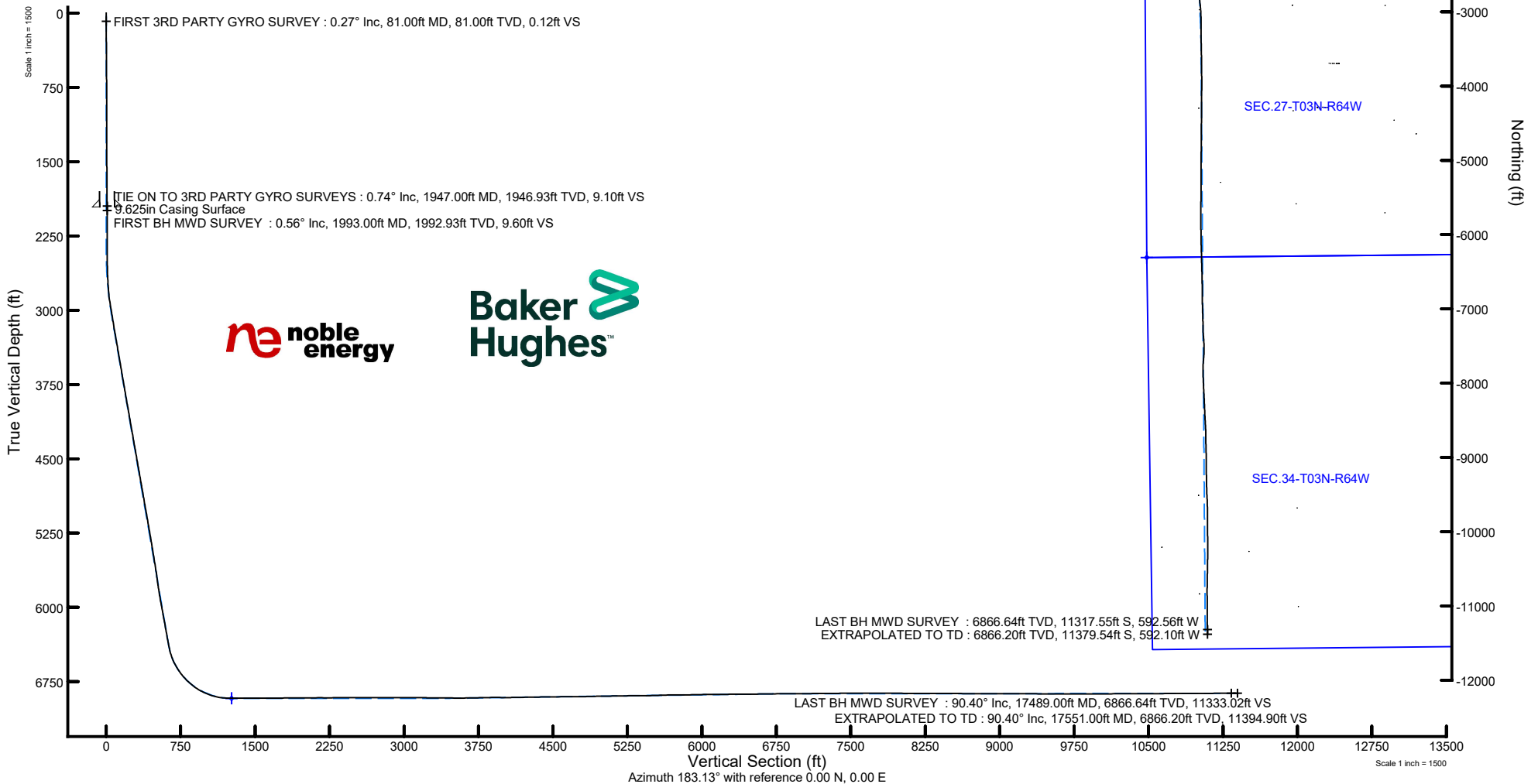


# NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#29 GUTTERSEN D34-779 (1015'FSL & 1440'FWL, SEC.22)  
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: GUTTERSEN D34-779  
Facility: SEC.22-T03N-R64W Wellbore: GUTTERSEN D34-779 AWB

Plot reference wellpath is GUTTERSEN D34-779 AWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to H&P 321 (4824'GL+30'KB@4854') (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to H&P 321 (4824'GL+30'KB@4854') (RKB)	Scale: True distance
H&P 321 (4824'GL+30'KB@4854') (RKB) to Mean Sea Level: 4854 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Mud line (At Slot: SLOT#29 GUTTERSEN D34-779 (1015'FSL & 1440'FWL, SEC.22)): 0 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: manajohn on 2020-03-13; Database: WA, NOBLE



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-779 AWB
Slot	SLOT#29 GUTTERSEN D34-779 (1015'FSL & 1440'FWL, 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	3/13/2020 at 1:28:17 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	149.95	-115.03	3267640.57	1319481.82	40°12'23.0580"N	104°32'30.2856"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 321 (4824'GL+30'KB@4854') (RKB) to Facility Vertical Datum	4854.00ft
Horizontal Reference Pt	Slot	H&P 321 (4824'GL+30'KB@4854') (RKB) to Mean Sea Level	4854.00ft
Vertical Reference Pt	H&P 321 (4824'GL+30'KB@4854') (RKB)	H&P 321 (4824'GL+30'KB@4854') (RKB) to Mud Line at Slot (SLOT#29 GUTTERSEN D34-779 (1015'FSL & 1440'FWL, SEC.22))	4854.00ft
MD Reference Pt	H&P 321 (4824'GL+30'KB@4854') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	183.13°

### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-779 AWP
Slot	SLOT#29 GUTTERSEN D34-779 (1015'FSL & 1440'FWL, 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	130.810	0.00	-4854.00	0.00	0.00	0.00	40°12'23.0580"N	104°32'30.2856"W	0.00	0.00	0.00	0.00	
81.00	0.270	130.810	81.00	-4773.00	0.12	-0.12	0.14	40°12'23.0568"N	104°32'30.2838"W	0.33	159.01	0.33	0.00	FIRST 3RD PARTY GYRO SURVEY
175.00	0.150	149.970	175.00	-4679.00	0.36	-0.38	0.37	40°12'23.0542"N	104°32'30.2808"W	0.15	25.95	-0.13	20.38	
267.00	0.560	169.190	267.00	-4587.00	0.89	-0.92	0.52	40°12'23.0488"N	104°32'30.2790"W	0.46	-152.24	0.45	20.89	
361.00	0.280	128.260	360.99	-4493.01	1.47	-1.52	0.78	40°12'23.0429"N	104°32'30.2757"W	0.42	-3.18	-0.30	-43.54	
456.00	0.650	126.450	455.99	-4398.01	1.90	-1.98	1.40	40°12'23.0383"N	104°32'30.2678"W	0.39	133.49	0.39	-1.91	
550.00	0.540	140.780	549.99	-4304.01	2.52	-2.64	2.11	40°12'23.0317"N	104°32'30.2588"W	0.20	-27.93	-0.12	15.24	
645.00	1.000	127.500	644.98	-4209.02	3.32	-3.49	3.05	40°12'23.0232"N	104°32'30.2468"W	0.52	-156.97	0.48	-13.98	
739.00	0.660	114.180	738.97	-4115.03	3.98	-4.21	4.19	40°12'23.0159"N	104°32'30.2321"W	0.41	-142.41	-0.36	-14.17	
834.00	0.450	88.310	833.96	-4020.04	4.14	-4.42	5.07	40°12'23.0137"N	104°32'30.2209"W	0.34	131.80	-0.22	-27.23	
928.00	0.360	108.830	927.96	-3926.04	4.19	-4.51	5.72	40°12'23.0128"N	104°32'30.2126"W	0.18	-123.66	-0.10	21.83	
1023.00	0.300	72.350	1022.96	-3831.04	4.18	-4.53	6.23	40°12'23.0126"N	104°32'30.2059"W	0.23	131.75	-0.06	-38.40	
1117.00	0.230	100.800	1116.96	-3737.04	4.12	-4.49	6.65	40°12'23.0129"N	104°32'30.2005"W	0.16	75.90	-0.07	30.27	
1212.00	0.290	126.420	1211.96	-3642.04	4.28	-4.67	7.04	40°12'23.0111"N	104°32'30.1956"W	0.14	122.79	0.06	26.97	
1306.00	0.260	138.870	1305.96	-3548.04	4.56	-4.97	7.37	40°12'23.0081"N	104°32'30.1913"W	0.07	57.71	-0.03	13.24	
1401.00	0.410	164.160	1400.95	-3453.05	5.04	-5.46	7.60	40°12'23.0032"N	104°32'30.1884"W	0.22	91.09	0.16	26.62	
1495.00	0.410	166.340	1494.95	-3359.05	5.68	-6.11	7.77	40°12'22.9968"N	104°32'30.1863"W	0.02	-42.53	0.00	2.32	
1590.00	0.460	160.860	1589.95	-3264.05	6.36	-6.80	7.98	40°12'22.9899"N	104°32'30.1837"W	0.07	-83.70	0.05	-5.77	
1684.00	0.560	131.890	1683.95	-3170.05	6.99	-7.46	8.44	40°12'22.9833"N	104°32'30.1778"W	0.29	94.83	0.11	-30.82	
1779.00	0.560	141.540	1778.94	-3075.06	7.63	-8.14	9.08	40°12'22.9766"N	104°32'30.1697"W	0.10	128.74	0.00	10.16	
1873.00	0.440	187.190	1872.94	-2981.06	8.33	-8.86	9.32	40°12'22.9695"N	104°32'30.1667"W	0.43	-6.67	-0.13	48.56	
1947.00	0.740	184.480	1946.93	-2907.07	9.10	-9.61	9.25	40°12'22.9620"N	104°32'30.1678"W	0.41	-134.60	0.41	-3.66	TIE ON TO 3RD PARTY GYRO SURVEYS
1993.00	0.560	159.670	1992.93	-2861.07	9.60	-10.12	9.30	40°12'22.9570"N	104°32'30.1671"W	0.72	-176.62	-0.39	-53.93	FIRST BH MWD SURVEY
2087.00	0.070	11.160	2086.93	-2767.07	9.96	-10.50	9.47	40°12'22.9533"N	104°32'30.1650"W	0.66	-125.75	-0.52	-157.99	
2181.00	0.150	267.660	2180.93	-2673.07	9.92	-10.44	9.36	40°12'22.9538"N	104°32'30.1664"W	0.19	98.04	0.09	-110.11	
2276.00	0.220	323.240	2275.93	-2578.07	9.79	-10.30	9.13	40°12'22.9552"N	104°32'30.1694"W	0.19	169.47	0.07	58.51	
2370.00	0.060	90.630	2369.93	-2484.07	9.65	-10.16	9.07	40°12'22.9566"N	104°32'30.1702"W	0.28	170.53	-0.17	135.52	
2465.00	1.160	260.670	2464.92	-2389.08	9.85	-10.32	8.17	40°12'22.9552"N	104°32'30.1818"W	1.28	-14.94	1.16	178.99	
2559.00	3.350	250.850	2558.85	-2295.15	11.10	-11.37	4.63	40°12'22.9451"N	104°32'30.2275"W	2.36	-5.75	2.33	-10.45	
2653.00	5.430	248.640	2652.56	-2201.44	13.99	-13.89	-2.10	40°12'22.9209"N	104°32'30.3146"W	2.22	-14.48	2.21	-2.35	
2748.00	7.870	244.080	2746.92	-2107.08	19.01	-18.37	-12.14	40°12'22.8777"N	104°32'30.4446"W	2.63	-3.99	2.57	-4.80	
2842.00	11.030	242.930	2839.63	-2014.37	26.66	-25.28	-25.94	40°12'22.8110"N	104°32'30.6234"W	3.37	-41.83	3.36	-1.22	
2937.00	14.350	231.820	2932.31	-1921.69	39.01	-36.70	-43.29	40°12'22.7000"N	104°32'30.8487"W	4.32	-160.48	3.49	-11.69	
3031.00	13.280	230.160	3023.59	-1830.41	54.05	-50.82	-60.74	40°12'22.5624"N	104°32'31.0755"W	1.21	169.21	-1.14	-1.77	
3126.00	13.220	230.210	3116.06	-1737.94	68.89	-64.76	-77.46	40°12'22.4264"N	104°32'31.2930"W	0.06	-99.18	-0.06	0.05	
3220.00	13.070	224.200	3207.60	-1646.40	84.22	-79.26	-93.13	40°12'22.2848"N	104°32'31.4969"W	1.46	129.38	-0.16	-6.39	
3314.00	12.880	225.250	3299.20	-1554.80	100.01	-94.25	-107.99	40°12'22.1382"N	104°32'31.6904"W	0.32	-10.42	-0.20	1.12	
3409.00	12.990	225.160	3391.79	-1462.21	115.79	-109.24	-123.08	40°12'21.9917"N	104°32'31.8870"W	0.12	-33.70	0.12	-0.09	
3503.00	13.130	224.750	3483.36	-1370.64	131.62	-124.27	-138.08	40°12'21.8448"N	104°32'32.0825"W	0.18	82.36	0.15	-0.44	
3598.00	13.150	225.380	3575.87	-1278.13	147.68	-139.52	-153.37	40°12'21.6957"N	104°32'32.2816"W	0.15	96.11	0.02	0.66	
3692.00	13.100	227.980	3667.42	-1186.58	163.15	-154.16	-168.90	40°12'21.5527"N	104°32'32.4838"W	0.63	-102.99	-0.05	2.77	
3787.00	12.960	224.930	3759.97	-1094.03	178.72	-168.91	-184.42	40°12'21.4086"N	104°32'32.6858"W	0.74	4.98	-0.15	-3.21	
3881.00	13.090	224.980	3851.56	-1002.44	194.51	-183.90	-199.39	40°12'21.2621"N	104°32'32.8808"W	0.14	-68.17	0.14	0.05	
3975.00	13.190	223.910	3943.09	-910.91	210.56	-199.16	-214.35	40°12'21.1129"N	104°32'33.0758"W	0.28	108.41	0.11	-1.14	
4070.00	13.160	224.310	4035.59	-818.41	226.91	-214.71	-229.42	40°12'20.9609"N	104°32'33.2722"W	0.10	131.61	-0.03	0.42	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-779 AWB
Slot	SLOT#29 GUTTERSEN D34-779 (1015'FSL & 1440'FWL, 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
4164.00	13.070	224.760	4127.14	-726.86	242.91	-229.91	-244.38	40°12'20.8123"N	104°32'33.4671"W	0.14	137.24	-0.10	0.48	
4259.00	12.990	225.090	4219.70	-634.30	258.87	-245.07	-259.50	40°12'20.6640"N	104°32'33.6641"W	0.12	-17.17	-0.08	0.35	
4353.00	13.380	224.570	4311.22	-542.78	274.88	-260.28	-274.62	40°12'20.5154"N	104°32'33.8610"W	0.43	168.22	0.41	-0.55	
4448.00	13.270	224.670	4403.66	-450.34	291.28	-275.87	-290.00	40°12'20.3630"N	104°32'34.0614"W	0.12	-162.96	-0.12	0.11	
4542.00	13.100	224.440	4495.18	-358.82	307.36	-291.14	-305.04	40°12'20.2136"N	104°32'35.2574"W	0.19	173.11	-0.18	-0.24	
4637.00	12.970	224.510	4587.73	-266.27	323.45	-306.43	-320.05	40°12'20.0642"N	104°32'34.4530"W	0.14	0.00	-0.14	0.07	
4732.00	13.130	224.510	4680.28	-173.72	339.54	-321.73	-335.09	40°12'19.9146"N	104°32'34.6489"W	0.17	-55.68	0.17	0.00	
4826.00	13.180	224.190	4771.81	-82.19	355.63	-337.03	-350.04	40°12'19.7650"N	104°32'34.8438"W	0.09	157.06	0.05	-0.34	
4921.00	13.010	224.510	4864.34	10.34	371.82	-352.42	-365.09	40°12'19.6146"N	104°32'35.0398"W	0.19	-72.21	-0.18	0.34	
5015.00	13.040	224.100	4955.93	101.93	387.77	-367.58	-379.89	40°12'19.4663"N	104°32'35.2326"W	0.10	1.87	0.03	-0.44	
5110.00	13.180	224.120	5048.45	194.45	404.04	-383.05	-394.89	40°12'19.3150"N	104°32'35.4281"W	0.15	126.52	0.15	0.02	
5204.00	13.020	225.090	5140.00	286.00	420.00	-398.22	-409.85	40°12'19.1667"N	104°32'35.6230"W	0.29	44.01	-0.17	1.03	
5298.00	13.100	225.430	5231.57	377.57	435.75	-413.17	-424.93	40°12'19.0206"N	104°32'35.8195"W	0.12	97.56	0.09	0.36	
5393.00	13.090	225.770	5324.10	470.10	451.63	-428.23	-440.31	40°12'18.8734"N	104°32'36.0198"W	0.08	99.44	-0.01	0.36	
5488.00	13.030	227.530	5416.64	562.64	467.19	-442.97	-455.92	40°12'18.7295"N	104°32'36.2230"W	0.42	133.50	-0.06	1.85	
5582.00	12.590	229.700	5508.31	654.31	481.81	-456.75	-471.55	40°12'18.5950"N	104°32'36.4263"W	0.69	-45.57	-0.47	2.31	
5677.00	13.040	227.700	5600.94	746.94	496.56	-470.66	-487.37	40°12'18.4592"N	104°32'36.6322"W	0.67	134.68	0.47	-2.11	
5771.00	11.900	233.600	5692.72	838.72	510.28	-483.55	-503.02	40°12'18.3335"N	104°32'36.8356"W	1.82	8.18	-1.21	6.28	
5866.00	13.240	234.440	5785.45	931.45	523.32	-495.69	-519.75	40°12'18.2154"N	104°32'37.0530"W	1.42	-110.18	1.41	0.88	
5961.00	12.710	226.350	5878.03	1024.03	537.73	-509.23	-536.17	40°12'18.0833"N	104°32'37.2664"W	1.99	-96.14	-0.56	-8.52	
6055.00	12.640	218.580	5969.74	1115.74	553.65	-524.41	-550.06	40°12'17.9348"N	104°32'37.4476"W	1.81	-1.66	-0.07	-8.27	
6150.00	12.870	218.550	6062.40	1208.40	570.74	-540.81	-563.14	40°12'17.7741"N	104°32'37.6184"W	0.24	62.66	0.24	-0.03	
6244.00	13.010	219.730	6154.01	1300.01	587.76	-557.13	-576.43	40°12'17.6142"N	104°32'37.7919"W	0.32	116.57	0.15	1.26	
6339.00	12.740	222.290	6246.62	1392.62	604.47	-573.10	-590.31	40°12'17.4579"N	104°32'37.9730"W	0.66	-70.98	-0.28	2.69	
6433.00	12.770	221.900	6338.30	1484.30	620.61	-588.50	-604.22	40°12'17.3072"N	104°32'38.1545"W	0.10	-36.16	0.03	-0.41	
6527.00	15.380	214.990	6429.48	1575.48	639.30	-606.45	-618.31	40°12'17.1313"N	104°32'38.3385"W	3.30	-39.85	2.78	-7.35	
6622.00	22.530	200.730	6519.32	1665.32	667.40	-633.85	-632.00	40°12'16.8621"N	104°32'38.5188"W	8.92	-9.38	7.53	-15.01	
6717.00	31.270	197.970	6603.96	1749.96	708.66	-674.40	-646.08	40°12'16.4629"N	104°32'38.7058"W	9.29	-10.25	9.20	-2.91	
6811.00	39.440	195.660	6680.56	1826.56	761.48	-726.45	-661.69	40°12'15.9502"N	104°32'38.9143"W	8.81	-15.23	8.69	-2.46	
6906.00	46.590	193.000	6749.99	1895.99	825.02	-789.21	-677.62	40°12'15.3317"N	104°32'39.1283"W	7.76	-17.77	7.53	-2.80	
7000.00	55.060	189.720	6809.32	1955.32	897.08	-860.60	-691.84	40°12'14.6279"N	104°32'39.3214"W	9.41	-7.38	9.01	-3.49	
7095.00	64.370	188.390	6857.18	2003.18	978.59	-941.53	-704.69	40°12'13.8296"N	104°32'39.4982"W	9.87	-14.09	9.80	-1.40	
7190.00	72.750	186.200	6891.88	2037.88	1066.70	-1029.16	-715.86	40°12'12.9648"N	104°32'39.6544"W	9.08	-2.65	8.82	-2.31	
7284.00	82.650	185.740	6911.88	2057.88	1158.31	-1120.39	-725.39	40°12'12.0644"N	104°32'39.7899"W	10.54	-4.68	10.53	-0.49	
7379.00	90.370	185.110	6917.65	2063.65	1252.99	-1214.72	-734.35	40°12'11.1332"N	104°32'39.9184"W	8.15	-101.68	8.13	-0.66	
7474.00	90.000	183.320	6917.35	2063.35	1347.97	-1309.45	-741.33	40°12'10.1978"N	104°32'40.0215"W	1.92	150.95	-0.39	-1.88	
7568.00	89.910	183.370	6917.42	2063.42	1441.96	-1403.29	-746.81	40°12'9.2711"N	104°32'40.1053"W	0.11	-62.57	-0.10	0.05	
7663.00	90.590	182.060	6917.01	2063.01	1536.96	-1498.18	-751.31	40°12'8.3340"N	104°32'40.1764"W	1.55	-108.13	0.72	-1.38	
7757.00	90.220	180.930	6916.34	2062.34	1630.92	-1592.15	-753.77	40°12'7.4057"N	104°32'40.2211"W	1.26	88.94	-0.39	-1.20	
7946.00	90.250	182.560	6915.57	2061.57	1819.85	-1781.05	-759.52	40°12'5.5397"N	104°32'40.3215"W	0.86	-87.24	0.02	0.86	
8041.00	90.490	177.560	6914.95	2060.95	1914.69	-1876.02	-759.62	40°12'4.6013"N	104°32'40.3359"W	5.27	-119.79	0.25	-5.26	
8135.00	89.780	176.320	6914.73	2060.73	2008.13	-1969.88	-754.60	40°12'3.6733"N	104°32'40.2843"W	1.52	-4.37	-0.76	-1.32	
8230.00	91.480	176.190	6913.69	2059.69	2102.44	-2064.67	-748.40	40°12'2.7360"N	104°32'40.2175"W	1.79	-177.24	1.79	-0.14	
8324.00	88.580	176.050	6913.64	2059.64	2195.73	-2158.45	-742.04	40°12'1.8087"N	104°32'40.1486"W	3.09	8.43	-3.09	-0.15	
8419.00	92.560	176.640	6912.69	2058.69	2290.04	-2253.23	-735.98	40°12'0.8714"N	104°32'40.0837"W	4.24	175.68	4.19	0.62	

REFERENCE WELLPATH IDENTIFICATION				
Operator	NOBLE ENERGY, INC		Well	GUTTERSEN D34-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)		API/Legal	
Facility	SEC.22-T03N-R64W		Wellbore	GUTTERSEN D34-779 AWB
Slot	SLOT#29 GUTTERSEN D34-779 (1015'FSL & 1440'FWL, 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
8513.00	89.780	176.850	6910.77	2056.77	2383.43	-2347.05	-730.65	40°11'59.9438"N	104°32'40.0280"W	2.97	-78.23	-2.96	0.22	
8607.00	89.880	176.370	6911.05	2057.05	2476.82	-2440.88	-725.09	40°11'59.0160"N	104°32'39.9694"W	0.52	-82.52	0.11	-0.51	
8701.00	90.090	174.770	6911.08	2057.08	2570.00	-2534.60	-717.83	40°11'58.0892"N	104°32'39.8888"W	1.72	95.16	0.22	-1.70	
8796.00	89.970	176.100	6911.03	2057.03	2664.14	-2629.30	-710.27	40°11'57.1526"N	104°32'39.8046"W	1.41	150.60	-0.13	1.40	
8890.00	88.710	176.810	6912.11	2058.11	2757.50	-2723.11	-704.46	40°11'56.2250"N	104°32'39.7427"W	1.54	-27.73	-1.34	0.76	
8985.00	90.860	175.680	6912.47	2058.47	2851.81	-2817.90	-698.23	40°11'55.2877"N	104°32'39.6757"W	2.56	-127.91	2.26	-1.19	
9079.00	89.450	173.870	6912.21	2058.21	2944.80	-2911.50	-689.67	40°11'54.3619"N	104°32'39.5784"W	2.44	77.64	-1.50	-1.93	
9174.00	90.180	177.200	6912.52	2058.52	3038.95	-3006.20	-682.28	40°11'53.4253"N	104°32'39.4963"W	3.59	107.19	0.77	3.51	
9268.00	89.750	178.590	6912.58	2058.58	3132.56	-3100.13	-678.83	40°11'52.4968"N	104°32'39.4648"W	1.55	97.88	-0.46	1.48	
9363.00	89.450	180.760	6913.24	2059.24	3227.38	-3195.12	-678.29	40°11'51.5581"N	104°32'39.4711"W	2.31	-55.71	-0.32	2.28	
9457.00	89.750	180.320	6913.90	2059.90	3321.28	-3289.11	-679.17	40°11'50.6294"N	104°32'39.4955"W	0.57	-102.54	0.32	-0.47	
9552.00	89.230	177.980	6914.74	2060.74	3416.04	-3384.09	-677.77	40°11'49.6907"N	104°32'39.4906"W	2.52	82.74	-0.55	-2.46	
9647.00	89.420	179.470	6915.86	2061.86	3510.75	-3479.06	-675.65	40°11'48.7521"N	104°32'39.4765"W	1.58	-49.95	0.20	1.57	
9741.00	90.740	177.900	6915.73	2061.73	3604.46	-3573.03	-673.50	40°11'47.8233"N	104°32'39.4618"W	2.18	76.31	1.40	-1.67	
9835.00	91.110	179.420	6914.21	2060.21	3698.16	-3666.99	-671.30	40°11'46.8946"N	104°32'39.4465"W	1.66	100.69	0.39	1.62	
9930.00	90.800	181.060	6912.63	2058.63	3793.03	-3761.97	-671.70	40°11'45.9561"N	104°32'39.4648"W	1.76	-74.08	-0.33	1.73	
10025.00	91.940	177.050	6910.36	2056.36	3887.74	-3856.91	-670.13	40°11'45.0178"N	104°32'39.4578"W	4.39	144.14	1.20	-4.22	
10119.00	87.540	180.230	6910.78	2056.78	3981.41	-3950.85	-667.90	40°11'44.0893"N	104°32'39.4421"W	5.77	18.12	-4.68	3.38	
10214.00	92.310	181.790	6910.91	2056.91	4076.32	-4045.80	-669.57	40°11'43.1512"N	104°32'39.4769"W	5.28	-138.68	5.02	1.64	
10308.00	90.580	180.270	6908.54	2054.54	4170.22	-4139.75	-671.26	40°11'42.2230"N	104°32'39.5117"W	2.45	110.56	-1.84	-1.62	
10403.00	90.400	180.750	6907.72	2053.72	4265.12	-4234.74	-672.11	40°11'41.2845"N	104°32'39.5358"W	0.54	-44.74	-0.19	0.51	
10498.00	91.570	179.590	6906.09	2052.09	4359.97	-4329.73	-672.39	40°11'40.3459"N	104°32'39.5526"W	1.73	148.34	1.23	-1.22	
10592.00	90.370	180.330	6904.50	2050.50	4453.81	-4423.71	-672.32	40°11'39.4172"N	104°32'39.5648"W	1.50	61.00	-1.28	0.79	
10686.00	90.830	181.160	6903.52	2049.52	4547.72	-4517.70	-673.55	40°11'38.4887"N	104°32'39.5936"W	1.01	-111.80	0.49	0.88	
10781.00	90.710	180.860	6902.24	2048.24	4642.65	-4612.67	-675.22	40°11'37.5503"N	104°32'39.6284"W	0.34	-124.18	-0.13	-0.32	
10875.00	89.630	179.270	6901.96	2047.96	4736.51	-4706.67	-675.33	40°11'36.6215"N	104°32'39.6428"W	2.04	35.50	-1.15	-1.69	
10970.00	91.690	180.740	6900.87	2046.87	4831.36	-4801.65	-675.34	40°11'35.6829"N	104°32'39.6561"W	2.66	123.28	2.17	1.55	
11064.00	91.480	181.060	6898.27	2044.27	4925.25	-4895.60	-676.81	40°11'34.7547"N	104°32'39.6882"W	0.41	-133.35	-0.22	0.34	
11253.00	90.120	179.620	6895.63	2041.63	5114.00	-5084.57	-677.93	40°11'32.8876"N	104°32'39.7289"W	1.05	-7.68	-0.72	-0.76	
11347.00	91.750	179.400	6894.09	2040.09	5207.79	-5178.55	-677.13	40°11'31.9588"N	104°32'39.7316"W	1.75	127.80	1.73	-0.23	
11442.00	90.120	181.500	6892.54	2038.54	5302.67	-5273.53	-677.87	40°11'31.0204"N	104°32'39.7544"W	2.80	-82.98	-1.72	2.21	
11537.00	90.280	180.200	6892.21	2038.21	5397.59	-5368.52	-679.28	40°11'30.0819"N	104°32'39.7857"W	1.38	-0.53	0.17	-1.37	
11726.00	92.460	180.180	6887.69	2033.69	5586.28	-5557.45	-679.91	40°11'28.2151"N	104°32'39.8200"W	1.15	-177.64	1.15	-0.01	
11820.00	90.280	180.090	6885.45	2031.45	5680.12	-5651.42	-680.13	40°11'27.2866"N	104°32'39.8359"W	2.32	-12.26	-2.32	-0.10	
11915.00	90.740	179.990	6884.60	2030.60	5774.97	-5746.41	-680.20	40°11'26.3479"N	104°32'39.8500"W	0.50	90.00	0.48	-0.11	
12010.00	90.740	180.690	6883.37	2029.37	5869.85	-5841.40	-680.76	40°11'25.4093"N	104°32'39.8704"W	0.74	-74.70	0.00	0.74	
12105.00	91.450	178.090	6881.56	2027.56	5964.63	-5936.37	-679.75	40°11'24.4708"N	104°32'39.8706"W	2.84	117.84	0.75	-2.74	
12199.00	90.520	179.850	6879.94	2025.94	6058.36	-6030.34	-678.06	40°11'23.5421"N	104°32'39.8619"W	2.12	-95.31	-0.99	1.87	
12293.00	90.400	178.560	6879.19	2025.19	6152.13	-6124.32	-676.76	40°11'22.6132"N	104°32'39.8581"W	1.38	-75.17	-0.13	-1.37	
12388.00	90.490	178.220	6878.45	2024.45	6246.81	-6219.28	-674.09	40°11'21.6746"N	104°32'39.8369"W	0.37	122.28	0.09	-0.36	
12482.00	90.250	178.600	6877.84	2023.84	6340.49	-6313.25	-671.48	40°11'20.7459"N	104°32'39.8163"W	0.48	-132.36	-0.26	0.40	
12577.00	89.940	178.260	6877.68	2023.68	6435.17	-6408.21	-668.88	40°11'19.8072"N	104°32'39.7960"W	0.48	23.92	-0.33	-0.36	
12671.00	91.450	178.930	6876.54	2022.54	6528.86	-6502.17	-666.57	40°11'18.8785"N	104°32'39.7793"W	1.76	-163.61	1.61	0.71	
12765.00	90.430	178.630	6875.00	2021.00	6622.58	-6596.14	-664.57	40°11'17.9498"N	104°32'39.7666"W	1.13	37.94	-1.09	-0.32	
12860.00	91.020	179.090	6873.80	2019.80	6717.30	-6691.11	-662.68	40°11'17.0111"N	104°32'39.7554"W	0.79	109.58	0.62	0.48	

### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-779 AWP
Slot	SLOT#29 GUTTERSEN D34-779 (1015'FSL & 1440'FWL, 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
12954.00	90.650	180.130	6872.43	2018.43	6811.12	-6785.10	-662.04	40°11'16.0823"N	104°32'39.7603"W	1.17	-104.80	-0.39	1.11	
13048.00	90.280	178.730	6871.67	2017.67	6904.91	-6879.08	-661.11	40°11'15.1535"N	104°32'39.7613"W	1.54	147.26	-0.39	-1.49	
13143.00	90.000	178.910	6871.44	2017.44	6999.65	-6974.06	-659.15	40°11'14.2147"N	104°32'39.7492"W	0.35	-60.40	-0.29	0.19	
13237.00	90.710	177.660	6870.85	2016.85	7093.31	-7068.02	-656.34	40°11'13.2860"N	104°32'39.7260"W	1.53	91.47	0.76	-1.33	
13332.00	90.680	178.820	6869.70	2015.70	7187.95	-7162.96	-653.42	40°11'12.3475"N	104°32'39.7016"W	1.22	108.89	-0.03	1.22	
13426.00	90.550	179.200	6868.69	2014.69	7281.70	-7256.94	-651.80	40°11'11.4187"N	104°32'39.6938"W	0.43	-97.95	-0.14	0.40	
13521.00	90.030	175.480	6868.21	2014.21	7376.20	-7351.82	-647.39	40°11'10.4807"N	104°32'39.6501"W	3.95	77.40	-0.55	-3.92	
13615.00	90.220	176.330	6868.01	2014.01	7469.45	-7445.58	-640.68	40°11'9.5535"N	104°32'39.5767"W	0.93	89.99	0.20	0.90	
13710.00	90.220	179.880	6867.64	2013.64	7564.07	-7540.52	-637.53	40°11'8.6151"N	104°32'39.5494"W	3.74	93.99	0.00	3.74	
13804.00	89.910	184.320	6867.53	2013.53	7658.03	-7634.43	-640.98	40°11'7.6874"N	104°32'39.6068"W	4.73	22.83	-0.33	4.72	
13898.00	90.860	184.720	6866.90	2012.90	7752.00	-7728.13	-648.39	40°11'6.7623"N	104°32'39.7153"W	1.10	-107.44	1.01	0.43	
13992.00	89.420	180.140	6866.67	2012.67	7845.97	-7822.02	-652.37	40°11'5.8350"N	104°32'39.7796"W	5.11	-88.81	-1.53	-4.87	
14087.00	89.480	177.280	6867.58	2013.58	7940.67	-7916.98	-650.23	40°11'4.8964"N	104°32'39.7653"W	3.01	80.44	0.06	-3.01	
14182.00	89.630	178.170	6868.32	2014.32	8035.25	-8011.90	-646.46	40°11'3.9580"N	104°32'39.7298"W	0.95	-99.85	0.16	0.94	
14276.00	89.290	176.210	6869.21	2015.21	8128.73	-8105.78	-641.85	40°11'3.0299"N	104°32'39.6835"W	2.12	74.38	-0.36	-2.09	
14371.00	89.690	177.640	6870.05	2016.05	8223.17	-8200.64	-636.76	40°11'2.0920"N	104°32'39.6310"W	1.56	41.82	0.42	1.51	
14465.00	89.880	177.810	6870.41	2016.41	8316.75	-8294.56	-633.03	40°11'1.1635"N	104°32'39.5960"W	0.27	-78.23	0.20	0.18	
14560.00	90.030	177.090	6870.48	2016.48	8411.28	-8389.47	-628.80	40°11'0.2253"N	104°32'39.5547"W	0.77	-104.04	0.16	-0.76	
14654.00	89.970	176.850	6870.48	2016.48	8504.74	-8483.34	-623.83	40°10'59.2972"N	104°32'39.5038"W	0.26	-143.13	-0.06	-0.26	
14749.00	89.850	176.760	6870.63	2016.63	8599.16	-8578.19	-618.54	40°10'58.3593"N	104°32'39.4487"W	0.16	87.06	-0.13	-0.09	
14843.00	89.940	178.510	6870.80	2016.80	8692.73	-8672.11	-614.66	40°10'57.4309"N	104°32'39.4118"W	1.86	101.51	0.10	1.86	
14938.00	89.600	180.180	6871.18	2017.18	8787.52	-8767.10	-613.57	40°10'56.4922"N	104°32'39.4110"W	1.79	-93.33	-0.36	1.76	
15032.00	89.480	178.110	6871.94	2017.94	8881.28	-8861.08	-612.17	40°10'55.5633"N	104°32'39.4060"W	2.21	72.35	-0.13	-2.20	
15127.00	89.690	178.770	6872.63	2018.63	8975.96	-8956.04	-609.58	40°10'54.6247"N	104°32'39.3858"W	0.73	71.57	0.22	0.69	
15221.00	90.030	179.790	6872.86	2018.86	9069.75	-9050.03	-608.40	40°10'53.6958"N	104°32'39.3837"W	1.14	21.16	0.36	1.09	
15316.00	90.340	179.910	6872.55	2018.55	9164.59	-9145.03	-608.15	40°10'52.7571"N	104°32'39.3936"W	0.35	-114.37	0.33	0.13	
15410.00	89.570	178.210	6872.62	2018.62	9258.35	-9239.01	-606.61	40°10'51.8282"N	104°32'39.3868"W	1.99	76.61	-0.82	-1.81	
15505.00	89.820	179.260	6873.13	2019.13	9353.07	-9333.99	-604.51	40°10'50.8895"N	104°32'39.3730"W	1.14	-86.10	0.26	1.11	
15694.00	89.970	177.060	6873.48	2019.48	9541.34	-9522.88	-598.44	40°10'49.0223"N	104°32'39.3211"W	1.17	96.58	0.08	-1.16	
15788.00	89.820	178.360	6873.65	2019.65	9634.92	-9616.80	-594.69	40°10'48.0939"N	104°32'39.2857"W	1.39	90.00	-0.16	1.38	
15882.00	89.820	178.430	6873.94	2019.94	9728.60	-9710.76	-592.06	40°10'47.1651"N	104°32'39.2648"W	0.07	91.49	0.00	0.07	
15977.00	89.780	179.970	6874.28	2020.28	9823.37	-9805.75	-590.73	40°10'46.2263"N	104°32'39.2609"W	1.62	-90.00	-0.04	1.62	
16071.00	89.780	179.740	6874.64	2020.64	9917.22	-9899.75	-590.49	40°10'45.2975"N	104°32'39.2709"W	0.24	79.70	0.00	-0.24	
16166.00	89.880	180.290	6874.92	2020.92	10012.08	-9994.75	-590.52	40°10'44.3587"N	104°32'39.2844"W	0.59	-50.41	0.11	0.58	
16260.00	91.360	178.500	6873.90	2019.90	10105.87	-10088.73	-589.52	40°10'43.4299"N	104°32'39.2847"W	2.47	123.56	1.57	-1.90	
16449.00	89.780	180.880	6872.02	2018.02	10294.50	-10277.70	-588.50	40°10'41.5626"N	104°32'39.2978"W	1.51	22.75	-0.84	1.26	
16544.00	90.090	181.010	6872.13	2018.13	10389.43	-10372.68	-590.07	40°10'40.6241"N	104°32'39.3312"W	0.35	154.06	0.33	0.14	
16638.00	89.720	181.190	6872.28	2018.28	10483.37	-10466.67	-591.87	40°10'39.6956"N	104°32'39.3675"W	0.44	-26.92	-0.39	0.19	
16733.00	91.020	180.530	6871.67	2017.67	10578.29	-10561.65	-593.30	40°10'38.7572"N	104°32'39.3990"W	1.53	136.53	1.37	-0.69	
16828.00	90.250	181.260	6870.62	2016.62	10673.21	-10656.63	-594.78	40°10'37.8188"N	104°32'39.4313"W	1.12	-119.05	-0.81	0.77	
16922.00	90.000	180.810	6870.41	2016.41	10767.15	-10750.62	-596.48	40°10'36.8903"N	104°32'39.4662"W	0.55	-84.64	-0.27	-0.48	
17017.00	90.120	179.530	6870.31	2016.31	10862.02	-10845.61	-596.76	40°10'35.9516"N	104°32'39.4831"W	1.35	-18.43	0.13	-1.35	
17111.00	90.180	179.510	6870.07	2016.07	10955.83	-10939.61	-595.98	40°10'35.0227"N	104°32'39.4860"W	0.07	80.15	0.06	-0.02	
17206.00	90.430	180.950	6869.56	2015.56	11050.71	-11034.61	-596.36	40°10'34.0841"N	104°32'39.5041"W	1.54	-74.71	0.26	1.52	
17300.00	91.050	178.680	6868.35	2014.35	11144.54	-11128.59	-596.05	40°10'33.1553"N	104°32'39.5132"W	2.50	173.83	0.66	-2.41	

### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-779 AWB
Slot	SLOT#29 GUTTERSEN D34-779 (1015'FSL & 1440'FWL, 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
17395.00	90.310	178.760	6867.22	2013.22	11239.25	-11223.56	-593.93	40°10'32.2167"N	104°32'39.4991"W	0.78	83.66	-0.78	0.08	
17489.00	90.400	179.570	6866.64	2012.64	11333.02	-11317.55	-592.56	40°10'31.2878"N	104°32'39.4945"W	0.87	0.00	0.10	0.86	LAST BH MWD SURVEY
17551.00‡	90.400	179.570	6866.20	2012.20	11394.90	-11379.54	-592.10	40°10'30.6751"N	104°32'39.4971"W	0.00		0.00	0.00	EXTRAPOLATED TO TD

### HOLE & CASING SECTIONS - Ref Wellbore: GUTTERSEN D34-779 AWB Ref Wellpath: GUTTERSEN D34-779 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	1955.00	1925.00	30.00	1954.93	-0.02	0.02	-9.71	9.24
9.625in Casing Surface	30.00	1955.00	1925.00	30.00	1954.93	-0.02	0.02	-9.71	9.24
8.5in Open Hole	1955.00	17551.00	15596.00	1954.93	6866.20	-9.71	9.24	-11379.54	-592.10

### TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.22-T03N-R64W	0.00	-149.95	115.03	3267755.60	1319331.88	40°12'21.5640"N	104°32'28.8240"W	polygon
	2D Polygon: dimensions not calculated							
SEC.27-T03N-R64W	0.00	-1032.27	-1441.36	3266199.27	1318449.60	40°12'13.0113"N	104°32'49.0046"W	polygon
	2D Polygon: dimensions not calculated							
SEC.34-T03N-R64W	0.00	-6309.15	-1407.33	3266233.30	1313172.95	40°11'20.8645"N	104°32'49.2969"W	polygon
	2D Polygon: dimensions not calculated							
GUTTERSEN D34-779 BHL REV-1 (200'FSL & 710'FWL, SEC.34)	6870.00	-11380.39	-622.09	3267018.51	1308101.94	40°10'30.6700"N	104°32'39.8836"W	point
GUTTERSEN D34-779 T2 REV-1	6872.00	-6774.65	-654.90	3266985.70	1312707.48	40°11'16.1848"N	104°32'39.6668"W	point
GUTTERSEN D34-779 T1 REV-1	6919.00	-3331.12	-680.56	3266960.04	1316150.85	40°11'50.2145"N	104°32'39.5192"W	point
GUTTERSEN D34-779 TPZ REV-1 (200'FNL & 710'FWL, SEC.27)	6919.00	-1223.84	-730.09	3266910.51	1318258.04	40°12'11.0426"N	104°32'39.8648"W	point

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-779 AWB
Slot	SLOT#29 GUTTERSEN D34-779 (1015'FSL & 1440'FWL, SEC.22)		

WELLPATH COMPOSITION - Ref Wellbore: GUTTERSEN D34-779 AWB      Ref Wellpath: GUTTERSEN D34-779 AWP					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
0.00	1947.00	Gyrodatta 2015 - GC+DROP+COND	13.5" GYRODATA 2015 (GC+DROP+COND) <0' - 1947'>	GUTTERSEN D34-779 AWB	3/11/2020
1947.00	17551.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	8.5" OWSG MWD REV.2 (IFR1+MSA) <1993' - 17489'>	GUTTERSEN D34-779 AWB	3/11/2020

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-779
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-779 AWB
Slot	SLOT#29 GUTTERSEN D34-779 (1015'FSL & 1440'FWL, SEC.22)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
81.00	0.270	130.810	81.00	FIRST 3RD PARTY GYRO SURVEY
1947.00	0.740	184.480	1946.93	TIE ON TO 3RD PARTY GYRO SURVEYS
1993.00	0.560	159.670	1992.93	FIRST BH MWD SURVEY
17489.00	90.400	179.570	6866.64	LAST BH MWD SURVEY
17551.00	90.400	179.570	6866.20	EXTRAPOLATED TO TD