

NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#10 VOGLER STATE D21-750(930°FSL&2519°FEL,SEC.21)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: VOGLER STATE D21-750
Facility: SEC.21-T03N-R64W Wellbore: VOGLER STATE D21-750 PWB

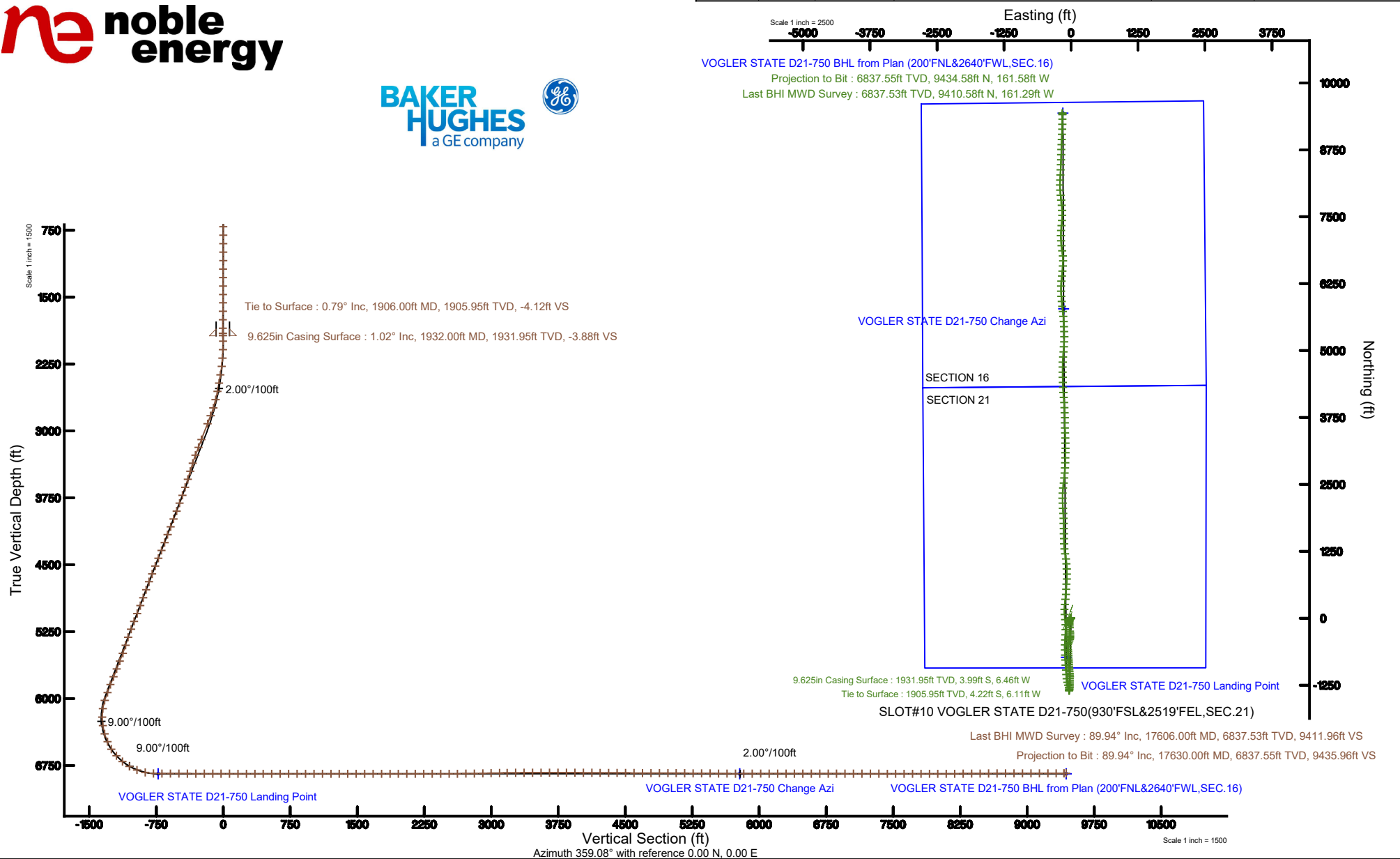
Plot reference wellpath is VOGLER STATE D21-750 (REV-A.0) PWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (30KB) (RKB)	North Reference: Grid north
Measured depths are referenced to RIG (30KB) (RKB)	Scale: True distance
RIG (30KB) (RKB) to Mean Sea Level: 4854 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: SLOT#10 VOGLER STATE D21-750(930°FSL&2519°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	1319018.462	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#10 VOGLER STATE D21-750(930°FSL&2519°FEL,SEC.21)	357.14	2071.68	3263682.598	1319375.611	40°12'22.428"N	104°33'21.312"W
RIG (30KB) (RKB) to Ground level (At Slot: SLOT#10 VOGLER STATE D21-750(930°FSL&2519°FEL,SEC.21))					4854ft	
Mean Sea Level to Ground level (At Slot: SLOT#10 VOGLER STATE D21-750(930°FSL&2519°FEL,SEC.21))					0ft	
RIG (30KB) (RKB) to Mean Sea Level					4854ft	

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
30.00	17613.65	OWSG MWD rev2	OWSG MWD rev2 + IFR1 + Multi-Station Correction		VOGLER STATE D21-750 PWB



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#10 VOGLER STATE D21-750(930'FSL&2519'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-750
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-750 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 11:46:44 AM
Convergence at slot	0.61° East	Database/Source file	WellArchitectDB/VOGLER_STATE_D21-750_AWP.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	357.14	2071.68	3263682.60	1319375.61	40°12'22.428"N	104°33'21.312"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	4854.00ft
Horizontal Reference Pt	Slot	RIG (30'KB) (RKB) to Mean Sea Level	4854.00ft
Vertical Reference Pt	RIG (30'KB) (RKB)	RIG (30'KB) (RKB) to Ground Level at Slot (SLOT#10 VOGLER STATE D21-750 (930'FSL&2519'FEL,SEC.21))	4854.00ft
MD Reference Pt	RIG (30'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.08°

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-750 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (188 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	170.220	0.00	0.00	0.00	0.00	40°12'22.428"N	104°33'21.312"W	0.00	
84.00	0.240	170.220	84.00	-0.17	-0.17	0.03	40°12'22.426"N	104°33'21.312"W	0.29	
177.00	0.310	135.660	177.00	-0.55	-0.55	0.24	40°12'22.423"N	104°33'21.309"W	0.19	
270.00	0.190	314.230	270.00	-0.62	-0.62	0.30	40°12'22.422"N	104°33'21.308"W	0.54	
333.00	0.330	310.090	333.00	-0.43	-0.43	0.09	40°12'22.424"N	104°33'21.311"W	0.22	
428.00	0.560	341.800	427.99	0.19	0.19	-0.26	40°12'22.430"N	104°33'21.315"W	0.35	
522.00	0.250	256.550	521.99	0.59	0.58	-0.61	40°12'22.434"N	104°33'21.320"W	0.63	
617.00	0.810	290.620	616.99	0.79	0.77	-1.44	40°12'22.436"N	104°33'21.330"W	0.65	
711.00	0.250	271.060	710.98	1.04	1.00	-2.26	40°12'22.438"N	104°33'21.341"W	0.62	
806.00	0.640	228.660	805.98	0.70	0.66	-2.87	40°12'22.435"N	104°33'21.349"W	0.51	
901.00	0.210	176.770	900.98	0.19	0.13	-3.26	40°12'22.430"N	104°33'21.354"W	0.56	
996.00	0.250	276.710	995.98	0.04	-0.02	-3.45	40°12'22.428"N	104°33'21.357"W	0.37	
1091.00	0.760	180.340	1090.98	-0.56	-0.62	-3.66	40°12'22.422"N	104°33'21.359"W	0.87	
1185.00	0.680	232.690	1184.97	-1.52	-1.58	-4.11	40°12'22.413"N	104°33'21.365"W	0.68	
1280.00	0.300	137.220	1279.97	-2.04	-2.11	-4.39	40°12'22.408"N	104°33'21.369"W	0.81	
1375.00	0.540	168.880	1374.96	-2.66	-2.73	-4.13	40°12'22.401"N	104°33'21.366"W	0.34	
1470.00	0.570	263.410	1469.96	-3.15	-3.22	-4.52	40°12'22.397"N	104°33'21.371"W	0.86	
1564.00	0.270	271.680	1563.96	-3.19	-3.27	-5.20	40°12'22.396"N	104°33'21.380"W	0.32	
1659.00	0.400	168.870	1658.96	-3.50	-3.59	-5.36	40°12'22.393"N	104°33'21.382"W	0.56	
1754.00	0.330	205.070	1753.96	-4.08	-4.16	-5.42	40°12'22.387"N	104°33'21.382"W	0.25	
1848.00	0.190	263.440	1847.95	-4.33	-4.43	-5.69	40°12'22.385"N	104°33'21.386"W	0.30	
1906.00	0.790	303.440	1905.95	-4.12	-4.22	-6.11	40°12'22.387"N	104°33'21.391"W	1.13	Tie to Surface
1994.00	1.580	305.770	1993.93	-3.05	-3.17	-7.60	40°12'22.397"N	104°33'21.410"W	0.90	
2089.00	2.500	228.300	2088.89	-3.62	-3.79	-10.21	40°12'22.392"N	104°33'21.444"W	2.79	
2184.00	5.150	209.770	2183.67	-8.64	-8.87	-13.88	40°12'22.342"N	104°33'21.492"W	3.04	
2278.00	7.840	201.970	2277.06	-18.18	-18.48	-18.37	40°12'22.247"N	104°33'21.551"W	3.01	
2373.00	9.680	193.960	2370.95	-31.87	-32.24	-22.73	40°12'22.112"N	104°33'21.609"W	2.32	
2467.00	10.330	190.390	2463.52	-47.77	-48.20	-26.15	40°12'21.955"N	104°33'21.656"W	0.96	
2562.00	11.410	187.480	2556.82	-65.42	-65.89	-28.91	40°12'21.780"N	104°33'21.694"W	1.27	
2657.00	13.630	179.400	2649.56	-85.91	-86.41	-30.02	40°12'21.577"N	104°33'21.711"W	2.97	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#10 VOGLER STATE D21-750(930'FSL&2519'FEL,SEC.21)
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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-750 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (188 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2752.00	16.630	175.490	2741.26	-110.68	-111.16	-28.83	40°12'21.333"N	104°33'21.699"W	3.33	
2846.00	21.360	176.970	2830.11	-141.23	-141.68	-26.87	40°12'21.031"N	104°33'21.678"W	5.06	
2941.00	21.460	172.890	2918.56	-175.80	-176.20	-23.80	40°12'20.689"N	104°33'21.643"W	1.57	
3131.00	20.910	177.000	3095.73	-244.24	-244.55	-17.73	40°12'20.013"N	104°33'21.574"W	0.83	
3225.00	20.880	179.570	3183.55	-277.75	-278.06	-16.72	40°12'19.682"N	104°33'21.566"W	0.98	
3320.00	20.670	179.370	3272.38	-311.45	-311.75	-16.41	40°12'19.349"N	104°33'21.566"W	0.23	
3415.00	16.600	177.530	3362.38	-341.79	-342.09	-15.64	40°12'19.049"N	104°33'21.561"W	4.33	
3509.00	17.050	183.560	3452.36	-368.96	-369.26	-15.92	40°12'18.781"N	104°33'21.568"W	1.92	
3604.00	19.010	196.900	3542.73	-397.59	-397.98	-21.28	40°12'18.498"N	104°33'21.641"W	4.80	
3699.00	19.440	202.250	3632.44	-426.85	-427.42	-31.77	40°12'18.208"N	104°33'21.780"W	1.91	
3793.00	21.040	202.730	3720.63	-456.69	-457.46	-44.21	40°12'17.912"N	104°33'21.945"W	1.71	
3888.00	20.890	194.560	3809.36	-488.64	-489.59	-55.06	40°12'17.596"N	104°33'22.089"W	3.08	
3983.00	21.130	183.420	3898.08	-522.05	-523.09	-60.34	40°12'17.265"N	104°33'22.161"W	4.21	
4077.00	20.860	176.580	3985.85	-555.67	-556.71	-60.36	40°12'16.933"N	104°33'22.166"W	2.62	
4172.00	20.690	174.530	4074.68	-589.30	-590.30	-57.75	40°12'16.601"N	104°33'22.137"W	0.79	
4266.00	21.090	174.330	4162.50	-622.71	-623.66	-54.49	40°12'16.271"N	104°33'22.100"W	0.43	
4361.00	21.450	176.240	4251.03	-657.09	-658.00	-51.66	40°12'15.931"N	104°33'22.068"W	0.82	
4456.00	21.840	177.010	4339.33	-692.10	-692.98	-49.60	40°12'15.586"N	104°33'22.046"W	0.51	
4550.00	21.480	175.080	4426.69	-726.74	-727.59	-47.22	40°12'15.243"N	104°33'22.020"W	0.85	
4645.00	22.110	180.160	4514.91	-761.97	-762.80	-45.77	40°12'14.895"N	104°33'22.007"W	2.09	
4740.00	21.150	176.640	4603.22	-796.97	-797.79	-44.82	40°12'14.549"N	104°33'21.999"W	1.70	
4834.00	21.450	173.670	4690.81	-831.03	-831.81	-41.93	40°12'14.213"N	104°33'21.966"W	1.19	
4929.00	19.830	176.670	4779.71	-864.42	-865.16	-39.08	40°12'13.883"N	104°33'21.934"W	2.04	
5024.00	19.700	174.390	4869.11	-896.48	-897.18	-36.58	40°12'13.566"N	104°33'21.906"W	0.82	
5119.00	20.370	175.450	4958.36	-928.94	-929.60	-33.70	40°12'13.246"N	104°33'21.874"W	0.80	
5213.00	21.850	174.940	5046.05	-962.72	-963.33	-30.86	40°12'12.912"N	104°33'21.842"W	1.59	
5308.00	21.250	176.270	5134.41	-997.54	-998.12	-28.18	40°12'12.568"N	104°33'21.812"W	0.81	
5403.00	21.450	174.290	5222.89	-1032.05	-1032.59	-25.33	40°12'12.227"N	104°33'21.780"W	0.79	
5498.00	18.930	174.690	5312.05	-1064.73	-1065.22	-22.18	40°12'11.904"N	104°33'21.744"W	2.66	
5592.00	17.230	181.640	5401.41	-1093.84	-1094.32	-21.16	40°12'11.617"N	104°33'21.735"W	2.92	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#10 VOGLER STATE D21-750(930'FSL&2519'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-750
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-750 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (188 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5687.00	20.110	180.380	5491.41	-1124.23	-1124.73	-21.68	40°12'11.316"N	104°33'21.746"W	3.06	
5781.00	21.640	180.330	5579.23	-1157.72	-1158.22	-21.88	40°12'10.985"N	104°33'21.753"W	1.63	
5876.00	21.640	180.670	5667.54	-1192.74	-1193.25	-22.19	40°12'10.639"N	104°33'21.762"W	0.13	
5971.00	22.060	181.490	5755.71	-1228.08	-1228.60	-22.86	40°12'10.290"N	104°33'21.775"W	0.55	
6065.00	20.770	181.240	5843.22	-1262.37	-1262.91	-23.68	40°12'09.951"N	104°33'21.790"W	1.38	
6160.00	21.060	182.210	5931.96	-1296.25	-1296.81	-24.70	40°12'09.616"N	104°33'21.808"W	0.48	
6254.00	17.310	185.780	6020.73	-1327.01	-1327.61	-26.76	40°12'09.312"N	104°33'21.839"W	4.18	
6349.00	9.130	196.540	6113.15	-1348.28	-1348.94	-30.34	40°12'09.102"N	104°33'21.888"W	8.96	
6444.00	2.720	273.530	6207.68	-1355.31	-1356.04	-34.74	40°12'09.032"N	104°33'21.946"W	9.39	
6539.00	8.990	359.940	6302.25	-1347.69	-1348.46	-37.00	40°12'09.107"N	104°33'21.974"W	9.71	
6634.00	15.790	1.120	6394.98	-1327.33	-1328.09	-36.76	40°12'09.308"N	104°33'21.968"W	7.16	
6728.00	23.300	346.740	6483.55	-1296.33	-1297.15	-40.78	40°12'09.615"N	104°33'22.016"W	9.43	
6823.00	34.270	342.770	6566.69	-1252.16	-1253.17	-53.05	40°12'10.050"N	104°33'22.168"W	11.72	
6918.00	42.970	346.430	6640.86	-1194.78	-1196.04	-68.60	40°12'10.617"N	104°33'22.360"W	9.46	
7012.00	50.340	352.140	6705.36	-1127.49	-1128.93	-81.09	40°12'11.281"N	104°33'22.512"W	8.99	
7107.00	59.680	355.640	6759.79	-1050.07	-1051.64	-89.23	40°12'12.046"N	104°33'22.606"W	10.28	
7202.00	68.770	356.780	6801.05	-964.72	-966.36	-94.84	40°12'12.889"N	104°33'22.667"W	9.63	
7297.00	78.220	356.790	6828.01	-873.81	-875.52	-99.95	40°12'13.787"N	104°33'22.720"W	9.95	
7391.00	88.460	357.260	6838.90	-780.63	-782.41	-104.78	40°12'14.708"N	104°33'22.770"W	10.90	
7486.00	89.880	357.560	6840.28	-685.68	-687.52	-109.07	40°12'15.646"N	104°33'22.812"W	1.53	
7581.00	89.690	358.720	6840.63	-590.70	-592.57	-112.16	40°12'16.584"N	104°33'22.839"W	1.24	
7676.00	89.750	359.980	6841.10	-495.70	-497.58	-113.23	40°12'17.523"N	104°33'22.840"W	1.33	
7770.00	89.750	3.110	6841.51	-401.80	-403.63	-110.70	40°12'18.451"N	104°33'22.794"W	3.33	
7865.00	89.970	3.950	6841.74	-307.09	-308.81	-104.85	40°12'19.388"N	104°33'22.706"W	0.91	
7960.00	89.970	2.390	6841.79	-212.33	-213.96	-99.60	40°12'20.324"N	104°33'22.625"W	1.64	
8054.00	90.090	354.690	6841.74	-118.41	-120.06	-101.99	40°12'21.252"N	104°33'22.643"W	8.19	
8149.00	89.940	353.910	6841.72	-23.74	-25.53	-111.43	40°12'22.187"N	104°33'22.752"W	0.84	
8244.00	89.880	356.560	6841.86	71.04	69.14	-119.32	40°12'23.124"N	104°33'22.840"W	2.79	
8339.00	89.910	0.260	6842.04	166.02	164.08	-121.95	40°12'24.062"N	104°33'22.861"W	3.89	
8434.00	89.880	7.060	6842.21	260.66	258.83	-115.89	40°12'24.998"N	104°33'22.770"W	7.16	

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Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-750 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (188 stations)

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8528.00	90.060	7.300	6842.26	353.72	352.10	-104.14	40°12'25.918"N	104°33'22.606"W	0.32	
8623.00	90.030	4.940	6842.19	448.00	446.55	-94.02	40°12'26.850"N	104°33'22.462"W	2.48	
8718.00	90.030	1.390	6842.14	542.74	541.39	-88.77	40°12'27.787"N	104°33'22.382"W	3.74	
8813.00	90.000	4.340	6842.11	637.52	636.26	-84.02	40°12'28.724"N	104°33'22.308"W	3.11	
8908.00	89.970	2.490	6842.14	732.25	731.09	-78.36	40°12'29.660"N	104°33'22.222"W	1.95	
9002.00	90.030	359.860	6842.14	826.18	825.06	-76.44	40°12'30.589"N	104°33'22.184"W	2.80	
9097.00	90.000	357.310	6842.11	921.17	920.02	-78.78	40°12'31.527"N	104°33'22.201"W	2.68	
9192.00	90.000	355.280	6842.11	1016.05	1014.82	-84.92	40°12'32.465"N	104°33'22.267"W	2.14	
9287.00	89.970	352.720	6842.14	1110.67	1109.29	-94.85	40°12'33.399"N	104°33'22.382"W	2.69	
9382.00	89.910	349.940	6842.24	1204.79	1203.19	-109.17	40°12'34.329"N	104°33'22.554"W	2.93	
9476.00	89.850	353.640	6842.43	1298.01	1296.21	-122.59	40°12'35.249"N	104°33'22.714"W	3.94	
9571.00	89.910	358.040	6842.63	1392.84	1390.94	-129.48	40°12'36.186"N	104°33'22.790"W	4.63	
9666.00	89.940	359.140	6842.76	1487.83	1485.91	-131.82	40°12'37.125"N	104°33'22.807"W	1.16	
9761.00	89.940	359.090	6842.86	1582.83	1580.90	-133.29	40°12'38.064"N	104°33'22.813"W	0.05	
9855.00	89.880	358.990	6843.01	1676.83	1674.89	-134.86	40°12'38.992"N	104°33'22.820"W	0.12	
9950.00	89.910	358.510	6843.18	1771.83	1769.86	-136.93	40°12'39.931"N	104°33'22.834"W	0.51	
10045.00	89.820	357.430	6843.40	1866.81	1864.80	-140.30	40°12'40.870"N	104°33'22.864"W	1.14	
10139.00	90.150	356.800	6843.43	1960.75	1958.68	-145.03	40°12'41.798"N	104°33'22.912"W	0.76	
10234.00	89.970	357.180	6843.33	2055.69	2053.55	-150.02	40°12'42.736"N	104°33'22.964"W	0.44	
10329.00	90.030	357.350	6843.33	2150.64	2148.44	-154.55	40°12'43.674"N	104°33'23.009"W	0.19	
10423.00	90.090	358.900	6843.23	2244.63	2242.39	-157.63	40°12'44.603"N	104°33'23.036"W	1.65	
10518.00	90.090	3.700	6843.08	2339.53	2337.34	-155.47	40°12'45.541"N	104°33'22.995"W	5.05	
10613.00	90.120	6.220	6842.91	2434.02	2431.97	-147.26	40°12'46.475"N	104°33'22.876"W	2.65	
10708.00	90.220	7.350	6842.62	2528.16	2526.30	-136.03	40°12'47.406"N	104°33'22.719"W	1.19	
10802.00	90.520	5.070	6842.02	2621.43	2619.75	-125.87	40°12'48.328"N	104°33'22.575"W	2.45	
10897.00	90.770	4.140	6840.95	2715.98	2714.43	-118.24	40°12'49.263"N	104°33'22.464"W	1.01	
10992.00	90.280	2.890	6840.08	2810.69	2809.25	-112.42	40°12'50.199"N	104°33'22.375"W	1.41	
11087.00	91.510	2.320	6838.59	2905.49	2904.13	-108.10	40°12'51.136"N	104°33'22.307"W	1.43	
11181.00	91.820	1.490	6835.86	2999.34	2998.04	-104.98	40°12'52.064"N	104°33'22.254"W	0.94	
11276.00	90.150	0.100	6834.23	3094.28	3093.01	-103.66	40°12'53.002"N	104°33'22.224"W	2.29	

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	SLOT#10 VOGLER STATE D21-750(930'FSL&2519'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-750
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-750 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (188 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11360.00	91.420	0.320	6833.08	3178.25	3177.00	-103.35	40°12'53.832"N	104°33'22.208"W	1.53	
11455.00	90.150	358.980	6831.78	3273.23	3271.99	-103.93	40°12'54.771"N	104°33'22.203"W	1.94	
11550.00	90.060	357.320	6831.60	3368.22	3366.94	-107.00	40°12'55.709"N	104°33'22.229"W	1.75	
11644.00	90.250	358.430	6831.35	3462.20	3460.87	-110.48	40°12'56.638"N	104°33'22.261"W	1.20	
11739.00	90.250	358.470	6830.93	3557.19	3555.83	-113.05	40°12'57.577"N	104°33'22.281"W	0.04	
11834.00	90.250	359.750	6830.52	3652.19	3650.82	-114.53	40°12'58.515"N	104°33'22.287"W	1.35	
11929.00	89.820	359.350	6830.46	3747.18	3745.82	-115.27	40°12'59.454"N	104°33'22.284"W	0.62	
12023.00	89.780	357.900	6830.79	3841.18	3839.79	-117.53	40°13'00.383"N	104°33'22.300"W	1.54	
12118.00	89.660	356.740	6831.25	3936.13	3934.68	-121.97	40°13'01.321"N	104°33'22.344"W	1.23	
12213.00	89.850	355.760	6831.66	4031.01	4029.47	-128.19	40°13'02.258"N	104°33'22.411"W	1.05	
12308.00	89.880	356.000	6831.88	4125.86	4124.23	-135.01	40°13'03.195"N	104°33'22.486"W	0.25	
12402.00	89.780	355.590	6832.16	4219.71	4217.97	-141.90	40°13'04.122"N	104°33'22.562"W	0.45	
12497.00	89.630	356.900	6832.65	4314.59	4312.77	-148.12	40°13'05.060"N	104°33'22.629"W	1.39	
12591.00	89.720	358.300	6833.19	4408.55	4406.68	-152.06	40°13'05.988"N	104°33'22.667"W	1.49	
12686.00	89.630	359.150	6833.72	4503.55	4501.65	-154.17	40°13'06.927"N	104°33'22.682"W	0.90	
12781.00	89.600	359.090	6834.36	4598.55	4596.64	-155.63	40°13'07.866"N	104°33'22.687"W	0.07	
12876.00	89.820	0.280	6834.84	4693.54	4691.64	-156.16	40°13'08.804"N	104°33'22.681"W	1.27	
12970.00	89.820	2.700	6835.14	4787.45	4785.60	-153.71	40°13'09.733"N	104°33'22.637"W	2.57	
13065.00	89.850	4.030	6835.41	4882.18	4880.43	-148.14	40°13'10.669"N	104°33'22.552"W	1.40	
13160.00	89.690	5.040	6835.79	4976.75	4975.13	-140.62	40°13'11.604"N	104°33'22.442"W	1.08	
13255.00	89.780	4.010	6836.23	5071.32	5069.83	-133.13	40°13'12.539"N	104°33'22.332"W	1.09	
13349.00	89.720	2.760	6836.64	5165.05	5163.67	-127.58	40°13'13.466"N	104°33'22.248"W	1.33	
13444.00	89.780	0.330	6837.06	5259.95	5258.62	-125.02	40°13'14.404"N	104°33'22.202"W	2.56	
13539.00	89.820	357.430	6837.39	5354.94	5353.59	-126.88	40°13'15.342"N	104°33'22.213"W	3.05	
13634.00	89.260	357.360	6838.15	5449.90	5448.49	-131.19	40°13'16.281"N	104°33'22.255"W	0.59	
13729.00	89.050	356.870	6839.55	5544.83	5543.36	-135.97	40°13'17.218"N	104°33'22.304"W	0.56	
13823.00	89.010	354.280	6841.14	5638.63	5637.06	-143.22	40°13'18.145"N	104°33'22.385"W	2.76	
13918.00	90.120	353.580	6841.87	5733.24	5731.52	-153.27	40°13'19.080"N	104°33'22.501"W	1.38	
14013.00	90.220	354.540	6841.58	5827.88	5826.01	-163.10	40°13'20.014"N	104°33'22.615"W	1.02	
14107.00	90.090	354.450	6841.33	5921.58	5919.58	-172.12	40°13'20.940"N	104°33'22.718"W	0.17	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#10 VOGLER STATE D21-750(930'FSL&2519'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-750
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-750 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (188 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14202.00	89.970	355.440	6841.28	6016.33	6014.21	-180.49	40°13'21.876"N	104°33'22.813"W	1.05	
14297.00	89.940	357.570	6841.35	6111.23	6109.02	-186.28	40°13'22.813"N	104°33'22.875"W	2.24	
14392.00	89.970	2.540	6841.43	6206.18	6203.99	-186.19	40°13'23.752"N	104°33'22.861"W	5.23	
14487.00	89.940	6.310	6841.50	6300.75	6298.69	-178.86	40°13'24.687"N	104°33'22.753"W	3.97	
14581.00	89.970	5.860	6841.58	6394.05	6392.16	-168.90	40°13'25.609"N	104°33'22.612"W	0.48	
14676.00	90.120	4.740	6841.50	6488.49	6486.76	-160.12	40°13'26.543"N	104°33'22.486"W	1.19	
14771.00	89.820	3.760	6841.55	6583.10	6581.49	-153.08	40°13'27.478"N	104°33'22.382"W	1.08	
14866.00	90.090	1.010	6841.63	6677.94	6676.40	-149.13	40°13'28.416"N	104°33'22.318"W	2.91	
14960.00	89.940	355.250	6841.60	6771.88	6770.31	-152.19	40°13'29.344"N	104°33'22.345"W	6.13	
15055.00	90.060	350.120	6841.60	6866.26	6864.51	-164.29	40°13'30.276"N	104°33'22.488"W	5.40	
15150.00	89.880	353.030	6841.65	6960.44	6958.47	-178.20	40°13'31.206"N	104°33'22.654"W	3.07	
15245.00	90.060	357.570	6841.70	7055.20	7053.13	-185.99	40°13'32.142"N	104°33'22.742"W	4.78	
15340.00	89.880	0.640	6841.75	7150.19	7148.11	-187.47	40°13'33.081"N	104°33'22.748"W	3.24	
15434.00	89.940	3.160	6841.90	7244.07	7242.05	-184.35	40°13'34.009"N	104°33'22.695"W	2.68	
15529.00	89.940	5.290	6842.00	7338.68	7336.78	-177.35	40°13'34.944"N	104°33'22.591"W	2.24	
15624.00	89.940	4.210	6842.10	7433.22	7431.45	-169.49	40°13'35.879"N	104°33'22.477"W	1.14	
15718.00	89.970	1.240	6842.17	7527.02	7525.34	-165.02	40°13'36.806"N	104°33'22.406"W	3.16	
15813.00	89.970	357.520	6842.22	7622.00	7620.32	-166.05	40°13'37.745"N	104°33'22.407"W	3.92	
15908.00	89.820	354.100	6842.40	7716.83	7715.05	-172.99	40°13'38.682"N	104°33'22.483"W	3.60	
16003.00	89.910	353.390	6842.62	7811.42	7809.48	-183.34	40°13'39.616"N	104°33'22.604"W	0.75	
16098.00	89.970	353.870	6842.72	7905.99	7903.89	-193.88	40°13'40.550"N	104°33'22.727"W	0.51	
16192.00	90.060	356.150	6842.70	7999.74	7997.53	-202.05	40°13'41.476"N	104°33'22.819"W	2.43	
16287.00	90.030	0.140	6842.62	8094.71	8092.46	-205.13	40°13'42.414"N	104°33'22.846"W	4.20	
16382.00	90.430	2.930	6842.24	8189.61	8187.42	-202.58	40°13'43.352"N	104°33'22.800"W	2.97	
16476.00	90.520	2.550	6841.46	8283.42	8281.31	-198.09	40°13'44.280"N	104°33'22.729"W	0.42	
16571.00	90.490	3.280	6840.62	8378.20	8376.18	-193.26	40°13'45.217"N	104°33'22.654"W	0.77	
16666.00	90.370	2.200	6839.91	8473.00	8471.07	-188.72	40°13'46.154"N	104°33'22.582"W	1.14	
16761.00	90.280	1.530	6839.37	8567.89	8566.02	-185.63	40°13'47.092"N	104°33'22.529"W	0.71	
16856.00	90.250	1.550	6838.93	8662.80	8660.98	-183.07	40°13'48.030"N	104°33'22.483"W	0.04	
16951.00	90.310	2.080	6838.47	8757.69	8755.93	-180.06	40°13'48.968"N	104°33'22.432"W	0.56	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#10 VOGLER STATE D21-750(930'FSL&2519'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-750
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-750 AWB
Facility	SEC.21-T03N-R64W		

WELLPATH DATA (188 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17045.00	90.400	2.110	6837.88	8851.56	8849.87	-176.63	40°13'49.896"N	104°33'22.374"W	0.10	
17140.00	90.250	1.790	6837.35	8946.44	8944.81	-173.40	40°13'50.833"N	104°33'22.320"W	0.37	
17235.00	90.000	3.070	6837.14	9041.28	9039.72	-169.37	40°13'51.771"N	104°33'22.255"W	1.37	
17330.00	90.000	1.600	6837.14	9136.12	9134.64	-165.50	40°13'52.708"N	104°33'22.192"W	1.55	
17425.00	89.850	1.690	6837.26	9231.02	9229.60	-162.77	40°13'53.646"N	104°33'22.144"W	0.18	
17519.00	89.940	0.390	6837.44	9324.97	9323.58	-161.06	40°13'54.575"N	104°33'22.109"W	1.39	
17606.00	89.940	359.310	6837.53	9411.96	9410.58	-161.29	40°13'55.435"N	104°33'22.100"W	1.24	Last BHI MWD Survey
17630.00	89.940	359.310	6837.55	9435.96	9434.58	-161.58	40°13'55.672"N	104°33'22.100"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: VOGLER STATE D21-750 AWB Ref Wellpath: VOGLER STATE D21-750 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	1906.00	1876.00	30.00	1905.95	-0.02	0.00	-4.22	-6.11	
9.625in Casing Surface	30.00	1932.00	1902.00	30.00	1931.95	-0.02	0.00	-3.99	-6.46	
8.5in Open Hole	1906.00	17630.00	15724.00	1905.95	6837.55	-4.22	-6.11	9434.58	-161.58	

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	SLOT#10 VOGLER STATE D21-750(930'FSL&2519'FEL,SEC.21)
Area	COLORADO	Well	VOGLER STATE D21-750
Field	WELD COUNTY (NOBLE NAD 83 GRID)	Wellbore	VOGLER STATE D21-750 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	4.00	-62.74	1969.98	3265652.49	1319312.87	40°12'21.600"N	104°32'55.932"W	polygon
VOLGER STATE D21-790 Seciton 21	4.00	-62.74	1969.98	3265652.49	1319312.87	40°12'21.600"N	104°32'55.932"W	polygon
VOGLER STATE D21-750 BHL from Plan (200'FNL&2640'FWL,SEC.16)	6843.00	9435.44	-151.34	3263531.26	1328810.63	40°13'55.679"N	104°33'21.968"W	point
VOGLER STATE D21-750 Change Azi	6843.00	5780.12	-137.38	3263545.22	1325155.47	40°13'19.558"N	104°33'22.290"W	point
VOGLER STATE D21-750 Landing Point	6843.00	-730.20	-88.94	3263593.66	1318645.44	40°12'15.222"N	104°33'22.558"W	point

WELLPATH COMPOSITION - Ref Wellbore: VOGLER STATE D21-750 AWB					Ref Wellpath: VOGLER STATE D21-750 AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore	
0.00	1906.00	BHI Generic gyro - northseeking (Standard)	3rd Party Surface Gyro <84'-1906'>		VOGLER STATE D21-750 AWB	
1906.00	17606.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	BH/ATC OWSG MWD+IFR+MSA 8.5" Hole <1994'-17606'>		VOGLER STATE D21-750 AWB	
17606.00	17630.00	Blind Drilling (std)	Projection to bit		VOGLER STATE D21-750 AWB	