

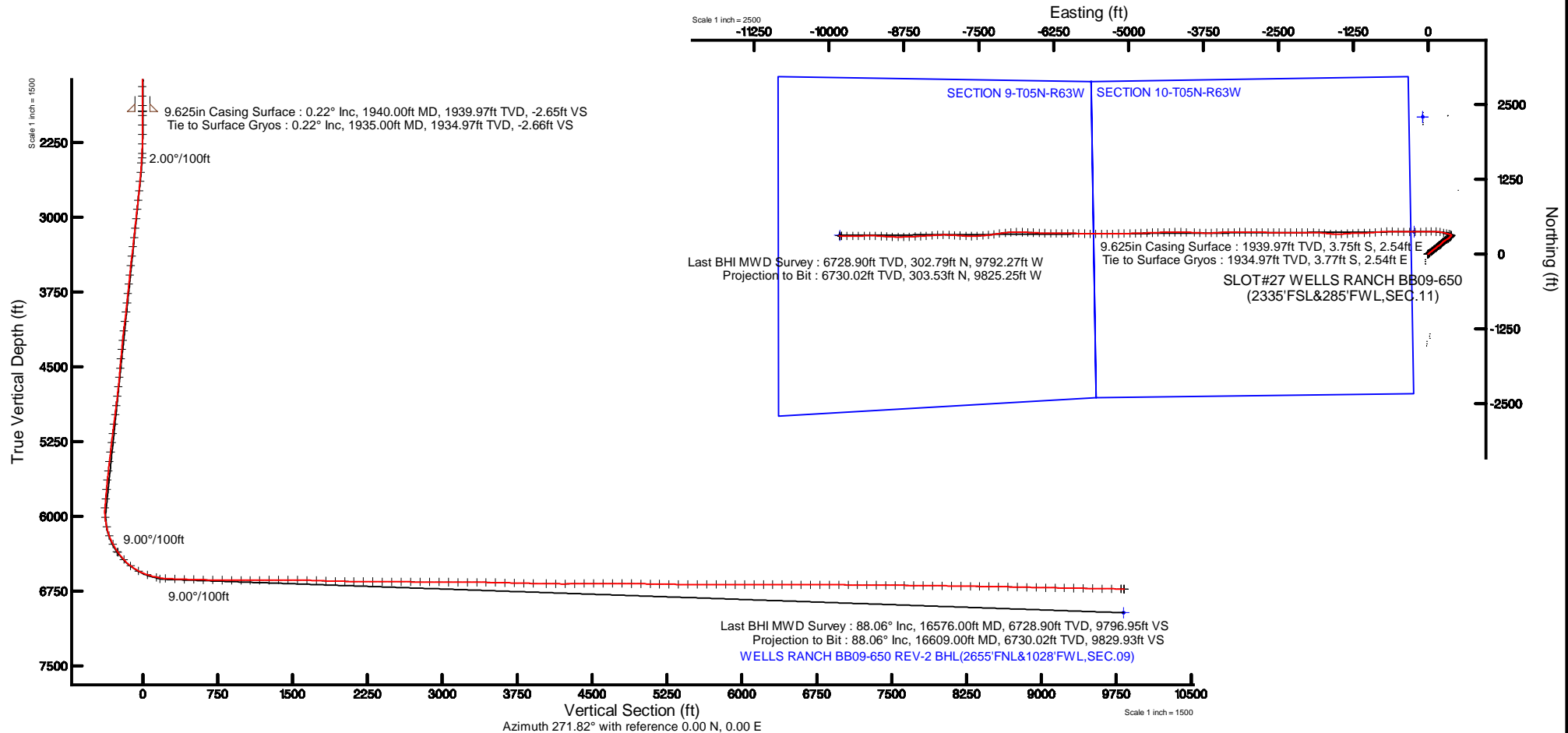
NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#27 WELLS RANCH BB09-650(2335'FSL&285'FWL,SEC.11)
 Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: WELLS RANCH BB09-650
 Facility: SEC.11-T05N-R63W Wellbore: WELLS RANCH BB09-650 FWR



Plot reference wellpath is: WELLS RANCH BB09-650 (R01-B-0) PWB	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (2011), US Feet
True vertical depths are referenced to RIG (2018) (R08)	" = Wellpath was transformed from a different geoidic datum
Measured depths are referenced to RIG (2018) (R08)	North Reference: Grid north
RIG (2018) (R08) to Mean Sea Level: 4700 feet	Scale: True distance
Mean Sea Level to Ground level (At Slot: SLOT#27 WELLS RANCH BB09-650(2335'FSL&285'FWL,SEC.11): 0 feet	Depth: are in feet
Coordinates are in feet referenced to Slot	Created by: gsmaker on 2018-09-25
	Database: WA_DEN_Denver_Data
Comments	
SURFACE LOCATION: NWSW	
40.41303N	
104.41246W	
API #: 05-123-44963	

Location Information					
Facility Name	Grid East (US Feet)	Grid North (US Feet)	Latitude	Longitude	
SEC.11-T05N-R63W	233500.450	180000.450	4734.91747N	104.2443287W	
Site	Locality (E)	Locality (N)	Grid East (US Feet)	Grid North (US Feet)	Latitude
SLOT#27 WELLS RANCH BB09-650(2335'FSL&285'FWL,SEC.11)	104.41	22.91	233500.454	180000.450	4734.91697N
RIG (2018) (R08) to Ground level (At Slot: SLOT#27 WELLS RANCH BB09-650(2335'FSL&285'FWL,SEC.11)					4700
Mean Sea Level to Ground level (At Slot: SLOT#27 WELLS RANCH BB09-650(2335'FSL&285'FWL,SEC.11)					0
RIG (2018) (R08) to Mean Sea Level					4700
Survey Program					
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
30.00	17153.06	CWSS MWD rev2	CWSS MWD rev2 + FFR1 + Multi-Station Correction		WELLS RANCH BB09-650 PWB





Actual Wellpath Report

WELLS RANCH BB09-650 AWP

Page 1 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#27 WELLS RANCH BB09-650(2335'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-650
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-650 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	9/25/2018 at 2:16:38 PM
Convergence at slot	0.71° East	Database/Source file	WA_DEN_Denver_Defn/WELLS_RANCH_BB09-650_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	1537.80	22.91	3302825.34	1395164.19	40°24'46.908"N	104°24'44.856"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	4700.00ft
Horizontal Reference Pt	Slot	RIG (30'KB) (RKB) to Mean Sea Level	4700.00ft
Vertical Reference Pt	RIG (30'KB) (RKB)	RIG (30'KB) (RKB) to Ground Level at Slot (SLOT#27 WELLS RANCH BB09-650 (2335'FSL&285'FWL,SEC.11))	4700.00ft
MD Reference Pt	RIG (30'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	271.82°



Actual Wellpath Report

WELLS RANCH BB09-650 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#27 WELLS RANCH BB09-650(2335'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-650
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-650 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (178 stations)											
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments	
0.00	0.000	351.630	0.00	0.00	0.00	0.00	40°24'46.908"N	104°24'44.856"W	0.00		
79.00	0.170	351.630	79.00	0.02	0.12	-0.02	40°24'46.909"N	104°24'44.856"W	0.22		
178.00	0.140	134.860	178.00	-0.04	0.18	0.05	40°24'46.910"N	104°24'44.855"W	0.30		
269.00	0.130	292.250	269.00	-0.03	0.14	0.03	40°24'46.909"N	104°24'44.856"W	0.29		
364.00	0.570	96.850	364.00	-0.40	0.12	0.40	40°24'46.909"N	104°24'44.851"W	0.73		
458.00	0.610	134.170	457.99	-1.23	-0.28	1.22	40°24'46.905"N	104°24'44.840"W	0.40		
553.00	0.620	156.680	552.99	-1.82	-1.11	1.79	40°24'46.897"N	104°24'44.833"W	0.25		
647.00	0.440	140.640	646.98	-2.28	-1.85	2.22	40°24'46.889"N	104°24'44.828"W	0.25		
742.00	0.170	150.000	741.98	-2.59	-2.26	2.52	40°24'46.885"N	104°24'44.824"W	0.29		
836.00	0.510	179.870	835.98	-2.68	-2.80	2.59	40°24'46.880"N	104°24'44.823"W	0.40		
931.00	0.380	172.210	930.98	-2.75	-3.53	2.64	40°24'46.873"N	104°24'44.822"W	0.15		
1025.00	0.350	197.680	1024.98	-2.72	-4.11	2.59	40°24'46.867"N	104°24'44.823"W	0.17		
1120.00	0.080	177.390	1119.98	-2.65	-4.46	2.51	40°24'46.864"N	104°24'44.824"W	0.29		
1214.00	0.070	313.310	1213.98	-2.61	-4.48	2.47	40°24'46.863"N	104°24'44.825"W	0.15		
1309.00	0.160	110.160	1308.98	-2.69	-4.49	2.55	40°24'46.863"N	104°24'44.824"W	0.24		
1403.00	0.230	84.950	1402.98	-3.00	-4.52	2.86	40°24'46.863"N	104°24'44.820"W	0.12		
1498.00	0.070	100.970	1497.97	-3.25	-4.51	3.11	40°24'46.863"N	104°24'44.817"W	0.17		
1592.00	0.030	302.980	1591.97	-3.28	-4.51	3.14	40°24'46.863"N	104°24'44.816"W	0.10		
1687.00	0.310	352.980	1686.97	-3.22	-4.24	3.09	40°24'46.866"N	104°24'44.817"W	0.31		
1781.00	0.100	283.510	1780.97	-3.10	-3.97	2.98	40°24'46.868"N	104°24'44.818"W	0.31		
1876.00	0.250	282.650	1875.97	-2.82	-3.90	2.70	40°24'46.869"N	104°24'44.822"W	0.16		
1935.00	0.220	343.970	1934.97	-2.66	-3.77	2.54	40°24'46.870"N	104°24'44.824"W	0.41	Tie to Surface Gryos	
1980.00	0.250	16.220	1979.97	-2.66	-3.59	2.54	40°24'46.872"N	104°24'44.824"W	0.30		
2074.00	0.040	127.930	2073.97	-2.73	-3.41	2.63	40°24'46.874"N	104°24'44.823"W	0.28		
2169.00	0.000	97.190	2168.97	-2.76	-3.43	2.65	40°24'46.874"N	104°24'44.822"W	0.04		
2263.00	1.830	39.520	2262.96	-3.68	-2.28	3.61	40°24'46.885"N	104°24'44.810"W	1.95		
2358.00	4.170	42.580	2357.82	-6.86	1.44	6.91	40°24'46.921"N	104°24'44.766"W	2.47		
2453.00	6.240	46.760	2452.42	-12.76	7.52	13.01	40°24'46.981"N	104°24'44.687"W	2.21		
2547.00	6.480	44.350	2545.84	-19.96	14.81	20.44	40°24'47.052"N	104°24'44.589"W	0.38		
2642.00	6.840	44.490	2640.20	-27.42	22.68	28.15	40°24'47.129"N	104°24'44.488"W	0.38		



Actual Wellpath Report
WELLS RANCH BB09-650 AWP
Page 3 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#27 WELLS RANCH BB09-650(2335'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-650
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-650 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (178 stations)											
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments	
2736.00	7.700	52.510	2733.45	-36.08	30.51	37.07	40°24'47.205"N	104°24'44.372"W	1.41		
2831.00	7.840	54.710	2827.58	-46.17	38.12	47.41	40°24'47.279"N	104°24'44.237"W	0.35		
2925.00	8.270	50.610	2920.65	-56.37	46.12	57.87	40°24'47.357"N	104°24'44.101"W	0.76		
3020.00	8.260	50.150	3014.66	-66.61	54.83	68.39	40°24'47.441"N	104°24'43.963"W	0.07		
3114.00	8.250	47.350	3107.69	-76.46	63.72	78.53	40°24'47.528"N	104°24'43.831"W	0.43		
3209.00	8.210	53.230	3201.71	-86.63	72.40	88.98	40°24'47.613"N	104°24'43.694"W	0.89		
3304.00	8.240	61.300	3295.74	-97.80	79.73	100.38	40°24'47.684"N	104°24'43.546"W	1.21		
3398.00	7.920	54.710	3388.81	-108.76	86.71	111.58	40°24'47.751"N	104°24'43.400"W	1.04		
3492.00	7.940	53.790	3481.91	-119.04	94.28	122.10	40°24'47.825"N	104°24'43.263"W	0.14		
3587.00	7.960	50.520	3576.00	-129.15	102.34	132.47	40°24'47.903"N	104°24'43.127"W	0.48		
3682.00	7.950	46.030	3670.08	-138.67	111.09	142.28	40°24'47.988"N	104°24'42.999"W	0.65		
3776.00	7.940	45.630	3763.18	-147.70	120.14	151.60	40°24'48.077"N	104°24'42.877"W	0.06		
3871.00	8.010	51.330	3857.26	-157.28	128.86	161.46	40°24'48.162"N	104°24'42.748"W	0.84		
3965.00	7.920	57.270	3950.36	-167.59	136.46	172.02	40°24'48.235"N	104°24'42.611"W	0.88		
4060.00	7.950	62.290	4044.45	-178.70	143.05	183.34	40°24'48.299"N	104°24'42.463"W	0.73		
4155.00	7.920	62.000	4138.54	-190.09	149.18	194.94	40°24'48.358"N	104°24'42.312"W	0.05		
4250.00	8.120	49.220	4232.62	-200.71	156.63	205.80	40°24'48.431"N	104°24'42.171"W	1.88		
4344.00	7.980	40.670	4325.70	-209.69	165.92	215.08	40°24'48.521"N	104°24'42.049"W	1.28		
4439.00	7.940	40.650	4419.78	-217.94	175.90	223.65	40°24'48.619"N	104°24'41.937"W	0.04		
4533.00	8.040	39.930	4512.87	-226.07	185.87	232.10	40°24'48.716"N	104°24'41.826"W	0.15		
4627.00	7.960	42.020	4605.95	-234.33	195.74	240.67	40°24'48.813"N	104°24'41.714"W	0.32		
4722.00	7.950	50.270	4700.04	-243.49	204.83	250.13	40°24'48.902"N	104°24'41.590"W	1.20		
4817.00	8.230	54.610	4794.10	-253.82	212.96	260.72	40°24'48.981"N	104°24'41.452"W	0.71		
4911.00	8.590	54.340	4887.09	-264.75	220.95	271.91	40°24'49.058"N	104°24'41.306"W	0.39		
5006.00	8.320	56.930	4981.05	-276.02	228.84	283.44	40°24'49.135"N	104°24'41.156"W	0.49		
5100.00	8.540	60.720	5074.04	-287.57	235.97	295.22	40°24'49.204"N	104°24'41.002"W	0.64		
5195.00	8.550	62.300	5167.99	-299.76	242.70	307.63	40°24'49.269"N	104°24'40.841"W	0.25		
5289.00	8.030	58.450	5261.00	-311.32	249.38	319.41	40°24'49.333"N	104°24'40.687"W	0.81		
5384.00	8.010	56.760	5355.07	-322.28	256.48	330.60	40°24'49.402"N	104°24'40.542"W	0.25		
5478.00	8.040	55.610	5448.15	-332.94	263.78	341.50	40°24'49.473"N	104°24'40.400"W	0.17		



Actual Wellpath Report

WELLS RANCH BB09-650 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#27 WELLS RANCH BB09-650(2335'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-650
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-650 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (178 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5573.00	8.110	52.790	5542.21	-343.51	271.59	352.32	40°24'49.549"N	104°24'40.258"W	0.42	
5667.00	8.010	47.080	5635.29	-353.31	280.06	362.40	40°24'49.631"N	104°24'40.127"W	0.86	
5762.00	8.090	41.430	5729.35	-362.27	289.58	371.67	40°24'49.724"N	104°24'40.005"W	0.84	
5856.00	8.000	37.020	5822.43	-370.26	299.76	379.99	40°24'49.824"N	104°24'39.896"W	0.66	
5951.00	8.070	40.390	5916.49	-378.23	310.12	388.29	40°24'49.925"N	104°24'39.787"W	0.50	
6045.00	8.820	308.980	6009.82	-376.59	319.71	386.96	40°24'50.020"N	104°24'39.803"W	12.85	
6140.00	11.920	285.280	6103.30	-361.24	326.88	371.82	40°24'50.093"N	104°24'39.998"W	5.49	
6234.00	20.400	284.120	6193.50	-335.74	333.45	346.52	40°24'50.161"N	104°24'40.324"W	9.03	
6328.00	28.220	286.180	6279.10	-298.14	343.66	309.23	40°24'50.266"N	104°24'40.804"W	8.37	
6423.00	35.990	284.190	6359.51	-249.04	356.78	260.52	40°24'50.402"N	104°24'41.432"W	8.25	
6518.00	42.660	278.250	6432.99	-189.70	368.26	201.52	40°24'50.522"N	104°24'42.193"W	8.06	
6612.00	52.550	272.250	6496.32	-120.54	374.31	132.51	40°24'50.590"N	104°24'43.084"W	11.52	
6706.00	61.440	269.810	6547.48	-41.80	375.64	53.78	40°24'50.613"N	104°24'44.101"W	9.70	
6801.00	71.290	269.110	6585.52	45.04	374.80	-33.14	40°24'50.615"N	104°24'45.225"W	10.39	
6895.00	78.160	269.100	6610.27	135.57	373.38	-123.76	40°24'50.612"N	104°24'46.397"W	7.31	
6990.00	86.090	269.290	6623.27	229.50	372.07	-217.78	40°24'50.611"N	104°24'47.612"W	8.35	
7084.00	88.030	269.720	6628.09	323.29	371.25	-311.64	40°24'50.614"N	104°24'48.826"W	2.11	
7179.00	87.870	270.260	6631.49	418.18	371.24	-406.58	40°24'50.625"N	104°24'50.053"W	0.59	
7274.00	88.680	271.590	6634.35	513.13	372.77	-501.52	40°24'50.652"N	104°24'51.280"W	1.64	
7369.00	88.550	271.470	6636.65	608.10	375.31	-596.46	40°24'50.689"N	104°24'52.507"W	0.19	
7463.00	89.230	268.960	6638.47	702.03	375.66	-690.44	40°24'50.703"N	104°24'53.722"W	2.77	
7558.00	88.950	265.530	6639.98	796.70	371.09	-785.30	40°24'50.670"N	104°24'54.949"W	3.62	
7652.00	89.630	264.780	6641.14	890.06	363.16	-878.96	40°24'50.603"N	104°24'56.161"W	1.08	
7747.00	89.970	266.590	6641.47	984.51	356.01	-973.68	40°24'50.543"N	104°24'57.386"W	1.94	
7841.00	90.520	268.650	6641.07	1078.25	352.11	-1067.59	40°24'50.516"N	104°24'58.601"W	2.27	
7936.00	90.430	268.900	6640.28	1173.11	350.07	-1162.57	40°24'50.508"N	104°24'59.829"W	0.28	
8031.00	90.520	267.270	6639.50	1267.91	346.90	-1257.51	40°24'50.488"N	104°25'01.057"W	1.72	
8125.00	90.800	265.570	6638.41	1361.48	341.03	-1351.32	40°24'50.441"N	104°25'02.271"W	1.83	
8220.00	89.570	266.530	6638.11	1455.99	334.49	-1446.09	40°24'50.388"N	104°25'03.497"W	1.64	
8315.00	89.010	270.870	6639.28	1550.82	332.33	-1541.03	40°24'50.378"N	104°25'04.724"W	4.61	



Actual Wellpath Report
WELLS RANCH BB09-650 AWP
Page 5 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#27 WELLS RANCH BB09-650(2335'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-650
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-650 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (178 stations)												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude		Longitude		DLS [°/100ft]	Comments
8409.00	88.650	275.890	6641.21	1644.74	337.87	-1634.82	40°24'50.444"N		104°25'05.936"W		5.35	
8503.00	88.000	277.010	6643.95	1738.39	348.43	-1728.18	40°24'50.560"N		104°25'07.141"W		1.38	
8598.00	87.940	273.080	6647.32	1833.16	356.77	-1822.74	40°24'50.653"N		104°25'08.362"W		4.13	
8692.00	88.580	270.180	6650.17	1927.11	359.45	-1916.64	40°24'50.691"N		104°25'09.576"W		3.16	
8787.00	89.010	269.430	6652.17	2022.03	359.12	-2011.62	40°24'50.699"N		104°25'10.803"W		0.91	
8881.00	89.600	269.870	6653.31	2115.95	358.55	-2105.61	40°24'50.705"N		104°25'12.019"W		0.78	
8976.00	89.510	270.120	6654.05	2210.90	358.54	-2200.61	40°24'50.716"N		104°25'13.247"W		0.28	
9071.00	89.540	269.710	6654.84	2305.84	358.40	-2295.61	40°24'50.726"N		104°25'14.475"W		0.43	
9165.00	89.630	270.100	6655.52	2399.79	358.24	-2389.60	40°24'50.736"N		104°25'15.690"W		0.43	
9260.00	89.660	270.980	6656.11	2494.76	359.14	-2484.60	40°24'50.756"N		104°25'16.918"W		0.93	
9354.00	89.630	270.980	6656.69	2588.75	360.75	-2578.58	40°24'50.784"N		104°25'18.132"W		0.03	
9449.00	89.690	270.240	6657.25	2683.73	361.76	-2673.57	40°24'50.805"N		104°25'19.360"W		0.78	
9544.00	89.690	270.320	6657.77	2778.69	362.22	-2768.57	40°24'50.821"N		104°25'20.588"W		0.08	
9638.00	89.780	270.710	6658.20	2872.66	363.07	-2862.57	40°24'50.841"N		104°25'21.803"W		0.43	
9733.00	89.570	271.090	6658.74	2967.65	364.56	-2957.55	40°24'50.867"N		104°25'23.031"W		0.46	
9827.00	89.510	270.460	6659.50	3061.63	365.83	-3051.54	40°24'50.891"N		104°25'24.246"W		0.67	
9921.00	89.540	269.400	6660.27	3155.58	365.71	-3145.54	40°24'50.901"N		104°25'25.461"W		1.13	
10016.00	89.630	270.100	6660.96	3250.51	365.30	-3240.53	40°24'50.908"N		104°25'26.689"W		0.74	
10111.00	89.600	269.380	6661.60	3345.44	364.87	-3335.53	40°24'50.915"N		104°25'27.917"W		0.76	
10205.00	89.660	267.740	6662.21	3439.29	362.51	-3429.49	40°24'50.903"N		104°25'29.132"W		1.75	
10300.00	89.080	265.940	6663.25	3533.92	357.27	-3524.34	40°24'50.863"N		104°25'30.359"W		1.99	
10395.00	88.180	268.740	6665.52	3628.59	352.86	-3619.20	40°24'50.831"N		104°25'31.586"W		3.10	
10489.00	88.550	270.680	6668.21	3722.48	352.39	-3713.15	40°24'50.837"N		104°25'32.800"W		2.10	
10584.00	88.490	272.230	6670.66	3817.45	354.80	-3808.09	40°24'50.872"N		104°25'34.027"W		1.63	
10678.00	89.020	272.990	6672.70	3911.41	359.08	-3901.97	40°24'50.926"N		104°25'35.240"W		0.99	
10810.00	88.980	271.630	6675.01	4043.39	364.40	-4033.84	40°24'50.994"N		104°25'36.944"W		1.03	
10905.00	88.890	270.320	6676.77	4138.36	366.01	-4128.81	40°24'51.022"N		104°25'38.171"W		1.38	
10999.00	90.490	269.570	6677.28	4232.30	365.92	-4222.80	40°24'51.032"N		104°25'39.387"W		1.88	
11094.00	91.080	269.260	6675.98	4327.21	364.95	-4317.79	40°24'51.034"N		104°25'40.615"W		0.70	
11189.00	90.890	268.740	6674.35	4422.08	363.30	-4412.76	40°24'51.029"N		104°25'41.843"W		0.58	



Actual Wellpath Report
WELLS RANCH BB09-650 AWP
Page 6 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#27 WELLS RANCH BB09-650(2335'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-650
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-650 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (178 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11283.00	90.280	268.080	6673.39	4515.91	360.69	-4506.72	40°24'51.014"N	104°25'43.058"W	0.96	
11378.00	90.370	267.970	6672.85	4610.70	357.41	-4601.66	40°24'50.993"N	104°25'44.285"W	0.15	
11473.00	89.750	267.320	6672.75	4705.44	353.51	-4696.58	40°24'50.966"N	104°25'45.513"W	0.95	
11567.00	89.570	267.450	6673.31	4799.16	349.22	-4790.48	40°24'50.935"N	104°25'46.728"W	0.24	
11662.00	88.950	269.150	6674.53	4893.97	346.40	-4885.42	40°24'50.918"N	104°25'47.955"W	1.90	
11756.00	88.860	268.450	6676.33	4987.82	344.44	-4979.38	40°24'50.910"N	104°25'49.170"W	0.75	
11851.00	88.980	269.080	6678.12	5082.67	342.39	-5074.35	40°24'50.901"N	104°25'50.398"W	0.67	
11945.00	89.050	268.640	6679.74	5176.53	340.52	-5168.31	40°24'50.894"N	104°25'51.613"W	0.47	
12040.00	89.010	268.730	6681.34	5271.37	338.34	-5263.27	40°24'50.883"N	104°25'52.841"W	0.10	
12134.00	89.570	269.880	6682.51	5365.27	337.20	-5357.26	40°24'50.883"N	104°25'54.056"W	1.36	
12229.00	89.660	270.680	6683.15	5460.23	337.66	-5452.25	40°24'50.899"N	104°25'55.284"W	0.85	
12323.00	89.750	270.970	6683.63	5554.22	339.02	-5546.24	40°24'50.924"N	104°25'56.499"W	0.32	
12418.00	89.750	270.330	6684.05	5649.20	340.09	-5641.24	40°24'50.946"N	104°25'57.727"W	0.67	
12512.00	89.880	271.110	6684.35	5743.18	341.28	-5735.23	40°24'50.969"N	104°25'58.942"W	0.84	
12607.00	90.060	271.780	6684.40	5838.18	343.67	-5830.20	40°24'51.004"N	104°26'00.169"W	0.73	
12701.00	89.850	271.100	6684.47	5932.17	346.03	-5924.17	40°24'51.038"N	104°26'01.383"W	0.76	
12796.00	89.850	270.620	6684.72	6027.16	347.46	-6019.15	40°24'51.063"N	104°26'02.611"W	0.51	
12890.00	89.850	269.840	6684.97	6121.12	347.84	-6113.15	40°24'51.078"N	104°26'03.826"W	0.83	
12985.00	90.150	269.930	6684.97	6216.07	347.65	-6208.15	40°24'51.088"N	104°26'05.054"W	0.33	
13079.00	89.970	269.980	6684.87	6310.02	347.57	-6302.15	40°24'51.098"N	104°26'06.270"W	0.20	
13174.00	89.820	271.690	6685.04	6405.00	348.96	-6397.14	40°24'51.123"N	104°26'07.497"W	1.81	
13268.00	89.910	273.200	6685.27	6498.99	352.97	-6491.05	40°24'51.174"N	104°26'08.711"W	1.61	
13363.00	89.880	272.970	6685.44	6593.97	358.08	-6585.91	40°24'51.236"N	104°26'09.936"W	0.24	
13457.00	89.880	272.410	6685.64	6687.96	362.49	-6679.81	40°24'51.290"N	104°26'11.149"W	0.60	
13552.00	89.780	272.180	6685.92	6782.95	366.30	-6774.73	40°24'51.339"N	104°26'12.376"W	0.26	
13647.00	89.540	269.430	6686.48	6877.93	367.63	-6869.71	40°24'51.364"N	104°26'13.603"W	2.91	
13741.00	89.820	266.760	6687.01	6971.72	364.51	-6963.65	40°24'51.344"N	104°26'14.818"W	2.86	
13836.00	89.630	263.690	6687.46	7066.08	356.60	-7058.31	40°24'51.277"N	104°26'16.043"W	3.24	
13930.00	89.660	261.720	6688.05	7158.88	344.66	-7151.54	40°24'51.170"N	104°26'17.250"W	2.10	
14025.00	89.380	260.860	6688.84	7252.28	330.28	-7245.44	40°24'51.039"N	104°26'18.466"W	0.95	



Actual Wellpath Report

WELLS RANCH BB09-650 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#27 WELLS RANCH BB09-650(2335'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-650
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-650 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (178 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14120.00	89.630	263.650	6689.66	7345.94	317.48	-7339.56	40°24'50.924"N	104°26'19.685"W	2.95	
14214.00	89.540	265.380	6690.34	7439.17	308.49	-7433.12	40°24'50.846"N	104°26'20.896"W	1.84	
14309.00	89.450	266.830	6691.18	7533.70	302.04	-7527.90	40°24'50.793"N	104°26'22.122"W	1.53	
14403.00	89.290	269.580	6692.21	7627.49	299.10	-7621.84	40°24'50.775"N	104°26'23.337"W	2.93	
14498.00	89.170	273.230	6693.49	7722.47	301.42	-7716.78	40°24'50.810"N	104°26'24.564"W	3.84	
14592.00	89.630	274.240	6694.48	7816.41	307.55	-7810.58	40°24'50.881"N	104°26'25.775"W	1.18	
14687.00	89.450	274.130	6695.24	7911.32	314.48	-7905.32	40°24'50.961"N	104°26'26.999"W	0.22	
14781.00	89.170	271.870	6696.37	8005.29	319.40	-7999.18	40°24'51.021"N	104°26'28.212"W	2.42	
14876.00	88.890	269.360	6697.98	8100.25	320.42	-8094.15	40°24'51.042"N	104°26'29.439"W	2.66	
14970.00	89.230	266.200	6699.52	8193.99	316.78	-8188.06	40°24'51.017"N	104°26'30.654"W	3.38	
15064.00	89.050	266.000	6700.93	8287.51	310.39	-8281.83	40°24'50.965"N	104°26'31.867"W	0.29	
15159.00	89.170	266.780	6702.41	8382.07	304.40	-8376.63	40°24'50.917"N	104°26'33.093"W	0.83	
15253.00	89.110	266.630	6703.82	8475.69	299.00	-8470.46	40°24'50.875"N	104°26'34.307"W	0.17	
15348.00	88.950	266.750	6705.43	8570.29	293.52	-8565.29	40°24'50.832"N	104°26'35.534"W	0.21	
15443.00	88.890	268.060	6707.22	8664.99	289.22	-8660.17	40°24'50.800"N	104°26'36.761"W	1.38	
15537.00	88.490	269.070	6709.37	8758.81	286.86	-8754.12	40°24'50.788"N	104°26'37.976"W	1.16	
15631.00	88.770	269.970	6711.61	8852.71	286.08	-8848.09	40°24'50.791"N	104°26'39.191"W	1.00	
15726.00	89.050	272.070	6713.42	8947.68	287.77	-8943.05	40°24'50.819"N	104°26'40.418"W	2.23	
15820.00	88.830	274.140	6715.16	9041.63	292.86	-9036.89	40°24'50.881"N	104°26'41.630"W	2.21	
15915.00	89.010	273.920	6716.95	9136.54	299.53	-9131.64	40°24'50.958"N	104°26'42.854"W	0.30	
16009.00	89.140	272.450	6718.47	9230.50	304.76	-9225.48	40°24'51.020"N	104°26'44.066"W	1.57	
16104.00	89.170	269.530	6719.87	9325.47	306.40	-9320.44	40°24'51.048"N	104°26'45.294"W	3.07	
16198.00	88.060	267.780	6722.14	9419.30	304.19	-9414.38	40°24'51.037"N	104°26'46.509"W	2.20	
16293.00	89.380	269.490	6724.27	9514.12	301.93	-9509.33	40°24'51.026"N	104°26'47.736"W	2.27	
16387.00	89.380	270.000	6725.28	9608.05	301.51	-9603.32	40°24'51.033"N	104°26'48.951"W	0.54	
16482.00	89.080	270.140	6726.56	9703.00	301.63	-9698.31	40°24'51.045"N	104°26'50.179"W	0.35	
16576.00	88.060	271.280	6728.90	9796.95	302.79	-9792.27	40°24'51.067"N	104°26'51.394"W	1.63	Last BHI MWD Survey
16609.00	88.060	271.280	6730.02	9829.93	303.53	-9825.25	40°24'51.079"N	104°26'51.820"W	0.00	Projection to Bit



Actual Wellpath Report

WELLS RANCH BB09-650 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#27 WELLS RANCH BB09-650(2335'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-650
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-650 AWB
Facility	SEC.11-T05N-R63W		

HOLE & CASING SECTIONS - Ref Wellbore: WELLS RANCH BB09-650 AWB Ref Wellpath: WELLS RANCH BB09-650 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	1940.00	1910.00	30.00	1939.97	0.02	0.00	-3.75	2.54
9.625in Casing Surface	30.00	1940.00	1910.00	30.00	1939.97	0.02	0.00	-3.75	2.54
8.5in Open Hole	1940.00	16609.00	14669.00	1939.97	6730.02	-3.75	2.54	303.53	-9825.25

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	-15.00	2294.25	-89.40	3302735.95	1397458.34	40°25'09.588"N	104°24'45.648"W	polygon
WELLS RANCH BB09-665 SECTION 9-T05N-R63W	-15.00	2294.25	-89.40	3302735.95	1397458.34	40°25'09.588"N	104°24'45.648"W	polygon
WELLS RANCH BB09-650 Landing Point	6632.31	372.92	-234.10	3302591.25	1395537.09	40°24'50.621"N	104°24'47.823"W	point
WELLS RANCH BB09-650 REV-2 BHL(2655'FNL&1028'FWL,SEC.09)	6966.92	312.37	-9817.34	3293008.41	1395476.55	40°24'51.165"N	104°26'51.716"W	point
WELLS RANCH BB09-650 BHL FROM PLAN	6983.31	309.82	-10310.29	3292515.48	1395474.00	40°24'51.198"N	104°26'58.089"W	point
WELLS RANCH BB09-650 REV-1 BHL(2655'FNL&535'FWL,SEC.09)	6984.14	309.26	-10310.50	3292515.27	1395473.43	40°24'51.192"N	104°26'58.092"W	point

WELLPATH COMPOSITION - Ref Wellbore: WELLS RANCH BB09-650 AWB Ref Wellpath: WELLS RANCH BB09-650 AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	1935.00	Gyrodata standard - Drop gyro or Multi-shot	3rd Party Surface Gyros <79'-1935'>	WELLS RANCH BB09-650 AWB
1935.00	16576.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BHGE 8.5" Monobore with ATCurve OWSG MWD+IFR+MSA <1980'-16576'>	WELLS RANCH BB09-650 AWB
16576.00	16609.00	Blind Drilling (std)	Projection to bit	WELLS RANCH BB09-650 AWB



Actual Wellpath Report

WELLS RANCH BB09-650 AWP

Page 9 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#27 WELLS RANCH BB09-650(2335'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-650
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-650 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1935.00	0.220	343.970	1934.97	Tie to Surface Gryos
16576.00	88.060	271.280	6728.90	Last BHI MWD Survey
16609.00	88.060	271.280	6730.02	Projection to Bit

COMMENTS
<div>Wellpath general comments</div> <div>SURFACE LOCATION: NWSW</div> <div>40.41303N</div> <div>104.41246W</div> <div>API #: 05-123-44963</div>