

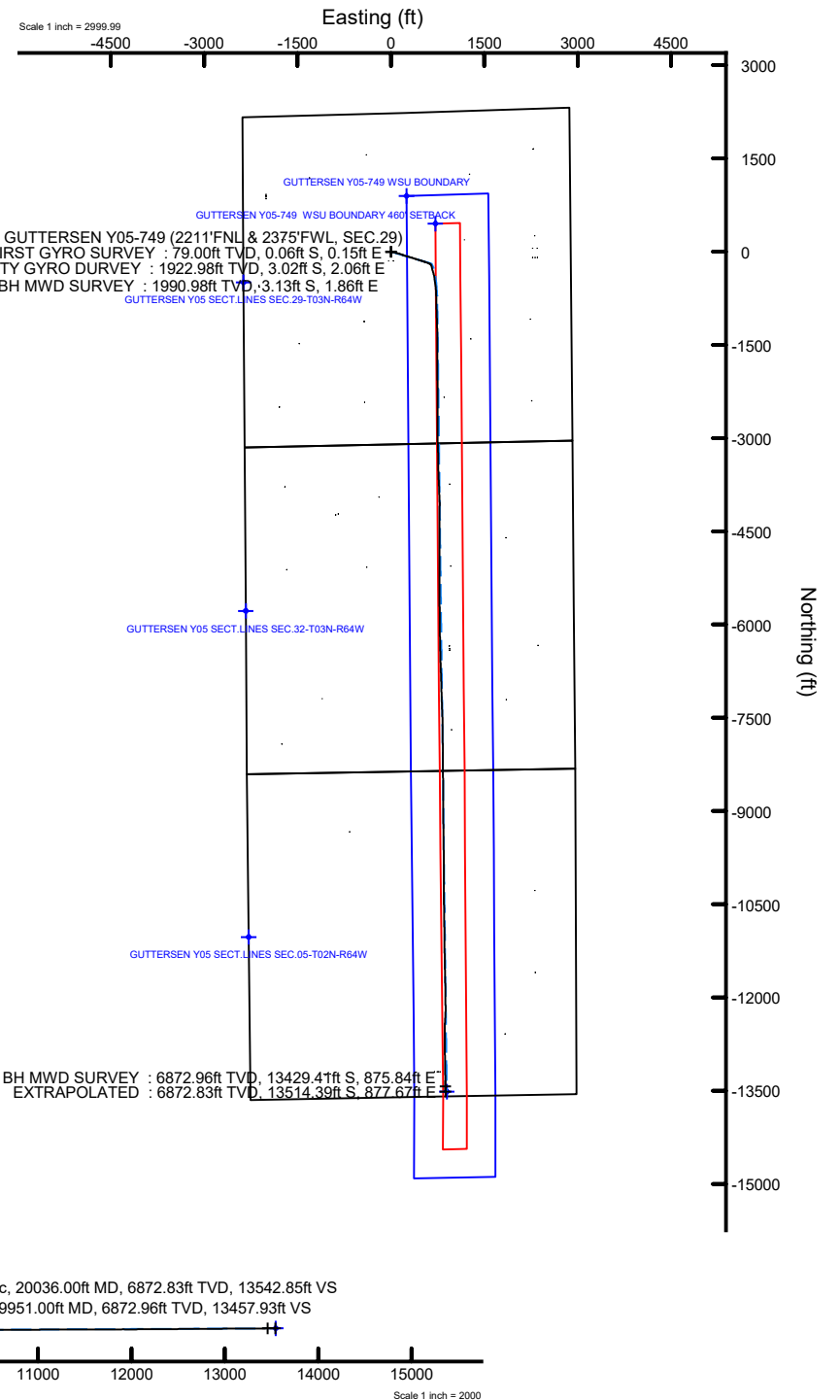
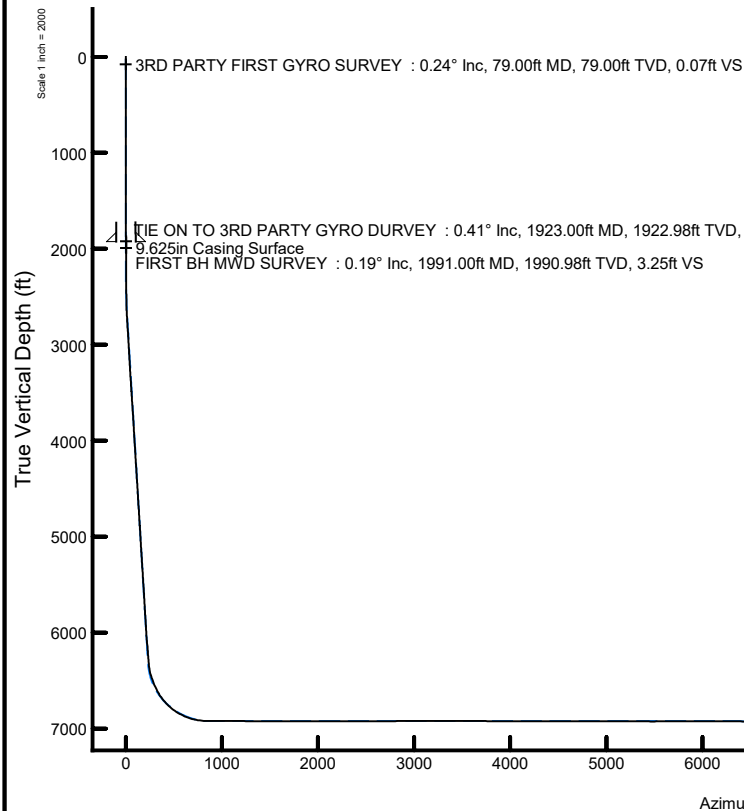
NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#38 GUTTERSEN Y05-749 (2211'FNL & 2375'FWL, SEC.29)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: GUTTERSEN Y05-749
Facility: SEC.29-T03N-R64W Wellbore: GUTTERSEN Y05-749 AWB

Location Information

Facility Name				Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.29-T03N-R64W				3256078.619	1317026.618	40°12'0.0047"N	104°34'59.6280"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
SLOT#38 GUTTERSEN Y05-749 (2211'FNL & 2375'FWL, SEC.29)	-897.16	2008.73	3256067.254	1316129.494	40°11'50.9327"N	104°34'33.8628"W	
H&P 321 (4780'GL+30'KB@4810') (RKB) to Mud line (At Slot: SLOT#38 GUTTERSEN Y05-749 (2211'FNL & 2375'FWL, SEC.29))						4810ft	
Mean Sea Level to Mud line (At Slot: SLOT#38 GUTTERSEN Y05-749 (2211'FNL & 2375'FWL, SEC.29))						0ft	
H&P 321 (4780'GL+30'KB@4810') (RKB) to Mean Sea Level						4810ft	

Plot reference wellpath is GUTTERSEN Y05-749 AWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to H&P 321 (4780'GL+30'KB@4810') (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to H&P 321 (4780'GL+30'KB@4810') (RKB)	Scale: True distance
H&P 321 (4780'GL+30'KB@4810') (RKB) to Mean Sea Level: 4810 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Mud line (At Slot: SLOT#38 GUTTERSEN Y05-749 (2211'FNL & 2375'FWL, SEC.29)): 0 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: manojh on 2020-01-20; Database: WA_NOBLE



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN Y05-749
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	05-123-48047
Facility	SEC.29-T03N-R64W	Wellbore	GUTTERSEN Y05-749 AWB
Slot	SLOT#38 GUTTERSEN Y05-749 (2211'FNL & 2375'FWL, SEC.29)		

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	1/20/2020 at 1:47:43 PM
Convergence at slot	0.60° 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	-897.16	2008.73	3258087.25	1316129.49	40°11'50.9327"N	104°34'33.8628"W
Facility Reference Pt			3256078.62	1317026.62	40°12'0.0040"N	104°34'59.6280"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 (4780'GL+30'KB@4810') (RKB) to Facility Vertical Datum	4810.00ft
Horizontal Reference Pt	Slot	H&P 321 (4780'GL+30'KB@4810') (RKB) to Mean Sea Level	4810.00ft
Vertical Reference Pt	H&P 321 (4780'GL+30'KB@4810') (RKB)	H&P 321 (4780'GL+30'KB@4810') (RKB) to Mud Line at Slot (SLOT#38 GUTTERSEN Y05-749 (2211'FNL & 2375'FWL, SEC.29))	4810.00ft
MD Reference Pt	H&P 321 (4780'GL+30'KB@4810') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	176.20°

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN Y05-749
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	05-123-48047
Facility	SEC.29-T03N-R64W	Wellbore	GUTTERSEN Y05-749 AWB
Slot	SLOT#38 GUTTERSEN Y05-749 (2211'FNL & 2375'FWL, SEC.29)		

WELLPATH DATA (214 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	110.640	0.00	-4810.00	0.00	0.00	0.00	40°11'50.9327"N	104°34'33.8628"W	0.00	0.00	0.00	0.00	
79.00	0.240	110.640	79.00	-4731.00	0.07	-0.06	0.15	40°11'50.9321"N	104°34'33.8608"W	0.30	76.35	0.30	0.00	3RD PARTY FIRST GYRO SURVEY
176.00	0.380	149.130	176.00	-4634.00	0.44	-0.41	0.51	40°11'50.9286"N	104°34'33.8563"W	0.25	173.06	0.14	39.68	
268.00	0.130	301.510	268.00	-4542.00	0.65	-0.61	0.58	40°11'50.9266"N	104°34'33.8554"W	0.54	166.44	-0.27	165.63	
362.00	0.100	90.200	362.00	-4448.00	0.59	-0.56	0.57	40°11'50.9271"N	104°34'33.8555"W	0.24	-15.94	-0.03	158.18	
456.00	0.420	78.010	456.00	-4354.00	0.55	-0.49	0.99	40°11'50.9278"N	104°34'33.8501"W	0.34	-141.78	0.34	-12.97	
551.00	0.270	10.450	551.00	-4259.00	0.28	-0.19	1.37	40°11'50.9306"N	104°34'33.8452"W	0.42	108.39	-0.16	-71.12	
645.00	0.370	75.020	644.99	-4165.01	0.01	0.10	1.70	40°11'50.9335"N	104°34'33.8409"W	0.37	153.91	0.11	68.69	
740.00	0.170	122.120	739.99	-4070.01	0.03	0.11	2.12	40°11'50.9335"N	104°34'33.8355"W	0.30	-70.06	-0.21	49.58	
834.00	0.260	89.990	833.99	-3976.01	0.13	0.03	2.45	40°11'50.9328"N	104°34'33.8312"W	0.16	121.47	0.10	-34.18	
929.00	0.280	159.090	928.99	-3881.01	0.37	-0.18	2.75	40°11'50.9306"N	104°34'33.8274"W	0.32	-142.62	0.02	72.74	
1023.00	0.170	106.510	1022.99	-3787.01	0.63	-0.44	2.96	40°11'50.9281"N	104°34'33.8247"W	0.24	-149.84	-0.12	-55.94	
1118.00	0.100	78.010	1117.99	-3692.01	0.67	-0.46	3.18	40°11'50.9278"N	104°34'33.8219"W	0.10	154.74	-0.07	-30.00	
1212.00	0.150	216.220	1211.99	-3598.01	0.75	-0.54	3.19	40°11'50.9270"N	104°34'33.8218"W	0.25	-108.52	0.05	147.03	
1307.00	0.200	153.030	1306.99	-3503.01	1.00	-0.79	3.19	40°11'50.9245"N	104°34'33.8218"W	0.20	-155.52	0.05	-66.52	
1402.00	0.090	110.480	1401.99	-3408.01	1.18	-0.97	3.33	40°11'50.9228"N	104°34'33.8200"W	0.15	179.49	-0.12	-44.79	
1496.00	0.070	289.310	1495.99	-3314.01	1.19	-0.97	3.35	40°11'50.9227"N	104°34'33.8198"W	0.17	-36.75	-0.02	190.24	
1590.00	0.320	260.080	1589.99	-3220.01	1.20	-1.00	3.04	40°11'50.9225"N	104°34'33.8238"W	0.28	-100.51	0.27	-31.10	
1685.00	0.430	206.600	1684.99	-3125.01	1.53	-1.36	2.62	40°11'50.9190"N	104°34'33.8293"W	0.37	-80.89	0.12	-56.29	
1779.00	0.550	176.240	1778.98	-3031.02	2.29	-2.13	2.49	40°11'50.9114"N	104°34'33.8310"W	0.30	132.11	0.13	-32.30	
1874.00	0.410	212.750	1873.99	-2936.02	3.02	-2.87	2.33	40°11'50.9041"N	104°34'33.8331"W	0.35	118.00	-0.15	38.43	
1923.00	0.410	268.760	1922.98	-2887.02	3.15	-3.02	2.06	40°11'50.9026"N	104°34'33.8366"W	0.79	-159.48	0.00	114.31	TIE ON TO 3RD PARTY GYRO DURYVEY
1991.00	0.190	158.430	1990.98	-2819.02	3.25	-3.13	1.86	40°11'50.9016"N	104°34'33.8392"W	0.75	170.77	-0.32	-162.25	FIRST BH MWD SURVEY
2085.00	0.120	163.910	2084.98	-2725.02	3.49	-3.37	1.95	40°11'50.8992"N	104°34'33.8382"W	0.08	148.21	-0.07	5.83	
2180.00	0.110	277.050	2179.98	-2630.02	3.57	-3.45	1.88	40°11'50.8984"N	104°34'33.8390"W	0.20	-168.46	-0.01	119.09	
2274.00	1.590	109.380	2273.97	-2536.03	4.07	-3.88	3.02	40°11'50.8941"N	104°34'33.8244"W	1.81	-20.72	1.57	-178.37	
2369.00	3.100	99.110	2368.89	-2441.11	5.16	-4.72	6.80	40°11'50.8854"N	104°34'33.7758"W	1.64	-16.88	1.59	-10.81	
2463.00	4.810	93.010	2462.66	-2347.34	6.20	-5.33	13.25	40°11'50.8787"N	104°34'33.6928"W	1.87	-16.42	1.82	-6.49	
2558.00	6.710	88.270	2557.18	-2252.82	6.87	-5.37	22.77	40°11'50.8773"N	104°34'33.5700"W	2.06	44.14	2.00	-4.99	
2652.00	10.200	105.230	2650.15	-2159.85	9.78	-7.39	36.30	40°11'50.8559"N	104°34'33.3960"W	4.53	-8.14	3.71	18.04	
2747.00	10.300	105.150	2743.64	-2066.36	15.28	-11.82	52.62	40°11'50.8105"N	104°34'33.1864"W	0.11	132.62	0.11	-0.08	
2841.00	10.190	105.830	2836.14	-1973.86	20.81	-16.29	68.73	40°11'50.7647"N	104°34'32.9794"W	0.17	-158.55	-0.12	0.72	
2936.00	9.970	105.330	2929.67	-1880.33	26.32	-20.75	84.74	40°11'50.7189"N	104°34'32.7736"W	0.25	-122.98	-0.23	-0.53	
3030.00	9.870	104.420	3022.27	-1787.73	31.51	-24.91	100.39	40°11'50.6762"N	104°34'32.5725"W	0.20	112.34	-0.11	-0.97	
3124.00	9.740	106.370	3114.89	-1695.11	36.77	-29.16	115.82	40°11'50.6326"N	104°34'32.3742"W	0.38	151.24	-0.14	2.07	
3219.00	9.480	107.240	3208.56	-1601.44	42.35	-33.74	131.01	40°11'50.5858"N	104°34'32.1792"W	0.31	-49.11	-0.27	0.92	
3313.00	9.490	107.170	3301.28	-1508.72	47.90	-38.32	145.80	40°11'50.5390"N	104°34'31.9891"W	0.02	109.42	0.01	-0.07	
3407.00	9.390	108.990	3394.00	-1416.00	53.65	-43.11	160.46	40°11'50.4902"N	104°34'31.8009"W	0.33	11.62	-0.11	1.94	
3502.00	9.470	109.090	3487.72	-1322.28	59.69	-48.18	175.17	40°11'50.4385"N	104°34'31.6120"W	0.09	-8.40	0.08	0.11	
3596.00	9.560	109.010	3580.43	-1229.57	65.72	-53.26	189.86	40°11'50.3869"N	104°34'31.4234"W	0.10	66.89	0.10	-0.09	
3691.00	9.580	109.290	3674.10	-1135.90	71.88	-58.44	204.78	40°11'50.3342"N	104°34'31.2318"W	0.05	-94.81	0.02	0.29	
3785.00	9.560	107.550	3766.80	-1043.20	77.79	-63.38	219.60	40°11'50.2838"N	104°34'31.0415"W	0.31	-6.02	-0.02	-1.85	
3880.00	9.720	107.450	3860.45	-949.55	83.57	-68.16	234.78	40°11'50.2350"N	104°34'30.8466"W	0.17	-74.49	0.17	-0.11	
3974.00	9.820	105.460	3953.09	-856.91	89.09	-72.68	250.07	40°11'50.1888"N	104°34'30.6501"W	0.37	90.57	0.11	-2.12	
4069.00	9.820	106.610	4046.70	-763.30	94.59	-77.15	265.64	40°11'50.1430"N	104°34'30.4500"W	0.21	156.46	0.00	1.21	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN Y05-749
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	05-123-48047
Facility	SEC.29-T03N-R64W	Wellbore	GUTTERSEN Y05-749 AWB
Slot	SLOT#38 GUTTERSEN Y05-749 (2211'FNL & 2375'FWL, SEC.29)		

WELLPATH DATA (214 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
4164.00	9.510	107.430	4140.35	-669.65	100.25	-81.82	280.89	40°11'50.0953"N	104°34'30.2541"W	0.36	-9.73	-0.33	0.86	
4258.00	9.870	107.070	4233.01	-576.99	105.94	-86.51	296.01	40°11'50.0474"N	104°34'30.0601"W	0.39	115.53	0.38	-0.38	
4353.00	9.840	107.440	4326.61	-483.39	111.78	-91.33	311.53	40°11'49.9981"N	104°34'29.8606"W	0.07	-76.82	-0.03	0.39	
4448.00	9.860	106.950	4420.21	-389.79	117.60	-96.14	327.06	40°11'49.9491"N	104°34'29.6612"W	0.09	-149.18	0.02	-0.52	
4542.00	9.730	106.490	4512.84	-297.16	123.21	-100.74	342.37	40°11'49.9020"N	104°34'29.4645"W	0.16	114.05	-0.14	-0.49	
4637.00	9.600	108.080	4606.49	-203.51	128.97	-105.50	357.59	40°11'49.8533"N	104°34'29.2690"W	0.35	-99.76	-0.14	1.91	
4731.00	9.550	106.360	4699.18	-110.82	134.61	-110.16	372.52	40°11'49.8058"N	104°34'29.0773"W	0.35	50.05	-0.05	-2.06	
4826.00	9.750	107.750	4792.84	-17.16	140.28	-114.83	387.74	40°11'49.7580"N	104°34'28.8818"W	0.32	161.40	0.21	1.46	
4921.00	9.690	107.870	4886.47	76.47	146.18	-119.74	403.01	40°11'49.7080"N	104°34'28.6857"W	0.07	-111.04	-0.06	0.13	
5015.00	9.580	106.080	4979.15	169.15	151.76	-124.33	418.05	40°11'49.6610"N	104°34'28.4924"W	0.34	-13.98	-0.12	-1.90	
5110.00	10.080	105.370	5072.75	262.75	157.18	-128.72	433.67	40°11'49.6160"N	104°34'28.2918"W	0.54	137.76	0.53	-0.75	
5204.00	9.560	108.280	5165.37	355.37	162.82	-133.35	449.01	40°11'49.5687"N	104°34'28.0947"W	0.76	-42.45	-0.55	3.10	
5299.00	10.260	104.780	5258.96	448.96	168.48	-137.99	464.68	40°11'49.5213"N	104°34'27.8934"W	0.97	134.70	0.74	-3.68	
5394.00	9.240	111.620	5352.59	542.59	174.45	-142.96	479.95	40°11'49.4706"N	104°34'27.6973"W	1.62	-75.24	-1.07	7.20	
5488.00	9.370	108.840	5445.35	635.35	180.63	-148.21	494.21	40°11'49.4173"N	104°34'27.5143"W	0.50	-149.21	0.14	-2.96	
5582.00	9.000	107.420	5538.14	728.14	186.24	-152.88	508.47	40°11'49.3696"N	104°34'27.3312"W	0.46	60.29	-0.39	-1.51	
5677.00	9.100	108.510	5631.96	821.96	191.78	-157.49	522.68	40°11'49.3226"N	104°34'27.1486"W	0.21	147.09	0.11	1.15	
5771.00	8.820	109.700	5724.82	914.82	197.48	-162.28	536.52	40°11'49.2739"N	104°34'26.9710"W	0.36	-49.86	-0.30	1.27	
5865.00	9.240	106.690	5817.65	1007.65	202.99	-166.87	550.53	40°11'49.2270"N	104°34'26.7910"W	0.67	35.33	0.45	-3.20	
5960.00	9.440	107.550	5911.39	1101.39	208.50	-171.41	565.26	40°11'49.1806"N	104°34'26.6018"W	0.26	174.68	0.21	0.91	
6054.00	8.830	107.920	6004.20	1194.20	213.98	-175.96	579.48	40°11'49.1342"N	104°34'26.4192"W	0.65	75.67	-0.65	0.39	
6149.00	9.730	122.130	6097.97	1287.97	221.39	-182.47	593.22	40°11'49.0685"N	104°34'26.2431"W	2.58	-79.68	0.95	14.96	
6244.00	10.330	110.280	6191.52	1381.52	229.57	-189.70	608.01	40°11'48.9956"N	104°34'26.0535"W	2.26	-98.61	0.63	-12.47	
6338.00	10.270	107.670	6284.01	1474.01	236.08	-195.16	623.90	40°11'48.9399"N	104°34'25.8495"W	0.50	97.79	-0.06	-2.78	
6433.00	11.190	140.470	6377.43	1567.43	246.67	-204.85	637.85	40°11'48.8427"N	104°34'25.6710"W	6.41	41.15	0.97	34.53	
6527.00	19.170	159.340	6468.13	1658.13	268.90	-226.37	649.12	40°11'48.6289"N	104°34'25.5286"W	9.88	35.31	8.49	20.07	
6622.00	24.250	167.710	6556.39	1746.39	303.15	-260.06	658.79	40°11'48.2950"N	104°34'25.4086"W	6.25	-18.12	5.35	8.81	
6716.00	31.270	163.340	6639.52	1829.52	346.08	-302.35	669.90	40°11'47.8760"N	104°34'25.2710"W	7.77	6.62	7.47	-4.65	
6811.00	41.420	165.110	6715.95	1905.95	401.10	-356.48	685.09	40°11'47.3395"N	104°34'25.0827"W	10.74	31.23	10.68	1.86	
6905.00	49.250	171.220	6782.00	1972.00	467.22	-421.85	698.54	40°11'46.6921"N	104°34'24.9181"W	9.52	5.98	8.33	6.50	
7000.00	59.800	172.490	6837.06	2027.06	544.26	-498.34	709.43	40°11'45.9353"N	104°34'24.7881"W	11.16	11.01	11.11	1.34	
7094.00	67.220	174.050	6878.96	2068.96	628.22	-581.83	719.24	40°11'45.1092"N	104°34'24.6729"W	8.03	15.51	7.89	1.66	
7189.00	77.910	177.060	6907.39	2097.39	718.71	-672.06	726.19	40°11'44.2169"N	104°34'24.5955"W	11.65	21.95	11.25	3.17	
7283.00	86.580	180.540	6920.07	2110.07	811.65	-765.07	728.11	40°11'43.2976"N	104°34'24.5833"W	9.92	-40.14	9.22	3.70	
7378.00	90.310	177.400	6922.64	2112.64	906.47	-859.99	729.82	40°11'42.3595"N	104°34'24.5741"W	5.13	119.54	3.93	-3.31	
7472.00	89.970	178.000	6922.41	2112.41	1000.44	-953.92	733.59	40°11'41.4310"N	104°34'24.5381"W	0.73	135.00	-0.36	0.64	
7567.00	89.940	178.030	6922.49	2112.49	1095.39	-1048.86	736.88	40°11'40.4925"N	104°34'24.5085"W	0.04	-151.39	-0.03	0.03	
7661.00	89.720	177.910	6922.77	2112.77	1189.34	-1142.80	740.21	40°11'39.5639"N	104°34'24.4782"W	0.27	85.12	-0.23	-0.13	
7756.00	89.820	179.080	6923.15	2113.15	1284.27	-1237.76	742.70	40°11'38.6252"N	104°34'24.4589"W	1.24	-59.04	0.11	1.23	
7850.00	89.940	178.880	6923.35	2113.35	1378.16	-1331.75	744.38	40°11'37.6963"N	104°34'24.4500"W	0.25	118.89	0.13	-0.21	
7945.00	89.780	179.170	6923.58	2113.58	1473.04	-1426.74	745.99	40°11'36.7576"N	104°34'24.4419"W	0.35	100.79	-0.17	0.31	
8040.00	89.660	179.800	6924.04	2114.04	1567.88	-1521.73	746.85	40°11'35.8188"N	104°34'24.4437"W	0.68	36.38	-0.13	0.66	
8135.00	89.850	179.940	6924.45	2114.45	1662.69	-1616.73	747.06	40°11'34.8800"N	104°34'24.4537"W	0.25	-9.46	0.20	0.15	
8229.00	89.910	179.930	6924.65	2114.65	1756.49	-1710.73	747.17	40°11'33.9512"N	104°34'24.4650"W	0.06	18.43	0.06	-0.01	
8323.00	89.940	179.940	6924.77	2114.77	1850.29	-1804.73	747.28	40°11'33.0223"N	104°34'24.4763"W	0.03	82.88	0.03	0.01	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN Y05-749
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	05-123-48047
Facility	SEC.29-T03N-R64W	Wellbore	GUTTERSEN Y05-749 AWB
Slot	SLOT#38 GUTTERSEN Y05-749 (2211'FNL & 2375'FWL, SEC.29)		

WELLPATH DATA (214 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
8418.00	89.970	180.180	6924.84	2114.84	1945.07	-1899.73	747.18	40°11'32.0836"N	104°34'24.4904"W	0.25	-97.60	0.03	0.25	
8513.00	89.910	179.730	6924.94	2114.94	2039.87	-1994.73	747.25	40°11'31.1448"N	104°34'24.5022"W	0.48	-49.40	-0.06	-0.47	
8607.00	90.030	179.590	6924.99	2114.99	2133.70	-2088.73	747.81	40°11'30.2160"N	104°34'24.5077"W	0.20	90.00	0.13	-0.15	
8702.00	90.030	180.320	6924.94	2114.94	2228.49	-2183.73	747.88	40°11'29.2772"N	104°34'24.5195"W	0.77	-73.26	0.00	0.77	
8796.00	90.400	179.090	6924.59	2114.59	2322.31	-2277.72	748.37	40°11'28.3483"N	104°34'24.5259"W	1.37	102.82	0.39	-1.31	
8891.00	90.120	180.320	6924.16	2114.16	2417.13	-2372.72	748.86	40°11'27.4096"N	104°34'24.5324"W	1.33	-98.67	-0.29	1.29	
8986.00	90.030	179.730	6924.03	2114.03	2511.92	-2467.72	748.82	40°11'26.4709"N	104°34'24.5457"W	0.63	90.00	-0.09	-0.62	
9081.00	90.030	180.560	6923.98	2113.98	2606.69	-2562.72	748.58	40°11'25.5322"N	104°34'24.5616"W	0.87	-93.67	0.00	0.87	
9175.00	89.910	178.690	6924.03	2114.03	2700.52	-2656.71	749.19	40°11'24.6033"N	104°34'24.5663"W	1.99	64.02	-0.13	-1.99	
9269.00	90.860	180.640	6923.40	2113.40	2794.34	-2750.70	749.74	40°11'23.6745"N	104°34'24.5719"W	2.31	-116.81	1.01	2.07	
9364.00	90.400	179.730	6922.36	2112.36	2889.11	-2845.69	749.43	40°11'22.7359"N	104°34'24.5887"W	1.07	97.76	-0.48	-0.96	
9458.00	90.310	180.390	6921.78	2111.78	2982.89	-2939.69	749.34	40°11'21.8070"N	104°34'24.6026"W	0.71	-100.96	-0.10	0.70	
9553.00	89.690	177.190	6921.78	2111.78	3077.78	-3034.66	751.34	40°11'20.8684"N	104°34'24.5895"W	3.43	74.51	-0.65	-3.37	
9648.00	90.250	179.210	6921.82	2111.82	3172.72	-3129.60	754.32	40°11'19.9299"N	104°34'24.5639"W	2.21	-106.41	0.59	2.13	
9742.00	89.720	177.410	6921.85	2111.85	3266.65	-3223.56	757.10	40°11'19.0012"N	104°34'24.5408"W	2.00	79.51	-0.56	-1.91	
9837.00	90.120	179.570	6921.98	2111.98	3361.57	-3318.52	759.60	40°11'18.0626"N	104°34'24.5213"W	2.31	-90.00	0.42	2.27	
9931.00	90.120	179.230	6921.79	2111.79	3455.42	-3412.51	760.58	40°11'17.1337"N	104°34'24.5213"W	0.36	-124.29	0.00	-0.36	
10025.00	89.820	178.790	6921.83	2111.83	3549.31	-3506.50	762.21	40°11'16.2048"N	104°34'24.5130"W	0.57	-84.47	-0.32	-0.47	
10120.00	89.910	177.860	6922.06	2112.06	3644.24	-3601.46	764.99	40°11'15.2662"N	104°34'24.4900"W	0.98	-127.04	0.09	-0.98	
10215.00	89.080	176.760	6922.90	2112.90	3739.22	-3696.35	769.44	40°11'14.3281"N	104°34'24.4454"W	1.45	80.12	-0.87	-1.16	
10309.00	89.380	178.480	6924.16	2114.16	3833.17	-3790.25	773.35	40°11'13.3997"N	104°34'24.4077"W	1.86	-63.44	0.32	1.83	
10404.00	89.750	177.740	6924.88	2114.88	3928.12	-3885.20	776.48	40°11'12.4612"N	104°34'24.3801"W	0.87	-110.56	0.39	-0.78	
10498.00	89.420	176.860	6925.56	2115.56	4022.10	-3979.09	780.91	40°11'11.5330"N	104°34'24.3357"W	1.00	80.22	-0.35	-0.94	
10593.00	90.090	180.740	6925.97	2115.97	4116.98	-4074.05	782.90	40°11'10.5944"N	104°34'24.3229"W	4.14	-72.00	0.71	4.08	
10688.00	90.220	180.340	6925.71	2115.71	4211.71	-4169.05	782.00	40°11'9.6558"N	104°34'24.3472"W	0.44	-125.36	0.14	-0.42	
10782.00	90.000	180.030	6925.53	2115.53	4305.48	-4263.05	781.70	40°11'8.7270"N	104°34'24.3638"W	0.40	-95.71	-0.23	-0.33	
10876.00	89.970	179.730	6925.55	2115.55	4399.29	-4357.05	781.89	40°11'7.7981"N	104°34'24.3739"W	0.32	0.00	-0.03	-0.32	
10971.00	90.120	179.730	6925.48	2115.48	4494.11	-4452.04	782.34	40°11'6.8594"N	104°34'24.3809"W	0.16	96.75	0.16	0.00	
11066.00	90.030	180.490	6925.36	2115.36	4588.88	-4547.04	782.16	40°11'5.9206"N	104°34'24.3960"W	0.81	-72.44	-0.09	0.80	
11160.00	90.280	179.700	6925.10	2115.10	4682.67	-4641.04	782.00	40°11'4.9918"N	104°34'24.4107"W	0.88	97.59	0.27	-0.84	
11255.00	90.180	180.450	6924.72	2114.72	4777.45	-4736.04	781.88	40°11'4.0531"N	104°34'24.4251"W	0.80	-111.16	-0.11	0.79	
11349.00	90.060	180.140	6924.52	2114.52	4871.21	-4830.04	781.40	40°11'3.1243"N	104°34'24.4440"W	0.35	-114.36	-0.13	-0.33	
11443.00	89.820	179.610	6924.62	2114.62	4965.01	-4924.04	781.60	40°11'2.1954"N	104°34'24.4540"W	0.62	61.93	-0.26	-0.56	
11538.00	90.220	180.360	6924.59	2114.59	5059.80	-5019.04	781.63	40°11'1.2567"N	104°34'24.4665"W	0.89	-155.30	0.42	0.79	
11632.00	89.720	180.130	6924.64	2114.64	5153.57	-5113.04	781.22	40°11'0.3279"N	104°34'24.4843"W	0.59	-19.44	-0.53	-0.24	
11726.00	90.060	180.010	6924.82	2114.82	5247.36	-5207.04	781.11	40°10'59.3991"N	104°34'24.4984"W	0.38	176.79	0.36	-0.13	
11821.00	89.170	180.060	6925.46	2115.46	5342.14	-5302.03	781.05	40°10'58.4604"N	104°34'24.5120"W	0.94	27.68	-0.94	0.05	
11915.00	89.780	180.380	6926.32	2116.32	5435.90	-5396.03	780.69	40°10'57.5316"N	104°34'24.5293"W	0.73	-37.95	0.65	0.34	
12010.00	90.280	179.990	6926.27	2116.27	5530.67	-5491.03	780.38	40°10'56.5929"N	104°34'24.5460"W	0.67	-114.68	0.53	-0.41	
12104.00	89.940	179.250	6926.09	2116.09	5624.51	-5585.02	781.01	40°10'55.6640"N	104°34'24.5506"W	0.87	53.13	-0.36	-0.79	
12198.00	90.000	179.330	6926.14	2116.14	5718.37	-5679.02	782.17	40°10'54.7351"N	104°34'24.5483"W	0.11	116.57	0.06	0.09	
12293.00	89.850	179.630	6926.26	2116.26	5813.21	-5774.01	783.03	40°10'53.7963"N	104°34'24.5500"W	0.35	-41.19	-0.16	0.32	
12387.00	90.090	179.420	6926.31	2116.31	5907.05	-5868.01	783.81	40°10'52.8674"N	104°34'24.5526"W	0.34	40.85	0.26	-0.22	
12481.00	90.460	179.740	6925.86	2115.86	6000.89	-5962.00	784.50	40°10'51.9385"N	104°34'24.5564"W	0.52	-128.66	0.39	0.34	
12576.00	90.060	179.240	6925.43	2115.43	6095.73	-6057.00	785.35	40°10'50.9997"N	104°34'24.5582"W	0.67	-62.18	-0.42	-0.53	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN Y05-749
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	05-123-48047
Facility	SEC.29-T03N-R64W	Wellbore	GUTTERSEN Y05-749 AWB
Slot	SLOT#38 GUTTERSEN Y05-749 (2211'FNL & 2375'FWL, SEC.29)		

WELLPATH DATA (214 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
12670.00	90.250	178.880	6925.17	2115.17	6189.61	-6150.99	786.89	40°10'50.0708"N	104°34'24.5510"W	0.43	-112.11	0.20	-0.38	
12764.00	90.120	178.560	6924.87	2114.87	6283.52	-6244.96	788.99	40°10'49.1420"N	104°34'24.5366"W	0.37	159.87	-0.14	-0.34	
12858.00	88.920	179.000	6925.66	2115.66	6377.42	-6338.94	790.99	40°10'48.2132"N	104°34'24.5235"W	1.36	9.16	-1.28	0.47	
12953.00	89.230	179.050	6927.19	2117.19	6472.29	-6433.91	792.61	40°10'47.2746"N	104°34'24.5155"W	0.33	-90.01	0.33	0.05	
13047.00	89.230	177.930	6928.45	2118.45	6566.21	-6527.87	795.08	40°10'46.3459"N	104°34'24.4962"W	1.19	80.27	0.00	-1.19	
13141.00	89.290	178.280	6929.67	2119.67	6660.15	-6621.81	798.19	40°10'45.4173"N	104°34'24.4688"W	0.38	120.97	0.06	0.37	
13236.00	89.260	178.330	6930.87	2120.87	6755.08	-6716.76	801.00	40°10'44.4787"N	104°34'24.4454"W	0.06	-114.11	-0.03	0.05	
13330.00	88.920	177.570	6932.36	2122.36	6849.02	-6810.69	804.36	40°10'43.5502"N	104°34'24.4147"W	0.89	70.29	-0.36	-0.81	
13425.00	89.350	178.770	6933.80	2123.80	6943.95	-6905.62	807.40	40°10'42.6118"N	104°34'24.3884"W	1.34	-78.91	0.45	1.26	
13519.00	89.450	178.600	6934.78	2124.78	7037.87	-6999.59	809.83	40°10'41.6831"N	104°34'24.3697"W	0.55	-127.88	0.11	-0.54	
13614.00	89.380	178.170	6935.75	2125.75	7132.81	-7094.54	812.79	40°10'40.7445"N	104°34'24.3444"W	0.12	167.47	-0.07	-0.09	
13708.00	89.110	178.230	6936.99	2126.99	7226.74	-7188.48	815.74	40°10'39.8159"N	104°34'24.3190"W	0.29	-115.98	-0.29	0.06	
13803.00	88.920	177.840	6938.62	2128.62	7321.68	-7283.41	819.00	40°10'38.8775"N	104°34'24.2898"W	0.46	-19.65	-0.20	-0.41	
13898.00	89.200	177.740	6940.18	2130.18	7416.63	-7378.33	822.66	40°10'37.9392"N	104°34'24.2554"W	0.31	-78.44	0.29	-0.11	
13992.00	89.290	177.300	6941.42	2131.42	7510.59	-7472.23	826.73	40°10'37.0109"N	104°34'24.2156"W	0.48	83.03	0.10	-0.47	
14087.00	89.600	179.830	6942.34	2132.34	7605.50	-7567.19	829.11	40°10'36.0723"N	104°34'24.1978"W	2.68	-103.76	0.33	2.66	
14181.00	89.480	179.340	6943.10	2133.10	7699.33	-7661.18	829.79	40°10'35.1434"N	104°34'24.2017"W	0.54	101.69	-0.13	-0.52	
14276.00	89.420	179.630	6944.01	2134.01	7794.17	-7756.17	830.64	40°10'34.2047"N	104°34'24.2034"W	0.31	-131.19	-0.06	0.31	
14371.00	89.140	179.310	6945.20	2135.20	7889.01	-7851.16	831.52	40°10'33.2660"N	104°34'24.2049"W	0.45	-96.27	-0.29	-0.34	
14466.00	89.050	178.490	6946.70	2136.70	7983.89	-7946.13	833.35	40°10'32.3274"N	104°34'24.1942"W	0.87	75.01	-0.09	-0.86	
14560.00	89.350	179.610	6948.01	2138.01	8077.77	-8040.11	834.91	40°10'31.3986"N	104°34'24.1868"W	1.23	-46.88	0.32	1.19	
14655.00	89.940	178.980	6948.60	2138.60	8172.62	-8135.10	836.07	40°10'30.4598"N	104°34'24.1845"W	0.91	29.87	0.62	-0.66	
14749.00	91.750	180.020	6947.22	2137.22	8266.45	-8229.08	836.89	40°10'29.5311"N	104°34'24.1866"W	2.22	-90.00	1.93	1.11	
14844.00	91.750	179.860	6944.32	2134.32	8361.21	-8324.04	836.99	40°10'28.5927"N	104°34'24.1981"W	0.17	-167.48	0.00	-0.17	
14939.00	91.390	179.780	6941.71	2131.71	8455.98	-8419.00	837.29	40°10'27.6543"N	104°34'24.2070"W	0.39	-125.54	-0.38	-0.08	
15033.00	91.290	179.640	6939.51	2129.51	8549.78	-8512.97	837.77	40°10'26.7257"N	104°34'24.2136"W	0.18	34.98	-0.11	-0.15	
15127.00	91.690	179.920	6937.07	2127.07	8643.56	-8606.94	838.13	40°10'25.7971"N	104°34'24.2216"W	0.52	-132.72	0.43	0.30	
15222.00	91.450	179.660	6934.47	2124.47	8738.34	-8701.90	838.48	40°10'24.8587"N	104°34'24.2299"W	0.37	-41.62	-0.25	-0.27	
15317.00	91.540	179.580	6931.99	2121.99	8833.14	-8796.87	839.11	40°10'23.9202"N	104°34'24.2345"W	0.13	89.99	0.09	-0.08	
15411.00	91.540	180.010	6929.46	2119.46	8926.92	-8890.83	839.44	40°10'22.9917"N	104°34'24.2428"W	0.46	-66.03	0.00	0.46	
15506.00	91.660	179.740	6926.81	2116.81	9021.69	-8985.80	839.65	40°10'22.0533"N	104°34'24.2530"W	0.31	-112.77	0.13	-0.28	
15600.00	91.320	178.930	6924.37	2114.37	9115.52	-9079.76	840.74	40°10'21.1247"N	104°34'24.2516"W	0.93	90.00	-0.36	-0.86	
15695.00	91.320	179.340	6922.18	2112.18	9210.37	-9174.72	842.17	40°10'20.1862"N	104°34'24.2459"W	0.43	50.19	0.00	0.43	
15790.00	91.420	179.460	6919.91	2109.91	9305.19	-9269.69	843.17	40°10'19.2476"N	104°34'24.2458"W	0.16	-153.44	0.11	0.13	
15884.00	91.200	179.350	6917.76	2107.76	9399.02	-9363.66	844.14	40°10'18.3190"N	104°34'24.2459"W	0.26	15.06	-0.23	-0.12	
15979.00	91.720	179.490	6915.34	2105.34	9493.84	-9458.62	845.11	40°10'17.3805"N	104°34'24.2463"W	0.57	-53.73	0.55	0.15	
16073.00	91.940	179.190	6912.34	2102.34	9587.65	-9552.57	846.19	40°10'16.4521"N	104°34'24.2450"W	0.40	-119.06	0.23	-0.32	
16168.00	91.790	178.920	6909.24	2099.24	9682.48	-9647.51	847.75	40°10'15.5138"N	104°34'24.2376"W	0.32	89.99	-0.16	-0.28	
16263.00	91.790	179.350	6906.28	2096.28	9777.31	-9742.45	849.19	40°10'14.5755"N	104°34'24.2319"W	0.45	93.41	0.00	0.45	
16357.00	91.720	180.520	6903.40	2093.40	9871.06	-9836.40	849.29	40°10'13.6470"N	104°34'24.2432"W	1.25	-96.71	-0.07	1.24	
16452.00	91.660	180.010	6900.60	2090.60	9965.78	-9931.36	848.86	40°10'12.7088"N	104°34'24.2617"W	0.54	-79.37	-0.06	-0.54	
16547.00	91.690	179.850	6897.82	2087.82	10060.54	-10026.32	848.97	40°10'11.7704"N	104°34'24.2729"W	0.17	-90.00	0.03	-0.17	
16641.00	91.690	179.690	6895.05	2085.05	10154.32	-10120.28	849.35	40°10'10.8419"N	104°34'24.2807"W	0.17	38.44	0.00	-0.17	
16736.00	92.030	179.960	6891.96	2081.96	10249.08	-10215.23	849.64	40°10'9.9037"N	104°34'24.2898"W	0.46	180.00	0.36	0.28	
16830.00	90.620	179.960	6889.79	2079.79	10342.85	-10309.20	849.70	40°10'8.9751"N	104°34'24.3016"W	1.50	-119.43	-1.50	0.00	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN Y05-749
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	05-123-48047
Facility	SEC.29-T03N-R64W	Wellbore	GUTTERSEN Y05-749 AWB
Slot	SLOT#38 GUTTERSEN Y05-749 (2211'FNL & 2375'FWL, SEC.29)		

WELLPATH DATA (214 stations) † = interpolated, ‡ = extrapolated station

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
16925.00	90.180	179.180	6889.13	2079.13	10437.68	-10404.19	850.42	40°10'8.0363"N	104°34'24.3052"W	0.94	-99.46	-0.46	-0.82	
17019.00	90.060	178.460	6888.93	2078.93	10531.58	-10498.17	852.35	40°10'7.1075"N	104°34'24.2929"W	0.78	80.18	-0.13	-0.77	
17114.00	90.150	178.980	6888.75	2078.75	10626.49	-10593.15	854.47	40°10'6.1687"N	104°34'24.2784"W	0.56	139.09	0.09	0.55	
17208.00	90.000	179.110	6888.63	2078.63	10720.37	-10687.14	856.04	40°10'5.2398"N	104°34'24.2708"W	0.21	36.62	-0.16	0.14	
17303.00	90.740	179.660	6888.02	2078.02	10815.22	-10782.13	857.06	40°10'4.3011"N	104°34'24.2705"W	0.97	170.13	0.78	0.58	
17397.00	90.280	179.740	6887.18	2077.18	10909.04	-10876.12	857.55	40°10'3.3722"N	104°34'24.2768"W	0.50	-23.43	-0.49	0.09	
17492.00	90.580	179.610	6886.47	2076.47	11003.87	-10971.12	858.09	40°10'2.4335"N	104°34'24.2826"W	0.34	-128.05	0.32	-0.14	
17587.00	90.220	179.150	6885.81	2075.81	11098.72	-11066.11	859.12	40°10'1.4947"N	104°34'24.2822"W	0.61	-125.54	-0.38	-0.48	
17681.00	90.120	179.010	6885.53	2075.53	11192.60	-11160.10	860.63	40°10'0.5658"N	104°34'24.2754"W	0.18	68.96	-0.11	-0.15	
17776.00	90.220	179.270	6885.24	2075.24	11287.47	-11255.09	862.06	40°09'59.6270"N	104°34'24.2698"W	0.29	-174.29	0.11	0.27	
17870.00	90.120	179.260	6884.97	2074.97	11381.34	-11349.08	863.26	40°09'58.6981"N	104°34'24.2669"W	0.11	-86.57	-0.11	-0.01	
17965.00	90.180	178.260	6884.72	2074.72	11476.24	-11444.05	865.32	40°09'57.7594"N	104°34'24.2532"W	1.05	80.54	0.06	-1.05	
18060.00	90.340	179.220	6884.29	2074.29	11571.15	-11539.03	867.41	40°09'56.8207"N	104°34'24.2391"W	1.02	-79.87	0.17	1.01	
18155.00	90.490	178.380	6883.60	2073.60	11666.04	-11634.00	869.40	40°09'55.8820"N	104°34'24.2263"W	0.90	145.41	0.16	-0.88	
18249.00	89.910	178.780	6883.27	2073.27	11759.96	-11727.97	871.72	40°09'54.9532"N	104°34'24.2089"W	0.75	63.74	-0.62	0.43	
18344.00	90.280	179.530	6883.11	2073.11	11854.83	-11822.96	873.13	40°09'54.0144"N	104°34'24.2037"W	0.88	-146.56	0.39	0.79	
18438.00	89.750	179.180	6883.09	2073.09	11948.69	-11916.96	874.18	40°09'53.0855"N	104°34'24.2027"W	0.68	-27.85	-0.56	-0.37	
18533.00	90.280	178.900	6883.06	2073.06	12043.57	-12011.94	875.78	40°09'52.1467"N	104°34'24.1950"W	0.63	57.99	0.56	-0.29	
18628.00	90.580	179.380	6882.35	2072.35	12138.45	-12106.93	877.20	40°09'51.2080"N	104°34'24.1894"W	0.60	114.44	0.32	0.51	
18722.00	90.280	180.040	6881.64	2071.64	12232.27	-12200.92	877.68	40°09'50.2791"N	104°34'24.1959"W	0.77	86.82	-0.32	0.70	
18817.00	90.460	183.290	6881.03	2071.03	12326.82	-12295.87	874.92	40°09'49.3412"N	104°34'24.2442"W	3.43	88.89	0.19	3.42	
18911.00	90.490	184.850	6880.25	2070.25	12419.93	-12389.63	868.25	40°09'48.4154"N	104°34'24.3428"W	1.66	-90.30	0.03	1.66	
19006.00	90.460	179.510	6879.46	2069.46	12514.37	-12484.52	864.63	40°09'47.4781"N	104°34'24.4021"W	5.62	177.27	-0.03	-5.62	
19100.00	90.250	179.520	6878.88	2068.88	12608.22	-12578.51	865.43	40°09'46.5492"N	104°34'24.4045"W	0.22	33.99	-0.22	0.01	
19195.00	90.680	179.810	6878.11	2068.11	12703.04	-12673.51	865.98	40°09'45.6105"N	104°34'24.4101"W	0.55	-149.04	0.45	0.31	
19289.00	90.280	179.570	6877.32	2067.32	12796.86	-12767.50	866.49	40°09'44.6816"N	104°34'24.4162"W	0.50	75.96	-0.43	-0.26	
19384.00	90.370	179.930	6876.78	2066.78	12891.68	-12862.50	866.91	40°09'43.7429"N	104°34'24.4236"W	0.39	-95.47	0.09	0.38	
19479.00	90.280	178.990	6876.24	2066.24	12986.52	-12957.49	867.80	40°09'42.8041"N	104°34'24.4249"W	0.99	-90.00	-0.09	-0.99	
19573.00	90.280	178.810	6875.79	2065.79	13080.41	-13051.48	869.61	40°09'41.8752"N	104°34'24.4143"W	0.19	75.11	0.00	-0.19	
19668.00	90.490	179.600	6875.15	2065.15	13175.28	-13146.46	870.93	40°09'40.9365"N	104°34'24.4101"W	0.86	-87.93	0.22	0.83	
19762.00	90.520	178.770	6874.32	2064.32	13269.15	-13240.45	872.26	40°09'40.0076"N	104°34'24.4055"W	0.88	90.00	0.03	-0.88	
19856.00	90.520	179.060	6873.47	2063.47	13363.04	-13334.43	874.04	40°09'39.0788"N	104°34'24.3953"W	0.31	-146.00	0.00	0.31	
19951.00	90.090	178.770	6872.96	2062.96	13457.93	-13429.41	875.84	40°09'38.1400"N	104°34'24.3849"W	0.55	0.00	-0.45	-0.31	LAST BH MWD SURVEY
20036.00‡	90.090	178.770	6872.83	2062.83	13542.85	-13514.39	877.67	40°09'37.3001"N	104°34'24.3728"W	0.00		0.00	0.00	EXTRAPOLATED

HOLE & CASING SECTIONS - Ref Wellbore: GUTTERSEN Y05-749 AWB Ref Wellpath: GUTTERSEN Y05-749 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	1927.00	1897.00	30.00	1926.98	-0.01	0.02	-3.02	2.04
9.625in Casing Surface	30.00	1927.00	1897.00	30.00	1926.98	-0.01	0.02	-3.02	2.04
8.5in Open Hole	1927.00	20036.00	18109.00	1926.98	6872.83	-3.02	2.04	-13514.39	877.67

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN Y05-749
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	05-123-48047
Facility	SEC.29-T03N-R64W	Wellbore	GUTTERSEN Y05-749 AWB
Slot	SLOT#38 GUTTERSEN Y05-749 (2211'FNL & 2375'FWL, SEC.29)		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
GUTTERSEN Y05-749 BHL REV-3 (75'FSL & 2085'FEL, SEC.Y05)	6872.00	-13516.53	897.78	3258985.00	1302613.57	40°09'37.2769"N	104°34'24.1140"W	point
GUTTERSEN Y05-749 TPZ REV-3 (2262'FSL & 2150'FEL, SEC.29)	6922.00	-825.09	746.07	3258833.29	1315304.44	40°11'42.7027"N	104°34'24.3600"W	point
GUTTERSEN Y05 SECT.LINES SEC.05-T02N-R64W	8996.00	-11027.88	-2285.28	3255802.08	1305102.11	40°10'2.1952"N	104°35'4.7782"W	polygon
	2D Polygon: dimensions not calculated							
GUTTERSEN Y05 SECT.LINES SEC.29-T03N-R64W	8996.00	-494.03	-2368.39	3255718.96	1315635.48	40°11'46.2937"N	104°35'4.4480"W	polygon
	2D Polygon: dimensions not calculated							
GUTTERSEN Y05 SECT.LINES SEC.32-T03N-R64W	8996.00	-5780.03	-2332.32	3255755.04	1310349.72	40°10'54.0565"N	104°35'4.6863"W	polygon
	2D Polygon: dimensions not calculated							
GUTTERSEN Y05-749 WSU BOUNDARY 460' SETBACK	9001.00	449.70	714.45	3258801.67	1316579.17	40°11'55.3027"N	104°34'24.5958"W	polygon
	2D Polygon: dimensions not calculated							
GUTTERSEN Y05-749 WSU BOUNDARY	9001.00	895.95	250.97	3258338.21	1317025.41	40°11'59.7602"N	104°34'30.5083"W	polygon
	2D Polygon: dimensions not calculated							

WELLPATH COMPOSITION - Ref Wellbore: GUTTERSEN Y05-749 AWB						Ref Wellpath: GUTTERSEN Y05-749 AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore	Survey Date	
0.00	1923.00	Gyrodata 2015 - GC+DROP+COND	13.5" Gyrodata (GYRODATA 2015-GC-DROP-COND) <0' - 1923">		GUTTERSEN Y05-749 AWB	1/13/2020	
1923.00	20036.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	8.5" ATK (OWSG MWD REV.2+IFR1+MSA) <1991' - 19951">		GUTTERSEN Y05-749 AWB	1/13/2020	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN Y05-749
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API	05-123-48047
Facility	SEC.29-T03N-R64W	Wellbore	GUTTERSEN Y05-749 AWB
Slot	SLOT#38 GUTTERSEN Y05-749 (2211'FNL & 2375'FWL, SEC.29)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
79.00	0.240	110.640	79.00	3RD PARTY FIRST GYRO SURVEY
1923.00	0.410	268.760	1922.98	TIE ON TO 3RD PARTY GYRO SURVEY
1991.00	0.190	158.430	1990.98	FIRST BH MWD SURVEY
19951.00	90.090	178.770	6872.96	LAST BH MWD SURVEY
20036.00	90.090	178.770	6872.83	EXTRAPOLATED