NOBLE ENERGY, INC

Location:	COLORADO	Slot:	SLOT#09 VOGLER STATE D21-740(930'FSL&2482'FEL,SEC.21)
Field:	WELD COUNTY (NOBLE NAD 83 GRID)	Well:	VOGLER STATE D21-740
Facility:	SEC.21-T03N-R64W	Wellbore:	VOGLER STATE D21-740 PWB

Plot reference wellpath is VOGLER STATE D21-740 (REV-B.0) PWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (30'KB) (RKB)	North Reference: Grid north
Measured depths are referenced to RIG (30'KB) (RKB)	Scale: True distance
RIG (30'KB) (RKB) to Mean Sea Level: 4855 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: SLOT#09 VOGLER STATE D21-740(930'FSL&2482'FEL,SEC.21)): 0 feet	Created by: doddanna on 2019-04-09
Coordinates are in feet referenced to Slot	Database: WellArchitectDB

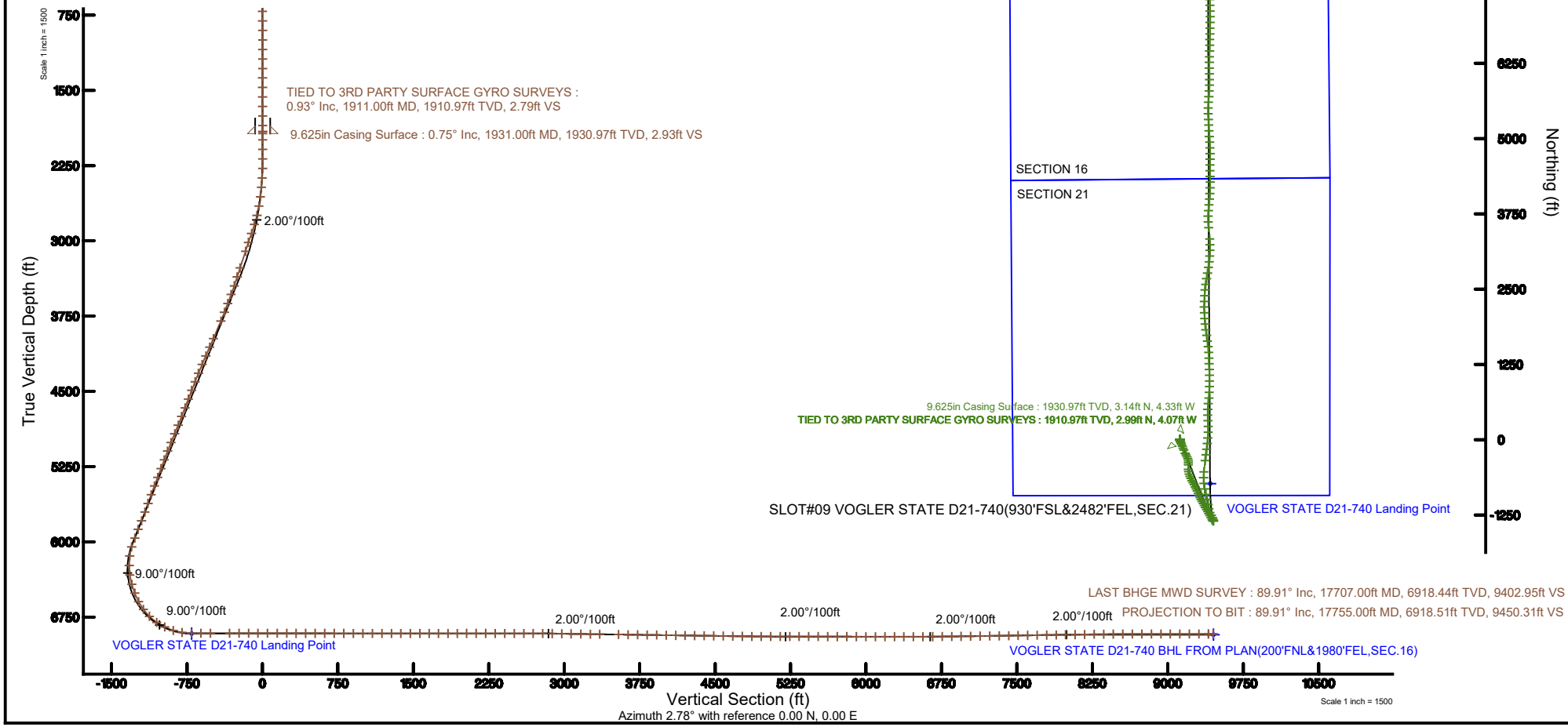
Location Information

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#09 VOGLER STATE D21-740(930'FSL&2482'FEL,SEC.21)	357.53	2107.99	3263718.906	1319375.998	40°12'22.428"N	104°33'20.844"W

RIG (30'KB) (RKB) to Ground level (At Slot: SLOT#09 VOGLER STATE D21-740(930'FSL&2482'FEL,SEC.21))	4855ft
Mean Sea Level to Ground level (At Slot: SLOT#09 VOGLER STATE D21-740(930'FSL&2482'FEL,SEC.21))	0ft
RIG (30'KB) (RKB) to Mean Sea Level	4855ft

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
30.00	17741.32	OWSG MWD rev2	OWSG MWD rev2 + IFR1 + Multi-Station Correction		VOGLER STATE D21-740 PWB



Actual Wellpath Report

VOGLER STATE D21-740 AWP

REFERENCE WELLPATH IDENTIFICATION			
Operator	**NOBLE ENERGY, INC**	Slot	**SLOT#09 VOGLER STATE D21-740(930'FSL&2482'FEL,SEC.21)**
Area	**COLORADO**	Well	**VOGLER STATE D21-740**
Field	**WELD COUNTY (NOBLE NAD 83 GRID)**	Wellbore	**VOGLER STATE D21-740 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 **11:39:02 AM**
Convergence at slot	**0.61° East**	Database/Source file	**WellArchitectDB/VOGLER_STATE_D21-740_AWP.xml**

WELLPATH LOCATION						
	Local coordinates		**Grid coordinates**		**Geographic coordinates**	
	North[ft]	**East[ft]**	**Easting[US ft]**	**Northing[US ft]**	**Latitude**	**Longitude**
Slot Location	357.53	2107.99	3263718.91	1319376.00	**40°12'22.428"N**	**104°33'20.844"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#09 VOGLER STATE D21-740 (930'FSL&2482'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	**2.78°**

Actual Wellpath Report

VOGLER STATE D21-740 AWP

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#09 VOGLER STATE D21-740(930'FSL&2482'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-740
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-740 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	190.010	0.00	0.00	0.00	0.00	40°12'22.428"N	104°33'20.844"W	0.00	
84.00	0.100	190.010	84.00	-0.07	-0.07	-0.01	40°12'22.427"N	104°33'20.844"W	0.12	
177.00	0.180	62.990	177.00	-0.08	-0.09	0.10	40°12'22.427"N	104°33'20.843"W	0.27	
241.00	0.190	64.220	241.00	0.02	0.01	0.29	40°12'22.428"N	104°33'20.840"W	0.02	
335.00	0.150	10.130	335.00	0.22	0.19	0.45	40°12'22.430"N	104°33'20.838"W	0.17	
430.00	0.060	122.360	430.00	0.32	0.29	0.51	40°12'22.431"N	104°33'20.837"W	0.19	
525.00	0.190	2.280	525.00	0.45	0.42	0.56	40°12'22.432"N	104°33'20.837"W	0.24	
619.00	0.210	256.920	619.00	0.56	0.54	0.40	40°12'22.433"N	104°33'20.839"W	0.34	
714.00	0.260	7.880	714.00	0.72	0.71	0.26	40°12'22.435"N	104°33'20.841"W	0.41	
809.00	0.540	335.540	809.00	1.34	1.33	0.11	40°12'22.441"N	104°33'20.842"W	0.37	
903.00	0.500	329.050	902.99	2.07	2.09	-0.29	40°12'22.449"N	104°33'20.847"W	0.08	
998.00	0.200	269.080	997.99	2.41	2.44	-0.67	40°12'22.452"N	104°33'20.852"W	0.46	
1093.00	0.060	277.350	1092.99	2.40	2.44	-0.88	40°12'22.452"N	104°33'20.855"W	0.15	
1188.00	0.210	199.720	1187.99	2.24	2.29	-0.99	40°12'22.451"N	104°33'20.856"W	0.22	
1283.00	0.160	175.010	1282.99	1.94	1.99	-1.04	40°12'22.448"N	104°33'20.857"W	0.10	
1377.00	0.100	197.650	1376.99	1.73	1.78	-1.05	40°12'22.446"N	104°33'20.857"W	0.08	
1472.00	0.190	231.740	1471.99	1.55	1.61	-1.20	40°12'22.444"N	104°33'20.859"W	0.13	
1567.00	0.160	245.470	1566.99	1.38	1.45	-1.45	40°12'22.443"N	104°33'20.862"W	0.05	
1661.00	0.300	343.110	1660.99	1.55	1.63	-1.64	40°12'22.444"N	104°33'20.865"W	0.38	
1756.00	0.640	288.510	1755.98	1.93	2.04	-2.21	40°12'22.448"N	104°33'20.872"W	0.55	
1851.00	0.800	300.780	1850.98	2.39	2.55	-3.28	40°12'22.454"N	104°33'20.886"W	0.23	
1911.00	0.930	298.390	1910.97	2.79	2.99	-4.07	40°12'22.458"N	104°33'20.896"W	0.22	TIED TO 3RD PARTY SURFACE GYRO SURVEYS
1994.00	0.250	335.610	1993.97	3.25	3.48	-4.74	40°12'22.463"N	104°33'20.905"W	0.90	
2089.00	0.060	130.510	2088.97	3.40	3.64	-4.79	40°12'22.464"N	104°33'20.905"W	0.32	
2183.00	0.000	7.490	2182.97	3.37	3.60	-4.75	40°12'22.464"N	104°33'20.905"W	0.06	
2278.00	1.820	162.310	2277.95	1.96	2.17	-4.29	40°12'22.450"N	104°33'20.899"W	1.92	
2373.00	3.910	161.300	2372.83	-2.47	-2.34	-2.79	40°12'22.405"N	104°33'20.880"W	2.20	
2467.00	5.960	162.470	2466.47	-10.03	-10.03	-0.30	40°12'22.329"N	104°33'20.849"W	2.18	
2562.00	7.880	158.450	2560.78	-20.59	-20.79	3.58	40°12'22.222"N	104°33'20.801"W	2.08	
2657.00	11.100	157.170	2654.46	-34.78	-35.28	9.52	40°12'22.078"N	104°33'20.726"W	3.40	

Actual Wellpath Report

VOGLER STATE D21-740 AWP

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#09 VOGLER STATE D21-740(930'FSL&2482'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-740
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-740 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2751.00	14.700	157.690	2746.08	-53.74	-54.66	17.56	40°12'21.886"N	104°33'20.625"W	3.83	
2846.00	18.980	159.270	2836.98	-78.84	-80.27	27.61	40°12'21.632"N	104°33'20.499"W	4.53	
2941.00	20.690	159.400	2926.34	-108.41	-110.43	38.99	40°12'21.333"N	104°33'20.357"W	1.80	
3036.00	20.480	157.200	3015.28	-138.81	-141.46	51.33	40°12'21.025"N	104°33'20.202"W	0.84	
3130.00	19.520	156.470	3103.61	-167.72	-171.02	63.97	40°12'20.731"N	104°33'20.043"W	1.06	
3307.00	20.410	155.690	3269.97	-221.71	-226.26	88.49	40°12'20.183"N	104°33'19.735"W	0.52	
3402.00	20.250	154.120	3359.05	-250.88	-256.15	102.48	40°12'19.886"N	104°33'19.558"W	0.60	
3497.00	21.200	152.890	3447.90	-280.20	-286.23	117.49	40°12'19.587"N	104°33'19.369"W	1.10	
3591.00	21.710	160.690	3535.41	-311.05	-317.77	130.98	40°12'19.274"N	104°33'19.200"W	3.08	
3686.00	21.570	171.220	3623.75	-344.46	-351.63	139.46	40°12'18.939"N	104°33'19.095"W	4.09	
3781.00	20.250	182.430	3712.52	-378.02	-385.33	141.43	40°12'18.606"N	104°33'19.074"W	4.43	
3875.00	23.170	184.000	3799.85	-412.78	-420.04	139.45	40°12'18.263"N	104°33'19.104"W	3.17	
4065.00	23.310	174.510	3974.49	-487.38	-494.77	140.44	40°12'17.524"N	104°33'19.102"W	1.97	
4159.00	24.520	169.430	4060.43	-524.77	-532.46	145.80	40°12'17.151"N	104°33'19.038"W	2.54	
4254.00	24.640	164.580	4146.83	-562.77	-570.94	154.68	40°12'16.770"N	104°33'18.929"W	2.13	
4348.00	24.620	160.240	4232.29	-599.47	-608.26	166.51	40°12'16.400"N	104°33'18.782"W	1.92	
4443.00	24.570	155.710	4318.67	-635.34	-644.88	181.33	40°12'16.037"N	104°33'18.596"W	1.98	
4537.00	24.440	152.560	4404.21	-669.55	-679.96	198.33	40°12'15.688"N	104°33'18.381"W	1.40	
4632.00	24.260	150.780	4490.76	-703.08	-714.43	216.91	40°12'15.346"N	104°33'18.147"W	0.80	
4727.00	24.070	151.480	4577.44	-736.18	-748.49	235.69	40°12'15.007"N	104°33'17.909"W	0.36	
4822.00	24.270	152.380	4664.11	-769.58	-782.81	253.99	40°12'14.666"N	104°33'17.678"W	0.44	
4916.00	24.070	153.340	4749.87	-802.94	-817.06	271.55	40°12'14.326"N	104°33'17.457"W	0.47	
5011.00	24.080	155.780	4836.61	-837.08	-852.05	288.19	40°12'13.978"N	104°33'17.247"W	1.05	
5106.00	24.030	159.810	4923.36	-872.16	-887.88	302.82	40°12'13.623"N	104°33'17.063"W	1.73	
5201.00	24.280	158.210	5010.05	-907.73	-924.17	316.75	40°12'13.263"N	104°33'16.889"W	0.74	
5295.00	24.070	154.850	5095.81	-942.25	-959.47	332.07	40°12'12.912"N	104°33'16.696"W	1.48	
5390.00	23.560	151.460	5182.72	-975.58	-993.68	349.37	40°12'12.572"N	104°33'16.478"W	1.54	
5485.00	23.350	152.100	5269.87	-1008.00	-1027.00	367.25	40°12'12.241"N	104°33'16.252"W	0.35	
5580.00	23.490	153.680	5357.05	-1040.73	-1060.61	384.46	40°12'11.907"N	104°33'16.035"W	0.68	
5674.00	23.480	153.280	5443.26	-1073.40	-1094.13	401.18	40°12'11.574"N	104°33'15.824"W	0.17	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#09 VOGLER STATE D21-740(930'FSL&2482'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-740
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-740 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5769.00	23.670	149.740	5530.33	-1105.86	-1127.51	419.30	40°12'11.242"N	104°33'15.595"W	1.50	
5863.00	23.880	146.430	5616.36	-1137.00	-1159.66	439.33	40°12'10.923"N	104°33'15.341"W	1.44	
5958.00	24.120	149.010	5703.15	-1168.63	-1192.32	459.96	40°12'10.598"N	104°33'15.080"W	1.13	
6053.00	24.150	152.600	5789.85	-1201.57	-1226.22	478.90	40°12'10.261"N	104°33'14.841"W	1.55	
6147.00	23.940	153.390	5875.69	-1234.81	-1260.34	496.29	40°12'09.922"N	104°33'14.621"W	0.41	
6242.00	24.100	154.490	5962.47	-1268.68	-1295.08	513.28	40°12'09.577"N	104°33'14.407"W	0.50	
6337.00	19.990	149.210	6050.51	-1299.31	-1326.55	529.95	40°12'09.264"N	104°33'14.196"W	4.80	
6431.00	11.440	135.440	6140.94	-1319.05	-1347.04	544.75	40°12'09.060"N	104°33'14.009"W	9.86	
6526.00	4.760	77.560	6235.06	-1324.42	-1352.92	555.24	40°12'09.001"N	104°33'13.874"W	10.28	
6621.00	7.450	347.920	6329.69	-1317.42	-1346.03	557.80	40°12'09.069"N	104°33'13.840"W	9.27	
6716.00	16.920	344.120	6422.44	-1298.32	-1326.67	552.72	40°12'09.260"N	104°33'13.903"W	10.00	
6810.00	23.780	336.450	6510.54	-1268.33	-1296.10	541.39	40°12'09.564"N	104°33'14.045"W	7.82	
6905.00	31.180	329.910	6594.78	-1230.45	-1257.20	521.37	40°12'09.950"N	104°33'14.298"W	8.40	
7000.00	39.350	337.040	6672.31	-1182.56	-1208.08	497.24	40°12'10.438"N	104°33'14.602"W	9.62	
7094.00	45.720	350.020	6741.68	-1122.72	-1147.32	479.74	40°12'11.040"N	104°33'14.819"W	11.51	
7189.00	55.330	352.730	6802.01	-1050.91	-1074.90	468.87	40°12'11.757"N	104°33'14.949"W	10.35	
7284.00	65.770	345.870	6848.69	-970.71	-993.85	453.30	40°12'12.560"N	104°33'15.139"W	12.65	
7379.00	72.910	345.200	6882.19	-885.87	-907.83	431.10	40°12'13.412"N	104°33'15.413"W	7.54	
7473.00	81.350	349.680	6903.12	-797.59	-818.48	411.25	40°12'14.297"N	104°33'15.656"W	10.11	
7568.00	90.090	353.090	6910.21	-704.82	-724.92	397.09	40°12'15.223"N	104°33'15.826"W	9.87	
7663.00	90.030	0.810	6910.11	-610.38	-630.12	392.04	40°12'16.160"N	104°33'15.878"W	8.13	
7758.00	89.820	6.730	6910.23	-515.44	-535.37	398.28	40°12'17.096"N	104°33'15.785"W	6.24	
7947.00	90.000	6.030	6910.53	-326.81	-347.54	419.29	40°12'18.950"N	104°33'15.488"W	0.38	
8042.00	90.030	7.470	6910.50	-232.04	-253.20	430.45	40°12'19.881"N	104°33'15.331"W	1.52	
8137.00	89.880	7.680	6910.58	-137.38	-159.03	442.97	40°12'20.810"N	104°33'15.157"W	0.27	
8231.00	89.880	6.280	6910.77	-43.63	-65.73	454.40	40°12'21.731"N	104°33'14.997"W	1.49	
8326.00	89.720	4.090	6911.11	51.28	28.87	462.98	40°12'22.665"N	104°33'14.873"W	2.31	
8421.00	90.090	1.450	6911.26	146.27	123.75	467.57	40°12'23.602"N	104°33'14.801"W	2.81	
8516.00	90.000	358.830	6911.19	241.16	218.74	467.81	40°12'24.540"N	104°33'14.785"W	2.76	
8611.00	89.820	356.780	6911.34	335.80	313.67	464.17	40°12'25.479"N	104°33'14.819"W	2.17	

Actual Wellpath Report

VOGLER STATE D21-740 AWP

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#09 VOGLER STATE D21-740(930'FSL&2482'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-740
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-740 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8705.00	90.060	359.340	6911.44	429.47	407.61	460.99	40°12'26.407"N	104°33'14.847"W	2.74	
8800.00	89.970	2.950	6911.41	524.42	502.57	462.88	40°12'27.345"N	104°33'14.809"W	3.80	
8895.00	89.910	5.630	6911.51	619.37	597.30	469.99	40°12'28.281"N	104°33'14.705"W	2.82	
8990.00	89.880	6.320	6911.68	714.23	691.78	479.88	40°12'29.213"N	104°33'14.564"W	0.73	
9085.00	89.780	2.150	6911.97	809.17	786.50	486.89	40°12'30.148"N	104°33'14.461"W	4.39	
9180.00	89.940	359.730	6912.20	904.12	881.48	488.45	40°12'31.087"N	104°33'14.428"W	2.55	
9274.00	89.780	0.530	6912.43	998.02	975.48	488.66	40°12'32.016"N	104°33'14.412"W	0.87	
9369.00	90.030	0.350	6912.59	1092.94	1070.48	489.39	40°12'32.954"N	104°33'14.390"W	0.32	
9464.00	89.850	357.510	6912.69	1187.71	1165.45	487.62	40°12'33.893"N	104°33'14.399"W	3.00	
9559.00	90.150	357.170	6912.69	1282.28	1260.35	483.21	40°12'34.831"N	104°33'14.443"W	0.48	
9653.00	90.180	358.900	6912.41	1375.96	1354.29	479.99	40°12'35.760"N	104°33'14.472"W	1.84	
9748.00	90.120	356.950	6912.17	1470.61	1449.22	476.55	40°12'36.698"N	104°33'14.503"W	2.05	
9843.00	89.850	353.440	6912.19	1564.77	1543.87	468.59	40°12'37.634"N	104°33'14.593"W	3.71	
9937.00	90.060	352.230	6912.26	1657.35	1637.14	456.87	40°12'38.557"N	104°33'14.731"W	1.31	
10032.00	89.880	351.720	6912.31	1750.67	1731.21	443.60	40°12'39.488"N	104°33'14.889"W	0.57	
10127.00	90.150	351.600	6912.29	1843.89	1825.20	429.83	40°12'40.418"N	104°33'15.054"W	0.31	
10221.00	90.120	354.610	6912.07	1936.54	1918.51	418.54	40°12'41.341"N	104°33'15.186"W	3.20	
10316.00	90.060	356.750	6911.92	2030.81	2013.23	411.39	40°12'42.278"N	104°33'15.265"W	2.25	
10411.00	89.940	356.860	6911.92	2125.29	2108.09	406.09	40°12'43.216"N	104°33'15.321"W	0.17	
10506.00	90.060	0.220	6911.92	2220.02	2203.04	403.67	40°12'44.155"N	104°33'15.339"W	3.54	
10600.00	89.720	2.410	6912.10	2313.98	2297.01	405.83	40°12'45.083"N	104°33'15.298"W	2.36	
10695.00	89.660	2.380	6912.61	2408.98	2391.93	409.80	40°12'46.020"N	104°33'15.234"W	0.07	
10790.00	89.780	5.550	6913.08	2503.94	2486.69	416.37	40°12'46.956"N	104°33'15.136"W	3.34	
10884.00	90.000	8.380	6913.26	2597.68	2579.98	427.76	40°12'47.877"N	104°33'14.976"W	3.02	
10979.00	89.970	9.180	6913.28	2692.16	2673.87	442.26	40°12'48.803"N	104°33'14.777"W	0.84	
11074.00	89.970	9.800	6913.33	2786.51	2767.57	457.93	40°12'49.727"N	104°33'14.562"W	0.65	
11169.00	89.320	8.590	6913.92	2880.91	2861.34	473.11	40°12'50.652"N	104°33'14.353"W	1.45	
11264.00	89.050	6.380	6915.27	2975.57	2955.52	485.48	40°12'51.582"N	104°33'14.181"W	2.34	
11358.00	89.140	3.610	6916.76	3069.48	3049.14	493.66	40°12'52.506"N	104°33'14.063"W	2.95	
11453.00	89.140	2.280	6918.18	3164.47	3144.00	498.54	40°12'53.443"N	104°33'13.987"W	1.40	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#09 VOGLER STATE D21-740(930'FSL&2482'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-740
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-740 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11548.00	89.230	358.180	6919.54	3259.35	3238.97	498.92	40°12'54.381"N	104°33'13.969"W	4.32	
11643.00	89.200	355.420	6920.84	3353.81	3333.81	493.62	40°12'55.319"N	104°33'14.024"W	2.91	
11832.00	89.200	353.980	6923.48	3540.91	3521.97	476.17	40°12'57.180"N	104°33'14.223"W	0.76	
11927.00	89.050	356.780	6924.93	3635.10	3616.65	468.52	40°12'58.116"N	104°33'14.309"W	2.95	
12022.00	89.290	1.670	6926.30	3729.88	3711.60	467.23	40°12'59.055"N	104°33'14.312"W	5.15	
12116.00	89.290	5.730	6927.47	3823.84	3805.37	473.30	40°12'59.981"N	104°33'14.221"W	4.32	
12211.00	89.140	5.130	6928.77	3918.73	3899.94	482.29	40°13'00.914"N	104°33'14.092"W	0.65	
12306.00	89.260	4.130	6930.10	4013.67	3994.62	489.95	40°13'01.849"N	104°33'13.980"W	1.06	
12401.00	89.140	3.080	6931.42	4108.65	4089.42	495.93	40°13'02.785"N	104°33'13.890"W	1.11	
12495.00	89.080	1.620	6932.88	4202.63	4183.33	499.78	40°13'03.712"N	104°33'13.828"W	1.55	
12590.00	89.230	0.020	6934.29	4297.56	4278.30	501.14	40°13'04.651"N	104°33'13.797"W	1.69	
12685.00	89.230	358.000	6935.56	4392.35	4373.28	499.50	40°13'05.589"N	104°33'13.805"W	2.13	
12779.00	89.080	359.360	6936.95	4486.09	4467.24	497.33	40°13'06.518"N	104°33'13.820"W	1.46	
12874.00	89.110	1.360	6938.45	4580.99	4562.22	497.93	40°13'07.457"N	104°33'13.799"W	2.11	
12969.00	89.110	1.110	6939.92	4675.95	4657.19	499.98	40°13'08.395"N	104°33'13.760"W	0.26	
13064.00	89.110	359.420	6941.40	4770.84	4752.17	500.42	40°13'09.333"N	104°33'13.741"W	1.78	
13158.00	89.910	358.070	6942.20	4864.60	4846.14	498.36	40°13'10.262"N	104°33'13.755"W	1.67	
13253.00	89.910	356.600	6942.35	4959.17	4941.04	493.94	40°13'11.200"N	104°33'13.799"W	1.55	
13348.00	89.880	355.880	6942.53	5053.55	5035.83	487.71	40°13'12.138"N	104°33'13.866"W	0.76	
13443.00	89.750	356.150	6942.83	5147.89	5130.60	481.11	40°13'13.075"N	104°33'13.938"W	0.32	
13537.00	89.720	357.660	6943.27	5241.39	5224.46	476.03	40°13'14.003"N	104°33'13.991"W	1.61	
13632.00	89.910	357.730	6943.58	5336.02	5319.38	472.21	40°13'14.941"N	104°33'14.027"W	0.21	
13727.00	89.940	359.480	6943.70	5430.76	5414.35	469.90	40°13'15.880"N	104°33'14.044"W	1.84	
13822.00	89.910	0.790	6943.82	5525.66	5509.35	470.12	40°13'16.819"N	104°33'14.028"W	1.38	
13916.00	89.970	2.900	6943.92	5619.64	5603.29	473.15	40°13'17.747"N	104°33'13.976"W	2.25	
14011.00	89.880	4.320	6944.05	5714.63	5698.10	479.13	40°13'18.683"N	104°33'13.885"W	1.50	
14106.00	90.000	2.990	6944.15	5809.62	5792.91	485.19	40°13'19.619"N	104°33'13.794"W	1.41	
14201.00	89.820	1.900	6944.30	5904.61	5887.82	489.24	40°13'20.556"N	104°33'13.729"W	1.16	
14295.00	89.750	359.560	6944.65	5998.54	5981.81	490.44	40°13'21.485"N	104°33'13.701"W	2.49	
14390.00	89.820	358.520	6945.01	6093.34	6076.79	488.85	40°13'22.424"N	104°33'13.708"W	1.10	

Actual Wellpath Report

VOGLER STATE D21-740 AWP

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#09 VOGLER STATE D21-740(930'FSL&2482'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-740
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-740 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14485.00	90.000	359.210	6945.15	6188.12	6171.77	486.96	40°13'23.362"N	104°33'13.719"W	0.75	
14580.00	89.970	1.170	6945.18	6283.02	6266.77	487.28	40°13'24.301"N	104°33'13.702"W	2.06	
14674.00	89.940	1.350	6945.25	6376.98	6360.74	489.35	40°13'25.229"N	104°33'13.663"W	0.19	
14769.00	89.940	1.330	6945.35	6471.95	6455.72	491.57	40°13'26.168"N	104°33'13.621"W	0.02	
14864.00	90.490	0.840	6945.00	6566.91	6550.70	493.37	40°13'27.106"N	104°33'13.585"W	0.78	
14959.00	90.520	1.260	6944.16	6661.86	6645.68	495.11	40°13'28.044"N	104°33'13.549"W	0.44	
15054.00	90.490	0.700	6943.32	6756.81	6740.66	496.73	40°13'28.983"N	104°33'13.515"W	0.59	
15149.00	90.580	0.890	6942.43	6851.75	6835.65	498.05	40°13'29.921"N	104°33'13.485"W	0.22	
15243.00	90.430	1.860	6941.61	6945.72	6929.62	500.31	40°13'30.850"N	104°33'13.443"W	1.04	
15338.00	90.860	359.420	6940.54	7040.64	7024.60	501.37	40°13'31.788"N	104°33'13.416"W	2.61	
15433.00	90.830	358.350	6939.14	7135.41	7119.57	499.52	40°13'32.727"N	104°33'13.427"W	1.13	
15527.00	90.800	358.020	6937.80	7229.10	7213.51	496.54	40°13'33.655"N	104°33'13.453"W	0.35	
15622.00	90.920	358.050	6936.37	7323.76	7308.44	493.28	40°13'34.594"N	104°33'13.482"W	0.13	
15717.00	90.800	358.340	6934.95	7418.45	7403.38	490.29	40°13'35.532"N	104°33'13.507"W	0.33	
15811.00	90.890	357.330	6933.56	7512.09	7497.31	486.74	40°13'36.461"N	104°33'13.540"W	1.08	
15906.00	90.950	357.100	6932.03	7606.63	7592.18	482.13	40°13'37.399"N	104°33'13.586"W	0.25	
16001.00	90.980	357.640	6930.43	7701.19	7687.07	477.77	40°13'38.337"N	104°33'13.629"W	0.57	
16096.00	90.950	358.550	6928.83	7795.86	7782.00	474.61	40°13'39.275"N	104°33'13.657"W	0.96	
16191.00	90.950	359.170	6927.26	7890.62	7876.97	472.72	40°13'40.214"N	104°33'13.668"W	0.65	
16285.00	90.890	0.140	6925.75	7984.47	7970.95	472.16	40°13'41.142"N	104°33'13.663"W	1.03	
16380.00	90.830	359.860	6924.32	8079.35	8065.94	472.16	40°13'42.081"N	104°33'13.650"W	0.30	
16475.00	90.950	359.430	6922.85	8174.19	8160.93	471.57	40°13'43.020"N	104°33'13.644"W	0.47	
16569.00	90.920	359.050	6921.32	8268.00	8254.91	470.32	40°13'43.948"N	104°33'13.647"W	0.41	
16664.00	90.990	358.760	6919.73	8362.77	8349.88	468.50	40°13'44.887"N	104°33'13.658"W	0.31	
16759.00	89.970	358.000	6918.94	8457.49	8444.83	465.82	40°13'45.826"N	104°33'13.679"W	1.34	
16854.00	90.030	358.730	6918.94	8552.20	8539.79	463.11	40°13'46.764"N	104°33'13.701"W	0.77	
16949.00	90.120	358.960	6918.81	8646.98	8634.78	461.19	40°13'47.703"N	104°33'13.713"W	0.26	
17044.00	90.060	2.290	6918.66	8741.90	8729.76	462.23	40°13'48.641"N	104°33'13.686"W	3.51	
17139.00	90.030	2.570	6918.59	8836.90	8824.67	466.26	40°13'49.579"N	104°33'13.621"W	0.30	
17234.00	90.120	1.200	6918.46	8931.88	8919.62	469.38	40°13'50.517"N	104°33'13.568"W	1.45	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#09 VOGLER STATE D21-740(930'FSL&2482'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-740
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-740 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (186 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17328.00	90.000	359.220	6918.36	9025.78	9013.61	469.73	40°13'51.446"N	104°33'13.551"W	2.11	
17423.00	90.090	0.070	6918.29	9120.64	9108.61	469.14	40°13'52.384"N	104°33'13.545"W	0.90	
17518.00	89.940	358.100	6918.27	9215.44	9203.59	467.62	40°13'53.323"N	104°33'13.552"W	2.08	
17613.00	89.970	355.690	6918.34	9309.93	9298.45	462.48	40°13'54.261"N	104°33'13.605"W	2.54	
17707.00	89.910	353.360	6918.44	9402.95	9392.01	453.51	40°13'55.186"N	104°33'13.708"W	2.48	LAST BHGE MWD SURVEY
17755.00	89.910	353.360	6918.51	9450.31	9439.69	447.96	40°13'55.658"N	104°33'13.773"W	0.00	PROJECTION TO BIT

HOLE & CASING SECTIONS - Ref Wellbore: VOGLER STATE D21-740 AWB Ref Wellpath: VOGLER STATE D21-740 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	1911.00	1881.00	30.00	1910.97	-0.01	0.00	2.99	-4.07
9.625in Casing Surface	30.00	1931.00	1901.00	30.00	1930.97	-0.01	0.00	3.14	-4.33
8.5in Open Hole	1911.00	17755.00	15844.00	1910.97	6918.51	2.99	-4.07	9439.69	447.96

Actual Wellpath Report

VOGLER STATE D21-740 AWP

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#09 VOGLER STATE D21-740(930'FSL&2482'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-740
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-740 AWB
Facility	SEC.21-T03N-R64W		

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	-63.13	1933.68	3265652.49	1319312.87	40°12'21.600"N	104°32'55.932"W	polygon
VOLGER STATE D21-790 Seciton 21	5.00	-63.13	1933.68	3265652.49	1319312.87	40°12'21.600"N	104°32'55.932"W	polygon
VOGLER STATE D21-740 Landing Point	6914.00	-729.51	500.44	3264219.32	1318646.52	40°12'15.167"N	104°33'14.495"W	point
VOGLER STATE D21-740 BHL FROM PLAN(200'FNL&1980'FEL,SEC.16)	6925.00	9442.75	458.18	3264177.07	1328818.32	40°13'55.687"N	104°33'13.640"W	point

WELLPATH COMPOSITION - Ref Wellbore: VOGLER STATE D21-740 AWB Ref Wellpath: VOGLER STATE D21-740 AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	1911.00	Gyrodata relative depth - Drop gyro or Multi-shot	3rd Party Surface Gyros <84'-1911'>	VOGLER STATE D21-740 AWB
1911.00	17707.00	OWSG MWD rev2 - Standard	BHGE/ATC OWSG MWD+IFR+MSA 8.5" Hole <1994'-17707'>	VOGLER STATE D21-740 AWB
17707.00	17755.00	Blind Drilling (std)	Projection to bit	VOGLER STATE D21-740 AWB