

NOBLE ENERGY, INC

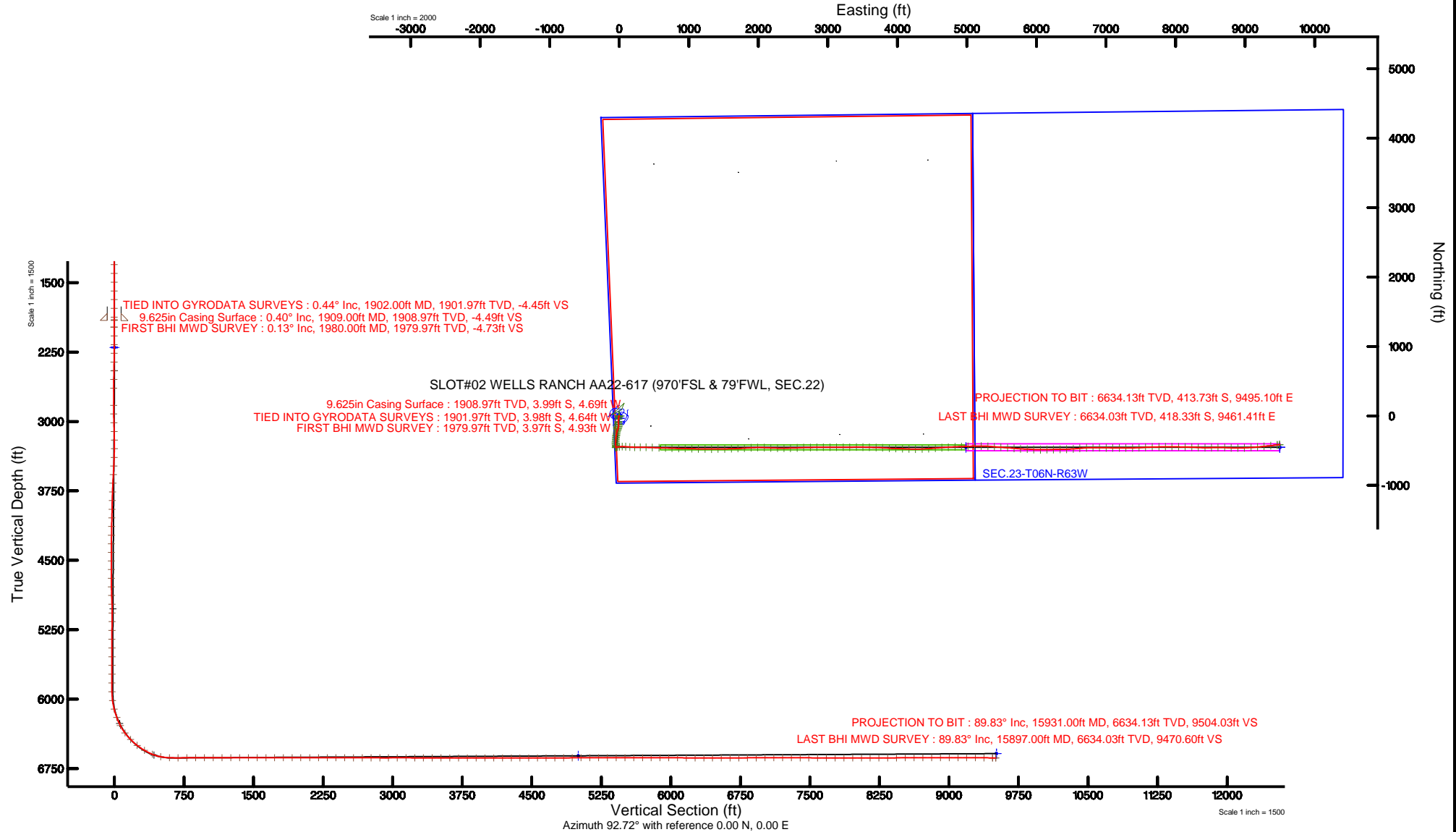
Location: COLORADO Slot: SLOT#02 WELLS RANCH AA22-617 (970'FSL & 79'FWL, SEC.22)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: WELLS RANCH AA22-617
Facility: SEC.22-T06N-R63W Wellbore: WELLS RANCH AA22-617 PWB

Plot reference wellpath is WELLS RANCH AA22-617 (REV-A.0) 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: 4775 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#02 WELLS RANCH AA22-617 (970'FSL & 79'FWL, SEC.22)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: cookdann on 2016-05-24
	Database: WA_DEN_Denver_Deln



BGGM (1945.0 to 2017.0) Dip: 67.06° Field: 52615.3 nT
Magnetic North is 8.29 degrees East of True North (at 4/5/16)
Grid North is 0.69 degrees East of True North
To correct azimuth from True to Grid subtract 0.69 degrees
To correct azimuth from Magnetic to Grid add 7.60 degrees

API: 05-123-42266



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#02 WELLS RANCH AA22-617 (970'FSL & 79'FWL, SEC.22)
Area	COLORADO	Well	WELLS RANCH AA22-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH AA22-617 AWB
Facility	SEC.22-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	0.999964	Report Generated	5/24/16 at 5:35:10 PM
Convergence at slot	0.70° East	Database/Source file	WA_DEN_Denver_Defn\WELLS_RANCH_AA22-617_AWP.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	36.43	-0.44	3297156.71	1414951.11	40°28'03.108"N	104°25'55.056"W
Facility Reference Pt			3297157.15	1414914.69	40°28'02.748"N	104°25'55.056"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	4775.00ft
Horizontal Reference Pt	Slot	H&P 321 (RKB) to Mean Sea Level	4775.00ft
Vertical Reference Pt	H&P 321 (RKB)	H&P 321 (RKB) to Mud Line at Slot (SLOT#02 WELLS RANCH AA22-617 (970'FSL & 79'FWL, SEC.22))	4775.00ft
MD Reference Pt	H&P 321 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	92.72°

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#02 WELLS RANCH AA22-617 (970'FSL & 79'FWL, SEC.22)
Area	COLORADO	Well	WELLS RANCH AA22-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH AA22-617 AWB
Facility	SEC.22-T06N-R63W		

WELLPATH DATA (149 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
1902.00	0.440	254.840	1901.97	-4.45	-3.98	-4.64	40°28'03.069"N	104°25'55.117"W	0.43	TIED INTO GYRODATA SURVEYS
1980.00	0.130	0.960	1979.97	-4.73	-3.97	-4.93	40°28'03.069"N	104°25'55.120"W	0.63	FIRST BHI MWD SURVEY
2075.00	0.220	78.420	2074.97	-4.56	-3.82	-4.75	40°28'03.071"N	104°25'55.118"W	0.24	
2170.00	0.150	317.860	2169.97	-4.47	-3.69	-4.65	40°28'03.072"N	104°25'55.117"W	0.34	
2264.00	2.310	181.050	2263.95	-4.50	-5.50	-4.77	40°28'03.054"N	104°25'55.119"W	2.58	
2359.00	5.090	187.720	2358.74	-4.81	-11.59	-5.37	40°28'02.994"N	104°25'55.127"W	2.96	
2453.00	7.730	190.370	2452.14	-6.02	-21.94	-7.07	40°28'02.892"N	104°25'55.151"W	2.83	
2548.00	8.760	188.720	2546.16	-7.62	-35.38	-9.32	40°28'02.760"N	104°25'55.182"W	1.11	
2643.00	8.670	186.600	2640.06	-8.86	-49.64	-11.24	40°28'02.619"N	104°25'55.209"W	0.35	
2832.00	8.770	181.470	2826.88	-9.51	-78.19	-13.24	40°28'02.337"N	104°25'55.240"W	0.41	
2926.00	8.570	174.350	2919.81	-8.33	-92.33	-12.74	40°28'02.197"N	104°25'55.235"W	1.16	
3021.00	8.650	174.440	3013.74	-6.27	-106.48	-11.35	40°28'02.057"N	104°25'55.219"W	0.09	
3116.00	8.750	172.930	3107.65	-4.01	-120.76	-9.77	40°28'01.916"N	104°25'55.201"W	0.26	
3211.00	9.460	176.890	3201.45	-1.99	-135.73	-8.45	40°28'01.768"N	104°25'55.187"W	1.00	
3305.00	9.900	186.140	3294.12	-1.69	-151.48	-8.90	40°28'01.612"N	104°25'55.195"W	1.72	
3400.00	9.330	193.420	3387.79	-3.60	-167.09	-11.56	40°28'01.458"N	104°25'55.232"W	1.41	
3495.00	10.090	201.150	3481.43	-7.66	-182.34	-16.35	40°28'01.308"N	104°25'55.296"W	1.59	
3589.00	9.770	201.240	3574.02	-12.80	-197.46	-22.21	40°28'01.160"N	104°25'55.374"W	0.34	
3684.00	10.080	198.620	3667.60	-17.63	-212.85	-27.78	40°28'01.008"N	104°25'55.449"W	0.58	
3779.00	10.150	194.860	3761.12	-21.67	-228.82	-32.59	40°28'00.851"N	104°25'55.513"W	0.70	
3874.00	10.230	190.470	3854.63	-24.57	-245.20	-36.27	40°28'00.690"N	104°25'55.563"W	0.82	
3969.00	9.780	189.460	3948.18	-26.65	-261.46	-39.12	40°28'00.529"N	104°25'55.603"W	0.51	
4063.00	9.610	190.650	4040.84	-28.67	-277.04	-41.89	40°28'00.376"N	104°25'55.641"W	0.28	
4158.00	9.960	190.340	4134.46	-30.85	-292.92	-44.83	40°28'00.219"N	104°25'55.682"W	0.37	
4253.00	10.110	184.890	4228.01	-32.26	-309.31	-47.01	40°28'00.057"N	104°25'55.712"W	1.01	
4347.00	10.300	184.640	4320.52	-32.85	-325.91	-48.40	40°27'59.894"N	104°25'55.733"W	0.21	
4442.00	9.910	182.550	4414.05	-33.11	-342.54	-49.45	40°27'59.729"N	104°25'55.749"W	0.56	
4537.00	10.280	182.790	4507.57	-33.09	-359.17	-50.22	40°27'59.565"N	104°25'55.762"W	0.39	
4631.00	9.780	186.010	4600.14	-33.56	-375.49	-51.47	40°27'59.404"N	104°25'55.780"W	0.80	
4726.00	10.300	185.690	4693.68	-34.46	-391.96	-53.15	40°27'59.241"N	104°25'55.805"W	0.55	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#02 WELLS RANCH AA22-617 (970'FSL & 79'FWL, SEC.22)
Area	COLORADO	Well	WELLS RANCH AA22-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH AA22-617 AWB
Facility	SEC.22-T06N-R63W		

WELLPATH DATA (149 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4820.00	10.000	172.830	4786.22	-33.49	-408.43	-52.97	40°27'59.079"N	104°25'55.805"W	2.43	
4915.00	6.730	164.800	4880.20	-30.36	-421.99	-50.48	40°27'58.944"N	104°25'55.775"W	3.65	
5009.00	5.090	163.740	4973.70	-27.31	-431.31	-47.87	40°27'58.852"N	104°25'55.742"W	1.75	
5104.00	4.350	182.310	5068.38	-25.91	-438.95	-46.83	40°27'58.776"N	104°25'55.730"W	1.78	
5199.00	4.300	193.340	5163.11	-26.54	-446.02	-47.80	40°27'58.707"N	104°25'55.744"W	0.88	
5294.00	2.870	194.300	5257.93	-27.68	-451.79	-49.21	40°27'58.650"N	104°25'55.763"W	1.51	
5388.00	0.250	120.770	5351.89	-27.97	-454.17	-49.61	40°27'58.626"N	104°25'55.769"W	2.99	
5483.00	0.140	99.890	5446.89	-27.67	-454.30	-49.32	40°27'58.625"N	104°25'55.765"W	0.14	
5578.00	0.160	200.650	5541.88	-27.59	-454.44	-49.25	40°27'58.624"N	104°25'55.764"W	0.24	
5672.00	0.150	204.560	5635.88	-27.68	-454.68	-49.35	40°27'58.621"N	104°25'55.765"W	0.02	
5767.00	0.190	202.600	5730.88	-27.78	-454.94	-49.46	40°27'58.619"N	104°25'55.767"W	0.04	
5862.00	0.190	180.800	5825.88	-27.83	-455.24	-49.53	40°27'58.616"N	104°25'55.768"W	0.08	
5957.00	0.100	30.260	5920.88	-27.79	-455.33	-49.49	40°27'58.615"N	104°25'55.767"W	0.30	
6051.00	8.150	72.730	6014.56	-21.48	-453.27	-43.07	40°27'58.634"N	104°25'55.684"W	8.59	
6146.00	14.700	76.290	6107.63	-3.57	-448.41	-24.91	40°27'58.680"N	104°25'55.448"W	6.93	
6241.00	20.680	84.890	6198.11	24.64	-444.06	3.54	40°27'58.720"N	104°25'55.079"W	6.85	
6335.00	27.170	90.280	6284.00	62.57	-442.68	41.58	40°27'58.729"N	104°25'54.587"W	7.28	
6430.00	36.420	91.820	6364.66	112.55	-443.68	91.56	40°27'58.713"N	104°25'53.941"W	9.77	
6524.00	44.670	94.480	6436.03	173.59	-447.16	152.50	40°27'58.672"N	104°25'53.153"W	8.97	
6619.00	52.070	91.070	6499.11	244.53	-450.47	223.36	40°27'58.630"N	104°25'52.237"W	8.24	
6714.00	58.840	90.590	6552.95	322.69	-451.59	301.56	40°27'58.610"N	104°25'51.225"W	7.14	
6809.00	68.510	90.930	6595.03	407.68	-452.73	386.60	40°27'58.589"N	104°25'50.125"W	10.18	
6903.00	78.480	92.420	6621.70	497.68	-455.39	476.57	40°27'58.552"N	104°25'48.962"W	10.71	
6998.00	88.200	92.370	6632.71	591.92	-459.33	570.73	40°27'58.501"N	104°25'47.744"W	10.23	
7092.00	90.170	91.200	6634.04	685.89	-462.26	664.67	40°27'58.461"N	104°25'46.529"W	2.44	
7187.00	90.270	91.790	6633.68	780.87	-464.73	759.64	40°27'58.426"N	104°25'45.301"W	0.63	
7282.00	90.450	91.500	6633.08	875.85	-467.46	854.60	40°27'58.387"N	104°25'44.073"W	0.36	
7377.00	90.080	90.760	6632.64	970.81	-469.34	949.58	40°27'58.357"N	104°25'42.844"W	0.87	
7471.00	90.110	91.990	6632.49	1064.79	-471.59	1043.55	40°27'58.324"N	104°25'41.629"W	1.31	
7566.00	90.080	91.430	6632.33	1159.77	-474.43	1138.50	40°27'58.285"N	104°25'40.401"W	0.59	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#02 WELLS RANCH AA22-617 (970'FSL & 79'FWL, SEC.22)
Area	COLORADO	Well	WELLS RANCH AA22-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH AA22-617 AWB
Facility	SEC.22-T06N-R63W		

WELLPATH DATA (149 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7661.00	90.300	90.330	6632.01	1254.72	-475.88	1233.49	40°27'58.259"N	104°25'39.172"W	1.18	
7755.00	89.870	90.070	6631.87	1348.63	-476.21	1327.49	40°27'58.244"N	104°25'37.956"W	0.53	
7850.00	89.620	89.680	6632.30	1443.51	-476.01	1422.49	40°27'58.235"N	104°25'36.727"W	0.49	
7945.00	89.930	88.680	6632.67	1538.33	-474.65	1517.48	40°27'58.237"N	104°25'35.498"W	1.10	
8040.00	90.080	88.320	6632.66	1633.07	-472.16	1612.44	40°27'58.250"N	104°25'34.269"W	0.41	
8134.00	90.020	87.710	6632.58	1726.75	-468.90	1706.39	40°27'58.271"N	104°25'33.053"W	0.65	
8229.00	90.110	86.620	6632.47	1821.30	-464.20	1801.27	40°27'58.306"N	104°25'31.825"W	1.15	
8324.00	90.020	87.270	6632.36	1915.82	-459.14	1896.13	40°27'58.345"N	104°25'30.597"W	0.69	
8418.00	90.020	88.760	6632.33	2009.50	-455.89	1990.08	40°27'58.366"N	104°25'29.381"W	1.59	
8513.00	89.930	92.420	6632.37	2104.42	-456.86	2085.05	40°27'58.345"N	104°25'28.153"W	3.85	
8608.00	89.860	92.170	6632.55	2199.41	-460.67	2179.98	40°27'58.296"N	104°25'26.925"W	0.27	
8703.00	89.890	91.110	6632.75	2294.39	-463.39	2274.94	40°27'58.258"N	104°25'25.697"W	1.12	
8797.00	89.770	89.760	6633.03	2388.32	-464.10	2368.93	40°27'58.239"N	104°25'24.481"W	1.44	
8892.00	89.800	89.050	6633.39	2483.16	-463.11	2463.93	40°27'58.238"N	104°25'23.252"W	0.75	
8986.00	89.930	87.270	6633.61	2576.85	-460.10	2557.87	40°27'58.256"N	104°25'22.036"W	1.90	
9081.00	89.930	88.360	6633.73	2671.50	-456.47	2652.80	40°27'58.281"N	104°25'20.808"W	1.15	
9176.00	90.020	88.870	6633.77	2766.26	-454.18	2747.77	40°27'58.292"N	104°25'19.579"W	0.55	
9271.00	89.860	88.750	6633.87	2861.04	-452.20	2842.75	40°27'58.300"N	104°25'18.349"W	0.21	
9365.00	90.110	89.530	6633.89	2954.85	-450.79	2936.74	40°27'58.303"N	104°25'17.133"W	0.87	
9460.00	90.050	90.150	6633.76	3049.73	-450.53	3031.74	40°27'58.294"N	104°25'15.904"W	0.66	
9554.00	89.960	90.460	6633.75	3143.65	-451.03	3125.74	40°27'58.278"N	104°25'14.688"W	0.34	
9649.00	89.740	90.150	6634.00	3238.56	-451.53	3220.74	40°27'58.261"N	104°25'13.459"W	0.40	
9743.00	90.020	88.780	6634.20	3332.41	-450.66	3314.73	40°27'58.258"N	104°25'12.243"W	1.49	
9838.00	90.140	89.780	6634.06	3427.23	-449.46	3409.72	40°27'58.259"N	104°25'11.014"W	1.06	
9933.00	89.890	90.540	6634.04	3522.14	-449.73	3504.72	40°27'58.245"N	104°25'09.785"W	0.84	
10027.00	89.680	92.030	6634.39	3616.11	-451.84	3598.69	40°27'58.213"N	104°25'08.570"W	1.60	
10122.00	90.020	90.910	6634.64	3711.08	-454.27	3693.66	40°27'58.177"N	104°25'07.341"W	1.23	
10217.00	90.020	94.380	6634.61	3806.07	-458.66	3788.55	40°27'58.122"N	104°25'06.115"W	3.65	
10311.00	89.860	93.470	6634.71	3900.04	-465.09	3882.32	40°27'58.047"N	104°25'04.902"W	0.98	
10406.00	89.860	91.660	6634.94	3995.04	-469.34	3977.22	40°27'57.994"N	104°25'03.675"W	1.91	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#02 WELLS RANCH AA22-617 (970'FSL & 79'FWL, SEC.22)
Area	COLORADO	Well	WELLS RANCH AA22-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH AA22-617 AWB
Facility	SEC.22-T06N-R63W		

WELLPATH DATA (149 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
10501.00	90.050	92.190	6635.01	4090.03	-472.53	4072.17	40°27'57.951"N	104°25'02.448"W	0.59	
10595.00	89.890	91.920	6635.06	4184.02	-475.90	4166.11	40°27'57.906"N	104°25'01.233"W	0.33	
10690.00	89.860	90.520	6635.27	4278.99	-477.93	4261.09	40°27'57.875"N	104°25'00.004"W	1.47	
10784.00	89.980	87.350	6635.40	4372.77	-476.18	4355.06	40°27'57.881"N	104°24'58.788"W	3.37	
10879.00	90.050	85.980	6635.38	4467.24	-470.65	4449.89	40°27'57.924"N	104°24'57.561"W	1.44	
10974.00	90.260	85.530	6635.12	4561.53	-463.62	4544.63	40°27'57.982"N	104°24'56.334"W	0.52	
11068.00	90.260	85.850	6634.69	4654.83	-456.56	4638.37	40°27'58.041"N	104°24'55.120"W	0.34	
11163.00	90.170	86.820	6634.34	4749.23	-450.48	4733.17	40°27'58.089"N	104°24'53.893"W	1.03	
11258.00	90.140	87.260	6634.08	4843.77	-445.58	4828.04	40°27'58.126"N	104°24'52.665"W	0.46	
11352.00	90.230	87.770	6633.78	4937.38	-441.50	4921.95	40°27'58.155"N	104°24'51.449"W	0.55	
11447.00	90.380	88.190	6633.27	5032.05	-438.16	5016.89	40°27'58.177"N	104°24'50.220"W	0.47	
11542.00	90.410	88.690	6632.61	5126.78	-435.57	5111.86	40°27'58.191"N	104°24'48.991"W	0.53	
11636.00	90.040	90.010	6632.25	5220.62	-434.50	5205.85	40°27'58.190"N	104°24'47.775"W	1.46	
11731.00	90.040	93.170	6632.18	5315.59	-437.14	5300.80	40°27'58.152"N	104°24'46.547"W	3.33	
11826.00	90.110	95.530	6632.05	5410.54	-444.34	5395.52	40°27'58.070"N	104°24'45.323"W	2.49	
11920.00	89.980	93.400	6631.98	5504.49	-451.66	5489.23	40°27'57.986"N	104°24'44.112"W	2.27	
12015.00	89.860	94.180	6632.11	5599.47	-457.94	5584.02	40°27'57.912"N	104°24'42.886"W	0.83	
12110.00	89.920	96.130	6632.30	5694.38	-466.48	5678.63	40°27'57.817"N	104°24'41.664"W	2.05	
12204.00	89.920	93.150	6632.43	5788.32	-474.08	5772.31	40°27'57.730"N	104°24'40.453"W	3.17	
12299.00	89.830	92.730	6632.63	5883.32	-478.95	5867.18	40°27'57.670"N	104°24'39.226"W	0.45	
12394.00	89.860	92.970	6632.89	5978.32	-483.67	5962.07	40°27'57.612"N	104°24'38.000"W	0.25	
12488.00	89.550	90.320	6633.38	6072.29	-486.37	6056.02	40°27'57.574"N	104°24'36.785"W	2.84	
12582.00	89.520	88.440	6634.14	6166.13	-485.36	6150.01	40°27'57.573"N	104°24'35.569"W	2.00	
12677.00	89.920	89.000	6634.60	6260.89	-483.23	6244.98	40°27'57.582"N	104°24'34.340"W	0.72	
12772.00	89.950	90.070	6634.71	6355.74	-482.46	6339.98	40°27'57.578"N	104°24'33.110"W	1.13	
12866.00	89.890	86.930	6634.84	6449.48	-480.00	6433.93	40°27'57.591"N	104°24'31.895"W	3.34	
12961.00	90.290	86.630	6634.69	6543.96	-474.67	6528.78	40°27'57.632"N	104°24'30.667"W	0.53	
13056.00	90.110	84.020	6634.36	6638.16	-466.92	6623.46	40°27'57.697"N	104°24'29.441"W	2.75	
13151.00	90.070	87.490	6634.21	6732.45	-459.89	6718.18	40°27'57.755"N	104°24'28.214"W	3.65	
13245.00	90.350	90.800	6633.87	6826.25	-458.49	6812.16	40°27'57.758"N	104°24'26.998"W	3.53	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#02 WELLS RANCH AA22-617 (970'FSL & 79'FWL, SEC.22)
Area	COLORADO	Well	WELLS RANCH AA22-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH AA22-617 AWB
Facility	SEC.22-T06N-R63W		

WELLPATH DATA (149 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13340.00	90.040	90.400	6633.54	6921.18	-459.49	6907.15	40°27'57.736"N	104°24'25.769"W	0.53	
13435.00	90.070	89.680	6633.45	7016.08	-459.55	7002.15	40°27'57.724"N	104°24'24.540"W	0.76	
13529.00	90.070	91.870	6633.34	7110.02	-460.82	7096.14	40°27'57.700"N	104°24'23.325"W	2.33	
13624.00	89.890	90.130	6633.37	7204.97	-462.48	7191.12	40°27'57.672"N	104°24'22.096"W	1.84	
13719.00	89.950	89.980	6633.50	7299.87	-462.57	7286.12	40°27'57.660"N	104°24'20.867"W	0.17	
13814.00	89.860	88.160	6633.66	7394.67	-461.03	7381.10	40°27'57.663"N	104°24'19.638"W	1.92	
13908.00	89.920	87.440	6633.84	7488.32	-457.42	7475.03	40°27'57.687"N	104°24'18.422"W	0.77	
14003.00	89.800	87.160	6634.07	7582.90	-452.95	7569.92	40°27'57.720"N	104°24'17.194"W	0.32	
14098.00	89.860	88.070	6634.36	7677.52	-448.99	7664.84	40°27'57.748"N	104°24'15.965"W	0.96	
14193.00	89.800	88.870	6634.64	7772.26	-446.46	7759.81	40°27'57.761"N	104°24'14.736"W	0.84	
14287.00	89.830	89.630	6634.94	7866.08	-445.23	7853.80	40°27'57.762"N	104°24'13.520"W	0.81	
14382.00	89.950	89.880	6635.12	7960.95	-444.82	7948.80	40°27'57.754"N	104°24'12.291"W	0.29	
14477.00	89.950	91.600	6635.21	8055.89	-446.05	8043.78	40°27'57.730"N	104°24'11.062"W	1.81	
14571.00	90.320	91.030	6634.98	8149.86	-448.20	8137.76	40°27'57.698"N	104°24'09.847"W	0.72	
14666.00	90.290	92.330	6634.48	8244.85	-450.99	8232.71	40°27'57.658"N	104°24'08.619"W	1.37	
14761.00	90.100	92.590	6634.16	8339.84	-455.07	8327.63	40°27'57.607"N	104°24'07.392"W	0.34	
14856.00	90.230	90.270	6633.88	8434.81	-457.44	8422.59	40°27'57.572"N	104°24'06.164"W	2.45	
14950.00	90.230	88.470	6633.50	8528.65	-456.40	8516.58	40°27'57.570"N	104°24'04.947"W	1.91	
15045.00	90.040	89.740	6633.28	8623.46	-454.92	8611.57	40°27'57.573"N	104°24'03.718"W	1.35	
15140.00	90.290	91.670	6633.01	8718.39	-456.09	8706.55	40°27'57.550"N	104°24'02.490"W	2.05	
15235.00	90.230	93.030	6632.58	8813.39	-459.98	8801.47	40°27'57.500"N	104°24'01.262"W	1.43	
15329.00	90.160	89.940	6632.26	8907.35	-462.42	8895.43	40°27'57.464"N	104°24'00.047"W	3.29	
15424.00	89.830	87.060	6632.26	9002.08	-459.93	8990.38	40°27'57.477"N	104°23'58.818"W	3.05	
15519.00	89.800	86.990	6632.57	9096.61	-455.00	9085.26	40°27'57.514"N	104°23'57.590"W	0.08	
15614.00	89.800	84.520	6632.90	9190.90	-447.97	9179.99	40°27'57.572"N	104°23'56.364"W	2.60	
15708.00	89.610	83.880	6633.39	9283.86	-438.47	9273.50	40°27'57.655"N	104°23'55.152"W	0.71	
15803.00	89.890	84.710	6633.80	9377.84	-429.03	9368.03	40°27'57.736"N	104°23'53.928"W	0.92	
15897.00	89.830	82.220	6634.03	9470.60	-418.33	9461.41	40°27'57.831"N	104°23'52.718"W	2.65	LAST BHI MWD SURVEY
15931.00	89.830	82.220	6634.13	9504.03	-413.73	9495.10	40°27'57.872"N	104°23'52.281"W	0.00	PROJECTION TO BIT

HOLE & CASING SECTIONS - Ref Wellbore: WELLS RANCH AA22-617 AWB Ref Wellpath: WELLS RANCH AA22-617 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]
9.625in Casing Surface	0.00	1909.00	1909.00	0.00	1908.97	0.00	0.00	-3.99	-4.69
8.5in Open Hole	1909.00	15931.00	14022.00	1908.97	6634.13	-3.99	-4.69	-413.73	9495.10

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.22-T06N-R63W	0.00	-36.43	0.44	3297157.15	1414914.69	40°28'02.748"N	104°25'55.056"W	polygon
SEC.23-T06N-R63W	0.00	-36.43	0.44	3297157.15	1414914.69	40°28'02.748"N	104°25'55.056"W	polygon
WELLS RANCH AA22-617 KOP (35' RADII)	2200.00	0.00	0.00	3297156.71	1414951.11	40°28'03.108"N	104°25'55.056"W	circle
SEC.22-T06N-R63W 460'FSL	6588.20	-36.43	0.44	3297157.15	1414914.69	40°28'02.748"N	104°25'55.056"W	polygon
WELLS RANCH AA22-617 BHL ON PLAT REV-1 (447'FSL & 907'FEL, SEC.23)	6588.20	-452.12	9500.02	3306656.37	1414499.01	40°27'57.492"N	104°23'52.224"W	point
WELLS RANCH AA22-617 DRILLING CORRIDOR (35'LEFT/RIGHT & 8' UP/DOWN)	6588.20	-452.12	9500.02	3306656.37	1414499.01	40°27'57.492"N	104°23'52.224"W	polygon
WELLS RANCH AA22-617 DRILLING CORRIDOR (50'LEFT/RIGHT & 8' UP/DOWN)	6588.20	-452.12	9500.02	3306656.37	1414499.01	40°27'57.492"N	104°23'52.224"W	polygon
WELLS RANCH AA22-617 5000'VS	6611.81	-452.11	4984.83	3302141.35	1414499.02	40°27'58.043"N	104°24'50.637"W	point

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 WELLS RANCH AA22-617 (970'FSL & 79'FWL, SEC.22)
Area	COLORADO	Well	WELLS RANCH AA22-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH AA22-617 AWB
Facility	SEC.22-T06N-R63W		

WELLPATH COMPOSITION - Ref Wellbore: WELLS RANCH AA22-617 AWB					Ref Wellpath: WELLS RANCH AA22-617 AWP	
Start MD	End MD	Positional Uncertainty Model		Log Name/Comment		Wellbore
[ft]	[ft]					
0.00	1902.00	Gyrodata standard - Drop gyro or Multi-shot		GYRODATA SURFACE SURVEYS 13 1/2" HOLE <0 - 1902>		WELLS RANCH AA22-617 AWB
1902.00	15897.00	Custom BHI AutoTrak Curve (IFR1) (Rockies 0.03Gt model)		BHI AUTOTRAK CURVE (MSA CORRECTED BY SURCON) 8 1/2" HOLE <1902 - 15897>		WELLS RANCH AA22-617 AWB
15897.00	15931.00	Blind Drilling (std)		Projection to bit		WELLS RANCH AA22-617 AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 WELLS RANCH AA22-617 (970'FSL & 79'FWL, SEC.22)
Area	COLORADO	Well	WELLS RANCH AA22-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH AA22-617 AWB
Facility	SEC.22-T06N-R63W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1902.00	0.440	254.840	1901.97	TIED INTO GYRODATA SURVEYS
1980.00	0.130	0.960	1979.97	FIRST BHI MWD SURVEY
15897.00	89.830	82.220	6634.03	LAST BHI MWD SURVEY
15931.00	89.830	82.220	6634.13	PROJECTION TO BIT