	40°12'22.3167"N	104°31'58.5895"W	0.13	-147.37	0.12	-0.39	
3037.00	8.340	165.620	3029.86	-1832.14	91.16	-91.30	-9.10	40°12'22.1820"N	104°31'58.5485"W	0.34	136.80	-0.28	-1.26	
3131.00	7.970	168.180	3122.91	-1739.09	104.18	-104.28	-6.07	40°12'22.0534"N	104°31'58.5113"W	0.55	46.42	-0.39	2.72	
3226.00	8.270	170.330	3216.95	-1645.05	117.40	-117.47	-3.57	40°12'21.9229"N	104°31'58.4810"W	0.45	90.29	0.32	2.26	
3320.00	8.270	170.920	3309.98	-1552.02	130.77	-130.81	-1.37	40°12'21.7908"N	104°31'58.4545"W	0.09	-80.12	0.00	0.63	
3415.00	8.370	167.540	3403.98	-1458.02	144.31	-144.30	1.20	40°12'21.6571"N	104°31'58.4232"W	0.53	165.75	0.11	-3.56	
3510.00	6.990	170.440	3498.12	-1363.88	156.79	-156.76	3.65	40°12'21.5338"N	104°31'58.3934"W	1.51	14.66	-1.45	3.05	
3604.00	8.650	173.310	3591.25	-1270.75	169.48	-169.42	5.42	40°12'21.4085"N	104°31'58.3723"W	1.81	-138.25	1.77	3.05	
3699.00	7.970	168.770	3685.25	-1176.75	183.07	-182.97	7.54	40°12'21.2743"N	104°31'58.3470"W	0.99	75.75	-0.72	-4.78	
3793.00	8.350	176.870	3778.30	-1083.70	196.30	-196.18	9.18	40°12'21.1437"N	104°31'58.3277"W	1.29	-99.85	0.40	8.62	
3888.00	8.260	161.700	3872.31	-989.69	209.70	-209.55	11.70	40°12'21.0113"N	104°31'58.2971"W	2.30	-5.41	-0.09	-15.97	
3983.00	8.510	161.540	3966.30	-895.70	222.91	-222.70	16.07	40°12'20.8809"N	104°31'58.2426"W	0.26	144.91	0.26	-0.17	
4077.00	8.280	162.670	4059.29	-802.71	236.03	-235.76	20.29	40°12'20.7514"N	104°31'58.1901"W	0.30	-7.40	-0.24	1.20	
4172.00	9.650	161.610	4153.13	-708.87	250.18	-249.84	24.84	40°12'20.6117"N	104°31'58.1334"W	1.45	21.86	1.44	-1.12	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-729
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-729 AWB
Slot	SLOT#39 GUTTERSEN D34-729 (1015'FSL & 1375'FEL, SEC.22)		

WELLPATH DATA (183 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
4267.00	9.790	161.940	4246.77	-615.23	265.49	-265.08	29.85	40°12'20.4607"N	104°31'58.0709"W	0.16	118.38	0.15	0.35	
4361.00	9.690	163.060	4339.41	-522.59	280.72	-280.24	34.64	40°12'20.3103"N	104°31'58.0114"W	0.23	-143.44	-0.11	1.19	
4456.00	9.530	162.340	4433.08	-428.92	295.93	-295.38	39.35	40°12'20.1602"N	104°31'57.9528"W	0.21	-12.10	-0.17	-0.76	
4551.00	9.600	162.250	4526.76	-335.24	311.04	-310.42	44.15	40°12'20.0110"N	104°31'57.8930"W	0.08	141.64	0.07	-0.09	
4645.00	9.490	162.780	4619.46	-242.54	325.98	-325.29	48.84	40°12'19.8636"N	104°31'57.8348"W	0.15	-72.41	-0.12	0.56	
4740.00	9.570	161.320	4713.14	-148.86	341.01	-340.25	53.68	40°12'19.7153"N	104°31'57.7744"W	0.27	69.30	0.08	-1.54	
4834.00	9.780	164.380	4805.81	-56.19	356.17	-355.34	58.34	40°12'19.5656"N	104°31'57.7165"W	0.59	77.65	0.22	3.26	
4929.00	9.810	165.160	4899.42	37.42	371.82	-370.94	62.58	40°12'19.4111"N	104°31'57.6640"W	0.14	-82.79	0.03	0.82	
5024.00	9.890	162.110	4993.02	131.02	387.47	-386.52	67.16	40°12'19.2566"N	104°31'57.6072"W	0.56	141.24	0.08	-3.21	
5119.00	9.680	163.120	5086.64	224.64	402.95	-401.93	71.99	40°12'19.1038"N	104°31'57.5472"W	0.29	140.57	-0.22	1.06	
5213.00	9.280	165.190	5179.36	317.36	417.90	-416.82	76.22	40°12'18.9562"N	104°31'57.4947"W	0.56	-106.24	-0.43	2.20	
5308.00	9.190	163.130	5273.13	411.13	432.63	-431.48	80.38	40°12'18.8109"N	104°31'57.4432"W	0.36	134.87	-0.09	-2.17	
5403.00	7.410	179.530	5367.14	505.14	446.05	-444.87	82.63	40°12'18.6783"N	104°31'57.4160"W	3.10	87.00	-1.87	17.26	
5497.00	8.150	201.430	5460.30	598.30	458.28	-457.14	80.24	40°12'18.5574"N	104°31'57.4485"W	3.23	87.80	0.79	23.30	
5592.00	8.880	222.870	5554.27	692.27	469.81	-468.78	72.79	40°12'18.4431"N	104°31'57.5462"W	3.41	-93.68	0.77	22.57	
5687.00	9.040	207.650	5648.13	786.13	481.67	-480.77	64.34	40°12'18.3256"N	104°31'57.6568"W	2.49	-104.28	0.17	-16.02	
5781.00	9.130	176.660	5741.00	879.00	495.62	-494.77	61.35	40°12'18.1876"N	104°31'57.6974"W	5.14	-103.66	0.10	-32.97	
5876.00	8.870	163.390	5834.84	972.84	510.20	-509.31	63.88	40°12'18.0436"N	104°31'57.6668"W	2.20	90.41	-0.27	-13.97	
5971.00	8.870	164.210	5928.71	1066.71	524.33	-523.38	67.97	40°12'17.9042"N	104°31'57.6161"W	0.13	69.31	0.00	0.86	
6065.00	8.890	164.550	6021.58	1159.58	538.36	-537.35	71.87	40°12'17.7657"N	104°31'57.5677"W	0.06	-79.32	0.02	0.36	
6160.00	8.930	176.260	6115.43	1253.43	552.55	-551.49	75.95	40°12'17.6256"N	104°31'57.5171"W	0.21	61.87	0.04	-1.36	
6255.00	8.990	163.970	6209.27	1347.27	566.81	-565.68	80.12	40°12'17.4848"N	104°31'57.4653"W	0.13	-158.82	0.06	0.75	
6349.00	8.770	163.410	6302.15	1440.15	580.79	-579.61	84.20	40°12'17.3468"N	104°31'57.4148"W	0.25	7.56	-0.23	-0.60	
6444.00	16.710	167.050	6394.74	1532.74	601.15	-599.89	89.34	40°12'17.1458"N	104°31'57.3514"W	8.40	35.72	8.36	3.83	
6539.00	23.170	178.160	6484.02	1622.02	633.24	-631.93	93.00	40°12'16.8289"N	104°31'57.3087"W	7.86	16.74	6.80	11.69	
6633.00	32.050	183.120	6567.25	1705.25	676.70	-675.41	92.24	40°12'16.3993"N	104°31'57.3246"W	9.75	-31.13	9.45	5.28	
6728.00	39.300	176.410	6644.40	1782.40	731.99	-730.70	92.75	40°12'15.8529"N	104°31'57.3258"W	8.66	-5.71	7.63	-7.06	
6823.00	49.390	175.090	6712.25	1850.25	798.18	-796.82	97.73	40°12'15.1989"N	104°31'57.2709"W	10.66	5.20	10.62	-1.39	
6918.00	59.160	176.120	6767.65	1905.65	875.07	-873.63	103.59	40°12'14.4394"N	104°31'57.2062"W	10.32	-32.24	10.28	1.08	
7012.00	65.460	171.810	6811.33	1949.33	957.88	-956.32	112.43	40°12'13.6213"N	104°31'57.1040"W	7.83	22.28	6.70	-4.59	
7107.00	72.390	174.770	6845.48	1983.48	1046.01	-1044.30	122.72	40°12'12.7508"N	104°31'56.9836"W	7.85	11.28	7.29	3.12	
7202.00	81.410	176.580	6866.99	2004.99	1138.26	-1136.47	129.67	40°12'11.8393"N	104°31'56.9071"W	9.67	5.58	9.49	1.91	
7297.00	90.770	177.490	6873.46	2011.46	1232.87	-1231.02	134.56	40°12'10.9046"N	104°31'56.8573"W	9.90	89.28	9.85	0.96	
7391.00	90.800	179.940	6872.17	2010.17	1326.85	-1324.98	136.67	40°12'9.9759"N	104°31'56.8434"W	2.61	-128.01	0.03	2.61	
7486.00	89.510	178.290	6871.91	2009.91	1421.85	-1419.96	138.13	40°12'9.0371"N	104°31'56.8378"W	2.20	21.21	-1.36	-1.74	
7581.00	90.180	178.550	6872.17	2010.17	1516.84	-1514.92	140.75	40°12'8.0985"N	104°31'56.8174"W	0.76	-112.27	0.71	0.27	
7675.00	89.660	177.280	6872.30	2010.30	1610.82	-1608.86	144.17	40°12'7.1699"N	104°31'56.7866"W	1.46	93.16	-0.55	-1.35	
7770.00	89.450	181.100	6873.04	2011.04	1705.80	-1703.83	145.52	40°12'6.2313"N	104°31'56.7826"W	4.03	-76.17	-0.22	4.02	
7865.00	89.780	179.760	6873.68	2011.68	1800.77	-1798.82	144.80	40°12'5.2928"N	104°31'56.8052"W	1.45	87.80	0.35	-1.41	
7960.00	89.820	180.800	6874.01	2012.01	1895.75	-1893.82	144.34	40°12'4.3541"N	104°31'56.8245"W	1.10	52.03	0.04	1.09	
8054.00	90.460	181.620	6873.78	2011.78	1989.68	-1987.79	142.35	40°12'3.4257"N	104°31'56.8633"W	1.11	-64.32	0.68	0.87	
8149.00	90.710	181.100	6872.81	2010.81	2084.61	-2082.76	140.10	40°12'2.4875"N	104°31'56.9057"W	0.61	-163.26	0.26	-0.55	
8244.00	89.380	180.700	6872.74	2010.74	2179.56	-2177.75	138.61	40°12'1.5491"N	104°31'56.9383"W	1.46	15.64	-1.40	-0.42	
8339.00	89.880	180.840	6873.35	2011.35	2274.52	-2272.74	137.33	40°12'0.6106"N	104°31'56.9681"W	0.55	71.90	0.53	0.15	
8434.00	90.220	181.880	6873.27	2011.27	2369.45	-2367.71	135.08	40°11'59.6724"N	104°31'57.0105"W	1.15	-105.48	0.36	1.09	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-729
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-729 AWB
Slot	SLOT#39 GUTTERSEN D34-729 (1015'FSL & 1375'FEL, SEC.22)		

WELLPATH DATA (183 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
8623.00	89.630	179.750	6873.51	2011.51	2558.36	-2556.68	132.39	40°11'57.8054"N	104°31'57.0717"W	1.17	55.71	-0.31	-1.13	
8718.00	89.780	179.970	6874.00	2012.00	2653.35	-2651.68	132.62	40°11'56.8667"N	104°31'57.0821"W	0.28	-94.60	0.16	0.23	
8813.00	89.690	178.850	6874.44	2012.44	2748.35	-2746.67	133.60	40°11'55.9279"N	104°31'57.0828"W	1.18	57.15	-0.09	-1.18	
8907.00	90.310	179.810	6874.44	2012.44	2842.34	-2840.66	134.70	40°11'54.9990"N	104°31'57.0819"W	1.22	-81.47	0.66	1.02	
9002.00	90.370	179.410	6873.88	2011.88	2937.34	-2935.66	135.34	40°11'54.0802"N	104°31'57.0869"W	0.43	133.21	0.06	-0.42	
9097.00	90.060	179.740	6873.52	2011.52	3032.34	-3030.65	136.05	40°11'53.1215"N	104°31'57.0912"W	0.48	24.23	-0.33	0.35	
9191.00	90.860	180.100	6872.77	2010.77	3126.32	-3124.65	136.18	40°11'52.1926"N	104°31'57.1027"W	0.93	-168.18	0.85	0.38	
9286.00	90.430	180.010	6871.70	2009.70	3221.31	-3219.64	136.09	40°11'51.2540"N	104°31'57.1172"W	0.46	-122.90	-0.45	-0.09	
9381.00	89.660	178.820	6871.62	2009.62	3316.30	-3314.64	137.06	40°11'50.3152"N	104°31'57.1181"W	1.49	63.02	-0.81	-1.25	
9475.00	90.220	179.920	6871.72	2009.72	3410.30	-3408.63	138.09	40°11'49.3863"N	104°31'57.1180"W	1.31	-75.96	0.60	1.17	
9570.00	90.340	179.440	6871.26	2009.26	3505.29	-3503.63	138.62	40°11'48.4476"N	104°31'57.1245"W	0.52	73.25	0.13	-0.51	
9665.00	90.680	180.570	6870.41	2008.41	3600.28	-3598.62	138.61	40°11'47.5089"N	104°31'57.1380"W	1.24	-144.78	0.36	1.19	
9759.00	90.000	180.090	6869.85	2007.85	3694.26	-3692.62	138.07	40°11'46.5803"N	104°31'57.1582"W	0.89	-60.26	-0.72	-0.51	
9854.00	90.120	179.880	6869.75	2007.75	3789.25	-3787.62	138.10	40°11'45.6414"N	104°31'57.1712"W	0.25	22.33	0.13	-0.22	
9949.00	90.680	180.110	6869.09	2007.09	3884.23	-3882.61	138.11	40°11'44.7027"N	104°31'57.1845"W	0.64	-176.63	0.59	0.24	
10043.00	90.340	180.090	6868.25	2006.25	3978.22	-3976.61	137.94	40°11'43.7739"N	104°31'57.1998"W	0.36	-175.43	-0.36	-0.02	
10138.00	90.090	180.070	6867.90	2005.90	4073.20	-4071.61	137.81	40°11'42.8352"N	104°31'57.2149"W	0.26	157.38	-0.26	-0.02	
10233.00	89.970	180.120	6867.85	2005.85	4168.19	-4166.61	137.65	40°11'41.8965"N	104°31'57.2302"W	0.14	169.46	-0.13	0.05	
10327.00	89.110	180.280	6868.60	2006.60	4262.17	-4260.60	137.32	40°11'40.9677"N	104°31'57.2477"W	0.93	-16.66	-0.91	0.17	
10422.00	90.280	179.930	6869.11	2007.11	4357.15	-4355.60	137.15	40°11'40.0290"N	104°31'57.2633"W	1.29	-177.84	1.23	-0.37	
10517.00	89.750	179.910	6869.08	2007.08	4452.14	-4450.60	137.28	40°11'39.0903"N	104°31'57.2749"W	0.56	21.45	-0.56	-0.02	
10611.00	90.310	180.130	6869.03	2007.03	4546.13	-4544.60	137.25	40°11'38.1614"N	104°31'57.2886"W	0.64	180.00	0.60	0.23	
10706.00	90.030	180.130	6868.75	2006.75	4641.12	-4639.60	137.03	40°11'37.2227"N	104°31'57.3047"W	0.29	53.13	-0.29	0.00	
10801.00	90.120	180.250	6868.63	2006.63	4736.10	-4734.60	136.72	40°11'36.2840"N	104°31'57.3221"W	0.16	95.44	0.09	0.13	
10895.00	90.060	180.880	6868.48	2006.48	4830.07	-4828.59	135.79	40°11'35.3553"N	104°31'57.3473"W	0.67	-81.22	-0.06	0.67	
10990.00	90.250	179.650	6868.22	2006.22	4925.05	-4923.59	135.35	40°11'34.4167"N	104°31'57.3663"W	1.31	110.34	0.20	-1.29	
11085.00	89.720	181.080	6868.25	2006.25	5020.03	-5018.58	134.75	40°11'33.4781"N	104°31'57.3874"W	1.61	-66.72	-0.56	1.51	
11179.00	90.090	180.220	6868.40	2006.40	5114.00	-5112.58	133.68	40°11'32.5494"N	104°31'57.4144"W	1.00	66.57	0.39	-0.91	
11274.00	90.220	180.520	6868.15	2006.15	5208.97	-5207.58	133.07	40°11'31.6108"N	104°31'57.4356"W	0.34	-38.66	0.14	0.32	
11369.00	90.520	180.280	6867.53	2005.53	5303.95	-5302.57	132.40	40°11'30.6721"N	104°31'57.4575"W	0.40	-109.93	0.32	-0.25	
11464.00	89.820	178.350	6867.25	2005.25	5398.94	-5397.56	133.54	40°11'29.7334"N	104°31'57.4563"W	2.16	-36.62	-0.74	-2.03	
11559.00	90.950	177.510	6866.61	2004.61	5493.92	-5492.49	136.97	40°11'28.7950"N	104°31'57.4254"W	1.48	174.59	1.19	-0.88	
11653.00	90.000	177.600	6865.83	2003.83	5587.88	-5586.40	140.98	40°11'27.8666"N	104°31'57.3869"W	1.02	151.39	-1.01	0.10	
11748.00	89.780	177.720	6866.02	2004.02	5682.84	-5681.32	144.86	40°11'26.9282"N	104°31'57.3503"W	0.26	76.37	-0.23	0.13	
11843.00	89.940	178.380	6866.25	2004.25	5777.83	-5776.27	148.09	40°11'25.9897"N	104°31'57.3220"W	0.71	52.59	0.17	0.69	
11938.00	90.460	179.060	6865.92	2003.92	5872.82	-5871.24	150.21	40°11'25.0510"N	104°31'57.3080"W	0.90	-90.00	0.55	0.72	
12032.00	90.460	178.670	6865.16	2003.16	5966.82	-5965.22	152.08	40°11'24.1221"N	104°31'57.2972"W	0.41	-97.05	0.00	-0.41	
12127.00	90.340	177.700	6864.50	2002.50	6061.80	-6060.17	155.09	40°11'23.1836"N	104°31'57.2718"W	1.03	91.49	-0.13	-1.02	
12222.00	90.280	180.000	6863.98	2001.98	6156.79	-6155.14	156.99	40°11'22.2449"N	104°31'57.2606"W	2.42	-148.30	-0.06	2.42	
12317.00	89.940	179.790	6863.80	2001.80	6251.78	-6250.14	157.17	40°11'21.3061"N	104°31'57.2717"W	0.42	76.61	-0.36	-0.22	
12411.00	90.090	180.420	6863.78	2001.78	6345.77	-6344.14	156.99	40°11'20.3773"N	104°31'57.2871"W	0.69	-59.35	0.16	0.67	
12506.00	90.250	180.150	6863.50	2001.50	6440.75	-6439.14	156.52	40°11'19.4387"N	104°31'57.3066"W	0.33	-174.29	0.17	-0.28	
12601.00	89.850	180.110	6863.41	2001.41	6535.74	-6534.14	156.31	40°11'18.4999"N	104°31'57.3227"W	0.42	-74.06	-0.42	-0.04	
12695.00	89.970	179.690	6863.56	2001.56	6629.73	-6628.14	156.47	40°11'17.5711"N	104°31'57.3338"W	0.46	91.85	0.13	-0.45	
12790.00	89.940	180.620	6863.64	2001.64	6724.71	-6723.14	156.21	40°11'16.6324"N	104°31'57.3505"W	0.98	80.13	-0.03	0.98	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-729
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-729 AWB
Slot	SLOT#39 GUTTERSEN D34-729 (1015'FSL & 1375'FEL, SEC.22)		

WELLPATH DATA (183 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
12885.00	90.060	181.310	6863.64	2001.64	6819.66	-6818.12	154.61	40°11'15.6940"N	104°31'57.3844"W	0.74	-86.88	0.13	0.73	
12980.00	90.120	180.210	6863.49	2001.49	6914.63	-6913.11	153.35	40°11'14.7555"N	104°31'57.4140"W	1.16	119.54	0.06	-1.16	
13074.00	89.780	180.810	6863.57	2001.57	7008.60	-7007.11	152.52	40°11'13.8267"N	104°31'57.4380"W	0.73	2.60	-0.36	0.64	
13169.00	90.000	180.820	6863.75	2001.75	7103.56	-7102.10	151.16	40°11'12.8883"N	104°31'57.4688"W	0.23	73.04	0.23	0.01	
13264.00	90.250	181.640	6863.54	2001.54	7198.49	-7197.08	149.13	40°11'11.9500"N	104°31'57.5084"W	0.90	-84.73	0.26	0.86	
13358.00	90.310	180.990	6863.08	2001.08	7292.43	-7291.05	146.97	40°11'11.0216"N	104°31'57.5494"W	0.69	-103.92	0.06	-0.69	
13453.00	90.030	179.860	6862.80	2000.80	7387.40	-7386.04	146.26	40°11'10.0830"N	104°31'57.5718"W	1.23	-150.35	-0.29	-1.19	
13548.00	89.380	179.490	6863.29	2001.29	7482.39	-7481.04	146.80	40°11'9.1442"N	104°31'57.5782"W	0.79	61.90	-0.68	-0.39	
13643.00	89.850	180.370	6863.93	2001.93	7577.38	-7576.04	146.92	40°11'8.2055"N	104°31'57.5901"W	1.05	47.29	0.49	0.93	
13737.00	90.090	180.630	6863.98	2001.98	7671.36	-7670.03	146.10	40°11'7.2768"N	104°31'57.6139"W	0.38	138.58	0.26	0.28	
13927.00	89.750	180.930	6864.24	2002.24	7861.28	-7860.02	143.51	40°11'5.3998"N	104°31'57.6739"W	0.24	-45.48	-0.18	0.16	
14021.00	90.340	180.330	6864.17	2002.17	7955.25	-7954.01	142.48	40°11'4.4711"N	104°31'57.7004"W	0.90	41.76	0.63	-0.64	
14116.00	90.620	180.580	6863.37	2001.37	8050.22	-8049.00	141.72	40°11'3.5325"N	104°31'57.7235"W	0.40	178.45	0.29	0.26	
14211.00	90.250	180.590	6862.65	2000.65	8145.19	-8143.99	140.75	40°11'2.5940"N	104°31'57.7494"W	0.39	-70.06	-0.39	0.01	
14306.00	90.620	179.570	6861.93	1999.93	8240.17	-8238.99	140.62	40°11'1.6553"N	104°31'57.7644"W	1.14	110.13	0.39	-1.07	
14400.00	90.400	180.170	6861.10	1999.10	8334.16	-8332.99	140.83	40°11'0.7265"N	104°31'57.7749"W	0.68	-88.39	-0.23	0.64	
14495.00	90.430	179.100	6860.41	1998.41	8429.15	-8427.98	141.44	40°10'59.7877"N	104°31'57.7804"W	1.13	-162.30	0.03	-1.13	
14590.00	88.550	178.500	6861.25	1999.25	8524.14	-8522.95	143.43	40°10'58.8491"N	104°31'57.7681"W	2.08	-1.91	-1.98	-0.63	
14684.00	90.650	178.430	6861.91	1999.91	8618.13	-8616.91	145.95	40°10'57.9203"N	104°31'57.7489"W	2.24	84.84	2.23	-0.07	
14779.00	90.920	181.430	6860.61	1998.61	8713.10	-8711.89	146.06	40°10'56.9818"N	104°31'57.7608"W	3.17	-99.07	0.28	3.16	
14874.00	90.650	179.740	6859.31	1997.31	8808.06	-8806.87	145.09	40°10'56.3033"N	104°31'57.7866"W	1.80	-138.87	-0.28	-1.78	
14969.00	89.940	179.120	6858.82	1996.82	8903.05	-8901.87	146.04	40°10'55.1046"N	104°31'57.7878"W	0.99	-104.62	-0.75	-0.65	
15063.00	89.880	178.890	6858.96	1996.96	8997.05	-8995.85	147.67	40°10'54.1757"N	104°31'57.7800"W	0.25	94.51	-0.06	-0.24	
15158.00	89.850	179.270	6859.19	1997.19	9092.05	-9090.84	149.20	40°10'53.2369"N	104°31'57.7737"W	0.40	76.14	-0.03	0.40	
15252.00	90.220	180.770	6859.13	1997.13	9186.04	-9184.84	149.16	40°10'52.3081"N	104°31'57.7873"W	1.64	-73.95	0.39	1.60	
15347.00	90.430	180.040	6858.59	1996.59	9281.01	-9279.83	148.49	40°10'51.3695"N	104°31'57.8093"W	0.80	113.96	0.22	-0.77	
15441.00	90.150	180.670	6858.12	1996.12	9374.99	-9373.83	147.91	40°10'50.4407"N	104°31'57.8300"W	0.73	156.80	-0.30	0.67	
15536.00	89.940	180.760	6858.04	1996.04	9469.95	-9468.82	146.72	40°10'49.5022"N	104°31'57.8586"W	0.24	-105.17	-0.22	0.09	
15631.00	89.780	180.170	6858.27	1996.27	9564.93	-9563.82	145.95	40°10'48.5636"N	104°31'57.8819"W	0.64	-98.23	-0.17	-0.62	
15725.00	89.420	177.680	6858.93	1996.93	9658.92	-9657.79	147.72	40°10'47.6348"N	104°31'57.8724"W	2.68	-111.81	-0.38	-2.65	
15820.00	89.080	176.830	6860.17	1998.17	9753.86	-9752.67	152.27	40°10'46.6967"N	104°31'57.8271"W	0.96	-87.28	-0.36	-0.89	
15915.00	89.110	176.200	6861.67	1999.67	9848.74	-9847.48	158.04	40°10'45.7592"N	104°31'57.7661"W	0.66	71.46	0.03	-0.66	
16104.00	90.060	179.030	6863.04	2001.04	10037.65	-10036.29	165.90	40°10'43.8927"N	104°31'57.6913"W	1.58	77.19	0.50	1.50	
16199.00	90.310	180.130	6862.74	2000.74	10132.64	-10131.29	166.60	40°10'42.9539"N	104°31'57.6957"W	1.19	92.72	0.26	1.16	
16294.00	90.250	181.390	6862.27	2000.27	10227.60	-10226.28	165.34	40°10'42.0154"N	104°31'57.7253"W	1.33	-81.67	-0.06	1.33	
16388.00	90.490	179.750	6861.66	1999.66	10321.57	-10320.27	164.40	40°10'41.0868"N	104°31'57.7505"W	1.76	100.95	0.26	-1.74	
16483.00	90.430	180.060	6860.90	1998.90	10416.56	-10415.26	164.56	40°10'40.1480"N	104°31'57.7618"W	0.33	-156.80	-0.06	0.33	
16577.00	90.150	179.940	6860.43	1998.43	10510.55	-10509.26	164.56	40°10'39.2192"N	104°31'57.7750"W	0.32	-77.14	-0.30	-0.13	
16672.00	90.490	178.450	6859.90	1997.90	10605.54	-10604.25	165.90	40°10'38.2805"N	104°31'57.7712"W	1.61	-145.30	0.36	-1.57	
16767.00	89.450	177.730	6859.95	1997.95	10700.52	-10699.19	169.06	40°10'37.3419"N	104°31'57.7438"W	1.33	88.29	-1.09	-0.76	
16861.00	89.480	178.730	6860.82	1998.82	10794.51	-10793.14	171.97	40°10'36.4132"N	104°31'57.7196"W	1.06	53.77	0.03	1.06	
16956.00	90.220	179.740	6861.07	1999.07	10889.50	-10888.13	173.23	40°10'35.4745"N	104°31'57.7166"W	1.32	-58.17	0.78	1.06	
17050.00	90.400	179.450	6860.56	1998.56	10983.50	-10982.13	173.90	40°10'34.5456"N	104°31'57.7212"W	0.36	8.53	0.19	-0.31	
17145.00	90.800	179.510	6859.57	1997.57	11078.49	-11077.12	174.76	40°10'33.6069"N	104°31'57.7235"W	0.43	-114.20	0.42	0.06	
17239.00	89.820	177.330	6859.06	1997.06	11172.48	-11171.08	177.35	40°10'32.6782"N	104°31'57.7033"W	2.54	-39.81	-1.04	-2.32	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-729
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-729 AWB
Slot	SLOT#39 GUTTERSEN D34-729 (1015'FSL & 1375'FEL, SEC.22)		

WELLPATH DATA (183 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
17333.00	89.940	177.230	6859.26	1997.26	11266.43	-11264.97	181.81	40°10'31.7499"N	104°31'57.6590"W	0.17	-59.20	0.13	-0.11	
17420.00	90.250	176.710	6859.11	1997.11	11353.36	-11351.85	186.41	40°10'30.8909"N	104°31'57.6120"W	0.70	0.00	0.36	-0.60	LAST BH MWD SURVEY
17444.00‡	90.250	176.710	6859.01	1997.01	11377.34	-11375.81	187.79	40°10'30.6540"N	104°31'57.5976"W	0.00		0.00	0.00	EXTRAPOLATED TO TD

HOLE & CASING SECTIONS - Ref Wellbore: GUTTERSEN D34-729 AWB Ref Wellpath: GUTTERSEN D34-729 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	1914.00	1884.00	30.00	1913.94	-0.04	0.02	-6.14	-6.00	
9.625in Casing Surface	30.00	1914.00	1884.00	30.00	1913.94	-0.04	0.02	-6.14	-6.00	
8.5in Open Hole	1914.00	17444.00	15530.00	1913.94	6859.01	-6.14	-6.00	-11375.81	187.79	

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.22-T03N-R64W	8.00	-179.34	-2357.32	3267755.60	1319331.88	40°12'21.5640"N	104°32'28.8240"W	polygon
2D Polygon: dimensions not calculated								
SEC.27-T03N-R64W	8.00	-1061.66	-3913.72	3266199.27	1318449.60	40°12'13.0113"N	104°32'49.0046"W	polygon
2D Polygon: dimensions not calculated								
SEC.34-T03N-R64W	8.00	-6338.55	-3879.68	3266233.30	1313172.95	40°11'20.8645"N	104°32'49.2969"W	polygon
2D Polygon: dimensions not calculated								
GUTTERSEN D34-729 BHL REV-2 (200'FSL & 1270'FEL, SEC.34)	6856.00	-11377.28	168.47	3270281.27	1308134.44	40°10'30.6415"N	104°31'57.8467"W	point
GUTTERSEN D34-729 TPZ REV-2	6874.00	-1213.92	110.56	3270223.37	1318297.35	40°12'11.0761"N	104°31'57.1642"W	point

WELLPATH COMPOSITION - Ref Wellbore: GUTTERSEN D34-729 AWB Ref Wellpath: GUTTERSEN D34-729 AWP					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
0.00	1909.52	Gyrodata 2015 - GC+DROP+COND	13.5" GYRODATA 2015 (GC+DROP+COND) <0' - 1909.52'>	GUTTERSEN D34-729 AWB	5/4/2020
1909.52	17444.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	8.5" OWSG MWD REV.2 (IFR1+MSA) <1995' - 17420'>	GUTTERSEN D34-729 AWB	5/4/2020

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-729
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-729 AWB
Slot	SLOT#39 GUTTERSEN D34-729 (1015'FSL & 1375'FEL, SEC.22)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
84.88	0.480	147.980	84.88	FIRST 3RD PARTY GYRO SURVEY
1909.52	0.740	282.560	1909.46	TIE ON TO 3RD PARTY GYRO SURVEYS
1995.00	0.660	272.740	1994.94	FIRST BH MWD SURVEY
17420.00	90.250	176.710	6859.11	LAST BH MWD SURVEY
17444.00	90.250	176.710	6859.01	EXTRAPOLATED TO TD