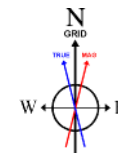


NOBLE ENERGY, INC

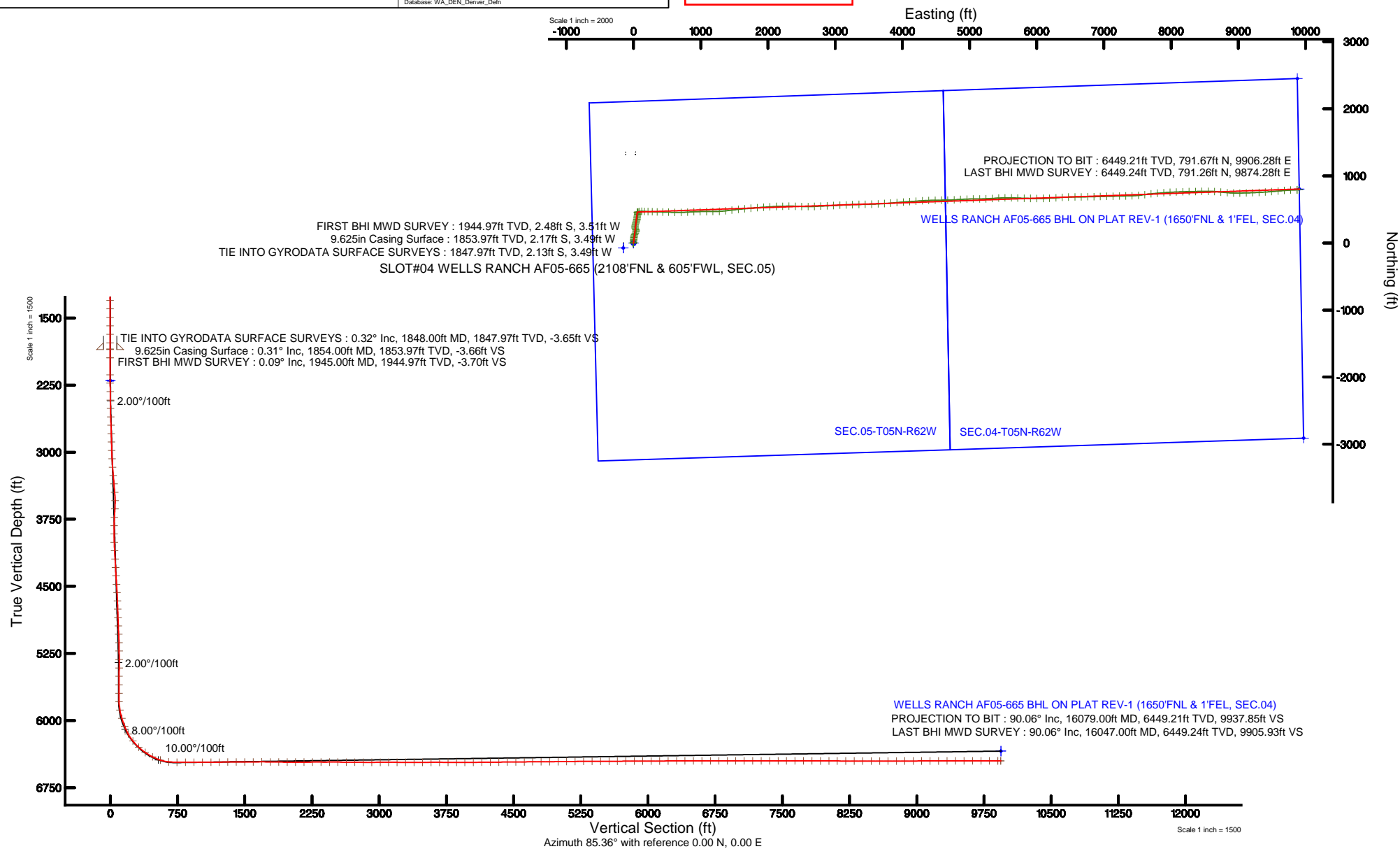
Location: COLORADO Slot: SLOT#04 WELLS RANCH AF05-665 (2108'FNL & 605'FWL, SEC.05)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: WELLS RANCH AF05-665
Facility: SEC.05-T05N-R62W Wellbore: WELLS RANCH AF05-665 PWB

Plot reference wellpath is WELLS RANCH AF05-665 (REV-A.0) PWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (601), 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: 4712 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#04 WELLS RANCH AF05-665 (2108'FNL & 605'FWL, SEC.05)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: adamkat on 2016-04-08
	Database: WA_DEN_Denver_Defn



BGGM (1945.0 to 2017.0) Dip: 67.05° Field: 52630 nT
Magnetic North is 8.26 degrees East of True North (at 1/27/2016)
Grid North is 0.74 degrees East of True North
To correct azimuth from True to Grid subtract 0.74 degrees
To correct azimuth from Magnetic to Grid add 7.52 degrees

API # 05-123-42134



Actual Wellpath Report

WELLS RANCH AF05-665 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#04 WELLS RANCH AF05-665 (2108'FNL & 605'FWL, SEC.05)
Area	COLORADO	Well	WELLS RANCH AF05-665
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH AF05-665 AWB
Facility	SEC.05-T05N-R62W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Adamkat
Scale	0.999962	Report Generated	4/8/2016 at 1:45:44 PM
Convergence at slot	0.75° East	Database/Source file	WA_DEN_Denver_Defn/WELLS_RANCH_AF05-665_AWP.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	74.83	152.17	3318854.97	1401606.95	40°25'48.576"N	104°21'16.560"W
Facility Reference Pt			3318702.82	1401532.12	40°25'47.856"N	104°21'18.540"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	4712.00ft
Horizontal Reference Pt	Slot	H&P 321 (RKB) to Mean Sea Level	4712.00ft
Vertical Reference Pt	H&P 321 (RKB)	H&P 321 (RKB) to Mud Line at Slot (SLOT#04 WELLS RANCH AF05-665 (2108'FNL & 605'FWL, SEC.05))	4712.00ft
MD Reference Pt	H&P 321 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	85.36°

Actual Wellpath Report

WELLS RANCH AF05-665 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#04 WELLS RANCH AF05-665 (2108'FNL & 605'FWL, SEC.05)
Area	COLORADO	Well	WELLS RANCH AF05-665
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH AF05-665 AWB
Facility	SEC.05-T05N-R62W		

WELLPATH DATA (151 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
1848.00	0.320	180.640	1847.97	-3.65	-2.13	-3.49	40°25'48.555"N	104°21'16.606"W	0.22	TIE INTO GYRODATA SURFACE SURVEYS
1945.00	0.090	191.870	1944.97	-3.70	-2.48	-3.51	40°25'48.552"N	104°21'16.606"W	0.24	FIRST BHI MWD SURVEY
2135.00	0.180	134.510	2134.97	-3.55	-2.83	-3.33	40°25'48.548"N	104°21'16.604"W	0.08	
2229.00	1.460	27.900	2228.96	-2.81	-1.88	-2.66	40°25'48.558"N	104°21'16.595"W	1.62	
2324.00	4.020	7.250	2323.84	-1.47	2.50	-1.68	40°25'48.601"N	104°21'16.581"W	2.85	
2419.00	6.980	1.560	2418.40	-0.16	11.57	-1.10	40°25'48.690"N	104°21'16.572"W	3.16	
2513.00	8.730	1.810	2511.51	1.26	24.41	-0.72	40°25'48.817"N	104°21'16.565"W	1.86	
2608.00	8.810	5.430	2605.40	3.34	38.86	0.20	40°25'48.960"N	104°21'16.551"W	0.59	
2703.00	8.720	9.160	2699.29	6.33	53.21	2.03	40°25'49.102"N	104°21'16.525"W	0.61	
2798.00	8.990	7.110	2793.16	9.56	67.69	4.10	40°25'49.244"N	104°21'16.496"W	0.44	
2892.00	8.980	4.390	2886.01	12.21	82.29	5.57	40°25'49.388"N	104°21'16.474"W	0.45	
2987.00	8.590	5.160	2979.89	14.58	96.75	6.77	40°25'49.531"N	104°21'16.456"W	0.43	
3082.00	8.590	17.340	3073.83	18.44	110.59	9.53	40°25'49.667"N	104°21'16.418"W	1.91	
3177.00	8.560	24.340	3167.77	24.52	123.80	14.55	40°25'49.797"N	104°21'16.351"W	1.10	
3271.00	8.730	31.770	3260.71	32.15	136.24	21.19	40°25'49.919"N	104°21'16.263"W	1.20	
3366.00	8.760	22.560	3354.61	39.73	149.05	27.77	40°25'50.045"N	104°21'16.176"W	1.47	
3461.00	11.840	22.670	3448.07	47.51	164.73	34.30	40°25'50.199"N	104°21'16.089"W	3.24	
3555.00	9.730	0.720	3540.44	52.68	181.58	38.12	40°25'50.365"N	104°21'16.037"W	4.87	
3650.00	8.850	328.730	3634.26	50.15	195.86	34.42	40°25'50.507"N	104°21'16.082"W	5.44	
3745.00	8.900	337.270	3728.12	44.60	208.89	27.79	40°25'50.636"N	104°21'16.166"W	1.39	
3839.00	8.680	349.320	3821.03	41.59	222.56	23.67	40°25'50.772"N	104°21'16.217"W	1.97	
3934.00	8.850	357.560	3914.92	41.12	236.91	22.03	40°25'50.914"N	104°21'16.236"W	1.33	
4028.00	9.280	6.120	4007.75	42.81	251.67	22.53	40°25'51.060"N	104°21'16.227"W	1.50	
4123.00	9.120	15.570	4101.53	46.84	266.54	25.36	40°25'51.206"N	104°21'16.188"W	1.60	
4218.00	9.340	17.410	4195.30	52.34	281.15	29.69	40°25'51.350"N	104°21'16.129"W	0.39	
4312.00	9.290	14.050	4288.07	57.63	295.79	33.82	40°25'51.494"N	104°21'16.073"W	0.58	
4407.00	8.990	12.330	4381.86	62.25	310.48	37.26	40°25'51.639"N	104°21'16.026"W	0.43	
4502.00	9.230	21.760	4475.67	67.81	324.81	41.67	40°25'51.780"N	104°21'15.967"W	1.59	
4596.00	9.440	18.110	4568.42	74.14	339.13	46.86	40°25'51.921"N	104°21'15.897"W	0.67	
4690.00	9.300	5.960	4661.18	78.52	354.02	50.05	40°25'52.068"N	104°21'15.854"W	2.11	
4785.00	9.270	7.780	4754.93	81.58	369.23	51.88	40°25'52.218"N	104°21'15.828"W	0.31	
4880.00	9.250	7.810	4848.69	84.87	384.38	53.95	40°25'52.367"N	104°21'15.798"W	0.02	
4974.00	8.930	8.420	4941.51	88.15	399.08	56.05	40°25'52.512"N	104°21'15.769"W	0.36	
5069.00	9.100	13.990	5035.34	92.21	413.66	58.94	40°25'52.656"N	104°21'15.729"W	0.94	
5163.00	7.950	4.990	5128.31	95.68	427.35	61.31	40°25'52.791"N	104°21'15.696"W	1.87	
5258.00	6.880	359.490	5222.51	97.18	439.59	61.83	40°25'52.912"N	104°21'15.687"W	1.35	
5352.00	4.140	359.610	5316.07	97.84	448.61	61.75	40°25'53.001"N	104°21'15.687"W	2.91	
5447.00	2.890	347.010	5410.89	97.75	454.38	61.19	40°25'53.058"N	104°21'15.693"W	1.54	
5542.00	1.260	311.900	5505.83	96.68	457.41	59.88	40°25'53.088"N	104°21'15.709"W	2.10	
5636.00	0.310	174.890	5599.82	95.97	457.85	59.13	40°25'53.092"N	104°21'15.719"W	1.60	
5731.00	0.110	58.730	5694.82	96.06	457.64	59.23	40°25'53.090"N	104°21'15.718"W	0.39	
5825.00	0.840	75.310	5788.82	96.82	457.86	59.98	40°25'53.092"N	104°21'15.708"W	0.78	
5920.00	10.920	63.090	5883.19	105.85	462.12	68.70	40°25'53.133"N	104°21'15.595"W	10.63	
6015.00	16.520	78.160	5975.48	127.60	468.97	89.96	40°25'53.198"N	104°21'15.318"W	6.95	
6109.00	21.730	90.450	6064.29	158.23	471.58	120.48	40°25'53.220"N	104°21'14.923"W	6.98	

Actual Wellpath Report

WELLS RANCH AF05-665 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#04 WELLS RANCH AF05-665 (2108'FNL & 605'FWL, SEC.05)
Area	COLORADO	Well	WELLS RANCH AF05-665
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH AF05-665 AWB
Facility	SEC.05-T05N-R62W		

WELLPATH DATA (151 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
6204.00	29.190	94.560	6150.01	198.67	469.60	161.21	40°25'53.195"N	104°21'14.397"W	8.07	
6299.00	39.050	91.270	6228.57	251.44	467.08	214.36	40°25'53.164"N	104°21'13.710"W	10.56	
6393.00	47.260	92.760	6297.09	315.24	464.76	278.55	40°25'53.133"N	104°21'12.881"W	8.80	
6488.00	55.660	91.440	6356.23	388.97	462.09	352.74	40°25'53.097"N	104°21'11.922"W	8.91	
6583.00	62.810	90.430	6404.79	470.16	460.79	434.31	40°25'53.073"N	104°21'10.867"W	7.58	
6678.00	71.850	91.990	6441.37	557.26	458.90	521.85	40°25'53.044"N	104°21'09.736"W	9.64	
6773.00	83.990	92.180	6461.21	649.35	455.52	614.52	40°25'52.998"N	104°21'08.538"W	12.78	
6867.00	90.150	88.400	6466.02	742.82	455.06	708.33	40°25'52.982"N	104°21'07.325"W	7.68	
6962.00	89.940	86.260	6465.94	837.76	459.48	803.22	40°25'53.013"N	104°21'06.097"W	2.26	
7057.00	90.060	87.370	6465.94	932.72	464.76	898.07	40°25'53.053"N	104°21'04.870"W	1.18	
7151.00	89.910	89.090	6465.97	1026.60	467.66	992.02	40°25'53.070"N	104°21'03.655"W	1.84	
7246.00	90.800	90.690	6465.38	1121.30	467.84	1087.02	40°25'53.060"N	104°21'02.426"W	1.93	
7340.00	90.650	88.930	6464.19	1215.01	468.16	1181.01	40°25'53.051"N	104°21'01.211"W	1.88	
7435.00	90.620	87.760	6463.14	1309.87	470.90	1275.96	40°25'53.066"N	104°20'59.983"W	1.23	
7529.00	89.780	82.850	6462.81	1403.84	478.59	1369.61	40°25'53.130"N	104°20'58.771"W	5.30	
7624.00	90.340	83.330	6462.71	1498.76	490.02	1463.92	40°25'53.230"N	104°20'57.549"W	0.78	
7719.00	90.620	83.640	6461.91	1593.71	500.80	1558.31	40°25'53.325"N	104°20'56.327"W	0.44	
7814.00	90.180	85.430	6461.25	1688.69	509.85	1652.87	40°25'53.402"N	104°20'55.103"W	1.94	
7908.00	89.080	85.390	6461.86	1782.69	517.37	1746.56	40°25'53.464"N	104°20'53.890"W	1.17	
8003.00	89.140	85.460	6463.33	1877.68	524.94	1841.25	40°25'53.527"N	104°20'52.664"W	0.10	
8098.00	90.150	85.520	6463.92	1972.67	532.41	1935.95	40°25'53.589"N	104°20'51.439"W	1.07	
8192.00	89.940	86.490	6463.85	2066.67	538.96	2029.72	40°25'53.641"N	104°20'50.225"W	1.06	
8287.00	89.910	87.530	6463.97	2161.63	543.92	2124.59	40°25'53.678"N	104°20'48.997"W	1.10	
8381.00	90.460	89.040	6463.67	2255.50	546.73	2218.55	40°25'53.694"N	104°20'47.782"W	1.71	
8476.00	89.510	89.300	6463.69	2350.29	548.11	2313.53	40°25'53.695"N	104°20'46.554"W	1.04	
8571.00	90.620	92.350	6463.58	2444.84	546.74	2408.51	40°25'53.670"N	104°20'45.326"W	3.42	
8665.00	89.320	91.620	6463.63	2538.21	543.48	2502.45	40°25'53.625"N	104°20'44.112"W	1.59	
8760.00	89.750	90.040	6464.41	2632.78	542.11	2597.44	40°25'53.600"N	104°20'42.884"W	1.72	
8854.00	89.350	87.180	6465.14	2726.61	544.39	2691.40	40°25'53.610"N	104°20'41.668"W	3.07	
8949.00	89.320	87.240	6466.25	2821.56	549.01	2786.28	40°25'53.643"N	104°20'40.441"W	0.07	
9044.00	90.340	87.560	6466.53	2916.49	553.32	2881.18	40°25'53.674"N	104°20'39.213"W	1.13	
9139.00	90.090	87.570	6466.17	3011.42	557.36	2976.09	40°25'53.701"N	104°20'37.985"W	0.26	
9233.00	89.970	86.810	6466.12	3105.37	561.97	3069.98	40°25'53.735"N	104°20'36.770"W	0.82	
9328.00	89.820	87.100	6466.30	3200.34	567.01	3164.84	40°25'53.773"N	104°20'35.543"W	0.34	
9422.00	89.970	87.630	6466.47	3294.28	571.33	3258.74	40°25'53.803"N	104°20'34.328"W	0.59	
9517.00	90.090	89.290	6466.42	3389.14	573.89	3353.70	40°25'53.816"N	104°20'33.100"W	1.75	
9612.00	90.000	89.450	6466.34	3483.90	574.93	3448.70	40°25'53.814"N	104°20'31.871"W	0.19	
9707.00	90.060	86.870	6466.29	3578.78	577.98	3543.64	40°25'53.832"N	104°20'30.643"W	2.72	
9802.00	89.940	87.610	6466.29	3673.73	582.56	3638.53	40°25'53.865"N	104°20'29.415"W	0.79	
9896.00	90.000	86.810	6466.34	3767.68	587.13	3732.42	40°25'53.898"N	104°20'28.200"W	0.85	
9991.00	89.940	84.640	6466.39	3862.67	594.21	3827.15	40°25'53.956"N	104°20'26.974"W	2.29	
10085.00	89.910	85.840	6466.52	3956.67	602.01	3920.82	40°25'54.021"N	104°20'25.762"W	1.28	
10180.00	90.060	85.200	6466.54	4051.67	609.43	4015.53	40°25'54.082"N	104°20'24.536"W	0.69	
10274.00	90.920	86.450	6465.74	4145.66	616.28	4109.28	40°25'54.137"N	104°20'23.323"W	1.61	
10369.00	90.430	85.990	6464.62	4240.64	622.54	4204.06	40°25'54.187"N	104°20'22.096"W	0.71	

Actual Wellpath Report

WELLS RANCH AF05-665 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#04 WELLS RANCH AF05-665 (2108'FNL & 605'FWL, SEC.05)
Area	COLORADO	Well	WELLS RANCH AF05-665
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH AF05-665 AWB
Facility	SEC.05-T05N-R62W		

WELLPATH DATA (151 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
10464.00	90.400	86.280	6463.93	4335.63	628.94	4298.84	40°25'54.238"N	104°20'20.869"W	0.31	
10558.00	90.520	87.830	6463.18	4429.59	633.77	4392.71	40°25'54.274"N	104°20'19.655"W	1.65	
10653.00	90.460	89.060	6462.36	4524.44	636.35	4487.67	40°25'54.287"N	104°20'18.426"W	1.30	
10748.00	90.580	89.560	6461.50	4619.21	637.49	4582.66	40°25'54.286"N	104°20'17.198"W	0.54	
10842.00	90.460	89.000	6460.65	4712.99	638.67	4676.65	40°25'54.285"N	104°20'15.983"W	0.61	
10937.00	90.340	86.390	6459.98	4807.90	642.49	4771.56	40°25'54.311"N	104°20'14.755"W	2.75	
11032.00	90.430	86.010	6459.35	4902.89	648.79	4866.35	40°25'54.361"N	104°20'13.528"W	0.41	
11126.00	90.590	88.270	6458.51	4996.83	653.48	4960.23	40°25'54.395"N	104°20'12.313"W	2.41	
11221.00	90.650	90.010	6457.48	5091.62	654.91	5055.21	40°25'54.397"N	104°20'11.085"W	1.83	
11316.00	90.620	89.690	6456.43	5186.32	655.15	5150.20	40°25'54.387"N	104°20'09.857"W	0.34	
11411.00	90.220	87.290	6455.73	5281.17	657.66	5245.16	40°25'54.399"N	104°20'08.628"W	2.56	
11505.00	90.220	86.350	6455.37	5375.13	662.87	5339.01	40°25'54.439"N	104°20'07.414"W	1.00	
11600.00	90.220	85.920	6455.01	5470.12	669.28	5433.79	40°25'54.489"N	104°20'06.187"W	0.45	
11695.00	90.250	90.130	6454.62	5565.00	672.55	5528.71	40°25'54.509"N	104°20'04.959"W	4.43	
11789.00	90.340	90.340	6454.13	5658.66	672.16	5622.71	40°25'54.493"N	104°20'03.744"W	0.24	
11884.00	90.370	92.700	6453.54	5753.10	669.64	5717.67	40°25'54.456"N	104°20'02.517"W	2.48	
11979.00	90.400	91.830	6452.91	5847.41	665.89	5812.59	40°25'54.407"N	104°20'01.290"W	0.92	
12073.00	90.310	90.430	6452.32	5940.93	664.04	5906.57	40°25'54.376"N	104°20'00.075"W	1.49	
12168.00	90.220	90.300	6451.88	6035.57	663.43	6001.57	40°25'54.358"N	104°19'58.847"W	0.17	
12262.00	90.180	89.150	6451.56	6129.29	663.88	6095.56	40°25'54.350"N	104°19'57.631"W	1.22	
12357.00	90.280	87.130	6451.17	6224.17	666.96	6190.51	40°25'54.368"N	104°19'56.403"W	2.13	
12452.00	90.280	85.280	6450.71	6319.16	673.25	6285.29	40°25'54.418"N	104°19'55.176"W	1.95	
12546.00	90.310	86.310	6450.23	6413.15	680.14	6379.04	40°25'54.474"N	104°19'53.963"W	1.10	
12641.00	90.000	88.850	6449.97	6508.07	684.16	6473.95	40°25'54.501"N	104°19'52.735"W	2.69	
12735.00	90.000	89.740	6449.97	6601.85	685.31	6567.94	40°25'54.500"N	104°19'51.520"W	0.95	
12830.00	89.880	89.140	6450.07	6696.61	686.24	6662.93	40°25'54.497"N	104°19'50.291"W	0.64	
12925.00	90.030	88.520	6450.14	6791.43	688.18	6757.91	40°25'54.504"N	104°19'49.063"W	0.67	
13020.00	89.970	88.950	6450.14	6886.27	690.28	6852.89	40°25'54.512"N	104°19'47.834"W	0.46	
13114.00	89.910	88.390	6450.24	6980.11	692.46	6946.86	40°25'54.522"N	104°19'46.619"W	0.60	
13209.00	90.000	88.580	6450.32	7074.97	694.97	7041.83	40°25'54.534"N	104°19'45.390"W	0.22	
13303.00	89.970	88.950	6450.34	7168.81	697.00	7135.81	40°25'54.542"N	104°19'44.175"W	0.39	
13398.00	90.000	88.790	6450.37	7263.63	698.87	7230.79	40°25'54.548"N	104°19'42.946"W	0.17	
13492.00	90.000	88.680	6450.37	7357.46	700.95	7324.77	40°25'54.556"N	104°19'41.731"W	0.12	
13587.00	89.970	88.430	6450.39	7452.32	703.34	7419.74	40°25'54.567"N	104°19'40.502"W	0.27	
13681.00	90.000	84.720	6450.41	7546.28	708.96	7513.55	40°25'54.611"N	104°19'39.288"W	3.95	
13775.00	89.880	82.190	6450.51	7640.22	719.67	7606.93	40°25'54.704"N	104°19'38.079"W	2.69	
13870.00	89.970	83.490	6450.64	7735.12	731.51	7701.19	40°25'54.809"N	104°19'36.858"W	1.37	
13965.00	89.850	85.100	6450.79	7830.11	740.95	7795.72	40°25'54.890"N	104°19'35.635"W	1.70	
14059.00	89.940	85.600	6450.96	7924.10	748.57	7889.41	40°25'54.953"N	104°19'34.422"W	0.54	
14154.00	89.880	86.630	6451.11	8019.10	755.01	7984.19	40°25'55.004"N	104°19'33.195"W	1.09	
14248.00	89.910	87.780	6451.28	8113.04	759.59	8078.07	40°25'55.037"N	104°19'31.980"W	1.22	
14343.00	89.880	88.140	6451.45	8207.95	762.98	8173.01	40°25'55.058"N	104°19'30.752"W	0.38	
14438.00	89.940	88.930	6451.60	8302.80	765.40	8267.98	40°25'55.070"N	104°19'29.524"W	0.83	
14532.00	89.940	88.930	6451.70	8396.62	767.16	8361.96	40°25'55.075"N	104°19'28.308"W	0.00	
14627.00	89.910	88.890	6451.83	8491.44	768.97	8456.95	40°25'55.080"N	104°19'27.080"W	0.05	

Actual Wellpath Report

WELLS RANCH AF05-665 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#04 WELLS RANCH AF05-665 (2108'FNL & 605'FWL, SEC.05)
Area	COLORADO	Well	WELLS RANCH AF05-665
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH AF05-665 AWB
Facility	SEC.05-T05N-R62W		

WELLPATH DATA (151 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14722.00	90.120	89.470	6451.80	8586.22	770.33	8551.94	40°25'55.081"N	104°19'25.851"W	0.65	
14816.00	89.970	95.170	6451.73	8679.49	766.52	8645.82	40°25'55.031"N	104°19'24.638"W	6.07	
14911.00	90.090	95.290	6451.68	8773.09	757.86	8740.42	40°25'54.933"N	104°19'23.416"W	0.18	
15006.00	90.090	94.560	6451.53	8866.76	749.71	8835.07	40°25'54.840"N	104°19'22.194"W	0.77	
15101.00	90.090	92.450	6451.38	8960.80	743.90	8929.89	40°25'54.771"N	104°19'20.969"W	2.22	
15195.00	90.060	88.470	6451.26	9054.41	743.15	9023.87	40°25'54.751"N	104°19'19.754"W	4.23	
15290.00	90.030	88.370	6451.18	9149.27	745.77	9118.83	40°25'54.764"N	104°19'18.525"W	0.11	
15384.00	90.250	87.680	6450.95	9243.17	749.00	9212.78	40°25'54.784"N	104°19'17.310"W	0.77	
15479.00	90.150	87.050	6450.62	9338.11	753.37	9307.67	40°25'54.815"N	104°19'16.082"W	0.67	
15573.00	90.090	86.830	6450.42	9432.08	758.39	9401.54	40°25'54.852"N	104°19'14.868"W	0.24	
15668.00	90.180	85.180	6450.20	9527.07	765.01	9496.30	40°25'54.905"N	104°19'13.641"W	1.74	
15763.00	90.060	84.570	6450.00	9622.06	773.49	9590.92	40°25'54.976"N	104°19'12.416"W	0.65	
15858.00	90.120	85.260	6449.85	9717.06	781.91	9685.55	40°25'55.047"N	104°19'11.191"W	0.73	
15952.00	90.280	87.060	6449.52	9811.05	788.21	9779.33	40°25'55.097"N	104°19'09.978"W	1.92	
16047.00	90.060	89.260	6449.24	9905.93	791.26	9874.28	40°25'55.114"N	104°19'08.749"W	2.33	LAST BHI MWD SURVEY
16079.00	90.060	89.260	6449.21	9937.85	791.67	9906.28	40°25'55.114"N	104°19'08.336"W	0.00	PROJECTION TO BIT

HOLE & CASING SECTIONS - Ref Wellbore: WELLS RANCH AF05-665 AWB Ref Wellpath: WELLS RANCH AF05-665 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	1854.00	1854.00	0.00	1853.97	0.00	0.00	-2.17	-3.49
8.75in Open Hole	1865.00	16079.00	14214.00	1864.97	6449.21	-2.22	-3.49	791.67	9906.28

Actual Wellpath Report

WELLS RANCH AF05-665 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#04 WELLS RANCH AF05-665 (2108'FNL & 605'FWL, SEC.05)
Area	COLORADO	Well	WELLS RANCH AF05-665
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH AF05-665 AWB
Facility	SEC.05-T05N-R62W		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
EX. WELLS#1	0.00	1648.97	5310.67	3324165.44	1403255.86	40°26'04.186"N	104°20'07.613"W	circle
SEC.04-T05N-R62W	6.00	-74.83	-152.17	3318702.82	1401532.12	40°25'47.856"N	104°21'18.540"W	polygon
SEC.04-T05N-R62W NE CORNER	6.00	2450.48	9879.20	3328733.77	1404057.33	40°26'11.508"N	104°19'08.400"W	point
SEC.04-T05N-R62W SE CORNER	6.00	-2907.81	9972.84	3328827.41	1398699.26	40°25'18.552"N	104°19'08.112"W	point
SEC.05-T05N-R62W	6.00	-74.83	-152.17	3318702.82	1401532.12	40°25'47.856"N	104°21'18.540"W	polygon
WELLS RANCH AF05-665 KOP (35' RADII)	2200.00	0.00	0.00	3318854.97	1401606.95	40°25'48.576"N	104°21'16.560"W	circle
WELLS RANCH AF05-665 BHL ON PLAT REV-1 (1650'FNL & 1'FEL, SEC.04)	6341.10	804.00	9906.70	3328761.27	1402410.92	40°25'55.236"N	104°19'08.328"W	point
WELLS RANCH AF05-665 DRILLING COORDINATOR (35'LEFT/RIGHT & 8' UP/DOWN)	6341.10	804.00	9906.70	3328761.28	1402410.92	40°25'55.236"N	104°19'08.328"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: WELLS RANCH AF05-665 AWB Ref Wellpath: WELLS RANCH AF05-665 AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	1848.00	Gyrodata standard - Continuous gyro	GYRODATA SURFACE SURVEYS <83 - 1848>	WELLS RANCH AF05-66
1848.00	16047.00	Custom NaviTrak (Short spacing) (AT Curve sf 0.01) (Rockies 0.03Gt model)	BHI MWD NAVI (AT CURVE, SHORT SPACING) 8 1/2" HOLE <1848 - 16047>	WELLS RANCH AF05-66
16047.00	16079.00	Blind Drilling (std)	Projection to bit	WELLS RANCH AF05-66



Actual Wellpath Report
WELLS RANCH AF05-665 AWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#04 WELLS RANCH AF05-665 (2108'FNL & 605'FWL, SEC.05)
Area	COLORADO	Well	WELLS RANCH AF05-665
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	WELLS RANCH AF05-665 AWB
Facility	SEC.05-T05N-R62W		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
1848.00	0.320	180.640	1847.97	TIE INTO GYRODATA SURFACE SURVEYS	
1945.00	0.090	191.870	1944.97	FIRST BHI MWD SURVEY	
16047.00	90.060	89.260	6449.24	LAST BHI MWD SURVEY	
16079.00	90.060	89.260	6449.21	PROJECTION TO BIT	