



AMEREDEV

Ameredev Operating, LLC.

NAN/GB

NAN/GB #1N

Nandina 121H

Final Survey

Plan: Design #1

Standard Planning Report

30 September, 2019

Database:	EDM5000	Local Co-ordinate Reference:	Well Nandina 121H
Company:	Ameredev Operating, LLC.	TVD Reference:	KB @ 3050.0usft
Project:	NAN/GB	MD Reference:	KB @ 3050.0usft
Site:	NAN/GB #1N	North Reference:	Grid
Well:	Nandina 121H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Final Survey		
Design:	Design #1		

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
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 121H					
Well Position	+N/-S	1.0 usft	Northing:	394,415.24 usft	Latitude:	32° 4' 48.739 N
	+E/-W	100.0 usft	Easting:	857,876.36 usft	Longitude:	103° 18' 40.803 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	9/13/2019	6.58	59.94	47,652.24736688

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	359.48

Plan Survey Tool Program	Date	9/30/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	23,136.3	Design #1 (Final Survey)	MWD
				OWSG MWD - Standard

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Design:	Design #1		

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	
161.0	0.50	341.90	161.0	0.7	-0.2	0.31	0.31	0.00	341.90	
216.0	0.70	281.00	216.0	1.0	-0.6	1.15	0.36	-110.73	-104.62	
370.0	0.80	287.20	370.0	1.5	-2.6	0.08	0.06	4.03	42.19	
462.0	0.80	296.60	462.0	1.9	-3.8	0.14	0.00	10.22	94.70	
647.0	0.20	271.40	647.0	2.5	-5.2	0.34	-0.32	-13.62	-172.17	
741.0	0.30	263.40	741.0	2.5	-5.6	0.11	0.11	-8.51	-23.27	
832.0	0.50	250.60	832.0	2.3	-6.3	0.24	0.22	-14.07	-30.56	
929.0	0.50	230.60	929.0	1.9	-7.0	0.18	0.00	-20.62	-100.00	
1,019.0	1.10	245.60	1,018.9	1.3	-8.1	0.70	0.67	16.67	26.84	
1,186.0	1.05	226.87	1,185.9	-0.4	-10.7	0.21	-0.03	-11.22	-107.39	
1,249.0	1.79	201.37	1,248.9	-1.7	-11.4	1.52	1.17	-40.48	-53.72	
1,343.0	2.93	172.26	1,342.8	-5.4	-11.6	1.72	1.21	-30.97	-61.61	
1,438.0	3.90	159.05	1,437.7	-10.9	-10.2	1.31	1.02	-13.91	-45.77	
1,533.0	4.79	150.94	1,532.4	-17.4	-7.1	1.14	0.94	-8.54	-38.71	
1,627.0	5.05	143.05	1,626.0	-24.1	-2.7	0.77	0.28	-8.39	-72.94	
1,722.0	5.11	140.80	1,720.7	-30.7	2.5	0.22	0.06	-2.37	-74.36	
1,817.0	5.11	138.71	1,815.3	-37.2	8.0	0.20	0.00	-2.20	-91.04	
1,911.0	5.08	138.05	1,908.9	-43.4	13.5	0.07	-0.03	-0.70	-117.43	
2,006.0	5.32	135.14	2,003.5	-49.7	19.4	0.38	0.25	-3.06	-49.15	
2,101.0	5.54	133.37	2,098.1	-55.9	25.9	0.29	0.23	-1.86	-38.17	
2,195.0	5.72	132.36	2,191.6	-62.2	32.6	0.22	0.19	-1.07	-29.33	
2,290.0	6.09	132.71	2,286.1	-68.8	39.8	0.39	0.39	0.37	5.73	
2,384.0	6.50	132.74	2,379.6	-75.8	47.4	0.44	0.44	0.03	0.47	
2,479.0	6.98	132.20	2,473.9	-83.3	55.6	0.51	0.51	-0.57	-7.79	
2,573.0	7.13	129.81	2,567.2	-90.9	64.3	0.35	0.16	-2.54	-64.12	
2,668.0	7.11	128.33	2,661.5	-98.3	73.5	0.19	-0.02	-1.56	-96.96	
2,763.0	7.09	129.45	2,755.7	-105.7	82.6	0.15	-0.02	1.18	98.78	
2,857.0	7.18	128.04	2,849.0	-113.0	91.7	0.21	0.10	-1.50	-63.50	
2,952.0	6.26	130.81	2,943.4	-120.0	100.3	1.03	-0.97	2.92	161.96	
3,046.0	6.47	127.93	3,036.8	-126.6	108.4	0.41	0.22	-3.06	-58.10	
3,141.0	6.42	123.63	3,131.2	-132.9	117.0	0.51	-0.05	-4.53	-98.05	
3,235.0	6.83	120.89	3,224.6	-138.7	126.2	0.55	0.44	-2.91	-39.00	
3,330.0	7.15	118.95	3,318.8	-144.4	136.2	0.42	0.34	-2.04	-37.38	
3,424.0	6.70	118.11	3,412.2	-149.8	146.2	0.49	-0.48	-0.89	-167.73	
3,519.0	4.94	115.23	3,506.7	-154.2	154.8	1.88	-1.85	-3.03	-172.01	
3,613.0	2.90	107.77	3,600.4	-156.6	160.7	2.23	-2.17	-7.94	-169.67	
3,707.0	1.46	142.36	3,694.4	-158.3	163.7	2.01	-1.53	36.80	153.98	
3,802.0	3.14	182.15	3,789.3	-161.9	164.3	2.34	1.77	41.88	64.61	
3,896.0	5.84	189.01	3,883.0	-169.2	163.5	2.92	2.87	7.30	14.68	
3,991.0	8.82	185.20	3,977.2	-181.2	162.1	3.18	3.14	-4.01	-11.16	
4,085.0	10.98	182.11	4,069.8	-197.3	161.1	2.37	2.30	-3.29	-15.34	
4,180.0	10.56	178.41	4,163.1	-215.1	161.0	0.85	-0.44	-3.89	-123.09	
4,274.0	10.65	179.71	4,255.5	-232.4	161.3	0.27	0.10	1.38	70.02	
4,369.0	10.59	180.89	4,348.9	-249.9	161.2	0.24	-0.06	1.24	106.00	
4,463.0	10.74	182.36	4,441.3	-267.3	160.7	0.33	0.16	1.56	61.85	
4,558.0	10.72	182.84	4,534.6	-284.9	159.9	0.10	-0.02	0.51	102.85	
4,652.0	10.76	183.35	4,627.0	-302.4	158.9	0.11	0.04	0.54	67.43	

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4,747.0	10.66	183.22	4,720.3	-320.0	157.9	0.11	-0.11	-0.14	-166.48
4,842.0	10.71	181.66	4,813.7	-337.6	157.2	0.31	0.05	-1.64	-80.96
4,936.0	10.68	178.45	4,906.0	-355.1	157.2	0.63	-0.03	-3.41	-94.46
5,031.0	10.61	174.75	4,999.4	-372.6	158.2	0.72	-0.07	-3.89	-97.66
5,125.0	10.70	169.48	5,091.8	-389.8	160.6	1.04	0.10	-5.61	-87.32
5,220.0	10.50	164.33	5,185.2	-406.8	164.5	1.02	-0.21	-5.42	-104.44
5,314.0	10.52	159.19	5,277.6	-423.1	169.9	1.00	0.02	-5.47	-91.31
5,409.0	10.51	152.94	5,371.0	-438.9	176.9	1.20	-0.01	-6.58	-93.57
5,503.0	10.54	147.89	5,463.4	-453.8	185.4	0.98	0.03	-5.37	-90.62
5,597.0	10.59	144.92	5,555.8	-468.2	194.9	0.58	0.05	-3.16	-86.21
5,692.0	10.30	144.85	5,649.3	-482.2	204.8	0.31	-0.31	-0.07	-177.53
5,786.0	10.42	145.15	5,741.7	-496.1	214.5	0.14	0.13	0.32	24.36
5,880.0	9.62	144.25	5,834.3	-509.4	224.0	0.87	-0.85	-0.96	-169.37
5,974.0	5.80	136.67	5,927.4	-519.3	231.8	4.20	-4.06	-8.06	-168.83
6,069.0	1.60	117.40	6,022.2	-523.4	236.3	4.55	-4.42	-20.28	-172.98
6,163.0	0.04	40.52	6,116.2	-524.0	237.5	1.69	-1.66	-81.79	-178.60
6,257.0	0.08	87.46	6,210.2	-523.9	237.6	0.06	0.04	49.94	75.96
6,352.0	0.12	14.06	6,305.2	-523.8	237.7	0.13	0.04	-77.26	-111.68
6,446.0	0.12	279.93	6,399.2	-523.7	237.6	0.19	0.00	-100.14	-137.06
6,541.0	0.07	279.05	6,494.2	-523.7	237.4	0.05	-0.05	-0.93	-178.77
6,635.0	0.09	62.46	6,588.2	-523.6	237.4	0.16	0.02	152.56	159.34
6,730.0	0.03	187.55	6,683.2	-523.6	237.5	0.12	-0.06	131.67	167.11
6,824.0	0.03	338.26	6,777.2	-523.6	237.5	0.06	0.00	160.33	165.36
6,918.0	0.01	316.45	6,871.2	-523.6	237.5	0.02	-0.02	-23.20	-169.83
7,013.0	0.08	111.23	6,966.2	-523.6	237.5	0.09	0.07	162.93	157.52
7,107.0	0.10	281.52	7,060.2	-523.6	237.5	0.19	0.02	181.16	174.60
7,202.0	0.10	338.52	7,155.2	-523.5	237.4	0.10	0.00	60.00	118.50
7,296.0	0.04	358.67	7,249.2	-523.4	237.4	0.07	-0.06	21.44	167.56
7,391.0	0.08	134.72	7,344.2	-523.4	237.4	0.12	0.04	143.21	150.36
7,485.0	0.09	120.82	7,438.2	-523.5	237.5	0.02	0.01	-14.79	-71.19
7,580.0	0.08	19.23	7,533.2	-523.5	237.6	0.14	-0.01	-106.94	-143.54
7,605.0	0.11	79.68	7,558.2	-523.5	237.6	0.40	0.12	241.80	105.06
7,686.0	0.08	77.71	7,639.2	-523.5	237.8	0.04	-0.04	-2.43	-174.77
7,780.0	0.17	17.46	7,733.2	-523.3	237.9	0.16	0.10	-64.10	-88.31
7,875.0	0.13	301.76	7,828.2	-523.1	237.8	0.20	-0.04	-79.68	-137.59
7,970.0	0.28	337.74	7,923.2	-522.8	237.6	0.20	0.16	37.87	59.58
8,064.0	0.22	345.87	8,017.2	-522.5	237.5	0.07	-0.06	8.65	153.43
8,158.0	0.50	355.32	8,111.2	-521.9	237.4	0.30	0.30	10.05	16.72
8,253.0	0.44	24.14	8,206.2	-521.1	237.6	0.25	-0.06	30.34	118.36
8,347.0	0.66	40.98	8,300.2	-520.4	238.1	0.29	0.23	17.91	44.93
8,442.0	0.87	45.30	8,395.2	-519.5	238.9	0.23	0.22	4.55	17.52
8,537.0	0.77	36.62	8,490.2	-518.5	239.8	0.17	-0.11	-9.14	-133.12
8,632.0	0.90	17.04	8,585.2	-517.2	240.4	0.33	0.14	-20.61	-75.51
8,731.0	0.72	6.58	8,684.2	-515.9	240.7	0.23	-0.18	-10.57	-145.75
8,826.0	0.97	341.59	8,779.1	-514.5	240.5	0.46	0.26	-26.31	-68.77
8,921.0	1.14	315.50	8,874.1	-513.1	239.6	0.53	0.18	-27.46	-83.87
9,015.0	1.26	313.26	8,968.1	-511.7	238.2	0.14	0.13	-2.38	-22.47
9,109.0	1.78	286.99	9,062.1	-510.6	236.1	0.91	0.55	-27.95	-66.89
9,223.0	2.29	270.31	9,176.0	-510.0	232.1	0.68	0.45	-14.63	-57.81
9,318.0	2.89	243.38	9,270.9	-511.1	228.1	1.41	0.63	-28.35	-77.63
9,395.0	3.62	231.85	9,347.8	-513.5	224.4	1.27	0.95	-14.97	-47.74
9,489.0	3.56	228.71	9,441.6	-517.2	219.9	0.22	-0.06	-3.34	-108.53
9,583.0	2.37	221.78	9,535.5	-520.6	216.4	1.32	-1.27	-7.37	-166.68

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9,678.0	2.45	196.63	9,630.4	-524.0	214.5	1.11	0.08	-26.47	-98.31
9,771.0	3.31	173.91	9,723.3	-528.6	214.2	1.52	0.92	-24.43	-64.72
9,867.0	4.12	168.43	9,819.1	-534.7	215.2	0.92	0.84	-5.71	-26.42
9,962.0	5.70	167.78	9,913.7	-542.7	216.9	1.66	1.66	-0.68	-2.34
10,056.0	7.18	167.02	10,007.1	-553.0	219.2	1.58	1.57	-0.81	-3.67
10,151.0	8.43	167.88	10,101.2	-565.6	222.0	1.32	1.32	0.91	5.76
10,242.0	8.97	169.00	10,191.2	-579.0	224.7	0.62	0.59	1.23	17.97
10,322.0	8.90	170.53	10,270.2	-591.3	227.0	0.31	-0.09	1.91	107.17
10,417.0	8.76	170.49	10,364.1	-605.7	229.4	0.15	-0.15	-0.04	-177.51
10,510.0	8.64	172.63	10,456.0	-619.6	231.4	0.37	-0.13	2.30	111.40
10,605.0	7.78	177.71	10,550.1	-633.1	232.6	1.18	-0.91	5.35	142.35
10,699.0	6.45	183.50	10,643.3	-644.7	232.5	1.61	-1.41	6.16	154.52
10,794.0	5.75	194.27	10,737.8	-654.6	231.0	1.41	-0.74	11.34	126.73
10,888.0	5.38	209.08	10,831.4	-663.0	227.7	1.57	-0.39	15.76	111.74
10,983.0	5.40	218.32	10,925.9	-670.4	222.8	0.91	0.02	9.73	93.28
11,077.0	4.59	211.45	11,019.6	-677.1	218.1	1.07	-0.86	-7.31	-146.94
11,172.0	4.14	205.47	11,114.3	-683.5	214.6	0.67	-0.47	-6.29	-137.63
11,266.0	3.50	207.15	11,208.1	-689.1	211.9	0.69	-0.68	1.79	170.92
11,361.0	3.46	212.08	11,302.9	-694.1	209.0	0.32	-0.04	5.19	100.07
11,455.0	2.94	216.53	11,396.8	-698.4	206.1	0.61	-0.55	4.73	156.68
11,549.0	2.76	218.72	11,490.7	-702.1	203.2	0.22	-0.19	2.33	149.92
11,644.0	2.22	220.30	11,585.6	-705.3	200.6	0.57	-0.57	1.66	173.54
11,739.0	2.11	220.19	11,680.5	-708.1	198.3	0.12	-0.12	-0.12	-177.89
11,775.0	2.20	223.09	11,716.5	-709.1	197.4	0.39	0.25	8.06	51.92
11,870.0	4.16	58.50	11,811.4	-708.6	199.1	6.64	2.06	-173.25	-169.90
11,917.0	13.09	9.86	11,857.9	-702.4	201.4	22.97	19.00	-103.49	-65.18
11,965.0	20.20	9.19	11,903.8	-688.9	203.7	14.82	14.81	-1.40	-1.87
12,012.0	27.16	2.97	11,946.9	-670.1	205.6	15.71	14.81	-13.23	-22.63
12,060.0	31.60	355.68	11,988.7	-646.6	205.2	11.86	9.25	-15.19	-42.08
12,107.0	38.62	348.23	12,027.1	-620.0	201.3	17.48	14.94	-15.85	-34.51
12,156.0	41.93	345.42	12,064.5	-589.1	194.0	7.70	6.76	-5.73	-29.84
12,208.0	50.18	341.83	12,100.6	-553.3	183.4	16.62	15.87	-6.90	-18.66
12,251.0	57.53	342.40	12,125.9	-520.3	172.7	17.13	17.09	1.33	3.75
12,298.0	61.17	340.94	12,149.9	-481.9	160.0	8.19	7.74	-3.11	-19.41
12,345.0	64.12	340.45	12,171.5	-442.5	146.2	6.34	6.28	-1.04	-8.51
12,392.0	67.35	339.73	12,190.8	-402.2	131.6	7.01	6.87	-1.53	-11.64
12,438.0	72.59	340.31	12,206.5	-361.6	116.9	11.45	11.39	1.26	6.04
12,470.0	72.98	340.14	12,216.0	-332.8	106.5	1.32	1.22	-0.53	-22.63
12,517.0	75.42	340.68	12,228.8	-290.2	91.4	5.31	5.19	1.15	12.10
12,565.0	81.07	343.06	12,238.6	-245.6	76.8	12.73	11.77	4.96	22.67
12,611.0	87.06	346.98	12,243.3	-201.4	64.9	15.54	13.02	8.52	33.29
12,661.0	88.70	347.56	12,245.2	-152.7	53.9	3.48	3.28	1.16	19.48
12,755.0	91.62	353.97	12,244.9	-60.0	38.9	7.49	3.11	6.82	65.52
12,850.0	91.68	354.85	12,242.2	34.5	29.6	0.93	0.06	0.93	86.09
12,945.0	91.34	356.91	12,239.7	129.3	22.8	2.20	-0.36	2.17	99.35
13,040.0	90.27	357.67	12,238.3	224.1	18.3	1.38	-1.13	0.80	144.61
13,135.0	88.74	356.22	12,239.2	319.0	13.2	2.22	-1.61	-1.53	-136.54
13,230.0	91.19	357.03	12,239.2	413.8	7.6	2.72	2.58	0.85	18.30
13,326.0	91.73	359.62	12,236.8	509.7	4.8	2.76	0.56	2.70	78.19
13,421.0	92.02	358.58	12,233.7	604.7	3.3	1.14	0.31	-1.09	-74.39
13,516.0	92.70	357.19	12,229.8	699.5	-0.2	1.63	0.72	-1.46	-63.89
13,611.0	91.96	357.95	12,225.9	794.4	-4.2	1.12	-0.78	0.80	134.24
13,706.0	90.61	357.29	12,223.8	889.3	-8.1	1.58	-1.42	-0.69	-153.94

Database: EDM5000
Company: Ameredev Operating, LLC.
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Site: NAN/GB #1N
Well: Nandina 121H
Wellbore: Final Survey
Design: Design #1

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North Reference: Grid
Survey Calculation Method: Minimum Curvature

13,801.0	86.43	0.07	12,226.2	984.2	-10.3	5.28	-4.40	2.93	146.41
13,896.0	86.88	359.77	12,231.8	1,079.0	-10.4	0.57	0.47	-0.32	-33.65
13,991.0	88.38	359.34	12,235.7	1,173.9	-11.2	1.64	1.58	-0.45	-15.99
14,086.0	85.18	357.60	12,241.0	1,268.7	-13.7	3.83	-3.37	-1.83	-151.55
14,180.0	87.40	357.45	12,247.1	1,362.4	-17.8	2.37	2.36	-0.16	-3.86
14,275.0	91.57	359.13	12,248.0	1,457.4	-20.6	4.73	4.39	1.77	21.96
14,370.0	88.22	358.21	12,248.1	1,552.3	-22.8	3.66	-3.53	-0.97	-164.64
14,465.0	91.70	358.55	12,248.2	1,647.3	-25.5	3.68	3.66	0.36	5.58
14,560.0	88.75	352.68	12,247.8	1,741.9	-32.8	6.91	-3.11	-6.18	-116.65
14,655.0	88.88	350.69	12,249.8	1,835.9	-46.5	2.10	0.14	-2.09	-86.28
14,688.0	88.83	349.66	12,250.5	1,868.4	-52.1	3.12	-0.15	-3.12	-92.79
14,720.0	89.53	350.03	12,250.9	1,899.9	-57.8	2.47	2.19	1.16	27.86
14,750.0	90.29	351.51	12,251.0	1,929.5	-62.6	5.55	2.53	4.93	62.82
14,781.0	90.46	353.10	12,250.8	1,960.2	-66.7	5.16	0.55	5.13	83.89
14,812.0	89.90	354.58	12,250.7	1,991.1	-70.0	5.10	-1.81	4.77	110.72
14,845.0	88.53	356.52	12,251.1	2,024.0	-72.6	7.20	-4.15	5.88	125.24
14,876.0	89.57	358.91	12,251.6	2,054.9	-73.8	8.41	3.35	7.71	66.50
14,908.0	89.43	359.11	12,251.9	2,086.9	-74.4	0.76	-0.44	0.63	124.99
14,940.0	89.86	359.03	12,252.1	2,118.9	-74.9	1.37	1.34	-0.25	-10.54
14,971.0	91.04	357.41	12,251.9	2,149.9	-75.9	6.46	3.81	-5.23	-53.93
15,003.0	89.67	355.06	12,251.7	2,181.8	-78.0	8.50	-4.28	-7.34	-120.23
15,034.0	88.75	356.39	12,252.1	2,212.7	-80.3	5.22	-2.97	4.29	124.68
15,066.0	91.01	0.47	12,252.2	2,244.7	-81.2	14.57	7.06	12.75	61.03
15,097.0	89.73	3.72	12,252.0	2,275.7	-80.0	11.27	-4.13	10.48	111.48
15,129.0	90.69	5.92	12,251.8	2,307.6	-77.3	7.50	3.00	6.88	66.42
15,224.0	89.23	5.72	12,251.9	2,402.1	-67.7	1.55	-1.54	-0.21	-172.20
15,319.0	89.22	3.82	12,253.2	2,496.7	-59.8	2.00	-0.01	-2.00	-90.31
15,414.0	84.51	8.28	12,258.4	2,591.0	-49.8	6.82	-4.96	4.69	136.70
15,509.0	89.91	10.79	12,263.0	2,684.6	-34.1	6.27	5.68	2.64	24.98
15,604.0	86.12	6.02	12,266.3	2,778.4	-20.2	6.41	-3.99	-5.02	-128.55
15,699.0	88.95	6.23	12,270.4	2,872.8	-10.1	2.99	2.98	0.22	4.24
15,793.0	89.11	0.49	12,272.0	2,966.6	-4.6	6.11	0.17	-6.11	-88.45
15,888.0	85.49	357.45	12,276.5	3,061.4	-6.3	4.97	-3.81	-3.20	-140.07
15,983.0	87.38	359.69	12,282.4	3,156.2	-8.7	3.08	1.99	2.36	49.86
16,078.0	85.81	357.22	12,288.0	3,251.0	-11.2	3.08	-1.65	-2.60	-122.56
16,173.0	86.61	355.62	12,294.3	3,345.6	-17.1	1.88	0.84	-1.68	-63.44
16,268.0	88.08	356.08	12,298.7	3,440.2	-24.0	1.62	1.55	0.48	17.37
16,362.0	90.85	356.09	12,299.6	3,534.0	-30.4	2.95	2.95	0.01	0.21
16,457.0	92.06	356.59	12,297.2	3,628.8	-36.5	1.38	1.27	0.53	22.44
16,552.0	93.25	359.43	12,292.7	3,723.6	-39.8	3.24	1.25	2.99	67.18
16,647.0	93.53	356.78	12,287.1	3,818.4	-42.9	2.80	0.29	-2.79	-83.88
16,741.0	88.49	353.12	12,285.5	3,912.0	-51.2	6.63	-5.36	-3.89	-143.97
16,836.0	86.87	354.07	12,289.3	4,006.3	-61.8	1.98	-1.71	1.00	149.65
16,931.0	85.64	355.13	12,295.5	4,100.7	-70.7	1.71	-1.29	1.12	139.34
16,961.0	88.09	357.95	12,297.2	4,130.6	-72.5	12.44	8.17	9.40	49.06
17,056.0	89.19	2.23	12,299.4	4,225.5	-72.4	4.65	1.16	4.51	75.64
17,151.0	88.61	358.22	12,301.2	4,320.5	-72.0	4.26	-0.61	-4.22	-98.27
17,246.0	89.09	349.77	12,303.2	4,414.8	-81.9	8.91	0.51	-8.89	-86.84
17,340.0	89.71	350.18	12,304.1	4,507.4	-98.3	0.79	0.66	0.44	33.48
17,372.0	89.97	352.89	12,304.2	4,539.0	-103.0	8.51	0.81	8.47	84.52
17,404.0	89.99	356.13	12,304.2	4,570.9	-106.0	10.13	0.06	10.13	89.65
17,435.0	89.88	358.72	12,304.3	4,601.9	-107.4	8.36	-0.35	8.35	92.43
17,467.0	89.78	1.32	12,304.4	4,633.9	-107.4	8.13	-0.31	8.13	92.21

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Survey Calculation Method: Minimum Curvature

17,499.0	89.52	2.67	12,304.6	4,665.8	-106.3	4.30	-0.81	4.22	100.91
17,530.0	89.72	3.73	12,304.8	4,696.8	-104.6	3.48	0.65	3.42	79.32
17,562.0	89.28	4.89	12,305.1	4,728.7	-102.2	3.88	-1.38	3.63	110.78
17,594.0	89.18	6.31	12,305.5	4,760.5	-99.1	4.45	-0.31	4.44	94.04
17,625.0	89.30	7.78	12,305.9	4,791.3	-95.3	4.76	0.39	4.74	85.34
17,657.0	89.01	8.83	12,306.4	4,823.0	-90.6	3.40	-0.91	3.28	105.45
17,688.0	88.78	9.92	12,307.0	4,853.5	-85.6	3.59	-0.74	3.52	101.93
17,720.0	88.47	11.07	12,307.7	4,885.0	-79.8	3.72	-0.97	3.59	105.10
17,752.0	88.82	12.78	12,308.5	4,916.3	-73.1	5.45	1.09	5.34	78.45
17,784.0	88.53	13.92	12,309.2	4,947.4	-65.8	3.68	-0.91	3.56	104.29
17,815.0	88.51	14.97	12,310.0	4,977.4	-58.0	3.39	-0.06	3.39	91.11
17,847.0	88.64	16.39	12,310.8	5,008.2	-49.4	4.45	0.41	4.44	84.79
17,879.0	88.89	16.37	12,311.5	5,038.9	-40.4	0.78	0.78	-0.06	-4.57
17,910.0	89.15	14.93	12,312.0	5,068.8	-32.0	4.72	0.84	-4.65	-79.78
17,942.0	90.07	13.03	12,312.3	5,099.8	-24.3	6.60	2.88	-5.94	-64.17
17,973.0	90.83	11.36	12,312.0	5,130.1	-17.7	5.92	2.45	-5.39	-65.52
18,005.0	91.39	8.81	12,311.4	5,161.6	-12.1	8.16	1.75	-7.97	-77.59
18,037.0	92.01	5.89	12,310.4	5,193.3	-8.0	9.32	1.94	-9.13	-77.97
18,068.0	93.05	4.85	12,309.1	5,224.2	-5.1	4.74	3.35	-3.35	-44.95
18,100.0	93.81	3.87	12,307.2	5,256.0	-2.7	3.87	2.38	-3.06	-52.13
18,131.0	93.44	3.74	12,305.2	5,286.9	-0.7	1.26	-1.19	-0.42	-160.67
18,163.0	93.04	3.09	12,303.4	5,318.8	1.3	2.38	-1.25	-2.03	-121.63
18,195.0	92.43	1.79	12,301.9	5,350.7	2.6	4.48	-1.91	-4.06	-115.13
18,226.0	92.56	359.34	12,300.5	5,381.7	2.9	7.91	0.42	-7.90	-86.91
18,290.0	92.57	357.24	12,297.7	5,445.6	1.0	3.28	0.02	-3.28	-89.68
18,321.0	92.56	356.91	12,296.3	5,476.5	-0.6	1.06	-0.03	-1.06	-91.73
18,384.0	91.37	1.19	12,294.1	5,539.4	-1.6	7.05	-1.89	6.79	105.47
18,416.0	90.82	4.72	12,293.5	5,571.4	0.0	11.16	-1.72	11.03	98.82
18,479.0	91.95	3.19	12,292.0	5,634.2	4.4	3.02	1.79	-2.43	-53.53
18,524.0	93.96	0.81	12,289.7	5,679.1	5.9	6.92	4.47	-5.29	-49.72
18,574.0	94.64	357.59	12,285.9	5,729.0	5.3	6.56	1.36	-6.44	-77.93
18,606.0	93.35	356.90	12,283.7	5,760.9	3.7	4.57	-4.03	-2.16	-151.89
18,638.0	91.91	356.23	12,282.2	5,792.8	1.8	4.96	-4.50	-2.09	-155.06
18,669.0	91.03	355.61	12,281.4	5,823.7	-0.4	3.47	-2.84	-2.00	-144.83
18,732.0	88.93	354.05	12,281.4	5,886.4	-6.1	4.15	-3.33	-2.48	-143.39
18,764.0	87.76	353.57	12,282.4	5,918.2	-9.5	3.95	-3.66	-1.50	-157.71
18,796.0	86.83	353.00	12,283.9	5,950.0	-13.3	3.41	-2.91	-1.78	-148.54
18,827.0	87.84	352.97	12,285.3	5,980.7	-17.0	3.26	3.26	-0.10	-1.70
18,922.0	88.84	354.35	12,288.1	6,075.1	-27.5	1.79	1.05	1.45	54.08
19,017.0	90.01	355.31	12,289.0	6,169.7	-36.1	1.59	1.23	1.01	39.37
19,112.0	90.77	356.51	12,288.4	6,264.4	-42.9	1.50	0.80	1.26	57.65
19,207.0	92.38	358.47	12,285.8	6,359.3	-47.0	2.67	1.69	2.06	50.57
19,301.0	94.86	359.53	12,279.8	6,453.1	-48.7	2.87	2.64	1.13	23.07
19,396.0	95.34	0.04	12,271.4	6,547.7	-49.0	0.74	0.51	0.54	46.60
19,459.0	95.34	359.72	12,265.5	6,610.4	-49.2	0.51	0.00	-0.51	-89.99
19,491.0	95.10	359.40	12,262.6	6,642.3	-49.4	1.25	-0.75	-1.00	-126.97
19,554.0	92.96	358.45	12,258.2	6,705.1	-50.6	3.71	-3.40	-1.51	-156.08
19,586.0	91.39	357.74	12,257.0	6,737.1	-51.6	5.38	-4.91	-2.22	-155.67
19,617.0	90.65	357.40	12,256.4	6,768.1	-53.0	2.63	-2.39	-1.10	-155.32
19,681.0	91.13	358.27	12,255.4	6,832.0	-55.4	1.55	0.75	1.36	61.10
19,776.0	90.04	355.35	12,254.4	6,926.8	-60.7	3.28	-1.15	-3.07	-110.45
19,807.0	91.02	355.46	12,254.2	6,957.7	-63.1	3.18	3.16	0.35	6.40
19,839.0	90.65	354.40	12,253.7	6,989.6	-66.0	3.51	-1.16	-3.31	-109.24

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19,870.0	90.12	353.53	12,253.5	7,020.4	-69.2	3.29	-1.71	-2.81	-121.35
19,902.0	92.88	355.66	12,252.6	7,052.3	-72.2	10.89	8.63	6.66	37.63
19,933.0	92.85	356.81	12,251.1	7,083.2	-74.3	3.71	-0.10	3.71	91.47
19,965.0	92.69	357.72	12,249.5	7,115.1	-75.8	2.88	-0.50	2.84	99.96
19,996.0	89.85	357.70	12,248.9	7,146.1	-77.0	9.16	-9.16	-0.06	-179.60
20,028.0	90.29	358.39	12,248.8	7,178.0	-78.1	2.56	1.38	2.16	57.48
20,059.0	91.14	359.49	12,248.4	7,209.0	-78.7	4.48	2.74	3.55	52.30
20,091.0	89.01	359.40	12,248.4	7,241.0	-79.0	6.66	-6.66	-0.28	-177.58
20,123.0	89.30	358.77	12,248.9	7,273.0	-79.5	2.17	0.91	-1.97	-65.29
20,154.0	90.90	0.10	12,248.8	7,304.0	-79.8	6.71	5.16	4.29	39.74
20,201.0	89.75	0.98	12,248.5	7,351.0	-79.4	3.08	-2.45	1.87	142.57
20,249.0	89.38	1.53	12,248.9	7,399.0	-78.3	1.38	-0.77	1.15	123.93
20,295.0	89.05	1.74	12,249.5	7,445.0	-77.0	0.85	-0.72	0.46	147.53
20,343.0	90.05	1.73	12,249.9	7,493.0	-75.6	2.08	2.08	-0.02	-0.57
20,390.0	92.64	2.82	12,248.8	7,539.9	-73.7	5.98	5.51	2.32	22.81
20,438.0	91.36	3.33	12,247.1	7,587.8	-71.1	2.87	-2.67	1.06	158.28
20,485.0	91.66	3.81	12,245.9	7,634.7	-68.2	1.20	0.64	1.02	57.98
20,533.0	91.00	4.07	12,244.8	7,682.6	-64.9	1.48	-1.38	0.54	158.50
20,579.0	90.83	3.17	12,244.0	7,728.5	-62.0	1.99	-0.37	-1.96	-100.69
20,627.0	91.12	2.80	12,243.2	7,776.4	-59.5	0.98	0.60	-0.77	-51.90
20,673.0	90.00	2.14	12,242.8	7,822.4	-57.5	2.83	-2.43	-1.43	-149.49
20,721.0	91.09	1.80	12,242.3	7,870.3	-55.9	2.38	2.27	-0.71	-17.32
20,766.0	92.70	0.79	12,240.8	7,915.3	-54.9	4.22	3.58	-2.24	-32.07
20,816.0	92.73	0.30	12,238.5	7,965.2	-54.4	0.98	0.06	-0.98	-86.48
20,861.0	92.05	0.43	12,236.6	8,010.2	-54.1	1.54	-1.51	0.29	169.18
20,911.0	92.62	0.99	12,234.6	8,060.1	-53.5	1.60	1.14	1.12	44.46
20,956.0	92.13	1.37	12,232.7	8,105.1	-52.5	1.38	-1.09	0.84	142.22
21,005.0	92.10	1.31	12,230.9	8,154.0	-51.4	0.14	-0.06	-0.12	-116.58
21,050.0	91.31	1.58	12,229.5	8,199.0	-50.3	1.86	-1.76	0.60	161.13
21,100.0	91.43	1.13	12,228.3	8,249.0	-49.1	0.93	0.24	-0.90	-75.06
21,145.0	92.61	359.49	12,226.8	8,293.9	-48.8	4.49	2.62	-3.64	-54.22
21,194.0	91.95	358.64	12,224.8	8,342.9	-49.6	2.20	-1.35	-1.73	-127.83
21,239.0	92.62	358.14	12,223.0	8,387.8	-50.9	1.86	1.49	-1.11	-36.70
21,289.0	92.52	357.82	12,220.8	8,437.8	-52.7	0.67	-0.20	-0.64	-107.36
21,335.0	92.67	357.48	12,218.7	8,483.7	-54.5	0.81	0.33	-0.74	-66.16
21,383.0	92.67	357.35	12,216.5	8,531.6	-56.7	0.27	0.00	-0.27	-90.00
21,477.0	92.20	357.83	12,212.5	8,625.4	-60.7	0.71	-0.50	0.51	134.41
21,572.0	91.46	357.88	12,209.4	8,720.3	-64.2	0.78	-0.78	0.05	176.14
21,667.0	91.27	357.12	12,207.2	8,815.2	-68.4	0.82	-0.20	-0.80	-104.03
21,761.0	90.97	357.59	12,205.3	8,909.1	-72.7	0.59	-0.32	0.50	122.55
21,857.0	90.27	356.54	12,204.3	9,004.9	-77.6	1.31	-0.73	-1.09	-123.69
21,952.0	91.56	357.44	12,202.8	9,099.8	-82.6	1.66	1.36	0.95	34.89
22,046.0	90.97	358.90	12,200.7	9,193.7	-85.6	1.67	-0.63	1.55	111.99
22,140.0	90.38	0.40	12,199.6	9,287.7	-86.2	1.71	-0.63	1.60	111.46
22,235.0	89.87	1.91	12,199.4	9,382.7	-84.3	1.68	-0.54	1.59	108.66
22,330.0	90.04	2.14	12,199.5	9,477.6	-80.9	0.30	0.18	0.24	53.53
22,425.0	90.02	0.34	12,199.4	9,572.6	-78.8	1.89	-0.02	-1.89	-90.64
22,520.0	89.83	358.65	12,199.5	9,667.6	-79.7	1.79	-0.20	-1.78	-96.42
22,615.0	89.88	358.66	12,199.8	9,762.6	-81.9	0.05	0.05	0.01	11.31
22,710.0	90.12	358.67	12,199.8	9,857.5	-84.1	0.25	0.25	0.01	2.39
22,804.0	89.96	358.78	12,199.7	9,951.5	-86.2	0.21	-0.17	0.12	145.49
22,899.0	90.10	358.70	12,199.7	10,046.5	-88.3	0.17	0.15	-0.08	-29.74
22,994.0	89.86	358.56	12,199.7	10,141.5	-90.6	0.29	-0.25	-0.15	-149.74

Database:	EDM5000	Local Co-ordinate Reference:	Well Nandina 121H
Company:	Ameredev Operating, LLC.	TVD Reference:	KB @ 3050.0usft
Project:	NAN/GB	MD Reference:	KB @ 3050.0usft
Site:	NAN/GB #1N	North Reference:	Grid
Well:	Nandina 121H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Final Survey		
Design:	Design #1		

23,060.0	89.88	358.57	12,199.8	10,207.4	-92.2	0.03	0.03	0.02	26.57
23,136.3	89.88	358.57	12,200.0	10,283.7	-94.1	0.00	0.00	0.00	0.00 Shifted Nan121 BHL

Database: EDM5000
Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #1N
Well: Nandina 121H
Wellbore: Final Survey
Design: Design #1

Local Co-ordinate Reference: Well Nandina 121H
TVD Reference: KB @ 3050.0usft
MD Reference: KB @ 3050.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.31	341.90	100.0	0.3	-0.1	0.3	0.31	0.31	0.00
161.0	0.50	341.90	161.0	0.7	-0.2	0.7	0.31	0.31	0.00
200.0	0.58	293.63	200.0	0.9	-0.5	0.9	1.15	0.21	-123.76
216.0	0.70	281.00	216.0	1.0	-0.6	1.0	1.15	0.74	-78.95
300.0	0.75	284.59	300.0	1.2	-1.7	1.2	0.08	0.06	4.27
370.0	0.80	287.20	370.0	1.5	-2.6	1.5	0.08	0.07	3.73
400.0	0.80	290.26	400.0	1.6	-3.0	1.6	0.14	-0.01	10.21
462.0	0.80	296.60	462.0	1.9	-3.8	2.0	0.14	0.00	10.22
500.0	0.67	295.11	500.0	2.1	-4.2	2.2	0.34	-0.33	-3.92
600.0	0.34	285.96	600.0	2.5	-5.0	2.5	0.34	-0.33	-9.15
647.0	0.20	271.40	647.0	2.5	-5.2	2.6	0.34	-0.31	-30.99
700.0	0.26	266.12	700.0	2.5	-5.4	2.6	0.11	0.11	-8.96
741.0	0.30	263.40	741.0	2.5	-5.6	2.5	0.11	0.11	-6.63
800.0	0.43	253.73	800.0	2.4	-6.0	2.5	0.24	0.22	-16.39
832.0	0.50	250.60	832.0	2.3	-6.3	2.4	0.24	0.23	-8.79
900.0	0.49	236.54	900.0	2.1	-6.8	2.1	0.18	-0.01	-20.67
929.0	0.50	230.60	929.0	1.9	-7.0	2.0	0.18	0.02	-20.50
1,000.0	0.97	243.99	1,000.0	1.5	-7.8	1.5	0.70	0.66	18.85
1,019.0	1.10	245.60	1,018.9	1.3	-8.1	1.4	0.70	0.68	8.49
1,100.0	1.06	236.74	1,099.9	0.6	-9.4	0.7	0.21	-0.05	-10.94
1,186.0	1.05	226.87	1,185.9	-0.4	-10.7	-0.3	0.21	-0.01	-11.47
1,200.0	1.19	218.58	1,199.9	-0.6	-10.8	-0.5	1.52	0.99	-59.19
1,249.0	1.79	201.37	1,248.9	-1.7	-11.4	-1.6	1.52	1.23	-35.13
1,300.0	2.34	182.07	1,299.9	-3.5	-11.8	-3.4	1.72	1.08	-37.85
1,343.0	2.93	172.26	1,342.8	-5.4	-11.6	-5.3	1.72	1.37	-22.81
1,400.0	3.49	163.45	1,399.7	-8.6	-11.0	-8.5	1.31	0.98	-15.45
1,438.0	3.90	159.05	1,437.7	-10.9	-10.2	-10.8	1.31	1.08	-11.58
1,500.0	4.47	153.39	1,499.5	-15.0	-8.3	-14.9	1.14	0.92	-9.13
1,533.0	4.79	150.94	1,532.4	-17.4	-7.1	-17.3	1.14	0.97	-7.43
1,600.0	4.97	145.23	1,599.1	-22.2	-4.1	-22.1	0.77	0.26	-8.52
1,627.0	5.05	143.05	1,626.0	-24.1	-2.7	-24.1	0.77	0.31	-8.07
1,700.0	5.10	141.32	1,698.8	-29.2	1.3	-29.2	0.22	0.06	-2.37
1,722.0	5.11	140.80	1,720.7	-30.7	2.5	-30.7	0.22	0.07	-2.35
1,800.0	5.11	139.08	1,798.4	-36.0	7.0	-36.1	0.20	0.00	-2.20
1,817.0	5.11	138.71	1,815.3	-37.2	8.0	-37.2	0.20	0.00	-2.20
1,900.0	5.08	138.13	1,898.0	-42.7	12.9	-42.8	0.07	-0.03	-0.70
1,911.0	5.08	138.05	1,908.9	-43.4	13.5	-43.5	0.07	-0.03	-0.71
2,000.0	5.30	135.32	1,997.5	-49.3	19.0	-49.4	0.38	0.25	-3.07
2,006.0	5.32	135.14	2,003.5	-49.7	19.4	-49.8	0.38	0.26	-2.93
2,100.0	5.54	133.39	2,097.1	-55.9	25.8	-56.1	0.29	0.23	-1.86
2,101.0	5.54	133.37	2,098.1	-55.9	25.9	-56.2	0.29	0.23	-1.79
2,195.0	5.72	132.36	2,191.6	-62.2	32.6	-62.5	0.22	0.19	-1.07
2,200.0	5.74	132.38	2,196.6	-62.5	33.0	-62.8	0.39	0.39	0.39
2,290.0	6.09	132.71	2,286.1	-68.8	39.8	-69.2	0.39	0.39	0.37
2,300.0	6.13	132.71	2,296.1	-69.5	40.6	-69.9	0.44	0.44	0.03
2,384.0	6.50	132.74	2,379.6	-75.8	47.4	-76.2	0.44	0.44	0.03
2,400.0	6.58	132.64	2,395.5	-77.0	48.7	-77.5	0.51	0.50	-0.60
2,479.0	6.98	132.20	2,473.9	-83.3	55.6	-83.8	0.51	0.51	-0.56
2,500.0	7.01	131.66	2,494.8	-85.0	57.5	-85.6	0.35	0.15	-2.58
2,573.0	7.13	129.81	2,567.2	-90.9	64.3	-91.5	0.35	0.16	-2.53
2,600.0	7.12	129.39	2,594.0	-93.0	66.9	-93.6	0.19	-0.02	-1.55
2,668.0	7.11	128.33	2,661.5	-98.3	73.5	-99.0	0.19	-0.02	-1.56
2,700.0	7.10	128.71	2,693.2	-100.8	76.6	-101.5	0.15	-0.02	1.18

Database: EDM5000
Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #1N
Well: Nandina 121H
Wellbore: Final Survey
Design: Design #1

Local Co-ordinate Reference: Well Nandina 121H
TVD Reference: KB @ 3050.0usft
MD Reference: KB @ 3050.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,763.0	7.09	129.45	2,755.7	-105.7	82.6	-106.4	0.15	-0.02	1.18
2,800.0	7.12	128.89	2,792.5	-108.6	86.2	-109.4	0.21	0.09	-1.51
2,857.0	7.18	128.04	2,849.0	-113.0	91.7	-113.8	0.21	0.10	-1.49
2,900.0	6.76	129.20	2,891.7	-116.3	95.8	-117.1	1.03	-0.97	2.70
2,952.0	6.26	130.81	2,943.4	-120.0	100.3	-121.0	1.03	-0.96	3.09
3,000.0	6.37	129.32	2,991.1	-123.4	104.4	-124.4	0.41	0.22	-3.11
3,046.0	6.47	127.93	3,036.8	-126.6	108.4	-127.6	0.41	0.23	-3.01
3,100.0	6.44	125.49	3,090.4	-130.3	113.2	-131.3	0.51	-0.06	-4.51
3,141.0	6.42	123.63	3,131.2	-132.9	117.0	-133.9	0.51	-0.04	-4.55
3,200.0	6.68	121.87	3,189.8	-136.5	122.7	-137.6	0.55	0.43	-2.98
3,235.0	6.83	120.89	3,224.6	-138.7	126.2	-139.8	0.55	0.44	-2.80
3,300.0	7.05	119.54	3,289.1	-142.6	133.0	-143.8	0.42	0.34	-2.07
3,330.0	7.15	118.95	3,318.8	-144.4	136.2	-145.7	0.42	0.34	-1.98
3,400.0	6.81	118.33	3,388.3	-148.5	143.7	-149.8	0.49	-0.48	-0.88
3,424.0	6.70	118.11	3,412.2	-149.8	146.2	-151.2	0.49	-0.48	-0.94
3,500.0	5.29	115.96	3,487.7	-153.5	153.2	-154.9	1.88	-1.85	-2.83
3,519.0	4.94	115.23	3,506.7	-154.2	154.8	-155.6	1.88	-1.85	-3.83
3,600.0	3.18	109.37	3,587.5	-156.4	160.0	-157.9	2.23	-2.18	-7.24
3,613.0	2.90	107.77	3,600.4	-156.6	160.7	-158.1	2.23	-2.14	-12.30
3,700.0	1.53	137.78	3,687.4	-158.2	163.6	-159.7	2.01	-1.57	34.49
3,707.0	1.46	142.36	3,694.4	-158.3	163.7	-159.8	2.01	-1.06	65.48
3,800.0	3.10	181.79	3,787.3	-161.8	164.3	-163.3	2.34	1.76	42.39
3,802.0	3.14	182.15	3,789.3	-161.9	164.3	-163.4	2.34	2.12	18.20
3,896.0	5.84	189.01	3,883.0	-169.2	163.5	-170.7	2.92	2.87	7.30
3,900.0	5.96	188.77	3,887.0	-169.6	163.4	-171.1	3.18	3.12	-5.92
3,991.0	8.82	185.20	3,977.2	-181.2	162.1	-182.7	3.18	3.14	-3.93
4,000.0	9.03	184.84	3,986.1	-182.6	161.9	-184.1	2.37	2.28	-3.99
4,085.0	10.98	182.11	4,069.8	-197.3	161.1	-198.8	2.37	2.30	-3.21
4,100.0	10.91	181.54	4,084.5	-200.2	161.0	-201.6	0.85	-0.46	-3.77
4,180.0	10.56	178.41	4,163.1	-215.1	161.0	-216.5	0.85	-0.44	-3.92
4,200.0	10.58	178.69	4,182.8	-218.7	161.1	-220.2	0.27	0.09	1.39
4,274.0	10.65	179.71	4,255.5	-232.4	161.3	-233.8	0.27	0.10	1.38
4,300.0	10.63	180.03	4,281.1	-237.2	161.3	-238.6	0.24	-0.06	1.24
4,369.0	10.59	180.89	4,348.9	-249.9	161.2	-251.3	0.24	-0.06	1.24
4,400.0	10.64	181.38	4,379.4	-255.6	161.1	-257.0	0.33	0.16	1.58
4,463.0	10.74	182.36	4,441.3	-267.3	160.7	-268.7	0.33	0.16	1.56
4,500.0	10.73	182.55	4,477.6	-274.1	160.4	-275.6	0.10	-0.02	0.50
4,558.0	10.72	182.84	4,534.6	-284.9	159.9	-286.4	0.10	-0.02	0.51
4,600.0	10.74	183.07	4,575.9	-292.7	159.5	-294.2	0.11	0.04	0.54
4,652.0	10.76	183.35	4,627.0	-302.4	158.9	-303.9	0.11	0.04	0.54
4,700.0	10.71	183.28	4,674.1	-311.3	158.4	-312.8	0.11	-0.11	-0.14
4,747.0	10.66	183.22	4,720.3	-320.0	157.9	-321.5	0.11	-0.11	-0.14
4,800.0	10.69	182.35	4,772.4	-329.9	157.4	-331.3	0.31	0.05	-1.65
4,842.0	10.71	181.66	4,813.7	-337.6	157.2	-339.1	0.31	0.05	-1.64
4,900.0	10.69	179.68	4,870.7	-348.4	157.1	-349.8	0.63	-0.04	-3.41
4,936.0	10.68	178.45	4,906.0	-355.1	157.2	-356.5	0.63	-0.02	-3.42
5,000.0	10.63	175.96	4,968.9	-366.9	157.7	-368.3	0.72	-0.08	-3.89
5,031.0	10.61	174.75	4,999.4	-372.6	158.2	-374.0	0.72	-0.06	-3.91
5,100.0	10.67	170.87	5,067.2	-385.2	159.8	-386.7	1.04	0.08	-5.62
5,125.0	10.70	169.48	5,091.8	-389.8	160.6	-391.2	1.04	0.13	-5.57
5,200.0	10.54	165.43	5,165.5	-403.3	163.6	-404.7	1.02	-0.22	-5.40
5,220.0	10.50	164.33	5,185.2	-406.8	164.5	-408.3	1.02	-0.18	-5.50
5,300.0	10.51	159.95	5,263.8	-420.7	169.0	-422.2	1.00	0.01	-5.47
5,314.0	10.52	159.19	5,277.6	-423.1	169.9	-424.6	1.00	0.06	-5.46

Database: EDM5000
Company: Ameredev Operating, LLC.
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Site: NAN/GB #1N
Well: Nandina 121H
Wellbore: Final Survey
Design: Design #1

Local Co-ordinate Reference: Well Nandina 121H
TVD Reference: KB @ 3050.0usft
MD Reference: KB @ 3050.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.0	10.51	153.53	5,362.2	-437.4	176.2	-439.0	1.20	-0.02	-6.58
5,409.0	10.51	152.94	5,371.0	-438.9	176.9	-440.5	1.20	0.05	-6.58
5,500.0	10.54	148.05	5,460.5	-453.3	185.1	-455.0	0.98	0.03	-5.37
5,503.0	10.54	147.89	5,463.4	-453.8	185.4	-455.5	0.98	0.07	-5.35
5,597.0	10.59	144.92	5,555.8	-468.2	194.9	-469.9	0.58	0.05	-3.16
5,600.0	10.58	144.92	5,558.8	-468.6	195.2	-470.4	0.31	-0.31	-0.07
5,692.0	10.30	144.85	5,649.3	-482.2	204.8	-484.1	0.31	-0.31	-0.07
5,700.0	10.31	144.88	5,657.1	-483.4	205.7	-485.3	0.14	0.13	0.32
5,786.0	10.42	145.15	5,741.7	-496.1	214.5	-498.0	0.14	0.13	0.32
5,800.0	10.30	145.02	5,755.5	-498.2	216.0	-500.1	0.87	-0.85	-0.89
5,880.0	9.62	144.25	5,834.3	-509.4	224.0	-511.5	0.87	-0.85	-0.97
5,900.0	8.80	143.19	5,854.0	-512.0	225.9	-514.1	4.20	-4.11	-5.32
5,974.0	5.80	136.67	5,927.4	-519.3	231.8	-521.4	4.20	-4.05	-8.81
6,000.0	4.63	134.88	5,953.3	-521.0	233.5	-523.1	4.55	-4.51	-6.89
6,069.0	1.60	117.40	6,022.2	-523.4	236.3	-525.5	4.55	-4.39	-25.33
6,100.0	1.08	116.72	6,053.2	-523.7	236.9	-525.9	1.69	-1.69	-2.21
6,163.0	0.04	40.52	6,116.2	-524.0	237.5	-526.1	1.69	-1.64	-120.95
6,200.0	0.05	67.21	6,153.2	-523.9	237.5	-526.1	0.06	0.03	72.15
6,257.0	0.08	87.46	6,210.2	-523.9	237.6	-526.1	0.06	0.05	35.52
6,300.0	0.08	46.19	6,253.2	-523.9	237.6	-526.1	0.13	0.00	-95.98
6,352.0	0.12	14.06	6,305.2	-523.8	237.7	-526.0	0.13	0.08	-61.78
6,400.0	0.08	325.68	6,353.2	-523.8	237.7	-525.9	0.19	-0.08	-100.78
6,446.0	0.12	279.93	6,399.2	-523.7	237.6	-525.9	0.19	0.08	-99.47
6,500.0	0.09	279.55	6,453.2	-523.7	237.5	-525.9	0.05	-0.05	-0.71
6,541.0	0.07	279.05	6,494.2	-523.7	237.4	-525.8	0.05	-0.05	-1.21
6,600.0	0.04	38.86	6,553.2	-523.7	237.4	-525.8	0.16	-0.05	203.07
6,635.0	0.09	62.46	6,588.2	-523.6	237.4	-525.8	0.16	0.15	67.43
6,700.0	0.02	107.76	6,653.2	-523.6	237.5	-525.8	0.12	-0.10	69.69
6,730.0	0.03	187.55	6,683.2	-523.6	237.5	-525.8	0.12	0.02	265.97
6,800.0	0.02	324.80	6,753.2	-523.6	237.5	-525.8	0.06	-0.02	196.08
6,824.0	0.03	338.26	6,777.2	-523.6	237.5	-525.8	0.06	0.06	56.07
6,900.0	0.01	325.49	6,853.2	-523.6	237.5	-525.8	0.02	-0.02	-16.81
6,918.0	0.01	316.45	6,871.2	-523.6	237.5	-525.8	0.02	-0.02	-50.21
7,000.0	0.07	110.74	6,953.2	-523.6	237.5	-525.8	0.09	0.07	188.16
7,013.0	0.08	111.23	6,966.2	-523.6	237.5	-525.8	0.09	0.09	3.79
7,100.0	0.09	280.86	7,053.2	-523.6	237.5	-525.8	0.19	0.01	194.97
7,107.0	0.10	281.52	7,060.2	-523.6	237.5	-525.8	0.19	0.19	9.49
7,200.0	0.10	337.50	7,153.2	-523.5	237.4	-525.7	0.10	0.00	60.19
7,202.0	0.10	338.52	7,155.2	-523.5	237.4	-525.7	0.10	0.05	51.07
7,296.0	0.04	358.67	7,249.2	-523.4	237.4	-525.6	0.07	-0.06	21.44
7,300.0	0.04	2.40	7,253.2	-523.4	237.4	-525.6	0.12	-0.10	93.17
7,391.0	0.08	134.72	7,344.2	-523.4	237.4	-525.6	0.12	0.05	145.41
7,400.0	0.08	133.25	7,353.2	-523.5	237.4	-525.6	0.02	0.01	-16.33
7,485.0	0.09	120.82	7,438.2	-523.5	237.5	-525.7	0.02	0.01	-14.62
7,500.0	0.07	111.23	7,453.2	-523.5	237.5	-525.7	0.14	-0.10	-63.92
7,580.0	0.08	19.23	7,533.2	-523.5	237.6	-525.7	0.14	0.01	-115.00
7,600.0	0.10	71.42	7,553.2	-523.5	237.6	-525.6	0.40	0.08	260.96
7,605.0	0.11	79.68	7,558.2	-523.5	237.6	-525.6	0.40	0.26	165.18
7,686.0	0.08	77.71	7,639.2	-523.5	237.8	-525.6	0.04	-0.04	-2.43
7,700.0	0.08	62.46	7,653.2	-523.5	237.8	-525.6	0.16	0.03	-108.90
7,780.0	0.17	17.46	7,733.2	-523.3	237.9	-525.5	0.16	0.11	-56.25
7,800.0	0.14	6.81	7,753.2	-523.3	237.9	-525.4	0.20	-0.13	-53.27
7,875.0	0.13	301.76	7,828.2	-523.1	237.8	-525.3	0.20	-0.02	-86.73
7,900.0	0.16	317.32	7,853.2	-523.1	237.8	-525.2	0.20	0.13	62.26

Database: EDM5000
Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #1N
Well: Nandina 121H
Wellbore: Final Survey
Design: Design #1

Local Co-ordinate Reference: Well Nandina 121H
TVD Reference: KB @ 3050.0usft
MD Reference: KB @ 3050.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,970.0	0.28	337.74	7,923.2	-522.8	237.6	-525.0	0.20	0.17	29.16
8,000.0	0.26	339.93	7,953.2	-522.7	237.6	-524.9	0.07	-0.07	7.29
8,064.0	0.22	345.87	8,017.2	-522.5	237.5	-524.6	0.07	-0.06	9.29
8,100.0	0.33	351.40	8,053.2	-522.3	237.5	-524.4	0.30	0.29	15.37
8,158.0	0.50	355.32	8,111.2	-521.9	237.4	-524.0	0.30	0.30	6.76
8,200.0	0.46	7.11	8,153.2	-521.5	237.4	-523.7	0.25	-0.10	28.06
8,253.0	0.44	24.14	8,206.2	-521.1	237.6	-523.3	0.25	-0.04	32.14
8,300.0	0.54	34.26	8,253.2	-520.8	237.8	-522.9	0.29	0.22	21.52
8,347.0	0.66	40.98	8,300.2	-520.4	238.1	-522.5	0.29	0.25	14.31
8,400.0	0.78	43.68	8,353.2	-519.9	238.5	-522.1	0.23	0.22	5.09
8,442.0	0.87	45.30	8,395.2	-519.5	238.9	-521.6	0.23	0.22	3.86
8,500.0	0.81	40.25	8,453.2	-518.9	239.5	-521.0	0.17	-0.11	-8.70
8,537.0	0.77	36.62	8,490.2	-518.5	239.8	-520.6	0.17	-0.10	-9.82
8,600.0	0.85	22.94	8,553.2	-517.7	240.3	-519.9	0.33	0.12	-21.72
8,632.0	0.90	17.04	8,585.2	-517.2	240.4	-519.4	0.33	0.17	-18.44
8,700.0	0.77	10.37	8,653.2	-516.3	240.7	-518.4	0.23	-0.19	-9.80
8,731.0	0.72	6.58	8,684.2	-515.9	240.7	-518.0	0.23	-0.17	-12.24
8,800.0	0.89	346.98	8,753.1	-514.9	240.7	-517.1	0.46	0.24	-28.41
8,826.0	0.97	341.59	8,779.1	-514.5	240.5	-516.7	0.46	0.32	-20.71
8,900.0	1.08	320.49	8,853.1	-513.4	239.9	-515.5	0.53	0.15	-28.52
8,921.0	1.14	315.50	8,874.1	-513.1	239.6	-515.2	0.53	0.26	-23.75
9,000.0	1.24	313.59	8,953.1	-511.9	238.4	-514.1	0.14	0.13	-2.42
9,015.0	1.26	313.26	8,968.1	-511.7	238.2	-513.9	0.14	0.13	-2.19
9,100.0	1.72	288.77	9,053.1	-510.6	236.3	-512.8	0.91	0.54	-28.81
9,109.0	1.78	286.99	9,062.1	-510.6	236.1	-512.7	0.91	0.68	-19.78
9,200.0	2.17	273.03	9,153.0	-510.1	233.0	-512.2	0.68	0.43	-15.34
9,223.0	2.29	270.31	9,176.0	-510.0	232.1	-512.1	0.68	0.50	-11.81
9,300.0	2.74	247.50	9,252.9	-510.7	228.9	-512.8	1.41	0.58	-29.62
9,318.0	2.89	243.38	9,270.9	-511.1	228.1	-513.2	1.41	0.85	-22.88
9,395.0	3.62	231.85	9,347.8	-513.5	224.4	-515.5	1.27	0.95	-14.97
9,400.0	3.62	231.69	9,352.8	-513.7	224.2	-515.7	0.22	-0.07	-3.29
9,489.0	3.56	228.71	9,441.6	-517.2	219.9	-519.2	0.22	-0.06	-3.34
9,500.0	3.42	228.15	9,452.6	-517.7	219.4	-519.7	1.32	-1.28	-5.10
9,583.0	2.37	221.78	9,535.5	-520.6	216.4	-522.6	1.32	-1.26	-7.67
9,600.0	2.35	217.23	9,552.5	-521.1	215.9	-523.1	1.11	-0.12	-26.75
9,678.0	2.45	198.63	9,630.4	-524.0	214.5	-526.0	1.11	0.13	-26.41
9,700.0	2.61	189.98	9,652.4	-525.0	214.3	-526.9	1.52	0.73	-30.24
9,771.0	3.31	173.91	9,723.3	-528.6	214.2	-530.5	1.52	0.99	-22.63
9,800.0	3.55	171.99	9,752.2	-530.3	214.4	-532.2	0.92	0.83	-6.61
9,867.0	4.12	168.43	9,819.1	-534.7	215.2	-536.7	0.92	0.85	-5.32
9,900.0	4.67	168.15	9,852.0	-537.2	215.7	-539.1	1.66	1.66	-0.83
9,962.0	5.70	167.78	9,913.7	-542.7	216.9	-544.6	1.66	1.66	-0.60
10,000.0	6.30	167.43	9,951.5	-546.6	217.7	-548.5	1.58	1.57	-0.92
10,056.0	7.18	167.02	10,007.1	-553.0	219.2	-554.9	1.58	1.57	-0.73
10,100.0	7.76	167.45	10,050.8	-558.5	220.5	-560.5	1.32	1.32	0.98
10,151.0	8.43	167.88	10,101.2	-565.6	222.0	-567.6	1.32	1.32	0.84
10,200.0	8.72	168.50	10,149.7	-572.7	223.5	-574.7	0.62	0.59	1.27
10,242.0	8.97	169.00	10,191.2	-579.0	224.7	-581.1	0.62	0.59	1.19
10,300.0	8.92	170.11	10,248.5	-587.9	226.4	-590.0	0.31	-0.09	1.91
10,322.0	8.90	170.53	10,270.2	-591.3	227.0	-593.3	0.31	-0.08	1.92
10,400.0	8.79	170.50	10,347.3	-603.1	228.9	-605.2	0.15	-0.15	-0.04
10,417.0	8.76	170.49	10,364.1	-605.7	229.4	-607.7	0.15	-0.15	-0.04
10,500.0	8.65	172.40	10,446.1	-618.1	231.2	-620.2	0.37	-0.13	2.30
10,510.0	8.64	172.63	10,456.0	-619.6	231.4	-621.7	0.37	-0.12	2.33

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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)
10,600.0	7.82	177.42	10,545.1	-632.4	232.6	-634.5	1.18	-0.91	5.32
10,605.0	7.78	177.71	10,550.1	-633.1	232.6	-635.2	1.18	-0.87	5.89
10,699.0	6.45	183.50	10,643.3	-644.7	232.5	-646.8	1.61	-1.41	6.16
10,700.0	6.44	183.60	10,644.3	-644.8	232.5	-646.9	1.41	-0.84	10.07
10,794.0	5.75	194.27	10,737.8	-654.6	231.0	-656.7	1.41	-0.74	11.35
10,800.0	5.72	195.15	10,743.8	-655.2	230.9	-657.3	1.57	-0.57	14.67
10,888.0	5.38	209.08	10,831.4	-663.0	227.7	-665.1	1.57	-0.38	15.83
10,900.0	5.37	210.25	10,843.3	-664.0	227.2	-666.1	0.91	-0.04	9.73
10,983.0	5.40	218.32	10,925.9	-670.4	222.8	-672.5	0.91	0.03	9.73
11,000.0	5.25	217.24	10,942.9	-671.7	221.8	-673.7	1.07	-0.89	-6.38
11,077.0	4.59	211.45	11,019.6	-677.1	218.1	-679.1	1.07	-0.86	-7.51
11,100.0	4.48	210.11	11,042.5	-678.7	217.2	-680.6	0.67	-0.49	-5.81
11,172.0	4.14	205.47	11,114.3	-683.5	214.6	-685.4	0.67	-0.47	-6.45
11,200.0	3.95	205.91	11,142.2	-685.2	213.8	-687.2	0.69	-0.68	1.58
11,266.0	3.50	207.15	11,208.1	-689.1	211.9	-691.0	0.69	-0.68	1.87
11,300.0	3.48	208.90	11,242.0	-690.9	210.9	-692.8	0.32	-0.05	5.15
11,361.0	3.46	212.08	11,302.9	-694.1	209.0	-696.0	0.32	-0.04	5.21
11,400.0	3.24	213.75	11,341.9	-696.0	207.8	-697.9	0.61	-0.56	4.29
11,455.0	2.94	216.53	11,396.8	-698.4	206.1	-700.3	0.61	-0.55	5.05
11,500.0	2.85	217.54	11,441.7	-700.2	204.7	-702.1	0.22	-0.19	2.25
11,549.0	2.76	218.72	11,490.7	-702.1	203.2	-704.0	0.22	-0.19	2.40
11,600.0	2.47	219.48	11,541.6	-703.9	201.8	-705.8	0.57	-0.57	1.49
11,644.0	2.22	220.30	11,585.6	-705.3	200.6	-707.1	0.57	-0.57	1.86
11,700.0	2.16	220.24	11,641.5	-707.0	199.2	-708.7	0.12	-0.12	-0.11
11,739.0	2.11	220.19	11,680.5	-708.1	198.3	-709.8	0.12	-0.12	-0.12
11,775.0	2.20	223.09	11,716.5	-709.1	197.4	-710.8	0.39	0.25	8.06
11,800.0	0.64	195.85	11,741.5	-709.6	197.0	-711.3	6.64	-6.25	-108.94
11,870.0	4.16	58.50	11,811.4	-708.6	199.1	-710.4	6.64	5.03	-196.22
11,900.0	9.42	16.81	11,841.2	-705.7	200.7	-707.5	22.97	17.54	-138.98
11,917.0	13.09	9.86	11,857.9	-702.4	201.4	-704.3	22.97	21.58	-40.86
11,965.0	20.20	9.19	11,903.8	-688.9	203.7	-690.7	14.82	14.81	-1.40
12,000.0	25.36	4.25	11,936.1	-675.4	205.2	-677.3	15.71	14.75	-14.11
12,012.0	27.16	2.97	11,946.9	-670.1	205.6	-672.0	15.71	14.99	-10.68
12,060.0	31.60	355.68	11,988.7	-646.6	205.2	-648.5	11.86	9.25	-15.19
12,100.0	37.55	349.18	12,021.6	-624.2	202.1	-626.0	17.48	14.87	-16.24
12,107.0	38.62	348.23	12,027.1	-620.0	201.3	-621.8	17.48	15.32	-13.64
12,156.0	41.93	345.42	12,064.5	-589.1	194.0	-590.9	7.70	6.76	-5.73
12,200.0	48.90	342.32	12,095.4	-559.1	185.3	-560.7	16.62	15.85	-7.04
12,208.0	50.18	341.83	12,100.6	-553.3	183.4	-554.9	16.62	15.95	-6.14
12,251.0	57.53	342.40	12,125.9	-520.3	172.7	-521.8	17.13	17.09	1.33
12,298.0	61.17	340.94	12,149.9	-481.9	160.0	-483.3	8.19	7.74	-3.11
12,300.0	61.30	340.92	12,150.8	-480.2	159.4	-481.7	6.34	6.27	-1.07
12,345.0	64.12	340.45	12,171.5	-442.5	146.2	-443.8	6.34	6.28	-1.04
12,392.0	67.35	339.73	12,190.8	-402.2	131.6	-403.4	7.01	6.87	-1.53
12,400.0	68.26	339.83	12,193.8	-395.3	129.1	-396.4	11.45	11.39	1.30
12,438.0	72.59	340.31	12,206.5	-361.6	116.9	-362.7	11.45	11.39	1.25
12,470.0	72.98	340.14	12,216.0	-332.8	106.5	-333.8	1.32	1.22	-0.53
12,500.0	74.54	340.49	12,224.4	-305.7	96.8	-306.6	5.31	5.19	1.15
12,517.0	75.42	340.68	12,228.8	-290.2	91.4	-291.1	5.31	5.19	1.14
12,565.0	81.07	343.06	12,238.6	-245.6	76.8	-246.3	12.73	11.77	4.96
12,600.0	85.63	346.05	12,242.6	-212.1	67.5	-212.7	15.54	13.02	8.54
12,611.0	87.06	346.98	12,243.3	-201.4	64.9	-202.0	15.54	13.04	8.46
12,661.0	88.70	347.56	12,245.2	-152.7	53.9	-153.2	3.48	3.28	1.16
12,694.8	89.75	349.87	12,245.6	-119.5	47.3	-119.9	7.49	3.11	6.82

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Shifted Nan121 FTP									
12,700.0	89.91	350.22	12,245.7	-114.4	46.4	-114.9	7.49	3.11	6.82
12,755.0	91.62	353.97	12,244.9	-60.0	38.9	-60.3	7.49	3.11	6.82
12,800.0	91.65	354.39	12,243.6	-15.2	34.3	-15.5	0.93	0.06	0.93
12,850.0	91.68	354.85	12,242.2	34.5	29.6	34.3	0.93	0.06	0.93
12,900.0	91.50	355.93	12,240.8	84.4	25.6	84.1	2.20	-0.36	2.17
12,945.0	91.34	356.91	12,239.7	129.3	22.8	129.0	2.20	-0.36	2.17
13,000.0	90.72	357.35	12,238.7	184.2	20.0	184.0	1.38	-1.13	0.80
13,040.0	90.27	357.67	12,238.3	224.1	18.3	224.0	1.38	-1.13	0.80
13,100.0	89.30	356.75	12,238.6	284.1	15.4	283.9	2.22	-1.61	-1.53
13,135.0	88.74	356.22	12,239.2	319.0	13.2	318.9	2.22	-1.61	-1.53
13,200.0	90.42	356.77	12,239.6	383.9	9.3	383.8	2.72	2.58	0.85
13,230.0	91.19	357.03	12,239.2	413.8	7.6	413.7	2.72	2.58	0.85
13,300.0	91.58	358.92	12,237.5	483.8	5.2	483.7	2.76	0.56	2.70
13,326.0	91.73	359.62	12,236.8	509.7	4.8	509.7	2.76	0.56	2.70
13,400.0	91.96	358.81	12,234.4	583.7	3.8	583.6	1.14	0.31	-1.09
13,421.0	92.02	358.58	12,233.7	604.7	3.3	604.6	1.14	0.31	-1.09
13,500.0	92.59	357.42	12,230.5	683.6	0.6	683.5	1.63	0.72	-1.46
13,516.0	92.70	357.19	12,229.8	699.5	-0.2	699.5	1.63	0.72	-1.46
13,600.0	92.05	357.86	12,226.3	783.4	-3.8	783.4	1.12	-0.78	0.80
13,611.0	91.96	357.95	12,225.9	794.4	-4.2	794.4	1.12	-0.78	0.80
13,700.0	90.70	357.33	12,223.8	883.3	-7.8	883.3	1.58	-1.42	-0.69
13,706.0	90.61	357.29	12,223.8	889.3	-8.1	889.3	1.58	-1.42	-0.69
13,800.0	86.47	0.04	12,226.2	983.2	-10.3	983.2	5.28	-4.40	2.93
13,801.0	86.43	0.07	12,226.2	984.2	-10.3	984.2	5.28	-4.40	2.93
13,896.0	86.88	359.77	12,231.8	1,079.0	-10.4	1,079.1	0.57	0.47	-0.32
13,900.0	86.94	359.75	12,232.0	1,083.0	-10.5	1,083.0	1.64	1.58	-0.45
13,991.0	88.38	359.34	12,235.7	1,173.9	-11.2	1,174.0	1.64	1.58	-0.45
14,000.0	88.08	359.18	12,236.0	1,182.9	-11.3	1,183.0	3.83	-3.37	-1.83
14,086.0	85.18	357.60	12,241.0	1,268.7	-13.7	1,268.8	3.83	-3.37	-1.83
14,100.0	85.51	357.58	12,242.2	1,282.7	-14.3	1,282.7	2.37	2.36	-0.16
14,180.0	87.40	357.45	12,247.1	1,362.4	-17.8	1,362.5	2.37	2.36	-0.16
14,200.0	88.28	357.80	12,247.9	1,382.4	-18.6	1,382.5	4.73	4.39	1.77
14,275.0	91.57	359.13	12,248.0	1,457.4	-20.6	1,457.5	4.73	4.39	1.77
14,300.0	90.69	358.89	12,247.5	1,482.3	-21.0	1,482.5	3.66	-3.53	-0.97
14,370.0	88.22	358.21	12,248.1	1,552.3	-22.8	1,552.5	3.66	-3.53	-0.97
14,400.0	89.32	358.32	12,248.8	1,582.3	-23.7	1,582.4	3.68	3.66	0.36
14,465.0	91.70	358.55	12,248.2	1,647.3	-25.5	1,647.4	3.68	3.66	0.36
14,500.0	90.61	356.39	12,247.5	1,682.2	-27.0	1,682.4	6.91	-3.10	-6.18
14,560.0	88.75	352.68	12,247.8	1,741.9	-32.8	1,742.2	6.91	-3.11	-6.18
14,600.0	88.80	351.84	12,248.7	1,781.6	-38.1	1,781.8	2.10	0.14	-2.09
14,655.0	88.88	350.69	12,249.8	1,835.9	-46.5	1,836.3	2.10	0.14	-2.09
14,688.0	88.83	349.66	12,250.5	1,868.4	-52.1	1,868.8	3.12	-0.15	-3.12
14,700.0	89.09	349.80	12,250.7	1,880.2	-54.3	1,880.6	2.47	2.19	1.16
14,720.0	89.53	350.03	12,250.9	1,899.9	-57.8	1,900.4	2.47	2.19	1.16
14,750.0	90.29	351.51	12,251.0	1,929.5	-62.6	1,930.0	5.55	2.53	4.93
14,781.0	90.46	353.10	12,250.8	1,960.2	-66.7	1,960.8	5.16	0.55	5.13
14,800.0	90.12	354.01	12,250.7	1,979.1	-68.9	1,979.7	5.10	-1.81	4.77
14,812.0	89.90	354.58	12,250.7	1,991.1	-70.0	1,991.6	5.10	-1.81	4.77
14,845.0	88.53	356.52	12,251.1	2,024.0	-72.6	2,024.5	7.20	-4.15	5.88
14,876.0	89.57	358.91	12,251.6	2,054.9	-73.8	2,055.5	8.41	3.35	7.71
14,900.0	89.47	359.06	12,251.8	2,078.9	-74.3	2,079.5	0.76	-0.44	0.62
14,908.0	89.43	359.11	12,251.9	2,086.9	-74.4	2,087.5	0.76	-0.44	0.63

Database: EDM5000
Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #1N
Well: Nandina 121H
Wellbore: Final Survey
Design: Design #1

Local Co-ordinate Reference: Well Nandina 121H
TVD Reference: KB @ 3050.0usft
MD Reference: KB @ 3050.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,940.0	89.86	359.03	12,252.1	2,118.9	-74.9	2,119.5	1.37	1.34	-0.25
14,971.0	91.04	357.41	12,251.9	2,149.9	-75.9	2,150.5	6.46	3.81	-5.23
15,000.0	89.80	355.28	12,251.6	2,178.8	-77.7	2,179.5	8.50	-4.28	-7.34
15,003.0	89.87	355.06	12,251.7	2,181.8	-78.0	2,182.4	8.50	-4.28	-7.34
15,034.0	88.75	356.39	12,252.1	2,212.7	-80.3	2,213.4	5.22	-2.97	4.29
15,066.0	91.01	0.47	12,252.2	2,244.7	-81.2	2,245.4	14.57	7.06	12.75
15,097.0	89.73	3.72	12,252.0	2,275.7	-80.0	2,276.3	11.27	-4.13	10.48
15,100.0	89.82	3.93	12,252.0	2,278.7	-79.8	2,279.3	7.50	3.00	6.87
15,129.0	90.69	5.92	12,251.8	2,307.6	-77.3	2,308.2	7.50	3.00	6.88
15,200.0	89.60	5.77	12,251.7	2,378.2	-70.1	2,378.7	1.55	-1.54	-0.21
15,224.0	89.23	5.72	12,251.9	2,402.1	-67.7	2,402.6	1.55	-1.54	-0.21
15,300.0	89.22	4.20	12,252.9	2,477.8	-61.1	2,478.2	2.00	-0.01	-2.00
15,319.0	89.22	3.82	12,253.2	2,496.7	-59.8	2,497.2	2.00	-0.01	-2.00
15,400.0	85.20	7.62	12,257.1	2,577.2	-51.8	2,577.6	6.82	-4.96	4.69
15,414.0	84.51	8.28	12,258.4	2,591.0	-49.8	2,591.4	6.82	-4.95	4.72
15,500.0	89.40	10.55	12,263.0	2,675.7	-35.8	2,675.9	6.27	5.68	2.64
15,509.0	89.91	10.79	12,263.0	2,684.6	-34.1	2,684.7	6.27	5.69	2.63
15,600.0	86.28	6.22	12,266.0	2,774.5	-20.7	2,774.5	6.41	-3.99	-5.02
15,604.0	86.12	6.02	12,266.3	2,778.4	-20.2	2,778.5	6.41	-3.98	-5.04
15,699.0	88.95	6.23	12,270.4	2,872.8	-10.1	2,872.8	2.99	2.98	0.22
15,700.0	88.95	6.17	12,270.4	2,873.8	-10.0	2,873.8	6.11	0.16	-6.11
15,793.0	89.11	0.49	12,272.0	2,966.6	-4.6	2,966.5	6.11	0.17	-6.11
15,800.0	88.84	0.27	12,272.1	2,973.6	-4.6	2,973.5	4.97	-3.81	-3.19
15,888.0	85.49	357.45	12,276.5	3,061.4	-6.3	3,061.4	4.97	-3.81	-3.20
15,900.0	85.73	357.73	12,277.4	3,073.4	-6.8	3,073.3	3.08	1.99	2.36
15,983.0	87.38	359.69	12,282.4	3,156.2	-8.7	3,156.2	3.08	1.99	2.36
16,000.0	87.10	359.25	12,283.2	3,173.2	-8.8	3,173.1	3.08	-1.66	-2.60
16,078.0	85.81	357.22	12,288.0	3,251.0	-11.2	3,251.0	3.08	-1.65	-2.60
16,100.0	85.99	356.85	12,289.6	3,272.9	-12.4	3,272.9	1.88	0.84	-1.69
16,173.0	86.61	355.62	12,294.3	3,345.6	-17.1	3,345.6	1.88	0.84	-1.68
16,200.0	87.03	355.75	12,295.8	3,372.5	-19.2	3,372.5	1.62	1.55	0.48
16,268.0	88.08	356.08	12,298.7	3,440.2	-24.0	3,440.3	1.62	1.55	0.48
16,300.0	89.02	356.08	12,299.5	3,472.2	-26.2	3,472.2	2.95	2.95	0.01
16,362.0	90.85	356.09	12,299.6	3,534.0	-30.4	3,534.1	2.95	2.95	0.01
16,400.0	91.33	356.29	12,298.8	3,571.9	-33.0	3,572.1	1.38	1.27	0.53
16,457.0	92.06	356.59	12,297.2	3,628.8	-36.5	3,629.0	1.38	1.27	0.53
16,500.0	92.60	357.87	12,295.4	3,671.7	-38.6	3,671.9	3.24	1.25	2.99
16,552.0	93.25	359.43	12,292.7	3,723.6	-39.8	3,723.8	3.24	1.25	2.99
16,600.0	93.39	358.09	12,290.0	3,771.5	-40.8	3,771.7	2.80	0.30	-2.79
16,647.0	93.53	356.78	12,287.1	3,818.4	-42.9	3,818.6	2.80	0.29	-2.79
16,700.0	90.69	354.72	12,285.2	3,871.2	-46.8	3,871.5	6.63	-5.36	-3.90
16,741.0	88.49	353.12	12,285.5	3,912.0	-51.2	3,912.3	6.63	-5.36	-3.89
16,800.0	87.48	353.71	12,287.5	3,970.5	-58.0	3,970.9	1.98	-1.71	1.00
16,836.0	86.87	354.07	12,289.3	4,006.3	-61.8	4,006.7	1.98	-1.71	1.00
16,900.0	86.04	354.78	12,293.3	4,069.9	-68.0	4,070.3	1.71	-1.29	1.12
16,931.0	85.64	355.13	12,295.5	4,100.7	-70.7	4,101.1	1.71	-1.29	1.12
16,961.0	88.09	357.95	12,297.2	4,130.6	-72.5	4,131.0	12.44	8.17	9.40
17,000.0	88.54	359.71	12,298.3	4,169.5	-73.3	4,170.0	4.65	1.16	4.51
17,056.0	89.19	2.23	12,299.4	4,225.5	-72.4	4,226.0	4.65	1.16	4.50
17,100.0	88.92	0.37	12,300.1	4,269.5	-71.4	4,270.0	4.26	-0.61	-4.22
17,151.0	88.61	358.22	12,301.2	4,320.5	-72.0	4,320.9	4.26	-0.61	-4.22
17,200.0	88.85	353.86	12,302.3	4,369.3	-75.4	4,369.8	8.91	0.50	-8.90
17,246.0	89.09	349.77	12,303.2	4,414.8	-81.9	4,415.4	8.91	0.51	-8.89
17,300.0	89.45	350.01	12,303.8	4,468.0	-91.4	4,468.6	0.79	0.66	0.44

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North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,340.0	89.71	350.18	12,304.1	4,507.4	-98.3	4,508.1	0.79	0.66	0.44
17,372.0	89.97	352.89	12,304.2	4,539.0	-103.0	4,539.8	8.51	0.81	8.47
17,400.0	89.99	355.73	12,304.2	4,566.9	-105.8	4,567.7	10.13	0.06	10.13
17,404.0	89.99	356.13	12,304.2	4,570.9	-106.0	4,571.7	10.13	0.06	10.12
17,435.0	89.88	358.72	12,304.3	4,601.9	-107.4	4,602.7	8.36	-0.35	8.35
17,467.0	89.78	1.32	12,304.4	4,633.9	-107.4	4,634.6	8.13	-0.31	8.13
17,499.0	89.52	2.67	12,304.6	4,665.8	-106.3	4,666.6	4.30	-0.81	4.22
17,500.0	89.53	2.70	12,304.6	4,666.8	-106.3	4,667.6	3.48	0.64	3.42
17,530.0	89.72	3.73	12,304.8	4,696.8	-104.6	4,697.5	3.48	0.65	3.42
17,562.0	89.28	4.89	12,305.1	4,728.7	-102.2	4,729.4	3.88	-1.38	3.63
17,594.0	89.18	6.31	12,305.5	4,760.5	-99.1	4,761.2	4.45	-0.31	4.44
17,600.0	89.20	6.59	12,305.6	4,766.5	-98.4	4,767.2	4.76	0.39	4.74
17,625.0	89.30	7.78	12,305.9	4,791.3	-95.3	4,792.0	4.76	0.39	4.74
17,657.0	89.01	8.83	12,306.4	4,823.0	-90.6	4,823.6	3.40	-0.91	3.28
17,688.0	88.78	9.92	12,307.0	4,853.5	-85.6	4,854.1	3.59	-0.74	3.52
17,700.0	88.66	10.35	12,307.2	4,865.4	-83.5	4,865.9	3.72	-0.97	3.59
17,720.0	88.47	11.07	12,307.7	4,885.0	-79.8	4,885.5	3.72	-0.97	3.59
17,752.0	88.82	12.78	12,308.5	4,916.3	-73.1	4,916.8	5.45	1.09	5.34
17,784.0	88.53	13.92	12,309.2	4,947.4	-65.8	4,947.8	3.68	-0.91	3.56
17,800.0	88.52	14.46	12,309.6	4,962.9	-61.8	4,963.3	3.39	-0.06	3.39
17,815.0	88.51	14.97	12,310.0	4,977.4	-58.0	4,977.8	3.39	-0.06	3.39
17,847.0	88.64	16.39	12,310.8	5,008.2	-49.4	5,008.5	4.45	0.41	4.44
17,879.0	88.89	16.37	12,311.5	5,038.9	-40.4	5,039.1	0.78	0.78	-0.06
17,900.0	89.07	15.39	12,311.9	5,059.1	-34.6	5,059.2	4.72	0.84	-4.65
17,910.0	89.15	14.93	12,312.0	5,068.8	-32.0	5,068.9	4.72	0.84	-4.64
17,942.0	90.07	13.03	12,312.3	5,099.8	-24.3	5,099.8	6.60	2.88	-5.94
17,973.0	90.83	11.36	12,312.0	5,130.1	-17.7	5,130.1	5.92	2.45	-5.39
18,000.0	91.30	9.21	12,311.5	5,156.7	-12.9	5,156.6	8.16	1.75	-7.97
18,005.0	91.39	8.81	12,311.4	5,161.6	-12.1	5,161.5	8.16	1.75	-7.97
18,037.0	92.01	5.89	12,310.4	5,193.3	-8.0	5,193.2	9.32	1.94	-9.13
18,068.0	93.05	4.85	12,309.1	5,224.2	-5.1	5,224.0	4.74	3.35	-3.35
18,100.0	93.81	3.87	12,307.2	5,256.0	-2.7	5,255.8	3.87	2.38	-3.06
18,131.0	93.44	3.74	12,305.2	5,286.9	-0.7	5,286.7	1.26	-1.19	-0.42
18,163.0	93.04	3.09	12,303.4	5,318.8	1.3	5,318.5	2.38	-1.25	-2.03
18,195.0	92.43	1.79	12,301.9	5,350.7	2.6	5,350.5	4.48	-1.91	-4.06
18,200.0	92.45	1.39	12,301.7	5,355.7	2.8	5,355.5	7.91	0.43	-7.90
18,226.0	92.56	359.34	12,300.5	5,381.7	2.9	5,381.4	7.91	0.42	-7.90
18,290.0	92.57	357.24	12,297.7	5,445.6	1.0	5,445.3	3.28	0.02	-3.28
18,300.0	92.57	357.13	12,297.2	5,455.6	0.5	5,455.3	1.06	-0.03	-1.06
18,321.0	92.56	356.91	12,296.3	5,476.5	-0.6	5,476.3	1.06	-0.03	-1.06
18,384.0	91.37	1.19	12,294.1	5,539.4	-1.6	5,539.2	7.05	-1.89	6.79
18,400.0	91.10	2.96	12,293.8	5,555.4	-1.0	5,555.2	11.16	-1.72	11.03
18,416.0	90.82	4.72	12,293.5	5,571.4	0.0	5,571.2	11.16	-1.72	11.03
18,479.0	91.95	3.19	12,292.0	5,634.2	4.4	5,633.9	3.02	1.79	-2.43
18,500.0	92.89	2.08	12,291.1	5,655.2	5.3	5,654.9	6.92	4.47	-5.28
18,524.0	93.96	0.81	12,289.7	5,679.1	5.9	5,678.8	6.92	4.46	-5.29
18,574.0	94.64	357.59	12,285.9	5,729.0	5.3	5,728.7	6.56	1.36	-6.44
18,600.0	93.59	357.03	12,284.0	5,754.9	4.0	5,754.6	4.57	-4.03	-2.16
18,606.0	93.35	356.90	12,283.7	5,760.9	3.7	5,760.6	4.57	-4.03	-2.15
18,638.0	91.91	356.23	12,282.2	5,792.8	1.8	5,792.5	4.96	-4.50	-2.09
18,669.0	91.03	355.61	12,281.4	5,823.7	-0.4	5,823.4	3.47	-2.84	-2.00
18,700.0	90.00	354.84	12,281.1	5,854.6	-3.0	5,854.4	4.15	-3.33	-2.48
18,732.0	88.93	354.05	12,281.4	5,886.4	-6.1	5,886.2	4.15	-3.33	-2.48
18,764.0	87.76	353.57	12,282.4	5,918.2	-9.5	5,918.1	3.95	-3.66	-1.50

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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)
18,796.0	86.83	353.00	12,283.9	5,950.0	-13.3	5,949.8	3.41	-2.91	-1.78
18,800.0	86.96	353.00	12,284.1	5,953.9	-13.8	5,953.8	3.26	3.26	-0.10
18,827.0	87.84	352.97	12,285.3	5,980.7	-17.0	5,980.6	3.26	3.26	-0.10
18,900.0	88.61	354.03	12,287.6	6,053.2	-25.3	6,053.2	1.79	1.05	1.45
18,922.0	88.84	354.35	12,288.1	6,075.1	-27.5	6,075.1	1.79	1.05	1.45
19,000.0	89.80	355.14	12,289.0	6,152.7	-34.7	6,152.8	1.59	1.23	1.01
19,017.0	90.01	355.31	12,289.0	6,169.7	-36.1	6,169.8	1.59	1.23	1.01
19,100.0	90.67	356.36	12,288.5	6,252.5	-42.1	6,252.6	1.50	0.80	1.26
19,112.0	90.77	356.51	12,288.4	6,264.4	-42.9	6,264.6	1.50	0.80	1.26
19,200.0	92.26	358.33	12,286.0	6,352.3	-46.8	6,352.5	2.67	1.69	2.06
19,207.0	92.38	358.47	12,285.8	6,359.3	-47.0	6,359.5	2.67	1.69	2.06
19,300.0	94.83	359.52	12,279.9	6,452.1	-48.7	6,452.3	2.87	2.64	1.13
19,301.0	94.86	359.53	12,279.8	6,453.1	-48.7	6,453.3	2.87	2.64	1.13
19,396.0	95.34	0.04	12,271.4	6,547.7	-49.0	6,547.9	0.74	0.51	0.54
19,400.0	95.34	0.02	12,271.0	6,551.7	-49.0	6,551.9	0.51	0.00	-0.51
19,459.0	95.34	359.72	12,265.5	6,610.4	-49.2	6,610.6	0.51	0.00	-0.51
19,491.0	95.10	359.40	12,262.6	6,642.3	-49.4	6,642.5	1.25	-0.75	-1.00
19,500.0	94.79	359.26	12,261.8	6,651.3	-49.5	6,651.4	3.71	-3.40	-1.51
19,554.0	92.96	358.45	12,258.2	6,705.1	-50.6	6,705.3	3.71	-3.40	-1.51
19,586.0	91.39	357.74	12,257.0	6,737.1	-51.6	6,737.3	5.38	-4.91	-2.22
19,600.0	91.06	357.59	12,256.7	6,751.1	-52.2	6,751.3	2.63	-2.39	-1.10
19,617.0	90.65	357.40	12,256.4	6,768.1	-53.0	6,768.3	2.63	-2.39	-1.10
19,681.0	91.13	358.27	12,255.4	6,832.0	-55.4	6,832.2	1.55	0.75	1.36
19,700.0	90.91	357.69	12,255.1	6,851.0	-56.0	6,851.2	3.28	-1.15	-3.07
19,776.0	90.04	355.35	12,254.4	6,926.8	-60.7	6,927.1	3.28	-1.15	-3.07
19,800.0	90.80	355.44	12,254.3	6,950.8	-62.6	6,951.0	3.18	3.16	0.35
19,807.0	91.02	355.46	12,254.2	6,957.7	-63.1	6,958.0	3.18	3.16	0.35
19,839.0	90.65	354.40	12,253.7	6,989.6	-66.0	6,989.9	3.51	-1.16	-3.31
19,870.0	90.12	353.53	12,253.5	7,020.4	-69.2	7,020.8	3.29	-1.71	-2.81
19,900.0	92.71	355.53	12,252.7	7,050.3	-72.1	7,050.7	10.89	8.63	6.66
19,902.0	92.88	355.66	12,252.6	7,052.3	-72.2	7,052.6	10.89	8.62	6.67
19,933.0	92.85	356.81	12,251.1	7,083.2	-74.3	7,083.6	3.71	-0.10	3.71
19,965.0	92.69	357.72	12,249.5	7,115.1	-75.8	7,115.5	2.88	-0.50	2.84
19,996.0	89.85	357.70	12,248.9	7,146.1	-77.0	7,146.5	9.16	-9.16	-0.06
20,000.0	89.91	357.79	12,248.9	7,150.1	-77.2	7,150.5	2.56	1.38	2.16
20,028.0	90.29	358.39	12,248.8	7,178.0	-78.1	7,178.5	2.56	1.37	2.16
20,059.0	91.14	359.49	12,248.4	7,209.0	-78.7	7,209.5	4.48	2.74	3.55
20,091.0	89.01	359.40	12,248.4	7,241.0	-79.0	7,241.5	6.66	-6.66	-0.28
20,100.0	89.09	359.22	12,248.5	7,250.0	-79.1	7,250.5	2.17	0.91	-1.97
20,123.0	89.30	358.77	12,248.9	7,273.0	-79.5	7,273.4	2.17	0.91	-1.97
20,154.0	90.90	0.10	12,248.8	7,304.0	-79.8	7,304.4	6.71	5.16	4.29
20,200.0	89.77	0.96	12,248.5	7,350.0	-79.4	7,350.4	3.08	-2.45	1.87
20,201.0	89.75	0.98	12,248.5	7,351.0	-79.4	7,351.4	3.08	-2.45	1.87
20,249.0	89.38	1.53	12,248.9	7,399.0	-78.3	7,399.4	1.38	-0.77	1.15
20,295.0	89.05	1.74	12,249.5	7,445.0	-77.0	7,445.4	0.85	-0.72	0.46
20,300.0	89.15	1.74	12,249.6	7,450.0	-76.9	7,450.4	2.08	2.08	-0.02
20,343.0	90.05	1.73	12,249.9	7,493.0	-75.6	7,493.3	2.08	2.08	-0.02
20,390.0	92.64	2.82	12,248.8	7,539.9	-73.7	7,540.3	5.98	5.51	2.32
20,400.0	92.37	2.93	12,248.4	7,549.9	-73.2	7,550.2	2.87	-2.67	1.06
20,438.0	91.36	3.33	12,247.1	7,587.8	-71.1	7,588.1	2.87	-2.67	1.06
20,485.0	91.66	3.81	12,245.9	7,634.7	-68.2	7,635.0	1.20	0.64	1.02
20,500.0	91.45	3.89	12,245.5	7,649.7	-67.2	7,649.9	1.48	-1.37	0.54
20,533.0	91.00	4.07	12,244.8	7,682.6	-64.9	7,682.8	1.48	-1.38	0.54
20,579.0	90.83	3.17	12,244.0	7,728.5	-62.0	7,728.7	1.99	-0.37	-1.96

Database: EDM5000
Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #1N
Well: Nandina 121H
Wellbore: Final Survey
Design: Design #1

Local Co-ordinate Reference: Well Nandina 121H
TVD Reference: KB @ 3050.0usft
MD Reference: KB @ 3050.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
20,600.0	90.96	3.01	12,243.7	7,749.4	-60.9	7,749.7	0.98	0.60	-0.77
20,627.0	91.12	2.80	12,243.2	7,776.4	-59.5	7,776.6	0.98	0.60	-0.77
20,673.0	90.00	2.14	12,242.8	7,822.4	-57.5	7,822.6	2.83	-2.43	-1.43
20,700.0	90.61	1.95	12,242.6	7,849.3	-56.6	7,849.5	2.38	2.27	-0.71
20,721.0	91.09	1.80	12,242.3	7,870.3	-55.9	7,870.5	2.38	2.27	-0.71
20,766.0	92.70	0.79	12,240.8	7,915.3	-54.9	7,915.5	4.22	3.58	-2.24
20,800.0	92.72	0.46	12,239.2	7,949.2	-54.5	7,949.4	0.98	0.06	-0.98
20,816.0	92.73	0.30	12,238.5	7,965.2	-54.4	7,965.4	0.98	0.06	-0.98
20,861.0	92.05	0.43	12,236.6	8,010.2	-54.1	8,010.3	1.54	-1.51	0.29
20,900.0	92.49	0.87	12,235.0	8,049.1	-53.7	8,049.3	1.60	1.14	1.12
20,911.0	92.62	0.99	12,234.6	8,060.1	-53.5	8,060.3	1.60	1.14	1.12
20,956.0	92.13	1.37	12,232.7	8,105.1	-52.5	8,105.2	1.38	-1.09	0.84
21,000.0	92.10	1.32	12,231.1	8,149.0	-51.5	8,149.2	0.14	-0.06	-0.12
21,005.0	92.10	1.31	12,230.9	8,154.0	-51.4	8,154.2	0.14	-0.06	-0.12
21,050.0	91.31	1.58	12,229.5	8,199.0	-50.3	8,199.1	1.86	-1.76	0.60
21,100.0	91.43	1.13	12,228.3	8,249.0	-49.1	8,249.1	0.93	0.24	-0.90
21,145.0	92.61	359.49	12,226.8	8,293.9	-48.8	8,294.0	4.49	2.62	-3.64
21,194.0	91.95	358.64	12,224.8	8,342.9	-49.6	8,343.0	2.20	-1.35	-1.73
21,200.0	92.04	358.57	12,224.6	8,348.9	-49.8	8,349.0	1.86	1.49	-1.11
21,239.0	92.62	358.14	12,223.0	8,387.8	-50.9	8,388.0	1.86	1.49	-1.11
21,289.0	92.52	357.82	12,220.8	8,437.8	-52.7	8,437.9	0.67	-0.20	-0.64
21,300.0	92.56	357.74	12,220.3	8,448.7	-53.1	8,448.9	0.81	0.33	-0.74
21,335.0	92.67	357.48	12,218.7	8,483.7	-54.5	8,483.8	0.81	0.33	-0.74
21,383.0	92.67	357.35	12,216.5	8,531.6	-56.7	8,531.7	0.27	0.00	-0.27
21,400.0	92.59	357.44	12,215.7	8,548.5	-57.5	8,548.7	0.71	-0.50	0.51
21,477.0	92.20	357.83	12,212.5	8,625.4	-60.7	8,625.6	0.71	-0.50	0.51
21,500.0	92.02	357.84	12,211.6	8,648.4	-61.5	8,648.6	0.78	-0.78	0.05
21,572.0	91.46	357.88	12,209.4	8,720.3	-64.2	8,720.5	0.78	-0.78	0.05
21,600.0	91.40	357.66	12,208.7	8,748.3	-65.3	8,748.5	0.82	-0.20	-0.80
21,667.0	91.27	357.12	12,207.2	8,815.2	-68.4	8,815.4	0.82	-0.20	-0.80
21,700.0	91.16	357.29	12,206.5	8,848.1	-70.0	8,848.4	0.59	-0.32	0.50
21,761.0	90.97	357.59	12,205.3	8,909.1	-72.7	8,909.4	0.59	-0.32	0.50
21,800.0	90.69	357.16	12,204.8	8,948.0	-74.5	8,948.3	1.31	-0.73	-1.09
21,857.0	90.27	356.54	12,204.3	9,004.9	-77.6	9,005.3	1.31	-0.73	-1.09
21,900.0	90.85	356.95	12,203.9	9,047.9	-80.1	9,048.2	1.66	1.36	0.95
21,952.0	91.56	357.44	12,202.8	9,099.8	-82.6	9,100.2	1.66	1.36	0.95
22,000.0	91.26	358.19	12,201.6	9,147.7	-84.4	9,148.1	1.67	-0.63	1.55
22,046.0	90.97	358.90	12,200.7	9,193.7	-85.6	9,194.1	1.67	-0.63	1.55
22,100.0	90.63	359.76	12,199.9	9,247.7	-86.2	9,248.1	1.71	-0.63	1.60
22,140.0	90.38	0.40	12,199.6	9,287.7	-86.2	9,288.1	1.71	-0.63	1.60
22,200.0	90.06	1.35	12,199.4	9,347.7	-85.3	9,348.1	1.68	-0.54	1.59
22,235.0	89.87	1.91	12,199.4	9,382.7	-84.3	9,383.1	1.68	-0.54	1.59
22,300.0	89.99	2.07	12,199.5	9,447.6	-82.0	9,448.0	0.30	0.18	0.24
22,330.0	90.04	2.14	12,199.5	9,477.6	-80.9	9,478.0	0.30	0.18	0.24
22,400.0	90.03	0.81	12,199.4	9,547.6	-79.1	9,547.9	1.89	-0.02	-1.89
22,425.0	90.02	0.34	12,199.4	9,572.6	-78.8	9,572.9	1.89	-0.02	-1.89
22,500.0	89.87	359.01	12,199.5	9,647.6	-79.3	9,647.9	1.79	-0.20	-1.78
22,520.0	89.83	358.65	12,199.5	9,667.6	-79.7	9,667.9	1.79	-0.20	-1.78
22,600.0	89.87	358.66	12,199.7	9,747.6	-81.6	9,747.9	0.05	0.05	0.01
22,615.0	89.88	358.66	12,199.8	9,762.6	-81.9	9,762.9	0.05	0.05	0.01
22,700.0	90.09	358.67	12,199.8	9,847.5	-83.9	9,847.9	0.25	0.25	0.01
22,710.0	90.12	358.67	12,199.8	9,857.5	-84.1	9,857.9	0.25	0.25	0.01
22,800.0	89.97	358.78	12,199.7	9,947.5	-86.1	9,947.9	0.21	-0.17	0.12
22,804.0	89.96	358.78	12,199.7	9,951.5	-86.2	9,951.9	0.21	-0.17	0.12

Database:	EDM5000	Local Co-ordinate Reference:	Well Nandina 121H
Company:	Ameredev Operating, LLC.	TVD Reference:	KB @ 3050.0usft
Project:	NAN/GB	MD Reference:	KB @ 3050.0usft
Site:	NAN/GB #1N	North Reference:	Grid
Well:	Nandina 121H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Final Survey		
Design:	Design #1		

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)
22,899.0	90.10	358.70	12,199.7	10,046.5	-88.3	10,046.9	0.17	0.15	-0.08
22,900.0	90.10	358.70	12,199.7	10,047.5	-88.3	10,047.9	0.29	-0.25	-0.15
22,994.0	89.86	358.56	12,199.7	10,141.5	-90.6	10,141.9	0.29	-0.25	-0.15
23,000.0	89.86	358.56	12,199.7	10,147.5	-90.7	10,147.9	0.03	0.03	0.02
23,060.0	89.88	358.57	12,199.8	10,207.4	-92.2	10,207.8	0.03	0.03	0.02
23,086.8	89.88	358.57	12,199.9	10,234.2	-92.9	10,234.6	0.00	0.00	0.00
Shifted Nan121 LTP									
23,100.0	89.88	358.57	12,199.9	10,247.4	-93.2	10,247.8	0.00	0.00	0.00
23,136.3	89.88	358.57	12,200.0	10,283.7	-94.1	10,284.1	0.00	0.00	0.00
Shifted Nan121 BHL									

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 Nan121 FTP - plan misses target center by 161.5usft at 12694.8usft MD (12245.6 TVD, -119.5 N, 47.3 E) - Point	0.00	0.00	12,400.0	-130.5	1.2	394,284.77	857,877.56	32° 4' 47.447 N	103° 18' 40.803 W
Shifted Nan121 BHL - plan misses target center by 200.1usft at 23136.3usft MD (12200.0 TVD, 10283.7 N, -94.1 E) - Point	0.00	0.00	12,400.0	10,283.6	-101.2	404,698.88	857,775.16	32° 6' 30.501 N	103° 18' 40.846 W
Shifted Nan121 LTP - plan misses target center by 200.3usft at 23086.8usft MD (12199.9 TVD, 10234.2 N, -92.9 E) - Point	0.00	0.00	12,400.0	10,233.6	-100.7	404,648.85	857,775.66	32° 6' 30.006 N	103° 18' 40.846 W

AMEREDEV

Ameredev Operating, LLC.

NAN/GB

NAN/GB #1N

Nandina 121H

Final Survey

Plan: Design #1

Lease Penetration Section Line Foot

10 October, 2019

Company:	Ameredev Operating, LLC.	Local Co-ordinate Reference:	Well Nandina 121H
Project:	NAN/GB	TVD Reference:	KB @ 3050.0usft
Site:	NAN/GB #1N	MD Reference:	KB @ 3050.0usft
Well:	Nandina 121H	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	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 121H					
Well Position	+N/-S	0.0 usft	Northing:	394,415.25 usft	Latitude:	32° 4' 48.739 N
	+E/-W	0.0 usft	Easting:	857,876.36 usft	Longitude:	103° 18' 40.803 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft	Ground Level:	3,023.0 usft

Wellbore	Final Survey				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2015	9/13/2019	6.58	59.94	47,652.24736689

Design	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	359.48

Survey Tool Program	Date	10/10/2019		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
0.0	23,136.3	Design #1 (Final Survey)	MWD	OWSG MWD - Standard

Planned Survey							
MD	Inc	Azi (azimuth)	TVD	+FSL/-FNL	+FWL/-FEL	Latitude	Longitude
(usft)	(°)	(°)	(usft)	(usft)	(usft)		
0.0	0.00	0.00	0.0	231.0	430.0	32° 4' 48.739 N	103° 18' 40.803 W
100.0	0.31	341.90	100.0	231.3	429.9	32° 4' 48.741 N	103° 18' 40.804 W
161.0	0.50	341.90	161.0	231.7	429.8	32° 4' 48.745 N	103° 18' 40.805 W
200.0	0.58	293.63	200.0	231.9	429.5	32° 4' 48.748 N	103° 18' 40.808 W
216.0	0.70	281.00	216.0	232.0	429.4	32° 4' 48.748 N	103° 18' 40.810 W
300.0	0.75	284.59	300.0	232.2	428.3	32° 4' 48.751 N	103° 18' 40.822 W
370.0	0.80	287.20	370.0	232.5	427.4	32° 4' 48.753 N	103° 18' 40.832 W
400.0	0.80	290.26	400.0	232.6	427.0	32° 4' 48.755 N	103° 18' 40.837 W
462.0	0.80	296.60	462.0	232.9	426.2	32° 4' 48.758 N	103° 18' 40.846 W
500.0	0.67	295.11	500.0	233.1	425.8	32° 4' 48.760 N	103° 18' 40.851 W
600.0	0.34	285.96	600.0	233.5	425.0	32° 4' 48.764 N	103° 18' 40.861 W
647.0	0.20	271.40	647.0	233.5	424.8	32° 4' 48.764 N	103° 18' 40.863 W

Company: Ameredev Operating, LLC.
 Project: NAN/GB
 Site: NAN/GB #1N
 Well: Nandina 121H
 Wellbore: Final Survey
 Design: Design #1

Local Co-ordinate Reference: Well Nandina 121H
 TVD Reference: KB @ 3050.0usft
 MD Reference: KB @ 3050.0usft
 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
700.0	0.26	266.12	700.0	233.5	424.6	32° 4' 48.764 N	103° 18' 40.866 W
741.0	0.30	263.40	741.0	233.5	424.4	32° 4' 48.764 N	103° 18' 40.868 W
800.0	0.43	253.73	800.0	233.4	424.0	32° 4' 48.763 N	103° 18' 40.872 W
832.0	0.50	250.60	832.0	233.3	423.7	32° 4' 48.762 N	103° 18' 40.875 W
900.0	0.49	236.54	900.0	233.1	423.2	32° 4' 48.760 N	103° 18' 40.881 W
929.0	0.50	230.60	929.0	232.9	423.0	32° 4' 48.758 N	103° 18' 40.884 W
1,000.0	0.97	243.99	1,000.0	232.5	422.2	32° 4' 48.754 N	103° 18' 40.893 W
1,019.0	1.10	245.60	1,018.9	232.3	421.9	32° 4' 48.752 N	103° 18' 40.896 W
1,100.0	1.06	236.74	1,099.9	231.6	420.6	32° 4' 48.745 N	103° 18' 40.912 W
1,186.0	1.05	226.87	1,185.9	230.6	419.3	32° 4' 48.736 N	103° 18' 40.926 W
1,200.0	1.19	218.58	1,199.9	230.4	419.2	32° 4' 48.734 N	103° 18' 40.929 W
1,249.0	1.79	201.37	1,248.9	229.3	418.6	32° 4' 48.723 N	103° 18' 40.936 W
1,300.0	2.34	182.07	1,299.9	227.5	418.2	32° 4' 48.705 N	103° 18' 40.940 W
1,343.0	2.93	172.26	1,342.8	225.6	418.4	32° 4' 48.686 N	103° 18' 40.938 W
1,400.0	3.49	163.45	1,399.7	222.4	419.0	32° 4' 48.655 N	103° 18' 40.931 W
1,438.0	3.90	159.05	1,437.7	220.1	419.8	32° 4' 48.632 N	103° 18' 40.922 W
1,500.0	4.47	153.39	1,499.5	216.0	421.7	32° 4' 48.591 N	103° 18' 40.901 W
1,533.0	4.79	150.94	1,532.4	213.6	422.9	32° 4' 48.567 N	103° 18' 40.887 W
1,600.0	4.97	145.23	1,599.1	208.8	425.9	32° 4' 48.519 N	103° 18' 40.852 W
1,627.0	5.05	143.05	1,626.0	206.9	427.3	32° 4' 48.500 N	103° 18' 40.836 W
1,700.0	5.10	141.32	1,698.8	201.8	431.3	32° 4' 48.450 N	103° 18' 40.791 W
1,722.0	5.11	140.80	1,720.7	200.3	432.5	32° 4' 48.434 N	103° 18' 40.777 W
1,800.0	5.11	139.08	1,798.4	195.0	437.0	32° 4' 48.381 N	103° 18' 40.726 W
1,817.0	5.11	138.71	1,815.3	193.8	438.0	32° 4' 48.370 N	103° 18' 40.714 W
1,900.0	5.08	138.13	1,898.0	188.3	442.9	32° 4' 48.315 N	103° 18' 40.658 W
1,911.0	5.08	138.05	1,908.9	187.6	443.5	32° 4' 48.308 N	103° 18' 40.650 W
2,000.0	5.30	135.32	1,997.5	181.7	449.0	32° 4' 48.249 N	103° 18' 40.587 W
2,006.0	5.32	135.14	2,003.5	181.3	449.4	32° 4' 48.245 N	103° 18' 40.582 W
2,100.0	5.54	133.39	2,097.1	175.1	455.8	32° 4' 48.183 N	103° 18' 40.509 W
2,101.0	5.54	133.37	2,098.1	175.1	455.9	32° 4' 48.183 N	103° 18' 40.508 W
2,195.0	5.72	132.36	2,191.6	168.8	462.6	32° 4' 48.120 N	103° 18' 40.430 W
2,200.0	5.74	132.38	2,196.6	168.5	463.0	32° 4' 48.117 N	103° 18' 40.426 W
2,290.0	6.09	132.71	2,286.1	162.2	469.8	32° 4' 48.054 N	103° 18' 40.347 W
2,300.0	6.13	132.71	2,296.1	161.5	470.6	32° 4' 48.047 N	103° 18' 40.338 W
2,384.0	6.50	132.74	2,379.6	155.2	477.4	32° 4' 47.984 N	103° 18' 40.260 W
2,400.0	6.58	132.64	2,395.5	154.0	478.7	32° 4' 47.972 N	103° 18' 40.245 W
2,479.0	6.98	132.20	2,473.9	147.7	485.6	32° 4' 47.909 N	103° 18' 40.165 W
2,500.0	7.01	131.66	2,494.8	146.0	487.5	32° 4' 47.892 N	103° 18' 40.143 W
2,573.0	7.13	129.81	2,567.2	140.1	494.3	32° 4' 47.833 N	103° 18' 40.065 W
2,600.0	7.12	129.39	2,594.0	138.0	496.9	32° 4' 47.812 N	103° 18' 40.035 W
2,668.0	7.11	128.33	2,661.5	132.7	503.5	32° 4' 47.759 N	103° 18' 39.959 W
2,700.0	7.10	128.71	2,693.2	130.2	506.6	32° 4' 47.734 N	103° 18' 39.924 W
2,763.0	7.09	129.45	2,755.7	125.3	512.6	32° 4' 47.685 N	103° 18' 39.854 W
2,800.0	7.12	128.89	2,792.5	122.4	516.2	32° 4' 47.656 N	103° 18' 39.813 W

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 Wellbore: Final Survey
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 Survey Calculation Method: Minimum Curvature
 Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azl (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
2,857.0	7.18	128.04	2,849.0	118.0	521.7	32° 4' 47.612 N	103° 18' 39.749 W
2,900.0	6.76	129.20	2,891.7	114.7	525.8	32° 4' 47.579 N	103° 18' 39.702 W
2,952.0	6.26	130.81	2,943.4	111.0	530.3	32° 4' 47.541 N	103° 18' 39.650 W
3,000.0	6.37	129.32	2,991.1	107.6	534.4	32° 4' 47.507 N	103° 18' 39.603 W
3,046.0	6.47	127.93	3,036.8	104.4	538.4	32° 4' 47.475 N	103° 18' 39.557 W
3,100.0	6.44	125.49	3,090.4	100.7	543.2	32° 4' 47.439 N	103° 18' 39.501 W
3,141.0	6.42	123.63	3,131.2	98.1	547.0	32° 4' 47.413 N	103° 18' 39.457 W
3,200.0	6.68	121.87	3,189.8	94.5	552.7	32° 4' 47.376 N	103° 18' 39.392 W
3,235.0	6.83	120.89	3,224.6	92.3	556.2	32° 4' 47.355 N	103° 18' 39.351 W
3,300.0	7.05	119.54	3,289.1	88.4	563.0	32° 4' 47.315 N	103° 18' 39.273 W
3,330.0	7.15	118.95	3,318.8	86.6	566.2	32° 4' 47.297 N	103° 18' 39.235 W
3,400.0	6.81	118.33	3,388.3	82.5	573.7	32° 4' 47.256 N	103° 18' 39.149 W
3,424.0	6.70	118.11	3,412.2	81.2	576.2	32° 4' 47.242 N	103° 18' 39.120 W
3,500.0	5.29	115.96	3,487.7	77.5	583.2	32° 4' 47.206 N	103° 18' 39.039 W
3,519.0	4.94	115.23	3,506.7	76.8	584.8	32° 4' 47.198 N	103° 18' 39.021 W
3,600.0	3.18	109.37	3,587.5	74.6	590.0	32° 4' 47.176 N	103° 18' 38.960 W
3,613.0	2.90	107.77	3,600.4	74.4	590.7	32° 4' 47.174 N	103° 18' 38.952 W
3,700.0	1.53	137.78	3,687.4	72.8	593.6	32° 4' 47.158 N	103° 18' 38.919 W
3,707.0	1.46	142.36	3,694.4	72.7	593.7	32° 4' 47.157 N	103° 18' 38.918 W
3,800.0	3.10	181.79	3,787.3	69.2	594.3	32° 4' 47.122 N	103° 18' 38.911 W
3,802.0	3.14	182.15	3,789.3	69.1	594.3	32° 4' 47.121 N	103° 18' 38.911 W
3,896.0	5.84	189.01	3,883.0	61.8	593.5	32° 4' 47.049 N	103° 18' 38.921 W
3,900.0	5.96	188.77	3,887.0	61.4	593.4	32° 4' 47.045 N	103° 18' 38.922 W
3,991.0	8.82	185.20	3,977.2	49.8	592.1	32° 4' 46.930 N	103° 18' 38.939 W
4,000.0	9.03	184.84	3,986.1	48.4	591.9	32° 4' 46.917 N	103° 18' 38.941 W
4,085.0	10.98	182.11	4,069.8	33.7	591.1	32° 4' 46.771 N	103° 18' 38.952 W
4,100.0	10.91	181.54	4,084.5	30.8	591.0	32° 4' 46.743 N	103° 18' 38.954 W
4,180.0	10.56	178.41	4,163.1	15.9	591.0	32° 4' 46.595 N	103° 18' 38.955 W
4,200.0	10.58	178.69	4,182.8	12.3	591.1	32° 4' 46.559 N	103° 18' 38.955 W
4,274.0	10.65	179.71	4,255.5	-1.4	591.3	32° 4' 46.424 N	103° 18' 38.954 W
4,300.0	10.63	180.03	4,281.1	-6.2	591.3	32° 4' 46.377 N	103° 18' 38.954 W
4,369.0	10.59	180.89	4,348.9	-18.9	591.2	32° 4' 46.251 N	103° 18' 38.957 W
4,400.0	10.64	181.38	4,379.4	-24.6	591.1	32° 4' 46.195 N	103° 18' 38.959 W
4,463.0	10.74	182.36	4,441.3	-36.3	590.7	32° 4' 46.079 N	103° 18' 38.965 W
4,500.0	10.73	182.55	4,477.6	-43.1	590.4	32° 4' 46.011 N	103° 18' 38.969 W
4,558.0	10.72	182.84	4,534.6	-53.9	589.9	32° 4' 45.904 N	103° 18' 38.976 W
4,600.0	10.74	183.07	4,575.9	-61.7	589.5	32° 4' 45.827 N	103° 18' 38.981 W
4,652.0	10.76	183.35	4,627.0	-71.4	588.9	32° 4' 45.731 N	103° 18' 38.989 W
4,700.0	10.71	183.28	4,674.1	-80.3	588.4	32° 4' 45.643 N	103° 18' 38.996 W
4,747.0	10.66	183.22	4,720.3	-89.0	587.9	32° 4' 45.557 N	103° 18' 39.002 W
4,800.0	10.69	182.35	4,772.4	-98.9	587.4	32° 4' 45.460 N	103° 18' 39.009 W
4,842.0	10.71	181.66	4,813.7	-106.6	587.2	32° 4' 45.383 N	103° 18' 39.013 W
4,900.0	10.69	179.68	4,870.7	-117.4	587.1	32° 4' 45.276 N	103° 18' 39.016 W
4,936.0	10.68	178.45	4,906.0	-124.1	587.2	32° 4' 45.210 N	103° 18' 39.015 W

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Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
5,000.0	10.63	175.96	4,968.9	-135.9	587.7	32° 4' 45.093 N	103° 18' 39.010 W
5,031.0	10.61	174.75	4,999.4	-141.6	588.2	32° 4' 45.037 N	103° 18' 39.005 W
5,100.0	10.67	170.87	5,067.2	-154.2	589.8	32° 4' 44.912 N	103° 18' 38.988 W
5,125.0	10.70	169.48	5,091.8	-158.8	590.6	32° 4' 44.867 N	103° 18' 38.979 W
5,200.0	10.54	165.43	5,165.5	-172.3	593.6	32° 4' 44.733 N	103° 18' 38.946 W
5,220.0	10.50	164.33	5,185.2	-175.8	594.5	32° 4' 44.698 N	103° 18' 38.935 W
5,300.0	10.51	159.95	5,263.8	-189.7	599.0	32° 4' 44.560 N	103° 18' 38.885 W
5,314.0	10.52	159.19	5,277.6	-192.1	599.9	32° 4' 44.537 N	103° 18' 38.875 W
5,400.0	10.51	153.53	5,362.2	-206.4	606.2	32° 4' 44.394 N	103° 18' 38.803 W
5,409.0	10.51	152.94	5,371.0	-207.9	606.9	32° 4' 44.379 N	103° 18' 38.795 W
5,500.0	10.54	148.05	5,460.5	-222.3	615.1	32° 4' 44.236 N	103° 18' 38.701 W
5,503.0	10.54	147.89	5,463.4	-222.8	615.4	32° 4' 44.231 N	103° 18' 38.698 W
5,597.0	10.59	144.92	5,555.8	-237.2	624.9	32° 4' 44.088 N	103° 18' 38.589 W
5,600.0	10.58	144.92	5,558.8	-237.6	625.2	32° 4' 44.084 N	103° 18' 38.585 W
5,692.0	10.30	144.85	5,649.3	-251.2	634.8	32° 4' 43.948 N	103° 18' 38.475 W
5,700.0	10.31	144.88	5,657.1	-252.4	635.7	32° 4' 43.936 N	103° 18' 38.466 W
5,786.0	10.42	145.15	5,741.7	-265.1	644.5	32° 4' 43.810 N	103° 18' 38.364 W
5,800.0	10.30	145.02	5,755.5	-267.2	646.0	32° 4' 43.789 N	103° 18' 38.348 W
5,880.0	9.62	144.25	5,834.3	-278.4	654.0	32° 4' 43.677 N	103° 18' 38.256 W
5,900.0	8.80	143.19	5,854.0	-281.0	655.9	32° 4' 43.651 N	103° 18' 38.234 W
5,974.0	5.80	136.67	5,927.4	-288.3	661.8	32° 4' 43.579 N	103° 18' 38.166 W
6,000.0	4.63	134.88	5,953.3	-290.0	663.5	32° 4' 43.562 N	103° 18' 38.147 W
6,069.0	1.60	117.40	6,022.2	-292.4	666.3	32° 4' 43.538 N	103° 18' 38.114 W
6,100.0	1.08	116.72	6,053.2	-292.7	666.9	32° 4' 43.534 N	103° 18' 38.107 W
6,163.0	0.04	40.52	6,116.2	-293.0	667.5	32° 4' 43.532 N	103° 18' 38.100 W
6,200.0	0.05	67.21	6,153.2	-292.9	667.5	32° 4' 43.532 N	103° 18' 38.100 W
6,257.0	0.08	87.46	6,210.2	-292.9	667.6	32° 4' 43.532 N	103° 18' 38.099 W
6,300.0	0.08	46.19	6,253.2	-292.9	667.6	32° 4' 43.532 N	103° 18' 38.099 W
6,352.0	0.12	14.06	6,305.2	-292.8	667.7	32° 4' 43.533 N	103° 18' 38.098 W
6,400.0	0.08	325.68	6,353.2	-292.8	667.7	32° 4' 43.534 N	103° 18' 38.098 W
6,446.0	0.12	279.93	6,399.2	-292.7	667.6	32° 4' 43.534 N	103° 18' 38.099 W
6,500.0	0.09	279.55	6,453.2	-292.7	667.5	32° 4' 43.534 N	103° 18' 38.100 W
6,541.0	0.07	279.05	6,494.2	-292.7	667.4	32° 4' 43.535 N	103° 18' 38.101 W
6,600.0	0.04	38.86	6,553.2	-292.7	667.4	32° 4' 43.535 N	103° 18' 38.101 W
6,635.0	0.09	62.46	6,588.2	-292.6	667.4	32° 4' 43.535 N	103° 18' 38.101 W
6,700.0	0.02	107.76	6,653.2	-292.6	667.5	32° 4' 43.535 N	103° 18' 38.100 W
6,730.0	0.03	187.55	6,683.2	-292.6	667.5	32° 4' 43.535 N	103° 18' 38.100 W
6,800.0	0.02	324.80	6,753.2	-292.6	667.5	32° 4' 43.535 N	103° 18' 38.100 W
6,824.0	0.03	338.26	6,777.2	-292.6	667.5	32° 4' 43.535 N	103° 18' 38.100 W
6,900.0	0.01	325.49	6,853.2	-292.6	667.5	32° 4' 43.535 N	103° 18' 38.100 W
6,918.0	0.01	316.45	6,871.2	-292.6	667.5	32° 4' 43.535 N	103° 18' 38.100 W
7,000.0	0.07	110.74	6,953.2	-292.6	667.5	32° 4' 43.535 N	103° 18' 38.100 W
7,013.0	0.08	111.23	6,966.2	-292.6	667.5	32° 4' 43.535 N	103° 18' 38.100 W
7,100.0	0.09	280.86	7,053.2	-292.6	667.5	32° 4' 43.535 N	103° 18' 38.100 W
7,107.0	0.10	281.52	7,060.2	-292.6	667.5	32° 4' 43.535 N	103° 18' 38.100 W

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Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
7,200.0	0.10	337.50	7,153.2	-292.5	667.4	32° 4' 43.536 N	103° 18' 38.101 W
7,202.0	0.10	338.52	7,155.2	-292.5	667.4	32° 4' 43.536 N	103° 18' 38.101 W
7,296.0	0.04	358.67	7,249.2	-292.4	667.4	32° 4' 43.537 N	103° 18' 38.102 W
7,300.0	0.04	2.40	7,253.2	-292.4	667.4	32° 4' 43.537 N	103° 18' 38.102 W
7,391.0	0.08	134.72	7,344.2	-292.4	667.4	32° 4' 43.537 N	103° 18' 38.101 W
7,400.0	0.08	133.25	7,353.2	-292.5	667.4	32° 4' 43.537 N	103° 18' 38.101 W
7,485.0	0.09	120.82	7,438.2	-292.5	667.5	32° 4' 43.536 N	103° 18' 38.100 W
7,500.0	0.07	111.23	7,453.2	-292.5	667.5	32° 4' 43.536 N	103° 18' 38.100 W
7,580.0	0.08	19.23	7,533.2	-292.5	667.6	32° 4' 43.536 N	103° 18' 38.099 W
7,600.0	0.10	71.42	7,553.2	-292.5	667.6	32° 4' 43.536 N	103° 18' 38.099 W
7,605.0	0.11	79.68	7,558.2	-292.5	667.6	32° 4' 43.537 N	103° 18' 38.098 W
7,686.0	0.08	77.71	7,639.2	-292.5	667.8	32° 4' 43.537 N	103° 18' 38.097 W
7,700.0	0.08	62.46	7,653.2	-292.5	667.8	32° 4' 43.537 N	103° 18' 38.097 W
7,780.0	0.17	17.46	7,733.2	-292.3	667.9	32° 4' 43.538 N	103° 18' 38.096 W
7,800.0	0.14	6.81	7,753.2	-292.3	667.9	32° 4' 43.539 N	103° 18' 38.096 W
7,875.0	0.13	301.76	7,828.2	-292.1	667.8	32° 4' 43.540 N	103° 18' 38.096 W
7,900.0	0.16	317.32	7,853.2	-292.1	667.8	32° 4' 43.541 N	103° 18' 38.097 W
7,970.0	0.28	337.74	7,923.2	-291.8	667.6	32° 4' 43.543 N	103° 18' 38.098 W
8,000.0	0.26	339.93	7,953.2	-291.7	667.6	32° 4' 43.544 N	103° 18' 38.099 W
8,064.0	0.22	345.87	8,017.2	-291.5	667.5	32° 4' 43.547 N	103° 18' 38.100 W
8,100.0	0.33	351.40	8,053.2	-291.3	667.5	32° 4' 43.548 N	103° 18' 38.100 W
8,158.0	0.50	355.32	8,111.2	-290.9	667.4	32° 4' 43.552 N	103° 18' 38.101 W
8,200.0	0.46	7.11	8,153.2	-290.5	667.4	32° 4' 43.556 N	103° 18' 38.101 W
8,253.0	0.44	24.14	8,206.2	-290.1	667.6	32° 4' 43.560 N	103° 18' 38.099 W
8,300.0	0.54	34.26	8,253.2	-289.8	667.8	32° 4' 43.563 N	103° 18' 38.097 W
8,347.0	0.66	40.98	8,300.2	-289.4	668.1	32° 4' 43.567 N	103° 18' 38.093 W
8,400.0	0.78	43.68	8,353.2	-288.9	668.5	32° 4' 43.572 N	103° 18' 38.088 W
8,442.0	0.87	45.30	8,395.2	-288.5	668.9	32° 4' 43.576 N	103° 18' 38.083 W
8,500.0	0.81	40.25	8,453.2	-287.9	669.5	32° 4' 43.582 N	103° 18' 38.076 W
8,537.0	0.77	36.62	8,490.2	-287.5	669.8	32° 4' 43.586 N	103° 18' 38.073 W
8,600.0	0.85	22.94	8,553.2	-286.7	670.3	32° 4' 43.594 N	103° 18' 38.067 W
8,632.0	0.90	17.04	8,585.2	-286.2	670.4	32° 4' 43.598 N	103° 18' 38.065 W
8,700.0	0.77	10.37	8,653.2	-285.3	670.7	32° 4' 43.608 N	103° 18' 38.063 W
8,731.0	0.72	6.58	8,684.2	-284.9	670.7	32° 4' 43.612 N	103° 18' 38.062 W
8,800.0	0.89	346.98	8,753.1	-283.9	670.7	32° 4' 43.621 N	103° 18' 38.063 W
8,826.0	0.97	341.59	8,779.1	-283.5	670.5	32° 4' 43.625 N	103° 18' 38.064 W
8,900.0	1.08	320.49	8,853.1	-282.4	669.9	32° 4' 43.636 N	103° 18' 38.071 W
8,921.0	1.14	315.50	8,874.1	-282.1	669.6	32° 4' 43.639 N	103° 18' 38.074 W
9,000.0	1.24	313.59	8,953.1	-280.9	668.4	32° 4' 43.651 N	103° 18' 38.088 W
9,015.0	1.26	313.26	8,968.1	-280.7	668.2	32° 4' 43.653 N	103° 18' 38.091 W
9,100.0	1.72	288.77	9,053.1	-279.6	666.3	32° 4' 43.664 N	103° 18' 38.112 W
9,109.0	1.78	286.99	9,062.1	-279.6	666.1	32° 4' 43.665 N	103° 18' 38.115 W
9,200.0	2.17	273.03	9,153.0	-279.1	663.0	32° 4' 43.670 N	103° 18' 38.151 W
9,223.0	2.29	270.31	9,176.0	-279.0	662.1	32° 4' 43.670 N	103° 18' 38.161 W

Company: Ameredev Operating, LLC.
 Project: NAN/GB
 Site: NAN/GB #1N
 Well: Nandina 121H
 Wellbore: Final Survey
 Design: Design #1

Local Co-ordinate Reference: Well Nandina 121H
 TVD Reference: KB @ 3050.0usft
 MD Reference: KB @ 3050.0usft
 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
9,300.0	2.74	247.50	9,252.9	-279.7	658.9	32° 4' 43.664 N	103° 18' 38.199 W
9,318.0	2.89	243.38	9,270.9	-280.1	658.1	32° 4' 43.660 N	103° 18' 38.209 W
9,395.0	3.62	231.85	9,347.8	-282.5	654.4	32° 4' 43.637 N	103° 18' 38.251 W
9,400.0	3.62	231.69	9,352.8	-282.7	654.2	32° 4' 43.635 N	103° 18' 38.254 W
9,489.0	3.56	228.71	9,441.6	-286.2	649.9	32° 4' 43.600 N	103° 18' 38.304 W
9,500.0	3.42	228.15	9,452.6	-286.7	649.4	32° 4' 43.596 N	103° 18' 38.310 W
9,583.0	2.37	221.78	9,535.5	-289.6	646.4	32° 4' 43.567 N	103° 18' 38.345 W
9,600.0	2.35	217.23	9,552.5	-290.1	645.9	32° 4' 43.562 N	103° 18' 38.350 W
9,678.0	2.45	196.63	9,630.4	-293.0	644.5	32° 4' 43.533 N	103° 18' 38.367 W
9,700.0	2.61	189.98	9,652.4	-294.0	644.3	32° 4' 43.524 N	103° 18' 38.370 W
9,771.0	3.31	173.91	9,723.3	-297.6	644.2	32° 4' 43.488 N	103° 18' 38.371 W
9,800.0	3.55	171.99	9,752.2	-299.3	644.4	32° 4' 43.471 N	103° 18' 38.369 W
9,867.0	4.12	168.43	9,819.1	-303.7	645.2	32° 4' 43.427 N	103° 18' 38.360 W
9,900.0	4.67	168.15	9,852.0	-306.2	645.7	32° 4' 43.403 N	103° 18' 38.355 W
9,962.0	5.70	167.78	9,913.7	-311.7	646.9	32° 4' 43.349 N	103° 18' 38.342 W
10,000.0	6.30	167.43	9,951.5	-315.6	647.7	32° 4' 43.310 N	103° 18' 38.332 W
10,056.0	7.18	167.02	10,007.1	-322.0	649.2	32° 4' 43.247 N	103° 18' 38.316 W
10,100.0	7.76	167.45	10,050.8	-327.5	650.5	32° 4' 43.191 N	103° 18' 38.302 W
10,151.0	8.43	167.88	10,101.2	-334.6	652.0	32° 4' 43.122 N	103° 18' 38.285 W
10,200.0	8.72	168.50	10,149.7	-341.7	653.5	32° 4' 43.051 N	103° 18' 38.268 W
10,242.0	8.97	169.00	10,191.2	-348.0	654.7	32° 4' 42.988 N	103° 18' 38.254 W
10,300.0	8.92	170.11	10,248.5	-356.9	656.4	32° 4' 42.900 N	103° 18' 38.236 W
10,322.0	8.90	170.53	10,270.2	-360.3	657.0	32° 4' 42.867 N	103° 18' 38.230 W
10,400.0	8.79	170.50	10,347.3	-372.1	658.9	32° 4' 42.750 N	103° 18' 38.209 W
10,417.0	8.76	170.49	10,364.1	-374.7	659.4	32° 4' 42.724 N	103° 18' 38.204 W
10,500.0	8.65	172.40	10,446.1	-387.1	661.2	32° 4' 42.601 N	103° 18' 38.183 W
10,510.0	8.64	172.63	10,456.0	-388.6	661.4	32° 4' 42.586 N	103° 18' 38.181 W
10,600.0	7.82	177.42	10,545.1	-401.4	662.6	32° 4' 42.459 N	103° 18' 38.169 W
10,605.0	7.78	177.71	10,550.1	-402.1	662.6	32° 4' 42.453 N	103° 18' 38.169 W
10,699.0	6.45	183.50	10,643.3	-413.7	662.5	32° 4' 42.338 N	103° 18' 38.171 W
10,700.0	6.44	183.60	10,644.3	-413.8	662.5	32° 4' 42.337 N	103° 18' 38.171 W
10,794.0	5.75	194.27	10,737.8	-423.6	661.0	32° 4' 42.239 N	103° 18' 38.190 W
10,800.0	5.72	195.15	10,743.8	-424.2	660.9	32° 4' 42.234 N	103° 18' 38.192 W
10,888.0	5.38	209.08	10,831.4	-432.0	657.7	32° 4' 42.157 N	103° 18' 38.229 W
10,900.0	5.37	210.25	10,843.3	-433.0	657.2	32° 4' 42.147 N	103° 18' 38.236 W
10,983.0	5.40	218.32	10,925.9	-439.4	652.8	32° 4' 42.084 N	103° 18' 38.287 W
11,000.0	5.25	217.24	10,942.9	-440.7	651.8	32° 4' 42.072 N	103° 18' 38.299 W
11,077.0	4.59	211.45	11,019.6	-446.1	648.1	32° 4' 42.018 N	103° 18' 38.343 W
11,100.0	4.48	210.11	11,042.5	-447.7	647.2	32° 4' 42.003 N	103° 18' 38.354 W
11,172.0	4.14	205.47	11,114.3	-452.5	644.6	32° 4' 41.956 N	103° 18' 38.384 W
11,200.0	3.95	205.91	11,142.2	-454.2	643.8	32° 4' 41.938 N	103° 18' 38.394 W
11,266.0	3.50	207.15	11,208.1	-458.1	641.9	32° 4' 41.900 N	103° 18' 38.416 W
11,300.0	3.48	208.90	11,242.0	-459.9	640.9	32° 4' 41.882 N	103° 18' 38.428 W
11,361.0	3.46	212.08	11,302.9	-463.1	639.0	32° 4' 41.851 N	103° 18' 38.450 W

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

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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
11,400.0	3.24	213.75	11,341.9	-465.0	637.8	32° 4' 41.832 N	103° 18' 38.465 W
11,455.0	2.94	216.53	11,396.8	-467.4	636.1	32° 4' 41.808 N	103° 18' 38.485 W
11,500.0	2.85	217.54	11,441.7	-469.2	634.7	32° 4' 41.791 N	103° 18' 38.501 W
11,549.0	2.76	218.72	11,490.7	-471.1	633.2	32° 4' 41.772 N	103° 18' 38.518 W
11,600.0	2.47	219.48	11,541.6	-472.9	631.8	32° 4' 41.754 N	103° 18' 38.535 W
11,644.0	2.22	220.30	11,585.6	-474.3	630.6	32° 4' 41.741 N	103° 18' 38.549 W
11,700.0	2.16	220.24	11,641.5	-476.0	629.2	32° 4' 41.725 N	103° 18' 38.565 W
11,739.0	2.11	220.19	11,680.5	-477.1	628.3	32° 4' 41.714 N	103° 18' 38.576 W
11,775.0	2.20	223.09	11,716.5	-478.1	627.4	32° 4' 41.704 N	103° 18' 38.587 W
11,800.0	0.64	195.85	11,741.5	-478.6	627.0	32° 4' 41.699 N	103° 18' 38.591 W
11,870.0	4.16	58.50	11,811.4	-477.6	629.1	32° 4' 41.708 N	103° 18' 38.567 W
11,900.0	9.42	16.81	11,841.2	-474.7	630.7	32° 4' 41.737 N	103° 18' 38.548 W
11,917.0	13.09	9.86	11,857.9	-471.4	631.4	32° 4' 41.769 N	103° 18' 38.539 W
11,965.0	20.20	9.19	11,903.8	-457.9	633.7	32° 4' 41.903 N	103° 18' 38.511 W
12,000.0	25.36	4.25	11,936.1	-444.4	635.2	32° 4' 42.036 N	103° 18' 38.492 W
12,012.0	27.16	2.97	11,946.9	-439.1	635.6	32° 4' 42.088 N	103° 18' 38.487 W
12,060.0	31.60	355.68	11,988.7	-415.6	635.2	32° 4' 42.321 N	103° 18' 38.489 W
12,100.0	37.55	349.18	12,021.6	-393.2	632.1	32° 4' 42.543 N	103° 18' 38.523 W
12,107.0	38.62	348.23	12,027.1	-389.0	631.3	32° 4' 42.585 N	103° 18' 38.532 W
12,156.0	41.93	345.42	12,064.5	-358.1	624.0	32° 4' 42.891 N	103° 18' 38.613 W
12,200.0	48.90	342.32	12,095.4	-328.1	615.3	32° 4' 43.189 N	103° 18' 38.711 W
12,208.0	50.18	341.83	12,100.6	-322.3	613.4	32° 4' 43.247 N	103° 18' 38.732 W
12,251.0	57.53	342.40	12,125.9	-289.3	602.7	32° 4' 43.575 N	103° 18' 38.852 W
12,298.0	61.17	340.94	12,149.9	-250.9	590.0	32° 4' 43.955 N	103° 18' 38.996 W
12,300.0	61.30	340.92	12,150.8	-249.2	589.4	32° 4' 43.972 N	103° 18' 39.002 W
12,345.0	64.12	340.45	12,171.5	-211.5	576.2	32° 4' 44.346 N	103° 18' 39.152 W
12,392.0	67.35	339.73	12,190.8	-171.2	561.6	32° 4' 44.746 N	103° 18' 39.317 W
12,400.0	68.26	339.83	12,193.8	-164.3	559.1	32° 4' 44.815 N	103° 18' 39.346 W
12,438.0	72.59	340.31	12,206.5	-130.6	546.9	32° 4' 45.150 N	103° 18' 39.484 W
12,470.0	72.98	340.14	12,216.0	-101.8	536.5	32° 4' 45.435 N	103° 18' 39.601 W
12,500.0	74.54	340.49	12,224.4	-74.7	526.8	32° 4' 45.704 N	103° 18' 39.711 W
12,517.0	75.42	340.68	12,228.8	-59.2	521.4	32° 4' 45.858 N	103° 18' 39.773 W
12,565.0	81.07	343.06	12,238.6	-14.6	506.8	32° 4' 46.301 N	103° 18' 39.938 W
12,600.0	85.63	346.05	12,242.6	18.9	497.5	32° 4' 46.633 N	103° 18' 40.041 W
12,611.0	87.06	346.98	12,243.3	29.6	494.9	32° 4' 46.739 N	103° 18' 40.070 W
12,661.0	88.70	347.56	12,245.2	78.3	483.9	32° 4' 47.223 N	103° 18' 40.193 W
12,684.2	89.42	349.14	12,245.6	101.0	479.3	32° 4' 47.448 N	103° 18' 40.244 W
Final Nan121 FTP							
12,700.0	89.91	350.22	12,245.7	116.6	476.4	32° 4' 47.602 N	103° 18' 40.276 W
12,755.0	91.62	353.97	12,244.9	171.0	468.9	32° 4' 48.141 N	103° 18' 40.358 W
12,800.0	91.65	354.39	12,243.6	215.8	464.3	32° 4' 48.585 N	103° 18' 40.406 W
12,850.0	91.68	354.85	12,242.2	265.5	459.6	32° 4' 49.077 N	103° 18' 40.455 W
12,900.0	91.50	355.93	12,240.8	315.4	455.6	32° 4' 49.571 N	103° 18' 40.496 W
12,945.0	91.34	356.91	12,239.7	360.3	452.8	32° 4' 50.015 N	103° 18' 40.524 W

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Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
13,000.0	90.72	357.35	12,238.7	415.2	450.0	32° 4' 50.559 N	103° 18' 40.549 W
13,040.0	90.27	357.67	12,238.3	455.1	448.3	32° 4' 50.955 N	103° 18' 40.565 W
13,100.0	89.30	356.75	12,238.6	515.1	445.4	32° 4' 51.548 N	103° 18' 40.593 W
13,135.0	88.74	356.22	12,239.2	550.0	443.2	32° 4' 51.894 N	103° 18' 40.614 W
13,200.0	90.42	356.77	12,239.6	614.9	439.3	32° 4' 52.536 N	103° 18' 40.653 W
13,230.0	91.19	357.03	12,239.2	644.8	437.6	32° 4' 52.832 N	103° 18' 40.668 W
13,300.0	91.58	358.92	12,237.5	714.8	435.2	32° 4' 53.525 N	103° 18' 40.689 W
13,326.0	91.73	359.62	12,236.8	740.7	434.8	32° 4' 53.782 N	103° 18' 40.690 W
13,400.0	91.96	358.81	12,234.4	814.7	433.8	32° 4' 54.514 N	103° 18' 40.694 W
13,421.0	92.02	358.58	12,233.7	835.7	433.3	32° 4' 54.721 N	103° 18' 40.697 W
13,500.0	92.59	357.42	12,230.5	914.6	430.6	32° 4' 55.502 N	103° 18' 40.720 W
13,516.0	92.70	357.19	12,229.8	930.5	429.8	32° 4' 55.660 N	103° 18' 40.727 W
13,600.0	92.05	357.86	12,226.3	1,014.4	426.2	32° 4' 56.490 N	103° 18' 40.760 W
13,611.0	91.96	357.95	12,225.9	1,025.4	425.8	32° 4' 56.599 N	103° 18' 40.764 W
13,700.0	90.70	357.33	12,223.8	1,114.3	422.2	32° 4' 57.479 N	103° 18' 40.796 W
13,706.0	90.61	357.29	12,223.8	1,120.3	421.9	32° 4' 57.538 N	103° 18' 40.799 W
13,800.0	86.47	0.04	12,226.2	1,214.2	419.7	32° 4' 58.468 N	103° 18' 40.814 W
13,801.0	86.43	0.07	12,226.2	1,215.2	419.7	32° 4' 58.478 N	103° 18' 40.814 W
13,896.0	86.88	359.77	12,231.8	1,310.0	419.6	32° 4' 59.416 N	103° 18' 40.805 W
13,900.0	86.94	359.75	12,232.0	1,314.0	419.5	32° 4' 59.455 N	103° 18' 40.805 W
13,991.0	88.38	359.34	12,235.7	1,404.9	418.8	32° 5' 0.355 N	103° 18' 40.803 W
14,000.0	88.08	359.18	12,236.0	1,413.9	418.7	32° 5' 0.444 N	103° 18' 40.804 W
14,086.0	85.18	357.60	12,241.0	1,499.7	416.3	32° 5' 1.293 N	103° 18' 40.822 W
14,100.0	85.51	357.58	12,242.2	1,513.7	415.7	32° 5' 1.431 N	103° 18' 40.828 W
14,180.0	87.40	357.45	12,247.1	1,593.4	412.2	32° 5' 2.221 N	103° 18' 40.859 W
14,200.0	88.28	357.80	12,247.9	1,613.4	411.4	32° 5' 2.419 N	103° 18' 40.866 W
14,275.0	91.57	359.13	12,248.0	1,688.4	409.4	32° 5' 3.161 N	103° 18' 40.882 W
14,300.0	90.69	358.89	12,247.5	1,713.3	409.0	32° 5' 3.408 N	103° 18' 40.884 W
14,370.0	88.22	358.21	12,248.1	1,783.3	407.2	32° 5' 4.100 N	103° 18' 40.897 W
14,400.0	89.32	358.32	12,248.8	1,813.3	406.3	32° 5' 4.397 N	103° 18' 40.904 W
14,465.0	91.70	358.55	12,248.2	1,878.3	404.5	32° 5' 5.040 N	103° 18' 40.917 W
14,500.0	90.61	356.39	12,247.5	1,913.2	403.0	32° 5' 5.386 N	103° 18' 40.932 W
14,560.0	88.75	352.68	12,247.8	1,972.9	397.2	32° 5' 5.977 N	103° 18' 40.991 W
14,600.0	88.80	351.84	12,248.7	2,012.6	391.9	32° 5' 6.370 N	103° 18' 41.050 W
14,655.0	88.88	350.69	12,249.8	2,066.9	383.5	32° 5' 6.909 N	103° 18' 41.141 W
14,688.0	88.83	349.66	12,250.5	2,099.4	377.9	32° 5' 7.231 N	103° 18' 41.203 W
14,700.0	89.09	349.80	12,250.7	2,111.2	375.7	32° 5' 7.348 N	103° 18' 41.226 W
14,720.0	89.53	350.03	12,250.9	2,130.9	372.2	32° 5' 7.543 N	103° 18' 41.265 W
14,750.0	90.29	351.51	12,251.0	2,160.5	367.4	32° 5' 7.836 N	103° 18' 41.317 W
14,781.0	90.46	353.10	12,250.8	2,191.2	363.3	32° 5' 8.141 N	103° 18' 41.362 W
14,800.0	90.12	354.01	12,250.7	2,210.1	361.1	32° 5' 8.328 N	103° 18' 41.385 W
14,812.0	89.90	354.58	12,250.7	2,222.1	360.0	32° 5' 8.446 N	103° 18' 41.397 W
14,845.0	88.53	356.52	12,251.1	2,255.0	357.4	32° 5' 8.772 N	103° 18' 41.424 W
14,876.0	89.57	358.91	12,251.6	2,285.9	356.2	32° 5' 9.078 N	103° 18' 41.434 W

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Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
14,900.0	89.46	359.06	12,251.8	2,309.9	355.7	32° 5' 9.316 N	103° 18' 41.437 W
14,908.0	89.43	359.11	12,251.9	2,317.9	355.6	32° 5' 9.395 N	103° 18' 41.437 W
14,940.0	89.86	359.03	12,252.1	2,349.9	355.1	32° 5' 9.712 N	103° 18' 41.440 W
14,971.0	91.04	357.41	12,251.9	2,380.9	354.1	32° 5' 10.018 N	103° 18' 41.448 W
15,000.0	89.80	355.28	12,251.6	2,409.8	352.3	32° 5' 10.305 N	103° 18' 41.466 W
15,003.0	89.67	355.06	12,251.7	2,412.8	352.0	32° 5' 10.334 N	103° 18' 41.469 W
15,034.0	88.75	356.39	12,252.1	2,443.7	349.7	32° 5' 10.640 N	103° 18' 41.492 W
15,066.0	91.01	0.47	12,252.2	2,475.7	348.8	32° 5' 10.957 N	103° 18' 41.499 W
15,097.0	89.73	3.72	12,252.0	2,506.7	350.0	32° 5' 11.263 N	103° 18' 41.482 W
15,100.0	89.82	3.93	12,252.0	2,509.7	350.2	32° 5' 11.293 N	103° 18' 41.479 W
15,129.0	90.69	5.92	12,251.8	2,538.6	352.7	32° 5' 11.579 N	103° 18' 41.447 W
15,200.0	89.60	5.77	12,251.7	2,609.2	359.9	32° 5' 12.277 N	103° 18' 41.356 W
15,224.0	89.23	5.72	12,251.9	2,633.1	362.3	32° 5' 12.513 N	103° 18' 41.325 W
15,300.0	89.22	4.20	12,252.9	2,708.8	368.9	32° 5' 13.261 N	103° 18' 41.240 W
15,319.0	89.22	3.82	12,253.2	2,727.7	370.2	32° 5' 13.449 N	103° 18' 41.223 W
15,400.0	85.20	7.62	12,257.1	2,808.2	378.2	32° 5' 14.244 N	103° 18' 41.120 W
15,414.0	84.51	8.28	12,258.4	2,822.0	380.2	32° 5' 14.381 N	103° 18' 41.096 W
15,500.0	89.40	10.55	12,263.0	2,906.7	394.2	32° 5' 15.217 N	103° 18' 40.924 W
15,509.0	89.91	10.79	12,263.0	2,915.6	395.9	32° 5' 15.305 N	103° 18' 40.903 W
15,600.0	86.28	6.22	12,266.0	3,005.5	409.3	32° 5' 16.193 N	103° 18' 40.737 W
15,604.0	86.12	6.02	12,266.3	3,009.4	409.8	32° 5' 16.232 N	103° 18' 40.732 W
15,699.0	88.95	6.23	12,270.4	3,103.8	419.9	32° 5' 17.165 N	103° 18' 40.604 W
15,700.0	88.95	6.17	12,270.4	3,104.8	420.0	32° 5' 17.175 N	103° 18' 40.602 W
15,793.0	89.11	0.49	12,272.0	3,197.6	425.4	32° 5' 18.092 N	103° 18' 40.529 W
15,800.0	88.84	0.27	12,272.1	3,204.6	425.4	32° 5' 18.162 N	103° 18' 40.528 W
15,888.0	85.49	357.45	12,276.5	3,292.4	423.7	32° 5' 19.031 N	103° 18' 40.539 W
15,900.0	85.73	357.73	12,277.4	3,304.4	423.2	32° 5' 19.149 N	103° 18' 40.543 W
15,983.0	87.38	359.69	12,282.4	3,387.2	421.3	32° 5' 19.969 N	103° 18' 40.556 W
16,000.0	87.10	359.25	12,283.2	3,404.2	421.2	32° 5' 20.137 N	103° 18' 40.556 W
16,078.0	85.81	357.22	12,288.0	3,482.0	418.8	32° 5' 20.907 N	103° 18' 40.575 W
16,100.0	85.99	356.85	12,289.6	3,503.9	417.6	32° 5' 21.124 N	103° 18' 40.586 W
16,173.0	86.61	355.62	12,294.3	3,576.6	412.9	32° 5' 21.844 N	103° 18' 40.633 W
16,200.0	87.03	355.75	12,295.8	3,603.5	410.8	32° 5' 22.110 N	103° 18' 40.654 W
16,268.0	88.08	356.08	12,298.7	3,671.2	406.0	32° 5' 22.781 N	103° 18' 40.703 W
16,300.0	89.02	356.08	12,299.5	3,703.2	403.8	32° 5' 23.097 N	103° 18' 40.725 W
16,362.0	90.85	356.09	12,299.6	3,765.0	399.6	32° 5' 23.709 N	103° 18' 40.767 W
16,400.0	91.33	356.29	12,298.8	3,802.9	397.0	32° 5' 24.085 N	103° 18' 40.792 W
16,457.0	92.06	356.59	12,297.2	3,859.8	393.5	32° 5' 24.648 N	103° 18' 40.827 W
16,500.0	92.60	357.87	12,295.4	3,902.7	391.4	32° 5' 25.072 N	103° 18' 40.846 W
16,552.0	93.25	359.43	12,292.7	3,954.6	390.2	32° 5' 25.586 N	103° 18' 40.855 W
16,600.0	93.39	358.09	12,290.0	4,002.5	389.2	32° 5' 26.060 N	103° 18' 40.862 W
16,647.0	93.53	356.78	12,287.1	4,049.4	387.1	32° 5' 26.524 N	103° 18' 40.881 W
16,700.0	90.69	354.72	12,285.2	4,102.2	383.2	32° 5' 27.047 N	103° 18' 40.921 W
16,741.0	88.49	353.12	12,285.5	4,143.0	378.8	32° 5' 27.451 N	103° 18' 40.967 W
16,800.0	87.48	353.71	12,287.5	4,201.5	372.0	32° 5' 28.031 N	103° 18' 41.039 W

Company:	Ameredev Operating, LLC.	Local Co-ordinate Reference:	Well Nandina 121H
Project:	NAN/GB	TVD Reference:	KB @ 3050.0usft
Site:	NAN/GB #1N	MD Reference:	KB @ 3050.0usft
Well:	Nandina 121H	North Reference:	Grid
Wellbore:	Final Survey	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
16,836.0	86.87	354.07	12,289.3	4,237.3	368.2	32° 5' 28.385 N	103° 18' 41.079 W
16,900.0	86.04	354.78	12,293.3	4,300.9	362.0	32° 5' 29.015 N	103° 18' 41.145 W
16,931.0	85.64	355.13	12,295.5	4,331.7	359.3	32° 5' 29.320 N	103° 18' 41.173 W
16,961.0	88.09	357.95	12,297.2	4,361.6	357.5	32° 5' 29.616 N	103° 18' 41.190 W
17,000.0	88.54	359.71	12,298.3	4,400.5	356.7	32° 5' 30.002 N	103° 18' 41.195 W
17,056.0	89.19	2.23	12,299.4	4,456.5	357.6	32° 5' 30.555 N	103° 18' 41.178 W
17,100.0	88.92	0.37	12,300.1	4,500.5	358.6	32° 5' 30.990 N	103° 18' 41.162 W
17,151.0	88.61	358.22	12,301.2	4,551.5	358.0	32° 5' 31.495 N	103° 18' 41.163 W
17,200.0	88.85	353.86	12,302.3	4,600.3	354.6	32° 5' 31.979 N	103° 18' 41.197 W
17,246.0	89.09	349.77	12,303.2	4,645.8	348.1	32° 5' 32.430 N	103° 18' 41.268 W
17,300.0	89.45	350.01	12,303.8	4,699.0	338.6	32° 5' 32.957 N	103° 18' 41.373 W
17,340.0	89.71	350.18	12,304.1	4,738.4	331.7	32° 5' 33.347 N	103° 18' 41.448 W
17,372.0	89.97	352.89	12,304.2	4,770.0	327.0	32° 5' 33.661 N	103° 18' 41.500 W
17,400.0	89.99	355.73	12,304.2	4,797.9	324.2	32° 5' 33.937 N	103° 18' 41.529 W
17,404.0	89.99	356.13	12,304.2	4,801.9	324.0	32° 5' 33.976 N	103° 18' 41.532 W
17,435.0	89.88	358.72	12,304.3	4,832.9	322.6	32° 5' 34.283 N	103° 18' 41.545 W
17,467.0	89.78	1.32	12,304.4	4,864.9	322.6	32° 5' 34.599 N	103° 18' 41.541 W
17,499.0	89.52	2.67	12,304.6	4,896.8	323.7	32° 5' 34.916 N	103° 18' 41.524 W
17,500.0	89.53	2.70	12,304.6	4,897.8	323.7	32° 5' 34.925 N	103° 18' 41.524 W
17,530.0	89.72	3.73	12,304.8	4,927.8	325.4	32° 5' 35.222 N	103° 18' 41.501 W
17,562.0	89.28	4.89	12,305.1	4,959.7	327.8	32° 5' 35.537 N	103° 18' 41.469 W
17,594.0	89.18	6.31	12,305.5	4,991.5	330.9	32° 5' 35.852 N	103° 18' 41.430 W
17,600.0	89.20	6.59	12,305.6	4,997.5	331.6	32° 5' 35.911 N	103° 18' 41.421 W
17,625.0	89.30	7.78	12,305.9	5,022.3	334.7	32° 5' 36.156 N	103° 18' 41.382 W
17,657.0	89.01	8.83	12,306.4	5,054.0	339.4	32° 5' 36.469 N	103° 18' 41.325 W
17,688.0	88.78	9.92	12,307.0	5,084.5	344.4	32° 5' 36.771 N	103° 18' 41.263 W
17,700.0	88.66	10.35	12,307.2	5,096.4	346.5	32° 5' 36.888 N	103° 18' 41.237 W
17,720.0	88.47	11.07	12,307.7	5,116.0	350.2	32° 5' 37.082 N	103° 18' 41.192 W
17,752.0	88.82	12.78	12,308.5	5,147.3	356.9	32° 5' 37.391 N	103° 18' 41.111 W
17,784.0	88.53	13.92	12,309.2	5,178.4	364.2	32° 5' 37.698 N	103° 18' 41.022 W
17,800.0	88.52	14.46	12,309.6	5,193.9	368.2	32° 5' 37.851 N	103° 18' 40.975 W
17,815.0	88.51	14.97	12,310.0	5,208.4	372.0	32° 5' 37.994 N	103° 18' 40.929 W
17,847.0	88.64	16.39	12,310.8	5,239.2	380.6	32° 5' 38.298 N	103° 18' 40.825 W
17,879.0	88.89	16.37	12,311.5	5,269.9	389.6	32° 5' 38.601 N	103° 18' 40.717 W
17,900.0	89.07	15.39	12,311.9	5,290.1	395.4	32° 5' 38.800 N	103° 18' 40.648 W
17,910.0	89.15	14.93	12,312.0	5,299.8	398.0	32° 5' 38.895 N	103° 18' 40.616 W
17,942.0	90.07	13.03	12,312.3	5,330.8	405.7	32° 5' 39.202 N	103° 18' 40.523 W
17,973.0	90.83	11.36	12,312.0	5,361.1	412.3	32° 5' 39.501 N	103° 18' 40.444 W
18,000.0	91.30	9.21	12,311.5	5,387.7	417.1	32° 5' 39.764 N	103° 18' 40.385 W
18,005.0	91.39	8.81	12,311.4	5,392.6	417.9	32° 5' 39.812 N	103° 18' 40.375 W
18,037.0	92.01	5.89	12,310.4	5,424.3	422.0	32° 5' 40.126 N	103° 18' 40.324 W
18,068.0	93.05	4.85	12,309.1	5,455.2	424.9	32° 5' 40.431 N	103° 18' 40.287 W
18,100.0	93.81	3.87	12,307.2	5,487.0	427.3	32° 5' 40.745 N	103° 18' 40.255 W
18,131.0	93.44	3.74	12,305.2	5,517.9	429.3	32° 5' 41.051 N	103° 18' 40.228 W

Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #1N
Well: Nandina 121H
Wellbore: Final Survey
Design: Design #1

Local Co-ordinate Reference: Well Nandina 121H
TVD Reference: KB @ 3050.0usft
MD Reference: KB @ 3050.0usft
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
18,163.0	93.04	3.09	12,303.4	5,549.8	431.3	32° 5' 41.366 N	103° 18' 40.202 W
18,195.0	92.43	1.79	12,301.9	5,581.7	432.6	32° 5' 41.682 N	103° 18' 40.183 W
18,200.0	92.45	1.39	12,301.7	5,586.7	432.8	32° 5' 41.731 N	103° 18' 40.181 W
18,226.0	92.56	359.34	12,300.5	5,612.7	432.9	32° 5' 41.988 N	103° 18' 40.176 W
18,290.0	92.57	357.24	12,297.7	5,676.6	431.0	32° 5' 42.621 N	103° 18' 40.191 W
18,300.0	92.57	357.13	12,297.2	5,686.6	430.5	32° 5' 42.720 N	103° 18' 40.196 W
18,321.0	92.56	356.91	12,296.3	5,707.5	429.4	32° 5' 42.927 N	103° 18' 40.206 W
18,384.0	91.37	1.19	12,294.1	5,770.4	428.4	32° 5' 43.550 N	103° 18' 40.211 W
18,400.0	91.10	2.96	12,293.8	5,786.4	429.0	32° 5' 43.708 N	103° 18' 40.203 W
18,416.0	90.82	4.72	12,293.5	5,802.4	430.0	32° 5' 43.866 N	103° 18' 40.188 W
18,479.0	91.95	3.19	12,292.0	5,865.2	434.4	32° 5' 44.487 N	103° 18' 40.131 W
18,500.0	92.89	2.08	12,291.1	5,886.2	435.3	32° 5' 44.694 N	103° 18' 40.118 W
18,524.0	93.96	0.81	12,289.7	5,910.1	435.9	32° 5' 44.931 N	103° 18' 40.108 W
18,574.0	94.64	357.59	12,285.9	5,960.0	435.3	32° 5' 45.425 N	103° 18' 40.110 W
18,600.0	93.59	357.03	12,284.0	5,985.9	434.0	32° 5' 45.681 N	103° 18' 40.122 W
18,606.0	93.35	356.90	12,283.7	5,991.9	433.7	32° 5' 45.740 N	103° 18' 40.125 W
18,638.0	91.91	356.23	12,282.2	6,023.8	431.8	32° 5' 46.056 N	103° 18' 40.144 W
18,669.0	91.03	355.61	12,281.4	6,054.7	429.6	32° 5' 46.362 N	103° 18' 40.166 W
18,700.0	90.00	354.84	12,281.1	6,085.6	427.0	32° 5' 46.668 N	103° 18' 40.192 W
18,732.0	88.93	354.05	12,281.4	6,117.4	423.9	32° 5' 46.983 N	103° 18' 40.225 W
18,764.0	87.76	353.57	12,282.4	6,149.2	420.5	32° 5' 47.298 N	103° 18' 40.261 W
18,796.0	86.83	353.00	12,283.9	6,181.0	416.7	32° 5' 47.613 N	103° 18' 40.301 W
18,800.0	86.96	353.00	12,284.1	6,184.9	416.2	32° 5' 47.652 N	103° 18' 40.307 W
18,827.0	87.84	352.97	12,285.3	6,211.7	413.0	32° 5' 47.917 N	103° 18' 40.342 W
18,900.0	88.61	354.03	12,287.6	6,284.2	404.7	32° 5' 48.635 N	103° 18' 40.430 W
18,922.0	88.84	354.35	12,288.1	6,306.1	402.5	32° 5' 48.852 N	103° 18' 40.453 W
19,000.0	89.80	355.14	12,289.0	6,383.7	395.3	32° 5' 49.621 N	103° 18' 40.528 W
19,017.0	90.01	355.31	12,289.0	6,400.7	393.9	32° 5' 49.789 N	103° 18' 40.542 W
19,100.0	90.67	356.36	12,288.5	6,483.5	387.9	32° 5' 50.609 N	103° 18' 40.603 W
19,112.0	90.77	356.51	12,288.4	6,495.4	387.1	32° 5' 50.727 N	103° 18' 40.611 W
19,200.0	92.26	358.33	12,286.0	6,583.3	383.2	32° 5' 51.597 N	103° 18' 40.647 W
19,207.0	92.38	358.47	12,285.8	6,590.3	383.0	32° 5' 51.666 N	103° 18' 40.649 W
19,300.0	94.83	359.52	12,279.9	6,683.1	381.3	32° 5' 52.585 N	103° 18' 40.657 W
19,301.0	94.86	359.53	12,279.8	6,684.1	381.3	32° 5' 52.594 N	103° 18' 40.657 W
19,396.0	95.34	0.04	12,271.4	6,778.7	381.0	32° 5' 53.531 N	103° 18' 40.651 W
19,400.0	95.34	0.02	12,271.0	6,782.7	381.0	32° 5' 53.570 N	103° 18' 40.651 W
19,459.0	95.34	359.72	12,265.5	6,841.4	380.8	32° 5' 54.151 N	103° 18' 40.646 W
19,491.0	95.10	359.40	12,262.6	6,873.3	380.6	32° 5' 54.467 N	103° 18' 40.645 W
19,500.0	94.79	359.26	12,261.8	6,882.3	380.5	32° 5' 54.555 N	103° 18' 40.645 W
19,554.0	92.96	358.45	12,258.2	6,936.1	379.4	32° 5' 55.089 N	103° 18' 40.652 W
19,586.0	91.39	357.74	12,257.0	6,968.1	378.4	32° 5' 55.405 N	103° 18' 40.661 W
19,600.0	91.06	357.59	12,256.7	6,982.1	377.8	32° 5' 55.543 N	103° 18' 40.666 W
19,617.0	90.65	357.40	12,256.4	6,999.1	377.0	32° 5' 55.711 N	103° 18' 40.673 W
19,681.0	91.13	358.27	12,255.4	7,063.0	374.6	32° 5' 56.344 N	103° 18' 40.694 W

Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #1N
Well: Nandina 121H
Wellbore: Final Survey
Design: Design #1

Local Co-ordinate Reference: Well Nandina 121H
TVD Reference: KB @ 3050.0usft
MD Reference: KB @ 3050.0usft
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
19,700.0	90.91	357.69	12,255.1	7,082.0	374.0	32° 5' 56.532 N	103° 18' 40.699 W
19,776.0	90.04	355.35	12,254.4	7,157.8	369.3	32° 5' 57.283 N	103° 18' 40.745 W
19,800.0	90.80	355.44	12,254.3	7,181.8	367.4	32° 5' 57.520 N	103° 18' 40.764 W
19,807.0	91.02	355.46	12,254.2	7,188.7	366.9	32° 5' 57.589 N	103° 18' 40.770 W
19,839.0	90.65	354.40	12,253.7	7,220.6	364.0	32° 5' 57.905 N	103° 18' 40.799 W
19,870.0	90.12	353.53	12,253.5	7,251.4	360.8	32° 5' 58.210 N	103° 18' 40.834 W
19,900.0	92.71	355.53	12,252.7	7,281.3	357.9	32° 5' 58.506 N	103° 18' 40.864 W
19,902.0	92.88	355.66	12,252.6	7,283.3	357.8	32° 5' 58.525 N	103° 18' 40.865 W
19,933.0	92.85	356.81	12,251.1	7,314.2	355.7	32° 5' 58.831 N	103° 18' 40.886 W
19,965.0	92.69	357.72	12,249.5	7,346.1	354.2	32° 5' 59.147 N	103° 18' 40.900 W
19,996.0	89.85	357.70	12,248.9	7,377.1	353.0	32° 5' 59.454 N	103° 18' 40.911 W
20,000.0	89.91	357.79	12,248.9	7,381.1	352.8	32° 5' 59.493 N	103° 18' 40.912 W
20,028.0	90.29	358.39	12,248.8	7,409.0	351.9	32° 5' 59.770 N	103° 18' 40.920 W
20,059.0	91.14	359.49	12,248.4	7,440.0	351.3	32° 6' 0.077 N	103° 18' 40.923 W
20,091.0	89.01	359.40	12,248.4	7,472.0	351.0	32° 6' 0.394 N	103° 18' 40.923 W
20,100.0	89.09	359.22	12,248.5	7,481.0	350.9	32° 6' 0.483 N	103° 18' 40.924 W
20,123.0	89.30	358.77	12,248.9	7,504.0	350.5	32° 6' 0.710 N	103° 18' 40.926 W
20,154.0	90.90	0.10	12,248.8	7,535.0	350.2	32° 6' 1.017 N	103° 18' 40.926 W
20,200.0	89.77	0.96	12,248.5	7,581.0	350.6	32° 6' 1.472 N	103° 18' 40.916 W
20,201.0	89.75	0.98	12,248.5	7,582.0	350.6	32° 6' 1.482 N	103° 18' 40.916 W
20,249.0	89.38	1.53	12,248.9	7,630.0	351.7	32° 6' 1.957 N	103° 18' 40.898 W
20,295.0	89.05	1.74	12,249.5	7,676.0	353.0	32° 6' 2.412 N	103° 18' 40.878 W
20,300.0	89.15	1.74	12,249.6	7,681.0	353.1	32° 6' 2.461 N	103° 18' 40.875 W
20,343.0	90.05	1.73	12,249.9	7,724.0	354.4	32° 6' 2.886 N	103° 18' 40.856 W
20,390.0	92.64	2.82	12,248.8	7,770.9	356.3	32° 6' 3.350 N	103° 18' 40.829 W
20,400.0	92.37	2.93	12,248.4	7,780.9	356.8	32° 6' 3.449 N	103° 18' 40.822 W
20,438.0	91.36	3.33	12,247.1	7,818.8	358.9	32° 6' 3.824 N	103° 18' 40.793 W
20,485.0	91.66	3.81	12,245.9	7,865.7	361.8	32° 6' 4.288 N	103° 18' 40.754 W
20,500.0	91.45	3.89	12,245.5	7,880.7	362.8	32° 6' 4.436 N	103° 18' 40.741 W
20,533.0	91.00	4.07	12,244.8	7,913.6	365.1	32° 6' 4.761 N	103° 18' 40.711 W
20,579.0	90.83	3.17	12,244.0	7,959.5	368.0	32° 6' 5.215 N	103° 18' 40.672 W
20,600.0	90.96	3.01	12,243.7	7,980.4	369.1	32° 6' 5.423 N	103° 18' 40.656 W
20,627.0	91.12	2.80	12,243.2	8,007.4	370.5	32° 6' 5.689 N	103° 18' 40.638 W
20,673.0	90.00	2.14	12,242.8	8,053.4	372.5	32° 6' 6.144 N	103° 18' 40.609 W
20,700.0	90.61	1.95	12,242.6	8,080.3	373.4	32° 6' 6.411 N	103° 18' 40.595 W
20,721.0	91.09	1.80	12,242.3	8,101.3	374.1	32° 6' 6.618 N	103° 18' 40.585 W
20,766.0	92.70	0.79	12,240.8	8,146.3	375.1	32° 6' 7.063 N	103° 18' 40.568 W
20,800.0	92.72	0.46	12,239.2	8,180.2	375.5	32° 6' 7.399 N	103° 18' 40.560 W
20,816.0	92.73	0.30	12,238.5	8,196.2	375.6	32° 6' 7.557 N	103° 18' 40.557 W
20,861.0	92.05	0.43	12,236.6	8,241.2	375.9	32° 6' 8.002 N	103° 18' 40.549 W
20,900.0	92.49	0.87	12,235.0	8,280.2	376.3	32° 6' 8.387 N	103° 18' 40.539 W
20,911.0	92.62	0.99	12,234.6	8,291.1	376.5	32° 6' 8.496 N	103° 18' 40.536 W
20,956.0	92.13	1.37	12,232.7	8,336.1	377.5	32° 6' 8.941 N	103° 18' 40.520 W
21,000.0	92.10	1.32	12,231.1	8,380.0	378.5	32° 6' 9.376 N	103° 18' 40.504 W

Company:	Ameredev Operating, LLC.	Local Co-ordinate Reference:	Well Nandina 121H
Project:	NAN/GB	TVD Reference:	KB @ 3050.0usft
Site:	NAN/GB #1N	MD Reference:	KB @ 3050.0usft
Well:	Nandina 121H	North Reference:	Grid
Wellbore:	Final Survey	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM5000

Planned Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
21,005.0	92.10	1.31	12,230.9	8,385.0	378.6	32° 6' 9.425 N	103° 18' 40.502 W
21,050.0	91.31	1.58	12,229.5	8,430.0	379.7	32° 6' 9.870 N	103° 18' 40.484 W
21,100.0	91.43	1.13	12,228.3	8,480.0	380.9	32° 6' 10.364 N	103° 18' 40.464 W
21,145.0	92.61	359.49	12,226.8	8,524.9	381.2	32° 6' 10.809 N	103° 18' 40.457 W
21,194.0	91.95	358.64	12,224.8	8,573.9	380.4	32° 6' 11.294 N	103° 18' 40.460 W
21,200.0	92.04	358.57	12,224.6	8,579.9	380.2	32° 6' 11.353 N	103° 18' 40.462 W
21,239.0	92.62	358.14	12,223.0	8,618.8	379.1	32° 6' 11.738 N	103° 18' 40.470 W
21,289.0	92.52	357.82	12,220.8	8,668.8	377.3	32° 6' 12.233 N	103° 18' 40.485 W
21,300.0	92.56	357.74	12,220.3	8,679.7	376.9	32° 6' 12.341 N	103° 18' 40.489 W
21,335.0	92.67	357.48	12,218.7	8,714.7	375.5	32° 6' 12.687 N	103° 18' 40.502 W
21,383.0	92.67	357.35	12,216.5	8,762.6	373.3	32° 6' 13.161 N	103° 18' 40.522 W
21,400.0	92.59	357.44	12,215.7	8,779.5	372.5	32° 6' 13.329 N	103° 18' 40.529 W
21,477.0	92.20	357.83	12,212.5	8,856.4	369.3	32° 6' 14.090 N	103° 18' 40.557 W
21,500.0	92.02	357.84	12,211.6	8,879.4	368.5	32° 6' 14.317 N	103° 18' 40.565 W
21,572.0	91.46	357.88	12,209.4	8,951.3	365.8	32° 6' 15.029 N	103° 18' 40.588 W
21,600.0	91.40	357.66	12,208.7	8,979.3	364.7	32° 6' 15.306 N	103° 18' 40.598 W
21,667.0	91.27	357.12	12,207.2	9,046.2	361.6	32° 6' 15.968 N	103° 18' 40.626 W
21,700.0	91.16	357.29	12,206.5	9,079.1	360.0	32° 6' 16.295 N	103° 18' 40.641 W
21,761.0	90.97	357.59	12,205.3	9,140.1	357.3	32° 6' 16.898 N	103° 18' 40.666 W
21,800.0	90.69	357.16	12,204.8	9,179.0	355.5	32° 6' 17.283 N	103° 18' 40.683 W
21,857.0	90.27	356.54	12,204.3	9,235.9	352.4	32° 6' 17.847 N	103° 18' 40.713 W
21,900.0	90.85	356.95	12,203.9	9,278.9	349.9	32° 6' 18.272 N	103° 18' 40.736 W
21,952.0	91.56	357.44	12,202.8	9,330.8	347.4	32° 6' 18.786 N	103° 18' 40.760 W
22,000.0	91.26	358.19	12,201.6	9,378.7	345.6	32° 6' 19.260 N	103° 18' 40.776 W
22,046.0	90.97	358.90	12,200.7	9,424.7	344.4	32° 6' 19.715 N	103° 18' 40.785 W
22,100.0	90.63	359.76	12,199.9	9,478.7	343.8	32° 6' 20.250 N	103° 18' 40.786 W
22,140.0	90.38	0.40	12,199.6	9,518.7	343.8	32° 6' 20.645 N	103° 18' 40.781 W
22,200.0	90.06	1.35	12,199.4	9,578.7	344.7	32° 6' 21.239 N	103° 18' 40.764 W
22,235.0	89.87	1.91	12,199.4	9,613.7	345.7	32° 6' 21.585 N	103° 18' 40.748 W
22,300.0	89.99	2.07	12,199.5	9,678.6	348.0	32° 6' 22.228 N	103° 18' 40.715 W
22,330.0	90.04	2.14	12,199.5	9,708.6	349.1	32° 6' 22.524 N	103° 18' 40.699 W
22,400.0	90.03	0.81	12,199.4	9,778.6	350.9	32° 6' 23.216 N	103° 18' 40.670 W
22,425.0	90.02	0.34	12,199.4	9,803.6	351.2	32° 6' 23.464 N	103° 18' 40.664 W
22,500.0	89.87	359.01	12,199.5	9,878.6	350.7	32° 6' 24.206 N	103° 18' 40.661 W
22,520.0	89.83	358.65	12,199.5	9,898.6	350.3	32° 6' 24.404 N	103° 18' 40.664 W
22,600.0	89.87	358.66	12,199.7	9,978.6	348.4	32° 6' 25.195 N	103° 18' 40.677 W
22,615.0	89.88	358.66	12,199.8	9,993.6	348.1	32° 6' 25.344 N	103° 18' 40.679 W
22,700.0	90.09	358.67	12,199.8	10,078.5	346.1	32° 6' 26.185 N	103° 18' 40.693 W
22,710.0	90.12	358.67	12,199.8	10,088.5	345.9	32° 6' 26.284 N	103° 18' 40.694 W
22,800.0	89.97	358.78	12,199.7	10,178.5	343.9	32° 6' 27.174 N	103° 18' 40.708 W
22,804.0	89.96	358.78	12,199.7	10,182.5	343.8	32° 6' 27.214 N	103° 18' 40.708 W
22,899.0	90.10	358.70	12,199.7	10,277.5	341.7	32° 6' 28.154 N	103° 18' 40.722 W
22,900.0	90.10	358.70	12,199.7	10,278.5	341.7	32° 6' 28.163 N	103° 18' 40.722 W
22,994.0	89.86	358.56	12,199.7	10,372.5	339.4	32° 6' 29.094 N	103° 18' 40.738 W

Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #1N
Well: Nandina 121H
Wellbore: Final Survey
Design: Design #1

Local Co-ordinate Reference: Well Nandina 121H
TVD Reference: KB @ 3050.0usft
MD Reference: KB @ 3050.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azl (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
23,000.0	89.86	358.56	12,199.7	10,378.5	339.3	32° 6' 29.153 N	103° 18' 40.739 W
23,060.0	89.88	358.57	12,199.8	10,438.4	337.8	32° 6' 29.747 N	103° 18' 40.750 W
23,085.6	89.88	358.57	12,199.9	10,464.0	337.1	32° 6' 30.000 N	103° 18' 40.755 W
Final Nan121 LTP							
23,100.0	89.88	358.57	12,199.9	10,478.4	336.8	32° 6' 30.142 N	103° 18' 40.757 W
23,136.2	89.88	358.57	12,200.0	10,514.7	335.9	32° 6' 30.501 N	103° 18' 40.764 W
Final Nan121 BHL							

Checked By: _____ Approved By: _____ Date: _____