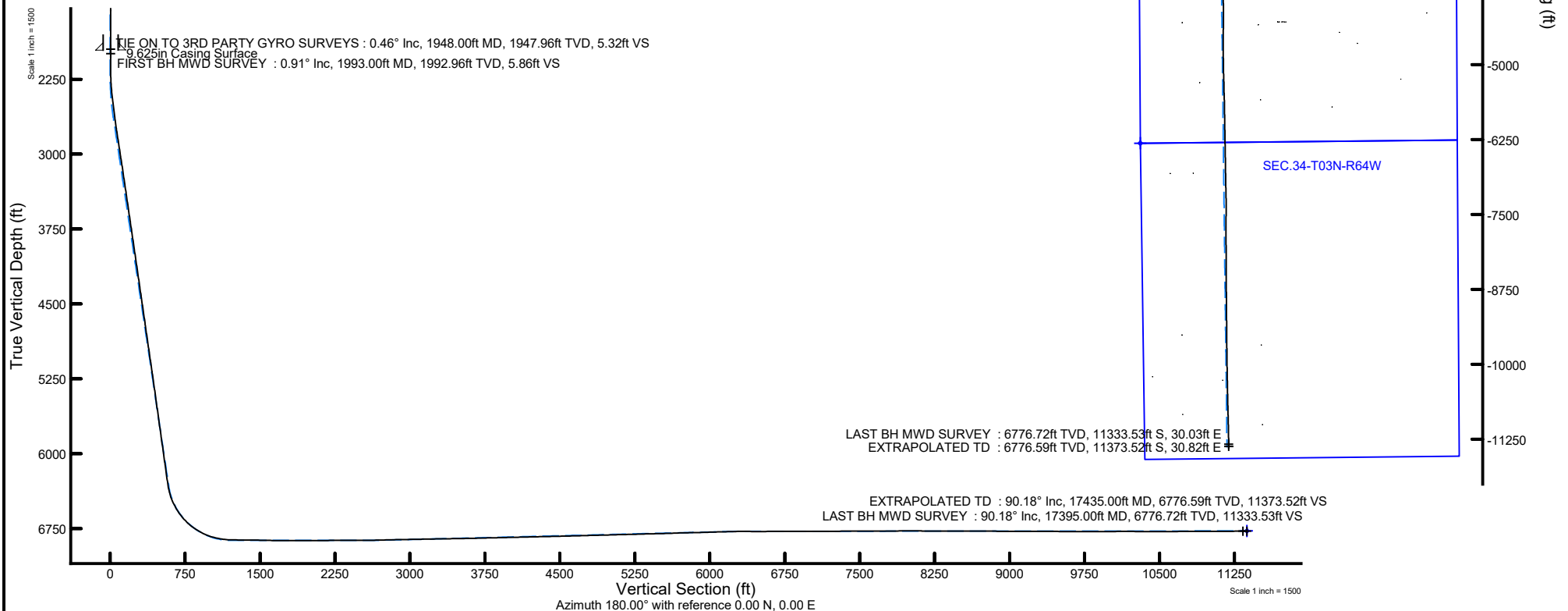


NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#30 GUTTERSEN D34-769 (1015'FSL & 1478'FWL, SEC.22)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: GUTTERSEN D34-769
Facility: SEC.22-T03N-R64W Wellbore: GUTTERSEN D34-769 AWB

Plot reference wellpath is GUTTERSEN D34-769 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#30 GUTTERSEN D34-769 (1015'FSL & 1478'FWL, SEC.22)): 0 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: manajohj on 2020-03-23; Database: WA_NOBLE



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-769
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-769 AWB
Slot	SLOT#30 GUTTERSEN D34-769 (1015'FSL & 1478'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	3/17/2020 at 9:21:27 AM
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	150.36	-77.33	3267678.27	1319482.23	40°12'23.0580"N	104°32'29.7996"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#30 GUTTERSEN D34-769 (1015'FSL & 1478'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	180.00°

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-769
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-769 AWP
Slot	SLOT#30 GUTTERSEN D34-769 (1015'FSL & 1478'FWL, SEC.22)		

WELLPATH DATA (184 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
0.00	0.000	146.200	0.00	-4854.00	0.00	0.00	0.00	40°12'23.0580"N	104°32'29.7996"W	0.00	0.00	0.00	0.00	
81.00	0.380	146.200	81.00	-4773.00	0.22	-0.22	0.15	40°12'23.0558"N	104°32'29.7977"W	0.47	-153.89	0.47	0.00	FIRST 3RD PARTY GYRO SURVEY
175.00	0.300	138.430	175.00	-4679.00	0.67	-0.67	0.49	40°12'23.0514"N	104°32'29.7934"W	0.10	151.64	-0.09	-8.27	
267.00	0.300	261.700	267.00	-4587.00	0.88	-0.88	0.41	40°12'23.0492"N	104°32'29.7945"W	0.57	169.38	0.00	133.99	
361.00	0.220	56.530	361.00	-4493.00	0.82	-0.82	0.31	40°12'23.0499"N	104°32'29.7957"W	0.54	-125.87	-0.09	164.71	
456.00	0.480	312.460	456.00	-4398.00	0.45	-0.45	0.17	40°12'23.0536"N	104°32'29.7974"W	0.60	170.54	0.27	-109.55	
550.00	0.080	23.520	549.99	-4304.01	0.12	-0.12	-0.09	40°12'23.0568"N	104°32'29.8008"W	0.49	-175.76	-0.43	75.60	
645.00	0.060	213.430	644.99	-4209.01	0.10	-0.10	-0.09	40°12'23.0570"N	104°32'29.8008"W	0.15	-167.71	-0.02	-179.04	
739.00	0.100	53.060	738.99	-4115.01	0.09	-0.09	-0.05	40°12'23.0571"N	104°32'29.8003"W	0.17	132.50	0.04	-170.61	
834.00	0.150	156.120	833.99	-4020.01	0.16	-0.16	0.06	40°12'23.0564"N	104°32'29.7988"W	0.21	82.67	0.05	108.48	
928.00	0.340	212.840	927.99	-3926.01	0.51	-0.51	-0.04	40°12'23.0530"N	104°32'29.8002"W	0.30	-166.05	0.20	60.34	
1023.00	0.190	201.230	1022.99	-3831.01	0.89	-0.89	-0.25	40°12'23.0492"N	104°32'29.8029"W	0.17	-114.56	-0.16	-12.22	
1117.00	0.200	146.440	1116.99	-3737.01	1.17	-1.17	-0.21	40°12'23.0465"N	104°32'29.8025"W	0.19	103.25	0.01	-58.29	
1212.00	0.350	215.900	1211.99	-3642.01	1.54	-1.54	-0.29	40°12'23.0428"N	104°32'29.8036"W	0.35	-35.17	0.16	73.12	
1306.00	0.730	196.760	1305.99	-3548.01	2.35	-2.35	-0.63	40°12'23.0348"N	104°32'29.8081"W	0.44	149.90	0.40	-20.36	
1401.00	0.660	200.350	1400.98	-3453.02	3.44	-3.44	-1.00	40°12'23.0241"N	104°32'29.8129"W	0.09	122.01	-0.07	3.78	
1495.00	0.620	206.870	1494.97	-3359.03	4.40	-4.40	-1.42	40°12'23.0146"N	104°32'29.8185"W	0.09	153.31	-0.04	6.94	
1590.00	0.450	218.410	1589.97	-3264.03	5.15	-5.15	-1.88	40°12'23.0073"N	104°32'29.8246"W	0.21	104.50	-0.18	12.15	
1684.00	0.450	247.400	1683.97	-3170.03	5.59	-5.59	-2.45	40°12'23.0031"N	104°32'29.8320"W	0.24	120.38	0.00	30.84	
1779.00	0.530	320.690	1778.96	-3075.04	5.39	-5.39	-3.07	40°12'23.0051"N	104°32'29.8400"W	0.62	-148.90	0.08	77.15	
1873.00	0.280	273.910	1872.96	-2981.04	5.04	-5.04	-3.58	40°12'23.0086"N	104°32'29.8464"W	0.42	-120.64	-0.27	-49.77	
1948.00	0.460	184.850	1947.96	-2906.04	5.32	-5.32	-3.79	40°12'23.0058"N	104°32'29.8491"W	0.71	0.20	0.24	-118.75	TIE ON TO 3RD PARTY GYRO SURVEYS
1993.00	0.910	184.950	1992.96	-2861.04	5.86	-5.86	-3.83	40°12'23.0005"N	104°32'29.8498"W	1.00	176.52	1.00	0.22	FIRST BH MWD SURVEY
2087.00	0.100	327.980	2086.95	-2767.05	6.53	-6.53	-3.94	40°12'22.9938"N	104°32'29.8513"W	1.06	129.22	-0.86	152.16	
2181.00	0.100	46.420	2180.95	-2673.05	6.41	-6.41	-3.92	40°12'22.9951"N	104°32'29.8511"W	0.13	142.18	0.00	83.45	
2276.00	2.960	187.410	2275.91	-2578.09	8.78	-8.78	-4.18	40°12'22.9716"N	104°32'29.8547"W	3.20	-0.58	3.01	148.41	
2370.00	5.900	187.120	2369.62	-2484.38	15.99	-15.99	-5.09	40°12'22.9006"N	104°32'29.8675"W	3.13	1.16	3.13	-0.31	
2465.00	6.840	187.280	2464.03	-2389.97	26.44	-26.44	-6.41	40°12'22.7974"N	104°32'29.8860"W	0.99	-154.25	0.99	0.17	
2559.00	6.750	186.910	2557.37	-2296.63	37.48	-37.48	-7.79	40°12'22.6885"N	104°32'29.9052"W	0.11	4.04	-0.10	-0.39	
2653.00	7.550	187.340	2650.64	-2203.36	49.09	-49.09	-9.24	40°12'22.5739"N	104°32'29.9256"W	0.85	-13.74	0.85	0.46	
2748.00	8.800	185.350	2744.67	-2109.33	62.51	-62.51	-10.72	40°12'22.4414"N	104°32'29.9464"W	1.35	136.45	1.32	-2.09	
2842.00	8.730	185.790	2837.58	-2016.42	76.77	-76.77	-12.11	40°12'22.3007"N	104°32'29.9663"W	0.10	43.28	-0.07	0.47	
2937.00	8.810	186.280	2931.47	-1922.53	91.17	-91.18	-13.63	40°12'22.1585"N	104°32'29.9880"W	0.12	101.70	0.08	0.52	
3031.00	8.800	186.600	3024.36	-1829.64	105.47	-105.47	-15.24	40°12'22.0174"N	104°32'30.0108"W	0.05	162.13	-0.01	0.34	
3126.00	8.660	186.900	3118.26	-1735.74	119.79	-119.79	-16.94	40°12'21.8761"N	104°32'30.0346"W	0.15	94.12	-0.15	0.32	
3220.00	8.640	189.660	3211.19	-1642.81	133.78	-133.78	-18.97	40°12'21.7381"N	104°32'30.0628"W	0.44	147.27	-0.02	2.94	
3315.00	8.480	190.360	3305.13	-1548.87	147.70	-147.70	-21.43	40°12'21.6008"N	104°32'30.0964"W	0.20	-116.09	-0.17	0.74	
3409.00	8.450	189.940	3398.11	-1455.89	161.32	-161.32	-23.87	40°12'21.4664"N	104°32'30.1297"W	0.07	-133.02	-0.03	-0.45	
3503.00	8.420	189.720	3491.09	-1362.91	174.91	-174.91	-26.22	40°12'21.3324"N	104°32'30.1619"W	0.05	100.33	-0.03	-0.23	
3598.00	8.400	190.500	3585.07	-1268.93	188.59	-188.59	-28.66	40°12'21.1975"N	104°32'30.1953"W	0.12	97.65	-0.02	0.82	
3692.00	8.380	191.600	3678.06	-1175.94	202.05	-202.05	-31.29	40°12'21.0648"N	104°32'30.2310"W	0.17	61.11	-0.02	1.17	
3787.00	8.660	194.810	3772.01	-1081.99	215.74	-215.74	-34.51	40°12'20.9298"N	104°32'30.2744"W	0.58	-107.30	0.29	3.38	
3881.00	8.440	189.080	3864.97	-989.03	229.40	-229.40	-37.41	40°12'20.7952"N	104°32'30.3137"W	0.94	-98.01	-0.23	-6.10	
3975.00	8.430	188.580	3957.95	-896.05	243.02	-243.02	-39.53	40°12'20.6608"N	104°32'30.3428"W	0.08	-169.50	-0.01	-0.53	
4164.00	8.290	188.400	4144.95	-709.05	270.20	-270.20	-43.58	40°12'20.3927"N	104°32'30.3989"W	0.08	-158.14	-0.07	-0.10	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-769
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-769 AWB
Slot	SLOT#30 GUTTERSEN D34-769 (1015'FSL & 1478'FWL, SEC.22)		

WELLPATH DATA (184 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	
4259.00	8.240	188.260	4238.96	-615.04	283.71	-283.71	-45.56	40°12'20.2594"N	104°32'30.4263"W	0.06	-6.87	-0.05	-0.15		
4353.00	8.460	188.080	4331.96	-522.04	297.23	-297.23	-47.50	40°12'20.1261"N	104°32'30.4532"W	0.24	-177.20	0.23	-0.19		
4448.00	8.430	188.070	4425.93	-428.07	311.04	-311.04	-49.46	40°12'19.9898"N	104°32'30.4804"W	0.03	175.65	-0.03	-0.01		
4542.00	8.260	188.160	4518.94	-335.06	324.54	-324.55	-51.39	40°12'19.8565"N	104°32'30.5071"W	0.18	172.66	-0.18	0.10		
4732.00	8.150	188.260	4706.99	-147.01	351.38	-351.38	-55.26	40°12'19.5917"N	104°32'30.5607"W	0.06	-15.88	-0.06	0.05		
4826.00	8.450	187.680	4800.01	-53.99	364.82	-364.82	-57.14	40°12'19.4592"N	104°32'30.5868"W	0.33	-164.93	0.32	-0.62		
4921.00	8.080	186.970	4894.02	40.02	378.37	-378.37	-58.88	40°12'19.3255"N	104°32'30.6111"W	0.40	39.33	-0.39	-0.75		
5015.00	8.430	188.900	4987.05	133.05	391.73	-391.73	-60.75	40°12'19.1936"N	104°32'30.6371"W	0.47	-101.21	0.37	2.05		
5110.00	8.420	188.550	5081.02	227.02	405.49	-405.49	-62.86	40°12'19.0579"N	104°32'30.6662"W	0.05	93.14	-0.01	-0.37		
5204.00	8.410	190.250	5174.01	320.01	419.06	-419.06	-65.11	40°12'18.9241"N	104°32'30.6970"W	0.26	165.80	-0.01	1.81		
5298.00	8.120	190.770	5267.03	413.03	432.34	-432.34	-67.57	40°12'18.7931"N	104°32'30.7306"W	0.32	-123.23	-0.31	0.55		
5393.00	8.000	189.430	5361.10	507.10	445.46	-445.46	-69.91	40°12'18.6637"N	104°32'30.7626"W	0.23	26.55	-0.13	-1.41		
5488.00	8.230	190.230	5455.14	601.14	458.67	-458.67	-72.20	40°12'18.5334"N	104°32'30.7939"W	0.27	146.60	0.24	0.84		
5582.00	7.880	191.930	5548.22	694.22	471.59	-471.60	-74.73	40°12'18.4060"N	104°32'30.8283"W	0.45	29.23	-0.37	1.81		
5677.00	8.340	193.690	5642.27	788.27	484.66	-484.66	-77.70	40°12'18.2772"N	104°32'30.8685"W	0.55	-118.56	0.48	1.85		
5771.00	8.070	189.930	5735.31	881.31	497.78	-497.78	-80.45	40°12'18.1478"N	104°32'30.9058"W	0.64	-74.27	-0.29	-4.00		
5866.00	8.140	188.260	5829.36	975.36	511.01	-511.01	-82.57	40°12'18.0173"N	104°32'30.9349"W	0.26	160.50	0.07	-1.76		
5961.00	7.870	188.960	5923.43	1069.43	524.09	-524.09	-84.55	40°12'17.8883"N	104°32'30.9622"W	0.30	1.80	-0.28	0.74		
6055.00	8.140	189.020	6016.51	1162.51	537.02	-537.02	-86.59	40°12'17.7608"N	104°32'30.9904"W	0.29	-179.00	0.29	0.06		
6150.00	8.060	189.010	6110.57	1256.57	550.24	-550.24	-88.69	40°12'17.6304"N	104°32'31.0193"W	0.08	-100.37	-0.08	-0.01		
6244.00	7.930	179.960	6203.66	1349.66	563.23	-563.23	-89.72	40°12'17.5021"N	104°32'31.0343"W	1.34	15.56	-0.14	-9.63		
6339.00	8.000	180.100	6297.74	1443.74	576.39	-576.40	-89.73	40°12'17.3720"N	104°32'31.0362"W	0.08	-1.89	0.07	0.15		
6433.00	14.730	179.230	6389.84	1535.84	594.91	-594.91	-89.58	40°12'17.1891"N	104°32'31.0369"W	7.16	1.57	7.16	-0.93		
6527.00	23.510	179.830	6478.57	1624.57	625.66	-625.67	-89.36	40°12'16.8851"N	104°32'31.0384"W	9.34	-0.11	9.34	0.64		
6622.00	31.670	179.800	6562.70	1708.70	669.62	-669.63	-89.22	40°12'16.4507"N	104°32'31.0426"W	8.59	3.73	8.59	-0.03		
6717.00	39.980	180.640	6639.66	1785.66	725.18	-725.18	-89.47	40°12'15.9018"N	104°32'31.0537"W	8.76	3.42	8.75	0.88		
6811.00	48.690	181.330	6706.83	1852.83	790.80	-790.80	-90.63	40°12'15.2535"N	104°32'31.0777"W	9.28	0.16	9.27	0.73		
6906.00	57.560	181.360	6763.78	1909.78	866.69	-866.70	-92.41	40°12'14.5037"N	104°32'31.1113"W	9.34	1.82	9.34	0.03		
7001.00	65.940	181.650	6808.70	1954.70	950.28	-950.28	-94.62	40°12'13.6780"N	104°32'31.1513"W	8.83	8.48	8.82	0.31		
7095.00	75.820	183.160	6839.46	1985.46	1038.90	-1038.90	-98.37	40°12'12.8027"N	104°32'31.2121"W	10.62	-11.81	10.51	1.61		
7190.00	82.280	181.800	6857.49	2003.49	1132.03	-1132.03	-102.40	40°12'11.8829"N	104°32'31.2769"W	6.94	-8.70	6.80	-1.43		
7284.00	89.690	180.670	6864.07	2010.07	1225.71	-1225.71	-104.41	40°12'10.9574"N	104°32'31.3159"W	7.97	-94.91	7.88	-1.20		
7379.00	89.320	176.350	6864.89	2010.89	1320.65	-1320.65	-101.94	40°12'10.0190"N	104°32'31.2973"W	4.56	26.57	-0.39	-4.55		
7474.00	89.600	176.490	6865.79	2011.79	1415.46	-1415.46	-96.01	40°12'9.0815"N	104°32'31.2340"W	0.33	115.76	0.29	0.15		
7568.00	88.520	178.730	6867.33	2013.33	1509.36	-1509.36	-92.09	40°12'8.1532"N	104°32'31.1966"W	2.65	-39.05	-1.15	2.38		
7663.00	89.050	178.300	6869.34	2015.34	1604.31	-1604.31	-89.63	40°12'7.2148"N	104°32'31.1781"W	0.72	7.25	0.56	-0.45		
7757.00	89.600	178.370	6870.45	2016.45	1698.26	-1698.26	-86.90	40°12'6.2861"N	104°32'31.1560"W	0.59	79.00	0.59	0.07		
7852.00	89.880	179.810	6870.88	2016.88	1793.24	-1793.25	-85.39	40°12'5.3473"N	104°32'31.1498"W	1.54	43.49	0.29	1.52		
7946.00	91.050	180.920	6870.12	2016.12	1887.24	-1887.24	-85.99	40°12'4.4186"N	104°32'31.1706"W	1.72	-138.11	1.24	1.18		
8041.00	89.110	179.180	6869.99	2015.99	1982.23	-1982.23	-86.07	40°12'3.4800"N	104°32'31.1849"W	2.74	50.48	-2.04	-1.83		
8135.00	90.430	180.780	6870.36	2016.36	2076.22	-2076.22	-86.04	40°12'2.5512"N	104°32'31.1975"W	2.21	85.10	1.40	1.70		
8230.00	90.460	181.130	6869.63	2015.63	2171.21	-2171.21	-87.62	40°12'1.6128"N	104°32'31.2312"W	0.37	-61.70	0.03	0.37		
8324.00	90.740	180.610	6868.64	2014.64	2265.19	-2265.19	-89.05	40°12'0.6843"N	104°32'31.2626"W	0.63	-168.16	0.30	-0.55		
8419.00	90.120	180.480	6867.93	2013.93	2360.18	-2360.18	-89.95	40°11'59.7457"N	104°32'31.2875"W	0.67	-101.56	-0.65	-0.14		
8513.00	90.030	180.040	6867.81	2013.81	2454.18	-2454.18	-90.38	40°11'58.8169"N	104°32'31.3061"W	0.48	110.56	-0.10	-0.47		

REFERENCE WELLPATH IDENTIFICATION				
Operator	NOBLE ENERGY, INC		Well	GUTTERSEN D34-769
Field	WELD COUNTY (NOBLE NAD 83 GRID)		API/Legal	
Facility	SEC.22-T03N-R64W		Wellbore	GUTTERSEN D34-769 AWB
Slot	SLOT#30 GUTTERSEN D34-769 (1015'FSL & 1478'FWL, SEC.22)			

WELLPATH DATA (184 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
8607.00	89.850	180.520	6867.90	2013.90	2548.18	-2548.18	-90.84	40°11'57.8881"N	104°32'31.3251"W	0.55	23.55	-0.19	0.51	
8702.00	91.020	181.030	6867.18	2013.18	2643.17	-2643.17	-92.12	40°11'56.9496"N	104°32'31.3549"W	1.34	-69.47	1.23	0.54	
8796.00	91.820	178.890	6864.85	2010.85	2737.13	-2737.13	-92.06	40°11'56.0211"N	104°32'31.3671"W	2.43	-140.60	0.85	-2.28	
8890.00	91.260	178.430	6862.33	2008.33	2831.07	-2831.07	-89.86	40°11'55.0926"N	104°32'31.3519"W	0.77	178.32	-0.60	-0.49	
8985.00	90.920	178.440	6860.52	2006.52	2926.02	-2926.02	-87.27	40°11'54.1542"N	104°32'31.3317"W	0.36	52.43	-0.36	0.01	
9079.00	91.020	178.570	6858.93	2004.93	3019.97	-3019.97	-84.81	40°11'53.2255"N	104°32'31.3132"W	0.17	73.63	0.11	0.14	
9174.00	91.290	179.490	6857.01	2003.01	3114.94	-3114.94	-83.21	40°11'52.2869"N	104°32'31.3057"W	1.01	-107.18	0.28	0.97	
9268.00	90.990	178.520	6855.14	2001.14	3208.90	-3208.91	-81.57	40°11'51.3582"N	104°32'31.2977"W	1.08	-107.42	-0.32	-1.03	
9363.00	90.830	178.810	6853.63	1999.63	3303.85	-3303.85	-78.70	40°11'50.4197"N	104°32'31.2739"W	0.56	-47.29	-0.17	-0.54	
9457.00	90.950	177.880	6852.17	1998.17	3397.78	-3397.78	-75.33	40°11'49.4912"N	104°32'31.2435"W	0.19	78.46	0.13	-0.14	
9552.00	91.050	178.370	6850.52	1996.52	3492.71	-3492.71	-72.22	40°11'48.5528"N	104°32'31.2167"W	0.53	-71.07	0.11	0.52	
9647.00	91.170	178.020	6848.68	1994.68	3587.65	-3587.65	-69.23	40°11'47.6144"N	104°32'31.1913"W	0.39	82.56	0.13	-0.37	
9741.00	91.290	178.940	6846.66	1992.66	3681.59	-3681.59	-66.74	40°11'46.6858"N	104°32'31.1723"W	0.99	72.40	0.13	0.98	
9836.00	91.420	179.350	6844.41	1990.41	3776.55	-3776.55	-65.32	40°11'45.7473"N	104°32'31.1673"W	0.45	-87.40	0.14	0.43	
9930.00	91.480	178.020	6842.03	1988.03	3870.50	-3870.50	-63.16	40°11'44.8188"N	104°32'31.1525"W	1.42	105.17	0.06	-1.41	
10025.00	91.320	178.610	6839.71	1985.71	3965.43	-3965.43	-60.37	40°11'43.8805"N	104°32'31.1298"W	0.64	123.69	-0.17	0.62	
10119.00	91.140	178.880	6837.69	1983.69	4059.38	-4059.38	-58.31	40°11'42.9518"N	104°32'31.1163"W	0.35	81.25	-0.19	0.29	
10214.00	91.450	180.900	6835.55	1981.55	4154.35	-4154.35	-58.13	40°11'42.0134"N	104°32'31.1272"W	2.15	-83.88	0.33	2.13	
10308.00	91.510	180.340	6833.12	1979.12	4248.32	-4248.32	-59.15	40°11'41.0850"N	104°32'31.1534"W	0.60	145.63	0.06	-0.60	
10403.00	91.320	180.470	6830.77	1976.77	4343.28	-4343.28	-59.82	40°11'40.1466"N	104°32'31.1753"W	0.24	-129.29	-0.20	0.14	
10498.00	91.230	180.360	6828.66	1974.66	4438.26	-4438.26	-60.50	40°11'39.2082"N	104°32'31.1974"W	0.15	135.01	-0.09	-0.12	
10592.00	91.140	180.450	6826.72	1972.72	4532.24	-4532.24	-61.17	40°11'38.2797"N	104°32'31.2190"W	0.14	27.78	-0.10	0.10	
10686.00	91.880	180.840	6824.24	1970.24	4626.20	-4626.20	-62.23	40°11'37.3513"N	104°32'31.2457"W	0.89	-103.33	0.79	0.41	
10781.00	91.510	179.280	6821.43	1967.43	4721.15	-4721.15	-62.33	40°11'36.4131"N	104°32'31.2602"W	1.69	90.00	-0.39	-1.64	
10875.00	91.510	179.520	6818.95	1964.95	4815.11	-4815.11	-61.34	40°11'35.4845"N	104°32'31.2606"W	0.26	-84.87	0.00	0.26	
10970.00	91.570	178.850	6816.40	1962.40	4910.07	-4910.07	-59.99	40°11'34.5460"N	104°32'31.2564"W	0.71	100.01	0.06	-0.71	
11064.00	91.480	179.360	6813.90	1959.90	5004.02	-5004.02	-58.52	40°11'33.6175"N	104°32'31.2506"W	0.55	-83.65	-0.10	0.54	
11159.00	91.510	179.090	6811.42	1957.42	5098.98	-5098.98	-57.24	40°11'32.6790"N	104°32'31.2473"W	0.29	-85.18	0.03	-0.28	
11253.00	91.600	178.020	6808.87	1954.87	5192.92	-5192.92	-54.87	40°11'31.7505"N	104°32'31.2298"W	1.14	110.56	0.10	-1.14	
11348.00	91.480	178.340	6806.31	1952.31	5287.83	-5287.83	-51.85	40°11'30.8123"N	104°32'31.2041"W	0.36	86.45	-0.13	0.34	
11442.00	91.570	179.800	6803.81	1949.81	5381.79	-5381.79	-50.33	40°11'29.8838"N	104°32'31.1976"W	1.56	-94.39	0.10	1.55	
11537.00	91.350	176.960	6801.39	1947.39	5476.71	-5476.71	-47.64	40°11'28.9455"N	104°32'31.1762"W	3.00	74.13	-0.23	-2.99	
11631.00	91.790	178.510	6798.82	1944.82	5570.60	-5570.60	-43.93	40°11'28.0174"N	104°32'31.1414"W	1.71	78.12	0.47	1.65	
11726.00	92.090	179.940	6795.60	1941.60	5665.53	-5665.53	-42.65	40°11'27.0792"N	104°32'31.1381"W	1.54	-110.12	0.32	1.51	
11820.00	91.540	178.440	6792.62	1938.62	5759.47	-5759.47	-41.32	40°11'26.1507"N	104°32'31.1340"W	1.70	132.46	-0.59	-1.60	
11915.00	91.110	178.910	6790.43	1936.43	5854.42	-5854.42	-39.12	40°11'25.2123"N	104°32'31.1190"W	0.67	-3.12	-0.45	0.49	
12010.00	91.660	178.880	6788.13	1934.13	5949.37	-5949.37	-37.29	40°11'24.2738"N	104°32'31.1086"W	0.58	79.37	0.58	-0.03	
12105.00	91.750	179.360	6785.30	1931.30	6044.32	-6044.32	-35.83	40°11'23.3354"N	104°32'31.1030"W	0.51	177.51	0.09	0.51	
12199.00	91.290	179.380	6782.81	1928.81	6138.28	-6138.28	-34.80	40°11'22.4069"N	104°32'31.1028"W	0.49	-38.03	-0.49	0.02	
12293.00	91.750	179.020	6780.32	1926.32	6232.24	-6232.24	-33.49	40°11'21.4783"N	104°32'31.0990"W	0.62	-149.94	0.49	-0.38	
12388.00	89.780	177.880	6779.05	1925.05	6327.19	-6327.19	-30.92	40°11'20.5398"N	104°32'31.0791"W	2.40	92.03	-2.07	-1.20	
12482.00	89.720	179.580	6779.46	1925.46	6421.16	-6421.16	-28.83	40°11'19.6110"N	104°32'31.0653"W	1.81	-58.00	-0.06	1.81	
12577.00	90.120	178.940	6779.59	1925.59	6516.15	-6516.15	-27.61	40°11'18.6722"N	104°32'31.0627"W	0.79	60.52	0.42	-0.67	
12671.00	90.250	179.170	6779.29	1925.29	6610.14	-6610.14	-26.06	40°11'17.7433"N	104°32'31.0558"W	0.28	-106.26	0.14	0.24	
12765.00	90.180	178.930	6778.93	1924.93	6704.13	-6704.13	-24.50	40°11'16.8144"N	104°32'31.0488"W	0.27	31.50	-0.07	-0.26	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-769
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-769 AWB
Slot	SLOT#30 GUTTERSEN D34-769 (1015'FSL & 1478'FWL, SEC.22)		

WELLPATH DATA (184 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
12860.00	90.490	179.120	6778.38	1924.38	6799.11	-6799.11	-22.88	40°11'15.8757"N	104°32'31.0412"W	0.38	175.37	0.33	0.20	
12954.00	90.120	179.150	6777.88	1923.88	6893.10	-6893.10	-21.46	40°11'14.9468"N	104°32'31.0360"W	0.39	-111.80	-0.39	0.03	
13049.00	90.060	179.000	6777.73	1923.73	6988.09	-6988.09	-19.93	40°11'14.0080"N	104°32'31.0295"W	0.17	-57.53	-0.06	-0.16	
13143.00	90.340	178.560	6777.40	1923.40	7082.06	-7082.06	-17.93	40°11'13.0792"N	104°32'31.0168"W	0.55	125.36	0.30	-0.47	
13237.00	90.120	178.870	6777.02	1923.02	7176.04	-7176.04	-15.82	40°11'12.1503"N	104°32'31.0027"W	0.40	-112.07	-0.23	0.33	
13332.00	89.970	178.500	6776.95	1922.95	7271.01	-7271.01	-13.64	40°11'11.2116"N	104°32'30.9878"W	0.42	85.21	-0.16	-0.39	
13426.00	90.150	180.650	6776.85	1922.85	7365.01	-7365.01	-12.94	40°11'10.2828"N	104°32'30.9919"W	2.30	-159.44	0.19	2.29	
13521.00	89.910	180.560	6776.80	1922.80	7460.00	-7460.00	-13.95	40°11'9.3442"N	104°32'31.0181"W	0.27	-26.15	-0.25	-0.09	
13615.00	90.460	180.290	6776.50	1922.50	7554.00	-7554.00	-14.64	40°11'8.4154"N	104°32'31.0402"W	0.65	108.44	0.59	-0.29	
13710.00	90.430	180.380	6775.76	1921.76	7648.99	-7648.99	-15.20	40°11'7.4768"N	104°32'31.0605"W	0.10	-116.56	-0.03	0.09	
13804.00	90.220	179.960	6775.23	1921.23	7742.99	-7742.99	-15.48	40°11'6.5480"N	104°32'31.0772"W	0.50	-46.17	-0.22	-0.45	
13993.00	90.460	179.710	6774.10	1920.10	7931.99	-7931.99	-14.93	40°11'4.6804"N	104°32'31.0965"W	0.18	-166.14	0.13	-0.13	
14087.00	89.690	179.520	6773.98	1919.98	8025.98	-8025.98	-14.30	40°11'3.7515"N	104°32'31.1015"W	0.84	61.39	-0.82	-0.20	
14182.00	89.750	179.630	6774.45	1920.45	8120.98	-8120.98	-13.60	40°11'2.8127"N	104°32'31.1056"W	0.13	97.60	0.06	0.12	
14276.00	89.690	180.080	6774.91	1920.91	8214.98	-8214.98	-13.36	40°11'1.8839"N	104°32'31.1156"W	0.48	-90.00	-0.06	0.48	
14371.00	89.690	179.850	6775.42	1921.42	8309.98	-8309.98	-13.30	40°11'0.9451"N	104°32'31.1281"W	0.24	41.82	0.00	-0.24	
14465.00	89.880	180.020	6775.77	1921.77	8403.98	-8403.98	-13.19	40°11'0.0163"N	104°32'31.1398"W	0.27	-117.10	0.20	0.18	
14560.00	89.660	179.590	6776.15	1922.15	8498.97	-8498.97	-12.87	40°10'59.0775"N	104°32'31.1489"W	0.51	-59.04	-0.23	-0.45	
14654.00	89.690	179.540	6776.69	1922.69	8592.97	-8592.97	-12.16	40°10'58.1486"N	104°32'31.1528"W	0.06	-5.04	0.03	-0.05	
14749.00	90.030	179.510	6776.92	1922.92	8687.97	-8687.97	-11.37	40°10'57.2099"N	104°32'31.1558"W	0.36	-90.00	0.36	-0.03	
14843.00	90.030	179.390	6776.87	1922.87	8781.96	-8781.96	-10.47	40°10'56.2809"N	104°32'31.1573"W	0.13	104.74	0.00	-0.13	
14938.00	89.880	179.960	6776.94	1922.94	8876.96	-8876.96	-9.93	40°10'55.3422"N	104°32'31.1636"W	0.62	-113.28	-0.16	0.60	
15032.00	89.510	179.100	6777.44	1923.44	8970.95	-8970.95	-9.16	40°10'54.4133"N	104°32'31.1667"W	1.00	25.41	-0.39	-0.91	
15127.00	89.910	179.290	6777.93	1923.93	9065.94	-9065.94	-7.82	40°10'53.4745"N	104°32'31.1628"W	0.47	72.90	0.42	0.20	
15221.00	90.030	179.680	6777.97	1923.97	9159.94	-9159.94	-6.98	40°10'52.5456"N	104°32'31.1650"W	0.43	-148.30	0.13	0.41	
15316.00	89.690	179.470	6778.21	1924.21	9254.94	-9254.94	-6.27	40°10'51.6068"N	104°32'31.1691"W	0.42	-59.35	-0.36	-0.22	
15410.00	89.850	179.200	6778.58	1924.58	9348.93	-9348.93	-5.18	40°10'50.6779"N	104°32'31.1681"W	0.33	117.33	0.17	-0.29	
15505.00	89.540	179.800	6779.09	1925.09	9443.92	-9443.92	-4.35	40°10'49.7392"N	104°32'31.1707"W	0.71	33.69	-0.33	0.63	
15599.00	89.630	179.860	6779.77	1925.77	9537.92	-9537.92	-4.07	40°10'48.8103"N	104°32'31.1802"W	0.12	-47.94	0.10	0.06	
15694.00	90.000	179.450	6780.08	1926.08	9632.92	-9632.92	-3.50	40°10'47.8715"N	104°32'31.1860"W	0.58	-135.00	0.39	-0.43	
15788.00	89.480	178.930	6780.50	1926.50	9726.91	-9726.91	-2.17	40°10'46.9427"N	104°32'31.1820"W	0.78	38.57	-0.55	-0.55	
15882.00	90.220	179.520	6780.75	1926.75	9820.90	-9820.90	-0.90	40°10'46.0138"N	104°32'31.1787"W	1.01	-57.26	0.79	0.63	
15977.00	90.490	179.100	6780.16	1926.16	9915.89	-9915.89	0.24	40°10'45.0750"N	104°32'31.1772"W	0.53	163.50	0.28	-0.44	
16071.00	90.220	179.180	6779.58	1925.58	10009.88	-10009.88	1.65	40°10'44.1461"N	104°32'31.1721"W	0.30	-156.25	-0.29	0.09	
16166.00	89.970	179.070	6779.42	1925.42	10104.86	-10104.86	3.10	40°10'43.2073"N	104°32'31.1666"W	0.29	-74.29	-0.26	-0.12	
16260.00	90.060	178.750	6779.40	1925.40	10198.85	-10198.85	4.89	40°10'42.2785"N	104°32'31.1566"W	0.35	176.63	0.10	-0.34	
16355.00	89.720	178.770	6779.58	1925.58	10293.82	-10293.82	6.95	40°10'41.3397"N	104°32'31.1434"W	0.36	67.62	-0.36	0.02	
16449.00	90.000	179.450	6779.81	1925.81	10387.81	-10387.81	8.41	40°10'40.4108"N	104°32'31.1376"W	0.78	-90.00	0.30	0.72	
16544.00	90.000	178.450	6779.81	1925.81	10482.80	-10482.80	10.15	40°10'39.4721"N	104°32'31.1284"W	1.05	110.73	0.00	-1.05	
16638.00	89.720	179.190	6780.04	1926.04	10576.77	-10576.77	12.08	40°10'38.5432"N	104°32'31.1166"W	0.84	-39.81	-0.30	0.79	
16733.00	90.740	178.340	6779.66	1925.66	10671.75	-10671.75	14.13	40°10'37.6045"N	104°32'31.1034"W	1.40	168.57	1.07	-0.89	
16828.00	89.850	178.520	6779.17	1925.17	10766.71	-10766.71	16.74	40°10'36.6659"N	104°32'31.0831"W	0.96	46.33	-0.94	0.19	
16922.00	90.060	178.740	6779.24	1925.24	10860.68	-10860.68	18.98	40°10'35.7370"N	104°32'31.0672"W	0.32	-25.50	0.22	0.23	
17017.00	90.710	178.430	6778.60	1924.60	10955.65	-10955.65	21.33	40°10'34.7984"N	104°32'31.0502"W	0.76	173.56	0.68	-0.33	
17111.00	90.090	178.500	6777.95	1923.95	11049.62	-11049.62	23.85	40°10'33.8696"N	104°32'31.0309"W	0.66	74.67	-0.66	0.07	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-769
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-769 AWB
Slot	SLOT#30 GUTTERSEN D34-769 (1015'FSL & 1478'FWL, SEC.22)		

WELLPATH DATA (184 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
17206.00	90.460	179.850	6777.49	1923.49	11144.60	-11144.60	25.21	40°10'32.9309"N	104°32'31.0265"W	1.47	-98.27	0.39	1.42	
17300.00	90.150	177.720	6776.99	1922.99	11238.58	-11238.57	27.21	40°10'32.0021"N	104°32'31.0139"W	2.29	88.50	-0.33	-2.27	
17395.00	90.180	178.870	6776.72	1922.72	11333.53	-11333.53	30.03	40°10'31.0635"N	104°32'30.9907"W	1.21	0.00	0.03	1.21	LAST BH MWD SURVEY
17435.00†	90.180	178.870	6776.59	1922.59	11373.52	-11373.52	30.82	40°10'30.6682"N	104°32'30.9861"W	0.00		0.00	0.00	EXTRAPOLATED TD

HOLE & CASING SECTIONS - Ref Wellbore: GUTTERSEN D34-769 AWB Ref Wellpath: GUTTERSEN D34-769 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	1958.00	1928.00	30.00	1957.96	-0.03	0.02	-5.41	-3.79
9.625in Casing Surface	30.00	1958.00	1928.00	30.00	1957.96	-0.03	0.02	-5.41	-3.79
8.5in Open Hole	1958.00	17435.00	15477.00	1957.96	6776.59	-5.41	-3.79	-11373.52	30.82

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	-150.36	77.33	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	-1032.67	-1479.07	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	-6309.56	-1445.04	3266233.30	1313172.95	40°11'20.8645"N	104°32'49.2969"W	polygon
2D Polygon: dimensions not calculated								
GUTTERSEN D34-769 BHL REV-1 (200'FSL & 1370'FWL, SEC.34)	6774.00	-11374.22	0.20	3267678.47	1308108.52	40°10'30.6646"N	104°32'31.3807"W	point
GUTTERSEN D34-769 IP1 REV-1	6779.00	-6250.29	-60.83	3267617.45	1313232.22	40°11'21.3029"N	104°32'31.4538"W	point
GUTTERSEN D34-769 TPZ REV-1 (200'FNL & 1370'FWL, SEC.27)	6869.00	-1216.43	-107.78	3267570.50	1318265.85	40°12'11.0495"N	104°32'31.3580"W	point

WELLPATH COMPOSITION - Ref Wellbore: GUTTERSEN D34-769 AWB Ref Wellpath: GUTTERSEN D34-769 AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
0.00	1948.00	Gyrodata 2015 - GC+DROP+COND	13.5" GYRODATA 2015 (GC+DROP+COND) <0' - 1948">	GUTTERSEN D34-769 AWB	3/16/2020
1948.00	17435.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	8.5" OWSG MWD REV.2 (IFR1+MSA) <1993' - 17395">	GUTTERSEN D34-769 AWB	3/16/2020

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-769
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-769 AWB
Slot	SLOT#30 GUTTERSEN D34-769 (1015'FSL & 1478'FWL, SEC.22)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
81.00	0.380	146.200	81.00	FIRST 3RD PARTY GYRO SURVEY
1948.00	0.460	184.850	1947.96	TIE ON TO 3RD PARTY GYRO SURVEYS
1993.00	0.910	184.950	1992.96	FIRST BH MWD SURVEY
17395.00	90.180	178.870	6776.72	LAST BH MWD SURVEY
17435.00	90.180	178.870	6776.59	EXTRAPOLATED TD