

NOBLE ENERGY, INC

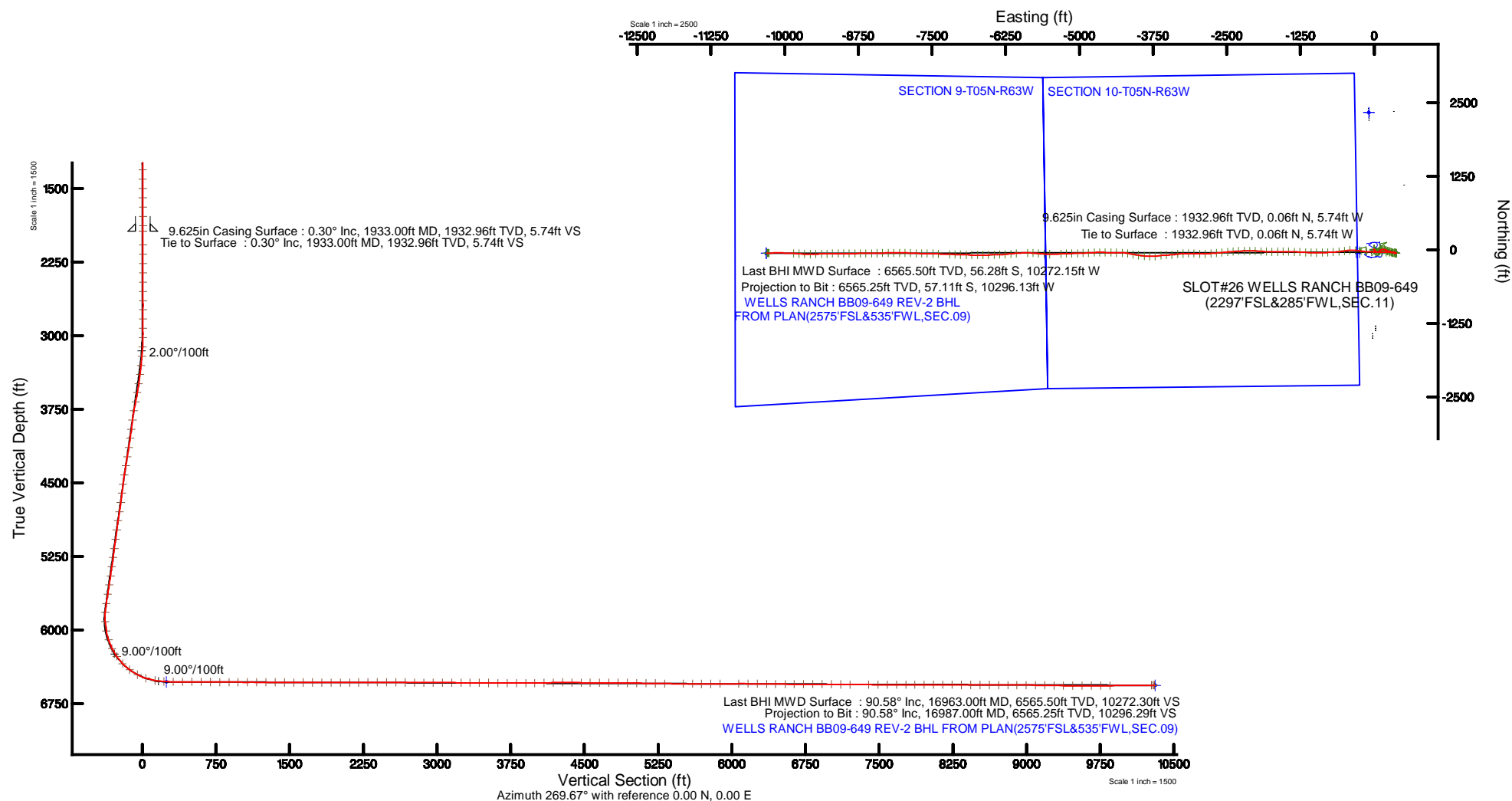
Location: COLORADO Slot: SLOT#26 WELLS RANCH BB09-649(2297'FSL&285'FWL,SEC.11)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: WELLS RANCH BB09-649
Facility: SEC.11-T05N-R63W Wellbore: WELLS RANCH BB09-649 PWB



Plot reference wellbore is WELLS RANCH BB09-649 (REV-2) PWB	Grid System: NAD83 / Lambert Conformal Conic, Northern Zone (2011), US Feet
This vertical depth is referenced to RIG (2078) (RWB)	" = Wellpath was transformed from a different geoid datum
Measured depth is referenced to RIG (2078) (RWB)	North Reference: Grid north
RIG (2078) (RWB) to Mean Sea Level: 4700 feet	Scale: True distance
Mean Sea Level to Ground level (JA Slot: SLOT#26 WELLS RANCH BB09-649(2297'FSL&285'FWL,SEC.11): 0 feet	Depth are in feet
Coordinates are in feet referenced to Slot	Created by: generator on 2018-09-20
	Database: WA_DEN_Devel_Data
Comments	
SURFACE LOCATION: NW/4	
40.41293N	
104.41293W	
API #: 05-123-44958	

Location Information					
Facility Name	Grid East (U.S.S)		Grid North (U.S.S)		Longitude
SEC 11 T05N R63W	1000000.400		1000000.400		40.4129371776
Site	Local N (2)	Local E (2)	Grid East (U.S.S)		Latitude
SLOT#26 WELLS RANCH BB09-649(2297'FSL&285'FWL,SEC.11)	1000.00	20.00	1000000.700		40.4129371776
RIG (2078) (RWB) to Ground level (JA Slot: SLOT#26 WELLS RANCH BB09-649(2297'FSL&285'FWL,SEC.11)			4700		
Mean Sea Level to Ground level (JA Slot: SLOT#26 WELLS RANCH BB09-649(2297'FSL&285'FWL,SEC.11)			0		
RIG (2078) (RWB) to Mean Sea Level			4700		

Survey Program					
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
30.00	16980.55	OWSS MWD rev2	OWSS MWD rev2 + IFR + Multi-Station Correction		WELLS RANCH BB09-649 PWB





Actual Wellpath Report

WELLS RANCH BB09-649 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#26 WELLS RANCH BB09-649(2297'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-649
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-649 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 2:05:51 PM
Convergence at slot	0.71° East	Database/Source file	WA_DEN_Denver_Defn/WELLS_RANCH_BB09-649_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	1501.37	23.36	3302825.79	1395127.76	40°24'46.548"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#26 WELLS RANCH BB09-649 (2297'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	269.67°



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WELLS RANCH BB09-649 AWP
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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-649 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (175 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	114.410	0.00	0.00	0.00	0.00	40°24'46.548"N	104°24'44.856"W	0.00	
79.00	0.170	114.410	79.00	-0.11	-0.05	0.11	40°24'46.548"N	104°24'44.855"W	0.22	
178.00	0.140	97.670	178.00	-0.36	-0.13	0.36	40°24'46.547"N	104°24'44.851"W	0.05	
269.00	0.390	55.000	269.00	-0.72	0.04	0.72	40°24'46.548"N	104°24'44.847"W	0.33	
364.00	0.320	71.600	364.00	-1.24	0.31	1.24	40°24'46.551"N	104°24'44.840"W	0.13	
459.00	0.130	288.810	459.00	-1.39	0.43	1.39	40°24'46.552"N	104°24'44.838"W	0.45	
553.00	0.160	216.290	553.00	-1.21	0.35	1.21	40°24'46.551"N	104°24'44.840"W	0.18	
648.00	0.300	198.540	648.00	-1.05	0.01	1.05	40°24'46.548"N	104°24'44.842"W	0.16	
742.00	0.360	223.730	741.99	-0.77	-0.44	0.77	40°24'46.544"N	104°24'44.846"W	0.17	
837.00	0.720	251.560	836.99	0.01	-0.84	0.00	40°24'46.540"N	104°24'44.856"W	0.46	
931.00	0.600	234.770	930.98	0.97	-1.31	-0.96	40°24'46.535"N	104°24'44.869"W	0.24	
1026.00	0.530	263.720	1025.98	1.82	-1.65	-1.81	40°24'46.532"N	104°24'44.880"W	0.31	
1120.00	0.330	269.290	1119.98	2.52	-1.70	-2.51	40°24'46.532"N	104°24'44.889"W	0.22	
1215.00	0.320	262.360	1214.97	3.06	-1.74	-3.05	40°24'46.531"N	104°24'44.896"W	0.04	
1309.00	0.350	263.910	1308.97	3.60	-1.80	-3.59	40°24'46.531"N	104°24'44.903"W	0.03	
1404.00	0.380	276.890	1403.97	4.20	-1.79	-4.19	40°24'46.531"N	104°24'44.910"W	0.09	
1498.00	0.380	271.870	1497.97	4.82	-1.75	-4.81	40°24'46.531"N	104°24'44.918"W	0.04	
1593.00	0.270	324.990	1592.97	5.27	-1.55	-5.26	40°24'46.533"N	104°24'44.924"W	0.32	
1687.00	0.380	337.650	1686.97	5.51	-1.08	-5.50	40°24'46.538"N	104°24'44.927"W	0.14	
1782.00	0.310	337.570	1781.96	5.72	-0.55	-5.72	40°24'46.543"N	104°24'44.930"W	0.07	
1877.00	0.180	7.250	1876.96	5.80	-0.17	-5.80	40°24'46.547"N	104°24'44.931"W	0.19	
1933.00	0.300	19.090	1932.96	5.74	0.06	-5.74	40°24'46.549"N	104°24'44.930"W	0.23	Tie to Surface
2074.00	0.430	234.750	2073.96	6.05	0.10	-6.05	40°24'46.550"N	104°24'44.934"W	0.49	
2169.00	0.710	348.720	2168.96	6.45	0.47	-6.46	40°24'46.553"N	104°24'44.939"W	1.02	
2263.00	0.590	94.860	2262.96	6.08	1.00	-6.09	40°24'46.559"N	104°24'44.935"W	1.11	
2358.00	1.140	288.630	2357.95	6.49	1.26	-6.50	40°24'46.561"N	104°24'44.940"W	1.81	
2453.00	1.170	166.290	2452.94	7.16	0.62	-7.16	40°24'46.555"N	104°24'44.949"W	2.13	
2547.00	1.100	18.080	2546.93	6.65	0.55	-6.66	40°24'46.554"N	104°24'44.942"W	2.32	
2642.00	1.120	262.110	2641.93	7.28	1.29	-7.29	40°24'46.562"N	104°24'44.950"W	1.98	
2736.00	1.190	75.440	2735.92	7.25	1.41	-7.26	40°24'46.563"N	104°24'44.950"W	2.45	



Actual Wellpath Report

WELLS RANCH BB09-649 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#26 WELLS RANCH BB09-649(2297'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-649
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-649 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (175 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2831.00	1.950	2.990	2830.89	6.20	3.27	-6.22	40°24'46.581"N	104°24'44.936"W	2.06	
2925.00	1.230	285.110	2924.86	7.08	5.13	-7.11	40°24'46.600"N	104°24'44.947"W	2.21	
3020.00	2.010	150.300	3019.84	7.25	3.95	-7.27	40°24'46.588"N	104°24'44.949"W	3.16	
3114.00	4.620	131.780	3113.68	3.63	-0.01	-3.63	40°24'46.548"N	104°24'44.903"W	2.97	
3209.00	6.250	128.930	3208.25	-3.21	-5.81	3.25	40°24'46.490"N	104°24'44.815"W	1.74	
3304.00	9.330	137.380	3302.37	-12.40	-14.72	12.49	40°24'46.401"N	104°24'44.697"W	3.45	
3398.00	9.270	132.970	3395.13	-23.04	-25.49	23.19	40°24'46.293"N	104°24'44.560"W	0.76	
3492.00	9.360	118.050	3487.91	-35.27	-34.25	35.48	40°24'46.205"N	104°24'44.403"W	2.56	
3587.00	10.270	97.400	3581.54	-50.47	-38.97	50.70	40°24'46.157"N	104°24'44.207"W	3.80	
3682.00	11.290	76.790	3674.90	-67.93	-37.94	68.15	40°24'46.165"N	104°24'43.981"W	4.17	
3776.00	11.660	60.030	3767.05	-85.16	-31.09	85.35	40°24'46.230"N	104°24'43.758"W	3.56	
3871.00	10.840	41.020	3860.25	-99.41	-19.55	99.53	40°24'46.343"N	104°24'43.572"W	3.98	
3965.00	9.350	42.910	3952.80	-110.49	-7.29	110.53	40°24'46.463"N	104°24'43.428"W	1.62	
4060.00	9.390	69.690	4046.57	-123.06	1.06	123.06	40°24'46.544"N	104°24'43.265"W	4.55	
4155.00	9.240	79.800	4140.33	-137.86	5.10	137.84	40°24'46.582"N	104°24'43.073"W	1.73	
4250.00	9.340	93.690	4234.09	-153.07	5.95	153.04	40°24'46.588"N	104°24'42.877"W	2.36	
4344.00	9.450	100.840	4326.83	-168.25	4.01	168.23	40°24'46.567"N	104°24'42.681"W	1.25	
4439.00	8.310	99.830	4420.69	-182.66	1.37	182.65	40°24'46.539"N	104°24'42.495"W	1.21	
4533.00	8.460	117.290	4513.70	-195.47	-2.96	195.49	40°24'46.495"N	104°24'42.329"W	2.70	
4627.00	8.490	122.660	4606.68	-207.42	-9.87	207.48	40°24'46.425"N	104°24'42.176"W	0.84	
4722.00	8.590	123.030	4700.63	-219.23	-17.52	219.33	40°24'46.348"N	104°24'42.024"W	0.12	
4817.00	8.690	102.740	4794.57	-232.15	-22.98	232.28	40°24'46.293"N	104°24'41.857"W	3.19	
4911.00	8.410	88.320	4887.54	-245.94	-24.34	246.08	40°24'46.278"N	104°24'41.679"W	2.29	
5006.00	8.220	107.400	4981.56	-259.35	-26.17	259.51	40°24'46.258"N	104°24'41.506"W	2.90	
5100.00	8.490	118.360	5074.56	-271.84	-31.47	272.03	40°24'46.204"N	104°24'41.345"W	1.72	
5195.00	8.570	116.710	5168.51	-284.30	-37.99	284.52	40°24'46.138"N	104°24'41.184"W	0.27	
5289.00	8.590	114.250	5261.46	-296.92	-44.02	297.18	40°24'46.077"N	104°24'41.021"W	0.39	
5384.00	8.630	107.390	5355.39	-310.16	-49.06	310.45	40°24'46.026"N	104°24'40.851"W	1.08	
5478.00	8.580	103.460	5448.34	-323.69	-52.80	324.00	40°24'45.987"N	104°24'40.676"W	0.63	
5573.00	8.480	97.850	5542.29	-337.50	-55.41	337.83	40°24'45.960"N	104°24'40.498"W	0.88	



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WELLS RANCH BB09-649 AWP
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Operator	NOBLE ENERGY, INC	Slot	SLOT#26 WELLS RANCH BB09-649(2297'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-649
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-649 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (175 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5667.00	8.590	96.980	5635.25	-351.33	-57.21	351.67	40°24'45.940"N	104°24'40.319"W	0.18	
5762.00	8.570	94.020	5729.18	-365.42	-58.57	365.77	40°24'45.925"N	104°24'40.137"W	0.47	
5856.00	5.670	95.340	5822.45	-377.03	-59.49	377.38	40°24'45.914"N	104°24'39.987"W	3.09	
5951.00	6.250	297.140	5917.26	-377.11	-57.56	377.45	40°24'45.933"N	104°24'39.986"W	12.32	
6045.00	11.090	304.870	6010.16	-365.18	-50.05	365.47	40°24'46.009"N	104°24'40.140"W	5.28	
6140.00	17.980	272.330	6102.21	-343.00	-44.22	343.27	40°24'46.069"N	104°24'40.426"W	10.99	
6234.00	26.870	267.290	6189.02	-307.21	-44.63	307.48	40°24'46.070"N	104°24'40.888"W	9.67	
6328.00	33.730	272.020	6270.15	-259.85	-44.72	260.11	40°24'46.075"N	104°24'41.501"W	7.72	
6423.00	44.200	269.860	6343.91	-200.21	-43.87	200.47	40°24'46.090"N	104°24'42.272"W	11.11	
6518.00	53.900	270.550	6406.10	-128.55	-43.58	128.80	40°24'46.102"N	104°24'43.198"W	10.23	
6612.00	61.620	273.120	6456.22	-49.17	-40.96	49.41	40°24'46.137"N	104°24'44.224"W	8.53	
6706.00	71.720	272.080	6493.40	36.92	-37.08	-36.70	40°24'46.186"N	104°24'45.336"W	10.79	
6801.00	80.790	273.960	6515.95	128.94	-32.19	-128.75	40°24'46.246"N	104°24'46.525"W	9.74	
6895.00	86.770	278.870	6526.13	221.66	-21.74	-221.54	40°24'46.360"N	104°24'47.723"W	8.21	
6990.00	89.820	275.710	6528.96	315.76	-9.69	-315.71	40°24'46.490"N	104°24'48.939"W	4.62	
7084.00	89.820	265.030	6529.25	409.62	-9.09	-409.57	40°24'46.508"N	104°24'50.152"W	11.36	
7179.00	89.690	262.790	6529.66	504.13	-19.16	-504.03	40°24'46.420"N	104°24'51.375"W	2.36	
7274.00	89.600	262.570	6530.25	598.42	-31.27	-598.25	40°24'46.311"N	104°24'52.594"W	0.25	
7369.00	89.350	266.160	6531.12	693.00	-40.59	-692.77	40°24'46.231"N	104°24'53.818"W	3.79	
7463.00	89.690	267.390	6531.91	786.87	-45.88	-786.62	40°24'46.190"N	104°24'55.032"W	1.36	
7558.00	89.720	268.910	6532.40	881.84	-48.95	-881.56	40°24'46.171"N	104°24'56.260"W	1.60	
7652.00	89.290	269.910	6533.21	975.83	-49.92	-975.55	40°24'46.173"N	104°24'57.475"W	1.16	
7747.00	90.250	272.080	6533.59	1070.80	-48.27	-1070.53	40°24'46.201"N	104°24'58.702"W	2.50	
7841.00	89.600	272.970	6533.71	1164.68	-44.13	-1164.44	40°24'46.253"N	104°24'59.916"W	1.17	
7936.00	89.420	272.610	6534.53	1259.53	-39.50	-1259.32	40°24'46.310"N	104°25'01.141"W	0.42	
8031.00	89.540	272.030	6535.39	1354.43	-35.66	-1354.24	40°24'46.359"N	104°25'02.368"W	0.62	
8125.00	89.450	271.720	6536.22	1448.35	-32.58	-1448.19	40°24'46.401"N	104°25'03.582"W	0.34	
8220.00	90.180	269.290	6536.52	1543.33	-31.74	-1543.18	40°24'46.421"N	104°25'04.809"W	2.67	
8315.00	90.150	267.850	6536.25	1638.31	-34.11	-1638.14	40°24'46.409"N	104°25'06.037"W	1.52	
8409.00	89.970	270.630	6536.15	1732.30	-35.36	-1732.13	40°24'46.408"N	104°25'07.253"W	2.96	



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8504.00	89.690	272.870	6536.43	1827.23	-32.46	-1827.07	40°24'46.448"N	104°25'08.479"W	2.38	
8598.00	89.850	274.690	6536.81	1920.99	-26.26	-1920.86	40°24'46.521"N	104°25'09.691"W	1.94	
8692.00	90.180	272.340	6536.79	2014.77	-20.50	-2014.68	40°24'46.589"N	104°25'10.903"W	2.52	
8787.00	90.060	270.220	6536.59	2109.72	-18.38	-2109.65	40°24'46.621"N	104°25'12.130"W	2.24	
8881.00	90.770	267.930	6535.91	2203.71	-19.90	-2203.63	40°24'46.617"N	104°25'13.345"W	2.55	
8976.00	90.340	266.730	6534.99	2298.62	-24.32	-2298.52	40°24'46.585"N	104°25'14.573"W	1.34	
9071.00	90.120	265.840	6534.60	2393.46	-30.48	-2393.32	40°24'46.536"N	104°25'15.799"W	0.97	
9165.00	90.000	264.880	6534.51	2487.19	-38.08	-2487.01	40°24'46.472"N	104°25'17.011"W	1.03	
9260.00	89.540	264.820	6534.89	2581.85	-46.61	-2581.63	40°24'46.399"N	104°25'18.236"W	0.49	
9354.00	89.380	265.260	6535.77	2675.54	-54.73	-2675.27	40°24'46.330"N	104°25'19.448"W	0.50	
9449.00	89.350	265.270	6536.83	2770.26	-62.58	-2769.94	40°24'46.264"N	104°25'20.673"W	0.03	
9544.00	89.660	267.930	6537.65	2865.11	-68.21	-2864.76	40°24'46.220"N	104°25'21.899"W	2.82	
9638.00	89.940	272.000	6537.98	2959.09	-68.27	-2958.74	40°24'46.230"N	104°25'23.114"W	4.34	
9733.00	89.750	271.650	6538.23	3054.02	-65.24	-3053.69	40°24'46.272"N	104°25'24.341"W	0.42	
9827.00	90.000	269.490	6538.44	3148.00	-64.31	-3147.68	40°24'46.292"N	104°25'25.556"W	2.31	
9922.00	89.200	267.670	6539.10	3242.98	-66.66	-3242.64	40°24'46.280"N	104°25'26.784"W	2.09	
10016.00	89.660	262.580	6540.04	3336.65	-74.65	-3336.27	40°24'46.213"N	104°25'27.995"W	5.44	
10111.00	89.880	265.050	6540.42	3431.14	-84.88	-3430.71	40°24'46.123"N	104°25'29.218"W	2.61	
10205.00	89.540	268.160	6540.89	3525.00	-90.45	-3524.53	40°24'46.079"N	104°25'30.431"W	3.33	
10300.00	89.600	262.920	6541.61	3619.72	-97.83	-3619.21	40°24'46.017"N	104°25'31.656"W	5.52	
10395.00	89.630	264.100	6542.25	3714.16	-108.57	-3713.59	40°24'45.923"N	104°25'32.878"W	1.24	
10489.00	90.250	271.130	6542.34	3808.04	-112.48	-3807.45	40°24'45.895"N	104°25'34.092"W	7.51	
10584.00	89.910	276.670	6542.21	3902.75	-106.02	-3902.20	40°24'45.970"N	104°25'35.316"W	5.84	
10678.00	90.180	279.890	6542.14	3995.68	-92.48	-3995.20	40°24'46.115"N	104°25'36.516"W	3.44	
10773.00	91.200	279.320	6540.99	4089.24	-76.63	-4088.86	40°24'46.283"N	104°25'37.724"W	1.23	
10867.00	92.860	279.570	6537.66	4181.81	-61.22	-4181.53	40°24'46.446"N	104°25'38.920"W	1.79	
10962.00	89.600	272.660	6535.62	4276.12	-51.11	-4275.90	40°24'46.558"N	104°25'40.138"W	8.04	
11057.00	88.890	268.820	6536.87	4371.08	-49.89	-4370.86	40°24'46.581"N	104°25'41.365"W	4.11	
11152.00	89.010	271.740	6538.62	4466.05	-49.42	-4465.83	40°24'46.597"N	104°25'42.593"W	3.08	
11246.00	89.600	272.180	6539.76	4559.96	-46.21	-4559.77	40°24'46.640"N	104°25'43.807"W	0.78	



Actual Wellpath Report

WELLS RANCH BB09-649 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#26 WELLS RANCH BB09-649(2297'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-649
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-649 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (175 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11340.00	90.860	269.440	6539.38	4653.93	-44.88	-4653.75	40°24'46.664"N	104°25'45.022"W	3.21	
11435.00	90.060	267.870	6538.62	4748.91	-47.11	-4748.72	40°24'46.654"N	104°25'46.250"W	1.85	
11529.00	88.980	266.600	6539.40	4842.82	-51.64	-4842.60	40°24'46.620"N	104°25'47.464"W	1.77	
11624.00	89.080	267.310	6541.01	4937.70	-56.69	-4937.45	40°24'46.581"N	104°25'48.691"W	0.75	
11718.00	88.950	268.240	6542.63	5031.63	-60.34	-5031.37	40°24'46.557"N	104°25'49.905"W	1.00	
11813.00	89.140	268.680	6544.21	5126.60	-62.89	-5126.32	40°24'46.543"N	104°25'51.133"W	0.50	
11907.00	88.950	268.230	6545.78	5220.56	-65.42	-5220.27	40°24'46.529"N	104°25'52.348"W	0.52	
12002.00	88.920	267.030	6547.54	5315.49	-69.35	-5315.17	40°24'46.501"N	104°25'53.576"W	1.26	
12191.00	89.660	269.750	6549.89	5504.41	-74.66	-5504.06	40°24'46.471"N	104°25'56.018"W	1.49	
12286.00	89.380	273.680	6550.68	5599.32	-71.82	-5599.00	40°24'46.511"N	104°25'57.245"W	4.15	
12380.00	89.970	275.940	6551.22	5692.94	-63.94	-5692.66	40°24'46.600"N	104°25'58.454"W	2.48	
12475.00	90.150	273.660	6551.12	5787.55	-55.99	-5787.32	40°24'46.689"N	104°25'59.677"W	2.41	
12569.00	90.740	270.540	6550.39	5881.45	-52.54	-5881.24	40°24'46.735"N	104°26'00.890"W	3.38	
12758.00	90.430	265.270	6548.45	6070.28	-59.45	-6070.04	40°24'46.689"N	104°26'03.332"W	2.79	
12853.00	89.170	264.130	6548.79	6164.92	-68.22	-6164.63	40°24'46.613"N	104°26'04.556"W	1.79	
12947.00	89.260	264.990	6550.07	6258.54	-77.13	-6258.20	40°24'46.536"N	104°26'05.767"W	0.92	
13042.00	89.110	267.960	6551.43	6353.37	-82.97	-6353.00	40°24'46.490"N	104°26'06.994"W	3.13	
13136.00	89.230	268.750	6552.79	6447.34	-85.67	-6446.95	40°24'46.474"N	104°26'08.208"W	0.85	
13231.00	89.910	268.250	6553.50	6542.31	-88.16	-6541.91	40°24'46.461"N	104°26'09.436"W	0.89	
13325.00	89.850	268.910	6553.70	6636.30	-90.49	-6635.88	40°24'46.449"N	104°26'10.652"W	0.71	
13420.00	89.780	271.350	6554.00	6731.29	-90.27	-6730.87	40°24'46.463"N	104°26'11.879"W	2.57	
13515.00	89.910	271.000	6554.26	6826.25	-88.32	-6825.85	40°24'46.493"N	104°26'13.107"W	0.39	
13609.00	89.630	271.620	6554.64	6920.21	-86.18	-6919.83	40°24'46.526"N	104°26'14.321"W	0.72	
13704.00	89.480	272.220	6555.38	7015.14	-82.99	-7014.77	40°24'46.568"N	104°26'15.548"W	0.65	
13798.00	89.290	271.470	6556.39	7109.06	-79.97	-7108.72	40°24'46.609"N	104°26'16.762"W	0.82	
13893.00	89.750	271.690	6557.18	7204.00	-77.35	-7203.68	40°24'46.646"N	104°26'17.989"W	0.54	
14082.00	89.540	272.370	6558.35	7392.84	-70.65	-7392.55	40°24'46.735"N	104°26'20.430"W	0.38	
14176.00	89.630	271.950	6559.03	7486.75	-67.11	-7486.48	40°24'46.781"N	104°26'21.644"W	0.46	
14271.00	90.060	270.320	6559.29	7581.71	-65.23	-7581.46	40°24'46.811"N	104°26'22.871"W	1.77	
14365.00	90.280	271.390	6559.01	7675.69	-63.83	-7675.45	40°24'46.836"N	104°26'24.086"W	1.16	



Actual Wellpath Report

WELLS RANCH BB09-649 AWP



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#26 WELLS RANCH BB09-649(2297'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-649
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-649 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH DATA (175 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14460.00	89.780	272.870	6558.96	7770.60	-60.30	-7770.38	40°24'46.882"N	104°26'25.312"W	1.64	
14554.00	89.570	272.770	6559.49	7864.46	-55.67	-7864.26	40°24'46.939"N	104°26'26.525"W	0.25	
14649.00	90.060	271.530	6559.80	7959.36	-52.11	-7959.19	40°24'46.985"N	104°26'27.752"W	1.40	
14743.00	89.750	269.270	6559.96	8053.35	-51.45	-8053.19	40°24'47.003"N	104°26'28.967"W	2.43	
14838.00	89.910	269.640	6560.24	8148.35	-52.35	-8148.18	40°24'47.005"N	104°26'30.195"W	0.42	
14932.00	89.690	269.380	6560.57	8242.35	-53.16	-8242.18	40°24'47.008"N	104°26'31.410"W	0.36	
15027.00	89.880	267.460	6560.92	8337.32	-55.78	-8337.14	40°24'46.993"N	104°26'32.638"W	2.03	
15121.00	89.850	269.410	6561.15	8431.29	-58.34	-8431.10	40°24'46.979"N	104°26'33.853"W	2.07	
15216.00	89.880	269.480	6561.37	8526.29	-59.26	-8526.09	40°24'46.981"N	104°26'35.081"W	0.08	
15310.00	90.090	268.960	6561.39	8620.29	-60.54	-8620.08	40°24'46.980"N	104°26'36.296"W	0.60	
15404.00	89.750	269.200	6561.53	8714.28	-62.05	-8714.07	40°24'46.976"N	104°26'37.512"W	0.44	
15499.00	89.690	268.650	6561.99	8809.27	-63.84	-8809.05	40°24'46.969"N	104°26'38.740"W	0.58	
15593.00	89.660	270.040	6562.52	8903.27	-64.91	-8903.04	40°24'46.970"N	104°26'39.955"W	1.48	
15688.00	89.720	270.740	6563.04	8998.26	-64.26	-8998.04	40°24'46.987"N	104°26'41.183"W	0.74	
15782.00	89.380	270.030	6563.77	9092.25	-63.63	-9092.03	40°24'47.005"N	104°26'42.398"W	0.84	
15877.00	89.230	268.200	6564.93	9187.23	-65.10	-9187.01	40°24'47.001"N	104°26'43.626"W	1.93	
15971.00	88.460	268.650	6566.82	9281.19	-67.68	-9280.95	40°24'46.987"N	104°26'44.841"W	0.95	
16066.00	89.420	268.790	6568.58	9376.16	-69.80	-9375.91	40°24'46.977"N	104°26'46.069"W	1.02	
16161.00	89.940	267.280	6569.11	9471.12	-73.06	-9470.85	40°24'46.956"N	104°26'47.296"W	1.68	
16255.00	89.690	269.780	6569.41	9565.09	-75.47	-9564.81	40°24'46.943"N	104°26'48.511"W	2.67	
16350.00	89.720	272.750	6569.90	9660.04	-73.38	-9659.78	40°24'46.975"N	104°26'49.739"W	3.13	
16444.00	90.740	274.910	6569.53	9753.79	-67.10	-9753.56	40°24'47.048"N	104°26'50.950"W	2.54	
16539.00	90.280	273.100	6568.68	9848.51	-60.46	-9848.32	40°24'47.125"N	104°26'52.174"W	1.97	
16963.00	90.580	268.030	6565.50	10272.30	-56.28	-10272.15	40°24'47.216"N	104°26'57.652"W	1.20	Last BHI MWD Surface
16987.00	90.580	268.030	6565.25	10296.29	-57.11	-10296.13	40°24'47.210"N	104°26'57.962"W	0.00	Projection to Bit



Actual Wellpath Report

WELLS RANCH BB09-649 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#26 WELLS RANCH BB09-649(2297'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-649
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-649 AWB
Facility	SEC.11-T05N-R63W		

HOLE & CASING SECTIONS - Ref Wellbore: WELLS RANCH BB09-649 AWB Ref Wellpath: WELLS RANCH BB09-649 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	1933.00	1903.00	30.00	1932.96	-0.01	0.02	0.06	-5.74
9.625in Casing Surface	30.00	1933.00	1903.00	30.00	1932.96	-0.01	0.02	0.06	-5.74
8.5in Open Hole	1933.00	16987.00	15054.00	1932.96	6565.25	0.06	-5.74	-57.11	-10296.13

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	2330.68	-89.85	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	2330.68	-89.85	3302735.95	1397458.34	40°25'09.588"N	104°24'45.648"W	polygon
WELLS RANCH BB09-649 REV-2 LANDING POINT	6530.00	-43.37	-246.77	3302579.03	1395084.39	40°24'46.149"N	104°24'48.053"W	point
WELLS RANCH BB09-649 REV-2 BHL FROM PLAN (2575'FSL&535'FWL,SEC.09)	6565.20	-60.20	-10308.91	3292517.31	1395067.56	40°24'47.181"N	104°26'58.128"W	point
WELLS RANCH BB09-649 LANDING POINT	6572.00	-43.46	-299.73	3302526.07	1395084.30	40°24'46.155"N	104°24'48.737"W	point
WELLS RANCH BB09-649 BHL FROM PLAN (2575'FSL&535'FWL,SEC.09)	6607.00	-60.20	-10308.91	3292517.31	1395067.56	40°24'47.181"N	104°26'58.128"W	point
WELLS RANCH BB09-649 REV-1 BHL(2575'FSL&535'FWL,SEC.09)	6607.00	-62.35	-10308.90	3292517.32	1395065.42	40°24'47.160"N	104°26'58.128"W	point



Actual Wellpath Report

WELLS RANCH BB09-649 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#26 WELLS RANCH BB09-649(2297'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-649
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-649 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH COMPOSITION - Ref Wellbore: WELLS RANCH BB09-649 AWB Ref Wellpath: WELLS RANCH BB09-649 AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	1933.00	Gyrodatta standard - Drop gyro or Multi-shot	3rd Party Surface Gryo <79'-1933'>	WELLS RANCH BB09-649 AWB
1933.00	16963.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BH 8.5" ATCurve OWSG MWD rev2+IFR+MSA <2074'-16963'>	WELLS RANCH BB09-649 AWB
16963.00	16987.00	Blind Drilling (std)	Projection to bit	WELLS RANCH BB09-649 AWB



Actual Wellpath Report

WELLS RANCH BB09-649 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#26 WELLS RANCH BB09-649(2297'FSL&285'FWL,SEC.11)
Area	COLORADO	Well	WELLS RANCH BB09-649
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH BB09-649 AWB
Facility	SEC.11-T05N-R63W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1933.00	0.300	19.090	1932.96	Tie to Surface
16963.00	90.580	268.030	6565.50	Last BHI MWD Surface
16987.00	90.580	268.030	6565.25	Projection to Bit

COMMENTS
<div>Wellpath general comments</div> <div>SURFACE LOCATION: NWSW</div> <div>40.41293N</div> <div>104.41293W</div> <div>API #: 05-123-44958</div>