

NOBLE ENERGY, INC

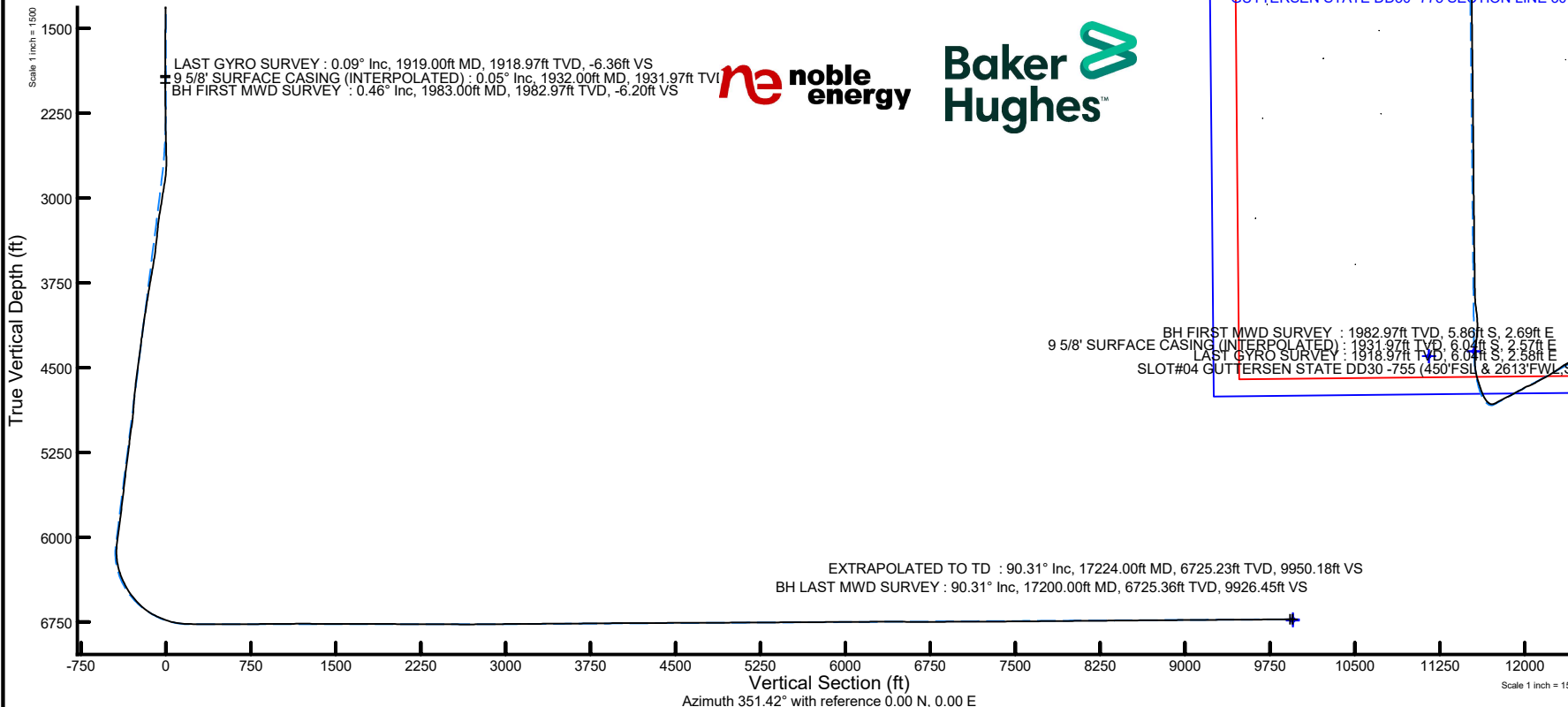
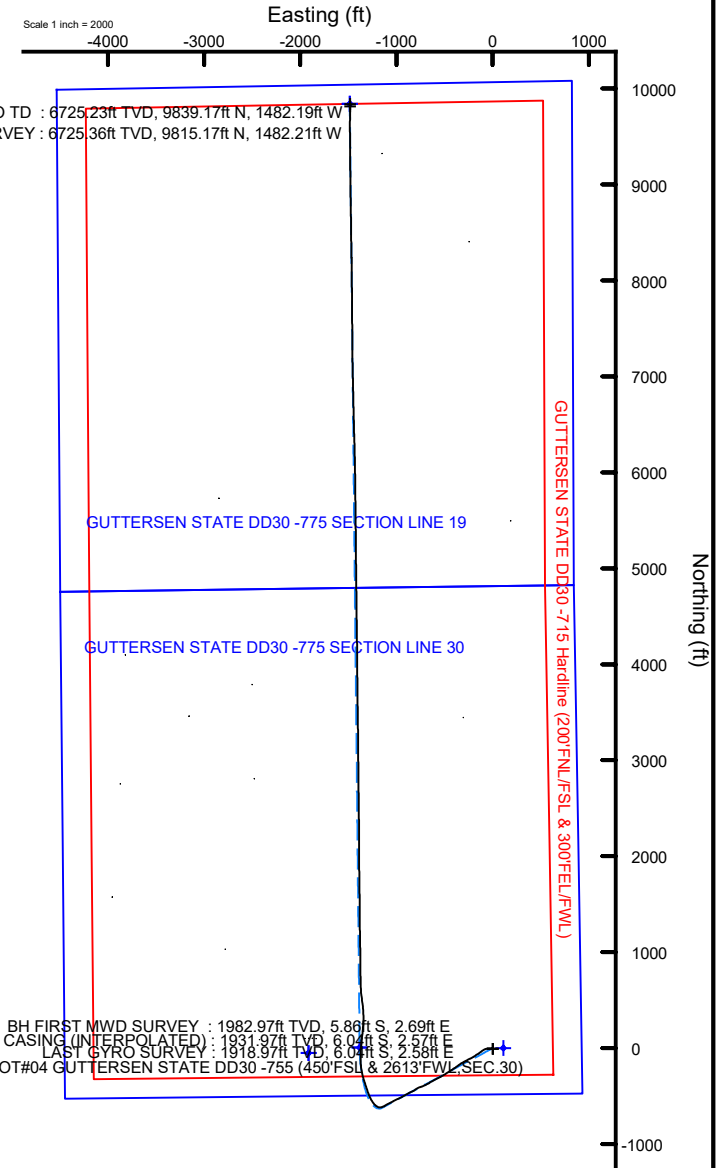
Location: COLORADO Slot: SLOT#05 GUTTERSEN STATE DD30 -745 (482'FSL & 929'FEL, SEC.30)
 Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: GUTTERSEN STATE DD30 -745
 Facility: SEC.30-T03N-R63W Wellbore: GUTTERSEN STATE DD30 -745 AWP

EXTRAPOLATED TO TD : 6725.23ft TVD, 9839.17ft N, 1482.19ft W
 BH LAST MWD SURVEY : 6725.36ft TVD, 9815.17ft N, 1482.21ft W

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.30-T03N-R63W			3284561.516	1313836.085	40°11'25.4040"N	104°28'53.0400"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#05 GUTTERSEN STATE DD30 -745 (482'FSL & 929'FEL, SEC.30)	47.98	1949.68	3286511.104	1313884.059	40°11'25.6560"N	104°28'27.9120"W
RIG (30') (RKB) to Mud line (At Slot: SLOT#05 GUTTERSEN STATE DD30 -745 (482'FSL & 929'FEL, SEC.30))					4853ft	
Mean Sea Level to Mud line (At Slot: SLOT#05 GUTTERSEN STATE DD30 -745 (482'FSL & 929'FEL, SEC.30))					0ft	
RIG (30') (RKB) to Mean Sea Level					4853ft	

Plot reference wellpath is GUTTERSEN STATE DD30 -745 AWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (30') (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to RIG (30') (RKB)	Scale: True distance
RIG (30') (RKB) to Mean Sea Level: 4853 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Mud line (At Slot: SLOT#05 GUTTERSEN STATE DD30 -745 (482'FSL & 929'FEL, SEC.30)): 0 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: manajohj on 2020-01-22; Database: WA_NOBLE



BH FIRST MWD SURVEY : 1982.97ft TVD, 5.86ft S, 2.69ft E
 9 5/8" SURFACE CASING (INTERPOLATED) : 1931.97ft TVD, 6.04ft S, 2.57ft E
 LAST GYRO SURVEY : 1918.97ft TVD, 6.04ft S, 2.58ft E
 SLOT#04 GUTTERSEN STATE DD30 -755 (450'FSL & 2613'FEL, SEC.30)

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -745 AWB
Slot	SLOT#05 GUTTERSEN STATE DD30 -745 (482'FSL & 929'FEL,SEC.30)		

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	1/22/2020 at 12:26:58 PM
Convergence at slot	0.66° 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	47.98	1949.68	3286511.10	1313884.06	40°11'25.6560"N	104°28'27.9120"W
Facility Reference Pt			3284561.52	1313836.09	40°11'25.4040"N	104°28'53.0400"W
Field Reference Pt			3000000.00	4454105.15	48°46'34.3150"N	105°30'0.0000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	RIG (30') (RKB) to Facility Vertical Datum	4853.00ft
Horizontal Reference Pt	Slot	RIG (30') (RKB) to Mean Sea Level	4853.00ft
Vertical Reference Pt	RIG (30') (RKB)	RIG (30') (RKB) to Mud Line at Slot (SLOT#05 GUTTERSEN STATE DD30 -745 (482'FSL & 929'FEL,SEC.30))	4853.00ft
MD Reference Pt	RIG (30') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	351.42°

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -745 AWB
Slot	SLOT#05 GUTTERSEN STATE DD30 -745 (482'FSL & 929'FEL, SEC.30)		

WELLPATH DATA (181 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
0.00	0.000	155.470	0.00	-4853.00	0.00	0.00	0.00	40°11'25.6560"N	104°28'27.9120"W	0.00	0.00	0.00	0.00	
85.00	0.170	155.470	85.00	-4768.00	-0.12	-0.11	0.05	40°11'25.6549"N	104°28'27.9113"W	0.20	-177.85	0.20	0.00	
179.00	0.030	145.340	179.00	-4674.00	-0.28	-0.26	0.12	40°11'25.6534"N	104°28'27.9104"W	0.15	-174.93	-0.15	-10.78	
268.00	0.130	331.580	268.00	-4585.00	-0.20	-0.19	0.09	40°11'25.6541"N	104°28'27.9109"W	0.18	-153.41	0.11	-195.24	
363.00	0.060	282.250	363.00	-4490.00	-0.08	-0.09	-0.01	40°11'25.6551"N	104°28'27.9121"W	0.11	48.56	-0.07	-51.93	
457.00	0.490	325.540	457.00	-4396.00	0.29	0.26	-0.29	40°11'25.6586"N	104°28'27.9156"W	0.48	-137.89	0.46	46.05	
552.00	0.480	230.850	552.00	-4301.00	0.46	0.34	-0.82	40°11'25.6594"N	104°28'27.9226"W	0.75	-151.79	-0.01	-99.67	
646.00	0.290	207.580	645.99	-4207.01	0.07	-0.12	-1.24	40°11'25.6549"N	104°28'27.9280"W	0.26	-85.26	-0.20	-24.76	
741.00	0.400	168.580	740.99	-4112.01	-0.46	-0.66	-1.29	40°11'25.6496"N	104°28'27.9287"W	0.27	-152.02	0.12	-41.05	
836.00	0.230	71.230	835.99	-4017.01	-0.76	-0.92	-1.04	40°11'25.6470"N	104°28'27.9255"W	0.51	128.12	-0.18	-102.47	
930.00	0.280	159.090	929.99	-3923.01	-0.95	-1.08	-0.78	40°11'25.6455"N	104°28'27.9222"W	0.38	-159.96	0.05	93.47	
1024.00	0.180	146.920	1023.99	-3829.01	-1.31	-1.41	-0.62	40°11'25.6421"N	104°28'27.9202"W	0.12	-48.81	-0.11	-12.95	
1119.00	0.300	124.950	1118.99	-3734.01	-1.61	-1.68	-0.33	40°11'25.6394"N	104°28'27.9165"W	0.16	19.84	0.13	-23.13	
1213.00	0.540	133.920	1212.99	-3640.01	-2.13	-2.13	0.19	40°11'25.6349"N	104°28'27.9099"W	0.26	-49.19	0.26	9.54	
1307.00	0.610	126.800	1306.98	-3546.02	-2.84	-2.74	0.91	40°11'25.6288"N	104°28'27.9007"W	0.11	-179.07	0.07	-7.57	
1402.00	0.530	126.660	1401.98	-3451.02	-3.51	-3.30	1.67	40°11'25.6232"N	104°28'27.8910"W	0.08	104.25	-0.08	-0.15	
1496.00	0.540	158.860	1495.97	-3357.03	-4.26	-3.98	2.18	40°11'25.6165"N	104°28'27.8846"W	0.32	178.15	0.01	34.26	
1591.00	0.420	159.390	1590.97	-3262.03	-5.03	-4.72	2.46	40°11'25.6091"N	104°28'27.8810"W	0.13	155.99	-0.13	0.56	
1685.00	0.360	163.720	1684.97	-3168.03	-5.66	-5.32	2.66	40°11'25.6031"N	104°28'27.8785"W	0.07	158.06	-0.06	4.61	
1779.00	0.210	181.610	1778.97	-3074.03	-6.12	-5.78	2.74	40°11'25.5986"N	104°28'27.8775"W	0.18	145.17	-0.16	19.03	
1874.00	0.120	238.720	1873.97	-2979.03	-6.33	-6.01	2.65	40°11'25.5963"N	104°28'27.8787"W	0.19	156.09	-0.09	60.12	
1919.00	0.090	247.520	1918.97	-2934.03	-6.36	-6.04	2.58	40°11'25.5960"N	104°28'27.8797"W	0.08	156.17	-0.07	19.56	LAST GYRO SURVEY
1932.00†	0.046	350.835	1931.97	-2921.03	-6.36	-6.04	2.57	40°11'25.5960"N	104°28'27.8798"W	0.85	52.86	-0.34	794.73	9 5/8" SURFACE CASING (INTERPOLATED)
1983.00	0.460	39.160	1982.97	-2870.03	-6.20	-5.86	2.69	40°11'25.5977"N	104°28'27.8782"W	0.85	-60.83	0.81	94.75	BH FIRST MWD SURVEY
2077.00	0.850	6.530	2076.96	-2776.04	-5.27	-4.88	3.01	40°11'25.6074"N	104°28'27.8739"W	0.56	-169.28	0.41	-34.71	
2172.00	0.160	296.090	2171.96	-2681.04	-4.52	-4.12	2.97	40°11'25.6149"N	104°28'27.8743"W	0.85	-24.98	-0.73	-74.15	
2267.00	1.770	273.300	2266.94	-2586.06	-4.14	-3.98	1.39	40°11'25.6165"N	104°28'27.8947"W	1.71	8.48	1.69	-23.99	
2361.00	3.410	277.390	2360.84	-2492.16	-3.07	-3.53	-2.83	40°11'25.6214"N	104°28'27.9490"W	1.75	1.70	1.74	4.35	
2456.00	5.570	278.050	2455.54	-2397.46	-0.98	-2.53	-10.20	40°11'25.6322"N	104°28'28.0438"W	2.27	-25.29	2.27	0.69	
2550.00	9.650	266.990	2548.70	-2304.30	1.10	-2.30	-22.59	40°11'25.6359"N	104°28'28.2034"W	4.59	3.72	4.34	-11.77	
2645.00	13.600	268.080	2641.73	-2211.27	3.16	-3.09	-41.71	40°11'25.6302"N	104°28'28.4499"W	4.16	-58.54	4.16	1.15	
2739.00	16.660	253.440	2732.50	-2120.50	2.57	-7.31	-65.69	40°11'25.5913"N	104°28'28.7595"W	5.18	-56.10	3.26	-15.57	
2834.00	20.210	240.210	2822.65	-2030.35	-5.26	-19.35	-93.00	40°11'25.4754"N	104°28'29.1132"W	5.75	-108.11	3.74	-13.93	
2929.00	19.420	230.590	2912.05	-1940.95	-19.30	-37.53	-119.45	40°11'25.2988"N	104°28'29.4567"W	3.53	79.79	-0.83	-10.13	
3023.00	20.160	239.180	3000.51	-1852.49	-33.44	-55.76	-145.44	40°11'25.1217"N	104°28'29.7943"W	3.19	-44.62	0.79	9.14	
3118.00	21.840	234.870	3089.20	-1763.80	-47.54	-74.32	-173.96	40°11'24.9415"N	104°28'30.1645"W	2.40	169.75	1.77	-4.54	
3212.00	18.770	236.600	3177.35	-1675.65	-61.70	-92.71	-200.89	40°11'24.7629"N	104°28'30.5142"W	3.33	100.30	-3.27	1.84	
3307.00	18.460	246.300	3267.41	-1585.59	-72.05	-107.17	-227.43	40°11'24.6230"N	104°28'30.8583"W	3.27	-34.86	-0.33	10.21	
3401.00	20.460	242.400	3356.03	-1496.97	-81.28	-120.76	-255.62	40°11'24.4919"N	104°28'31.2236"W	2.54	143.81	2.13	-4.15	
3496.00	19.870	243.680	3445.21	-1407.79	-91.62	-135.62	-284.81	40°11'24.3485"N	104°28'31.6018"W	0.78	-60.83	-0.62	1.35	
3591.00	21.110	237.980	3534.21	-1318.79	-103.34	-151.85	-313.79	40°11'24.1914"N	104°28'31.9776"W	2.47	-69.86	1.31	-6.00	
3685.00	21.360	236.180	3621.83	-1231.17	-117.38	-170.35	-342.36	40°11'24.0118"N	104°28'32.3485"W	0.74	-115.10	0.27	-1.91	
3780.00	20.940	233.550	3710.43	-1142.57	-132.69	-190.07	-370.39	40°11'23.8202"N	104°28'32.7126"W	1.09	77.81	-0.44	-2.77	
3874.00	21.120	235.690	3798.17	-1054.83	-147.90	-209.59	-397.89	40°11'23.6304"N	104°28'33.0699"W	0.84	119.55	0.19	2.28	
3969.00	20.940	236.590	3886.84	-966.16	-162.46	-228.59	-426.20	40°11'23.4459"N	104°28'33.4374"W	0.39	84.04	-0.19	0.95	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -745 AWB
Slot	SLOT#05 GUTTERSEN STATE DD30 -745 (482'FSL & 929'FEL, SEC.30)		

WELLPATH DATA (181 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
4064.00	20.990	237.810	3975.55	-877.45	-176.40	-247.00	-454.77	40°11'23.2673"N	104°28'33.8083"W	0.46	107.42	0.05	1.28	
4158.00	20.880	238.820	4063.35	-789.65	-189.58	-264.64	-483.35	40°11'23.0962"N	104°28'34.1791"W	0.40	180.00	-0.12	1.07	
4252.00	20.860	238.820	4151.18	-701.82	-202.45	-281.98	-512.00	40°11'22.9281"N	104°28'34.5509"W	0.02	136.21	-0.02	0.00	
4347.00	20.480	239.870	4240.07	-612.93	-215.06	-299.08	-540.84	40°11'22.7625"N	104°28'34.9250"W	0.56	74.81	-0.40	1.11	
4441.00	21.250	246.420	4327.91	-525.09	-225.51	-314.15	-570.68	40°11'22.6170"N	104°28'35.3118"W	2.61	-106.79	0.82	6.97	
4536.00	20.540	237.570	4416.69	-436.31	-236.71	-329.98	-600.53	40°11'22.4640"N	104°28'35.6988"W	3.40	74.55	-0.75	-9.32	
4630.00	21.140	242.790	4504.55	-348.45	-248.79	-346.57	-629.53	40°11'22.3033"N	104°28'36.0748"W	2.08	-134.36	0.64	5.55	
4725.00	20.070	239.510	4593.47	-259.53	-260.35	-362.68	-658.81	40°11'22.1475"N	104°28'36.4545"W	1.66	165.40	-1.13	-3.45	
4819.00	17.030	242.230	4682.58	-170.42	-270.90	-377.28	-684.90	40°11'22.0062"N	104°28'36.7928"W	3.36	27.71	-3.23	2.89	
4914.00	19.770	246.410	4772.72	-80.28	-279.63	-390.19	-711.94	40°11'21.8816"N	104°28'37.1431"W	3.20	76.55	2.88	4.40	
5008.00	20.250	251.370	4861.05	8.05	-286.59	-401.75	-741.93	40°11'21.7708"N	104°28'37.5312"W	1.88	-83.47	0.51	5.28	
5103.00	20.620	245.040	4950.08	97.08	-294.18	-414.06	-772.67	40°11'21.6527"N	104°28'37.9292"W	2.36	-89.79	0.39	-6.66	
5198.00	20.960	234.460	5038.93	185.93	-306.60	-431.01	-801.68	40°11'21.4886"N	104°28'38.3054"W	3.96	119.12	0.36	-11.14	
5292.00	19.480	243.720	5127.15	274.15	-319.00	-447.72	-829.42	40°11'21.3265"N	104°28'38.6653"W	3.75	-25.49	-1.57	9.85	
5387.00	20.360	242.520	5216.47	363.47	-329.17	-462.36	-858.28	40°11'21.1852"N	104°28'39.0394"W	1.02	-95.64	0.93	-1.26	
5481.00	20.280	239.350	5304.62	451.62	-340.59	-478.21	-886.81	40°11'21.0318"N	104°28'39.4092"W	1.17	124.24	-0.09	-3.37	
5576.00	19.520	242.840	5393.95	540.95	-351.83	-493.85	-915.09	40°11'20.8805"N	104°28'39.7760"W	1.48	-31.64	-0.80	3.67	
5670.00	20.080	241.840	5482.39	629.39	-362.24	-508.64	-943.29	40°11'20.7376"N	104°28'40.1416"W	0.70	82.11	0.60	-1.06	
5765.00	20.270	245.150	5571.57	718.57	-372.32	-523.25	-972.60	40°11'20.5966"N	104°28'40.5214"W	1.22	-59.09	0.20	3.48	
5859.00	20.900	242.310	5659.57	806.57	-382.37	-537.88	-1002.23	40°11'20.4553"N	104°28'40.9052"W	1.26	139.56	0.67	-3.02	
5954.00	20.540	243.190	5748.42	895.42	-393.13	-553.28	-1032.11	40°11'20.3066"N	104°28'41.2925"W	0.50	-50.46	-0.38	0.93	
6048.00	21.040	241.530	5836.30	983.30	-404.03	-568.76	-1061.66	40°11'20.1570"N	104°28'41.6755"W	0.82	29.95	0.53	-1.77	
6143.00	21.480	242.220	5924.84	1071.84	-415.56	-584.99	-1092.04	40°11'20.0001"N	104°28'42.0694"W	0.53	-115.79	0.46	0.73	
6238.00	21.140	240.200	6013.34	1160.34	-427.48	-601.61	-1122.29	40°11'19.8393"N	104°28'42.4617"W	0.85	123.06	-0.36	-2.13	
6332.00	19.000	252.170	6101.67	1248.67	-436.08	-614.73	-1151.58	40°11'19.7130"N	104°28'42.8410"W	4.92	107.98	-2.28	12.73	
6427.00	18.320	281.500	6191.87	1338.87	-433.43	-616.49	-1181.00	40°11'19.6989"N	104°28'43.2203"W	9.81	85.36	-0.72	30.87	
6521.00	20.750	306.070	6280.60	1427.60	-416.63	-603.72	-1208.99	40°11'19.8283"N	104°28'43.5790"W	9.04	56.55	2.59	26.14	
6615.00	26.130	321.720	6366.90	1513.90	-386.90	-577.62	-1235.32	40°11'20.0892"N	104°28'43.9143"W	8.71	37.41	5.72	16.65	
6710.00	31.980	329.790	6449.94	1596.94	-345.29	-539.41	-1260.97	40°11'20.4697"N	104°28'44.2391"W	7.40	41.97	6.16	8.49	
6804.00	38.350	338.530	6526.79	1673.79	-293.64	-490.68	-1284.20	40°11'20.9539"N	104°28'44.5313"W	8.62	13.51	6.78	9.30	
6899.00	46.930	341.330	6596.62	1743.62	-230.62	-430.26	-1306.14	40°11'21.5534"N	104°28'44.8050"W	9.25	0.22	9.03	2.95	
6993.00	55.510	341.370	6655.44	1802.44	-158.54	-360.90	-1329.55	40°11'22.2415"N	104°28'45.0964"W	9.13	24.27	9.13	0.04	
7087.00	65.460	346.230	6701.71	1848.71	-77.58	-282.43	-1352.17	40°11'23.0194"N	104°28'45.3761"W	11.50	50.75	10.59	5.17	
7182.00	71.330	353.580	6736.72	1883.72	10.61	-195.56	-1367.52	40°11'23.8795"N	104°28'45.5610"W	9.48	32.49	6.18	7.74	
7277.00	81.130	359.810	6759.32	1906.32	102.31	-103.60	-1372.72	40°11'24.7888"N	104°28'45.6144"W	12.12	29.62	10.32	6.56	
7371.00	89.320	4.440	6767.15	1914.15	194.25	-10.10	-1369.23	40°11'25.7123"N	104°28'45.5556"W	10.00	68.42	8.71	4.93	
7466.00	90.060	6.310	6767.66	1914.66	286.44	84.47	-1360.33	40°11'26.6458"N	104°28'45.4269"W	2.12	-95.86	0.78	1.97	
7560.00	89.940	5.140	6767.66	1914.66	377.53	178.00	-1350.96	40°11'27.5690"N	104°28'45.2922"W	1.25	-87.50	-0.13	-1.24	
7654.00	90.030	3.080	6767.68	1914.68	469.22	271.76	-1344.22	40°11'28.4946"N	104°28'45.1915"W	2.19	-91.86	0.10	-2.19	
7748.00	89.850	357.520	6767.78	1914.78	562.06	365.72	-1343.73	40°11'29.4230"N	104°28'45.1712"W	5.92	-89.69	-0.19	-5.91	
7843.00	89.880	352.080	6768.01	1915.01	656.86	460.29	-1352.34	40°11'30.3585"N	104°28'45.2681"W	5.73	87.04	0.03	-5.73	
7937.00	89.940	353.240	6768.15	1915.15	750.84	553.52	-1364.34	40°11'31.2811"N	104°28'45.4090"W	1.24	78.61	0.06	1.23	
8032.00	91.050	358.760	6767.33	1914.33	845.49	648.25	-1370.97	40°11'32.2179"N	104°28'45.4803"W	5.93	-162.03	1.17	5.81	
8126.00	90.680	358.640	6765.91	1912.91	938.72	742.21	-1373.10	40°11'33.1466"N	104°28'45.4938"W	0.41	135.00	-0.39	-0.13	
8221.00	90.000	359.320	6765.35	1912.35	1032.90	837.19	-1374.79	40°11'34.0853"N	104°28'45.5016"W	1.01	67.01	-0.72	0.72	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -745 AWB
Slot	SLOT#05 GUTTERSEN STATE DD30 -745 (482'FSL & 929'FEL, SEC.30)		

WELLPATH DATA (181 stations)														
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Tooflface [°]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
8315.00	90.280	359.980	6765.12	1912.12	1125.93	931.19	-1375.37	40°11'35.0142"N	104°28'45.4950"W	0.76	-109.41	0.30	0.70	
8410.00	89.910	358.930	6764.96	1911.96	1219.99	1026.19	-1376.27	40°11'35.9530"N	104°28'45.4926"W	1.17	-75.96	-0.39	-1.11	
8504.00	89.940	358.810	6765.09	1912.09	1313.20	1120.17	-1378.12	40°11'36.8819"N	104°28'45.5025"W	0.13	122.15	0.03	-0.13	
8599.00	89.720	359.160	6765.37	1912.37	1407.37	1215.15	-1379.81	40°11'37.8206"N	104°28'45.5101"W	0.44	71.26	-0.23	0.37	
8693.00	89.910	359.720	6765.67	1912.67	1500.45	1309.15	-1380.73	40°11'38.7495"N	104°28'45.5080"W	0.63	-103.00	0.20	0.60	
8788.00	89.880	359.590	6765.85	1912.85	1594.47	1404.14	-1381.30	40°11'39.6883"N	104°28'45.5013"W	0.14	-107.53	-0.03	-0.14	
8882.00	89.820	359.400	6766.09	1913.09	1687.54	1498.14	-1382.13	40°11'40.6172"N	104°28'45.4980"W	0.21	-74.75	-0.06	-0.20	
8977.00	89.850	359.290	6766.36	1913.36	1781.63	1593.13	-1383.21	40°11'41.5560"N	104°28'45.4979"W	0.12	180.00	0.03	-0.12	
9072.00	89.690	359.290	6766.75	1913.75	1875.74	1688.13	-1384.39	40°11'42.4948"N	104°28'45.4990"W	0.17	-90.00	-0.17	0.00	
9166.00	89.690	359.100	6767.25	1914.25	1968.87	1782.12	-1385.71	40°11'43.4237"N	104°28'45.5021"W	0.20	86.82	0.00	-0.20	
9261.00	89.720	359.640	6767.74	1914.74	2062.96	1877.11	-1386.75	40°11'44.3624"N	104°28'45.5014"W	0.57	135.00	0.03	0.57	
9355.00	89.690	359.670	6768.23	1915.23	2155.99	1971.10	-1387.32	40°11'45.2913"N	104°28'45.4948"W	0.05	-40.24	-0.03	0.03	
9450.00	89.820	359.560	6768.63	1915.63	2250.02	2066.10	-1387.96	40°11'46.2301"N	104°28'45.4889"W	0.18	127.88	0.14	-0.12	
9544.00	89.750	359.650	6768.99	1915.99	2343.06	2160.10	-1388.61	40°11'47.1590"N	104°28'45.4833"W	0.12	-146.31	-0.07	0.10	
9639.00	89.720	359.630	6769.43	1916.43	2437.08	2255.10	-1389.20	40°11'48.0977"N	104°28'45.4769"W	0.04	34.99	-0.03	-0.02	
9734.00	89.820	359.700	6769.81	1916.81	2531.10	2350.09	-1389.76	40°11'49.0365"N	104°28'45.4700"W	0.13	150.26	0.11	0.07	
9828.00	89.750	359.740	6770.16	1917.16	2624.12	2444.09	-1390.22	40°11'49.9654"N	104°28'45.4620"W	0.09	-58.96	-0.07	0.04	
9923.00	90.370	358.710	6770.06	1917.06	2718.24	2539.08	-1391.50	40°11'50.9042"N	104°28'45.4644"W	1.27	71.09	0.65	-1.08	
10017.00	90.620	359.440	6769.25	1916.25	2811.39	2633.06	-1393.02	40°11'51.8330"N	104°28'45.4701"W	0.82	101.98	0.27	0.78	
10112.00	90.550	359.770	6768.28	1915.28	2905.42	2728.06	-1393.68	40°11'52.7717"N	104°28'45.4644"W	0.36	-109.98	-0.07	0.35	
10206.00	90.430	359.440	6767.47	1914.47	2998.46	2822.05	-1394.32	40°11'53.7006"N	104°28'45.4588"W	0.37	-90.00	-0.13	-0.35	
10300.00	90.430	359.350	6766.77	1913.77	3091.55	2916.04	-1395.32	40°11'54.6295"N	104°28'45.4577"W	0.10	-95.35	0.00	-0.10	
10395.00	90.370	358.710	6766.11	1913.11	3185.71	3011.03	-1396.92	40°11'55.5682"N	104°28'45.4643"W	0.68	85.67	-0.06	-0.67	
10489.00	90.460	359.900	6765.43	1912.43	3278.82	3105.02	-1398.06	40°11'56.4971"N	104°28'45.4650"W	1.27	-100.01	0.10	1.27	
10583.00	90.370	359.390	6764.74	1911.74	3371.85	3199.01	-1398.65	40°11'57.4260"N	104°28'45.4586"W	0.55	45.00	-0.10	-0.54	
10678.00	90.520	359.540	6764.01	1911.01	3465.91	3294.00	-1399.53	40°11'58.3647"N	104°28'45.4559"W	0.22	-97.65	0.16	0.16	
10772.00	90.430	358.870	6763.23	1910.23	3559.04	3387.99	-1400.84	40°11'59.2936"N	104°28'45.4588"W	0.72	118.61	-0.10	-0.71	
10867.00	90.310	359.090	6762.61	1909.61	3653.21	3482.97	-1402.53	40°12'0.2323"N	104°28'45.4665"W	0.26	68.72	-0.13	0.23	
10962.00	90.680	0.040	6761.79	1908.79	3747.25	3577.97	-1403.25	40°12'1.1711"N	104°28'45.4617"W	1.07	-112.16	0.39	1.00	
11056.00	90.460	359.500	6760.86	1907.86	3840.25	3671.96	-1403.63	40°12'2.0999"N	104°28'45.4526"W	0.62	-87.23	-0.23	-0.57	
11180.00	90.490	358.880	6759.83	1906.83	3933.11	3795.94	-1405.38	40°12'3.3252"N	104°28'45.4568"W	0.50	118.35	0.02	-0.50	
11274.00	90.150	359.510	6759.31	1906.31	4056.24	3889.93	-1406.70	40°12'4.2541"N	104°28'45.4599"W	0.76	-14.74	-0.36	0.67	
11369.00	90.340	359.460	6758.90	1905.90	4150.30	3984.93	-1407.55	40°12'5.1929"N	104°28'45.4568"W	0.21	77.90	0.20	-0.05	
11463.00	90.400	359.740	6758.29	1905.29	4243.34	4078.92	-1408.21	40°12'6.1217"N	104°28'45.4513"W	0.30	-112.62	0.06	0.30	
11558.00	90.150	359.140	6757.84	1904.84	4337.41	4173.92	-1409.14	40°12'7.0605"N	104°28'45.4492"W	0.68	70.97	-0.26	-0.63	
11652.00	90.250	359.430	6757.51	1904.51	4430.53	4267.91	-1410.31	40°12'7.9894"N	104°28'45.4504"W	0.33	-79.99	0.11	0.31	
11746.00	90.310	359.090	6757.05	1904.05	4523.65	4361.90	-1411.53	40°12'8.9183"N	104°28'45.4521"W	0.37	162.65	0.06	-0.36	
11841.00	90.150	359.140	6756.67	1903.67	4617.79	4456.89	-1412.99	40°12'9.8571"N	104°28'45.4569"W	0.18	71.20	-0.17	0.05	
11935.00	90.310	359.610	6756.29	1903.29	4710.89	4550.88	-1414.02	40°12'10.7860"N	104°28'45.4562"W	0.53	-111.37	0.17	0.50	
12030.00	90.220	359.380	6755.85	1902.85	4804.95	4645.88	-1414.86	40°12'11.7248"N	104°28'45.4529"W	0.26	-78.69	-0.09	-0.24	
12125.00	90.280	359.080	6755.44	1902.44	4899.06	4740.87	-1416.13	40°12'12.6635"N	104°28'45.4552"W	0.32	81.87	0.06	-0.32	
12219.00	90.310	359.290	6754.95	1901.95	4992.20	4834.86	-1417.47	40°12'13.5924"N	104°28'45.4585"W	0.23	-90.00	0.03	0.22	
12314.00	90.310	359.170	6754.44	1901.44	5086.32	4929.85	-1418.75	40°12'14.5312"N	104°28'45.4609"W	0.13	85.91	0.00	-0.13	
12408.00	90.340	359.590	6753.90	1900.90	5179.41	5023.84	-1419.76	40°12'15.4601"N	104°28'45.4600"W	0.45	90.00	0.03	0.45	
12503.00	90.340	359.670	6753.34	1900.34	5273.44	5118.84	-1420.38	40°12'16.3988"N	104°28'45.4539"W	0.08	-95.19	0.00	0.08	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -745 AWB
Slot	SLOT#05 GUTTERSEN STATE DD30 -745 (482'FSL & 929'FEL, SEC.30)		

WELLPATH DATA (181 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
12597.00	90.310	359.340	6752.81	1899.81	5366.50	5212.83	-1421.19	40°12'17.3277"N	104°28'45.4504"W	0.35	63.43	-0.03	-0.35	
12692.00	90.400	359.520	6752.22	1899.22	5460.57	5307.82	-1422.13	40°12'18.2665"N	104°28'45.4485"W	0.21	-96.58	0.09	0.19	
12787.00	90.370	359.260	6751.58	1898.58	5554.65	5402.82	-1423.15	40°12'19.2053"N	104°28'45.4474"W	0.28	126.87	-0.03	-0.27	
12881.00	90.310	359.340	6751.02	1898.02	5647.76	5496.81	-1424.29	40°12'20.1341"N	104°28'45.4483"W	0.11	71.56	-0.06	0.09	
12976.00	90.370	359.520	6750.46	1897.46	5741.84	5591.80	-1425.24	40°12'21.0729"N	104°28'45.4464"W	0.20	-90.00	0.06	0.19	
13070.00	90.370	359.220	6749.85	1896.85	5834.93	5685.79	-1426.27	40°12'22.0018"N	104°28'45.4457"W	0.32	90.00	0.00	-0.32	
13165.00	90.370	359.320	6749.24	1896.24	5929.04	5780.78	-1427.48	40°12'22.9406"N	104°28'45.4472"W	0.11	74.41	0.00	0.11	
13259.00	90.490	359.750	6748.53	1895.53	6022.10	5874.78	-1428.25	40°12'23.8694"N	104°28'45.4431"W	0.47	-111.80	0.13	0.46	
13354.00	90.150	358.900	6748.00	1895.00	6116.19	5969.77	-1429.37	40°12'24.8082"N	104°28'45.4435"W	0.96	0.00	-0.36	-0.89	
13448.00	90.400	358.900	6747.55	1894.55	6209.39	6063.75	-1431.17	40°12'25.7371"N	104°28'45.4528"W	0.27	-156.19	0.27	0.00	
13637.00	90.060	358.750	6746.79	1893.79	6396.81	6252.71	-1435.05	40°12'27.6047"N	104°28'45.4747"W	0.20	-121.90	-0.18	-0.08	
13732.00	89.450	357.770	6747.20	1894.20	6491.13	6347.66	-1437.93	40°12'28.5433"N	104°28'45.4978"W	1.22	78.37	-0.64	-1.03	
13826.00	89.660	358.790	6747.93	1894.93	6584.46	6441.62	-1440.75	40°12'29.4720"N	104°28'45.5202"W	1.11	-47.64	0.22	1.09	
13921.00	89.970	358.450	6748.24	1895.24	6678.71	6536.59	-1443.04	40°12'30.4107"N	104°28'45.5356"W	0.48	46.93	0.33	-0.36	
14110.00	90.400	358.910	6747.63	1894.63	6866.19	6725.54	-1447.39	40°12'32.2782"N	104°28'45.5637"W	0.33	-90.00	0.23	0.24	
14204.00	90.400	358.770	6746.97	1893.97	6959.40	6819.51	-1449.30	40°12'33.2071"N	104°28'45.5743"W	0.15	-90.00	0.00	-0.15	
14299.00	90.400	358.650	6746.31	1893.31	7053.63	6914.49	-1451.43	40°12'34.1458"N	104°28'45.5877"W	0.13	-160.77	0.00	-0.13	
14394.00	89.970	358.500	6746.00	1893.00	7147.89	7009.46	-1453.80	40°12'35.0845"N	104°28'45.6041"W	0.48	90.00	-0.45	-0.16	
14489.00	89.970	359.010	6746.05	1893.05	7242.11	7104.43	-1455.86	40°12'36.0232"N	104°28'45.6166"W	0.54	59.44	0.00	0.54	
14583.00	90.460	359.840	6745.70	1892.70	7335.20	7198.43	-1456.80	40°12'36.9521"N	104°28'45.6148"W	1.03	-90.00	0.52	0.88	
14772.00	90.460	359.440	6744.18	1891.18	7522.25	7387.42	-1457.99	40°12'38.8197"N	104°28'45.6021"W	0.21	-81.03	0.00	-0.21	
14961.00	90.490	359.250	6742.61	1889.61	7709.44	7576.40	-1460.15	40°12'40.6873"N	104°28'45.6019"W	0.10	105.26	0.02	-0.10	
15150.00	90.430	359.470	6741.09	1888.09	7896.62	7765.38	-1462.26	40°12'42.5549"N	104°28'45.6011"W	0.12	76.67	-0.03	0.12	
15244.00	90.520	359.850	6740.32	1887.32	7989.65	7859.38	-1462.82	40°12'43.4838"N	104°28'45.5943"W	0.42	-90.00	0.10	0.40	
15339.00	90.520	359.380	6739.45	1886.45	8083.67	7954.37	-1463.46	40°12'44.4225"N	104°28'45.5884"W	0.49	113.20	0.00	-0.49	
15434.00	90.460	359.520	6738.64	1885.64	8177.74	8049.36	-1464.37	40°12'45.3613"N	104°28'45.5861"W	0.16	33.69	-0.06	0.15	
15528.00	90.520	359.560	6737.84	1884.84	8270.79	8143.36	-1465.13	40°12'46.2902"N	104°28'45.5819"W	0.08	-94.13	0.06	0.04	
15623.00	90.460	358.730	6737.02	1884.02	8364.93	8238.34	-1466.54	40°12'47.2289"N	104°28'45.5861"W	0.88	82.87	-0.06	-0.87	
15717.00	90.490	358.970	6736.25	1883.25	8458.14	8332.32	-1468.43	40°12'48.1577"N	104°28'45.5964"W	0.26	53.13	0.03	0.26	
15812.00	90.550	359.050	6735.38	1882.38	8552.30	8427.30	-1470.07	40°12'49.0965"N	104°28'45.6035"W	0.11	123.11	0.06	0.08	
15906.00	90.400	359.280	6734.60	1881.60	8645.44	8521.29	-1471.44	40°12'50.0253"N	104°28'45.6072"W	0.29	90.00	-0.16	0.24	
16000.00	90.400	359.410	6733.95	1880.95	8738.54	8615.28	-1472.52	40°12'50.9542"N	104°28'45.6071"W	0.14	-80.54	0.00	0.14	
16095.00	90.460	359.050	6733.23	1880.23	8832.66	8710.27	-1473.79	40°12'51.8930"N	104°28'45.6095"W	0.38	-130.60	0.06	-0.38	
16189.00	90.400	358.980	6732.53	1879.53	8925.83	8804.25	-1475.41	40°12'52.8218"N	104°28'45.6164"W	0.10	120.96	-0.06	-0.07	
16283.00	90.310	359.130	6731.95	1878.95	9019.00	8898.24	-1476.96	40°12'53.7507"N	104°28'45.6224"W	0.19	63.43	-0.10	0.16	
16378.00	90.460	359.430	6731.31	1878.31	9113.10	8993.23	-1478.15	40°12'54.6895"N	104°28'45.6237"W	0.35	-105.26	0.16	0.32	
16473.00	90.430	359.320	6730.57	1877.57	9207.18	9088.22	-1479.19	40°12'55.6282"N	104°28'45.6230"W	0.12	56.31	-0.03	-0.12	
16567.00	90.490	359.410	6729.82	1876.82	9300.28	9182.21	-1480.23	40°12'56.5571"N	104°28'45.6224"W	0.12	-153.44	0.06	0.10	
16662.00	90.310	359.320	6729.15	1876.15	9394.37	9277.20	-1481.28	40°12'57.4959"N	104°28'45.6219"W	0.21	90.00	-0.19	-0.09	
16756.00	90.310	0.040	6728.64	1875.64	9487.39	9371.20	-1481.81	40°12'58.4247"N	104°28'45.6147"W	0.77	-97.54	0.00	0.77	
16851.00	90.220	359.360	6728.20	1875.20	9581.40	9466.19	-1482.31	40°12'59.3635"N	104°28'45.6071"W	0.72	12.53	-0.09	-0.72	
16945.00	90.490	359.420	6727.62	1874.62	9674.49	9560.19	-1483.31	40°13'0.2924"N	104°28'45.6060"W	0.29	90.00	0.29	0.06	
17040.00	90.490	0.660	6726.81	1873.81	9768.41	9655.18	-1483.24	40°13'1.2310"N	104°28'45.5911"W	1.31	-67.89	0.00	1.31	
17134.00	90.620	0.340	6725.90	1872.90	9861.23	9749.17	-1482.42	40°13'2.1597"N	104°28'45.5665"W	0.37	-135.00	0.14	-0.34	
17200.00	90.310	0.030	6725.36	1872.36	9926.45	9815.17	-1482.21	40°13'2.8118"N	104°28'45.5540"W	0.66	0.00	-0.47	-0.47	BH LAST MWD SURVEY

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -745 AWB
Slot	SLOT#05 GUTTERSEN STATE DD30 -745 (482'FSL & 929'FEL,SEC.30)		

WELLPATH DATA (181 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
17224.00†	90.310	0.030	6725.23	1872.23	9950.18	9839.17	-1482.19	40°13'3.0490"N	104°28'45.5503"W	0.00		0.00	0.00	EXTRAPOLATED TO TD

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
GUTTERSEN STATE DD30 -775 SECTION LINE 19	29.00	-51.20	-1913.32	3284597.87	1313832.86	40°11'25.3680"N	104°28'52.5720"W	polygon
2D Polygon: dimensions not calculated								
GUTTERSEN STATE DD30 -775 SECTION LINE 30	29.00	-51.20	-1913.32	3284597.87	1313832.86	40°11'25.3680"N	104°28'52.5720"W	polygon
2D Polygon: dimensions not calculated								
GUTTERSEN STATE DD30 -745 BHL REV-2 (200'FNL & 2310'FEL,SEC.19)	6725.32	9840.46	-1484.44	3285026.73	1323724.08	40°13'3.0620"N	104°28'45.5790"W	point
GUTTERSEN STATE DD30 -745 BHL REV-1 (200'FNL & 2310'FEL,SEC.19)	6735.32	9840.46	-1484.44	3285026.73	1323724.08	40°13'3.0620"N	104°28'45.5790"W	point
GUTTERSEN STATE DD30 -745 TPZ REV-2 (500'FSL & 2310'FEL,SEC.30)	6770.00	5.30	-1382.33	3285128.84	1313889.36	40°11'25.8660"N	104°28'45.7220"W	point
GUTTERSEN STATE DD30 -745 TPZ REV-1 (500'FSL & 2310'FEL,SEC.30)	6780.00	5.30	-1382.33	3285128.84	1313889.36	40°11'25.8660"N	104°28'45.7220"W	point
GUTTERSEN STATE DD30 -715 Hardline (200'FNL/FSL & 300'FEL/FWL)	7000.00	1.29	111.75	3286622.85	1313885.35	40°11'25.6560"N	104°28'26.4720"W	polygon
2D Polygon: dimensions not calculated								

WELLPATH COMPOSITION - Ref Wellbore: GUTTERSEN STATE DD30 -745 AWB Ref Wellpath: GUTTERSEN STATE DD30 -745 AWP					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
0.00	1919.00	Gyrodata 2015 - GC+DROP+COND	13.5" Gyrodata Surface Survey (Gyrodata 2015-GC+DROP+COND) <0' - 1919">	GUTTERSEN STATE DD30 -745 AWB	11/25/2019
1919.00	17224.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	8.5" ATKCurve (OWSG MWD,REV.2+IFR1+MSA) <1983' - 17200">	GUTTERSEN STATE DD30 -745 AWB	11/25/2019

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -745
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -745 AWB
Slot	SLOT#05 GUTTERSEN STATE DD30 -745 (482'FSL & 929'FEL, SEC.30)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1919.00	0.090	247.520	1918.97	LAST GYRO SURVEY
1932.00	0.046	350.835	1931.97	9 5/8' SURFACE CASING (INTERPOLATED)
1983.00	0.460	39.160	1982.97	BH FIRST MWD SURVEY
17200.00	90.310	0.030	6725.36	BH LAST MWD SURVEY
17224.00	90.310	0.030	6725.23	EXTRAPOLATED TO TD