

NOBLE ENERGY, INC

Location: COLORADO Slot: SLOT#09 BENELLI FEDERAL LC22-765 (400'FNL& 1612'FWL,SEC.22)
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: BENELLI FEDERAL LC22-765
Facility: SEC.22-T09N-R59W Wellbore: BENELLI FEDERAL LC22-765 PWB

| | |
|---|--|
| Plot reference wellpath is BENELLI FEDERAL LC22-765 (REV-A.0) PWP | Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet |
| True vertical depths are referenced to RIG (30'KB) (RKB) | * = Wellpath was transformed from a different geodetic datum |
| Measured depths are referenced to RIG (30'KB) (RKB) | North Reference: Grid north |
| RIG (30'KB) (RKB) to Mean Sea Level: 4946 feet | Scale: True distance |
| Mean Sea Level to Ground level (At Slot: SLOT#09 BENELLI FEDERAL LC22-765 (400'FNL& 1612'FWL,SEC.22)): 0 feet | Depths are in feet |
| Coordinates are in feet referenced to Slot | Created by: guanter on 2017-03-13 |
| | Database: WA_DEN_Denver_Delhi |



Location Information

| Facility Name | | | Grid East (US ft) | Grid North (US ft) | Latitude | Longitude |
|--|--------------|--------------|-------------------|--------------------|----------------|-----------------|
| SEC.22-T09N-R59W | | | 3426161.443 | 1516985.929 | 40°44'32.532"N | 103°57'43.236"W |
| Slot | Local N (ft) | Local E (ft) | Grid East (US ft) | Grid North (US ft) | Latitude | Longitude |
| SLOT#09 BENELLI FEDERAL LC22-765 (400'FNL& 1612'FWL,SEC.22) | -38.80 | -1609.56 | 3424551.901 | 1516947.132 | 40°44'32.424"N | 103°58'04.152"W |
| RIG (30'KB) (RKB) to Ground level (At Slot: SLOT#09 BENELLI FEDERAL LC22-765 (400'FNL& 1612'FWL,SEC.22)) | | | | | 4946ft | |
| Mean Sea Level to Ground level (At Slot: SLOT#09 BENELLI FEDERAL LC22-765 (400'FNL& 1612'FWL,SEC.22)) | | | | | 0ft | |
| RIG (30'KB) (RKB) to Mean Sea Level | | | | | 4946ft | |

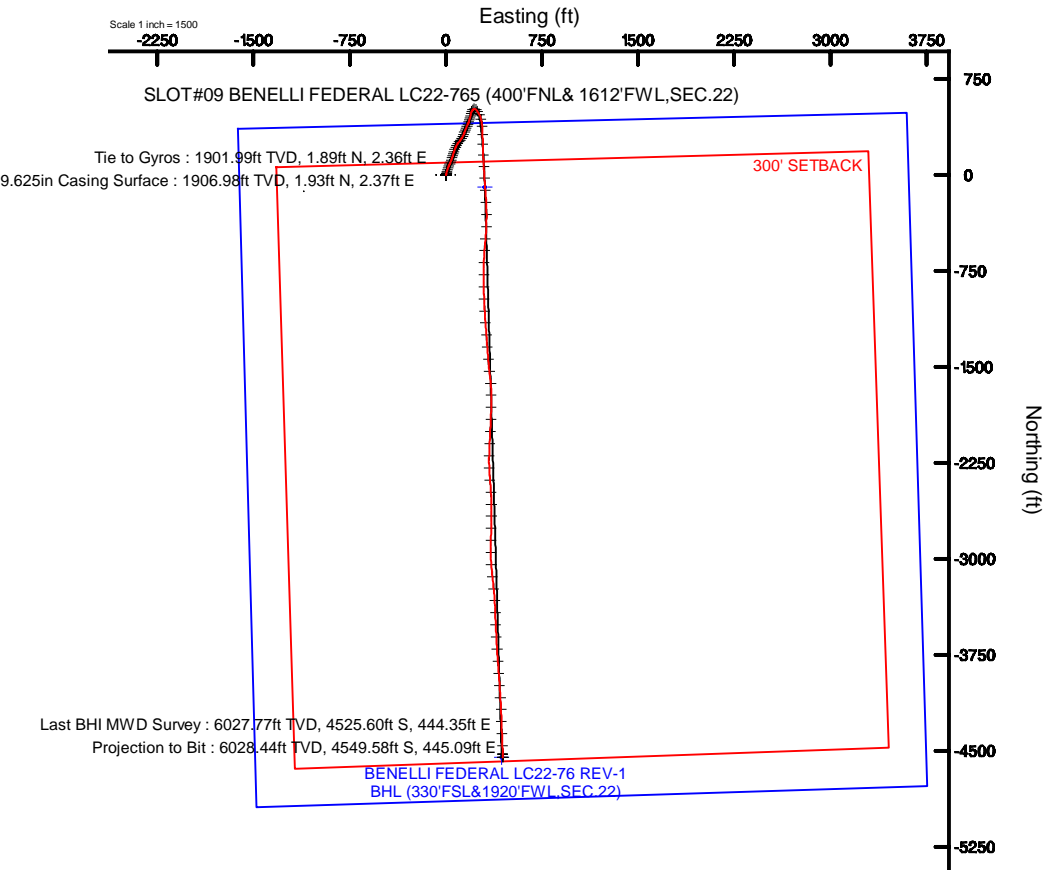
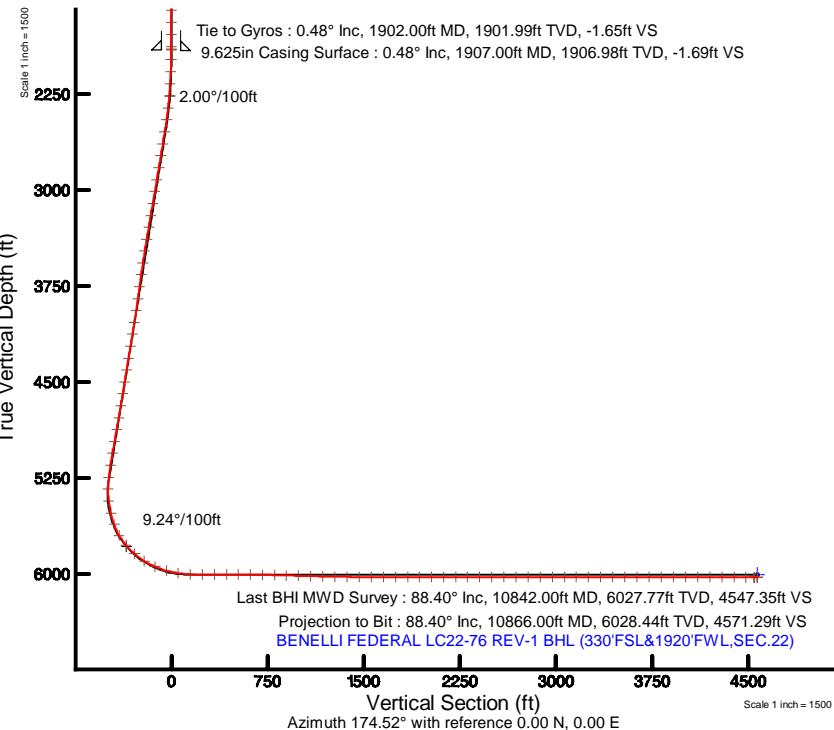
Comments

Surface Hole Location:

Latitude: 40.74234 N

Longitude: 103.96782 W

API # 05-123-42975





Actual Wellpath Report

BENELLI FEDERAL LC22-765 AWP

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| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|---------------------------------|----------|---|
| Operator | NOBLE ENERGY, INC | Slot | SLOT#09 BENELLI FEDERAL LC22-765 (400'FNL& 1612'FWL,SEC.22) |
| Area | COLORADO | Well | BENELLI FEDERAL LC22-765 |
| Field | WELD COUNTY (NOBLE NAD 83 GRID) | Wellbore | BENELLI FEDERAL LC22-765 AWB |
| Facility | SEC.22-T09N-R59W | | |

| REPORT SETUP INFORMATION | | | |
|--------------------------|---|----------------------|---|
| Projection System | NAD83 / Lambert Colorado SP, Northern Zone (501), US feet | Software System | WellArchitect® 5.0 |
| North Reference | Grid | User | Guenaler |
| Scale | 0.999994 | Report Generated | 3/13/2017 at 1:54:19 PM |
| Convergence at slot | 0.99° East | Database/Source file | WA_DEN_Denver_Defn/BENELLI_FEDERAL_LC22-765_AWP.xml |

| WELLPATH LOCATION | | | | | | |
|-----------------------|-------------------|----------|------------------|-----------------|------------------------|-----------------|
| | Local coordinates | | Grid coordinates | | Geographic coordinates | |
| | North[ft] | East[ft] | Easting[US ft] | Northing[US ft] | Latitude | Longitude |
| Slot Location | -38.80 | -1609.56 | 3424551.90 | 1516947.13 | 40°44'32.424"N | 103°58'04.152"W |
| Facility Reference Pt | | | 3426161.44 | 1516985.93 | 40°44'32.532"N | 103°57'43.236"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 | 4946.00ft |
| Horizontal Reference Pt | Slot | RIG (30'KB) (RKB) to Mean Sea Level | 4946.00ft |
| Vertical Reference Pt | RIG (30'KB) (RKB) | RIG (30'KB) (RKB) to Ground Level at Slot (SLOT#09 BENELLI FEDERAL LC22-765 (400'FNL& 1612'FWL,SEC.22)) | 4946.00ft |
| MD Reference Pt | RIG (30'KB) (RKB) | Section Origin | N 0.00, E 0.00 ft |
| Field Vertical Reference | Mean Sea Level | Section Azimuth | 174.52° |



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BENELLI FEDERAL LC22-765 AWP
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| Area | COLORADO | Well | BENELLI FEDERAL LC22-765 |
| Field | WELD COUNTY (NOBLE NAD 83 GRID) | Wellbore | BENELLI FEDERAL LC22-765 AWB |
| Facility | SEC.22-T09N-R59W | | |

| WELLPATH DATA (118 stations) | | | | | | | | | | |
|------------------------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------|-----------------|------------------|--------------|
| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Latitude | Longitude | DLS [°/100ft] | Comments |
| 0.00 | 0.000 | 324.610 | 0.00 | 0.00 | 0.00 | 0.00 | 40°44'32.424"N | 103°58'04.152"W | 0.00 | |
| 80.00 | 0.090 | 324.610 | 80.00 | -0.05 | 0.05 | -0.04 | 40°44'32.425"N | 103°58'04.152"W | 0.11 | |
| 175.00 | 0.300 | 125.190 | 175.00 | 0.04 | -0.03 | 0.12 | 40°44'32.424"N | 103°58'04.150"W | 0.41 | |
| 269.00 | 0.070 | 54.770 | 269.00 | 0.17 | -0.14 | 0.37 | 40°44'32.423"N | 103°58'04.147"W | 0.30 | |
| 364.00 | 0.220 | 262.900 | 364.00 | 0.15 | -0.13 | 0.24 | 40°44'32.423"N | 103°58'04.149"W | 0.30 | |
| 459.00 | 0.150 | 287.140 | 459.00 | 0.11 | -0.11 | -0.06 | 40°44'32.423"N | 103°58'04.153"W | 0.11 | |
| 553.00 | 0.220 | 9.210 | 553.00 | -0.11 | 0.10 | -0.15 | 40°44'32.425"N | 103°58'04.154"W | 0.26 | |
| 648.00 | 0.170 | 18.210 | 648.00 | -0.42 | 0.41 | -0.08 | 40°44'32.428"N | 103°58'04.153"W | 0.06 | |
| 742.00 | 0.260 | 106.400 | 742.00 | -0.47 | 0.49 | 0.17 | 40°44'32.429"N | 103°58'04.150"W | 0.33 | |
| 837.00 | 0.610 | 68.030 | 836.99 | -0.53 | 0.61 | 0.85 | 40°44'32.430"N | 103°58'04.141"W | 0.46 | |
| 931.00 | 0.210 | 69.500 | 930.99 | -0.72 | 0.86 | 1.47 | 40°44'32.432"N | 103°58'04.133"W | 0.43 | |
| 1026.00 | 0.450 | 78.480 | 1025.99 | -0.80 | 1.00 | 2.00 | 40°44'32.434"N | 103°58'04.126"W | 0.26 | |
| 1121.00 | 0.200 | 24.720 | 1120.99 | -0.98 | 1.22 | 2.44 | 40°44'32.436"N | 103°58'04.120"W | 0.39 | |
| 1215.00 | 0.080 | 131.160 | 1214.99 | -1.08 | 1.33 | 2.55 | 40°44'32.437"N | 103°58'04.119"W | 0.25 | |
| 1310.00 | 0.450 | 313.820 | 1309.99 | -1.31 | 1.54 | 2.33 | 40°44'32.439"N | 103°58'04.121"W | 0.56 | |
| 1405.00 | 0.210 | 148.880 | 1404.99 | -1.44 | 1.65 | 2.16 | 40°44'32.440"N | 103°58'04.124"W | 0.69 | |
| 1499.00 | 0.130 | 289.680 | 1498.99 | -1.33 | 1.54 | 2.14 | 40°44'32.439"N | 103°58'04.124"W | 0.34 | |
| 1594.00 | 0.060 | 284.590 | 1593.99 | -1.39 | 1.59 | 1.99 | 40°44'32.439"N | 103°58'04.126"W | 0.07 | |
| 1688.00 | 0.080 | 136.780 | 1687.99 | -1.36 | 1.55 | 1.99 | 40°44'32.439"N | 103°58'04.126"W | 0.14 | |
| 1783.00 | 0.060 | 115.840 | 1782.99 | -1.28 | 1.48 | 2.08 | 40°44'32.438"N | 103°58'04.125"W | 0.03 | |
| 1878.00 | 0.370 | 28.930 | 1877.99 | -1.51 | 1.73 | 2.27 | 40°44'32.441"N | 103°58'04.122"W | 0.39 | |
| 1902.00 | 0.480 | 26.780 | 1901.99 | -1.65 | 1.89 | 2.36 | 40°44'32.442"N | 103°58'04.121"W | 0.46 | Tie to Gyros |
| 1982.00 | 0.890 | 332.560 | 1981.98 | -2.51 | 2.74 | 2.22 | 40°44'32.451"N | 103°58'04.123"W | 0.90 | |
| 2076.00 | 2.580 | 19.510 | 2075.94 | -5.11 | 5.38 | 2.59 | 40°44'32.477"N | 103°58'04.117"W | 2.21 | |
| 2171.00 | 4.440 | 24.760 | 2170.75 | -10.22 | 10.74 | 4.85 | 40°44'32.529"N | 103°58'04.087"W | 1.98 | |
| 2265.00 | 4.600 | 7.100 | 2264.47 | -17.05 | 17.78 | 6.84 | 40°44'32.599"N | 103°58'04.059"W | 1.48 | |
| 2360.00 | 6.460 | 11.980 | 2359.02 | -25.86 | 26.79 | 8.42 | 40°44'32.687"N | 103°58'04.037"W | 2.02 | |
| 2454.00 | 8.860 | 15.390 | 2452.18 | -37.67 | 38.94 | 11.44 | 40°44'32.807"N | 103°58'03.995"W | 2.60 | |
| 2549.00 | 10.660 | 22.800 | 2545.80 | -52.25 | 54.10 | 16.78 | 40°44'32.956"N | 103°58'03.922"W | 2.31 | |
| 2644.00 | 10.470 | 24.590 | 2639.19 | -67.46 | 70.05 | 23.78 | 40°44'33.112"N | 103°58'03.827"W | 0.40 | |



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| Area | COLORADO | Well | BENELLI FEDERAL LC22-765 |
| Field | WELD COUNTY (NOBLE NAD 83 GRID) | Wellbore | BENELLI FEDERAL LC22-765 AWB |
| Facility | SEC.22-T09N-R59W | | |

| WELLPATH DATA (118 stations) | | | | | | | | | | |
|------------------------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------|-----------------|------------------|----------|
| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Latitude | Longitude | DLS [°/100ft] | Comments |
| 2738.00 | 10.560 | 23.730 | 2731.61 | -82.37 | 85.70 | 30.80 | 40°44'33.265"N | 103°58'03.733"W | 0.19 | |
| 2833.00 | 10.450 | 22.210 | 2825.02 | -97.60 | 101.65 | 37.56 | 40°44'33.422"N | 103°58'03.641"W | 0.31 | |
| 2928.00 | 10.550 | 20.460 | 2918.43 | -113.05 | 117.77 | 43.86 | 40°44'33.580"N | 103°58'03.556"W | 0.35 | |
| 3022.00 | 10.450 | 17.260 | 3010.86 | -128.65 | 133.97 | 49.39 | 40°44'33.739"N | 103°58'03.480"W | 0.63 | |
| 3117.00 | 10.510 | 16.730 | 3104.27 | -144.62 | 150.50 | 54.45 | 40°44'33.902"N | 103°58'03.411"W | 0.12 | |
| 3212.00 | 10.460 | 17.180 | 3197.69 | -160.60 | 167.03 | 59.49 | 40°44'34.064"N | 103°58'03.342"W | 0.10 | |
| 3306.00 | 10.440 | 16.400 | 3290.13 | -176.37 | 183.36 | 64.41 | 40°44'34.224"N | 103°58'03.274"W | 0.15 | |
| 3401.00 | 10.610 | 19.700 | 3383.53 | -192.28 | 199.85 | 69.79 | 40°44'34.386"N | 103°58'03.201"W | 0.66 | |
| 3496.00 | 10.640 | 24.510 | 3476.90 | -207.79 | 216.06 | 76.38 | 40°44'34.546"N | 103°58'03.111"W | 0.93 | |
| 3590.00 | 10.440 | 30.880 | 3569.32 | -222.16 | 231.27 | 84.35 | 40°44'34.694"N | 103°58'03.004"W | 1.26 | |
| 3685.00 | 10.500 | 35.120 | 3662.74 | -235.67 | 245.74 | 93.75 | 40°44'34.836"N | 103°58'02.879"W | 0.81 | |
| 3780.00 | 10.530 | 37.470 | 3756.14 | -248.60 | 259.71 | 104.01 | 40°44'34.972"N | 103°58'02.743"W | 0.45 | |
| 3874.00 | 10.320 | 35.100 | 3848.59 | -261.28 | 273.41 | 114.07 | 40°44'35.106"N | 103°58'02.609"W | 0.51 | |
| 3969.00 | 10.560 | 32.650 | 3942.02 | -274.59 | 287.70 | 123.66 | 40°44'35.245"N | 103°58'02.481"W | 0.53 | |
| 4063.00 | 10.430 | 29.470 | 4034.45 | -288.34 | 302.36 | 132.50 | 40°44'35.389"N | 103°58'02.363"W | 0.63 | |
| 4158.00 | 10.420 | 20.880 | 4127.89 | -303.09 | 317.88 | 139.79 | 40°44'35.541"N | 103°58'02.265"W | 1.63 | |
| 4252.00 | 10.550 | 18.880 | 4220.32 | -318.55 | 333.96 | 145.60 | 40°44'35.699"N | 103°58'02.186"W | 0.41 | |
| 4347.00 | 10.660 | 21.630 | 4313.69 | -334.29 | 350.36 | 151.66 | 40°44'35.860"N | 103°58'02.103"W | 0.55 | |
| 4441.00 | 10.440 | 24.420 | 4406.11 | -349.41 | 366.20 | 158.38 | 40°44'36.015"N | 103°58'02.012"W | 0.59 | |
| 4536.00 | 10.400 | 24.640 | 4499.54 | -364.29 | 381.83 | 165.51 | 40°44'36.168"N | 103°58'01.916"W | 0.06 | |
| 4631.00 | 10.640 | 22.010 | 4592.94 | -379.49 | 397.75 | 172.38 | 40°44'36.324"N | 103°58'01.824"W | 0.57 | |
| 4725.00 | 10.560 | 20.210 | 4685.34 | -394.95 | 413.88 | 178.60 | 40°44'36.482"N | 103°58'01.739"W | 0.36 | |
| 4820.00 | 10.470 | 19.210 | 4778.74 | -410.64 | 430.20 | 184.45 | 40°44'36.643"N | 103°58'01.659"W | 0.21 | |
| 4914.00 | 10.650 | 14.950 | 4871.15 | -426.54 | 446.66 | 189.50 | 40°44'36.804"N | 103°58'01.590"W | 0.85 | |
| 5009.00 | 10.560 | 8.570 | 4964.53 | -443.21 | 463.75 | 193.06 | 40°44'36.973"N | 103°58'01.540"W | 1.24 | |
| 5104.00 | 10.590 | 12.940 | 5057.92 | -459.94 | 480.86 | 196.32 | 40°44'37.141"N | 103°58'01.494"W | 0.84 | |
| 5198.00 | 10.260 | 24.360 | 5150.38 | -475.40 | 496.91 | 201.70 | 40°44'37.299"N | 103°58'01.420"W | 2.22 | |
| 5293.00 | 9.610 | 42.760 | 5243.98 | -488.02 | 510.44 | 210.58 | 40°44'37.431"N | 103°58'01.302"W | 3.40 | |
| 5387.00 | 9.210 | 74.090 | 5336.77 | -494.61 | 518.27 | 223.15 | 40°44'37.506"N | 103°58'01.137"W | 5.40 | |
| 5482.00 | 10.180 | 143.240 | 5430.70 | -488.80 | 513.62 | 235.52 | 40°44'37.458"N | 103°58'00.977"W | 11.58 | |



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BENELLI FEDERAL LC22-765 AWP
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| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|---------------------------------|----------|---|
| Operator | NOBLE ENERGY, INC | Slot | SLOT#09 BENELLI FEDERAL LC22-765 (400'FNL& 1612'FWL,SEC.22) |
| Area | COLORADO | Well | BENELLI FEDERAL LC22-765 |
| Field | WELD COUNTY (NOBLE NAD 83 GRID) | Wellbore | BENELLI FEDERAL LC22-765 AWB |
| Facility | SEC.22-T09N-R59W | | |

| WELLPATH DATA (118 stations) | | | | | | | | | | |
|------------------------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------|-----------------|------------------|----------|
| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Latitude | Longitude | DLS [°/100ft] | Comments |
| 5577.00 | 14.190 | 144.940 | 5523.54 | -471.49 | 497.35 | 247.24 | 40°44'37.295"N | 103°58'00.829"W | 4.24 | |
| 5671.00 | 20.030 | 152.810 | 5613.36 | -446.49 | 473.58 | 261.23 | 40°44'37.058"N | 103°58'00.652"W | 6.67 | |
| 5766.00 | 30.420 | 165.210 | 5699.24 | -407.51 | 435.72 | 274.85 | 40°44'36.682"N | 103°58'00.484"W | 12.22 | |
| 5860.00 | 40.130 | 174.690 | 5775.94 | -353.56 | 382.38 | 283.76 | 40°44'36.153"N | 103°58'00.380"W | 11.83 | |
| 5955.00 | 49.000 | 178.530 | 5843.57 | -287.04 | 315.92 | 287.52 | 40°44'35.496"N | 103°58'00.346"W | 9.75 | |
| 6049.00 | 58.470 | 178.520 | 5899.11 | -211.52 | 240.24 | 289.47 | 40°44'34.748"N | 103°58'00.338"W | 10.07 | |
| 6144.00 | 66.600 | 177.610 | 5942.89 | -127.46 | 156.07 | 292.34 | 40°44'33.916"N | 103°58'00.320"W | 8.60 | |
| 6239.00 | 74.700 | 177.130 | 5974.34 | -38.01 | 66.60 | 296.45 | 40°44'33.031"N | 103°58'00.286"W | 8.54 | |
| 6333.00 | 80.350 | 176.610 | 5994.64 | 53.65 | -25.00 | 301.47 | 40°44'32.125"N | 103°58'00.242"W | 6.03 | |
| 6428.00 | 88.830 | 175.040 | 6003.59 | 148.12 | -119.24 | 308.36 | 40°44'31.193"N | 103°58'00.173"W | 9.08 | |
| 6522.00 | 89.880 | 176.660 | 6004.65 | 242.08 | -212.98 | 315.16 | 40°44'30.266"N | 103°58'00.106"W | 2.05 | |
| 6616.00 | 90.030 | 179.690 | 6004.72 | 335.88 | -306.92 | 318.15 | 40°44'29.337"N | 103°58'00.088"W | 3.23 | |
| 6711.00 | 90.121 | 182.670 | 6004.59 | 430.23 | -401.89 | 316.19 | 40°44'28.399"N | 103°58'00.135"W | 3.14 | |
| 6806.00 | 89.570 | 184.960 | 6004.85 | 523.98 | -496.68 | 309.87 | 40°44'27.464"N | 103°58'00.238"W | 2.48 | |
| 6900.00 | 89.880 | 184.440 | 6005.30 | 616.50 | -590.36 | 302.17 | 40°44'26.540"N | 103°58'00.360"W | 0.64 | |
| 6995.00 | 88.400 | 181.840 | 6006.73 | 710.40 | -685.19 | 296.97 | 40°44'25.604"N | 103°58'00.448"W | 3.15 | |
| 7089.00 | 88.520 | 179.290 | 6009.25 | 803.84 | -779.15 | 296.04 | 40°44'24.676"N | 103°58'00.482"W | 2.71 | |
| 7184.00 | 88.430 | 179.490 | 6011.78 | 898.46 | -874.11 | 297.05 | 40°44'23.737"N | 103°58'00.490"W | 0.23 | |
| 7278.00 | 88.490 | 178.090 | 6014.31 | 992.17 | -968.05 | 299.04 | 40°44'22.809"N | 103°58'00.485"W | 1.49 | |
| 7373.00 | 88.340 | 177.030 | 6016.94 | 1087.00 | -1062.93 | 303.08 | 40°44'21.871"N | 103°58'00.454"W | 1.13 | |
| 7467.00 | 88.460 | 175.650 | 6019.56 | 1180.91 | -1156.70 | 309.08 | 40°44'20.944"N | 103°58'00.397"W | 1.47 | |
| 7562.00 | 88.800 | 175.120 | 6021.83 | 1275.87 | -1251.36 | 316.72 | 40°44'20.007"N | 103°58'00.319"W | 0.66 | |
| 7656.00 | 89.200 | 175.750 | 6023.47 | 1369.85 | -1345.05 | 324.20 | 40°44'19.080"N | 103°58'00.243"W | 0.79 | |
| 7751.00 | 89.260 | 175.880 | 6024.75 | 1464.81 | -1439.79 | 331.13 | 40°44'18.143"N | 103°58'00.174"W | 0.15 | |
| 7845.00 | 90.120 | 172.320 | 6025.26 | 1558.79 | -1533.27 | 340.79 | 40°44'17.218"N | 103°58'00.070"W | 3.90 | |
| 7940.00 | 90.090 | 175.790 | 6025.09 | 1653.78 | -1627.75 | 350.63 | 40°44'16.283"N | 103°57'59.963"W | 3.65 | |
| 8034.00 | 90.120 | 179.530 | 6024.91 | 1747.62 | -1721.65 | 354.47 | 40°44'15.354"N | 103°57'59.934"W | 3.98 | |
| 8129.00 | 90.060 | 181.270 | 6024.76 | 1842.11 | -1816.64 | 353.81 | 40°44'14.416"N | 103°57'59.964"W | 1.83 | |
| 8224.00 | 90.090 | 182.150 | 6024.64 | 1936.37 | -1911.60 | 350.97 | 40°44'13.478"N | 103°58'00.022"W | 0.93 | |
| 8318.00 | 90.000 | 183.260 | 6024.57 | 2029.41 | -2005.49 | 346.53 | 40°44'12.551"N | 103°58'00.101"W | 1.18 | |



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|-----------------------------------|---------------------------------|----------|---|
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| Area | COLORADO | Well | BENELLI FEDERAL LC22-765 |
| Field | WELD COUNTY (NOBLE NAD 83 GRID) | Wellbore | BENELLI FEDERAL LC22-765 AWB |
| Facility | SEC.22-T09N-R59W | | |

| WELLPATH DATA (118 stations) | | | | | | | | | | |
|------------------------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------|-----------------|------------------|---------------------|
| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Latitude | Longitude | DLS [°/100ft] | Comments |
| 8413.00 | 89.970 | 182.830 | 6024.59 | 2123.36 | -2100.36 | 341.49 | 40°44'11.615"N | 103°58'00.188"W | 0.45 | |
| 8507.00 | 89.880 | 181.160 | 6024.71 | 2216.56 | -2194.30 | 338.22 | 40°44'10.687"N | 103°58'00.252"W | 1.78 | |
| 8602.00 | 89.910 | 177.980 | 6024.89 | 2311.18 | -2289.28 | 338.93 | 40°44'09.749"N | 103°58'00.264"W | 3.35 | |
| 8696.00 | 89.880 | 174.940 | 6025.06 | 2405.11 | -2383.09 | 344.73 | 40°44'08.821"N | 103°58'00.209"W | 3.23 | |
| 8791.00 | 90.090 | 176.530 | 6025.08 | 2500.09 | -2477.83 | 351.80 | 40°44'07.884"N | 103°58'00.139"W | 1.69 | |
| 8886.00 | 90.150 | 178.860 | 6024.89 | 2594.94 | -2572.74 | 355.62 | 40°44'06.946"N | 103°58'00.111"W | 2.45 | |
| 8980.00 | 90.090 | 180.900 | 6024.69 | 2688.52 | -2666.74 | 355.81 | 40°44'06.017"N | 103°58'00.129"W | 2.17 | |
| 9075.00 | 89.970 | 181.290 | 6024.64 | 2782.90 | -2761.72 | 354.00 | 40°44'05.079"N | 103°58'00.174"W | 0.43 | |
| 9170.00 | 90.150 | 181.170 | 6024.54 | 2877.25 | -2856.70 | 351.96 | 40°44'04.141"N | 103°58'00.222"W | 0.23 | |
| 9264.00 | 90.090 | 179.500 | 6024.34 | 2970.76 | -2950.69 | 351.41 | 40°44'03.212"N | 103°58'00.250"W | 1.78 | |
| 9359.00 | 89.970 | 175.790 | 6024.29 | 3065.60 | -3045.60 | 355.31 | 40°44'02.274"N | 103°58'00.221"W | 3.91 | |
| 9453.00 | 89.880 | 173.620 | 6024.42 | 3159.60 | -3139.19 | 363.99 | 40°44'01.348"N | 103°58'00.129"W | 2.31 | |
| 9548.00 | 89.910 | 174.720 | 6024.59 | 3254.60 | -3233.70 | 373.64 | 40°44'00.413"N | 103°58'00.025"W | 1.16 | |
| 9642.00 | 90.000 | 176.170 | 6024.66 | 3348.58 | -3327.40 | 381.10 | 40°43'59.486"N | 103°57'59.949"W | 1.55 | |
| 9737.00 | 89.910 | 177.870 | 6024.74 | 3443.49 | -3422.27 | 386.04 | 40°43'58.547"N | 103°57'59.906"W | 1.79 | |
| 9831.00 | 89.940 | 177.440 | 6024.86 | 3537.35 | -3516.19 | 389.89 | 40°43'57.619"N | 103°57'59.877"W | 0.46 | |
| 9926.00 | 89.850 | 176.880 | 6025.04 | 3632.25 | -3611.07 | 394.59 | 40°43'56.681"N | 103°57'59.838"W | 0.60 | |
| 10021.00 | 89.910 | 176.370 | 6025.23 | 3727.18 | -3705.90 | 400.19 | 40°43'55.743"N | 103°57'59.786"W | 0.54 | |
| 10115.00 | 89.880 | 175.920 | 6025.41 | 3821.14 | -3799.69 | 406.51 | 40°43'54.815"N | 103°57'59.725"W | 0.48 | |
| 10210.00 | 90.000 | 175.790 | 6025.51 | 3916.12 | -3894.44 | 413.37 | 40°43'53.878"N | 103°57'59.657"W | 0.19 | |
| 10305.00 | 90.220 | 176.350 | 6025.32 | 4011.08 | -3989.22 | 419.88 | 40°43'52.940"N | 103°57'59.594"W | 0.63 | |
| 10399.00 | 89.970 | 176.590 | 6025.17 | 4105.03 | -4083.04 | 425.67 | 40°43'52.013"N | 103°57'59.540"W | 0.37 | |
| 10494.00 | 90.030 | 177.200 | 6025.17 | 4199.95 | -4177.90 | 430.82 | 40°43'51.074"N | 103°57'59.494"W | 0.65 | |
| 10588.00 | 90.150 | 177.960 | 6025.02 | 4293.81 | -4271.82 | 434.79 | 40°43'50.146"N | 103°57'59.464"W | 0.82 | |
| 10683.00 | 90.030 | 177.830 | 6024.87 | 4388.65 | -4366.75 | 438.28 | 40°43'49.207"N | 103°57'59.440"W | 0.19 | |
| 10777.00 | 88.550 | 177.620 | 6026.04 | 4482.49 | -4460.67 | 442.01 | 40°43'48.279"N | 103°57'59.413"W | 1.59 | |
| 10842.00 | 88.400 | 178.240 | 6027.77 | 4547.35 | -4525.60 | 444.35 | 40°43'47.637"N | 103°57'59.397"W | 0.98 | Last BHI MWD Survey |
| 10866.00 | 88.400 | 178.240 | 6028.44 | 4571.29 | -4549.58 | 445.09 | 40°43'47.400"N | 103°57'59.393"W | 0.00 | Projection to Bit |



Actual Wellpath Report

BENELLI FEDERAL LC22-765 AWP

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| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|---------------------------------|----------|---|
| Operator | NOBLE ENERGY, INC | Slot | SLOT#09 BENELLI FEDERAL LC22-765 (400'FNL& 1612'FWL,SEC.22) |
| Area | COLORADO | Well | BENELLI FEDERAL LC22-765 |
| Field | WELD COUNTY (NOBLE NAD 83 GRID) | Wellbore | BENELLI FEDERAL LC22-765 AWB |
| Facility | SEC.22-T09N-R59W | | |

| HOLE & CASING SECTIONS - Ref Wellbore: BENELLI FEDERAL LC22-765 AWB Ref Wellpath: BENELLI FEDERAL LC22-765 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 | 1907.00 | 1877.00 | 30.00 | 1906.98 | 0.01 | -0.01 | 1.93 | 2.37 |
| 9.625in Casing Surface | 30.00 | 1907.00 | 1877.00 | 30.00 | 1906.98 | 0.01 | -0.01 | 1.93 | 2.37 |
| 8.5in Open Hole | 1907.00 | 10866.00 | 8959.00 | 1906.98 | 6028.44 | 1.93 | 2.37 | -4549.58 | 445.09 |

| TARGETS | | | | | | | | |
|--|-------------|---------------|--------------|----------------------|-----------------------|----------------|-----------------|---------|
| Name | TVD [ft] | North [ft] | East [ft] | Grid East [US ft] | Grid North [US ft] | Latitude | Longitude | Shape |
| DUKES FEDERAL LC10-745 SECTION 22 | 22.00 | 38.80 | 1609.56 | 3426161.44 | 1516985.93 | 40°44'32.532"N | 103°57'43.236"W | polygon |
| | | | | | | | | |
| BENELLI FEDERAL LC22-76 Landing/TPZ (500'FNL&1917'FWL,SEC.22) | 6005.00 | -95.00 | 305.00 | 3424856.90 | 1516852.13 | 40°44'31.433"N | 103°58'00.212"W | point |
| | | | | | | | | |
| BENELLI FEDERAL LC22-76 REV-1 BHL (330'FSL&1920'FWL,SEC.22) | 6005.00 | -4550.95 | 436.23 | 3424988.13 | 1512396.22 | 40°43'47.388"N | 103°57'59.508"W | point |
| | | | | | | | | |
| DUKES FEDERAL LC10-745 SECTION 22 300' SETBACK | 6522.00 | 38.80 | 1609.56 | 3426161.44 | 1516985.93 | 40°44'32.532"N | 103°57'43.236"W | polygon |
| | | | | | | | | |

| WELLPATH COMPOSITION - Ref Wellbore: BENELLI FEDERAL LC22-765 AWB Ref Wellpath: BENELLI FEDERAL LC22-765 AWP | | | | |
|---|----------------|---|--|------------------------------|
| Start MD [ft] | End MD [ft] | Positional Uncertainty Model | Log Name/Comment | Wellbore |
| 0.00 | 1902.00 | Gyrodata standard - Drop gyro or Multi-shot | Gyrodata Surface Surveys <80'-1902'> | BENELLI FEDERAL LC22-765 AWB |
| 1902.00 | 10842.00 | OWSG MWD rev2 - Standard | BHI/ATC OWSG MWD,REV2+IFR+MWD <1982'-10842'> | BENELLI FEDERAL LC22-765 AWB |
| 10842.00 | 10866.00 | Blind Drilling (std) | Projection to bit | BENELLI FEDERAL LC22-765 AWB |



Actual Wellpath Report

BENELLI FEDERAL LC22-765 AWP

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| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|---------------------------------|----------|---|
| Operator | NOBLE ENERGY, INC | Slot | SLOT#09 BENELLI FEDERAL LC22-765 (400'FNL& 1612'FWL,SEC.22) |
| Area | COLORADO | Well | BENELLI FEDERAL LC22-765 |
| Field | WELD COUNTY (NOBLE NAD 83 GRID) | Wellbore | BENELLI FEDERAL LC22-765 AWB |
| Facility | SEC.22-T09N-R59W | | |

| WELLPATH COMMENTS | | | | |
|-------------------|--------------------|----------------|-------------|---------------------|
| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Comment |
| 1902.00 | 0.480 | 26.780 | 1901.99 | Tie to Gyros |
| 10842.00 | 88.400 | 178.240 | 6027.77 | Last BHI MWD Survey |
| 10866.00 | 88.400 | 178.240 | 6028.44 | Projection to Bit |

| COMMENTS |
|---|
| <div>Wellpath general comments</div> <div>Surface Hole Location: Latitude: 40.74234 N Longitude: 103.96782 W API # 05-123-42975</div> |