

NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#02 SLW RANCH STATE BB07-678 (1528'FNL & 800'FWL,SEC.07)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: SLW RANCH STATE BB07-678
Facility: SEC.07-T05N-R63W Wellbore: SLW RANCH STATE BB07-678 PWB

Plot reference wellpath is SLW RANCH STATE BB07-678 (REV-AUG) PWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (307) (RKB)	North Reference: Grid north
Measured depths are referenced to RIG (307) (RKB)	Scale: True distance
RIG (307) (RKB) to Mean Sea Level: 4662 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: SLOT#02 SLW RANCH STATE BB07-678 (1528'FNL & 800'FWL,SEC.07)): 0 feet	Created by: doddanna on 2019-09-10
Coordinates are in feet referenced to Slot	Database: WellArchitectDB2

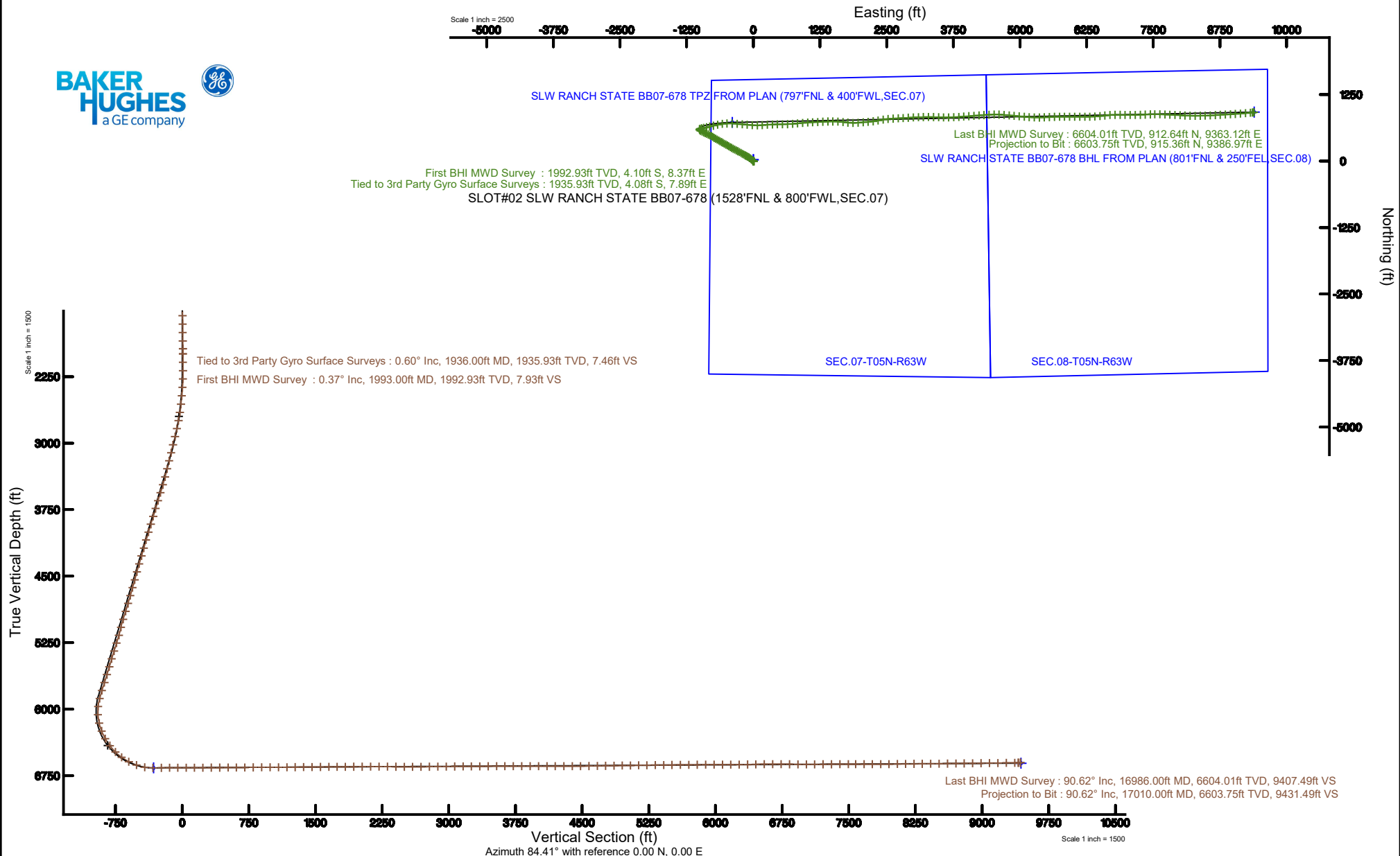


Location Information

Facility Name				Grid East (US Ft)	Grid North (US Ft)	Latitude	Longitude
SEC.07-T05N-R63W				3282340.091	1396437.016	40°25'01.884"N	104°22'03.482"W
Slot	Local N (ft)	Local E (ft)	Grid East (US Ft)	Grid North (US Ft)	Latitude	Longitude	
SLOT#02 SLW RANCH STATE BB07-678 (1528'FNL & 800'FWL,SEC.07)	-25.50	0.29	3282340.383	1396411.516	40°25'01.632"N	104°22'03.482"W	
RIG (307) (RKB) to Ground level (At Slot: SLOT#02 SLW RANCH STATE BB07-678 (1528'FNL & 800'FWL,SEC.07))						4662ft	
Mean Sea Level to Ground level (At Slot: SLOT#02 SLW RANCH STATE BB07-678 (1528'FNL & 800'FWL,SEC.07))						0ft	
RIG (307) (RKB) to Mean Sea Level						4662ft	

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
30.00	17027.51	OWSG MWD rev2	OWSG MWD rev2 + IFR1 + Multi-Station Correction		SLW RANCH STATE BB07-678 PWB



REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 SLW RANCH STATE BB07-678 (1528'FNL & 800'FWL,SEC.07)
Area	COLORADO	Well	SLW RANCH STATE BB07-678
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SLW RANCH STATE BB07-678 AWP
Facility	SEC.07-T05N-R63W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Doddanna
Scale	0.999961	Report Generated	9/10/2019 at 11:22:40 AM
Convergence at slot	0.66° East	Database/Source file	WellArchitectDB2/SLW_RANCH_STATE_BB07-678_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-25.50	0.29	3282340.38	1396411.52	40°25'01.632"N	104°29'09.492"W
Facility Reference Pt			3282340.09	1396437.02	40°25'01.884"N	104°29'09.492"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') (RKB) to Facility Vertical Datum	4662.00ft
Horizontal Reference Pt	Slot	RIG (30') (RKB) to Mean Sea Level	4662.00ft
Vertical Reference Pt	RIG (30') (RKB)	RIG (30') (RKB) to Ground Level at Slot (SLOT#02 SLW RANCH STATE BB07-678 (1528'FNL & 800'FWL,SEC.07))	4662.00ft
MD Reference Pt	RIG (30') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	84.41°

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SLW RANCH STATE BB07-678 AWB
Facility	SEC.07-T05N-R63W		

WELLPATH DATA (183 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	294.910	0.00	0.00	0.00	0.00	40°25'01.632"N	104°29'09.492"W	0.00	
81.00	0.190	294.910	81.00	-0.12	0.06	-0.12	40°25'01.633"N	104°29'09.494"W	0.23	
176.00	0.280	305.060	176.00	-0.43	0.26	-0.45	40°25'01.635"N	104°29'09.498"W	0.10	
268.00	0.280	135.570	268.00	-0.46	0.22	-0.48	40°25'01.634"N	104°29'09.498"W	0.61	
331.00	0.110	190.280	331.00	-0.38	0.06	-0.38	40°25'01.633"N	104°29'09.497"W	0.37	
426.00	0.210	334.960	426.00	-0.46	0.12	-0.47	40°25'01.633"N	104°29'09.498"W	0.32	
521.00	0.120	152.020	521.00	-0.48	0.19	-0.50	40°25'01.634"N	104°29'09.498"W	0.35	
615.00	0.230	159.640	615.00	-0.39	-0.07	-0.39	40°25'01.631"N	104°29'09.497"W	0.12	
710.00	0.200	202.750	710.00	-0.42	-0.40	-0.39	40°25'01.628"N	104°29'09.497"W	0.17	
805.00	0.260	69.330	805.00	-0.30	-0.48	-0.25	40°25'01.627"N	104°29'09.495"W	0.45	
899.00	0.100	13.770	899.00	-0.06	-0.32	-0.03	40°25'01.629"N	104°29'09.492"W	0.23	
994.00	0.310	104.040	994.00	0.21	-0.31	0.24	40°25'01.629"N	104°29'09.489"W	0.34	
1089.00	0.260	28.460	1088.99	0.57	-0.18	0.59	40°25'01.630"N	104°29'09.484"W	0.37	
1184.00	0.220	50.260	1183.99	0.84	0.13	0.83	40°25'01.633"N	104°29'09.481"W	0.10	
1278.00	0.410	133.170	1277.99	1.21	0.01	1.22	40°25'01.632"N	104°29'09.476"W	0.47	
1373.00	0.590	86.220	1372.99	1.93	-0.19	1.95	40°25'01.630"N	104°29'09.467"W	0.45	
1468.00	0.870	80.920	1467.98	3.13	-0.04	3.15	40°25'01.631"N	104°29'09.451"W	0.30	
1563.00	0.970	125.350	1562.97	4.46	-0.39	4.52	40°25'01.628"N	104°29'09.434"W	0.74	
1657.00	1.300	149.060	1656.95	5.52	-1.77	5.72	40°25'01.614"N	104°29'09.418"W	0.60	
1752.00	0.760	150.690	1751.94	6.23	-3.24	6.58	40°25'01.599"N	104°29'09.407"W	0.57	
1847.00	0.380	118.370	1846.93	6.75	-3.94	7.17	40°25'01.592"N	104°29'09.400"W	0.51	
1936.00	0.600	89.970	1935.93	7.46	-4.08	7.89	40°25'01.591"N	104°29'09.391"W	0.36	Tied to 3rd Party Gyro Surface Surveys
1993.00	0.370	97.120	1992.93	7.93	-4.10	8.37	40°25'01.591"N	104°29'09.384"W	0.42	First BHI MWD Survey
2088.00	0.470	100.430	2087.92	8.61	-4.21	9.06	40°25'01.589"N	104°29'09.375"W	0.11	
2183.00	0.630	141.180	2182.92	9.27	-4.69	9.77	40°25'01.585"N	104°29'09.366"W	0.43	
2277.00	2.220	301.940	2276.90	8.11	-4.13	8.55	40°25'01.590"N	104°29'09.382"W	3.00	
2372.00	4.660	304.010	2371.72	3.67	-1.00	3.79	40°25'01.622"N	104°29'09.443"W	2.57	
2467.00	6.850	306.680	2466.24	-3.49	4.55	-3.95	40°25'01.677"N	104°29'09.542"W	2.32	
2562.00	9.010	308.630	2560.32	-13.02	12.58	-14.31	40°25'01.758"N	104°29'09.675"W	2.29	
2656.00	12.010	309.470	2652.74	-25.20	23.39	-27.61	40°25'01.866"N	104°29'09.846"W	3.20	

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SLW RANCH STATE BB07-678 AWB
Facility	SEC.07-T05N-R63W		

WELLPATH DATA (183 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2751.00	16.190	313.850	2744.86	-40.80	38.86	-44.80	40°25'02.021"N	104°29'10.065"W	4.54	
2846.00	17.260	311.110	2835.84	-59.08	57.30	-64.97	40°25'02.206"N	104°29'10.323"W	1.40	
2941.00	16.400	294.690	2926.82	-80.34	72.18	-87.79	40°25'02.355"N	104°29'10.616"W	5.07	
3036.00	16.290	297.890	3017.98	-103.03	84.01	-111.75	40°25'02.475"N	104°29'10.924"W	0.95	
3130.00	16.280	299.860	3108.21	-124.76	96.74	-134.83	40°25'02.603"N	104°29'11.221"W	0.59	
3225.00	16.100	298.860	3199.44	-146.47	109.73	-157.91	40°25'02.734"N	104°29'11.517"W	0.35	
3319.00	16.900	300.290	3289.57	-168.29	122.91	-181.13	40°25'02.867"N	104°29'11.815"W	0.95	
3414.00	18.690	301.650	3380.03	-191.59	137.86	-206.01	40°25'03.017"N	104°29'12.135"W	1.93	
3509.00	19.570	297.170	3469.78	-217.09	153.11	-233.13	40°25'03.171"N	104°29'12.483"W	1.80	
3604.00	20.340	298.510	3559.08	-244.14	168.26	-261.79	40°25'03.324"N	104°29'12.852"W	0.94	
3699.00	20.160	298.290	3648.21	-271.40	183.90	-290.71	40°25'03.482"N	104°29'13.223"W	0.21	
3794.00	20.170	298.260	3737.38	-298.60	199.41	-319.55	40°25'03.638"N	104°29'13.594"W	0.02	
3888.00	20.020	298.770	3825.66	-325.34	214.83	-347.93	40°25'03.794"N	104°29'13.958"W	0.25	
3983.00	20.200	298.720	3914.87	-352.31	230.54	-376.57	40°25'03.952"N	104°29'14.326"W	0.19	
4078.00	20.220	299.220	4004.02	-379.33	246.43	-405.28	40°25'04.113"N	104°29'14.695"W	0.18	
4172.00	19.690	299.160	4092.38	-405.68	262.08	-433.29	40°25'04.271"N	104°29'15.055"W	0.56	
4268.00	19.220	299.880	4182.90	-431.84	277.83	-461.11	40°25'04.429"N	104°29'15.412"W	0.55	
4362.00	19.510	299.900	4271.58	-457.22	293.37	-488.14	40°25'04.586"N	104°29'15.759"W	0.31	
4457.00	19.900	299.180	4361.01	-483.41	309.16	-516.00	40°25'04.745"N	104°29'16.117"W	0.48	
4552.00	18.090	301.060	4450.84	-508.53	324.65	-542.76	40°25'04.901"N	104°29'16.461"W	2.01	
4647.00	19.020	299.040	4540.90	-533.10	339.77	-568.93	40°25'05.054"N	104°29'16.797"W	1.19	
4741.00	18.850	300.810	4629.81	-557.93	354.99	-595.36	40°25'05.207"N	104°29'17.136"W	0.64	
4836.00	19.260	300.280	4719.61	-582.97	370.75	-622.07	40°25'05.366"N	104°29'17.479"W	0.47	
4930.00	20.580	298.590	4807.98	-609.21	386.47	-649.97	40°25'05.524"N	104°29'17.838"W	1.53	
5025.00	20.440	299.220	4896.96	-636.64	402.56	-679.11	40°25'05.686"N	104°29'18.212"W	0.28	
5120.00	20.150	298.170	4986.06	-663.86	418.38	-708.01	40°25'05.846"N	104°29'18.583"W	0.49	
5215.00	17.800	304.960	5075.91	-688.50	434.43	-734.34	40°25'06.007"N	104°29'18.921"W	3.39	
5310.00	19.890	305.170	5165.81	-711.78	452.06	-759.46	40°25'06.185"N	104°29'19.243"W	2.20	
5404.00	20.350	297.360	5254.09	-737.61	468.79	-787.05	40°25'06.353"N	104°29'19.598"W	2.90	
5499.00	19.840	295.710	5343.31	-765.24	483.37	-816.24	40°25'06.500"N	104°29'19.973"W	0.80	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#02 SLW RANCH STATE BB07-678 (1528'FNL & 800'FWL,SEC.07)
Area	COLORADO	Well	SLW RANCH STATE BB07-678
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SLW RANCH STATE BB07-678 AWB
Facility	SEC.07-T05N-R63W		

WELLPATH DATA (183 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5594.00	19.530	296.350	5432.75	-792.49	497.42	-845.00	40°25'06.642"N	104°29'20.343"W	0.40	
5689.00	19.480	294.840	5522.30	-819.63	511.12	-873.60	40°25'06.781"N	104°29'20.710"W	0.53	
5783.00	19.740	295.110	5610.85	-846.79	524.44	-902.20	40°25'06.916"N	104°29'21.078"W	0.29	
5878.00	20.110	296.440	5700.16	-874.43	538.52	-931.35	40°25'07.058"N	104°29'21.453"W	0.62	
5973.00	20.410	295.690	5789.29	-902.43	552.97	-960.90	40°25'07.204"N	104°29'21.833"W	0.42	
6068.00	17.970	299.530	5879.00	-928.58	567.38	-988.59	40°25'07.350"N	104°29'22.189"W	2.89	
6162.00	11.970	321.610	5969.84	-945.75	582.19	-1007.29	40°25'07.498"N	104°29'22.428"W	8.70	
6257.00	8.590	22.600	6063.56	-947.74	596.50	-1010.69	40°25'07.640"N	104°29'22.470"W	11.36	
6352.00	13.340	67.000	6156.95	-933.90	607.36	-997.85	40°25'07.746"N	104°29'22.302"W	9.84	
6446.00	22.110	77.330	6246.42	-905.93	615.50	-970.54	40°25'07.823"N	104°29'21.948"W	9.88	
6541.00	29.570	78.730	6331.86	-864.81	624.01	-930.06	40°25'07.903"N	104°29'21.424"W	7.88	
6636.00	36.710	78.340	6411.36	-813.18	634.34	-879.19	40°25'07.999"N	104°29'20.765"W	7.52	
6731.00	45.420	77.610	6482.92	-751.23	647.37	-818.22	40°25'08.121"N	104°29'19.974"W	9.18	
6825.00	54.540	75.440	6543.30	-680.02	664.21	-748.32	40°25'08.279"N	104°29'19.068"W	9.86	
6920.00	62.370	77.440	6592.97	-599.90	683.12	-669.67	40°25'08.457"N	104°29'18.049"W	8.43	
7015.00	70.510	82.880	6630.93	-513.16	697.85	-583.96	40°25'08.593"N	104°29'16.938"W	10.04	
7109.00	80.830	87.860	6654.18	-422.26	705.10	-493.33	40°25'08.655"N	104°29'15.766"W	12.12	
7204.00	90.150	91.220	6661.65	-328.05	705.84	-398.75	40°25'08.651"N	104°29'14.543"W	10.42	
7299.00	90.430	97.230	6661.16	-234.49	698.85	-304.05	40°25'08.572"N	104°29'13.319"W	6.33	
7394.00	90.310	93.570	6660.55	-141.25	689.91	-209.49	40°25'08.473"N	104°29'12.098"W	3.85	
7488.00	90.150	94.820	6660.17	-48.62	683.03	-115.74	40°25'08.394"N	104°29'10.887"W	1.34	
7583.00	90.220	94.430	6659.87	44.87	675.37	-21.05	40°25'08.308"N	104°29'09.664"W	0.42	
7678.00	90.220	90.080	6659.50	138.96	671.64	73.85	40°25'08.260"N	104°29'08.438"W	4.58	
7772.00	90.060	85.800	6659.27	232.76	675.01	167.77	40°25'08.283"N	104°29'07.223"W	4.56	
7867.00	90.090	86.480	6659.15	327.72	681.41	262.55	40°25'08.335"N	104°29'05.997"W	0.72	
7962.00	90.220	87.070	6658.89	422.63	686.75	357.40	40°25'08.377"N	104°29'04.770"W	0.64	
8056.00	90.490	88.510	6658.31	516.47	690.38	451.33	40°25'08.403"N	104°29'03.555"W	1.56	
8151.00	90.250	90.070	6657.69	611.12	691.56	546.31	40°25'08.403"N	104°29'02.327"W	1.66	
8245.00	90.740	88.230	6656.88	704.79	692.95	640.30	40°25'08.407"N	104°29'01.112"W	2.03	
8340.00	90.250	85.490	6656.06	799.69	698.15	735.14	40°25'08.447"N	104°28'59.885"W	2.93	

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SLW RANCH STATE BB07-678 AWB
Facility	SEC.07-T05N-R63W		

WELLPATH DATA (183 stations)										
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8435.00	90.120	83.960	6655.75	894.68	706.89	829.73	40°25'08.523"N	104°28'58.661"W	1.62	
8529.00	90.150	84.980	6655.53	988.68	715.95	923.30	40°25'08.602"N	104°28'57.450"W	1.09	
8624.00	90.460	85.770	6655.03	1083.67	723.61	1017.98	40°25'08.667"N	104°28'56.224"W	0.89	
8719.00	90.280	87.700	6654.41	1178.58	729.02	1112.82	40°25'08.709"N	104°28'54.997"W	2.04	
8813.00	90.280	87.200	6653.95	1272.45	733.20	1206.73	40°25'08.740"N	104°28'53.783"W	0.53	
8908.00	90.400	86.580	6653.39	1367.35	738.35	1301.59	40°25'08.780"N	104°28'52.556"W	0.66	
9003.00	90.550	88.500	6652.60	1462.20	742.43	1396.49	40°25'08.810"N	104°28'51.328"W	2.03	
9098.00	90.650	90.790	6651.61	1556.80	743.02	1491.48	40°25'08.805"N	104°28'50.100"W	2.41	
9193.00	90.550	93.260	6650.61	1650.95	739.66	1586.41	40°25'08.761"N	104°28'48.873"W	2.60	
9287.00	90.400	95.870	6649.83	1743.46	732.18	1680.10	40°25'08.676"N	104°28'47.663"W	2.78	
9382.00	90.250	95.990	6649.30	1836.54	722.37	1774.59	40°25'08.569"N	104°28'46.443"W	0.20	
9477.00	90.310	90.300	6648.83	1930.40	717.16	1869.40	40°25'08.506"N	104°28'45.218"W	5.99	
9572.00	90.060	85.160	6648.52	2025.21	720.92	1964.30	40°25'08.533"N	104°28'43.991"W	5.42	
9667.00	90.340	84.140	6648.19	2120.21	729.77	2058.88	40°25'08.609"N	104°28'42.767"W	1.11	
9761.00	90.060	86.210	6647.86	2214.19	737.68	2152.54	40°25'08.677"N	104°28'41.555"W	2.22	
9856.00	89.970	82.630	6647.84	2309.18	746.92	2247.08	40°25'08.757"N	104°28'40.331"W	3.77	
9951.00	88.490	78.370	6649.12	2403.92	762.59	2340.74	40°25'08.902"N	104°28'39.118"W	4.75	
10046.00	90.060	80.900	6650.32	2498.58	779.68	2434.17	40°25'09.060"N	104°28'37.907"W	3.13	
10140.00	90.220	84.860	6650.09	2592.52	791.33	2527.43	40°25'09.164"N	104°28'36.700"W	4.22	
10235.00	90.460	87.550	6649.52	2687.47	797.61	2622.21	40°25'09.216"N	104°28'35.474"W	2.84	
10330.00	90.520	86.970	6648.71	2782.34	802.16	2717.10	40°25'09.250"N	104°28'34.246"W	0.61	
10424.00	90.710	86.200	6647.70	2876.27	807.75	2810.92	40°25'09.294"N	104°28'33.032"W	0.84	
10519.00	90.370	86.590	6646.81	2971.21	813.73	2905.73	40°25'09.342"N	104°28'31.806"W	0.54	
10614.00	90.430	87.260	6646.14	3066.11	818.82	3000.59	40°25'09.382"N	104°28'30.579"W	0.71	
10709.00	90.090	87.830	6645.71	3160.97	822.89	3095.50	40°25'09.411"N	104°28'29.351"W	0.70	
10803.00	90.460	88.410	6645.26	3254.77	825.98	3189.45	40°25'09.431"N	104°28'28.136"W	0.73	
10898.00	90.400	90.030	6644.55	3349.43	827.27	3284.44	40°25'09.433"N	104°28'26.908"W	1.71	
10993.00	90.520	91.600	6643.79	3443.83	825.92	3379.42	40°25'09.409"N	104°28'25.680"W	1.66	
11087.00	90.250	91.770	6643.16	3537.07	823.15	3473.38	40°25'09.371"N	104°28'24.466"W	0.34	
11182.00	90.280	90.650	6642.72	3631.40	821.15	3568.35	40°25'09.340"N	104°28'23.238"W	1.18	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 SLW RANCH STATE BB07-678 (1528'FNL & 800'FWL, SEC.07)
Area	COLORADO	Well	SLW RANCH STATE BB07-678
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SLW RANCH STATE BB07-678 AWB
Facility	SEC.07-T05N-R63W		

WELLPATH DATA (183 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11277.00	90.370	89.200	6642.18	3725.96	821.27	3663.35	40°25'09.330"N	104°28'22.010"W	1.53	
11371.00	90.180	87.850	6641.73	3819.71	823.69	3757.32	40°25'09.343"N	104°28'20.795"W	1.45	
11466.00	89.480	86.100	6642.01	3914.61	828.71	3852.18	40°25'09.382"N	104°28'19.568"W	1.98	
11561.00	90.310	85.770	6642.18	4009.57	835.44	3946.94	40°25'09.438"N	104°28'18.342"W	0.94	
11656.00	89.880	85.470	6642.02	4104.55	842.70	4041.66	40°25'09.499"N	104°28'17.116"W	0.55	
11750.00	89.850	85.050	6642.25	4198.54	850.46	4135.34	40°25'09.565"N	104°28'15.904"W	0.45	
11845.00	90.000	85.980	6642.37	4293.52	857.89	4230.05	40°25'09.627"N	104°28'14.678"W	0.99	
11940.00	90.310	86.900	6642.11	4388.46	863.79	4324.86	40°25'09.675"N	104°28'13.451"W	1.02	
12034.00	90.060	86.510	6641.81	4482.39	869.19	4418.71	40°25'09.717"N	104°28'12.237"W	0.49	
12129.00	90.740	87.980	6641.15	4577.26	873.76	4513.59	40°25'09.751"N	104°28'11.010"W	1.70	
12224.00	90.830	93.580	6639.84	4671.63	872.47	4608.53	40°25'09.728"N	104°28'09.783"W	5.89	
12318.00	90.770	94.780	6638.53	4764.25	865.62	4702.27	40°25'09.649"N	104°28'08.572"W	1.28	
12413.00	90.890	94.650	6637.15	4857.71	857.81	4796.94	40°25'09.561"N	104°28'07.349"W	0.19	
12507.00	90.770	95.180	6635.79	4950.12	849.75	4890.59	40°25'09.471"N	104°28'06.140"W	0.58	
12602.00	90.830	95.280	6634.47	5043.43	841.10	4985.18	40°25'09.375"N	104°28'04.918"W	0.12	
12697.00	90.770	95.180	6633.14	5136.73	832.44	5079.78	40°25'09.278"N	104°28'03.697"W	0.12	
12791.00	90.710	94.600	6631.93	5229.15	824.43	5173.43	40°25'09.188"N	104°28'02.487"W	0.62	
12886.00	90.740	91.860	6630.72	5323.01	819.07	5268.26	40°25'09.124"N	104°28'01.262"W	2.88	
12981.00	90.370	88.830	6629.80	5417.48	818.50	5363.24	40°25'09.108"N	104°28'00.034"W	3.21	
13075.00	90.610	87.200	6629.00	5511.29	821.76	5457.18	40°25'09.129"N	104°27'58.819"W	1.75	
13170.00	90.370	86.890	6628.19	5606.19	826.65	5552.05	40°25'09.167"N	104°27'57.592"W	0.41	
13264.00	90.430	88.440	6627.53	5700.03	830.48	5645.97	40°25'09.194"N	104°27'56.377"W	1.65	
13359.00	90.620	89.640	6626.66	5794.71	832.08	5740.95	40°25'09.198"N	104°27'55.149"W	1.28	
13454.00	90.490	90.120	6625.74	5889.27	832.27	5835.94	40°25'09.189"N	104°27'53.921"W	0.52	
13549.00	90.250	89.130	6625.13	5983.88	832.90	5930.94	40°25'09.185"N	104°27'52.693"W	1.07	
13644.00	90.120	90.090	6624.82	6078.48	833.54	6025.93	40°25'09.180"N	104°27'51.464"W	1.02	
13738.00	90.250	90.520	6624.52	6171.99	833.04	6119.93	40°25'09.164"N	104°27'50.249"W	0.48	
13833.00	90.060	90.650	6624.26	6266.43	832.07	6214.92	40°25'09.144"N	104°27'49.021"W	0.24	
13928.00	90.090	87.390	6624.14	6361.11	833.70	6309.90	40°25'09.149"N	104°27'47.793"W	3.43	
14022.00	92.650	87.440	6621.89	6454.95	837.94	6403.77	40°25'09.180"N	104°27'46.579"W	2.72	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 SLW RANCH STATE BB07-678 (1528'FNL & 800'FWL, SEC.07)
Area	COLORADO	Well	SLW RANCH STATE BB07-678
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SLW RANCH STATE BB07-678 AWB
Facility	SEC.07-T05N-R63W		

WELLPATH DATA (183 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14117.00	89.910	84.780	6619.77	6549.87	844.38	6498.51	40°25'09.232"N	104°27'45.353"W	4.02	
14212.00	89.600	82.200	6620.17	6644.84	855.15	6592.89	40°25'09.328"N	104°27'44.131"W	2.74	
14306.00	89.880	86.030	6620.60	6738.83	864.78	6686.37	40°25'09.412"N	104°27'42.921"W	4.09	
14401.00	89.540	90.090	6621.08	6833.61	868.00	6781.30	40°25'09.433"N	104°27'41.694"W	4.29	
14496.00	89.690	90.360	6621.72	6928.12	867.63	6876.29	40°25'09.418"N	104°27'40.466"W	0.33	
14591.00	89.720	90.630	6622.21	7022.58	866.81	6971.29	40°25'09.399"N	104°27'39.238"W	0.29	
14685.00	90.430	90.870	6622.08	7116.01	865.58	7065.28	40°25'09.376"N	104°27'38.023"W	0.80	
14780.00	90.310	88.900	6621.47	7210.57	865.77	7160.27	40°25'09.367"N	104°27'36.794"W	2.08	
14875.00	90.180	88.030	6621.06	7305.33	868.31	7255.24	40°25'09.381"N	104°27'35.566"W	0.93	
14969.00	90.120	87.290	6620.82	7399.17	872.15	7349.16	40°25'09.408"N	104°27'34.352"W	0.79	
15064.00	90.770	87.520	6620.08	7494.04	876.45	7444.06	40°25'09.440"N	104°27'33.124"W	0.73	
15147.00	89.170	89.190	6620.12	7576.84	878.83	7527.02	40°25'09.454"N	104°27'32.051"W	2.79	
15242.00	89.970	91.890	6620.84	7671.28	877.94	7622.00	40°25'09.434"N	104°27'30.823"W	2.96	
15337.00	90.340	91.720	6620.58	7765.49	874.94	7716.95	40°25'09.393"N	104°27'29.596"W	0.43	
15431.00	90.460	92.470	6619.92	7858.64	871.51	7810.89	40°25'09.348"N	104°27'28.382"W	0.81	
15526.00	90.400	93.190	6619.21	7952.61	866.82	7905.77	40°25'09.291"N	104°27'27.156"W	0.76	
15621.00	90.680	93.660	6618.32	8046.43	861.14	8000.59	40°25'09.224"N	104°27'25.931"W	0.58	
15715.00	90.430	93.350	6617.40	8139.25	855.40	8094.41	40°25'09.156"N	104°27'24.719"W	0.42	
15810.00	90.620	91.220	6616.53	8233.34	851.61	8189.33	40°25'09.108"N	104°27'23.493"W	2.25	
15904.00	90.060	90.110	6615.98	8326.78	850.52	8283.32	40°25'09.086"N	104°27'22.278"W	1.32	
15999.00	90.550	88.850	6615.47	8421.40	851.38	8378.31	40°25'09.084"N	104°27'21.050"W	1.42	
16094.00	90.490	87.850	6614.61	8516.17	854.12	8473.27	40°25'09.100"N	104°27'19.822"W	1.05	
16188.00	90.680	87.080	6613.65	8610.03	858.27	8567.17	40°25'09.130"N	104°27'18.607"W	0.84	
16283.00	90.890	86.970	6612.35	8704.92	863.20	8662.03	40°25'09.167"N	104°27'17.380"W	0.25	
16377.00	90.520	86.780	6611.19	8798.83	868.33	8755.88	40°25'09.207"N	104°27'16.166"W	0.44	
16472.00	90.830	87.110	6610.07	8893.73	873.39	8850.74	40°25'09.246"N	104°27'14.939"W	0.48	
16567.00	90.580	86.300	6608.90	8988.64	878.85	8945.58	40°25'09.289"N	104°27'13.712"W	0.89	
16661.00	90.550	86.470	6607.98	9082.58	884.78	9039.39	40°25'09.337"N	104°27'12.498"W	0.18	
16756.00	90.710	85.990	6606.93	9177.53	891.02	9134.17	40°25'09.387"N	104°27'11.272"W	0.53	
16851.00	90.860	84.550	6605.63	9272.51	898.85	9228.84	40°25'09.454"N	104°27'10.047"W	1.52	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 SLW RANCH STATE BB07-678 (1528'FNL & 800'FWL,SEC.07)
Area	COLORADO	Well	SLW RANCH STATE BB07-678
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SLW RANCH STATE BB07-678 AWB
Facility	SEC.07-T05N-R63W		

WELLPATH DATA (183 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16945.00	90.590	84.040	6604.44	9366.50	908.20	9322.37	40°25'09.535"N	104°27'08.836"W	0.61	
16986.00	90.620	83.510	6604.01	9407.49	912.64	9363.12	40°25'09.574"N	104°27'08.309"W	1.29	Last BHI MWD Survey
17010.00	90.620	83.510	6603.75	9431.49	915.36	9386.97	40°25'09.598"N	104°27'08.000"W	0.00	Projection to Bit

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.07-T05N-R63W	0.00	25.50	-0.29	3282340.09	1396437.02	40°25'01.884"N	104°29'09.492"W	polygon
SEC.08-T05N-R63W	0.00	25.50	-0.29	3282340.09	1396437.02	40°25'01.884"N	104°29'09.492"W	polygon
SLW RANCH STATE BB07-678 BHL FROM PLAN (801'FNL & 250'FEL,SEC.08)	6609.00	919.84	9392.44	3291732.44	1397331.32	40°25'09.642"N	104°27'07.928"W	point
SLW RANCH STATE BB07-678 TPZ FROM PLAN (797'FNL & 400'FWL,SEC.07)	6662.00	725.54	-394.23	3281946.17	1397137.03	40°25'08.846"N	104°29'14.481"W	point

WELLPATH COMPOSITION - Ref Wellbore: SLW RANCH STATE BB07-678 AWB					Ref Wellpath: SLW RANCH STATE BB07-678 AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore	
0.00	1936.00	BHI Generic gyro - northseeking (Standard)	3rd Party Surface Gyros <81'-1936">		SLW RANCH STATE BB07-678 AWB	
1936.00	16986.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BH/ATC 8.75"Hole OWSG MWD rev2+IFR1+MSA <1993'-16986">		SLW RANCH STATE BB07-678 AWB	
16986.00	17010.00	Blind Drilling (std)	Projection to bit		SLW RANCH STATE BB07-678 AWB	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#02 SLW RANCH STATE BB07-678 (1528'FNL & 800'FWL,SEC.07)
Area	COLORADO	Well	SLW RANCH STATE BB07-678
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	SLW RANCH STATE BB07-678 AWB
Facility	SEC.07-T05N-R63W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1936.00	0.600	89.970	1935.93	Tied to 3rd Party Gyro Surface Surveys
1993.00	0.370	97.120	1992.93	First BHI MWD Survey
16986.00	90.620	83.510	6604.01	Last BHI MWD Survey
17010.00	90.620	83.510	6603.75	Projection to Bit