# Survey Report

| | | | |
|---|---|---|---|
| Service Company: | Aim Directional Services,LLC. | Location: | |
| Well: | NANDINA FED COM 25 36 31 112I | Rig: | Unit 103 |
| API or UWI: | 30-025-96195-0001 | Job Number: | WT-19-112 |
| State: | NEW MEXICO | Operating Company: | Ameredev |
| County: | LEA | Magnetic Declination: | 6 |
| Country: | UNITED STATES | Proposed Azimuth: | 359.48 |
| Comment | | North Reference: | GRID |
| | | Latitude: | 32.08021 |
| | | Longitude: | -103.309 |



Tie-In Data

| MD | Inclination | Azimuth | TVD | NS | EW |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 |

Survey Data

| MD | Inclination | Azimuth | TVD | NS | EW | CA | CD | VS | DLS |
|---|---|---|---|---|---|---|---|---|---|
| 211 | 1.05 | 155.22 | 210.99 | -1.76 | 0.81 | 155.22 | 1.93 | -1.76 | 0.5 |
| 366 | 1.23 | 207.51 | 365.96 | -4.52 | 0.64 | 171.98 | 4.56 | -4.53 | 0.66 |
| 456 | 0.53 | 237.22 | 455.95 | -5.6 | -0.16 | 181.63 | 5.6 | -5.6 | 0.9 |
| 548 | 1.41 | 221.13 | 547.94 | -6.69 | -1.26 | 190.68 | 6.8 | -6.67 | 0.99 |
| 638 | 0.53 | 198.11 | 637.92 | -7.92 | -2.12 | 194.99 | 8.19 | -7.9 | 1.05 |
| 703 | 0.92 | 248.73 | 702.92 | -8.39 | -2.7 | 197.83 | 8.81 | -8.37 | 1.1 |
| 795 | 1.27 | 246.71 | 794.9 | -9.06 | -4.32 | 205.51 | 10.04 | -9.02 | 0.38 |
| 882 | 1.85 | 222.19 | 881.87 | -10.48 | -6.15 | 210.41 | 12.15 | -10.43 | 1 |
| 973 | 2.02 | 238.62 | 972.82 | -12.41 | -8.51 | 214.44 | 15.04 | -12.33 | 0.64 |
| 1065 | 1.45 | 240.38 | 1064.78 | -13.83 | -10.9 | 218.26 | 17.61 | -13.73 | 0.62 |
| 1239 | 1.31 | 218.25 | 1238.73 | -16.48 | -14.05 | 220.45 | 21.65 | -16.35 | 0.31 |
| 1334 | 1.28 | 217.54 | 1333.7 | -18.17 | -15.37 | 220.22 | 23.8 | -18.03 | 0.04 |
| 1429 | 1.22 | 224.9 | 1428.68 | -19.73 | -16.73 | 220.3 | 25.87 | -19.58 | 0.18 |
| 1523 | 0.8 | 226.78 | 1522.67 | -20.89 | -17.91 | 220.62 | 27.52 | -20.72 | 0.45 |
| 1618 | 0.16 | 253.63 | 1617.66 | -21.38 | -18.52 | 220.91 | 28.29 | -21.21 | 0.7 |
| 1714 | 0.72 | 30.06 | 1713.66 | -20.89 | -18.35 | 221.29 | 27.81 | -20.73 | 0.88 |
| 1807 | 1.61 | 25.03 | 1806.64 | -19.2 | -17.5 | 222.35 | 25.98 | -19.04 | 0.96 |
| 1901 | 2.69 | 26.26 | 1900.57 | -16.03 | -15.97 | 224.89 | 22.63 | -15.88 | 1.15 |
| 1995 | 3.94 | 27.5 | 1994.41 | -11.19 | -13.5 | 230.36 | 17.53 | -11.06 | 1.33 |
| 2089 | 4.16 | 45.32 | 2088.18 | -5.92 | -9.59 | 238.29 | 11.27 | -5.84 | 1.35 |
| 2182 | 4.06 | 70.34 | 2180.95 | -2.44 | -4.09 | 239.12 | 4.76 | -2.41 | 1.92 |
| 2276 | 3.99 | 98.47 | 2274.73 | -1.81 | 2.28 | 128.38 | 2.91 | -1.83 | 2.08 |
| 2370 | 5.36 | 121.31 | 2368.42 | -4.57 | 9.27 | 116.25 | 10.33 | -4.65 | 2.43 |
| 2465 | 7.17 | 131.95 | 2462.85 | -10.84 | 17.47 | 121.82 | 20.56 | -11 | 2.26 |
| 2559 | 9.45 | 140.99 | 2555.86 | -20.76 | 26.69 | 127.87 | 33.81 | -21 | 2.79 |
| 2653 | 9.82 | 145.11 | 2648.54 | -33.33 | 36.13 | 132.69 | 49.16 | -33.66 | 0.83 |
| 2747 | 9.66 | 146.72 | 2741.18 | -46.5 | 45.05 | 135.91 | 64.74 | -46.91 | 0.34 |
| 2841 | 9.35 | 149.05 | 2833.89 | -59.64 | 53.3 | 138.21 | 79.99 | -60.12 | 0.53 |
| 2935 | 8.38 | 156.32 | 2926.77 | -72.46 | 59.98 | 140.38 | 94.07 | -73 | 1.57 |
| 3029 | 7.01 | 170.85 | 3019.93 | -84.4 | 63.64 | 142.98 | 105.71 | -84.98 | 2.52 |
| 3124 | 6.77 | 188.86 | 3114.26 | -95.66 | 63.7 | 146.34 | 114.93 | -96.23 | 2.28 |
| 3218 | 6.75 | 186.77 | 3207.6 | -106.62 | 62.2 | 149.74 | 123.43 | -107.18 | 0.26 |

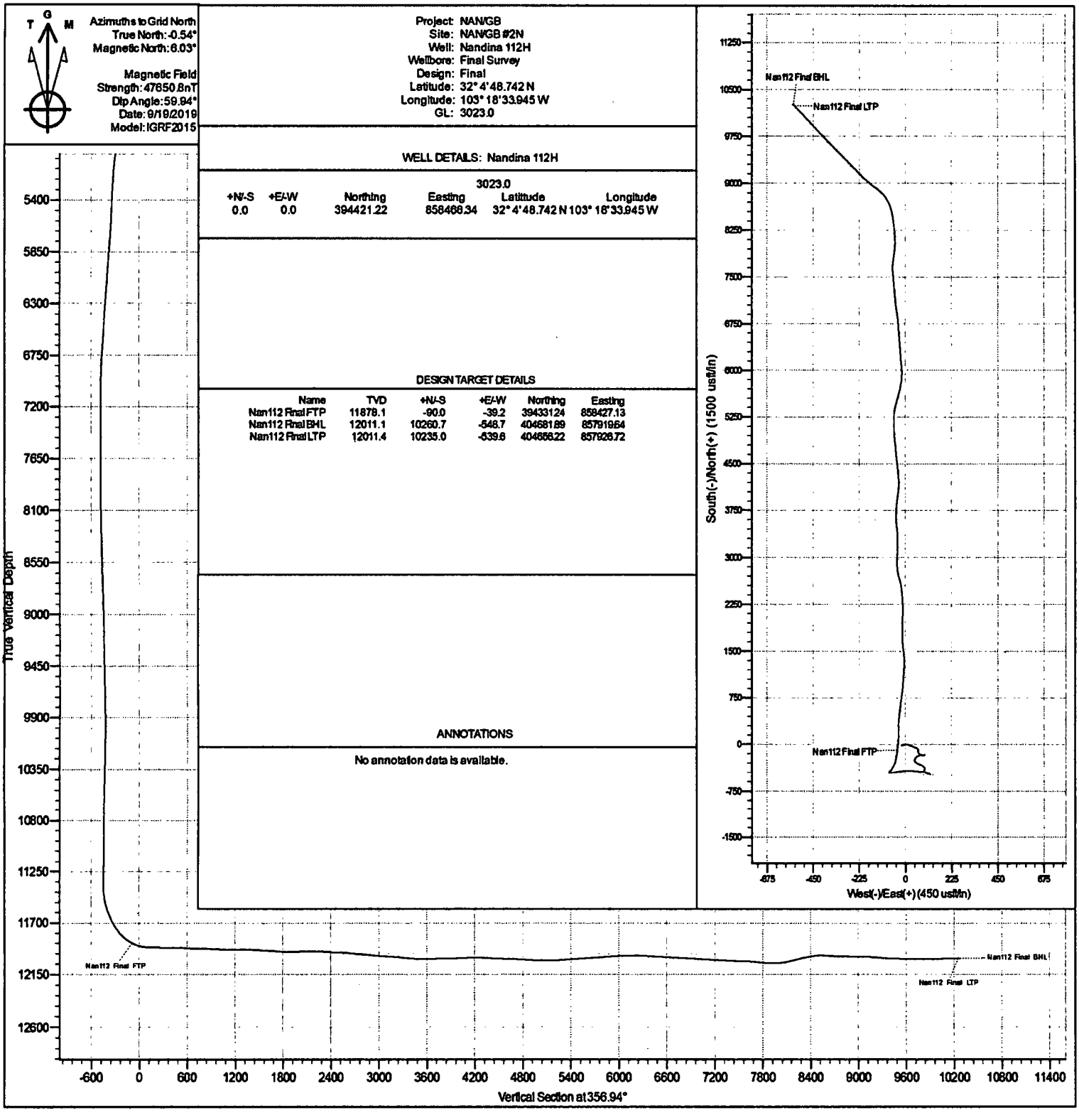
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 3312 | 6.57 | 180.11 | 3300.97 | -117.48 | 61.54 | 152.35 | 132.62 | -118.04 | 0.84 |
| 3406 | 6.54 | 172.41 | 3394.36 | -128.17 | 62.23 | 154.1 | 142.48 | -128.73 | 0.93 |
| 3501 | 6.56 | 165.29 | 3488.74 | -138.78 | 64.33 | 155.13 | 152.96 | -139.36 | 0.85 |
| 3595 | 6.65 | 165.66 | 3582.11 | -149.24 | 67.04 | 155.81 | 163.61 | -149.85 | 0.11 |
| 3689 | 6.47 | 175.85 | 3675.5 | -159.8 | 68.77 | 156.72 | 173.97 | -160.42 | 1.25 |
| 3784 | 6.47 | 136.06 | 3769.94 | -169 | 72.87 | 156.67 | 184.04 | -169.65 | 4.63 |
| 3879 | 6.01 | 105.71 | 3864.41 | -174.2 | 81.38 | 154.96 | 192.27 | -174.93 | 3.46 |
| 3974 | 5.78 | 63.67 | 3958.95 | -173.42 | 90.46 | 152.45 | 195.6 | -174.24 | 4.45 |
| 4069 | 1.76 | 338.16 | 4053.77 | -169.94 | 94.2 | 151 | 194.31 | -170.79 | 6.22 |
| 4164 | 5.81 | 272.59 | 4148.57 | -168.37 | 88.85 | 152.18 | 190.38 | -169.17 | 5.61 |
| 4258 | 6.83 | 250.49 | 4242.01 | -170.02 | 78.83 | 155.13 | 187.41 | -170.73 | 2.78 |
| 4353 | 7.72 | 224.53 | 4336.27 | -176.46 | 69.03 | 158.64 | 189.48 | -177.08 | 3.55 |
| 4448 | 9.63 | 208.29 | 4430.19 | -188.01 | 60.79 | 162.08 | 197.59 | -188.55 | 3.25 |
| 4543 | 11.17 | 200.33 | 4523.63 | -203.64 | 53.82 | 165.2 | 210.63 | -204.12 | 2.21 |
| 4637 | 11.67 | 194.01 | 4615.78 | -221.4 | 48.36 | 167.68 | 226.62 | -221.83 | 1.43 |
| 4731 | 11.89 | 186.93 | 4707.8 | -240.24 | 44.89 | 169.42 | 244.4 | -240.64 | 1.55 |
| 4826 | 11.38 | 177.51 | 4800.86 | -259.32 | 44.11 | 170.35 | 263.04 | -259.71 | 2.07 |
| 4919 | 12.01 | 165.17 | 4891.94 | -277.84 | 46.99 | 170.4 | 281.79 | -278.26 | 2.77 |
| 5015 | 10.75 | 156.36 | 4986.06 | -295.7 | 53.14 | 169.81 | 300.44 | -296.17 | 2.23 |
| 5110 | 9.09 | 148.87 | 5079.64 | -310.24 | 60.57 | 168.95 | 316.1 | -310.78 | 2.21 |
| 5204 | 7.51 | 142.26 | 5172.65 | -321.46 | 68.17 | 168.03 | 328.61 | -322.06 | 1.96 |
| 5299 | 6.03 | 141.42 | 5266.99 | -330.27 | 75.08 | 167.19 | 338.69 | -330.94 | 1.56 |
| 5394 | 4.02 | 154.56 | 5361.62 | -337.18 | 79.62 | 166.71 | 346.45 | -337.89 | 2.42 |
| 5488 | 4.86 | 158.77 | 5455.34 | -343.86 | 82.48 | 166.51 | 353.62 | -344.6 | 0.96 |
| 5583 | 4.89 | 158.31 | 5550 | -351.38 | 85.43 | 166.33 | 361.61 | -352.14 | 0.05 |
| 5678 | 4.84 | 159.3 | 5644.65 | -358.89 | 88.35 | 166.17 | 369.6 | -359.68 | 0.1 |
| 5772 | 5.44 | 159.84 | 5738.27 | -366.78 | 91.28 | 166.02 | 377.97 | -367.59 | 0.64 |
| 5867 | 5.22 | 167.04 | 5832.86 | -375.22 | 93.81 | 165.96 | 386.77 | -376.06 | 0.74 |
| 5962 | 5.33 | 177.99 | 5927.46 | -383.84 | 94.93 | 166.11 | 395.41 | -384.69 | 1.06 |
| 6057 | 5.32 | 190.34 | 6022.06 | -392.58 | 94.29 | 166.49 | 403.75 | -393.42 | 1.2 |
| 6152 | 5.86 | 191.33 | 6116.61 | -401.67 | 92.55 | 167.02 | 412.2 | -402.5 | 0.58 |
| 6247 | 5.73 | 186.43 | 6211.12 | -411.14 | 91.07 | 167.51 | 421.1 | -411.95 | 0.54 |
| 6342 | 5.79 | 179.51 | 6305.64 | -420.64 | 90.58 | 167.85 | 430.29 | -421.45 | 0.73 |
| 6436 | 5.74 | 171.13 | 6399.17 | -430.03 | 91.34 | 168.01 | 439.62 | -430.84 | 0.9 |
| 6531 | 5.75 | 164.58 | 6493.69 | -439.31 | 93.34 | 168 | 449.12 | -440.14 | 0.69 |
| 6625 | 5.94 | 157.3 | 6587.21 | -448.34 | 96.47 | 167.86 | 458.6 | -449.2 | 0.81 |
| 6719 | 6.09 | 149.22 | 6680.69 | -457.11 | 100.9 | 167.55 | 468.11 | -458.01 | 0.91 |
| 6814 | 5.8 | 141.69 | 6775.18 | -465.21 | 106.45 | 167.11 | 477.23 | -466.15 | 0.88 |
| 6908 | 4.32 | 136.79 | 6868.81 | -471.51 | 111.82 | 166.66 | 484.59 | -472.51 | 1.64 |
| 7004 | 3.02 | 134.26 | 6964.61 | -475.91 | 116.11 | 166.29 | 489.87 | -476.95 | 1.36 |
| 7099 | 1.91 | 126.46 | 7059.52 | -478.6 | 119.17 | 166.02 | 493.22 | -479.66 | 1.22 |
| 7193 | 0.42 | 138.46 | 7153.5 | -479.79 | 120.66 | 165.88 | 494.73 | -480.87 | 1.6 |
| 7288 | 0.12 | 304.13 | 7248.5 | -479.99 | 120.81 | 165.87 | 494.96 | -481.07 | 0.57 |
| 7383 | 0.19 | 296.28 | 7343.5 | -479.87 | 120.59 | 165.89 | 494.79 | -480.94 | 0.08 |
| 7478 | 0.08 | 114.47 | 7438.5 | -479.83 | 120.51 | 165.9 | 494.73 | -480.9 | 0.28 |
| 7496 | 0.09 | 126.62 | 7456.5 | -479.84 | 120.53 | 165.9 | 494.75 | -480.91 | 0.11 |
| 7559 | 0.04 | 49.89 | 7519.5 | -479.86 | 120.59 | 165.89 | 494.78 | -480.93 | 0.14 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 7654 | 0.15 | 353.35 | 7614.5 | -479.71 | 120.6 | 165.89 | 494.64 | -480.79 | 0.14 |
| 7748 | 0.39 | 320.68 | 7708.5 | -479.34 | 120.38 | 165.9 | 494.23 | -480.41 | 0.29 |
| 7842 | 0.57 | 321.13 | 7802.5 | -478.73 | 119.88 | 165.94 | 493.51 | -479.8 | 0.19 |
| 7936 | 0.81 | 321.21 | 7896.49 | -477.85 | 119.17 | 166 | 492.48 | -478.91 | 0.26 |
| 8029 | 1 | 321.72 | 7989.48 | -476.7 | 118.26 | 166.07 | 491.15 | -477.75 | 0.2 |
| 8124 | 1.51 | 322.61 | 8084.45 | -475.05 | 116.99 | 166.17 | 489.25 | -476.1 | 0.54 |
| 8219 | 1.83 | 328.58 | 8179.41 | -472.76 | 115.43 | 166.28 | 486.65 | -473.79 | 0.38 |
| 8313 | 1.97 | 327.55 | 8273.36 | -470.12 | 113.79 | 166.39 | 483.69 | -471.13 | 0.15 |
| 8408 | 1.83 | 329.95 | 8368.31 | -467.43 | 112.15 | 166.51 | 480.69 | -468.43 | 0.17 |
| 8502 | 1.78 | 326.51 | 8462.26 | -464.91 | 110.59 | 166.62 | 477.88 | -465.9 | 0.13 |
| 8597 | 2.24 | 320.85 | 8557.2 | -462.24 | 108.61 | 166.78 | 474.83 | -463.21 | 0.53 |
| 8653 | 2.58 | 319.79 | 8613.15 | -460.43 | 107.1 | 166.91 | 472.72 | -461.38 | 0.61 |
| 8692 | 2.78 | 317.95 | 8652.11 | -459.06 | 105.9 | 167.01 | 471.12 | -460 | 0.56 |
| 8786 | 2.84 | 317.15 | 8746 | -455.66 | 102.79 | 167.29 | 467.11 | -456.57 | 0.08 |
| 8880 | 2.93 | 310.88 | 8839.88 | -452.38 | 99.39 | 167.61 | 463.17 | -453.26 | 0.35 |
| 8961 | 3.15 | 310.66 | 8920.77 | -449.57 | 96.14 | 167.93 | 459.74 | -450.43 | 0.27 |
| 9068 | 3.56 | 302.88 | 9027.58 | -445.85 | 91.12 | 168.45 | 455.07 | -446.66 | 0.57 |
| 9113 | 3.93 | 297.81 | 9072.49 | -444.38 | 88.58 | 168.73 | 453.12 | -445.16 | 1.1 |
| 9176 | 4.26 | 293.57 | 9135.33 | -442.43 | 84.53 | 169.18 | 450.44 | -443.18 | 0.71 |
| 9271 | 5.1 | 286.64 | 9230.01 | -439.81 | 77.25 | 170.04 | 446.55 | -440.5 | 1.06 |
| 9349 | 5.55 | 285.24 | 9307.67 | -437.83 | 70.28 | 170.88 | 443.43 | -438.45 | 0.6 |
| 9443 | 5.62 | 288.5 | 9401.23 | -435.17 | 61.53 | 171.95 | 439.5 | -435.71 | 0.35 |
| 9538 | 5.36 | 287.14 | 9495.79 | -432.39 | 52.88 | 173.03 | 435.61 | -432.85 | 0.31 |
| 9633 | 5.22 | 283.9 | 9590.39 | -430.04 | 44.45 | 174.1 | 432.34 | -430.43 | 0.35 |
| 9727 | 5.51 | 281.98 | 9683.97 | -428.08 | 35.88 | 175.21 | 429.58 | -428.39 | 0.36 |
| 9821 | 5.44 | 278.81 | 9777.55 | -426.46 | 27.06 | 176.37 | 427.32 | -426.69 | 0.33 |
| 9916 | 5.15 | 277.83 | 9872.14 | -425.19 | 18.39 | 177.52 | 425.59 | -425.34 | 0.32 |
| 10011 | 5.5 | 266.59 | 9966.73 | -424.88 | 9.62 | 178.7 | 424.99 | -424.95 | 1.16 |
| 10105 | 5.86 | 258.77 | 10060.27 | -426.08 | 0.42 | 179.94 | 426.08 | -426.07 | 0.91 |
| 10220 | 5.53 | 253.28 | 10174.71 | -428.82 | -10.65 | 181.42 | 428.95 | -428.71 | 0.55 |
| 10314 | 4.81 | 250.58 | 10268.32 | -431.43 | -18.7 | 182.48 | 431.84 | -431.25 | 0.81 |
| 10409 | 4.89 | 244.4 | 10362.98 | -434.51 | -26.11 | 183.44 | 435.29 | -434.25 | 0.56 |
| 10503 | 4.48 | 242.61 | 10456.67 | -437.93 | -32.98 | 184.31 | 439.17 | -437.61 | 0.46 |
| 10598 | 4.59 | 233.48 | 10551.37 | -441.9 | -39.33 | 185.09 | 443.64 | -441.52 | 0.77 |
| 10687 | 4.18 | 237.86 | 10640.11 | -445.74 | -44.94 | 185.76 | 448 | -445.32 | 0.59 |
| 10782 | 5.04 | 254.78 | 10734.81 | -448.68 | -51.9 | 186.6 | 451.67 | -448.19 | 1.68 |
| 10876 | 6.19 | 265.71 | 10828.36 | -450.14 | -60.94 | 187.71 | 454.25 | -449.57 | 1.67 |
| 10970 | 4.53 | 268.45 | 10921.94 | -450.62 | -69.7 | 188.79 | 455.98 | -449.97 | 1.79 |
| 11064 | 2.11 | 259.94 | 11015.78 | -451.02 | -75.12 | 189.46 | 457.24 | -450.32 | 2.62 |
| 11158 | 1.18 | 244.14 | 11109.74 | -451.75 | -77.69 | 189.76 | 458.38 | -451.03 | 1.09 |
| 11252 | 0.66 | 221.57 | 11203.73 | -452.58 | -78.92 | 189.89 | 459.41 | -451.84 | 0.66 |
| 11278 | 0.75 | 219.62 | 11229.73 | -452.82 | -79.13 | 189.91 | 459.68 | -452.08 | 0.36 |
| 11434 | 0.46 | 244.79 | 11385.72 | -453.87 | -80.35 | 190.04 | 460.93 | -453.12 | 0.25 |
| 11466 | 4.59 | 17.49 | 11417.69 | -452.71 | -80.08 | 190.03 | 459.73 | -451.96 | 15.35 |
| 11497 | 9.64 | 18.63 | 11448.44 | -449.06 | -78.88 | 189.96 | 455.94 | -448.33 | 16.3 |
| 11529 | 15.01 | 17.7 | 11479.69 | -442.57 | -76.76 | 189.84 | 449.18 | -441.85 | 16.79 |
| 11623 | 23.61 | 10.34 | 11568.33 | -412.39 | -69.67 | 189.59 | 418.24 | -411.74 | 9.49 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 11719 | 33.48 | 10.24 | 11652.56 | -367.31 | -61.49 | 189.5 | 372.42 | -366.74 | 10.28 |
| 11811 | 41.14 | 7.28 | 11725.68 | -312.24 | -53.13 | 189.66 | 316.72 | -311.74 | 8.55 |
| 11905 | 50.14 | 3.62 | 11791.35 | -245.41 | -46.92 | 190.82 | 249.85 | -244.97 | 9.97 |
| 11998 | 62.06 | 3.15 | 11843.12 | -168.49 | -42.39 | 194.12 | 173.74 | -168.1 | 12.82 |
| 12091 | 70.64 | 1.41 | 11880.4 | -83.45 | -39.05 | 205.08 | 92.13 | -83.09 | 9.38 |
| 12185 | 79.52 | 1.84 | 11904.58 | 7.25 | -36.47 | 281.25 | 37.18 | 7.58 | 9.46 |
| 12279 | 88.82 | 1.06 | 11914.11 | 100.63 | -34.11 | 341.28 | 106.26 | 100.94 | 9.93 |
| 12375 | 88.36 | 359.86 | 11916.48 | 196.6 | -33.34 | 350.38 | 199.41 | 196.89 | 1.34 |
| 12470 | 89.88 | 359.86 | 11917.94 | 291.58 | -33.57 | 353.43 | 293.51 | 291.88 | 1.6 |
| 12565 | 90.42 | 1.63 | 11917.69 | 386.57 | -32.34 | 355.22 | 387.92 | 386.85 | 1.95 |
| 12660 | 88.52 | 2.11 | 11918.57 | 481.51 | -29.24 | 356.53 | 482.4 | 481.76 | 2.06 |
| 12755 | 87.18 | 1.76 | 11922.13 | 576.39 | -26.03 | 357.41 | 576.98 | 576.6 | 1.46 |
| 12849 | 88.56 | 2.67 | 11925.62 | 670.25 | -22.4 | 358.09 | 670.63 | 670.43 | 1.76 |
| 12945 | 89.52 | 2.38 | 11927.23 | 766.14 | -18.17 | 358.64 | 766.36 | 766.28 | 1.04 |
| 13040 | 89.22 | 2.06 | 11928.28 | 861.07 | -14.49 | 359.04 | 861.19 | 861.16 | 0.46 |
| 13136 | 87.52 | 1.04 | 11931.01 | 956.99 | -11.9 | 359.29 | 957.06 | 957.06 | 2.06 |
| 13231 | 88.86 | 1.23 | 11934.01 | 1051.92 | -10.01 | 359.45 | 1051.97 | 1051.97 | 1.42 |
| 13326 | 89.94 | 1 | 11935 | 1146.89 | -8.17 | 359.59 | 1146.92 | 1146.92 | 1.16 |
| 13421 | 90.72 | 1.13 | 11934.45 | 1241.88 | -6.4 | 359.7 | 1241.89 | 1241.88 | 0.83 |
| 13517 | 88.95 | 359.74 | 11934.73 | 1337.87 | -5.67 | 359.76 | 1337.88 | 1337.86 | 2.34 |
| 13613 | 87.87 | 358.53 | 11937.39 | 1433.82 | -7.12 | 359.72 | 1433.83 | 1433.82 | 1.69 |
| 13708 | 87.84 | 357.71 | 11940.95 | 1528.7 | -10.23 | 359.62 | 1528.73 | 1528.73 | 0.86 |
| 13804 | 87.81 | 358.69 | 11944.59 | 1624.58 | -13.25 | 359.53 | 1624.63 | 1624.63 | 1.02 |
| 13899 | 86.65 | 0.48 | 11949.19 | 1719.46 | -13.94 | 359.54 | 1719.52 | 1719.52 | 2.24 |
| 13995 | 88.92 | 359.95 | 11952.9 | 1815.38 | -13.58 | 359.57 | 1815.43 | 1815.43 | 2.43 |
| 14090 | 90.62 | 0.1 | 11953.28 | 1910.38 | -13.53 | 359.59 | 1910.42 | 1910.42 | 1.8 |
| 14186 | 90.35 | 0.07 | 11952.46 | 2006.37 | -13.39 | 359.62 | 2006.42 | 2006.41 | 0.28 |
| 14281 | 91.41 | 0.54 | 11951.01 | 2101.36 | -12.89 | 359.65 | 2101.4 | 2101.39 | 1.22 |
| 14377 | 90.54 | 359.71 | 11949.37 | 2197.34 | -12.68 | 359.67 | 2197.38 | 2197.37 | 1.25 |
| 14472 | 86.99 | 359.29 | 11951.42 | 2292.3 | -13.51 | 359.66 | 2292.34 | 2292.33 | 3.76 |
| 14567 | 88.04 | 358.78 | 11955.54 | 2387.2 | -15.1 | 359.64 | 2387.25 | 2387.24 | 1.23 |
| 14662 | 89.39 | 358.01 | 11957.67 | 2482.13 | -17.76 | 359.59 | 2482.2 | 2482.19 | 1.64 |
| 14758 | 85.83 | 356.24 | 11961.67 | 2577.91 | -22.57 | 359.5 | 2578.01 | 2578.01 | 4.14 |
| 14853 | 85.4 | 354.73 | 11968.94 | 2672.34 | -30.03 | 359.36 | 2672.5 | 2672.5 | 1.65 |
| 14949 | 87.82 | 357.7 | 11974.61 | 2767.94 | -36.35 | 359.25 | 2768.18 | 2768.16 | 3.99 |
| 15044 | 84.22 | 358.09 | 11981.21 | 2862.63 | -39.83 | 359.2 | 2862.91 | 2862.88 | 3.81 |
| 15162 | 87.85 | 0.97 | 11989.37 | 2980.31 | -40.79 | 359.22 | 2980.59 | 2980.56 | 3.92 |
| 15257 | 87.46 | 1.42 | 11993.25 | 3075.21 | -38.81 | 359.28 | 3075.46 | 3075.44 | 0.63 |
| 15352 | 87.37 | 0.48 | 11997.54 | 3170.1 | -37.24 | 359.33 | 3170.32 | 3170.31 | 0.99 |
| 15447 | 85.9 | 359.8 | 12003.11 | 3264.93 | -37.01 | 359.35 | 3265.14 | 3265.14 | 1.7 |
| 15542 | 86.66 | 358.89 | 12009.28 | 3359.73 | -38.09 | 359.35 | 3359.94 | 3359.93 | 1.25 |
| 15638 | 87.11 | 358.13 | 12014.49 | 3455.55 | -40.58 | 359.33 | 3455.79 | 3455.78 | 0.92 |
| 15733 | 90.35 | 358.11 | 12016.6 | 3550.46 | -43.7 | 359.29 | 3550.73 | 3550.71 | 3.41 |
| 15829 | 91.2 | 359.94 | 12015.3 | 3646.44 | -45.33 | 359.29 | 3646.72 | 3646.7 | 2.1 |
| 15924 | 90.38 | 1.19 | 12013.99 | 3741.42 | -44.39 | 359.32 | 3741.68 | 3741.67 | 1.57 |
| 16020 | 91.22 | 1.81 | 12012.65 | 3837.38 | -41.88 | 359.37 | 3837.61 | 3837.6 | 1.09 |
| 16115 | 90.44 | 1.77 | 12011.27 | 3932.32 | -38.91 | 359.43 | 3932.51 | 3932.51 | 0.82 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 16210 | 92.01 | 2.5 | 12009.24 | 4027.23 | -35.38 | 359.5 | 4027.38 | 4027.38 | 1.82 |
| 16305 | 91.94 | 1.15 | 12005.97 | 4122.12 | -32.35 | 359.55 | 4122.25 | 4122.25 | 1.42 |
| 16399 | 89.6 | 359.39 | 12004.71 | 4216.1 | -31.91 | 359.57 | 4216.22 | 4216.22 | 3.11 |
| 16494 | 88.05 | 358.23 | 12006.65 | 4311.06 | -33.88 | 359.55 | 4311.19 | 4311.19 | 2.04 |
| 16589 | 87.92 | 358.39 | 12009.99 | 4405.96 | -36.68 | 359.52 | 4406.11 | 4406.11 | 0.22 |
| 16684 | 88.72 | 358.18 | 12012.78 | 4500.87 | -39.52 | 359.5 | 4501.05 | 4501.05 | 0.87 |
| 16779 | 88.29 | 358.06 | 12015.26 | 4595.79 | -42.64 | 359.47 | 4595.99 | 4595.99 | 0.47 |
| 16874 | 89.25 | 358.52 | 12017.3 | 4690.72 | -45.47 | 359.44 | 4690.94 | 4690.94 | 1.12 |
| 16969 | 88.01 | 358.64 | 12019.57 | 4785.67 | -47.83 | 359.43 | 4785.9 | 4785.9 | 1.31 |
| 17064 | 87.2 | 357.83 | 12023.54 | 4880.54 | -50.75 | 359.4 | 4880.8 | 4880.8 | 1.21 |
| 17159 | 87.96 | 359 | 12027.55 | 4975.41 | -53.38 | 359.39 | 4975.7 | 4975.69 | 1.47 |
| 17254 | 89.65 | 0.23 | 12029.53 | 5070.38 | -54.01 | 359.39 | 5070.67 | 5070.67 | 2.2 |
| 17353 | 91.83 | 359.19 | 12028.25 | 5169.37 | -54.51 | 359.4 | 5169.65 | 5169.65 | 2.44 |
| 17446 | 92.4 | 0.12 | 12024.82 | 5262.3 | -55.07 | 359.4 | 5262.59 | 5262.58 | 1.17 |
| 17540 | 92.84 | 3.55 | 12020.52 | 5356.14 | -52.07 | 359.44 | 5356.39 | 5356.39 | 3.68 |
| 17634 | 92.46 | 4.09 | 12016.18 | 5449.83 | -45.81 | 359.52 | 5450.02 | 5450.02 | 0.7 |
| 17731 | 92.49 | 4.54 | 12011.99 | 5546.46 | -38.52 | 359.6 | 5546.6 | 5546.59 | 0.46 |
| 17826 | 92.55 | 4.47 | 12007.81 | 5641.08 | -31.07 | 359.68 | 5641.17 | 5641.13 | 0.1 |
| 17921 | 93 | 3.82 | 12003.21 | 5735.72 | -24.21 | 359.76 | 5735.77 | 5735.7 | 0.83 |
| 18017 | 92.68 | 2.01 | 11998.45 | 5831.47 | -19.33 | 359.81 | 5831.51 | 5831.41 | 1.91 |
| 18111 | 93.1 | 0.43 | 11993.71 | 5925.33 | -17.33 | 359.83 | 5925.35 | 5925.24 | 1.74 |
| 18206 | 91.78 | 358.87 | 11989.67 | 6020.24 | -17.91 | 359.83 | 6020.26 | 6020.15 | 2.15 |
| 18301 | 90.44 | 358.07 | 11987.83 | 6115.18 | -20.45 | 359.81 | 6115.22 | 6115.12 | 1.64 |
| 18397 | 90.25 | 359.09 | 11987.25 | 6211.15 | -22.83 | 359.79 | 6211.19 | 6211.1 | 1.08 |
| 18492 | 88.03 | 358.51 | 11988.68 | 6306.11 | -24.82 | 359.77 | 6306.16 | 6306.08 | 2.42 |
| 18586 | 87.46 | 358.65 | 11992.38 | 6400.01 | -27.15 | 359.76 | 6400.07 | 6399.99 | 0.62 |
| 18682 | 87.94 | 358.96 | 11996.23 | 6495.91 | -29.15 | 359.74 | 6495.98 | 6495.91 | 0.6 |
| 18777 | 87.81 | 358.47 | 11999.75 | 6590.82 | -31.27 | 359.73 | 6590.9 | 6590.83 | 0.53 |
| 18872 | 87.74 | 358.91 | 12003.44 | 6685.72 | -33.44 | 359.71 | 6685.81 | 6685.75 | 0.47 |
| 18967 | 88.05 | 358.63 | 12006.93 | 6780.64 | -35.48 | 359.7 | 6780.73 | 6780.68 | 0.44 |
| 19061 | 87.58 | 357.37 | 12010.51 | 6874.51 | -38.76 | 359.68 | 6874.62 | 6874.58 | 1.43 |
| 19156 | 87.62 | 357.54 | 12014.49 | 6969.33 | -42.98 | 359.65 | 6969.47 | 6969.44 | 0.18 |
| 19250 | 87.71 | 357.88 | 12018.32 | 7063.18 | -46.73 | 359.62 | 7063.34 | 7063.31 | 0.37 |
| 19344 | 87.8 | 358.43 | 12022 | 7157.06 | -49.75 | 359.6 | 7157.23 | 7157.22 | 0.59 |
| 19438 | 88.08 | 358.47 | 12025.38 | 7250.96 | -52.29 | 359.59 | 7251.15 | 7251.14 | 0.3 |
| 19531 | 87.39 | 357.99 | 12029.06 | 7343.85 | -55.16 | 359.57 | 7344.05 | 7344.04 | 0.9 |
| 19625 | 88.38 | 358.46 | 12032.53 | 7437.74 | -58.07 | 359.55 | 7437.96 | 7437.96 | 1.17 |
| 19719 | 88.78 | 358.66 | 12034.86 | 7531.68 | -60.43 | 359.54 | 7531.92 | 7531.92 | 0.48 |
| 19812 | 89.41 | 358.54 | 12036.32 | 7624.64 | -62.71 | 359.53 | 7624.89 | 7624.89 | 0.69 |
| 19837 | 87.04 | 0 | 12037.1 | 7649.62 | -63.02 | 359.53 | 7649.88 | 7649.88 | 11.13 |
| 19868 | 85.75 | 1.45 | 12039.05 | 7680.56 | -62.63 | 359.53 | 7680.81 | 7680.81 | 6.25 |
| 19932 | 85.16 | 1.99 | 12044.12 | 7744.32 | -60.72 | 359.55 | 7744.56 | 7744.56 | 1.25 |
| 20026 | 87.23 | 2.58 | 12050.36 | 7838.04 | -56.98 | 359.58 | 7838.24 | 7838.23 | 2.29 |
| 20119 | 90.29 | 2.53 | 12052.37 | 7930.91 | -52.83 | 359.62 | 7931.09 | 7931.07 | 3.29 |
| 20214 | 93.52 | 0.69 | 12049.21 | 8025.81 | -50.17 | 359.64 | 8025.96 | 8025.93 | 3.91 |
| 20309 | 97.95 | 359.01 | 12039.72 | 8120.3 | -50.41 | 359.64 | 8120.46 | 8120.43 | 4.98 |
| 20404 | 100.18 | 358.45 | 12024.75 | 8214.09 | -52.49 | 359.63 | 8214.25 | 8214.22 | 2.42 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 20500 | 99.32 | 357.57 | 12008.5 | 8308.64 | -55.77 | 359.62 | 8308.83 | 8308.81 | 1.27 |
| 20596 | 96.68 | 357.77 | 11995.14 | 8403.62 | -59.64 | 359.59 | 8403.83 | 8403.82 | 2.76 |
| 20690 | 93.29 | 356.75 | 11986.97 | 8497.14 | -64.11 | 359.57 | 8497.38 | 8497.37 | 3.76 |
| 20740 | 88.43 | 355.11 | 11986.22 | 8546.99 | -67.66 | 359.55 | 8547.26 | 8547.26 | 10.26 |
| 20783 | 87.79 | 355.96 | 11987.64 | 8589.84 | -71.01 | 359.53 | 8590.13 | 8590.13 | 2.47 |
| 20878 | 88.53 | 351.87 | 11990.69 | 8684.23 | -81.07 | 359.47 | 8684.61 | 8684.61 | 4.37 |
| 20972 | 88.61 | 347.59 | 11993.04 | 8776.68 | -97.82 | 359.36 | 8777.22 | 8777.2 | 4.55 |
| 21067 | 89.63 | 341.62 | 11994.5 | 8868.22 | -123.03 | 359.21 | 8869.07 | 8868.97 | 6.37 |
| 21108 | 87.43 | 338.08 | 11995.55 | 8906.69 | -137.14 | 359.12 | 8907.74 | 8907.56 | 10.16 |
| 21140 | 87.8 | 337.46 | 11996.88 | 8936.28 | -149.24 | 359.04 | 8937.53 | 8937.27 | 2.25 |
| 21171 | 88.49 | 337.96 | 11997.88 | 8964.95 | -160.99 | 358.97 | 8966.39 | 8966.04 | 2.75 |
| 21203 | 89.53 | 339.22 | 11998.44 | 8994.74 | -172.67 | 358.9 | 8996.39 | 8995.93 | 5.11 |
| 21235 | 89.45 | 340.43 | 11998.72 | 9024.77 | -183.7 | 358.83 | 9026.64 | 9026.07 | 3.79 |
| 21304 | 92.12 | 342.85 | 11997.78 | 9090.24 | -205.43 | 358.71 | 9092.56 | 9091.73 | 5.22 |
| 21335 | 90.11 | 343.23 | 11997.17 | 9119.89 | -214.47 | 358.65 | 9122.41 | 9121.46 | 6.6 |
| 21367 | 86.76 | 342.67 | 11998.05 | 9150.46 | -223.85 | 358.6 | 9153.2 | 9152.12 | 10.61 |
| 21399 | 86.61 | 342.65 | 11999.9 | 9180.96 | -233.37 | 358.54 | 9183.92 | 9182.7 | 0.47 |
| 21430 | 87.37 | 343.31 | 12001.52 | 9210.56 | -242.43 | 358.49 | 9213.75 | 9212.38 | 3.25 |
| 21462 | 86.77 | 343.28 | 12003.16 | 9241.17 | -251.62 | 358.44 | 9244.59 | 9243.07 | 1.88 |
| 21525 | 86.63 | 343.17 | 12006.79 | 9301.39 | -269.77 | 358.34 | 9305.3 | 9303.45 | 0.28 |
| 21620 | 87.73 | 343.05 | 12011.46 | 9392.18 | -297.34 | 358.19 | 9396.88 | 9394.49 | 1.16 |
| 21715 | 89.44 | 343.5 | 12013.81 | 9483.13 | -324.67 | 358.04 | 9488.68 | 9485.68 | 1.86 |
| 21810 | 89.16 | 344.19 | 12014.97 | 9574.37 | -351.1 | 357.9 | 9580.8 | 9577.16 | 0.78 |
| 21906 | 89.73 | 343.29 | 12015.9 | 9666.52 | -377.98 | 357.76 | 9673.91 | 9669.56 | 1.11 |
| 22001 | 90.18 | 343.87 | 12015.97 | 9757.65 | -404.83 | 357.62 | 9766.04 | 9760.92 | 0.77 |
| 22097 | 90.17 | 344.12 | 12015.68 | 9849.93 | -431.3 | 357.49 | 9859.36 | 9853.44 | 0.26 |
| 22192 | 90.73 | 344.58 | 12014.93 | 9941.4 | -456.93 | 357.37 | 9951.9 | 9945.14 | 0.76 |
| 22287 | 90.78 | 344.23 | 12013.68 | 10032.9 | -482.46 | 357.25 | 10044.49 | 10036.86 | 0.37 |
| 22382 | 90.4 | 344.04 | 12012.7 | 10124.27 | -508.43 | 357.13 | 10137.03 | 10128.47 | 0.45 |
| 22433 | 89.34 | 343.29 | 12012.82 | 10173.21 | -522.78 | 357.06 | 10186.64 | 10177.54 | 2.55 |
| 22510 | 89.34 | 343.29 | 12013.7 | 10246.96 | -544.92 | 357.03 | 10260.89 | 10253.07 | 0 |


Azimuths to Grid North
True North: -0.54°
Magnetic North: 6.03°
Magnetic Field
Strength: 47650.8nT
Dip Angle: 59.94°
Date: 9/19/2019
Model: IGRF2015
Project: NANGB
Site: NANGB #2N
Well: Nandina 112H
Wellbore: Final Survey
Design: Final
Latitude: 32° 4' 48.742 N
Longitude: 103° 18' 33.945 W
GL: 3023.0
WELL DETAILS: Nandina 112H
3023.0
+N/-S +E/-W Northing Easting Latitude Longitude
0.0 0.0 394421.22 858468.34 32° 4' 48.742 N 103° 18' 33.945 W
DESIGN TARGET DETAILS
Name TVD +N/-S +E/-W Northing Easting
Nan112 Final FTP 11878.1 -90.0 -39.2 39433124 858427.13
Nan112 Final BHL 12011.1 10260.7 -548.7 40468189 857919.64
Nan112 Final LTP 12011.4 10235.0 -539.6 40466622 857928.72
ANNOTATIONS
No annotation data is available.
True Vertical Depth
Vertical Section at 356.94°
South(-)/North(+) (1500 usft/in)
West(-)/East(+) (450 usft/in)
Nan112 Final FTP
Nan112 Final LTP
Nan112 Final BHL

AMEREDEV

# Ameredev Operating, LLC.

**NAN/GB**
**NAN/GB #2N**
**Nandina 112H**

**Final Survey**

**Plan: Final**

# Standard Planning Report

**24 September, 2019**

| | | | |
|---|---|---|---|
| **Database:** | EDM5000 | **Local Co-ordinate Reference:** | Well Nandina 112H |
| **Company:** | Ameredev Operating, LLC. | **TVD Reference:** | KB @ 3050.0usft |
| **Project:** | NAN/GB | **MD Reference:** | KB @ 3050.0usft |
| **Site:** | NAN/GB #2N | **North Reference:** | Grid |
| **Well:** | Nandina 112H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Final Survey | | |
| **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 #2N | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 394,421.00 usft | **Latitude:** | 32° 4' 48.742 N |
| **From:** | Lat/Long | **Easting:** | 858,446.33 usft | **Longitude:** | 103° 18' 34.178 W |
| **Position Uncertainty:** | 0.0 usft | **Slot Radius:** | 13-3/16 " | **Grid Convergence:** | 0.54 ° |

| **Well** | Nandina 112H | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.2 usft | **Northing:** | 394,421.22 usft | **Latitude:** | 32° 4' 48.742 N |
| | **+E/-W** | 20.0 usft | **Easting:** | 858,466.34 usft | **Longitude:** | 103° 18' 33.945 W |
| **Position Uncertainty** | | 0.0 usft | **Wellhead Elevation:** | | **Ground Level:** | 3,023.0 usft |

| **Wellbore** | Final Survey | | | | |
|---|---|---|---|---|---|
| **Magnetics** | **Model Name** | **Sample Date** | **Declination (°)** | **Dip Angle (°)** | **Field Strength (nT)** |
| | IGRF2015 | 9/19/2019 | 6.57 | 59.94 | 47,650.75115512 |

| **Design** | Final | | | |
|---|---|---|---|---|
| **Audit Notes:** | | | | |
| **Version:** | **Phase:** | PROTOTYPE | **Tie On Depth:** | 0.0 |

| **Vertical Section:** | **Depth From (TVD) (usft)** | **+N/-S (usft)** | **+E/-W (usft)** | **Direction (°)** |
|---|---|---|---|---|
| | 0.0 | 0.0 | 0.0 | 356.94 |

**Plan Survey Tool Program** **Date** 9/24/2019

| | Depth From (usft) | Depth To (usft) | Survey (Wellbore) | Tool Name | Remarks |
|---|---|---|---|---|---|
| 1 | 0.0 | 22,523.6 | Final (Final Survey) | MWD<br>OWSG MWD - Standard | |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000 | **Local Co-ordinate Reference:** | Well Nandina 112H |
| **Company:** | Ameredev Operating, LLC. | **TVD Reference:** | KB @ 3050.0usft |
| **Project:** | NAN/GB | **MD Reference:** | KB @ 3050.0usft |
| **Site:** | NAN/GB #2N | **North Reference:** | Grid |
| **Well:** | Nandina 112H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Final Survey | | |
| **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 | |
| 211.0 | 1.05 | 155.22 | 211.0 | -1.8 | 0.8 | 0.50 | 0.50 | 0.00 | 155.22 | |
| 366.0 | 1.23 | 207.51 | 366.0 | -4.5 | 0.6 | 0.66 | 0.12 | 33.74 | 107.00 | |
| 456.0 | 0.53 | 237.22 | 456.0 | -5.6 | -0.2 | 0.90 | -0.78 | 33.01 | 161.16 | |
| 548.0 | 1.41 | 221.13 | 547.9 | -6.7 | -1.3 | 0.99 | 0.96 | -17.49 | -25.35 | |
| 638.0 | 0.53 | 198.11 | 637.9 | -7.9 | -2.1 | 1.05 | -0.98 | -25.58 | -167.33 | |
| 703.0 | 0.92 | 248.73 | 702.9 | -8.4 | -2.7 | 1.10 | 0.60 | 77.88 | 85.68 | |
| 795.0 | 1.27 | 246.71 | 794.9 | -9.1 | -4.3 | 0.38 | 0.38 | -2.20 | -7.30 | |
| 882.0 | 1.85 | 222.19 | 881.9 | -10.5 | -6.2 | 1.00 | 0.67 | -28.18 | -61.71 | |
| 973.0 | 2.02 | 238.62 | 972.8 | -12.4 | -8.5 | 0.64 | 0.19 | 18.05 | 81.28 | |
| 1,065.0 | 1.45 | 240.38 | 1,064.8 | -13.8 | -10.9 | 0.62 | -0.62 | 1.91 | 175.54 | |
| 1,239.0 | 1.31 | 218.25 | 1,238.7 | -16.5 | -14.0 | 0.31 | -0.08 | -12.72 | -115.60 | |
| 1,334.0 | 1.28 | 217.54 | 1,333.7 | -18.2 | -15.4 | 0.04 | -0.03 | -0.75 | -152.21 | |
| 1,429.0 | 1.22 | 224.90 | 1,428.7 | -19.7 | -16.7 | 0.18 | -0.06 | 7.75 | 114.14 | |
| 1,523.0 | 0.80 | 226.78 | 1,522.7 | -20.9 | -17.9 | 0.45 | -0.45 | 2.00 | 176.43 | |
| 1,618.0 | 0.16 | 253.63 | 1,617.7 | -21.4 | -18.5 | 0.70 | -0.67 | 28.26 | 173.73 | |
| 1,714.0 | 0.72 | 30.06 | 1,713.7 | -20.9 | -18.4 | 0.88 | 0.58 | 142.11 | 143.94 | |
| 1,807.0 | 1.61 | 25.03 | 1,806.6 | -19.2 | -17.5 | 0.96 | 0.96 | -5.41 | -9.07 | |
| 1,901.0 | 2.69 | 26.26 | 1,900.6 | -16.0 | -16.0 | 1.15 | 1.15 | 1.31 | 3.06 | |
| 1,995.0 | 3.94 | 27.50 | 1,994.4 | -11.2 | -13.5 | 1.33 | 1.33 | 1.32 | 3.90 | |
| 2,089.0 | 4.16 | 45.32 | 2,088.2 | -5.9 | -9.6 | 1.35 | 0.23 | 18.96 | 89.05 | |
| 2,182.0 | 4.06 | 70.34 | 2,180.9 | -2.4 | -4.1 | 1.92 | -0.11 | 26.90 | 105.62 | |
| 2,276.0 | 3.99 | 98.47 | 2,274.7 | -1.8 | 2.3 | 2.08 | -0.07 | 29.93 | 106.02 | |
| 2,370.0 | 5.36 | 121.31 | 2,368.4 | -4.6 | 9.3 | 2.43 | 1.46 | 24.30 | 65.40 | |
| 2,465.0 | 7.17 | 131.95 | 2,462.9 | -10.8 | 17.5 | 2.26 | 1.91 | 11.20 | 38.05 | |
| 2,559.0 | 9.45 | 140.99 | 2,555.9 | -20.8 | 26.7 | 2.79 | 2.43 | 9.62 | 34.34 | |
| 2,653.0 | 9.82 | 145.11 | 2,648.5 | -33.3 | 36.1 | 0.83 | 0.39 | 4.38 | 63.82 | |
| 2,747.0 | 9.66 | 146.72 | 2,741.2 | -46.5 | 45.0 | 0.34 | -0.17 | 1.71 | 121.22 | |
| 2,841.0 | 9.35 | 149.05 | 2,833.9 | -59.6 | 53.3 | 0.53 | -0.33 | 2.48 | 130.00 | |
| 2,935.0 | 8.38 | 156.32 | 2,926.8 | -72.5 | 60.0 | 1.57 | -1.03 | 7.73 | 134.44 | |
| 3,029.0 | 7.01 | 170.85 | 3,019.9 | -84.4 | 63.6 | 2.52 | -1.46 | 15.46 | 132.21 | |
| 3,124.0 | 6.77 | 188.86 | 3,114.3 | -95.7 | 63.7 | 2.28 | -0.25 | 18.96 | 105.23 | |
| 3,218.0 | 6.75 | 186.77 | 3,207.6 | -106.6 | 62.2 | 0.26 | -0.02 | -2.22 | -95.68 | |
| 3,312.0 | 6.57 | 180.11 | 3,301.0 | -117.5 | 61.5 | 0.84 | -0.19 | -7.09 | -106.41 | |
| 3,406.0 | 6.54 | 172.41 | 3,394.4 | -128.2 | 62.2 | 0.93 | -0.03 | -8.19 | -95.78 | |
| 3,501.0 | 6.56 | 165.29 | 3,488.7 | -138.8 | 64.3 | 0.85 | 0.02 | -7.49 | -92.13 | |
| 3,595.0 | 6.65 | 165.66 | 3,582.1 | -149.2 | 67.0 | 0.11 | 0.10 | 0.39 | 25.49 | |
| 3,689.0 | 6.47 | 175.85 | 3,675.5 | -159.8 | 68.8 | 1.25 | -0.19 | 10.84 | 103.83 | |
| 3,784.0 | 6.47 | 136.06 | 3,769.9 | -169.0 | 72.9 | 4.63 | 0.00 | -41.88 | -109.78 | |
| 3,879.0 | 6.01 | 105.71 | 3,864.4 | -174.2 | 81.4 | 3.46 | -0.48 | -31.95 | -112.84 | |
| 3,974.0 | 5.78 | 63.67 | 3,958.9 | -173.4 | 90.5 | 4.45 | -0.24 | -44.25 | -113.83 | |
| 4,069.0 | 1.76 | 338.16 | 4,053.8 | -169.9 | 94.2 | 6.22 | -4.23 | -90.01 | -162.69 | |
| 4,164.0 | 5.81 | 272.59 | 4,148.6 | -168.4 | 88.9 | 5.61 | 4.26 | -69.02 | -83.02 | |
| 4,258.0 | 6.83 | 250.49 | 4,242.0 | -170.0 | 78.8 | 2.78 | 1.09 | -23.51 | -78.49 | |
| 4,353.0 | 7.72 | 224.53 | 4,336.3 | -176.5 | 69.0 | 3.55 | 0.94 | -27.33 | -87.98 | |
| 4,448.0 | 9.63 | 208.29 | 4,430.2 | -188.0 | 60.8 | 3.25 | 2.01 | -17.09 | -60.27 | |
| 4,543.0 | 11.17 | 200.33 | 4,523.6 | -203.6 | 53.8 | 2.21 | 1.62 | -8.38 | -46.98 | |
| 4,637.0 | 11.67 | 194.01 | 4,615.8 | -221.4 | 48.4 | 1.43 | 0.53 | -6.72 | -71.34 | |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000 | **Local Co-ordinate Reference:** | Well Nandina 112H |
| **Company:** | Ameredev Operating, LLC. | **TVD Reference:** | KB @ 3050.0usft |
| **Project:** | NAN/GB | **MD Reference:** | KB @ 3050.0usft |
| **Site:** | NAN/GB #2N | **North Reference:** | Grid |
| **Well:** | Nandina 112H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Final Survey | | |
| **Design:** | Final | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4,731.0 | 11.89 | 186.93 | 4,707.8 | -240.2 | 44.9 | 1.55 | 0.23 | -7.53 | -84.82 |
| 4,826.0 | 11.38 | 177.51 | 4,800.9 | -259.3 | 44.1 | 2.07 | -0.54 | -9.92 | -109.61 |
| 4,919.0 | 12.01 | 165.17 | 4,891.9 | -277.8 | 47.0 | 2.77 | 0.68 | -13.27 | -81.96 |
| 5,015.0 | 10.75 | 156.36 | 4,986.1 | -295.7 | 53.1 | 2.23 | -1.31 | -9.18 | -130.20 |
| 5,110.0 | 9.09 | 148.87 | 5,079.6 | -310.2 | 60.6 | 2.21 | -1.75 | -7.88 | -145.79 |
| 5,204.0 | 7.51 | 142.26 | 5,172.7 | -321.5 | 68.2 | 1.96 | -1.68 | -7.03 | -152.11 |
| 5,299.0 | 6.03 | 141.42 | 5,267.0 | -330.3 | 75.1 | 1.56 | -1.56 | -0.88 | -176.59 |
| 5,394.0 | 4.02 | 154.56 | 5,361.6 | -337.2 | 79.6 | 2.42 | -2.12 | 13.83 | 156.64 |
| 5,488.0 | 4.86 | 158.77 | 5,455.3 | -343.9 | 82.5 | 0.96 | 0.89 | 4.48 | 23.31 |
| 5,583.0 | 4.89 | 158.31 | 5,550.0 | -351.4 | 85.4 | 0.05 | 0.03 | -0.48 | -52.73 |
| 5,678.0 | 4.84 | 159.30 | 5,644.7 | -358.9 | 88.3 | 0.10 | -0.05 | 1.04 | 121.27 |
| 5,772.0 | 5.44 | 159.84 | 5,738.3 | -366.8 | 91.3 | 0.64 | 0.64 | 0.57 | 4.88 |
| 5,867.0 | 5.22 | 167.04 | 5,832.9 | -375.2 | 93.8 | 0.74 | -0.23 | 7.58 | 111.77 |
| 5,962.0 | 5.33 | 177.99 | 5,927.5 | -383.8 | 94.9 | 1.06 | 0.12 | 11.53 | 89.23 |
| 6,057.0 | 5.32 | 190.34 | 6,022.1 | -392.6 | 94.3 | 1.20 | -0.01 | 13.00 | 96.65 |
| 6,152.0 | 5.86 | 191.33 | 6,116.6 | -401.7 | 92.6 | 0.58 | 0.57 | 1.04 | 10.62 |
| 6,247.0 | 5.73 | 186.43 | 6,211.1 | -411.1 | 91.1 | 0.54 | -0.14 | -5.16 | -107.15 |
| 6,342.0 | 5.79 | 179.51 | 6,305.6 | -420.6 | 90.6 | 0.73 | 0.06 | -7.28 | -88.51 |
| 6,436.0 | 5.74 | 171.13 | 6,399.2 | -430.0 | 91.3 | 0.90 | -0.05 | -8.91 | -97.56 |
| 6,531.0 | 5.75 | 164.58 | 6,493.7 | -439.3 | 93.3 | 0.69 | 0.01 | -6.89 | -92.39 |
| 6,625.0 | 5.94 | 157.30 | 6,587.2 | -448.3 | 96.5 | 0.81 | 0.20 | -7.74 | -79.27 |
| 6,719.0 | 6.09 | 149.22 | 6,680.7 | -457.1 | 100.9 | 0.91 | 0.16 | -8.60 | -83.99 |
| 6,814.0 | 5.80 | 141.69 | 6,775.2 | -465.2 | 106.5 | 0.88 | -0.31 | -7.93 | -114.11 |
| 6,908.0 | 4.32 | 136.79 | 6,868.8 | -471.5 | 111.8 | 1.64 | -1.57 | -5.21 | -166.15 |
| 7,004.0 | 3.02 | 134.26 | 6,964.6 | -475.9 | 116.1 | 1.36 | -1.35 | -2.64 | -174.16 |
| 7,099.0 | 1.91 | 126.46 | 7,059.5 | -478.6 | 119.2 | 1.22 | -1.17 | -8.21 | -167.06 |
| 7,193.0 | 0.42 | 138.46 | 7,153.5 | -479.8 | 120.7 | 1.60 | -1.59 | 12.77 | 176.67 |
| 7,288.0 | 0.12 | 304.13 | 7,248.5 | -480.0 | 120.8 | 0.57 | -0.32 | 174.39 | 176.83 |
| 7,383.0 | 0.19 | 296.28 | 7,343.5 | -479.9 | 120.6 | 0.08 | 0.07 | -8.26 | -20.83 |
| 7,478.0 | 0.08 | 114.47 | 7,438.5 | -479.8 | 120.5 | 0.28 | -0.12 | 187.57 | 179.46 |
| 7,496.0 | 0.09 | 126.62 | 7,456.5 | -479.8 | 120.5 | 0.11 | 0.06 | 67.50 | 67.15 |
| 7,559.0 | 0.04 | 49.89 | 7,519.5 | -479.9 | 120.6 | 0.14 | -0.08 | -121.79 | -154.28 |
| 7,654.0 | 0.15 | 353.35 | 7,614.5 | -479.7 | 120.6 | 0.14 | 0.12 | -59.52 | -71.16 |
| 7,748.0 | 0.39 | 320.68 | 7,708.5 | -479.3 | 120.4 | 0.29 | 0.26 | -34.76 | -49.74 |
| 7,842.0 | 0.57 | 321.13 | 7,802.5 | -478.7 | 119.9 | 0.19 | 0.19 | 0.48 | 1.42 |
| 7,936.0 | 0.81 | 321.21 | 7,896.5 | -477.8 | 119.2 | 0.26 | 0.26 | 0.09 | 0.27 |
| 8,029.0 | 1.00 | 321.72 | 7,989.5 | -476.7 | 118.3 | 0.20 | 0.20 | 0.55 | 2.68 |
| 8,124.0 | 1.51 | 322.61 | 8,084.5 | -475.1 | 117.0 | 0.54 | 0.54 | 0.94 | 2.63 |
| 8,219.0 | 1.83 | 328.58 | 8,179.4 | -472.8 | 115.4 | 0.38 | 0.34 | 6.28 | 31.54 |
| 8,313.0 | 1.97 | 327.55 | 8,273.4 | -470.1 | 113.8 | 0.15 | 0.15 | -1.10 | -14.22 |
| 8,408.0 | 1.83 | 329.95 | 8,368.3 | -467.4 | 112.1 | 0.17 | -0.15 | 2.53 | 151.58 |
| 8,502.0 | 1.78 | 326.51 | 8,462.3 | -464.9 | 110.6 | 0.13 | -0.05 | -3.66 | -116.48 |
| 8,597.0 | 2.24 | 320.85 | 8,557.2 | -462.2 | 108.6 | 0.53 | 0.48 | -5.96 | -26.19 |
| 8,653.0 | 2.58 | 319.79 | 8,613.2 | -460.4 | 107.1 | 0.61 | 0.61 | -1.89 | -8.00 |
| 8,692.0 | 2.78 | 317.95 | 8,652.1 | -459.1 | 105.9 | 0.56 | 0.51 | -4.72 | -24.20 |
| 8,786.0 | 2.84 | 317.15 | 8,746.0 | -455.7 | 102.8 | 0.08 | 0.06 | -0.85 | -33.57 |
| 8,880.0 | 2.93 | 310.88 | 8,839.9 | -452.4 | 99.4 | 0.35 | 0.10 | -6.67 | -77.23 |
| 8,961.0 | 3.15 | 310.66 | 8,920.8 | -449.6 | 96.1 | 0.27 | 0.27 | -0.27 | -3.15 |
| 9,068.0 | 3.56 | 302.88 | 9,027.6 | -445.9 | 91.1 | 0.57 | 0.38 | -7.27 | -51.92 |
| 9,113.0 | 3.93 | 297.81 | 9,072.5 | -444.4 | 88.6 | 1.10 | 0.82 | -11.27 | -44.38 |
| 9,176.0 | 4.26 | 293.57 | 9,135.3 | -442.4 | 84.5 | 0.71 | 0.52 | -6.73 | -44.66 |
| 9,271.0 | 5.10 | 286.64 | 9,230.0 | -439.8 | 77.2 | 1.06 | 0.88 | -7.29 | -37.43 |
| 9,349.0 | 5.55 | 285.24 | 9,307.7 | -437.8 | 70.3 | 0.60 | 0.58 | -1.79 | -16.80 |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000 | **Local Co-ordinate Reference:** | Well Nandina 112H |
| **Company:** | Ameredev Operating, LLC. | **TVD Reference:** | KB @ 3050.0usft |
| **Project:** | NAN/GB | **MD Reference:** | KB @ 3050.0usft |
| **Site:** | NAN/GB #2N | **North Reference:** | Grid |
| **Well:** | Nandina 112H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Final Survey | | |
| **Design:** | Final | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9,443.0 | 5.62 | 288.50 | 9,401.2 | -435.2 | 61.5 | 0.35 | 0.07 | 3.47 | 79.18 |
| 9,538.0 | 5.36 | 287.14 | 9,495.8 | -432.4 | 52.9 | 0.31 | -0.27 | -1.43 | -154.09 |
| 9,633.0 | 5.22 | 283.90 | 9,590.4 | -430.0 | 44.4 | 0.35 | -0.15 | -3.41 | -116.72 |
| 9,727.0 | 5.51 | 281.98 | 9,684.0 | -428.1 | 35.9 | 0.36 | 0.31 | -2.04 | -32.72 |
| 9,821.0 | 5.44 | 278.81 | 9,777.5 | -426.5 | 27.1 | 0.33 | -0.07 | -3.37 | -104.61 |
| 9,916.0 | 5.15 | 277.83 | 9,872.1 | -425.2 | 18.4 | 0.32 | -0.31 | -1.03 | -163.17 |
| 10,011.0 | 5.50 | 266.59 | 9,966.7 | -424.9 | 9.6 | 1.16 | 0.37 | -11.83 | -77.10 |
| 10,105.0 | 5.86 | 258.77 | 10,060.3 | -426.1 | 0.4 | 0.91 | 0.38 | -8.32 | -68.98 |
| 10,220.0 | 5.53 | 253.28 | 10,174.7 | -428.8 | -10.6 | 0.55 | -0.29 | -4.77 | -123.92 |
| 10,314.0 | 4.81 | 250.58 | 10,268.3 | -431.4 | -18.7 | 0.81 | -0.77 | -2.87 | -162.67 |
| 10,409.0 | 4.89 | 244.40 | 10,363.0 | -434.5 | -26.1 | 0.56 | 0.08 | -6.51 | -84.38 |
| 10,503.0 | 4.48 | 242.61 | 10,456.7 | -437.9 | -33.0 | 0.46 | -0.44 | -1.90 | -161.26 |
| 10,598.0 | 4.59 | 233.48 | 10,551.4 | -441.9 | -39.3 | 0.77 | 0.12 | -9.61 | -85.90 |
| 10,687.0 | 4.18 | 237.86 | 10,640.1 | -445.7 | -44.9 | 0.59 | -0.46 | 4.92 | 142.93 |
| 10,782.0 | 5.04 | 254.78 | 10,734.8 | -448.7 | -51.9 | 1.68 | 0.91 | 17.81 | 66.31 |
| 10,876.0 | 6.19 | 265.71 | 10,828.4 | -450.1 | -60.9 | 1.67 | 1.22 | 11.63 | 48.45 |
| 10,970.0 | 4.53 | 268.45 | 10,921.9 | -450.6 | -69.7 | 1.79 | -1.77 | 2.91 | 172.60 |
| 11,064.0 | 2.11 | 259.94 | 11,015.8 | -451.0 | -75.1 | 2.62 | -2.57 | -9.05 | -172.72 |
| 11,158.0 | 1.18 | 244.14 | 11,109.7 | -451.7 | -77.7 | 1.09 | -0.99 | -16.81 | -161.75 |
| 11,252.0 | 0.66 | 221.57 | 11,203.7 | -452.6 | -78.9 | 0.66 | -0.55 | -24.01 | -156.06 |
| 11,278.0 | 0.75 | 219.62 | 11,229.7 | -452.8 | -79.1 | 0.36 | 0.35 | -7.50 | -15.90 |
| 11,434.0 | 0.46 | 244.79 | 11,385.7 | -453.9 | -80.3 | 0.25 | -0.19 | 16.13 | 149.62 |
| 11,466.0 | 4.59 | 17.49 | 11,417.7 | -452.7 | -80.1 | 15.35 | 12.91 | 414.69 | 136.64 |
| 11,497.0 | 9.64 | 18.63 | 11,448.4 | -449.1 | -78.9 | 16.30 | 16.29 | 3.68 | 2.17 |
| 11,529.0 | 15.01 | 17.70 | 11,479.7 | -442.6 | -76.8 | 16.79 | 16.78 | -2.91 | -2.57 |
| 11,623.0 | 23.61 | 10.34 | 11,568.3 | -412.4 | -69.7 | 9.49 | 9.15 | -7.83 | -19.32 |
| 11,719.0 | 33.48 | 10.24 | 11,652.6 | -367.3 | -61.5 | 10.28 | 10.28 | -0.10 | -0.32 |
| 11,811.0 | 41.14 | 7.28 | 11,725.7 | -312.2 | -53.1 | 8.55 | 8.33 | -3.22 | -14.37 |
| 11,905.0 | 50.14 | 3.62 | 11,791.3 | -245.4 | -46.9 | 9.97 | 9.57 | -3.89 | -17.52 |
| 11,998.0 | 62.06 | 3.15 | 11,843.1 | -168.5 | -42.4 | 12.82 | 12.82 | -0.51 | -2.01 |
| 12,091.0 | 70.64 | 1.41 | 11,880.4 | -83.5 | -39.0 | 9.38 | 9.23 | -1.87 | -10.88 |
| 12,185.0 | 79.52 | 1.84 | 11,904.6 | 7.3 | -36.5 | 9.46 | 9.45 | 0.46 | 2.74 |
| 12,279.0 | 88.82 | 1.06 | 11,914.1 | 100.6 | -34.1 | 9.93 | 9.89 | -0.83 | -4.81 |
| 12,375.0 | 88.36 | 359.86 | 11,916.5 | 196.6 | -33.3 | 1.34 | -0.48 | -1.25 | -110.99 |
| 12,470.0 | 89.88 | 359.86 | 11,917.9 | 291.6 | -33.6 | 1.60 | 1.60 | 0.00 | 0.00 |
| 12,565.0 | 90.42 | 1.63 | 11,917.7 | 386.6 | -32.3 | 1.95 | 0.57 | 1.86 | 73.03 |
| 12,660.0 | 88.52 | 2.11 | 11,918.6 | 481.5 | -29.2 | 2.06 | -2.00 | 0.51 | 165.82 |
| 12,755.0 | 87.18 | 1.76 | 11,922.1 | 576.4 | -26.0 | 1.46 | -1.41 | -0.37 | -165.38 |
| 12,849.0 | 88.56 | 2.67 | 11,925.6 | 670.3 | -22.4 | 1.76 | 1.47 | 0.97 | 33.40 |
| 12,945.0 | 89.52 | 2.38 | 11,927.2 | 766.1 | -18.2 | 1.04 | 1.00 | -0.30 | -16.81 |
| 13,040.0 | 89.22 | 2.06 | 11,928.3 | 861.1 | -14.5 | 0.46 | -0.32 | -0.34 | -133.16 |
| 13,136.0 | 87.52 | 1.04 | 11,931.0 | 957.0 | -11.9 | 2.06 | -1.77 | -1.06 | -149.06 |
| 13,231.0 | 88.86 | 1.23 | 11,934.0 | 1,051.9 | -10.0 | 1.42 | 1.41 | 0.20 | 8.07 |
| 13,326.0 | 89.94 | 1.00 | 11,935.0 | 1,146.9 | -8.2 | 1.16 | 1.14 | -0.24 | -12.02 |
| 13,421.0 | 90.72 | 1.13 | 11,934.5 | 1,241.9 | -6.4 | 0.83 | 0.82 | 0.14 | 9.46 |
| 13,517.0 | 88.95 | 359.74 | 11,934.7 | 1,337.9 | -5.7 | 2.34 | -1.84 | -1.45 | -141.86 |
| 13,613.0 | 87.87 | 358.53 | 11,937.4 | 1,433.8 | -7.1 | 1.69 | -1.13 | -1.26 | -131.78 |
| 13,708.0 | 87.84 | 357.71 | 11,941.0 | 1,528.7 | -10.2 | 0.86 | -0.03 | -0.86 | -92.11 |
| 13,804.0 | 87.81 | 358.69 | 11,944.6 | 1,624.6 | -13.2 | 1.02 | -0.03 | 1.02 | 91.77 |
| 13,899.0 | 86.65 | 0.48 | 11,949.2 | 1,719.5 | -13.9 | 2.24 | -1.22 | 1.88 | 123.02 |
| 13,995.0 | 88.92 | 359.95 | 11,952.9 | 1,815.4 | -13.6 | 2.43 | 2.36 | -0.55 | -13.14 |
| 14,090.0 | 90.62 | 0.10 | 11,953.3 | 1,910.4 | -13.5 | 1.80 | 1.79 | 0.16 | 5.04 |
| 14,186.0 | 90.35 | 0.07 | 11,952.5 | 2,006.4 | -13.4 | 0.28 | -0.28 | -0.03 | -173.66 |

| | | | |
|---|---|---|---|
| Database: | EDM5000 | Local Co-ordinate Reference: | Well Nandina 112H |
| Company: | Ameredev Operating, LLC. | TVD Reference: | KB @ 3050.0usft |
| Project: | NAN/GB | MD Reference: | KB @ 3050.0usft |
| Site: | NAN/GB #2N | North Reference: | Grid |
| Well: | Nandina 112H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Final Survey | | |
| Design: | Final | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 14,281.0 | 91.41 | 0.54 | 11,951.0 | 2,101.4 | -12.9 | 1.22 | 1.12 | 0.49 | 23.91 |
| 14,377.0 | 90.54 | 359.71 | 11,949.4 | 2,197.3 | -12.7 | 1.25 | -0.91 | -0.86 | -136.34 |
| 14,472.0 | 86.99 | 359.29 | 11,951.4 | 2,292.3 | -13.5 | 3.76 | -3.74 | -0.44 | -173.26 |
| 14,567.0 | 88.04 | 358.78 | 11,955.5 | 2,387.2 | -15.1 | 1.23 | 1.11 | -0.54 | -25.90 |
| 14,662.0 | 89.39 | 358.01 | 11,957.7 | 2,482.1 | -17.8 | 1.64 | 1.42 | -0.81 | -29.70 |
| 14,758.0 | 85.83 | 356.24 | 11,961.7 | 2,577.9 | -22.6 | 4.14 | -3.71 | -1.84 | -153.62 |
| 14,853.0 | 85.40 | 354.73 | 11,968.9 | 2,672.3 | -30.0 | 1.65 | -0.45 | -1.59 | -106.00 |
| 14,949.0 | 87.82 | 357.70 | 11,974.6 | 2,767.9 | -36.4 | 3.99 | 2.52 | 3.09 | 50.87 |
| 15,044.0 | 84.22 | 358.09 | 11,981.2 | 2,862.6 | -39.8 | 3.81 | -3.79 | 0.41 | 173.84 |
| 15,162.0 | 87.85 | 0.97 | 11,989.4 | 2,980.3 | -40.8 | 3.92 | 3.08 | 2.44 | 38.47 |
| 15,257.0 | 87.46 | 1.42 | 11,993.3 | 3,075.2 | -38.8 | 0.63 | -0.41 | 0.47 | 130.95 |
| 15,352.0 | 87.37 | 0.48 | 11,997.5 | 3,170.1 | -37.2 | 0.99 | -0.09 | -0.99 | -95.50 |
| 15,447.0 | 85.90 | 359.80 | 12,003.1 | 3,264.9 | -37.0 | 1.70 | -1.55 | -0.72 | -155.23 |
| 15,542.0 | 86.66 | 358.89 | 12,009.3 | 3,359.7 | -38.1 | 1.25 | 0.80 | -0.96 | -50.10 |
| 15,638.0 | 87.11 | 358.13 | 12,014.5 | 3,455.6 | -40.6 | 0.92 | 0.47 | -0.79 | -59.35 |
| 15,733.0 | 90.35 | 358.11 | 12,016.6 | 3,550.5 | -43.7 | 3.41 | 3.41 | -0.02 | -0.35 |
| 15,829.0 | 91.20 | 359.94 | 12,015.3 | 3,646.4 | -45.3 | 2.10 | 0.89 | 1.91 | 65.07 |
| 15,924.0 | 90.38 | 1.19 | 12,014.0 | 3,741.4 | -44.4 | 1.57 | -0.86 | 1.32 | 123.26 |
| 16,020.0 | 91.22 | 1.81 | 12,012.6 | 3,837.4 | -41.9 | 1.09 | 0.88 | 0.65 | 36.42 |
| 16,115.0 | 90.44 | 1.77 | 12,011.3 | 3,932.3 | -38.9 | 0.82 | -0.82 | -0.04 | -177.06 |
| 16,210.0 | 92.01 | 2.50 | 12,009.2 | 4,027.2 | -35.4 | 1.82 | 1.65 | 0.77 | 24.93 |
| 16,305.0 | 91.94 | 1.15 | 12,006.0 | 4,122.1 | -32.4 | 1.42 | -0.07 | -1.42 | -92.95 |
| 16,399.0 | 89.60 | 359.39 | 12,004.7 | 4,216.1 | -31.9 | 3.11 | -2.49 | -1.87 | -143.04 |
| 16,494.0 | 88.05 | 358.23 | 12,006.7 | 4,311.1 | -33.9 | 2.04 | -1.63 | -1.22 | -143.21 |
| 16,589.0 | 87.92 | 358.39 | 12,010.0 | 4,406.0 | -36.7 | 0.22 | -0.14 | 0.17 | 129.11 |
| 16,684.0 | 88.72 | 358.18 | 12,012.8 | 4,500.9 | -39.5 | 0.87 | 0.84 | -0.22 | -14.71 |
| 16,779.0 | 88.29 | 358.06 | 12,015.3 | 4,595.8 | -42.6 | 0.47 | -0.45 | -0.13 | -164.41 |
| 16,874.0 | 89.25 | 358.52 | 12,017.3 | 4,690.7 | -45.5 | 1.12 | 1.01 | 0.48 | 25.60 |
| 16,969.0 | 88.01 | 358.64 | 12,019.6 | 4,785.7 | -47.8 | 1.31 | -1.31 | 0.13 | 174.48 |
| 17,064.0 | 87.20 | 357.83 | 12,023.5 | 4,880.5 | -50.8 | 1.21 | -0.85 | -0.85 | -135.04 |
| 17,159.0 | 87.96 | 359.00 | 12,027.5 | 4,975.4 | -53.4 | 1.47 | 0.80 | 1.23 | 57.00 |
| 17,254.0 | 89.65 | 0.23 | 12,029.5 | 5,070.4 | -54.0 | 2.20 | 1.78 | 1.29 | 36.06 |
| 17,353.0 | 91.83 | 359.19 | 12,028.3 | 5,169.4 | -54.5 | 2.44 | 2.20 | -1.05 | -25.50 |
| 17,446.0 | 92.40 | 0.12 | 12,024.8 | 5,262.3 | -55.1 | 1.17 | 0.61 | 1.00 | 58.46 |
| 17,540.0 | 92.84 | 3.55 | 12,020.5 | 5,356.1 | -52.1 | 3.68 | 0.47 | 3.65 | 82.61 |
| 17,634.0 | 92.46 | 4.09 | 12,016.2 | 5,449.8 | -45.8 | 0.70 | -0.40 | 0.57 | 125.15 |
| 17,731.0 | 92.49 | 4.54 | 12,012.0 | 5,546.5 | -38.5 | 0.46 | 0.03 | 0.46 | 86.17 |
| 17,826.0 | 92.55 | 4.47 | 12,007.8 | 5,641.1 | -31.1 | 0.10 | 0.06 | -0.07 | -49.37 |
| 17,921.0 | 93.00 | 3.82 | 12,003.2 | 5,735.7 | -24.2 | 0.83 | 0.47 | -0.68 | -55.26 |
| 18,017.0 | 92.68 | 2.01 | 11,998.5 | 5,831.5 | -19.3 | 1.91 | -0.33 | -1.89 | -99.99 |
| 18,111.0 | 93.10 | 0.43 | 11,993.7 | 5,925.3 | -17.3 | 1.74 | 0.45 | -1.68 | -75.06 |
| 18,206.0 | 91.78 | 358.87 | 11,989.7 | 6,020.2 | -17.9 | 2.15 | -1.39 | -1.64 | -130.23 |
| 18,301.0 | 90.44 | 358.07 | 11,987.8 | 6,115.2 | -20.4 | 1.64 | -1.41 | -0.84 | -149.16 |
| 18,397.0 | 90.25 | 359.09 | 11,987.3 | 6,211.1 | -22.8 | 1.08 | -0.20 | 1.06 | 100.55 |
| 18,492.0 | 88.03 | 358.51 | 11,988.7 | 6,306.1 | -24.8 | 2.42 | -2.34 | -0.61 | -165.36 |
| 18,586.0 | 87.46 | 358.65 | 11,992.4 | 6,400.0 | -27.1 | 0.62 | -0.61 | 0.15 | 166.21 |
| 18,682.0 | 87.94 | 358.96 | 11,996.2 | 6,495.9 | -29.1 | 0.60 | 0.50 | 0.32 | 32.84 |
| 18,777.0 | 87.81 | 358.47 | 11,999.8 | 6,590.8 | -31.3 | 0.53 | -0.14 | -0.52 | -104.88 |
| 18,872.0 | 87.74 | 358.91 | 12,003.4 | 6,685.7 | -33.4 | 0.47 | -0.07 | 0.46 | 99.05 |
| 18,967.0 | 88.05 | 358.63 | 12,006.9 | 6,780.6 | -35.5 | 0.44 | 0.33 | -0.29 | -42.08 |
| 19,061.0 | 87.58 | 357.37 | 12,010.5 | 6,874.5 | -38.8 | 1.43 | -0.50 | -1.34 | -110.49 |
| 19,156.0 | 87.62 | 357.54 | 12,014.5 | 6,969.3 | -43.0 | 0.18 | 0.04 | 0.18 | 76.75 |
| 19,250.0 | 87.71 | 357.88 | 12,018.3 | 7,063.2 | -46.7 | 0.37 | 0.10 | 0.36 | 75.17 |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000 | **Local Co-ordinate Reference:** | Well Nandina 112H |
| **Company:** | Ameredev Operating, LLC. | **TVD Reference:** | KB @ 3050.0usft |
| **Project:** | NAN/GB | **MD Reference:** | KB @ 3050.0usft |
| **Site:** | NAN/GB #2N | **North Reference:** | Grid |
| **Well:** | Nandina 112H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Final Survey | | |
| **Design:** | Final | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 19,344.0 | 87.80 | 358.43 | 12,022.0 | 7,157.1 | -49.8 | 0.59 | 0.10 | 0.59 | 80.71 |
| 19,438.0 | 88.08 | 358.47 | 12,025.4 | 7,251.0 | -52.3 | 0.30 | 0.30 | 0.04 | 8.13 |
| 19,531.0 | 87.39 | 357.99 | 12,029.1 | 7,343.8 | -55.2 | 0.90 | -0.74 | -0.52 | -145.21 |
| 19,625.0 | 88.38 | 358.46 | 12,032.5 | 7,437.7 | -58.1 | 1.17 | 1.05 | 0.50 | 25.39 |
| 19,719.0 | 88.78 | 358.66 | 12,034.9 | 7,531.7 | -60.4 | 0.48 | 0.43 | 0.21 | 26.56 |
| 19,812.0 | 89.41 | 358.54 | 12,036.3 | 7,624.6 | -62.7 | 0.69 | 0.68 | -0.13 | -10.78 |
| 19,837.0 | 87.04 | 0.01 | 12,037.1 | 7,649.6 | -63.0 | 11.14 | -9.48 | 5.86 | 148.31 |
| 19,868.0 | 85.75 | 1.45 | 12,039.0 | 7,680.6 | -62.6 | 6.24 | -4.16 | 4.66 | 131.86 |
| 19,932.0 | 85.16 | 1.99 | 12,044.1 | 7,744.3 | -60.7 | 1.25 | -0.92 | 0.84 | 137.64 |
| 20,026.0 | 87.23 | 2.58 | 12,050.4 | 7,838.0 | -57.0 | 2.29 | 2.20 | 0.63 | 15.90 |
| 20,119.0 | 90.29 | 2.53 | 12,052.4 | 7,930.9 | -52.8 | 3.29 | 3.29 | -0.05 | -0.94 |
| 20,214.0 | 93.52 | 0.69 | 12,049.2 | 8,025.8 | -50.2 | 3.91 | 3.40 | -1.94 | -29.63 |
| 20,309.0 | 97.95 | 359.01 | 12,039.7 | 8,120.3 | -50.4 | 4.98 | 4.66 | -1.77 | -20.60 |
| 20,404.0 | 100.18 | 358.45 | 12,024.8 | 8,214.1 | -52.5 | 2.42 | 2.35 | -0.59 | -13.88 |
| 20,500.0 | 99.32 | 357.57 | 12,008.5 | 8,308.6 | -55.8 | 1.27 | -0.90 | -0.92 | -134.68 |
| 20,596.0 | 96.68 | 357.77 | 11,995.1 | 8,403.6 | -59.6 | 2.76 | -2.75 | 0.21 | 175.70 |
| 20,690.0 | 93.29 | 356.75 | 11,987.0 | 8,497.1 | -64.1 | 3.76 | -3.61 | -1.09 | -163.27 |
| 20,740.0 | 88.43 | 355.11 | 11,986.2 | 8,547.0 | -67.7 | 10.26 | -9.72 | -3.28 | -161.34 |
| 20,783.0 | 87.79 | 355.96 | 11,987.6 | 8,589.8 | -71.0 | 2.47 | -1.49 | 1.98 | 127.01 |
| 20,878.0 | 88.53 | 351.87 | 11,990.7 | 8,684.2 | -81.1 | 4.37 | 0.78 | -4.31 | -79.81 |
| 20,972.0 | 88.61 | 347.59 | 11,993.0 | 8,776.7 | -97.8 | 4.55 | 0.09 | -4.55 | -88.98 |
| 21,067.0 | 89.63 | 341.62 | 11,994.5 | 8,868.2 | -123.0 | 6.37 | 1.07 | -6.28 | -80.36 |
| 21,108.0 | 87.43 | 338.08 | 11,995.5 | 8,906.7 | -137.1 | 10.16 | -5.37 | -8.63 | -121.90 |
| 21,140.0 | 87.80 | 337.46 | 11,996.9 | 8,936.3 | -149.2 | 2.25 | 1.16 | -1.94 | -59.16 |
| 21,171.0 | 88.49 | 337.96 | 11,997.9 | 8,964.9 | -161.0 | 2.75 | 2.23 | 1.61 | 35.92 |
| 21,203.0 | 89.53 | 339.22 | 11,998.4 | 8,994.7 | -172.7 | 5.11 | 3.25 | 3.94 | 50.47 |
| 21,235.0 | 89.45 | 340.43 | 11,998.7 | 9,024.8 | -183.7 | 3.79 | -0.25 | 3.78 | 93.79 |
| 21,304.0 | 92.12 | 342.85 | 11,997.8 | 9,090.2 | -205.4 | 5.22 | 3.87 | 3.51 | 42.18 |
| 21,335.0 | 90.11 | 343.23 | 11,997.2 | 9,119.9 | -214.5 | 6.60 | -6.48 | 1.23 | 169.29 |
| 21,367.0 | 86.76 | 342.67 | 11,998.0 | 9,150.5 | -223.8 | 10.61 | -10.47 | -1.75 | -170.52 |
| 21,399.0 | 86.61 | 342.65 | 11,999.9 | 9,181.0 | -233.4 | 0.47 | -0.47 | -0.06 | -172.42 |
| 21,430.0 | 87.37 | 343.31 | 12,001.5 | 9,210.6 | -242.4 | 3.25 | 2.45 | 2.13 | 40.95 |
| 21,462.0 | 86.77 | 343.28 | 12,003.2 | 9,241.2 | -251.6 | 1.88 | -1.88 | -0.09 | -177.14 |
| 21,525.0 | 86.63 | 343.17 | 12,006.8 | 9,301.4 | -269.8 | 0.28 | -0.22 | -0.17 | -141.89 |
| 21,620.0 | 87.73 | 343.05 | 12,011.5 | 9,392.2 | -297.3 | 1.16 | 1.16 | -0.13 | -6.22 |
| 21,715.0 | 89.44 | 343.50 | 12,013.8 | 9,483.1 | -324.7 | 1.86 | 1.80 | 0.47 | 14.75 |
| 21,810.0 | 89.16 | 344.19 | 12,015.0 | 9,574.4 | -351.1 | 0.78 | -0.29 | 0.73 | 112.09 |
| 21,906.0 | 89.73 | 343.29 | 12,015.9 | 9,666.5 | -378.0 | 1.11 | 0.59 | -0.94 | -57.66 |
| 22,001.0 | 90.18 | 343.87 | 12,016.0 | 9,757.6 | -404.8 | 0.77 | 0.47 | 0.61 | 52.19 |
| 22,097.0 | 90.17 | 344.12 | 12,015.7 | 9,849.9 | -431.3 | 0.26 | -0.01 | 0.26 | 92.29 |
| 22,192.0 | 90.73 | 344.58 | 12,014.9 | 9,941.4 | -456.9 | 0.76 | 0.59 | 0.48 | 39.40 |
| 22,287.0 | 90.78 | 344.23 | 12,013.7 | 10,032.9 | -482.5 | 0.37 | 0.05 | -0.37 | -81.87 |
| 22,382.0 | 90.40 | 344.04 | 12,012.7 | 10,124.3 | -508.4 | 0.45 | -0.40 | -0.20 | -153.44 |
| 22,433.0 | 89.34 | 343.29 | 12,012.8 | 10,173.2 | -522.8 | 2.55 | -2.08 | -1.47 | -144.72 |
| 22,523.6 | 89.34 | 343.29 | 12,013.9 | 10,260.0 | -548.8 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000 | **Local Co-ordinate Reference:** | Well Nandina 112H |
| **Company:** | Ameredev Operating, LLC. | **TVD Reference:** | KB @ 3050.0usft |
| **Project:** | NAN/GB | **MD Reference:** | KB @ 3050.0usft |
| **Site:** | NAN/GB #2N | **North Reference:** | Grid |
| **Well:** | Nandina 112H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Final Survey | | |
| **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) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 100.0 | 0.50 | 155.22 | 100.0 | -0.4 | 0.2 | -0.4 | 0.50 | 0.50 | 0.00 |
| 200.0 | 1.00 | 155.22 | 200.0 | -1.6 | 0.7 | -1.6 | 0.50 | 0.50 | 0.00 |
| 211.0 | 1.05 | 155.22 | 211.0 | -1.8 | 0.8 | -1.8 | 0.50 | 0.50 | 0.00 |
| 300.0 | 1.04 | 187.66 | 300.0 | -3.3 | 1.0 | -3.3 | 0.66 | -0.01 | 36.45 |
| 366.0 | 1.23 | 207.51 | 366.0 | -4.5 | 0.6 | -4.5 | 0.66 | 0.29 | 30.08 |
| 400.0 | 0.94 | 213.54 | 400.0 | -5.1 | 0.3 | -5.1 | 0.90 | -0.84 | 17.74 |
| 456.0 | 0.53 | 237.22 | 456.0 | -5.6 | -0.2 | -5.6 | 0.90 | -0.74 | 42.28 |
| 500.0 | 0.94 | 225.79 | 499.9 | -6.0 | -0.6 | -5.9 | 0.99 | 0.94 | -25.97 |
| 548.0 | 1.41 | 221.13 | 547.9 | -6.7 | -1.3 | -6.6 | 0.99 | 0.97 | -9.71 |
| 600.0 | 0.89 | 213.36 | 599.9 | -7.5 | -1.9 | -7.4 | 1.05 | -1.01 | -14.95 |
| 638.0 | 0.53 | 198.11 | 637.9 | -7.9 | -2.1 | -7.8 | 1.05 | -0.94 | -40.12 |
| 700.0 | 0.89 | 247.52 | 699.9 | -8.4 | -2.7 | -8.2 | 1.10 | 0.59 | 79.69 |
| 703.0 | 0.92 | 248.73 | 702.9 | -8.4 | -2.7 | -8.2 | 1.10 | 0.89 | 40.43 |
| 795.0 | 1.27 | 246.71 | 794.9 | -9.1 | -4.3 | -8.8 | 0.38 | 0.38 | -2.20 |
| 800.0 | 1.29 | 244.76 | 799.9 | -9.1 | -4.4 | -8.9 | 1.00 | 0.49 | -39.07 |
| 882.0 | 1.85 | 222.19 | 881.9 | -10.5 | -6.2 | -10.1 | 1.00 | 0.68 | -27.52 |
| 900.0 | 1.87 | 225.65 | 899.9 | -10.9 | -6.6 | -10.5 | 0.64 | 0.12 | 19.24 |
| 973.0 | 2.02 | 238.62 | 972.8 | -12.4 | -8.5 | -11.9 | 0.64 | 0.20 | 17.76 |
| 1,000.0 | 1.85 | 239.02 | 999.8 | -12.9 | -9.3 | -12.4 | 0.62 | -0.62 | 1.50 |
| 1,065.0 | 1.45 | 240.38 | 1,064.8 | -13.8 | -10.9 | -13.2 | 0.62 | -0.62 | 2.09 |
| 1,100.0 | 1.41 | 236.33 | 1,099.8 | -14.3 | -11.6 | -13.6 | 0.31 | -0.13 | -11.57 |
| 1,200.0 | 1.32 | 223.56 | 1,199.7 | -15.8 | -13.5 | -15.1 | 0.31 | -0.08 | -12.77 |
| 1,239.0 | 1.31 | 218.25 | 1,238.7 | -16.5 | -14.0 | -15.7 | 0.31 | -0.03 | -13.61 |
| 1,300.0 | 1.29 | 217.80 | 1,299.7 | -17.6 | -14.9 | -16.7 | 0.04 | -0.03 | -0.74 |
| 1,334.0 | 1.28 | 217.54 | 1,333.7 | -18.2 | -15.4 | -17.3 | 0.04 | -0.03 | -0.76 |
| 1,400.0 | 1.24 | 222.58 | 1,399.7 | -19.3 | -16.3 | -18.4 | 0.18 | -0.07 | 7.64 |
| 1,429.0 | 1.22 | 224.90 | 1,428.7 | -19.7 | -16.7 | -18.8 | 0.18 | -0.06 | 8.00 |
| 1,500.0 | 0.90 | 226.16 | 1,499.7 | -20.7 | -17.7 | -19.7 | 0.45 | -0.45 | 1.77 |
| 1,523.0 | 0.80 | 226.78 | 1,522.7 | -20.9 | -17.9 | -19.9 | 0.45 | -0.45 | 2.70 |
| 1,600.0 | 0.27 | 239.14 | 1,599.7 | -21.3 | -18.5 | -20.3 | 0.70 | -0.68 | 16.05 |
| 1,618.0 | 0.16 | 253.63 | 1,617.7 | -21.4 | -18.5 | -20.4 | 0.70 | -0.63 | 80.50 |
| 1,700.0 | 0.60 | 28.52 | 1,699.7 | -21.0 | -18.4 | -20.0 | 0.88 | 0.53 | 164.50 |
| 1,714.0 | 0.72 | 30.06 | 1,713.7 | -20.9 | -18.4 | -19.9 | 0.88 | 0.87 | 11.00 |
| 1,800.0 | 1.54 | 25.21 | 1,799.6 | -19.4 | -17.6 | -18.4 | 0.96 | 0.96 | -5.64 |
| 1,807.0 | 1.61 | 25.03 | 1,806.6 | -19.2 | -17.5 | -18.2 | 0.96 | 0.96 | -2.52 |
| 1,900.0 | 2.68 | 26.25 | 1,899.6 | -16.1 | -16.0 | -15.2 | 1.15 | 1.15 | 1.31 |
| 1,901.0 | 2.69 | 26.26 | 1,900.6 | -16.0 | -16.0 | -15.2 | 1.15 | 1.15 | 0.79 |
| 1,995.0 | 3.94 | 27.50 | 1,994.4 | -11.2 | -13.5 | -10.4 | 1.33 | 1.33 | 1.32 |
| 2,000.0 | 3.94 | 28.48 | 1,999.4 | -10.9 | -13.3 | -10.2 | 1.35 | 0.03 | 19.69 |
| 2,089.0 | 4.16 | 45.32 | 2,088.2 | -5.9 | -9.6 | -5.4 | 1.35 | 0.25 | 18.92 |
| 2,100.0 | 4.11 | 48.15 | 2,099.2 | -5.4 | -9.0 | -4.9 | 1.92 | -0.47 | 25.77 |
| 2,182.0 | 4.06 | 70.34 | 2,180.9 | -2.4 | -4.1 | -2.2 | 1.92 | -0.06 | 27.06 |
| 2,200.0 | 3.97 | 75.54 | 2,198.9 | -2.1 | -2.9 | -1.9 | 2.08 | -0.48 | 28.91 |
| 2,276.0 | 3.99 | 98.47 | 2,274.7 | -1.8 | 2.3 | -1.9 | 2.08 | 0.02 | 30.17 |
| 2,300.0 | 4.27 | 105.62 | 2,298.7 | -2.2 | 4.0 | -2.4 | 2.43 | 1.15 | 29.80 |
| 2,370.0 | 5.36 | 121.31 | 2,368.4 | -4.6 | 9.3 | -5.1 | 2.43 | 1.56 | 22.41 |
| 2,400.0 | 5.91 | 125.37 | 2,398.3 | -6.2 | 11.7 | -6.8 | 2.26 | 1.83 | 13.52 |
| 2,465.0 | 7.17 | 131.95 | 2,462.9 | -10.8 | 17.5 | -11.8 | 2.26 | 1.94 | 10.13 |
| 2,500.0 | 7.99 | 135.91 | 2,497.5 | -14.0 | 20.8 | -15.1 | 2.79 | 2.36 | 11.32 |
| 2,559.0 | 9.45 | 140.99 | 2,555.9 | -20.8 | 26.7 | -22.2 | 2.79 | 2.47 | 8.61 |
| 2,600.0 | 9.61 | 142.83 | 2,596.3 | -26.1 | 30.9 | -27.7 | 0.83 | 0.38 | 4.48 |
| 2,653.0 | 9.82 | 145.11 | 2,648.5 | -33.3 | 36.1 | -35.2 | 0.83 | 0.40 | 4.31 |
| 2,700.0 | 9.74 | 145.91 | 2,694.9 | -39.9 | 40.7 | -42.0 | 0.34 | -0.17 | 1.70 |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000 | **Local Co-ordinate Reference:** | Well Nandina 112H |
| **Company:** | Ameredev Operating, LLC. | **TVD Reference:** | KB @ 3050.0usft |
| **Project:** | NAN/GB | **MD Reference:** | KB @ 3050.0usft |
| **Site:** | NAN/GB #2N | **North Reference:** | Grid |
| **Well:** | Nandina 112H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Final Survey | | |
| **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) |
|---|---|---|---|---|---|---|---|---|---|
| 2,747.0 | 9.66 | 146.72 | 2,741.2 | -46.5 | 45.0 | -48.8 | 0.34 | -0.17 | 1.73 |
| 2,800.0 | 9.48 | 148.02 | 2,793.4 | -53.9 | 49.8 | -56.5 | 0.53 | -0.33 | 2.44 |
| 2,841.0 | 9.35 | 149.05 | 2,833.9 | -59.6 | 53.3 | -62.4 | 0.53 | -0.33 | 2.52 |
| 2,900.0 | 8.72 | 153.43 | 2,892.2 | -67.8 | 57.8 | -70.7 | 1.57 | -1.06 | 7.42 |
| 2,935.0 | 8.38 | 156.32 | 2,926.8 | -72.5 | 60.0 | -75.6 | 1.57 | -0.98 | 8.27 |
| 3,000.0 | 7.38 | 165.81 | 2,991.2 | -80.8 | 62.9 | -84.1 | 2.52 | -1.54 | 14.60 |
| 3,029.0 | 7.01 | 170.85 | 3,019.9 | -84.4 | 63.6 | -87.7 | 2.52 | -1.27 | 17.38 |
| 3,100.0 | 6.77 | 184.22 | 3,090.4 | -92.9 | 64.0 | -96.1 | 2.28 | -0.34 | 18.83 |
| 3,124.0 | 6.77 | 188.86 | 3,114.3 | -95.7 | 63.7 | -98.9 | 2.28 | 0.01 | 19.34 |
| 3,200.0 | 6.75 | 187.17 | 3,189.7 | -104.5 | 62.5 | -107.7 | 0.26 | -0.02 | -2.22 |
| 3,218.0 | 6.75 | 186.77 | 3,207.6 | -106.6 | 62.2 | -109.8 | 0.26 | -0.02 | -2.23 |
| 3,300.0 | 6.59 | 180.98 | 3,289.0 | -116.1 | 61.5 | -119.2 | 0.84 | -0.20 | -7.06 |
| 3,312.0 | 6.57 | 180.11 | 3,301.0 | -117.5 | 61.5 | -120.6 | 0.84 | -0.15 | -7.24 |
| 3,400.0 | 6.54 | 172.90 | 3,388.4 | -127.5 | 62.1 | -130.6 | 0.93 | -0.04 | -8.19 |
| 3,406.0 | 6.54 | 172.41 | 3,394.4 | -128.2 | 62.2 | -131.3 | 0.93 | 0.03 | -8.21 |
| 3,500.0 | 6.56 | 165.36 | 3,487.7 | -138.7 | 64.3 | -141.9 | 0.85 | 0.02 | -7.50 |
| 3,501.0 | 6.56 | 165.29 | 3,488.7 | -138.8 | 64.3 | -142.0 | 0.85 | 0.07 | -7.45 |
| 3,595.0 | 6.65 | 165.66 | 3,582.1 | -149.2 | 67.0 | -152.6 | 0.11 | 0.10 | 0.39 |
| 3,600.0 | 6.64 | 166.19 | 3,587.1 | -149.8 | 67.2 | -153.2 | 1.25 | -0.29 | 10.52 |
| 3,689.0 | 6.47 | 175.85 | 3,675.5 | -159.8 | 68.8 | -163.2 | 1.25 | -0.19 | 10.86 |
| 3,700.0 | 6.32 | 171.49 | 3,686.4 | -161.0 | 68.9 | -164.5 | 4.63 | -1.40 | -39.61 |
| 3,784.0 | 6.47 | 136.06 | 3,769.9 | -169.0 | 72.9 | -172.6 | 4.63 | 0.18 | -42.18 |
| 3,800.0 | 6.28 | 131.38 | 3,785.8 | -170.2 | 74.2 | -173.9 | 3.46 | -1.22 | -29.24 |
| 3,879.0 | 6.01 | 105.71 | 3,864.4 | -174.2 | 81.4 | -178.3 | 3.46 | -0.34 | -32.50 |
| 3,900.0 | 5.70 | 97.06 | 3,885.3 | -174.6 | 83.5 | -178.8 | 4.45 | -1.49 | -41.17 |
| 3,974.0 | 5.78 | 63.67 | 3,958.9 | -173.4 | 90.5 | -178.0 | 4.45 | 0.11 | -45.13 |
| 4,000.0 | 4.26 | 57.19 | 3,984.8 | -172.3 | 92.4 | -177.0 | 6.22 | -5.83 | -24.93 |
| 4,069.0 | 1.76 | 338.16 | 4,053.8 | -169.9 | 94.2 | -174.7 | 6.22 | -3.63 | -114.53 |
| 4,100.0 | 2.62 | 296.95 | 4,084.7 | -169.2 | 93.4 | -173.9 | 5.61 | 2.77 | -132.94 |
| 4,164.0 | 5.81 | 272.59 | 4,148.6 | -168.4 | 88.9 | -172.9 | 5.61 | 4.98 | -38.06 |
| 4,200.0 | 6.09 | 263.29 | 4,184.4 | -168.5 | 85.1 | -172.8 | 2.78 | 0.78 | -25.83 |
| 4,258.0 | 6.83 | 250.49 | 4,242.0 | -170.0 | 78.8 | -174.0 | 2.78 | 1.28 | -22.07 |
| 4,300.0 | 7.04 | 238.24 | 4,283.7 | -172.2 | 74.3 | -175.9 | 3.55 | 0.50 | -29.17 |
| 4,353.0 | 7.72 | 224.53 | 4,336.3 | -176.5 | 69.0 | -179.9 | 3.55 | 1.28 | -25.87 |
| 4,400.0 | 8.58 | 215.60 | 4,382.8 | -181.6 | 64.8 | -184.8 | 3.25 | 1.83 | -19.00 |
| 4,448.0 | 9.63 | 208.29 | 4,430.2 | -188.0 | 60.8 | -191.0 | 3.25 | 2.19 | -15.23 |
| 4,500.0 | 10.45 | 203.65 | 4,481.4 | -196.2 | 56.8 | -198.9 | 2.21 | 1.57 | -8.93 |
| 4,543.0 | 11.17 | 200.33 | 4,523.6 | -203.6 | 53.8 | -206.2 | 2.21 | 1.68 | -7.71 |
| 4,600.0 | 11.46 | 196.43 | 4,579.5 | -214.2 | 50.3 | -216.6 | 1.43 | 0.50 | -6.84 |
| 4,637.0 | 11.67 | 194.01 | 4,615.8 | -221.4 | 48.4 | -223.7 | 1.43 | 0.58 | -6.55 |
| 4,700.0 | 11.80 | 189.23 | 4,677.5 | -233.9 | 45.8 | -236.1 | 1.55 | 0.20 | -7.58 |
| 4,731.0 | 11.89 | 186.93 | 4,707.8 | -240.2 | 44.9 | -242.3 | 1.55 | 0.30 | -7.43 |
| 4,800.0 | 11.49 | 180.17 | 4,775.4 | -254.2 | 44.0 | -256.2 | 2.07 | -0.58 | -9.80 |
| 4,826.0 | 11.38 | 177.51 | 4,800.9 | -259.3 | 44.1 | -261.3 | 2.07 | -0.42 | -10.22 |
| 4,900.0 | 11.84 | 167.58 | 4,873.4 | -274.0 | 46.1 | -276.1 | 2.77 | 0.62 | -13.42 |
| 4,919.0 | 12.01 | 165.17 | 4,891.9 | -277.8 | 47.0 | -280.0 | 2.77 | 0.90 | -12.67 |
| 5,000.0 | 10.93 | 157.87 | 4,971.3 | -293.1 | 52.0 | -295.5 | 2.23 | -1.33 | -9.02 |
| 5,015.0 | 10.75 | 156.36 | 4,986.1 | -295.7 | 53.1 | -298.1 | 2.23 | -1.19 | -10.04 |
| 5,100.0 | 9.26 | 149.78 | 5,069.8 | -308.9 | 59.8 | -311.6 | 2.21 | -1.76 | -7.74 |
| 5,110.0 | 9.09 | 148.87 | 5,079.6 | -310.2 | 60.6 | -313.0 | 2.21 | -1.66 | -9.12 |
| 5,200.0 | 7.57 | 142.60 | 5,168.7 | -321.0 | 67.8 | -324.2 | 1.96 | -1.68 | -6.97 |
| 5,204.0 | 7.51 | 142.26 | 5,172.7 | -321.5 | 68.2 | -324.6 | 1.96 | -1.62 | -8.41 |
| 5,299.0 | 6.03 | 141.42 | 5,267.0 | -330.3 | 75.1 | -333.8 | 1.56 | -1.56 | -0.88 |
| 5,300.0 | 6.01 | 141.51 | 5,268.0 | -330.3 | 75.1 | -333.9 | 2.42 | -2.23 | 9.19 |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000 | **Local Co-ordinate Reference:** | Well Nandina 112H |
| **Company:** | Ameredev Operating, LLC. | **TVD Reference:** | KB @ 3050.0usft |
| **Project:** | NAN/GB | **MD Reference:** | KB @ 3050.0usft |
| **Site:** | NAN/GB #2N | **North Reference:** | Grid |
| **Well:** | Nandina 112H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Final Survey | | |
| **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) |
|---|---|---|---|---|---|---|---|---|---|
| 5,394.0 | 4.02 | 154.56 | 5,361.6 | -337.2 | 79.6 | -340.9 | 2.42 | -2.11 | 13.88 |
| 5,400.0 | 4.07 | 154.88 | 5,367.6 | -337.6 | 79.8 | -341.3 | 0.96 | 0.88 | 5.34 |
| 5,488.0 | 4.86 | 158.77 | 5,455.3 | -343.9 | 82.5 | -347.8 | 0.96 | 0.89 | 4.42 |
| 5,500.0 | 4.86 | 158.71 | 5,467.3 | -344.8 | 82.8 | -348.7 | 0.05 | 0.03 | -0.49 |
| 5,583.0 | 4.89 | 158.31 | 5,550.0 | -351.4 | 85.4 | -355.4 | 0.05 | 0.03 | -0.48 |
| 5,600.0 | 4.88 | 158.49 | 5,566.9 | -352.7 | 86.0 | -356.8 | 0.10 | -0.05 | 1.03 |
| 5,678.0 | 4.84 | 159.30 | 5,644.7 | -358.9 | 88.3 | -363.1 | 0.10 | -0.05 | 1.04 |
| 5,700.0 | 4.98 | 159.44 | 5,666.6 | -360.7 | 89.0 | -364.9 | 0.64 | 0.64 | 0.63 |
| 5,772.0 | 5.44 | 159.84 | 5,738.3 | -366.8 | 91.3 | -371.1 | 0.64 | 0.64 | 0.56 |
| 5,800.0 | 5.37 | 161.90 | 5,766.2 | -369.3 | 92.1 | -373.7 | 0.74 | -0.26 | 7.35 |
| 5,867.0 | 5.22 | 167.04 | 5,832.9 | -375.2 | 93.8 | -379.7 | 0.74 | -0.22 | 7.67 |
| 5,900.0 | 5.24 | 170.89 | 5,865.7 | -378.2 | 94.4 | -382.7 | 1.06 | 0.05 | 11.67 |
| 5,962.0 | 5.33 | 177.99 | 5,927.5 | -383.8 | 94.9 | -388.4 | 1.06 | 0.15 | 11.45 |
| 6,000.0 | 5.30 | 182.92 | 5,965.3 | -387.4 | 94.9 | -391.9 | 1.20 | -0.09 | 12.97 |
| 6,057.0 | 5.32 | 190.34 | 6,022.1 | -392.6 | 94.3 | -397.1 | 1.20 | 0.04 | 13.02 |
| 6,100.0 | 5.56 | 190.81 | 6,064.9 | -396.6 | 93.5 | -401.0 | 0.58 | 0.57 | 1.10 |
| 6,152.0 | 5.86 | 191.33 | 6,116.6 | -401.7 | 92.6 | -406.0 | 0.58 | 0.57 | 1.00 |
| 6,200.0 | 5.79 | 188.88 | 6,164.4 | -406.5 | 91.7 | -410.8 | 0.54 | -0.15 | -5.10 |
| 6,247.0 | 5.73 | 186.43 | 6,211.1 | -411.1 | 91.1 | -415.4 | 0.54 | -0.13 | -5.22 |
| 6,300.0 | 5.75 | 182.55 | 6,263.9 | -416.4 | 90.7 | -420.7 | 0.73 | 0.04 | -7.32 |
| 6,342.0 | 5.79 | 179.51 | 6,305.6 | -420.6 | 90.6 | -424.9 | 0.73 | 0.09 | -7.24 |
| 6,400.0 | 5.74 | 174.35 | 6,363.3 | -426.5 | 90.9 | -430.7 | 0.90 | -0.08 | -8.89 |
| 6,436.0 | 5.74 | 171.13 | 6,399.2 | -430.0 | 91.3 | -434.3 | 0.90 | -0.01 | -8.96 |
| 6,500.0 | 5.74 | 166.71 | 6,462.8 | -436.3 | 92.6 | -440.6 | 0.69 | 0.00 | -6.90 |
| 6,531.0 | 5.75 | 164.58 | 6,493.7 | -439.3 | 93.3 | -443.7 | 0.69 | 0.04 | -6.88 |
| 6,600.0 | 5.88 | 159.19 | 6,562.3 | -445.9 | 95.5 | -450.4 | 0.81 | 0.19 | -7.81 |
| 6,625.0 | 5.94 | 157.30 | 6,587.2 | -448.3 | 96.5 | -452.9 | 0.81 | 0.24 | -7.55 |
| 6,700.0 | 6.05 | 150.82 | 6,661.8 | -455.4 | 99.9 | -460.1 | 0.91 | 0.15 | -8.64 |
| 6,719.0 | 6.09 | 149.22 | 6,680.7 | -457.1 | 100.9 | -461.8 | 0.91 | 0.21 | -8.41 |
| 6,800.0 | 5.84 | 142.84 | 6,761.3 | -464.1 | 105.6 | -469.1 | 0.88 | -0.31 | -7.87 |
| 6,814.0 | 5.80 | 141.69 | 6,775.2 | -465.2 | 106.5 | -470.2 | 0.88 | -0.26 | -8.25 |
| 6,900.0 | 4.44 | 137.33 | 6,860.8 | -471.1 | 111.4 | -476.3 | 1.64 | -1.58 | -5.07 |
| 6,908.0 | 4.32 | 136.79 | 6,868.8 | -471.5 | 111.8 | -476.8 | 1.64 | -1.55 | -6.79 |
| 7,000.0 | 3.07 | 134.41 | 6,960.6 | -475.8 | 116.0 | -481.3 | 1.36 | -1.35 | -2.59 |
| 7,004.0 | 3.02 | 134.26 | 6,964.6 | -475.9 | 116.1 | -481.4 | 1.36 | -1.35 | -3.70 |
| 7,099.0 | 1.91 | 126.46 | 7,059.5 | -478.6 | 119.2 | -484.3 | 1.22 | -1.17 | -8.21 |
| 7,100.0 | 1.89 | 126.49 | 7,060.5 | -478.6 | 119.2 | -484.3 | 1.60 | -1.59 | 2.81 |
| 7,193.0 | 0.42 | 138.46 | 7,153.5 | -479.8 | 120.7 | -485.6 | 1.60 | -1.59 | 12.87 |
| 7,200.0 | 0.38 | 138.79 | 7,160.5 | -479.8 | 120.7 | -485.6 | 0.57 | -0.56 | 4.71 |
| 7,288.0 | 0.12 | 304.13 | 7,248.5 | -480.0 | 120.8 | -485.8 | 0.57 | -0.30 | 187.89 |
| 7,300.0 | 0.13 | 302.67 | 7,260.5 | -480.0 | 120.8 | -485.7 | 0.08 | 0.07 | -12.17 |
| 7,383.0 | 0.19 | 296.28 | 7,343.5 | -479.9 | 120.6 | -485.6 | 0.08 | 0.07 | -7.70 |
| 7,400.0 | 0.14 | 296.46 | 7,360.5 | -479.8 | 120.5 | -485.6 | 0.28 | -0.28 | 1.08 |
| 7,478.0 | 0.08 | 114.47 | 7,438.5 | -479.8 | 120.5 | -485.6 | 0.28 | -0.08 | 228.21 |
| 7,496.0 | 0.09 | 126.62 | 7,456.5 | -479.8 | 120.5 | -485.6 | 0.11 | 0.06 | 67.50 |
| 7,500.0 | 0.08 | 124.95 | 7,460.5 | -479.8 | 120.5 | -485.6 | 0.14 | -0.13 | -41.71 |
| 7,559.0 | 0.04 | 49.89 | 7,519.5 | -479.9 | 120.6 | -485.6 | 0.14 | -0.08 | -127.22 |
| 7,600.0 | 0.08 | 7.14 | 7,560.5 | -479.8 | 120.6 | -485.6 | 0.14 | 0.10 | -104.26 |
| 7,654.0 | 0.15 | 353.35 | 7,614.5 | -479.7 | 120.6 | -485.5 | 0.14 | 0.13 | -25.54 |
| 7,700.0 | 0.26 | 329.88 | 7,660.5 | -479.6 | 120.5 | -485.3 | 0.29 | 0.24 | -51.03 |
| 7,748.0 | 0.39 | 320.68 | 7,708.5 | -479.3 | 120.4 | -485.1 | 0.29 | 0.27 | -19.16 |
| 7,800.0 | 0.49 | 320.97 | 7,760.5 | -479.0 | 120.1 | -484.8 | 0.19 | 0.19 | 0.56 |
| 7,842.0 | 0.57 | 321.13 | 7,802.5 | -478.7 | 119.9 | -484.5 | 0.19 | 0.19 | 0.38 |
| 7,900.0 | 0.72 | 321.19 | 7,860.5 | -478.2 | 119.5 | -483.9 | 0.26 | 0.26 | 0.10 |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000 | **Local Co-ordinate Reference:** | Well Nandina 112H |
| **Company:** | Ameredev Operating, LLC. | **TVD Reference:** | KB @ 3050.0usft |
| **Project:** | NAN/GB | **MD Reference:** | KB @ 3050.0usft |
| **Site:** | NAN/GB #2N | **North Reference:** | Grid |
| **Well:** | Nandina 112H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Final Survey | | |
| **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) |
|---|---|---|---|---|---|---|---|---|---|
| 7,936.0 | 0.81 | 321.21 | 7,896.5 | -477.8 | 119.2 | -483.5 | 0.26 | 0.26 | 0.07 |
| 8,000.0 | 0.94 | 321.58 | 7,960.5 | -477.1 | 118.6 | -482.7 | 0.20 | 0.20 | 0.58 |
| 8,029.0 | 1.00 | 321.72 | 7,989.5 | -476.7 | 118.3 | -482.3 | 0.20 | 0.20 | 0.47 |
| 8,100.0 | 1.38 | 322.45 | 8,060.5 | -475.5 | 117.4 | -481.1 | 0.54 | 0.54 | 1.02 |
| 8,124.0 | 1.51 | 322.61 | 8,084.5 | -475.1 | 117.0 | -480.6 | 0.54 | 0.54 | 0.68 |
| 8,200.0 | 1.76 | 327.56 | 8,160.4 | -473.3 | 115.7 | -478.8 | 0.38 | 0.34 | 6.51 |
| 8,219.0 | 1.83 | 328.58 | 8,179.4 | -472.8 | 115.4 | -478.3 | 0.38 | 0.34 | 5.37 |
| 8,300.0 | 1.95 | 327.68 | 8,260.4 | -470.5 | 114.0 | -475.9 | 0.15 | 0.15 | -1.11 |
| 8,313.0 | 1.97 | 327.55 | 8,273.4 | -470.1 | 113.8 | -475.5 | 0.15 | 0.15 | -1.03 |
| 8,400.0 | 1.84 | 329.73 | 8,360.3 | -467.7 | 112.3 | -473.0 | 0.17 | -0.15 | 2.51 |
| 8,408.0 | 1.83 | 329.95 | 8,368.3 | -467.4 | 112.1 | -472.8 | 0.17 | -0.15 | 2.70 |
| 8,500.0 | 1.78 | 326.59 | 8,460.3 | -465.0 | 110.6 | -470.2 | 0.13 | -0.05 | -3.66 |
| 8,502.0 | 1.78 | 326.51 | 8,462.3 | -464.9 | 110.6 | -470.2 | 0.13 | -0.05 | -3.76 |
| 8,597.0 | 2.24 | 320.85 | 8,557.2 | -462.2 | 108.6 | -467.4 | 0.53 | 0.48 | -5.96 |
| 8,600.0 | 2.26 | 320.79 | 8,560.2 | -462.2 | 108.5 | -467.3 | 0.61 | 0.61 | -2.16 |
| 8,653.0 | 2.58 | 319.79 | 8,613.2 | -460.4 | 107.1 | -465.5 | 0.61 | 0.61 | -1.88 |
| 8,692.0 | 2.78 | 317.95 | 8,652.1 | -459.1 | 105.9 | -464.1 | 0.56 | 0.51 | -4.72 |
| 8,700.0 | 2.79 | 317.88 | 8,660.1 | -458.8 | 105.6 | -463.8 | 0.08 | 0.06 | -0.87 |
| 8,786.0 | 2.84 | 317.15 | 8,746.0 | -455.7 | 102.8 | -460.5 | 0.08 | 0.06 | -0.85 |
| 8,800.0 | 2.85 | 316.19 | 8,760.0 | -455.2 | 102.3 | -460.0 | 0.35 | 0.08 | -6.84 |
| 8,880.0 | 2.93 | 310.88 | 8,839.9 | -452.4 | 99.4 | -457.0 | 0.35 | 0.10 | -6.64 |
| 8,900.0 | 2.98 | 310.82 | 8,859.9 | -451.7 | 98.6 | -456.3 | 0.27 | 0.27 | -0.29 |
| 8,961.0 | 3.15 | 310.66 | 8,920.8 | -449.6 | 96.1 | -454.1 | 0.27 | 0.27 | -0.27 |
| 9,000.0 | 3.29 | 307.60 | 8,959.7 | -448.2 | 94.4 | -452.6 | 0.57 | 0.36 | -7.84 |
| 9,068.0 | 3.56 | 302.88 | 9,027.6 | -445.9 | 91.1 | -450.1 | 0.57 | 0.39 | -6.94 |
| 9,100.0 | 3.82 | 299.17 | 9,059.5 | -444.8 | 89.4 | -448.9 | 1.10 | 0.81 | -11.58 |
| 9,113.0 | 3.93 | 297.81 | 9,072.5 | -444.4 | 88.6 | -448.5 | 1.10 | 0.84 | -10.49 |
| 9,176.0 | 4.26 | 293.57 | 9,135.3 | -442.4 | 84.5 | -446.3 | 0.71 | 0.52 | -6.73 |
| 9,200.0 | 4.47 | 291.58 | 9,159.3 | -441.7 | 82.8 | -445.5 | 1.06 | 0.86 | -8.31 |
| 9,271.0 | 5.10 | 286.64 | 9,230.0 | -439.8 | 77.2 | -443.3 | 1.06 | 0.89 | -6.95 |
| 9,300.0 | 5.27 | 286.09 | 9,258.9 | -439.1 | 74.7 | -442.4 | 0.60 | 0.58 | -1.89 |
| 9,349.0 | 5.55 | 285.24 | 9,307.7 | -437.8 | 70.3 | -441.0 | 0.60 | 0.58 | -1.74 |
| 9,400.0 | 5.59 | 287.02 | 9,358.4 | -436.5 | 65.5 | -439.3 | 0.35 | 0.07 | 3.49 |
| 9,443.0 | 5.62 | 288.50 | 9,401.2 | -435.2 | 61.5 | -437.8 | 0.35 | 0.08 | 3.44 |
| 9,500.0 | 5.46 | 287.70 | 9,458.0 | -433.5 | 56.3 | -435.9 | 0.31 | -0.27 | -1.40 |
| 9,538.0 | 5.36 | 287.14 | 9,495.8 | -432.4 | 52.9 | -434.6 | 0.31 | -0.27 | -1.47 |
| 9,600.0 | 5.27 | 285.04 | 9,557.5 | -430.8 | 47.4 | -432.7 | 0.35 | -0.15 | -3.38 |
| 9,633.0 | 5.22 | 283.90 | 9,590.4 | -430.0 | 44.4 | -431.8 | 0.35 | -0.14 | -3.47 |
| 9,700.0 | 5.43 | 282.51 | 9,657.1 | -428.6 | 38.4 | -430.1 | 0.36 | 0.31 | -2.07 |
| 9,727.0 | 5.51 | 281.98 | 9,684.0 | -428.1 | 35.9 | -429.4 | 0.36 | 0.31 | -1.96 |
| 9,800.0 | 5.45 | 279.53 | 9,756.6 | -426.8 | 29.0 | -427.7 | 0.33 | -0.08 | -3.36 |
| 9,821.0 | 5.44 | 278.81 | 9,777.5 | -426.5 | 27.1 | -427.3 | 0.33 | -0.07 | -3.41 |
| 9,900.0 | 5.20 | 278.00 | 9,856.2 | -425.4 | 19.8 | -425.8 | 0.32 | -0.31 | -1.02 |
| 9,916.0 | 5.15 | 277.83 | 9,872.1 | -425.2 | 18.4 | -425.6 | 0.32 | -0.30 | -1.08 |
| 10,000.0 | 5.45 | 267.81 | 9,955.8 | -424.8 | 10.7 | -424.8 | 1.16 | 0.36 | -11.93 |
| 10,011.0 | 5.50 | 266.59 | 9,966.7 | -424.9 | 9.6 | -424.8 | 1.16 | 0.46 | -11.11 |
| 10,100.0 | 5.84 | 259.16 | 10,055.3 | -426.0 | 0.9 | -425.4 | 0.91 | 0.38 | -8.35 |
| 10,105.0 | 5.86 | 258.77 | 10,060.3 | -426.1 | 0.4 | -425.5 | 0.91 | 0.43 | -7.81 |
| 10,200.0 | 5.58 | 254.28 | 10,154.8 | -428.3 | -8.8 | -427.2 | 0.55 | -0.29 | -4.73 |
| 10,220.0 | 5.53 | 253.28 | 10,174.7 | -428.8 | -10.6 | -427.6 | 0.55 | -0.27 | -5.00 |
| 10,300.0 | 4.92 | 251.03 | 10,254.4 | -431.0 | -17.6 | -429.5 | 0.81 | -0.77 | -2.81 |
| 10,314.0 | 4.81 | 250.58 | 10,268.3 | -431.4 | -18.7 | -429.8 | 0.81 | -0.76 | -3.23 |
| 10,400.0 | 4.88 | 244.98 | 10,354.0 | -434.2 | -25.4 | -432.2 | 0.56 | 0.08 | -6.52 |
| 10,409.0 | 4.89 | 244.40 | 10,363.0 | -434.5 | -26.1 | -432.5 | 0.56 | 0.11 | -6.40 |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000 | **Local Co-ordinate Reference:** | Well Nandina 112H |
| **Company:** | Ameredev Operating, LLC. | **TVD Reference:** | KB @ 3050.0usft |
| **Project:** | NAN/GB | **MD Reference:** | KB @ 3050.0usft |
| **Site:** | NAN/GB #2N | **North Reference:** | Grid |
| **Well:** | Nandina 112H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Final Survey | | |
| **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) |
|---|---|---|---|---|---|---|---|---|---|
| 10,500.0 | 4.49 | 242.67 | 10,453.7 | -437.8 | -32.8 | -435.4 | 0.46 | -0.44 | -1.90 |
| 10,503.0 | 4.48 | 242.61 | 10,456.7 | -437.9 | -33.0 | -435.5 | 0.46 | -0.43 | -2.07 |
| 10,598.0 | 4.59 | 233.48 | 10,551.4 | -441.9 | -39.3 | -439.2 | 0.77 | 0.12 | -9.61 |
| 10,600.0 | 4.58 | 233.57 | 10,553.4 | -442.0 | -39.5 | -439.3 | 0.59 | -0.47 | 4.49 |
| 10,687.0 | 4.18 | 237.86 | 10,640.1 | -445.7 | -44.9 | -442.7 | 0.59 | -0.46 | 4.93 |
| 10,700.0 | 4.27 | 240.55 | 10,653.1 | -446.2 | -45.8 | -443.1 | 1.68 | 0.71 | 20.71 |
| 10,782.0 | 5.04 | 254.78 | 10,734.8 | -448.7 | -51.9 | -445.3 | 1.68 | 0.94 | 17.35 |
| 10,800.0 | 5.24 | 257.24 | 10,752.7 | -449.1 | -53.5 | -445.6 | 1.67 | 1.13 | 13.64 |
| 10,876.0 | 6.19 | 265.71 | 10,828.4 | -450.1 | -60.9 | -446.2 | 1.67 | 1.25 | 11.15 |
| 10,900.0 | 5.77 | 266.26 | 10,852.2 | -450.3 | -63.4 | -446.3 | 1.79 | -1.77 | 2.29 |
| 10,970.0 | 4.53 | 268.45 | 10,921.9 | -450.6 | -69.7 | -446.3 | 1.79 | -1.76 | 3.13 |
| 11,000.0 | 3.75 | 266.93 | 10,951.9 | -450.7 | -71.9 | -446.2 | 2.62 | -2.59 | -5.08 |
| 11,064.0 | 2.11 | 259.94 | 11,015.8 | -451.0 | -75.1 | -446.4 | 2.62 | -2.56 | -10.92 |
| 11,100.0 | 1.74 | 255.89 | 11,051.8 | -451.3 | -76.3 | -446.6 | 1.09 | -1.02 | -11.26 |
| 11,158.0 | 1.18 | 244.14 | 11,109.7 | -451.7 | -77.7 | -447.0 | 1.09 | -0.97 | -20.25 |
| 11,200.0 | 0.93 | 237.16 | 11,151.7 | -452.1 | -78.4 | -447.3 | 0.66 | -0.59 | -16.61 |
| 11,252.0 | 0.66 | 221.57 | 11,203.7 | -452.6 | -78.9 | -447.7 | 0.66 | -0.52 | -29.99 |
| 11,278.0 | 0.75 | 219.62 | 11,229.7 | -452.8 | -79.1 | -447.9 | 0.36 | 0.35 | -7.50 |
| 11,300.0 | 0.70 | 221.87 | 11,251.7 | -453.0 | -79.3 | -448.1 | 0.25 | -0.21 | 10.22 |
| 11,400.0 | 0.51 | 236.99 | 11,351.7 | -453.7 | -80.1 | -448.8 | 0.25 | -0.19 | 15.12 |
| 11,434.0 | 0.46 | 244.79 | 11,385.7 | -453.9 | -80.3 | -448.9 | 0.25 | -0.15 | 22.93 |
| 11,466.0 | 4.59 | 17.49 | 11,417.7 | -452.7 | -80.1 | -447.8 | 15.35 | 12.91 | 414.69 |
| 11,497.0 | 9.64 | 18.63 | 11,448.4 | -449.1 | -78.9 | -444.2 | 16.30 | 16.29 | 3.68 |
| 11,500.0 | 10.14 | 18.50 | 11,451.4 | -448.6 | -78.7 | -443.7 | 16.79 | 16.78 | -4.28 |
| 11,529.0 | 15.01 | 17.70 | 11,479.7 | -442.6 | -76.8 | -437.8 | 16.79 | 16.78 | -2.76 |
| 11,600.0 | 21.48 | 11.62 | 11,547.1 | -421.1 | -71.3 | -416.6 | 9.49 | 9.12 | -8.57 |
| 11,623.0 | 23.61 | 10.34 | 11,568.3 | -412.4 | -69.7 | -408.1 | 9.49 | 9.25 | -5.54 |
| 11,700.0 | 31.53 | 10.26 | 11,636.5 | -377.4 | -63.3 | -373.4 | 10.28 | 10.28 | -0.11 |
| 11,719.0 | 33.48 | 10.24 | 11,652.6 | -367.3 | -61.5 | -363.5 | 10.28 | 10.28 | -0.08 |
| 11,800.0 | 40.22 | 7.58 | 11,717.3 | -319.3 | -54.1 | -316.0 | 8.55 | 8.32 | -3.28 |
| 11,811.0 | 41.14 | 7.28 | 11,725.7 | -312.2 | -53.1 | -309.0 | 8.55 | 8.36 | -2.76 |
| 11,900.0 | 49.66 | 3.79 | 11,788.1 | -249.2 | -47.2 | -246.3 | 9.97 | 9.57 | -3.92 |
| 11,905.0 | 50.14 | 3.62 | 11,791.3 | -245.4 | -46.9 | -242.6 | 9.97 | 9.63 | -3.37 |
| 11,998.0 | 62.06 | 3.15 | 11,843.1 | -168.5 | -42.4 | -166.0 | 12.82 | 12.82 | -0.51 |
| 12,000.0 | 62.24 | 3.11 | 11,844.1 | -166.7 | -42.3 | -164.2 | 9.38 | 9.21 | -2.00 |
| 12,084.1 | 70.00 | 1.53 | 11,878.1 | -90.0 | -39.2 | -87.7 | 9.38 | 9.23 | -1.88 |
| **Nan112 Final FTP** | | | | | | | | | |
| 12,091.0 | 70.64 | 1.41 | 11,880.4 | -83.5 | -39.0 | -81.2 | 9.38 | 9.23 | -1.77 |
| 12,100.0 | 71.49 | 1.45 | 11,883.3 | -74.9 | -38.8 | -72.8 | 9.46 | 9.45 | 0.48 |
| 12,185.0 | 79.52 | 1.84 | 11,904.6 | 7.3 | -36.5 | 9.2 | 9.46 | 9.45 | 0.46 |
| 12,200.0 | 81.00 | 1.71 | 11,907.1 | 22.0 | -36.0 | 23.9 | 9.93 | 9.89 | -0.84 |
| 12,279.0 | 88.82 | 1.06 | 11,914.1 | 100.6 | -34.1 | 102.3 | 9.93 | 9.89 | -0.83 |
| 12,300.0 | 88.72 | 0.80 | 11,914.6 | 121.6 | -33.8 | 123.3 | 1.34 | -0.48 | -1.25 |
| 12,375.0 | 88.36 | 359.86 | 11,916.5 | 196.6 | -33.3 | 198.1 | 1.34 | -0.48 | -1.25 |
| 12,400.0 | 88.76 | 359.86 | 11,917.1 | 221.6 | -33.4 | 223.1 | 1.60 | 1.60 | 0.00 |
| 12,470.0 | 89.88 | 359.86 | 11,917.9 | 291.6 | -33.6 | 293.0 | 1.60 | 1.60 | 0.00 |
| 12,500.0 | 90.05 | 0.42 | 11,918.0 | 321.6 | -33.5 | 322.9 | 1.95 | 0.57 | 1.86 |
| 12,565.0 | 90.42 | 1.63 | 11,917.7 | 386.6 | -32.3 | 387.7 | 1.95 | 0.57 | 1.86 |
| 12,600.0 | 89.72 | 1.81 | 11,917.6 | 421.6 | -31.3 | 422.6 | 2.06 | -2.00 | 0.51 |
| 12,660.0 | 88.52 | 2.11 | 11,918.6 | 481.5 | -29.2 | 482.4 | 2.06 | -2.00 | 0.51 |
| 12,700.0 | 87.96 | 1.96 | 11,919.8 | 521.5 | -27.8 | 522.2 | 1.46 | -1.41 | -0.37 |
| 12,755.0 | 87.18 | 1.76 | 11,922.1 | 576.4 | -26.0 | 577.0 | 1.46 | -1.41 | -0.37 |
| 12,800.0 | 87.84 | 2.20 | 11,924.1 | 621.3 | -24.5 | 621.7 | 1.76 | 1.47 | 0.97 |
| 12,849.0 | 88.56 | 2.67 | 11,925.6 | 670.3 | -22.4 | 670.5 | 1.76 | 1.47 | 0.97 |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000 | **Local Co-ordinate Reference:** | Well Nandina 112H |
| **Company:** | Ameredev Operating, LLC. | **TVD Reference:** | KB @ 3050.0usft |
| **Project:** | NAN/GB | **MD Reference:** | KB @ 3050.0usft |
| **Site:** | NAN/GB #2N | **North Reference:** | Grid |
| **Well:** | Nandina 112H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Final Survey | | |
| **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) |
|---|---|---|---|---|---|---|---|---|---|
| 12,900.0 | 89.07 | 2.52 | 11,926.7 | 721.2 | -20.1 | 721.2 | 1.04 | 1.00 | -0.30 |
| 12,945.0 | 89.52 | 2.38 | 11,927.2 | 766.1 | -18.2 | 766.0 | 1.04 | 1.00 | -0.30 |
| 13,000.0 | 89.35 | 2.19 | 11,927.8 | 821.1 | -16.0 | 820.8 | 0.46 | -0.32 | -0.34 |
| 13,040.0 | 89.22 | 2.06 | 11,928.3 | 861.1 | -14.5 | 860.6 | 0.46 | -0.32 | -0.34 |
| 13,100.0 | 88.16 | 1.42 | 11,929.6 | 921.0 | -12.7 | 920.4 | 2.06 | -1.77 | -1.06 |
| 13,136.0 | 87.52 | 1.04 | 11,931.0 | 957.0 | -11.9 | 956.3 | 2.06 | -1.77 | -1.06 |
| 13,200.0 | 88.42 | 1.17 | 11,933.3 | 1,020.9 | -10.7 | 1,020.0 | 1.42 | 1.41 | 0.20 |
| 13,231.0 | 88.86 | 1.23 | 11,934.0 | 1,051.9 | -10.0 | 1,051.0 | 1.42 | 1.41 | 0.20 |
| 13,300.0 | 89.64 | 1.06 | 11,934.9 | 1,120.9 | -8.6 | 1,119.8 | 1.16 | 1.14 | -0.24 |
| 13,326.0 | 89.94 | 1.00 | 11,935.0 | 1,146.9 | -8.2 | 1,145.7 | 1.16 | 1.14 | -0.24 |
| 13,400.0 | 90.55 | 1.10 | 11,934.7 | 1,220.9 | -6.8 | 1,219.5 | 0.83 | 0.82 | 0.14 |
| 13,421.0 | 90.72 | 1.13 | 11,934.5 | 1,241.9 | -6.4 | 1,240.4 | 0.83 | 0.82 | 0.14 |
| 13,500.0 | 89.26 | 359.99 | 11,934.5 | 1,320.9 | -5.6 | 1,319.3 | 2.34 | -1.84 | -1.45 |
| 13,517.0 | 88.95 | 359.74 | 11,934.7 | 1,337.9 | -5.7 | 1,336.3 | 2.34 | -1.84 | -1.45 |
| 13,600.0 | 88.02 | 358.69 | 11,936.9 | 1,420.8 | -6.8 | 1,419.2 | 1.69 | -1.13 | -1.26 |
| 13,613.0 | 87.87 | 358.53 | 11,937.4 | 1,433.8 | -7.1 | 1,432.1 | 1.69 | -1.12 | -1.26 |
| 13,700.0 | 87.84 | 357.78 | 11,940.6 | 1,520.7 | -9.9 | 1,519.1 | 0.86 | -0.03 | -0.86 |
| 13,708.0 | 87.84 | 357.71 | 11,941.0 | 1,528.7 | -10.2 | 1,527.1 | 0.86 | -0.03 | -0.86 |
| 13,800.0 | 87.81 | 358.65 | 11,944.4 | 1,620.6 | -13.2 | 1,619.0 | 1.02 | -0.03 | 1.02 |
| 13,804.0 | 87.81 | 358.69 | 11,944.6 | 1,624.6 | -13.2 | 1,623.0 | 1.02 | -0.03 | 1.02 |
| 13,899.0 | 86.65 | 0.48 | 11,949.2 | 1,719.5 | -13.9 | 1,717.7 | 2.24 | -1.22 | 1.88 |
| 13,900.0 | 86.67 | 0.47 | 11,949.2 | 1,720.5 | -13.9 | 1,718.7 | 2.43 | 2.36 | -0.55 |
| 13,995.0 | 88.92 | 359.95 | 11,952.9 | 1,815.4 | -13.6 | 1,813.5 | 2.43 | 2.36 | -0.55 |
| 14,000.0 | 89.01 | 359.96 | 11,953.0 | 1,820.4 | -13.6 | 1,818.5 | 1.80 | 1.79 | 0.16 |
| 14,090.0 | 90.62 | 0.10 | 11,953.3 | 1,910.4 | -13.5 | 1,908.4 | 1.80 | 1.79 | 0.16 |
| 14,100.0 | 90.59 | 0.10 | 11,953.2 | 1,920.4 | -13.5 | 1,918.4 | 0.28 | -0.28 | -0.03 |
| 14,186.0 | 90.35 | 0.07 | 11,952.5 | 2,006.4 | -13.4 | 2,004.2 | 0.28 | -0.28 | -0.03 |
| 14,200.0 | 90.51 | 0.14 | 11,952.4 | 2,020.4 | -13.4 | 2,018.2 | 1.22 | 1.12 | 0.49 |
| 14,281.0 | 91.41 | 0.54 | 11,951.0 | 2,101.4 | -12.9 | 2,099.0 | 1.22 | 1.12 | 0.49 |
| 14,300.0 | 91.24 | 0.38 | 11,950.6 | 2,120.4 | -12.7 | 2,118.0 | 1.25 | -0.91 | -0.86 |
| 14,377.0 | 90.54 | 359.71 | 11,949.4 | 2,197.3 | -12.7 | 2,194.9 | 1.25 | -0.91 | -0.86 |
| 14,400.0 | 89.68 | 359.61 | 11,949.3 | 2,220.3 | -12.8 | 2,217.9 | 3.76 | -3.74 | -0.44 |
| 14,472.0 | 86.99 | 359.29 | 11,951.4 | 2,292.3 | -13.5 | 2,289.7 | 3.76 | -3.74 | -0.44 |
| 14,500.0 | 87.30 | 359.14 | 11,952.8 | 2,320.3 | -13.9 | 2,317.7 | 1.23 | 1.11 | -0.54 |
| 14,567.0 | 88.04 | 358.78 | 11,955.5 | 2,387.2 | -15.1 | 2,384.6 | 1.23 | 1.11 | -0.54 |
| 14,600.0 | 88.51 | 358.51 | 11,956.5 | 2,420.2 | -15.9 | 2,417.6 | 1.64 | 1.42 | -0.81 |
| 14,662.0 | 89.39 | 358.01 | 11,957.7 | 2,482.1 | -17.8 | 2,479.5 | 1.64 | 1.42 | -0.81 |
| 14,700.0 | 87.98 | 357.31 | 11,958.5 | 2,520.1 | -19.3 | 2,517.5 | 4.14 | -3.71 | -1.84 |
| 14,758.0 | 85.83 | 356.24 | 11,961.7 | 2,577.9 | -22.6 | 2,575.4 | 4.14 | -3.71 | -1.85 |
| 14,800.0 | 85.64 | 355.57 | 11,964.8 | 2,619.7 | -25.6 | 2,617.3 | 1.65 | -0.45 | -1.59 |
| 14,853.0 | 85.40 | 354.73 | 11,968.9 | 2,672.3 | -30.0 | 2,670.1 | 1.65 | -0.45 | -1.59 |
| 14,900.0 | 86.58 | 356.19 | 11,972.2 | 2,719.1 | -33.7 | 2,717.0 | 3.99 | 2.52 | 3.10 |
| 14,949.0 | 87.82 | 357.70 | 11,974.6 | 2,767.9 | -36.4 | 2,765.9 | 3.99 | 2.52 | 3.09 |
| 15,000.0 | 85.89 | 357.91 | 11,977.4 | 2,818.8 | -38.3 | 2,816.8 | 3.81 | -3.79 | 0.41 |
| 15,044.0 | 84.22 | 358.09 | 11,981.2 | 2,862.6 | -39.8 | 2,860.7 | 3.81 | -3.79 | 0.41 |
| 15,100.0 | 85.94 | 359.46 | 11,986.0 | 2,918.4 | -41.0 | 2,916.4 | 3.92 | 3.07 | 2.45 |
| 15,162.0 | 87.85 | 0.97 | 11,989.4 | 2,980.3 | -40.8 | 2,978.2 | 3.92 | 3.08 | 2.44 |
| 15,200.0 | 87.69 | 1.15 | 11,990.8 | 3,018.3 | -40.1 | 3,016.1 | 0.63 | -0.41 | 0.47 |
| 15,257.0 | 87.46 | 1.42 | 11,993.3 | 3,075.2 | -38.8 | 3,072.9 | 0.63 | -0.41 | 0.47 |
| 15,300.0 | 87.42 | 0.99 | 11,995.2 | 3,118.2 | -37.9 | 3,115.7 | 0.99 | -0.09 | -0.99 |
| 15,352.0 | 87.37 | 0.48 | 11,997.5 | 3,170.1 | -37.2 | 3,167.6 | 0.99 | -0.09 | -0.99 |
| 15,400.0 | 86.63 | 0.14 | 12,000.1 | 3,218.0 | -37.0 | 3,215.4 | 1.70 | -1.55 | -0.72 |
| 15,447.0 | 85.90 | 359.80 | 12,003.1 | 3,264.9 | -37.0 | 3,262.2 | 1.70 | -1.55 | -0.72 |
| 15,500.0 | 86.32 | 359.29 | 12,006.7 | 3,317.8 | -37.4 | 3,315.1 | 1.25 | 0.80 | -0.96 |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000 | **Local Co-ordinate Reference:** | Well Nandina 112H |
| **Company:** | Ameredev Operating, LLC. | **TVD Reference:** | KB @ 3050.0usft |
| **Project:** | NAN/GB | **MD Reference:** | KB @ 3050.0usft |
| **Site:** | NAN/GB #2N | **North Reference:** | Grid |
| **Well:** | Nandina 112H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Final Survey | | |
| **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) |
|---|---|---|---|---|---|---|---|---|---|
| 15,542.0 | 86.66 | 358.89 | 12,009.3 | 3,359.7 | -38.1 | 3,357.0 | 1.25 | 0.80 | -0.96 |
| 15,600.0 | 86.93 | 358.43 | 12,012.5 | 3,417.6 | -39.4 | 3,414.8 | 0.92 | 0.47 | -0.79 |
| 15,638.0 | 87.11 | 358.13 | 12,014.5 | 3,455.6 | -40.6 | 3,452.8 | 0.92 | 0.47 | -0.79 |
| 15,700.0 | 89.22 | 358.12 | 12,016.5 | 3,517.5 | -42.6 | 3,514.7 | 3.41 | 3.41 | -0.02 |
| 15,733.0 | 90.35 | 358.11 | 12,016.6 | 3,550.5 | -43.7 | 3,547.7 | 3.41 | 3.41 | -0.02 |
| 15,800.0 | 90.94 | 359.39 | 12,015.8 | 3,617.4 | -45.2 | 3,614.7 | 2.10 | 0.89 | 1.91 |
| 15,829.0 | 91.20 | 359.94 | 12,015.3 | 3,646.4 | -45.3 | 3,643.7 | 2.10 | 0.89 | 1.91 |
| 15,900.0 | 90.59 | 0.87 | 12,014.2 | 3,717.4 | -44.8 | 3,714.5 | 1.57 | -0.86 | 1.32 |
| 15,924.0 | 90.38 | 1.19 | 12,014.0 | 3,741.4 | -44.4 | 3,738.4 | 1.57 | -0.86 | 1.32 |
| 16,000.0 | 91.05 | 1.68 | 12,013.0 | 3,817.4 | -42.5 | 3,814.2 | 1.09 | 0.88 | 0.65 |
| 16,020.0 | 91.22 | 1.81 | 12,012.6 | 3,837.4 | -41.9 | 3,834.1 | 1.09 | 0.87 | 0.65 |
| 16,100.0 | 90.56 | 1.78 | 12,011.4 | 3,917.3 | -39.4 | 3,913.8 | 0.82 | -0.82 | -0.04 |
| 16,115.0 | 90.44 | 1.77 | 12,011.3 | 3,932.3 | -38.9 | 3,928.8 | 0.82 | -0.82 | -0.04 |
| 16,200.0 | 91.84 | 2.42 | 12,009.6 | 4,017.2 | -35.8 | 4,013.4 | 1.82 | 1.65 | 0.77 |
| 16,210.0 | 92.01 | 2.50 | 12,009.2 | 4,027.2 | -35.4 | 4,023.4 | 1.82 | 1.65 | 0.77 |
| 16,300.0 | 91.94 | 1.22 | 12,006.1 | 4,117.1 | -32.5 | 4,113.0 | 1.42 | -0.07 | -1.42 |
| 16,305.0 | 91.94 | 1.15 | 12,006.0 | 4,122.1 | -32.4 | 4,118.0 | 1.42 | -0.07 | -1.42 |
| 16,399.0 | 89.60 | 359.39 | 12,004.7 | 4,216.1 | -31.9 | 4,211.8 | 3.11 | -2.49 | -1.87 |
| 16,400.0 | 89.58 | 359.38 | 12,004.7 | 4,217.1 | -31.9 | 4,212.8 | 2.04 | -1.63 | -1.22 |
| 16,494.0 | 88.05 | 358.23 | 12,006.7 | 4,311.1 | -33.9 | 4,306.7 | 2.04 | -1.63 | -1.22 |
| 16,500.0 | 88.04 | 358.24 | 12,006.9 | 4,317.1 | -34.1 | 4,312.7 | 0.22 | -0.14 | 0.17 |
| 16,589.0 | 87.92 | 358.39 | 12,010.0 | 4,406.0 | -36.7 | 4,401.6 | 0.22 | -0.14 | 0.17 |
| 16,600.0 | 88.01 | 358.37 | 12,010.4 | 4,416.9 | -37.0 | 4,412.6 | 0.87 | 0.84 | -0.22 |
| 16,684.0 | 88.72 | 358.18 | 12,012.8 | 4,500.9 | -39.5 | 4,496.6 | 0.87 | 0.84 | -0.22 |
| 16,700.0 | 88.65 | 358.16 | 12,013.1 | 4,516.9 | -40.0 | 4,512.5 | 0.47 | -0.45 | -0.13 |
| 16,779.0 | 88.29 | 358.06 | 12,015.3 | 4,595.8 | -42.6 | 4,591.5 | 0.47 | -0.45 | -0.13 |
| 16,800.0 | 88.50 | 358.16 | 12,015.8 | 4,616.8 | -43.3 | 4,612.5 | 1.12 | 1.01 | 0.48 |
| 16,874.0 | 89.25 | 358.52 | 12,017.3 | 4,690.7 | -45.5 | 4,686.5 | 1.12 | 1.01 | 0.48 |
| 16,900.0 | 88.91 | 358.55 | 12,017.7 | 4,716.7 | -46.1 | 4,712.4 | 1.31 | -1.31 | 0.13 |
| 16,969.0 | 88.01 | 358.64 | 12,019.6 | 4,785.7 | -47.8 | 4,781.4 | 1.31 | -1.31 | 0.13 |
| 17,000.0 | 87.75 | 358.38 | 12,020.7 | 4,816.6 | -48.6 | 4,812.4 | 1.21 | -0.85 | -0.85 |
| 17,064.0 | 87.20 | 357.83 | 12,023.5 | 4,880.5 | -50.8 | 4,876.3 | 1.21 | -0.85 | -0.85 |
| 17,100.0 | 87.49 | 358.27 | 12,025.2 | 4,916.5 | -52.0 | 4,912.2 | 1.47 | 0.80 | 1.23 |
| 17,159.0 | 87.96 | 359.00 | 12,027.5 | 4,975.4 | -53.4 | 4,971.2 | 1.47 | 0.80 | 1.23 |
| 17,200.0 | 88.69 | 359.53 | 12,028.7 | 5,016.4 | -53.9 | 5,012.1 | 2.20 | 1.78 | 1.30 |
| 17,254.0 | 89.65 | 0.23 | 12,029.5 | 5,070.4 | -54.0 | 5,066.0 | 2.20 | 1.78 | 1.29 |
| 17,300.0 | 90.66 | 359.75 | 12,029.4 | 5,116.4 | -54.0 | 5,112.0 | 2.44 | 2.20 | -1.05 |
| 17,353.0 | 91.83 | 359.19 | 12,028.3 | 5,169.4 | -54.5 | 5,164.9 | 2.44 | 2.20 | -1.05 |
| 17,400.0 | 92.12 | 359.66 | 12,026.6 | 5,216.3 | -55.0 | 5,211.8 | 1.17 | 0.61 | 1.00 |
| 17,446.0 | 92.40 | 0.12 | 12,024.8 | 5,262.3 | -55.1 | 5,257.7 | 1.17 | 0.61 | 1.00 |
| 17,500.0 | 92.65 | 2.09 | 12,022.4 | 5,316.2 | -54.0 | 5,311.5 | 3.68 | 0.47 | 3.65 |
| 17,540.0 | 92.84 | 3.55 | 12,020.5 | 5,356.1 | -52.1 | 5,351.3 | 3.68 | 0.47 | 3.65 |
| 17,600.0 | 92.60 | 3.89 | 12,017.7 | 5,415.9 | -48.2 | 5,410.8 | 0.70 | -0.40 | 0.57 |
| 17,634.0 | 92.46 | 4.09 | 12,016.2 | 5,449.8 | -45.8 | 5,444.5 | 0.70 | -0.40 | 0.57 |
| 17,700.0 | 92.48 | 4.40 | 12,013.3 | 5,515.6 | -40.9 | 5,509.9 | 0.46 | 0.03 | 0.46 |
| 17,731.0 | 92.49 | 4.54 | 12,012.0 | 5,546.5 | -38.5 | 5,540.6 | 0.46 | 0.03 | 0.46 |
| 17,800.0 | 92.53 | 4.49 | 12,009.0 | 5,615.2 | -33.1 | 5,608.9 | 0.10 | 0.06 | -0.07 |
| 17,826.0 | 92.55 | 4.47 | 12,007.8 | 5,641.1 | -31.1 | 5,634.7 | 0.10 | 0.06 | -0.07 |
| 17,900.0 | 92.90 | 3.96 | 12,004.3 | 5,714.8 | -25.6 | 5,708.0 | 0.83 | 0.47 | -0.68 |
| 17,921.0 | 93.00 | 3.82 | 12,003.2 | 5,735.7 | -24.2 | 5,728.8 | 0.83 | 0.47 | -0.68 |
| 18,000.0 | 92.74 | 2.33 | 11,999.3 | 5,814.5 | -20.0 | 5,807.3 | 1.91 | -0.33 | -1.89 |
| 18,017.0 | 92.68 | 2.01 | 11,998.5 | 5,831.5 | -19.3 | 5,824.2 | 1.91 | -0.33 | -1.88 |
| 18,100.0 | 93.05 | 0.61 | 11,994.3 | 5,914.3 | -17.4 | 5,906.8 | 1.74 | 0.45 | -1.68 |
| 18,111.0 | 93.10 | 0.43 | 11,993.7 | 5,925.3 | -17.3 | 5,917.8 | 1.74 | 0.45 | -1.68 |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000 | **Local Co-ordinate Reference:** | Well Nandina 112H |
| **Company:** | Ameredev Operating, LLC. | **TVD Reference:** | KB @ 3050.0usft |
| **Project:** | NAN/GB | **MD Reference:** | KB @ 3050.0usft |
| **Site:** | NAN/GB #2N | **North Reference:** | Grid |
| **Well:** | Nandina 112H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Final Survey | | |
| **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) |
|---|---|---|---|---|---|---|---|---|---|
| 18,200.0 | 91.86 | 358.97 | 11,989.9 | 6,014.2 | -17.8 | 6,006.6 | 2.15 | -1.39 | -1.64 |
| 18,206.0 | 91.78 | 358.87 | 11,989.7 | 6,020.2 | -17.9 | 6,012.6 | 2.15 | -1.39 | -1.64 |
| 18,300.0 | 90.45 | 358.08 | 11,987.8 | 6,114.2 | -20.4 | 6,106.5 | 1.64 | -1.41 | -0.84 |
| 18,301.0 | 90.44 | 358.07 | 11,987.8 | 6,115.2 | -20.4 | 6,107.5 | 1.64 | -1.41 | -0.84 |
| 18,397.0 | 90.25 | 359.09 | 11,987.3 | 6,211.1 | -22.8 | 6,203.5 | 1.08 | -0.20 | 1.06 |
| 18,400.0 | 90.18 | 359.07 | 11,987.2 | 6,214.1 | -22.9 | 6,206.5 | 2.42 | -2.34 | -0.61 |
| 18,492.0 | 88.03 | 358.51 | 11,988.7 | 6,306.1 | -24.8 | 6,298.4 | 2.42 | -2.34 | -0.61 |
| 18,500.0 | 87.98 | 358.52 | 11,989.0 | 6,314.1 | -25.0 | 6,306.4 | 0.62 | -0.61 | 0.15 |
| 18,586.0 | 87.46 | 358.65 | 11,992.4 | 6,400.0 | -27.1 | 6,392.3 | 0.62 | -0.61 | 0.15 |
| 18,600.0 | 87.53 | 358.70 | 11,993.0 | 6,414.0 | -27.5 | 6,406.3 | 0.60 | 0.50 | 0.32 |
| 18,682.0 | 87.94 | 358.96 | 11,996.2 | 6,495.9 | -29.1 | 6,488.2 | 0.60 | 0.50 | 0.32 |
| 18,700.0 | 87.92 | 358.87 | 11,996.9 | 6,513.9 | -29.5 | 6,506.2 | 0.53 | -0.14 | -0.52 |
| 18,777.0 | 87.81 | 358.47 | 11,999.8 | 6,590.8 | -31.3 | 6,583.1 | 0.53 | -0.14 | -0.52 |
| 18,800.0 | 87.79 | 358.58 | 12,000.6 | 6,613.8 | -31.9 | 6,606.1 | 0.47 | -0.07 | 0.46 |
| 18,872.0 | 87.74 | 358.91 | 12,003.4 | 6,685.7 | -33.4 | 6,678.0 | 0.47 | -0.07 | 0.46 |
| 18,900.0 | 87.83 | 358.83 | 12,004.5 | 6,713.7 | -34.0 | 6,705.9 | 0.44 | 0.33 | -0.29 |
| 18,967.0 | 88.05 | 358.63 | 12,006.9 | 6,780.6 | -35.5 | 6,772.8 | 0.44 | 0.33 | -0.29 |
| 19,000.0 | 87.88 | 358.19 | 12,008.1 | 6,813.6 | -36.4 | 6,805.8 | 1.43 | -0.50 | -1.34 |
| 19,061.0 | 87.58 | 357.37 | 12,010.5 | 6,874.5 | -38.8 | 6,866.8 | 1.43 | -0.50 | -1.34 |
| 19,100.0 | 87.60 | 357.44 | 12,012.2 | 6,913.4 | -40.5 | 6,905.7 | 0.18 | 0.04 | 0.18 |
| 19,156.0 | 87.62 | 357.54 | 12,014.5 | 6,969.3 | -43.0 | 6,961.7 | 0.18 | 0.04 | 0.18 |
| 19,200.0 | 87.66 | 357.70 | 12,016.3 | 7,013.3 | -44.8 | 7,005.6 | 0.37 | 0.10 | 0.36 |
| 19,250.0 | 87.71 | 357.88 | 12,018.3 | 7,063.2 | -46.7 | 7,055.6 | 0.37 | 0.10 | 0.36 |
| 19,300.0 | 87.76 | 358.17 | 12,020.3 | 7,113.1 | -48.4 | 7,105.5 | 0.59 | 0.10 | 0.59 |
| 19,344.0 | 87.80 | 358.43 | 12,022.0 | 7,157.1 | -49.8 | 7,149.5 | 0.59 | 0.10 | 0.59 |
| 19,400.0 | 87.97 | 358.45 | 12,024.1 | 7,213.0 | -51.3 | 7,205.4 | 0.30 | 0.30 | 0.04 |
| 19,438.0 | 88.08 | 358.47 | 12,025.4 | 7,251.0 | -52.3 | 7,243.4 | 0.30 | 0.30 | 0.04 |
| 19,500.0 | 87.62 | 358.15 | 12,027.7 | 7,312.9 | -54.1 | 7,305.3 | 0.90 | -0.74 | -0.52 |
| 19,531.0 | 87.39 | 357.99 | 12,029.1 | 7,343.8 | -55.2 | 7,336.3 | 0.90 | -0.74 | -0.52 |
| 19,600.0 | 88.12 | 358.34 | 12,031.8 | 7,412.8 | -57.4 | 7,405.2 | 1.17 | 1.05 | 0.50 |
| 19,625.0 | 88.38 | 358.46 | 12,032.5 | 7,437.7 | -58.1 | 7,430.2 | 1.17 | 1.05 | 0.50 |
| 19,700.0 | 88.70 | 358.62 | 12,034.4 | 7,512.7 | -60.0 | 7,505.2 | 0.48 | 0.43 | 0.21 |
| 19,719.0 | 88.78 | 358.66 | 12,034.9 | 7,531.7 | -60.4 | 7,524.1 | 0.48 | 0.43 | 0.21 |
| 19,800.0 | 89.33 | 358.56 | 12,036.2 | 7,612.6 | -62.4 | 7,605.1 | 0.69 | 0.68 | -0.13 |
| 19,812.0 | 89.41 | 358.54 | 12,036.3 | 7,624.6 | -62.7 | 7,617.1 | 0.69 | 0.68 | -0.13 |
| 19,837.0 | 87.04 | 0.01 | 12,037.1 | 7,649.6 | -63.0 | 7,642.1 | 11.14 | -9.48 | 5.86 |
| 19,868.0 | 85.75 | 1.45 | 12,039.0 | 7,680.6 | -62.6 | 7,672.9 | 6.24 | -4.16 | 4.66 |
| 19,900.0 | 85.45 | 1.72 | 12,041.5 | 7,712.4 | -61.7 | 7,704.7 | 1.25 | -0.92 | 0.84 |
| 19,932.0 | 85.16 | 1.99 | 12,044.1 | 7,744.3 | -60.7 | 7,736.5 | 1.25 | -0.92 | 0.84 |
| 20,000.0 | 86.66 | 2.42 | 12,049.0 | 7,812.1 | -58.1 | 7,804.0 | 2.29 | 2.20 | 0.63 |
| 20,026.0 | 87.23 | 2.58 | 12,050.4 | 7,838.0 | -57.0 | 7,829.9 | 2.29 | 2.20 | 0.63 |
| 20,100.0 | 89.66 | 2.54 | 12,052.4 | 7,911.9 | -53.7 | 7,903.5 | 3.29 | 3.29 | -0.05 |
| 20,119.0 | 90.29 | 2.53 | 12,052.4 | 7,930.9 | -52.8 | 7,922.4 | 3.29 | 3.29 | -0.05 |
| 20,200.0 | 93.04 | 0.96 | 12,050.0 | 8,011.8 | -50.4 | 8,003.1 | 3.91 | 3.40 | -1.94 |
| 20,214.0 | 93.52 | 0.69 | 12,049.2 | 8,025.8 | -50.2 | 8,017.0 | 3.91 | 3.40 | -1.94 |
| 20,300.0 | 97.53 | 359.17 | 12,040.9 | 8,111.4 | -50.3 | 8,102.5 | 4.98 | 4.66 | -1.77 |
| 20,309.0 | 97.95 | 359.01 | 12,039.7 | 8,120.3 | -50.4 | 8,111.4 | 4.98 | 4.66 | -1.78 |
| 20,400.0 | 100.09 | 358.47 | 12,025.5 | 8,210.2 | -52.4 | 8,201.2 | 2.42 | 2.35 | -0.59 |
| 20,404.0 | 100.18 | 358.45 | 12,024.8 | 8,214.1 | -52.5 | 8,205.2 | 2.42 | 2.35 | -0.59 |
| 20,500.0 | 99.32 | 357.57 | 12,008.5 | 8,308.6 | -55.8 | 8,299.8 | 1.27 | -0.90 | -0.92 |
| 20,596.0 | 96.68 | 357.77 | 11,995.1 | 8,403.6 | -59.6 | 8,394.8 | 2.76 | -2.75 | 0.21 |
| 20,600.0 | 96.54 | 357.73 | 11,994.7 | 8,407.6 | -59.8 | 8,398.8 | 3.76 | -3.61 | -1.09 |
| 20,690.0 | 93.29 | 356.75 | 11,987.0 | 8,497.1 | -64.1 | 8,488.4 | 3.76 | -3.61 | -1.08 |
| 20,700.0 | 92.32 | 356.42 | 11,986.5 | 8,507.1 | -64.7 | 8,498.4 | 10.26 | -9.72 | -3.29 |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000 | **Local Co-ordinate Reference:** | Well Nandina 112H |
| **Company:** | Ameredev Operating, LLC. | **TVD Reference:** | KB @ 3050.0usft |
| **Project:** | NAN/GB | **MD Reference:** | KB @ 3050.0usft |
| **Site:** | NAN/GB #2N | **North Reference:** | Grid |
| **Well:** | Nandina 112H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Final Survey | | |
| **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) |
|---|---|---|---|---|---|---|---|---|---|
| 20,740.0 | 88.43 | 355.11 | 11,986.2 | 8,547.0 | -67.7 | 8,538.4 | 10.26 | -9.72 | -3.28 |
| 20,783.0 | 87.79 | 355.96 | 11,987.6 | 8,589.8 | -71.0 | 8,581.4 | 2.47 | -1.49 | 1.98 |
| 20,800.0 | 87.92 | 355.23 | 11,988.3 | 8,606.8 | -72.3 | 8,598.3 | 4.37 | 0.77 | -4.31 |
| 20,878.0 | 88.53 | 351.87 | 11,990.7 | 8,684.2 | -81.1 | 8,676.2 | 4.37 | 0.78 | -4.30 |
| 20,900.0 | 88.55 | 350.87 | 11,991.2 | 8,706.0 | -84.4 | 8,698.1 | 4.55 | 0.08 | -4.55 |
| 20,972.0 | 88.61 | 347.59 | 11,993.0 | 8,776.7 | -97.8 | 8,769.4 | 4.55 | 0.09 | -4.55 |
| 21,000.0 | 88.91 | 345.83 | 11,993.6 | 8,803.9 | -104.3 | 8,796.9 | 6.37 | 1.07 | -6.29 |
| 21,067.0 | 89.63 | 341.62 | 11,994.5 | 8,868.2 | -123.0 | 8,862.1 | 6.37 | 1.08 | -6.28 |
| 21,100.0 | 87.86 | 338.77 | 11,995.2 | 8,899.3 | -134.2 | 8,893.7 | 10.16 | -5.37 | -8.63 |
| 21,108.0 | 87.43 | 338.08 | 11,995.5 | 8,906.7 | -137.1 | 8,901.3 | 10.16 | -5.36 | -8.64 |
| 21,140.0 | 87.80 | 337.46 | 11,996.9 | 8,936.3 | -149.2 | 8,931.5 | 2.25 | 1.16 | -1.94 |
| 21,171.0 | 88.49 | 337.96 | 11,997.9 | 8,964.9 | -161.0 | 8,960.7 | 2.75 | 2.23 | 1.61 |
| 21,200.0 | 89.43 | 339.10 | 11,998.4 | 8,991.9 | -171.6 | 8,988.3 | 5.11 | 3.25 | 3.94 |
| 21,203.0 | 89.53 | 339.22 | 11,998.4 | 8,994.7 | -172.7 | 8,991.1 | 5.11 | 3.25 | 3.94 |
| 21,235.0 | 89.45 | 340.43 | 11,998.7 | 9,024.8 | -183.7 | 9,021.7 | 3.79 | -0.25 | 3.78 |
| 21,300.0 | 91.97 | 342.71 | 11,997.9 | 9,086.4 | -204.2 | 9,084.4 | 5.22 | 3.87 | 3.51 |
| 21,304.0 | 92.12 | 342.85 | 11,997.8 | 9,090.2 | -205.4 | 9,088.2 | 5.22 | 3.87 | 3.51 |
| 21,335.0 | 90.11 | 343.23 | 11,997.2 | 9,119.9 | -214.5 | 9,118.3 | 6.60 | -6.48 | 1.23 |
| 21,367.0 | 86.76 | 342.67 | 11,998.0 | 9,150.5 | -223.8 | 9,149.4 | 10.61 | -10.47 | -1.75 |
| 21,399.0 | 86.61 | 342.65 | 11,999.9 | 9,181.0 | -233.4 | 9,180.3 | 0.47 | -0.47 | -0.06 |
| 21,400.0 | 86.63 | 342.67 | 12,000.0 | 9,181.9 | -233.7 | 9,181.3 | 3.25 | 2.45 | 2.13 |
| 21,430.0 | 87.37 | 343.31 | 12,001.5 | 9,210.6 | -242.4 | 9,210.4 | 3.25 | 2.45 | 2.13 |
| 21,462.0 | 86.77 | 343.28 | 12,003.2 | 9,241.2 | -251.6 | 9,241.4 | 1.88 | -1.88 | -0.09 |
| 21,500.0 | 86.69 | 343.21 | 12,005.3 | 9,277.5 | -262.6 | 9,278.3 | 0.28 | -0.22 | -0.17 |
| 21,525.0 | 86.63 | 343.17 | 12,006.8 | 9,301.4 | -269.8 | 9,302.5 | 0.28 | -0.22 | -0.17 |
| 21,600.0 | 87.50 | 343.08 | 12,010.6 | 9,373.1 | -291.5 | 9,375.2 | 1.16 | 1.16 | -0.13 |
| 21,620.0 | 87.73 | 343.05 | 12,011.5 | 9,392.2 | -297.3 | 9,394.6 | 1.16 | 1.16 | -0.13 |
| 21,700.0 | 89.17 | 343.43 | 12,013.6 | 9,468.7 | -320.4 | 9,472.3 | 1.86 | 1.80 | 0.47 |
| 21,715.0 | 89.44 | 343.50 | 12,013.8 | 9,483.1 | -324.7 | 9,486.9 | 1.86 | 1.80 | 0.47 |
| 21,800.0 | 89.19 | 344.12 | 12,014.8 | 9,564.8 | -348.4 | 9,569.7 | 0.78 | -0.29 | 0.73 |
| 21,810.0 | 89.16 | 344.19 | 12,015.0 | 9,574.4 | -351.1 | 9,579.5 | 0.78 | -0.29 | 0.73 |
| 21,900.0 | 89.69 | 343.35 | 12,015.9 | 9,660.8 | -376.3 | 9,667.1 | 1.11 | 0.59 | -0.94 |
| 21,906.0 | 89.73 | 343.29 | 12,015.9 | 9,666.5 | -378.0 | 9,672.9 | 1.11 | 0.59 | -0.94 |
| 22,000.0 | 90.18 | 343.86 | 12,016.0 | 9,756.7 | -404.6 | 9,764.4 | 0.77 | 0.47 | 0.61 |
| 22,001.0 | 90.18 | 343.87 | 12,016.0 | 9,757.6 | -404.8 | 9,765.3 | 0.77 | 0.47 | 0.61 |
| 22,097.0 | 90.17 | 344.12 | 12,015.7 | 9,849.9 | -431.3 | 9,858.9 | 0.26 | -0.01 | 0.26 |
| 22,100.0 | 90.19 | 344.13 | 12,015.7 | 9,852.8 | -432.1 | 9,861.8 | 0.76 | 0.59 | 0.48 |
| 22,192.0 | 90.73 | 344.58 | 12,014.9 | 9,941.4 | -456.9 | 9,951.6 | 0.76 | 0.59 | 0.48 |
| 22,200.0 | 90.73 | 344.55 | 12,014.8 | 9,949.1 | -459.1 | 9,959.4 | 0.37 | 0.05 | -0.37 |
| 22,287.0 | 90.78 | 344.23 | 12,013.7 | 10,032.9 | -482.5 | 10,044.3 | 0.37 | 0.05 | -0.37 |
| 22,300.0 | 90.73 | 344.20 | 12,013.5 | 10,045.4 | -486.0 | 10,057.0 | 0.45 | -0.40 | -0.20 |
| 22,382.0 | 90.40 | 344.04 | 12,012.7 | 10,124.3 | -508.4 | 10,137.0 | 0.45 | -0.40 | -0.20 |
| 22,400.0 | 90.03 | 343.78 | 12,012.6 | 10,141.6 | -513.4 | 10,154.5 | 2.55 | -2.08 | -1.47 |
| 22,433.0 | 89.34 | 343.29 | 12,012.8 | 10,173.2 | -522.8 | 10,186.6 | 2.55 | -2.08 | -1.47 |
| 22,497.0 | 89.34 | 343.29 | 12,013.6 | 10,234.5 | -541.2 | 10,248.8 | 0.00 | 0.00 | 0.00 |
| **Nan112 Final LTP** | | | | | | | | | |
| 22,500.0 | 89.34 | 343.29 | 12,013.6 | 10,237.4 | -542.0 | 10,251.7 | 0.00 | 0.00 | 0.00 |
| 22,523.6 | 89.34 | 343.29 | 12,013.9 | 10,260.0 | -548.8 | 10,274.6 | 0.00 | 0.00 | 0.00 |
| **Nan112 Final BHL** | | | | | | | | | |

| | | | |
|---|---|---|---|
| **Database:** | EDM5000 | **Local Co-ordinate Reference:** | Well Nandina 112H |
| **Company:** | Ameredev Operating, LLC. | **TVD Reference:** | KB @ 3050.0usft |
| **Project:** | NAN/GB | **MD Reference:** | KB @ 3050.0usft |
| **Site:** | NAN/GB #2N | **North Reference:** | Grid |
| **Well:** | Nandina 112H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Final Survey | | |
| **Design:** | Final | | |

**Design Targets**

| Target Name<br>- hit/miss target<br>- Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| Nan112 Final FTP<br>- plan hits target center<br>- Point | 0.00 | 0.00 | 11,878.1 | -90.0 | -39.2 | 394,331.24 | 858,427.12 | 32° 4' 47.856 N | 103° 18' 34.411 W |
| Nan112 Final BHL<br>- plan misses target center by 3.6usft at 22523.6usft MD (12013.9 TVD, 10260.0 N, -548.8 E)<br>- Point | 0.00 | 0.00 | 12,011.1 | 10,260.7 | -546.7 | 404,681.89 | 857,919.64 | 32° 6' 30.320 N | 103° 18' 39.168 W |
| Nan112 Final LTP<br>- plan misses target center by 2.7usft at 22497.0usft MD (12013.6 TVD, 10234.5 N, -541.2 E)<br>- Point | 0.00 | 0.00 | 12,011.4 | 10,235.0 | -539.6 | 404,656.22 | 857,926.72 | 32° 6' 30.065 N | 103° 18' 39.089 W |