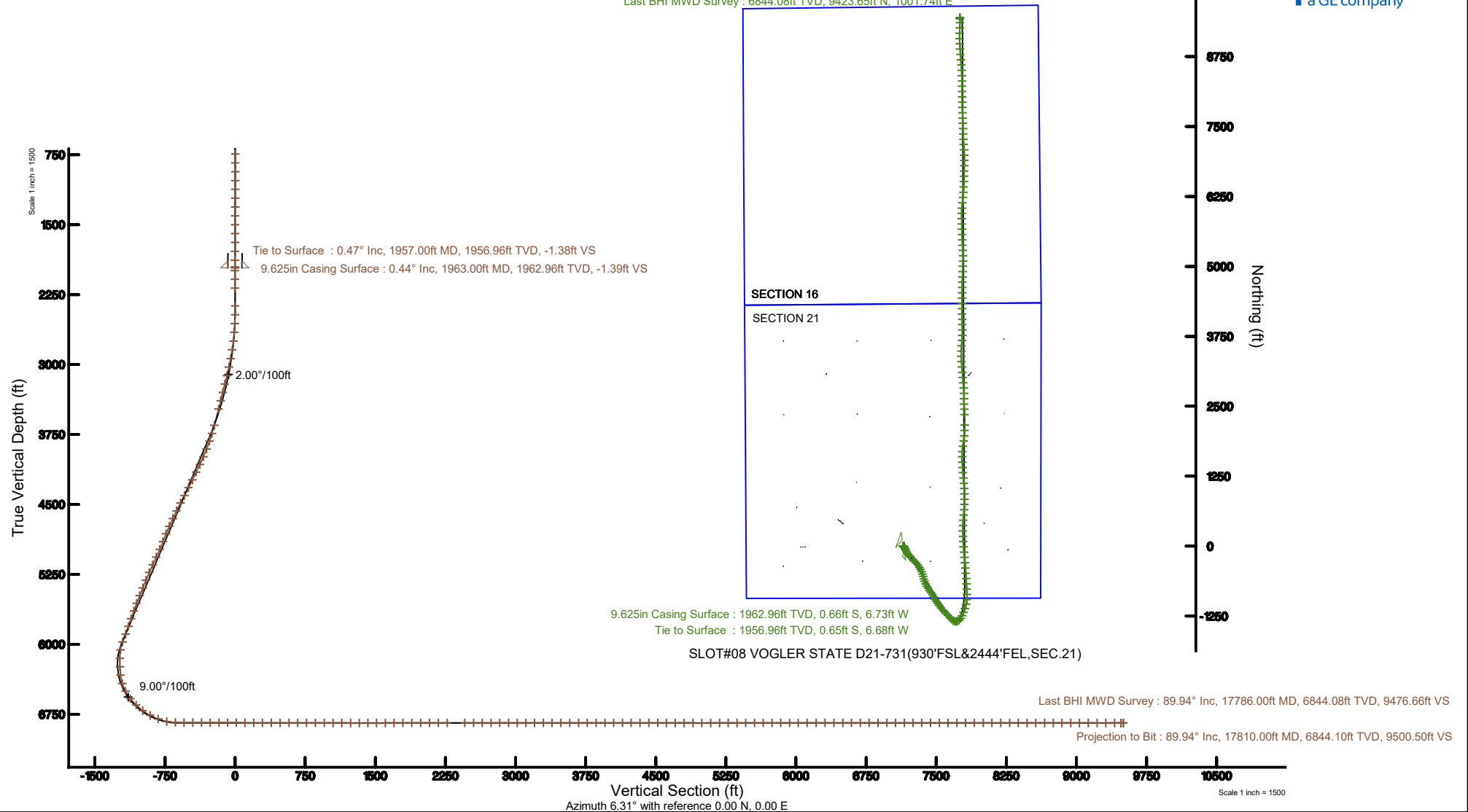
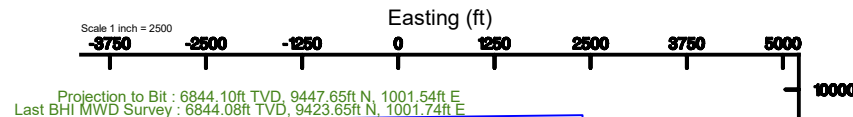


Location:	COLORADO	Slot:	SLOT#08 VOGLER STATE D21-731(930'FSL&2444'FEL,SEC.21)
Field:	WELD COUNTY (NOBLE NAD 83 GRID)	Well:	VOGLER STATE D21-731
Facility:	SEC.21-T03N-R64W	Wellbore:	VOGLER STATE D21-731 PWB

Plot reference wellpath is VOGLER STATE D21-731 (REV-A.0) PWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (30KB) (RKB)	North Reference: Grid north
Measured depths are referenced to RIG (30KB) (RKB)	Scale: True distance
RIG (30KB) (RKB) to Mean Sea Level: 4855 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: SLOT#08 VOGLER STATE D21-731(930FSL&2444FEL_SEC 21): 0 feet	Created by: doddanna on 2019-04-09
Coordinates are in feet referenced to Slot	Database: WellArchitectIDB

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC 21-T03N-R64W			3261611.008	1319018.482	40°12'19.116"N	104°33'48.060"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#08 VOGLER STATE D21-731(930'FSL&2444'FEL,SEC.21)	357.95	2147.09	3263758.006	1319376.414	40°12'22.428"N	104°33'20.340"W
RIG (30'KB) (RK8) to Ground level (At Slot: SLOT#08 VOGLER STATE D21-731(930'FSL&2444'FEL,SEC.21))					4855ft	
Mean Sea Level to Ground level (At Slot: SLOT#08 VOGLER STATE D21-731(930'FSL&2444'FEL,SEC.21))					0ft	
RIG (30'KB) (RK8) to Mean Sea Level					4855ft	

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
30.00	17795.98	OWSG MWD rev2	OWSG MWD rev2 + IFR1 + Multi-Station Correction		VOGLER STATE D21-731 PWB



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#08 VOGLER STATE D21-731(930'FSL&2444'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-731 AWB
Facility	SEC.21-T03N-R64W		

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	0.999957	Report Generated	4/9/2019 at 11:29:15 AM
Convergence at slot	0.61° East	Database/Source file	WellArchitectDB/VOGLER_STATE_D21-731_AWP.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	357.95	2147.09	3263758.01	1319376.41	40°12'22.428"N	104°33'20.340"W
Facility Reference Pt			3261611.01	1319018.48	40°12'19.116"N	104°33'48.060"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	4855.00ft
Horizontal Reference Pt	Slot	RIG (30'KB) (RKB) to Mean Sea Level	4855.00ft
Vertical Reference Pt	RIG (30'KB) (RKB)	RIG (30'KB) (RKB) to Ground Level at Slot (SLOT#08 VOGLER STATE D21-731 (930'FSL&2444'FEL,SEC.21))	4855.00ft
MD Reference Pt	RIG (30'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	6.31°

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#08 VOGLER STATE D21-731(930'FSL&2444'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-731 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (189 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	268.310	0.00	0.00	0.00	0.00	40°12'22.428"N	104°33'20.340"W	0.00	
50.00	0.270	268.310	50.00	-0.02	0.00	-0.12	40°12'22.428"N	104°33'20.342"W	0.54	
114.00	0.650	290.700	114.00	0.05	0.12	-0.61	40°12'22.429"N	104°33'20.348"W	0.65	
177.00	0.550	267.370	176.99	0.09	0.23	-1.24	40°12'22.430"N	104°33'20.356"W	0.42	
270.00	0.660	300.070	269.99	0.24	0.48	-2.15	40°12'22.433"N	104°33'20.368"W	0.38	
365.00	0.410	288.140	364.99	0.53	0.86	-2.95	40°12'22.437"N	104°33'20.378"W	0.29	
459.00	0.540	358.050	458.98	1.04	1.41	-3.29	40°12'22.442"N	104°33'20.382"W	0.59	
554.00	0.490	24.760	553.98	1.87	2.22	-3.13	40°12'22.450"N	104°33'20.380"W	0.26	
648.00	0.390	58.380	647.98	2.45	2.76	-2.69	40°12'22.456"N	104°33'20.374"W	0.29	
743.00	0.120	286.400	742.98	2.66	2.95	-2.51	40°12'22.457"N	104°33'20.372"W	0.50	
838.00	0.270	255.860	837.98	2.60	2.93	-2.82	40°12'22.457"N	104°33'20.376"W	0.19	
933.00	0.150	146.530	932.97	2.43	2.77	-2.97	40°12'22.456"N	104°33'20.378"W	0.37	
1027.00	0.250	196.830	1026.97	2.13	2.47	-2.96	40°12'22.453"N	104°33'20.378"W	0.20	
1122.00	0.100	315.350	1121.97	1.98	2.33	-3.08	40°12'22.451"N	104°33'20.379"W	0.33	
1217.00	0.230	213.180	1216.97	1.86	2.23	-3.24	40°12'22.450"N	104°33'20.381"W	0.28	
1312.00	0.740	236.390	1311.97	1.30	1.73	-3.86	40°12'22.446"N	104°33'20.389"W	0.56	
1406.00	0.490	221.290	1405.96	0.58	1.09	-4.63	40°12'22.439"N	104°33'20.400"W	0.31	
1501.00	0.340	207.880	1500.96	-0.02	0.54	-5.03	40°12'22.434"N	104°33'20.405"W	0.19	
1596.00	0.250	213.230	1595.96	-0.46	0.12	-5.27	40°12'22.430"N	104°33'20.408"W	0.10	
1690.00	0.100	192.370	1689.96	-0.73	-0.13	-5.40	40°12'22.427"N	104°33'20.410"W	0.17	
1785.00	0.310	254.080	1784.96	-0.91	-0.29	-5.67	40°12'22.426"N	104°33'20.413"W	0.29	
1880.00	0.340	243.950	1879.96	-1.16	-0.48	-6.17	40°12'22.424"N	104°33'20.420"W	0.07	
1957.00	0.470	257.950	1956.96	-1.38	-0.65	-6.68	40°12'22.422"N	104°33'20.426"W	0.21	Tie to Surface
1993.00	0.320	227.310	1992.96	-1.50	-0.75	-6.90	40°12'22.421"N	104°33'20.429"W	0.71	
2087.00	0.070	222.570	2086.95	-1.74	-0.97	-7.13	40°12'22.419"N	104°33'20.432"W	0.27	
2182.00	0.820	46.470	2181.95	-1.27	-0.54	-6.68	40°12'22.423"N	104°33'20.426"W	0.94	
2371.00	0.230	27.870	2370.94	0.12	0.73	-5.52	40°12'22.436"N	104°33'20.411"W	0.32	
2466.00	1.600	139.450	2465.93	-0.61	-0.11	-4.57	40°12'22.427"N	104°33'20.399"W	1.79	
2561.00	2.840	146.020	2560.86	-3.32	-3.07	-2.39	40°12'22.398"N	104°33'20.371"W	1.33	
2655.00	5.640	147.930	2654.59	-8.72	-8.92	1.36	40°12'22.340"N	104°33'20.324"W	2.98	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#08 VOGLER STATE D21-731(930'FSL&2444'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-731 AWP
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (189 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2750.00	8.240	150.700	2748.89	-17.91	-18.81	7.17	40°12'22.241"N	104°33'20.250"W	2.76	
2845.00	11.290	150.950	2842.50	-31.03	-32.88	15.02	40°12'22.101"N	104°33'20.151"W	3.21	
2940.00	12.590	153.150	2935.44	-47.29	-50.25	24.21	40°12'21.929"N	104°33'20.035"W	1.45	
3034.00	14.550	154.610	3026.82	-65.91	-70.06	33.91	40°12'21.732"N	104°33'19.913"W	2.12	
3129.00	16.590	152.780	3118.32	-87.37	-92.90	45.23	40°12'21.505"N	104°33'19.770"W	2.21	
3224.00	17.380	149.040	3209.18	-109.97	-117.13	58.73	40°12'21.264"N	104°33'19.599"W	1.42	
3319.00	18.940	145.070	3299.45	-132.86	-141.94	74.86	40°12'21.018"N	104°33'19.395"W	2.10	
3413.00	18.510	140.730	3388.48	-154.78	-166.00	93.04	40°12'20.778"N	104°33'19.164"W	1.55	
3508.00	21.070	137.920	3477.86	-176.68	-190.35	114.03	40°12'20.535"N	104°33'18.897"W	2.87	
3697.00	23.450	134.630	3652.77	-222.57	-242.00	163.57	40°12'20.019"N	104°33'18.265"W	1.42	
3792.00	25.340	134.730	3739.29	-246.93	-269.59	191.47	40°12'19.744"N	104°33'17.909"W	1.99	
3886.00	28.940	136.970	3822.93	-274.26	-300.38	221.29	40°12'19.437"N	104°33'17.529"W	3.98	
3981.00	29.050	140.900	3906.03	-305.43	-335.09	251.52	40°12'19.090"N	104°33'17.144"W	2.01	
4076.00	28.700	148.330	3989.24	-339.62	-372.41	278.05	40°12'18.719"N	104°33'16.808"W	3.79	
4170.00	28.800	155.460	4071.68	-376.86	-412.23	299.32	40°12'18.323"N	104°33'16.539"W	3.65	
4265.00	28.950	158.240	4154.87	-416.80	-454.40	317.34	40°12'17.904"N	104°33'16.313"W	1.42	
4360.00	28.660	159.250	4238.12	-457.38	-497.06	333.94	40°12'17.481"N	104°33'16.105"W	0.60	
4454.00	28.570	166.320	4320.66	-498.59	-539.99	347.24	40°12'17.056"N	104°33'15.939"W	3.60	
4549.00	29.270	166.040	4403.81	-541.72	-584.60	358.22	40°12'16.614"N	104°33'15.804"W	0.75	
4643.00	29.570	161.820	4485.70	-584.39	-628.94	371.00	40°12'16.174"N	104°33'15.645"W	2.23	
4738.00	29.530	155.380	4568.36	-625.82	-672.51	388.07	40°12'15.742"N	104°33'15.431"W	3.34	
4833.00	29.350	152.620	4651.10	-665.28	-714.47	408.53	40°12'15.325"N	104°33'15.173"W	1.44	
4928.00	29.330	148.380	4733.92	-703.01	-754.96	431.44	40°12'14.923"N	104°33'14.883"W	2.19	
5022.00	29.420	142.890	4815.85	-737.94	-792.98	457.45	40°12'14.544"N	104°33'14.554"W	2.87	
5117.00	28.370	142.390	4899.03	-771.15	-829.47	485.30	40°12'14.181"N	104°33'14.200"W	1.13	
5212.00	29.220	150.340	4982.31	-806.19	-867.51	510.56	40°12'13.802"N	104°33'13.879"W	4.13	
5307.00	29.290	150.790	5065.19	-843.88	-907.95	533.37	40°12'13.400"N	104°33'13.591"W	0.24	
5401.00	29.350	148.910	5147.15	-880.89	-947.74	556.49	40°12'13.004"N	104°33'13.298"W	0.98	
5496.00	29.330	147.100	5229.97	-917.42	-987.22	581.15	40°12'12.612"N	104°33'12.986"W	0.93	
5591.00	29.320	145.050	5312.80	-952.94	-1025.82	607.12	40°12'12.227"N	104°33'12.657"W	1.06	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#08 VOGLER STATE D21-731(930'FSL&2444'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-731 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (189 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5685.00	29.320	143.240	5394.76	-987.06	-1063.12	634.07	40°12'11.856"N	104°33'12.314"W	0.94	
5780.00	28.930	140.770	5477.75	-1020.15	-1099.56	662.53	40°12'11.493"N	104°33'11.953"W	1.33	
5875.00	29.230	141.820	5560.77	-1052.79	-1135.59	691.40	40°12'11.134"N	104°33'11.586"W	0.62	
5969.00	29.210	134.860	5642.84	-1083.47	-1169.82	721.85	40°12'10.792"N	104°33'11.198"W	3.61	
6064.00	29.240	135.570	5725.74	-1112.60	-1202.74	754.53	40°12'10.464"N	104°33'10.781"W	0.37	
6158.00	29.030	135.210	5807.85	-1141.45	-1235.32	786.66	40°12'10.138"N	104°33'10.372"W	0.29	
6253.00	28.610	139.510	5891.09	-1171.51	-1268.98	817.68	40°12'09.802"N	104°33'09.977"W	2.23	
6348.00	29.250	139.940	5974.24	-1203.09	-1304.05	847.38	40°12'09.453"N	104°33'09.599"W	0.71	
6443.00	21.760	119.530	6060.08	-1226.13	-1330.58	877.74	40°12'09.187"N	104°33'09.211"W	12.05	
6538.00	17.300	98.780	6149.70	-1233.70	-1341.43	907.07	40°12'09.077"N	104°33'08.835"W	8.61	
6632.00	16.300	86.300	6239.72	-1232.01	-1342.71	934.06	40°12'09.062"N	104°33'08.487"W	3.97	
6727.00	17.670	78.010	6330.58	-1225.16	-1338.86	961.47	40°12'09.097"N	104°33'08.133"W	2.93	
6822.00	23.850	49.590	6419.59	-1206.59	-1323.36	990.30	40°12'09.247"N	104°33'07.760"W	12.26	
6916.00	29.190	28.970	6503.85	-1171.51	-1290.89	1015.95	40°12'09.565"N	104°33'07.425"W	11.25	
7011.00	40.070	21.490	6581.94	-1120.44	-1242.00	1038.45	40°12'10.046"N	104°33'07.128"W	12.28	
7105.00	46.220	23.000	6650.49	-1058.68	-1182.56	1062.81	40°12'10.631"N	104°33'06.806"W	6.63	
7200.00	54.120	19.690	6711.30	-988.27	-1114.63	1089.23	40°12'11.299"N	104°33'06.456"W	8.73	
7295.00	62.200	12.970	6761.42	-908.90	-1037.26	1111.68	40°12'12.061"N	104°33'06.156"W	10.41	
7390.00	69.120	4.960	6800.60	-822.57	-951.88	1124.98	40°12'12.903"N	104°33'05.973"W	10.58	
7485.00	78.260	357.310	6827.29	-731.95	-860.89	1126.64	40°12'13.802"N	104°33'05.939"W	12.33	
7579.00	88.550	356.880	6838.07	-639.90	-767.76	1121.91	40°12'14.723"N	104°33'05.987"W	10.96	
7674.00	90.000	357.200	6839.27	-546.15	-672.90	1117.01	40°12'15.661"N	104°33'06.037"W	1.56	
7769.00	89.940	357.470	6839.32	-452.31	-578.00	1112.59	40°12'16.599"N	104°33'06.081"W	0.29	
7863.00	90.030	355.930	6839.35	-359.64	-484.16	1107.18	40°12'17.527"N	104°33'06.138"W	1.64	
7958.00	89.570	355.330	6839.68	-266.28	-389.44	1099.94	40°12'18.464"N	104°33'06.218"W	0.80	
8053.00	89.780	354.730	6840.22	-173.12	-294.80	1091.71	40°12'19.400"N	104°33'06.311"W	0.67	
8148.00	89.690	354.460	6840.66	-80.09	-200.22	1082.76	40°12'20.335"N	104°33'06.413"W	0.30	
8242.00	89.660	355.290	6841.19	12.04	-106.60	1074.36	40°12'21.261"N	104°33'06.509"W	0.88	
8337.00	89.690	355.340	6841.73	105.29	-11.92	1066.61	40°12'22.198"N	104°33'06.595"W	0.06	
8432.00	89.780	357.020	6842.17	198.81	82.87	1060.28	40°12'23.135"N	104°33'06.664"W	1.77	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#08 VOGLER STATE D21-731(930'FSL&2444'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-731 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (189 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8527.00	89.630	357.040	6842.66	292.57	177.74	1055.35	40°12'24.073"N	104°33'06.714"W	0.16	
8622.00	89.780	359.660	6843.15	386.64	272.69	1052.62	40°12'25.012"N	104°33'06.737"W	2.76	
8717.00	90.000	2.910	6843.33	481.27	367.65	1054.75	40°12'25.950"N	104°33'06.696"W	3.43	
8812.00	90.000	4.970	6843.33	576.18	462.42	1061.28	40°12'26.885"N	104°33'06.599"W	2.17	
8906.00	90.000	4.640	6843.33	670.15	556.09	1069.15	40°12'27.810"N	104°33'06.484"W	0.35	
9001.00	90.060	4.400	6843.28	765.10	650.80	1076.64	40°12'28.745"N	104°33'06.375"W	0.26	
9096.00	89.910	2.370	6843.31	859.97	745.63	1082.25	40°12'29.682"N	104°33'06.290"W	2.14	
9191.00	89.780	0.050	6843.56	954.59	840.60	1084.25	40°12'30.620"N	104°33'06.251"W	2.45	
9286.00	89.880	357.780	6843.84	1048.80	935.57	1082.45	40°12'31.559"N	104°33'06.261"W	2.39	
9380.00	89.910	356.730	6844.02	1141.62	1029.46	1077.95	40°12'32.487"N	104°33'06.306"W	1.12	
9475.00	89.910	355.460	6844.17	1235.12	1124.24	1071.48	40°12'33.424"N	104°33'06.376"W	1.34	
9570.00	89.970	355.650	6844.27	1328.45	1218.96	1064.12	40°12'34.361"N	104°33'06.458"W	0.21	
9664.00	90.030	355.390	6844.27	1420.79	1312.67	1056.78	40°12'35.288"N	104°33'06.540"W	0.28	
9759.00	89.970	355.690	6844.27	1514.12	1407.38	1049.39	40°12'36.224"N	104°33'06.622"W	0.32	
9854.00	90.180	357.200	6844.14	1607.71	1502.20	1043.50	40°12'37.162"N	104°33'06.685"W	1.60	
9948.00	90.150	359.760	6843.87	1700.83	1596.15	1041.01	40°12'38.090"N	104°33'06.704"W	2.72	
10043.00	90.090	4.430	6843.67	1795.55	1691.06	1044.48	40°12'39.028"N	104°33'06.646"W	4.92	
10138.00	90.060	8.010	6843.55	1890.53	1785.49	1054.77	40°12'39.960"N	104°33'06.500"W	3.77	
10233.00	90.030	8.160	6843.47	1985.48	1879.55	1068.13	40°12'40.888"N	104°33'06.315"W	0.16	
10327.00	90.120	4.940	6843.35	2079.47	1972.92	1078.85	40°12'41.809"N	104°33'06.164"W	3.43	
10422.00	90.120	2.130	6843.15	2174.35	2067.73	1084.71	40°12'42.746"N	104°33'06.076"W	2.96	
10517.00	90.090	0.980	6842.98	2269.02	2162.69	1087.29	40°12'43.684"N	104°33'06.029"W	1.21	
10706.00	90.150	358.340	6842.58	2456.73	2351.67	1086.16	40°12'45.551"N	104°33'06.018"W	1.40	
10801.00	90.220	355.220	6842.27	2550.41	2446.51	1080.83	40°12'46.489"N	104°33'06.073"W	3.29	
10896.00	90.030	357.690	6842.07	2644.00	2541.32	1074.96	40°12'47.426"N	104°33'06.136"W	2.61	
10991.00	89.970	1.130	6842.07	2738.30	2636.30	1073.98	40°12'48.365"N	104°33'06.135"W	3.62	
11085.00	89.940	359.940	6842.14	2831.83	2730.30	1074.86	40°12'49.294"N	104°33'06.111"W	1.27	
11180.00	89.940	354.460	6842.24	2925.59	2825.15	1070.22	40°12'50.232"N	104°33'06.158"W	5.77	
11275.00	89.910	354.020	6842.36	3018.49	2919.67	1060.68	40°12'51.167"N	104°33'06.268"W	0.46	
11369.00	90.000	355.920	6842.44	3110.66	3013.30	1052.44	40°12'52.093"N	104°33'06.361"W	2.02	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#08 VOGLER STATE D21-731(930'FSL&2444'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-731 AWP
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (189 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11464.00	89.780	355.670	6842.62	3204.06	3108.04	1045.47	40°12'53.030"N	104°33'06.438"W	0.35	
11559.00	89.910	354.520	6842.88	3297.25	3202.69	1037.35	40°12'53.966"N	104°33'06.529"W	1.22	
11654.00	89.820	355.660	6843.10	3390.43	3297.34	1029.22	40°12'54.902"N	104°33'06.621"W	1.20	
11749.00	90.000	359.250	6843.25	3484.28	3392.23	1025.00	40°12'55.840"N	104°33'06.663"W	3.78	
11844.00	90.090	2.930	6843.18	3578.88	3487.20	1026.81	40°12'56.778"N	104°33'06.626"W	3.87	
11939.00	90.000	3.540	6843.10	3673.74	3582.05	1032.17	40°12'57.715"N	104°33'06.544"W	0.65	
12033.00	90.000	3.200	6843.10	3767.61	3675.89	1037.70	40°12'58.641"N	104°33'06.460"W	0.36	
12128.00	89.910	2.520	6843.18	3862.44	3770.77	1042.44	40°12'59.579"N	104°33'06.386"W	0.72	
12222.00	90.000	0.950	6843.25	3956.14	3864.72	1045.28	40°13'00.507"N	104°33'06.336"W	1.67	
12317.00	90.000	358.390	6843.25	4050.50	3959.71	1044.74	40°13'01.445"N	104°33'06.330"W	2.69	
12412.00	90.000	358.400	6843.25	4144.59	4054.67	1042.08	40°13'02.384"N	104°33'06.351"W	0.01	
12506.00	90.000	358.520	6843.25	4237.71	4148.64	1039.55	40°13'03.313"N	104°33'06.371"W	0.13	
12601.00	89.820	359.830	6843.40	4331.98	4243.63	1038.18	40°13'04.251"N	104°33'06.375"W	1.39	
12696.00	90.000	0.970	6843.55	4426.47	4338.62	1038.84	40°13'05.190"N	104°33'06.354"W	1.21	
12791.00	89.910	0.970	6843.62	4521.06	4433.61	1040.45	40°13'06.129"N	104°33'06.320"W	0.09	
12885.00	89.880	0.360	6843.79	4614.60	4527.60	1041.54	40°13'07.057"N	104°33'06.293"W	0.65	
12980.00	89.940	0.790	6843.94	4709.13	4622.60	1042.50	40°13'07.996"N	104°33'06.267"W	0.46	
13075.00	89.970	1.480	6844.02	4803.74	4717.58	1044.38	40°13'08.934"N	104°33'06.230"W	0.73	
13169.00	89.910	1.650	6844.12	4897.42	4811.54	1046.95	40°13'09.862"N	104°33'06.184"W	0.19	
13264.00	90.030	1.580	6844.17	4992.10	4906.51	1049.62	40°13'10.800"N	104°33'06.136"W	0.15	
13359.00	90.000	3.190	6844.14	5086.88	5001.42	1053.58	40°13'11.738"N	104°33'06.072"W	1.70	
13454.00	90.030	1.940	6844.12	5181.67	5096.32	1057.83	40°13'12.675"N	104°33'06.005"W	1.32	
13548.00	90.060	357.960	6844.04	5275.07	5190.30	1057.75	40°13'13.604"N	104°33'05.993"W	4.23	
13643.00	90.090	356.450	6843.92	5368.88	5285.19	1053.11	40°13'14.542"N	104°33'06.039"W	1.59	
13738.00	90.180	357.140	6843.70	5462.57	5380.04	1047.80	40°13'15.480"N	104°33'06.095"W	0.73	
13833.00	90.030	357.750	6843.52	5556.44	5474.94	1043.57	40°13'16.418"N	104°33'06.136"W	0.66	
13927.00	90.030	357.920	6843.47	5649.41	5568.88	1040.02	40°13'17.347"N	104°33'06.169"W	0.18	
14022.00	90.000	358.270	6843.45	5743.44	5663.82	1036.86	40°13'18.285"N	104°33'06.197"W	0.37	
14117.00	90.060	359.220	6843.40	5837.61	5758.80	1034.78	40°13'19.224"N	104°33'06.210"W	1.00	
14212.00	90.120	358.910	6843.25	5931.85	5853.79	1033.23	40°13'20.163"N	104°33'06.217"W	0.33	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#08 VOGLER STATE D21-731(930'FSL&2444'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-731 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (189 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14306.00	90.120	0.570	6843.05	6025.23	5947.78	1032.80	40°13'21.091"N	104°33'06.210"W	1.77	
14401.00	90.220	4.120	6842.77	6119.99	6042.69	1036.69	40°13'22.029"N	104°33'06.147"W	3.74	
14496.00	90.060	7.050	6842.54	6214.97	6137.23	1045.93	40°13'22.962"N	104°33'06.014"W	3.09	
14591.00	90.030	5.150	6842.46	6309.97	6231.68	1056.03	40°13'23.894"N	104°33'05.871"W	2.00	
14686.00	89.940	3.980	6842.49	6404.92	6326.38	1063.59	40°13'24.829"N	104°33'05.761"W	1.24	
14781.00	90.030	2.990	6842.51	6499.80	6421.20	1069.36	40°13'25.766"N	104°33'05.673"W	1.05	
14875.00	89.970	1.830	6842.51	6593.59	6515.12	1073.31	40°13'26.693"N	104°33'05.609"W	1.24	
14970.00	89.910	0.390	6842.61	6688.19	6610.10	1075.15	40°13'27.632"N	104°33'05.572"W	1.52	
15065.00	90.060	1.040	6842.64	6782.74	6705.09	1076.34	40°13'28.570"N	104°33'05.544"W	0.70	
15160.00	90.120	2.100	6842.49	6877.41	6800.05	1078.94	40°13'29.508"N	104°33'05.497"W	1.12	
15255.00	89.970	359.900	6842.41	6972.00	6895.03	1080.60	40°13'30.447"N	104°33'05.463"W	2.32	
15349.00	89.940	358.410	6842.49	7065.27	6989.02	1079.21	40°13'31.375"N	104°33'05.468"W	1.59	
15444.00	89.880	355.830	6842.64	7159.04	7083.89	1074.44	40°13'32.313"N	104°33'05.516"W	2.72	
15539.00	90.000	356.760	6842.74	7252.59	7178.69	1068.30	40°13'33.251"N	104°33'05.582"W	0.99	
15633.00	90.060	357.800	6842.69	7345.43	7272.59	1063.84	40°13'34.179"N	104°33'05.627"W	1.11	
15728.00	89.880	358.100	6842.74	7439.42	7367.52	1060.44	40°13'35.118"N	104°33'05.658"W	0.37	
15823.00	89.820	358.170	6842.98	7533.46	7462.47	1057.35	40°13'36.056"N	104°33'05.684"W	0.10	
15918.00	89.940	357.930	6843.18	7627.47	7557.42	1054.12	40°13'36.995"N	104°33'05.713"W	0.28	
16012.00	89.910	358.070	6843.31	7720.49	7651.36	1050.84	40°13'37.923"N	104°33'05.742"W	0.15	
16107.00	90.000	358.140	6843.38	7814.51	7746.31	1047.70	40°13'38.862"N	104°33'05.770"W	0.12	
16202.00	89.910	358.440	6843.46	7908.59	7841.27	1044.86	40°13'39.800"N	104°33'05.793"W	0.33	
16297.00	90.030	358.670	6843.51	8002.72	7936.24	1042.47	40°13'40.739"N	104°33'05.811"W	0.27	
16391.00	89.910	359.100	6843.55	8095.93	8030.22	1040.64	40°13'41.668"N	104°33'05.822"W	0.47	
16486.00	90.000	359.780	6843.63	8190.25	8125.21	1039.71	40°13'42.607"N	104°33'05.820"W	0.72	
16581.00	90.060	0.020	6843.58	8284.66	8220.21	1039.54	40°13'43.545"N	104°33'05.810"W	0.26	
16675.00	89.910	359.420	6843.60	8378.04	8314.21	1039.08	40°13'44.474"N	104°33'05.802"W	0.66	
16771.00	89.850	357.970	6843.81	8473.19	8410.18	1036.90	40°13'45.423"N	104°33'05.817"W	1.51	
16865.00	90.030	356.770	6843.90	8566.04	8504.08	1032.59	40°13'46.351"N	104°33'05.860"W	1.29	
16960.00	90.060	354.890	6843.83	8659.46	8598.83	1025.68	40°13'47.288"N	104°33'05.936"W	1.98	
17055.00	89.940	355.110	6843.83	8752.61	8693.47	1017.40	40°13'48.224"N	104°33'06.030"W	0.26	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#08 VOGLER STATE D21-731(930'FSL&2444'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-731 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (189 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17150.00	89.940	356.210	6843.93	8845.98	8788.19	1010.21	40°13'49.161"N	104°33'06.109"W	1.16	
17245.00	89.910	356.640	6844.05	8939.57	8883.01	1004.28	40°13'50.099"N	104°33'06.173"W	0.45	
17340.00	90.060	356.800	6844.08	9033.24	8977.85	998.85	40°13'51.036"N	104°33'06.230"W	0.23	
17434.00	89.970	358.670	6844.05	9126.19	9071.77	995.13	40°13'51.965"N	104°33'06.265"W	1.99	
17529.00	89.940	1.890	6844.13	9220.65	9166.76	995.60	40°13'52.903"N	104°33'06.246"W	3.39	
17624.00	90.030	2.480	6844.15	9315.40	9261.69	999.22	40°13'53.841"N	104°33'06.186"W	0.63	
17719.00	90.060	0.520	6844.08	9410.07	9356.65	1001.71	40°13'54.779"N	104°33'06.141"W	2.06	
17786.00	89.940	359.530	6844.08	9476.66	9423.65	1001.74	40°13'55.441"N	104°33'06.131"W	1.49	Last BHI MWD Survey
17810.00	89.940	359.530	6844.10	9500.50	9447.65	1001.54	40°13'55.678"N	104°33'06.130"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: VOGLER STATE D21-731 AWB Ref Wellpath: VOGLER STATE D21-731 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	1957.00	1927.00	30.00	1956.96	0.00	-0.04	-0.65	-6.68	
9.625in Casing Surface	30.00	1963.00	1933.00	30.00	1962.96	0.00	-0.04	-0.66	-6.73	
8.5in Open Hole	1957.00	17810.00	15853.00	1956.96	6844.10	-0.65	-6.68	9447.65	1001.54	

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
VOLGER STATE D21-790 Seciton 16	5.00	-63.54	1894.57	3265652.49	1319312.87	40°12'21.600"N	104°32'55.932"W	polygon
VOLGER STATE D21-790 Seciton 21	5.00	-63.54	1894.57	3265652.49	1319312.87	40°12'21.600"N	104°32'55.932"W	polygon

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#08 VOGLER STATE D21-731(930'FSL&2444'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-731
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-731 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH COMPOSITION - Ref Wellbore: VOGLER STATE D21-731 AWB Ref Wellpath: VOGLER STATE D21-731 AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	1957.00	BHI Generic gyro - northseeking (Standard)	3rd Party Surface Gyros <50'-1957'>	VOGLER STATE D21-731 AWB
1957.00	17786.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BH/ATC OWSG MWD+IFR+MSA 8.5" Hole <1993-17786>	VOGLER STATE D21-731 AWB
17786.00	17810.00	Blind Drilling (std)	Projection to bit	VOGLER STATE D21-731 AWB