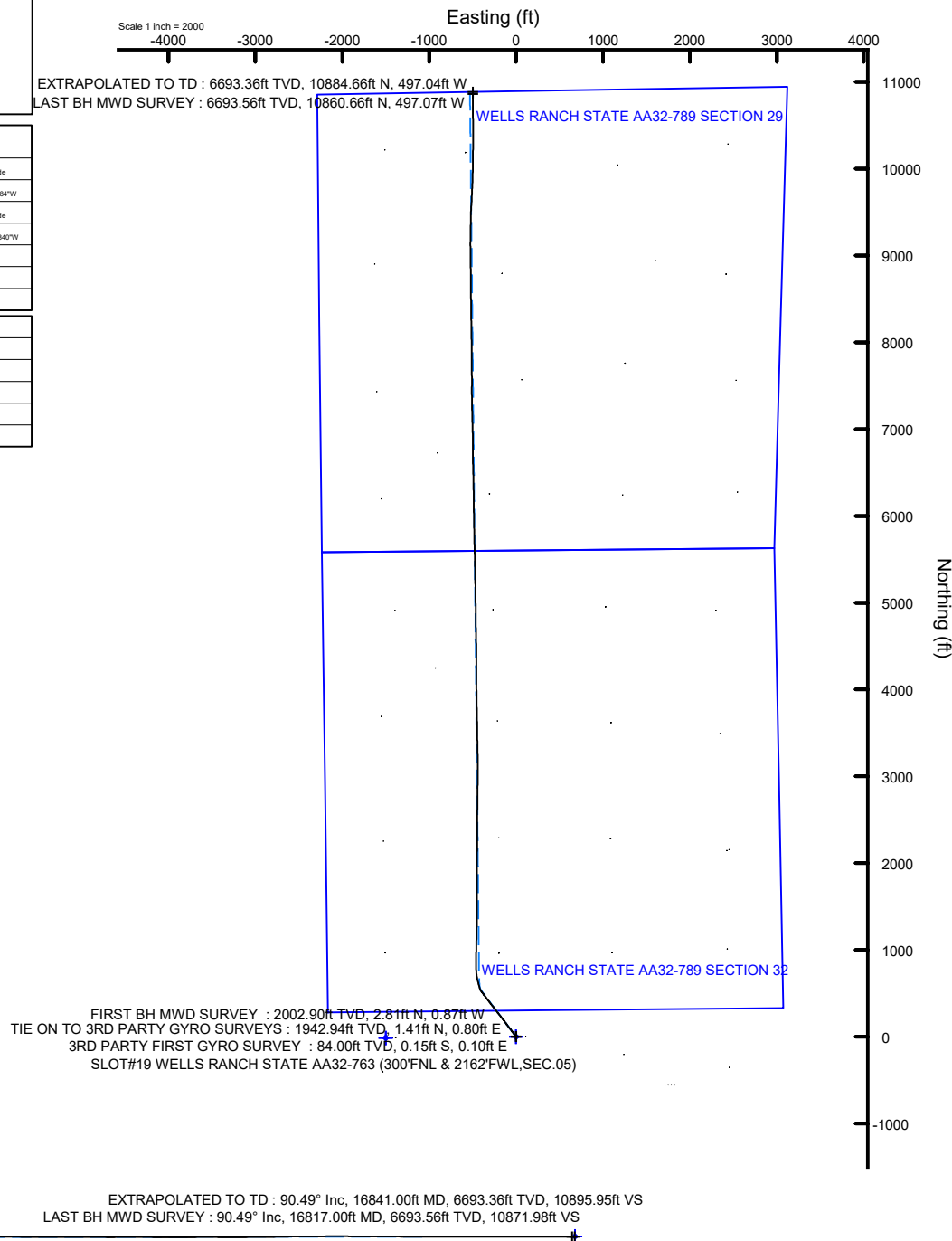


Location:	COLORADO	Slot:	SLOT#19 WELLS RANCH STATE AA32-763 (300'FNL & 2162'FWL, SEC.05)
Field:	WELD COUNTY (NOBLE NAD 83 GRID)	Well:	WELLS RANCH STATE AA32-763
Facility:	SEC.05-T05N-R63W	Wellbore:	WELLS RANCH STATE AA32-763 AWB



EXTRAPOLATED TO TD : 90.49° Inc, 16841.00ft MD, 6693.36ft TVD, 10895.95ft VS
LAST BH MWD SURVEY : 90.49° Inc, 16817.00ft MD, 6693.56ft TVD, 10871.98ft VS

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	WELLS RANCH STATE AA32-763
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.05-T05N-R63W	Wellbore	WELLS RANCH STATE AA32-763 AWB
Slot	SLOT#19 WELLS RANCH STATE AA32-763 (300'FNL & 2162'FWL,SEC.05)		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Manajohj
Scale	0.999962	Report Generated	12/10/2019 at 1:39:47 PM
Convergence at slot	0.67° East	Database	WA_NOBLE

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	401.92	1534.58	3288815.94	1402956.81	40°26'5.5680"N	104°27'44.7840"W
Facility Reference Pt			3287281.42	1402554.91	40°26'1.7736"N	104°28'4.6884"W
Field Reference Pt			3000000.00	4454105.15	48°46'34.3150"N	105°30'0.0000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	RIG (30') (RKB) to Facility Vertical Datum	4713.00ft
Horizontal Reference Pt	Slot	RIG (30') (RKB) to Mean Sea Level	4713.00ft
Vertical Reference Pt	RIG (30') (RKB)	RIG (30') (RKB) to Ground Level at Slot (SLOT#19 WELLS RANCH STATE AA32-763 (300'FNL & 2162'FWL,SEC.05))	4713.00ft
MD Reference Pt	RIG (30') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	357.21°

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	WELLS RANCH STATE AA32-763
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.05-T05N-R63W	Wellbore	WELLS RANCH STATE AA32-763 AWP
Slot	SLOT#19 WELLS RANCH STATE AA32-763 (300'FNL & 2162'FWL, SEC.05)		

WELLPATH DATA (177 stations)														
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Toolface [°]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
0.00	0.000	145.450	0.00	-4713.00	0.00	0.00	0.00	40°26'5.5680"N	104°27'44.7840"W	0.00	0.00	0.00	0.00	
84.00	0.250	145.450	84.00	-4629.00	-0.16	-0.15	0.10	40°26'5.5665"N	104°27'44.7827"W	0.30	131.88	0.30	0.00	3RD PARTY FIRST GYRO SURVEY
178.00	0.220	219.550	178.00	-4535.00	-0.46	-0.46	0.11	40°26'5.5635"N	104°27'44.7827"W	0.30	-156.39	-0.03	78.83	
269.00	0.100	124.940	269.00	-4444.00	-0.64	-0.64	0.06	40°26'5.5617"N	104°27'44.7833"W	0.27	-49.75	-0.13	-103.97	
365.00	0.320	88.990	365.00	-4348.00	-0.70	-0.68	0.40	40°26'5.5612"N	104°27'44.7790"W	0.26	-108.48	0.23	-37.45	
459.00	0.450	22.920	459.00	-4254.00	-0.38	-0.34	0.80	40°26'5.5646"N	104°27'44.7737"W	0.46	-116.83	0.14	-70.29	
554.00	0.630	305.680	553.99	-4159.01	0.28	0.31	0.52	40°26'5.5710"N	104°27'44.7772"W	0.72	-158.81	0.19	-81.31	
649.00	0.510	300.350	648.99	-4064.01	0.84	0.83	-0.27	40°26'5.5762"N	104°27'44.7873"W	0.14	-133.35	-0.13	-5.61	
744.00	0.380	244.430	743.99	-3969.01	0.95	0.91	-0.91	40°26'5.5771"N	104°27'44.7957"W	0.46	178.46	-0.14	-58.86	
839.00	0.150	59.000	838.99	-3874.01	0.89	0.83	-1.09	40°26'5.5764"N	104°27'44.7980"W	0.56	-92.76	-0.24	183.76	
933.00	0.340	352.390	932.98	-3780.02	1.22	1.17	-1.02	40°26'5.5797"N	104°27'44.7971"W	0.33	177.67	0.20	-70.86	
1028.00	0.020	33.740	1027.98	-3685.02	1.52	1.47	-1.05	40°26'5.5826"N	104°27'44.7974"W	0.34	-134.74	-0.34	43.53	
1122.00	0.130	265.270	1121.98	-3591.02	1.53	1.47	-1.15	40°26'5.5827"N	104°27'44.7986"W	0.15	-166.36	0.12	-136.67	
1217.00	0.680	101.500	1216.98	-3496.02	1.38	1.35	-0.70	40°26'5.5814"N	104°27'44.7929"W	0.85	-154.44	0.58	-172.39	
1312.00	0.350	4.010	1311.98	-3401.02	1.53	1.53	-0.13	40°26'5.5831"N	104°27'44.7855"W	0.85	108.43	-0.35	-102.62	
1406.00	0.600	78.840	1405.98	-3307.02	1.89	1.91	0.37	40°26'5.5868"N	104°27'44.7789"W	0.65	-130.53	0.27	79.61	
1501.00	0.480	20.140	1500.97	-3212.03	2.33	2.38	1.00	40°26'5.5914"N	104°27'44.7708"W	0.57	143.33	-0.13	-61.79	
1596.00	0.290	64.790	1595.97	-3117.03	2.79	2.86	1.35	40°26'5.5961"N	104°27'44.7661"W	0.36	112.31	-0.20	47.00	
1690.00	1.000	161.540	1689.97	-3023.03	2.09	2.18	1.83	40°26'5.5893"N	104°27'44.7601"W	1.14	151.43	0.76	102.93	
1785.00	0.680	177.660	1784.96	-2928.04	0.73	0.83	2.11	40°26'5.5759"N	104°27'44.7566"W	0.42	156.78	-0.34	16.97	
1880.00	0.620	308.830	1879.95	-2833.05	0.50	0.59	1.73	40°26'5.5736"N	104°27'44.7615"W	1.25	5.79	-0.06	138.07	
1943.00	1.650	312.450	1942.94	-2770.06	1.37	1.41	0.80	40°26'5.5819"N	104°27'44.7735"W	1.64	-11.64	1.63	5.75	TIE ON TO 3RD PARTY GYRO SURVEYS
2003.00	2.510	308.430	2002.90	-2710.10	2.85	2.81	-0.87	40°26'5.5959"N	104°27'44.7948"W	1.45	14.97	1.43	-6.70	FIRST BH MWD SURVEY
2098.00	4.260	314.650	2097.73	-2615.27	6.82	6.59	-5.01	40°26'5.6337"N	104°27'44.8478"W	1.88	24.32	1.84	6.55	
2192.00	5.850	321.530	2191.36	-2521.64	13.29	12.79	-10.47	40°26'5.6956"N	104°27'44.9175"W	1.81	9.73	1.69	7.32	
2287.00	7.280	323.460	2285.74	-2427.26	22.22	21.42	-17.07	40°26'5.7816"N	104°27'45.0015"W	1.52	21.18	1.51	2.03	
2382.00	9.170	327.990	2379.76	-2333.24	33.84	32.67	-24.66	40°26'5.8937"N	104°27'45.0980"W	2.10	-66.50	1.99	4.77	
2477.00	9.760	320.950	2473.47	-2239.53	46.94	45.35	-33.75	40°26'6.0200"N	104°27'45.2136"W	1.37	28.91	0.62	-7.41	
2571.00	10.250	322.460	2566.04	-2146.96	60.23	58.17	-43.87	40°26'6.1478"N	104°27'45.3424"W	0.59	141.20	0.52	1.61	
2666.00	10.060	323.340	2659.55	-2053.45	74.07	71.52	-53.97	40°26'6.2810"N	104°27'45.4711"W	0.26	-108.70	-0.20	0.93	
2760.00	9.960	321.550	2752.12	-1960.88	87.49	84.48	-63.93	40°26'6.4101"N	104°27'45.5979"W	0.35	178.14	-0.11	-1.90	
2855.00	9.700	321.600	2845.72	-1867.28	100.67	97.18	-74.01	40°26'6.5368"N	104°27'45.7263"W	0.27	173.23	-0.27	0.05	
2950.00	8.560	322.510	2939.52	-1773.48	112.99	109.07	-83.28	40°26'6.6553"N	104°27'45.8444"W	1.21	-7.27	-1.20	0.96	
3045.00	9.080	322.090	3033.39	-1679.61	124.94	120.59	-92.19	40°26'6.7702"N	104°27'45.9579"W	0.55	74.88	0.55	-0.44	
3139.00	9.190	324.460	3126.20	-1586.80	137.32	132.55	-101.11	40°26'6.8894"N	104°27'46.0714"W	0.42	172.00	0.12	2.52	
3234.00	8.090	325.560	3220.12	-1492.88	149.39	144.24	-109.30	40°26'7.0058"N	104°27'46.1756"W	1.17	-36.80	-1.16	1.16	
3329.00	8.410	323.940	3314.14	-1398.86	160.89	155.36	-117.17	40°26'7.1167"N	104°27'46.2757"W	0.42	94.92	0.34	-1.71	
3424.00	8.390	325.930	3408.12	-1304.88	172.62	166.72	-125.14	40°26'7.2298"N	104°27'46.3770"W	0.31	-70.08	-0.02	2.09	
3518.00	8.640	321.750	3501.09	-1211.91	184.23	177.95	-133.36	40°26'7.3417"N	104°27'46.4815"W	0.71	2.97	0.27	-4.45	
3613.00	9.640	322.060	3594.88	-1118.12	196.55	189.82	-142.66	40°26'7.4601"N	104°27'46.6001"W	1.05	-157.08	1.05	0.33	
3708.00	9.290	321.140	3688.59	-1024.41	209.25	202.07	-152.37	40°26'7.5822"N	104°27'46.7237"W	0.40	15.65	-0.37	-0.97	
3802.00	9.600	321.660	3781.31	-931.69	221.76	214.12	-161.99	40°26'7.7025"N	104°27'46.8463"W	0.34	157.82	0.33	0.55	
3897.00	9.400	322.160	3875.01	-837.99	234.56	226.46	-171.66	40°26'7.8255"N	104°27'46.9695"W	0.23	-162.21	-0.21	0.53	
3992.00	9.240	321.840	3968.75	-744.25	247.13	238.59	-181.13	40°26'7.9464"N	104°27'47.0902"W	0.18	-13.22	-0.17	-0.34	
4087.00	9.610	321.320	4062.47	-650.53	259.77	250.78	-190.80	40°26'8.0679"N	104°27'47.2134"W	0.40	4.40	0.39	-0.55	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	WELLS RANCH STATE AA32-763
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.05-T05N-R63W	Wellbore	WELLS RANCH STATE AA32-763 AWB
Slot	SLOT#19 WELLS RANCH STATE AA32-763 (300'FNL & 2162'FWL,SEC.05)		

WELLPATH DATA (177 stations)														
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Toolface [°]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
4181.00	10.590	321.730	4155.01	-557.99	273.16	263.68	-201.06	40°26'8.1967"N	104°27'47.3440"W	1.05	157.80	1.04	0.44	
4276.00	10.310	322.370	4248.44	-464.56	287.25	277.27	-211.65	40°26'8.3321"N	104°27'47.4790"W	0.32	-34.38	-0.29	0.67	
4371.00	10.360	322.180	4341.90	-371.10	301.22	290.75	-222.08	40°26'8.4665"N	104°27'47.6118"W	0.06	-179.42	0.05	-0.20	
4465.00	9.850	322.150	4434.44	-278.56	314.72	303.78	-232.20	40°26'8.5964"N	104°27'47.7407"W	0.54	-38.26	-0.54	-0.03	
4560.00	9.940	321.740	4528.02	-184.98	328.05	316.63	-242.26	40°26'8.7246"N	104°27'47.8688"W	0.12	-6.96	0.09	-0.43	
4655.00	10.040	321.670	4621.58	-91.42	341.47	329.56	-252.47	40°26'8.8536"N	104°27'47.9990"W	0.11	143.62	0.11	-0.07	
4750.00	9.880	322.360	4715.15	2.15	354.90	342.51	-262.59	40°26'8.9827"N	104°27'48.1278"W	0.21	27.69	-0.17	0.73	
4844.00	10.050	322.870	4807.73	94.73	368.29	355.44	-272.46	40°26'9.1115"N	104°27'48.2535"W	0.20	-63.76	0.18	0.54	
4939.00	10.310	320.060	4901.24	188.24	381.91	368.57	-282.92	40°26'9.2425"N	104°27'48.3868"W	0.59	130.94	0.27	-2.96	
5033.00	9.960	322.450	4993.77	280.77	395.29	381.46	-293.28	40°26'9.3711"N	104°27'48.5188"W	0.58	176.56	-0.37	2.54	
5223.00	7.640	323.500	5181.52	468.52	419.30	404.64	-310.81	40°26'9.6022"N	104°27'48.7419"W	1.22	-9.42	-1.22	0.55	
5317.00	9.090	321.980	5274.52	561.52	430.56	415.52	-319.10	40°26'9.7106"N	104°27'48.8475"W	1.56	14.57	1.54	-1.62	
5412.00	9.870	323.160	5368.22	655.22	443.44	427.94	-328.60	40°26'9.8345"N	104°27'48.9685"W	0.85	2.16	0.82	1.24	
5507.00	10.550	323.300	5461.72	748.72	457.41	441.43	-338.68	40°26'9.9689"N	104°27'49.0968"W	0.72	-116.86	0.72	0.15	
5602.00	10.480	322.530	5555.12	842.12	471.73	455.26	-349.14	40°26'10.1068"N	104°27'49.2299"W	0.17	17.02	-0.07	-0.81	
5696.00	10.680	322.860	5647.53	934.53	485.95	468.99	-359.60	40°26'10.2436"N	104°27'49.3631"W	0.22	177.81	0.21	0.35	
5791.00	8.970	323.280	5741.13	1028.13	499.36	481.95	-369.34	40°26'10.3728"N	104°27'49.4872"W	1.80	123.49	-1.80	0.44	
5886.00	8.900	323.970	5834.98	1121.98	511.66	493.83	-378.09	40°26'10.4911"N	104°27'49.5985"W	0.13	-39.62	-0.07	0.73	
5981.00	9.250	322.190	5928.79	1215.79	524.06	505.80	-387.09	40°26'10.6105"N	104°27'49.7131"W	0.47	105.04	0.37	-1.87	
6076.00	9.210	323.150	6022.56	1309.56	536.61	517.92	-396.33	40°26'10.7313"N	104°27'49.8308"W	0.17	-37.39	-0.04	1.01	
6170.00	9.610	321.340	6115.29	1402.29	549.20	530.06	-405.75	40°26'10.8524"N	104°27'49.9507"W	0.53	49.67	0.43	-1.93	
6265.00	14.600	341.100	6208.19	1495.19	567.15	547.60	-414.59	40°26'11.0267"N	104°27'50.0624"W	6.76	7.77	5.25	20.80	
6359.00	22.330	343.860	6297.28	1584.28	595.95	576.01	-423.40	40°26'11.3084"N	104°27'50.1721"W	8.27	1.38	8.22	2.94	
6454.00	30.870	344.260	6382.15	1669.15	637.33	616.88	-435.05	40°26'11.7136"N	104°27'50.3165"W	8.99	22.31	8.99	0.42	
6549.00	38.950	349.440	6460.01	1747.01	690.77	669.79	-447.16	40°26'12.2378"N	104°27'50.4651"W	9.05	20.50	8.51	5.45	
6644.00	47.110	353.550	6529.41	1816.41	755.21	733.85	-456.56	40°26'12.8718"N	104°27'50.5770"W	9.08	26.16	8.59	4.33	
6738.00	55.330	358.380	6588.25	1875.25	828.38	806.85	-461.53	40°26'13.5938"N	104°27'50.6302"W	9.61	22.44	8.74	5.14	
6833.00	62.830	1.830	6637.04	1924.04	909.69	888.28	-461.28	40°26'14.3983"N	104°27'50.6148"W	8.49	-4.20	7.89	3.63	
6928.00	73.330	1.030	6672.46	1959.46	997.46	976.26	-459.11	40°26'15.2673"N	104°27'50.5734"W	11.08	2.92	11.05	-0.84	
7022.00	81.910	1.470	6692.59	1979.59	1088.96	1067.96	-457.10	40°26'16.1733"N	104°27'50.5335"W	9.14	3.56	9.13	0.47	
7117.00	89.480	1.940	6699.72	1986.72	1183.33	1162.58	-454.29	40°26'17.1079"N	104°27'50.4828"W	7.98	-81.48	7.97	0.49	
7212.00	89.750	0.140	6700.36	1987.36	1278.11	1257.56	-452.56	40°26'18.0461"N	104°27'50.4462"W	1.92	17.82	0.28	-1.89	
7307.00	90.030	0.230	6700.54	1987.54	1372.98	1352.56	-452.26	40°26'18.9848"N	104°27'50.4278"W	0.31	59.83	0.29	0.09	
7402.00	90.280	0.660	6700.28	1987.28	1467.83	1447.56	-451.52	40°26'19.9233"N	104°27'50.4039"W	0.52	-139.22	0.26	0.45	
7496.00	89.480	359.970	6700.48	1987.48	1561.69	1541.56	-451.00	40°26'20.8521"N	104°27'50.3831"W	1.12	-105.46	-0.85	-0.73	
7591.00	89.350	359.500	6701.45	1988.45	1656.59	1636.55	-451.44	40°26'21.7907"N	104°27'50.3744"W	0.51	66.74	-0.14	-0.49	
7686.00	89.780	0.500	6702.17	1989.17	1751.48	1731.55	-451.44	40°26'22.7294"N	104°27'50.3600"W	1.15	-121.61	0.45	1.05	
7781.00	89.380	359.850	6702.87	1989.87	1846.35	1826.54	-451.15	40°26'23.6680"N	104°27'50.3419"W	0.80	11.89	-0.42	-0.68	
7875.00	89.570	359.890	6703.73	1990.73	1940.24	1920.54	-451.36	40°26'24.5968"N	104°27'50.3305"W	0.21	71.77	0.20	0.04	
7970.00	89.850	0.740	6704.21	1991.21	2035.10	2015.53	-450.84	40°26'25.5354"N	104°27'50.3094"W	0.94	2.56	0.29	0.89	
8065.00	90.520	0.770	6703.90	1990.90	2129.92	2110.52	-449.59	40°26'26.4738"N	104°27'50.2788"W	0.71	-133.09	0.71	0.03	
8160.00	89.940	0.150	6703.52	1990.52	2224.76	2205.52	-448.83	40°26'27.4124"N	104°27'50.2546"W	0.89	-126.03	-0.61	-0.65	
8254.00	89.540	359.600	6703.95	1990.95	2318.66	2299.52	-449.03	40°26'28.3412"N	104°27'50.2431"W	0.72	118.98	-0.43	-0.59	
8349.00	88.920	0.720	6705.22	1992.22	2413.52	2394.51	-448.77	40°26'29.2797"N	104°27'50.2253"W	1.35	-1.01	-0.65	1.18	
8444.00	90.620	0.690	6705.61	1992.61	2508.34	2489.50	-447.60	40°26'30.2182"N	104°27'50.1958"W	1.79	174.47	1.79	-0.03	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	WELLS RANCH STATE AA32-763
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.05-T05N-R63W	Wellbore	WELLS RANCH STATE AA32-763 AWP
Slot	SLOT#19 WELLS RANCH STATE AA32-763 (300'FNL & 2162'FWL,SEC.05)		

WELLPATH DATA (177 stations)														
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Toolface [°]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
8538.00	89.690	0.780	6705.35	1992.35	2602.16	2583.49	-446.39	40°26'31.1467°N	104°27'50.1660°W	0.99	0.00	-0.99	0.10	
8633.00	90.060	0.780	6705.56	1992.56	2696.98	2678.48	-445.10	40°26'32.0852°N	104°27'50.1349°W	0.39	-54.46	0.39	0.00	
8728.00	90.460	0.220	6705.13	1992.13	2791.82	2773.47	-444.27	40°26'33.0237°N	104°27'50.1099°W	0.72	106.26	0.42	-0.59	
8823.00	90.180	1.180	6704.60	1991.60	2886.64	2868.46	-443.11	40°26'33.9622°N	104°27'50.0805°W	1.05	-62.74	-0.29	1.01	
8917.00	90.520	0.520	6704.02	1991.02	2980.45	2962.45	-441.71	40°26'34.8907°N	104°27'50.0483°W	0.79	-143.45	0.36	-0.70	
9012.00	89.940	0.090	6703.64	1990.64	3075.31	3057.45	-441.21	40°26'35.8293°N	104°27'50.0274°W	0.76	2.23	-0.61	-0.45	
9107.00	90.710	0.120	6703.10	1990.10	3170.18	3152.44	-441.03	40°26'36.7679°N	104°27'50.0108°W	0.81	-101.89	0.81	0.03	
9201.00	90.280	358.080	6702.29	1989.29	3264.12	3246.42	-442.51	40°26'37.6967°N	104°27'50.0156°W	2.22	85.28	-0.46	-2.17	
9296.00	90.370	359.170	6701.75	1988.75	3359.09	3341.39	-444.79	40°26'38.6353°N	104°27'50.0308°W	1.15	156.19	0.09	1.15	
9391.00	90.030	359.320	6701.42	1988.42	3454.03	3436.39	-446.04	40°26'39.5741°N	104°27'50.0326°W	0.39	-73.30	-0.36	0.16	
9485.00	90.120	359.020	6701.30	1988.30	3547.98	3530.37	-447.40	40°26'40.5029°N	104°27'50.0360°W	0.33	173.66	0.10	-0.32	
9580.00	89.850	359.050	6701.32	1988.32	3642.93	3625.36	-449.00	40°26'41.4417°N	104°27'50.0424°W	0.29	-27.03	-0.28	0.03	
9675.00	90.340	358.800	6701.16	1988.16	3737.88	3720.34	-450.79	40°26'42.3804°N	104°27'50.0511°W	0.58	-139.14	0.52	-0.26	
9769.00	89.970	358.480	6700.91	1987.91	3831.85	3814.32	-453.02	40°26'43.3092°N	104°27'50.0657°W	0.52	30.65	-0.39	-0.34	
9864.00	91.050	359.120	6700.06	1987.06	3926.81	3909.29	-455.01	40°26'44.2478°N	104°27'50.0771°W	1.32	148.30	1.14	0.67	
9959.00	90.030	359.750	6699.17	1986.17	4021.73	4004.28	-455.94	40°26'45.1865°N	104°27'50.0748°W	1.26	-83.42	-1.07	0.66	
10053.00	90.060	359.490	6699.10	1986.10	4115.65	4098.28	-456.57	40°26'46.1154°N	104°27'50.0687°W	0.28	15.25	0.03	-0.28	
10148.00	91.050	359.760	6698.18	1985.18	4210.56	4193.27	-457.19	40°26'47.0541°N	104°27'50.0624°W	1.08	-134.09	1.04	0.28	
10243.00	90.740	359.440	6696.69	1983.69	4305.47	4288.26	-457.85	40°26'47.9927°N	104°27'50.0566°W	0.47	121.54	-0.33	-0.34	
10337.00	90.120	0.450	6695.99	1982.99	4399.35	4382.25	-457.94	40°26'48.9214°N	104°27'50.0436°W	1.26	-83.95	-0.66	1.07	
10432.00	90.280	358.940	6695.65	1982.65	4494.26	4477.25	-458.45	40°26'49.8601°N	104°27'50.0358°W	1.60	50.01	0.17	-1.59	
10526.00	90.800	359.560	6694.77	1981.77	4588.20	4571.23	-459.68	40°26'50.7890°N	104°27'50.0375°W	0.86	-151.27	0.55	0.66	
10621.00	88.830	358.480	6695.08	1982.08	4683.14	4666.21	-461.30	40°26'51.7276°N	104°27'50.0441°W	2.36	46.74	-2.07	-1.14	
10716.00	89.630	359.330	6696.35	1983.35	4778.09	4761.19	-463.12	40°26'52.6662°N	104°27'50.0532°W	1.23	7.43	0.84	0.89	
10905.00	90.550	359.450	6696.05	1983.05	4966.95	4950.17	-465.13	40°26'54.5338°N	104°27'50.0507°W	0.49	-105.25	0.49	0.06	
11000.00	90.310	358.570	6695.34	1982.34	5061.90	5045.15	-466.77	40°26'55.4725°N	104°27'50.0576°W	0.96	85.10	-0.25	-0.93	
11094.00	90.400	359.620	6694.76	1981.76	5155.85	5139.14	-468.26	40°26'56.4014°N	104°27'50.0626°W	1.12	-62.03	0.10	1.12	
11189.00	90.830	358.810	6693.74	1980.74	5250.78	5234.12	-469.56	40°26'57.3400°N	104°27'50.0651°W	0.97	136.36	0.45	-0.85	
11284.00	90.400	359.220	6692.72	1979.72	5345.73	5329.10	-471.19	40°26'58.2787°N	104°27'50.0718°W	0.63	-125.54	-0.45	0.43	
11378.00	90.150	358.870	6692.27	1979.27	5439.68	5423.09	-472.76	40°26'59.2076°N	104°27'50.0779°W	0.46	-81.12	-0.27	-0.37	
11568.00	90.250	358.230	6691.61	1978.61	5629.63	5613.03	-477.56	40°27'1.0849°N	104°27'50.1114°W	0.34	105.05	0.05	-0.34	
11663.00	90.000	359.160	6691.40	1978.40	5724.59	5708.00	-479.73	40°27'2.0235°N	104°27'50.1250°W	1.01	-155.56	-0.26	0.98	
11758.00	89.230	358.810	6692.04	1979.04	5819.54	5802.98	-481.41	40°27'2.9622°N	104°27'50.1324°W	0.89	-20.56	-0.81	-0.37	
11852.00	89.630	358.660	6692.97	1979.97	5913.51	5896.96	-483.49	40°27'3.8910°N	104°27'50.1450°W	0.45	98.75	0.43	-0.16	
11947.00	89.570	359.050	6693.64	1980.64	6008.46	5991.93	-485.38	40°27'4.8297°N	104°27'50.1552°W	0.42	114.31	-0.06	0.41	
12042.00	89.010	0.290	6694.81	1981.81	6103.37	6086.92	-485.93	40°27'5.7683°N	104°27'50.1480°W	1.43	-71.36	-0.59	1.31	
12137.00	89.540	358.720	6696.01	1983.01	6198.28	6181.91	-486.75	40°27'6.7070°N	104°27'50.1442°W	1.74	21.19	0.56	-1.65	
12231.00	90.030	358.910	6696.37	1983.37	6292.24	6275.89	-488.70	40°27'7.6358°N	104°27'50.1552°W	0.56	163.81	0.52	0.20	
12326.00	89.720	359.000	6696.57	1983.57	6387.20	6370.87	-490.43	40°27'8.5745°N	104°27'50.1632°W	0.34	-41.47	-0.33	0.09	
12421.00	90.150	358.620	6696.68	1983.68	6482.16	6465.85	-492.40	40°27'9.5132°N	104°27'50.1744°W	0.60	-118.30	0.45	-0.40	
12515.00	89.940	358.230	6696.61	1983.61	6576.14	6559.81	-494.99	40°27'10.4419°N	104°27'50.1936°W	0.47	98.53	-0.22	-0.41	
12610.00	89.820	359.030	6696.81	1983.81	6671.11	6654.79	-497.26	40°27'11.3806°N	104°27'50.2086°W	0.85	83.89	-0.13	0.84	
12705.00	89.850	359.310	6697.08	1984.08	6766.05	6749.78	-498.63	40°27'12.3193°N	104°27'50.2121°W	0.30	108.18	0.03	0.29	
12800.00	89.420	0.620	6697.69	1984.69	6860.94	6844.77	-498.69	40°27'13.2580°N	104°27'50.1985°W	1.45	-33.82	-0.45	1.38	
12894.00	91.450	359.260	6696.97	1983.97	6954.82	6938.76	-498.79	40°27'14.1867°N	104°27'50.1855°W	2.60	-141.95	2.16	-1.45	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	WELLS RANCH STATE AA32-763
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.05-T05N-R63W	Wellbore	WELLS RANCH STATE AA32-763 AWB
Slot	SLOT#19 WELLS RANCH STATE AA32-763 (300'FNL & 2162'FWL,SEC.05)		

WELLPATH DATA (177 stations) † = interpolated, ‡ = extrapolated station														Comments
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Toolface [°]	Build Rate [°/100ft]	Turn Rate [°/100ft]	
12989.00	89.750	357.930	6695.98	1982.98	7049.78	7033.72	-501.12	40°27'15.1253"N	104°27'50.2013"W	2.27	102.68	-1.79	-1.40	
13084.00	89.570	358.730	6696.54	1983.54	7144.76	7128.68	-503.89	40°27'16.0638"N	104°27'50.2228"W	0.86	-153.44	-0.19	0.84	
13179.00	89.350	358.620	6697.44	1984.44	7239.73	7223.65	-506.08	40°27'17.0025"N	104°27'50.2368"W	0.26	69.55	-0.23	-0.12	
13273.00	89.570	359.210	6698.32	1985.32	7333.68	7317.63	-507.86	40°27'17.9313"N	104°27'50.2456"W	0.67	-20.73	0.23	0.63	
13368.00	89.940	359.070	6698.73	1985.73	7428.62	7412.62	-509.29	40°27'18.8700"N	104°27'50.2497"W	0.42	72.61	0.39	-0.15	
13463.00	90.710	1.530	6698.19	1985.19	7523.48	7507.61	-508.79	40°27'19.8085"N	104°27'50.2289"W	2.71	-101.60	0.81	2.59	
13558.00	90.030	358.220	6697.58	1984.58	7618.36	7602.59	-509.00	40°27'20.7471"N	104°27'50.2173"W	3.56	86.29	-0.72	-3.48	
13652.00	90.150	0.070	6697.43	1984.43	7712.30	7696.58	-510.40	40°27'21.6759"N	104°27'50.2212"W	1.97	-115.60	0.13	1.97	
13747.00	89.690	359.110	6697.56	1984.56	7807.22	7791.57	-511.08	40°27'22.6146"N	104°27'50.2156"W	1.12	56.59	-0.48	-1.01	
13842.00	90.000	359.580	6697.82	1984.82	7902.15	7886.56	-512.17	40°27'23.5533"N	104°27'50.2153"W	0.59	104.50	0.33	0.49	
13936.00	89.850	0.160	6697.94	1984.94	7996.05	7980.56	-512.38	40°27'24.4822"N	104°27'50.2039"W	0.64	-35.69	-0.16	0.62	
14031.00	91.200	359.190	6697.07	1984.07	8090.95	8075.55	-512.92	40°27'25.4208"N	104°27'50.1965"W	1.75	-174.71	1.42	-1.02	
14126.00	90.120	359.090	6695.98	1982.98	8185.89	8170.54	-514.35	40°27'26.3595"N	104°27'50.2006"W	1.14	2.29	-1.14	-0.11	
14220.00	90.620	359.110	6695.37	1982.37	8279.84	8264.52	-515.82	40°27'27.2883"N	104°27'50.2055"W	0.53	-27.44	0.53	0.02	
14314.00	91.390	358.710	6693.72	1980.72	8373.78	8358.49	-517.61	40°27'28.2170"N	104°27'50.2144"W	0.92	114.30	0.82	-0.43	
14409.00	90.830	359.950	6691.88	1978.88	8468.70	8453.46	-518.72	40°27'29.1556"N	104°27'50.2144"W	1.43	-116.42	-0.59	1.31	
14504.00	90.000	358.280	6691.19	1978.19	8563.64	8548.45	-520.19	40°27'30.0942"N	104°27'50.2190"W	1.96	88.39	-0.87	-1.76	
14599.00	90.030	359.350	6691.17	1978.17	8658.60	8643.42	-522.15	40°27'31.0329"N	104°27'50.2301"W	1.13	49.39	0.03	1.13	
14693.00	91.350	0.890	6690.04	1977.04	8752.46	8737.41	-521.96	40°27'31.9616"N	104°27'50.2134"W	2.16	-131.94	1.40	1.64	
14788.00	89.570	358.910	6689.27	1976.27	8847.35	8832.40	-522.12	40°27'32.9002"N	104°27'50.2011"W	2.80	-123.69	-1.87	-2.08	
14883.00	89.450	358.730	6690.09	1977.09	8942.31	8927.38	-524.08	40°27'33.8388"N	104°27'50.2121"W	0.23	66.95	-0.13	-0.19	
14977.00	89.850	359.670	6690.66	1977.66	9036.25	9021.36	-525.39	40°27'34.7677"N	104°27'50.2149"W	1.09	135.00	0.43	1.00	
15072.00	89.690	359.830	6691.04	1978.04	9131.15	9116.36	-525.80	40°27'35.7064"N	104°27'50.2059"W	0.24	77.43	-0.17	0.17	
15167.00	90.000	1.220	6691.30	1978.30	9225.99	9211.36	-524.93	40°27'36.6449"N	104°27'50.1802"W	1.50	-148.89	0.33	1.46	
15356.00	88.890	0.550	6693.13	1980.13	9414.59	9400.32	-522.02	40°27'38.5117"N	104°27'50.1139"W	0.69	48.11	-0.59	-0.35	
15451.00	90.550	2.400	6693.59	1980.59	9509.32	9495.28	-519.57	40°27'39.4497"N	104°27'50.0679"W	2.62	104.72	1.75	1.95	
15545.00	90.090	4.150	6693.07	1980.07	9602.79	9589.12	-514.20	40°27'40.3763"N	104°27'49.9843"W	1.92	-96.80	-0.49	1.86	
15640.00	89.780	1.550	6693.18	1980.18	9697.32	9684.00	-509.48	40°27'41.3132"N	104°27'49.9088"W	2.76	78.87	-0.33	-2.74	
15735.00	90.150	3.430	6693.23	1980.23	9791.91	9778.90	-505.35	40°27'42.2505"N	104°27'49.8411"W	2.02	-89.11	0.39	1.98	
15830.00	90.180	1.490	6692.96	1979.96	9886.51	9873.81	-501.27	40°27'43.1877"N	104°27'49.7740"W	2.04	133.70	0.03	-2.04	
15924.00	89.750	1.940	6693.02	1980.02	9980.21	9967.77	-498.46	40°27'44.1158"N	104°27'49.7234"W	0.66	-79.54	-0.46	0.48	
16019.00	90.280	359.070	6692.99	1979.99	10075.05	10062.75	-497.62	40°27'45.0542"N	104°27'49.6982"W	3.07	114.64	0.56	-3.02	
16113.00	89.170	1.490	6693.44	1980.44	10168.90	10156.74	-497.16	40°27'45.9829"N	104°27'49.6781"W	2.83	34.02	-1.18	2.57	
16208.00	89.570	1.760	6694.49	1981.49	10263.61	10251.70	-494.47	40°27'46.9208"N	104°27'49.6289"W	0.51	-70.98	0.42	0.28	
16303.00	90.370	359.440	6694.54	1981.54	10358.44	10346.69	-493.47	40°27'47.8593"N	104°27'49.6017"W	2.58	-175.33	0.84	-2.44	
16398.00	89.880	359.400	6694.33	1981.33	10453.37	10441.68	-494.44	40°27'48.7980"N	104°27'49.5997"W	0.52	120.96	-0.52	-0.04	
16493.00	89.850	359.450	6694.55	1981.55	10548.30	10536.67	-495.39	40°27'49.7367"N	104°27'49.5977"W	0.06	-4.76	-0.03	0.05	
16587.00	90.090	359.430	6694.60	1981.60	10642.23	10630.67	-496.31	40°27'50.6656"N	104°27'49.5954"W	0.26	90.00	0.26	-0.02	
16682.00	90.090	359.850	6694.45	1981.45	10737.14	10725.67	-496.91	40°27'51.6043"N	104°27'49.5887"W	0.44	12.26	0.00	0.44	
16777.00	90.550	359.950	6693.92	1980.92	10832.03	10820.67	-497.07	40°27'52.5430"N	104°27'49.5765"W	0.50	118.61	0.48	0.11	
16817.00	90.490	0.060	6693.56	1980.56	10871.98	10860.66	-497.07	40°27'52.9382"N	104°27'49.5704"W	0.31	0.00	-0.15	0.28	LAST BH MWD SURVEY
16841.00†	90.490	0.060	6693.36	1980.36	10895.95	10884.66	-497.04	40°27'53.1753"N	104°27'49.5665"W	0.00		0.00	0.00	EXTRAPOLATED TO TD

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	WELLS RANCH STATE AA32-763
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.05-T05N-R63W	Wellbore	WELLS RANCH STATE AA32-763 AWB
Slot	SLOT#19 WELLS RANCH STATE AA32-763 (300'FNL & 2162'FWL,SEC.05)		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
WELLS RANCH STATE AA32-789 SECTION 29	11.00	-13.87	-1500.40	3287315.60	1402942.95	40°26'5.6040"N	104°28'4.1880"W	polygon
	2D Polygon: dimensions not calculated							
WELLS RANCH STATE AA32-789 SECTION 32	11.00	-13.87	-1500.40	3287315.60	1402942.95	40°26'5.6040"N	104°28'4.1880"W	polygon
	2D Polygon: dimensions not calculated							
WELLS RANCH STATE AA32-763 BHL REV-1 (0'FNL & 1760'FWL,SEC.29)	6691.00	10885.93	-530.82	3288285.14	1413842.31	40°27'53.1918"N	104°27'50.0033"W	point
WELLS RANCH STATE AA32-763 LP TPZ REV-1 (400'FSL & 1743'FWL,SEC.32)	6703.00	1167.64	-430.97	3288384.98	1404124.41	40°26'17.1551"N	104°27'50.1805"W	point
WELLS RANCH STATE AA32-763 WSU	7000.00	0.00	0.00	3288815.94	1402956.81	40°26'5.5680"N	104°27'44.7840"W	polygon
	2D Polygon: dimensions not calculated							
WELLS RANCH STATE AA32-763 WSU 460' SETBACK	7000.00	0.00	0.00	3288815.94	1402956.81	40°26'5.5680"N	104°27'44.7840"W	polygon
	2D Polygon: dimensions not calculated							

WELLPATH COMPOSITION - Ref Wellbore: WELLS RANCH STATE AA32-763 AWB Ref Wellpath: WELLS RANCH STATE AA32-763 AWP						
Start MD [ft]	End MD [ft]	Positional Uncertainty Model		Log Name/Comment	Wellbore	Survey Date
0.00	1943.00	Gyrodata 2015 - GC+DROP+COND		13.5" GYRODATA SURVEYS (GYRODATA 2015-GC+DROP+COND) <0' - 1943">	WELLS RANCH STATE AA32-763 AWB	12/9/2019
1943.00	16841.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction		8.5" ATC Monobore (OWSG MWD REV.2+IFR1+MSA) <2003' - 16817">	WELLS RANCH STATE AA32-763 AWB	12/9/2019

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Well	WELLS RANCH STATE AA32-763
Field	WELD COUNTY (NOBLE NAD 83 GRID)	API/Legal	
Facility	SEC.05-T05N-R63W	Wellbore	WELLS RANCH STATE AA32-763 AWB
Slot	SLOT#19 WELLS RANCH STATE AA32-763 (300'FNL & 2162'FWL,SEC.05)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
84.00	0.250	145.450	84.00	3RD PARTY FIRST GYRO SURVEY
1943.00	1.650	312.450	1942.94	TIE ON TO 3RD PARTY GYRO SURVEYS
2003.00	2.510	308.430	2002.90	FIRST BH MWD SURVEY
16817.00	90.490	0.060	6693.56	LAST BH MWD SURVEY
16841.00	90.490	0.060	6693.36	EXTRAPOLATED TO TD