



AMEREDEV

AmeredeV Operating, LLC.

NAN/GB

NAN/GB #1N

Nandina 101H

Final Survey

Plan: Design #1

Standard Survey Report

30 September, 2019

Company:	Ameredev Operating, LLC.	Local Co-ordinate Reference:	Well Nandina 101H
Project:	NAN/GB	TVD Reference:	KB @ 3049.0usft
Site:	NAN/GB #1N	MD Reference:	KB @ 3049.0usft
Well:	Nandina 101H	North Reference:	Grid
Wellbore:	Final Survey	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM5000

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 #1N				
Site Position:		Northing:	394,414.24 usft	Latitude:	32° 4' 48.738 N
From:	Lat/Long	Easting:	857,776.36 usft	Longitude:	103° 18' 41.965 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.54 °

Well	Nandina 101H					
Well Position	+N/-S	0.0 usft	Northing:	394,414.84 usft	Latitude:	32° 4' 48.738 N
	+E/-W	0.0 usft	Easting:	857,836.36 usft	Longitude:	103° 18' 41.267 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft	Ground Level:	3,022.0 usft

Wellbore	Final Survey				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/30/2019	6.57	59.94	47,647.45267255

Design	Design #1			
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	359.56

Survey Tool Program	Date	9/30/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	22,460.7	Design #1 (Final Survey)	MWD	OWSG MWD - Standard

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	0.11	152.00	100.0	-0.1	0.0	-0.1	0.11	0.11	0.00
200.0	0.22	152.00	200.0	-0.3	0.2	-0.3	0.11	0.11	0.00
300.0	0.34	152.00	300.0	-0.8	0.4	-0.8	0.11	0.11	0.00
400.0	0.45	152.00	400.0	-1.4	0.7	-1.4	0.11	0.11	0.00
445.0	0.50	152.00	445.0	-1.7	0.9	-1.7	0.11	0.11	0.00
500.0	0.56	159.05	500.0	-2.2	1.1	-2.2	0.16	0.10	12.82
537.0	0.60	163.00	537.0	-2.5	1.2	-2.5	0.16	0.12	10.67
600.0	0.70	149.39	600.0	-3.2	1.5	-3.2	0.29	0.16	-21.60
693.0	0.90	136.00	693.0	-4.2	2.3	-4.2	0.29	0.21	-14.40

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 TVD Reference: KB @ 3049.0usft
 MD Reference: KB @ 3049.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM5000

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)
700.0	0.89	138.31	700.0	-4.3	2.4	-4.3	0.53	-0.14	33.01
786.0	0.90	168.00	786.0	-5.4	3.0	-5.5	0.53	0.01	34.52
800.0	0.93	170.22	800.0	-5.7	3.0	-5.7	0.32	0.20	15.86
875.0	1.10	180.00	875.0	-7.0	3.1	-7.0	0.32	0.23	13.04
900.0	1.10	180.76	899.9	-7.4	3.1	-7.5	0.06	0.00	3.03
974.0	1.10	183.00	973.9	-8.9	3.1	-8.9	0.06	0.00	3.03
1,000.0	1.09	188.58	999.9	-9.4	3.0	-9.4	0.41	-0.05	21.48
1,062.0	1.10	202.00	1,061.9	-10.5	2.7	-10.5	0.41	0.02	21.64
1,100.0	0.56	135.97	1,099.9	-11.0	2.7	-11.0	2.66	-1.43	-173.76
1,139.0	1.23	78.97	1,138.9	-11.0	3.3	-11.0	2.66	1.73	-146.16
1,200.0	0.07	161.44	1,199.9	-10.9	3.9	-11.0	2.00	-1.90	135.20
1,233.0	0.66	249.65	1,232.9	-11.0	3.7	-11.0	2.00	1.79	267.29
1,300.0	0.24	239.14	1,299.9	-11.2	3.3	-11.2	0.64	-0.63	-15.69
1,327.0	0.09	206.50	1,326.9	-11.3	3.2	-11.3	0.64	-0.56	-120.87
1,400.0	0.08	38.24	1,399.9	-11.3	3.2	-11.3	0.23	-0.01	-230.49
1,422.0	0.13	35.81	1,421.9	-11.3	3.2	-11.3	0.23	0.23	-11.06
1,500.0	0.13	251.99	1,499.9	-11.2	3.2	-11.2	0.31	0.00	-184.38
1,517.0	0.18	246.66	1,516.9	-11.2	3.2	-11.2	0.31	0.30	-31.36
1,600.0	0.12	181.95	1,599.9	-11.4	3.0	-11.4	0.20	-0.07	-77.96
1,611.0	0.13	172.40	1,610.9	-11.4	3.0	-11.4	0.20	0.07	-86.82
1,700.0	0.12	83.62	1,699.9	-11.5	3.1	-11.5	0.20	-0.01	-99.75
1,706.0	0.13	79.76	1,705.9	-11.5	3.2	-11.5	0.20	0.14	-64.41
1,800.0	0.13	4.70	1,799.9	-11.4	3.3	-11.4	0.17	0.00	-79.85
1,895.0	0.13	342.47	1,894.9	-11.1	3.2	-11.2	0.05	0.00	-23.40
1,900.0	0.12	342.99	1,899.9	-11.1	3.2	-11.2	0.27	-0.27	10.40
1,990.0	0.13	153.59	1,989.9	-11.1	3.3	-11.2	0.27	0.02	189.56
2,000.0	0.13	154.36	1,999.9	-11.2	3.3	-11.2	0.02	0.00	7.66
2,084.0	0.13	160.80	2,083.9	-11.3	3.3	-11.4	0.02	0.00	7.67
2,100.0	0.37	180.64	2,099.9	-11.4	3.3	-11.4	1.54	1.47	124.02
2,179.0	1.58	188.57	2,178.9	-12.7	3.2	-12.8	1.54	1.54	10.03
2,200.0	1.99	187.15	2,199.9	-13.4	3.1	-13.4	1.97	1.96	-6.75
2,273.0	3.43	184.88	2,272.8	-16.8	2.8	-16.8	1.97	1.97	-3.11
2,300.0	3.88	183.17	2,299.7	-18.5	2.6	-18.5	1.70	1.65	-6.33
2,368.0	5.01	180.22	2,367.5	-23.8	2.5	-23.8	1.70	1.67	-4.34
2,400.0	5.51	178.75	2,399.4	-26.7	2.5	-26.7	1.63	1.57	-4.58
2,463.0	6.51	176.53	2,462.1	-33.3	2.8	-33.3	1.63	1.58	-3.53
2,500.0	7.09	175.10	2,498.8	-37.7	3.1	-37.7	1.63	1.56	-3.86
2,558.0	8.00	173.28	2,556.3	-45.3	3.9	-45.3	1.63	1.57	-3.14
2,600.0	8.59	172.55	2,597.9	-51.3	4.7	-51.3	1.42	1.40	-1.73
2,652.0	9.32	171.78	2,649.2	-59.3	5.8	-59.3	1.42	1.41	-1.49
2,700.0	10.05	170.69	2,696.5	-67.3	7.0	-67.3	1.57	1.52	-2.28
2,747.0	10.77	169.76	2,742.8	-75.6	8.4	-75.7	1.57	1.53	-1.97
2,800.0	11.59	171.22	2,794.8	-85.8	10.1	-85.8	1.63	1.54	2.76
2,841.0	12.22	172.22	2,834.9	-94.1	11.3	-94.2	1.63	1.55	2.43

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2,900.0	12.68	173.62	2,892.5	-106.8	12.9	-106.9	0.94	0.79	2.37
2,936.0	12.97	174.42	2,927.6	-114.7	13.7	-114.8	0.94	0.80	2.23
3,000.0	11.92	174.77	2,990.1	-128.4	15.0	-128.6	1.64	-1.64	0.54
3,030.0	11.43	174.95	3,019.5	-134.5	15.6	-134.6	1.64	-1.64	0.61
3,100.0	10.32	175.82	3,088.2	-147.7	16.7	-147.8	1.60	-1.58	1.25
3,125.0	9.93	176.18	3,112.8	-152.0	17.0	-152.2	1.60	-1.58	1.43
3,200.0	9.12	171.23	3,186.8	-164.4	18.3	-164.5	1.53	-1.08	-6.60
3,220.0	8.92	169.76	3,206.5	-167.5	18.8	-167.6	1.53	-1.01	-7.34
3,300.0	8.35	163.47	3,285.6	-179.1	21.6	-179.3	1.38	-0.71	-7.86
3,314.0	8.26	162.29	3,299.5	-181.1	22.2	-181.2	1.38	-0.64	-8.46
3,400.0	6.99	165.18	3,384.7	-192.0	25.4	-192.2	1.54	-1.47	3.36
3,409.0	6.86	165.54	3,393.6	-193.1	25.7	-193.2	1.54	-1.46	4.04
3,500.0	5.31	181.14	3,484.1	-202.5	26.9	-202.7	2.47	-1.70	17.14
3,503.0	5.27	181.80	3,487.1	-202.8	26.9	-203.0	2.47	-1.41	22.02
3,597.0	3.74	194.55	3,580.8	-210.1	26.0	-210.3	1.94	-1.63	13.56
3,600.0	3.72	194.53	3,583.8	-210.3	26.0	-210.5	0.83	-0.83	-0.74
3,692.0	2.95	193.67	3,675.7	-215.5	24.7	-215.6	0.83	-0.83	-0.93
3,700.0	2.93	194.17	3,683.7	-215.9	24.6	-216.0	0.38	-0.21	6.26
3,786.0	2.77	199.91	3,769.6	-220.0	23.3	-220.1	0.38	-0.19	6.67
3,800.0	2.78	198.41	3,783.5	-220.6	23.1	-220.8	0.53	0.10	-10.75
3,881.0	2.90	190.06	3,864.4	-224.5	22.1	-224.6	0.53	0.14	-10.30
3,900.0	2.93	190.17	3,883.4	-225.4	21.9	-225.6	0.14	0.14	0.58
3,976.0	3.03	190.59	3,959.3	-229.3	21.2	-229.5	0.14	0.14	0.55
4,000.0	3.10	180.45	3,983.3	-230.6	21.1	-230.7	2.28	0.30	-42.25
4,070.0	3.78	156.14	4,053.2	-234.6	22.0	-234.7	2.28	0.97	-34.73
4,100.0	4.01	151.79	4,083.1	-236.4	22.9	-236.6	1.25	0.77	-14.50
4,164.0	4.57	144.10	4,146.9	-240.5	25.5	-240.6	1.25	0.87	-12.02
4,200.0	4.37	145.58	4,182.8	-242.7	27.1	-242.9	0.65	-0.57	4.10
4,259.0	4.04	148.31	4,241.6	-246.4	29.5	-246.6	0.65	-0.55	4.64
4,300.0	3.66	156.76	4,282.5	-248.8	30.7	-249.0	1.67	-0.94	20.61
4,354.0	3.30	170.46	4,336.4	-251.9	31.7	-252.1	1.67	-0.66	25.37
4,400.0	3.12	179.46	4,382.4	-254.5	31.9	-254.7	1.16	-0.38	19.58
4,448.0	3.03	189.71	4,430.3	-257.0	31.7	-257.3	1.16	-0.19	21.34
4,500.0	3.29	195.47	4,482.2	-259.8	31.1	-260.1	0.78	0.49	11.07
4,543.0	3.52	199.56	4,525.2	-262.3	30.3	-262.5	0.78	0.54	9.52
4,600.0	3.81	203.53	4,582.0	-265.6	29.0	-265.8	0.67	0.50	6.97
4,637.0	4.00	205.80	4,619.0	-267.9	27.9	-268.1	0.67	0.52	6.13
4,700.0	4.49	212.08	4,681.8	-272.0	25.6	-272.2	1.07	0.77	9.97
4,732.0	4.75	214.76	4,713.7	-274.1	24.2	-274.3	1.07	0.83	8.38
4,800.0	4.94	216.31	4,781.4	-278.8	20.9	-279.0	0.34	0.28	2.28
4,826.0	5.01	216.87	4,807.3	-280.6	19.5	-280.8	0.34	0.28	2.16
4,900.0	5.38	217.15	4,881.0	-286.0	15.5	-286.1	0.51	0.51	0.38
4,921.0	5.49	217.22	4,901.9	-287.6	14.3	-287.7	0.51	0.51	0.34

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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)
5,000.0	5.30	210.83	4,980.6	-293.7	10.1	-293.8	0.80	-0.24	-8.09
5,015.0	5.27	209.57	4,995.5	-294.9	9.5	-295.0	0.80	-0.19	-8.41
5,100.0	5.05	195.46	5,080.2	-301.9	6.5	-301.9	1.51	-0.25	-16.59
5,110.0	5.05	193.75	5,090.1	-302.7	6.3	-302.8	1.51	-0.05	-17.15
5,200.0	4.88	181.06	5,179.8	-310.4	5.3	-310.5	1.23	-0.19	-14.10
5,204.0	4.88	180.48	5,183.8	-310.8	5.3	-310.8	1.23	-0.04	-14.47
5,299.0	5.32	180.40	5,278.4	-319.2	5.2	-319.2	0.46	0.46	-0.08
5,300.0	5.33	180.41	5,279.4	-319.3	5.2	-319.3	0.58	0.56	1.33
5,393.0	5.85	181.54	5,372.0	-328.4	5.1	-328.4	0.58	0.56	1.21
5,400.0	5.89	181.43	5,378.9	-329.1	5.0	-329.1	0.66	0.64	-1.52
5,488.0	6.46	180.22	5,466.4	-338.5	4.9	-338.6	0.66	0.64	-1.38
5,500.0	6.42	180.17	5,478.3	-339.9	4.9	-339.9	0.33	-0.33	-0.45
5,582.0	6.15	179.78	5,559.9	-348.9	4.9	-348.9	0.33	-0.33	-0.47
5,600.0	6.11	179.99	5,577.8	-350.8	4.9	-350.8	0.26	-0.23	1.17
5,677.0	5.93	180.92	5,654.3	-358.9	4.9	-358.9	0.26	-0.23	1.21
5,700.0	6.00	180.83	5,677.2	-361.2	4.8	-361.3	0.29	0.29	-0.38
5,771.0	6.20	180.57	5,747.8	-368.8	4.7	-368.8	0.29	0.29	-0.37
5,800.0	6.18	180.30	5,776.6	-371.9	4.7	-371.9	0.11	-0.05	-0.92
5,866.0	6.15	179.69	5,842.2	-379.0	4.7	-379.0	0.11	-0.05	-0.93
5,900.0	6.18	179.24	5,876.1	-382.7	4.7	-382.7	0.17	0.09	-1.32
5,960.0	6.24	178.46	5,935.7	-389.2	4.9	-389.2	0.17	0.10	-1.30
6,000.0	6.17	177.84	5,975.5	-393.5	5.0	-393.5	0.25	-0.18	-1.54
6,055.0	6.07	176.97	6,030.2	-399.3	5.3	-399.4	0.25	-0.18	-1.59
6,100.0	6.11	177.10	6,074.9	-404.1	5.5	-404.1	0.09	0.09	0.28
6,149.0	6.15	177.23	6,123.6	-409.3	5.8	-409.4	0.09	0.09	0.27
6,200.0	6.18	176.66	6,174.3	-414.8	6.1	-414.8	0.13	0.05	-1.11
6,244.0	6.20	176.18	6,218.1	-419.5	6.4	-419.6	0.13	0.05	-1.10
6,300.0	6.17	175.08	6,273.7	-425.5	6.8	-425.6	0.22	-0.05	-1.96
6,338.0	6.15	174.33	6,311.5	-429.6	7.2	-429.6	0.22	-0.05	-1.98
6,400.0	6.15	173.17	6,373.2	-436.2	7.9	-436.2	0.20	0.00	-1.87
6,432.0	6.15	172.57	6,405.0	-439.6	8.3	-439.7	0.20	0.00	-1.87
6,500.0	6.12	172.95	6,472.6	-446.8	9.3	-446.9	0.07	-0.04	0.56
6,526.0	6.11	173.10	6,498.4	-449.6	9.6	-449.6	0.07	-0.04	0.57
6,600.0	5.60	172.36	6,572.1	-457.0	10.6	-457.1	0.70	-0.69	-0.99
6,621.0	5.45	172.13	6,593.0	-459.0	10.8	-459.1	0.70	-0.69	-1.11
6,700.0	3.27	169.81	6,671.7	-465.0	11.7	-465.1	2.77	-2.76	-2.94
6,715.0	2.86	168.97	6,686.7	-465.8	11.9	-465.9	2.77	-2.75	-5.59
6,800.0	0.66	179.29	6,771.7	-468.3	12.3	-468.4	2.60	-2.58	12.14
6,809.0	0.44	186.37	6,780.7	-468.4	12.3	-468.5	2.60	-2.49	78.67
6,900.0	0.13	253.22	6,871.7	-468.8	12.2	-468.9	0.45	-0.34	73.46
6,904.0	0.13	261.08	6,875.7	-468.8	12.1	-468.9	0.45	-0.02	196.56
6,998.0	0.18	263.72	6,969.7	-468.8	11.9	-468.9	0.05	0.05	2.81
7,000.0	0.19	264.05	6,971.7	-468.8	11.9	-468.9	0.32	0.32	16.58

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 Design: Design #1

Local Co-ordinate Reference: Well Nandina 101H
 TVD Reference: KB @ 3049.0usft
 MD Reference: KB @ 3049.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM5000

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)
7,092.0	0.48	269.78	7,063.7	-468.9	11.4	-468.9	0.32	0.32	6.23
7,100.0	0.43	265.64	7,071.7	-468.9	11.3	-468.9	0.78	-0.66	-51.72
7,187.0	0.40	155.96	7,158.7	-469.2	11.1	-469.2	0.78	-0.03	-126.07
7,200.0	0.31	151.08	7,171.7	-469.2	11.1	-469.3	0.71	-0.68	-37.58
7,281.0	0.31	14.28	7,252.7	-469.2	11.3	-469.3	0.71	0.00	-168.88
7,300.0	0.24	4.29	7,271.7	-469.1	11.3	-469.2	0.47	-0.39	-52.59
7,376.0	0.22	262.22	7,347.7	-469.0	11.2	-469.1	0.47	-0.02	-134.30
7,400.0	0.10	282.11	7,371.7	-469.0	11.1	-469.1	0.55	-0.51	82.86
7,470.0	0.31	57.35	7,441.7	-468.9	11.2	-469.0	0.55	0.30	193.20
7,500.0	0.27	96.20	7,471.7	-468.8	11.3	-468.9	0.65	-0.14	129.49
7,565.0	0.53	148.84	7,536.7	-469.1	11.7	-469.2	0.65	0.40	80.99
7,600.0	0.42	163.92	7,571.6	-469.4	11.8	-469.5	0.48	-0.32	43.09
7,660.0	0.35	206.41	7,631.6	-469.8	11.7	-469.8	0.48	-0.11	70.81
7,700.0	0.17	161.05	7,671.6	-469.9	11.7	-470.0	0.65	-0.44	-113.39
7,755.0	0.35	83.01	7,726.6	-470.0	11.9	-470.1	0.65	0.32	-141.90
7,800.0	0.39	81.32	7,771.6	-469.9	12.2	-470.0	0.10	0.10	-3.76
7,849.0	0.44	79.85	7,820.6	-469.9	12.5	-470.0	0.10	0.10	-2.99
7,900.0	0.46	72.76	7,871.6	-469.8	12.9	-469.9	0.12	0.04	-13.91
7,943.0	0.48	67.28	7,914.6	-469.7	13.3	-469.8	0.12	0.05	-12.74
8,000.0	0.58	77.06	7,971.6	-469.5	13.8	-469.6	0.24	0.18	17.15
8,038.0	0.66	81.78	8,009.6	-469.4	14.2	-469.5	0.24	0.20	12.43
8,100.0	0.71	69.43	8,071.6	-469.2	14.9	-469.3	0.25	0.08	-19.92
8,133.0	0.75	63.68	8,104.6	-469.1	15.3	-469.2	0.25	0.12	-17.42
8,200.0	0.68	75.39	8,171.6	-468.8	16.1	-468.9	0.24	-0.11	17.48
8,227.0	0.66	80.73	8,198.6	-468.7	16.4	-468.8	0.24	-0.07	19.76
8,300.0	1.10	74.68	8,271.6	-468.5	17.4	-468.6	0.61	0.60	-8.29
8,322.0	1.23	73.70	8,293.6	-468.3	17.9	-468.5	0.61	0.60	-4.44
8,400.0	0.89	92.56	8,371.6	-468.1	19.3	-468.3	0.62	-0.43	24.18
8,417.0	0.84	98.48	8,388.6	-468.2	19.5	-468.3	0.62	-0.32	34.83
8,500.0	0.64	108.24	8,471.6	-468.4	20.6	-468.5	0.28	-0.24	11.76
8,511.0	0.62	109.99	8,482.6	-468.4	20.7	-468.6	0.28	-0.22	15.86
8,600.0	0.57	135.02	8,571.6	-468.9	21.5	-469.1	0.29	-0.06	28.13
8,606.0	0.57	136.80	8,577.6	-469.0	21.5	-469.1	0.29	0.01	29.63
8,700.0	0.44	194.11	8,671.6	-469.7	21.7	-469.8	0.53	-0.14	60.97
8,794.0	0.79	203.33	8,765.6	-470.6	21.4	-470.7	0.39	0.37	9.81
8,800.0	0.79	201.87	8,771.6	-470.7	21.4	-470.8	0.35	0.08	-24.37
8,888.0	0.92	183.12	8,859.6	-471.9	21.1	-472.1	0.35	0.14	-21.30
8,900.0	0.94	183.38	8,871.6	-472.1	21.1	-472.3	0.14	0.14	2.18
8,983.0	1.05	184.97	8,954.5	-473.6	21.0	-473.7	0.14	0.14	1.91
9,000.0	1.06	187.06	8,971.5	-473.9	21.0	-474.0	0.24	0.08	12.32
9,078.0	1.14	195.95	9,049.5	-475.3	20.6	-475.5	0.24	0.10	11.39
9,100.0	1.23	196.10	9,071.5	-475.8	20.5	-475.9	0.42	0.42	0.70
9,173.0	1.54	196.48	9,144.5	-477.5	20.0	-477.6	0.42	0.42	0.52
9,200.0	1.58	196.24	9,171.5	-478.2	19.8	-478.3	0.14	0.14	-0.89

Company: Ameredev Operating, LLC.
 Project: NAN/GB
 Site: NAN/GB #1N
 Well: Nandina 101H
 Wellbore: Final Survey
 Design: Design #1

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 TVD Reference: KB @ 3049.0usft
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 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM5000

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)
9,267.0	1.67	195.69	9,238.5	-480.0	19.3	-480.1	0.14	0.14	-0.82
9,300.0	1.67	196.33	9,271.5	-480.9	19.0	-481.1	0.06	0.00	1.94
9,362.0	1.67	197.53	9,333.4	-482.7	18.5	-482.8	0.06	0.00	1.94
9,400.0	1.60	197.07	9,371.4	-483.7	18.2	-483.8	0.19	-0.19	-1.22
9,456.0	1.49	196.30	9,427.4	-485.1	17.8	-485.3	0.19	-0.19	-1.37
9,500.0	1.43	195.02	9,471.4	-486.2	17.4	-486.3	0.16	-0.14	-2.90
9,551.0	1.36	193.40	9,522.4	-487.4	17.1	-487.5	0.16	-0.14	-3.18
9,600.0	1.45	190.68	9,571.3	-488.6	16.9	-488.7	0.23	0.19	-5.54
9,645.0	1.54	188.48	9,616.3	-489.8	16.7	-489.9	0.23	0.19	-4.90
9,700.0	1.54	187.36	9,671.3	-491.2	16.5	-491.3	0.05	0.00	-2.03
9,740.0	1.54	186.55	9,711.3	-492.3	16.4	-492.4	0.05	0.00	-2.03
9,800.0	1.40	183.80	9,771.3	-493.8	16.2	-493.9	0.26	-0.24	-4.59
9,834.0	1.32	181.98	9,805.3	-494.6	16.2	-494.7	0.26	-0.23	-5.35
9,900.0	1.41	178.68	9,871.3	-496.2	16.2	-496.3	0.18	0.14	-5.00
9,928.0	1.45	177.41	9,899.2	-496.9	16.2	-497.0	0.18	0.14	-4.55
10,000.0	1.95	168.61	9,971.2	-499.0	16.5	-499.1	0.78	0.69	-12.23
10,023.0	2.11	166.68	9,994.2	-499.8	16.7	-499.9	0.78	0.72	-8.37
10,100.0	2.40	167.05	10,071.1	-502.7	17.3	-502.9	0.37	0.37	0.48
10,117.0	2.46	167.12	10,088.1	-503.5	17.5	-503.6	0.37	0.37	0.41
10,200.0	2.42	167.82	10,171.0	-506.9	18.3	-507.0	0.06	-0.04	0.84
10,211.0	2.42	167.91	10,182.0	-507.4	18.4	-507.5	0.06	-0.04	0.85
10,300.0	2.33	179.25	10,271.0	-511.0	18.8	-511.1	0.54	-0.10	12.74
10,306.0	2.33	180.04	10,277.0	-511.3	18.8	-511.4	0.54	-0.04	13.15
10,400.0	1.68	190.78	10,370.9	-514.5	18.5	-514.6	0.80	-0.70	11.43
10,401.0	1.67	190.94	10,371.9	-514.5	18.5	-514.7	0.80	-0.65	15.85
10,495.0	2.02	189.71	10,465.8	-517.5	18.0	-517.6	0.37	0.37	-1.31
10,500.0	2.03	190.17	10,470.8	-517.7	18.0	-517.8	0.34	0.11	9.20
10,590.0	2.15	197.97	10,560.8	-520.9	17.2	-521.0	0.34	0.14	8.67
10,600.0	2.20	198.70	10,570.8	-521.2	17.0	-521.3	0.53	0.46	7.27
10,684.0	2.59	203.77	10,654.7	-524.5	15.8	-524.6	0.53	0.47	6.04
10,700.0	2.68	203.43	10,670.7	-525.2	15.5	-525.3	0.57	0.56	-2.14
10,779.0	3.12	202.02	10,749.6	-528.8	13.9	-528.9	0.57	0.56	-1.78
10,800.0	3.10	203.49	10,770.6	-529.9	13.5	-530.0	0.40	-0.11	7.02
10,873.0	3.03	208.78	10,843.5	-533.4	11.8	-533.5	0.40	-0.09	7.24
10,900.0	2.93	210.18	10,870.4	-534.6	11.1	-534.7	0.46	-0.38	5.17
10,968.0	2.68	214.15	10,938.3	-537.4	9.3	-537.5	0.46	-0.36	5.85
11,000.0	2.65	214.35	10,970.3	-538.7	8.5	-538.7	0.10	-0.09	0.63
11,063.0	2.59	214.76	11,033.2	-541.0	6.8	-541.1	0.10	-0.09	0.65
11,100.0	2.47	215.66	11,070.2	-542.4	5.9	-542.4	0.34	-0.32	2.42
11,157.0	2.29	217.22	11,127.1	-544.3	4.5	-544.3	0.34	-0.32	2.74
11,200.0	2.21	217.14	11,170.1	-545.6	3.5	-545.6	0.19	-0.19	-0.19
11,204.0	2.20	217.13	11,174.1	-545.7	3.4	-545.8	0.19	-0.19	-0.20
11,253.0	2.02	223.11	11,223.1	-547.1	2.2	-547.1	0.58	-0.37	12.20

Company: Ameredev Operating, LLC.
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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)
11,300.0	3.09	326.47	11,270.0	-546.7	1.0	-546.7	8.65	2.29	219.92
11,317.0	4.44	335.70	11,287.0	-545.7	0.4	-545.7	8.65	7.91	54.28
11,346.0	7.12	346.60	11,315.9	-542.9	-0.4	-542.9	9.95	9.24	37.59
11,380.0	10.95	350.29	11,349.4	-537.7	-1.5	-537.7	11.39	11.26	10.85
11,400.0	12.84	352.68	11,369.0	-533.6	-2.1	-533.6	9.77	9.46	11.95
11,411.0	13.89	353.72	11,379.7	-531.1	-2.4	-531.0	9.77	9.53	9.45
11,442.0	14.73	354.59	11,409.7	-523.5	-3.2	-523.4	2.80	2.71	2.81
11,473.0	15.96	351.43	11,439.6	-515.3	-4.2	-515.3	4.80	3.97	-10.19
11,500.0	17.99	353.85	11,465.5	-507.5	-5.2	-507.4	7.96	7.52	8.96
11,505.0	18.37	354.24	11,470.2	-505.9	-5.3	-505.9	7.96	7.58	7.82
11,537.0	20.53	355.12	11,500.4	-495.3	-6.3	-495.3	6.81	6.75	2.75
11,568.0	22.99	359.34	11,529.2	-483.9	-6.8	-483.8	9.40	7.94	13.61
11,599.0	25.49	0.39	11,557.4	-471.1	-6.9	-471.1	8.18	8.06	3.39
11,600.0	25.60	0.47	11,558.3	-470.7	-6.9	-470.6	11.52	11.02	7.74
11,668.0	33.17	4.60	11,617.6	-437.4	-5.3	-437.4	11.52	11.13	6.08
11,700.0	38.72	4.91	11,643.5	-418.7	-3.7	-418.7	17.35	17.34	0.97
11,795.0	52.90	1.20	11,709.5	-350.9	-0.3	-350.9	15.18	14.93	-3.91
11,800.0	53.61	1.05	11,712.5	-346.9	-0.3	-346.9	14.34	14.14	-2.93
11,890.0	66.36	358.78	11,757.4	-269.1	-0.5	-269.1	14.34	14.17	-2.53
11,900.0	67.27	358.74	11,761.4	-259.9	-0.7	-259.9	9.08	9.07	-0.44
11,985.0	74.98	358.38	11,788.9	-179.6	-2.7	-179.6	9.08	9.07	-0.42
12,000.0	76.88	358.50	11,792.5	-165.0	-3.1	-165.0	12.72	12.69	0.83
12,044.9	82.59	358.86	11,800.5	-120.9	-4.1	-120.8	12.72	12.69	0.80
Shifted Nan101 FTP									
12,080.0	87.04	359.14	11,803.7	-85.9	-4.7	-85.9	12.72	12.70	0.78
12,100.0	87.38	359.20	11,804.6	-66.0	-5.0	-65.9	1.74	1.72	0.28
12,175.0	88.67	359.41	11,807.2	9.0	-5.9	9.0	1.74	1.72	0.28
12,200.0	88.71	359.50	11,807.8	34.0	-6.2	34.0	0.39	0.18	0.35
12,270.0	88.84	359.74	11,809.3	104.0	-6.6	104.0	0.39	0.18	0.35
12,300.0	89.12	359.96	11,809.8	134.0	-6.7	134.0	1.19	0.94	0.73
12,365.0	89.73	0.43	11,810.5	198.9	-6.5	199.0	1.19	0.94	0.73
12,400.0	90.27	0.48	11,810.5	233.9	-6.2	234.0	1.54	1.54	0.14
12,460.0	91.19	0.56	11,809.7	293.9	-5.7	294.0	1.54	1.54	0.14
12,500.0	90.45	0.21	11,809.1	333.9	-5.4	334.0	2.04	-1.84	-0.87
12,555.0	89.44	359.73	11,809.2	388.9	-5.4	389.0	2.04	-1.84	-0.87
12,600.0	89.33	0.06	11,809.7	433.9	-5.5	434.0	0.76	-0.23	0.72
12,649.0	89.22	0.41	11,810.3	482.9	-5.3	483.0	0.76	-0.23	0.72
12,700.0	88.40	0.49	11,811.4	533.9	-4.9	533.9	1.61	-1.60	0.16
12,744.0	87.70	0.56	11,812.8	577.9	-4.5	577.9	1.61	-1.60	0.16
12,800.0	88.05	359.88	11,814.9	633.8	-4.3	633.9	1.37	0.62	-1.22
12,840.0	88.30	359.39	11,816.2	673.8	-4.5	673.8	1.37	0.63	-1.22
12,900.0	90.97	359.33	11,816.6	733.8	-5.2	733.8	4.45	4.45	-0.11
12,935.0	92.53	359.29	11,815.5	768.8	-5.6	768.8	4.45	4.45	-0.11
13,000.0	90.25	358.59	11,813.9	833.8	-6.8	833.8	3.67	-3.51	-1.07

Company:	Ameredev Operating, LLC.	Local Co-ordinate Reference:	Well Nandina 101H
Project:	NAN/GB	TVD Reference:	KB @ 3049.0usft
Site:	NAN/GB #1N	MD Reference:	KB @ 3049.0usft
Well:	Nandina 101H	North Reference:	Grid
Wellbore:	Final Survey	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM5000

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)
13,029.0	89.23	358.28	11,814.1	862.7	-7.6	862.8	3.67	-3.51	-1.07
13,100.0	88.67	358.22	11,815.4	933.7	-9.8	933.8	0.79	-0.79	-0.08
13,124.0	88.48	358.20	11,816.0	957.7	-10.6	957.7	0.79	-0.79	-0.08
13,200.0	88.17	358.18	11,818.2	1,033.6	-13.0	1,033.7	0.41	-0.41	-0.03
13,219.0	88.09	358.17	11,818.8	1,052.6	-13.6	1,052.7	0.41	-0.41	-0.03
13,300.0	88.35	358.38	11,821.3	1,133.5	-16.0	1,133.6	0.41	0.32	0.26
13,314.0	88.39	358.42	11,821.7	1,147.5	-16.4	1,147.6	0.41	0.32	0.26
13,400.0	87.96	358.40	11,824.5	1,233.4	-18.8	1,233.5	0.50	-0.49	-0.02
13,409.0	87.92	358.40	11,824.8	1,242.4	-19.0	1,242.5	0.50	-0.49	-0.02
13,500.0	87.38	358.06	11,828.5	1,333.3	-21.8	1,333.4	0.69	-0.59	-0.37
13,504.0	87.36	358.05	11,828.7	1,337.3	-22.0	1,337.4	0.69	-0.59	-0.37
13,599.0	86.91	357.87	11,833.4	1,432.1	-25.3	1,432.3	0.51	-0.47	-0.19
13,600.0	86.93	357.88	11,833.5	1,433.1	-25.4	1,433.3	2.42	2.18	1.05
13,694.0	88.98	358.87	11,836.9	1,527.0	-28.0	1,527.2	2.42	2.18	1.05
13,700.0	89.04	359.01	11,837.0	1,533.0	-28.1	1,533.2	2.62	1.05	2.40
13,789.0	89.98	1.15	11,837.7	1,622.0	-28.0	1,622.2	2.62	1.05	2.40
13,800.0	89.93	1.17	11,837.7	1,633.0	-27.8	1,633.2	0.45	-0.41	0.18
13,900.0	89.52	1.35	11,838.2	1,733.0	-25.6	1,733.1	0.45	-0.41	0.18
13,917.0	89.45	1.38	11,838.3	1,750.0	-25.2	1,750.1	0.45	-0.41	0.18
14,000.0	87.14	2.05	11,840.8	1,832.9	-22.7	1,833.0	2.90	-2.79	0.81
14,011.0	86.83	2.14	11,841.4	1,843.9	-22.3	1,844.0	2.90	-2.79	0.81
14,100.0	86.71	2.25	11,846.4	1,932.7	-18.9	1,932.7	0.19	-0.14	0.13
14,106.0	86.70	2.26	11,846.8	1,938.6	-18.7	1,938.7	0.19	-0.14	0.13
14,200.0	86.26	0.78	11,852.5	2,032.4	-16.2	2,032.5	1.64	-0.46	-1.58
14,201.0	86.26	0.76	11,852.6	2,033.4	-16.2	2,033.5	1.64	-0.46	-1.58
14,296.0	89.50	1.02	11,856.1	2,128.3	-14.7	2,128.4	3.42	3.41	0.27
14,300.0	89.56	0.98	11,856.1	2,132.3	-14.6	2,132.4	1.87	1.53	-1.07
14,391.0	90.95	0.00	11,855.7	2,223.3	-13.8	2,223.4	1.87	1.53	-1.07
14,400.0	90.93	359.85	11,855.6	2,232.3	-13.9	2,232.4	1.70	-0.22	-1.68
14,486.0	90.74	358.40	11,854.3	2,318.3	-15.2	2,318.4	1.70	-0.22	-1.68
14,500.0	90.58	358.39	11,854.2	2,332.3	-15.6	2,332.3	1.12	-1.12	-0.08
14,581.0	89.68	358.32	11,854.0	2,413.3	-17.9	2,413.3	1.12	-1.12	-0.08
14,600.0	89.41	358.07	11,854.1	2,432.3	-18.5	2,432.3	1.95	-1.44	-1.32
14,676.0	88.31	357.07	11,855.7	2,508.2	-21.7	2,508.3	1.95	-1.44	-1.32
14,700.0	88.44	357.27	11,856.3	2,532.1	-22.9	2,532.2	0.99	0.53	0.83
14,770.0	88.81	357.85	11,858.0	2,602.0	-25.9	2,602.2	0.99	0.53	0.83
14,800.0	88.97	358.00	11,858.6	2,632.0	-27.0	2,632.1	0.74	0.53	0.52
14,865.0	89.31	358.34	11,859.6	2,697.0	-29.0	2,697.1	0.74	0.53	0.52
14,900.0	89.83	358.59	11,859.8	2,732.0	-30.0	2,732.1	1.64	1.47	0.72
14,960.0	90.71	359.02	11,859.6	2,792.0	-31.2	2,792.1	1.64	1.47	0.72
15,000.0	90.60	359.49	11,859.1	2,831.9	-31.7	2,832.1	1.20	-0.28	1.17
15,055.0	90.44	0.13	11,858.6	2,886.9	-31.9	2,887.1	1.20	-0.28	1.17
15,100.0	88.74	359.42	11,858.9	2,931.9	-32.1	2,932.1	4.09	-3.77	-1.58

Company: Ameredev Operating, LLC.
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 Well: Nandina 101H
 Wellbore: Final Survey
 Design: Design #1

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 TVD Reference: KB @ 3049.0usft
 MD Reference: KB @ 3049.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM5000

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)
15,150.0	86.86	358.63	11,860.8	2,981.9	-33.0	2,982.1	4.09	-3.77	-1.58
15,200.0	86.47	357.55	11,863.7	3,031.8	-34.6	3,032.0	2.29	-0.78	-2.16
15,245.0	86.12	356.58	11,866.7	3,076.6	-36.9	3,076.8	2.29	-0.78	-2.16
15,300.0	86.54	356.46	11,870.2	3,131.4	-40.2	3,131.6	0.79	0.76	-0.22
15,339.0	86.83	356.37	11,872.4	3,170.3	-42.7	3,170.5	0.79	0.76	-0.22
15,400.0	87.39	357.41	11,875.5	3,231.1	-46.0	3,231.4	1.93	0.92	1.71
15,434.0	87.70	357.99	11,877.0	3,265.0	-47.4	3,265.3	1.93	0.92	1.70
15,500.0	87.57	358.04	11,879.7	3,330.9	-49.6	3,331.2	0.21	-0.20	0.07
15,529.0	87.51	358.06	11,880.9	3,359.9	-50.6	3,360.2	0.21	-0.20	0.07
15,600.0	87.40	0.30	11,884.1	3,430.8	-51.6	3,431.1	3.16	-0.16	3.16
15,624.0	87.36	1.06	11,885.2	3,454.8	-51.4	3,455.1	3.16	-0.16	3.16
15,700.0	86.20	359.47	11,889.5	3,530.7	-51.0	3,531.0	2.59	-1.53	-2.10
15,718.0	85.92	359.09	11,890.7	3,548.6	-51.2	3,548.9	2.59	-1.53	-2.10
15,800.0	88.94	0.03	11,894.4	3,630.5	-51.9	3,630.8	3.86	3.68	1.15
15,813.0	89.42	0.18	11,894.6	3,643.5	-51.8	3,643.8	3.86	3.68	1.15
15,900.0	90.55	1.90	11,894.6	3,730.5	-50.3	3,730.8	2.36	1.29	1.98
15,908.0	90.65	2.06	11,894.5	3,738.5	-50.0	3,738.8	2.36	1.29	1.98
15,971.0	87.28	2.24	11,895.6	3,801.4	-47.6	3,801.7	5.36	-5.35	0.29
16,000.0	85.62	2.19	11,897.4	3,830.4	-46.5	3,830.6	5.72	-5.72	-0.19
16,003.0	85.45	2.18	11,897.7	3,833.4	-46.4	3,833.6	5.72	-5.72	-0.19
16,034.0	85.58	2.04	11,900.1	3,864.2	-45.2	3,864.5	0.62	0.42	-0.45
16,066.0	85.32	1.89	11,902.6	3,896.1	-44.1	3,896.3	0.94	-0.81	-0.47
16,098.0	84.97	1.93	11,905.3	3,928.0	-43.1	3,928.2	1.10	-1.09	0.13
16,100.0	84.98	1.91	11,905.5	3,930.0	-43.0	3,930.2	0.94	0.26	-0.90
16,129.0	85.05	1.65	11,908.0	3,958.9	-42.1	3,959.1	0.94	0.26	-0.90
16,161.0	85.20	1.35	11,910.8	3,990.7	-41.3	3,990.9	1.05	0.47	-0.94
16,192.0	86.19	1.15	11,913.1	4,021.6	-40.6	4,021.8	3.26	3.19	-0.65
16,200.0	86.28	1.16	11,913.6	4,029.6	-40.5	4,029.8	1.07	1.06	0.09
16,224.0	86.53	1.18	11,915.1	4,053.6	-40.0	4,053.7	1.07	1.06	0.09
16,287.0	88.50	0.98	11,917.8	4,116.5	-38.8	4,116.7	3.14	3.13	-0.32
16,300.0	89.04	1.07	11,918.1	4,129.5	-38.5	4,129.7	4.22	4.17	0.68
16,382.0	92.46	1.63	11,917.1	4,211.4	-36.6	4,211.6	4.22	4.17	0.68
16,400.0	91.34	0.85	11,916.5	4,229.4	-36.2	4,229.6	7.57	-6.21	-4.33
16,477.0	86.56	357.52	11,917.9	4,306.4	-37.3	4,306.5	7.57	-6.21	-4.33
16,500.0	86.92	357.58	11,919.2	4,329.3	-38.3	4,329.5	1.59	1.57	0.26
16,572.0	88.05	357.77	11,922.3	4,401.2	-41.2	4,401.4	1.59	1.57	0.26
16,600.0	88.50	357.66	11,923.2	4,429.1	-42.3	4,429.3	1.67	1.62	-0.40
16,667.0	89.59	357.39	11,924.3	4,496.1	-45.2	4,496.3	1.67	1.62	-0.40
16,700.0	90.22	357.24	11,924.3	4,529.0	-46.8	4,529.3	1.96	1.91	-0.44
16,762.0	91.40	356.97	11,923.5	4,590.9	-49.9	4,591.2	1.96	1.91	-0.44
16,800.0	92.31	357.85	11,922.2	4,628.9	-51.6	4,629.1	3.33	2.40	2.31
16,857.0	93.68	359.17	11,919.3	4,685.8	-53.1	4,686.1	3.33	2.40	2.32
16,900.0	91.20	359.18	11,917.4	4,728.7	-53.7	4,729.0	5.77	-5.77	0.02

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 Survey Calculation Method: Minimum Curvature
 Database: EDM5000

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,952.0	88.20	359.19	11,917.7	4,780.7	-54.5	4,781.0	5.77	-5.77	0.02
17,000.0	89.19	359.38	11,918.8	4,828.7	-55.1	4,829.0	2.09	2.06	0.39
17,021.0	89.62	359.46	11,919.0	4,849.7	-55.3	4,850.0	2.09	2.06	0.39
17,100.0	89.69	359.57	11,919.5	4,928.7	-55.9	4,929.0	0.16	0.08	0.14
17,116.0	89.70	359.59	11,919.6	4,944.7	-56.1	4,945.0	0.16	0.08	0.14
17,200.0	90.22	358.53	11,919.6	5,028.7	-57.4	5,029.0	1.41	0.62	-1.26
17,211.0	90.29	358.39	11,919.6	5,039.7	-57.7	5,040.0	1.41	0.62	-1.26
17,300.0	90.23	358.13	11,919.2	5,128.6	-60.4	5,129.0	0.29	-0.06	-0.29
17,305.0	90.23	358.12	11,919.2	5,133.6	-60.6	5,134.0	0.29	-0.06	-0.29
17,400.0	89.72	0.08	11,919.2	5,228.6	-62.1	5,228.9	2.13	-0.54	2.06
17,495.0	90.60	1.98	11,918.9	5,323.6	-60.4	5,323.9	2.20	0.93	2.00
17,500.0	90.57	2.00	11,918.9	5,328.6	-60.2	5,328.9	0.78	-0.60	0.49
17,590.0	90.03	2.45	11,918.4	5,418.5	-56.7	5,418.8	0.78	-0.60	0.49
17,600.0	90.12	2.29	11,918.4	5,428.5	-56.3	5,428.8	1.78	0.86	-1.56
17,685.0	90.85	0.97	11,917.7	5,513.5	-53.9	5,513.7	1.78	0.86	-1.56
17,700.0	90.96	0.76	11,917.4	5,528.5	-53.6	5,528.7	1.59	0.71	-1.42
17,780.0	91.52	359.62	11,915.7	5,608.5	-53.4	5,608.7	1.59	0.71	-1.42
17,800.0	91.25	359.61	11,915.2	5,628.5	-53.5	5,628.7	1.35	-1.35	-0.06
17,875.0	90.24	359.56	11,914.3	5,703.4	-54.1	5,703.7	1.35	-1.35	-0.06
17,900.0	90.48	359.28	11,914.1	5,728.4	-54.3	5,728.7	1.47	0.96	-1.12
17,970.0	91.15	358.50	11,913.1	5,798.4	-55.7	5,798.7	1.47	0.96	-1.12
18,000.0	92.21	358.48	11,912.2	5,828.4	-56.5	5,828.7	3.54	3.54	-0.07
18,065.0	94.51	358.43	11,908.4	5,893.3	-58.2	5,893.5	3.54	3.54	-0.07
18,100.0	93.09	358.26	11,906.1	5,928.2	-59.2	5,928.4	4.09	-4.06	-0.47
18,160.0	90.65	357.98	11,904.1	5,988.1	-61.2	5,988.4	4.09	-4.06	-0.47
18,200.0	91.19	357.92	11,903.5	6,028.1	-62.6	6,028.4	1.36	1.35	-0.14
18,254.0	91.92	357.85	11,902.0	6,082.0	-64.6	6,082.3	1.36	1.35	-0.14
18,300.0	92.48	357.80	11,900.3	6,127.9	-66.3	6,128.3	1.23	1.22	-0.11
18,349.0	93.08	357.75	11,897.9	6,176.8	-68.2	6,177.2	1.23	1.22	-0.11
18,400.0	91.72	357.64	11,895.8	6,227.8	-70.3	6,228.1	2.67	-2.66	-0.22
18,444.0	90.55	357.54	11,894.9	6,271.7	-72.1	6,272.1	2.67	-2.66	-0.22
18,500.0	91.16	359.10	11,894.0	6,327.7	-73.8	6,328.1	3.00	1.10	2.79
18,539.0	91.59	0.19	11,893.1	6,366.7	-74.0	6,367.0	3.00	1.09	2.79
18,600.0	91.35	360.00	11,891.5	6,427.6	-73.9	6,428.0	0.50	-0.39	-0.32
18,634.0	91.22	359.89	11,890.8	6,461.6	-74.0	6,462.0	0.50	-0.39	-0.32
18,700.0	89.84	358.39	11,890.2	6,527.6	-75.0	6,528.0	3.09	-2.09	-2.27
18,729.0	89.23	357.73	11,890.4	6,556.6	-75.9	6,557.0	3.09	-2.09	-2.27
18,800.0	90.22	357.94	11,890.7	6,627.6	-78.6	6,628.0	1.42	1.39	0.29
18,824.0	90.55	358.01	11,890.6	6,651.5	-79.5	6,652.0	1.42	1.39	0.29
18,900.0	89.88	358.49	11,890.3	6,727.5	-81.8	6,727.9	1.08	-0.88	0.63
18,918.0	89.72	358.60	11,890.4	6,745.5	-82.2	6,745.9	1.08	-0.88	0.63
18,950.0	90.61	359.45	11,890.3	6,777.5	-82.8	6,777.9	3.85	2.78	2.66
18,982.0	89.66	0.26	11,890.2	6,809.5	-82.9	6,809.9	3.90	-2.97	2.53
19,000.0	89.07	0.78	11,890.4	6,827.5	-82.7	6,827.9	4.36	-3.26	2.90

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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)
19,013.0	88.65	1.16	11,890.7	6,840.5	-82.5	6,840.9	4.36	-3.26	2.90
19,045.0	88.13	1.50	11,891.6	6,872.5	-81.7	6,872.9	1.94	-1.63	1.06
19,077.0	88.69	1.23	11,892.4	6,904.4	-81.0	6,904.9	1.94	1.75	-0.84
19,100.0	88.56	1.47	11,893.0	6,927.4	-80.4	6,927.8	1.17	-0.55	1.03
19,108.0	88.52	1.55	11,893.2	6,935.4	-80.2	6,935.8	1.17	-0.55	1.03
19,140.0	89.48	1.10	11,893.8	6,967.4	-79.5	6,967.8	3.31	3.00	-1.41
19,200.0	89.18	0.98	11,894.5	7,027.4	-78.4	7,027.8	0.55	-0.51	-0.21
19,203.0	89.16	0.97	11,894.5	7,030.4	-78.4	7,030.8	0.55	-0.51	-0.21
19,298.0	89.37	1.02	11,895.7	7,125.4	-76.7	7,125.7	0.23	0.22	0.05
19,300.0	89.38	1.01	11,895.7	7,127.4	-76.7	7,127.7	0.76	0.66	-0.38
19,393.0	90.00	0.66	11,896.2	7,220.4	-75.3	7,220.7	0.76	0.66	-0.38
19,400.0	90.01	0.64	11,896.2	7,227.4	-75.2	7,227.7	0.29	0.14	-0.25
19,488.0	90.13	0.42	11,896.1	7,315.4	-74.4	7,315.7	0.29	0.14	-0.25
19,500.0	90.35	0.43	11,896.1	7,327.4	-74.3	7,327.7	1.85	1.85	0.07
19,583.0	91.89	0.49	11,894.5	7,410.3	-73.7	7,410.7	1.85	1.85	0.07
19,600.0	91.95	0.45	11,893.9	7,427.3	-73.5	7,427.7	0.41	0.34	-0.23
19,678.0	92.21	0.27	11,891.1	7,505.3	-73.0	7,505.6	0.41	0.34	-0.23
19,700.0	92.27	0.12	11,890.2	7,527.3	-73.0	7,527.6	0.75	0.27	-0.70
19,772.0	92.46	359.61	11,887.2	7,599.2	-73.1	7,599.5	0.75	0.27	-0.70
19,800.0	92.30	359.43	11,886.1	7,627.2	-73.4	7,627.5	0.85	-0.57	-0.63
19,866.0	91.92	359.02	11,883.6	7,693.1	-74.3	7,693.5	0.85	-0.57	-0.63
19,900.0	92.19	358.84	11,882.4	7,727.1	-74.9	7,727.4	0.95	0.79	-0.54
19,961.0	92.67	358.51	11,879.8	7,788.0	-76.3	7,788.4	0.95	0.79	-0.54
20,000.0	92.41	358.44	11,878.1	7,827.0	-77.3	7,827.3	0.70	-0.67	-0.19
20,056.0	92.03	358.33	11,875.9	7,882.9	-78.9	7,883.3	0.70	-0.67	-0.19
20,100.0	91.37	359.03	11,874.6	7,926.9	-79.9	7,927.2	2.19	-1.51	1.59
20,150.0	90.61	359.82	11,873.8	7,976.9	-80.4	7,977.2	2.19	-1.51	1.58
20,200.0	90.70	0.32	11,873.2	8,026.9	-80.4	8,027.2	1.02	0.19	1.00
20,245.0	90.79	0.77	11,872.6	8,071.8	-79.9	8,072.2	1.02	0.19	1.00
20,300.0	90.95	1.19	11,871.8	8,126.8	-79.0	8,127.2	0.81	0.29	0.76
20,340.0	91.07	1.49	11,871.1	8,166.8	-78.1	8,167.2	0.81	0.29	0.76
20,400.0	91.54	0.62	11,869.7	8,226.8	-77.0	8,227.1	1.64	0.79	-1.44
20,435.0	91.82	0.12	11,868.7	8,261.8	-76.7	8,262.1	1.64	0.79	-1.44
20,500.0	90.53	359.41	11,867.3	8,326.8	-77.0	8,327.1	2.26	-1.98	-1.10
20,529.0	89.96	359.09	11,867.2	8,355.8	-77.4	8,356.1	2.26	-1.98	-1.10
20,600.0	91.07	358.63	11,866.6	8,426.7	-78.8	8,427.1	1.69	1.57	-0.64
20,624.0	91.45	358.48	11,866.0	8,450.7	-79.4	8,451.1	1.69	1.57	-0.64
20,700.0	90.76	357.91	11,864.6	8,526.7	-81.8	8,527.0	1.18	-0.90	-0.76
20,718.0	90.60	357.77	11,864.4	8,544.7	-82.5	8,545.0	1.18	-0.90	-0.76
20,800.0	88.85	356.97	11,864.8	8,626.6	-86.2	8,627.0	2.35	-2.14	-0.98
20,813.0	88.57	356.84	11,865.1	8,639.5	-86.9	8,640.0	2.35	-2.14	-0.98
20,900.0	90.51	357.45	11,865.8	8,726.4	-91.3	8,726.9	2.34	2.23	0.70
20,907.0	90.67	357.50	11,865.7	8,733.4	-91.6	8,733.9	2.34	2.23	0.70

Company: Ameredev Operating, LLC.

Project: NAN/GB

Site: NAN/GB #1N

Well: Nandina 101H

Wellbore: Final Survey

Design: Design #1

Local Co-ordinate Reference: Well Nandina 101H

TVD Reference: KB @ 3049.0usft

MD Reference: KB @ 3049.0usft

North Reference: Grid

Survey Calculation Method: Minimum Curvature

Database: EDM5000

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)
21,000.0	91.53	358.27	11,863.9	8,826.3	-95.0	8,826.8	1.24	0.93	0.83
21,002.0	91.55	358.29	11,863.8	8,828.3	-95.1	8,828.8	1.24	0.93	0.83
21,096.0	93.12	359.00	11,860.0	8,922.2	-97.3	8,922.7	1.83	1.67	0.76
21,100.0	92.99	358.94	11,859.8	8,926.2	-97.4	8,926.7	3.55	-3.24	-1.44
21,191.0	90.04	357.63	11,857.4	9,017.1	-100.1	9,017.6	3.55	-3.24	-1.44
21,200.0	90.63	357.74	11,857.3	9,026.1	-100.4	9,026.6	6.69	6.58	1.19
21,222.0	92.08	358.00	11,856.8	9,048.1	-101.3	9,048.6	6.69	6.58	1.19
21,254.0	91.07	357.03	11,855.9	9,080.1	-102.7	9,080.6	4.38	-3.16	-3.03
21,285.0	88.25	356.72	11,856.1	9,111.0	-104.3	9,111.5	9.15	-9.10	-1.00
21,300.0	88.74	356.87	11,856.5	9,126.0	-105.2	9,126.5	3.43	3.28	1.00
21,317.0	89.30	357.04	11,856.8	9,143.0	-106.1	9,143.5	3.43	3.28	1.00
21,348.0	90.63	357.39	11,856.8	9,173.9	-107.6	9,174.5	4.44	4.29	1.13
21,380.0	92.19	358.63	11,856.0	9,205.9	-108.7	9,206.5	6.23	4.88	3.88
21,400.0	91.75	359.46	11,855.3	9,225.9	-109.0	9,226.4	4.70	-2.19	4.16
21,411.0	91.51	359.92	11,855.0	9,236.9	-109.1	9,237.4	4.70	-2.19	4.16
21,443.0	91.12	1.16	11,854.3	9,268.9	-108.8	9,269.4	4.06	-1.22	3.88
21,474.0	92.11	2.29	11,853.4	9,299.8	-107.9	9,300.4	4.85	3.19	3.65
21,500.0	92.59	3.15	11,852.4	9,325.8	-106.6	9,326.3	3.79	1.84	3.32
21,505.0	92.68	3.32	11,852.1	9,330.8	-106.3	9,331.3	3.79	1.84	3.32
21,537.0	93.61	3.77	11,850.4	9,362.7	-104.4	9,363.2	3.23	2.91	1.41
21,568.0	93.17	3.83	11,848.5	9,393.5	-102.3	9,394.0	1.43	-1.42	0.19
21,600.0	92.04	3.13	11,847.1	9,425.4	-100.4	9,425.9	4.15	-3.54	-2.18
21,607.0	91.79	2.98	11,846.9	9,432.4	-100.0	9,432.9	4.15	-3.54	-2.18
21,663.0	92.02	3.00	11,845.0	9,488.3	-97.1	9,488.8	0.41	0.41	0.04
21,695.0	94.58	3.61	11,843.2	9,520.2	-95.2	9,520.7	8.22	8.00	1.91
21,700.0	94.16	3.52	11,842.8	9,525.2	-94.9	9,525.6	8.56	-8.36	-1.83
21,758.0	89.31	2.46	11,841.0	9,583.1	-91.9	9,583.5	8.56	-8.37	-1.82
21,790.0	89.53	1.88	11,841.3	9,615.0	-90.7	9,615.5	1.94	0.69	-1.81
21,800.0	89.52	1.92	11,841.4	9,625.0	-90.4	9,625.4	0.40	-0.10	0.39
21,852.0	89.47	2.12	11,841.9	9,677.0	-88.5	9,677.4	0.40	-0.10	0.39
21,884.0	93.15	2.38	11,841.1	9,709.0	-87.3	9,709.3	11.53	11.50	0.81
21,900.0	92.73	1.98	11,840.3	9,724.9	-86.7	9,725.3	3.65	-2.64	-2.52
21,915.0	92.33	1.60	11,839.7	9,739.9	-86.2	9,740.3	3.65	-2.65	-2.52
21,947.0	92.66	1.64	11,838.3	9,771.9	-85.3	9,772.2	1.04	1.03	0.13
21,979.0	94.16	0.97	11,836.4	9,803.8	-84.6	9,804.2	5.13	4.69	-2.09
22,000.0	92.07	359.95	11,835.2	9,824.8	-84.4	9,825.1	11.08	-9.97	-4.84
22,010.0	91.07	359.47	11,835.0	9,834.8	-84.5	9,835.1	11.08	-9.97	-4.83
22,041.0	91.72	359.12	11,834.2	9,865.8	-84.8	9,866.1	2.38	2.10	-1.13
22,100.0	93.08	359.75	11,831.7	9,924.7	-85.4	9,925.1	2.54	2.31	1.07
22,136.0	93.91	0.14	11,829.5	9,960.6	-85.5	9,961.0	2.54	2.30	1.07
22,200.0	93.52	0.97	11,825.4	10,024.5	-84.8	10,024.8	1.43	-0.62	1.30
22,230.0	93.33	1.36	11,823.6	10,054.4	-84.2	10,054.8	1.43	-0.62	1.30
22,300.0	94.88	1.68	11,818.6	10,124.2	-82.4	10,124.6	2.26	2.21	0.45

Company:	Ameredev Operating, LLC.	Local Co-ordinate Reference:	Well Nandina 101H
Project:	NAN/GB	TVD Reference:	KB @ 3049.0usft
Site:	NAN/GB #1N	MD Reference:	KB @ 3049.0usft
Well:	Nandina 101H	North Reference:	Grid
Wellbore:	Final Survey	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM5000

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)
22,325.0	95.43	1.79	11,816.3	10,149.1	-81.6	10,149.4	2.26	2.21	0.45
22,370.0	94.74	1.42	11,812.4	10,193.9	-80.4	10,194.2	1.74	-1.53	-0.82
22,400.0	94.74	1.42	11,809.9	10,223.8	-79.6	10,224.1	0.00	0.00	0.00
Shifted Nan101 LTP									
22,450.9	94.74	1.42	11,805.7	10,274.5	-78.4	10,274.8	0.00	0.00	0.00
Shifted Nan101 BHL									
22,460.7	94.74	1.42	11,804.9	10,284.3	-78.1	10,284.6	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Shifted Nan101 FTP - plan misses target center by 65.3usft at 12044.9usft MD (11800.5 TVD, -120.9 N, -4.1 E) - Point	0.00	0.00	11,865.0	-130.1	-8.8	394,284.77	857,827.59	32° 4' 47.452 N	103° 18' 41.384 W
Shifted Nan101 LTP - plan misses target center by 106.3usft at 22401.0usft MD (11809.8 TVD, 10224.8 N, -79.6 E) - Point	0.00	0.00	11,911.0	10,234.0	-110.7	404,648.85	857,725.62	32° 6' 30.011 N	103° 18' 41.427 W
Shifted Nan101 BHL - plan misses target center by 110.7usft at 22450.9usft MD (11805.7 TVD, 10274.5 N, -78.4 E) - Point	0.00	0.00	11,911.0	10,284.0	-111.2	404,698.88	857,725.15	32° 6' 30.506 N	103° 18' 41.427 W

Checked By: _____	Approved By: _____	Date: _____
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AMEREDEV

Ameredev Operating, LLC.

NAN/GB

NAN/GB #1N

Nandina 101H

Final Survey

Plan: Design #1

Lease Penetration Section Line Foot

10 October, 2019

Company:	Ameredev Operating, LLC.	Local Co-ordinate Reference:	Well Nandina 101H
Project:	NAN/GB	TVD Reference:	KB @ 3049.0usft
Site:	NAN/GB #1N	MD Reference:	KB @ 3049.0usft
Well:	Nandina 101H	North Reference:	Grid
Wellbore:	Final Survey	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM5000

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 #1N		
Site Position:		Northing:	394,414.25 usft
From:	Lat/Long	Easting:	857,776.36 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
		Latitude:	32° 4' 48.738 N
		Longitude:	103° 18' 41.965 W
		Grid Convergence:	0.54 °

Well	Nandina 101H		
Well Position	+N/-S	0.0 usft	Northing: 394,414.85 usft
	+E/-W	0.0 usft	Easting: 857,836.36 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 4' 48.738 N
		Longitude:	103° 18' 41.267 W
		Ground Level:	3,022.0 usft

Wellbore	Final Survey		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	9/30/2019	6.57
			Dip Angle (°)
			59.94
			Field Strength (nT)
			47,647.45267255

Design	Design #1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°)
			359.56

Survey Tool Program	Date 10/10/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
0.0	22,446.0	Design #1 (Final Survey)	MWD
			Description
			OWSG MWD - Standard

Planned Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	230.6	390.0	32° 4' 48.738 N	103° 18' 41.267 W
100.0	0.11	152.00	100.0	230.5	390.0	32° 4' 48.737 N	103° 18' 41.267 W
200.0	0.22	152.00	200.0	230.3	390.2	32° 4' 48.735 N	103° 18' 41.265 W
300.0	0.34	152.00	300.0	229.8	390.4	32° 4' 48.731 N	103° 18' 41.263 W
400.0	0.45	152.00	400.0	229.2	390.7	32° 4' 48.725 N	103° 18' 41.259 W
445.0	0.50	152.00	445.0	228.9	390.9	32° 4' 48.721 N	103° 18' 41.257 W
500.0	0.56	159.05	500.0	228.4	391.1	32° 4' 48.717 N	103° 18' 41.255 W
537.0	0.60	163.00	537.0	228.1	391.2	32° 4' 48.713 N	103° 18' 41.253 W
600.0	0.70	149.39	600.0	227.4	391.5	32° 4' 48.707 N	103° 18' 41.250 W
693.0	0.90	136.00	693.0	226.4	392.3	32° 4' 48.697 N	103° 18' 41.241 W
700.0	0.89	138.31	700.0	226.3	392.4	32° 4' 48.696 N	103° 18' 41.240 W
786.0	0.90	168.00	786.0	225.2	393.0	32° 4' 48.684 N	103° 18' 41.233 W

Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #1N
Well: Nandina 101H
Wellbore: Final Survey
Design: Design #1

Local Co-ordinate Reference: Well Nandina 101H
TVD Reference: KB @ 3049.0usft
MD Reference: KB @ 3049.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL-FNL (usft)	+FWL-FEL (usft)	Latitude	Longitude
800.0	0.93	170.22	800.0	224.9	393.0	32° 4' 48.682 N	103° 18' 41.233 W
875.0	1.10	180.00	875.0	223.6	393.1	32° 4' 48.669 N	103° 18' 41.232 W
900.0	1.10	180.76	899.9	223.2	393.1	32° 4' 48.664 N	103° 18' 41.232 W
974.0	1.10	183.00	973.9	221.7	393.1	32° 4' 48.650 N	103° 18' 41.233 W
1,000.0	1.09	188.58	999.9	221.2	393.0	32° 4' 48.645 N	103° 18' 41.233 W
1,062.0	1.10	202.00	1,061.9	220.1	392.7	32° 4' 48.634 N	103° 18' 41.237 W
1,100.0	0.56	135.97	1,099.9	219.6	392.7	32° 4' 48.630 N	103° 18' 41.237 W
1,139.0	1.23	78.97	1,138.9	219.6	393.3	32° 4' 48.629 N	103° 18' 41.231 W
1,200.0	0.07	161.44	1,199.9	219.7	393.9	32° 4' 48.630 N	103° 18' 41.223 W
1,233.0	0.66	249.65	1,232.9	219.6	393.7	32° 4' 48.629 N	103° 18' 41.225 W
1,300.0	0.24	239.14	1,299.9	219.4	393.3	32° 4' 48.627 N	103° 18' 41.231 W
1,327.0	0.09	206.50	1,326.9	219.3	393.2	32° 4' 48.626 N	103° 18' 41.232 W
1,400.0	0.08	38.24	1,399.9	219.3	393.2	32° 4' 48.626 N	103° 18' 41.231 W
1,422.0	0.13	35.81	1,421.9	219.3	393.2	32° 4' 48.627 N	103° 18' 41.231 W
1,500.0	0.13	251.99	1,499.9	219.4	393.2	32° 4' 48.627 N	103° 18' 41.232 W
1,517.0	0.18	246.66	1,516.9	219.4	393.2	32° 4' 48.627 N	103° 18' 41.232 W
1,600.0	0.12	181.95	1,599.9	219.2	393.0	32° 4' 48.626 N	103° 18' 41.233 W
1,611.0	0.13	172.40	1,610.9	219.2	393.0	32° 4' 48.625 N	103° 18' 41.233 W
1,700.0	0.12	83.62	1,699.9	219.1	393.1	32° 4' 48.624 N	103° 18' 41.232 W
1,706.0	0.13	79.76	1,705.9	219.1	393.2	32° 4' 48.624 N	103° 18' 41.232 W
1,800.0	0.13	4.70	1,799.9	219.2	393.3	32° 4' 48.626 N	103° 18' 41.231 W
1,895.0	0.13	342.47	1,894.9	219.5	393.2	32° 4' 48.628 N	103° 18' 41.231 W
1,900.0	0.12	342.99	1,899.9	219.5	393.2	32° 4' 48.628 N	103° 18' 41.231 W
1,990.0	0.13	153.59	1,989.9	219.5	393.3	32° 4' 48.628 N	103° 18' 41.231 W
2,000.0	0.13	154.36	1,999.9	219.4	393.3	32° 4' 48.628 N	103° 18' 41.231 W
2,084.0	0.13	160.80	2,083.9	219.3	393.3	32° 4' 48.626 N	103° 18' 41.230 W
2,100.0	0.37	180.64	2,099.9	219.2	393.3	32° 4' 48.625 N	103° 18' 41.230 W
2,179.0	1.58	188.57	2,178.9	217.9	393.2	32° 4' 48.612 N	103° 18' 41.232 W
2,200.0	1.99	187.15	2,199.9	217.2	393.1	32° 4' 48.606 N	103° 18' 41.233 W
2,273.0	3.43	184.88	2,272.8	213.8	392.8	32° 4' 48.572 N	103° 18' 41.237 W
2,300.0	3.88	183.17	2,299.7	212.1	392.6	32° 4' 48.555 N	103° 18' 41.239 W
2,368.0	5.01	180.22	2,367.5	206.8	392.5	32° 4' 48.503 N	103° 18' 41.241 W
2,400.0	5.51	178.75	2,399.4	203.9	392.5	32° 4' 48.474 N	103° 18' 41.241 W
2,463.0	6.51	176.53	2,462.1	197.3	392.8	32° 4' 48.408 N	103° 18' 41.239 W
2,500.0	7.09	175.10	2,498.8	192.9	393.1	32° 4' 48.365 N	103° 18' 41.235 W
2,558.0	8.00	173.28	2,556.3	185.3	393.9	32° 4' 48.290 N	103° 18' 41.227 W
2,600.0	8.59	172.55	2,597.9	179.3	394.7	32° 4' 48.231 N	103° 18' 41.219 W
2,652.0	9.32	171.78	2,649.2	171.3	395.8	32° 4' 48.151 N	103° 18' 41.207 W
2,700.0	10.05	170.69	2,696.5	163.3	397.0	32° 4' 48.072 N	103° 18' 41.194 W
2,747.0	10.77	169.76	2,742.8	155.0	398.4	32° 4' 47.989 N	103° 18' 41.178 W
2,800.0	11.59	171.22	2,794.8	144.8	400.1	32° 4' 47.889 N	103° 18' 41.159 W
2,841.0	12.22	172.22	2,834.9	136.5	401.3	32° 4' 47.806 N	103° 18' 41.146 W
2,900.0	12.68	173.62	2,892.5	123.8	402.9	32° 4' 47.681 N	103° 18' 41.129 W
2,936.0	12.97	174.42	2,927.6	115.9	403.7	32° 4' 47.602 N	103° 18' 41.120 W

Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #1N
Well: Nandina 101H
Wellbore: Final Survey
Design: Design #1

Local Co-ordinate Reference: Well Nandina 101H
TVD Reference: KB @ 3049.0usft
MD Reference: KB @ 3049.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL-FNL (usft)	+FWL-FEL (usft)	Latitude	Longitude
3,000.0	11.92	174.77	2,990.1	102.2	405.0	32° 4' 47.466 N	103° 18' 41.107 W
3,030.0	11.43	174.95	3,019.5	96.1	405.6	32° 4' 47.406 N	103° 18' 41.101 W
3,100.0	10.32	175.82	3,088.2	82.9	406.7	32° 4' 47.276 N	103° 18' 41.090 W
3,125.0	9.93	176.18	3,112.8	78.6	407.0	32° 4' 47.232 N	103° 18' 41.087 W
3,200.0	9.12	171.23	3,186.8	66.2	408.3	32° 4' 47.110 N	103° 18' 41.073 W
3,220.0	8.92	169.76	3,206.5	63.1	408.8	32° 4' 47.080 N	103° 18' 41.067 W
3,300.0	8.35	163.47	3,285.6	51.5	411.6	32° 4' 46.964 N	103° 18' 41.037 W
3,314.0	8.26	162.29	3,299.5	49.5	412.2	32° 4' 46.945 N	103° 18' 41.030 W
3,400.0	6.99	165.18	3,384.7	38.6	415.4	32° 4' 46.836 N	103° 18' 40.994 W
3,409.0	6.86	165.54	3,393.6	37.5	415.7	32° 4' 46.826 N	103° 18' 40.991 W
3,500.0	5.31	181.14	3,484.1	28.1	416.9	32° 4' 46.732 N	103° 18' 40.977 W
3,503.0	5.27	181.80	3,487.1	27.8	416.9	32° 4' 46.729 N	103° 18' 40.977 W
3,597.0	3.74	194.55	3,580.8	20.5	416.0	32° 4' 46.657 N	103° 18' 40.988 W
3,600.0	3.72	194.53	3,583.8	20.3	416.0	32° 4' 46.655 N	103° 18' 40.989 W
3,692.0	2.95	193.67	3,675.7	15.1	414.7	32° 4' 46.604 N	103° 18' 41.005 W
3,700.0	2.93	194.17	3,683.7	14.7	414.6	32° 4' 46.600 N	103° 18' 41.006 W
3,786.0	2.77	199.91	3,769.6	10.6	413.3	32° 4' 46.560 N	103° 18' 41.021 W
3,800.0	2.78	198.41	3,783.5	10.0	413.1	32° 4' 46.553 N	103° 18' 41.023 W
3,881.0	2.90	190.06	3,864.4	6.1	412.1	32° 4' 46.515 N	103° 18' 41.035 W
3,900.0	2.93	190.17	3,883.4	5.2	411.9	32° 4' 46.506 N	103° 18' 41.037 W
3,976.0	3.03	190.59	3,959.3	1.3	411.2	32° 4' 46.467 N	103° 18' 41.046 W
4,000.0	3.10	180.45	3,983.3	0.0	411.1	32° 4' 46.455 N	103° 18' 41.047 W
4,070.0	3.78	156.14	4,053.2	-4.0	412.0	32° 4' 46.415 N	103° 18' 41.037 W
4,100.0	4.01	151.79	4,083.1	-5.8	412.9	32° 4' 46.397 N	103° 18' 41.027 W
4,164.0	4.57	144.10	4,146.9	-9.9	415.5	32° 4' 46.357 N	103° 18' 40.998 W
4,200.0	4.37	145.58	4,182.8	-12.1	417.1	32° 4' 46.334 N	103° 18' 40.979 W
4,259.0	4.04	148.31	4,241.6	-15.8	419.5	32° 4' 46.298 N	103° 18' 40.952 W
4,300.0	3.66	156.76	4,282.5	-18.2	420.7	32° 4' 46.274 N	103° 18' 40.938 W
4,354.0	3.30	170.46	4,336.4	-21.3	421.7	32° 4' 46.243 N	103° 18' 40.927 W
4,400.0	3.12	179.46	4,382.4	-23.9	421.9	32° 4' 46.217 N	103° 18' 40.925 W
4,448.0	3.03	189.71	4,430.3	-26.4	421.7	32° 4' 46.192 N	103° 18' 40.927 W
4,500.0	3.29	195.47	4,482.2	-29.2	421.1	32° 4' 46.165 N	103° 18' 40.935 W
4,543.0	3.52	199.56	4,525.2	-31.7	420.3	32° 4' 46.141 N	103° 18' 40.944 W
4,600.0	3.81	203.53	4,582.0	-35.0	419.0	32° 4' 46.107 N	103° 18' 40.960 W
4,637.0	4.00	205.80	4,619.0	-37.3	417.9	32° 4' 46.085 N	103° 18' 40.973 W
4,700.0	4.49	212.08	4,681.8	-41.4	415.6	32° 4' 46.045 N	103° 18' 40.999 W
4,732.0	4.75	214.76	4,713.7	-43.5	414.2	32° 4' 46.024 N	103° 18' 41.016 W
4,800.0	4.94	216.31	4,781.4	-48.2	410.9	32° 4' 45.978 N	103° 18' 41.055 W
4,826.0	5.01	216.87	4,807.3	-50.0	409.5	32° 4' 45.960 N	103° 18' 41.071 W
4,900.0	5.38	217.15	4,881.0	-55.4	405.5	32° 4' 45.907 N	103° 18' 41.119 W
4,921.0	5.49	217.22	4,901.9	-57.0	404.3	32° 4' 45.892 N	103° 18' 41.133 W
5,000.0	5.30	210.83	4,980.6	-63.1	400.1	32° 4' 45.831 N	103° 18' 41.182 W
5,015.0	5.27	209.57	4,995.5	-64.3	399.5	32° 4' 45.820 N	103° 18' 41.190 W
5,100.0	5.05	195.46	5,080.2	-71.3	396.5	32° 4' 45.751 N	103° 18' 41.225 W

Company: Ameredev Operating, LLC.
 Project: NAN/GB
 Site: NAN/GB #1N
 Well: Nandina 101H
 Wellbore: Final Survey
 Design: Design #1

Local Co-ordinate Reference: Well Nandina 101H
 TVD Reference: KB @ 3049.0usft
 MD Reference: KB @ 3049.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL-FNL (usft)	+FWL-FEL (usft)	Latitude	Longitude
5,110.0	5.05	193.75	5,090.1	-72.1	396.3	32° 4' 45.742 N	103° 18' 41.228 W
5,200.0	4.88	181.06	5,179.8	-79.8	395.3	32° 4' 45.666 N	103° 18' 41.240 W
5,204.0	4.88	180.48	5,183.8	-80.2	395.3	32° 4' 45.663 N	103° 18' 41.240 W
5,299.0	5.32	180.40	5,278.4	-88.6	395.2	32° 4' 45.579 N	103° 18' 41.242 W
5,300.0	5.33	180.41	5,279.4	-88.7	395.2	32° 4' 45.578 N	103° 18' 41.242 W
5,393.0	5.85	181.54	5,372.0	-97.8	395.1	32° 4' 45.489 N	103° 18' 41.245 W
5,400.0	5.89	181.43	5,378.9	-98.5	395.0	32° 4' 45.482 N	103° 18' 41.245 W
5,488.0	6.46	180.22	5,466.4	-107.9	394.9	32° 4' 45.388 N	103° 18' 41.248 W
5,500.0	6.42	180.17	5,478.3	-109.3	394.9	32° 4' 45.375 N	103° 18' 41.248 W
5,582.0	6.15	179.78	5,559.9	-118.3	394.9	32° 4' 45.286 N	103° 18' 41.249 W
5,600.0	6.11	179.99	5,577.8	-120.2	394.9	32° 4' 45.267 N	103° 18' 41.249 W
5,677.0	5.93	180.92	5,654.3	-128.3	394.9	32° 4' 45.187 N	103° 18' 41.251 W
5,700.0	6.00	180.83	5,677.2	-130.6	394.8	32° 4' 45.163 N	103° 18' 41.251 W
5,771.0	6.20	180.57	5,747.8	-138.2	394.7	32° 4' 45.089 N	103° 18' 41.253 W
5,800.0	6.18	180.30	5,776.6	-141.3	394.7	32° 4' 45.058 N	103° 18' 41.254 W
5,866.0	6.15	179.69	5,842.2	-148.4	394.7	32° 4' 44.988 N	103° 18' 41.255 W
5,900.0	6.18	179.24	5,876.1	-152.1	394.7	32° 4' 44.952 N	103° 18' 41.255 W
5,960.0	6.24	178.46	5,935.7	-158.6	394.9	32° 4' 44.887 N	103° 18' 41.254 W
6,000.0	6.17	177.84	5,975.5	-162.9	395.0	32° 4' 44.845 N	103° 18' 41.253 W
6,055.0	6.07	176.97	6,030.2	-168.7	395.3	32° 4' 44.787 N	103° 18' 41.250 W
6,100.0	6.11	177.10	6,074.9	-173.5	395.5	32° 4' 44.739 N	103° 18' 41.248 W
6,149.0	6.15	177.23	6,123.6	-178.7	395.8	32° 4' 44.688 N	103° 18' 41.245 W
6,200.0	6.18	176.66	6,174.3	-184.2	396.1	32° 4' 44.634 N	103° 18' 41.243 W
6,244.0	6.20	176.18	6,218.1	-188.9	396.4	32° 4' 44.587 N	103° 18' 41.240 W
6,300.0	6.17	175.08	6,273.7	-194.9	396.8	32° 4' 44.527 N	103° 18' 41.235 W
6,338.0	6.15	174.33	6,311.5	-199.0	397.2	32° 4' 44.487 N	103° 18' 41.231 W
6,400.0	6.15	173.17	6,373.2	-205.6	397.9	32° 4' 44.422 N	103° 18' 41.223 W
6,432.0	6.15	172.57	6,405.0	-209.0	398.3	32° 4' 44.388 N	103° 18' 41.219 W
6,500.0	6.12	172.95	6,472.6	-216.2	399.3	32° 4' 44.316 N	103° 18' 41.209 W
6,526.0	6.11	173.10	6,498.4	-219.0	399.6	32° 4' 44.289 N	103° 18' 41.205 W
6,600.0	5.60	172.36	6,572.1	-226.4	400.6	32° 4' 44.215 N	103° 18' 41.195 W
6,621.0	5.45	172.13	6,593.0	-228.4	400.8	32° 4' 44.195 N	103° 18' 41.192 W
6,700.0	3.27	169.81	6,671.7	-234.4	401.7	32° 4' 44.136 N	103° 18' 41.182 W
6,715.0	2.86	168.97	6,686.7	-235.2	401.9	32° 4' 44.129 N	103° 18' 41.181 W
6,800.0	0.66	179.29	6,771.7	-237.7	402.3	32° 4' 44.103 N	103° 18' 41.176 W
6,809.0	0.44	186.37	6,780.7	-237.8	402.3	32° 4' 44.102 N	103° 18' 41.176 W
6,900.0	0.13	253.22	6,871.7	-238.2	402.2	32° 4' 44.098 N	103° 18' 41.178 W
6,904.0	0.13	261.08	6,875.7	-238.2	402.1	32° 4' 44.098 N	103° 18' 41.178 W
6,998.0	0.18	263.72	6,969.7	-238.2	401.9	32° 4' 44.098 N	103° 18' 41.181 W
7,000.0	0.19	264.05	6,971.7	-238.2	401.9	32° 4' 44.098 N	103° 18' 41.181 W
7,092.0	0.48	269.78	7,063.7	-238.3	401.4	32° 4' 44.098 N	103° 18' 41.187 W
7,100.0	0.43	265.64	7,071.7	-238.3	401.3	32° 4' 44.098 N	103° 18' 41.188 W
7,187.0	0.40	155.96	7,158.7	-238.6	401.1	32° 4' 44.095 N	103° 18' 41.190 W
7,200.0	0.31	151.08	7,171.7	-238.6	401.1	32° 4' 44.094 N	103° 18' 41.190 W
7,281.0	0.31	14.28	7,252.7	-238.6	401.3	32° 4' 44.094 N	103° 18' 41.188 W

Company: Ameredev Operating, LLC.
Project: NAN/GB
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Wellbore: Final Survey
Design: Design #1

Local Co-ordinate Reference: Well Nandina 101H
TVD Reference: KB @ 3049.0usft
MD Reference: KB @ 3049.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL-FNL (usft)	+FWL-FEL (usft)	Latitude	Longitude
7,300.0	0.24	4.29	7,271.7	-238.5	401.3	32° 4' 44.095 N	103° 18' 41.188 W
7,376.0	0.22	262.22	7,347.7	-238.4	401.2	32° 4' 44.097 N	103° 18' 41.189 W
7,400.0	0.10	282.11	7,371.7	-238.4	401.1	32° 4' 44.097 N	103° 18' 41.190 W
7,470.0	0.31	57.35	7,441.7	-238.3	401.2	32° 4' 44.098 N	103° 18' 41.189 W
7,500.0	0.27	96.20	7,471.7	-238.2	401.3	32° 4' 44.098 N	103° 18' 41.187 W
7,565.0	0.53	148.84	7,536.7	-238.5	401.7	32° 4' 44.095 N	103° 18' 41.184 W
7,600.0	0.42	163.92	7,571.6	-238.8	401.8	32° 4' 44.093 N	103° 18' 41.182 W
7,660.0	0.35	206.41	7,631.6	-239.2	401.7	32° 4' 44.089 N	103° 18' 41.183 W
7,700.0	0.17	161.05	7,671.6	-239.3	401.7	32° 4' 44.087 N	103° 18' 41.183 W
7,755.0	0.35	83.01	7,726.6	-239.4	401.9	32° 4' 44.087 N	103° 18' 41.181 W
7,800.0	0.39	81.32	7,771.6	-239.3	402.2	32° 4' 44.087 N	103° 18' 41.177 W
7,849.0	0.44	79.85	7,820.6	-239.3	402.5	32° 4' 44.088 N	103° 18' 41.173 W
7,900.0	0.46	72.76	7,871.6	-239.2	402.9	32° 4' 44.089 N	103° 18' 41.169 W
7,943.0	0.48	67.28	7,914.6	-239.1	403.3	32° 4' 44.090 N	103° 18' 41.165 W
8,000.0	0.58	77.06	7,971.6	-238.9	403.8	32° 4' 44.091 N	103° 18' 41.159 W
8,038.0	0.66	81.78	8,009.6	-238.8	404.2	32° 4' 44.092 N	103° 18' 41.154 W
8,100.0	0.71	69.43	8,071.6	-238.6	404.9	32° 4' 44.094 N	103° 18' 41.146 W
8,133.0	0.75	63.68	8,104.6	-238.5	405.3	32° 4' 44.095 N	103° 18' 41.142 W
8,200.0	0.68	75.39	8,171.6	-238.2	406.1	32° 4' 44.098 N	103° 18' 41.133 W
8,227.0	0.66	80.73	8,198.6	-238.1	406.4	32° 4' 44.099 N	103° 18' 41.129 W
8,300.0	1.10	74.68	8,271.6	-237.9	407.4	32° 4' 44.101 N	103° 18' 41.116 W
8,322.0	1.23	73.70	8,293.6	-237.7	407.9	32° 4' 44.102 N	103° 18' 41.111 W
8,400.0	0.89	92.56	8,371.6	-237.5	409.3	32° 4' 44.104 N	103° 18' 41.095 W
8,417.0	0.84	98.48	8,388.6	-237.6	409.5	32° 4' 44.104 N	103° 18' 41.092 W
8,500.0	0.64	108.24	8,471.6	-237.8	410.6	32° 4' 44.102 N	103° 18' 41.080 W
8,511.0	0.62	109.99	8,482.6	-237.8	410.7	32° 4' 44.101 N	103° 18' 41.078 W
8,600.0	0.57	135.02	8,571.6	-238.3	411.5	32° 4' 44.097 N	103° 18' 41.070 W
8,606.0	0.57	136.80	8,577.6	-238.4	411.5	32° 4' 44.096 N	103° 18' 41.069 W
8,700.0	0.44	194.11	8,671.6	-239.1	411.7	32° 4' 44.089 N	103° 18' 41.066 W
8,794.0	0.79	203.33	8,765.6	-240.0	411.4	32° 4' 44.080 N	103° 18' 41.071 W
8,800.0	0.79	201.87	8,771.6	-240.1	411.4	32° 4' 44.079 N	103° 18' 41.071 W
8,888.0	0.92	183.12	8,859.6	-241.3	411.1	32° 4' 44.067 N	103° 18' 41.074 W
8,900.0	0.94	183.38	8,871.6	-241.5	411.1	32° 4' 44.065 N	103° 18' 41.074 W
8,983.0	1.05	184.97	8,954.5	-243.0	411.0	32° 4' 44.050 N	103° 18' 41.076 W
9,000.0	1.06	187.06	8,971.5	-243.3	411.0	32° 4' 44.047 N	103° 18' 41.076 W
9,078.0	1.14	195.95	9,049.5	-244.7	410.6	32° 4' 44.033 N	103° 18' 41.080 W
9,100.0	1.23	196.10	9,071.5	-245.2	410.5	32° 4' 44.029 N	103° 18' 41.081 W
9,173.0	1.54	196.48	9,144.5	-246.9	410.0	32° 4' 44.012 N	103° 18' 41.087 W
9,200.0	1.58	196.24	9,171.5	-247.6	409.8	32° 4' 44.005 N	103° 18' 41.090 W
9,267.0	1.67	195.69	9,238.5	-249.4	409.3	32° 4' 43.987 N	103° 18' 41.096 W
9,300.0	1.67	196.33	9,271.5	-250.3	409.0	32° 4' 43.978 N	103° 18' 41.099 W
9,362.0	1.67	197.53	9,333.4	-252.1	408.5	32° 4' 43.961 N	103° 18' 41.106 W
9,400.0	1.60	197.07	9,371.4	-253.1	408.2	32° 4' 43.951 N	103° 18' 41.109 W
9,456.0	1.49	196.30	9,427.4	-254.5	407.8	32° 4' 43.936 N	103° 18' 41.115 W

Company: Ameredev Operating, LLC.
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 Wellbore: Final Survey
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Local Co-ordinate Reference: Well Nandina 101H
 TVD Reference: KB @ 3049.0usft
 MD Reference: KB @ 3049.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL-FNL (usft)	+FWL-FEL (usft)	Latitude	Longitude
9,500.0	1.43	195.02	9,471.4	-255.6	407.4	32° 4' 43.926 N	103° 18' 41.118 W
9,551.0	1.36	193.40	9,522.4	-256.8	407.1	32° 4' 43.914 N	103° 18' 41.122 W
9,600.0	1.45	190.68	9,571.3	-258.0	406.9	32° 4' 43.902 N	103° 18' 41.125 W
9,645.0	1.54	188.48	9,616.3	-259.2	406.7	32° 4' 43.891 N	103° 18' 41.127 W
9,700.0	1.54	187.36	9,671.3	-260.6	406.5	32° 4' 43.876 N	103° 18' 41.130 W
9,740.0	1.54	186.55	9,711.3	-261.7	406.4	32° 4' 43.866 N	103° 18' 41.131 W
9,800.0	1.40	183.80	9,771.3	-263.2	406.2	32° 4' 43.851 N	103° 18' 41.133 W
9,834.0	1.32	181.98	9,805.3	-264.0	406.2	32° 4' 43.843 N	103° 18' 41.134 W
9,900.0	1.41	178.68	9,871.3	-265.6	406.2	32° 4' 43.827 N	103° 18' 41.134 W
9,928.0	1.45	177.41	9,899.2	-266.3	406.2	32° 4' 43.820 N	103° 18' 41.134 W
10,000.0	1.95	168.61	9,971.2	-268.4	406.5	32° 4' 43.799 N	103° 18' 41.131 W
10,023.0	2.11	166.68	9,994.2	-269.2	406.7	32° 4' 43.791 N	103° 18' 41.129 W
10,100.0	2.40	167.05	10,071.1	-272.1	407.3	32° 4' 43.762 N	103° 18' 41.121 W
10,117.0	2.46	167.12	10,088.1	-272.9	407.5	32° 4' 43.755 N	103° 18' 41.119 W
10,200.0	2.42	167.82	10,171.0	-276.3	408.3	32° 4' 43.721 N	103° 18' 41.111 W
10,211.0	2.42	167.91	10,182.0	-276.8	408.4	32° 4' 43.716 N	103° 18' 41.110 W
10,300.0	2.33	179.25	10,271.0	-280.4	408.8	32° 4' 43.680 N	103° 18' 41.105 W
10,306.0	2.33	180.04	10,277.0	-280.7	408.8	32° 4' 43.678 N	103° 18' 41.105 W
10,400.0	1.68	190.78	10,370.9	-283.9	408.5	32° 4' 43.646 N	103° 18' 41.109 W
10,401.0	1.67	190.94	10,371.9	-283.9	408.5	32° 4' 43.645 N	103° 18' 41.109 W
10,495.0	2.02	189.71	10,465.8	-286.9	408.0	32° 4' 43.616 N	103° 18' 41.115 W
10,500.0	2.03	190.17	10,470.8	-287.1	408.0	32° 4' 43.614 N	103° 18' 41.116 W
10,590.0	2.15	197.97	10,560.8	-290.3	407.2	32° 4' 43.583 N	103° 18' 41.125 W
10,600.0	2.20	198.70	10,570.8	-290.6	407.0	32° 4' 43.579 N	103° 18' 41.127 W
10,684.0	2.59	203.77	10,654.7	-293.9	405.8	32° 4' 43.547 N	103° 18' 41.142 W
10,700.0	2.68	203.43	10,670.7	-294.6	405.5	32° 4' 43.541 N	103° 18' 41.146 W
10,779.0	3.12	202.02	10,749.6	-298.2	403.9	32° 4' 43.504 N	103° 18' 41.164 W
10,800.0	3.10	203.49	10,770.6	-299.3	403.5	32° 4' 43.494 N	103° 18' 41.169 W
10,873.0	3.03	208.78	10,843.5	-302.8	401.8	32° 4' 43.459 N	103° 18' 41.189 W
10,900.0	2.93	210.18	10,870.4	-304.0	401.1	32° 4' 43.447 N	103° 18' 41.198 W
10,968.0	2.68	214.15	10,938.3	-306.8	399.3	32° 4' 43.420 N	103° 18' 41.218 W
11,000.0	2.65	214.35	10,970.3	-308.1	398.5	32° 4' 43.408 N	103° 18' 41.228 W
11,063.0	2.59	214.76	11,033.2	-310.4	396.8	32° 4' 43.384 N	103° 18' 41.248 W
11,100.0	2.47	215.66	11,070.2	-311.8	395.9	32° 4' 43.371 N	103° 18' 41.259 W
11,157.0	2.29	217.22	11,127.1	-313.7	394.5	32° 4' 43.352 N	103° 18' 41.275 W
11,200.0	2.21	217.14	11,170.1	-315.0	393.5	32° 4' 43.339 N	103° 18' 41.287 W
11,204.0	2.20	217.13	11,174.1	-315.1	393.4	32° 4' 43.338 N	103° 18' 41.288 W
11,253.0	2.02	223.11	11,223.1	-316.5	392.2	32° 4' 43.324 N	103° 18' 41.302 W
11,300.0	3.09	326.47	11,270.1	-316.1	391.0	32° 4' 43.329 N	103° 18' 41.317 W
11,317.0	4.44	335.70	11,287.0	-315.1	390.4	32° 4' 43.339 N	103° 18' 41.323 W
11,346.0	7.12	346.60	11,315.9	-312.3	389.6	32° 4' 43.366 N	103° 18' 41.332 W
11,380.0	10.95	350.29	11,349.4	-307.1	388.5	32° 4' 43.418 N	103° 18' 41.344 W
11,400.0	12.84	352.68	11,369.0	-303.0	387.9	32° 4' 43.459 N	103° 18' 41.350 W
11,411.0	13.89	353.72	11,379.7	-300.5	387.6	32° 4' 43.484 N	103° 18' 41.354 W

Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #1N
Well: Nandina 101H
Wellbore: Final Survey
Design: Design #1

Local Co-ordinate Reference: Well Nandina 101H
TVD Reference: KB @ 3049.0usft
MD Reference: KB @ 3049.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/FNL (usft)	+FWL/FEL (usft)	Latitude	Longitude
11,442.0	14.73	354.59	11,409.7	-292.9	386.8	32° 4' 43.559 N	103° 18' 41.362 W
11,473.0	15.96	351.43	11,439.6	-284.7	385.8	32° 4' 43.640 N	103° 18' 41.373 W
11,500.0	17.99	353.85	11,465.5	-276.9	384.8	32° 4' 43.717 N	103° 18' 41.383 W
11,505.0	18.37	354.24	11,470.2	-275.3	384.7	32° 4' 43.733 N	103° 18' 41.385 W
11,537.0	20.53	355.12	11,500.4	-264.7	383.7	32° 4' 43.838 N	103° 18' 41.395 W
11,568.0	22.99	359.34	11,529.2	-253.3	383.2	32° 4' 43.951 N	103° 18' 41.400 W
11,599.0	25.49	0.39	11,557.4	-240.5	383.1	32° 4' 44.077 N	103° 18' 41.399 W
11,600.0	25.60	0.47	11,558.3	-240.1	383.1	32° 4' 44.081 N	103° 18' 41.399 W
11,668.0	33.17	4.60	11,617.6	-206.8	384.7	32° 4' 44.411 N	103° 18' 41.377 W
11,700.0	38.72	4.91	11,643.5	-188.1	386.3	32° 4' 44.596 N	103° 18' 41.357 W
11,795.0	52.90	1.20	11,709.5	-120.3	389.7	32° 4' 45.267 N	103° 18' 41.310 W
11,800.0	53.61	1.05	11,712.5	-116.3	389.7	32° 4' 45.306 N	103° 18' 41.309 W
11,890.0	66.36	358.78	11,757.4	-38.5	389.5	32° 4' 46.076 N	103° 18' 41.303 W
11,900.0	67.27	358.74	11,761.4	-29.3	389.3	32° 4' 46.167 N	103° 18' 41.304 W
11,985.0	74.98	358.38	11,788.9	51.0	387.3	32° 4' 46.962 N	103° 18' 41.319 W
12,000.0	76.88	358.50	11,792.5	65.6	386.9	32° 4' 47.106 N	103° 18' 41.322 W
12,035.7	81.41	358.79	11,799.2	100.6	386.1	32° 4' 47.452 N	103° 18' 41.327 W
Final Nan101 FTP							
12,080.0	87.04	359.14	11,803.7	144.7	385.3	32° 4' 47.888 N	103° 18' 41.332 W
12,100.0	87.38	359.20	11,804.6	164.6	385.0	32° 4' 48.086 N	103° 18' 41.333 W
12,175.0	88.67	359.41	11,807.2	239.6	384.1	32° 4' 48.828 N	103° 18' 41.335 W
12,200.0	88.71	359.50	11,807.8	264.6	383.8	32° 4' 49.075 N	103° 18' 41.335 W
12,270.0	88.84	359.74	11,809.3	334.6	383.4	32° 4' 49.768 N	103° 18' 41.333 W
12,300.0	89.12	359.96	11,809.8	364.6	383.3	32° 4' 50.064 N	103° 18' 41.331 W
12,365.0	89.73	0.43	11,810.5	429.5	383.5	32° 4' 50.707 N	103° 18' 41.321 W
12,400.0	90.27	0.48	11,810.5	464.5	383.8	32° 4' 51.054 N	103° 18' 41.314 W
12,460.0	91.19	0.56	11,809.7	524.5	384.3	32° 4' 51.647 N	103° 18' 41.301 W
12,500.0	90.45	0.21	11,809.1	564.5	384.6	32° 4' 52.043 N	103° 18' 41.293 W
12,555.0	89.44	359.73	11,809.2	619.5	384.6	32° 4' 52.587 N	103° 18' 41.288 W
12,600.0	89.33	0.06	11,809.7	664.5	384.5	32° 4' 53.032 N	103° 18' 41.284 W
12,649.0	89.22	0.41	11,810.3	713.5	384.7	32° 4' 53.517 N	103° 18' 41.276 W
12,700.0	88.40	0.49	11,811.4	764.5	385.1	32° 4' 54.022 N	103° 18' 41.266 W
12,744.0	87.70	0.56	11,812.8	808.5	385.5	32° 4' 54.457 N	103° 18' 41.256 W
12,800.0	88.05	359.88	11,814.9	864.4	385.7	32° 4' 55.010 N	103° 18' 41.248 W
12,840.0	88.30	359.39	11,816.2	904.4	385.5	32° 4' 55.406 N	103° 18' 41.246 W
12,900.0	90.97	359.33	11,816.6	964.4	384.8	32° 4' 56.000 N	103° 18' 41.247 W
12,935.0	92.53	359.29	11,815.5	999.4	384.4	32° 4' 56.346 N	103° 18' 41.248 W
13,000.0	90.25	358.59	11,813.9	1,064.4	383.2	32° 4' 56.989 N	103° 18' 41.255 W
13,029.0	89.23	358.28	11,814.1	1,093.3	382.4	32° 4' 57.276 N	103° 18' 41.261 W
13,100.0	88.67	358.22	11,815.4	1,164.3	380.2	32° 4' 57.978 N	103° 18' 41.279 W
13,124.0	88.48	358.20	11,816.0	1,188.3	379.4	32° 4' 58.215 N	103° 18' 41.285 W
13,200.0	88.17	358.18	11,818.2	1,264.2	377.0	32° 4' 58.967 N	103° 18' 41.304 W
13,219.0	88.09	358.17	11,818.8	1,283.2	376.4	32° 4' 59.155 N	103° 18' 41.309 W
13,300.0	88.35	358.38	11,821.3	1,364.1	374.0	32° 4' 59.956 N	103° 18' 41.329 W

Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #1N
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Wellbore: Final Survey
Design: Design #1

Local Co-ordinate Reference: Well Nandina 101H
TVD Reference: KB @ 3049.0usft
MD Reference: KB @ 3049.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
13,314.0	88.39	358.42	11,821.7	1,378.1	373.6	32° 5' 0.094 N	103° 18' 41.332 W
13,400.0	87.96	358.40	11,824.5	1,464.0	371.2	32° 5' 0.944 N	103° 18' 41.350 W
13,409.0	87.92	358.40	11,824.8	1,473.0	371.0	32° 5' 1.033 N	103° 18' 41.352 W
13,500.0	87.38	358.06	11,828.5	1,563.9	368.2	32° 5' 1.933 N	103° 18' 41.374 W
13,504.0	87.36	358.05	11,828.7	1,567.9	368.0	32° 5' 1.973 N	103° 18' 41.375 W
13,599.0	86.91	357.87	11,833.4	1,662.7	364.7	32° 5' 2.911 N	103° 18' 41.404 W
13,600.0	86.93	357.88	11,833.5	1,663.7	364.6	32° 5' 2.921 N	103° 18' 41.405 W
13,694.0	88.98	358.87	11,836.9	1,757.6	362.0	32° 5' 3.850 N	103° 18' 41.425 W
13,700.0	89.04	359.01	11,837.0	1,763.6	361.9	32° 5' 3.910 N	103° 18' 41.426 W
13,789.0	89.98	1.15	11,837.7	1,852.6	362.0	32° 5' 4.790 N	103° 18' 41.415 W
13,800.0	89.93	1.17	11,837.7	1,863.6	362.2	32° 5' 4.899 N	103° 18' 41.411 W
13,900.0	89.52	1.35	11,838.2	1,963.6	364.4	32° 5' 5.888 N	103° 18' 41.374 W
13,917.0	89.45	1.38	11,838.3	1,980.6	364.8	32° 5' 6.056 N	103° 18' 41.368 W
14,000.0	87.14	2.05	11,840.8	2,063.5	367.3	32° 5' 6.876 N	103° 18' 41.330 W
14,011.0	86.83	2.14	11,841.4	2,074.5	367.7	32° 5' 6.985 N	103° 18' 41.324 W
14,100.0	86.71	2.25	11,846.4	2,163.3	371.1	32° 5' 7.863 N	103° 18' 41.274 W
14,106.0	86.70	2.26	11,846.8	2,169.2	371.3	32° 5' 7.922 N	103° 18' 41.271 W
14,200.0	86.26	0.78	11,852.5	2,263.0	373.8	32° 5' 8.850 N	103° 18' 41.232 W
14,201.0	86.26	0.76	11,852.6	2,264.0	373.8	32° 5' 8.860 N	103° 18' 41.231 W
14,296.0	89.50	1.02	11,856.1	2,358.9	375.3	32° 5' 9.799 N	103° 18' 41.204 W
14,300.0	89.56	0.98	11,856.1	2,362.9	375.4	32° 5' 9.839 N	103° 18' 41.203 W
14,391.0	90.95	0.00	11,855.7	2,453.9	376.2	32° 5' 10.739 N	103° 18' 41.184 W
14,400.0	90.93	359.85	11,855.6	2,462.9	376.1	32° 5' 10.828 N	103° 18' 41.183 W
14,486.0	90.74	358.40	11,854.3	2,548.9	374.8	32° 5' 11.679 N	103° 18' 41.189 W
14,500.0	90.58	358.39	11,854.2	2,562.9	374.4	32° 5' 11.817 N	103° 18' 41.192 W
14,581.0	89.68	358.32	11,854.0	2,643.9	372.1	32° 5' 12.619 N	103° 18' 41.210 W
14,600.0	89.41	358.07	11,854.1	2,662.9	371.5	32° 5' 12.806 N	103° 18' 41.215 W
14,676.0	88.31	357.07	11,855.7	2,738.8	368.3	32° 5' 13.558 N	103° 18' 41.244 W
14,700.0	88.44	357.27	11,856.3	2,762.7	367.1	32° 5' 13.795 N	103° 18' 41.255 W
14,770.0	88.81	357.85	11,858.0	2,832.6	364.1	32° 5' 14.487 N	103° 18' 41.282 W
14,800.0	88.97	358.00	11,858.6	2,862.6	363.0	32° 5' 14.784 N	103° 18' 41.291 W
14,865.0	89.31	358.34	11,859.6	2,927.6	361.0	32° 5' 15.427 N	103° 18' 41.308 W
14,900.0	89.83	358.59	11,859.8	2,962.6	360.0	32° 5' 15.773 N	103° 18' 41.315 W
14,960.0	90.71	359.02	11,859.6	3,022.6	358.8	32° 5' 16.367 N	103° 18' 41.323 W
15,000.0	90.60	359.49	11,859.1	3,062.5	358.3	32° 5' 16.763 N	103° 18' 41.325 W
15,055.0	90.44	0.13	11,858.6	3,117.5	358.1	32° 5' 17.307 N	103° 18' 41.321 W
15,100.0	88.74	359.42	11,858.9	3,162.5	357.9	32° 5' 17.752 N	103° 18' 41.318 W
15,150.0	86.86	358.63	11,860.8	3,212.5	357.0	32° 5' 18.246 N	103° 18' 41.322 W
15,200.0	86.47	357.55	11,863.7	3,262.4	355.4	32° 5' 18.740 N	103° 18' 41.336 W
15,245.0	86.12	356.58	11,866.7	3,307.2	353.1	32° 5' 19.184 N	103° 18' 41.358 W
15,300.0	86.54	356.46	11,870.2	3,362.0	349.8	32° 5' 19.726 N	103° 18' 41.390 W
15,339.0	86.83	356.37	11,872.4	3,400.9	347.3	32° 5' 20.111 N	103° 18' 41.414 W
15,400.0	87.39	357.41	11,875.5	3,461.7	344.0	32° 5' 20.713 N	103° 18' 41.446 W
15,434.0	87.70	357.99	11,877.0	3,495.6	342.6	32° 5' 21.049 N	103° 18' 41.458 W

Company: Ameredev Operating, LLC.
 Project: NAN/GB
 Site: NAN/GB #1N
 Well: Nandina 101H
 Wellbore: Final Survey
 Design: Design #1

Local Co-ordinate Reference: Well Nandina 101H
 TVD Reference: KB @ 3049.0usft
 MD Reference: KB @ 3049.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL-FNL (usft)	+FWL-FEL (usft)	Latitude	Longitude
15,500.0	87.57	358.04	11,879.7	3,561.5	340.4	32° 5' 21.702 N	103° 18' 41.478 W
15,529.0	87.51	358.06	11,880.9	3,590.5	339.4	32° 5' 21.988 N	103° 18' 41.486 W
15,600.0	87.40	0.30	11,884.1	3,661.4	338.4	32° 5' 22.690 N	103° 18' 41.490 W
15,624.0	87.36	1.06	11,885.2	3,685.4	338.6	32° 5' 22.927 N	103° 18' 41.484 W
15,700.0	86.20	359.47	11,889.5	3,761.3	339.0	32° 5' 23.678 N	103° 18' 41.471 W
15,718.0	85.92	359.09	11,890.7	3,779.2	338.8	32° 5' 23.856 N	103° 18' 41.472 W
15,800.0	88.94	0.03	11,894.4	3,861.1	338.1	32° 5' 24.666 N	103° 18' 41.470 W
15,813.0	89.42	0.18	11,894.6	3,874.1	338.2	32° 5' 24.795 N	103° 18' 41.469 W
15,900.0	90.55	1.90	11,894.6	3,961.1	339.7	32° 5' 25.655 N	103° 18' 41.441 W
15,908.0	90.65	2.06	11,894.5	3,969.1	340.0	32° 5' 25.734 N	103° 18' 41.437 W
15,971.0	87.28	2.24	11,895.6	4,032.0	342.4	32° 5' 26.357 N	103° 18' 41.402 W
16,000.0	85.62	2.19	11,897.4	4,061.0	343.5	32° 5' 26.643 N	103° 18' 41.386 W
16,003.0	85.45	2.18	11,897.7	4,064.0	343.6	32° 5' 26.673 N	103° 18' 41.384 W
16,034.0	85.58	2.04	11,900.1	4,094.8	344.8	32° 5' 26.978 N	103° 18' 41.368 W
16,066.0	85.32	1.89	11,902.6	4,126.7	345.9	32° 5' 27.293 N	103° 18' 41.352 W
16,098.0	84.97	1.93	11,905.3	4,158.6	346.9	32° 5' 27.609 N	103° 18' 41.336 W
16,100.0	84.98	1.91	11,905.5	4,160.6	347.0	32° 5' 27.628 N	103° 18' 41.335 W
16,129.0	85.05	1.65	11,908.0	4,189.5	347.9	32° 5' 27.914 N	103° 18' 41.321 W
16,161.0	85.20	1.35	11,910.8	4,221.3	348.7	32° 5' 28.229 N	103° 18' 41.308 W
16,192.0	86.19	1.15	11,913.1	4,252.2	349.4	32° 5' 28.535 N	103° 18' 41.297 W
16,200.0	86.27	1.16	11,913.6	4,260.2	349.5	32° 5' 28.614 N	103° 18' 41.294 W
16,224.0	86.53	1.18	11,915.1	4,284.2	350.0	32° 5' 28.851 N	103° 18' 41.286 W
16,287.0	88.50	0.98	11,917.8	4,347.1	351.2	32° 5' 29.473 N	103° 18' 41.265 W
16,300.0	89.04	1.07	11,918.1	4,360.1	351.5	32° 5' 29.602 N	103° 18' 41.261 W
16,382.0	92.46	1.63	11,917.1	4,442.0	353.4	32° 5' 30.413 N	103° 18' 41.229 W
16,400.0	91.34	0.85	11,916.5	4,460.0	353.8	32° 5' 30.591 N	103° 18' 41.223 W
16,477.0	86.56	357.52	11,917.9	4,537.0	352.7	32° 5' 31.352 N	103° 18' 41.227 W
16,500.0	86.92	357.58	11,919.2	4,559.9	351.7	32° 5' 31.579 N	103° 18' 41.236 W
16,572.0	88.05	357.77	11,922.3	4,631.8	348.8	32° 5' 32.291 N	103° 18' 41.262 W
16,600.0	88.50	357.66	11,923.2	4,659.7	347.7	32° 5' 32.567 N	103° 18' 41.272 W
16,667.0	89.59	357.39	11,924.3	4,726.7	344.8	32° 5' 33.230 N	103° 18' 41.298 W
16,700.0	90.22	357.24	11,924.3	4,759.6	343.2	32° 5' 33.556 N	103° 18' 41.312 W
16,762.0	91.40	356.97	11,923.5	4,821.5	340.1	32° 5' 34.169 N	103° 18' 41.342 W
16,800.0	92.31	357.85	11,922.2	4,859.5	338.4	32° 5' 34.545 N	103° 18' 41.358 W
16,857.0	93.68	359.17	11,919.3	4,916.4	336.9	32° 5' 35.108 N	103° 18' 41.369 W
16,900.0	91.20	359.18	11,917.4	4,959.3	336.3	32° 5' 35.533 N	103° 18' 41.371 W
16,952.0	88.20	359.19	11,917.7	5,011.3	335.5	32° 5' 36.047 N	103° 18' 41.374 W
17,000.0	89.19	359.38	11,918.8	5,059.3	334.9	32° 5' 36.522 N	103° 18' 41.376 W
17,021.0	89.62	359.46	11,919.0	5,080.3	334.7	32° 5' 36.730 N	103° 18' 41.376 W
17,100.0	89.69	359.57	11,919.5	5,159.3	334.1	32° 5' 37.512 N	103° 18' 41.375 W
17,116.0	89.70	359.59	11,919.6	5,175.3	333.9	32° 5' 37.670 N	103° 18' 41.374 W
17,200.0	90.22	358.53	11,919.6	5,259.3	332.6	32° 5' 38.501 N	103° 18' 41.381 W
17,211.0	90.29	358.39	11,919.6	5,270.3	332.3	32° 5' 38.610 N	103° 18' 41.383 W
17,300.0	90.23	358.13	11,919.2	5,359.2	329.6	32° 5' 39.490 N	103° 18' 41.405 W
17,305.0	90.23	358.12	11,919.2	5,364.2	329.4	32° 5' 39.540 N	103° 18' 41.406 W

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TVD Reference: KB @ 3049.0usft
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
17,400.0	89.72	0.08	11,919.2	5,459.2	327.9	32° 5' 40.480 N	103° 18' 41.413 W
17,495.0	90.60	1.98	11,918.9	5,554.2	329.6	32° 5' 41.419 N	103° 18' 41.383 W
17,500.0	90.57	2.00	11,918.9	5,559.2	329.8	32° 5' 41.469 N	103° 18' 41.380 W
17,590.0	90.03	2.45	11,918.4	5,649.1	333.3	32° 5' 42.358 N	103° 18' 41.330 W
17,600.0	90.12	2.29	11,918.4	5,659.1	333.7	32° 5' 42.457 N	103° 18' 41.324 W
17,685.0	90.85	0.97	11,917.7	5,744.1	336.1	32° 5' 43.298 N	103° 18' 41.286 W
17,700.0	90.96	0.76	11,917.4	5,759.1	336.4	32° 5' 43.446 N	103° 18' 41.282 W
17,780.0	91.52	359.62	11,915.7	5,839.1	336.6	32° 5' 44.237 N	103° 18' 41.270 W
17,800.0	91.25	359.61	11,915.2	5,859.1	336.5	32° 5' 44.435 N	103° 18' 41.270 W
17,875.0	90.24	359.56	11,914.3	5,934.0	335.9	32° 5' 45.177 N	103° 18' 41.268 W
17,900.0	90.48	359.28	11,914.1	5,959.0	335.7	32° 5' 45.425 N	103° 18' 41.268 W
17,970.0	91.15	358.50	11,913.1	6,029.0	334.3	32° 5' 46.117 N	103° 18' 41.276 W
18,000.0	92.21	358.48	11,912.2	6,059.0	333.5	32° 5' 46.414 N	103° 18' 41.282 W
18,065.0	94.51	358.43	11,908.4	6,123.9	331.8	32° 5' 47.056 N	103° 18' 41.295 W
18,100.0	93.09	358.26	11,906.1	6,158.8	330.8	32° 5' 47.401 N	103° 18' 41.303 W
18,160.0	90.65	357.98	11,904.1	6,218.7	328.8	32° 5' 47.994 N	103° 18' 41.319 W
18,200.0	91.19	357.92	11,903.5	6,258.7	327.4	32° 5' 48.390 N	103° 18' 41.331 W
18,254.0	91.92	357.85	11,902.0	6,312.6	325.4	32° 5' 48.924 N	103° 18' 41.349 W
18,300.0	92.48	357.80	11,900.3	6,358.5	323.7	32° 5' 49.379 N	103° 18' 41.364 W
18,349.0	93.08	357.75	11,897.9	6,407.4	321.8	32° 5' 49.863 N	103° 18' 41.380 W
18,400.0	91.72	357.64	11,895.8	6,458.4	319.7	32° 5' 50.367 N	103° 18' 41.399 W
18,444.0	90.55	357.54	11,894.9	6,502.3	317.9	32° 5' 50.802 N	103° 18' 41.415 W
18,500.0	91.16	359.10	11,894.0	6,558.3	316.2	32° 5' 51.356 N	103° 18' 41.428 W
18,539.0	91.59	0.19	11,893.1	6,597.3	316.0	32° 5' 51.742 N	103° 18' 41.427 W
18,600.0	91.35	360.00	11,891.5	6,658.2	316.1	32° 5' 52.345 N	103° 18' 41.419 W
18,634.0	91.22	359.89	11,890.8	6,692.2	316.0	32° 5' 52.681 N	103° 18' 41.416 W
18,700.0	89.84	358.39	11,890.2	6,758.2	315.0	32° 5' 53.334 N	103° 18' 41.420 W
18,729.0	89.23	357.73	11,890.4	6,787.2	314.1	32° 5' 53.621 N	103° 18' 41.428 W
18,800.0	90.22	357.94	11,890.7	6,858.2	311.4	32° 5' 54.323 N	103° 18' 41.451 W
18,824.0	90.55	358.01	11,890.6	6,882.1	310.5	32° 5' 54.581 N	103° 18' 41.459 W
18,900.0	89.88	358.49	11,890.3	6,958.1	308.2	32° 5' 55.313 N	103° 18' 41.477 W
18,918.0	89.72	358.60	11,890.4	6,976.1	307.8	32° 5' 55.491 N	103° 18' 41.481 W
18,950.0	90.61	359.45	11,890.3	7,008.1	307.2	32° 5' 55.807 N	103° 18' 41.483 W
18,982.0	89.66	0.26	11,890.2	7,040.1	307.1	32° 5' 56.124 N	103° 18' 41.481 W
19,000.0	89.07	0.78	11,890.4	7,058.1	307.3	32° 5' 56.302 N	103° 18' 41.477 W
19,013.0	88.65	1.16	11,890.7	7,071.1	307.5	32° 5' 56.431 N	103° 18' 41.473 W
19,045.0	88.13	1.50	11,891.6	7,103.1	308.3	32° 5' 56.747 N	103° 18' 41.461 W
19,077.0	88.69	1.23	11,892.4	7,135.0	309.0	32° 5' 57.063 N	103° 18' 41.448 W
19,100.0	88.56	1.47	11,893.0	7,158.0	309.6	32° 5' 57.291 N	103° 18' 41.440 W
19,108.0	88.52	1.55	11,893.2	7,166.0	309.8	32° 5' 57.370 N	103° 18' 41.436 W
19,140.0	89.48	1.10	11,893.8	7,198.0	310.5	32° 5' 57.686 N	103° 18' 41.424 W
19,200.0	89.18	0.98	11,894.5	7,258.0	311.6	32° 5' 58.280 N	103° 18' 41.405 W
19,203.0	89.16	0.97	11,894.5	7,261.0	311.6	32° 5' 58.309 N	103° 18' 41.404 W
19,298.0	89.37	1.02	11,895.7	7,356.0	313.3	32° 5' 59.249 N	103° 18' 41.374 W

Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #1N
Well: Nandina 101H
Wellbore: Final Survey
Design: Design #1

Local Co-ordinate Reference: Well Nandina 101H
TVD Reference: KB @ 3049.0usft
MD Reference: KB @ 3049.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL-FNL (usft)	+FWL-FEL (usft)	Latitude	Longitude
19,300.0	89.38	1.01	11,895.7	7,358.0	313.3	32° 5' 59.269 N	103° 18' 41.374 W
19,393.0	90.00	0.66	11,896.2	7,451.0	314.7	32° 6' 0.189 N	103° 18' 41.348 W
19,400.0	90.01	0.64	11,896.2	7,458.0	314.8	32° 6' 0.258 N	103° 18' 41.346 W
19,488.0	90.13	0.42	11,896.1	7,546.0	315.6	32° 6' 1.129 N	103° 18' 41.327 W
19,500.0	90.35	0.43	11,896.1	7,558.0	315.7	32° 6' 1.247 N	103° 18' 41.324 W
19,583.0	91.89	0.49	11,894.5	7,640.9	316.3	32° 6' 2.068 N	103° 18' 41.308 W
19,600.0	91.95	0.45	11,893.9	7,657.9	316.5	32° 6' 2.236 N	103° 18' 41.304 W
19,678.0	92.21	0.27	11,891.1	7,735.9	317.0	32° 6' 3.008 N	103° 18' 41.290 W
19,700.0	92.27	0.12	11,890.2	7,757.9	317.0	32° 6' 3.225 N	103° 18' 41.286 W
19,772.0	92.46	359.61	11,887.2	7,829.8	316.9	32° 6' 3.937 N	103° 18' 41.281 W
19,800.0	92.30	359.43	11,886.1	7,857.8	316.6	32° 6' 4.214 N	103° 18' 41.280 W
19,866.0	91.92	359.02	11,883.6	7,923.7	315.7	32° 6' 4.866 N	103° 18' 41.283 W
19,900.0	92.19	358.84	11,882.4	7,957.7	315.1	32° 6' 5.203 N	103° 18' 41.287 W
19,961.0	92.67	358.51	11,879.8	8,018.6	313.7	32° 6' 5.806 N	103° 18' 41.297 W
20,000.0	92.41	358.44	11,878.1	8,057.6	312.7	32° 6' 6.191 N	103° 18' 41.304 W
20,056.0	92.03	358.33	11,875.9	8,113.5	311.1	32° 6' 6.745 N	103° 18' 41.317 W
20,100.0	91.37	359.03	11,874.6	8,157.5	310.1	32° 6' 7.180 N	103° 18' 41.323 W
20,150.0	90.61	359.82	11,873.8	8,207.5	309.6	32° 6' 7.674 N	103° 18' 41.324 W
20,200.0	90.70	0.32	11,873.2	8,257.5	309.6	32° 6' 8.169 N	103° 18' 41.318 W
20,245.0	90.79	0.77	11,872.6	8,302.4	310.1	32° 6' 8.614 N	103° 18' 41.308 W
20,300.0	90.95	1.19	11,871.8	8,357.4	311.0	32° 6' 9.158 N	103° 18' 41.291 W
20,340.0	91.07	1.49	11,871.1	8,397.4	311.9	32° 6' 9.554 N	103° 18' 41.275 W
20,400.0	91.54	0.62	11,869.7	8,457.4	313.0	32° 6' 10.147 N	103° 18' 41.256 W
20,435.0	91.82	0.12	11,868.7	8,492.4	313.3	32° 6' 10.493 N	103° 18' 41.249 W
20,500.0	90.53	359.41	11,867.3	8,557.4	313.0	32° 6' 11.136 N	103° 18' 41.245 W
20,529.0	89.96	359.09	11,867.2	8,586.4	312.6	32° 6' 11.423 N	103° 18' 41.247 W
20,600.0	91.07	358.63	11,866.6	8,657.3	311.2	32° 6' 12.126 N	103° 18' 41.255 W
20,624.0	91.45	358.48	11,866.0	8,681.3	310.6	32° 6' 12.363 N	103° 18' 41.260 W
20,700.0	90.76	357.91	11,864.6	8,757.3	308.2	32° 6' 13.115 N	103° 18' 41.279 W
20,718.0	90.60	357.77	11,864.4	8,775.3	307.5	32° 6' 13.293 N	103° 18' 41.285 W
20,800.0	88.85	356.97	11,864.8	8,857.2	303.8	32° 6' 14.104 N	103° 18' 41.320 W
20,813.0	88.57	356.84	11,865.1	8,870.1	303.1	32° 6' 14.232 N	103° 18' 41.326 W
20,900.0	90.51	357.45	11,865.8	8,957.0	298.7	32° 6' 15.092 N	103° 18' 41.367 W
20,907.0	90.67	357.50	11,865.7	8,964.0	298.4	32° 6' 15.161 N	103° 18' 41.370 W
21,000.0	91.53	358.27	11,863.9	9,056.9	295.0	32° 6' 16.081 N	103° 18' 41.400 W
21,002.0	91.55	358.29	11,863.8	9,058.9	294.9	32° 6' 16.101 N	103° 18' 41.400 W
21,096.0	93.12	359.00	11,860.0	9,152.8	292.7	32° 6' 17.030 N	103° 18' 41.416 W
21,100.0	92.99	358.94	11,859.8	9,156.8	292.6	32° 6' 17.070 N	103° 18' 41.416 W
21,191.0	90.04	357.63	11,857.4	9,247.7	289.9	32° 6' 17.970 N	103° 18' 41.438 W
21,200.0	90.63	357.74	11,857.3	9,256.7	289.6	32° 6' 18.059 N	103° 18' 41.441 W
21,222.0	92.08	358.00	11,856.8	9,278.7	288.7	32° 6' 18.276 N	103° 18' 41.448 W
21,254.0	91.07	357.03	11,855.9	9,310.7	287.3	32° 6' 18.592 N	103° 18' 41.461 W
21,285.0	88.25	356.72	11,856.1	9,341.6	285.7	32° 6' 18.899 N	103° 18' 41.477 W
21,300.0	88.74	356.87	11,856.5	9,356.6	284.8	32° 6' 19.047 N	103° 18' 41.485 W

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Wellbore: Final Survey
Design: Design #1

Local Co-ordinate Reference: Well Nandina 101H
TVD Reference: KB @ 3049.0usft
MD Reference: KB @ 3049.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL-FNL (usft)	+FWL-FEL (usft)	Latitude	Longitude
21,317.0	89.30	357.04	11,856.8	9,373.6	283.9	32° 6' 19.215 N	103° 18' 41.493 W
21,348.0	90.63	357.39	11,856.8	9,404.5	282.4	32° 6' 19.522 N	103° 18' 41.508 W
21,380.0	92.19	358.63	11,856.0	9,436.5	281.3	32° 6' 19.838 N	103° 18' 41.517 W
21,400.0	91.75	359.46	11,855.3	9,456.5	281.0	32° 6' 20.036 N	103° 18' 41.519 W
21,411.0	91.51	359.92	11,855.0	9,467.5	280.9	32° 6' 20.145 N	103° 18' 41.518 W
21,443.0	91.12	1.16	11,854.3	9,499.5	281.2	32° 6' 20.461 N	103° 18' 41.511 W
21,474.0	92.11	2.29	11,853.4	9,530.4	282.1	32° 6' 20.767 N	103° 18' 41.497 W
21,500.0	92.59	3.15	11,852.4	9,556.4	283.4	32° 6' 21.024 N	103° 18' 41.480 W
21,505.0	92.68	3.32	11,852.1	9,561.4	283.7	32° 6' 21.073 N	103° 18' 41.476 W
21,537.0	93.61	3.77	11,850.4	9,593.3	285.6	32° 6' 21.389 N	103° 18' 41.449 W
21,568.0	93.17	3.83	11,848.5	9,624.1	287.7	32° 6' 21.694 N	103° 18' 41.422 W
21,600.0	92.04	3.13	11,847.1	9,656.0	289.6	32° 6' 22.010 N	103° 18' 41.396 W
21,607.0	91.79	2.98	11,846.9	9,663.0	290.0	32° 6' 22.079 N	103° 18' 41.391 W
21,663.0	92.02	3.00	11,845.0	9,718.9	292.9	32° 6' 22.631 N	103° 18' 41.351 W
21,695.0	94.58	3.61	11,843.2	9,750.8	294.8	32° 6' 22.947 N	103° 18' 41.326 W
21,700.0	94.16	3.52	11,842.8	9,755.8	295.1	32° 6' 22.996 N	103° 18' 41.322 W
21,758.0	89.31	2.46	11,841.0	9,813.7	298.1	32° 6' 23.568 N	103° 18' 41.280 W
21,790.0	89.53	1.88	11,841.3	9,845.6	299.3	32° 6' 23.885 N	103° 18' 41.263 W
21,800.0	89.52	1.92	11,841.4	9,855.6	299.6	32° 6' 23.984 N	103° 18' 41.258 W
21,852.0	89.47	2.12	11,841.9	9,907.6	301.5	32° 6' 24.498 N	103° 18' 41.231 W
21,884.0	93.15	2.38	11,841.1	9,939.6	302.7	32° 6' 24.814 N	103° 18' 41.212 W
21,900.0	92.73	1.98	11,840.3	9,955.5	303.3	32° 6' 24.972 N	103° 18' 41.204 W
21,915.0	92.33	1.60	11,839.7	9,970.5	303.8	32° 6' 25.120 N	103° 18' 41.197 W
21,947.0	92.66	1.64	11,838.3	10,002.5	304.7	32° 6' 25.436 N	103° 18' 41.183 W
21,979.0	94.16	0.97	11,836.4	10,034.4	305.4	32° 6' 25.752 N	103° 18' 41.171 W
22,000.0	92.07	359.95	11,835.2	10,055.4	305.6	32° 6' 25.959 N	103° 18' 41.166 W
22,010.0	91.07	359.47	11,835.0	10,065.4	305.5	32° 6' 26.058 N	103° 18' 41.166 W
22,041.0	91.72	359.12	11,834.2	10,096.4	305.2	32° 6' 26.365 N	103° 18' 41.167 W
22,100.0	93.08	359.75	11,831.7	10,155.3	304.6	32° 6' 26.948 N	103° 18' 41.167 W
22,136.0	93.91	0.14	11,829.5	10,191.2	304.5	32° 6' 27.304 N	103° 18' 41.163 W
22,200.0	93.52	0.97	11,825.4	10,255.1	305.2	32° 6' 27.935 N	103° 18' 41.149 W
22,230.0	93.33	1.36	11,823.6	10,285.0	305.8	32° 6' 28.232 N	103° 18' 41.139 W
22,300.0	94.88	1.68	11,818.6	10,354.8	307.6	32° 6' 28.922 N	103° 18' 41.110 W
22,325.0	95.43	1.79	11,816.3	10,379.7	308.4	32° 6' 29.168 N	103° 18' 41.098 W
22,370.0	94.74	1.42	11,812.4	10,424.5	309.6	32° 6' 29.611 N	103° 18' 41.079 W
22,400.0	94.74	1.42	11,809.9	10,454.4	310.4	32° 6' 29.907 N	103° 18' 41.067 W
Final Nan101 LTP							
22,446.0	94.74	1.42	11,806.1	10,500.2	311.5	32° 6' 30.361 N	103° 18' 41.048 W
Final Nan101 BHL							

Checked By: _____ Approved By: _____ Date: _____