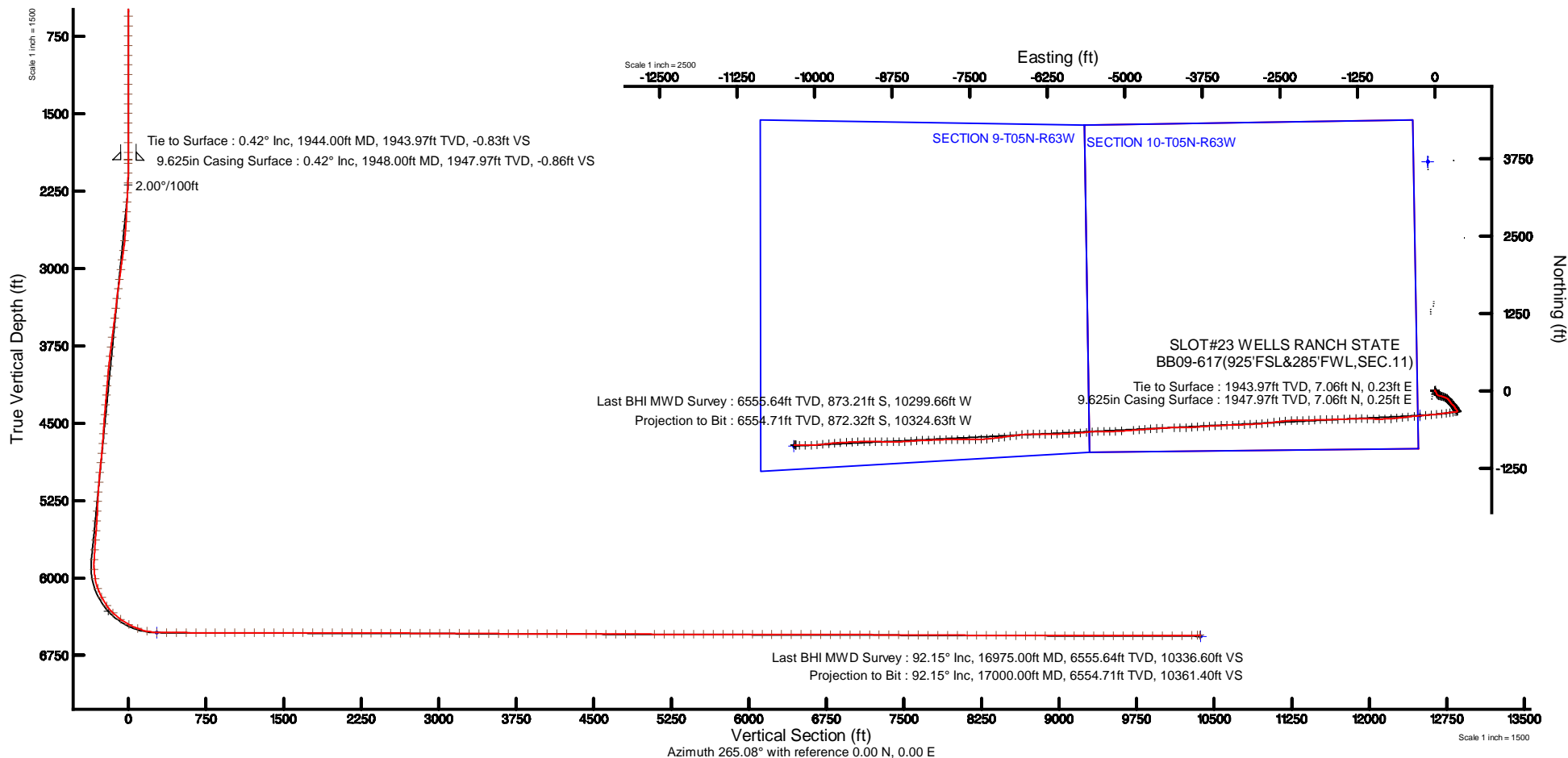


Location:	COLORADO	Slot:	SLOT#23 WELLS RANCH STATE BB09-617(925'FSL&285'FWL,SEC.11)
Field:	WELD COUNTY (NOBLE NAD 83 GRID)	Well:	WELLS RANCH STATE BB09-617
Facility:	SEC.11-T05N-R63W	Wellbore:	WELLS RANCH STATE BB09-617 PWB

Plot reference wellpath is WELLS RANCH STATE BB09-617 (REV-A-0) PWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG(30'KB) (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to RIG(30'KB) (RKB)	North Reference: Grid north
RIG(30'KB) (RKB) to Mean Sea Level: 4706 feet	Scale: True distance
Mean Sea Level to Ground level (At Slot: SLOT#23 WELLS RANCH STATE BB09-617(025FSL&285FWL,SEC.11)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: guenaler on 2018-10-23
	Database: WA_DEN_Denver_Defn

Location Information

Facility Name			Grid East (US R)	Grid North (US R)	Latitude	Longitude
SEC.11-705N-RE3W			3302802.430	1393626.455	40°24'31.716"N	104°24'45.396"W
Slot	Local N (R)	Local E (R)	Grid East (US R)	Grid North (US R)	Latitude	Longitude
SLOT#23 WELLS RANCH STATE BB09-617(925FSL&285FWL-SEC.11)	128.11	48.56	3302850.988	1393754.564	40°24'32.976"N	104°24'44.748"W
RG(30'KB) (RKB) to Ground level (A Slot: SLOT#23 WELLS RANCH STATE BB09-617(925FSL&285FWL-SEC.11))					4706R	
Mean Sea Level to Ground level (A Slot: SLOT#23 WELLS RANCH STATE BB09-617(925FSL&285FWL-SEC.11))					0R	
RG(30'KB) (RKB) to Mean Sea Level					4706R	





Actual Wellpath Report

WELLS RANCH STATE BB09-617 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#23 WELLS RANCH STATE BB09-617(925'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH STATE BB09-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH STATE BB09-617 AWB
Facility	SEC.11-T05N-R63W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Guenaler
Scale	0.999961	Report Generated	10/23/2018 at 2:18:31 PM
Convergence at slot	0.71° East	Database/Source file	WA_DEN_Denver_Defn/WELLS_RANCH_STATE_BB09-617_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	128.11	48.56	3302850.99	1393754.56	40°24'32.976"N	104°24'44.748"W
Facility Reference Pt			3302802.43	1393626.46	40°24'31.716"N	104°24'45.396"W
Field Reference Pt			3000000.00	4454105.15	48°46'34.315"N	105°30'00.000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	RIG(30'KB) (RKB) to Facility Vertical Datum	4706.00ft
Horizontal Reference Pt	Slot	RIG(30'KB) (RKB) to Mean Sea Level	4706.00ft
Vertical Reference Pt	RIG(30'KB) (RKB)	RIG(30'KB) (RKB) to Ground Level at Slot (SLOT#23 WELLS RANCH STATE BB09-617 (925'FSL&285'FWL,SEC.11))	4706.00ft
MD Reference Pt	RIG(30'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	265.08°



Actual Wellpath Report
WELLS RANCH STATE BB09-617 AWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#23 WELLS RANCH STATE BB09-617(925'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH STATE BB09-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH STATE BB09-617 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (181 stations)											
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments	
0.00	0.000	345.130	0.00	0.00	0.00	0.00	40°24'32.976"N	104°24'44.748"W	0.00		
84.00	0.500	345.130	84.00	0.06	0.35	-0.09	40°24'32.980"N	104°24'44.749"W	0.60		
179.00	0.620	326.800	178.99	0.38	1.18	-0.48	40°24'32.988"N	104°24'44.754"W	0.23		
271.00	0.450	10.640	270.99	0.52	1.96	-0.69	40°24'32.995"N	104°24'44.757"W	0.47		
366.00	0.360	2.250	365.99	0.38	2.62	-0.61	40°24'33.002"N	104°24'44.755"W	0.11		
460.00	0.090	38.950	459.99	0.29	2.97	-0.55	40°24'33.005"N	104°24'44.755"W	0.31		
555.00	0.450	52.580	554.99	-0.07	3.26	-0.21	40°24'33.008"N	104°24'44.750"W	0.38		
649.00	0.330	25.750	648.98	-0.52	3.73	0.20	40°24'33.013"N	104°24'44.745"W	0.23		
743.00	0.360	48.050	742.98	-0.90	4.17	0.54	40°24'33.017"N	104°24'44.740"W	0.15		
838.00	0.180	16.740	837.98	-1.19	4.51	0.81	40°24'33.020"N	104°24'44.737"W	0.24		
933.00	0.120	101.020	932.98	-1.34	4.63	0.95	40°24'33.022"N	104°24'44.735"W	0.22		
1026.00	0.080	102.500	1025.98	-1.50	4.60	1.11	40°24'33.021"N	104°24'44.733"W	0.04		
1121.00	0.160	65.420	1120.98	-1.69	4.64	1.29	40°24'33.022"N	104°24'44.731"W	0.11		
1216.00	0.340	23.890	1215.98	-1.95	4.96	1.53	40°24'33.025"N	104°24'44.727"W	0.26		
1310.00	0.290	44.380	1309.98	-2.26	5.38	1.81	40°24'33.029"N	104°24'44.724"W	0.13		
1404.00	0.100	6.830	1403.98	-2.46	5.63	1.98	40°24'33.031"N	104°24'44.721"W	0.23		
1498.00	0.200	342.730	1497.98	-2.44	5.87	1.94	40°24'33.034"N	104°24'44.722"W	0.12		
1593.00	0.310	290.360	1592.98	-2.17	6.12	1.65	40°24'33.036"N	104°24'44.726"W	0.26		
1687.00	0.650	286.470	1686.97	-1.45	6.36	0.90	40°24'33.039"N	104°24'44.735"W	0.36		
1782.00	0.340	297.940	1781.97	-0.71	6.64	0.14	40°24'33.042"N	104°24'44.745"W	0.34		
1877.00	0.200	18.870	1876.97	-0.54	6.93	-0.06	40°24'33.044"N	104°24'44.748"W	0.39		
1944.00	0.420	86.490	1943.97	-0.83	7.06	0.23	40°24'33.046"N	104°24'44.744"W	0.58	Tie to Surface	
1980.00	0.600	140.020	1979.97	-1.07	6.92	0.48	40°24'33.044"N	104°24'44.741"W	1.35		
2075.00	2.190	147.650	2074.94	-2.19	5.01	1.77	40°24'33.025"N	104°24'44.724"W	1.68		
2169.00	4.270	147.640	2168.78	-4.63	0.53	4.60	40°24'32.981"N	104°24'44.688"W	2.21		
2264.00	6.360	147.680	2263.37	-8.68	-6.90	9.31	40°24'32.907"N	104°24'44.629"W	2.20		
2358.00	6.840	146.860	2356.74	-13.73	-15.99	15.15	40°24'32.816"N	104°24'44.555"W	0.52		
2453.00	9.100	161.600	2450.83	-18.15	-27.86	20.62	40°24'32.698"N	104°24'44.486"W	3.19		
2548.00	9.100	157.430	2544.64	-22.18	-41.92	25.87	40°24'32.559"N	104°24'44.420"W	0.69		
2642.00	8.960	146.910	2637.48	-27.89	-54.92	32.72	40°24'32.429"N	104°24'44.334"W	1.76		



Actual Wellpath Report
WELLS RANCH STATE BB09-617 AWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#23 WELLS RANCH STATE BB09-617(925'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH STATE BB09-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH STATE BB09-617 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (181 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2737.00	9.030	132.190	2731.32	-36.46	-66.13	42.29	40°24'32.317"N	104°24'44.212"W	2.42	
2831.00	8.850	114.240	2824.20	-47.79	-74.05	54.35	40°24'32.238"N	104°24'44.057"W	2.96	
2926.00	8.330	90.410	2918.16	-61.03	-77.10	67.90	40°24'32.206"N	104°24'43.883"W	3.76	
3020.00	8.230	103.150	3011.19	-74.21	-78.68	81.26	40°24'32.189"N	104°24'43.710"W	1.95	
3115.00	7.790	104.480	3105.26	-86.74	-81.84	94.11	40°24'32.156"N	104°24'43.544"W	0.50	
3209.00	7.830	103.320	3198.39	-98.83	-84.91	106.51	40°24'32.124"N	104°24'43.385"W	0.17	
3304.00	7.540	106.860	3292.54	-110.77	-88.21	118.78	40°24'32.090"N	104°24'43.227"W	0.58	
3398.00	7.600	109.700	3385.72	-122.14	-92.09	130.53	40°24'32.050"N	104°24'43.075"W	0.40	
3493.00	7.610	114.280	3479.88	-133.35	-96.79	142.18	40°24'32.002"N	104°24'42.926"W	0.64	
3587.00	7.910	115.600	3573.02	-144.35	-102.15	153.69	40°24'31.948"N	104°24'42.778"W	0.37	
3682.00	7.850	111.280	3667.13	-155.80	-107.33	165.63	40°24'31.895"N	104°24'42.624"W	0.63	
3776.00	7.800	105.640	3760.25	-167.53	-111.38	177.75	40°24'31.854"N	104°24'42.468"W	0.82	
3870.00	8.010	118.210	3853.37	-178.99	-116.19	189.66	40°24'31.805"N	104°24'42.315"W	1.85	
3965.00	8.020	128.750	3947.44	-189.33	-123.47	200.67	40°24'31.732"N	104°24'42.174"W	1.54	
4060.00	8.330	134.730	4041.48	-198.58	-132.46	210.72	40°24'31.642"N	104°24'42.045"W	0.95	
4154.00	8.360	140.230	4134.49	-206.89	-142.51	219.93	40°24'31.541"N	104°24'41.928"W	0.85	
4249.00	8.200	143.760	4228.50	-214.36	-153.28	228.36	40°24'31.434"N	104°24'41.821"W	0.56	
4343.00	8.510	142.220	4321.50	-221.61	-164.18	236.58	40°24'31.325"N	104°24'41.716"W	0.41	
4438.00	8.310	141.720	4415.48	-229.20	-175.13	245.14	40°24'31.216"N	104°24'41.607"W	0.22	
4532.00	8.270	146.950	4508.50	-236.12	-186.13	253.03	40°24'31.106"N	104°24'41.507"W	0.80	
4627.00	8.040	145.100	4602.54	-242.66	-197.30	260.56	40°24'30.995"N	104°24'41.411"W	0.37	
4722.00	8.060	143.900	4696.60	-249.43	-208.13	268.29	40°24'30.887"N	104°24'41.313"W	0.18	
4816.00	8.340	134.530	4789.64	-257.27	-218.24	277.03	40°24'30.786"N	104°24'41.202"W	1.45	
4911.00	7.980	126.280	4883.68	-266.71	-226.97	287.26	40°24'30.698"N	104°24'41.071"W	1.29	
5006.00	7.790	126.700	4977.79	-276.49	-234.72	297.74	40°24'30.621"N	104°24'40.937"W	0.21	
5100.00	7.460	139.560	5070.96	-284.80	-243.17	306.80	40°24'30.536"N	104°24'40.821"W	1.84	
5195.00	7.390	146.590	5165.17	-291.29	-252.97	314.17	40°24'30.438"N	104°24'40.727"W	0.96	
5289.00	7.490	156.990	5258.38	-296.08	-263.65	319.89	40°24'30.332"N	104°24'40.655"W	1.43	
5384.00	7.480	154.750	5352.57	-300.15	-274.94	324.95	40°24'30.220"N	104°24'40.591"W	0.31	
5478.00	7.500	145.460	5445.77	-305.31	-285.53	331.04	40°24'30.115"N	104°24'40.514"W	1.29	



Actual Wellpath Report
WELLS RANCH STATE BB09-617 AWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#23 WELLS RANCH STATE BB09-617(925'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH STATE BB09-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH STATE BB09-617 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (181 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5573.00	7.420	136.960	5539.97	-312.16	-295.12	338.74	40°24'30.019"N	104°24'40.416"W	1.16	
5667.00	6.640	136.250	5633.26	-319.31	-303.49	346.64	40°24'29.935"N	104°24'40.315"W	0.83	
5762.00	5.980	138.080	5727.69	-325.73	-311.14	353.74	40°24'29.859"N	104°24'40.225"W	0.73	
5856.00	8.030	147.780	5820.98	-331.69	-320.33	360.52	40°24'29.767"N	104°24'40.139"W	2.51	
5951.00	6.350	204.230	5915.34	-332.17	-330.75	361.90	40°24'29.664"N	104°24'40.123"W	7.31	
6046.00	10.820	266.260	6009.43	-320.67	-336.14	350.82	40°24'29.612"N	104°24'40.267"W	10.13	
6141.00	19.350	265.620	6101.07	-295.97	-337.92	326.18	40°24'29.597"N	104°24'40.585"W	8.98	
6235.00	27.240	262.170	6187.34	-258.86	-342.05	289.29	40°24'29.561"N	104°24'41.063"W	8.51	
6330.00	36.410	261.140	6267.98	-208.91	-349.37	239.78	40°24'29.495"N	104°24'41.704"W	9.67	
6424.00	45.010	263.540	6339.17	-147.73	-357.42	179.07	40°24'29.423"N	104°24'42.490"W	9.30	
6519.00	53.880	262.580	6400.87	-75.67	-366.17	107.50	40°24'29.345"N	104°24'43.417"W	9.37	
6613.00	61.940	263.870	6450.77	3.86	-375.52	28.48	40°24'29.262"N	104°24'44.439"W	8.65	
6708.00	69.900	264.970	6489.50	90.52	-383.92	-57.77	40°24'29.190"N	104°24'45.556"W	8.45	
6802.00	77.500	265.780	6515.87	180.67	-391.18	-147.64	40°24'29.129"N	104°24'46.718"W	8.13	
6897.00	87.690	264.530	6528.09	274.75	-399.14	-241.38	40°24'29.061"N	104°24'47.931"W	10.81	
6991.00	90.030	264.780	6529.96	368.72	-407.89	-334.95	40°24'28.986"N	104°24'49.142"W	2.50	
7086.00	90.060	263.450	6529.89	463.71	-417.63	-429.44	40°24'28.901"N	104°24'50.365"W	1.40	
7180.00	89.780	263.130	6530.02	557.66	-428.62	-522.80	40°24'28.804"N	104°24'51.574"W	0.45	
7275.00	89.630	264.020	6530.51	652.63	-439.25	-617.20	40°24'28.711"N	104°24'52.796"W	0.95	
7369.00	89.600	265.620	6531.14	746.62	-447.73	-710.81	40°24'28.638"N	104°24'54.007"W	1.70	
7463.00	90.120	269.000	6531.37	840.53	-452.14	-804.69	40°24'28.606"N	104°24'55.221"W	3.64	
7558.00	90.150	269.870	6531.15	935.26	-453.08	-899.69	40°24'28.608"N	104°24'56.449"W	0.92	
7652.00	90.250	271.950	6530.82	1028.77	-451.59	-993.67	40°24'28.634"N	104°24'57.664"W	2.22	
7747.00	90.280	271.310	6530.38	1123.14	-448.89	-1088.63	40°24'28.672"N	104°24'58.891"W	0.67	
7841.00	89.970	270.490	6530.17	1216.66	-447.41	-1182.62	40°24'28.698"N	104°25'00.105"W	0.93	
7935.00	89.910	268.330	6530.27	1310.38	-448.38	-1276.61	40°24'28.700"N	104°25'01.320"W	2.30	
8030.00	89.940	267.510	6530.40	1405.26	-451.82	-1371.54	40°24'28.677"N	104°25'02.548"W	0.86	
8124.00	89.970	268.070	6530.47	1499.16	-455.45	-1465.47	40°24'28.653"N	104°25'03.763"W	0.60	
8219.00	89.850	268.510	6530.62	1594.01	-458.28	-1560.43	40°24'28.636"N	104°25'04.991"W	0.48	
8313.00	90.000	268.400	6530.74	1687.85	-460.82	-1654.40	40°24'28.623"N	104°25'06.206"W	0.20	



Actual Wellpath Report
WELLS RANCH STATE BB09-617 AWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#23 WELLS RANCH STATE BB09-617(925'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH STATE BB09-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH STATE BB09-617 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (181 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8408.00	89.720	269.420	6530.98	1782.63	-462.63	-1749.38	40°24'28.616"N	104°25'07.434"W	1.11	
8502.00	89.910	268.490	6531.28	1876.41	-464.34	-1843.36	40°24'28.611"N	104°25'08.649"W	1.01	
8597.00	89.780	267.150	6531.54	1971.30	-467.95	-1938.29	40°24'28.586"N	104°25'09.876"W	1.42	
8692.00	89.660	266.530	6532.00	2066.26	-473.19	-2033.14	40°24'28.546"N	104°25'11.103"W	0.66	
8786.00	89.420	269.500	6532.75	2160.12	-476.45	-2127.07	40°24'28.525"N	104°25'12.318"W	3.17	
8881.00	89.540	271.340	6533.62	2254.70	-475.75	-2222.06	40°24'28.543"N	104°25'13.546"W	1.94	
8975.00	89.880	267.380	6534.09	2348.42	-476.80	-2316.04	40°24'28.544"N	104°25'14.760"W	4.23	
9070.00	89.850	264.130	6534.32	2443.40	-483.83	-2410.76	40°24'28.486"N	104°25'15.986"W	3.42	
9164.00	90.060	263.260	6534.39	2537.37	-494.15	-2504.19	40°24'28.396"N	104°25'17.195"W	0.95	
9259.00	89.660	262.370	6534.62	2632.29	-506.04	-2598.45	40°24'28.289"N	104°25'18.415"W	1.03	
9354.00	89.750	263.080	6535.11	2727.21	-518.07	-2692.68	40°24'28.182"N	104°25'19.635"W	0.75	
9448.00	89.630	265.730	6535.62	2821.19	-527.23	-2786.22	40°24'28.103"N	104°25'20.846"W	2.82	
9543.00	89.630	266.720	6536.23	2916.17	-533.48	-2881.01	40°24'28.052"N	104°25'22.072"W	1.04	
9637.00	89.660	267.120	6536.82	3010.12	-538.53	-2974.87	40°24'28.014"N	104°25'23.286"W	0.43	
9732.00	89.780	267.250	6537.28	3105.06	-543.20	-3069.76	40°24'27.979"N	104°25'24.513"W	0.19	
9826.00	89.570	268.280	6537.81	3198.95	-546.87	-3163.68	40°24'27.954"N	104°25'25.728"W	1.12	
9921.00	89.600	268.830	6538.50	3293.77	-549.26	-3258.65	40°24'27.942"N	104°25'26.956"W	0.58	
10016.00	89.750	267.420	6539.04	3388.63	-552.37	-3353.60	40°24'27.922"N	104°25'28.184"W	1.49	
10110.00	89.720	267.360	6539.48	3482.56	-556.65	-3447.50	40°24'27.891"N	104°25'29.398"W	0.07	
10205.00	89.600	266.490	6540.04	3577.50	-561.75	-3542.36	40°24'27.852"N	104°25'30.625"W	0.92	
10300.00	89.660	266.480	6540.65	3672.47	-567.57	-3637.18	40°24'27.806"N	104°25'31.852"W	0.06	
10394.00	89.660	265.990	6541.21	3766.45	-573.74	-3730.97	40°24'27.756"N	104°25'33.065"W	0.52	
10489.00	89.940	266.240	6541.54	3861.43	-580.18	-3825.75	40°24'27.704"N	104°25'34.291"W	0.40	
10583.00	89.910	265.920	6541.67	3955.42	-586.60	-3919.53	40°24'27.652"N	104°25'35.504"W	0.34	
10678.00	89.910	268.430	6541.81	4050.35	-591.29	-4014.41	40°24'27.617"N	104°25'36.731"W	2.64	
10772.00	89.880	270.460	6541.99	4144.07	-592.20	-4108.40	40°24'27.619"N	104°25'37.947"W	2.16	
10867.00	89.970	269.140	6542.11	4238.75	-592.53	-4203.40	40°24'27.627"N	104°25'39.175"W	1.39	
11056.00	89.600	265.990	6542.82	4427.54	-600.56	-4392.20	40°24'27.570"N	104°25'41.616"W	1.68	
11150.00	89.880	266.410	6543.25	4521.52	-606.79	-4485.99	40°24'27.520"N	104°25'42.830"W	0.54	
11245.00	89.750	266.210	6543.55	4616.50	-612.90	-4580.80	40°24'27.471"N	104°25'44.056"W	0.25	



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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#23 WELLS RANCH STATE BB09-617(925'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH STATE BB09-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH STATE BB09-617 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (181 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11339.00	89.780	266.020	6543.94	4710.48	-619.27	-4674.58	40°24'27.419"N	104°25'45.269"W	0.20	
11434.00	89.780	265.540	6544.30	4805.48	-626.26	-4769.32	40°24'27.361"N	104°25'46.495"W	0.51	
11528.00	89.880	264.940	6544.58	4899.47	-634.06	-4863.00	40°24'27.296"N	104°25'47.707"W	0.65	
11717.00	89.750	267.110	6545.19	5088.44	-647.16	-5051.53	40°24'27.189"N	104°25'50.146"W	1.15	
11812.00	89.780	267.270	6545.58	5183.37	-651.82	-5146.41	40°24'27.154"N	104°25'51.373"W	0.17	
11907.00	89.750	268.500	6545.97	5278.25	-655.32	-5241.35	40°24'27.131"N	104°25'52.601"W	1.30	
12001.00	89.750	270.670	6546.38	5371.96	-656.01	-5335.34	40°24'27.135"N	104°25'53.816"W	2.31	
12096.00	90.150	269.680	6546.47	5466.58	-655.72	-5430.34	40°24'27.149"N	104°25'55.044"W	1.12	
12191.00	90.650	267.290	6545.80	5561.40	-658.23	-5525.29	40°24'27.136"N	104°25'56.271"W	2.57	
12285.00	89.940	263.230	6545.32	5655.38	-665.99	-5618.95	40°24'27.070"N	104°25'57.483"W	4.38	
12380.00	89.780	264.310	6545.55	5750.35	-676.30	-5713.39	40°24'26.979"N	104°25'58.706"W	1.15	
12474.00	89.780	267.580	6545.91	5844.33	-682.95	-5807.14	40°24'26.925"N	104°25'59.918"W	3.48	
12569.00	89.750	268.400	6546.30	5939.20	-686.28	-5902.08	40°24'26.903"N	104°26'01.146"W	0.86	
12664.00	89.690	265.650	6546.77	6034.14	-691.21	-5996.94	40°24'26.866"N	104°26'02.373"W	2.90	
12758.00	89.880	268.060	6547.12	6128.09	-696.37	-6090.79	40°24'26.826"N	104°26'03.587"W	2.57	
12852.00	89.880	269.830	6547.32	6221.87	-698.10	-6184.77	40°24'26.820"N	104°26'04.802"W	1.88	
12947.00	90.060	270.430	6547.37	6316.50	-697.88	-6279.77	40°24'26.833"N	104°26'06.030"W	0.66	
13042.00	89.820	271.060	6547.46	6411.03	-696.65	-6374.76	40°24'26.857"N	104°26'07.258"W	0.71	
13137.00	89.910	270.140	6547.69	6505.59	-695.65	-6469.76	40°24'26.878"N	104°26'08.485"W	0.97	
13231.00	90.000	266.740	6547.76	6599.41	-698.21	-6563.71	40°24'26.864"N	104°26'09.700"W	3.62	
13325.00	89.880	264.080	6547.86	6693.40	-705.73	-6657.40	40°24'26.801"N	104°26'10.912"W	2.83	
13420.00	89.850	262.780	6548.08	6788.36	-716.60	-6751.77	40°24'26.704"N	104°26'12.134"W	1.37	
13514.00	89.690	262.330	6548.46	6882.27	-728.78	-6844.98	40°24'26.595"N	104°26'13.340"W	0.51	
13609.00	89.630	262.570	6549.03	6977.17	-741.26	-6939.15	40°24'26.483"N	104°26'14.560"W	0.26	
13703.00	89.720	263.580	6549.56	7071.11	-752.60	-7032.46	40°24'26.382"N	104°26'15.768"W	1.08	
13798.00	89.780	263.310	6549.97	7166.07	-763.44	-7126.84	40°24'26.286"N	104°26'16.989"W	0.29	
13892.00	89.570	264.240	6550.51	7260.04	-773.63	-7220.28	40°24'26.196"N	104°26'18.199"W	1.01	
13987.00	89.600	268.370	6551.20	7355.00	-779.75	-7315.06	40°24'26.147"N	104°26'19.425"W	4.35	
14081.00	89.660	269.670	6551.80	7448.77	-781.36	-7409.05	40°24'26.142"N	104°26'20.640"W	1.38	
14176.00	89.720	269.490	6552.32	7543.48	-782.06	-7504.04	40°24'26.147"N	104°26'21.868"W	0.20	



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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#23 WELLS RANCH STATE BB09-617(925'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH STATE BB09-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH STATE BB09-617 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (181 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14271.00	89.820	269.950	6552.70	7638.16	-782.52	-7599.04	40°24'26.153"N	104°26'23.096"W	0.50	
14365.00	89.660	269.270	6553.12	7731.87	-783.16	-7693.04	40°24'26.158"N	104°26'24.311"W	0.74	
14460.00	89.720	269.490	6553.64	7826.60	-784.19	-7788.03	40°24'26.159"N	104°26'25.539"W	0.24	
14555.00	89.690	269.270	6554.13	7921.33	-785.22	-7883.02	40°24'26.160"N	104°26'26.767"W	0.23	
14649.00	89.750	267.300	6554.59	8015.18	-788.03	-7976.97	40°24'26.144"N	104°26'27.982"W	2.10	
14744.00	89.600	267.600	6555.13	8110.09	-792.26	-8071.88	40°24'26.113"N	104°26'29.209"W	0.35	
14838.00	89.750	268.930	6555.66	8203.94	-795.10	-8165.83	40°24'26.096"N	104°26'30.424"W	1.42	
14933.00	89.970	267.990	6555.89	8298.78	-797.66	-8260.80	40°24'26.082"N	104°26'31.652"W	1.02	
15028.00	89.600	265.330	6556.25	8393.73	-803.19	-8355.63	40°24'26.038"N	104°26'32.878"W	2.83	
15122.00	89.750	265.510	6556.78	8487.73	-810.70	-8449.32	40°24'25.975"N	104°26'34.091"W	0.25	
15216.00	89.600	267.200	6557.31	8581.70	-816.67	-8543.13	40°24'25.927"N	104°26'35.304"W	1.80	
15311.00	89.540	268.490	6558.03	8676.58	-820.25	-8638.06	40°24'25.903"N	104°26'36.532"W	1.36	
15405.00	89.820	269.790	6558.55	8770.34	-821.66	-8732.04	40°24'25.900"N	104°26'37.747"W	1.41	
15500.00	89.630	270.960	6559.01	8864.93	-821.03	-8827.04	40°24'25.918"N	104°26'38.974"W	1.25	
15595.00	89.910	271.140	6559.39	8959.42	-819.29	-8922.02	40°24'25.946"N	104°26'40.202"W	0.35	
15689.00	89.940	270.490	6559.51	9052.95	-817.96	-9016.01	40°24'25.970"N	104°26'41.417"W	0.69	
15784.00	89.880	270.270	6559.66	9147.54	-817.33	-9111.01	40°24'25.988"N	104°26'42.644"W	0.24	
15878.00	89.910	269.130	6559.83	9241.23	-817.82	-9205.01	40°24'25.994"N	104°26'43.860"W	1.21	
15973.00	90.180	268.170	6559.76	9336.05	-820.06	-9299.98	40°24'25.983"N	104°26'45.087"W	1.05	
16068.00	90.180	266.950	6559.46	9430.95	-824.10	-9394.89	40°24'25.954"N	104°26'46.315"W	1.28	
16162.00	89.970	266.450	6559.34	9524.92	-829.51	-9488.73	40°24'25.912"N	104°26'47.529"W	0.58	
16257.00	90.180	266.970	6559.21	9619.88	-834.96	-9583.58	40°24'25.869"N	104°26'48.756"W	0.59	
16351.00	90.150	265.270	6558.94	9713.86	-841.32	-9677.36	40°24'25.817"N	104°26'49.969"W	1.81	
16446.00	90.180	262.620	6558.67	9808.83	-851.34	-9771.82	40°24'25.729"N	104°26'51.191"W	2.79	
16541.00	90.090	264.070	6558.45	9903.78	-862.35	-9866.18	40°24'25.631"N	104°26'52.413"W	1.53	
16635.00	90.250	266.480	6558.17	9997.78	-870.10	-9959.85	40°24'25.566"N	104°26'53.625"W	2.57	
16730.00	89.940	268.100	6558.01	10092.70	-874.59	-10054.74	40°24'25.533"N	104°26'54.852"W	1.74	
16825.00	90.120	270.070	6557.96	10187.46	-876.10	-10149.72	40°24'25.529"N	104°26'56.080"W	2.08	
16919.00	90.890	271.400	6557.13	10281.00	-874.90	-10243.71	40°24'25.552"N	104°26'57.294"W	1.63	
16975.00	92.150	272.050	6555.64	10336.60	-873.21	-10299.66	40°24'25.575"N	104°26'58.017"W	2.53	Last BHI MWD Survey



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION									
Operator	NOBLE ENERGY, INC					Slot	SLOT#23 WELLS RANCH STATE BB09-617(925'FSL&285'FWL,SEC.11)		
Area	COLORADO					Well	WELLS RANCH STATE BB09-617		
Field	WELD COUNTY (NOBLE NAD 83 GRID)					Wellbore	WELLS RANCH STATE BB09-617 AWB		
Facility	SEC.11-T05N-R63W								

WELLPATH DATA (181 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17000.00	92.150	272.050	6554.71	10361.40	-872.32	-10324.63	40°24'25.587"N	104°26'58.340"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: WELLS RANCH STATE BB09-617 AWB Ref Wellpath: WELLS RANCH STATE BB09-617 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]
13.5in Open Hole	30.00	1948.00	1918.00	30.00	1947.97	0.05	-0.01	7.06	0.25
9.625in Casing Surface	30.00	1948.00	1918.00	30.00	1947.97	0.05	-0.01	7.06	0.25
8.5in Open Hole	1948.00	17000.00	15052.00	1947.97	6554.71	7.06	0.25	-872.32	-10324.63

TARGETS									
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape	
WELLS RANCH BB09-665 SECTION 10-T05N-R63W	-9.00	3703.93	-115.05	3302735.95	1397458.34	40°25'09.588"N	104°24'45.648"W	polygon	
WELLS RANCH BB09-665 SECTION 9-T05N-R63W	-9.00	3703.93	-115.05	3302735.95	1397458.34	40°25'09.588"N	104°24'45.648"W	polygon	
WELLS RANCH STATE BB09-617 Landing Point	6530.00	-395.00	-241.00	3302610.00	1393359.58	40°24'29.102"N	104°24'47.926"W	point	
WELLS RANCH STATE BB09-617 REV-1 BHL (375'FSL&535'FWL,SEC.9)	6565.26	-890.00	-10330.00	3292521.42	1392864.60	40°24'25.413"N	104°26'58.412"W	point	



Actual Wellpath Report

WELLS RANCH STATE BB09-617 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#23 WELLS RANCH STATE BB09-617(925'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH STATE BB09-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH STATE BB09-617 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH COMPOSITION - Ref Wellbore: WELLS RANCH STATE BB09-617 AWB Ref Wellpath: WELLS RANCH STATE BB09-617 AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	1944.00	Gyrodatta standard - Drop gyro or Multi-shot	3rd Party Surface Gyros <84'-1944'>	WELLS RANCH STATE BB09-617 AWB
1944.00	16975.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BH/ATC 8.5" Hole OWSG, REV-2+IFR+MSA <1980'-16975'>	WELLS RANCH STATE BB09-617 AWB
16975.00	17000.00	Blind Drilling (std)	Projection to bit	WELLS RANCH STATE BB09-617 AWB



Actual Wellpath Report

WELLS RANCH STATE BB09-617 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#23 WELLS RANCH STATE BB09-617(925'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH STATE BB09-617
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH STATE BB09-617 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1944.00	0.420	86.490	1943.97	Tie to Surface
16975.00	92.150	272.050	6555.64	Last BHI MWD Survey
17000.00	92.150	272.050	6554.71	Projection to Bit