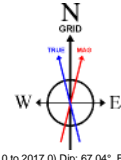


NOBLE ENERGY, INC

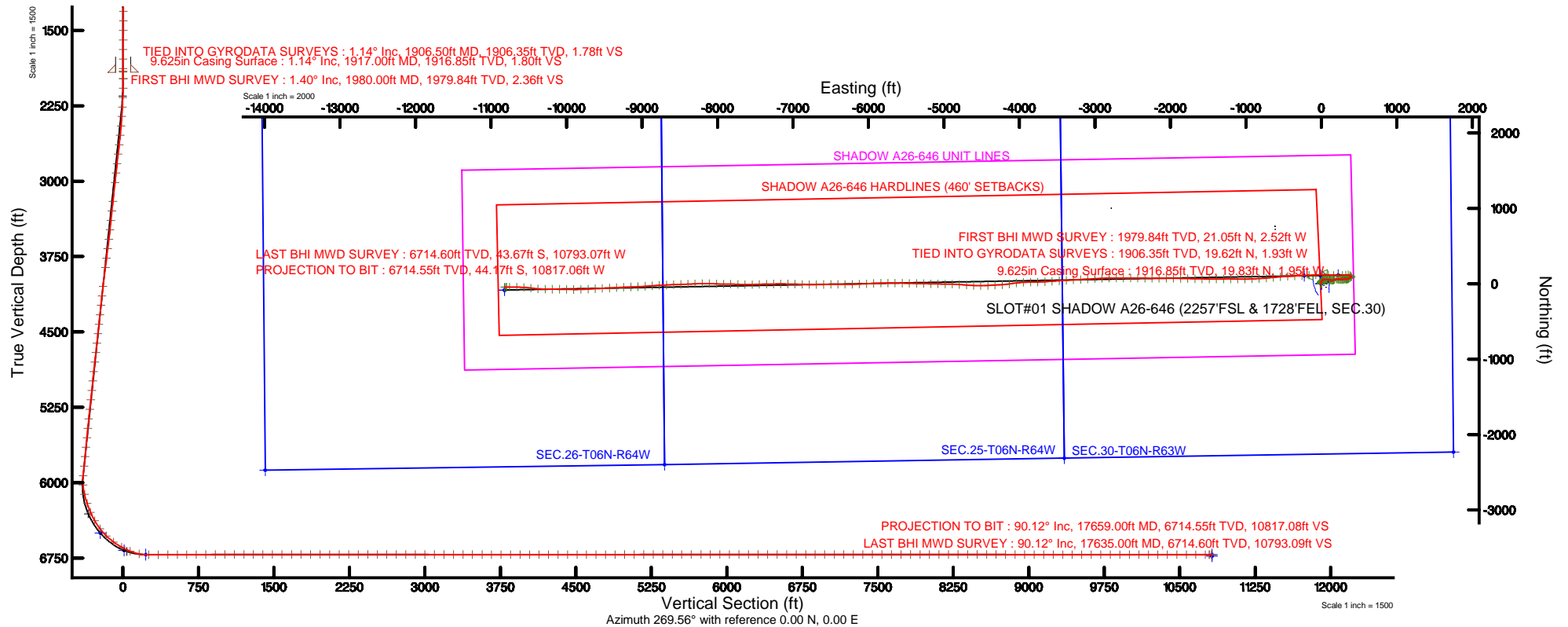
Location: COLORADO Slot: SLOT#01 SHADOW A26-646 (2257'FSL & 1728'FEL, SEC.30)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: SHADOW A26-646
Facility: SEC.30-T06N-R63W Wellbore: SHADOW A26-646 PWB

Plot reference wellpath is SHADOW A26-646 (REV-B.0, C-MARL NIO) PWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to H&P 321 (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to H&P 321 (RKB)	North Reference: Grid north
H&P 321 (RKB) to Mean Sea Level: 4673 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#01 SHADOW A26-646 (2257'FSL & 1728'FEL, SEC.30)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: cookdanm on 2016-05-27
	Database: WA_DEN_Denver_Deln



BGGM (1945.0 to 2017.0) Dip: 67.04° Field: 52593.8 nT
Magnetic North is 8.31 degrees East of True North (at 5/9/16)
Grid North is 0.66 degrees East of True North
To correct azimuth from True to Grid subtract 0.66 degrees
To correct azimuth from Magnetic to Grid add 7.65 degrees

API: 05-123-42882



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#01 SHADOW A26-646 (2257'FSL & 1728'FEL, SEC.30)
Area	COLORADO	Well	SHADOW A26-646
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SHADOW A26-646 AWB
Facility	SEC.30-T06N-R63W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Cookdanm
Scale	0.999963	Report Generated	5/27/16 at 12:28:15 PM
Convergence at slot	0.67° East	Database/Source file	WA_DEN_Denver_Defn/SHADOW_A26-646_AWP.xml

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	3284828.36	1410768.96	40°27'23.220"N	104°28'35.184"W
Facility Reference Pt			3284828.36	1410768.96	40°27'23.220"N	104°28'35.184"W
Field Reference Pt			3000000.00	4454105.15	48°46'34.315"N	105°30'00.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	H&P 321 (RKB) to Facility Vertical Datum	4673.00ft
Horizontal Reference Pt	Slot	H&P 321 (RKB) to Mean Sea Level	4673.00ft
Vertical Reference Pt	H&P 321 (RKB)	H&P 321 (RKB) to Mud Line at Slot (SLOT#01 SHADOW A26-646 (2257'FSL & 1728'FEL, SEC.30))	4673.00ft
MD Reference Pt	H&P 321 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	269.56°

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#01 SHADOW A26-646 (2257'FSL & 1728'FEL, SEC.30)
Area	COLORADO	Well	SHADOW A26-646
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SHADOW A26-646 AWB
Facility	SEC.30-T06N-R63W		

WELLPATH DATA (167 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
1906.50	1.140	358.440	1906.35	1.78	19.62	-1.93	40°27'23.414"N	104°28'35.206"W	0.61	TIED INTO GYRODATA SURVEYS
1980.00	1.400	320.410	1979.84	2.36	21.05	-2.52	40°27'23.428"N	104°28'35.214"W	1.17	FIRST BHI MWD SURVEY
2075.00	2.310	21.820	2074.79	2.37	23.72	-2.55	40°27'23.455"N	104°28'35.213"W	2.16	
2169.00	4.980	38.020	2168.60	-0.88	28.69	0.67	40°27'23.503"N	104°28'35.171"W	3.02	
2264.00	5.060	39.210	2263.23	-6.12	35.19	5.85	40°27'23.567"N	104°28'35.103"W	0.14	
2358.00	5.890	35.060	2356.80	-11.57	42.35	11.25	40°27'23.637"N	104°28'35.032"W	0.98	
2453.00	6.570	46.220	2451.24	-18.35	50.10	17.97	40°27'23.713"N	104°28'34.944"W	1.46	
2547.00	6.670	64.110	2544.63	-27.19	56.20	26.76	40°27'23.772"N	104°28'34.829"W	2.19	
2641.00	6.590	85.070	2638.01	-37.50	59.05	37.05	40°27'23.799"N	104°28'34.696"W	2.56	
2735.00	6.340	92.950	2731.42	-48.06	59.25	47.61	40°27'23.800"N	104°28'34.559"W	0.98	
2830.00	6.320	97.030	2825.84	-58.48	58.34	58.04	40°27'23.790"N	104°28'34.425"W	0.47	
2924.00	6.370	100.610	2919.26	-68.73	56.74	68.30	40°27'23.773"N	104°28'34.292"W	0.42	
3019.00	6.270	95.010	3013.69	-79.06	55.32	78.64	40°27'23.758"N	104°28'34.158"W	0.66	
3208.00	6.250	89.690	3201.56	-99.63	54.48	99.21	40°27'23.747"N	104°28'33.893"W	0.31	
3303.00	6.200	96.520	3296.00	-109.89	53.92	109.48	40°27'23.740"N	104°28'33.760"W	0.78	
3398.00	5.640	105.970	3390.50	-119.46	52.05	119.07	40°27'23.721"N	104°28'33.636"W	1.18	
3492.00	6.520	113.380	3483.97	-128.77	48.66	128.41	40°27'23.686"N	104°28'33.516"W	1.25	
3587.00	7.750	101.870	3578.24	-139.97	45.21	139.63	40°27'23.651"N	104°28'33.371"W	1.98	
3682.00	7.620	76.670	3672.41	-152.37	45.34	152.03	40°27'23.651"N	104°28'33.211"W	3.52	
3777.00	7.570	61.340	3766.59	-164.02	49.80	163.65	40°27'23.693"N	104°28'33.060"W	2.13	
3871.00	7.530	61.950	3859.77	-174.94	55.66	174.52	40°27'23.750"N	104°28'32.918"W	0.10	
4060.00	7.450	83.720	4047.20	-198.10	62.83	197.63	40°27'23.818"N	104°28'32.618"W	1.49	
4154.00	5.940	93.710	4140.56	-209.02	63.18	208.54	40°27'23.820"N	104°28'32.477"W	2.02	
4249.00	5.810	105.110	4235.06	-218.55	61.61	218.09	40°27'23.804"N	104°28'32.354"W	1.23	
4344.00	6.380	103.800	4329.52	-228.30	59.09	227.86	40°27'23.778"N	104°28'32.228"W	0.62	
4439.00	6.410	94.370	4423.93	-238.70	57.43	238.27	40°27'23.760"N	104°28'32.093"W	1.10	
4533.00	6.230	84.780	4517.37	-249.02	57.50	248.58	40°27'23.760"N	104°28'31.960"W	1.14	
4628.00	6.120	83.670	4611.82	-259.19	58.52	258.75	40°27'23.769"N	104°28'31.828"W	0.17	
4722.00	6.330	99.720	4705.27	-269.27	58.20	268.84	40°27'23.764"N	104°28'31.698"W	1.86	
4817.00	6.470	100.330	4799.68	-279.69	56.36	279.27	40°27'23.745"N	104°28'31.563"W	0.16	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#01 SHADOW A26-646 (2257'FSL & 1728'FEL, SEC.30)
Area	COLORADO	Well	SHADOW A26-646
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SHADOW A26-646 AWB
Facility	SEC.30-T06N-R63W		

WELLPATH DATA (167 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4912.00	6.420	79.180	4894.09	-290.17	56.39	289.75	40°27'23.744"N	104°28'31.428"W	2.49	
5006.00	5.990	63.060	4987.55	-299.73	59.60	299.29	40°27'23.775"N	104°28'31.304"W	1.90	
5101.00	6.290	83.660	5082.01	-309.35	62.42	308.88	40°27'23.802"N	104°28'31.179"W	2.33	
5195.00	5.970	95.540	5175.48	-319.33	62.52	318.86	40°27'23.801"N	104°28'31.050"W	1.39	
5290.00	6.410	98.470	5269.92	-329.48	61.26	329.02	40°27'23.788"N	104°28'30.919"W	0.57	
5385.00	6.130	85.320	5364.36	-339.78	60.89	339.33	40°27'23.783"N	104°28'30.786"W	1.54	
5480.00	6.080	66.570	5458.83	-349.47	63.31	349.00	40°27'23.806"N	104°28'30.660"W	2.09	
5574.00	6.540	57.000	5552.26	-358.57	68.20	358.06	40°27'23.853"N	104°28'30.542"W	1.22	
5669.00	6.380	56.320	5646.66	-367.54	74.08	366.99	40°27'23.910"N	104°28'30.426"W	0.19	
5763.00	6.760	56.640	5740.04	-376.55	80.02	375.95	40°27'23.968"N	104°28'30.309"W	0.41	
5858.00	6.540	60.840	5834.40	-385.99	85.73	385.35	40°27'24.023"N	104°28'30.187"W	0.56	
5953.00	6.820	66.110	5928.76	-395.91	90.65	395.23	40°27'24.071"N	104°28'30.058"W	0.71	
6047.00	7.730	316.040	6022.34	-396.68	97.48	395.95	40°27'24.138"N	104°28'30.048"W	12.69	
6142.00	16.100	306.420	6115.22	-381.71	109.93	380.88	40°27'24.263"N	104°28'30.241"W	9.03	
6237.00	18.740	274.000	6206.06	-355.89	118.83	355.00	40°27'24.354"N	104°28'30.574"W	10.44	
6331.00	22.930	262.130	6293.94	-322.65	117.38	321.76	40°27'24.343"N	104°28'31.004"W	6.31	
6426.00	30.860	264.460	6378.60	-279.96	112.48	279.11	40°27'24.300"N	104°28'31.557"W	8.42	
6521.00	36.370	271.550	6457.71	-227.48	110.89	226.64	40°27'24.290"N	104°28'32.236"W	7.11	
6616.00	46.000	273.990	6529.13	-165.11	114.04	164.25	40°27'24.328"N	104°28'33.042"W	10.28	
6710.00	54.200	272.860	6589.37	-93.22	118.30	92.33	40°27'24.378"N	104°28'33.972"W	8.77	
6805.00	60.700	270.440	6640.46	-13.25	120.54	12.33	40°27'24.410"N	104°28'35.006"W	7.17	
6900.00	67.890	266.970	6681.65	72.26	118.53	-73.17	40°27'24.400"N	104°28'36.113"W	8.25	
6994.00	79.580	266.710	6707.93	162.24	113.56	-163.11	40°27'24.361"N	104°28'37.277"W	12.44	
7089.00	90.190	266.680	6716.39	256.61	108.11	-257.44	40°27'24.318"N	104°28'38.498"W	11.17	
7184.00	90.160	268.070	6716.10	351.54	103.76	-352.34	40°27'24.285"N	104°28'39.726"W	1.46	
7278.00	90.370	266.880	6715.67	445.47	99.62	-446.25	40°27'24.255"N	104°28'40.941"W	1.29	
7373.00	90.160	265.240	6715.23	540.29	93.09	-541.02	40°27'24.201"N	104°28'42.168"W	1.74	
7467.00	90.220	264.540	6714.92	633.98	84.72	-634.64	40°27'24.129"N	104°28'43.381"W	0.75	
7562.00	90.160	264.900	6714.60	728.64	75.98	-729.24	40°27'24.054"N	104°28'44.606"W	0.38	
7657.00	90.340	266.970	6714.19	823.44	69.25	-823.99	40°27'23.998"N	104°28'45.832"W	2.19	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#01 SHADOW A26-646 (2257'FSL & 1728'FEL, SEC.30)
Area	COLORADO	Well	SHADOW A26-646
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SHADOW A26-646 AWB
Facility	SEC.30-T06N-R63W		

WELLPATH DATA (167 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7751.00	90.130	268.250	6713.80	917.38	65.33	-917.91	40°27'23.970"N	104°28'47.048"W	1.38	
7846.00	90.280	269.990	6713.46	1012.38	63.87	-1012.89	40°27'23.966"N	104°28'48.277"W	1.84	
7940.00	90.130	270.190	6713.12	1106.37	64.01	-1106.89	40°27'23.979"N	104°28'49.493"W	0.27	
8035.00	90.280	270.490	6712.78	1201.36	64.58	-1201.89	40°27'23.995"N	104°28'50.721"W	0.35	
8129.00	90.000	269.190	6712.55	1295.36	64.32	-1295.89	40°27'24.003"N	104°28'51.937"W	1.41	
8224.00	89.790	269.820	6712.73	1390.36	63.49	-1390.88	40°27'24.006"N	104°28'53.166"W	0.70	
8319.00	90.130	270.370	6712.79	1485.35	63.65	-1485.88	40°27'24.018"N	104°28'54.395"W	0.68	
8414.00	89.910	271.070	6712.76	1580.33	64.85	-1580.87	40°27'24.041"N	104°28'55.624"W	0.77	
8509.00	89.970	271.140	6712.86	1675.30	66.68	-1675.86	40°27'24.069"N	104°28'56.852"W	0.10	
8603.00	89.910	271.310	6712.96	1769.26	68.69	-1769.84	40°27'24.100"N	104°28'58.067"W	0.19	
8698.00	90.030	271.290	6713.01	1864.22	70.84	-1864.81	40°27'24.132"N	104°28'59.295"W	0.13	
8793.00	90.030	270.960	6712.96	1959.18	72.71	-1959.79	40°27'24.161"N	104°29'00.524"W	0.35	
8887.00	89.850	270.600	6713.06	2053.16	73.99	-2053.78	40°27'24.184"N	104°29'01.739"W	0.43	
8982.00	89.910	269.420	6713.26	2148.16	74.00	-2148.78	40°27'24.195"N	104°29'02.968"W	1.24	
9077.00	89.910	270.540	6713.41	2243.15	73.97	-2243.78	40°27'24.206"N	104°29'04.197"W	1.18	
9171.00	90.000	270.700	6713.48	2337.14	74.99	-2337.77	40°27'24.227"N	104°29'05.413"W	0.20	
9266.00	90.030	271.000	6713.45	2432.11	76.40	-2432.76	40°27'24.251"N	104°29'06.641"W	0.32	
9361.00	89.940	270.310	6713.48	2527.09	77.48	-2527.76	40°27'24.273"N	104°29'07.870"W	0.73	
9455.00	90.030	270.030	6713.50	2621.09	77.76	-2621.76	40°27'24.286"N	104°29'09.086"W	0.31	
9550.00	89.910	269.590	6713.55	2716.09	77.45	-2716.76	40°27'24.294"N	104°29'10.315"W	0.48	
9645.00	90.060	268.820	6713.58	2811.08	76.13	-2811.75	40°27'24.291"N	104°29'11.544"W	0.83	
9739.00	89.850	267.440	6713.65	2905.05	73.06	-2905.69	40°27'24.272"N	104°29'12.759"W	1.48	
9834.00	89.910	266.930	6713.85	2999.97	68.40	-3000.58	40°27'24.236"N	104°29'13.987"W	0.54	
9929.00	89.910	265.980	6714.00	3094.83	62.52	-3095.40	40°27'24.189"N	104°29'15.215"W	1.00	
10023.00	90.030	266.960	6714.05	3188.69	56.74	-3189.22	40°27'24.142"N	104°29'16.429"W	1.05	
10118.00	89.880	267.380	6714.12	3283.61	52.04	-3284.10	40°27'24.107"N	104°29'17.657"W	0.47	
10213.00	90.060	266.710	6714.17	3378.52	47.15	-3378.97	40°27'24.069"N	104°29'18.885"W	0.73	
10307.00	89.970	265.930	6714.15	3472.36	41.11	-3472.78	40°27'24.020"N	104°29'20.100"W	0.84	
10403.00	89.910	265.610	6714.25	3568.15	34.03	-3568.52	40°27'23.961"N	104°29'21.339"W	0.34	
10497.00	89.850	266.870	6714.45	3661.99	27.87	-3662.31	40°27'23.910"N	104°29'22.553"W	1.34	

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SHADOW A26-646 AWB
Facility	SEC.30-T06N-R63W		

WELLPATH DATA (167 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
10592.00	90.130	268.400	6714.46	3756.94	23.95	-3757.23	40°27'23.882"N	104°29'23.782"W	1.64	
10686.00	89.790	269.400	6714.53	3850.93	22.14	-3851.21	40°27'23.875"N	104°29'24.997"W	1.12	
10781.00	89.820	266.870	6714.85	3945.89	19.05	-3946.15	40°27'23.855"N	104°29'26.226"W	2.66	
10876.00	89.850	263.200	6715.13	4040.58	10.83	-4040.78	40°27'23.785"N	104°29'27.451"W	3.86	
10970.00	89.820	261.180	6715.40	4133.80	-1.94	-4133.90	40°27'23.669"N	104°29'28.658"W	2.15	
11065.00	89.850	267.050	6715.67	4228.32	-11.68	-4228.36	40°27'23.583"N	104°29'29.881"W	6.18	
11159.00	90.090	267.270	6715.72	4322.24	-16.33	-4322.24	40°27'23.548"N	104°29'31.096"W	0.35	
11254.00	90.030	266.070	6715.62	4417.12	-21.85	-4417.08	40°27'23.504"N	104°29'32.324"W	1.26	
11349.00	89.970	270.340	6715.62	4512.07	-24.83	-4512.01	40°27'23.485"N	104°29'33.552"W	4.50	
11443.00	90.030	272.790	6715.62	4606.01	-22.26	-4605.97	40°27'23.521"N	104°29'34.767"W	2.61	
11538.00	90.370	274.170	6715.29	4700.78	-16.49	-4700.79	40°27'23.589"N	104°29'35.993"W	1.50	
11633.00	90.190	274.290	6714.83	4795.46	-9.49	-4795.53	40°27'23.669"N	104°29'37.217"W	0.23	
11727.00	90.280	271.780	6714.44	4889.28	-4.51	-4889.39	40°27'23.728"N	104°29'38.431"W	2.67	
11822.00	90.000	270.310	6714.21	4984.25	-2.78	-4984.37	40°27'23.756"N	104°29'39.659"W	1.58	
11917.00	90.160	271.260	6714.07	5079.23	-1.48	-5079.36	40°27'23.780"N	104°29'40.888"W	1.01	
12011.00	90.280	271.130	6713.71	5173.19	0.48	-5173.34	40°27'23.809"N	104°29'42.103"W	0.19	
12106.00	89.910	271.080	6713.56	5268.15	2.32	-5268.32	40°27'23.838"N	104°29'43.331"W	0.39	
12201.00	90.160	271.420	6713.50	5363.11	4.39	-5363.30	40°27'23.869"N	104°29'44.560"W	0.44	
12296.00	90.000	271.280	6713.37	5458.07	6.63	-5458.27	40°27'23.902"N	104°29'45.788"W	0.22	
12390.00	90.280	270.740	6713.14	5552.03	8.28	-5552.26	40°27'23.929"N	104°29'47.003"W	0.65	
12485.00	90.060	270.710	6712.85	5647.01	9.49	-5647.25	40°27'23.951"N	104°29'48.232"W	0.23	
12580.00	90.190	269.720	6712.65	5742.01	9.84	-5742.25	40°27'23.966"N	104°29'49.461"W	1.05	
12674.00	89.690	268.630	6712.75	5836.00	8.49	-5836.24	40°27'23.963"N	104°29'50.677"W	1.28	
12769.00	90.160	267.130	6712.87	5930.96	4.97	-5931.17	40°27'23.939"N	104°29'51.905"W	1.65	
12864.00	89.850	267.470	6712.86	6025.88	0.50	-6026.06	40°27'23.905"N	104°29'53.133"W	0.48	
12959.00	89.940	267.940	6713.04	6120.83	-3.30	-6120.99	40°27'23.878"N	104°29'54.362"W	0.50	
13054.00	89.910	268.830	6713.16	6215.81	-5.98	-6215.95	40°27'23.862"N	104°29'55.590"W	0.94	
13148.00	89.910	269.840	6713.31	6309.81	-7.07	-6309.94	40°27'23.862"N	104°29'56.806"W	1.07	
13243.00	90.190	270.490	6713.22	6404.81	-6.80	-6404.94	40°27'23.875"N	104°29'58.035"W	0.74	
13337.00	89.970	269.010	6713.09	6498.80	-7.21	-6498.94	40°27'23.882"N	104°29'59.251"W	1.59	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#01 SHADOW A26-646 (2257'FSL & 1728'FEL, SEC.30)
Area	COLORADO	Well	SHADOW A26-646
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SHADOW A26-646 AWB
Facility	SEC.30-T06N-R63W		

WELLPATH DATA (167 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13432.00	90.030	268.920	6713.09	6593.80	-8.93	-6593.92	40°27'23.875"N	104°30'00.480"W	0.11	
13527.00	90.060	269.400	6713.02	6688.79	-10.32	-6688.91	40°27'23.872"N	104°30'01.709"W	0.51	
13622.00	90.090	271.060	6712.89	6783.78	-9.94	-6783.91	40°27'23.886"N	104°30'02.938"W	1.75	
13716.00	89.940	272.150	6712.87	6877.72	-7.30	-6877.87	40°27'23.923"N	104°30'04.153"W	1.17	
13811.00	90.120	272.030	6712.82	6972.63	-3.84	-6972.80	40°27'23.968"N	104°30'05.380"W	0.23	
13906.00	90.150	270.010	6712.60	7067.59	-2.15	-7067.78	40°27'23.995"N	104°30'06.609"W	2.13	
14000.00	89.750	270.360	6712.68	7161.59	-1.85	-7161.78	40°27'24.008"N	104°30'07.825"W	0.57	
14095.00	89.970	269.030	6712.91	7256.59	-2.35	-7256.78	40°27'24.014"N	104°30'09.053"W	1.42	
14189.00	89.850	268.860	6713.06	7350.58	-4.08	-7350.76	40°27'24.007"N	104°30'10.269"W	0.22	
14284.00	89.660	268.030	6713.46	7445.56	-6.66	-7445.73	40°27'23.992"N	104°30'11.498"W	0.90	
14379.00	89.880	268.570	6713.85	7540.54	-9.48	-7540.68	40°27'23.975"N	104°30'12.727"W	0.61	
14473.00	90.090	270.270	6713.87	7634.53	-10.43	-7634.67	40°27'23.976"N	104°30'13.943"W	1.82	
14568.00	90.000	272.850	6713.80	7729.47	-7.84	-7729.63	40°27'24.012"N	104°30'15.171"W	2.72	
14663.00	90.000	272.140	6713.80	7824.34	-3.71	-7824.54	40°27'24.064"N	104°30'16.398"W	0.75	
14758.00	90.030	268.780	6713.77	7919.32	-2.95	-7919.52	40°27'24.082"N	104°30'17.626"W	3.54	
14852.00	90.000	273.500	6713.75	8013.25	-1.08	-8013.48	40°27'24.111"N	104°30'18.841"W	5.02	
14947.00	89.970	271.990	6713.77	8108.11	3.47	-8108.37	40°27'24.166"N	104°30'20.068"W	1.59	
15041.00	90.150	268.270	6713.67	8202.08	3.69	-8202.35	40°27'24.179"N	104°30'21.284"W	3.96	
15136.00	90.090	267.240	6713.47	8297.04	-0.03	-8297.28	40°27'24.152"N	104°30'22.512"W	1.09	
15230.00	90.120	267.160	6713.30	8390.96	-4.63	-8391.16	40°27'24.117"N	104°30'23.727"W	0.09	
15325.00	90.030	268.070	6713.18	8485.90	-8.58	-8486.08	40°27'24.089"N	104°30'24.956"W	0.96	
15420.00	89.940	268.500	6713.20	8580.88	-11.42	-8581.04	40°27'24.071"N	104°30'26.185"W	0.46	
15514.00	89.660	266.800	6713.53	8674.82	-15.28	-8674.95	40°27'24.043"N	104°30'27.400"W	1.83	
15609.00	89.850	266.990	6713.94	8769.71	-20.42	-8769.81	40°27'24.003"N	104°30'28.628"W	0.28	
15704.00	89.910	266.510	6714.13	8864.60	-25.81	-8864.66	40°27'23.960"N	104°30'29.855"W	0.51	
15798.00	89.970	265.200	6714.23	8958.40	-32.60	-8958.41	40°27'23.904"N	104°30'31.069"W	1.40	
15893.00	89.880	267.730	6714.36	9053.25	-38.46	-9053.22	40°27'23.856"N	104°30'32.296"W	2.66	
15987.00	89.810	268.120	6714.61	9147.22	-41.86	-9147.16	40°27'23.833"N	104°30'33.512"W	0.42	
16082.00	90.120	267.590	6714.67	9242.17	-45.42	-9242.09	40°27'23.808"N	104°30'34.741"W	0.65	
16177.00	89.850	266.850	6714.69	9337.09	-50.03	-9336.98	40°27'23.773"N	104°30'35.969"W	0.83	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#01 SHADOW A26-646 (2257'FSL & 1728'FEL, SEC.30)
Area	COLORADO	Well	SHADOW A26-646
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SHADOW A26-646 AWB
Facility	SEC.30-T06N-R63W		

WELLPATH DATA (167 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16271.00	89.940	266.760	6714.87	9430.98	-55.27	-9430.84	40°27'23.732"N	104°30'37.183"W	0.14	
16366.00	89.970	266.430	6714.94	9525.86	-60.91	-9525.67	40°27'23.686"N	104°30'38.411"W	0.35	
16461.00	89.810	268.150	6715.12	9620.78	-65.40	-9620.56	40°27'23.653"N	104°30'39.639"W	1.82	
16555.00	89.940	266.430	6715.33	9714.70	-69.84	-9714.45	40°27'23.619"N	104°30'40.854"W	1.84	
16650.00	90.120	267.840	6715.28	9809.61	-74.59	-9809.33	40°27'23.583"N	104°30'42.082"W	1.50	
16745.00	89.810	270.960	6715.34	9904.60	-75.59	-9904.31	40°27'23.583"N	104°30'43.311"W	3.30	
16839.00	89.940	271.190	6715.54	9998.57	-73.82	-9998.29	40°27'23.611"N	104°30'44.526"W	0.28	
16934.00	90.060	270.440	6715.54	10093.54	-72.47	-10093.28	40°27'23.635"N	104°30'45.755"W	0.80	
17029.00	89.910	270.390	6715.57	10188.53	-71.78	-10188.28	40°27'23.652"N	104°30'46.984"W	0.17	
17123.00	89.970	270.940	6715.67	10282.51	-70.69	-10282.27	40°27'23.673"N	104°30'48.199"W	0.59	
17218.00	90.000	274.360	6715.69	10377.36	-66.30	-10377.16	40°27'23.727"N	104°30'49.426"W	3.60	
17312.00	90.150	278.230	6715.57	10470.70	-56.00	-10470.57	40°27'23.839"N	104°30'50.633"W	4.12	
17407.00	90.120	272.350	6715.34	10565.18	-47.24	-10565.13	40°27'23.936"N	104°30'51.855"W	6.19	
17501.00	90.280	271.280	6715.02	10659.11	-44.26	-10659.08	40°27'23.976"N	104°30'53.070"W	1.15	
17596.00	90.120	269.950	6714.68	10754.09	-43.24	-10754.07	40°27'23.996"N	104°30'54.298"W	1.41	
17635.00	90.120	268.800	6714.60	10793.09	-43.67	-10793.07	40°27'23.996"N	104°30'54.803"W	2.95	LAST BHI MWD SURVEY
17659.00	90.120	268.800	6714.55	10817.08	-44.17	-10817.06	40°27'23.994"N	104°30'55.113"W	0.00	PROJECTION TO BIT

HOLE & CASING SECTIONS - Ref Wellbore: SHADOW A26-646 AWB Ref Wellpath: SHADOW A26-646 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	0.00	1917.00	1917.00	0.00	1916.85	0.00	0.00	19.83	-1.95
9.625in Casing Surface	0.00	1917.00	1917.00	0.00	1916.85	0.00	0.00	19.83	-1.95
8.5in Open Hole	1917.00	17659.00	15742.00	1916.85	6714.55	19.83	-1.95	-44.17	-10817.06

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#01 SHADOW A26-646 (2257'FSL & 1728'FEL, SEC.30)
Area	COLORADO	Well	SHADOW A26-646
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SHADOW A26-646 AWB
Facility	SEC.30-T06N-R63W		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.25-T06N-R63W NW CORNER	0.00	2884.46	-8751.62	3276077.07	1413653.32	40°27'52.704"N	104°30'27.972"W	point
SEC.25-T06N-R63W SW CORNER	0.00	-2397.88	-8700.86	3276127.83	1408371.18	40°27'00.504"N	104°30'28.080"W	point
SEC.25-T06N-R64W	0.00	0.00	0.00	3284828.36	1410768.96	40°27'23.220"N	104°28'35.184"W	polygon
SEC.26-T06N-R63W NW CORNER	0.00	2807.66	-14037.96	3270790.95	1413576.51	40°27'52.524"N	104°31'36.372"W	point
SEC.26-T06N-R63W SW CORNER	0.00	-2471.08	-13991.15	3270837.75	1408297.98	40°27'00.360"N	104°31'36.516"W	point
SEC.26-T06N-R64W	0.00	0.00	0.00	3284828.36	1410768.96	40°27'23.220"N	104°28'35.184"W	polygon
SEC.30-T06N-R63W	0.00	0.00	0.00	3284828.36	1410768.96	40°27'23.220"N	104°28'35.184"W	polygon
SEC.30-T06N-R63W NE CORNER	0.00	3043.69	1698.51	3286526.80	1413812.54	40°27'53.100"N	104°28'12.756"W	point
SEC.30-T06N-R63W NW CORNER	0.00	2991.54	-3465.65	3281362.85	1413760.39	40°27'53.172"N	104°29'19.572"W	point
SEC.30-T06N-R63W SE CORNER	0.00	-2231.34	1751.42	3286579.71	1408537.71	40°27'00.972"N	104°28'12.864"W	point
SEC.30-T06N-R63W SW CORNER	0.00	-2312.55	-3405.16	3281423.34	1408456.50	40°27'00.756"N	104°29'19.572"W	point
SHADOW A26-646 TOP OF NIO (2372'FSL & 1504'FEL, SEC.30) 6566'MD	6500.65	114.67	223.87	3285052.22	1410883.63	40°27'24.327"N	104°28'32.271"W	point

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#01 SHADOW A26-646 (2257'FSL & 1728'FEL, SEC.30)
Area	COLORADO	Well	SHADOW A26-646
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SHADOW A26-646 AWB
Facility	SEC.30-T06N-R63W		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SHADOW A26-646 460'SETBACK (2368'FSL & 1739'FEL, SEC.30) 6860'MD	6672.77	110.86	-11.14	3284817.22	1410879.82	40°27'24.317"N	104°28'35.312"W	point
SHADOW A26-646 BHL ON PLAT REV-2 (2364'FSL & 2097'FEL, SEC.26)	6715.00	-82.45	-10819.64	3274009.14	1410686.52	40°27'23.616"N	104°30'55.152"W	point
SHADOW A26-646 LANDING POINT (2364'FSL & 1955'FEL, SEC.30) 7081.36'MD	6715.00	107.00	-227.00	3284601.37	1410875.96	40°27'24.303"N	104°28'38.104"W	point
SHADOW A26-646 BHL ON PLAT REV-1 (2364'FSL & 2097'FEL, SEC.26)	6731.00	-82.45	-10819.64	3274009.14	1410686.52	40°27'23.616"N	104°30'55.152"W	point
SHADOW A26-646 HARDLINES (460' SETBACKS)	6731.00	0.00	0.00	3284828.36	1410768.96	40°27'23.220"N	104°28'35.184"W	polygon
SHADOW A26-646 UNIT LINES	6731.00	0.00	0.00	3284828.36	1410768.96	40°27'23.220"N	104°28'35.184"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: SHADOW A26-646 AWB				Ref Wellpath: SHADOW A26-646 AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore
0.00	1906.50	Gyrodata standard - Drop gyro or Multi-shot	GYRODATA SURFACE SURVEYS <100 - 1906.50>		SHADOW A26-646 AWB
1906.50	17635.00	Custom BHI AutoTrak Curve (IFR1, Short) (Rockies 0.03Gt model)	BHI MWD AUTOTRAK CURVE (IFR, SHORT) 8 1/2" MONOBORE (SURCON, MSA CORRECTED) <1906.5 - 17635>		SHADOW A26-646 AWB
17635.00	17659.00	Blind Drilling (std)	Projection to bit		SHADOW A26-646 AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#01 SHADOW A26-646 (2257'FSL & 1728'FEL, SEC.30)
Area	COLORADO	Well	SHADOW A26-646
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SHADOW A26-646 AWB
Facility	SEC.30-T06N-R63W		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
1906.50	1.140	358.440	1906.35	TIED INTO GYRODATA SURVEYS	
1980.00	1.400	320.410	1979.84	FIRST BHI MWD SURVEY	
17635.00	90.120	268.800	6714.60	LAST BHI MWD SURVEY	
17659.00	90.120	268.800	6714.55	PROJECTION TO BIT	