



# Survey Report

Service Company: AIM DIRECTIONAL SERVICES

Location: LEA COUNTY, NEW MEXICO

Well: NANDINA FED COM 25 36 31  
103H

Rig: UNIT 103

API or UWI: 30-025-46220

Job Number: WT-19-152

State: NEW MEXICO

Operating Company: AMEREDEV

County: LEA

Magnetic Declination: 5.98

Country: UNITED STATES

Proposed Azimuth: 357.42

Comment

North Reference: GRID

Latitude: 32.0802056

Longitude: -103.30744

HOBBS OCD  
JAN 06 2020  
RECEIVED

## Tie-In Data

| MD   | Inclination | Azimuth | TVD  | NS   | EW   |
|------|-------------|---------|------|------|------|
| 0.00 | 0.00        | 0.00    | 0.00 | 0.00 | 0.00 |

## Survey Data

| MD      | Inclination | Azimuth | TVD     | NS    | EW     | CA     | CD    | VS    | DLS  |
|---------|-------------|---------|---------|-------|--------|--------|-------|-------|------|
| 125.00  | 0.70        | 96.00   | 125.00  | -0.08 | 0.76   | 96.00  | 0.76  | -0.11 | 0.56 |
| 209.00  | 1.10        | 304.00  | 208.99  | 0.32  | 0.60   | 62.17  | 0.68  | 0.29  | 2.08 |
| 299.00  | 1.30        | 302.00  | 298.97  | 1.34  | -0.98  | 323.83 | 1.66  | 1.38  | 0.23 |
| 393.00  | 2.30        | 280.00  | 392.93  | 2.23  | -3.74  | 300.83 | 4.36  | 2.40  | 1.27 |
| 488.00  | 2.80        | 274.00  | 487.83  | 2.73  | -7.93  | 288.97 | 8.39  | 3.08  | 0.60 |
| 583.00  | 3.20        | 268.00  | 582.70  | 2.80  | -12.90 | 282.23 | 13.20 | 3.37  | 0.53 |
| 677.00  | 2.70        | 264.00  | 676.58  | 2.47  | -17.72 | 277.94 | 17.90 | 3.27  | 0.57 |
| 772.00  | 3.10        | 262.00  | 771.46  | 1.88  | -22.49 | 274.78 | 22.57 | 2.89  | 0.43 |
| 866.00  | 3.60        | 259.00  | 865.29  | 0.97  | -27.91 | 271.98 | 27.92 | 2.22  | 0.56 |
| 961.00  | 3.10        | 260.00  | 960.13  | -0.05 | -33.36 | 269.91 | 33.36 | 1.45  | 0.53 |
| 1055.00 | 2.80        | 252.00  | 1054.01 | -1.20 | -38.05 | 268.19 | 38.07 | 0.51  | 0.54 |
| 1145.00 | 2.80        | 252.00  | 1143.90 | -2.56 | -42.23 | 266.53 | 42.31 | -0.66 | 0.00 |
| 1238.00 | 1.38        | 290.90  | 1236.84 | -2.86 | -45.44 | 266.40 | 45.53 | -0.81 | 2.08 |
| 1336.00 | 0.02        | 343.32  | 1334.83 | -2.42 | -46.55 | 267.02 | 46.61 | -0.33 | 1.40 |
| 1432.00 | 0.05        | 328.30  | 1430.83 | -2.37 | -46.57 | 267.08 | 46.63 | -0.27 | 0.03 |
| 1526.00 | 0.10        | 11.32   | 1524.83 | -2.26 | -46.58 | 267.23 | 46.63 | -0.16 | 0.08 |

| MD      | Inclination | Azimuth | TVD     | NS      | EW      | CA     | CD     | VS      | DLS  |
|---------|-------------|---------|---------|---------|---------|--------|--------|---------|------|
| 1620.00 | 0.08        | 295.30  | 1618.83 | -2.15   | -46.62  | 267.36 | 46.67  | -0.05   | 0.12 |
| 1716.00 | 0.01        | 132.93  | 1714.83 | -2.13   | -46.68  | 267.39 | 46.72  | -0.02   | 0.09 |
| 1811.00 | 0.08        | 134.73  | 1809.83 | -2.18   | -46.62  | 267.32 | 46.67  | -0.08   | 0.07 |
| 1907.00 | 0.08        | 121.41  | 1905.83 | -2.26   | -46.52  | 267.22 | 46.57  | -0.16   | 0.02 |
| 2003.00 | 0.61        | 214.46  | 2001.83 | -2.72   | -46.75  | 266.67 | 46.83  | -0.61   | 0.65 |
| 2098.00 | 3.52        | 183.16  | 2096.76 | -6.05   | -47.20  | 262.70 | 47.58  | -3.92   | 3.17 |
| 2194.00 | 6.90        | 179.88  | 2192.35 | -14.76  | -47.35  | 252.69 | 49.59  | -12.61  | 3.53 |
| 2289.00 | 9.97        | 178.86  | 2286.31 | -28.69  | -47.17  | 238.69 | 55.21  | -26.54  | 3.24 |
| 2384.00 | 11.55       | 175.48  | 2379.64 | -46.39  | -46.26  | 224.92 | 65.52  | -44.27  | 1.79 |
| 2479.00 | 10.73       | 173.00  | 2472.85 | -64.65  | -44.43  | 214.50 | 78.45  | -62.59  | 1.00 |
| 2575.00 | 9.57        | 169.53  | 2567.34 | -81.37  | -41.89  | 207.24 | 91.52  | -79.40  | 1.37 |
| 2671.00 | 8.15        | 167.67  | 2662.20 | -95.87  | -38.99  | 202.13 | 103.49 | -94.02  | 1.51 |
| 2765.00 | 7.35        | 166.32  | 2755.34 | -108.22 | -36.14  | 198.47 | 114.10 | -106.48 | 0.87 |
| 2861.00 | 6.51        | 159.26  | 2850.64 | -119.28 | -32.76  | 195.36 | 123.69 | -117.68 | 1.24 |
| 2956.00 | 5.44        | 147.35  | 2945.12 | -128.10 | -28.43  | 192.51 | 131.22 | -126.69 | 1.72 |
| 3051.00 | 5.59        | 129.97  | 3039.69 | -134.87 | -22.45  | 189.45 | 136.72 | -133.72 | 1.76 |
| 3146.00 | 5.52        | 118.55  | 3134.25 | -140.02 | -14.89  | 186.07 | 140.81 | -139.21 | 1.16 |
| 3241.00 | 1.94        | 118.71  | 3229.03 | -142.98 | -9.47   | 183.79 | 143.29 | -142.41 | 3.77 |
| 3336.00 | 0.19        | 251.94  | 3324.01 | -143.80 | -8.21   | 183.27 | 144.04 | -143.29 | 2.18 |
| 3431.00 | 3.26        | 243.06  | 3418.96 | -145.08 | -10.76  | 184.24 | 145.47 | -144.44 | 3.23 |
| 3526.00 | 6.86        | 232.64  | 3513.57 | -149.74 | -17.68  | 186.73 | 150.78 | -148.80 | 3.90 |
| 3622.00 | 8.02        | 230.83  | 3608.76 | -157.45 | -27.43  | 189.88 | 159.83 | -156.06 | 1.23 |
| 3717.00 | 6.94        | 224.99  | 3702.95 | -165.70 | -36.63  | 192.47 | 169.70 | -163.88 | 1.39 |
| 3813.00 | 6.86        | 220.94  | 3798.26 | -174.13 | -44.49  | 194.33 | 179.72 | -171.95 | 0.51 |
| 3908.00 | 6.72        | 218.89  | 3892.59 | -182.74 | -51.69  | 195.79 | 189.91 | -180.23 | 0.29 |
| 4002.00 | 6.00        | 221.41  | 3986.02 | -190.71 | -58.40  | 197.02 | 199.45 | -187.89 | 0.82 |
| 4098.00 | 6.04        | 224.05  | 4081.49 | -198.10 | -65.23  | 198.22 | 208.56 | -194.97 | 0.29 |
| 4193.00 | 5.94        | 225.32  | 4175.97 | -205.15 | -72.20  | 199.39 | 217.48 | -201.69 | 0.17 |
| 4289.00 | 5.93        | 225.42  | 4271.45 | -212.12 | -79.26  | 200.49 | 226.45 | -208.34 | 0.01 |
| 4384.00 | 6.10        | 224.44  | 4365.93 | -219.17 | -86.29  | 201.49 | 235.55 | -215.07 | 0.21 |
| 4479.00 | 6.24        | 213.14  | 4460.38 | -227.10 | -92.65  | 202.19 | 245.27 | -222.70 | 1.28 |
| 4575.00 | 6.27        | 198.18  | 4555.82 | -236.45 | -97.14  | 202.33 | 255.62 | -231.84 | 1.69 |
| 4671.00 | 6.24        | 191.04  | 4651.25 | -246.55 | -99.77  | 202.03 | 265.97 | -241.81 | 0.81 |
| 4766.00 | 6.24        | 189.16  | 4745.68 | -256.72 | -101.58 | 201.59 | 276.08 | -251.88 | 0.22 |
| 4861.00 | 6.28        | 190.73  | 4840.12 | -266.92 | -103.37 | 201.17 | 286.24 | -261.99 | 0.19 |
| 4957.00 | 6.34        | 191.17  | 4935.54 | -277.28 | -105.37 | 200.81 | 296.63 | -272.25 | 0.08 |
| 5052.00 | 6.39        | 192.96  | 5029.95 | -287.58 | -107.58 | 200.51 | 307.04 | -282.44 | 0.22 |

| MD      | Inclination | Azimuth | TVD     | NS      | EW      | CA     | CD     | VS      | DLS  |
|---------|-------------|---------|---------|---------|---------|--------|--------|---------|------|
| 5147.00 | 6.36        | 192.59  | 5124.36 | -297.86 | -109.91 | 200.25 | 317.49 | -292.61 | 0.05 |
| 5242.00 | 6.31        | 194.17  | 5218.78 | -308.06 | -112.33 | 200.03 | 327.90 | -302.69 | 0.19 |
| 5337.00 | 6.43        | 194.41  | 5313.20 | -318.27 | -114.94 | 199.86 | 338.39 | -312.78 | 0.13 |
| 5433.00 | 6.25        | 194.72  | 5408.61 | -328.53 | -117.60 | 199.70 | 348.95 | -322.91 | 0.19 |
| 5528.00 | 6.38        | 194.72  | 5503.03 | -338.64 | -120.26 | 199.55 | 359.36 | -332.88 | 0.14 |
| 5624.00 | 6.37        | 192.32  | 5598.44 | -349.00 | -122.75 | 199.38 | 369.96 | -343.12 | 0.28 |
| 5718.00 | 5.82        | 191.40  | 5691.91 | -358.77 | -124.80 | 199.18 | 379.86 | -352.79 | 0.59 |
| 5814.00 | 5.82        | 195.81  | 5787.41 | -368.22 | -127.09 | 199.04 | 389.54 | -362.13 | 0.47 |
| 5909.00 | 5.85        | 198.72  | 5881.92 | -377.44 | -129.96 | 199.00 | 399.19 | -371.21 | 0.31 |
| 6003.00 | 5.95        | 205.51  | 5975.43 | -386.38 | -133.59 | 199.07 | 408.82 | -379.97 | 0.75 |
| 6098.00 | 5.90        | 206.17  | 6069.92 | -395.20 | -137.87 | 199.23 | 418.56 | -388.60 | 0.09 |
| 6193.00 | 5.91        | 205.39  | 6164.41 | -404.00 | -142.12 | 199.38 | 428.27 | -397.20 | 0.09 |
| 6288.00 | 6.05        | 204.32  | 6258.90 | -412.98 | -146.28 | 199.50 | 438.12 | -405.98 | 0.19 |
| 6384.00 | 6.13        | 203.23  | 6354.36 | -422.30 | -150.38 | 199.60 | 448.28 | -415.11 | 0.15 |
| 6479.00 | 5.96        | 202.48  | 6448.83 | -431.52 | -154.27 | 199.67 | 458.27 | -424.14 | 0.20 |
| 6575.00 | 6.00        | 201.45  | 6544.30 | -440.80 | -158.01 | 199.72 | 468.26 | -433.24 | 0.12 |
| 6669.00 | 5.73        | 199.62  | 6637.81 | -449.79 | -161.38 | 199.74 | 477.87 | -442.07 | 0.35 |
| 6764.00 | 3.43        | 193.01  | 6732.50 | -457.03 | -163.61 | 199.70 | 485.43 | -449.20 | 2.48 |
| 6859.00 | 1.05        | 173.82  | 6827.43 | -460.66 | -164.16 | 199.61 | 489.04 | -452.81 | 2.59 |
| 6954.00 | 0.10        | 230.91  | 6922.42 | -461.58 | -164.13 | 199.57 | 489.89 | -453.72 | 1.05 |
| 7050.00 | 0.06        | 38.01   | 7018.42 | -461.59 | -164.16 | 199.58 | 489.92 | -453.74 | 0.17 |
| 7145.00 | 0.01        | 317.85  | 7113.42 | -461.55 | -164.14 | 199.58 | 489.87 | -453.69 | 0.06 |
| 7245.00 | 0.04        | 23.94   | 7213.42 | -461.51 | -164.13 | 199.58 | 489.83 | -453.65 | 0.04 |
| 7339.00 | 0.04        | 59.32   | 7307.42 | -461.46 | -164.09 | 199.57 | 489.77 | -453.61 | 0.03 |
| 7435.00 | 0.03        | 212.68  | 7403.42 | -461.47 | -164.07 | 199.57 | 489.77 | -453.61 | 0.07 |
| 7530.00 | 0.07        | 262.64  | 7498.42 | -461.50 | -164.14 | 199.58 | 489.82 | -453.64 | 0.06 |
| 7626.00 | 0.07        | 334.80  | 7594.42 | -461.45 | -164.23 | 199.59 | 489.80 | -453.59 | 0.09 |
| 7721.00 | 0.10        | 288.69  | 7689.42 | -461.37 | -164.33 | 199.60 | 489.76 | -453.51 | 0.08 |
| 7816.00 | 0.07        | 339.74  | 7784.42 | -461.29 | -164.43 | 199.62 | 489.72 | -453.42 | 0.08 |
| 7912.00 | 0.07        | 316.17  | 7880.42 | -461.19 | -164.49 | 199.63 | 489.65 | -453.32 | 0.03 |
| 8006.00 | 0.07        | 9.26    | 7974.42 | -461.09 | -164.52 | 199.64 | 489.57 | -453.22 | 0.07 |
| 8101.00 | 0.06        | 191.80  | 8069.42 | -461.09 | -164.52 | 199.64 | 489.56 | -453.21 | 0.14 |
| 8197.00 | 0.16        | 285.30  | 8165.42 | -461.10 | -164.66 | 199.65 | 489.62 | -453.22 | 0.18 |
| 8292.00 | 0.11        | 260.78  | 8260.42 | -461.08 | -164.88 | 199.68 | 489.67 | -453.19 | 0.08 |
| 8387.00 | 0.17        | 261.43  | 8355.42 | -461.11 | -165.11 | 199.70 | 489.78 | -453.22 | 0.06 |
| 8482.00 | 0.09        | 235.90  | 8450.42 | -461.18 | -165.31 | 199.72 | 489.91 | -453.27 | 0.10 |
| 8577.00 | 0.07        | 300.67  | 8545.42 | -461.19 | -165.42 | 199.73 | 489.96 | -453.28 | 0.09 |

| MD       | Inclination | Azimuth | TVD      | NS      | EW      | CA     | CD     | VS      | DLS  |
|----------|-------------|---------|----------|---------|---------|--------|--------|---------|------|
| 8641.00  | 0.29        | 292.21  | 8609.42  | -461.11 | -165.61 | 199.76 | 489.95 | -453.19 | 0.35 |
| 8672.00  | 0.38        | 304.86  | 8640.42  | -461.02 | -165.76 | 199.78 | 489.92 | -453.09 | 0.37 |
| 8714.00  | 0.68        | 302.48  | 8682.42  | -460.81 | -166.09 | 199.82 | 489.82 | -452.86 | 0.72 |
| 8767.00  | 0.54        | 292.58  | 8735.41  | -460.54 | -166.58 | 199.89 | 489.74 | -452.58 | 0.33 |
| 8804.00  | 0.49        | 263.40  | 8772.41  | -460.49 | -166.90 | 199.92 | 489.81 | -452.51 | 0.71 |
| 8862.00  | 0.60        | 249.54  | 8830.41  | -460.63 | -167.43 | 199.98 | 490.11 | -452.62 | 0.29 |
| 8957.00  | 1.13        | 248.39  | 8925.40  | -461.15 | -168.77 | 200.10 | 491.06 | -453.08 | 0.56 |
| 9047.00  | 1.74        | 259.69  | 9015.37  | -461.72 | -170.94 | 200.32 | 492.34 | -453.56 | 0.74 |
| 9142.00  | 2.05        | 264.15  | 9110.32  | -462.15 | -174.05 | 200.64 | 493.84 | -453.85 | 0.36 |
| 9238.00  | 2.32        | 269.69  | 9206.25  | -462.34 | -177.70 | 201.02 | 495.31 | -453.87 | 0.36 |
| 9332.00  | 2.81        | 276.77  | 9300.15  | -462.07 | -181.89 | 201.49 | 496.58 | -453.42 | 0.62 |
| 9427.00  | 2.94        | 277.98  | 9395.03  | -461.46 | -186.61 | 202.02 | 497.77 | -452.59 | 0.15 |
| 9522.00  | 2.86        | 278.47  | 9489.91  | -460.77 | -191.37 | 202.55 | 498.93 | -451.69 | 0.09 |
| 9617.00  | 2.60        | 288.35  | 9584.80  | -459.75 | -195.76 | 203.06 | 499.69 | -450.47 | 0.56 |
| 9712.00  | 1.35        | 295.99  | 9679.75  | -458.58 | -198.81 | 203.44 | 499.82 | -449.16 | 1.34 |
| 9807.00  | 1.09        | 335.87  | 9774.73  | -457.26 | -200.19 | 203.64 | 499.16 | -447.79 | 0.91 |
| 9901.00  | 1.17        | 343.62  | 9868.71  | -455.53 | -200.82 | 203.79 | 497.83 | -446.02 | 0.18 |
| 9996.00  | 1.25        | 320.67  | 9963.69  | -453.79 | -201.75 | 203.97 | 496.62 | -444.25 | 0.51 |
| 10091.00 | 1.52        | 296.97  | 10058.66 | -452.42 | -203.53 | 204.22 | 496.09 | -442.80 | 0.66 |
| 10187.00 | 1.57        | 282.76  | 10154.63 | -451.55 | -205.95 | 204.52 | 496.30 | -441.82 | 0.40 |
| 10281.00 | 1.31        | 281.83  | 10248.60 | -451.05 | -208.26 | 204.78 | 496.81 | -441.22 | 0.28 |
| 10376.00 | 1.02        | 277.47  | 10343.58 | -450.72 | -210.16 | 205.00 | 497.30 | -440.80 | 0.32 |
| 10472.00 | 0.64        | 274.82  | 10439.57 | -450.56 | -211.54 | 205.15 | 497.75 | -440.58 | 0.40 |
| 10567.00 | 0.49        | 244.97  | 10534.56 | -450.69 | -212.44 | 205.24 | 498.25 | -440.67 | 0.34 |
| 10662.00 | 0.62        | 246.08  | 10629.56 | -451.07 | -213.28 | 205.31 | 498.95 | -441.01 | 0.14 |
| 10757.00 | 1.51        | 246.56  | 10724.54 | -451.77 | -214.89 | 205.44 | 500.28 | -441.64 | 0.94 |
| 10851.00 | 2.74        | 253.04  | 10818.47 | -452.92 | -218.18 | 205.72 | 502.73 | -442.64 | 1.33 |
| 10944.00 | 2.74        | 257.28  | 10911.37 | -454.06 | -222.47 | 206.10 | 505.63 | -443.58 | 0.22 |
| 11039.00 | 2.60        | 273.23  | 11006.26 | -454.44 | -226.84 | 206.53 | 507.91 | -443.77 | 0.79 |
| 11081.00 | 2.78        | 274.44  | 11048.22 | -454.31 | -228.81 | 206.73 | 508.67 | -443.55 | 0.45 |
| 11177.00 | 1.48        | 305.04  | 11144.15 | -453.41 | -232.14 | 207.11 | 509.39 | -442.50 | 1.75 |
| 11272.00 | 1.55        | 306.23  | 11239.12 | -451.95 | -234.18 | 207.39 | 509.02 | -440.95 | 0.08 |
| 11304.00 | 2.29        | 332.07  | 11271.10 | -451.13 | -234.83 | 207.50 | 508.59 | -440.10 | 3.50 |
| 11336.00 | 3.48        | 350.65  | 11303.06 | -449.61 | -235.29 | 207.62 | 507.45 | -438.56 | 4.68 |
| 11368.00 | 4.28        | 9.61    | 11334.99 | -447.47 | -235.25 | 207.73 | 505.54 | -436.43 | 4.69 |
| 11400.00 | 5.42        | 15.76   | 11366.87 | -444.84 | -234.64 | 207.81 | 502.93 | -433.82 | 3.91 |
| 11431.00 | 7.56        | 16.43   | 11397.67 | -441.47 | -233.66 | 207.89 | 499.50 | -430.51 | 6.91 |

| MD       | Inclination | Azimuth | TVD      | NS      | EW      | CA     | CD      | VS      | DLS   |
|----------|-------------|---------|----------|---------|---------|--------|---------|---------|-------|
| 11463.00 | 9.97        | 17.60   | 11429.30 | -436.81 | -232.23 | 208.00 | 494.71  | -425.92 | 7.55  |
| 11495.00 | 12.95       | 18.25   | 11460.66 | -430.77 | -230.27 | 208.13 | 488.45  | -419.96 | 9.32  |
| 11525.00 | 16.07       | 18.32   | 11489.70 | -423.63 | -227.91 | 208.28 | 481.05  | -412.94 | 10.40 |
| 11617.00 | 22.65       | 23.53   | 11576.45 | -395.27 | -216.82 | 208.75 | 450.83  | -385.11 | 7.39  |
| 11680.00 | 29.78       | 27.03   | 11632.94 | -370.17 | -204.85 | 208.96 | 423.08  | -360.58 | 11.58 |
| 11712.00 | 31.65       | 26.83   | 11660.45 | -355.60 | -197.45 | 209.04 | 406.74  | -346.35 | 5.85  |
| 11744.00 | 36.73       | 27.24   | 11686.91 | -339.59 | -189.28 | 209.13 | 388.78  | -330.73 | 15.89 |
| 11775.00 | 42.44       | 27.98   | 11710.79 | -322.10 | -180.12 | 209.21 | 369.04  | -313.66 | 18.48 |
| 11807.00 | 46.40       | 29.79   | 11733.64 | -302.50 | -169.29 | 209.23 | 346.65  | -294.57 | 12.99 |
| 11838.00 | 51.41       | 29.15   | 11754.01 | -282.16 | -157.81 | 209.22 | 323.30  | -274.78 | 16.24 |
| 11869.00 | 58.18       | 27.97   | 11771.88 | -259.93 | -145.72 | 209.28 | 297.98  | -253.10 | 22.06 |
| 11901.00 | 64.22       | 26.53   | 11787.28 | -235.00 | -132.89 | 209.49 | 269.98  | -228.78 | 19.28 |
| 11933.00 | 68.93       | 24.05   | 11800.00 | -208.46 | -120.36 | 210.00 | 240.71  | -202.83 | 16.35 |
| 11964.00 | 75.65       | 21.91   | 11809.43 | -181.29 | -108.85 | 210.98 | 211.46  | -176.20 | 22.65 |
| 11996.00 | 83.60       | 21.50   | 11815.19 | -152.06 | -97.22  | 212.59 | 180.49  | -147.53 | 24.88 |
| 12028.00 | 90.07       | 20.38   | 11816.95 | -122.24 | -85.81  | 215.07 | 149.35  | -118.25 | 20.52 |
| 12059.00 | 92.21       | 19.05   | 11816.34 | -93.06  | -75.35  | 219.00 | 119.75  | -89.58  | 8.13  |
| 12091.00 | 93.68       | 17.95   | 11814.69 | -62.76  | -65.21  | 226.10 | 90.51   | -59.76  | 5.73  |
| 12122.00 | 94.59       | 16.71   | 11812.46 | -33.25  | -56.00  | 239.31 | 65.13   | -30.69  | 4.95  |
| 12155.00 | 95.02       | 13.70   | 11809.69 | -1.52   | -47.38  | 268.17 | 47.40   | 0.62    | 9.18  |
| 12186.00 | 92.24       | 10.56   | 11807.73 | 28.72   | -40.88  | 305.09 | 49.96   | 30.54   | 13.51 |
| 12218.00 | 89.50       | 9.80    | 11807.24 | 60.21   | -35.23  | 329.67 | 69.76   | 61.74   | 8.89  |
| 12249.00 | 88.42       | 8.78    | 11807.81 | 90.80   | -30.22  | 341.59 | 95.70   | 92.07   | 4.79  |
| 12331.00 | 89.43       | 7.12    | 11809.35 | 172.00  | -18.89  | 353.73 | 173.03  | 172.67  | 2.37  |
| 12427.00 | 87.38       | 5.11    | 11812.02 | 267.40  | -8.66   | 358.14 | 267.54  | 267.52  | 2.99  |
| 12521.00 | 86.81       | 2.92    | 11816.78 | 361.04  | -2.09   | 359.67 | 361.05  | 360.77  | 2.40  |
| 12616.00 | 86.19       | 2.23    | 11822.58 | 455.77  | 2.17    | 0.27   | 455.78  | 455.21  | 0.98  |
| 12711.00 | 86.29       | 0.21    | 11828.81 | 550.54  | 4.19    | 0.44   | 550.56  | 549.79  | 2.12  |
| 12806.00 | 85.86       | 358.80  | 11835.32 | 645.31  | 3.37    | 0.30   | 645.32  | 644.50  | 1.55  |
| 12902.00 | 87.36       | 358.58  | 11840.99 | 741.11  | 1.18    | 0.09   | 741.12  | 740.31  | 1.58  |
| 12995.00 | 88.76       | 358.25  | 11844.14 | 834.02  | -1.39   | 359.90 | 834.02  | 833.24  | 1.55  |
| 13090.00 | 86.27       | 358.08  | 11848.26 | 928.88  | -4.43   | 359.73 | 928.89  | 928.14  | 2.63  |
| 13121.00 | 85.38       | 358.10  | 11850.52 | 959.78  | -5.46   | 359.67 | 959.79  | 959.05  | 2.87  |
| 13153.00 | 86.97       | 357.60  | 11852.65 | 991.68  | -6.66   | 359.62 | 991.71  | 990.98  | 5.21  |
| 13184.00 | 89.06       | 357.32  | 11853.72 | 1022.63 | -8.03   | 359.55 | 1022.66 | 1021.96 | 6.80  |
| 13215.00 | 87.74       | 357.03  | 11854.59 | 1053.58 | -9.56   | 359.48 | 1053.63 | 1052.94 | 4.36  |
| 13247.00 | 89.35       | 357.46  | 11855.40 | 1085.53 | -11.10  | 359.41 | 1085.59 | 1084.93 | 5.21  |

| MD       | Inclination | Azimuth | TVD      | NS      | EW     | CA     | CD      | VS      | DLS   |
|----------|-------------|---------|----------|---------|--------|--------|---------|---------|-------|
| 13279.00 | 89.67       | 357.00  | 11855.68 | 1117.49 | -12.64 | 359.35 | 1117.57 | 1116.93 | 1.75  |
| 13310.00 | 90.90       | 357.83  | 11855.52 | 1148.46 | -14.04 | 359.30 | 1148.55 | 1147.93 | 4.79  |
| 13342.00 | 88.57       | 358.15  | 11855.67 | 1180.44 | -15.16 | 359.26 | 1180.54 | 1179.93 | 7.35  |
| 13373.00 | 88.85       | 359.23  | 11856.37 | 1211.42 | -15.87 | 359.25 | 1211.53 | 1210.91 | 3.60  |
| 13405.00 | 92.21       | 359.78  | 11856.07 | 1243.42 | -16.15 | 359.26 | 1243.52 | 1242.88 | 10.64 |
| 13437.00 | 91.57       | 359.56  | 11855.02 | 1275.40 | -16.33 | 359.27 | 1275.50 | 1274.84 | 2.11  |
| 13468.00 | 92.06       | 0.75    | 11854.03 | 1306.38 | -16.25 | 359.29 | 1306.48 | 1305.79 | 4.15  |
| 13500.00 | 91.50       | 0.72    | 11853.04 | 1338.36 | -15.84 | 359.32 | 1338.46 | 1337.72 | 1.75  |
| 13530.00 | 89.96       | 0.59    | 11852.66 | 1368.36 | -15.50 | 359.35 | 1368.45 | 1367.67 | 5.15  |
| 13562.00 | 88.68       | 0.44    | 11853.04 | 1400.35 | -15.21 | 359.38 | 1400.44 | 1399.62 | 4.03  |
| 13593.00 | 87.23       | 0.44    | 11854.14 | 1431.33 | -14.97 | 359.40 | 1431.41 | 1430.56 | 4.68  |
| 13624.00 | 88.23       | 0.47    | 11855.37 | 1462.31 | -14.72 | 359.42 | 1462.38 | 1461.49 | 3.23  |
| 13656.00 | 88.66       | 0.60    | 11856.24 | 1494.29 | -14.43 | 359.45 | 1494.36 | 1493.43 | 1.40  |
| 13687.00 | 90.02       | 0.09    | 11856.60 | 1525.29 | -14.24 | 359.47 | 1525.36 | 1524.38 | 4.69  |
| 13719.00 | 88.35       | 359.58  | 11857.05 | 1557.29 | -14.33 | 359.47 | 1557.35 | 1556.35 | 5.46  |
| 13750.00 | 84.91       | 359.52  | 11858.87 | 1588.23 | -14.57 | 359.47 | 1588.29 | 1587.27 | 11.10 |
| 13782.00 | 87.61       | 359.31  | 11860.96 | 1620.15 | -14.90 | 359.47 | 1620.22 | 1619.18 | 8.46  |
| 13813.00 | 89.12       | 359.17  | 11861.85 | 1651.14 | -15.31 | 359.47 | 1651.21 | 1650.15 | 4.89  |
| 13844.00 | 92.07       | 359.07  | 11861.52 | 1682.13 | -15.79 | 359.46 | 1682.20 | 1681.13 | 9.52  |
| 13938.00 | 91.90       | 357.85  | 11858.27 | 1776.04 | -18.31 | 359.41 | 1776.13 | 1775.06 | 1.31  |
| 14064.00 | 89.08       | 3.16    | 11857.19 | 1901.97 | -17.20 | 359.48 | 1902.05 | 1900.82 | 4.77  |
| 14127.00 | 86.35       | 3.64    | 11859.70 | 1964.80 | -13.47 | 359.61 | 1964.85 | 1963.42 | 4.40  |
| 14222.00 | 88.38       | 1.06    | 11864.07 | 2059.61 | -9.58  | 359.73 | 2059.63 | 2057.95 | 3.45  |
| 14317.00 | 87.38       | 359.88  | 11867.58 | 2154.54 | -8.80  | 359.77 | 2154.56 | 2152.75 | 1.63  |
| 14411.00 | 87.01       | 359.85  | 11872.18 | 2248.42 | -9.02  | 359.77 | 2248.44 | 2246.55 | 0.39  |
| 14505.00 | 86.11       | 359.29  | 11877.82 | 2342.25 | -9.73  | 359.76 | 2342.27 | 2340.31 | 1.13  |
| 14599.00 | 89.34       | 358.92  | 11881.56 | 2436.15 | -11.19 | 359.74 | 2436.18 | 2434.19 | 3.46  |
| 14694.00 | 86.52       | 356.91  | 11884.99 | 2531.01 | -14.64 | 359.67 | 2531.06 | 2529.11 | 3.64  |
| 14788.00 | 86.67       | 359.38  | 11890.57 | 2624.79 | -17.68 | 359.61 | 2624.85 | 2622.93 | 2.63  |
| 14884.00 | 87.17       | 0.90    | 11895.73 | 2720.65 | -17.45 | 359.63 | 2720.71 | 2718.68 | 1.66  |
| 14979.00 | 87.87       | 358.01  | 11899.84 | 2815.55 | -18.35 | 359.63 | 2815.61 | 2813.52 | 3.13  |
| 15073.00 | 89.19       | 359.05  | 11902.25 | 2909.48 | -20.76 | 359.59 | 2909.55 | 2907.47 | 1.79  |
| 15169.00 | 84.00       | 359.70  | 11907.95 | 3005.27 | -21.81 | 359.58 | 3005.35 | 3003.21 | 5.45  |
| 15264.00 | 85.52       | 0.51    | 11916.63 | 3099.87 | -21.63 | 359.60 | 3099.95 | 3097.70 | 1.81  |
| 15359.00 | 90.68       | 1.86    | 11919.78 | 3194.76 | -19.67 | 359.65 | 3194.82 | 3192.41 | 5.61  |
| 15452.00 | 86.97       | 0.40    | 11921.68 | 3287.71 | -17.83 | 359.69 | 3287.76 | 3285.18 | 4.29  |
| 15548.00 | 89.25       | 0.44    | 11924.85 | 3383.65 | -17.13 | 359.71 | 3383.69 | 3380.99 | 2.38  |

| MD       | Inclination | Azimuth | TVD      | NS      | EW     | CA     | CD      | VS      | DLS  |
|----------|-------------|---------|----------|---------|--------|--------|---------|---------|------|
| 15643.00 | 92.87       | 359.45  | 11923.09 | 3478.61 | -17.22 | 359.72 | 3478.66 | 3475.86 | 3.95 |
| 15738.00 | 92.60       | 358.55  | 11918.56 | 3573.49 | -18.88 | 359.70 | 3573.54 | 3570.72 | 0.99 |
| 15834.00 | 94.17       | 359.49  | 11912.89 | 3669.30 | -20.52 | 359.68 | 3669.36 | 3666.51 | 1.91 |
| 15929.00 | 93.23       | 1.15    | 11906.76 | 3764.10 | -19.99 | 359.70 | 3764.15 | 3761.18 | 2.00 |
| 16024.00 | 89.41       | 2.04    | 11904.57 | 3859.02 | -17.34 | 359.74 | 3859.06 | 3855.89 | 4.13 |
| 16117.00 | 90.13       | 3.14    | 11904.95 | 3951.92 | -13.14 | 359.81 | 3951.94 | 3948.51 | 1.41 |
| 16212.00 | 90.57       | 355.97  | 11904.36 | 4046.85 | -13.88 | 359.80 | 4046.88 | 4043.38 | 7.56 |
| 16244.00 | 91.72       | 353.47  | 11903.72 | 4078.71 | -16.82 | 359.76 | 4078.74 | 4075.33 | 8.60 |
| 16307.00 | 93.09       | 348.65  | 11901.08 | 4140.87 | -26.60 | 359.63 | 4140.96 | 4137.87 | 7.95 |
| 16354.00 | 93.42       | 349.87  | 11898.41 | 4186.97 | -35.34 | 359.52 | 4187.12 | 4184.32 | 2.68 |
| 16403.00 | 92.08       | 352.87  | 11896.06 | 4235.35 | -42.69 | 359.42 | 4235.57 | 4232.98 | 6.70 |
| 16467.00 | 88.83       | 356.70  | 11895.55 | 4299.07 | -48.50 | 359.35 | 4299.34 | 4296.89 | 7.85 |
| 16498.00 | 88.43       | 358.40  | 11896.29 | 4330.03 | -49.83 | 359.34 | 4330.31 | 4327.88 | 5.63 |
| 16551.00 | 90.58       | 2.12    | 11896.75 | 4383.01 | -49.58 | 359.35 | 4383.29 | 4380.80 | 8.11 |
| 16592.00 | 92.79       | 4.56    | 11895.54 | 4423.92 | -47.20 | 359.39 | 4424.17 | 4421.56 | 8.03 |
| 16641.00 | 92.81       | 4.82    | 11893.15 | 4472.70 | -43.20 | 359.45 | 4472.91 | 4470.11 | 0.53 |
| 16687.00 | 89.68       | 4.22    | 11892.15 | 4518.54 | -39.57 | 359.50 | 4518.71 | 4515.74 | 6.93 |
| 16734.00 | 91.59       | 4.84    | 11891.63 | 4565.39 | -35.86 | 359.55 | 4565.53 | 4562.37 | 4.27 |
| 16782.00 | 92.66       | 5.03    | 11889.85 | 4613.17 | -31.73 | 359.61 | 4613.28 | 4609.93 | 2.26 |
| 16878.00 | 89.17       | 3.95    | 11888.32 | 4708.85 | -24.22 | 359.71 | 4708.91 | 4705.17 | 3.81 |
| 16973.00 | 93.68       | 4.28    | 11885.96 | 4803.55 | -17.41 | 359.79 | 4803.58 | 4799.47 | 4.76 |
| 17067.00 | 95.44       | 2.17    | 11878.48 | 4897.10 | -12.14 | 359.86 | 4897.11 | 4892.68 | 2.92 |
| 17115.00 | 95.19       | 359.31  | 11874.04 | 4944.88 | -11.52 | 359.87 | 4944.90 | 4940.39 | 5.96 |
| 17163.00 | 93.91       | 357.10  | 11870.23 | 4992.70 | -13.02 | 359.85 | 4992.72 | 4988.23 | 5.31 |
| 17208.00 | 91.73       | 357.10  | 11868.01 | 5037.59 | -15.29 | 359.83 | 5037.61 | 5033.17 | 4.84 |
| 17258.00 | 91.76       | 356.94  | 11866.49 | 5087.50 | -17.89 | 359.80 | 5087.53 | 5083.15 | 0.33 |
| 17305.00 | 91.47       | 358.43  | 11865.17 | 5134.44 | -19.79 | 359.78 | 5134.48 | 5130.13 | 3.23 |
| 17354.00 | 90.06       | 358.97  | 11864.51 | 5183.42 | -20.90 | 359.77 | 5183.46 | 5179.11 | 3.08 |
| 17399.00 | 91.28       | 359.76  | 11863.99 | 5228.41 | -21.40 | 359.77 | 5228.46 | 5224.08 | 3.23 |
| 17449.00 | 91.14       | 0.53    | 11862.93 | 5278.40 | -21.27 | 359.77 | 5278.45 | 5274.01 | 1.56 |
| 17543.00 | 91.47       | 1.15    | 11860.79 | 5372.37 | -19.89 | 359.79 | 5372.40 | 5367.82 | 0.75 |
| 17638.00 | 91.32       | 358.59  | 11858.48 | 5467.33 | -20.11 | 359.79 | 5467.37 | 5462.69 | 2.70 |
| 17733.00 | 91.69       | 357.90  | 11855.98 | 5562.25 | -23.02 | 359.76 | 5562.30 | 5557.65 | 0.82 |
| 17827.00 | 93.35       | 357.80  | 11851.85 | 5656.09 | -26.54 | 359.73 | 5656.15 | 5651.55 | 1.77 |
| 17921.00 | 91.96       | 358.91  | 11847.49 | 5749.95 | -29.24 | 359.71 | 5750.02 | 5745.44 | 1.89 |
| 18016.00 | 92.33       | 0.31    | 11843.94 | 5844.88 | -29.88 | 359.71 | 5844.95 | 5840.30 | 1.52 |
| 18111.00 | 91.19       | 358.26  | 11841.02 | 5939.82 | -31.07 | 359.70 | 5939.90 | 5935.20 | 2.47 |

| MD       | Inclination | Azimuth | TVD      | NS      | EW      | CA     | CD      | VS      | DLS  |
|----------|-------------|---------|----------|---------|---------|--------|---------|---------|------|
| 18206.00 | 88.99       | 354.41  | 11840.87 | 6034.60 | -37.14  | 359.65 | 6034.72 | 6030.16 | 4.67 |
| 18302.00 | 92.14       | 355.97  | 11839.92 | 6130.24 | -45.19  | 359.58 | 6130.41 | 6126.06 | 3.66 |
| 18397.00 | 94.00       | 358.04  | 11834.84 | 6224.97 | -50.14  | 359.54 | 6225.17 | 6220.92 | 2.93 |
| 18493.00 | 91.93       | 359.45  | 11829.87 | 6320.81 | -52.24  | 359.53 | 6321.02 | 6316.75 | 2.61 |
| 18589.00 | 92.49       | 1.61    | 11826.17 | 6416.73 | -51.36  | 359.54 | 6416.93 | 6412.53 | 2.32 |
| 18684.00 | 94.07       | 2.54    | 11820.73 | 6511.51 | -47.92  | 359.58 | 6511.68 | 6507.06 | 1.93 |
| 18780.00 | 91.14       | 0.89    | 11816.37 | 6607.35 | -45.05  | 359.61 | 6607.50 | 6602.68 | 3.50 |
| 18875.00 | 90.43       | 0.73    | 11815.07 | 6702.33 | -43.71  | 359.63 | 6702.47 | 6697.50 | 0.77 |
| 18971.00 | 87.12       | 1.12    | 11817.12 | 6798.28 | -42.16  | 359.64 | 6798.41 | 6793.29 | 3.47 |
| 19067.00 | 87.07       | 0.50    | 11821.98 | 6894.15 | -40.81  | 359.66 | 6894.27 | 6889.00 | 0.65 |
| 19161.00 | 87.06       | 359.25  | 11826.80 | 6988.02 | -41.01  | 359.66 | 6988.14 | 6982.79 | 1.33 |
| 19206.00 | 87.67       | 358.48  | 11828.87 | 7032.97 | -41.90  | 359.66 | 7033.09 | 7027.72 | 2.18 |
| 19256.00 | 90.17       | 358.40  | 11829.81 | 7082.94 | -43.26  | 359.65 | 7083.07 | 7077.70 | 5.00 |
| 19301.00 | 92.31       | 357.73  | 11828.84 | 7127.90 | -44.78  | 359.64 | 7128.04 | 7122.69 | 4.98 |
| 19351.00 | 89.87       | 357.08  | 11827.88 | 7177.83 | -47.05  | 359.62 | 7177.99 | 7172.67 | 5.05 |
| 19396.00 | 89.68       | 356.86  | 11828.06 | 7222.77 | -49.42  | 359.61 | 7222.94 | 7217.67 | 0.65 |
| 19446.00 | 92.48       | 357.78  | 11827.12 | 7272.70 | -51.76  | 359.59 | 7272.88 | 7267.66 | 5.89 |
| 19491.00 | 94.49       | 358.31  | 11824.38 | 7317.59 | -53.29  | 359.58 | 7317.78 | 7312.57 | 4.62 |
| 19542.00 | 96.39       | 358.50  | 11819.55 | 7368.34 | -54.71  | 359.57 | 7368.54 | 7363.33 | 3.74 |
| 19587.00 | 97.00       | 358.53  | 11814.30 | 7413.01 | -55.87  | 359.57 | 7413.22 | 7408.01 | 1.36 |
| 19637.00 | 96.19       | 0.24    | 11808.56 | 7462.68 | -56.40  | 359.57 | 7462.89 | 7457.65 | 3.76 |
| 19682.00 | 94.90       | 359.93  | 11804.21 | 7507.47 | -56.33  | 359.57 | 7507.68 | 7502.39 | 2.95 |
| 19731.00 | 94.72       | 359.37  | 11800.10 | 7556.29 | -56.63  | 359.57 | 7556.50 | 7551.18 | 1.20 |
| 19776.00 | 94.16       | 359.14  | 11796.62 | 7601.15 | -57.21  | 359.57 | 7601.37 | 7596.02 | 1.34 |
| 19826.00 | 92.63       | 358.78  | 11793.66 | 7651.06 | -58.12  | 359.56 | 7651.28 | 7645.92 | 3.14 |
| 19922.00 | 92.16       | 358.06  | 11789.65 | 7746.93 | -60.76  | 359.55 | 7747.17 | 7741.82 | 0.90 |
| 19995.00 | 93.70       | 358.69  | 11785.91 | 7819.81 | -62.83  | 359.54 | 7820.06 | 7814.71 | 2.28 |
| 20046.00 | 93.40       | 0.31    | 11782.76 | 7870.71 | -63.28  | 359.54 | 7870.96 | 7865.58 | 3.22 |
| 20141.00 | 94.34       | 358.36  | 11776.34 | 7965.48 | -64.38  | 359.54 | 7965.74 | 7960.30 | 2.27 |
| 20236.00 | 96.40       | 357.02  | 11767.45 | 8059.98 | -68.19  | 359.52 | 8060.26 | 8054.88 | 2.58 |
| 20282.00 | 97.09       | 356.77  | 11762.05 | 8105.59 | -70.66  | 359.50 | 8105.90 | 8100.55 | 1.59 |
| 20327.00 | 96.41       | 356.32  | 11756.76 | 8150.20 | -73.35  | 359.48 | 8150.53 | 8145.24 | 1.81 |
| 20376.00 | 95.28       | 354.90  | 11751.77 | 8198.80 | -77.08  | 359.46 | 8199.16 | 8193.96 | 3.69 |
| 20421.00 | 94.19       | 353.48  | 11748.06 | 8243.41 | -81.62  | 359.43 | 8243.82 | 8238.73 | 3.97 |
| 20471.00 | 92.72       | 351.51  | 11745.04 | 8292.89 | -88.14  | 359.39 | 8293.36 | 8288.45 | 4.91 |
| 20518.00 | 91.08       | 349.88  | 11743.49 | 8339.24 | -95.74  | 359.34 | 8339.79 | 8335.10 | 4.92 |
| 20566.00 | 89.72       | 348.64  | 11743.15 | 8386.40 | -104.68 | 359.28 | 8387.05 | 8382.61 | 3.83 |

| MD       | Inclination | Azimuth | TVD      | NS       | EW      | CA     | CD       | VS       | DLS  |
|----------|-------------|---------|----------|----------|---------|--------|----------|----------|------|
| 20612.00 | 89.02       | 347.74  | 11743.66 | 8431.42  | -114.10 | 359.22 | 8432.19  | 8428.01  | 2.48 |
| 20662.00 | 87.57       | 345.89  | 11745.14 | 8480.08  | -125.50 | 359.15 | 8481.01  | 8477.13  | 4.70 |
| 20707.00 | 87.35       | 343.99  | 11747.14 | 8523.49  | -137.18 | 359.08 | 8524.59  | 8521.02  | 4.25 |
| 20757.00 | 87.46       | 342.51  | 11749.40 | 8571.32  | -151.57 | 358.99 | 8572.66  | 8569.45  | 2.97 |
| 20802.00 | 87.99       | 340.71  | 11751.19 | 8613.98  | -165.76 | 358.90 | 8615.58  | 8612.71  | 4.17 |
| 20852.00 | 89.65       | 338.95  | 11752.22 | 8660.90  | -182.99 | 358.79 | 8662.83  | 8660.36  | 4.84 |
| 20897.00 | 91.80       | 337.24  | 11751.65 | 8702.65  | -199.78 | 358.68 | 8704.94  | 8702.82  | 6.10 |
| 20947.00 | 92.31       | 334.78  | 11749.86 | 8748.29  | -220.09 | 358.56 | 8751.06  | 8749.33  | 5.02 |
| 20992.00 | 91.99       | 332.74  | 11748.17 | 8788.63  | -239.97 | 358.44 | 8791.90  | 8790.52  | 4.59 |
| 21042.00 | 89.63       | 331.91  | 11747.46 | 8832.90  | -263.19 | 358.29 | 8836.82  | 8835.79  | 5.00 |
| 21087.00 | 87.37       | 331.27  | 11748.64 | 8872.46  | -284.59 | 358.16 | 8877.02  | 8876.28  | 5.22 |
| 21136.00 | 85.52       | 332.39  | 11751.68 | 8915.57  | -307.68 | 358.02 | 8920.88  | 8920.38  | 4.41 |
| 21181.00 | 84.96       | 334.45  | 11755.41 | 8955.67  | -327.74 | 357.90 | 8961.67  | 8961.35  | 4.73 |
| 21230.00 | 85.04       | 336.45  | 11759.68 | 9000.07  | -348.02 | 357.79 | 9006.80  | 9006.62  | 4.07 |
| 21275.00 | 85.46       | 338.52  | 11763.41 | 9041.50  | -365.19 | 357.69 | 9048.87  | 9048.77  | 4.68 |
| 21326.00 | 85.86       | 340.64  | 11767.27 | 9089.15  | -382.94 | 357.59 | 9097.22  | 9097.18  | 4.22 |
| 21371.00 | 85.74       | 342.00  | 11770.56 | 9131.67  | -397.31 | 357.51 | 9140.31  | 9140.30  | 3.03 |
| 21421.00 | 86.60       | 344.15  | 11773.90 | 9179.39  | -411.83 | 357.43 | 9188.63  | 9188.63  | 4.62 |
| 21466.00 | 86.48       | 345.82  | 11776.62 | 9222.77  | -423.47 | 357.37 | 9232.49  | 9232.49  | 3.71 |
| 21516.00 | 86.51       | 347.97  | 11779.68 | 9271.38  | -434.78 | 357.32 | 9281.57  | 9281.55  | 4.29 |
| 21561.00 | 86.78       | 349.56  | 11782.31 | 9315.44  | -443.53 | 357.27 | 9325.99  | 9325.96  | 3.58 |
| 21610.00 | 86.83       | 351.15  | 11785.04 | 9363.67  | -451.73 | 357.24 | 9374.56  | 9374.51  | 3.24 |
| 21655.00 | 87.69       | 352.50  | 11787.19 | 9408.16  | -458.12 | 357.21 | 9419.31  | 9419.25  | 3.55 |
| 21703.00 | 87.32       | 353.23  | 11789.28 | 9455.74  | -464.08 | 357.19 | 9467.12  | 9467.05  | 1.70 |
| 21748.00 | 87.46       | 353.96  | 11791.33 | 9500.42  | -469.09 | 357.17 | 9511.99  | 9511.90  | 1.65 |
| 21796.00 | 87.93       | 354.50  | 11793.26 | 9548.13  | -473.92 | 357.16 | 9559.89  | 9559.79  | 1.49 |
| 21841.00 | 87.63       | 354.82  | 11795.01 | 9592.90  | -478.10 | 357.15 | 9604.81  | 9604.70  | 0.97 |
| 21891.00 | 88.74       | 356.30  | 11796.59 | 9642.73  | -481.97 | 357.14 | 9654.76  | 9654.65  | 3.70 |
| 21936.00 | 89.07       | 357.09  | 11797.45 | 9687.64  | -484.56 | 357.14 | 9699.75  | 9699.64  | 1.90 |
| 21985.00 | 89.23       | 357.49  | 11798.18 | 9736.58  | -486.88 | 357.14 | 9748.75  | 9748.63  | 0.88 |
| 22030.00 | 89.95       | 358.75  | 11798.50 | 9781.56  | -488.36 | 357.14 | 9793.74  | 9793.62  | 3.22 |
| 22080.00 | 90.67       | 0.60    | 11798.23 | 9831.55  | -488.64 | 357.15 | 9843.69  | 9843.58  | 3.97 |
| 22174.00 | 92.29       | 3.62    | 11795.80 | 9925.44  | -485.18 | 357.20 | 9937.29  | 9937.22  | 3.64 |
| 22267.00 | 92.06       | 3.39    | 11792.27 | 10018.20 | -479.50 | 357.26 | 10029.67 | 10029.63 | 0.35 |
| 22362.00 | 94.20       | 3.83    | 11787.08 | 10112.87 | -473.53 | 357.32 | 10123.95 | 10123.93 | 2.30 |

#### Projected Survey

| MD       | Inclination | Azimuth | TVD      | NS       | EW      | CA     | CD       | VS       | DLS  |
|----------|-------------|---------|----------|----------|---------|--------|----------|----------|------|
| 22530.00 | 94.20       | 3.83    | 11774.78 | 10280.04 | -462.34 | 357.42 | 10290.43 | 10290.43 | 0.00 |

# ***AMEREDEV***

**Ameredev Operating, LLC.**

**NAN/GB**

**NAN/GB #3N**

**Nandina 103H**

**Nandina 103H As Drilled**

**Plan: Final**

## **Standard Planning Report**

**11 November, 2019**

|           |                          |                              |                   |
|-----------|--------------------------|------------------------------|-------------------|
| Database: | EDM5000                  | Local Co-ordinate Reference: | Well Nandina 103H |
| Company:  | Ameredev Operating, LLC. | TVD Reference:               | KB @ 3045.0usft   |
| Project:  | NAN/GB                   | MD Reference:                | KB @ 3045.0usft   |
| Site:     | NAN/GB #3N               | North Reference:             | Grid              |
| Well:     | Nandina 103H             | Survey Calculation Method:   | Minimum Curvature |
| Wellbore: | Nandina 103H As Drilled  |                              |                   |
| Design:   | Final                    |                              |                   |

|             |                           |               |                |
|-------------|---------------------------|---------------|----------------|
| Project     | NAN/GB                    |               |                |
| Map System: | US State Plane 1983       | System Datum: | Mean Sea Level |
| Geo Datum:  | North American Datum 1983 |               |                |
| Map Zone:   | New Mexico Eastern Zone   |               |                |

|                       |            |                   |                   |
|-----------------------|------------|-------------------|-------------------|
| Site                  | NAN/GB #3N |                   |                   |
| Site Position:        |            | Northing:         | 394,428.42 usft   |
| From:                 | Lat/Long   | Easting:          | 859,181.30 usft   |
| Position Uncertainty: | 0.0 usft   | Slot Radius:      | 13-3/16 "         |
|                       |            | Latitude:         | 32° 4' 48.746 N   |
|                       |            | Longitude:        | 103° 18' 25.636 W |
|                       |            | Grid Convergence: | 0.55 °            |

|                      |              |                     |                   |
|----------------------|--------------|---------------------|-------------------|
| Well                 | Nandina 103H |                     |                   |
| Well Position        | +N/-S        | -1.0 usft           | Northing:         |
|                      | +E/-W        | -100.0 usft         | Easting:          |
| Position Uncertainty | 0.0 usft     | Wellhead Elevation: |                   |
|                      |              | Latitude:           | 32° 4' 48.746 N   |
|                      |              | Longitude:          | 103° 18' 26.798 W |
|                      |              | Ground Level:       | 3,018.0 usft      |

|           |                         |             |                 |
|-----------|-------------------------|-------------|-----------------|
| Wellbore  | Nandina 103H As Drilled |             |                 |
| Magnetics | Model Name              | Sample Date | Declination     |
|           |                         |             | (°)             |
|           | IGRF2015                | 11/11/2019  | 6.56            |
|           |                         |             | Dip Angle       |
|           |                         |             | (°)             |
|           |                         |             | 59.94           |
|           |                         |             | Field Strength  |
|           |                         |             | (nT)            |
|           |                         |             | 47,636.06401986 |

|                   |                  |           |               |
|-------------------|------------------|-----------|---------------|
| Design            | Final            |           |               |
| Audit Notes:      |                  |           |               |
| Version:          | Phase:           | PROTOTYPE | Tie On Depth: |
|                   |                  |           | 0.0           |
| Vertical Section: | Depth From (TVD) | +N/-S     | +E/-W         |
|                   | (usft)           | (usft)    | (usft)        |
|                   | 0.0              | 0.0       | 0.0           |
|                   |                  |           | Direction     |
|                   |                  |           | (°)           |
|                   |                  |           | 357.43        |

|                                 |                     |            |
|---------------------------------|---------------------|------------|
| Plan Survey Tool Program        | Date                | 11/11/2019 |
| Depth From                      | Depth To            |            |
| (usft)                          | (usft)              |            |
| Survey (Wellbore)               | Tool Name           | Remarks    |
| 1                               | 0.0                 | 22,535.6   |
| Final (Nandina 103H As Drilled) | MWD                 |            |
|                                 | OWSG MWD - Standard |            |

|           |                          |                              |                   |
|-----------|--------------------------|------------------------------|-------------------|
| Database: | EDM5000                  | Local Co-ordinate Reference: | Well Nandina 103H |
| Company:  | Ameredev Operating, LLC. | TVD Reference:               | KB @ 3045.0usft   |
| Project:  | NAN/GB                   | MD Reference:                | KB @ 3045.0usft   |
| Site:     | NAN/GB #3N               | North Reference:             | Grid              |
| Well:     | Nandina 103H             | Survey Calculation Method:   | Minimum Curvature |
| Wellbore: | Nandina 103H As Drilled  |                              |                   |
| Design:   | Final                    |                              |                   |

| Plan Sections         |                 |             |                       |              |              |                         |                        |                       |         |        |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|--------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
| 0.0                   | 0.00            | 0.00        | 0.0                   | 0.0          | 0.0          | 0.00                    | 0.00                   | 0.00                  | 0.00    |        |
| 125.0                 | 0.70            | 96.00       | 125.0                 | -0.1         | 0.8          | 0.56                    | 0.56                   | 0.00                  | 96.00   |        |
| 209.0                 | 1.10            | 304.00      | 209.0                 | 0.3          | 0.6          | 2.08                    | 0.48                   | -180.95               | -162.83 |        |
| 299.0                 | 1.30            | 302.00      | 299.0                 | 1.3          | -1.0         | 0.23                    | 0.22                   | -2.22                 | -12.83  |        |
| 393.0                 | 2.30            | 280.00      | 392.9                 | 2.2          | -3.7         | 1.27                    | 1.06                   | -23.40                | -45.97  |        |
| 488.0                 | 2.80            | 274.00      | 487.8                 | 2.7          | -7.9         | 0.60                    | 0.53                   | -6.32                 | -31.12  |        |
| 583.0                 | 3.20            | 268.00      | 582.7                 | 2.8          | -12.9        | 0.53                    | 0.42                   | -6.32                 | -41.15  |        |
| 677.0                 | 2.70            | 264.00      | 676.6                 | 2.5          | -17.7        | 0.57                    | -0.53                  | -4.26                 | -159.61 |        |
| 772.0                 | 3.10            | 262.00      | 771.5                 | 1.9          | -22.5        | 0.43                    | 0.42                   | -2.11                 | -15.20  |        |
| 866.0                 | 3.60            | 259.00      | 865.3                 | 1.0          | -27.9        | 0.56                    | 0.53                   | -3.19                 | -20.82  |        |
| 961.0                 | 3.10            | 260.00      | 960.1                 | -0.1         | -33.4        | 0.53                    | -0.53                  | 1.05                  | 173.83  |        |
| 1,055.0               | 2.80            | 252.00      | 1,054.0               | -1.2         | -38.1        | 0.54                    | -0.32                  | -8.51                 | -130.03 |        |
| 1,145.0               | 2.80            | 252.00      | 1,143.9               | -2.6         | -42.2        | 0.00                    | 0.00                   | 0.00                  | 0.00    |        |
| 1,238.0               | 1.38            | 290.90      | 1,236.8               | -2.9         | -45.4        | 2.08                    | -1.53                  | 41.83                 | 153.34  |        |
| 1,336.0               | 0.02            | 343.32      | 1,334.8               | -2.4         | -46.5        | 1.40                    | -1.39                  | 53.49                 | 179.34  |        |
| 1,432.0               | 0.05            | 328.30      | 1,430.8               | -2.4         | -46.6        | 0.03                    | 0.03                   | -15.65                | -24.61  |        |
| 1,526.0               | 0.10            | 11.32       | 1,524.8               | -2.3         | -46.6        | 0.08                    | 0.05                   | 45.77                 | 71.29   |        |
| 1,620.0               | 0.08            | 295.30      | 1,618.8               | -2.1         | -46.6        | 0.12                    | -0.02                  | -80.87                | -136.10 |        |
| 1,716.0               | 0.01            | 132.93      | 1,714.8               | -2.1         | -46.7        | 0.09                    | -0.07                  | -169.14               | -178.06 |        |
| 1,811.0               | 0.08            | 134.73      | 1,809.8               | -2.2         | -46.6        | 0.07                    | 0.07                   | 1.89                  | 2.06    |        |
| 1,907.0               | 0.08            | 121.41      | 1,905.8               | -2.3         | -46.5        | 0.02                    | 0.00                   | -13.88                | -96.66  |        |
| 2,003.0               | 0.61            | 214.46      | 2,001.8               | -2.7         | -46.7        | 0.65                    | 0.55                   | 96.93                 | 100.46  |        |
| 2,098.0               | 3.52            | 183.16      | 2,096.8               | -6.0         | -47.2        | 3.17                    | 3.06                   | -32.95                | -37.33  |        |
| 2,194.0               | 6.90            | 179.88      | 2,192.3               | -14.8        | -47.3        | 3.53                    | 3.52                   | -3.42                 | -6.67   |        |
| 2,289.0               | 9.97            | 178.86      | 2,286.3               | -28.7        | -47.2        | 3.24                    | 3.23                   | -1.07                 | -3.30   |        |
| 2,384.0               | 11.55           | 175.48      | 2,379.6               | -46.4        | -46.3        | 1.79                    | 1.66                   | -3.56                 | -23.44  |        |
| 2,479.0               | 10.73           | 173.00      | 2,472.8               | -64.7        | -44.4        | 1.00                    | -0.86                  | -2.61                 | -150.91 |        |
| 2,575.0               | 9.57            | 169.53      | 2,567.3               | -81.4        | -41.9        | 1.37                    | -1.21                  | -3.61                 | -153.90 |        |
| 2,671.0               | 8.15            | 167.67      | 2,662.2               | -95.9        | -39.0        | 1.51                    | -1.48                  | -1.94                 | -169.51 |        |
| 2,765.0               | 7.35            | 166.32      | 2,755.3               | -108.2       | -36.1        | 0.87                    | -0.85                  | -1.44                 | -167.85 |        |
| 2,861.0               | 6.51            | 159.26      | 2,850.6               | -119.3       | -32.8        | 1.24                    | -0.88                  | -7.35                 | -138.07 |        |
| 2,956.0               | 5.44            | 147.35      | 2,945.1               | -128.1       | -28.4        | 1.72                    | -1.13                  | -12.54                | -136.62 |        |
| 3,051.0               | 5.59            | 129.97      | 3,039.7               | -134.9       | -22.5        | 1.76                    | 0.16                   | -18.29                | -93.56  |        |
| 3,146.0               | 5.52            | 118.55      | 3,134.2               | -140.0       | -14.9        | 1.16                    | -0.07                  | -12.02                | -99.29  |        |
| 3,241.0               | 1.94            | 118.71      | 3,229.0               | -143.0       | -9.5         | 3.77                    | -3.77                  | 0.17                  | 179.91  |        |
| 3,336.0               | 0.19            | 251.94      | 3,324.0               | -143.8       | -8.2         | 2.18                    | -1.84                  | 140.24                | 176.17  |        |
| 3,431.0               | 3.26            | 243.06      | 3,419.0               | -145.1       | -10.8        | 3.23                    | 3.23                   | -9.35                 | -9.43   |        |
| 3,526.0               | 6.86            | 232.64      | 3,513.6               | -149.7       | -17.7        | 3.90                    | 3.79                   | -10.97                | -19.55  |        |
| 3,622.0               | 8.02            | 230.83      | 3,608.8               | -157.5       | -27.4        | 1.23                    | 1.21                   | -1.89                 | -12.32  |        |
| 3,717.0               | 6.94            | 224.99      | 3,703.0               | -165.7       | -36.6        | 1.39                    | -1.14                  | -6.15                 | -147.73 |        |
| 3,813.0               | 6.86            | 220.94      | 3,798.3               | -174.1       | -44.5        | 0.51                    | -0.08                  | -4.22                 | -101.34 |        |
| 3,908.0               | 6.72            | 218.89      | 3,892.6               | -182.7       | -51.7        | 0.29                    | -0.15                  | -2.16                 | -121.03 |        |
| 4,002.0               | 6.00            | 221.41      | 3,986.0               | -190.7       | -58.4        | 0.82                    | -0.77                  | 2.68                  | 160.06  |        |
| 4,098.0               | 6.04            | 224.05      | 4,081.5               | -198.1       | -65.2        | 0.29                    | 0.04                   | 2.75                  | 83.09   |        |
| 4,193.0               | 5.94            | 225.32      | 4,176.0               | -205.2       | -72.2        | 0.17                    | -0.11                  | 1.34                  | 127.67  |        |
| 4,289.0               | 5.93            | 225.42      | 4,271.5               | -212.1       | -79.3        | 0.01                    | -0.01                  | 0.10                  | 134.09  |        |
| 4,384.0               | 6.10            | 224.44      | 4,365.9               | -219.2       | -86.3        | 0.21                    | 0.18                   | -1.03                 | -31.62  |        |
| 4,479.0               | 6.24            | 213.14      | 4,460.4               | -227.1       | -92.6        | 1.28                    | 0.15                   | -11.89                | -89.06  |        |

|           |                          |                              |                   |
|-----------|--------------------------|------------------------------|-------------------|
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| Company:  | Ameredev Operating, LLC. | TVD Reference:               | KB @ 3045.0usft   |
| Project:  | NAN/GB                   | MD Reference:                | KB @ 3045.0usft   |
| Site:     | NAN/GB #3N               | North Reference:             | Grid              |
| Well:     | Nandina 103H             | Survey Calculation Method:   | Minimum Curvature |
| Wellbore: | Nandina 103H As Drilled  |                              |                   |
| Design:   | Final                    |                              |                   |

|         |      |        |         |        |        |      |       |         |         |
|---------|------|--------|---------|--------|--------|------|-------|---------|---------|
| 4,575.0 | 6.27 | 198.18 | 4,555.8 | -236.5 | -97.1  | 1.69 | 0.03  | -15.58  | -96.39  |
| 4,671.0 | 6.24 | 191.04 | 4,651.2 | -246.6 | -99.8  | 0.81 | -0.03 | -7.44   | -95.75  |
| 4,766.0 | 6.24 | 189.16 | 4,745.7 | -256.7 | -101.6 | 0.22 | 0.00  | -1.98   | -90.93  |
| 4,861.0 | 6.28 | 190.73 | 4,840.1 | -266.9 | -103.4 | 0.19 | 0.04  | 1.65    | 77.63   |
| 4,957.0 | 6.34 | 191.17 | 4,935.5 | -277.3 | -105.4 | 0.08 | 0.06  | 0.46    | 39.09   |
| 5,052.0 | 6.39 | 192.96 | 5,030.0 | -287.6 | -107.6 | 0.22 | 0.05  | 1.88    | 76.75   |
| 5,147.0 | 6.36 | 192.59 | 5,124.4 | -297.9 | -109.9 | 0.05 | -0.03 | -0.39   | -126.32 |
| 5,242.0 | 6.31 | 194.17 | 5,218.8 | -308.1 | -112.3 | 0.19 | -0.05 | 1.66    | 106.79  |
| 5,337.0 | 6.43 | 194.41 | 5,313.2 | -318.3 | -114.9 | 0.13 | 0.13  | 0.25    | 12.63   |
| 5,433.0 | 6.25 | 194.72 | 5,408.6 | -328.5 | -117.6 | 0.19 | -0.19 | 0.32    | 169.39  |
| 5,528.0 | 6.38 | 194.72 | 5,503.0 | -338.6 | -120.3 | 0.14 | 0.14  | 0.00    | 0.00    |
| 5,624.0 | 6.37 | 192.32 | 5,598.4 | -349.0 | -122.7 | 0.28 | -0.01 | -2.50   | -93.34  |
| 5,718.0 | 5.82 | 191.40 | 5,691.9 | -358.8 | -124.8 | 0.59 | -0.59 | -0.98   | -170.39 |
| 5,814.0 | 5.82 | 195.81 | 5,787.4 | -368.2 | -127.1 | 0.47 | 0.00  | 4.59    | 92.19   |
| 5,909.0 | 5.85 | 198.72 | 5,881.9 | -377.4 | -130.0 | 0.31 | 0.03  | 3.06    | 85.66   |
| 6,003.0 | 5.95 | 205.51 | 5,975.4 | -386.4 | -133.6 | 0.75 | 0.11  | 7.22    | 85.23   |
| 6,098.0 | 5.90 | 206.17 | 6,069.9 | -395.2 | -137.9 | 0.09 | -0.05 | 0.69    | 126.60  |
| 6,193.0 | 5.91 | 205.39 | 6,164.4 | -404.0 | -142.1 | 0.09 | 0.01  | -0.82   | -83.28  |
| 6,288.0 | 6.05 | 204.32 | 6,258.9 | -413.0 | -146.3 | 0.19 | 0.15  | -1.13   | -39.06  |
| 6,384.0 | 6.13 | 203.23 | 6,354.4 | -422.3 | -150.4 | 0.15 | 0.08  | -1.14   | -55.87  |
| 6,479.0 | 5.96 | 202.48 | 6,448.8 | -431.5 | -154.3 | 0.20 | -0.18 | -0.79   | -155.45 |
| 6,575.0 | 6.00 | 201.45 | 6,544.3 | -440.8 | -158.0 | 0.12 | 0.04  | -1.07   | -70.07  |
| 6,669.0 | 5.73 | 199.62 | 6,637.8 | -449.8 | -161.4 | 0.35 | -0.29 | -1.95   | -146.20 |
| 6,764.0 | 3.43 | 193.01 | 6,732.5 | -457.0 | -163.6 | 2.48 | -2.42 | -6.96   | -170.36 |
| 6,859.0 | 1.05 | 173.82 | 6,827.4 | -460.7 | -164.2 | 2.59 | -2.51 | -20.20  | -171.94 |
| 6,954.0 | 0.10 | 230.91 | 6,922.4 | -461.6 | -164.1 | 1.05 | -1.00 | 60.09   | 175.18  |
| 7,050.0 | 0.06 | 38.01  | 7,018.4 | -461.6 | -164.2 | 0.17 | -0.04 | 174.06  | 175.17  |
| 7,145.0 | 0.01 | 317.85 | 7,113.4 | -461.5 | -164.1 | 0.06 | -0.05 | -84.38  | -170.41 |
| 7,245.0 | 0.04 | 23.94  | 7,213.4 | -461.5 | -164.1 | 0.04 | 0.03  | 66.09   | 80.36   |
| 7,339.0 | 0.04 | 59.32  | 7,307.4 | -461.5 | -164.1 | 0.03 | 0.00  | 37.64   | 107.69  |
| 7,435.0 | 0.03 | 212.68 | 7,403.4 | -461.5 | -164.1 | 0.07 | -0.01 | 159.75  | 168.62  |
| 7,530.0 | 0.07 | 262.64 | 7,498.4 | -461.5 | -164.1 | 0.06 | 0.04  | 52.59   | 74.33   |
| 7,626.0 | 0.07 | 334.80 | 7,594.4 | -461.4 | -164.2 | 0.09 | 0.00  | 75.17   | 126.08  |
| 7,721.0 | 0.10 | 288.69 | 7,689.4 | -461.4 | -164.3 | 0.08 | 0.03  | -48.54  | -90.53  |
| 7,816.0 | 0.07 | 339.74 | 7,784.4 | -461.3 | -164.4 | 0.08 | -0.03 | 53.74   | 135.81  |
| 7,912.0 | 0.07 | 316.17 | 7,880.4 | -461.2 | -164.5 | 0.03 | 0.00  | -24.55  | -101.78 |
| 8,006.0 | 0.07 | 9.26   | 7,974.4 | -461.1 | -164.5 | 0.07 | 0.00  | 56.48   | 116.54  |
| 8,101.0 | 0.06 | 191.80 | 8,069.4 | -461.1 | -164.5 | 0.14 | -0.01 | -186.80 | -178.83 |
| 8,197.0 | 0.16 | 285.30 | 8,165.4 | -461.1 | -164.7 | 0.18 | 0.10  | 97.40   | 113.60  |
| 8,292.0 | 0.11 | 260.78 | 8,260.4 | -461.1 | -164.9 | 0.08 | -0.05 | -25.81  | -142.70 |
| 8,387.0 | 0.17 | 261.43 | 8,355.4 | -461.1 | -165.1 | 0.06 | 0.06  | 0.68    | 1.84    |
| 8,482.0 | 0.09 | 235.90 | 8,450.4 | -461.2 | -165.3 | 0.10 | -0.08 | -26.87  | -156.40 |
| 8,577.0 | 0.07 | 300.67 | 8,545.4 | -461.2 | -165.4 | 0.09 | -0.02 | 68.18   | 133.53  |
| 8,641.0 | 0.29 | 292.21 | 8,609.4 | -461.1 | -165.6 | 0.35 | 0.34  | -13.22  | -11.13  |
| 8,672.0 | 0.38 | 304.86 | 8,640.4 | -461.0 | -165.8 | 0.37 | 0.29  | 40.81   | 45.85   |
| 8,714.0 | 0.68 | 302.48 | 8,682.4 | -460.8 | -166.1 | 0.72 | 0.71  | -5.67   | -5.39   |
| 8,767.0 | 0.54 | 292.58 | 8,735.4 | -460.5 | -166.6 | 0.33 | -0.26 | -18.68  | -147.91 |
| 8,804.0 | 0.49 | 263.40 | 8,772.4 | -460.5 | -166.9 | 0.71 | -0.14 | -78.86  | -115.15 |
| 8,862.0 | 0.60 | 249.54 | 8,830.4 | -460.6 | -167.4 | 0.29 | 0.19  | -23.90  | -57.23  |
| 8,957.0 | 1.13 | 248.39 | 8,925.4 | -461.1 | -168.8 | 0.56 | 0.56  | -1.21   | -2.45   |
| 9,047.0 | 1.74 | 259.69 | 9,015.4 | -461.7 | -170.9 | 0.74 | 0.68  | 12.56   | 30.61   |
| 9,142.0 | 2.05 | 264.15 | 9,110.3 | -462.1 | -174.0 | 0.36 | 0.33  | 4.69    | 27.68   |
| 9,238.0 | 2.32 | 269.69 | 9,206.2 | -462.3 | -177.7 | 0.36 | 0.28  | 5.77    | 40.83   |

Database: EDM5000  
Company: Ameredev Operating, LLC.  
Project: NAN/GB  
Site: NAN/GB #3N  
Well: Nandina 103H  
Wellbore: Nandina 103H As Drilled  
Design: Final

Local Co-ordinate Reference: Well Nandina 103H  
TVD Reference: KB @ 3045.0usft  
MD Reference: KB @ 3045.0usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

|          |       |        |          |        |        |       |       |        |         |
|----------|-------|--------|----------|--------|--------|-------|-------|--------|---------|
| 9,332.0  | 2.81  | 276.77 | 9,300.2  | -462.1 | -181.9 | 0.62  | 0.52  | 7.53   | 36.46   |
| 9,427.0  | 2.94  | 277.98 | 9,395.0  | -461.5 | -186.6 | 0.15  | 0.14  | 1.27   | 25.63   |
| 9,522.0  | 2.86  | 278.47 | 9,489.9  | -460.8 | -191.4 | 0.09  | -0.08 | 0.52   | 163.03  |
| 9,617.0  | 2.60  | 288.35 | 9,584.8  | -459.7 | -195.8 | 0.56  | -0.27 | 10.40  | 123.80  |
| 9,712.0  | 1.35  | 295.99 | 9,679.7  | -458.6 | -198.8 | 1.34  | -1.32 | 8.04   | 171.91  |
| 9,807.0  | 1.09  | 335.87 | 9,774.7  | -457.3 | -200.2 | 0.91  | -0.27 | 41.98  | 126.31  |
| 9,901.0  | 1.17  | 343.62 | 9,868.7  | -455.5 | -200.8 | 0.18  | 0.09  | 8.24   | 66.28   |
| 9,996.0  | 1.25  | 320.67 | 9,963.7  | -453.8 | -201.8 | 0.51  | 0.08  | -24.16 | -92.22  |
| 10,091.0 | 1.52  | 296.97 | 10,058.7 | -452.4 | -203.5 | 0.66  | 0.28  | -24.95 | -76.93  |
| 10,187.0 | 1.57  | 282.76 | 10,154.6 | -451.6 | -206.0 | 0.40  | 0.05  | -14.80 | -89.70  |
| 10,281.0 | 1.31  | 281.83 | 10,248.6 | -451.0 | -208.3 | 0.28  | -0.28 | -0.99  | -175.33 |
| 10,376.0 | 1.02  | 277.47 | 10,343.6 | -450.7 | -210.2 | 0.32  | -0.31 | -4.59  | -165.17 |
| 10,472.0 | 0.64  | 274.82 | 10,439.6 | -450.6 | -211.5 | 0.40  | -0.40 | -2.76  | -175.56 |
| 10,567.0 | 0.49  | 244.97 | 10,534.6 | -450.7 | -212.4 | 0.34  | -0.16 | -31.42 | -131.40 |
| 10,662.0 | 0.62  | 246.08 | 10,629.6 | -451.1 | -213.3 | 0.14  | 0.14  | 1.17   | 5.28    |
| 10,757.0 | 1.51  | 246.56 | 10,724.5 | -451.8 | -214.9 | 0.94  | 0.94  | 0.51   | 0.81    |
| 10,851.0 | 2.74  | 253.04 | 10,818.5 | -452.9 | -218.2 | 1.33  | 1.31  | 6.89   | 14.30   |
| 10,944.0 | 2.74  | 257.28 | 10,911.4 | -454.1 | -222.5 | 0.22  | 0.00  | 4.56   | 92.12   |
| 11,039.0 | 2.60  | 273.23 | 11,006.3 | -454.4 | -226.8 | 0.79  | -0.15 | 16.79  | 108.57  |
| 11,081.0 | 2.78  | 274.44 | 11,048.2 | -454.3 | -228.8 | 0.45  | 0.43  | 2.88   | 18.11   |
| 11,177.0 | 1.48  | 305.04 | 11,144.2 | -453.4 | -232.1 | 1.75  | -1.35 | 31.88  | 153.42  |
| 11,272.0 | 1.55  | 306.23 | 11,239.1 | -451.9 | -234.2 | 0.08  | 0.07  | 1.25   | 24.80   |
| 11,304.0 | 2.29  | 332.07 | 11,271.1 | -451.1 | -234.8 | 3.50  | 2.31  | 80.75  | 62.88   |
| 11,336.0 | 3.48  | 350.65 | 11,303.1 | -449.6 | -235.3 | 4.68  | 3.72  | 58.06  | 47.69   |
| 11,368.0 | 4.28  | 9.61   | 11,335.0 | -447.5 | -235.2 | 4.69  | 2.50  | 59.25  | 67.75   |
| 11,400.0 | 5.42  | 15.76  | 11,366.9 | -444.8 | -234.6 | 3.91  | 3.56  | 19.22  | 27.60   |
| 11,431.0 | 7.56  | 16.43  | 11,397.7 | -441.5 | -233.7 | 6.91  | 6.90  | 2.16   | 2.36    |
| 11,463.0 | 9.97  | 17.60  | 11,429.3 | -436.8 | -232.2 | 7.55  | 7.53  | 3.66   | 4.81    |
| 11,495.0 | 12.95 | 18.25  | 11,460.7 | -430.8 | -230.3 | 9.32  | 9.31  | 2.03   | 2.80    |
| 11,525.0 | 16.07 | 18.32  | 11,489.7 | -423.6 | -227.9 | 10.40 | 10.40 | 0.23   | 0.36    |
| 11,617.0 | 22.65 | 23.53  | 11,576.5 | -395.3 | -216.8 | 7.39  | 7.15  | 5.66   | 17.19   |
| 11,680.0 | 29.78 | 27.03  | 11,632.9 | -370.2 | -204.9 | 11.58 | 11.32 | 5.56   | 13.82   |
| 11,712.0 | 31.65 | 26.83  | 11,660.4 | -355.6 | -197.5 | 5.85  | 5.84  | -0.63  | -3.21   |
| 11,744.0 | 36.73 | 27.24  | 11,686.9 | -339.6 | -189.3 | 15.89 | 15.88 | 1.28   | 2.77    |
| 11,775.0 | 42.44 | 27.98  | 11,710.8 | -322.1 | -180.1 | 18.48 | 18.42 | 2.39   | 5.01    |
| 11,807.0 | 46.40 | 29.79  | 11,733.6 | -302.5 | -169.3 | 12.99 | 12.38 | 5.66   | 18.39   |
| 11,838.0 | 51.41 | 29.15  | 11,754.0 | -282.2 | -157.8 | 16.24 | 16.16 | -2.06  | -5.71   |
| 11,869.0 | 58.18 | 27.97  | 11,771.9 | -259.9 | -145.7 | 22.06 | 21.84 | -3.81  | -8.45   |
| 11,901.0 | 64.22 | 26.53  | 11,787.3 | -235.0 | -132.9 | 19.28 | 18.88 | -4.50  | -12.15  |
| 11,933.0 | 68.93 | 24.05  | 11,800.0 | -208.5 | -120.4 | 16.35 | 14.72 | -7.75  | -26.29  |
| 11,964.0 | 75.65 | 21.91  | 11,809.4 | -181.3 | -108.9 | 22.65 | 21.68 | -6.90  | -17.21  |
| 11,996.0 | 83.60 | 21.50  | 11,815.2 | -152.1 | -97.2  | 24.88 | 24.84 | -1.28  | -2.94   |
| 12,028.0 | 90.07 | 20.38  | 11,817.0 | -122.2 | -85.8  | 20.52 | 20.22 | -3.50  | -9.84   |
| 12,059.0 | 92.21 | 19.05  | 11,816.3 | -93.1  | -75.4  | 8.13  | 6.90  | -4.29  | -31.85  |
| 12,091.0 | 93.68 | 17.95  | 11,814.7 | -62.8  | -65.2  | 5.73  | 4.59  | -3.44  | -36.74  |
| 12,122.0 | 94.59 | 16.71  | 11,812.5 | -33.2  | -56.0  | 4.95  | 2.94  | -4.00  | -53.61  |
| 12,155.0 | 95.02 | 13.70  | 11,809.7 | -1.5   | -47.4  | 9.18  | 1.30  | -9.12  | -81.72  |
| 12,186.0 | 92.24 | 10.56  | 11,807.7 | 28.7   | -40.9  | 13.51 | -8.97 | -10.13 | -131.47 |
| 12,218.0 | 89.50 | 9.80   | 11,807.2 | 60.2   | -35.2  | 8.89  | -8.56 | -2.38  | -164.49 |
| 12,249.0 | 88.42 | 8.78   | 11,807.8 | 90.8   | -30.2  | 4.79  | -3.48 | -3.29  | -136.65 |
| 12,331.0 | 89.43 | 7.12   | 11,809.3 | 172.0  | -18.9  | 2.37  | 1.23  | -2.02  | -58.70  |
| 12,427.0 | 87.38 | 5.11   | 11,812.0 | 267.4  | -8.7   | 2.99  | -2.14 | -2.09  | -135.60 |
| 12,521.0 | 86.81 | 2.92   | 11,816.8 | 361.0  | -2.1   | 2.40  | -0.61 | -2.33  | -104.66 |

|           |                          |                              |                   |
|-----------|--------------------------|------------------------------|-------------------|
| Database: | EDM5000                  | Local Co-ordinate Reference: | Well Nandina 103H |
| Company:  | Ameredev Operating, LLC. | TVD Reference:               | KB @ 3045.0usft   |
| Project:  | NAN/GB                   | MD Reference:                | KB @ 3045.0usft   |
| Site:     | NAN/GB #3N               | North Reference:             | Grid              |
| Well:     | Nandina 103H             | Survey Calculation Method:   | Minimum Curvature |
| Wellbore: | Nandina 103H As Drilled  |                              |                   |
| Design:   | Final                    |                              |                   |

|          |       |        |          |         |       |       |        |       |         |
|----------|-------|--------|----------|---------|-------|-------|--------|-------|---------|
| 12,616.0 | 86.19 | 2.23   | 11,822.6 | 455.8   | 2.2   | 0.98  | -0.65  | -0.73 | -132.02 |
| 12,711.0 | 86.29 | 0.21   | 11,828.8 | 550.5   | 4.2   | 2.12  | 0.11   | -2.13 | -87.23  |
| 12,806.0 | 85.86 | 358.80 | 11,835.3 | 645.3   | 3.4   | 1.55  | -0.45  | -1.48 | -107.04 |
| 12,902.0 | 87.36 | 358.58 | 11,841.0 | 741.1   | 1.2   | 1.58  | 1.56   | -0.23 | -8.34   |
| 12,995.0 | 88.76 | 358.25 | 11,844.1 | 834.0   | -1.4  | 1.55  | 1.51   | -0.35 | -13.26  |
| 13,090.0 | 86.27 | 358.08 | 11,848.3 | 928.9   | -4.4  | 2.63  | -2.62  | -0.18 | -176.10 |
| 13,121.0 | 85.38 | 358.10 | 11,850.5 | 959.8   | -5.5  | 2.87  | -2.87  | 0.06  | 178.72  |
| 13,153.0 | 86.97 | 357.60 | 11,852.7 | 991.7   | -6.7  | 5.21  | 4.97   | -1.56 | -17.44  |
| 13,184.0 | 89.06 | 357.32 | 11,853.7 | 1,022.6 | -8.0  | 6.80  | 6.74   | -0.90 | -7.63   |
| 13,215.0 | 87.74 | 357.03 | 11,854.6 | 1,053.6 | -9.6  | 4.36  | -4.26  | -0.94 | -167.62 |
| 13,247.0 | 89.35 | 357.46 | 11,855.4 | 1,085.5 | -11.1 | 5.21  | 5.03   | 1.34  | 14.95   |
| 13,279.0 | 89.67 | 357.00 | 11,855.7 | 1,117.5 | -12.6 | 1.75  | 1.00   | -1.44 | -55.18  |
| 13,310.0 | 90.90 | 357.83 | 11,855.5 | 1,148.5 | -14.0 | 4.79  | 3.97   | 2.68  | 34.01   |
| 13,342.0 | 88.57 | 358.15 | 11,855.7 | 1,180.4 | -15.2 | 7.35  | -7.28  | 1.00  | 172.18  |
| 13,373.0 | 88.85 | 359.23 | 11,856.4 | 1,211.4 | -15.9 | 3.60  | 0.90   | 3.48  | 75.47   |
| 13,405.0 | 92.21 | 359.78 | 11,856.1 | 1,243.4 | -16.1 | 10.64 | 10.50  | 1.72  | 9.29    |
| 13,437.0 | 91.57 | 359.56 | 11,855.0 | 1,275.4 | -16.3 | 2.11  | -2.00  | -0.69 | -161.04 |
| 13,468.0 | 92.06 | 0.75   | 11,854.0 | 1,306.4 | -16.2 | 4.15  | 1.58   | 3.84  | 67.59   |
| 13,500.0 | 91.50 | 0.72   | 11,853.0 | 1,338.4 | -15.8 | 1.75  | -1.75  | -0.09 | -176.93 |
| 13,530.0 | 89.96 | 0.59   | 11,852.7 | 1,368.4 | -15.5 | 5.15  | -5.13  | -0.43 | -175.17 |
| 13,562.0 | 88.68 | 0.44   | 11,853.0 | 1,400.4 | -15.2 | 4.03  | -4.00  | -0.47 | -173.32 |
| 13,593.0 | 87.23 | 0.44   | 11,854.1 | 1,431.3 | -15.0 | 4.68  | -4.68  | 0.00  | -180.00 |
| 13,624.0 | 88.23 | 0.47   | 11,855.4 | 1,462.3 | -14.7 | 3.23  | 3.23   | 0.10  | 1.72    |
| 13,656.0 | 88.66 | 0.60   | 11,856.2 | 1,494.3 | -14.4 | 1.40  | 1.34   | 0.41  | 16.82   |
| 13,687.0 | 90.02 | 0.09   | 11,856.6 | 1,525.3 | -14.2 | 4.69  | 4.39   | -1.65 | -20.56  |
| 13,719.0 | 88.35 | 359.58 | 11,857.1 | 1,557.3 | -14.3 | 5.46  | -5.22  | -1.59 | -163.02 |
| 13,750.0 | 84.91 | 359.52 | 11,858.9 | 1,588.2 | -14.6 | 11.10 | -11.10 | -0.19 | -179.00 |
| 13,782.0 | 87.61 | 359.31 | 11,861.0 | 1,620.2 | -14.9 | 8.46  | 8.44   | -0.66 | -4.45   |
| 13,813.0 | 89.12 | 359.17 | 11,861.8 | 1,651.1 | -15.3 | 4.89  | 4.87   | -0.45 | -5.30   |
| 13,844.0 | 92.07 | 359.07 | 11,861.5 | 1,682.1 | -15.8 | 9.52  | 9.52   | -0.32 | -1.94   |
| 13,938.0 | 91.90 | 357.85 | 11,858.3 | 1,776.0 | -18.3 | 1.31  | -0.18  | -1.30 | -97.92  |
| 14,064.0 | 89.08 | 3.16   | 11,857.2 | 1,902.0 | -17.2 | 4.77  | -2.24  | 4.21  | 117.93  |
| 14,127.0 | 86.35 | 3.64   | 11,859.7 | 1,964.8 | -13.5 | 4.40  | -4.33  | 0.76  | 170.04  |
| 14,222.0 | 88.38 | 1.06   | 11,864.1 | 2,059.6 | -9.6  | 3.45  | 2.14   | -2.72 | -51.84  |
| 14,317.0 | 87.38 | 359.88 | 11,867.6 | 2,154.5 | -8.8  | 1.63  | -1.05  | -1.24 | -130.32 |
| 14,411.0 | 87.01 | 359.85 | 11,872.2 | 2,248.4 | -9.0  | 0.39  | -0.39  | -0.03 | -175.37 |
| 14,505.0 | 86.11 | 359.29 | 11,877.8 | 2,342.3 | -9.7  | 1.13  | -0.96  | -0.60 | -148.17 |
| 14,599.0 | 89.34 | 358.92 | 11,881.6 | 2,436.2 | -11.2 | 3.46  | 3.44   | -0.39 | -6.54   |
| 14,694.0 | 86.52 | 356.91 | 11,885.0 | 2,531.0 | -14.6 | 3.64  | -2.97  | -2.12 | -144.57 |
| 14,788.0 | 86.67 | 359.38 | 11,890.6 | 2,624.8 | -17.7 | 2.63  | 0.16   | 2.63  | 86.59   |
| 14,884.0 | 87.17 | 0.90   | 11,895.7 | 2,720.6 | -17.4 | 1.66  | 0.52   | 1.58  | 71.81   |
| 14,979.0 | 87.87 | 358.01 | 11,899.8 | 2,815.5 | -18.4 | 3.13  | 0.74   | -3.04 | -76.44  |
| 15,073.0 | 89.19 | 359.05 | 11,902.3 | 2,909.5 | -20.8 | 1.79  | 1.40   | 1.11  | 38.24   |
| 15,169.0 | 84.00 | 359.70 | 11,908.0 | 3,005.3 | -21.8 | 5.45  | -5.41  | 0.68  | 172.89  |
| 15,264.0 | 85.52 | 0.51   | 11,916.6 | 3,099.9 | -21.6 | 1.81  | 1.60   | 0.85  | 27.99   |
| 15,359.0 | 90.68 | 1.86   | 11,919.8 | 3,194.8 | -19.7 | 5.61  | 5.43   | 1.42  | 14.68   |
| 15,452.0 | 86.97 | 0.40   | 11,921.7 | 3,287.7 | -17.8 | 4.29  | -3.99  | -1.57 | -158.53 |
| 15,548.0 | 89.25 | 0.44   | 11,924.8 | 3,383.6 | -17.1 | 2.38  | 2.38   | 0.04  | 1.01    |
| 15,643.0 | 92.87 | 359.45 | 11,923.1 | 3,478.6 | -17.2 | 3.95  | 3.81   | -1.04 | -15.29  |
| 15,738.0 | 92.60 | 358.55 | 11,918.6 | 3,573.5 | -18.9 | 0.99  | -0.28  | -0.95 | -106.70 |
| 15,834.0 | 94.17 | 359.49 | 11,912.9 | 3,669.3 | -20.5 | 1.91  | 1.64   | 0.98  | 30.84   |
| 15,929.0 | 93.23 | 1.15   | 11,906.8 | 3,764.1 | -20.0 | 2.00  | -0.99  | 1.75  | 119.52  |
| 16,024.0 | 89.41 | 2.04   | 11,904.6 | 3,859.0 | -17.3 | 4.13  | -4.02  | 0.94  | 166.88  |

|           |                          |                              |                   |
|-----------|--------------------------|------------------------------|-------------------|
| Database: | EDM5000                  | Local Co-ordinate Reference: | Well Nandina 103H |
| Company:  | Ameredev Operating, LLC. | TVD Reference:               | KB @ 3045.0usft   |
| Project:  | NAN/GB                   | MD Reference:                | KB @ 3045.0usft   |
| Site:     | NAN/GB #3N               | North Reference:             | Grid              |
| Well:     | Nandina 103H             | Survey Calculation Method:   | Minimum Curvature |
| Wellbore: | Nandina 103H As Drilled  |                              |                   |
| Design:   | Final                    |                              |                   |

|          |       |        |          |         |       |      |       |       |         |
|----------|-------|--------|----------|---------|-------|------|-------|-------|---------|
| 16,117.0 | 90.13 | 3.14   | 11,904.9 | 3,951.9 | -13.1 | 1.41 | 0.77  | 1.18  | 56.80   |
| 16,212.0 | 90.57 | 355.97 | 11,904.4 | 4,046.9 | -13.9 | 7.56 | 0.46  | -7.55 | -86.47  |
| 16,244.0 | 91.72 | 353.47 | 11,903.7 | 4,078.7 | -16.8 | 8.60 | 3.59  | -7.81 | -65.27  |
| 16,307.0 | 93.09 | 348.65 | 11,901.1 | 4,140.9 | -26.6 | 7.95 | 2.17  | -7.65 | -74.03  |
| 16,354.0 | 93.42 | 349.87 | 11,898.4 | 4,187.0 | -35.3 | 2.68 | 0.70  | 2.60  | 74.81   |
| 16,403.0 | 92.08 | 352.87 | 11,896.1 | 4,235.4 | -42.7 | 6.70 | -2.73 | 6.12  | 114.02  |
| 16,467.0 | 88.83 | 356.70 | 11,895.6 | 4,299.1 | -48.5 | 7.85 | -5.08 | 5.98  | 130.29  |
| 16,498.0 | 88.43 | 358.40 | 11,896.3 | 4,330.0 | -49.8 | 5.63 | -1.29 | 5.48  | 103.26  |
| 16,551.0 | 90.58 | 2.12   | 11,896.8 | 4,383.0 | -49.6 | 8.11 | 4.06  | 7.02  | 60.00   |
| 16,592.0 | 92.79 | 4.56   | 11,895.5 | 4,423.9 | -47.2 | 8.03 | 5.39  | 5.95  | 47.79   |
| 16,641.0 | 92.81 | 4.82   | 11,893.2 | 4,472.7 | -43.2 | 0.53 | 0.04  | 0.53  | 85.59   |
| 16,687.0 | 89.68 | 4.22   | 11,892.2 | 4,518.5 | -39.6 | 6.93 | -6.80 | -1.30 | -169.14 |
| 16,734.0 | 91.59 | 4.84   | 11,891.6 | 4,565.4 | -35.9 | 4.27 | 4.06  | 1.32  | 17.98   |
| 16,782.0 | 92.66 | 5.03   | 11,889.9 | 4,613.2 | -31.7 | 2.26 | 2.23  | 0.40  | 10.06   |
| 16,878.0 | 89.17 | 3.95   | 11,888.3 | 4,708.9 | -24.2 | 3.81 | -3.64 | -1.13 | -162.80 |
| 16,973.0 | 93.68 | 4.28   | 11,886.0 | 4,803.6 | -17.4 | 4.76 | 4.75  | 0.35  | 4.18    |
| 17,067.0 | 95.44 | 2.17   | 11,878.5 | 4,897.1 | -12.1 | 2.92 | 1.87  | -2.24 | -50.00  |
| 17,115.0 | 95.19 | 359.31 | 11,874.0 | 4,944.9 | -11.5 | 5.96 | -0.52 | -5.96 | -94.88  |
| 17,163.0 | 93.91 | 357.10 | 11,870.2 | 4,992.7 | -13.0 | 5.31 | -2.67 | -4.60 | -120.07 |
| 17,208.0 | 91.73 | 357.10 | 11,868.0 | 5,037.6 | -15.3 | 4.84 | -4.84 | 0.00  | -180.00 |
| 17,258.0 | 91.76 | 356.94 | 11,866.5 | 5,087.5 | -17.9 | 0.33 | 0.06  | -0.32 | -79.37  |
| 17,305.0 | 91.47 | 358.43 | 11,865.2 | 5,134.4 | -19.8 | 3.23 | -0.62 | 3.17  | 101.00  |
| 17,354.0 | 90.06 | 358.97 | 11,864.5 | 5,183.4 | -20.9 | 3.08 | -2.88 | 1.10  | 159.04  |
| 17,399.0 | 91.28 | 359.76 | 11,864.0 | 5,228.4 | -21.4 | 3.23 | 2.71  | 1.76  | 32.92   |
| 17,449.0 | 91.14 | 0.53   | 11,862.9 | 5,278.4 | -21.3 | 1.56 | -0.28 | 1.54  | 100.30  |
| 17,543.0 | 91.47 | 1.15   | 11,860.8 | 5,372.4 | -19.9 | 0.75 | 0.35  | 0.66  | 61.96   |
| 17,638.0 | 91.32 | 358.59 | 11,858.5 | 5,467.3 | -20.1 | 2.70 | -0.16 | -2.69 | -93.32  |
| 17,733.0 | 91.69 | 357.90 | 11,856.0 | 5,562.3 | -23.0 | 0.82 | 0.39  | -0.73 | -61.78  |
| 17,827.0 | 93.35 | 357.80 | 11,851.8 | 5,656.1 | -26.5 | 1.77 | 1.77  | -0.11 | -3.44   |
| 17,921.0 | 91.96 | 358.91 | 11,847.5 | 5,749.9 | -29.2 | 1.89 | -1.48 | 1.18  | 141.39  |
| 18,016.0 | 92.33 | 0.31   | 11,843.9 | 5,844.9 | -29.9 | 1.52 | 0.39  | 1.47  | 75.16   |
| 18,111.0 | 91.19 | 358.26 | 11,841.0 | 5,939.8 | -31.1 | 2.47 | -1.20 | -2.16 | -119.06 |
| 18,206.0 | 88.99 | 354.41 | 11,840.9 | 6,034.6 | -37.1 | 4.67 | -2.32 | -4.05 | -119.73 |
| 18,302.0 | 92.14 | 355.97 | 11,839.9 | 6,130.2 | -45.2 | 3.66 | 3.28  | 1.63  | 26.34   |
| 18,397.0 | 94.00 | 358.04 | 11,834.8 | 6,225.0 | -50.1 | 2.93 | 1.96  | 2.18  | 47.97   |
| 18,493.0 | 91.93 | 359.45 | 11,829.9 | 6,320.8 | -52.2 | 2.61 | -2.16 | 1.47  | 145.74  |
| 18,589.0 | 92.49 | 1.61   | 11,826.2 | 6,416.7 | -51.4 | 2.32 | 0.58  | 2.25  | 75.42   |
| 18,684.0 | 94.07 | 2.54   | 11,820.7 | 6,511.5 | -47.9 | 1.93 | 1.66  | 0.98  | 30.42   |
| 18,780.0 | 91.14 | 0.89   | 11,816.4 | 6,607.3 | -45.1 | 3.50 | -3.05 | -1.72 | -150.60 |
| 18,875.0 | 90.43 | 0.73   | 11,815.1 | 6,702.3 | -43.7 | 0.77 | -0.75 | -0.17 | -167.30 |
| 18,971.0 | 87.12 | 1.12   | 11,817.1 | 6,798.3 | -42.2 | 3.47 | -3.45 | 0.41  | 173.28  |
| 19,067.0 | 87.07 | 0.50   | 11,822.0 | 6,894.1 | -40.8 | 0.65 | -0.05 | -0.65 | -94.63  |
| 19,161.0 | 87.06 | 359.25 | 11,826.8 | 6,988.0 | -41.0 | 1.33 | -0.01 | -1.33 | -90.49  |
| 19,206.0 | 87.67 | 358.48 | 11,828.9 | 7,033.0 | -41.9 | 2.18 | 1.36  | -1.71 | -51.60  |
| 19,256.0 | 90.17 | 358.40 | 11,829.8 | 7,082.9 | -43.3 | 5.00 | 5.00  | -0.16 | -1.83   |
| 19,301.0 | 92.31 | 357.73 | 11,828.8 | 7,127.9 | -44.8 | 4.98 | 4.76  | -1.49 | -17.37  |
| 19,351.0 | 89.87 | 357.08 | 11,827.9 | 7,177.8 | -47.0 | 5.05 | -4.88 | -1.30 | -165.08 |
| 19,396.0 | 89.68 | 356.86 | 11,828.1 | 7,222.8 | -49.4 | 0.65 | -0.42 | -0.49 | -130.82 |
| 19,446.0 | 92.48 | 357.78 | 11,827.1 | 7,272.7 | -51.8 | 5.89 | 5.60  | 1.84  | 18.18   |
| 19,491.0 | 94.49 | 358.31 | 11,824.4 | 7,317.6 | -53.3 | 4.62 | 4.47  | 1.18  | 14.73   |
| 19,542.0 | 96.39 | 358.50 | 11,819.5 | 7,368.3 | -54.7 | 3.74 | 3.73  | 0.37  | 5.68    |
| 19,587.0 | 97.00 | 358.53 | 11,814.3 | 7,413.0 | -55.9 | 1.36 | 1.36  | 0.07  | 2.79    |
| 19,637.0 | 96.19 | 0.24   | 11,808.6 | 7,462.7 | -56.4 | 3.76 | -1.62 | 3.42  | 115.39  |

Database: EDM5000  
Company: Ameredev Operating, LLC.  
Project: NAN/GB  
Site: NAN/GB #3N  
Well: Nandina 103H  
Wellbore: Nandina 103H As Drilled  
Design: Final

Local Co-ordinate Reference: Well Nandina 103H  
TVD Reference: KB @ 3045.0usft  
MD Reference: KB @ 3045.0usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

|          |       |        |          |          |        |      |       |       |         |
|----------|-------|--------|----------|----------|--------|------|-------|-------|---------|
| 19,682.0 | 94.90 | 359.93 | 11,804.2 | 7,507.5  | -56.3  | 2.95 | -2.87 | -0.69 | -166.53 |
| 19,731.0 | 94.72 | 359.37 | 11,800.1 | 7,556.3  | -56.6  | 1.20 | -0.37 | -1.14 | -107.85 |
| 19,776.0 | 94.16 | 359.14 | 11,796.6 | 7,601.2  | -57.2  | 1.34 | -1.24 | -0.51 | -157.72 |
| 19,826.0 | 92.63 | 358.78 | 11,793.7 | 7,651.1  | -58.1  | 3.14 | -3.06 | -0.72 | -166.77 |
| 19,922.0 | 92.16 | 358.06 | 11,789.6 | 7,746.9  | -60.8  | 0.90 | -0.49 | -0.75 | -123.14 |
| 19,995.0 | 93.70 | 358.69 | 11,785.9 | 7,819.8  | -62.8  | 2.28 | 2.11  | 0.86  | 22.21   |
| 20,046.0 | 93.40 | 0.31   | 11,782.8 | 7,870.7  | -63.3  | 3.22 | -0.59 | 3.18  | 100.46  |
| 20,141.0 | 94.34 | 358.36 | 11,776.3 | 7,965.5  | -64.4  | 2.27 | 0.99  | -2.05 | -64.15  |
| 20,236.0 | 96.40 | 357.02 | 11,767.5 | 8,060.0  | -68.2  | 2.58 | 2.17  | -1.41 | -32.87  |
| 20,282.0 | 97.09 | 356.77 | 11,762.1 | 8,105.6  | -70.7  | 1.59 | 1.50  | -0.54 | -19.77  |
| 20,327.0 | 96.41 | 356.32 | 11,756.8 | 8,150.2  | -73.4  | 1.81 | -1.51 | -1.00 | -146.66 |
| 20,376.0 | 95.28 | 354.90 | 11,751.8 | 8,198.8  | -77.1  | 3.69 | -2.31 | -2.90 | -128.58 |
| 20,421.0 | 94.19 | 353.48 | 11,748.1 | 8,243.4  | -81.6  | 3.97 | -2.42 | -3.16 | -127.54 |
| 20,471.0 | 92.72 | 351.51 | 11,745.0 | 8,292.9  | -88.1  | 4.91 | -2.94 | -3.94 | -126.72 |
| 20,518.0 | 91.08 | 349.88 | 11,743.5 | 8,339.2  | -95.7  | 4.92 | -3.49 | -3.47 | -135.16 |
| 20,566.0 | 89.72 | 348.64 | 11,743.1 | 8,386.4  | -104.7 | 3.83 | -2.83 | -2.58 | -137.64 |
| 20,612.0 | 89.02 | 347.74 | 11,743.7 | 8,431.4  | -114.1 | 2.48 | -1.52 | -1.96 | -127.88 |
| 20,662.0 | 87.57 | 345.89 | 11,745.1 | 8,480.1  | -125.5 | 4.70 | -2.90 | -3.70 | -128.13 |
| 20,707.0 | 87.35 | 343.99 | 11,747.1 | 8,523.5  | -137.2 | 4.25 | -0.49 | -4.22 | -96.65  |
| 20,757.0 | 87.46 | 342.51 | 11,749.4 | 8,571.3  | -151.6 | 2.97 | 0.22  | -2.96 | -85.78  |
| 20,802.0 | 87.99 | 340.71 | 11,751.2 | 8,614.0  | -165.8 | 4.17 | 1.18  | -4.00 | -73.62  |
| 20,852.0 | 89.65 | 338.95 | 11,752.2 | 8,660.9  | -183.0 | 4.84 | 3.32  | -3.52 | -46.69  |
| 20,897.0 | 91.80 | 337.24 | 11,751.6 | 8,702.6  | -199.8 | 6.10 | 4.78  | -3.80 | -38.49  |
| 20,947.0 | 92.31 | 334.78 | 11,749.9 | 8,748.3  | -220.1 | 5.02 | 1.02  | -4.92 | -78.24  |
| 20,992.0 | 91.99 | 332.74 | 11,748.2 | 8,788.6  | -240.0 | 4.59 | -0.71 | -4.53 | -98.88  |
| 21,042.0 | 89.63 | 331.91 | 11,747.5 | 8,832.9  | -263.2 | 5.00 | -4.72 | -1.66 | -160.62 |
| 21,087.0 | 87.37 | 331.27 | 11,748.6 | 8,872.5  | -284.6 | 5.22 | -5.02 | -1.42 | -164.20 |
| 21,136.0 | 85.52 | 332.39 | 11,751.7 | 8,915.6  | -307.7 | 4.41 | -3.78 | 2.29  | 148.89  |
| 21,181.0 | 84.96 | 334.45 | 11,755.4 | 8,955.7  | -327.7 | 4.73 | -1.24 | 4.58  | 105.34  |
| 21,230.0 | 85.04 | 336.45 | 11,759.7 | 9,000.1  | -348.0 | 4.07 | 0.16  | 4.08  | 87.79   |
| 21,275.0 | 85.46 | 338.52 | 11,763.4 | 9,041.5  | -365.2 | 4.68 | 0.93  | 4.60  | 78.58   |
| 21,326.0 | 85.86 | 340.64 | 11,767.3 | 9,089.2  | -382.9 | 4.22 | 0.78  | 4.16  | 79.37   |
| 21,371.0 | 85.74 | 342.00 | 11,770.6 | 9,131.7  | -397.3 | 3.03 | -0.27 | 3.02  | 95.11   |
| 21,421.0 | 86.60 | 344.15 | 11,773.9 | 9,179.4  | -411.8 | 4.62 | 1.72  | 4.30  | 68.23   |
| 21,466.0 | 86.48 | 345.82 | 11,776.6 | 9,222.8  | -423.5 | 3.71 | -0.27 | 3.71  | 94.17   |
| 21,516.0 | 86.51 | 347.97 | 11,779.7 | 9,271.4  | -434.8 | 4.29 | 0.06  | 4.30  | 89.26   |
| 21,561.0 | 86.78 | 349.56 | 11,782.3 | 9,315.4  | -443.5 | 3.58 | 0.60  | 3.53  | 80.39   |
| 21,610.0 | 86.83 | 351.15 | 11,785.0 | 9,363.7  | -451.7 | 3.24 | 0.10  | 3.24  | 88.24   |
| 21,655.0 | 87.69 | 352.50 | 11,787.2 | 9,408.2  | -458.1 | 3.55 | 1.91  | 3.00  | 57.51   |
| 21,703.0 | 87.32 | 353.23 | 11,789.3 | 9,455.7  | -464.1 | 1.70 | -0.77 | 1.52  | 116.92  |
| 21,748.0 | 87.46 | 353.96 | 11,791.3 | 9,500.4  | -469.1 | 1.65 | 0.31  | 1.62  | 79.15   |
| 21,796.0 | 87.93 | 354.50 | 11,793.3 | 9,548.1  | -473.9 | 1.49 | 0.98  | 1.13  | 48.95   |
| 21,841.0 | 87.63 | 354.82 | 11,795.0 | 9,592.9  | -478.1 | 0.97 | -0.67 | 0.71  | 133.18  |
| 21,891.0 | 88.74 | 356.30 | 11,796.6 | 9,642.7  | -482.0 | 3.70 | 2.22  | 2.96  | 53.14   |
| 21,936.0 | 89.07 | 357.09 | 11,797.4 | 9,687.6  | -484.6 | 1.90 | 0.73  | 1.76  | 67.33   |
| 21,985.0 | 89.23 | 357.49 | 11,798.2 | 9,736.6  | -486.9 | 0.88 | 0.33  | 0.82  | 68.20   |
| 22,030.0 | 89.95 | 358.75 | 11,798.5 | 9,781.6  | -488.4 | 3.22 | 1.60  | 2.80  | 60.26   |
| 22,080.0 | 90.67 | 0.60   | 11,798.2 | 9,831.6  | -488.6 | 3.97 | 1.44  | 3.70  | 68.73   |
| 22,174.0 | 92.29 | 3.62   | 11,795.8 | 9,925.4  | -485.2 | 3.64 | 1.72  | 3.21  | 61.75   |
| 22,267.0 | 92.06 | 3.39   | 11,792.3 | 10,018.2 | -479.5 | 0.35 | -0.25 | -0.25 | -135.02 |
| 22,362.0 | 94.20 | 3.83   | 11,787.1 | 10,112.9 | -473.5 | 2.30 | 2.25  | 0.46  | 11.59   |
| 22,535.8 | 94.20 | 3.83   | 11,774.4 | 10,285.8 | -462.0 | 0.00 | 0.00  | 0.00  | 0.00    |

Database: EDM5000  
Company: Ameredev Operating, LLC.  
Project: NAN/GB  
Site: NAN/GB #3N  
Well: Nandina 103H  
Wellbore: Nandina 103H As Drilled  
Design: Final

Local Co-ordinate Reference: Well Nandina 103H  
TVD Reference: KB @ 3045.0usft  
MD Reference: KB @ 3045.0usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 0.0                   | 0.00            | 0.00        | 0.0                   | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 100.0                 | 0.56            | 96.00       | 100.0                 | -0.1         | 0.5          | -0.1                    | 0.56                    | 0.56                   | 0.00                  |
| 125.0                 | 0.70            | 96.00       | 125.0                 | -0.1         | 0.8          | -0.1                    | 0.56                    | 0.56                   | 0.00                  |
| 200.0                 | 0.92            | 306.20      | 200.0                 | 0.2          | 0.7          | 0.2                     | 2.08                    | 0.29                   | -199.73               |
| 209.0                 | 1.10            | 304.00      | 209.0                 | 0.3          | 0.6          | 0.3                     | 2.08                    | 2.04                   | -24.47                |
| 299.0                 | 1.30            | 302.00      | 299.0                 | 1.3          | -1.0         | 1.4                     | 0.23                    | 0.22                   | -2.22                 |
| 300.0                 | 1.31            | 301.60      | 300.0                 | 1.4          | -1.0         | 1.4                     | 1.27                    | 0.89                   | -40.12                |
| 393.0                 | 2.30            | 280.00      | 392.9                 | 2.2          | -3.7         | 2.4                     | 1.27                    | 1.07                   | -23.22                |
| 400.0                 | 2.34            | 279.47      | 399.9                 | 2.3          | -4.0         | 2.5                     | 0.60                    | 0.51                   | -7.56                 |
| 488.0                 | 2.80            | 274.00      | 487.8                 | 2.7          | -7.9         | 3.1                     | 0.60                    | 0.53                   | -6.22                 |
| 500.0                 | 2.85            | 273.15      | 499.8                 | 2.8          | -8.5         | 3.1                     | 0.53                    | 0.41                   | -7.08                 |
| 583.0                 | 3.20            | 268.00      | 582.7                 | 2.8          | -12.9        | 3.4                     | 0.53                    | 0.42                   | -6.21                 |
| 600.0                 | 3.11            | 267.37      | 599.7                 | 2.8          | -13.8        | 3.4                     | 0.57                    | -0.54                  | -3.69                 |
| 677.0                 | 2.70            | 264.00      | 676.6                 | 2.5          | -17.7        | 3.3                     | 0.57                    | -0.53                  | -4.38                 |
| 700.0                 | 2.80            | 263.46      | 699.6                 | 2.4          | -18.8        | 3.2                     | 0.43                    | 0.42                   | -2.33                 |
| 772.0                 | 3.10            | 262.00      | 771.5                 | 1.9          | -22.5        | 2.9                     | 0.43                    | 0.42                   | -2.03                 |
| 800.0                 | 3.25            | 261.01      | 799.4                 | 1.7          | -24.0        | 2.7                     | 0.56                    | 0.53                   | -3.54                 |
| 866.0                 | 3.60            | 259.00      | 865.3                 | 1.0          | -27.9        | 2.2                     | 0.56                    | 0.53                   | -3.05                 |
| 900.0                 | 3.42            | 259.32      | 899.2                 | 0.6          | -30.0        | 1.9                     | 0.53                    | -0.53                  | 0.95                  |
| 961.0                 | 3.10            | 260.00      | 960.1                 | -0.1         | -33.4        | 1.4                     | 0.53                    | -0.53                  | 1.11                  |
| 1,000.0               | 2.97            | 256.88      | 999.1                 | -0.5         | -35.4        | 1.1                     | 0.54                    | -0.34                  | -8.01                 |
| 1,055.0               | 2.80            | 252.00      | 1,054.0               | -1.2         | -38.1        | 0.5                     | 0.54                    | -0.31                  | -8.87                 |
| 1,100.0               | 2.80            | 252.00      | 1,099.0               | -1.9         | -40.1        | -0.1                    | 0.00                    | 0.00                   | 0.00                  |
| 1,145.0               | 2.80            | 252.00      | 1,143.9               | -2.6         | -42.2        | -0.7                    | 0.00                    | 0.00                   | 0.00                  |
| 1,200.0               | 1.85            | 268.07      | 1,198.9               | -3.0         | -44.4        | -1.0                    | 2.08                    | -1.72                  | 29.22                 |
| 1,238.0               | 1.38            | 290.90      | 1,238.8               | -2.9         | -45.4        | -0.8                    | 2.08                    | -1.24                  | 60.08                 |
| 1,300.0               | 0.51            | 292.02      | 1,298.8               | -2.5         | -46.4        | -0.4                    | 1.40                    | -1.40                  | 1.80                  |
| 1,336.0               | 0.02            | 343.32      | 1,334.8               | -2.4         | -46.5        | -0.3                    | 1.40                    | -1.37                  | 142.51                |
| 1,400.0               | 0.04            | 330.79      | 1,398.8               | -2.4         | -46.6        | -0.3                    | 0.03                    | 0.03                   | -19.58                |
| 1,432.0               | 0.05            | 328.30      | 1,430.8               | -2.4         | -46.6        | -0.3                    | 0.03                    | 0.03                   | -7.77                 |
| 1,500.0               | 0.08            | 4.79        | 1,498.8               | -2.3         | -46.6        | -0.2                    | 0.08                    | 0.05                   | 53.66                 |
| 1,526.0               | 0.10            | 11.32       | 1,524.8               | -2.3         | -46.6        | -0.2                    | 0.08                    | 0.07                   | 25.11                 |
| 1,600.0               | 0.07            | 312.16      | 1,598.8               | -2.2         | -46.6        | -0.1                    | 0.12                    | -0.04                  | -79.94                |
| 1,620.0               | 0.08            | 295.30      | 1,618.8               | -2.1         | -46.6        | -0.1                    | 0.12                    | 0.04                   | -84.31                |
| 1,700.0               | 0.01            | 270.21      | 1,698.8               | -2.1         | -46.7        | 0.0                     | 0.09                    | -0.09                  | -31.36                |
| 1,716.0               | 0.01            | 132.93      | 1,714.8               | -2.1         | -46.7        | 0.0                     | 0.09                    | 0.03                   | -858.03               |
| 1,800.0               | 0.07            | 134.70      | 1,798.8               | -2.2         | -46.6        | -0.1                    | 0.07                    | 0.07                   | 2.11                  |
| 1,811.0               | 0.08            | 134.73      | 1,809.8               | -2.2         | -46.6        | -0.1                    | 0.07                    | 0.07                   | 0.26                  |
| 1,900.0               | 0.08            | 122.37      | 1,898.8               | -2.3         | -46.5        | -0.2                    | 0.02                    | 0.00                   | -13.88                |
| 1,907.0               | 0.08            | 121.41      | 1,905.8               | -2.3         | -46.5        | -0.2                    | 0.02                    | 0.00                   | -13.78                |
| 2,000.0               | 0.59            | 214.22      | 1,998.8               | -2.7         | -46.7        | -0.6                    | 0.65                    | 0.55                   | 99.79                 |
| 2,003.0               | 0.61            | 214.46      | 2,001.8               | -2.7         | -46.7        | -0.6                    | 0.65                    | 0.64                   | 8.07                  |
| 2,098.0               | 3.52            | 183.16      | 2,096.8               | -6.0         | -47.2        | -3.9                    | 3.17                    | 3.06                   | -32.95                |
| 2,100.0               | 3.59            | 183.03      | 2,098.8               | -6.2         | -47.2        | -4.0                    | 3.53                    | 3.51                   | -6.56                 |
| 2,194.0               | 6.90            | 179.88      | 2,192.3               | -14.8        | -47.3        | -12.6                   | 3.53                    | 3.52                   | -3.35                 |
| 2,200.0               | 7.09            | 179.79      | 2,198.3               | -15.5        | -47.3        | -13.3                   | 3.24                    | 3.23                   | -1.51                 |
| 2,289.0               | 9.97            | 178.86      | 2,286.3               | -28.7        | -47.2        | -26.5                   | 3.24                    | 3.23                   | -1.04                 |
| 2,300.0               | 10.15           | 178.42      | 2,297.1               | -30.6        | -47.1        | -28.5                   | 1.79                    | 1.65                   | -4.04                 |
| 2,384.0               | 11.55           | 175.48      | 2,379.6               | -46.4        | -46.3        | -44.3                   | 1.79                    | 1.67                   | -3.49                 |
| 2,400.0               | 11.41           | 175.09      | 2,395.3               | -49.6        | -46.0        | -47.5                   | 1.00                    | -0.87                  | -2.46                 |
| 2,479.0               | 10.73           | 173.00      | 2,472.8               | -64.7        | -44.4        | -62.6                   | 1.00                    | -0.86                  | -2.64                 |
| 2,500.0               | 10.47           | 172.31      | 2,493.5               | -68.5        | -43.9        | -66.4                   | 1.37                    | -1.22                  | -3.30                 |
| 2,575.0               | 9.57            | 169.53      | 2,567.3               | -81.4        | -41.9        | -79.4                   | 1.37                    | -1.20                  | -3.70                 |
| 2,600.0               | 9.20            | 169.10      | 2,592.0               | -85.4        | -41.1        | -83.4                   | 1.51                    | -1.48                  | -1.72                 |

Database: EDM5000  
Company: Ameredev Operating, LLC.  
Project: NAN/GB  
Site: NAN/GB #3N  
Well: Nandina 103H  
Wellbore: Nandina 103H As Drilled  
Design: Final

Local Co-ordinate Reference: Well Nandina 103H  
TVD Reference: KB @ 3045.0usft  
MD Reference: KB @ 3045.0usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 2,671.0               | 8.15            | 167.67      | 2,662.2               | -95.9        | -39.0        | -94.0                   | 1.51                    | -1.48                  | -2.01                 |
| 2,700.0               | 7.90            | 167.28      | 2,690.9               | -99.8        | -38.1        | -98.0                   | 0.87                    | -0.85                  | -1.34                 |
| 2,765.0               | 7.35            | 168.32      | 2,755.3               | -108.2       | -36.1        | -106.5                  | 0.87                    | -0.85                  | -1.48                 |
| 2,800.0               | 7.03            | 163.94      | 2,790.1               | -112.5       | -35.0        | -110.8                  | 1.24                    | -0.91                  | -6.80                 |
| 2,861.0               | 6.51            | 159.26      | 2,850.6               | -119.3       | -32.8        | -117.7                  | 1.24                    | -0.86                  | -7.67                 |
| 2,900.0               | 6.04            | 154.88      | 2,889.4               | -123.2       | -31.1        | -121.7                  | 1.72                    | -1.20                  | -11.23                |
| 2,956.0               | 5.44            | 147.35      | 2,945.1               | -128.1       | -28.4        | -126.7                  | 1.72                    | -1.07                  | -13.45                |
| 3,000.0               | 5.45            | 139.19      | 2,988.9               | -131.4       | -25.9        | -130.1                  | 1.76                    | 0.02                   | -18.55                |
| 3,051.0               | 5.59            | 129.97      | 3,039.7               | -134.9       | -22.5        | -133.7                  | 1.76                    | 0.28                   | -18.07                |
| 3,100.0               | 5.53            | 124.12      | 3,088.5               | -137.7       | -18.7        | -136.7                  | 1.16                    | -0.13                  | -11.95                |
| 3,146.0               | 5.52            | 118.55      | 3,134.2               | -140.0       | -14.9        | -139.2                  | 1.16                    | -0.01                  | -12.10                |
| 3,200.0               | 3.49            | 118.60      | 3,188.1               | -142.1       | -11.2        | -141.4                  | 3.77                    | -3.77                  | 0.09                  |
| 3,241.0               | 1.94            | 118.71      | 3,229.0               | -143.0       | -9.5         | -142.4                  | 3.77                    | -3.77                  | 0.27                  |
| 3,300.0               | 0.66            | 126.20      | 3,288.0               | -143.7       | -8.3         | -143.1                  | 2.18                    | -2.17                  | 12.69                 |
| 3,336.0               | 0.19            | 251.94      | 3,324.0               | -143.8       | -8.2         | -143.3                  | 2.18                    | -1.31                  | 349.29                |
| 3,400.0               | 2.26            | 243.30      | 3,388.0               | -144.4       | -9.4         | -143.8                  | 3.23                    | 3.23                   | -13.50                |
| 3,431.0               | 3.26            | 243.06      | 3,419.0               | -145.1       | -10.8        | -144.4                  | 3.23                    | 3.23                   | -0.78                 |
| 3,500.0               | 5.86            | 234.22      | 3,487.7               | -148.0       | -15.4        | -147.2                  | 3.90                    | 3.77                   | -12.81                |
| 3,526.0               | 6.86            | 232.64      | 3,513.6               | -149.7       | -17.7        | -148.8                  | 3.90                    | 3.84                   | -6.08                 |
| 3,600.0               | 7.75            | 231.20      | 3,587.0               | -155.6       | -25.1        | -154.3                  | 1.23                    | 1.21                   | -1.95                 |
| 3,622.0               | 8.02            | 230.83      | 3,608.8               | -157.5       | -27.4        | -156.1                  | 1.23                    | 1.21                   | -1.67                 |
| 3,700.0               | 7.13            | 226.16      | 3,686.1               | -164.2       | -35.1        | -162.5                  | 1.39                    | -1.14                  | -5.98                 |
| 3,717.0               | 6.94            | 224.99      | 3,703.0               | -165.7       | -36.6        | -163.9                  | 1.39                    | -1.10                  | -6.90                 |
| 3,800.0               | 6.87            | 221.49      | 3,785.4               | -173.0       | -43.5        | -170.8                  | 0.51                    | -0.09                  | -4.21                 |
| 3,813.0               | 6.86            | 220.94      | 3,798.3               | -174.1       | -44.5        | -172.0                  | 0.51                    | -0.07                  | -4.26                 |
| 3,900.0               | 6.73            | 219.07      | 3,884.6               | -182.0       | -51.1        | -179.5                  | 0.29                    | -0.15                  | -2.15                 |
| 3,908.0               | 6.72            | 218.89      | 3,892.6               | -182.7       | -51.7        | -180.2                  | 0.29                    | -0.14                  | -2.20                 |
| 4,000.0               | 6.02            | 221.35      | 3,984.0               | -190.6       | -58.3        | -187.7                  | 0.82                    | -0.77                  | 2.67                  |
| 4,002.0               | 6.00            | 221.41      | 3,986.0               | -190.7       | -58.4        | -187.9                  | 0.82                    | -0.76                  | 2.99                  |
| 4,098.0               | 6.04            | 224.05      | 4,081.5               | -198.1       | -65.2        | -195.0                  | 0.29                    | 0.04                   | 2.75                  |
| 4,100.0               | 6.04            | 224.08      | 4,083.5               | -198.3       | -65.4        | -195.1                  | 0.17                    | -0.11                  | 1.32                  |
| 4,193.0               | 5.94            | 225.32      | 4,176.0               | -205.2       | -72.2        | -201.7                  | 0.17                    | -0.11                  | 1.34                  |
| 4,200.0               | 5.94            | 225.33      | 4,182.9               | -205.7       | -72.7        | -202.2                  | 0.01                    | -0.01                  | 0.10                  |
| 4,289.0               | 5.93            | 225.42      | 4,271.5               | -212.1       | -79.3        | -208.4                  | 0.01                    | -0.01                  | 0.10                  |
| 4,300.0               | 5.95            | 225.30      | 4,282.4               | -212.9       | -80.1        | -209.1                  | 0.21                    | 0.18                   | -1.06                 |
| 4,384.0               | 6.10            | 224.44      | 4,365.9               | -219.2       | -86.3        | -215.1                  | 0.21                    | 0.18                   | -1.03                 |
| 4,400.0               | 6.11            | 222.51      | 4,381.8               | -220.4       | -87.5        | -216.3                  | 1.28                    | 0.04                   | -12.08                |
| 4,479.0               | 6.24            | 213.14      | 4,460.4               | -227.1       | -92.6        | -222.7                  | 1.28                    | 0.17                   | -11.86                |
| 4,500.0               | 6.21            | 209.87      | 4,481.3               | -229.0       | -93.8        | -224.6                  | 1.69                    | -0.14                  | -15.56                |
| 4,575.0               | 6.27            | 198.18      | 4,555.8               | -236.5       | -97.1        | -231.9                  | 1.69                    | 0.08                   | -15.59                |
| 4,600.0               | 6.25            | 196.33      | 4,580.7               | -239.1       | -97.9        | -234.4                  | 0.81                    | -0.07                  | -7.40                 |
| 4,671.0               | 6.24            | 191.04      | 4,651.2               | -246.6       | -99.8        | -241.8                  | 0.81                    | -0.02                  | -7.45                 |
| 4,700.0               | 6.24            | 190.47      | 4,680.1               | -249.6       | -100.4       | -244.9                  | 0.22                    | 0.00                   | -1.98                 |
| 4,766.0               | 6.24            | 189.16      | 4,745.7               | -256.7       | -101.6       | -251.9                  | 0.22                    | 0.00                   | -1.98                 |
| 4,800.0               | 6.25            | 189.72      | 4,779.5               | -260.4       | -102.2       | -255.5                  | 0.19                    | 0.04                   | 1.66                  |
| 4,861.0               | 6.28            | 190.73      | 4,840.1               | -266.9       | -103.4       | -262.0                  | 0.19                    | 0.04                   | 1.65                  |
| 4,900.0               | 6.30            | 190.91      | 4,878.9               | -271.1       | -104.2       | -266.2                  | 0.08                    | 0.06                   | 0.46                  |
| 4,957.0               | 6.34            | 191.17      | 4,935.5               | -277.3       | -105.4       | -272.3                  | 0.08                    | 0.06                   | 0.46                  |
| 5,000.0               | 6.36            | 191.98      | 4,978.3               | -281.9       | -106.3       | -276.9                  | 0.22                    | 0.05                   | 1.89                  |
| 5,052.0               | 6.39            | 192.96      | 5,030.0               | -287.6       | -107.6       | -282.5                  | 0.22                    | 0.05                   | 1.88                  |
| 5,100.0               | 6.37            | 192.77      | 5,077.7               | -292.8       | -108.8       | -287.6                  | 0.05                    | -0.03                  | -0.39                 |
| 5,147.0               | 6.36            | 192.59      | 5,124.4               | -297.9       | -109.9       | -292.6                  | 0.05                    | -0.03                  | -0.39                 |
| 5,200.0               | 6.33            | 193.47      | 5,177.0               | -303.6       | -111.2       | -298.3                  | 0.19                    | -0.05                  | 1.66                  |
| 5,242.0               | 6.31            | 194.17      | 5,218.8               | -308.1       | -112.3       | -302.7                  | 0.19                    | -0.05                  | 1.67                  |

Database: EDM5000  
Company: Ameredev Operating, LLC.  
Project: NAN/GB  
Site: NAN/GB #3N  
Well: Nandina 103H  
Wellbore: Nandina 103H As Drilled  
Design: Final

Local Co-ordinate Reference: Well Nandina 103H  
TVD Reference: KB @ 3045.0usft  
MD Reference: KB @ 3045.0usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 5,300.0               | 6.38            | 194.32      | 5,276.4               | -314.3       | -113.9       | -308.8                  | 0.13                    | 0.13                   | 0.25                  |
| 5,337.0               | 6.43            | 194.41      | 5,313.2               | -318.3       | -114.9       | -312.8                  | 0.13                    | 0.13                   | 0.25                  |
| 5,400.0               | 6.31            | 194.61      | 5,375.8               | -325.0       | -116.7       | -319.5                  | 0.19                    | -0.19                  | 0.32                  |
| 5,433.0               | 6.25            | 194.72      | 5,408.6               | -328.5       | -117.6       | -322.9                  | 0.19                    | -0.19                  | 0.33                  |
| 5,500.0               | 6.34            | 194.72      | 5,475.2               | -335.6       | -119.5       | -329.9                  | 0.14                    | 0.14                   | 0.00                  |
| 5,528.0               | 6.38            | 194.72      | 5,503.0               | -338.6       | -120.3       | -332.9                  | 0.14                    | 0.14                   | 0.00                  |
| 5,600.0               | 6.37            | 192.92      | 5,574.6               | -346.4       | -122.2       | -340.6                  | 0.28                    | -0.01                  | -2.50                 |
| 5,624.0               | 6.37            | 192.32      | 5,598.4               | -349.0       | -122.7       | -343.1                  | 0.28                    | -0.01                  | -2.50                 |
| 5,700.0               | 5.93            | 191.59      | 5,674.0               | -357.0       | -124.4       | -351.0                  | 0.59                    | -0.59                  | -0.96                 |
| 5,718.0               | 5.82            | 191.40      | 5,691.9               | -358.8       | -124.8       | -352.8                  | 0.59                    | -0.58                  | -1.05                 |
| 5,800.0               | 5.82            | 195.17      | 5,773.5               | -366.9       | -126.7       | -360.8                  | 0.47                    | 0.00                   | 4.59                  |
| 5,814.0               | 5.82            | 195.81      | 5,787.4               | -368.2       | -127.1       | -362.2                  | 0.47                    | 0.02                   | 4.59                  |
| 5,900.0               | 5.85            | 198.45      | 5,873.0               | -376.6       | -129.7       | -370.4                  | 0.31                    | 0.03                   | 3.06                  |
| 5,909.0               | 5.85            | 198.72      | 5,881.9               | -377.4       | -130.0       | -371.2                  | 0.31                    | 0.04                   | 3.05                  |
| 6,000.0               | 5.95            | 205.30      | 5,972.4               | -386.1       | -133.5       | -379.7                  | 0.75                    | 0.10                   | 7.23                  |
| 6,003.0               | 5.95            | 205.51      | 5,975.4               | -386.4       | -133.6       | -380.0                  | 0.75                    | 0.15                   | 7.09                  |
| 6,098.0               | 5.90            | 206.17      | 6,069.9               | -395.2       | -137.9       | -388.6                  | 0.09                    | -0.05                  | 0.69                  |
| 6,100.0               | 5.90            | 206.15      | 6,071.9               | -395.4       | -138.0       | -388.8                  | 0.09                    | 0.01                   | -0.82                 |
| 6,193.0               | 5.91            | 205.39      | 6,164.4               | -404.0       | -142.1       | -397.2                  | 0.09                    | 0.01                   | -0.82                 |
| 6,200.0               | 5.92            | 205.31      | 6,171.4               | -404.7       | -142.4       | -397.9                  | 0.19                    | 0.15                   | -1.15                 |
| 6,288.0               | 6.05            | 204.32      | 6,258.9               | -413.0       | -146.3       | -406.0                  | 0.19                    | 0.15                   | -1.12                 |
| 6,300.0               | 6.06            | 204.18      | 6,270.8               | -414.1       | -146.8       | -407.1                  | 0.15                    | 0.08                   | -1.15                 |
| 6,384.0               | 6.13            | 203.23      | 6,354.4               | -422.3       | -150.4       | -415.1                  | 0.15                    | 0.08                   | -1.13                 |
| 6,400.0               | 6.10            | 203.11      | 6,370.3               | -423.9       | -151.1       | -416.7                  | 0.20                    | -0.18                  | -0.77                 |
| 6,479.0               | 5.96            | 202.48      | 6,448.8               | -431.5       | -154.3       | -424.2                  | 0.20                    | -0.18                  | -0.79                 |
| 6,500.0               | 5.97            | 202.25      | 6,469.7               | -433.5       | -155.1       | -426.1                  | 0.12                    | 0.04                   | -1.08                 |
| 6,575.0               | 6.00            | 201.45      | 6,544.3               | -440.8       | -158.0       | -433.3                  | 0.12                    | 0.04                   | -1.07                 |
| 6,600.0               | 5.93            | 200.98      | 6,569.2               | -443.2       | -158.9       | -435.6                  | 0.35                    | -0.29                  | -1.88                 |
| 6,669.0               | 5.73            | 199.62      | 6,637.8               | -449.8       | -161.4       | -442.1                  | 0.35                    | -0.29                  | -1.97                 |
| 6,700.0               | 4.97            | 198.13      | 6,668.7               | -452.5       | -162.3       | -444.8                  | 2.48                    | -2.44                  | -4.79                 |
| 6,764.0               | 3.43            | 193.01      | 6,732.5               | -457.0       | -163.6       | -449.2                  | 2.48                    | -2.41                  | -8.01                 |
| 6,800.0               | 2.51            | 190.02      | 6,768.5               | -458.9       | -164.0       | -451.0                  | 2.59                    | -2.56                  | -8.30                 |
| 6,859.0               | 1.05            | 173.82      | 6,827.4               | -460.7       | -164.2       | -452.8                  | 2.59                    | -2.47                  | -27.46                |
| 6,900.0               | 0.62            | 177.16      | 6,868.4               | -461.3       | -164.1       | -453.4                  | 1.05                    | -1.05                  | 8.15                  |
| 6,954.0               | 0.10            | 230.91      | 6,922.4               | -461.6       | -164.1       | -453.8                  | 1.05                    | -0.97                  | 99.53                 |
| 7,000.0               | 0.02            | 245.85      | 6,968.4               | -461.6       | -164.2       | -453.8                  | 0.17                    | -0.16                  | 32.47                 |
| 7,050.0               | 0.06            | 38.01       | 7,018.4               | -461.6       | -164.2       | -453.8                  | 0.17                    | 0.07                   | 304.33                |
| 7,100.0               | 0.03            | 27.98       | 7,068.4               | -461.6       | -164.1       | -453.7                  | 0.06                    | -0.06                  | -20.06                |
| 7,145.0               | 0.01            | 317.85      | 7,113.4               | -461.5       | -164.1       | -453.7                  | 0.06                    | -0.04                  | -155.84               |
| 7,200.0               | 0.02            | 14.14       | 7,168.4               | -461.5       | -164.1       | -453.7                  | 0.04                    | 0.03                   | 102.35                |
| 7,245.0               | 0.04            | 23.94       | 7,213.4               | -461.5       | -164.1       | -453.7                  | 0.04                    | 0.04                   | 21.77                 |
| 7,300.0               | 0.04            | 44.74       | 7,268.4               | -461.5       | -164.1       | -453.7                  | 0.03                    | 0.00                   | 37.81                 |
| 7,339.0               | 0.04            | 59.32       | 7,307.4               | -461.5       | -164.1       | -453.6                  | 0.03                    | 0.00                   | 37.39                 |
| 7,400.0               | 0.01            | 165.35      | 7,368.4               | -461.5       | -164.1       | -453.6                  | 0.07                    | -0.05                  | 173.82                |
| 7,435.0               | 0.03            | 212.68      | 7,403.4               | -461.5       | -164.1       | -453.6                  | 0.07                    | 0.06                   | 135.23                |
| 7,500.0               | 0.05            | 254.99      | 7,468.4               | -461.5       | -164.1       | -453.7                  | 0.06                    | 0.04                   | 65.09                 |
| 7,530.0               | 0.07            | 262.64      | 7,498.4               | -461.5       | -164.1       | -453.7                  | 0.06                    | 0.05                   | 25.50                 |
| 7,600.0               | 0.06            | 317.19      | 7,568.4               | -461.5       | -164.2       | -453.6                  | 0.09                    | -0.01                  | 77.93                 |
| 7,626.0               | 0.07            | 334.80      | 7,594.4               | -461.4       | -164.2       | -453.6                  | 0.09                    | 0.04                   | 67.74                 |
| 7,700.0               | 0.09            | 295.86      | 7,668.4               | -461.4       | -164.3       | -453.5                  | 0.08                    | 0.03                   | -52.62                |
| 7,721.0               | 0.10            | 288.69      | 7,689.4               | -461.4       | -164.3       | -453.5                  | 0.08                    | 0.05                   | -34.15                |
| 7,800.0               | 0.07            | 328.96      | 7,768.4               | -461.3       | -164.4       | -453.5                  | 0.08                    | -0.04                  | 50.98                 |
| 7,816.0               | 0.07            | 339.74      | 7,784.4               | -461.3       | -164.4       | -453.4                  | 0.08                    | 0.00                   | 67.37                 |
| 7,900.0               | 0.07            | 319.06      | 7,868.4               | -461.2       | -164.5       | -453.4                  | 0.03                    | 0.00                   | -24.62                |

Database: EDM5000  
Company: Ameredev Operating, LLC.  
Project: NAN/GB  
Site: NAN/GB #3N  
Well: Nandina 103H  
Wellbore: Nandina 103H As Drilled  
Design: Final

Local Co-ordinate Reference: Well Nandina 103H  
TVD Reference: KB @ 3045.0usft  
MD Reference: KB @ 3045.0usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 7,912.0               | 0.07            | 316.17      | 7,880.4               | -461.2       | -164.5       | -453.3                  | 0.03                    | 0.01                   | -24.10                |
| 8,000.0               | 0.07            | 6.26        | 7,968.4               | -461.1       | -164.5       | -453.3                  | 0.07                    | 0.00                   | 56.92                 |
| 8,006.0               | 0.07            | 9.26        | 7,974.4               | -461.1       | -164.5       | -453.2                  | 0.07                    | 0.03                   | 49.97                 |
| 8,100.0               | 0.06            | 191.83      | 8,068.4               | -461.1       | -164.5       | -453.2                  | 0.14                    | -0.01                  | -188.75               |
| 8,101.0               | 0.06            | 191.80      | 8,069.4               | -461.1       | -164.5       | -453.2                  | 0.14                    | 0.14                   | -3.19                 |
| 8,197.0               | 0.16            | 285.30      | 8,165.4               | -461.1       | -164.7       | -453.2                  | 0.18                    | 0.10                   | 97.40                 |
| 8,200.0               | 0.16            | 284.78      | 8,168.4               | -461.1       | -164.7       | -453.2                  | 0.08                    | -0.06                  | -17.41                |
| 8,292.0               | 0.11            | 260.78      | 8,260.4               | -461.1       | -164.9       | -453.2                  | 0.08                    | -0.05                  | -26.08                |
| 8,300.0               | 0.12            | 260.86      | 8,268.4               | -461.1       | -164.9       | -453.2                  | 0.06                    | 0.06                   | 1.01                  |
| 8,387.0               | 0.17            | 261.43      | 8,355.4               | -461.1       | -165.1       | -453.2                  | 0.06                    | 0.06                   | 0.85                  |
| 8,400.0               | 0.16            | 259.50      | 8,368.4               | -461.1       | -165.1       | -453.2                  | 0.10                    | -0.09                  | -14.81                |
| 8,482.0               | 0.09            | 235.90      | 8,450.4               | -461.2       | -165.3       | -453.3                  | 0.10                    | -0.08                  | -28.79                |
| 8,500.0               | 0.08            | 244.58      | 8,468.4               | -461.2       | -165.3       | -453.3                  | 0.09                    | -0.06                  | 48.22                 |
| 8,577.0               | 0.07            | 300.67      | 8,545.4               | -461.2       | -165.4       | -453.3                  | 0.09                    | -0.01                  | 72.85                 |
| 8,600.0               | 0.15            | 294.75      | 8,568.4               | -461.2       | -165.5       | -453.3                  | 0.35                    | 0.34                   | -25.73                |
| 8,641.0               | 0.29            | 292.21      | 8,609.4               | -461.1       | -165.6       | -453.2                  | 0.35                    | 0.34                   | -6.20                 |
| 8,672.0               | 0.38            | 304.86      | 8,640.4               | -461.0       | -165.8       | -453.1                  | 0.37                    | 0.29                   | 40.81                 |
| 8,700.0               | 0.58            | 303.00      | 8,668.4               | -460.9       | -166.0       | -453.0                  | 0.72                    | 0.71                   | -6.64                 |
| 8,714.0               | 0.68            | 302.48      | 8,682.4               | -460.8       | -166.1       | -452.9                  | 0.72                    | 0.71                   | -3.71                 |
| 8,767.0               | 0.54            | 292.58      | 8,735.4               | -460.5       | -166.6       | -452.6                  | 0.33                    | -0.26                  | -18.68                |
| 8,800.0               | 0.49            | 266.74      | 8,768.4               | -460.5       | -166.9       | -452.5                  | 0.71                    | -0.16                  | -78.31                |
| 8,804.0               | 0.49            | 263.40      | 8,772.4               | -460.5       | -166.9       | -452.5                  | 0.71                    | 0.03                   | -83.45                |
| 8,862.0               | 0.60            | 249.54      | 8,830.4               | -460.6       | -167.4       | -452.7                  | 0.29                    | 0.19                   | -23.90                |
| 8,900.0               | 0.81            | 248.90      | 8,868.4               | -460.8       | -167.9       | -452.8                  | 0.56                    | 0.56                   | -1.68                 |
| 8,957.0               | 1.13            | 248.39      | 8,925.4               | -461.1       | -168.8       | -453.1                  | 0.56                    | 0.56                   | -0.89                 |
| 9,000.0               | 1.41            | 255.00      | 8,968.4               | -461.4       | -169.7       | -453.4                  | 0.74                    | 0.66                   | 15.38                 |
| 9,047.0               | 1.74            | 259.69      | 9,015.4               | -461.7       | -170.9       | -453.6                  | 0.74                    | 0.69                   | 9.98                  |
| 9,100.0               | 1.91            | 262.36      | 9,068.3               | -462.0       | -172.6       | -453.8                  | 0.36                    | 0.32                   | 5.03                  |
| 9,142.0               | 2.05            | 264.15      | 9,110.3               | -462.1       | -174.0       | -453.9                  | 0.36                    | 0.33                   | 4.27                  |
| 9,200.0               | 2.21            | 267.66      | 9,168.3               | -462.3       | -176.2       | -453.9                  | 0.36                    | 0.28                   | 6.05                  |
| 9,238.0               | 2.32            | 269.69      | 9,206.2               | -462.3       | -177.7       | -453.9                  | 0.36                    | 0.29                   | 5.34                  |
| 9,300.0               | 2.64            | 274.66      | 9,268.2               | -462.2       | -180.4       | -453.7                  | 0.62                    | 0.51                   | 8.01                  |
| 9,332.0               | 2.81            | 276.77      | 9,300.2               | -462.1       | -181.9       | -453.4                  | 0.62                    | 0.53                   | 6.61                  |
| 9,400.0               | 2.90            | 277.65      | 9,368.1               | -461.6       | -185.3       | -452.9                  | 0.15                    | 0.14                   | 1.29                  |
| 9,427.0               | 2.94            | 277.98      | 9,395.0               | -461.5       | -186.6       | -452.6                  | 0.15                    | 0.14                   | 1.23                  |
| 9,500.0               | 2.88            | 278.35      | 9,467.9               | -460.9       | -190.3       | -451.9                  | 0.09                    | -0.08                  | 0.51                  |
| 9,522.0               | 2.86            | 278.47      | 9,489.9               | -460.8       | -191.4       | -451.7                  | 0.09                    | -0.08                  | 0.53                  |
| 9,600.0               | 2.64            | 286.44      | 9,567.8               | -460.0       | -195.0       | -450.8                  | 0.56                    | -0.28                  | 10.22                 |
| 9,617.0               | 2.60            | 288.35      | 9,584.8               | -459.7       | -195.8       | -450.5                  | 0.56                    | -0.24                  | 11.21                 |
| 9,700.0               | 1.51            | 294.33      | 9,667.7               | -458.7       | -198.5       | -449.3                  | 1.34                    | -1.32                  | 7.20                  |
| 9,712.0               | 1.35            | 295.99      | 9,679.7               | -458.6       | -198.8       | -449.2                  | 1.34                    | -1.30                  | 13.85                 |
| 9,800.0               | 1.09            | 332.51      | 9,767.7               | -457.4       | -200.1       | -447.9                  | 0.91                    | -0.30                  | 41.50                 |
| 9,807.0               | 1.09            | 335.87      | 9,774.7               | -457.3       | -200.2       | -447.8                  | 0.91                    | 0.03                   | 48.02                 |
| 9,900.0               | 1.17            | 343.54      | 9,867.7               | -455.5       | -200.8       | -446.1                  | 0.18                    | 0.08                   | 8.25                  |
| 9,901.0               | 1.17            | 343.62      | 9,868.7               | -455.5       | -200.8       | -446.1                  | 0.18                    | 0.10                   | 7.66                  |
| 9,996.0               | 1.25            | 320.67      | 9,963.7               | -453.8       | -201.8       | -444.3                  | 0.51                    | 0.08                   | -24.16                |
| 10,000.0              | 1.26            | 319.50      | 9,967.7               | -453.7       | -201.8       | -444.2                  | 0.66                    | 0.16                   | -29.33                |
| 10,091.0              | 1.52            | 296.97      | 10,058.7              | -452.4       | -203.5       | -442.8                  | 0.66                    | 0.29                   | -24.75                |
| 10,100.0              | 1.52            | 295.61      | 10,067.7              | -452.3       | -203.7       | -442.7                  | 0.40                    | 0.01                   | -15.13                |
| 10,187.0              | 1.57            | 282.76      | 10,154.6              | -451.6       | -206.0       | -441.9                  | 0.40                    | 0.06                   | -14.77                |
| 10,200.0              | 1.53            | 282.65      | 10,167.6              | -451.5       | -206.3       | -441.8                  | 0.28                    | -0.28                  | -0.84                 |
| 10,281.0              | 1.31            | 281.83      | 10,248.6              | -451.0       | -208.3       | -441.3                  | 0.28                    | -0.28                  | -1.01                 |
| 10,300.0              | 1.25            | 281.12      | 10,267.6              | -451.0       | -208.7       | -441.1                  | 0.32                    | -0.31                  | -3.74                 |
| 10,376.0              | 1.02            | 277.47      | 10,343.6              | -450.7       | -210.2       | -440.8                  | 0.32                    | -0.30                  | -4.80                 |

Database: EDM5000  
Company: Ameredev Operating, LLC.  
Project: NAN/GB  
Site: NAN/GB #3N  
Well: Nandina 103H  
Wellbore: Nandina 103H As Drilled  
Design: Final

Local Co-ordinate Reference: Well Nandina 103H  
TVD Reference: KB @ 3045.0usft  
MD Reference: KB @ 3045.0usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 10,400.0              | 0.92            | 277.01      | 10,367.6              | -450.7       | -210.6       | -440.8                  | 0.40                    | -0.40                  | -1.91                 |
| 10,472.0              | 0.64            | 274.82      | 10,439.6              | -450.6       | -211.5       | -440.6                  | 0.40                    | -0.40                  | -3.04                 |
| 10,500.0              | 0.58            | 267.71      | 10,467.6              | -450.6       | -211.8       | -440.6                  | 0.34                    | -0.21                  | -25.38                |
| 10,567.0              | 0.49            | 244.97      | 10,534.6              | -450.7       | -212.4       | -440.7                  | 0.34                    | -0.14                  | -33.95                |
| 10,600.0              | 0.54            | 245.42      | 10,567.6              | -450.8       | -212.7       | -440.8                  | 0.14                    | 0.14                   | 1.35                  |
| 10,662.0              | 0.62            | 246.08      | 10,629.6              | -451.1       | -213.3       | -441.0                  | 0.14                    | 0.14                   | 1.07                  |
| 10,700.0              | 0.98            | 246.38      | 10,667.6              | -451.3       | -213.8       | -441.2                  | 0.94                    | 0.94                   | 0.78                  |
| 10,757.0              | 1.51            | 246.56      | 10,724.5              | -451.8       | -214.9       | -441.7                  | 0.94                    | 0.94                   | 0.32                  |
| 10,800.0              | 2.07            | 250.48      | 10,767.5              | -452.3       | -216.1       | -442.1                  | 1.33                    | 1.30                   | 9.11                  |
| 10,851.0              | 2.74            | 253.04      | 10,818.5              | -452.9       | -218.2       | -442.7                  | 1.33                    | 1.31                   | 5.02                  |
| 10,900.0              | 2.74            | 255.27      | 10,867.4              | -453.6       | -220.4       | -443.2                  | 0.22                    | 0.00                   | 4.56                  |
| 10,944.0              | 2.74            | 257.28      | 10,911.4              | -454.1       | -222.5       | -443.6                  | 0.22                    | 0.00                   | 4.56                  |
| 11,000.0              | 2.63            | 266.49      | 10,967.3              | -454.4       | -225.1       | -443.9                  | 0.79                    | -0.19                  | 16.44                 |
| 11,039.0              | 2.60            | 273.23      | 11,006.3              | -454.4       | -226.8       | -443.8                  | 0.79                    | -0.08                  | 17.29                 |
| 11,081.0              | 2.78            | 274.44      | 11,048.2              | -454.3       | -228.8       | -443.6                  | 0.45                    | 0.43                   | 2.88                  |
| 11,100.0              | 2.49            | 277.88      | 11,067.2              | -454.2       | -229.7       | -443.5                  | 1.75                    | -1.55                  | 18.10                 |
| 11,177.0              | 1.48            | 305.04      | 11,144.2              | -453.4       | -232.1       | -442.5                  | 1.75                    | -1.31                  | 35.27                 |
| 11,200.0              | 1.50            | 305.34      | 11,167.1              | -453.1       | -232.6       | -442.2                  | 0.08                    | 0.07                   | 1.30                  |
| 11,272.0              | 1.55            | 306.23      | 11,239.1              | -451.9       | -234.2       | -441.0                  | 0.08                    | 0.07                   | 1.24                  |
| 11,300.0              | 2.18            | 329.85      | 11,267.1              | -451.3       | -234.8       | -440.3                  | 3.50                    | 2.25                   | 84.35                 |
| 11,304.0              | 2.29            | 332.07      | 11,271.1              | -451.1       | -234.8       | -440.1                  | 3.50                    | 2.76                   | 55.52                 |
| 11,336.0              | 3.48            | 350.65      | 11,303.1              | -449.6       | -235.3       | -438.6                  | 4.68                    | 3.72                   | 58.06                 |
| 11,368.0              | 4.28            | 9.61        | 11,335.0              | -447.5       | -235.2       | -436.5                  | 4.69                    | 2.50                   | 59.25                 |
| 11,400.0              | 5.42            | 15.76       | 11,368.9              | -444.8       | -234.6       | -433.9                  | 3.91                    | 3.56                   | 19.22                 |
| 11,431.0              | 7.56            | 16.43       | 11,397.7              | -441.5       | -233.7       | -430.5                  | 6.91                    | 6.90                   | 2.16                  |
| 11,463.0              | 9.97            | 17.60       | 11,429.3              | -436.8       | -232.2       | -426.0                  | 7.55                    | 7.53                   | 3.66                  |
| 11,495.0              | 12.95           | 18.25       | 11,460.7              | -430.8       | -230.3       | -420.0                  | 9.32                    | 9.31                   | 2.03                  |
| 11,500.0              | 13.47           | 18.26       | 11,465.5              | -429.7       | -229.9       | -418.9                  | 10.40                   | 10.40                  | 0.28                  |
| 11,525.0              | 16.07           | 18.32       | 11,489.7              | -423.6       | -227.9       | -413.0                  | 10.40                   | 10.40                  | 0.22                  |
| 11,600.0              | 21.42           | 22.80       | 11,560.7              | -401.1       | -219.3       | -390.9                  | 7.39                    | 7.14                   | 5.97                  |
| 11,617.0              | 22.65           | 23.53       | 11,576.5              | -395.3       | -216.8       | -385.1                  | 7.39                    | 7.21                   | 4.30                  |
| 11,680.0              | 29.78           | 27.03       | 11,632.9              | -370.2       | -204.9       | -360.6                  | 11.58                   | 11.32                  | 5.56                  |
| 11,700.0              | 30.95           | 26.90       | 11,650.2              | -361.2       | -200.3       | -351.8                  | 5.85                    | 5.84                   | -0.64                 |
| 11,712.0              | 31.65           | 26.83       | 11,660.4              | -355.6       | -197.5       | -346.4                  | 5.85                    | 5.84                   | -0.60                 |
| 11,744.0              | 36.73           | 27.24       | 11,686.9              | -339.6       | -189.3       | -330.8                  | 15.89                   | 15.88                  | 1.28                  |
| 11,775.0              | 42.44           | 27.98       | 11,710.8              | -322.1       | -180.1       | -313.7                  | 18.48                   | 18.42                  | 2.39                  |
| 11,800.0              | 45.53           | 29.42       | 11,728.8              | -306.9       | -171.8       | -298.9                  | 12.99                   | 12.37                  | 5.74                  |
| 11,807.0              | 46.40           | 29.79       | 11,733.6              | -302.5       | -169.3       | -294.6                  | 12.99                   | 12.41                  | 5.35                  |
| 11,838.0              | 51.41           | 29.15       | 11,754.0              | -282.2       | -157.8       | -274.8                  | 16.24                   | 16.16                  | -2.06                 |
| 11,869.0              | 58.18           | 27.97       | 11,771.9              | -259.9       | -145.7       | -253.1                  | 22.06                   | 21.84                  | -3.81                 |
| 11,900.0              | 64.03           | 26.57       | 11,786.8              | -235.8       | -133.3       | -229.6                  | 19.28                   | 18.87                  | -4.51                 |
| 11,901.0              | 64.22           | 26.53       | 11,787.3              | -235.0       | -132.9       | -228.8                  | 19.28                   | 18.90                  | -4.26                 |
| 11,933.0              | 68.93           | 24.05       | 11,800.0              | -208.5       | -120.4       | -202.9                  | 16.35                   | 14.72                  | -7.75                 |
| 11,964.0              | 75.65           | 21.91       | 11,809.4              | -181.3       | -108.9       | -176.2                  | 22.65                   | 21.68                  | -6.90                 |
| 11,996.0              | 83.60           | 21.50       | 11,815.2              | -152.1       | -97.2        | -147.5                  | 24.88                   | 24.84                  | -1.28                 |
| 12,000.0              | 84.41           | 21.36       | 11,815.6              | -148.4       | -95.8        | -143.9                  | 20.52                   | 20.22                  | -3.52                 |
| 12,019.7              | 88.39           | 20.67       | 11,816.8              | -130.0       | -88.7        | -125.9                  | 20.52                   | 20.22                  | -3.50                 |
| Nan103 As Drilled FTP |                 |             |                       |              |              |                         |                         |                        |                       |
| 12,028.0              | 90.07           | 20.38       | 11,817.0              | -122.2       | -85.8        | -118.3                  | 20.52                   | 20.22                  | -3.49                 |
| 12,059.0              | 92.21           | 19.05       | 11,816.3              | -93.1        | -75.4        | -89.6                   | 8.13                    | 6.90                   | -4.29                 |
| 12,091.0              | 93.68           | 17.95       | 11,814.7              | -62.8        | -65.2        | -59.8                   | 5.73                    | 4.59                   | -3.44                 |
| 12,100.0              | 93.94           | 17.59       | 11,814.1              | -54.2        | -62.5        | -51.4                   | 4.95                    | 2.94                   | -4.00                 |
| 12,122.0              | 94.59           | 16.71       | 11,812.5              | -33.2        | -56.0        | -30.7                   | 4.95                    | 2.93                   | -4.00                 |
| 12,155.0              | 95.02           | 13.70       | 11,809.7              | -1.5         | -47.4        | 0.6                     | 9.18                    | 1.30                   | -9.12                 |

|                  |                          |                                     |                   |
|------------------|--------------------------|-------------------------------------|-------------------|
| <b>Database:</b> | EDM5000                  | <b>Local Co-ordinate Reference:</b> | Well Nandina 103H |
| <b>Company:</b>  | Ameredev Operating, LLC. | <b>TVD Reference:</b>               | KB @ 3045.0usft   |
| <b>Project:</b>  | NAN/GB                   | <b>MD Reference:</b>                | KB @ 3045.0usft   |
| <b>Site:</b>     | NAN/GB #3N               | <b>North Reference:</b>             | Grid              |
| <b>Well:</b>     | Nandina 103H             | <b>Survey Calculation Method:</b>   | Minimum Curvature |
| <b>Wellbore:</b> | Nandina 103H As Drilled  |                                     |                   |
| <b>Design:</b>   | Final                    |                                     |                   |

#### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 12,186.0              | 92.24           | 10.56       | 11,807.7              | 28.7         | -40.9        | 30.5                    | 13.51                   | -8.97                  | -10.13                |
| 12,200.0              | 91.04           | 10.23       | 11,807.3              | 42.5         | -38.4        | 44.2                    | 8.89                    | -8.56                  | -2.38                 |
| 12,218.0              | 89.50           | 9.80        | 11,807.2              | 60.2         | -35.2        | 61.7                    | 8.89                    | -8.56                  | -2.37                 |
| 12,249.0              | 88.42           | 8.78        | 11,807.8              | 90.8         | -30.2        | 92.1                    | 4.79                    | -3.48                  | -3.29                 |
| 12,300.0              | 89.05           | 7.75        | 11,808.9              | 141.3        | -22.9        | 142.1                   | 2.37                    | 1.23                   | -2.02                 |
| 12,331.0              | 89.43           | 7.12        | 11,809.3              | 172.0        | -18.9        | 172.7                   | 2.37                    | 1.23                   | -2.02                 |
| 12,400.0              | 87.96           | 5.68        | 11,810.9              | 240.5        | -11.2        | 240.8                   | 2.99                    | -2.14                  | -2.09                 |
| 12,427.0              | 87.38           | 5.11        | 11,812.0              | 267.4        | -8.7         | 267.5                   | 2.99                    | -2.13                  | -2.10                 |
| 12,500.0              | 86.94           | 3.41        | 11,815.6              | 340.1        | -3.2         | 339.9                   | 2.40                    | -0.61                  | -2.33                 |
| 12,521.0              | 86.81           | 2.92        | 11,816.8              | 361.0        | -2.1         | 360.8                   | 2.40                    | -0.60                  | -2.33                 |
| 12,600.0              | 86.29           | 2.35        | 11,821.5              | 439.8        | 1.5          | 439.3                   | 0.98                    | -0.65                  | -0.73                 |
| 12,616.0              | 86.19           | 2.23        | 11,822.6              | 455.8        | 2.2          | 455.2                   | 0.98                    | -0.65                  | -0.73                 |
| 12,700.0              | 86.28           | 0.44        | 11,828.1              | 539.6        | 4.1          | 538.8                   | 2.12                    | 0.10                   | -2.13                 |
| 12,711.0              | 86.29           | 0.21        | 11,828.8              | 550.5        | 4.2          | 549.8                   | 2.12                    | 0.11                   | -2.13                 |
| 12,800.0              | 85.89           | 358.89      | 11,834.9              | 639.3        | 3.5          | 638.5                   | 1.55                    | -0.45                  | -1.48                 |
| 12,806.0              | 85.86           | 358.80      | 11,835.3              | 645.3        | 3.4          | 644.5                   | 1.55                    | -0.45                  | -1.48                 |
| 12,900.0              | 87.33           | 358.58      | 11,840.9              | 739.1        | 1.2          | 738.3                   | 1.58                    | 1.56                   | -0.23                 |
| 12,902.0              | 87.36           | 358.58      | 11,841.0              | 741.1        | 1.2          | 740.3                   | 1.58                    | 1.56                   | -0.23                 |
| 12,995.0              | 88.76           | 358.25      | 11,844.1              | 834.0        | -1.4         | 833.2                   | 1.55                    | 1.51                   | -0.35                 |
| 13,000.0              | 88.63           | 358.24      | 11,844.3              | 839.0        | -1.5         | 838.2                   | 2.63                    | -2.62                  | -0.18                 |
| 13,090.0              | 86.27           | 358.08      | 11,848.3              | 928.9        | -4.4         | 928.1                   | 2.63                    | -2.62                  | -0.18                 |
| 13,100.0              | 85.98           | 358.09      | 11,848.9              | 938.8        | -4.8         | 938.1                   | 2.87                    | -2.87                  | 0.06                  |
| 13,121.0              | 85.38           | 358.10      | 11,850.5              | 959.8        | -5.5         | 959.1                   | 2.87                    | -2.87                  | 0.06                  |
| 13,153.0              | 86.97           | 357.60      | 11,852.7              | 991.7        | -6.7         | 991.0                   | 5.21                    | 4.97                   | -1.56                 |
| 13,184.0              | 89.06           | 357.32      | 11,853.7              | 1,022.6      | -8.0         | 1,022.0                 | 6.80                    | 6.74                   | -0.90                 |
| 13,200.0              | 88.38           | 357.17      | 11,854.1              | 1,038.6      | -8.8         | 1,038.0                 | 4.36                    | -4.26                  | -0.94                 |
| 13,215.0              | 87.74           | 357.03      | 11,854.6              | 1,053.6      | -9.6         | 1,052.9                 | 4.36                    | -4.26                  | -0.94                 |
| 13,247.0              | 89.35           | 357.46      | 11,855.4              | 1,085.5      | -11.1        | 1,084.9                 | 5.21                    | 5.03                   | 1.34                  |
| 13,279.0              | 89.67           | 357.00      | 11,855.7              | 1,117.5      | -12.6        | 1,116.9                 | 1.75                    | 1.00                   | -1.44                 |
| 13,300.0              | 90.50           | 357.56      | 11,855.6              | 1,138.5      | -13.6        | 1,137.9                 | 4.79                    | 3.97                   | 2.68                  |
| 13,310.0              | 90.90           | 357.83      | 11,855.5              | 1,148.5      | -14.0        | 1,147.9                 | 4.79                    | 3.97                   | 2.68                  |
| 13,342.0              | 88.57           | 358.15      | 11,855.7              | 1,180.4      | -15.2        | 1,179.9                 | 7.35                    | -7.28                  | 1.00                  |
| 13,373.0              | 88.85           | 359.23      | 11,856.4              | 1,211.4      | -15.9        | 1,210.9                 | 3.60                    | 0.90                   | 3.48                  |
| 13,400.0              | 91.69           | 359.69      | 11,856.2              | 1,238.4      | -16.1        | 1,237.9                 | 10.64                   | 10.50                  | 1.72                  |
| 13,405.0              | 92.21           | 359.78      | 11,856.1              | 1,243.4      | -16.1        | 1,242.9                 | 10.64                   | 10.50                  | 1.72                  |
| 13,437.0              | 91.57           | 359.56      | 11,855.0              | 1,275.4      | -16.3        | 1,274.8                 | 2.11                    | -2.00                  | -0.69                 |
| 13,468.0              | 92.06           | 0.75        | 11,854.0              | 1,306.4      | -16.2        | 1,305.8                 | 4.15                    | 1.58                   | 3.84                  |
| 13,500.0              | 91.50           | 0.72        | 11,853.0              | 1,338.4      | -15.8        | 1,337.7                 | 1.75                    | -1.75                  | -0.09                 |
| 13,530.0              | 89.96           | 0.59        | 11,852.7              | 1,368.4      | -15.5        | 1,367.7                 | 5.15                    | -5.13                  | -0.43                 |
| 13,562.0              | 88.68           | 0.44        | 11,853.0              | 1,400.4      | -15.2        | 1,399.6                 | 4.03                    | -4.00                  | -0.47                 |
| 13,593.0              | 87.23           | 0.44        | 11,854.1              | 1,431.3      | -15.0        | 1,430.6                 | 4.68                    | -4.68                  | 0.00                  |
| 13,600.0              | 87.46           | 0.45        | 11,854.5              | 1,438.3      | -14.9        | 1,437.5                 | 3.23                    | 3.23                   | 0.10                  |
| 13,624.0              | 88.23           | 0.47        | 11,855.4              | 1,462.3      | -14.7        | 1,461.5                 | 3.23                    | 3.23                   | 0.10                  |
| 13,656.0              | 88.66           | 0.60        | 11,856.2              | 1,494.3      | -14.4        | 1,493.4                 | 1.40                    | 1.34                   | 0.41                  |
| 13,687.0              | 90.02           | 0.09        | 11,856.6              | 1,525.3      | -14.2        | 1,524.4                 | 4.69                    | 4.39                   | -1.65                 |
| 13,700.0              | 89.34           | 359.88      | 11,856.7              | 1,538.3      | -14.2        | 1,537.4                 | 5.46                    | -5.22                  | -1.59                 |
| 13,719.0              | 88.35           | 359.58      | 11,857.1              | 1,557.3      | -14.3        | 1,556.4                 | 5.46                    | -5.22                  | -1.59                 |
| 13,750.0              | 84.91           | 359.52      | 11,858.9              | 1,588.2      | -14.6        | 1,587.3                 | 11.10                   | -11.10                 | -0.19                 |
| 13,782.0              | 87.61           | 359.31      | 11,861.0              | 1,620.2      | -14.9        | 1,619.2                 | 8.46                    | 8.44                   | -0.66                 |
| 13,800.0              | 88.49           | 359.23      | 11,861.6              | 1,638.1      | -15.1        | 1,637.2                 | 4.89                    | 4.87                   | -0.45                 |
| 13,813.0              | 89.12           | 359.17      | 11,861.8              | 1,651.1      | -15.3        | 1,650.2                 | 4.89                    | 4.87                   | -0.45                 |
| 13,844.0              | 92.07           | 359.07      | 11,861.5              | 1,682.1      | -15.8        | 1,681.1                 | 9.52                    | 9.52                   | -0.32                 |
| 13,900.0              | 91.97           | 358.34      | 11,859.6              | 1,738.1      | -17.1        | 1,737.1                 | 1.31                    | -0.18                  | -1.30                 |
| 13,938.0              | 91.90           | 357.85      | 11,858.3              | 1,776.0      | -18.3        | 1,775.1                 | 1.31                    | -0.18                  | -1.30                 |

Database: EDM5000  
Company: Ameredev Operating, LLC.  
Project: NAN/GB  
Site: NAN/GB #3N  
Well: Nandina 103H  
Wellbore: Nandina 103H As Drilled  
Design: Final

Local Co-ordinate Reference: Well Nandina 103H  
TVD Reference: KB @ 3045.0usft  
MD Reference: KB @ 3045.0usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 14,000.0              | 90.51           | 0.46        | 11,857.0              | 1,838.0      | -19.2        | 1,837.0                 | 4.77                    | -2.24                  | 4.22                  |
| 14,064.0              | 89.08           | 3.16        | 11,857.2              | 1,902.0      | -17.2        | 1,900.8                 | 4.77                    | -2.24                  | 4.21                  |
| 14,100.0              | 87.52           | 3.43        | 11,858.3              | 1,937.9      | -15.1        | 1,936.6                 | 4.40                    | -4.33                  | 0.76                  |
| 14,127.0              | 86.35           | 3.64        | 11,859.7              | 1,964.8      | -13.5        | 1,963.4                 | 4.40                    | -4.33                  | 0.76                  |
| 14,200.0              | 87.91           | 1.66        | 11,863.4              | 2,037.6      | -10.1        | 2,036.0                 | 3.45                    | 2.14                   | -2.72                 |
| 14,222.0              | 88.38           | 1.06        | 11,864.1              | 2,059.6      | -9.6         | 2,058.0                 | 3.45                    | 2.14                   | -2.71                 |
| 14,300.0              | 87.56           | 0.09        | 11,866.8              | 2,137.6      | -8.8         | 2,135.8                 | 1.63                    | -1.05                  | -1.24                 |
| 14,317.0              | 87.38           | 359.88      | 11,867.6              | 2,154.5      | -8.8         | 2,152.8                 | 1.63                    | -1.05                  | -1.24                 |
| 14,400.0              | 87.05           | 359.85      | 11,871.6              | 2,237.4      | -9.0         | 2,235.6                 | 0.39                    | -0.39                  | -0.03                 |
| 14,411.0              | 87.01           | 359.85      | 11,872.2              | 2,248.4      | -9.0         | 2,246.6                 | 0.39                    | -0.39                  | -0.03                 |
| 14,500.0              | 86.16           | 359.32      | 11,877.5              | 2,337.3      | -9.7         | 2,335.3                 | 1.13                    | -0.96                  | -0.60                 |
| 14,505.0              | 86.11           | 359.29      | 11,877.8              | 2,342.3      | -9.7         | 2,340.3                 | 1.13                    | -0.96                  | -0.60                 |
| 14,599.0              | 89.34           | 358.92      | 11,881.6              | 2,436.2      | -11.2        | 2,434.2                 | 3.46                    | 3.44                   | -0.39                 |
| 14,600.0              | 89.31           | 358.90      | 11,881.6              | 2,437.2      | -11.2        | 2,435.2                 | 3.64                    | -2.97                  | -2.11                 |
| 14,694.0              | 86.52           | 356.91      | 11,885.0              | 2,531.0      | -14.6        | 2,529.1                 | 3.64                    | -2.97                  | -2.12                 |
| 14,700.0              | 86.53           | 357.07      | 11,885.4              | 2,537.0      | -15.0        | 2,535.1                 | 2.63                    | 0.16                   | 2.63                  |
| 14,788.0              | 86.67           | 359.38      | 11,890.6              | 2,624.8      | -17.7        | 2,622.9                 | 2.63                    | 0.16                   | 2.63                  |
| 14,800.0              | 86.73           | 359.57      | 11,891.3              | 2,636.8      | -17.8        | 2,634.9                 | 1.66                    | 0.52                   | 1.58                  |
| 14,884.0              | 87.17           | 0.90        | 11,895.7              | 2,720.6      | -17.4        | 2,718.7                 | 1.66                    | 0.52                   | 1.58                  |
| 14,900.0              | 87.29           | 0.41        | 11,896.5              | 2,736.6      | -17.3        | 2,734.6                 | 3.13                    | 0.73                   | -3.04                 |
| 14,979.0              | 87.87           | 358.01      | 11,899.8              | 2,815.5      | -18.4        | 2,813.5                 | 3.13                    | 0.74                   | -3.04                 |
| 15,000.0              | 88.16           | 358.24      | 11,900.6              | 2,836.5      | -19.0        | 2,834.5                 | 1.79                    | 1.40                   | 1.11                  |
| 15,073.0              | 89.19           | 359.05      | 11,902.3              | 2,909.5      | -20.8        | 2,907.5                 | 1.79                    | 1.40                   | 1.11                  |
| 15,100.0              | 87.73           | 359.23      | 11,903.0              | 2,936.5      | -21.2        | 2,934.5                 | 5.45                    | -5.41                  | 0.67                  |
| 15,169.0              | 84.00           | 359.70      | 11,908.0              | 3,005.3      | -21.8        | 3,003.2                 | 5.45                    | -5.41                  | 0.68                  |
| 15,200.0              | 84.50           | 359.96      | 11,911.1              | 3,036.1      | -21.9        | 3,034.0                 | 1.81                    | 1.60                   | 0.85                  |
| 15,264.0              | 85.52           | 0.51        | 11,916.6              | 3,099.9      | -21.6        | 3,097.7                 | 1.81                    | 1.60                   | 0.85                  |
| 15,300.0              | 87.48           | 1.02        | 11,918.8              | 3,135.8      | -21.2        | 3,133.6                 | 5.61                    | 5.43                   | 1.42                  |
| 15,359.0              | 90.68           | 1.86        | 11,919.8              | 3,194.8      | -19.7        | 3,192.4                 | 5.61                    | 5.43                   | 1.42                  |
| 15,400.0              | 89.04           | 1.22        | 11,919.9              | 3,235.7      | -18.6        | 3,233.3                 | 4.29                    | -3.99                  | -1.57                 |
| 15,452.0              | 86.97           | 0.40        | 11,921.7              | 3,287.7      | -17.8        | 3,285.2                 | 4.29                    | -3.99                  | -1.57                 |
| 15,500.0              | 88.11           | 0.42        | 11,923.7              | 3,335.7      | -17.5        | 3,333.1                 | 2.38                    | 2.37                   | 0.04                  |
| 15,548.0              | 89.25           | 0.44        | 11,924.8              | 3,383.6      | -17.1        | 3,381.0                 | 2.38                    | 2.38                   | 0.04                  |
| 15,600.0              | 91.23           | 359.90      | 11,924.6              | 3,435.6      | -17.0        | 3,432.9                 | 3.95                    | 3.81                   | -1.04                 |
| 15,643.0              | 92.87           | 359.45      | 11,923.1              | 3,478.6      | -17.2        | 3,475.9                 | 3.95                    | 3.81                   | -1.04                 |
| 15,700.0              | 92.71           | 358.91      | 11,920.3              | 3,535.5      | -18.0        | 3,532.8                 | 0.99                    | -0.28                  | -0.95                 |
| 15,738.0              | 92.60           | 358.55      | 11,918.6              | 3,573.5      | -18.9        | 3,570.7                 | 0.99                    | -0.28                  | -0.95                 |
| 15,800.0              | 93.61           | 359.16      | 11,915.2              | 3,635.4      | -20.1        | 3,632.6                 | 1.91                    | 1.64                   | 0.98                  |
| 15,834.0              | 94.17           | 359.49      | 11,912.9              | 3,669.3      | -20.5        | 3,666.5                 | 1.91                    | 1.64                   | 0.98                  |
| 15,900.0              | 93.52           | 0.64        | 11,908.5              | 3,735.2      | -20.4        | 3,732.3                 | 2.00                    | -0.99                  | 1.75                  |
| 15,929.0              | 93.23           | 1.15        | 11,906.8              | 3,764.1      | -20.0        | 3,761.2                 | 2.00                    | -0.99                  | 1.75                  |
| 16,000.0              | 90.38           | 1.82        | 11,904.5              | 3,835.0      | -18.2        | 3,832.0                 | 4.13                    | -4.02                  | 0.94                  |
| 16,024.0              | 89.41           | 2.04        | 11,904.6              | 3,859.0      | -17.3        | 3,855.9                 | 4.13                    | -4.02                  | 0.94                  |
| 16,100.0              | 90.00           | 2.94        | 11,905.0              | 3,934.9      | -14.0        | 3,931.6                 | 1.41                    | 0.77                   | 1.18                  |
| 16,117.0              | 90.13           | 3.14        | 11,904.9              | 3,951.9      | -13.1        | 3,948.5                 | 1.41                    | 0.77                   | 1.18                  |
| 16,200.0              | 90.51           | 356.88      | 11,904.5              | 4,034.9      | -13.1        | 4,031.4                 | 7.56                    | 0.46                   | -7.55                 |
| 16,212.0              | 90.57           | 355.97      | 11,904.4              | 4,046.9      | -13.9        | 4,043.4                 | 7.56                    | 0.46                   | -7.55                 |
| 16,244.0              | 91.72           | 353.47      | 11,903.7              | 4,078.7      | -16.8        | 4,075.4                 | 8.60                    | 3.59                   | -7.81                 |
| 16,300.0              | 92.94           | 349.19      | 11,901.4              | 4,134.0      | -25.3        | 4,131.0                 | 7.95                    | 2.18                   | -7.65                 |
| 16,307.0              | 93.09           | 348.65      | 11,901.1              | 4,140.9      | -26.6        | 4,137.9                 | 7.95                    | 2.16                   | -7.66                 |
| 16,354.0              | 93.42           | 349.87      | 11,898.4              | 4,187.0      | -35.3        | 4,184.3                 | 2.68                    | 0.70                   | 2.60                  |
| 16,400.0              | 92.16           | 352.69      | 11,896.2              | 4,232.4      | -42.3        | 4,230.0                 | 6.70                    | -2.73                  | 6.12                  |
| 16,403.0              | 92.08           | 352.87      | 11,896.1              | 4,235.4      | -42.7        | 4,233.0                 | 6.70                    | -2.74                  | 6.12                  |
| 16,467.0              | 88.83           | 356.70      | 11,895.6              | 4,299.1      | -48.5        | 4,296.9                 | 7.85                    | -5.08                  | 5.98                  |

Database: EDM5000  
Company: Ameredev Operating, LLC.  
Project: NAN/GB  
Site: NAN/GB #3N  
Well: Nandina 103H  
Wellbore: Nandina 103H As Drilled  
Design: Final

Local Co-ordinate Reference: Well Nandina 103H  
TVD Reference: KB @ 3045.0usft  
MD Reference: KB @ 3045.0usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 16,498.0              | 88.43           | 358.40      | 11,896.3              | 4,330.0      | -49.8        | 4,327.9                 | 5.63                    | -1.29                  | 5.48                  |
| 16,500.0              | 88.51           | 358.54      | 11,896.3              | 4,332.0      | -49.9        | 4,329.9                 | 8.11                    | 4.05                   | 7.02                  |
| 16,551.0              | 90.58           | 2.12        | 11,896.8              | 4,383.0      | -49.6        | 4,380.8                 | 8.11                    | 4.06                   | 7.02                  |
| 16,592.0              | 92.79           | 4.56        | 11,895.5              | 4,423.9      | -47.2        | 4,421.6                 | 8.03                    | 5.39                   | 5.95                  |
| 16,600.0              | 92.79           | 4.60        | 11,895.2              | 4,431.9      | -46.6        | 4,429.5                 | 0.53                    | 0.04                   | 0.53                  |
| 16,641.0              | 92.81           | 4.82        | 11,893.2              | 4,472.7      | -43.2        | 4,470.1                 | 0.53                    | 0.04                   | 0.53                  |
| 16,687.0              | 89.68           | 4.22        | 11,892.2              | 4,518.5      | -39.6        | 4,515.8                 | 6.93                    | -6.80                  | -1.30                 |
| 16,700.0              | 90.21           | 4.39        | 11,892.2              | 4,531.5      | -38.6        | 4,528.7                 | 4.27                    | 4.06                   | 1.32                  |
| 16,734.0              | 91.59           | 4.84        | 11,891.6              | 4,565.4      | -35.9        | 4,562.4                 | 4.27                    | 4.06                   | 1.32                  |
| 16,782.0              | 92.66           | 5.03        | 11,889.9              | 4,613.2      | -31.7        | 4,610.0                 | 2.26                    | 2.23                   | 0.40                  |
| 16,800.0              | 92.01           | 4.83        | 11,889.1              | 4,631.1      | -30.2        | 4,627.8                 | 3.81                    | -3.64                  | -1.13                 |
| 16,878.0              | 89.17           | 3.95        | 11,888.3              | 4,708.9      | -24.2        | 4,705.2                 | 3.81                    | -3.64                  | -1.12                 |
| 16,900.0              | 90.21           | 4.03        | 11,888.4              | 4,730.8      | -22.7        | 4,727.1                 | 4.76                    | 4.75                   | 0.35                  |
| 16,973.0              | 93.68           | 4.28        | 11,886.0              | 4,803.6      | -17.4        | 4,799.5                 | 4.76                    | 4.75                   | 0.35                  |
| 17,000.0              | 94.19           | 3.67        | 11,884.1              | 4,830.4      | -15.5        | 4,826.3                 | 2.92                    | 1.87                   | -2.24                 |
| 17,067.0              | 95.44           | 2.17        | 11,878.5              | 4,897.1      | -12.1        | 4,892.7                 | 2.92                    | 1.87                   | -2.25                 |
| 17,100.0              | 95.27           | 0.20        | 11,875.4              | 4,929.9      | -11.5        | 4,925.5                 | 5.96                    | -0.52                  | -5.96                 |
| 17,115.0              | 95.19           | 359.31      | 11,874.0              | 4,944.9      | -11.5        | 4,940.4                 | 5.96                    | -0.53                  | -5.96                 |
| 17,163.0              | 93.91           | 357.10      | 11,870.2              | 4,992.7      | -13.0        | 4,988.3                 | 5.31                    | -2.67                  | -4.60                 |
| 17,200.0              | 92.12           | 357.10      | 11,868.3              | 5,029.6      | -14.9        | 5,025.2                 | 4.84                    | -4.84                  | 0.00                  |
| 17,208.0              | 91.73           | 357.10      | 11,868.0              | 5,037.6      | -15.3        | 5,033.2                 | 4.84                    | -4.84                  | 0.00                  |
| 17,258.0              | 91.76           | 356.94      | 11,866.5              | 5,087.5      | -17.9        | 5,083.2                 | 0.33                    | 0.06                   | -0.32                 |
| 17,300.0              | 91.50           | 358.27      | 11,865.3              | 5,129.4      | -19.6        | 5,125.2                 | 3.23                    | -0.62                  | 3.17                  |
| 17,305.0              | 91.47           | 358.43      | 11,865.2              | 5,134.4      | -19.8        | 5,130.2                 | 3.23                    | -0.62                  | 3.17                  |
| 17,354.0              | 90.06           | 358.97      | 11,864.5              | 5,183.4      | -20.9        | 5,179.1                 | 3.08                    | -2.88                  | 1.10                  |
| 17,399.0              | 91.28           | 359.76      | 11,864.0              | 5,228.4      | -21.4        | 5,224.1                 | 3.23                    | 2.71                   | 1.76                  |
| 17,400.0              | 91.28           | 359.78      | 11,864.0              | 5,229.4      | -21.4        | 5,225.1                 | 1.56                    | -0.28                  | 1.54                  |
| 17,449.0              | 91.14           | 0.53        | 11,862.9              | 5,278.4      | -21.3        | 5,274.0                 | 1.56                    | -0.28                  | 1.54                  |
| 17,500.0              | 91.32           | 0.87        | 11,861.8              | 5,329.4      | -20.7        | 5,324.9                 | 0.75                    | 0.35                   | 0.66                  |
| 17,543.0              | 91.47           | 1.15        | 11,860.8              | 5,372.4      | -19.9        | 5,367.8                 | 0.75                    | 0.35                   | 0.66                  |
| 17,600.0              | 91.38           | 359.61      | 11,859.4              | 5,429.3      | -19.5        | 5,424.8                 | 2.70                    | -0.16                  | -2.69                 |
| 17,638.0              | 91.32           | 358.59      | 11,858.5              | 5,467.3      | -20.1        | 5,462.7                 | 2.70                    | -0.16                  | -2.69                 |
| 17,700.0              | 91.56           | 358.14      | 11,856.9              | 5,529.3      | -21.9        | 5,524.7                 | 0.82                    | 0.39                   | -0.73                 |
| 17,733.0              | 91.69           | 357.90      | 11,856.0              | 5,562.3      | -23.0        | 5,557.7                 | 0.82                    | 0.39                   | -0.73                 |
| 17,800.0              | 92.87           | 357.83      | 11,853.3              | 5,629.2      | -25.5        | 5,624.6                 | 1.77                    | 1.77                   | -0.11                 |
| 17,827.0              | 93.35           | 357.80      | 11,851.8              | 5,656.1      | -26.5        | 5,651.6                 | 1.77                    | 1.77                   | -0.11                 |
| 17,900.0              | 92.27           | 358.66      | 11,848.3              | 5,729.0      | -28.8        | 5,724.5                 | 1.89                    | -1.48                  | 1.18                  |
| 17,921.0              | 91.96           | 358.91      | 11,847.5              | 5,749.9      | -29.2        | 5,745.5                 | 1.89                    | -1.48                  | 1.18                  |
| 18,000.0              | 92.27           | 0.07        | 11,844.6              | 5,828.9      | -29.9        | 5,824.4                 | 1.52                    | 0.39                   | 1.47                  |
| 18,016.0              | 92.33           | 0.31        | 11,843.9              | 5,844.9      | -29.9        | 5,840.3                 | 1.52                    | 0.39                   | 1.47                  |
| 18,100.0              | 91.32           | 358.50      | 11,841.3              | 5,928.8      | -30.8        | 5,924.2                 | 2.47                    | -1.20                  | -2.16                 |
| 18,111.0              | 91.19           | 358.26      | 11,841.0              | 5,939.8      | -31.1        | 5,935.2                 | 2.47                    | -1.20                  | -2.16                 |
| 18,200.0              | 89.13           | 354.65      | 11,840.8              | 6,028.6      | -36.6        | 6,024.2                 | 4.67                    | -2.32                  | -4.05                 |
| 18,206.0              | 88.99           | 354.41      | 11,840.9              | 6,034.6      | -37.1        | 6,030.2                 | 4.67                    | -2.32                  | -4.05                 |
| 18,300.0              | 92.07           | 355.94      | 11,840.0              | 6,128.2      | -45.0        | 6,124.1                 | 3.66                    | 3.28                   | 1.62                  |
| 18,302.0              | 92.14           | 355.97      | 11,839.9              | 6,130.2      | -45.2        | 6,126.1                 | 3.66                    | 3.28                   | 1.63                  |
| 18,397.0              | 94.00           | 358.04      | 11,834.8              | 6,225.0      | -50.1        | 6,220.9                 | 2.93                    | 1.96                   | 2.18                  |
| 18,400.0              | 93.94           | 358.08      | 11,834.6              | 6,228.0      | -50.2        | 6,223.9                 | 2.61                    | -2.16                  | 1.47                  |
| 18,493.0              | 91.93           | 359.45      | 11,829.9              | 6,320.8      | -52.2        | 6,316.8                 | 2.61                    | -2.16                  | 1.47                  |
| 18,500.0              | 91.97           | 359.61      | 11,829.6              | 6,327.8      | -52.3        | 6,323.8                 | 2.32                    | 0.58                   | 2.25                  |
| 18,589.0              | 92.49           | 1.61        | 11,826.2              | 6,416.7      | -51.4        | 6,412.6                 | 2.32                    | 0.58                   | 2.25                  |
| 18,600.0              | 92.67           | 1.72        | 11,825.7              | 6,427.7      | -51.0        | 6,423.5                 | 1.93                    | 1.66                   | 0.98                  |
| 18,684.0              | 94.07           | 2.54        | 11,820.7              | 6,511.5      | -47.9        | 6,507.1                 | 1.93                    | 1.66                   | 0.98                  |
| 18,700.0              | 93.58           | 2.26        | 11,819.7              | 6,527.5      | -47.3        | 6,523.0                 | 3.50                    | -3.05                  | -1.72                 |

|           |                          |                              |                   |
|-----------|--------------------------|------------------------------|-------------------|
| Database: | EDM5000                  | Local Co-ordinate Reference: | Well Nandina 103H |
| Company:  | Ameredev Operating, LLC. | TVD Reference:               | KB @ 3045.0usft   |
| Project:  | NAN/GB                   | MD Reference:                | KB @ 3045.0usft   |
| Site:     | NAN/GB #3N               | North Reference:             | Grid              |
| Well:     | Nandina 103H             | Survey Calculation Method:   | Minimum Curvature |
| Wellbore: | Nandina 103H As Drilled  |                              |                   |
| Design:   | Final                    |                              |                   |

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 18,780.0              | 91.14           | 0.89        | 11,816.4              | 6,607.3      | -45.1        | 6,602.7                 | 3.50                    | -3.05                  | -1.72                 |
| 18,800.0              | 90.99           | 0.86        | 11,816.0              | 6,627.3      | -44.8        | 6,622.7                 | 0.77                    | -0.75                  | -0.17                 |
| 18,875.0              | 90.43           | 0.73        | 11,815.1              | 6,702.3      | -43.7        | 6,697.5                 | 0.77                    | -0.75                  | -0.17                 |
| 18,900.0              | 89.57           | 0.83        | 11,815.1              | 6,727.3      | -43.4        | 6,722.5                 | 3.47                    | -3.45                  | 0.41                  |
| 18,971.0              | 87.12           | 1.12        | 11,817.1              | 6,798.3      | -42.2        | 6,793.3                 | 3.47                    | -3.45                  | 0.41                  |
| 19,000.0              | 87.10           | 0.93        | 11,818.6              | 6,827.2      | -41.6        | 6,822.2                 | 0.65                    | -0.05                  | -0.65                 |
| 19,067.0              | 87.07           | 0.50        | 11,822.0              | 6,894.1      | -40.8        | 6,889.0                 | 0.65                    | -0.05                  | -0.65                 |
| 19,100.0              | 87.07           | 0.06        | 11,823.7              | 6,927.1      | -40.6        | 6,922.0                 | 1.33                    | -0.01                  | -1.33                 |
| 19,161.0              | 87.06           | 359.25      | 11,826.8              | 6,988.0      | -41.0        | 6,982.8                 | 1.33                    | -0.01                  | -1.33                 |
| 19,200.0              | 87.59           | 358.58      | 11,828.6              | 7,027.0      | -41.7        | 7,021.8                 | 2.18                    | 1.36                   | -1.71                 |
| 19,206.0              | 87.67           | 358.48      | 11,828.9              | 7,033.0      | -41.9        | 7,027.8                 | 2.18                    | 1.36                   | -1.71                 |
| 19,256.0              | 90.17           | 358.40      | 11,829.8              | 7,082.9      | -43.3        | 7,077.7                 | 5.00                    | 5.00                   | -0.16                 |
| 19,300.0              | 92.26           | 357.74      | 11,828.9              | 7,126.9      | -44.7        | 7,121.7                 | 4.98                    | 4.76                   | -1.49                 |
| 19,301.0              | 92.31           | 357.73      | 11,828.8              | 7,127.9      | -44.8        | 7,122.7                 | 4.98                    | 4.76                   | -1.49                 |
| 19,351.0              | 89.87           | 357.08      | 11,827.9              | 7,177.8      | -47.0        | 7,172.7                 | 5.05                    | -4.88                  | -1.30                 |
| 19,396.0              | 89.68           | 356.86      | 11,828.1              | 7,222.8      | -49.4        | 7,217.7                 | 0.65                    | -0.42                  | -0.49                 |
| 19,400.0              | 89.90           | 356.93      | 11,828.1              | 7,226.8      | -49.6        | 7,221.7                 | 5.89                    | 5.60                   | 1.84                  |
| 19,446.0              | 92.48           | 357.78      | 11,827.1              | 7,272.7      | -51.8        | 7,267.7                 | 5.89                    | 5.60                   | 1.84                  |
| 19,491.0              | 94.49           | 358.31      | 11,824.4              | 7,317.6      | -53.3        | 7,312.6                 | 4.62                    | 4.47                   | 1.18                  |
| 19,500.0              | 94.83           | 358.34      | 11,823.7              | 7,326.6      | -53.6        | 7,321.6                 | 3.74                    | 3.73                   | 0.37                  |
| 19,542.0              | 96.39           | 358.50      | 11,819.5              | 7,368.3      | -54.7        | 7,363.4                 | 3.74                    | 3.73                   | 0.37                  |
| 19,587.0              | 97.00           | 358.53      | 11,814.3              | 7,413.0      | -55.9        | 7,408.1                 | 1.36                    | 1.36                   | 0.07                  |
| 19,600.0              | 96.79           | 358.98      | 11,812.7              | 7,425.9      | -56.1        | 7,421.0                 | 3.76                    | -1.62                  | 3.42                  |
| 19,637.0              | 96.19           | 0.24        | 11,808.6              | 7,462.7      | -56.4        | 7,457.7                 | 3.76                    | -1.62                  | 3.42                  |
| 19,682.0              | 94.90           | 359.93      | 11,804.2              | 7,507.5      | -56.3        | 7,502.4                 | 2.95                    | -2.87                  | -0.69                 |
| 19,700.0              | 94.83           | 359.72      | 11,802.7              | 7,525.4      | -56.4        | 7,520.4                 | 1.20                    | -0.37                  | -1.14                 |
| 19,731.0              | 94.72           | 359.37      | 11,800.1              | 7,556.3      | -56.6        | 7,551.2                 | 1.20                    | -0.37                  | -1.14                 |
| 19,776.0              | 94.16           | 359.14      | 11,796.6              | 7,601.2      | -57.2        | 7,596.1                 | 1.34                    | -1.24                  | -0.51                 |
| 19,800.0              | 93.43           | 358.97      | 11,795.0              | 7,625.1      | -57.6        | 7,620.0                 | 3.14                    | -3.06                  | -0.72                 |
| 19,826.0              | 92.63           | 358.78      | 11,793.7              | 7,651.1      | -58.1        | 7,646.0                 | 3.14                    | -3.06                  | -0.72                 |
| 19,900.0              | 92.27           | 358.22      | 11,790.5              | 7,725.0      | -60.1        | 7,719.9                 | 0.90                    | -0.49                  | -0.75                 |
| 19,922.0              | 92.16           | 358.06      | 11,789.6              | 7,746.9      | -60.8        | 7,741.9                 | 0.90                    | -0.49                  | -0.75                 |
| 19,995.0              | 93.70           | 358.69      | 11,785.9              | 7,819.8      | -62.8        | 7,814.8                 | 2.28                    | 2.11                   | 0.86                  |
| 20,000.0              | 93.67           | 358.85      | 11,785.6              | 7,824.8      | -62.9        | 7,819.7                 | 3.22                    | -0.59                  | 3.18                  |
| 20,046.0              | 93.40           | 0.31        | 11,782.8              | 7,870.7      | -63.3        | 7,865.6                 | 3.22                    | -0.59                  | 3.18                  |
| 20,100.0              | 93.93           | 359.20      | 11,779.3              | 7,924.6      | -63.5        | 7,919.5                 | 2.27                    | 0.99                   | -2.05                 |
| 20,141.0              | 94.34           | 358.36      | 11,776.3              | 7,965.5      | -64.4        | 7,960.3                 | 2.27                    | 0.99                   | -2.05                 |
| 20,200.0              | 95.62           | 357.53      | 11,771.2              | 8,024.2      | -66.5        | 8,019.1                 | 2.58                    | 2.17                   | -1.41                 |
| 20,236.0              | 96.40           | 357.02      | 11,767.5              | 8,060.0      | -68.2        | 8,054.9                 | 2.58                    | 2.17                   | -1.41                 |
| 20,282.0              | 97.09           | 356.77      | 11,762.1              | 8,105.6      | -70.7        | 8,100.6                 | 1.59                    | 1.50                   | -0.54                 |
| 20,300.0              | 96.82           | 356.59      | 11,759.9              | 8,123.4      | -71.7        | 8,118.5                 | 1.81                    | -1.51                  | -1.00                 |
| 20,327.0              | 96.41           | 356.32      | 11,756.8              | 8,150.2      | -73.4        | 8,145.3                 | 1.81                    | -1.51                  | -1.00                 |
| 20,376.0              | 95.28           | 354.90      | 11,751.8              | 8,198.8      | -77.1        | 8,194.0                 | 3.69                    | -2.31                  | -2.90                 |
| 20,400.0              | 94.70           | 354.14      | 11,749.7              | 8,222.6      | -79.4        | 8,217.9                 | 3.97                    | -2.42                  | -3.16                 |
| 20,421.0              | 94.19           | 353.48      | 11,748.1              | 8,243.4      | -81.6        | 8,238.8                 | 3.97                    | -2.42                  | -3.15                 |
| 20,471.0              | 92.72           | 351.51      | 11,745.0              | 8,292.9      | -88.1        | 8,288.5                 | 4.91                    | -2.94                  | -3.94                 |
| 20,500.0              | 91.71           | 350.50      | 11,743.9              | 8,321.5      | -92.7        | 8,317.3                 | 4.92                    | -3.49                  | -3.47                 |
| 20,518.0              | 91.08           | 349.88      | 11,743.5              | 8,339.2      | -95.7        | 8,335.1                 | 4.92                    | -3.49                  | -3.47                 |
| 20,566.0              | 89.72           | 348.64      | 11,743.1              | 8,386.4      | -104.7       | 8,382.6                 | 3.83                    | -2.83                  | -2.58                 |
| 20,600.0              | 89.20           | 347.97      | 11,743.5              | 8,419.7      | -111.6       | 8,416.2                 | 2.48                    | -1.52                  | -1.96                 |
| 20,612.0              | 89.02           | 347.74      | 11,743.7              | 8,431.4      | -114.1       | 8,428.0                 | 2.48                    | -1.52                  | -1.96                 |
| 20,662.0              | 87.57           | 345.89      | 11,745.1              | 8,480.1      | -125.5       | 8,477.2                 | 4.70                    | -2.90                  | -3.70                 |
| 20,700.0              | 87.38           | 344.29      | 11,746.8              | 8,516.8      | -135.3       | 8,514.3                 | 4.25                    | -0.49                  | -4.22                 |
| 20,707.0              | 87.35           | 343.99      | 11,747.1              | 8,523.5      | -137.2       | 8,521.1                 | 4.25                    | -0.49                  | -4.22                 |

Database: EDM5000  
Company: Ameredev Operating, LLC.  
Project: NAN/GB  
Site: NAN/GB #3N  
Well: Nandina 103H  
Wellbore: Nandina 103H As Drilled  
Design: Final

Local Co-ordinate Reference: Well Nandina 103H  
TVD Reference: KB @ 3045.0usft  
MD Reference: KB @ 3045.0usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

### Planned Survey

| Measured Depth (usft)          | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|--------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 20,757.0                       | 87.46           | 342.51      | 11,749.4              | 8,571.3      | -151.6       | 8,569.5                 | 2.97                    | 0.22                   | -2.96                 |
| 20,800.0                       | 87.97           | 340.79      | 11,751.1              | 8,612.1      | -165.1       | 8,610.8                 | 4.17                    | 1.18                   | -4.00                 |
| 20,802.0                       | 87.99           | 340.71      | 11,751.2              | 8,614.0      | -165.8       | 8,612.7                 | 4.17                    | 1.18                   | -4.00                 |
| 20,852.0                       | 89.65           | 338.95      | 11,752.2              | 8,660.9      | -183.0       | 8,660.4                 | 4.84                    | 3.32                   | -3.52                 |
| 20,897.0                       | 91.80           | 337.24      | 11,751.6              | 8,702.6      | -199.8       | 8,702.8                 | 6.10                    | 4.78                   | -3.80                 |
| 20,900.0                       | 91.83           | 337.09      | 11,751.6              | 8,705.4      | -200.9       | 8,705.7                 | 5.02                    | 1.02                   | -4.92                 |
| 20,947.0                       | 92.31           | 334.78      | 11,749.9              | 8,748.3      | -220.1       | 8,749.4                 | 5.02                    | 1.02                   | -4.92                 |
| 20,992.0                       | 91.99           | 332.74      | 11,748.2              | 8,788.6      | -240.0       | 8,790.5                 | 4.59                    | -0.71                  | -4.53                 |
| 21,000.0                       | 91.61           | 332.61      | 11,747.9              | 8,795.7      | -243.6       | 8,797.8                 | 5.00                    | -4.72                  | -1.66                 |
| 21,042.0                       | 89.63           | 331.91      | 11,747.5              | 8,832.9      | -263.2       | 8,835.8                 | 5.00                    | -4.72                  | -1.66                 |
| 21,087.0                       | 87.37           | 331.27      | 11,748.6              | 8,872.5      | -284.6       | 8,876.3                 | 5.22                    | -5.02                  | -1.42                 |
| 21,100.0                       | 86.88           | 331.57      | 11,749.3              | 8,883.9      | -290.8       | 8,888.0                 | 4.41                    | -3.78                  | 2.28                  |
| 21,136.0                       | 85.52           | 332.39      | 11,751.7              | 8,915.6      | -307.7       | 8,920.4                 | 4.41                    | -3.78                  | 2.29                  |
| 21,181.0                       | 84.96           | 334.45      | 11,755.4              | 8,955.7      | -327.7       | 8,961.4                 | 4.73                    | -1.24                  | 4.58                  |
| 21,200.0                       | 84.99           | 335.23      | 11,757.1              | 8,972.8      | -335.8       | 8,978.8                 | 4.07                    | 0.16                   | 4.08                  |
| 21,230.0                       | 85.04           | 336.45      | 11,759.7              | 9,000.1      | -348.0       | 9,006.6                 | 4.07                    | 0.17                   | 4.08                  |
| 21,275.0                       | 85.46           | 338.52      | 11,763.4              | 9,041.5      | -365.2       | 9,048.8                 | 4.68                    | 0.93                   | 4.60                  |
| 21,300.0                       | 85.66           | 339.56      | 11,765.3              | 9,064.8      | -374.1       | 9,072.4                 | 4.22                    | 0.78                   | 4.16                  |
| 21,326.0                       | 85.86           | 340.64      | 11,767.3              | 9,089.2      | -382.9       | 9,097.2                 | 4.22                    | 0.79                   | 4.16                  |
| 21,371.0                       | 85.74           | 342.00      | 11,770.6              | 9,131.7      | -397.3       | 9,140.3                 | 3.03                    | -0.27                  | 3.02                  |
| 21,396.6                       | 86.18           | 343.10      | 11,772.4              | 9,156.0      | -405.0       | 9,164.9                 | 4.62                    | 1.72                   | 4.30                  |
| Nan103 Crosses Quarter Section |                 |             |                       |              |              |                         |                         |                        |                       |
| 21,400.0                       | 86.24           | 343.25      | 11,772.6              | 9,159.3      | -405.9       | 9,168.3                 | 4.62                    | 1.72                   | 4.30                  |
| 21,421.0                       | 86.60           | 344.15      | 11,773.9              | 9,179.4      | -411.8       | 9,188.6                 | 4.62                    | 1.72                   | 4.30                  |
| 21,466.0                       | 86.48           | 345.82      | 11,776.6              | 9,222.8      | -423.5       | 9,232.5                 | 3.71                    | -0.27                  | 3.71                  |
| 21,500.0                       | 86.50           | 347.28      | 11,778.7              | 9,255.8      | -431.4       | 9,265.8                 | 4.29                    | 0.06                   | 4.30                  |
| 21,516.0                       | 86.51           | 347.97      | 11,779.7              | 9,271.4      | -434.8       | 9,281.5                 | 4.29                    | 0.06                   | 4.30                  |
| 21,561.0                       | 86.78           | 349.56      | 11,782.3              | 9,315.4      | -443.5       | 9,326.0                 | 3.58                    | 0.60                   | 3.53                  |
| 21,600.0                       | 86.82           | 350.83      | 11,784.5              | 9,353.8      | -450.2       | 9,364.6                 | 3.24                    | 0.10                   | 3.24                  |
| 21,610.0                       | 86.83           | 351.15      | 11,785.0              | 9,363.7      | -451.7       | 9,374.5                 | 3.24                    | 0.10                   | 3.24                  |
| 21,655.0                       | 87.69           | 352.50      | 11,787.2              | 9,408.2      | -458.1       | 9,419.2                 | 3.55                    | 1.91                   | 3.00                  |
| 21,700.0                       | 87.34           | 353.18      | 11,789.1              | 9,452.8      | -463.7       | 9,464.1                 | 1.70                    | -0.77                  | 1.52                  |
| 21,703.0                       | 87.32           | 353.23      | 11,789.3              | 9,455.7      | -464.1       | 9,467.0                 | 1.70                    | -0.77                  | 1.52                  |
| 21,748.0                       | 87.48           | 353.98      | 11,791.3              | 9,500.4      | -469.1       | 9,511.9                 | 1.85                    | 0.31                   | 1.62                  |
| 21,796.0                       | 87.93           | 354.50      | 11,793.3              | 9,548.1      | -473.9       | 9,559.8                 | 1.49                    | 0.98                   | 1.13                  |
| 21,800.0                       | 87.90           | 354.53      | 11,793.4              | 9,552.1      | -474.3       | 9,563.8                 | 0.97                    | -0.67                  | 0.71                  |
| 21,841.0                       | 87.63           | 354.82      | 11,795.0              | 9,592.9      | -478.1       | 9,604.7                 | 0.97                    | -0.67                  | 0.71                  |
| 21,891.0                       | 88.74           | 356.30      | 11,796.6              | 9,642.7      | -482.0       | 9,654.6                 | 3.70                    | 2.22                   | 2.96                  |
| 21,900.0                       | 88.81           | 356.46      | 11,796.8              | 9,651.7      | -482.5       | 9,663.6                 | 1.90                    | 0.73                   | 1.76                  |
| 21,936.0                       | 89.07           | 357.09      | 11,797.4              | 9,687.6      | -484.6       | 9,699.6                 | 1.90                    | 0.73                   | 1.76                  |
| 21,985.0                       | 89.23           | 357.49      | 11,798.2              | 9,736.6      | -486.9       | 9,748.6                 | 0.88                    | 0.33                   | 0.82                  |
| 22,000.0                       | 89.47           | 357.91      | 11,798.3              | 9,751.6      | -487.5       | 9,763.6                 | 3.22                    | 1.60                   | 2.80                  |
| 22,030.0                       | 89.95           | 358.75      | 11,798.5              | 9,781.6      | -488.4       | 9,793.6                 | 3.22                    | 1.60                   | 2.80                  |
| 22,080.0                       | 90.67           | 0.60        | 11,798.2              | 9,831.6      | -488.6       | 9,843.6                 | 3.97                    | 1.44                   | 3.70                  |
| 22,100.0                       | 91.01           | 1.24        | 11,797.9              | 9,851.5      | -488.3       | 9,863.5                 | 3.64                    | 1.72                   | 3.21                  |
| 22,174.0                       | 92.29           | 3.62        | 11,795.8              | 9,925.4      | -485.2       | 9,937.2                 | 3.64                    | 1.72                   | 3.21                  |
| 22,200.0                       | 92.23           | 3.56        | 11,794.8              | 9,951.4      | -483.6       | 9,963.0                 | 0.35                    | -0.25                  | -0.25                 |
| 22,267.0                       | 92.06           | 3.39        | 11,792.3              | 10,018.2     | -479.5       | 10,029.6                | 0.35                    | -0.25                  | -0.25                 |
| 22,300.0                       | 92.80           | 3.54        | 11,790.9              | 10,051.1     | -477.5       | 10,062.4                | 2.30                    | 2.25                   | 0.46                  |
| 22,362.0                       | 94.20           | 3.83        | 11,787.1              | 10,112.9     | -473.5       | 10,123.9                | 2.30                    | 2.25                   | 0.46                  |
| 22,400.0                       | 94.20           | 3.83        | 11,784.3              | 10,150.7     | -471.0       | 10,161.6                | 0.00                    | 0.00                   | 0.00                  |
| 22,478.2                       | 94.20           | 3.83        | 11,778.6              | 10,228.5     | -465.8       | 10,239.1                | 0.00                    | 0.00                   | 0.00                  |
| Nan103 As Drilled LTP          |                 |             |                       |              |              |                         |                         |                        |                       |
| 22,500.0                       | 94.20           | 3.83        | 11,777.0              | 10,250.2     | -464.3       | 10,260.7                | 0.00                    | 0.00                   | 0.00                  |

|           |                          |                              |                   |
|-----------|--------------------------|------------------------------|-------------------|
| Database: | EDM5000                  | Local Co-ordinate Reference: | Well Nandina 103H |
| Company:  | Ameredev Operating, LLC. | TVD Reference:               | KB @ 3045.0usft   |
| Project:  | NAN/GB                   | MD Reference:                | KB @ 3045.0usft   |
| Site:     | NAN/GB #3N               | North Reference:             | Grid              |
| Well:     | Nandina 103H             | Survey Calculation Method:   | Minimum Curvature |
| Wellbore: | Nandina 103H As Drilled  |                              |                   |
| Design:   | Final                    |                              |                   |

**Planned Survey**

| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| 22,535.7                    | 94.20              | 3.83           | 11,774.4                    | 10,285.8        | -462.0          | 10,296.1                      | 0.00                          | 0.00                         | 0.00                        |
| Nan103 As Drilled BHL       |                    |                |                             |                 |                 |                               |                               |                              |                             |

**Design Targets****Target Name**

| - hit/miss target<br>- Shape                                  | Dip Angle<br>(°) | Dip Dir.<br>(°) | TVD<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | Latitude        | Longitude         |
|---------------------------------------------------------------|------------------|-----------------|---------------|-----------------|-----------------|--------------------|-------------------|-----------------|-------------------|
| Nan103 Crosses Quarte<br>- plan hits target center<br>- Point | 0.00             | 0.00            | 11,772.4      | 9,156.0         | -405.0          | 403,583.39         | 858,676.36        | 32° 6' 19.379 N | 103° 18' 30.493 W |
| Nan103 As Drilled BHL<br>- plan hits target center<br>- Point | 0.00             | 0.00            | 11,774.4      | 10,285.8        | -462.0          | 404,713.16         | 858,619.37        | 32° 6' 30.563 N | 103° 18' 31.030 W |
| Nan103 As Drilled LTP<br>- plan hits target center<br>- Point | 0.00             | 0.01            | 11,778.6      | 10,228.5        | -465.8          | 404,655.89         | 858,615.52        | 32° 6' 29.997 N | 103° 18' 31.081 W |
| Nan103 As Drilled FTP<br>- plan hits target center<br>- Point | 0.00             | 0.00            | 11,816.8      | -130.0          | -88.7           | 394,297.39         | 858,992.61        | 32° 4' 47.468 N | 103° 18' 27.843 W |