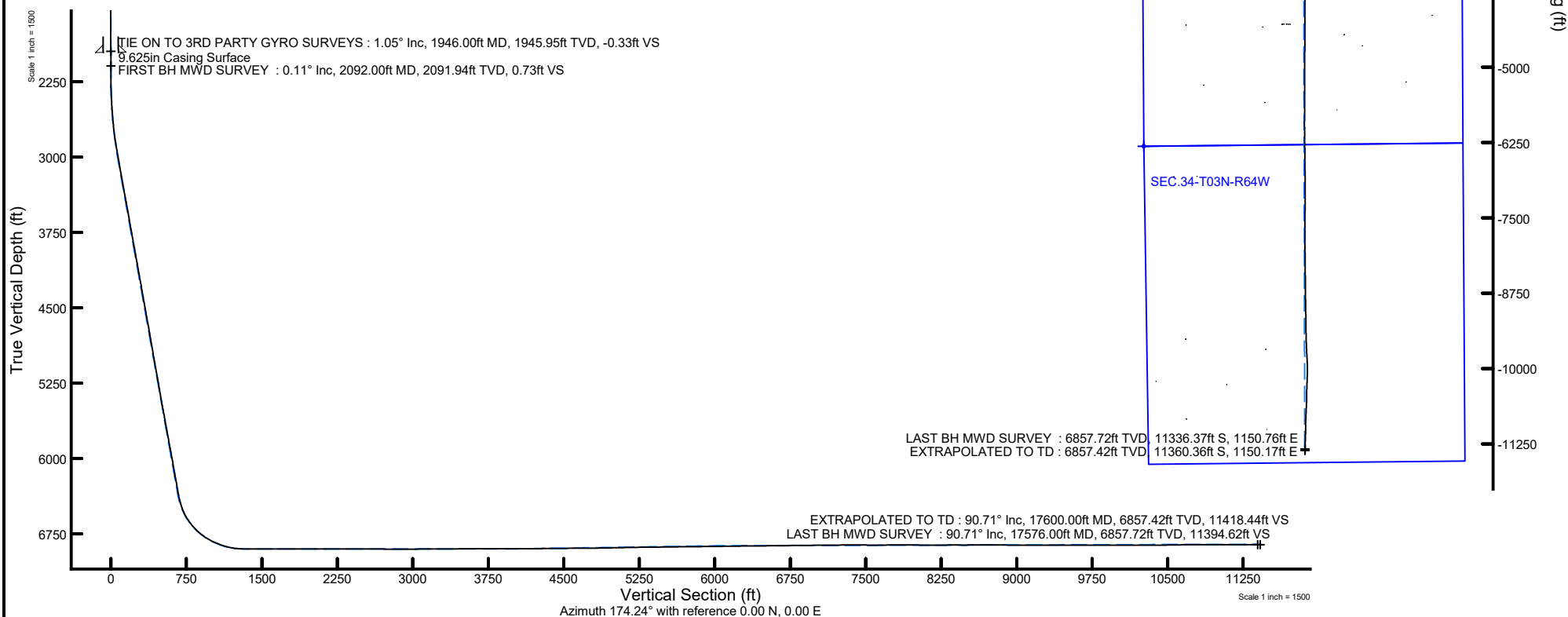


# NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#32 GUTTERSEN D34-749 (1015'FSL & 1553'FWL, SEC.22)  
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: GUTTERSEN D34-749  
Facility: SEC.22-T03N-R64W Wellbore: GUTTERSEN D34-749 AWB

Plot reference wellpath is GUTTERSEN D34-749 AWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to H&P 321 (4825'GL+30'KB@4855') (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to H&P 321 (4825'GL+30'KB@4855') (RKB)	Scale: True distance
H&P 321 (4825'GL+30'KB@4855') (RKB) to Mean Sea Level: 4855 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Mud line (At Slot: SLOT#32 GUTTERSEN D34-749 (1015'FSL & 1553'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 2020-03-31; Database: WA_NOBLE



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-749
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-749 AWB
Slot	SLOT#32 GUTTERSEN D34-749 (1015'FSL & 1553'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	3/31/2020 at 9:35:57 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	151.17	-2.47	3267753.12	1319483.04	40°12'23.0580"N	104°32'28.8348"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 (4825'GL+30'KB@4855') (RKB) to Facility Vertical Datum	4855.00ft
Horizontal Reference Pt	Slot	H&P 321 (4825'GL+30'KB@4855') (RKB) to Mean Sea Level	4855.00ft
Vertical Reference Pt	H&P 321 (4825'GL+30'KB@4855') (RKB)	H&P 321 (4825'GL+30'KB@4855') (RKB) to Mud Line at Slot (SLOT#32 GUTTERSEN D34-749 (1015'FSL & 1553'FWL, SEC.22))	4855.00ft
MD Reference Pt	H&P 321 (4825'GL+30'KB@4855') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	174.24°

### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-749
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-749 AWB
Slot	SLOT#32 GUTTERSEN D34-749 (1015'FSL & 1553'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]	Toothface [°]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
0.00	0.000	94.080	0.00	-4855.00	0.00	0.00	0.00	40°12'23.0580"N	104°32'28.8348"W	0.00	0.00	0.00	0.00	
81.00	0.120	94.080	81.00	-4774.00	0.01	-0.01	0.08	40°12'23.0579"N	104°32'28.8337"W	0.15	101.93	0.15	0.00	FIRST 3RD PARTY GYRO SURVEY
175.00	0.260	169.160	175.00	-4680.00	0.24	-0.22	0.22	40°12'23.0558"N	104°32'28.8320"W	0.27	-123.37	0.15	79.87	
267.00	0.400	78.660	267.00	-4588.00	0.42	-0.36	0.58	40°12'23.0543"N	104°32'28.8274"W	0.52	-42.61	0.15	-98.37	
361.00	0.490	69.600	361.00	-4494.00	0.29	-0.16	1.28	40°12'23.0563"N	104°32'28.8184"W	0.12	-169.18	0.10	-9.64	
456.00	0.220	285.120	455.99	-4399.01	0.12	0.03	1.48	40°12'23.0581"N	104°32'28.8157"W	0.72	39.79	-0.28	-152.08	
550.00	0.440	306.250	549.99	-4305.01	-0.19	0.29	1.01	40°12'23.0608"N	104°32'28.8217"W	0.26	147.89	0.23	22.48	
645.00	0.250	343.460	644.99	-4210.01	-0.63	0.70	0.66	40°12'23.0649"N	104°32'28.8262"W	0.30	53.21	-0.20	39.17	
739.00	0.610	17.510	738.99	-4116.01	-1.30	1.38	0.75	40°12'23.0715"N	104°32'28.8249"W	0.45	-110.88	0.38	36.22	
834.00	0.570	355.770	833.98	-4021.02	-2.23	2.33	0.87	40°12'23.0809"N	104°32'28.8232"W	0.24	-127.02	-0.04	-22.88	
928.00	0.470	304.270	927.98	-3927.02	-2.95	3.01	0.52	40°12'23.0877"N	104°32'28.8277"W	0.49	-98.43	-0.11	-54.79	
1023.00	0.540	265.260	1022.98	-3832.02	-3.21	3.20	-0.25	40°12'23.0896"N	104°32'28.8376"W	0.36	-83.09	0.07	-41.06	
1117.00	0.580	249.730	1116.97	-3738.03	-3.09	3.00	-1.14	40°12'23.0877"N	104°32'28.8490"W	0.17	159.55	0.04	-16.52	
1212.00	0.380	261.510	1211.97	-3643.03	-2.96	2.78	-1.90	40°12'23.0857"N	104°32'28.8589"W	0.23	-175.00	-0.21	12.40	
1306.00	0.260	259.190	1305.97	-3549.03	-2.93	2.70	-2.42	40°12'23.0849"N	104°32'28.8656"W	0.13	-93.84	-0.13	-2.47	
1401.00	0.320	219.510	1400.97	-3454.03	-2.72	2.45	-2.80	40°12'23.0825"N	104°32'28.8705"W	0.22	-173.23	0.06	-41.77	
1495.00	0.230	216.840	1494.97	-3360.03	-2.40	2.10	-3.08	40°12'23.0791"N	104°32'28.8742"W	0.10	-22.62	-0.10	-2.84	
1590.00	0.340	209.300	1589.96	-3265.04	-2.03	1.70	-3.33	40°12'23.0752"N	104°32'28.8775"W	0.12	148.34	0.12	-7.94	
1684.00	0.250	223.190	1683.96	-3171.04	-1.66	1.31	-3.61	40°12'23.0713"N	104°32'28.8811"W	0.12	-133.72	-0.10	14.78	
1779.00	0.300	126.500	1778.96	-3076.04	-1.36	1.01	-3.55	40°12'23.0683"N	104°32'28.8804"W	0.43	-25.46	0.05	-101.78	
1873.00	0.550	114.600	1872.96	-2982.04	-0.97	0.67	-2.94	40°12'23.0650"N	104°32'28.8726"W	0.28	27.11	0.27	-12.66	
1946.00	1.050	127.900	1945.95	-2909.05	-0.33	0.12	-2.10	40°12'23.0594"N	104°32'28.8618"W	0.73	174.60	0.68	18.22	TIE ON TO 3RD PARTY GYRO SURVEYS
2092.00	0.110	186.430	2091.94	-2763.06	0.73	-0.84	-1.06	40°12'23.0498"N	104°32'28.8485"W	0.68	126.92	-0.64	40.09	FIRST BH MWD SURVEY
2186.00	0.320	297.400	2185.94	-2669.06	0.68	-0.81	-1.30	40°12'23.0501"N	104°32'28.8517"W	0.40	179.30	0.22	118.05	
2281.00	1.800	116.570	2280.93	-2574.07	1.33	-1.36	-0.20	40°12'23.0446"N	104°32'28.8376"W	2.23	6.87	1.56	188.60	
2375.00	4.180	120.490	2374.80	-2480.20	4.15	-3.76	4.07	40°12'23.0204"N	104°32'28.7828"W	2.54	-3.97	2.53	4.17	
2469.00	5.840	119.360	2468.43	-2386.57	8.92	-7.84	11.19	40°12'22.9793"N	104°32'28.6916"W	1.77	3.93	1.77	-1.20	
2564.00	7.190	120.100	2562.82	-2292.18	15.19	-13.19	20.55	40°12'22.9255"N	104°32'28.5718"W	1.42	-2.16	1.42	0.78	
2658.00	8.920	119.680	2655.89	-2199.11	22.86	-19.75	31.97	40°12'22.8594"N	104°32'28.4255"W	1.84	-2.41	1.84	-0.45	
2752.00	11.480	119.140	2748.39	-2106.61	32.44	-27.92	46.48	40°12'22.7772"N	104°32'28.2397"W	2.73	3.26	2.72	-0.57	
2847.00	15.150	119.940	2840.82	-2014.18	45.09	-38.72	65.50	40°12'22.6684"N	104°32'27.9961"W	3.87	-3.86	3.86	0.84	
2942.00	16.920	119.530	2932.12	-1922.88	60.32	-51.73	88.28	40°12'22.5374"N	104°32'27.7042"W	1.87	-122.80	1.86	-0.43	
3036.00	16.820	118.990	3022.08	-1832.92	75.98	-65.06	112.08	40°12'22.4031"N	104°32'27.3994"W	0.20	9.99	-0.11	-0.57	
3131.00	17.070	119.140	3112.95	-1742.05	91.79	-78.51	136.28	40°12'22.2676"N	104°32'27.0894"W	0.27	124.13	0.26	0.16	
3225.00	16.550	121.930	3202.94	-1652.06	107.86	-92.31	159.70	40°12'22.1288"N	104°32'26.7895"W	1.02	-151.61	-0.55	2.97	
3319.00	16.180	121.210	3293.13	-1561.87	123.92	-106.18	182.26	40°12'21.9893"N	104°32'26.5007"W	0.45	50.35	-0.39	-0.77	
3414.00	16.670	123.230	3384.25	-1470.75	140.46	-120.51	204.98	40°12'21.8453"N	104°32'26.2099"W	0.79	-139.83	0.52	2.13	
3508.00	16.430	122.510	3474.36	-1380.64	157.17	-135.04	227.47	40°12'21.6993"N	104°32'25.9221"W	0.34	-67.74	-0.26	-0.77	
3602.00	16.690	120.390	3564.46	-1290.54	173.37	-149.01	250.32	40°12'21.5588"N	104°32'25.6295"W	0.70	173.42	0.28	-2.26	
3697.00	16.230	120.580	3655.57	-1199.43	189.28	-162.67	273.52	40°12'21.4214"N	104°32'25.3324"W	0.49	35.27	-0.48	0.20	
3791.00	16.760	121.870	3745.70	-1109.30	205.34	-176.51	296.34	40°12'21.2822"N	104°32'25.0403"W	0.69	-76.27	0.56	1.37	
3886.00	16.920	119.770	3836.63	-1018.37	221.73	-190.60	319.97	40°12'21.1404"N	104°32'24.7377"W	0.66	8.50	0.17	-2.21	
3980.00	17.380	120.000	3926.45	-928.55	237.88	-204.41	344.00	40°12'21.0013"N	104°32'24.4299"W	0.49	-147.14	0.49	0.24	
4075.00	17.130	119.450	4017.17	-837.83	254.24	-218.39	368.47	40°12'20.8606"N	104°32'24.1165"W	0.31	154.91	-0.26	-0.58	
4169.00	17.030	119.610	4107.02	-747.98	270.19	-231.99	392.50	40°12'20.7236"N	104°32'23.8088"W	0.12	136.87	-0.11	0.17	

REFERENCE WELLPATH IDENTIFICATION				
Operator	NOBLE ENERGY, INC		Well	GUTTERSEN D34-749
Field	WELD COUNTY (NOBLE NAD 83 GRID)		API/Legal	
Facility	SEC.22-T03N-R64W		Wellbore	GUTTERSEN D34-749 AWB
Slot	SLOT#32 GUTTERSEN D34-749 (1015'FSL & 1553'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
4264.00	16.940	119.900	4197.88	-657.12	286.31	-245.77	416.59	40°12'20.5849"N	104°32'23.5002"W	0.13	-35.38	-0.09	0.31	
4358.00	17.060	119.610	4287.77	-567.23	302.27	-259.41	440.45	40°12'20.4476"N	104°32'23.1946"W	0.16	-30.67	0.13	-0.31	
4453.00	17.220	119.290	4378.55	-476.45	318.41	-273.17	464.83	40°12'20.3090"N	104°32'22.8823"W	0.20	171.71	0.17	-0.34	
4547.00	16.940	119.430	4468.41	-386.59	334.29	-286.71	488.89	40°12'20.1727"N	104°32'22.5741"W	0.30	85.67	-0.30	0.15	
4642.00	16.960	120.260	4559.28	-295.72	350.41	-300.49	512.91	40°12'20.0339"N	104°32'22.2665"W	0.26	102.08	0.02	0.87	
4737.00	16.910	121.090	4650.16	-204.84	366.85	-314.61	536.71	40°12'19.8919"N	104°32'21.9617"W	0.26	-121.47	-0.05	0.87	
4831.00	16.760	120.230	4740.13	-114.87	383.01	-328.49	560.13	40°12'19.7522"N	104°32'21.6619"W	0.31	140.48	-0.16	-0.91	
4925.00	16.530	120.900	4830.20	-24.80	398.96	-342.18	583.31	40°12'19.6144"N	104°32'21.3650"W	0.32	179.81	-0.24	0.71	
5020.00	15.010	120.920	4921.62	66.62	414.37	-355.44	605.46	40°12'19.4810"N	104°32'21.0814"W	1.60	-6.32	-1.60	0.02	
5115.00	17.020	120.160	5012.93	157.93	429.88	-368.75	628.04	40°12'19.3471"N	104°32'20.7922"W	2.13	141.26	2.12	-0.80	
5209.00	16.780	120.830	5102.87	247.87	446.03	-382.62	651.59	40°12'19.2075"N	104°32'20.4907"W	0.33	146.57	-0.26	0.71	
5303.00	16.620	121.200	5192.90	337.90	462.20	-396.53	674.74	40°12'19.0675"N	104°32'20.1943"W	0.20	177.91	-0.17	0.39	
5398.00	15.450	121.360	5284.20	429.20	478.01	-410.16	697.17	40°12'18.9305"N	104°32'19.9072"W	1.23	3.40	-1.23	0.17	
5493.00	16.300	121.540	5375.58	520.58	493.72	-423.72	719.33	40°12'18.7941"N	104°32'19.6234"W	0.90	-9.78	0.89	0.19	
5587.00	16.890	121.190	5465.66	610.66	509.92	-437.69	742.26	40°12'18.6536"N	104°32'19.3299"W	0.64	-56.90	0.63	-0.37	
5682.00	16.980	120.720	5556.54	701.54	526.46	-451.92	765.99	40°12'18.5104"N	104°32'19.0261"W	0.17	114.71	0.09	-0.49	
5776.00	16.940	121.020	5646.46	791.46	542.82	-465.99	789.52	40°12'18.3689"N	104°32'18.7247"W	0.10	148.56	-0.04	0.32	
5871.00	16.850	121.210	5737.36	882.36	559.39	-480.26	813.16	40°12'18.2254"N	104°32'18.4221"W	0.11	96.29	-0.09	0.20	
5966.00	16.820	122.230	5828.28	973.28	576.13	-494.72	836.56	40°12'18.0799"N	104°32'18.1225"W	0.31	-69.98	-0.03	1.07	
6060.00	16.880	121.670	5918.25	1063.25	592.79	-509.14	859.68	40°12'17.9350"N	104°32'17.8266"W	0.18	-96.45	0.06	-0.60	
6155.00	16.860	121.030	6009.16	1154.16	609.42	-523.49	883.23	40°12'17.7907"N	104°32'17.5252"W	0.20	-177.66	-0.02	-0.67	
6249.00	16.650	121.000	6099.17	1244.17	625.65	-537.45	906.45	40°12'17.6503"N	104°32'17.2278"W	0.22	161.75	-0.22	-0.03	
6343.00	15.920	121.880	6189.40	1334.40	641.58	-551.19	928.94	40°12'17.5120"N	104°32'16.9399"W	0.82	-21.87	-0.78	0.94	
6438.00	16.980	120.430	6280.51	1425.51	657.72	-565.10	951.97	40°12'17.3721"N	104°32'16.6451"W	1.20	21.14	1.12	-1.53	
6532.00	17.280	120.820	6370.34	1515.34	674.15	-579.21	975.79	40°12'17.2302"N	104°32'16.3400"W	0.34	70.04	0.32	0.41	
6627.00	20.490	138.910	6460.29	1605.29	696.14	-598.99	998.86	40°12'17.0323"N	104°32'16.0455"W	6.99	43.23	3.38	19.04	
6722.00	27.960	152.550	6546.93	1691.93	730.48	-631.35	1020.10	40°12'16.7102"N	104°32'15.7762"W	9.78	44.15	7.86	14.36	
6816.00	35.290	163.940	6626.99	1771.99	777.77	-677.10	1037.81	40°12'16.2562"N	104°32'15.5544"W	10.03	0.83	7.80	12.12	
6911.00	44.550	164.130	6699.77	1844.77	837.71	-735.66	1054.55	40°12'15.6758"N	104°32'15.3469"W	9.75	-1.20	9.75	0.20	
7005.00	52.560	163.920	6761.94	1906.94	906.99	-803.34	1073.94	40°12'15.0049"N	104°32'15.1065"W	8.52	13.02	8.52	-0.22	
7100.00	62.240	166.430	6813.06	1958.06	985.94	-880.63	1094.30	40°12'14.2390"N	104°32'14.8550"W	10.43	29.32	10.19	2.64	
7194.00	68.870	170.380	6851.95	1996.95	1071.00	-964.40	1111.41	40°12'13.4094"N	104°32'14.6462"W	8.02	24.23	7.05	4.20	
7288.00	75.110	173.270	6881.01	2026.01	1160.26	-1052.84	1124.07	40°12'12.5341"N	104°32'14.4954"W	7.25	24.89	6.64	3.07	
7383.00	85.900	178.240	6896.67	2041.67	1253.76	-1146.12	1130.93	40°12'11.6117"N	104°32'14.4200"W	12.47	-6.69	11.36	5.23	
7477.00	89.570	177.810	6900.38	2045.38	1347.47	-1239.97	1134.17	40°12'10.6839"N	104°32'14.3914"W	3.93	44.15	3.90	-0.46	
7572.00	90.250	178.470	6900.53	2045.53	1442.24	-1334.92	1137.25	40°12'9.7454"N	104°32'14.3650"W	1.00	-69.09	0.72	0.69	
7666.00	90.590	177.580	6899.84	2044.84	1536.04	-1428.86	1140.49	40°12'8.8168"N	104°32'14.3364"W	1.01	171.29	0.36	-0.95	
7761.00	89.480	177.750	6899.78	2044.78	1630.87	-1523.78	1144.36	40°12'7.8784"N	104°32'14.2998"W	1.18	86.27	-1.17	0.18	
7855.00	89.540	178.670	6900.59	2045.59	1724.64	-1617.73	1147.30	40°12'6.9497"N	104°32'14.2751"W	0.98	69.71	0.06	0.98	
7950.00	90.250	180.590	6900.76	2045.76	1819.21	-1712.72	1147.91	40°12'6.0110"N	104°32'14.2805"W	2.15	-87.43	0.75	2.02	
8044.00	90.310	179.250	6900.30	2045.30	1912.75	-1806.72	1148.04	40°12'5.0822"N	104°32'14.2919"W	1.43	153.68	0.06	-1.43	
8139.00	89.380	179.710	6900.56	2045.56	2007.35	-1901.71	1148.90	40°12'4.1434"N	104°32'14.2941"W	1.09	48.75	-0.98	0.48	
8233.00	89.880	180.280	6901.17	2046.17	2100.87	-1995.71	1148.91	40°12'3.2146"N	104°32'14.3071"W	0.81	-49.57	0.53	0.61	
8328.00	90.340	179.740	6900.98	2045.98	2195.39	-2090.71	1148.89	40°12'2.2759"N	104°32'14.3207"W	0.75	102.87	0.48	-0.57	
8422.00	90.180	180.440	6900.56	2045.56	2288.90	-2184.71	1148.75	40°12'1.3470"N	104°32'14.3357"W	0.76	-88.23	-0.17	0.74	

REFERENCE WELLPATH IDENTIFICATION				
Operator	NOBLE ENERGY, INC		Well	GUTTERSEN D34-749
Field	WELD COUNTY (NOBLE NAD 83 GRID)		API/Legal	
Facility	SEC.22-T03N-R64W		Wellbore	GUTTERSEN D34-749 AWB
Slot	SLOT#32 GUTTERSEN D34-749 (1015'FSL & 1553'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
8516.00	90.250	178.170	6900.20	2045.20	2382.53	-2278.70	1149.89	40°12'0.4182"N	104°32'14.3342"W	2.42	-130.40	0.07	-2.41	
8611.00	89.450	177.230	6900.45	2045.45	2477.35	-2373.62	1153.70	40°11'59.4798"N	104°32'14.2983"W	1.30	90.01	-0.84	-0.99	
8705.00	89.450	179.650	6901.36	2046.36	2571.09	-2467.57	1156.26	40°11'58.5512"N	104°32'14.2785"W	2.57	68.35	0.00	2.57	
8799.00	89.970	180.960	6901.83	2046.83	2664.56	-2561.57	1155.76	40°11'57.6224"N	104°32'14.2981"W	1.50	-132.54	0.55	1.39	
8894.00	89.080	179.990	6902.62	2047.62	2758.99	-2656.56	1154.97	40°11'56.6839"N	104°32'14.3215"W	1.39	47.89	-0.94	-1.02	
8988.00	90.590	181.660	6902.89	2047.89	2852.37	-2750.54	1153.62	40°11'55.7553"N	104°32'14.3521"W	2.40	-141.68	1.61	1.78	
9083.00	89.350	180.680	6902.94	2047.94	2946.67	-2845.52	1151.68	40°11'54.8170"N	104°32'14.3904"W	1.66	35.59	-1.31	-1.03	
9177.00	91.320	182.090	6902.39	2047.39	3039.94	-2939.48	1149.40	40°11'53.8888"N	104°32'14.4328"W	2.58	-103.64	2.10	1.50	
9272.00	90.800	179.950	6900.63	2045.63	3134.25	-3034.45	1147.71	40°11'52.9506"N	104°32'14.4679"W	2.32	-144.64	-0.55	-2.25	
9366.00	90.180	179.510	6899.83	2044.83	3227.82	-3128.44	1148.16	40°11'52.0217"N	104°32'14.4753"W	0.81	152.35	-0.66	-0.47	
9461.00	89.970	179.620	6899.70	2044.70	3322.41	-3223.44	1148.88	40°11'51.0829"N	104°32'14.4793"W	0.25	-79.99	-0.22	0.12	
9556.00	90.120	178.770	6899.63	2044.63	3417.05	-3318.43	1150.21	40°11'50.1442"N	104°32'14.4754"W	0.91	72.57	0.16	-0.89	
9650.00	90.710	180.650	6898.95	2043.95	3510.62	-3412.42	1150.69	40°11'49.2154"N	104°32'14.4824"W	2.10	-166.72	0.63	2.00	
9744.00	89.820	180.440	6898.51	2043.51	3604.05	-3506.41	1149.80	40°11'48.2867"N	104°32'14.5071"W	0.97	-37.81	-0.95	-0.22	
9839.00	90.400	179.990	6898.33	2043.33	3698.53	-3601.41	1149.44	40°11'47.3480"N	104°32'14.5250"W	0.77	119.95	0.61	-0.47	
9934.00	89.720	181.170	6898.23	2043.23	3792.95	-3696.40	1148.48	40°11'46.4094"N	104°32'14.5507"W	1.43	-83.94	-0.72	1.24	
10028.00	89.910	179.380	6898.54	2043.54	3886.42	-3790.40	1148.03	40°11'45.4807"N	104°32'14.5696"W	1.91	67.28	0.20	-1.90	
10123.00	90.400	180.550	6898.28	2043.28	3980.95	-3885.40	1148.08	40°11'44.5420"N	104°32'14.5822"W	1.34	-175.37	0.52	1.23	
10217.00	90.030	180.520	6897.93	2042.93	4074.38	-3979.39	1147.21	40°11'43.6132"N	104°32'14.6066"W	0.39	-87.55	-0.39	-0.03	
10312.00	90.090	179.120	6897.83	2042.83	4168.93	-4074.39	1147.50	40°11'42.6745"N	104°32'14.6161"W	1.48	72.64	0.06	-1.47	
10407.00	90.590	180.720	6897.26	2042.26	4263.46	-4169.38	1147.64	40°11'41.7358"N	104°32'14.6276"W	1.76	-59.41	0.53	1.68	
10501.00	91.110	179.840	6895.87	2040.87	4356.93	-4263.37	1147.18	40°11'40.8071"N	104°32'14.6467"W	1.09	-150.00	0.55	-0.94	
10595.00	89.880	179.130	6895.06	2040.06	4450.53	-4357.36	1148.02	40°11'39.8783"N	104°32'14.6490"W	1.51	64.31	-1.31	-0.76	
10690.00	90.890	181.230	6894.42	2039.42	4545.01	-4452.35	1147.72	40°11'38.9397"N	104°32'14.6661"W	2.45	-130.71	1.06	2.21	
10784.00	89.780	179.940	6893.87	2038.87	4638.43	-4546.34	1146.76	40°11'38.0110"N	104°32'14.6916"W	1.81	0.00	-1.18	-1.37	
10879.00	91.110	179.940	6893.13	2038.13	4732.95	-4641.34	1146.86	40°11'37.0723"N	104°32'14.7036"W	1.40	140.54	1.40	0.00	
10973.00	90.150	180.730	6892.10	2037.10	4826.42	-4735.33	1146.31	40°11'36.1436"N	104°32'14.7239"W	1.32	-0.88	-1.02	0.84	
11068.00	91.450	180.710	6890.77	2035.77	4920.80	-4830.31	1145.12	40°11'35.2052"N	104°32'14.7525"W	1.37	-101.88	1.37	-0.02	
11162.00	91.170	179.380	6888.62	2033.62	5014.29	-4924.28	1145.05	40°11'34.2766"N	104°32'14.7666"W	1.45	130.73	-0.30	-1.41	
11257.00	90.860	179.740	6886.94	2031.94	5108.87	-5019.26	1145.78	40°11'33.3380"N	104°32'14.7705"W	0.50	55.00	-0.33	0.38	
11351.00	91.140	180.140	6885.30	2030.30	5202.39	-5113.25	1145.88	40°11'32.4093"N	104°32'14.7824"W	0.52	154.18	0.30	0.43	
11446.00	90.520	180.440	6883.92	2028.92	5296.85	-5208.24	1145.39	40°11'31.4707"N	104°32'14.8019"W	0.73	11.31	-0.65	0.32	
11540.00	90.770	180.490	6882.86	2027.86	5390.29	-5302.23	1144.63	40°11'30.5420"N	104°32'14.8248"W	0.27	45.00	0.27	0.05	
11635.00	90.800	180.520	6881.56	2026.56	5484.71	-5397.22	1143.79	40°11'29.6035"N	104°32'14.8489"W	0.04	-158.20	0.03	0.03	
11729.00	90.650	180.460	6880.37	2025.37	5578.15	-5491.20	1142.99	40°11'28.6749"N	104°32'14.8724"W	0.17	-59.03	-0.16	-0.06	
11824.00	90.830	180.160	6879.15	2024.15	5672.61	-5586.20	1142.48	40°11'27.7363"N	104°32'14.8923"W	0.37	-118.19	0.19	-0.32	
11919.00	90.310	179.190	6878.20	2023.20	5767.18	-5681.19	1143.02	40°11'26.7976"N	104°32'14.8987"W	1.16	60.32	-0.55	-1.02	
12013.00	90.800	180.050	6877.29	2022.29	5860.76	-5775.18	1143.64	40°11'25.8687"N	104°32'14.9038"W	1.05	79.10	0.52	0.91	
12108.00	91.050	181.350	6875.76	2020.76	5955.14	-5870.16	1142.48	40°11'24.9303"N	104°32'14.9320"W	1.39	-113.62	0.26	1.37	
12202.00	90.280	179.590	6874.66	2019.66	6048.58	-5964.14	1141.71	40°11'24.0017"N	104°32'14.9551"W	2.04	-77.80	-0.82	-1.87	
12297.00	90.520	178.480	6874.00	2019.00	6143.24	-6059.13	1143.31	40°11'23.0629"N	104°32'14.9478"W	1.20	45.82	0.25	-1.17	
12391.00	91.540	179.530	6872.31	2017.31	6236.90	-6153.10	1144.94	40°11'22.1342"N	104°32'14.9399"W	1.56	165.46	1.09	1.12	
12486.00	89.380	180.090	6871.55	2016.55	6331.44	-6248.09	1145.25	40°11'21.1956"N	104°32'14.9491"W	2.35	-46.44	-2.27	0.59	
12580.00	90.740	178.660	6871.45	2016.45	6425.06	-6342.08	1146.28	40°11'20.2667"N	104°32'14.9490"W	2.10	37.41	1.45	-1.52	
12674.00	91.720	179.410	6869.43	2014.43	6518.71	-6436.04	1147.86	40°11'19.3380"N	104°32'14.9418"W	1.31	135.24	1.04	0.80	

### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-749
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-749 AWB
Slot	SLOT#32 GUTTERSEN D34-749 (1015'FSL & 1553'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]	Tooface [°]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
12769.00	90.550	180.570	6867.55	2012.55	6613.21	-6531.02	1147.88	40°11'18.3995"N	104°32'14.9549"W	1.73	-105.86	-1.23	1.22	
12863.00	90.030	178.740	6867.08	2012.08	6706.78	-6625.01	1148.44	40°11'17.4707"N	104°32'14.9607"W	2.02	-9.29	-0.55	-1.95	
12958.00	90.580	178.650	6866.57	2011.57	6801.50	-6719.98	1150.61	40°11'16.5320"N	104°32'14.9461"W	0.59	77.30	0.58	-0.09	
13052.00	90.740	179.360	6865.49	2010.49	6895.17	-6813.96	1152.24	40°11'15.6031"N	104°32'14.9382"W	0.77	87.23	0.17	0.76	
13147.00	90.770	179.980	6864.23	2009.23	6989.73	-6908.85	1152.79	40°11'14.6645"N	104°32'14.9445"W	0.65	-133.19	0.03	0.65	
13241.00	90.310	179.490	6863.35	2008.35	7083.29	-7002.95	1153.22	40°11'13.7356"N	104°32'14.9520"W	0.71	82.17	-0.49	-0.52	
13335.00	90.490	180.800	6862.69	2007.69	7176.79	-7096.94	1152.98	40°11'12.8068"N	104°32'14.9682"W	1.41	-71.74	0.19	1.39	
13430.00	90.800	179.860	6861.62	2006.62	7271.25	-7191.93	1152.44	40°11'11.8682"N	104°32'14.9886"W	1.04	131.15	0.33	-0.99	
13524.00	89.690	181.130	6861.22	2006.22	7364.69	-7285.92	1151.63	40°11'10.9396"N	104°32'15.0122"W	1.79	-85.71	-1.18	1.35	
13619.00	89.750	180.330	6861.69	2006.69	7459.08	-7380.91	1150.42	40°11'10.0010"N	104°32'15.0410"W	0.84	106.19	0.06	-0.84	
13713.00	89.660	180.640	6862.17	2007.17	7552.52	-7474.91	1149.62	40°11'9.0723"N	104°32'15.0644"W	0.34	55.86	-0.10	0.33	
13808.00	90.250	181.510	6862.24	2007.24	7646.84	-7569.89	1147.84	40°11'8.1340"N	104°32'15.1007"W	1.11	-89.36	0.62	0.92	
13902.00	90.280	178.790	6861.81	2006.81	7740.33	-7663.88	1147.59	40°11'7.2052"N	104°32'15.1170"W	2.89	86.27	0.03	-2.89	
13996.00	90.310	179.250	6861.33	2006.33	7834.01	-7757.87	1149.20	40°11'6.2764"N	104°32'15.1094"W	0.49	122.57	0.03	0.49	
14185.00	89.320	180.800	6861.94	2006.94	8022.04	-7946.86	1149.12	40°11'4.4089"N	104°32'15.1369"W	0.97	-75.68	-0.52	0.82	
14280.00	89.910	178.490	6862.57	2007.57	8116.61	-8041.85	1149.71	40°11'3.4702"N	104°32'15.1426"W	2.51	88.30	0.62	-2.43	
14374.00	89.940	179.500	6862.70	2007.70	8210.28	-8135.83	1151.35	40°11'2.5413"N	104°32'15.1345"W	1.07	16.97	0.03	1.07	
14469.00	90.890	179.790	6862.01	2007.01	8304.86	-8230.83	1151.94	40°11'1.6026"N	104°32'15.1402"W	1.05	168.93	1.00	0.31	
14563.00	89.510	180.060	6861.68	2006.68	8398.39	-8324.82	1152.07	40°11'0.6737"N	104°32'15.1518"W	1.50	-74.97	-1.47	0.29	
14658.00	90.090	177.900	6862.01	2007.01	8493.06	-8419.80	1153.76	40°10'59.7350"N	104°32'15.1433"W	2.35	70.08	0.61	-2.27	
14752.00	90.340	178.590	6861.66	2006.66	8586.83	-8513.76	1156.64	40°10'58.8063"N	104°32'15.1193"W	0.78	95.46	0.27	0.73	
14847.00	90.120	180.890	6861.28	2006.28	8681.39	-8608.75	1157.07	40°10'57.8676"N	104°32'15.1271"W	2.43	-109.89	-0.23	2.42	
14941.00	89.780	179.950	6861.36	2006.36	8774.84	-8702.74	1156.38	40°10'56.9389"N	104°32'15.1491"W	1.06	-95.23	-0.36	-1.00	
15130.00	89.600	177.980	6862.38	2007.38	8963.19	-8891.70	1159.79	40°10'55.0713"N	104°32'15.1315"W	1.05	79.72	-0.10	-1.04	
15225.00	90.150	181.010	6862.59	2007.59	9057.78	-8986.69	1160.63	40°10'54.1327"N	104°32'15.1340"W	3.24	-97.90	0.58	3.19	
15319.00	89.630	177.260	6862.77	2007.77	9151.42	-9080.66	1162.05	40°10'53.2039"N	104°32'15.1289"W	4.03	81.99	-0.55	-3.99	
15414.00	90.030	180.100	6863.05	2008.05	9246.12	-9175.62	1164.24	40°10'52.2653"N	104°32'15.1140"W	3.02	-77.11	0.42	2.99	
15508.00	90.220	179.270	6862.85	2007.85	9339.70	-9269.62	1164.75	40°10'51.3364"N	104°32'15.1205"W	0.91	-128.33	0.20	-0.88	
15603.00	89.880	178.840	6862.76	2007.76	9434.36	-9364.61	1166.32	40°10'50.3977"N	104°32'15.1136"W	0.58	99.73	-0.36	-0.45	
15697.00	89.820	179.190	6863.01	2008.01	9528.04	-9458.59	1167.93	40°10'49.4688"N	104°32'15.1059"W	0.38	-86.19	-0.06	0.37	
15791.00	89.910	177.840	6863.23	2008.23	9621.77	-9552.56	1170.37	40°10'48.5400"N	104°32'15.0876"W	1.44	-93.81	0.10	-1.44	
15886.00	89.880	177.390	6863.41	2008.41	9716.61	-9647.47	1174.32	40°10'47.6016"N	104°32'15.0500"W	0.47	-112.75	-0.03	-0.47	
15980.00	89.750	177.080	6863.71	2008.71	9810.48	-9741.36	1178.86	40°10'46.6734"N	104°32'15.0047"W	0.36	-64.03	-0.14	-0.33	
16075.00	89.940	176.690	6863.97	2008.97	9905.38	-9836.22	1184.02	40°10'45.7355"N	104°32'14.9515"W	0.46	93.44	0.20	-0.41	
16169.00	89.850	178.190	6864.14	2009.14	9999.23	-9930.13	1188.22	40°10'44.8071"N	104°32'14.9105"W	1.60	82.69	-0.10	1.60	
16264.00	90.090	180.060	6864.19	2009.19	10093.88	-10025.11	1189.67	40°10'43.8684"N	104°32'14.9051"W	1.98	91.75	0.25	1.97	
16358.00	90.030	182.020	6864.09	2009.09	10187.21	-10119.09	1187.96	40°10'42.9399"N	104°32'14.9402"W	2.09	47.29	-0.06	2.09	
16453.00	90.150	182.150	6863.94	2008.94	10281.33	-10214.03	1184.51	40°10'42.0022"N	104°32'14.9980"W	0.19	19.88	0.13	0.14	
16547.00	90.620	182.320	6863.31	2008.31	10374.41	-10307.95	1180.84	40°10'41.0745"N	104°32'15.0584"W	0.53	-86.90	0.50	0.18	
16642.00	90.680	181.210	6862.23	2007.23	10468.59	-10402.90	1177.92	40°10'40.1366"N	104°32'15.1093"W	1.17	-78.89	0.06	-1.17	
16737.00	90.890	180.140	6860.93	2005.93	10562.98	-10497.89	1176.80	40°10'39.1981"N	104°32'15.1370"W	1.15	84.16	0.22	-1.13	
16831.00	91.170	182.890	6859.24	2004.24	10656.20	-10591.83	1174.31	40°10'38.2701"N	104°32'15.1822"W	2.94	-157.27	0.30	2.93	
17020.00	90.000	182.400	6857.31	2002.31	10843.16	-10780.61	1165.59	40°10'36.4056"N	104°32'15.3209"W	0.67	-127.74	-0.62	-0.26	
17115.00	89.350	181.560	6857.85	2002.85	10937.29	-10875.55	1162.31	40°10'35.4678"N	104°32'15.3765"W	1.12	-87.55	-0.68	-0.88	
17209.00	89.410	180.160	6858.87	2003.87	11030.66	-10969.53	1160.90	40°10'34.5392"N	104°32'15.4078"W	1.49	71.07	0.06	-1.49	



### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-749
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-749 AWB
Slot	SLOT#32 GUTTERSEN D34-749 (1015'FSL & 1553'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
17304.00	89.880	181.530	6859.46	2004.46	11125.02	-11064.52	1159.50	40°10'33.6008"N	104°32'15.4391"W	1.52	58.44	0.49	1.44	
17398.00	90.310	182.230	6859.30	2004.30	11218.19	-11158.47	1156.41	40°10'32.6728"N	104°32'15.4920"W	0.87	-63.99	0.46	0.74	
17576.00	90.710	181.410	6857.72	2002.72	11394.62	-11336.37	1150.76	40°10'30.9155"N	104°32'15.5897"W	0.51	0.00	0.22	-0.46	LAST BH MWD SURVEY
17600.00‡	90.710	181.410	6857.42	2002.42	11418.44	-11360.36	1150.17	40°10'30.6785"N	104°32'15.6006"W	0.00		0.00	0.00	EXTRAPOLATED TO TD

### HOLE & CASING SECTIONS - Ref Wellbore: GUTTERSEN D34-749 AWB Ref Wellpath: GUTTERSEN D34-749 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	1956.00	1926.00	30.00	1955.95	0.00	0.01	0.01	-1.96
9.625in Casing Surface	30.00	1956.00	1926.00	30.00	1955.95	0.00	0.01	0.01	-1.96
8.5in Open Hole	1956.00	17600.00	15644.00	1955.95	6857.42	0.01	-1.96	-11360.36	1150.17

### TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.22-T03N-R64W	1.00	-151.17	2.47	3267755.60	1319331.88	40°12'21.5640"N	104°32'28.8240"W	polygon
2D Polygon: dimensions not calculated								
SEC.27-T03N-R64W	1.00	-1033.48	-1553.92	3266199.27	1318449.60	40°12'13.0113"N	104°32'49.0046"W	polygon
2D Polygon: dimensions not calculated								
SEC.34-T03N-R64W	1.00	-6310.37	-1519.89	3266233.30	1313172.95	40°11'20.8645"N	104°32'49.2969"W	polygon
2D Polygon: dimensions not calculated								
GUTTERSEN D34-749 BHL REV-1 (200'FSL & 2590'FWL, SEC.34)	6854.00	-11362.88	1145.35	3268898.42	1308120.67	40°10'30.6541"N	104°32'15.6631"W	point
GUTTERSEN D34-749 TPZ REV-1 (200'FNL & 2615'FEL, SEC.27)	6900.00	-1201.73	1125.33	3268878.40	1318281.37	40°12'11.0628"N	104°32'14.5000"W	point

### WELLPATH COMPOSITION - Ref Wellbore: GUTTERSEN D34-749 AWB Ref Wellpath: GUTTERSEN D34-749 AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
0.00	1946.00	Gyrodata 2015 - GC+DROP+COND	13.5" GYRODATA 2015 (GC+DROP+COND) <0' - 1946'>	GUTTERSEN D34-749 AWB	3/25/2020
1946.00	17600.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	8.5" OWSG MWD REV.2 (IFR1+MSA) <2092' - 17576'>	GUTTERSEN D34-749 AWB	3/25/2020

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN D34-749
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.22-T03N-R64W	Wellbore	GUTTERSEN D34-749 AWB
Slot	SLOT#32 GUTTERSEN D34-749 (1015'FSL & 1553'FWL, SEC.22)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
81.00	0.120	94.080	81.00	FIRST 3RD PARTY GYRO SURVEY
1946.00	1.050	127.900	1945.95	TIE ON TO 3RD PARTY GYRO SURVEYS
2092.00	0.110	186.430	2091.94	FIRST BH MWD SURVEY
17576.00	90.710	181.410	6857.72	LAST BH MWD SURVEY
17600.00	90.710	181.410	6857.42	EXTRAPOLATED TO TD