

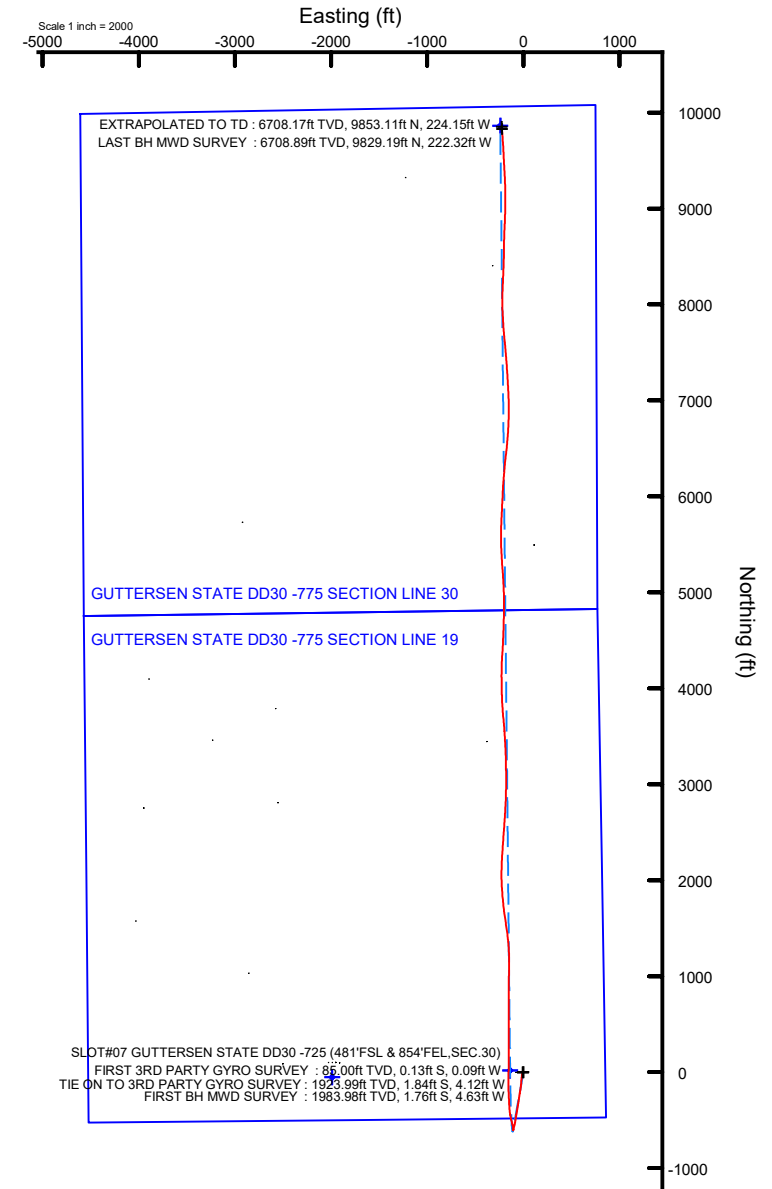
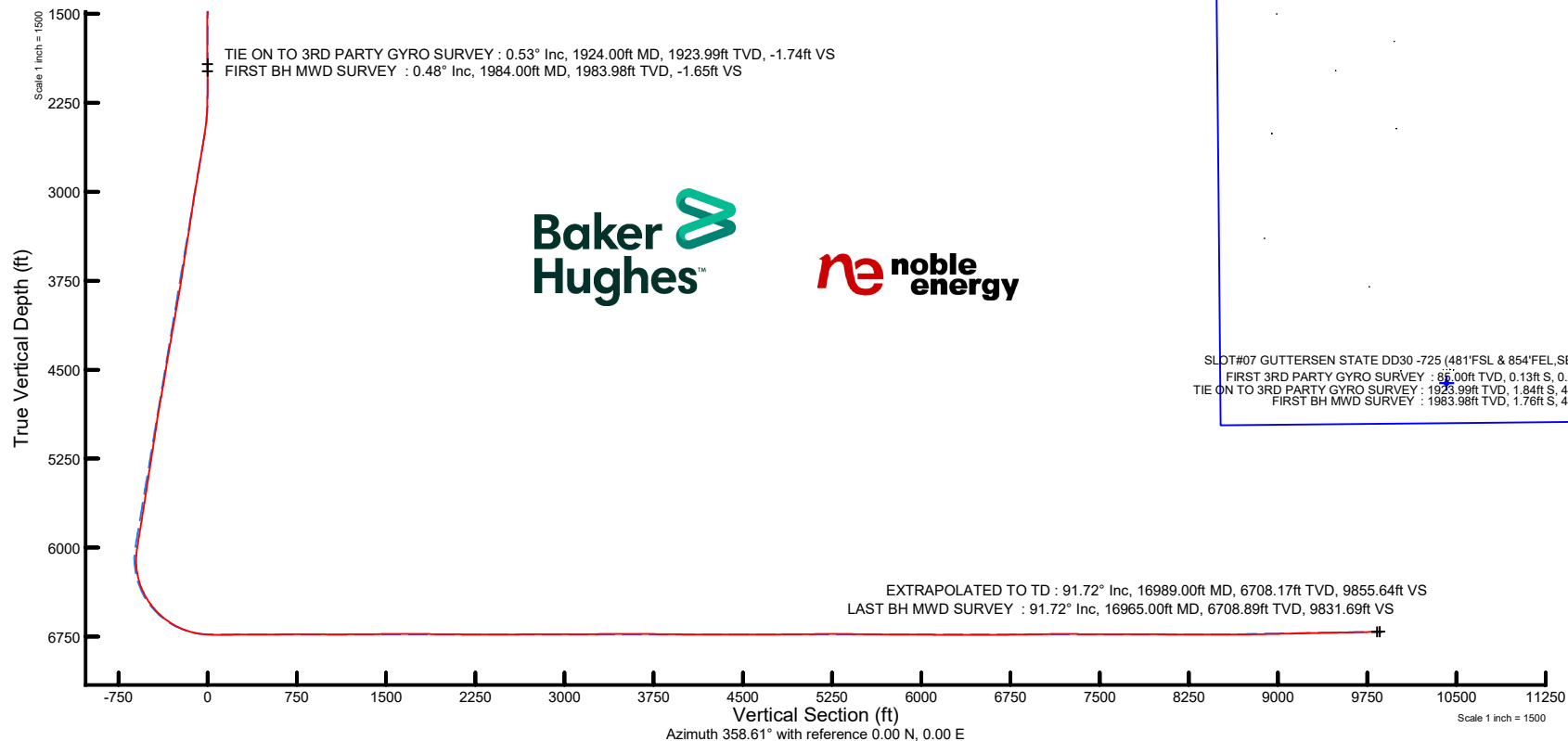
# NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#07 GUTTERSEN STATE DD30 -725 (481°FSL & 854°FEL,SEC.30)  
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: GUTTERSEN STATE DD30 -725  
Facility: SEC.30-T03N-R63W Wellbore: GUTTERSEN STATE DD30 -725 AWB

## 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#07 GUTTERSEN STATE DD30 -725 (481°FSL & 854°FEL,SEC.30)	48.85	2025.10	3286586.530	1313884.932	40°11'25.6560"N	104°28'26.9400"W
RIG (30') (RKB) to Mud line (At Slot: SLOT#07 GUTTERSEN STATE DD30 -725 (481°FSL & 854°FEL,SEC.30))					4853ft	
Mean Sea Level to Mud line (At Slot: SLOT#07 GUTTERSEN STATE DD30 -725 (481°FSL & 854°FEL,SEC.30))					0ft	
RIG (30') (RKB) to Mean Sea Level					4853ft	

Plot reference wellpath is GUTTERSEN STATE DD30 -725 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#07 GUTTERSEN STATE DD30 -725 (481°FSL & 854°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 2019-12-07; Database: WA_NOBLE



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -725
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -725 AWB
Slot	SLOT#07 GUTTERSEN STATE DD30 -725 (481'FSL & 854'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	12/7/2019 at 12:46:56 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	48.85	2025.10	3286586.53	1313884.93	40°11'25.6560"N	104°28'26.9400"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#07 GUTTERSEN STATE DD30 -725 (481'FSL & 854'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	358.61°

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -725
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -725 AWB
Slot	SLOT#07 GUTTERSEN STATE DD30 -725 (481'FSL & 854'FEL,SEC.30)		

WELLPATH DATA (180 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	213.190	0.00	-4853.00	0.00	0.00	0.00	40°11'25.6560"N	104°28'26.9400"W	0.00	0.00	0.00	0.00	
85.00	0.210	213.190	85.00	-4768.00	-0.13	-0.13	-0.09	40°11'25.6547"N	104°28'26.9411"W	0.25	152.49	0.25	0.00	FIRST 3RD PARTY GYRO SURVEY
179.00	0.140	321.810	179.00	-4674.00	-0.18	-0.18	-0.25	40°11'25.6542"N	104°28'26.9433"W	0.31	-125.45	-0.07	115.55	
268.00	0.120	268.250	268.00	-4585.00	-0.09	-0.10	-0.41	40°11'25.6550"N	104°28'26.9453"W	0.13	-177.71	-0.02	-60.18	
363.00	0.050	96.050	363.00	-4490.00	-0.10	-0.11	-0.47	40°11'25.6550"N	104°28'26.9461"W	0.18	174.92	-0.07	-181.26	
457.00	0.450	270.410	457.00	-4396.00	-0.09	-0.11	-0.80	40°11'25.6550"N	104°28'26.9503"W	0.53	140.11	0.43	185.49	
552.00	0.360	357.240	552.00	-4301.00	0.22	0.19	-1.18	40°11'25.6580"N	104°28'26.9552"W	0.59	-152.39	-0.09	91.40	
646.00	0.330	235.220	646.00	-4207.00	0.37	0.33	-1.42	40°11'25.6594"N	104°28'26.9583"W	0.64	-169.64	-0.03	-129.81	
741.00	0.130	218.420	741.00	-4112.00	0.13	0.09	-1.71	40°11'25.6571"N	104°28'26.9621"W	0.22	131.13	-0.21	-17.68	
836.00	0.100	247.830	835.99	-4017.01	0.02	-0.03	-1.86	40°11'25.6560"N	104°28'26.9639"W	0.07	22.07	-0.03	30.96	
930.00	0.260	261.590	929.99	-3923.01	-0.04	-0.09	-2.14	40°11'25.6554"N	104°28'26.9676"W	0.18	-122.05	0.17	14.64	
1024.00	0.230	212.910	1023.99	-3829.01	-0.22	-0.28	-2.46	40°11'25.6535"N	104°28'26.9717"W	0.22	-109.62	-0.03	-51.79	
1119.00	0.280	153.980	1118.99	-3734.01	-0.59	-0.65	-2.46	40°11'25.6499"N	104°28'26.9718"W	0.27	132.02	0.05	-62.03	
1213.00	0.220	215.010	1212.99	-3640.01	-0.94	-1.00	-2.46	40°11'25.6464"N	104°28'26.9719"W	0.28	-170.42	-0.06	64.93	
1307.00	0.060	186.970	1306.99	-3546.01	-1.13	-1.20	-2.57	40°11'25.6445"N	104°28'26.9733"W	0.18	9.39	-0.17	-29.83	
1402.00	0.280	194.360	1401.99	-3451.01	-1.41	-1.47	-2.64	40°11'25.6418"N	104°28'26.9742"W	0.23	116.85	0.23	7.78	
1496.00	0.250	219.050	1495.99	-3357.01	-1.78	-1.85	-2.82	40°11'25.6380"N	104°28'26.9766"W	0.12	130.35	-0.03	26.27	
1591.00	0.200	277.090	1590.99	-3262.01	-1.92	-1.99	-3.12	40°11'25.6367"N	104°28'26.9804"W	0.23	-156.43	-0.05	61.09	
1685.00	0.080	209.310	1684.99	-3168.01	-1.95	-2.03	-3.31	40°11'25.6363"N	104°28'26.9830"W	0.20	151.50	-0.13	-72.11	
1779.00	0.060	321.300	1778.99	-3074.01	-1.97	-2.05	-3.37	40°11'25.6361"N	104°28'26.9838"W	0.12	-46.54	-0.02	119.14	
1874.00	0.400	281.010	1873.99	-2979.01	-1.86	-1.95	-3.73	40°11'25.6372"N	104°28'26.9884"W	0.38	31.52	0.36	-42.41	
1924.00	0.530	289.290	1923.99	-2929.01	-1.74	-1.84	-4.12	40°11'25.6383"N	104°28'26.9934"W	0.29	-115.27	0.26	16.56	TIE ON TO 3RD PARTY GYRO SURVEY
1984.00	0.480	267.140	1983.98	-2869.02	-1.65	-1.76	-4.63	40°11'25.6392"N	104°28'27.0000"W	0.33	-176.53	-0.08	-36.92	FIRST BH MWD SURVEY
2079.00	0.040	137.160	2078.98	-2774.02	-1.68	-1.80	-5.01	40°11'25.6388"N	104°28'27.0048"W	0.53	132.09	-0.46	-136.82	
2173.00	0.030	187.540	2172.98	-2680.02	-1.73	-1.85	-4.99	40°11'25.6383"N	104°28'27.0046"W	0.03	17.07	-0.01	53.60	
2268.00	2.010	204.360	2267.96	-2585.04	-3.25	-3.39	-5.68	40°11'25.6231"N	104°28'27.0137"W	2.09	3.47	2.08	17.71	
2362.00	4.930	206.420	2361.78	-2491.22	-8.31	-8.51	-8.16	40°11'25.5728"N	104°28'27.0464"W	3.11	-18.87	3.11	2.19	
2457.00	7.760	199.390	2456.19	-2396.81	-17.92	-18.22	-12.10	40°11'25.4773"N	104°28'27.0987"W	3.08	-61.57	2.98	-7.40	
2551.00	9.180	185.770	2549.17	-2303.83	-31.30	-31.67	-14.96	40°11'25.3448"N	104°28'27.1375"W	2.60	-16.79	1.51	-14.49	
2646.00	9.380	185.400	2642.93	-2210.07	-46.50	-46.92	-16.46	40°11'25.1943"N	104°28'27.1590"W	0.22	11.68	0.21	-0.39	
2740.00	9.940	186.070	2735.60	-2117.40	-62.15	-62.61	-18.03	40°11'25.0394"N	104°28'27.1817"W	0.61	178.71	0.60	0.71	
2835.00	9.430	186.140	2829.24	-2023.76	-78.00	-78.50	-19.73	40°11'24.8826"N	104°28'27.2060"W	0.54	-27.09	-0.54	0.07	
2930.00	9.900	184.750	2922.89	-1930.11	-93.83	-94.38	-21.24	40°11'24.7258"N	104°28'27.2278"W	0.55	179.34	0.49	-1.46	
3024.00	9.470	184.780	3015.55	-1837.45	-109.56	-110.14	-22.56	40°11'24.5703"N	104°28'27.2470"W	0.46	-168.34	-0.46	0.03	
3119.00	8.280	183.070	3109.41	-1743.59	-124.15	-124.76	-23.57	40°11'24.4259"N	104°28'27.2623"W	1.28	63.35	-1.25	-1.80	
3214.00	8.590	186.950	3203.39	-1649.61	-137.99	-138.63	-24.80	40°11'24.2890"N	104°28'27.2802"W	0.68	17.50	0.33	4.08	
3308.00	8.920	187.620	3296.29	-1556.71	-152.13	-152.82	-26.61	40°11'24.1490"N	104°28'27.3057"W	0.37	-3.42	0.35	0.71	
3403.00	9.530	187.400	3390.06	-1462.94	-167.18	-167.92	-28.60	40°11'24.0000"N	104°28'27.3336"W	0.64	109.37	0.64	-0.23	
3497.00	9.330	191.280	3482.79	-1370.21	-182.30	-183.11	-31.10	40°11'23.8502"N	104°28'27.3680"W	0.71	-169.37	-0.21	4.13	
3592.00	8.650	190.430	3576.63	-1276.37	-196.81	-197.69	-33.90	40°11'23.7065"N	104°28'27.4062"W	0.73	-57.23	-0.72	-0.89	
3686.00	8.730	189.620	3669.55	-1183.45	-210.73	-211.67	-36.37	40°11'23.5685"N	104°28'27.4401"W	0.16	-8.03	0.09	-0.86	
3781.00	8.850	189.510	3763.43	-1089.57	-224.98	-225.99	-38.78	40°11'23.4274"N	104°28'27.4733"W	0.13	-21.93	0.13	-0.12	
3876.00	10.380	186.130	3857.09	-995.91	-240.64	-241.71	-40.90	40°11'23.2723"N	104°28'27.5030"W	1.72	117.45	1.61	-3.56	
3970.00	10.140	188.880	3949.59	-903.41	-257.18	-258.30	-43.08	40°11'23.1086"N	104°28'27.5336"W	0.58	178.02	-0.26	2.93	
4065.00	9.940	188.920	4043.14	-809.86	-273.47	-274.66	-45.65	40°11'22.9472"N	104°28'27.5691"W	0.21	-71.80	-0.21	0.04	

REFERENCE WELLPATH IDENTIFICATION				
Operator	NOBLE ENERGY, INC		Well	GUTTERSEN STATE DD30 -725
Field	WELD COUNTY (NOBLE NAD 83 GRID)		API/Legal	
Facility	SEC.30-T03N-R63W		Wellbore	GUTTERSEN STATE DD30 -725 AWB
Slot	SLOT#07 GUTTERSEN STATE DD30 -725 (481'FSL & 854'FEL,SEC.30)			

WELLPATH DATA (180 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
4159.00	9.970	188.400	4135.72	-717.28	-289.47	-290.73	-48.09	40°11'22.7887"N	104°28'27.6030"W	0.10	70.56	0.03	-0.55	
4254.00	10.050	189.660	4229.28	-623.72	-305.71	-307.04	-50.68	40°11'22.6279"N	104°28'27.6388"W	0.25	-68.08	0.08	1.33	
4348.00	10.120	188.690	4321.82	-531.18	-321.89	-323.29	-53.31	40°11'22.4676"N	104°28'27.6750"W	0.20	116.94	0.07	-1.03	
4442.00	10.050	189.490	4414.37	-438.63	-338.08	-339.54	-55.91	40°11'22.3073"N	104°28'27.7110"W	0.17	178.34	-0.07	0.85	
4537.00	9.020	189.680	4508.06	-344.94	-353.53	-355.06	-58.53	40°11'22.1543"N	104°28'27.7470"W	1.08	-7.28	-1.08	0.20	
4631.00	9.970	188.980	4600.77	-252.23	-368.76	-370.36	-61.04	40°11'22.0034"N	104°28'27.7816"W	1.02	-39.56	1.01	-0.74	
4726.00	10.190	187.960	4694.30	-158.70	-385.14	-386.80	-63.48	40°11'21.8411"N	104°28'27.8156"W	0.30	102.55	0.23	-1.07	
4820.00	10.100	190.520	4786.83	-66.17	-401.41	-403.14	-66.14	40°11'21.6800"N	104°28'27.8523"W	0.49	-149.20	-0.10	2.72	
4915.00	9.630	188.830	4880.43	27.43	-417.38	-419.18	-68.88	40°11'21.5218"N	104°28'27.8900"W	0.58	166.28	-0.49	-1.78	
5010.00	8.250	191.190	4974.27	121.27	-431.86	-433.72	-71.42	40°11'21.3784"N	104°28'27.9249"W	1.50	-22.96	-1.45	2.48	
5104.00	9.030	189.100	5067.21	214.21	-445.69	-447.62	-73.90	40°11'21.2413"N	104°28'27.9589"W	0.89	90.23	0.83	-2.22	
5199.00	9.030	189.560	5161.03	308.03	-460.34	-462.34	-76.32	40°11'21.0962"N	104°28'27.9922"W	0.08	-165.98	0.00	0.48	
5293.00	8.980	189.480	5253.87	400.87	-474.79	-476.85	-78.75	40°11'20.9531"N	104°28'28.0257"W	0.05	-66.33	-0.05	-0.09	
5388.00	9.000	189.190	5347.70	494.70	-489.38	-491.49	-81.16	40°11'20.8087"N	104°28'28.0589"W	0.05	162.68	0.02	-0.31	
5482.00	8.970	189.250	5440.55	587.55	-503.80	-505.98	-83.51	40°11'20.6657"N	104°28'28.0914"W	0.03	120.45	-0.03	0.06	
5577.00	8.940	189.580	5534.39	681.39	-518.33	-520.57	-85.93	40°11'20.5219"N	104°28'28.1247"W	0.06	105.74	-0.03	0.35	
5672.00	8.870	191.280	5628.25	775.25	-532.72	-535.03	-88.59	40°11'20.3793"N	104°28'28.1612"W	0.29	50.18	-0.07	1.79	
5861.00	9.960	198.340	5814.70	961.70	-562.33	-564.84	-96.58	40°11'20.0857"N	104°28'28.2686"W	0.84	-93.61	0.58	3.74	
5955.00	9.970	190.190	5907.29	1054.29	-577.95	-580.57	-100.58	40°11'19.9307"N	104°28'28.3225"W	1.50	179.61	0.01	-8.67	
6050.00	8.660	190.250	6001.04	1148.04	-593.01	-595.70	-103.31	40°11'19.7815"N	104°28'28.3599"W	1.38	-175.78	-1.38	0.06	
6144.00	1.760	173.300	6094.59	1241.59	-601.39	-604.11	-104.40	40°11'19.6985"N	104°28'28.3752"W	7.44	176.93	-7.34	-18.03	
6239.00	7.820	349.540	6189.35	1336.35	-596.45	-599.19	-105.41	40°11'19.7473"N	104°28'28.3874"W	10.08	8.11	6.38	185.52	
6333.00	16.340	353.820	6281.19	1428.19	-576.92	-579.72	-108.00	40°11'19.9400"N	104°28'28.4179"W	9.11	-16.47	9.06	4.55	
6428.00	25.590	347.600	6369.81	1516.81	-543.39	-546.32	-113.85	40°11'20.2707"N	104°28'28.4884"W	10.00	-9.13	9.74	-6.55	
6522.00	34.180	345.160	6451.24	1598.24	-497.69	-500.88	-125.00	40°11'20.7209"N	104°28'28.6252"W	9.23	27.08	9.14	-2.60	
6617.00	42.080	351.050	6525.93	1672.93	-440.07	-443.53	-136.81	40°11'21.2890"N	104°28'28.7688"W	9.15	22.61	8.32	6.20	
6711.00	51.030	355.770	6590.53	1737.53	-372.19	-375.82	-144.42	40°11'21.9589"N	104°28'28.8568"W	10.19	7.23	9.52	5.02	
6806.00	59.570	357.020	6644.56	1791.56	-294.22	-297.94	-149.28	40°11'22.7290"N	104°28'28.9078"W	9.05	6.23	8.99	1.32	
6900.00	67.740	357.980	6686.24	1833.24	-210.07	-213.85	-152.93	40°11'23.5603"N	104°28'28.9423"W	8.74	9.97	8.69	1.02	
6994.00	76.700	359.590	6714.92	1861.92	-120.66	-124.46	-154.79	40°11'24.4439"N	104°28'28.9530"W	9.67	10.89	9.53	1.71	
7089.00	85.070	1.200	6729.95	1876.95	-26.99	-30.75	-154.13	40°11'25.3698"N	104°28'28.9305"W	8.97	-11.15	8.81	1.69	
7183.00	90.000	0.230	6733.99	1880.99	66.83	63.13	-152.96	40°11'26.2973"N	104°28'28.9014"W	5.34	26.57	5.24	-1.03	
7278.00	90.400	0.430	6733.66	1880.66	161.79	158.13	-152.41	40°11'27.2359"N	104°28'28.8802"W	0.47	-90.00	0.42	0.21	
7372.00	90.400	359.330	6733.01	1880.01	255.76	252.12	-152.61	40°11'28.1648"N	104°28'28.8688"W	1.17	85.54	0.00	-1.17	
7467.00	90.460	0.100	6732.29	1879.29	350.74	347.12	-153.08	40°11'29.1035"N	104°28'28.8607"W	0.81	172.06	0.06	0.81	
7561.00	90.030	0.160	6731.89	1878.89	444.70	441.12	-152.87	40°11'30.0323"N	104°28'28.8440"W	0.46	75.07	-0.46	0.06	
7655.00	90.150	0.610	6731.74	1878.74	538.66	535.12	-152.24	40°11'30.9611"N	104°28'28.8218"W	0.50	-2.06	0.13	0.48	
7750.00	91.260	0.570	6730.57	1877.57	633.59	630.10	-151.26	40°11'31.8995"N	104°28'28.7951"W	1.17	-131.74	1.17	-0.04	
7844.00	90.430	359.640	6729.19	1876.19	727.55	724.09	-151.09	40°11'32.8282"N	104°28'28.7788"W	1.33	162.39	-0.88	-0.99	
7939.00	89.170	0.040	6729.52	1876.52	822.52	819.09	-151.35	40°11'33.7670"N	104°28'28.7681"W	1.39	39.59	-1.33	0.42	
8033.00	89.690	0.470	6730.46	1877.46	916.48	913.08	-150.93	40°11'34.6957"N	104°28'28.7487"W	0.72	167.47	0.55	0.46	
8127.00	89.600	0.490	6731.04	1878.04	1010.43	1007.07	-150.15	40°11'35.6244"N	104°28'28.7245"W	0.10	14.83	-0.10	0.02	
8222.00	89.940	0.580	6731.42	1878.42	1105.37	1102.07	-149.26	40°11'36.5630"N	104°28'28.6990"W	0.37	-42.57	0.36	0.09	
8317.00	91.170	359.450	6730.50	1877.50	1200.34	1197.06	-149.24	40°11'37.5016"N	104°28'28.6845"W	1.76	-105.36	1.29	-1.19	
8411.00	90.430	356.760	6729.19	1876.19	1294.31	1290.99	-152.34	40°11'38.4301"N	104°28'28.7105"W	2.97	-98.18	-0.79	-2.86	

REFERENCE WELLPATH IDENTIFICATION				
Operator	NOBLE ENERGY, INC		Well	GUTTERSEN STATE DD30 -725
Field	WELD COUNTY (NOBLE NAD 83 GRID)		API/Legal	
Facility	SEC.30-T03N-R63W		Wellbore	GUTTERSEN STATE DD30 -725 AWB
Slot	SLOT#07 GUTTERSEN STATE DD30 -725 (481'FSL & 854'FEL,SEC.30)			

WELLPATH DATA (180 stations)														
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Tooface [°]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
8506.00	90.000	353.770	6728.83	1875.83	1389.14	1385.66	-160.18	40°11'39.3664"N	104°28'28.7975"W	3.18	-48.47	-0.45	-3.15	
8600.00	91.390	352.200	6727.69	1874.69	1482.68	1478.94	-171.66	40°11'40.2895"N	104°28'28.9315"W	2.23	-131.12	1.48	-1.67	
8695.00	90.220	350.860	6726.35	1873.35	1576.94	1572.89	-185.65	40°11'41.2195"N	104°28'29.0978"W	1.87	114.82	-1.23	-1.41	
8789.00	89.420	352.590	6726.65	1873.65	1670.26	1665.91	-199.18	40°11'42.1402"N	104°28'29.2582"W	2.03	85.54	-0.85	1.84	
8884.00	89.570	354.510	6727.49	1874.49	1764.88	1760.30	-209.85	40°11'43.0741"N	104°28'29.3817"W	2.03	90.00	0.16	2.02	
8978.00	89.570	355.160	6728.19	1875.19	1858.67	1853.91	-218.31	40°11'44.0001"N	104°28'29.4767"W	0.69	94.39	0.00	0.69	
9073.00	89.410	357.250	6729.04	1876.04	1953.58	1948.70	-224.60	40°11'44.9374"N	104°28'29.5436"W	2.21	90.74	-0.17	2.20	
9168.00	89.380	359.600	6730.04	1877.04	2048.57	2043.65	-227.21	40°11'45.8759"N	104°28'29.5631"W	2.47	90.01	-0.03	2.47	
9262.00	89.380	1.800	6731.06	1878.06	2142.49	2137.63	-226.06	40°11'46.8045"N	104°28'29.5343"W	2.34	73.13	0.00	2.34	
9357.00	89.820	3.250	6731.72	1878.72	2237.27	2232.53	-221.88	40°11'47.7418"N	104°28'29.4663"W	1.60	61.44	0.46	1.53	
9451.00	90.250	4.040	6731.66	1878.66	2330.90	2326.34	-215.90	40°11'48.6680"N	104°28'29.3753"W	0.96	-159.44	0.46	0.84	
9546.00	90.090	3.980	6731.38	1878.38	2425.48	2421.11	-209.26	40°11'49.6037"N	104°28'29.2756"W	0.18	90.00	-0.17	-0.06	
9640.00	90.090	4.070	6731.24	1878.24	2519.06	2514.88	-202.66	40°11'50.5295"N	104°28'29.1766"W	0.10	0.00	0.00	0.10	
9735.00	90.310	4.070	6730.90	1877.90	2613.63	2609.64	-195.92	40°11'51.4651"N	104°28'29.0756"W	0.23	-98.80	0.23	0.00	
9829.00	90.180	3.230	6730.50	1877.50	2707.26	2703.44	-189.94	40°11'52.3913"N	104°28'28.9845"W	0.90	-93.37	-0.14	-0.89	
9924.00	90.150	2.720	6730.23	1877.23	2801.99	2798.32	-185.01	40°11'53.3282"N	104°28'28.9068"W	0.54	-86.32	-0.03	-0.54	
10019.00	90.220	1.630	6729.92	1876.92	2896.80	2893.24	-181.40	40°11'54.2658"N	104°28'28.8462"W	1.15	-97.35	0.07	-1.15	
10113.00	90.060	0.390	6729.69	1876.69	2990.72	2987.23	-179.74	40°11'55.1943"N	104°28'28.8109"W	1.33	-72.96	-0.17	-1.32	
10207.00	90.250	359.770	6729.44	1876.44	3084.68	3081.23	-179.61	40°11'56.1231"N	104°28'28.7952"W	0.69	-90.00	0.20	-0.66	
10302.00	90.250	359.170	6729.02	1876.02	3179.67	3176.22	-180.49	40°11'57.0619"N	104°28'28.7923"W	0.63	-78.56	0.00	-0.63	
10396.00	90.430	358.280	6728.46	1875.46	3273.67	3270.20	-182.58	40°11'57.9907"N	104°28'28.8053"W	0.97	-106.19	0.19	-0.95	
10490.00	90.250	357.660	6727.91	1874.91	3367.66	3364.13	-185.91	40°11'58.9194"N	104°28'28.8342"W	0.69	-74.59	-0.19	-0.66	
10585.00	90.520	356.680	6727.27	1874.27	3462.63	3459.02	-190.60	40°11'59.8575"N	104°28'28.8805"W	1.07	-129.14	0.28	-1.03	
10679.00	89.820	355.820	6726.99	1873.99	3556.55	3552.81	-196.75	40°12'0.7850"N	104°28'28.9457"W	1.18	-90.00	-0.74	-0.91	
10774.00	89.820	354.890	6727.29	1874.29	3651.39	3647.50	-204.44	40°12'1.7215"N	104°28'29.0308"W	0.98	151.26	0.00	-0.98	
10868.00	89.200	355.230	6728.09	1875.09	3745.21	3741.15	-212.54	40°12'2.6478"N	104°28'29.1211"W	0.75	79.01	-0.66	0.36	
10963.00	89.480	356.670	6729.19	1876.19	3840.10	3835.90	-219.25	40°12'3.5848"N	104°28'29.1935"W	1.54	95.83	0.29	1.52	
11057.00	89.320	358.240	6730.17	1877.17	3934.07	3929.80	-223.42	40°12'4.5132"N	104°28'29.2333"W	1.68	85.02	-0.17	1.67	
11246.00	89.450	359.730	6732.20	1879.20	4123.05	4118.75	-226.77	40°12'6.3807"N	104°28'29.2482"W	0.79	73.28	0.07	0.79	
11341.00	90.000	1.560	6732.66	1879.66	4217.98	4213.74	-225.70	40°12'7.3191"N	104°28'29.2203"W	2.01	82.49	0.58	1.93	
11435.00	90.220	3.230	6732.48	1879.48	4311.77	4307.66	-221.77	40°12'8.2467"N	104°28'29.1557"W	1.79	90.00	0.23	1.78	
11529.00	90.220	3.670	6732.11	1879.11	4405.44	4401.48	-216.11	40°12'9.1732"N	104°28'29.0688"W	0.47	-99.71	0.00	0.47	
11624.00	90.030	2.560	6731.91	1878.91	4500.14	4496.34	-210.95	40°12'10.1099"N	104°28'28.9882"W	1.19	-87.32	-0.20	-1.17	
11718.00	90.060	1.920	6731.83	1878.83	4593.95	4590.27	-207.28	40°12'11.0376"N	104°28'28.9268"W	0.68	-53.75	0.03	-0.68	
11813.00	90.280	1.620	6731.55	1878.55	4688.81	4685.22	-204.34	40°12'11.9756"N	104°28'28.8748"W	0.39	-92.07	0.23	-0.32	
11907.00	90.250	0.790	6731.12	1878.12	4782.71	4779.20	-202.37	40°12'12.9040"N	104°28'28.8354"W	0.88	-78.56	-0.03	-0.88	
12002.00	90.430	359.900	6730.55	1877.55	4877.66	4874.20	-201.79	40°12'13.8426"N	104°28'28.8138"W	0.96	-94.85	0.19	-0.94	
12097.00	90.340	358.840	6729.91	1876.91	4972.65	4969.19	-202.84	40°12'14.7813"N	104°28'28.8131"W	1.12	-65.85	-0.09	-1.12	
12191.00	90.860	357.680	6728.93	1875.93	5066.64	5063.14	-205.69	40°12'15.7100"N	104°28'28.8359"W	1.35	-103.71	0.55	-1.23	
12286.00	90.550	356.410	6727.76	1874.76	5161.60	5158.00	-210.59	40°12'16.6480"N	104°28'28.8849"W	1.38	-122.51	-0.33	-1.34	
12380.00	89.970	355.500	6727.33	1874.33	5255.49	5251.77	-217.22	40°12'17.5752"N	104°28'28.9564"W	1.15	111.11	-0.62	-0.97	
12569.00	89.260	357.340	6728.60	1875.60	5444.34	5440.38	-229.02	40°12'19.4404"N	104°28'29.0804"W	1.04	82.49	-0.38	0.97	
12664.00	89.540	359.460	6729.60	1876.60	5539.33	5535.34	-231.67	40°12'20.3789"N	104°28'29.1004"W	2.25	101.24	0.29	2.23	
12759.00	89.260	0.870	6730.59	1877.59	5634.29	5630.33	-231.40	40°12'21.3175"N	104°28'29.0827"W	1.51	78.99	-0.29	1.48	
12853.00	89.480	2.000	6731.63	1878.63	5728.17	5724.29	-229.05	40°12'22.2457"N	104°28'29.0384"W	1.22	78.44	0.23	1.20	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -725
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -725 AWB
Slot	SLOT#07 GUTTERSEN STATE DD30 -725 (481'FSL & 854'FEL,SEC.30)		

WELLPATH DATA (180 stations) † = interpolated, ‡ = extrapolated station														Comments
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]	
12948.00	89.660	2.880	6732.34	1879.34	5822.95	5819.20	-225.00	40°12'23.1831"N	104°28'28.9721"W	0.95	-6.98	0.19	0.93	
13042.00	90.150	2.820	6732.50	1879.50	5916.69	5913.08	-220.33	40°12'24.1103"N	104°28'28.8979"W	0.53	-153.44	0.52	-0.06	
13137.00	89.630	2.560	6732.68	1879.68	6011.45	6007.98	-215.87	40°12'25.0474"N	104°28'28.8263"W	0.61	96.34	-0.55	-0.27	
13231.00	89.510	3.640	6733.38	1880.38	6105.16	6101.84	-210.79	40°12'25.9743"N	104°28'28.7468"W	1.16	99.02	-0.13	1.15	
13326.00	89.410	4.270	6734.28	1881.28	6199.74	6196.61	-204.23	40°12'26.9100"N	104°28'28.6482"W	0.67	80.89	-0.11	0.66	
13420.00	89.540	5.080	6735.14	1882.14	6293.21	6290.29	-196.57	40°12'27.8348"N	104°28'28.5355"W	0.87	70.11	0.14	0.86	
13515.00	90.090	6.600	6735.45	1882.45	6387.45	6384.79	-186.91	40°12'28.7675"N	104°28'28.3969"W	1.70	-82.06	0.58	1.60	
13609.00	90.150	6.170	6735.25	1882.25	6480.58	6478.21	-176.45	40°12'29.6894"N	104°28'28.2482"W	0.46	-88.33	0.06	-0.46	
13704.00	90.180	5.140	6734.98	1881.98	6574.86	6572.74	-167.09	40°12'30.6225"N	104°28'28.1135"W	1.08	-68.66	0.03	-1.08	
13798.00	90.680	3.860	6734.27	1881.27	6668.36	6666.45	-159.72	40°12'31.5476"N	104°28'28.0045"W	1.46	-88.97	0.53	-1.36	
13893.00	90.710	2.170	6733.12	1880.12	6763.07	6761.31	-154.72	40°12'32.4843"N	104°28'27.9259"W	1.78	-77.84	0.03	-1.78	
13987.00	91.020	0.730	6731.70	1878.70	6856.94	6855.26	-152.34	40°12'33.4125"N	104°28'27.8813"W	1.57	-77.70	0.33	-1.53	
14082.00	91.290	359.490	6729.79	1876.79	6951.89	6950.24	-152.16	40°12'34.3510"N	104°28'27.8648"W	1.34	-118.56	0.28	-1.31	
14177.00	90.250	357.580	6728.51	1875.51	7046.87	7045.20	-154.59	40°12'35.2895"N	104°28'27.8819"W	2.29	-120.07	-1.09	-2.01	
14272.00	90.030	357.200	6728.28	1875.28	7141.85	7140.10	-158.92	40°12'36.2278"N	104°28'27.9235"W	0.46	-90.00	-0.23	-0.40	
14366.00	90.030	356.480	6728.23	1875.23	7235.81	7233.96	-164.10	40°12'37.1558"N	104°28'27.9763"W	0.77	-115.59	0.00	-0.77	
14461.00	89.690	355.770	6728.46	1875.46	7330.72	7328.74	-170.52	40°12'38.0931"N	104°28'28.0449"W	0.83	-24.91	-0.36	-0.75	
14555.00	89.970	355.640	6728.74	1875.74	7424.60	7422.47	-177.56	40°12'39.0201"N	104°28'28.1217"W	0.33	-99.29	0.30	-0.14	
14649.00	89.880	355.090	6728.86	1875.86	7518.44	7516.16	-185.15	40°12'39.9468"N	104°28'28.2056"W	0.59	-85.37	-0.10	-0.59	
14744.00	89.910	354.720	6729.04	1876.04	7613.25	7610.79	-193.59	40°12'40.8828"N	104°28'28.3002"W	0.39	101.56	0.03	-0.39	
14839.00	89.820	355.160	6729.26	1876.26	7708.05	7705.42	-201.97	40°12'41.8188"N	104°28'28.3941"W	0.47	92.73	-0.09	0.46	
14933.00	89.780	356.000	6729.59	1876.59	7801.92	7799.14	-209.21	40°12'42.7457"N	104°28'28.4735"W	0.89	95.32	-0.04	0.89	
15027.00	89.660	357.290	6730.05	1877.05	7895.86	7892.97	-214.71	40°12'43.6735"N	104°28'28.5304"W	1.38	87.98	-0.13	1.37	
15122.00	89.720	358.990	6730.56	1877.56	7990.85	7987.92	-217.80	40°12'44.6121"N	104°28'28.5560"W	1.79	90.01	0.06	1.79	
15217.00	89.720	0.860	6731.03	1878.03	8085.82	8082.91	-217.92	40°12'45.5507"N	104°28'28.5435"W	1.97	100.77	0.00	1.97	
15311.00	89.450	2.280	6731.71	1878.71	8179.69	8176.87	-215.35	40°12'46.4789"N	104°28'28.4963"W	1.54	71.18	-0.29	1.51	
15406.00	89.600	2.720	6732.49	1879.49	8274.47	8271.78	-211.20	40°12'47.4162"N	104°28'28.4287"W	0.49	-35.79	0.16	0.46	
15500.00	90.030	2.410	6732.80	1879.80	8368.24	8365.68	-207.00	40°12'48.3436"N	104°28'28.3605"W	0.56	-39.32	0.46	-0.33	
15595.00	91.080	1.550	6731.88	1878.88	8463.07	8460.62	-203.71	40°12'49.2814"N	104°28'28.3041"W	1.43	-136.63	1.11	-0.91	
15689.00	89.820	0.360	6731.14	1878.14	8556.99	8554.60	-202.15	40°12'50.2098"N	104°28'28.2699"W	1.84	97.60	-1.34	-1.27	
15783.00	89.720	1.110	6731.52	1878.52	8650.92	8648.59	-200.94	40°12'51.1384"N	104°28'28.2403"W	0.80	54.42	-0.11	0.80	
15878.00	90.650	2.410	6731.21	1878.21	8745.77	8743.54	-198.02	40°12'52.0763"N	104°28'28.1885"W	1.68	28.25	0.98	1.37	
15972.00	91.450	2.840	6729.49	1876.49	8839.52	8837.43	-193.72	40°12'53.0036"N	104°28'28.1191"W	0.97	-106.40	0.85	0.46	
16067.00	91.020	1.380	6727.44	1874.44	8934.32	8932.34	-190.22	40°12'53.9410"N	104°28'28.0598"W	1.60	-72.09	-0.45	-1.54	
16161.00	91.230	0.730	6725.59	1872.59	9028.22	9026.30	-188.49	40°12'54.8693"N	104°28'28.0235"W	0.73	-99.06	0.22	-0.69	
16256.00	91.080	359.790	6723.68	1870.68	9123.16	9121.28	-188.06	40°12'55.8078"N	104°28'28.0038"W	1.00	-67.52	-0.16	-0.99	
16350.00	91.510	358.750	6721.55	1868.55	9217.13	9215.25	-189.26	40°12'56.7364"N	104°28'28.0052"W	1.20	-103.67	0.46	-1.11	
16445.00	91.140	357.230	6719.36	1866.36	9312.09	9310.16	-192.59	40°12'57.6747"N	104°28'28.0340"W	1.65	-109.65	-0.39	-1.60	
16539.00	90.990	356.810	6717.61	1864.61	9406.04	9404.02	-197.47	40°12'58.6026"N	104°28'28.0830"W	0.47	79.15	-0.16	-0.45	
16634.00	91.080	357.280	6715.89	1862.89	9500.99	9498.88	-202.37	40°12'59.5405"N	104°28'28.1320"W	0.50	-94.51	0.09	0.49	
16728.00	91.050	356.900	6714.15	1861.15	9594.94	9592.74	-207.14	40°13'0.4685"N	104°28'28.1795"W	0.41	-93.24	-0.03	-0.40	
16823.00	91.020	356.370	6712.43	1859.43	9689.87	9687.56	-212.72	40°13'1.4061"N	104°28'28.2372"W	0.56	-22.47	-0.03	-0.56	
16917.00	91.600	356.130	6710.28	1857.28	9783.76	9781.33	-218.86	40°13'2.3334"N	104°28'28.3025"W	0.67	-76.75	0.62	-0.26	
16965.00	91.720	355.620	6708.89	1855.89	9831.69	9829.19	-222.32	40°13'2.8067"N	104°28'28.3398"W	1.09	0.00	0.25	-1.06	LAST BH MWD SURVEY
16989.00†	91.720	355.620	6708.17	1855.17	9855.64	9853.11	-224.15	40°13'3.0433"N	104°28'28.3599"W	0.00		0.00	0.00	EXTRAPOLATED TO TD

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -725
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -725 AWB
Slot	SLOT#07 GUTTERSEN STATE DD30 -725 (481'FSL & 854'FEL,SEC.30)		

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	-52.07	-1988.74	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	-52.07	-1988.74	3284597.87	1313832.86	40°11'25.3680"N	104°28'52.5720"W	polygon
	2D Polygon: dimensions not calculated							
GUTTERSEN STATE DD30 -725 BHL REV-2 (200'FNL & 990'FEL,SEC.19)	6708.60	9862.80	-239.89	3286346.65	1323747.29	40°13'3.1408"N	104°28'28.5613"W	point
GUTTERSEN STATE DD30 -725 BHL REV-1 (200'FNL & 990'FEL,SEC.19)	6728.60	9862.80	-239.89	3286346.65	1323747.29	40°13'3.1408"N	104°28'28.5613"W	point
GUTTERSEN STATE DD30 -725 TPZ REV-2 (500'FSL & 990'FEL,SEC.30)	6732.00	17.23	-137.73	3286448.81	1313902.16	40°11'25.8420"N	104°28'28.7120"W	point
GUTTERSEN STATE DD30 -725 TPZ REV-1 (500'FSL & 990'FEL,SEC.30)	6752.00	17.23	-137.73	3286448.81	1313902.16	40°11'25.8420"N	104°28'28.7120"W	point

WELLPATH COMPOSITION - Ref Wellbore: GUTTERSEN STATE DD30 -725 AWB					Ref Wellpath: GUTTERSEN STATE DD30 -725 AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore	Survey Date
0.00	1924.00	Gyrodatta 2015 - GC+DROP+COND	13.5" Gyrodatta Surface Survey (Gyrodatta 2015-GC+DROP+COND) <0' - 1924'>		GUTTERSEN STATE DD30 -725 AWP	12/6/2019
1924.00	16989.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	8.5" ATKCurve (OWSG MWD,REV.2+IFR1+MSA) <1984' - 16965'>		GUTTERSEN STATE DD30 -725 AWP	12/6/2019

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -725
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -725 AWB
Slot	SLOT#07 GUTTERSEN STATE DD30 -725 (481'FSL & 854'FEL,SEC.30)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
85.00	0.210	213.190	85.00	FIRST 3RD PARTY GYRO SURVEY
1924.00	0.530	289.290	1923.99	TIE ON TO 3RD PARTY GYRO SURVEY
1984.00	0.480	267.140	1983.98	FIRST BH MWD SURVEY
16965.00	91.720	355.620	6708.89	LAST BH MWD SURVEY
16989.00	91.720	355.620	6708.17	EXTRAPOLATED TO TD