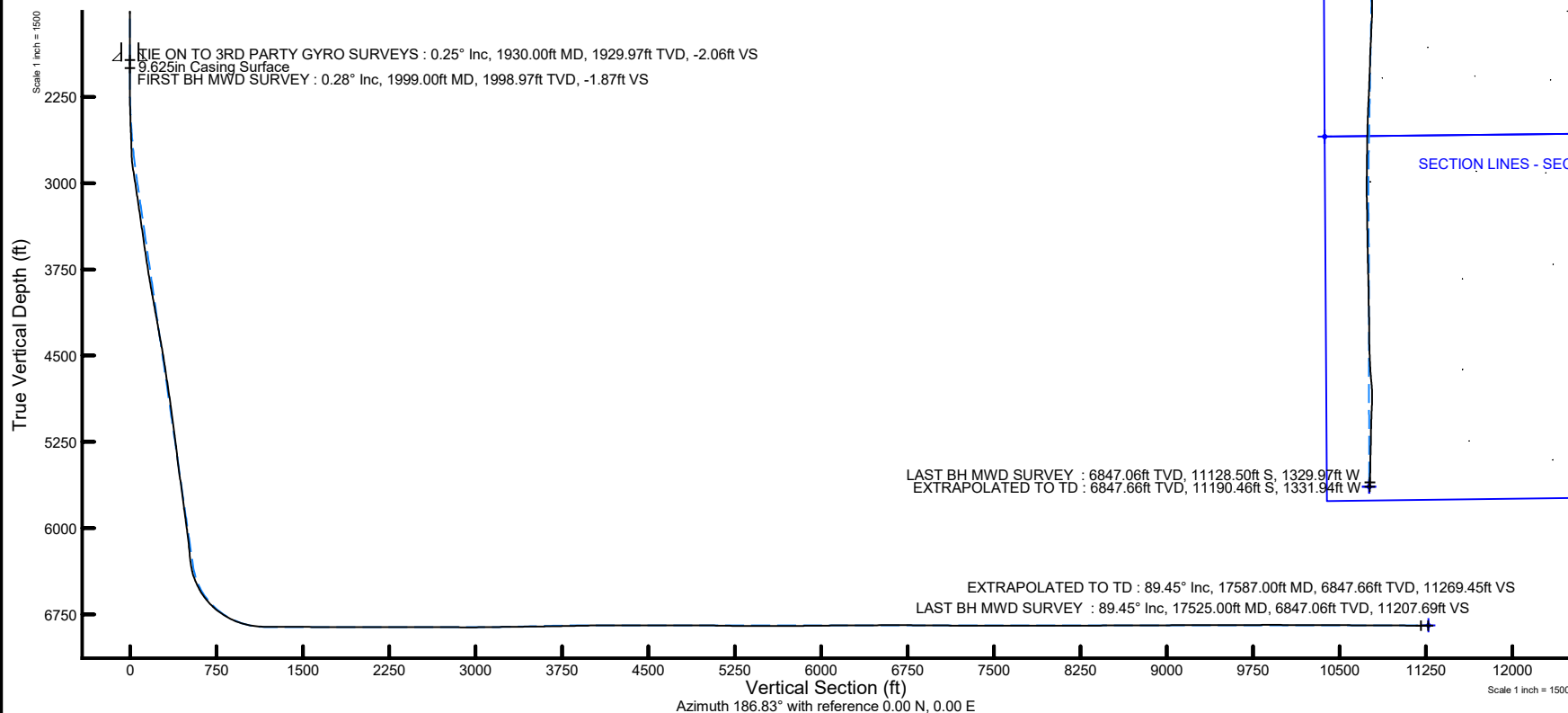


Location:	COLORADO	Slot:	SLOT#30 GUTTERSEN D35-780 (2014'FWL & 817'FSL, SEC.23)
Field:	WELD COUNTY (NOBLE NAD 83 GRID)	Well:	GUTTERSEN D35-780
Facility:	SEC.23-T03N-R64W	Wellbore:	GUTTERSEN D35-780 AWB

Plot reference wellpath is GUTTERSEN D35-780 AWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to H&P 517 (4829'GL+30'KB@4859') (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to H&P 517 (4829'GL+30'KB@4859') (RKB)	Scale: True distance
H&P 517 (4829'GL+30'KB@4859') (RKB) to Mean Sea Level: 4859 feet	Coordinates are in feet referenced to Siot
Mean Sea Level to Mud line (At Siot: SLOTF#30 GUTTERSEN D35-780 (2014)FWL & 817'FSL, SEC.23): 0 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: manaojho on 2020-04-20; Database: WA NOBLE



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D35-780
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.23-T03N-R64W	Wellbore	GUTTERSEN D35-780 AWB
Slot	SLOT#30 GUTTERSEN D35-780 (2014'FWL & 817'FSL, SEC.23)		

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	4/11/2020 at 10:55:14 AM
Convergence at slot	0.63° 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	149.94	-0.14	3273502.35	1319345.35	40°12'21.0766"N	104°31'14.7565"W
Facility Reference Pt			3273502.50	1319195.42	40°12'19.5950"N	104°31'14.7760"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 (4829'GL+30'KB@4859') (RKB) to Facility Vertical Datum	4859.00ft
Horizontal Reference Pt	Slot	H&P 517 (4829'GL+30'KB@4859') (RKB) to Mean Sea Level	4859.00ft
Vertical Reference Pt	H&P 517 (4829'GL+30'KB@4859') (RKB)	H&P 517 (4829'GL+30'KB@4859') (RKB) to Mud Line at Slot (SLOT#30 GUTTERSEN D35-780 (2014'FWL & 817'FSL, SEC.23))	4859.00ft
MD Reference Pt	H&P 517 (4829'GL+30'KB@4859') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	186.83°

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D35-780
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.23-T03N-R64W	Wellbore	GUTTERSEN D35-780 AWB
Slot	SLOT#30 GUTTERSEN D35-780 (2014'FWL & 817'FSL, SEC.23)		

WELLPATH DATA (187 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	123.480	0.00	-4859.00	0.00	0.00	0.00	40°12'21.0766"N	104°31'14.7565"W	0.00	0.00	0.00	0.00	
86.00	0.360	123.480	86.00	-4773.00	0.12	-0.15	0.23	40°12'21.0751"N	104°31'14.7536"W	0.42	-112.99	0.42	0.00	FIRST 3RD PARTY GYRO SURVEY
181.00	0.340	87.580	181.00	-4678.00	0.21	-0.30	0.76	40°12'21.0735"N	104°31'14.7468"W	0.23	-154.04	-0.02	-37.79	
272.00	0.280	81.430	272.00	-4587.00	0.11	-0.26	1.25	40°12'21.0739"N	104°31'14.7405"W	0.08	-11.19	-0.07	-6.76	
367.00	0.470	76.880	366.99	-4492.01	-0.09	-0.13	1.85	40°12'21.0751"N	104°31'14.7326"W	0.20	-120.71	0.20	-4.79	
461.00	0.410	36.450	460.99	-4398.01	-0.51	0.22	2.43	40°12'21.0785"N	104°31'14.7252"W	0.33	98.20	-0.06	-43.01	
556.00	0.480	76.930	555.99	-4303.01	-0.94	0.59	3.02	40°12'21.0821"N	104°31'14.7175"W	0.33	148.35	0.07	42.61	
651.00	0.360	180.890	650.99	-4208.01	-0.78	0.38	3.40	40°12'21.0800"N	104°31'14.7126"W	0.70	-113.37	-0.13	109.43	
745.00	0.340	143.910	744.99	-4114.01	-0.28	-0.14	3.56	40°12'21.0748"N	104°31'14.7106"W	0.24	-135.78	-0.02	-39.34	
840.00	0.240	107.010	839.98	-4019.02	-0.04	-0.43	3.92	40°12'21.0719"N	104°31'14.7061"W	0.22	-143.30	-0.11	-38.84	
934.00	0.160	80.010	933.98	-3925.02	-0.04	-0.46	4.24	40°12'21.0716"N	104°31'14.7020"W	0.13	-154.15	-0.09	-28.72	
1029.00	0.190	307.400	1028.98	-3830.02	-0.16	-0.34	4.24	40°12'21.0727"N	104°31'14.7019"W	0.34	51.54	0.03	139.59	
1124.00	0.480	340.880	1123.98	-3735.02	-0.60	0.13	3.99	40°12'21.0774"N	104°31'14.7051"W	0.36	37.93	0.31	35.24	
1218.00	0.520	344.240	1217.98	-3641.02	-1.35	0.91	3.74	40°12'21.0852"N	104°31'14.7082"W	0.05	-158.43	0.04	3.57	
1313.00	0.280	322.750	1312.98	-3546.02	-1.91	1.51	3.48	40°12'21.0911"N	104°31'14.7114"W	0.29	163.81	-0.25	-22.62	
1408.00	0.110	81.330	1407.98	-3451.02	-2.10	1.71	3.43	40°12'21.0931"N	104°31'14.7120"W	0.36	-112.80	-0.18	124.82	
1502.00	0.280	349.760	1501.98	-3357.02	-2.35	1.95	3.48	40°12'21.0955"N	104°31'14.7114"W	0.32	-140.55	0.18	-97.41	
1597.00	0.380	237.120	1596.97	-3262.03	-2.37	2.01	3.18	40°12'21.0961"N	104°31'14.7153"W	0.58	-150.91	0.11	-118.57	
1692.00	0.190	162.750	1691.97	-3167.03	-2.02	1.68	2.96	40°12'21.0929"N	104°31'14.7181"W	0.40	-100.68	-0.20	-78.28	
1786.00	0.410	89.160	1785.97	-3073.03	-1.93	1.54	3.34	40°12'21.0915"N	104°31'14.7132"W	0.43	-168.91	0.23	-78.29	
1881.00	0.190	304.770	1880.97	-2978.03	-2.05	1.63	3.55	40°12'21.0924"N	104°31'14.7105"W	0.61	-90.62	-0.23	-151.99	
1930.00	0.250	263.610	1929.97	-2929.03	-2.06	1.67	3.38	40°12'21.0927"N	104°31'14.7127"W	0.34	-112.03	0.12	-84.00	TIE ON TO 3RD PARTY GYRO SURVEYS
1999.00	0.280	207.440	1998.97	-2860.03	-1.87	1.50	3.15	40°12'21.0911"N	104°31'14.7157"W	0.36	-177.34	0.04	-81.41	FIRST BH MWD SURVEY
2094.00	0.030	55.800	2093.97	-2765.03	-1.67	1.31	3.06	40°12'21.0892"N	104°31'14.7168"W	0.32	118.42	-0.26	-159.62	
2189.00	0.030	112.630	2188.97	-2670.03	-1.68	1.32	3.11	40°12'21.0893"N	104°31'14.7163"W	0.03	146.20	0.00	59.82	
2283.00	2.410	258.430	2282.94	-2576.06	-1.05	0.91	1.19	40°12'21.0855"N	104°31'14.7410"W	2.59	5.22	2.53	155.11	
2378.00	6.530	261.730	2377.63	-2481.37	0.99	-0.27	-6.11	40°12'21.0746"N	104°31'14.8353"W	4.34	18.83	4.34	3.47	
2473.00	9.480	267.740	2471.70	-2387.30	3.64	-1.35	-19.28	40°12'21.0653"N	104°31'15.0051"W	3.22	-12.25	3.11	6.33	
2567.00	12.950	264.400	2563.89	-2295.11	7.13	-2.69	-37.50	40°12'21.0541"N	104°31'15.2402"W	3.75	45.71	3.69	-3.55	
2662.00	14.200	269.410	2656.24	-2202.76	10.93	-3.85	-59.75	40°12'21.0451"N	104°31'15.5271"W	1.81	25.58	1.32	5.27	
2757.00	16.230	272.840	2747.91	-2111.09	13.36	-3.31	-84.66	40°12'21.0531"N	104°31'15.8481"W	2.34	-81.13	2.14	3.61	
2851.00	18.270	252.570	2837.75	-2021.25	20.34	-7.08	-111.87	40°12'21.0189"N	104°31'16.1992"W	6.71	-141.93	2.17	-21.56	
2946.00	14.010	237.060	2929.03	-1929.97	33.83	-17.80	-135.75	40°12'20.9155"N	104°31'16.5085"W	6.34	62.68	-4.48	-16.33	
3041.00	14.740	242.190	3021.06	-1837.94	48.05	-29.69	-156.09	40°12'20.8002"N	104°31'16.7723"W	1.54	46.62	0.77	5.40	
3135.00	14.820	242.520	3111.95	-1747.05	61.63	-40.82	-177.33	40°12'20.6926"N	104°31'17.0477"W	0.12	126.76	0.09	0.35	
3230.00	14.720	243.050	3203.81	-1655.19	75.19	-51.89	-198.87	40°12'20.5855"N	104°31'17.3268"W	0.18	180.00	-0.11	0.56	
3325.00	14.580	243.050	3295.72	-1563.28	88.55	-62.78	-220.29	40°12'20.4803"N	104°31'17.6044"W	0.15	164.27	-0.15	0.00	
3420.00	14.500	243.140	3387.68	-1471.32	101.80	-73.58	-241.56	40°12'20.3759"N	104°31'17.8800"W	0.09	57.78	-0.08	0.09	
3514.00	14.710	244.430	3478.64	-1380.36	114.72	-84.04	-262.82	40°12'20.2748"N	104°31'18.1556"W	0.41	-83.46	0.22	1.37	
3609.00	14.740	243.470	3570.52	-1288.48	127.83	-94.65	-284.51	40°12'20.1724"N	104°31'18.4367"W	0.26	-15.68	0.03	-1.01	
3703.00	15.150	243.030	3661.34	-1197.66	141.24	-105.56	-306.16	40°12'20.0669"N	104°31'18.7172"W	0.45	1.05	0.44	-0.47	
3798.00	15.440	243.050	3752.98	-1106.02	155.18	-116.92	-328.50	40°12'19.9571"N	104°31'19.0067"W	0.31	-12.02	0.31	0.02	
3893.00	16.770	242.070	3844.25	-1014.75	170.03	-129.07	-351.88	40°12'19.8396"N	104°31'19.3097"W	1.43	-1.18	1.40	-1.03	
3987.00	17.970	241.990	3933.96	-925.04	186.05	-142.23	-376.66	40°12'19.7122"N	104°31'19.6310"W	1.28	122.40	1.28	-0.09	
4082.00	17.790	242.930	4024.37	-834.63	202.51	-155.72	-402.52	40°12'19.5818"N	104°31'19.9662"W	0.36	141.74	-0.19	0.99	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D35-780
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.23-T03N-R64W	Wellbore	GUTTERSEN D35-780 AWB
Slot	SLOT#30 GUTTERSEN D35-780 (2014'FWL & 817'FSL, SEC.23)		

WELLPATH DATA (187 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
4177.00	17.690	243.190	4114.85	-744.15	218.61	-168.84	-428.33	40°12'19.4550"N	104°31'20.3006"W	0.13	-30.13	-0.11	0.27	
4271.00	17.940	242.720	4204.35	-654.65	234.64	-181.91	-453.94	40°12'19.3286"N	104°31'20.6326"W	0.31	135.61	0.27	-0.50	
4366.00	17.800	243.170	4294.76	-564.24	250.89	-195.17	-479.90	40°12'19.2004"N	104°31'20.9690"W	0.21	-49.51	-0.15	0.47	
4461.00	18.040	242.270	4385.15	-473.85	267.29	-208.57	-505.88	40°12'19.0708"N	104°31'21.3057"W	0.39	95.55	0.25	-0.95	
4555.00	17.960	246.390	4474.56	-384.44	282.89	-221.15	-532.05	40°12'18.9494"N	104°31'21.6447"W	1.36	150.55	-0.09	4.38	
4650.00	17.830	246.630	4564.96	-294.04	297.63	-232.78	-558.82	40°12'18.8373"N	104°31'21.9914"W	0.16	111.97	-0.14	0.25	
4745.00	17.490	249.620	4655.49	-203.51	311.47	-243.52	-585.55	40°12'18.7341"N	104°31'22.3374"W	1.02	-31.26	-0.36	3.15	
4839.00	17.640	249.320	4745.10	-113.90	324.51	-253.47	-612.12	40°12'18.6387"N	104°31'22.6812"W	0.19	-36.62	0.16	-0.32	
4934.00	17.910	248.670	4835.57	-23.43	338.06	-263.87	-639.19	40°12'18.5389"N	104°31'23.0316"W	0.35	138.74	0.28	-0.68	
5029.00	17.030	251.360	4926.19	67.19	350.94	-273.63	-665.98	40°12'18.4454"N	104°31'23.3783"W	1.26	56.38	-0.93	2.83	
5123.00	17.680	254.460	5015.91	156.91	362.29	-281.85	-692.78	40°12'18.3670"N	104°31'23.7248"W	1.20	-105.30	0.69	3.30	
5218.00	17.310	249.000	5106.52	247.52	374.38	-290.78	-719.87	40°12'18.2817"N	104°31'24.0752"W	1.77	166.78	-0.39	-5.75	
5312.00	16.770	249.440	5196.39	337.39	387.15	-300.56	-745.62	40°12'18.1879"N	104°31'24.4085"W	0.59	120.28	-0.57	0.47	
5407.00	16.360	252.030	5287.45	428.45	399.07	-309.50	-771.18	40°12'18.1024"N	104°31'24.7392"W	0.89	71.28	-0.43	2.73	
5502.00	17.070	258.230	5378.45	519.45	409.13	-316.47	-797.56	40°12'18.0363"N	104°31'25.0801"W	2.02	-104.88	0.75	6.53	
5596.00	16.570	248.810	5468.44	609.44	419.83	-324.13	-823.57	40°12'17.9635"N	104°31'25.4164"W	2.94	-3.67	-0.53	-10.02	
5691.00	16.750	248.770	5559.45	700.45	432.64	-333.99	-848.96	40°12'17.8689"N	104°31'25.7450"W	0.19	24.01	0.19	-0.04	
5786.00	17.040	249.210	5650.35	791.35	445.53	-343.88	-874.74	40°12'17.7739"N	104°31'26.0786"W	0.33	103.31	0.31	0.46	
5881.00	16.770	253.970	5741.25	882.25	457.31	-352.61	-900.92	40°12'17.6905"N	104°31'26.4173"W	1.48	-95.69	-0.28	5.01	
5975.00	16.690	249.490	5831.28	972.28	468.78	-361.08	-926.60	40°12'17.6095"N	104°31'26.7494"W	1.37	-22.51	-0.09	-4.77	
6070.00	17.430	249.470	5922.10	1063.10	481.81	-371.09	-952.61	40°12'17.5135"N	104°31'27.0860"W	0.84	97.61	0.78	-1.07	
6165.00	17.280	254.600	6012.78	1153.78	493.91	-380.05	-979.45	40°12'17.4278"N	104°31'27.4332"W	1.93	-136.03	-0.16	6.45	
6259.00	17.110	254.040	6102.58	1243.58	504.55	-387.56	-1006.21	40°12'17.3565"N	104°31'27.7791"W	0.25	128.89	-0.18	-0.60	
6354.00	16.220	258.170	6193.59	1334.59	514.21	-394.13	-1032.63	40°12'17.2946"N	104°31'28.1206"W	1.56	-50.42	-0.94	4.35	
6449.00	17.200	254.310	6284.58	1425.58	523.84	-400.65	-1059.14	40°12'17.2330"N	104°31'28.4631"W	1.56	-84.82	1.03	-4.06	
6544.00	18.820	234.450	6375.01	1516.01	539.56	-413.37	-1085.16	40°12'17.1102"N	104°31'28.8002"W	6.65	-64.27	1.71	-20.91	
6638.00	25.260	211.500	6462.25	1603.25	568.09	-439.36	-1108.04	40°12'16.8558"N	104°31'29.0988"W	11.32	-1.01	6.85	-24.41	
6733.00	32.600	211.260	6545.34	1686.34	609.87	-478.57	-1131.94	40°12'16.4709"N	104°31'29.4124"W	7.73	-6.07	7.73	-0.25	
6828.00	40.590	209.960	6621.55	1762.55	661.68	-527.30	-1160.70	40°12'15.9925"N	104°31'29.7900"W	8.45	-34.25	8.41	-1.37	
6922.00	49.930	201.950	6687.70	1828.70	724.71	-587.34	-1189.51	40°12'15.4024"N	104°31'30.1697"W	11.62	-45.06	9.94	-8.52	
7017.00	56.250	194.630	6744.77	1885.77	799.08	-659.40	-1213.11	40°12'14.6929"N	104°31'30.4841"W	9.06	-1.44	6.65	-7.71	
7112.00	64.140	194.410	6791.95	1932.95	880.70	-739.14	-1233.76	40°12'13.9072"N	104°31'30.7615"W	8.31	7.68	8.31	-0.23	
7207.00	73.200	195.680	6826.47	1967.47	968.19	-824.50	-1256.73	40°12'13.0662"N	104°31'31.0696"W	9.62	-25.63	9.54	1.34	
7301.00	80.910	191.960	6847.52	1988.52	1059.04	-913.39	-1278.55	40°12'12.1903"N	104°31'31.3634"W	9.06	-19.27	8.20	-3.96	
7396.00	88.400	189.350	6856.37	1997.37	1153.34	-1006.27	-1296.01	40°12'11.2743"N	104°31'31.6016"W	8.34	-75.37	7.88	-2.75	
7490.00	90.650	180.770	6857.15	1998.15	1247.20	-1099.81	-1304.30	40°12'10.3510"N	104°31'31.7216"W	9.44	-151.26	2.39	-9.13	
7585.00	89.720	180.260	6856.84	1997.84	1341.62	-1194.80	-1305.15	40°12'9.4124"N	104°31'31.7460"W	1.12	130.40	-0.98	-0.54	
7680.00	89.320	180.730	6857.64	1998.64	1436.04	-1289.80	-1305.97	40°12'8.4738"N	104°31'31.7701"W	0.65	84.15	-0.42	0.49	
7774.00	89.750	184.910	6858.40	1999.40	1529.78	-1383.66	-1310.59	40°12'7.5468"N	104°31'31.8429"W	4.47	79.63	0.46	4.45	
7869.00	89.880	185.620	6858.71	1999.71	1624.75	-1478.26	-1319.31	40°12'6.6130"N	104°31'31.9687"W	0.76	-60.42	0.14	0.75	
7964.00	90.090	185.250	6858.73	1999.73	1719.72	-1572.83	-1328.31	40°12'5.6795"N	104°31'32.0980"W	0.45	-105.23	0.22	-0.39	
8059.00	89.660	183.670	6858.94	1999.94	1814.63	-1667.54	-1335.70	40°12'4.7444"N	104°31'32.2066"W	1.72	-86.14	-0.45	-1.66	
8153.00	89.880	180.420	6859.32	2000.32	1908.29	-1761.46	-1339.05	40°12'3.8167"N	104°31'32.2631"W	3.47	-32.13	0.23	-3.46	
8248.00	90.310	180.150	6859.16	2000.16	2002.67	-1856.46	-1339.52	40°12'2.8780"N	104°31'32.2827"W	0.53	97.79	0.45	-0.28	
8342.00	90.180	181.100	6858.76	1999.76	2096.12	-1950.45	-1340.55	40°12'1.9494"N	104°31'32.3092"W	1.02	104.74	-0.14	1.01	

REFERENCE WELLPATH IDENTIFICATION				
Operator	NOBLE ENERGY, INC		Well	GUTTERSEN D35-780
Field	WELD COUNTY (NOBLE NAD 83 GRID)		API/Legal	
Facility	SEC.23-T03N-R64W		Wellbore	GUTTERSEN D35-780 AWB
Slot	SLOT#30 GUTTERSEN D35-780 (2014'FWL & 817'FSL, SEC.23)			

WELLPATH DATA (187 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
8437.00	89.880	182.240	6858.71	1999.71	2190.73	-2045.41	-1343.32	40°12'1.0113"N	104°31'32.3583"W	1.24	-95.39	-0.32	1.20	
8531.00	89.780	181.180	6858.99	1999.99	2284.35	-2139.37	-1346.12	40°12'0.0832"N	104°31'32.4078"W	1.13	-90.71	-0.11	-1.13	
8626.00	89.750	178.730	6859.38	2000.38	2378.66	-2234.36	-1346.05	40°11'59.1446"N	104°31'32.4203"W	2.58	20.73	-0.03	-2.58	
8720.00	90.120	178.870	6859.48	2000.48	2471.74	-2328.34	-1344.08	40°11'58.2157"N	104°31'32.4082"W	0.42	101.75	0.39	0.15	
8815.00	89.910	179.880	6859.46	2000.46	2565.93	-2423.33	-1343.04	40°11'57.2769"N	104°31'32.4083"W	1.09	-100.21	-0.22	1.06	
8910.00	89.820	179.380	6859.68	2000.68	2660.18	-2518.33	-1342.43	40°11'56.3382"N	104°31'32.4139"W	0.53	-120.18	-0.09	-0.53	
9005.00	89.570	178.950	6860.19	2001.19	2754.33	-2613.32	-1341.04	40°11'55.3994"N	104°31'32.4095"W	0.52	90.00	-0.26	-0.45	
9099.00	89.570	179.220	6860.89	2001.89	2847.47	-2707.30	-1339.54	40°11'54.4705"N	104°31'32.4034"W	0.29	52.23	0.00	0.29	
9194.00	89.880	179.620	6861.35	2002.35	2941.68	-2802.30	-1338.58	40°11'53.5317"N	104°31'32.4045"W	0.53	-8.38	0.33	0.42	
9289.00	90.830	179.480	6860.76	2001.76	3035.91	-2897.29	-1337.83	40°11'52.5930"N	104°31'32.4083"W	1.01	-128.93	1.00	-0.15	
9383.00	90.620	179.220	6859.57	2000.57	3129.10	-2991.28	-1336.77	40°11'51.6642"N	104°31'32.4079"W	0.36	48.36	-0.22	-0.28	
9478.00	90.860	179.490	6858.34	1999.34	3223.28	-3086.26	-1335.70	40°11'50.7255"N	104°31'32.4076"W	0.38	-132.93	0.25	0.28	
9573.00	90.460	179.060	6857.25	1998.25	3317.45	-3181.25	-1334.50	40°11'49.7867"N	104°31'32.4055"W	0.62	-39.40	-0.42	-0.45	
9667.00	91.020	178.600	6856.04	1997.04	3410.52	-3275.22	-1332.58	40°11'48.8580"N	104°31'32.3941"W	0.77	-121.75	0.60	-0.49	
9762.00	90.370	177.550	6854.88	1995.88	3504.41	-3370.16	-1329.39	40°11'47.9195"N	104°31'32.3664"W	1.30	-7.55	-0.68	-1.11	
9857.00	91.200	177.440	6853.58	1994.58	3598.14	-3465.06	-1325.24	40°11'46.9813"N	104°31'32.3264"W	0.88	-167.80	0.87	-0.12	
9951.00	90.830	177.360	6851.92	1992.92	3690.85	-3558.95	-1320.97	40°11'46.0531"N	104°31'32.2847"W	0.40	50.19	-0.39	-0.09	
10046.00	91.080	177.660	6850.33	1991.33	3784.58	-3653.84	-1316.85	40°11'45.1149"N	104°31'32.2450"W	0.41	-70.28	0.26	0.32	
10140.00	91.320	176.990	6848.37	1989.37	3877.27	-3747.72	-1312.46	40°11'44.1868"N	104°31'32.2018"W	0.76	-101.89	0.26	-0.71	
10235.00	91.200	176.420	6846.28	1987.28	3970.77	-3842.54	-1307.00	40°11'43.2493"N	104°31'32.1448"W	0.61	173.40	-0.13	-0.60	
10329.00	90.250	176.530	6845.09	1986.09	4063.23	-3936.35	-1301.22	40°11'42.3216"N	104°31'32.0837"W	1.02	97.42	-1.01	0.12	
10424.00	89.750	180.370	6845.09	1986.09	4157.19	-4031.30	-1298.65	40°11'41.3832"N	104°31'32.0640"W	4.08	-4.40	-0.53	4.04	
10519.00	89.880	180.360	6845.39	1986.39	4251.59	-4126.30	-1299.26	40°11'40.4445"N	104°31'32.0852"W	0.14	-63.44	0.14	-0.01	
10613.00	90.120	179.880	6845.39	1986.39	4344.94	-4220.30	-1299.45	40°11'39.5157"N	104°31'32.1011"W	0.57	-163.44	0.26	-0.51	
10708.00	89.750	179.770	6845.50	1986.50	4439.23	-4315.30	-1299.16	40°11'38.5769"N	104°31'32.1108"W	0.41	86.75	-0.39	-0.12	
10803.00	89.940	183.110	6845.76	1986.76	4533.80	-4410.25	-1301.55	40°11'37.6389"N	104°31'32.1550"W	3.52	-85.24	0.20	3.52	
10898.00	89.970	182.750	6845.83	1986.83	4628.58	-4505.13	-1306.41	40°11'36.7019"N	104°31'32.2310"W	0.38	-70.08	0.03	-0.38	
10992.00	90.220	182.060	6845.68	1986.68	4722.30	-4599.05	-1310.35	40°11'35.7743"N	104°31'32.2951"W	0.78	104.89	0.27	-0.73	
11087.00	89.970	183.000	6845.52	1986.52	4817.03	-4693.95	-1314.54	40°11'34.8370"N	104°31'32.3626"W	1.02	-84.29	-0.26	0.99	
11182.00	90.000	182.700	6845.54	1986.54	4911.80	-4788.83	-1319.27	40°11'33.8999"N	104°31'32.4369"W	0.32	-128.66	0.03	-0.32	
11276.00	89.720	182.350	6845.77	1986.77	5005.53	-4882.74	-1323.41	40°11'32.9724"N	104°31'32.5036"W	0.48	-36.87	-0.30	-0.37	
11371.00	89.880	182.230	6846.11	1987.11	5100.23	-4977.67	-1327.21	40°11'32.0349"N	104°31'32.5659"W	0.21	-132.27	0.17	-0.13	
11466.00	88.000	180.160	6847.86	1988.86	5194.75	-5072.62	-1329.19	40°11'31.0968"N	104°31'32.6049"W	2.94	53.19	-1.98	-2.18	
11561.00	89.940	182.750	6849.57	1990.57	5289.30	-5167.56	-1331.60	40°11'30.1589"N	104°31'32.6494"W	3.41	-72.90	2.04	2.73	
11655.00	90.060	182.360	6849.57	1990.57	5383.04	-5261.47	-1335.79	40°11'29.2314"N	104°31'32.7167"W	0.43	-86.27	0.13	-0.41	
11750.00	90.090	181.900	6849.45	1990.45	5477.72	-5356.40	-1339.32	40°11'28.2937"N	104°31'32.7756"W	0.49	108.83	0.03	-0.48	
11845.00	89.940	182.340	6849.42	1990.42	5572.40	-5451.34	-1342.83	40°11'27.3560"N	104°31'32.8343"W	0.49	85.24	-0.16	0.46	
11939.00	90.000	183.060	6849.47	1990.47	5666.15	-5545.23	-1347.26	40°11'26.4287"N	104°31'32.9047"W	0.77	-39.52	0.06	0.77	
12034.00	90.400	182.730	6849.14	1990.14	5760.93	-5640.11	-1352.06	40°11'25.4917"N	104°31'32.9799"W	0.55	-100.30	0.42	-0.35	
12129.00	90.340	182.400	6848.53	1989.53	5855.66	-5735.01	-1356.31	40°11'24.5544"N	104°31'33.0482"W	0.35	-56.10	-0.06	-0.35	
12223.00	90.770	181.760	6847.62	1988.62	5949.33	-5828.94	-1359.72	40°11'23.6266"N	104°31'33.1054"W	0.82	102.09	0.46	-0.68	
12318.00	90.680	182.180	6846.41	1987.41	6043.98	-5923.88	-1362.99	40°11'22.6888"N	104°31'33.1609"W	0.45	-105.04	-0.09	0.44	
12413.00	90.430	181.250	6845.49	1986.49	6138.60	-6018.83	-1365.83	40°11'21.7509"N	104°31'33.2110"W	1.01	-137.29	-0.26	-0.98	
12507.00	89.910	180.770	6845.21	1986.21	6232.11	-6112.82	-1367.49	40°11'20.8224"N	104°31'33.2456"W	0.75	-1.17	-0.55	-0.51	
12602.00	90.400	180.760	6844.96	1985.96	6326.58	-6207.81	-1368.76	40°11'19.8838"N	104°31'33.2754"W	0.52	70.56	0.52	-0.01	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D35-780
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.23-T03N-R64W	Wellbore	GUTTERSEN D35-780 AWB
Slot	SLOT#30 GUTTERSEN D35-780 (2014'FWL & 817'FSL, SEC.23)		

WELLPATH DATA (187 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
12696.00	90.520	181.100	6844.20	1985.20	6420.08	-6301.79	-1370.28	40°11'18.9553"N	104°31'33.3084"W	0.38	-80.79	0.13	0.36	
12791.00	90.580	180.730	6843.29	1984.29	6514.56	-6396.77	-1371.80	40°11'18.0169"N	104°31'33.3414"W	0.39	131.05	0.06	-0.39	
12886.00	90.310	181.040	6842.55	1983.55	6609.05	-6491.76	-1373.27	40°11'17.0785"N	104°31'33.3737"W	0.43	-148.60	-0.28	0.33	
12980.00	89.540	180.570	6842.68	1983.68	6702.53	-6585.75	-1374.59	40°11'16.1499"N	104°31'33.4040"W	0.96	-165.26	-0.82	-0.50	
13075.00	89.350	180.520	6843.60	1984.60	6796.95	-6680.74	-1375.49	40°11'15.2113"N	104°31'33.4291"W	0.21	19.65	-0.20	-0.05	
13170.00	89.630	180.620	6844.44	1985.44	6891.38	-6775.73	-1376.44	40°11'14.2728"N	104°31'33.4548"W	0.31	-90.00	0.29	0.11	
13264.00	89.630	179.610	6845.05	1986.05	6984.73	-6869.73	-1376.63	40°11'13.3440"N	104°31'33.4705"W	1.07	-149.75	0.00	-1.07	
13359.00	89.510	179.540	6845.76	1986.76	7078.97	-6964.72	-1375.92	40°11'12.4052"N	104°31'33.4749"W	0.15	-82.24	-0.13	-0.07	
13454.00	89.880	178.880	6846.05	1987.50	7173.13	-7059.71	-1374.61	40°11'11.4866"N	104°31'33.4714"W	0.70	-101.46	0.09	-0.69	
13549.00	89.450	178.140	6847.29	1988.29	7267.12	-7154.68	-1372.14	40°11'10.5278"N	104°31'33.4530"W	0.79	51.91	-0.16	-0.78	
13643.00	90.430	179.390	6847.39	1988.39	7360.19	-7248.65	-1370.11	40°11'9.5990"N	104°31'33.4402"W	1.69	167.80	1.04	1.33	
13738.00	90.060	179.470	6846.98	1987.98	7454.39	-7343.64	-1369.17	40°11'8.6602"N	104°31'33.4415"W	0.40	-90.00	-0.39	0.08	
13832.00	90.060	179.200	6846.88	1987.88	7547.59	-7437.64	-1368.08	40°11'7.7313"N	104°31'33.4408"W	0.29	-120.32	0.00	-0.29	
13927.00	89.750	178.670	6847.04	1988.04	7641.69	-7532.62	-1366.31	40°11'6.7926"N	104°31'33.4314"W	0.65	81.64	-0.33	-0.56	
14022.00	89.850	179.350	6847.37	1988.37	7735.80	-7627.61	-1364.67	40°11'5.8538"N	104°31'33.4237"W	0.72	-114.15	0.11	0.72	
14117.00	89.720	179.060	6847.73	1988.73	7829.96	-7722.60	-1363.35	40°11'4.9150"N	104°31'33.4202"W	0.33	-71.57	-0.14	-0.31	
14211.00	89.880	178.580	6848.05	1989.05	7923.04	-7816.58	-1361.42	40°11'3.9866"N	104°31'33.4086"W	0.54	70.13	0.17	-0.51	
14306.00	90.180	179.410	6848.01	1989.01	8017.15	-7911.56	-1359.75	40°11'3.0474"N	104°31'33.4005"W	0.93	-83.19	0.32	0.87	
14400.00	90.340	178.070	6847.58	1988.58	8110.21	-8005.53	-1357.68	40°11'2.1186"N	104°31'33.3872"W	1.44	92.26	0.17	-1.43	
14495.00	90.310	178.830	6847.04	1988.04	8204.20	-8100.50	-1355.11	40°11'1.1799"N	104°31'33.3675"W	0.80	-84.96	-0.03	0.80	
14590.00	90.340	178.490	6846.50	1987.50	8298.23	-8195.47	-1352.89	40°11'0.2412"N	104°31'33.3524"W	0.36	121.43	0.03	-0.36	
14685.00	90.120	178.850	6846.12	1987.12	8392.26	-8290.44	-1350.69	40°10'59.3025"N	104°31'33.3374"W	0.44	84.47	-0.23	0.38	
14874.00	90.180	179.470	6845.62	1986.62	8579.57	-8479.42	-1347.92	40°10'57.4349"N	104°31'33.3284"W	0.33	-70.75	0.03	0.33	
14969.00	90.400	178.840	6845.14	1986.14	8673.72	-8574.41	-1346.52	40°10'56.4961"N	104°31'33.3238"W	0.70	-120.96	0.23	-0.66	
15063.00	90.220	178.540	6844.64	1985.64	8766.77	-8668.38	-1344.37	40°10'55.5673"N	104°31'33.3095"W	0.37	-144.46	-0.19	-0.32	
15158.00	90.150	178.490	6844.33	1985.33	8860.77	-8763.35	-1341.91	40°10'54.6286"N	104°31'33.2912"W	0.09	84.07	-0.07	-0.05	
15253.00	90.310	180.030	6843.95	1984.95	8954.93	-8858.34	-1340.68	40°10'53.6898"N	104°31'33.2888"W	1.63	-76.33	0.17	1.62	
15347.00	90.400	179.660	6843.36	1984.36	9048.23	-8952.34	-1340.42	40°10'52.7610"N	104°31'33.2988"W	0.41	-127.12	0.10	-0.39	
15442.00	90.120	179.290	6842.93	1983.93	9142.45	-9047.33	-1339.55	40°10'51.8222"N	104°31'33.3011"W	0.49	-95.19	-0.29	-0.39	
15537.00	90.090	178.960	6842.76	1983.76	9236.59	-9142.32	-1338.10	40°10'50.8834"N	104°31'33.2958"W	0.35	-99.26	-0.03	-0.35	
15631.00	89.940	178.040	6842.73	1983.73	9329.60	-9236.29	-1335.64	40°10'49.9546"N	104°31'33.2774"W	0.99	-79.69	-0.16	-0.98	
15726.00	90.000	177.710	6842.78	1983.78	9423.44	-9331.22	-1332.12	40°10'49.0161"N	104°31'33.2455"W	0.35	-82.24	0.06	-0.35	
15820.00	90.090	177.050	6842.71	1983.71	9516.16	-9425.12	-1327.82	40°10'48.0878"N	104°31'33.2034"W	0.71	-74.53	0.10	-0.70	
15915.00	90.400	175.930	6842.30	1983.30	9609.61	-9519.94	-1322.01	40°10'47.1502"N	104°31'33.1419"W	1.22	-95.04	0.33	-1.18	
16009.00	90.310	174.910	6841.72	1982.72	9701.75	-9613.64	-1314.50	40°10'46.2236"N	104°31'33.0585"W	1.09	-86.19	-0.10	-1.09	
16104.00	90.340	174.460	6841.18	1982.18	9794.62	-9708.23	-1305.70	40°10'45.2879"N	104°31'32.9585"W	0.47	92.58	0.03	-0.47	
16199.00	90.180	178.000	6840.75	1981.75	9887.98	-9803.01	-1299.46	40°10'44.3507"N	104°31'32.8915"W	3.73	102.79	-0.17	3.73	
16293.00	89.660	180.290	6840.88	1981.88	9981.13	-9896.99	-1298.05	40°10'43.4219"N	104°31'32.8867"W	2.50	86.67	-0.55	2.44	
16388.00	89.780	182.350	6841.35	1982.35	10075.69	-9991.96	-1300.24	40°10'42.4837"N	104°31'32.9283"W	2.17	76.22	0.13	2.17	
16483.00	89.910	182.880	6841.60	1982.60	10170.43	-10086.86	-1304.58	40°10'41.5464"N	104°31'32.9976"W	0.57	-88.62	0.14	0.56	
16578.00	89.940	181.640	6841.73	1982.73	10265.12	-10181.78	-1308.32	40°10'40.6088"N	104°31'33.0593"W	1.31	104.42	0.03	-1.31	
16672.00	89.850	181.990	6841.90	1982.90	10358.76	-10275.73	-1311.30	40°10'39.6808"N	104°31'33.1109"W	0.38	-100.86	-0.10	0.37	
16767.00	89.570	180.530	6842.38	1983.38	10453.31	-10370.71	-1313.39	40°10'38.7425"N	104°31'33.1513"W	1.56	90.00	-0.29	-1.54	
16862.00	89.570	181.000	6843.09	1984.09	10547.77	-10465.70	-1314.66	40°10'37.8040"N	104°31'33.1811"W	0.49	90.00	0.00	0.49	
16957.00	89.570	181.450	6843.81	1984.81	10642.32	-10560.67	-1316.69	40°10'36.8658"N	104°31'33.2207"W	0.47	55.96	0.00	0.47	

TARGETS

REFERENCE WELLPATH IDENTIFICATION				
Operator	NOBLE ENERGY, INC		Well	GUTTERSEN D35-780
Field	WELD COUNTY (NOBLE NAD 83 GRID)		API/Legal	
Facility	SEC.23-T03N-R64W		Wellbore	GUTTERSEN D35-780 AWB
Slot	SLOT#30 GUTTERSEN D35-780 (2014'FWL & 817'FSL, SEC.23)			

WELLPATH COMPOSITION - Ref Wellbore: GUTTERSEN D35-780 AWB Ref Wellpath: GUTTERSEN D35-780 AWP					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
0.00	1930.00	Gyrodatta 2015 - GC+DROP+COND	13.5" GYRODATA 2015 (GC+DROP+COND) <0' - 1930'>	GUTTERSEN D35-780 AWB	4/7/2020
1930.00	17587.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	8.5" OWSG MWD REV.2 (IFR1+MSA) <1999' -17525'>	GUTTERSEN D35-780 AWB	4/9/2020

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D35-780
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.23-T03N-R64W	Wellbore	GUTTERSEN D35-780 AWB
Slot	SLOT#30 GUTTERSEN D35-780 (2014'FWL & 817'FSL, SEC.23)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
86.00	0.360	123.480	86.00	FIRST 3RD PARTY GYRO SURVEY
1930.00	0.250	263.610	1929.97	TIE ON TO 3RD PARTY GYRO SURVEYS
1999.00	0.280	207.440	1998.97	FIRST BH MWD SURVEY
17525.00	89.450	181.820	6847.06	LAST BH MWD SURVEY
17587.00	89.450	181.820	6847.66	EXTRAPOLATED TO TD