

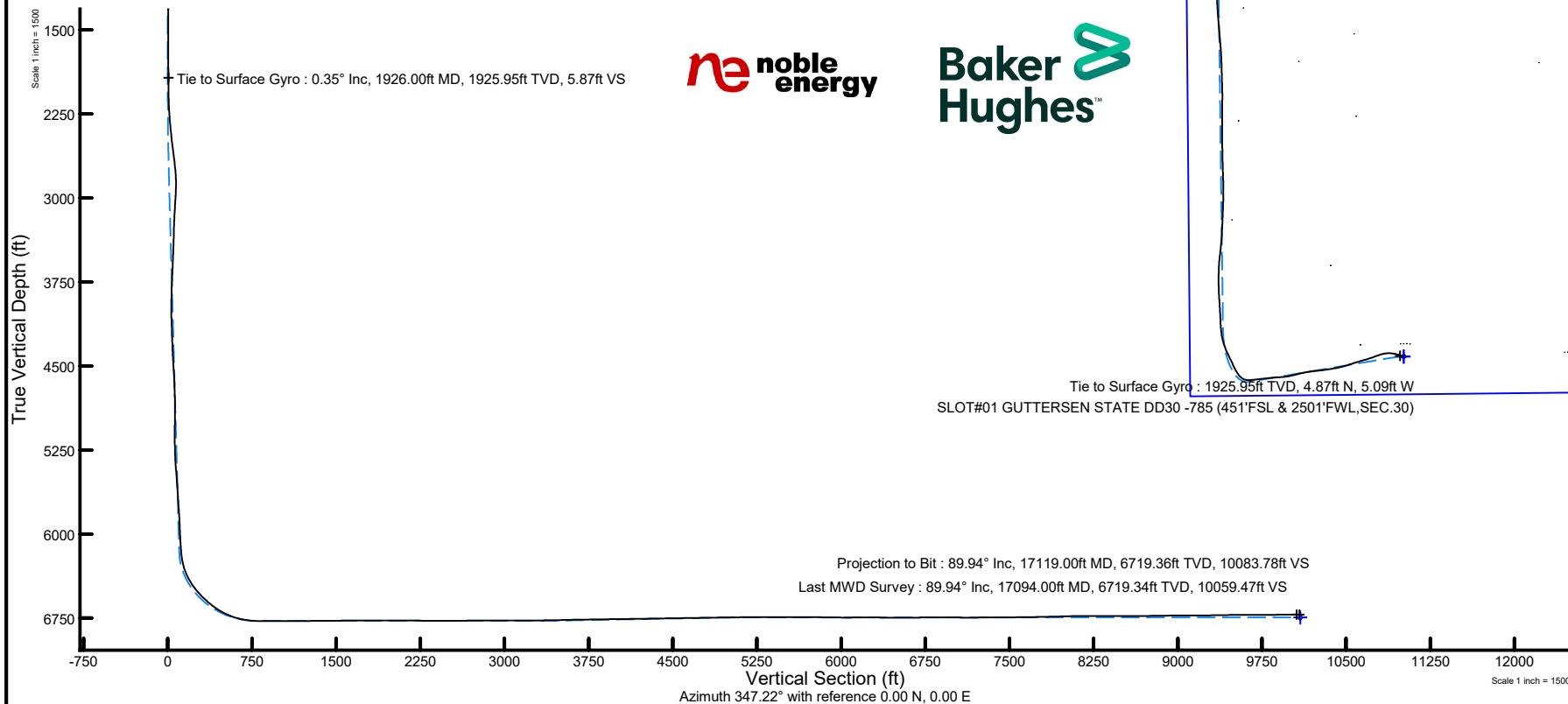
NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#01 GUTTERSEN STATE DD30 -785 (451'FSL & 2501'FWL,SEC.30)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: GUTTERSEN STATE DD30 -785
Facility: SEC.30-T03N-R63W Wellbore: GUTTERSEN STATE DD30 -785 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#01 GUTTERSEN STATE DD30 -785 (451'FSL & 2501'FWL,SEC.30)	0.00	0.00	3284561.516	1313836.085	40°11'25.4040"N	104°28'53.0400"W
RIG (30') (RKB) to Mud line (At Slot: SLOT#01 GUTTERSEN STATE DD30 -785 (451'FSL & 2501'FWL,SEC.30))					4824ft	
Mean Sea Level to Mud line (At Slot: SLOT#01 GUTTERSEN STATE DD30 -785 (451'FSL & 2501'FWL,SEC.30))					0ft	
RIG (30') (RKB) to Mean Sea Level					4824ft	

Plot reference wellpath is GUTTERSEN STATE DD30 -785 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: 4824 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Mud line (At Slot: SLOT#01 GUTTERSEN STATE DD30 -785 (451'FSL & 2501'FWL,SEC.30)): 0 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: manajohj on 2020-01-07; Database: WA, NOBLE



noble energy

Baker Hughes

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -785
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -785 AWP
Slot	SLOT#01 GUTTERSEN STATE DD30 -785 (451'FSL & 2501'FWL,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	1/7/2020 at 8:54:51 AM
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	0.00	0.00	3284561.52	1313836.09	40°11'25.4040"N	104°28'53.0400"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	4824.00ft
Horizontal Reference Pt	Slot	RIG (30') (RKB) to Mean Sea Level	4824.00ft
Vertical Reference Pt	RIG (30') (RKB)	RIG (30') (RKB) to Mud Line at Slot (SLOT#01 GUTTERSEN STATE DD30 -785 (451'FSL & 2501'FWL,SEC.30))	4824.00ft
MD Reference Pt	RIG (30') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	347.22°

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -785
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -785 AWP
Slot	SLOT#01 GUTTERSEN STATE DD30 -785 (451'FSL & 2501'FWL,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
0.00	0.000	0.000	0.00	-4824.00	0.00	0.00	0.00	40°11'25.4040"N	104°28'53.0400"W	0.00	0.00	0.00	0.00	
78.20	0.260	7.380	78.20	-4745.80	0.17	0.18	0.02	40°11'25.4057"N	104°28'53.0397"W	0.33	5.93	0.33	0.00	
176.30	0.650	10.940	176.30	-4647.70	0.88	0.94	0.16	40°11'25.4133"N	104°28'53.0378"W	0.40	-136.85	0.40	3.63	
267.30	0.450	333.020	267.29	-4556.71	1.70	1.77	0.09	40°11'25.4215"N	104°28'53.0385"W	0.44	-77.92	-0.22	-41.67	
361.80	0.640	7.500	361.79	-4462.21	2.56	2.62	-0.01	40°11'25.4299"N	104°28'53.0397"W	0.39	-149.57	0.20	36.49	
456.10	0.340	290.380	456.09	-4367.91	3.21	3.24	-0.20	40°11'25.4361"N	104°28'53.0421"W	0.69	30.37	-0.32	-81.78	
550.70	0.600	304.100	550.68	-4273.32	3.72	3.62	-0.87	40°11'25.4398"N	104°28'53.0507"W	0.30	-85.89	0.27	14.50	
645.30	0.660	283.270	645.28	-4178.72	4.32	4.02	-1.81	40°11'25.4439"N	104°28'53.0628"W	0.25	-84.13	0.06	-22.02	
739.80	0.720	264.900	739.77	-4084.23	4.64	4.09	-2.94	40°11'25.4448"N	104°28'53.0772"W	0.24	-158.08	0.06	-19.44	
834.40	0.280	180.510	834.37	-3989.63	4.49	3.81	-3.53	40°11'25.4420"N	104°28'53.0849"W	0.79	-176.77	-0.47	-89.21	
928.90	0.110	12.000	928.87	-3895.13	4.35	3.67	-3.51	40°11'25.4406"N	104°28'53.0847"W	0.41	-115.37	-0.18	-178.32	
1023.40	0.180	290.150	1023.37	-3800.63	4.52	3.81	-3.63	40°11'25.4420"N	104°28'53.0862"W	0.21	-76.38	0.07	-86.61	
1118.00	0.440	237.200	1117.97	-3706.03	4.47	3.66	-4.08	40°11'25.4406"N	104°28'53.0920"W	0.38	-147.47	0.27	-55.97	
1212.50	0.280	212.050	1212.46	-3611.54	4.18	3.27	-4.51	40°11'25.4368"N	104°28'53.0976"W	0.23	115.51	-0.17	-26.61	
1307.00	0.280	263.070	1306.96	-3517.04	4.04	3.04	-4.86	40°11'25.4346"N	104°28'53.1021"W	0.26	90.74	0.00	53.99	
1401.80	0.280	264.550	1401.76	-3422.24	4.10	2.99	-5.32	40°11'25.4342"N	104°28'53.1081"W	0.01	-142.69	0.00	1.56	
1496.30	0.190	185.130	1496.26	-3327.74	3.98	2.82	-5.56	40°11'25.4325"N	104°28'53.1112"W	0.33	-153.34	-0.10	-84.04	
1590.70	0.370	45.110	1590.66	-3233.34	3.99	2.88	-5.36	40°11'25.4330"N	104°28'53.1086"W	0.56	-76.20	0.19	-148.33	
1685.30	0.380	39.920	1685.26	-3138.74	4.34	3.33	-4.94	40°11'25.4375"N	104°28'53.1032"W	0.04	-111.61	0.01	-5.49	
1780.00	0.410	347.810	1779.96	-3044.04	4.87	3.90	-4.81	40°11'25.4431"N	104°28'53.1014"W	0.37	-108.17	0.03	-55.03	
1874.70	0.400	342.760	1874.65	-2949.35	5.54	4.55	-4.98	40°11'25.4495"N	104°28'53.1035"W	0.04	-151.89	-0.01	-5.33	
1926.00	0.350	338.290	1925.95	-2898.05	5.87	4.87	-5.09	40°11'25.4527"N	104°28'53.1049"W	0.11	104.04	-0.10	-8.71	Tie to Surface Gyro
1990.00	0.340	349.370	1989.95	-2834.05	6.26	5.24	-5.20	40°11'25.4563"N	104°28'53.1062"W	0.11	-28.65	-0.02	17.31	
2084.00	1.040	329.740	2083.94	-2740.06	7.35	6.25	-5.68	40°11'25.4664"N	104°28'53.1123"W	0.78	-40.59	0.74	-20.88	
2179.00	3.530	300.190	2178.86	-2645.14	10.16	8.46	-8.64	40°11'25.4886"N	104°28'53.1501"W	2.82	-6.13	2.62	-31.11	
2273.00	6.560	297.350	2272.49	-2551.51	15.60	12.39	-15.92	40°11'25.5282"N	104°28'53.2432"W	3.23	-18.53	3.22	-3.02	
2368.00	9.710	291.190	2366.52	-2457.48	23.57	17.78	-28.21	40°11'25.5829"N	104°28'53.4008"W	3.44	-26.79	3.32	-6.48	
2462.00	13.470	283.290	2458.60	-2365.40	32.82	23.16	-46.26	40°11'25.6381"N	104°28'53.6327"W	4.33	-1.88	4.00	-8.40	
2557.00	16.820	282.910	2550.28	-2273.72	43.64	28.78	-70.44	40°11'25.6963"N	104°28'53.9433"W	3.53	-33.26	3.53	-0.40	
2651.00	20.010	276.980	2639.47	-2184.53	54.98	33.77	-99.67	40°11'25.7490"N	104°28'54.3192"W	3.93	-29.73	3.39	-6.31	
2745.00	25.080	270.350	2726.27	-2097.73	64.95	35.85	-135.58	40°11'25.7736"N	104°28'54.7816"W	6.03	-64.96	5.39	-7.05	
2840.00	26.930	262.600	2811.67	-2012.33	71.54	33.20	-177.06	40°11'25.7522"N	104°28'55.3165"W	4.07	-94.46	1.95	-8.16	
2935.00	26.860	255.330	2896.42	-1927.58	72.84	24.99	-219.17	40°11'25.6758"N	104°28'55.8602"W	3.46	-90.24	-0.07	-7.65	
3029.00	26.910	251.290	2980.27	-1843.73	69.94	12.79	-259.86	40°11'25.5599"N	104°28'56.3864"W	1.94	-139.71	0.05	-4.30	
3124.00	26.030	249.570	3065.31	-1758.69	64.95	-1.38	-299.76	40°11'25.4243"N	104°28'56.9025"W	1.23	178.81	-0.93	-1.81	
3218.00	23.530	249.700	3150.65	-1673.35	59.74	-15.09	-336.69	40°11'25.2930"N	104°28'57.3804"W	2.66	64.95	-2.66	0.14	
3313.00	24.180	252.920	3237.53	-1586.47	55.80	-27.39	-373.08	40°11'25.1757"N	104°28'57.8510"W	1.53	26.16	0.68	3.39	
3407.00	25.900	254.840	3322.70	-1501.30	53.50	-38.41	-411.30	40°11'25.0711"N	104°28'58.3451"W	2.02	-83.34	1.83	2.04	
3501.00	25.990	253.250	3407.22	-1416.78	51.22	-49.72	-450.84	40°11'24.9639"N	104°28'58.8562"W	0.75	-31.32	0.10	-1.69	
3596.00	26.460	252.610	3492.44	-1331.56	48.08	-62.04	-490.97	40°11'24.8466"N	104°28'59.3751"W	0.58	57.88	0.49	-0.67	
3690.00	26.590	253.070	3576.55	-1247.45	44.87	-74.43	-531.08	40°11'24.7288"N	104°28'59.8938"W	0.26	-10.25	0.14	0.49	
3785.00	27.510	252.710	3661.16	-1162.84	41.60	-87.14	-572.37	40°11'24.6078"N	104°29'0.4276"W	0.98	-73.29	0.97	-0.38	
3879.00	27.720	251.260	3744.45	-1079.55	37.62	-100.62	-613.80	40°11'24.4794"N	104°29'0.9635"W	0.75	93.86	0.22	-1.54	
3974.00	27.660	254.110	3828.57	-995.43	34.13	-113.75	-655.93	40°11'24.3543"N	104°29'1.5083"W	1.40	100.48	-0.06	3.00	
4068.00	27.500	256.160	3911.89	-912.11	32.54	-124.92	-697.99	40°11'24.2488"N	104°29'2.0518"W	1.02	174.95	-0.17	2.18	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -785
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -785 AWP
Slot	SLOT#01 GUTTERSEN STATE DD30 -785 (451'FSL & 2501'FWL,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
4163.00	27.190	256.220	3996.28	-827.72	31.76	-135.33	-740.37	40°11'24.1506"N	104°29'2.5994"W	0.33	118.28	-0.33	0.06	
4257.00	26.030	261.550	4080.33	-743.67	32.94	-143.48	-781.63	40°11'24.0748"N	104°29'3.1323"W	2.82	-25.60	-1.23	5.67	
4352.00	27.040	260.490	4165.32	-658.68	35.74	-150.11	-823.55	40°11'24.0140"N	104°29'3.6733"W	1.17	138.76	1.06	-1.12	
4446.00	26.470	261.620	4249.26	-574.74	38.57	-156.70	-865.35	40°11'23.9537"N	104°29'4.2129"W	0.81	-176.35	-0.61	1.20	
4541.00	25.330	261.450	4334.72	-489.28	41.69	-162.80	-906.40	40°11'23.8980"N	104°29'4.7426"W	1.20	56.84	-1.20	-0.18	
4635.00	26.060	263.920	4419.42	-404.58	45.58	-167.98	-946.81	40°11'23.8514"N	104°29'5.2641"W	1.38	18.08	0.78	2.63	
4730.00	26.850	264.490	4504.48	-319.52	50.73	-172.25	-988.92	40°11'23.8140"N	104°29'5.8073"W	0.87	-157.93	0.83	0.60	
4824.00	25.760	263.470	4588.74	-235.26	55.63	-176.61	-1030.34	40°11'23.7756"N	104°29'6.3417"W	1.26	-161.58	-1.16	-1.09	
4919.00	23.540	261.610	4675.08	-148.92	59.33	-181.73	-1069.63	40°11'23.7295"N	104°29'6.8486"W	2.48	-3.36	-2.34	-1.96	
5013.00	26.850	261.180	4760.13	-63.87	62.23	-187.72	-1109.18	40°11'23.6747"N	104°29'7.3591"W	3.53	-94.20	3.52	-0.46	
5108.00	26.780	257.970	4844.91	20.91	63.99	-195.47	-1151.32	40°11'23.6029"N	104°29'7.9032"W	1.53	-139.45	-0.07	-3.38	
5202.00	25.560	255.510	4929.28	105.28	63.66	-204.96	-1191.67	40°11'23.5137"N	104°29'8.4244"W	1.74	20.68	-1.30	-2.62	
5297.00	26.920	256.640	5014.49	190.49	62.83	-215.06	-1232.43	40°11'23.4185"N	104°29'8.9512"W	1.53	-30.88	1.43	1.19	
5392.00	27.430	255.980	5099.00	275.00	62.14	-225.33	-1274.59	40°11'23.3218"N	104°29'9.4958"W	0.62	140.42	0.54	-0.69	
5486.00	25.940	258.850	5182.99	358.99	62.25	-234.55	-1315.77	40°11'23.2353"N	104°29'10.0278"W	2.10	137.08	-1.59	3.05	
5581.00	24.650	261.790	5268.88	444.88	64.42	-241.40	-1355.77	40°11'23.1722"N	104°29'10.5441"W	1.89	90.72	-1.36	3.09	
5675.00	24.660	264.490	5354.32	530.32	68.46	-246.08	-1394.69	40°11'23.1303"N	104°29'11.0463"W	1.20	29.84	0.01	2.87	
5769.00	26.610	266.960	5439.06	615.06	74.50	-249.08	-1435.24	40°11'23.1052"N	104°29'11.5692"W	2.37	-31.08	2.07	2.63	
5864.00	27.440	265.880	5523.69	699.69	81.40	-251.78	-1478.31	40°11'23.0834"N	104°29'12.1246"W	1.01	-111.00	0.87	-1.14	
5959.00	27.180	264.350	5608.10	784.10	87.38	-255.49	-1521.74	40°11'23.0517"N	104°29'12.6847"W	0.79	-145.16	-0.27	-1.61	
6053.00	26.780	263.730	5691.87	867.87	92.45	-259.92	-1564.15	40°11'23.0127"N	104°29'13.2318"W	0.52	108.08	-0.43	-0.66	
6147.00	26.600	265.000	5775.86	951.86	97.70	-264.07	-1606.17	40°11'22.9765"N	104°29'13.7738"W	0.64	-147.35	-0.19	1.35	
6242.00	25.790	263.800	5861.10	1037.10	102.94	-268.15	-1647.90	40°11'22.9408"N	104°29'14.3121"W	1.02	-110.16	-0.85	-1.26	
6336.00	25.600	262.570	5945.80	1121.80	107.18	-272.99	-1688.37	40°11'22.8976"N	104°29'14.8342"W	0.60	70.96	-0.20	-1.31	
6431.00	25.630	262.770	6031.47	1207.47	111.07	-278.23	-1729.10	40°11'22.8504"N	104°29'15.3598"W	0.10	28.83	0.03	0.21	
6526.00	26.740	264.120	6116.72	1292.72	115.63	-283.00	-1770.75	40°11'22.8079"N	104°29'15.8971"W	1.33	96.94	1.17	1.42	
6620.00	26.530	272.510	6200.77	1376.77	123.71	-284.25	-1812.77	40°11'22.8003"N	104°29'16.4388"W	4.00	91.19	-0.22	8.93	
6714.00	27.330	288.880	6284.69	1460.69	140.59	-276.34	-1854.22	40°11'22.8832"N	104°29'16.9717"W	7.91	86.09	0.85	17.41	
6809.00	29.810	310.410	6368.34	1544.34	171.03	-253.91	-1892.95	40°11'23.1092"N	104°29'17.4673"W	11.09	55.75	2.61	22.66	
6904.00	35.860	323.710	6448.23	1624.23	215.55	-216.09	-1927.47	40°11'23.4868"N	104°29'17.9066"W	9.88	38.66	6.37	14.00	
6998.00	42.790	331.530	6520.95	1696.95	271.63	-165.74	-1959.05	40°11'23.9879"N	104°29'18.3060"W	9.05	27.69	7.37	8.32	
7093.00	48.140	335.250	6587.56	1763.56	337.36	-105.19	-1989.27	40°11'24.5896"N	104°29'18.6865"W	6.28	-3.78	5.63	3.92	
7187.00	53.510	334.810	6646.92	1822.92	408.56	-39.16	-2020.03	40°11'25.2455"N	104°29'19.0731"W	5.72	-3.90	5.71	-0.47	
7282.00	62.240	334.140	6697.39	1873.39	486.95	33.36	-2054.68	40°11'25.9661"N	104°29'19.5090"W	9.21	30.09	9.19	-0.71	
7377.00	70.610	339.210	6735.37	1911.37	572.46	113.26	-2089.00	40°11'26.7594"N	104°29'19.9394"W	10.07	45.98	8.81	5.34	
7471.00	78.220	347.070	6760.65	1936.65	662.64	199.80	-2115.11	40°11'27.6175"N	104°29'20.2631"W	11.41	41.79	8.10	8.36	
7565.00	86.000	353.960	6773.56	1949.56	755.46	291.52	-2130.38	40°11'28.5256"N	104°29'20.4463"W	11.01	35.04	8.28	7.33	
7659.00	90.400	357.040	6776.51	1952.51	848.40	385.15	-2137.74	40°11'29.4516"N	104°29'20.5275"W	5.71	148.67	4.68	3.28	
7754.00	89.940	357.320	6776.23	1952.23	941.97	480.04	-2142.42	40°11'30.3897"N	104°29'20.5738"W	0.57	-81.30	-0.48	0.29	
7848.00	90.090	356.340	6776.20	1952.20	1034.65	573.89	-2147.61	40°11'31.3177"N	104°29'20.6270"W	1.05	30.07	0.16	-1.04	
7942.00	90.280	356.450	6775.90	1951.90	1127.45	667.71	-2153.52	40°11'32.2454"N	104°29'20.6893"W	0.23	82.44	0.20	0.12	
8037.00	90.430	357.580	6775.31	1951.31	1221.06	762.57	-2158.47	40°11'33.1833"N	104°29'20.7392"W	1.20	120.16	0.16	1.19	
8131.00	90.000	358.320	6774.96	1950.96	1313.42	856.51	-2161.83	40°11'34.1120"N	104°29'20.7687"W	0.91	77.43	-0.46	0.79	
8226.00	90.740	1.640	6774.34	1950.34	1406.06	951.50	-2161.87	40°11'35.0505"N	104°29'20.7552"W	3.58	-116.57	0.78	3.49	
8320.00	90.710	1.580	6773.15	1949.15	1497.10	1045.45	-2159.23	40°11'35.9786"N	104°29'20.7073"W	0.07	88.41	-0.03	-0.06	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -785
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -785 AWP
Slot	SLOT#01 GUTTERSEN STATE DD30 -785 (451'FSL & 2501'FWL,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
8415.00	90.830	5.990	6771.88	1947.88	1588.13	1140.21	-2152.96	40°11'36.9143"N	104°29'20.6126"W	4.64	124.38	0.13	4.64	
8509.00	90.180	6.940	6771.05	1947.05	1676.87	1233.61	-2142.37	40°11'37.8360"N	104°29'20.4625"W	1.22	-93.75	-0.69	1.01	
8604.00	90.060	5.110	6770.85	1946.85	1766.80	1328.08	-2132.40	40°11'38.7684"N	104°29'20.3202"W	1.93	-98.47	-0.13	-1.93	
8699.00	89.780	3.230	6770.98	1946.98	1857.67	1422.82	-2125.50	40°11'39.7038"N	104°29'20.2172"W	2.00	-110.56	-0.29	-1.98	
8794.00	89.600	2.750	6771.50	1947.50	1949.09	1517.69	-2120.54	40°11'40.6407"N	104°29'20.1395"W	0.54	-32.62	-0.19	-0.51	
8888.00	89.850	2.590	6771.95	1947.95	2039.70	1611.59	-2116.16	40°11'41.5680"N	104°29'20.0692"W	0.32	-106.70	0.27	-0.17	
8982.00	89.820	2.490	6772.22	1948.22	2130.36	1705.50	-2112.00	40°11'42.4955"N	104°29'20.0018"W	0.11	-85.82	-0.03	-0.11	
9077.00	89.880	1.670	6772.47	1948.47	2222.18	1800.43	-2108.55	40°11'43.4332"N	104°29'19.9434"W	0.87	-97.99	0.06	-0.86	
9172.00	89.720	0.530	6772.80	1948.80	2314.40	1895.41	-2106.72	40°11'44.3715"N	104°29'19.9059"W	1.21	-68.20	-0.17	-1.20	
9266.00	89.820	0.280	6773.17	1949.17	2405.93	1989.41	-2106.06	40°11'45.3002"N	104°29'19.8836"W	0.29	-79.79	0.11	-0.27	
9361.00	90.220	358.060	6773.14	1949.14	2498.86	2084.39	-2107.44	40°11'46.2390"N	104°29'19.8873"W	2.37	-111.25	0.42	-2.34	
9455.00	90.150	357.880	6772.84	1948.84	2591.21	2178.33	-2110.77	40°11'47.1676"N	104°29'19.9164"W	0.21	82.44	-0.07	-0.19	
9550.00	90.280	358.860	6772.48	1948.48	2684.42	2273.29	-2113.47	40°11'48.1062"N	104°29'19.9373"W	1.04	-133.53	0.14	1.03	
9739.00	90.090	358.660	6771.87	1947.87	2869.60	2462.25	-2117.56	40°11'49.9738"N	104°29'19.9622"W	0.15	79.80	-0.10	-0.11	
9833.00	90.180	359.160	6771.65	1947.65	2961.65	2556.23	-2119.35	40°11'50.9027"N	104°29'19.9715"W	0.54	97.65	0.10	0.53	
9928.00	90.090	359.830	6771.43	1947.43	3054.48	2651.23	-2120.18	40°11'51.8415"N	104°29'19.9683"W	0.71	-68.20	-0.09	0.71	
10022.00	90.150	359.680	6771.23	1947.23	3146.24	2745.23	-2120.58	40°11'52.7703"N	104°29'19.9597"W	0.17	119.75	0.06	-0.16	
10117.00	89.910	0.100	6771.18	1947.18	3238.93	2840.23	-2120.77	40°11'53.7091"N	104°29'19.9481"W	0.51	40.21	-0.25	0.44	
10212.00	91.140	1.140	6770.31	1946.31	3331.33	2935.21	-2119.74	40°11'54.6476"N	104°29'19.9209"W	1.70	-159.72	1.29	1.09	
10307.00	90.680	0.970	6768.80	1944.80	3423.57	3030.18	-2117.99	40°11'55.5858"N	104°29'19.8844"W	0.52	-66.57	-0.48	-0.18	
10401.00	91.360	359.400	6767.13	1943.13	3515.15	3124.17	-2117.69	40°11'56.5144"N	104°29'19.8666"W	1.82	-97.28	0.72	-1.67	
10496.00	91.200	358.150	6765.00	1941.00	3608.20	3219.12	-2119.72	40°11'57.4529"N	104°29'19.8789"W	1.33	159.28	-0.17	-1.32	
10590.00	90.830	358.290	6763.34	1939.34	3700.46	3313.06	-2122.64	40°11'58.3815"N	104°29'19.9027"W	0.42	100.62	-0.39	0.15	
10685.00	90.770	358.610	6762.01	1938.01	3793.64	3408.01	-2125.21	40°11'59.3201"N	104°29'19.9218"W	0.34	-101.89	-0.06	0.34	
10712.00	90.650	358.040	6761.68	1937.68	3820.13	3435.00	-2126.00	40°11'59.5868"N	104°29'19.9280"W	2.16	-13.24	-0.44	-2.11	
10806.00	90.990	357.960	6760.33	1936.33	3912.46	3528.93	-2129.28	40°12'0.5154"N	104°29'19.9565"W	0.37	-112.52	0.36	-0.09	
10901.00	90.430	356.610	6759.16	1935.16	4005.99	3623.82	-2133.78	40°12'1.4535"N	104°29'20.0005"W	1.54	-63.82	-0.59	-1.42	
10996.00	91.290	354.860	6757.73	1933.73	4099.93	3718.54	-2140.84	40°12'2.3903"N	104°29'20.0776"W	2.05	-153.44	0.91	-1.84	
11090.00	90.590	354.510	6756.19	1932.19	4193.12	3812.12	-2149.55	40°12'3.3160"N	104°29'20.1761"W	0.83	64.00	-0.74	-0.37	
11185.00	90.980	355.310	6754.89	1930.89	4287.25	3906.74	-2157.97	40°12'4.2518"N	104°29'20.2708"W	0.94	161.57	0.41	0.84	
11280.00	90.860	355.350	6753.36	1929.36	4381.29	4001.41	-2165.71	40°12'5.1882"N	104°29'20.3565"W	0.13	85.63	-0.13	0.04	
11374.00	90.950	356.530	6751.88	1927.88	4474.19	4095.16	-2172.36	40°12'6.1153"N	104°29'20.4285"W	1.26	97.43	0.10	1.26	
11468.00	90.890	356.990	6750.37	1926.37	4566.88	4189.00	-2177.67	40°12'7.0432"N	104°29'20.4832"W	0.49	83.66	-0.06	0.49	
11563.00	90.950	357.530	6748.84	1924.84	4660.42	4283.88	-2182.21	40°12'7.9812"N	104°29'20.5278"W	0.57	92.74	0.06	0.57	
11658.00	90.890	358.780	6747.32	1923.32	4753.68	4378.81	-2185.27	40°12'8.9197"N	104°29'20.5532"W	1.32	102.53	-0.06	1.32	
11753.00	90.770	359.320	6745.94	1921.94	4846.65	4473.79	-2186.85	40°12'9.8583"N	104°29'20.5596"W	0.58	-18.43	-0.13	0.57	
11847.00	90.830	359.300	6744.63	1920.63	4938.56	4567.77	-2187.98	40°12'10.7871"N	104°29'20.5603"W	0.07	-96.98	0.06	-0.02	
11942.00	90.770	358.810	6743.30	1919.30	5031.53	4662.75	-2189.54	40°12'11.7258"N	104°29'20.5666"W	0.52	-144.64	-0.06	-0.52	
12036.00	90.460	358.590	6742.29	1918.29	5123.65	4756.72	-2191.68	40°12'12.6546"N	104°29'20.5803"W	0.40	-144.46	-0.33	-0.23	
12131.00	90.250	358.440	6741.70	1917.70	5216.80	4851.69	-2194.14	40°12'13.5933"N	104°29'20.5980"W	0.27	102.10	-0.22	-0.16	
12225.00	90.220	358.580	6741.32	1917.32	5308.99	4945.65	-2196.58	40°12'14.5221"N	104°29'20.6157"W	0.15	-109.29	-0.03	0.15	
12414.00	89.940	357.780	6741.05	1917.05	5494.54	5134.56	-2202.59	40°12'16.3894"N	104°29'20.6653"W	0.45	95.36	-0.15	-0.42	
12509.00	89.910	358.100	6741.18	1917.18	5587.88	5229.50	-2206.00	40°12'17.3279"N	104°29'20.6954"W	0.34	-145.31	-0.03	0.34	
12604.00	89.780	358.010	6741.44	1917.44	5681.19	5324.44	-2209.23	40°12'18.2664"N	104°29'20.7230"W	0.17	101.17	-0.14	-0.09	
12698.00	89.630	358.770	6741.92	1917.92	5773.41	5418.40	-2211.87	40°12'19.1952"N	104°29'20.7432"W	0.82	138.58	-0.16	0.81	

REFERENCE WELLPATH IDENTIFICATION				
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -785	
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal		
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -785 AWP	
Slot	SLOT#01 GUTTERSEN STATE DD30 -785 (451'FSL & 2501'FWL,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]	Toolface [°]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
12793.00	88.950	359.370	6743.10	1919.10	5866.37	5513.38	-2213.41	40°12'20.1339"N	104°29'20.7491"W	0.95	79.27	-0.72	0.63	
12888.00	89.170	0.530	6744.66	1920.66	5959.03	5608.37	-2213.49	40°12'21.0725"N	104°29'20.7362"W	1.24	-10.65	0.23	1.22	
12982.00	90.180	0.340	6745.19	1921.19	6050.53	5702.36	-2212.78	40°12'22.0012"N	104°29'20.7132"W	1.09	-63.43	1.07	-0.20	
13076.00	90.280	0.140	6744.81	1920.81	6142.12	5796.36	-2212.38	40°12'22.9300"N	104°29'20.6943"W	0.24	-141.55	0.11	-0.21	
13171.00	89.940	359.870	6744.63	1920.63	6234.76	5891.36	-2212.38	40°12'23.8687"N	104°29'20.6803"W	0.46	118.22	-0.36	-0.28	
13266.00	89.720	0.280	6744.91	1920.91	6327.38	5986.36	-2212.25	40°12'24.8074"N	104°29'20.6647"W	0.49	36.87	-0.23	0.43	
13360.00	89.880	0.400	6745.24	1921.24	6418.93	6080.36	-2211.69	40°12'25.7361"N	104°29'20.6437"W	0.21	56.31	0.17	0.13	
13455.00	89.940	0.490	6745.39	1921.39	6511.41	6175.35	-2210.96	40°12'26.6748"N	104°29'20.6203"W	0.11	71.83	0.06	0.09	
13549.00	90.150	1.130	6745.31	1921.31	6602.78	6269.34	-2209.63	40°12'27.6033"N	104°29'20.5893"W	0.72	-90.00	0.22	0.68	
13644.00	90.150	0.450	6745.07	1921.07	6695.13	6364.33	-2208.32	40°12'28.5418"N	104°29'20.5585"W	0.72	-118.30	0.00	-0.72	
13738.00	89.940	0.060	6744.99	1920.99	6786.71	6458.33	-2207.90	40°12'29.4706"N	104°29'20.5393"W	0.47	4.76	-0.22	-0.41	
13833.00	90.180	0.080	6744.89	1920.89	6879.33	6553.33	-2207.78	40°12'30.4093"N	104°29'20.5238"W	0.25	-104.04	0.25	0.02	
13928.00	90.090	359.720	6744.67	1920.67	6972.01	6648.33	-2207.95	40°12'31.3481"N	104°29'20.5120"W	0.39	-147.36	-0.09	-0.38	
14022.00	89.450	359.310	6745.05	1921.05	7063.86	6742.33	-2208.74	40°12'32.2770"N	104°29'20.5084"W	0.81	67.94	-0.68	-0.44	
14117.00	90.220	1.210	6745.32	1921.32	7156.40	6837.32	-2208.31	40°12'33.2156"N	104°29'20.4889"W	2.16	-97.12	0.81	2.00	
14306.00	90.150	0.650	6744.71	1920.71	7340.02	7026.29	-2205.24	40°12'35.0825"N	104°29'20.4216"W	0.30	45.00	-0.04	-0.30	
14401.00	90.490	0.990	6744.18	1920.18	7432.35	7121.28	-2203.89	40°12'36.0210"N	104°29'20.3901"W	0.51	-31.50	0.36	0.36	
14495.00	90.800	0.800	6743.12	1919.12	7523.68	7215.26	-2202.42	40°12'36.9495"N	104°29'20.3574"W	0.39	59.03	0.33	-0.20	
14590.00	90.830	0.850	6741.77	1917.77	7616.01	7310.24	-2201.05	40°12'37.8879"N	104°29'20.3258"W	0.06	-109.44	0.03	0.05	
14684.00	90.770	0.680	6740.46	1916.46	7707.39	7404.23	-2199.79	40°12'38.8164"N	104°29'20.2958"W	0.19	-47.94	-0.06	-0.18	
14779.00	91.230	0.170	6738.80	1914.80	7799.86	7499.21	-2199.09	40°12'39.7549"N	104°29'20.2728"W	0.72	48.17	0.48	-0.54	
14874.00	91.570	0.550	6736.48	1912.48	7892.35	7594.18	-2198.49	40°12'40.6932"N	104°29'20.2511"W	0.54	-105.26	0.36	0.40	
14968.00	91.480	0.220	6733.98	1909.98	7983.84	7688.14	-2197.86	40°12'41.6217"N	104°29'20.2292"W	0.36	-107.02	-0.10	-0.35	
15063.00	91.140	359.110	6731.80	1907.80	8076.59	7783.11	-2198.42	40°12'42.5602"N	104°29'20.2224"W	1.22	-121.75	-0.36	-1.17	
15157.00	89.970	357.220	6730.89	1906.89	8168.87	7877.06	-2201.43	40°12'43.4888"N	104°29'20.2474"W	2.36	-90.00	-1.24	-2.01	
15251.00	89.970	356.990	6730.94	1906.94	8261.47	7970.94	-2206.17	40°12'44.4170"N	104°29'20.2948"W	0.24	104.68	0.00	-0.24	
15346.00	89.750	357.830	6731.17	1907.17	8354.98	8065.84	-2210.47	40°12'45.3552"N	104°29'20.3362"W	0.91	82.97	-0.23	0.88	
15440.00	89.940	359.370	6731.43	1907.43	8447.12	8159.81	-2212.76	40°12'46.2840"N	104°29'20.3520"W	1.65	153.44	0.20	1.64	
15535.00	89.540	359.570	6731.86	1907.86	8539.96	8254.80	-2213.64	40°12'47.2228"N	104°29'20.3493"W	0.47	41.96	-0.42	0.21	
15629.00	90.830	0.730	6731.56	1907.56	8631.58	8348.80	-2213.40	40°12'48.1515"N	104°29'20.3323"W	1.85	-127.09	1.37	1.23	
15818.00	90.520	0.320	6729.33	1905.33	8815.49	8537.77	-2211.67	40°12'50.0187"N	104°29'20.2822"W	0.27	7.35	-0.16	-0.22	
15913.00	91.140	0.400	6727.95	1903.95	8907.99	8632.76	-2211.07	40°12'50.9572"N	104°29'20.2606"W	0.66	-117.59	0.65	0.08	
16007.00	90.220	358.640	6726.84	1902.84	8999.83	8726.75	-2211.86	40°12'51.8860"N	104°29'20.2569"W	2.11	168.37	-0.98	-1.87	
16102.00	89.880	358.710	6726.76	1902.76	9092.93	8821.72	-2214.05	40°12'52.8247"N	104°29'20.2713"W	0.37	47.84	-0.36	0.07	
16196.00	90.550	359.450	6726.40	1902.40	9184.93	8915.71	-2215.56	40°12'53.7536"N	104°29'20.2769"W	1.06	54.46	0.71	0.79	
16291.00	90.800	359.800	6725.28	1901.28	9277.70	9010.70	-2216.18	40°12'54.6923"N	104°29'20.2710"W	0.45	66.80	0.26	0.37	
16385.00	90.830	359.870	6723.95	1899.95	9369.43	9104.69	-2216.45	40°12'55.6211"N	104°29'20.2607"W	0.08	83.18	0.03	0.07	
16479.00	90.990	1.210	6722.45	1898.45	9460.89	9198.67	-2215.57	40°12'56.5497"N	104°29'20.2354"W	1.44	-105.21	0.17	1.43	
16573.00	90.680	0.070	6721.08	1897.08	9552.31	9292.65	-2214.52	40°12'57.4782"N	104°29'20.2081"W	1.26	141.68	-0.33	-1.21	
16668.00	90.060	0.560	6720.47	1896.47	9644.84	9387.65	-2214.00	40°12'58.4168"N	104°29'20.1874"W	0.83	170.42	-0.65	0.52	
16763.00	89.290	0.690	6721.01	1897.01	9737.25	9482.64	-2212.96	40°12'59.3554"N	104°29'20.1601"W	0.82	-4.04	-0.81	0.14	
16858.00	90.990	0.570	6720.78	1896.78	9829.65	9577.63	-2211.92	40°13'0.2939"N	104°29'20.1326"W	1.79	-145.92	1.79	-0.13	
16952.00	90.650	0.340	6719.43	1895.43	9921.15	9671.62	-2211.17	40°13'1.2225"N	104°29'20.1092"W	0.44	-169.14	-0.36	-0.24	
17047.00	89.660	0.150	6719.17	1895.17	10013.70	9766.62	-2210.76	40°13'2.1612"N	104°29'20.0900"W	1.06	61.23	-1.04	-0.20	
17094.00	89.940	0.660	6719.34	1895.34	10059.47	9813.62	-2210.43	40°13'2.6255"N	104°29'20.0788"W	1.24	0.00	0.60	1.09	Last MWD Survey

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -785
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -785 AWB
Slot	SLOT#01 GUTTERSEN STATE DD30 -785 (451'FSL & 2501'FWL,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]	Tooface [°]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
17119.00‡	89.940	0.660	6719.36	1895.36	10083.78	9838.61	-2210.14	40°13'2.8725"N	104°29'20.0714"W	0.00		0.00	0.00	Projection to Bit

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	0.00	-3.23	36.36	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	0.00	-3.23	36.36	3284597.87	1313832.86	40°11'25.3680"N	104°28'52.5720"W	polygon
2D Polygon: dimensions not calculated								
GUTTERSEN STATE DD30 -785 BHL REV-1 (200'FNL & 350'FWL,SEC.19)	6744.66	9841.02	-2231.72	3282329.90	1323676.67	40°13'2.8987"N	104°29'20.3492"W	point
GUTTERSEN STATE DD30 -785 TPZ REV-1 (800'FSL & 395'FWL,SEC.30)	6775.00	326.82	-2109.95	3282451.66	1314162.89	40°11'28.8720"N	104°29'20.1780"W	point

WELLPATH COMPOSITION - Ref Wellbore: GUTTERSEN STATE DD30 -785 AWB							Ref Wellpath: GUTTERSEN STATE DD30 -785 AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model		Log Name/Comment		Wellbore		Survey Date
0.00	1926.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction		3rd Party Surface Gyros <78.2'-1926.6'>		GUTTERSEN STATE DD30 -785 AWB		
1926.00	17119.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction		BH/ATC 8.5" Hole OWSG+IFR+MSA <1990'-17094'>		GUTTERSEN STATE DD30 -785 AWB		

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	GUTTERSEN STATE DD30 -785
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.30-T03N-R63W	Wellbore	GUTTERSEN STATE DD30 -785 AWP
Slot	SLOT#01 GUTTERSEN STATE DD30 -785 (451'FSL & 2501'FWL,SEC.30)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1926.00	0.350	338.290	1925.95	Tie to Surface Gyro
17094.00	89.940	0.660	6719.34	Last MWD Survey
17119.00	89.940	0.660	6719.36	Projection to Bit