



AMEREDEV

Ameredev Operating, LLC.

NAN/GB

NAN/GB #5N

Nandina 114H

Nandina 114H As Drilled

Plan: Final

Standard Planning Report

11 November, 2019

Database:	EDM5000	Local Co-ordinate Reference:	Well Nandina 114H
Company:	Ameredev Operating, LLC.	TVD Reference:	KB @ 3044.0usft
Project:	NAN/GB	MD Reference:	KB @ 3044.0usft
Site:	NAN/GB #5N	North Reference:	Grid
Well:	Nandina 114H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Nandina 114H As Drilled		
Design:	Final		

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

Site	NAN/GB #5N				
Site Position:		Northing:	394,434.39 usft	Latitude:	32° 4' 48.750 N
From:	Lat/Long	Easting:	859,774.27 usft	Longitude:	103° 18' 18.744 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.55 °

Well	Nandina 114H					
Well Position	+N/-S	0.2 usft	Northing:	394,434.62 usft	Latitude:	32° 4' 48.750 N
	+E/-W	20.0 usft	Easting:	859,794.28 usft	Longitude:	103° 18' 18.511 W
Position Uncertainty	0.0 usft		Wellhead Elevation:		Ground Level:	3,017.0 usft

Wellbore	Nandina 114H As Drilled				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/11/2019	6.56	59.94	47,636.30533680

Design	Final				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	359.40	

Plan Survey Tool Program	Date	11/11/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	22,573.6 Final (Nandina 114H As Drilled)	MWD	
			OWSG MWD - Standard	

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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	
70.0	1.00	200.00	70.0	-0.6	-0.2	1.43	1.43	0.00	200.00	
149.0	1.80	26.00	149.0	-0.1	0.1	3.54	1.01	-220.25	-176.14	
235.0	1.00	30.00	235.0	1.8	1.1	0.94	-0.93	4.65	175.03	
327.0	0.90	357.00	326.9	3.2	1.4	0.60	-0.11	-35.87	-116.57	
422.0	0.90	4.00	421.9	4.7	1.4	0.12	0.00	7.37	93.50	
516.0	0.90	3.00	515.9	6.1	1.5	0.02	0.00	-1.06	-90.50	
610.0	1.30	5.00	609.9	7.9	1.7	0.43	0.43	2.13	6.48	
705.0	1.00	5.00	704.9	9.8	1.8	0.32	-0.32	0.00	180.00	
799.0	0.40	346.00	798.9	11.0	1.8	0.68	-0.64	-20.21	-168.17	
894.0	0.10	181.00	893.9	11.2	1.7	0.52	-0.32	-173.68	-177.02	
988.0	0.50	13.00	987.9	11.5	1.8	0.64	0.43	-178.72	-169.99	
1,083.0	1.20	334.00	1,082.9	12.8	1.5	0.92	0.74	-41.05	-60.19	
1,242.0	1.16	298.73	1,241.8	15.1	-0.7	0.45	-0.03	-22.18	-110.68	
1,336.0	1.18	279.77	1,335.8	15.7	-2.4	0.41	0.02	-20.17	-96.55	
1,430.0	1.43	288.19	1,429.8	16.2	-4.5	0.33	0.27	8.96	41.75	
1,525.0	1.03	249.63	1,524.8	16.3	-6.4	0.94	-0.42	-40.59	-134.21	
1,714.0	1.13	206.25	1,713.7	14.1	-8.9	0.43	0.05	-22.95	-105.05	
1,809.0	0.94	190.46	1,808.7	12.5	-9.4	0.36	-0.20	-16.62	-131.40	
1,903.0	0.89	192.70	1,902.7	11.0	-9.7	0.07	-0.05	2.38	145.54	
1,998.0	0.98	176.48	1,997.7	9.5	-9.8	0.29	0.09	-17.07	-79.45	
2,092.0	0.68	147.77	2,091.7	8.2	-9.5	0.54	-0.32	-30.54	-139.58	
2,187.0	4.24	175.36	2,186.6	4.2	-8.9	3.84	3.75	29.04	32.53	
2,281.0	5.50	174.16	2,280.3	-3.7	-8.1	1.34	1.34	-1.28	-5.22	
2,376.0	5.83	173.66	2,374.8	-13.1	-7.2	0.35	0.35	-0.53	-8.76	
2,470.0	7.28	169.18	2,468.2	-23.7	-5.5	1.63	1.54	-4.77	-21.66	
2,565.0	7.05	164.30	2,562.4	-35.2	-2.8	0.68	-0.24	-5.14	-113.11	
2,659.0	7.31	153.14	2,655.7	-46.1	1.5	1.51	0.28	-11.87	-85.01	
2,754.0	7.14	147.95	2,749.9	-56.5	7.3	0.71	-0.18	-5.46	-107.16	
2,848.0	7.49	141.64	2,843.2	-66.2	14.2	0.93	0.37	-6.71	-69.61	
2,943.0	7.95	137.92	2,937.3	-76.0	22.5	0.71	0.48	-3.92	-49.22	
3,037.0	7.14	144.54	3,030.5	-85.5	30.2	1.26	-0.86	7.04	136.23	
3,132.0	7.15	139.31	3,124.8	-94.8	37.5	0.68	0.01	-5.51	-91.71	
3,227.0	5.94	144.13	3,219.1	-103.3	44.2	1.40	-1.27	5.07	157.96	
3,321.0	5.10	159.39	3,312.7	-111.2	48.6	1.79	-0.89	16.23	127.23	
3,416.0	5.26	179.07	3,407.3	-119.5	50.1	1.87	0.17	20.72	94.71	
3,511.0	5.24	176.97	3,501.9	-128.2	50.4	0.20	-0.02	-2.21	-96.99	
3,605.0	5.11	179.48	3,595.6	-136.6	50.7	0.28	-0.14	2.67	121.11	
3,700.0	4.51	182.52	3,690.2	-144.6	50.6	0.69	-0.63	3.20	158.49	
3,794.0	5.52	168.67	3,783.9	-152.7	51.3	1.67	1.07	-14.73	-57.20	
3,889.0	6.32	165.35	3,878.4	-162.3	53.5	0.92	0.84	-3.49	-24.83	
3,983.0	6.05	165.61	3,971.8	-172.1	56.0	0.29	-0.29	0.28	174.21	
4,077.0	6.03	162.96	4,065.3	-181.6	58.7	0.30	-0.02	-2.82	-95.42	
4,172.0	6.11	155.64	4,159.8	-190.9	62.3	0.82	0.08	-7.71	-87.75	
4,266.0	6.00	154.07	4,253.2	-199.9	66.5	0.21	-0.12	-1.67	-124.37	
4,361.0	6.06	151.23	4,347.7	-208.8	71.1	0.32	0.06	-2.99	-80.04	
4,456.0	5.95	152.77	4,442.2	-217.6	75.7	0.21	-0.12	1.62	125.09	
4,550.0	6.30	152.58	4,535.6	-226.5	80.3	0.37	0.37	-0.20	-3.41	

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4,645.0	5.92	150.49	4,630.1	-235.4	85.1	0.46	-0.40	-2.20	-150.69
4,739.0	5.92	151.24	4,723.6	-243.8	89.9	0.08	0.00	0.80	90.37
4,834.0	5.84	149.56	4,818.1	-252.3	94.7	0.20	-0.08	-1.77	-115.76
4,928.0	5.85	147.52	4,911.6	-260.5	99.7	0.22	0.01	-2.17	-88.26
5,023.0	6.53	161.12	5,006.1	-269.7	104.0	1.70	0.72	14.32	71.99
5,117.0	6.68	158.91	5,099.4	-279.8	107.7	0.31	0.16	-2.35	-60.56
5,212.0	6.43	159.96	5,193.8	-290.0	111.5	0.29	-0.26	1.11	154.91
5,306.0	6.49	159.61	5,287.2	-299.9	115.2	0.08	0.06	-0.37	-33.45
5,401.0	5.83	157.36	5,381.7	-309.4	118.9	0.74	-0.69	-2.37	-161.02
5,495.0	5.87	162.97	5,475.2	-318.4	122.1	0.61	0.04	5.97	88.79
5,590.0	6.15	167.66	5,569.7	-328.0	124.7	0.59	0.29	4.94	62.65
5,684.0	5.95	166.43	5,663.1	-337.6	126.9	0.25	-0.21	-1.31	-147.66
5,779.0	5.57	164.64	5,757.7	-346.9	129.3	0.44	-0.40	-1.88	-155.59
5,873.0	5.57	166.67	5,851.2	-355.7	131.5	0.21	0.00	2.16	91.01
5,968.0	5.58	167.44	5,945.8	-364.7	133.6	0.08	0.01	0.81	82.77
6,062.0	5.45	166.38	6,039.3	-373.5	135.6	0.18	-0.14	-1.13	-142.44
6,157.0	5.34	165.29	6,133.9	-382.2	137.8	0.16	-0.12	-1.15	-137.57
6,251.0	5.21	165.13	6,227.5	-390.5	140.0	0.14	-0.14	-0.17	-173.62
6,346.0	6.02	165.96	6,322.1	-399.5	142.3	0.86	0.85	0.87	6.14
6,441.0	6.11	163.30	6,416.5	-409.2	145.0	0.31	0.09	-2.80	-73.57
6,535.0	6.98	163.80	6,509.9	-419.5	148.0	0.93	0.93	0.53	4.00
6,629.0	6.70	160.91	6,603.2	-430.1	151.4	0.47	-0.30	-3.07	-130.56
6,724.0	6.15	162.51	6,697.7	-440.2	154.8	0.61	-0.58	1.68	162.76
6,819.0	5.76	160.12	6,792.1	-449.6	157.9	0.49	-0.41	-2.52	-148.74
6,913.0	5.67	158.91	6,885.7	-458.3	161.2	0.16	-0.10	-1.29	-127.36
7,008.0	6.58	158.16	6,980.1	-467.8	164.9	0.96	0.96	-0.79	-5.40
7,103.0	6.19	159.39	7,074.5	-477.6	168.7	0.44	-0.41	1.29	161.28
7,197.0	6.19	157.05	7,168.0	-487.0	172.5	0.27	0.00	-2.49	-91.16
7,292.0	5.58	156.92	7,262.5	-496.0	176.3	0.64	-0.64	-0.14	-178.81
7,386.0	4.99	159.92	7,356.1	-504.0	179.5	0.69	-0.63	3.19	156.39
7,481.0	4.77	156.31	7,450.7	-511.5	182.5	0.40	-0.23	-3.80	-127.41
7,575.0	3.88	153.46	7,544.5	-518.0	185.5	0.97	-0.95	-3.03	-167.84
7,670.0	3.67	150.55	7,639.3	-523.5	188.4	0.30	-0.22	-3.06	-139.07
7,764.0	3.00	149.51	7,733.1	-528.2	191.1	0.72	-0.71	-1.11	-175.36
7,859.0	2.96	148.71	7,828.0	-532.5	193.7	0.06	-0.04	-0.84	-134.28
7,953.0	1.96	148.21	7,921.9	-535.9	195.8	1.06	-1.06	-0.53	-179.02
8,048.0	1.74	144.93	8,016.8	-538.5	197.5	0.26	-0.23	-3.45	-155.93
8,142.0	0.77	130.69	8,110.8	-540.0	198.8	1.08	-1.03	-15.15	-169.21
8,237.0	0.80	345.11	8,205.8	-539.8	199.1	1.58	0.03	-153.24	-162.45
8,332.0	0.95	357.65	8,300.8	-538.4	198.9	0.26	0.16	13.20	58.31
8,426.0	0.63	353.82	8,394.8	-537.1	198.8	0.34	-0.34	-4.07	-172.54
8,521.0	0.65	345.62	8,489.8	-536.1	198.6	0.10	0.02	-8.63	-81.80
8,615.0	0.24	327.31	8,583.8	-535.4	198.4	0.46	-0.44	-19.48	-169.87
8,710.0	0.10	15.22	8,678.8	-535.1	198.3	0.20	-0.15	50.43	156.78
8,804.0	0.20	32.68	8,772.8	-534.9	198.4	0.12	0.11	18.57	33.46
8,899.0	0.16	129.36	8,867.8	-534.9	198.6	0.28	-0.04	101.77	143.99
8,993.0	0.08	93.99	8,961.8	-534.9	198.7	0.11	-0.09	-37.63	-153.96
9,088.0	0.10	94.03	9,056.8	-535.0	198.9	0.02	0.02	0.04	0.20
9,183.0	0.20	204.64	9,151.8	-535.1	198.9	0.27	0.11	116.43	132.31
9,277.0	0.67	228.70	9,245.8	-535.6	198.4	0.53	0.50	25.60	33.56
9,371.0	0.86	219.95	9,339.8	-536.5	197.6	0.24	0.20	-9.31	-36.01
9,466.0	0.54	211.21	9,434.8	-537.5	196.9	0.35	-0.34	-9.20	-165.88
9,560.0	0.46	192.17	9,528.8	-538.2	196.6	0.19	-0.09	-20.26	-125.02

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9,655.0	0.51	152.30	9,623.8	-538.9	196.7	0.35	0.05	-41.97	-101.85
9,749.0	0.85	55.50	9,717.8	-538.9	197.4	1.11	0.36	-102.98	-125.88
9,844.0	1.24	11.67	9,812.7	-537.5	198.2	0.91	0.41	-46.14	-87.03
9,938.0	1.80	2.38	9,906.7	-535.0	198.5	0.65	0.60	-9.88	-28.44
10,016.0	1.92	11.54	9,984.7	-532.5	198.8	0.41	0.15	11.74	72.64
10,033.0	2.04	16.60	10,001.7	-532.0	199.0	1.25	0.71	29.76	58.08
10,127.0	2.03	16.84	10,095.6	-528.8	199.9	0.01	-0.01	0.26	139.68
10,222.0	1.79	13.45	10,190.5	-525.7	200.8	0.28	-0.25	-3.57	-156.48
10,317.0	1.52	8.06	10,285.5	-523.0	201.3	0.33	-0.28	-5.67	-152.71
10,411.0	1.39	12.54	10,379.5	-520.7	201.7	0.18	-0.14	4.77	141.04
10,506.0	1.31	3.79	10,474.4	-518.5	202.0	0.23	-0.08	-9.21	-115.55
10,600.0	1.46	2.50	10,568.4	-516.2	202.1	0.16	0.16	-1.37	-12.39
10,695.0	1.16	357.43	10,663.4	-514.0	202.2	0.34	-0.32	-5.34	-161.40
10,789.0	1.23	244.69	10,757.4	-513.5	201.2	2.12	0.07	-119.94	-145.25
10,883.0	1.40	240.13	10,851.4	-514.5	199.3	0.21	0.18	-4.85	-33.91
10,978.0	1.77	248.76	10,946.3	-515.6	196.9	0.46	0.39	9.08	37.19
11,072.0	2.09	248.19	11,040.3	-516.8	194.0	0.34	0.34	-0.61	-3.72
11,167.0	2.09	255.05	11,135.2	-517.9	190.7	0.26	0.00	7.22	93.43
11,261.0	2.39	258.41	11,229.1	-518.7	187.1	0.35	0.32	3.57	25.33
11,331.0	2.40	262.55	11,299.1	-519.2	184.2	0.25	0.01	5.91	88.76
11,354.0	2.28	264.14	11,322.1	-519.3	183.3	0.59	-0.52	6.91	152.38
11,448.0	5.26	311.09	11,415.9	-516.7	178.2	4.32	3.17	49.95	71.12
11,497.0	10.81	325.83	11,464.4	-511.4	173.9	11.99	11.33	30.08	27.78
11,543.0	16.20	327.62	11,509.1	-502.4	168.0	11.75	11.72	3.89	5.31
11,638.0	23.79	325.25	11,598.3	-475.4	150.0	8.03	7.99	-2.49	-7.22
11,685.0	30.25	327.28	11,640.1	-457.7	138.2	13.88	13.74	4.32	9.04
11,732.0	34.60	330.09	11,679.8	-436.1	125.1	9.79	9.26	5.98	20.30
11,785.0	39.77	333.32	11,722.0	-407.9	110.0	10.42	9.75	6.09	21.99
11,864.0	46.98	335.11	11,779.4	-359.1	86.5	9.26	9.13	2.27	10.33
11,896.0	50.46	335.58	11,800.5	-337.2	76.4	10.93	10.88	1.47	5.95
11,928.0	55.72	335.69	11,819.7	-313.9	65.9	16.44	16.44	0.34	0.99
11,959.0	60.45	333.68	11,836.1	-290.1	54.6	16.22	15.26	-6.48	-20.37
11,991.0	66.58	334.11	11,850.4	-264.4	42.0	19.19	19.16	1.34	3.69
12,038.0	74.12	339.10	11,866.2	-223.8	24.5	18.90	16.04	10.62	32.81
12,085.0	79.65	341.07	11,876.8	-180.8	8.9	12.45	11.77	4.19	19.37
12,132.0	82.51	342.42	11,884.1	-136.7	-5.6	6.71	6.09	2.87	25.11
12,180.0	84.89	345.61	11,889.4	-90.9	-18.7	8.26	4.96	6.65	53.29
12,227.0	86.00	349.42	11,893.1	-45.1	-28.9	8.42	2.36	8.11	73.87
12,274.0	87.48	354.22	11,895.8	1.3	-35.5	10.67	3.15	10.21	72.98
12,369.0	88.27	359.69	11,899.3	96.1	-40.6	5.81	0.83	5.76	81.88
12,483.0	87.38	359.93	11,903.7	210.0	-40.9	0.81	-0.78	0.21	164.92
12,577.0	88.17	0.16	11,907.3	303.9	-40.9	0.88	0.84	0.24	16.23
12,672.0	89.29	0.23	11,909.4	398.9	-40.5	1.18	1.18	0.07	3.58
12,767.0	90.74	1.15	11,909.4	493.9	-39.4	1.81	1.53	0.97	32.40
12,861.0	89.91	2.05	11,908.8	587.8	-36.8	1.30	-0.88	0.96	132.68
12,956.0	90.06	4.39	11,908.9	682.7	-31.4	2.47	0.16	2.46	86.33
13,051.0	86.51	1.97	11,911.7	777.5	-26.2	4.52	-3.74	-2.55	-145.76
13,146.0	87.51	358.91	11,916.7	872.3	-25.4	3.38	1.05	-3.22	-71.96
13,241.0	86.43	357.76	11,921.7	967.2	-28.2	1.66	-1.14	-1.21	-133.27
13,336.0	87.44	355.91	11,926.8	1,061.9	-33.4	2.22	1.06	-1.95	-61.39
13,431.0	87.66	356.72	11,930.8	1,156.6	-39.5	0.88	0.23	0.85	74.81
13,526.0	89.37	357.90	11,933.3	1,251.4	-44.0	2.19	1.80	1.24	34.62
13,621.0	88.66	359.06	11,934.9	1,346.4	-46.5	1.43	-0.75	1.22	121.48

Database:	EDM5000	Local Co-ordinate Reference:	Well Nandina 114H
Company:	Ameredev Operating, LLC.	TVD Reference:	KB @ 3044.0usft
Project:	NAN/GB	MD Reference:	KB @ 3044.0usft
Site:	NAN/GB #5N	North Reference:	Grid
Well:	Nandina 114H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Nandina 114H As Drilled		
Design:	Final		

13,716.0	85.19	358.80	11,940.0	1,441.2	-48.3	3.66	-3.65	-0.27	-175.73
13,811.0	84.76	358.10	11,948.3	1,535.8	-50.9	0.86	-0.45	-0.74	-121.69
13,906.0	87.87	358.51	11,954.5	1,630.6	-53.7	3.30	3.27	0.43	7.51
14,001.0	88.15	359.40	11,957.7	1,725.5	-55.4	0.98	0.29	0.94	72.54
14,096.0	89.61	0.79	11,959.6	1,820.5	-55.2	2.12	1.54	1.46	43.60
14,191.0	94.22	0.94	11,956.4	1,915.4	-53.8	4.86	4.85	0.16	1.86
14,286.0	88.84	359.86	11,953.9	2,010.3	-53.1	5.78	-5.66	-1.14	-168.63
14,380.0	86.86	359.92	11,957.4	2,104.2	-53.3	2.11	-2.11	0.06	178.27
14,475.0	88.93	1.11	11,960.9	2,199.2	-52.5	2.51	2.18	1.25	29.90
14,570.0	87.88	0.33	11,963.6	2,294.1	-51.3	1.38	-1.11	-0.82	-143.41
14,665.0	90.73	1.77	11,964.7	2,389.1	-49.5	3.36	3.00	1.52	26.82
14,759.0	88.20	0.19	11,965.6	2,483.1	-47.9	3.17	-2.69	-1.68	-148.02
14,854.0	88.22	0.05	11,968.6	2,578.0	-47.7	0.15	0.02	-0.15	-81.87
14,949.0	87.99	359.44	11,971.7	2,673.0	-48.1	0.69	-0.24	-0.64	-110.68
15,044.0	91.08	0.34	11,972.5	2,767.9	-48.3	3.39	3.25	0.95	16.24
15,138.0	91.09	0.72	11,970.7	2,861.9	-47.5	0.40	0.01	0.40	88.49
15,233.0	89.04	359.14	11,970.6	2,956.9	-47.6	2.72	-2.16	-1.66	-142.37
15,328.0	86.28	358.76	11,974.5	3,051.8	-49.3	2.93	-2.91	-0.40	-172.17
15,422.0	87.60	358.56	11,979.5	3,145.6	-51.5	1.42	1.40	-0.21	-8.61
15,517.0	88.46	357.85	11,982.7	3,240.5	-54.5	1.17	0.91	-0.75	-39.54
15,612.0	89.26	359.06	11,984.6	3,335.5	-57.0	1.53	0.84	1.27	56.54
15,706.0	88.79	359.03	11,986.2	3,429.5	-58.6	0.50	-0.50	-0.03	-176.35
15,801.0	87.32	358.53	11,989.5	3,524.4	-60.6	1.63	-1.55	-0.53	-161.23
15,895.0	90.30	359.35	11,991.4	3,618.3	-62.4	3.29	3.17	0.87	15.39
15,990.0	91.75	0.08	11,989.7	3,713.3	-62.8	1.71	1.53	0.77	26.71
16,085.0	91.82	0.00	11,986.7	3,808.3	-62.8	0.11	0.07	-0.08	-48.80
16,179.0	88.52	359.69	11,986.5	3,902.3	-63.0	3.53	-3.51	-0.33	-174.63
16,274.0	87.19	0.23	11,990.0	3,997.2	-63.1	1.51	-1.40	0.57	157.93
16,369.0	89.41	359.97	11,992.8	4,092.1	-62.9	2.35	2.34	-0.27	-6.68
16,464.0	90.63	0.08	11,992.8	4,187.1	-62.9	1.29	1.28	0.12	5.15
16,559.0	90.64	359.82	11,991.8	4,282.1	-63.0	0.27	0.01	-0.27	-87.80
16,653.0	92.08	0.05	11,989.5	4,376.1	-63.1	1.55	1.53	0.24	9.07
16,748.0	90.98	358.90	11,987.0	4,471.1	-63.9	1.67	-1.16	-1.21	-133.72
16,843.0	91.59	358.28	11,984.9	4,566.0	-66.3	0.92	0.64	-0.65	-45.45
16,938.0	92.95	358.66	11,981.1	4,660.9	-68.8	1.49	1.43	0.40	15.59
17,032.0	91.36	358.02	11,977.6	4,754.8	-71.5	1.82	-1.69	-0.68	-158.08
17,127.0	92.67	359.59	11,974.2	4,849.7	-73.5	2.15	1.38	1.65	50.12
17,222.0	91.18	359.91	11,971.0	4,944.6	-73.9	1.60	-1.57	0.34	167.88
17,317.0	90.25	358.46	11,969.8	5,039.6	-75.3	1.81	-0.98	-1.53	-122.67
17,412.0	91.82	358.34	11,968.1	5,134.6	-77.9	1.66	1.65	-0.13	-4.37
17,507.0	92.02	358.48	11,964.9	5,229.5	-80.6	0.26	0.21	0.15	34.97
17,601.0	90.74	358.62	11,962.7	5,323.4	-82.9	1.37	-1.36	0.15	173.76
17,696.0	93.86	359.52	11,958.9	5,418.3	-84.5	3.42	3.28	0.95	16.06
17,791.0	95.69	359.39	11,951.0	5,513.0	-85.4	1.93	1.93	-0.14	-4.04
17,886.0	96.03	358.50	11,941.3	5,607.5	-87.1	1.00	0.36	-0.94	-68.95
17,981.0	96.17	0.12	11,931.2	5,701.9	-88.3	1.70	0.15	1.71	84.95
18,076.0	94.96	1.03	11,922.0	5,796.5	-87.3	1.59	-1.27	0.96	143.14
18,171.0	91.41	359.56	11,916.7	5,891.3	-86.8	4.04	-3.74	-1.55	-157.49
18,266.0	93.07	359.45	11,913.0	5,986.2	-87.7	1.75	1.75	-0.12	-3.79
18,361.0	88.81	359.47	11,911.4	6,081.2	-88.5	4.48	-4.48	0.02	179.73
18,456.0	88.44	358.38	11,913.7	6,176.1	-90.3	1.21	-0.39	-1.15	-108.77
18,551.0	90.76	358.90	11,914.3	6,271.1	-92.6	2.50	2.44	0.55	12.64
18,646.0	91.56	358.82	11,912.4	6,366.1	-94.5	0.85	0.84	-0.08	-5.71

Database:	EDM5000	Local Co-ordinate Reference:	Well Nandina 114H
Company:	Ameredev Operating, LLC.	TVD Reference:	KB @ 3044.0usft
Project:	NAN/GB	MD Reference:	KB @ 3044.0usft
Site:	NAN/GB #5N	North Reference:	Grid
Well:	Nandina 114H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Nandina 114H As Drilled		
Design:	Final		

18,741.0	93.49	359.05	11,908.2	6,460.9	-96.2	2.05	2.03	0.24	6.78
18,836.0	94.35	0.38	11,901.7	6,555.7	-96.7	1.66	0.91	1.40	57.01
18,931.0	91.11	359.64	11,897.2	6,650.6	-96.7	3.50	-3.41	-0.78	-167.13
19,026.0	91.53	2.36	11,895.0	6,745.5	-95.0	2.90	0.44	2.86	81.19
19,120.0	94.02	2.49	11,890.5	6,839.3	-91.1	2.65	2.65	0.14	2.98
19,215.0	96.69	1.59	11,881.6	6,933.9	-87.7	2.96	2.81	-0.95	-18.51
19,310.0	92.84	359.38	11,873.7	7,028.5	-86.9	4.67	-4.05	-2.33	-150.13
19,405.0	91.58	358.16	11,870.1	7,123.4	-88.9	1.85	-1.33	-1.28	-135.92
19,500.0	89.66	358.46	11,869.0	7,218.4	-91.7	2.05	-2.02	0.32	171.12
19,595.0	90.53	358.28	11,868.9	7,313.3	-94.4	0.94	0.92	-0.19	-11.69
19,690.0	92.49	359.76	11,866.4	7,408.3	-96.1	2.58	2.06	1.56	37.03
19,785.0	89.45	358.96	11,864.8	7,503.2	-97.1	3.31	-3.20	-0.84	-165.25
19,880.0	93.82	358.62	11,862.1	7,598.1	-99.1	4.61	4.60	-0.36	-4.44
19,975.0	89.89	359.00	11,859.0	7,693.1	-101.1	4.16	-4.14	0.40	174.47
20,070.0	88.53	360.00	11,860.3	7,788.0	-101.9	1.78	-1.43	1.05	143.68
20,165.0	94.10	359.67	11,858.1	7,883.0	-102.2	5.87	5.86	-0.35	-3.39
20,260.0	91.17	2.02	11,853.7	7,977.9	-100.8	3.95	-3.08	2.47	141.24
20,355.0	91.59	4.75	11,851.5	8,072.6	-95.2	2.91	0.44	2.87	81.22
20,450.0	92.10	5.00	11,848.4	8,167.3	-87.1	0.60	0.54	0.26	26.10
20,481.0	91.56	4.18	11,847.4	8,198.1	-84.6	3.17	-1.74	-2.65	-123.37
20,545.0	89.29	3.37	11,846.9	8,262.0	-80.4	3.77	-3.55	-1.27	-160.36
20,577.0	87.83	2.84	11,847.7	8,293.9	-78.7	4.85	-4.56	-1.66	-160.06
20,608.0	86.05	2.39	11,849.4	8,324.9	-77.3	5.92	-5.74	-1.45	-165.84
20,640.0	86.32	2.24	11,851.5	8,356.8	-76.0	0.96	0.84	-0.47	-29.01
20,671.0	86.39	2.48	11,853.5	8,387.7	-74.7	0.80	0.23	0.77	73.72
20,703.0	86.97	2.04	11,855.3	8,419.6	-73.5	2.27	1.81	-1.38	-37.15
20,735.0	87.49	0.58	11,856.9	8,451.5	-72.7	4.84	1.63	-4.56	-70.41
20,766.0	88.11	359.41	11,858.1	8,482.5	-72.7	4.27	2.00	-3.77	-62.09
20,799.0	88.16	359.20	11,859.2	8,515.5	-73.1	0.65	0.15	-0.64	-76.60
20,830.0	87.86	358.83	11,860.2	8,546.5	-73.7	1.54	-0.97	-1.19	-129.06
20,861.0	88.79	359.09	11,861.1	8,577.5	-74.2	3.11	3.00	0.84	15.62
20,893.0	89.02	359.24	11,861.7	8,609.5	-74.7	0.86	0.72	0.47	33.11
20,925.0	87.88	359.12	11,862.6	8,641.4	-75.2	3.58	-3.56	-0.38	-173.99
21,020.0	85.56	358.82	11,868.0	8,736.3	-76.9	2.46	-2.44	-0.32	-172.65
21,067.0	85.96	358.68	11,871.5	8,783.1	-77.9	0.90	0.85	-0.30	-19.25
21,115.0	90.37	358.20	11,873.1	8,831.1	-79.2	9.24	9.19	-1.00	-6.22
21,210.0	91.18	355.88	11,871.8	8,925.9	-84.1	2.59	0.85	-2.44	-70.74
21,304.0	92.16	356.07	11,869.0	9,019.6	-90.7	1.06	1.04	0.20	10.97
21,405.0	91.55	356.31	11,865.8	9,120.4	-97.4	0.65	-0.60	0.24	158.53
21,500.0	94.84	357.64	11,860.5	9,215.1	-102.4	3.73	3.46	1.40	21.95
21,595.0	95.98	357.52	11,851.5	9,309.6	-106.4	1.21	1.20	-0.13	-5.98
21,690.0	97.10	357.77	11,840.7	9,403.9	-110.3	1.21	1.18	0.26	12.49
21,785.0	95.96	1.55	11,829.9	9,498.2	-110.8	4.13	-1.20	3.98	106.66
21,880.0	95.23	0.61	11,820.6	9,592.8	-109.0	1.25	-0.77	-0.99	-127.92
21,975.0	91.98	0.18	11,814.7	9,687.6	-108.4	3.45	-3.42	-0.45	-172.46
22,070.0	88.04	359.83	11,814.6	9,782.5	-108.4	4.16	-4.15	-0.37	-174.92
22,165.0	88.64	359.12	11,817.4	9,877.5	-109.3	0.98	0.63	-0.75	-49.80
22,260.0	88.59	359.36	11,819.7	9,972.5	-110.5	0.26	-0.05	0.25	101.77
22,355.0	91.47	0.76	11,819.6	10,067.4	-110.4	3.37	3.03	1.47	25.93
22,450.0	93.01	0.96	11,815.9	10,162.4	-109.0	1.63	1.62	0.21	7.39
22,509.0	93.50	0.95	11,812.6	10,221.3	-108.0	0.83	0.83	-0.02	-1.17
22,573.6	93.50	0.95	11,808.6	10,285.8	-106.9	0.00	0.00	0.00	0.00 Nan114 As Drilled BH

Database: EDM5000
Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #5N
Well: Nandina 114H
Wellbore: Nandina 114H As Drilled
Design: Final

Local Co-ordinate Reference: Well Nandina 114H
TVD Reference: KB @ 3044.0usft
MD Reference: KB @ 3044.0usft
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
70.0	1.00	200.00	70.0	-0.6	-0.2	-0.6	1.43	1.43	0.00
100.0	0.09	70.20	100.0	-0.8	-0.3	-0.8	3.54	-3.02	-432.68
149.0	1.80	26.00	149.0	-0.1	0.1	-0.1	3.54	3.48	-90.20
200.0	1.32	27.79	200.0	1.1	0.7	1.1	0.94	-0.93	3.51
235.0	1.00	30.00	235.0	1.8	1.1	1.7	0.94	-0.93	6.32
300.0	0.90	7.27	300.0	2.8	1.4	2.7	0.60	-0.16	-34.97
327.0	0.90	357.00	326.9	3.2	1.4	3.2	0.60	0.01	-38.04
400.0	0.90	2.38	399.9	4.3	1.4	4.3	0.12	0.00	7.37
422.0	0.90	4.00	421.9	4.7	1.4	4.6	0.12	0.01	7.36
500.0	0.90	3.17	499.9	5.9	1.5	5.9	0.02	0.00	-1.06
516.0	0.90	3.00	515.9	6.1	1.5	6.1	0.02	0.00	-1.06
600.0	1.26	4.85	599.9	7.7	1.6	7.7	0.43	0.43	2.20
610.0	1.30	5.00	609.9	7.9	1.7	7.9	0.43	0.43	1.52
700.0	1.02	5.00	699.9	9.7	1.8	9.7	0.32	-0.32	0.00
705.0	1.00	5.00	704.9	9.8	1.8	9.8	0.32	-0.32	0.00
799.0	0.40	346.00	798.9	11.0	1.8	11.0	0.68	-0.64	-20.21
800.0	0.39	345.96	799.9	11.0	1.8	11.0	0.52	-0.52	-3.95
894.0	0.10	181.00	893.9	11.2	1.7	11.2	0.52	-0.31	-175.49
900.0	0.06	174.93	899.9	11.2	1.7	11.2	0.64	-0.62	-101.17
988.0	0.50	13.00	987.9	11.5	1.8	11.5	0.64	0.50	-184.01
1,000.0	0.56	3.24	999.9	11.6	1.8	11.6	0.92	0.52	-81.32
1,083.0	1.20	334.00	1,082.9	12.8	1.5	12.8	0.92	0.77	-35.23
1,100.0	1.18	330.51	1,099.9	13.1	1.3	13.1	0.45	-0.15	-20.55
1,200.0	1.13	308.07	1,199.8	14.6	0.0	14.6	0.45	-0.05	-22.43
1,242.0	1.16	298.73	1,241.8	15.1	-0.7	15.1	0.45	0.08	-22.25
1,300.0	1.16	286.93	1,299.8	15.5	-1.7	15.6	0.41	0.00	-20.34
1,336.0	1.18	279.77	1,335.8	15.7	-2.4	15.7	0.41	0.06	-19.90
1,400.0	1.35	285.84	1,399.8	16.0	-3.8	16.1	0.33	0.26	9.49
1,430.0	1.43	288.19	1,429.8	16.2	-4.5	16.3	0.33	0.28	7.82
1,500.0	1.08	262.19	1,499.8	16.4	-6.0	16.5	0.94	-0.50	-37.15
1,525.0	1.03	249.63	1,524.8	16.3	-6.4	16.4	0.94	-0.20	-50.22
1,600.0	1.00	231.62	1,599.8	15.7	-7.6	15.8	0.43	-0.05	-24.02
1,700.0	1.10	208.97	1,699.7	14.3	-8.7	14.4	0.43	0.11	-22.64
1,714.0	1.13	206.25	1,713.7	14.1	-8.9	14.1	0.43	0.19	-19.45
1,800.0	0.95	192.21	1,799.7	12.6	-9.4	12.7	0.36	-0.20	-16.33
1,809.0	0.94	190.46	1,808.7	12.5	-9.4	12.5	0.36	-0.16	-19.43
1,900.0	0.89	192.62	1,899.7	11.0	-9.7	11.1	0.07	-0.05	2.38
1,903.0	0.89	192.70	1,902.7	11.0	-9.7	11.1	0.07	-0.05	2.51
1,998.0	0.98	176.48	1,997.7	9.5	-9.8	9.6	0.29	0.09	-17.07
2,000.0	0.97	176.07	1,999.7	9.4	-9.8	9.5	0.54	-0.41	-20.49
2,092.0	0.68	147.77	2,091.7	8.2	-9.5	8.3	0.54	-0.32	-30.76
2,100.0	0.95	157.75	2,099.7	8.1	-9.4	8.2	3.84	3.42	124.80
2,187.0	4.24	175.36	2,186.6	4.2	-8.9	4.3	3.84	3.78	20.24
2,200.0	4.41	175.15	2,199.6	3.2	-8.8	3.3	1.34	1.34	-1.59
2,281.0	5.50	174.16	2,280.3	-3.7	-8.1	-3.7	1.34	1.34	-1.23
2,300.0	5.57	174.06	2,299.2	-5.6	-8.0	-5.5	0.35	0.35	-0.55
2,376.0	5.83	173.66	2,374.8	-13.1	-7.2	-13.0	0.35	0.35	-0.52
2,400.0	6.20	172.32	2,398.7	-15.6	-6.8	-15.5	1.63	1.53	-5.59
2,470.0	7.28	169.18	2,468.2	-23.7	-5.5	-23.6	1.63	1.55	-4.48
2,500.0	7.20	167.67	2,497.9	-27.4	-4.7	-27.3	0.68	-0.26	-5.02
2,565.0	7.05	164.30	2,562.4	-35.2	-2.8	-35.2	0.68	-0.23	-5.19
2,600.0	7.12	160.05	2,597.2	-39.3	-1.5	-39.3	1.51	0.19	-12.13
2,659.0	7.31	153.14	2,655.7	-46.1	1.5	-46.1	1.51	0.33	-11.72

Database: EDM5000
Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #5N
Well: Nandina 114H
Wellbore: Nandina 114H As Drilled
Design: Final

Local Co-ordinate Reference: Well Nandina 114H
TVD Reference: KB @ 3044.0usft
MD Reference: KB @ 3044.0usft
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)
2,700.0	7.23	150.93	2,696.4	-50.7	3.9	-50.7	0.71	-0.20	-5.39
2,754.0	7.14	147.95	2,749.9	-56.5	7.3	-56.5	0.71	-0.17	-5.52
2,800.0	7.30	144.79	2,795.6	-61.3	10.5	-61.4	0.93	0.35	-6.88
2,848.0	7.49	141.64	2,843.2	-66.2	14.2	-66.4	0.93	0.40	-6.56
2,900.0	7.74	139.55	2,894.7	-71.6	18.6	-71.7	0.71	0.48	-4.02
2,943.0	7.95	137.92	2,937.3	-76.0	22.5	-76.2	0.71	0.49	-3.79
3,000.0	7.45	141.76	2,993.8	-81.8	27.4	-82.1	1.26	-0.88	6.74
3,037.0	7.14	144.54	3,030.5	-85.5	30.2	-85.9	1.26	-0.83	7.50
3,100.0	7.14	141.07	3,093.0	-91.8	35.0	-92.1	0.68	0.00	-5.51
3,132.0	7.15	139.31	3,124.8	-94.8	37.5	-95.2	0.68	0.03	-5.50
3,200.0	6.28	142.57	3,192.3	-101.0	42.5	-101.4	1.40	-1.28	4.80
3,227.0	5.94	144.13	3,219.1	-103.3	44.2	-103.8	1.40	-1.26	5.77
3,300.0	5.25	155.58	3,291.8	-109.4	47.8	-109.9	1.79	-0.94	15.68
3,321.0	5.10	159.39	3,312.7	-111.2	48.6	-111.7	1.79	-0.73	18.15
3,400.0	5.19	175.88	3,391.4	-118.0	50.0	-118.5	1.87	0.12	20.87
3,416.0	5.26	179.07	3,407.3	-119.5	50.1	-120.0	1.87	0.43	19.97
3,500.0	5.24	177.21	3,491.0	-127.1	50.4	-127.7	0.20	-0.02	-2.21
3,511.0	5.24	176.97	3,501.9	-128.2	50.4	-128.7	0.20	-0.02	-2.22
3,600.0	5.12	179.34	3,590.6	-136.2	50.7	-136.7	0.28	-0.14	2.67
3,605.0	5.11	179.48	3,595.6	-136.6	50.7	-137.1	0.28	-0.13	2.73
3,700.0	4.51	182.52	3,690.2	-144.6	50.6	-145.1	0.69	-0.63	3.20
3,794.0	5.52	168.67	3,783.9	-152.7	51.3	-153.2	1.67	1.07	-14.73
3,800.0	5.57	168.43	3,789.8	-153.3	51.4	-153.8	0.92	0.83	-3.96
3,889.0	6.32	165.35	3,878.4	-162.3	53.5	-162.8	0.92	0.84	-3.46
3,900.0	6.29	165.38	3,889.3	-163.4	53.8	-164.0	0.29	-0.29	0.27
3,983.0	6.05	165.61	3,971.8	-172.1	56.0	-172.6	0.29	-0.29	0.28
4,000.0	6.05	165.13	3,988.7	-173.8	56.5	-174.4	0.30	-0.03	-2.81
4,077.0	6.03	162.96	4,065.3	-181.6	58.7	-182.2	0.30	-0.02	-2.82
4,100.0	6.04	161.17	4,088.2	-183.9	59.5	-184.5	0.82	0.04	-7.77
4,172.0	6.11	155.64	4,159.8	-190.9	62.3	-191.6	0.82	0.10	-7.68
4,200.0	6.08	155.18	4,187.6	-193.7	63.5	-194.3	0.21	-0.12	-1.65
4,266.0	6.00	154.07	4,253.2	-199.9	66.5	-200.6	0.21	-0.12	-1.68
4,300.0	6.02	153.05	4,287.0	-203.1	68.1	-203.8	0.32	0.06	-3.01
4,361.0	6.06	151.23	4,347.7	-208.8	71.1	-209.5	0.32	0.07	-2.98
4,400.0	6.01	151.86	4,386.5	-212.4	73.0	-213.1	0.21	-0.12	1.60
4,456.0	5.95	152.77	4,442.2	-217.6	75.7	-218.3	0.21	-0.11	1.63
4,500.0	6.11	152.68	4,485.9	-221.7	77.8	-222.5	0.37	0.37	-0.21
4,550.0	6.30	152.58	4,535.6	-226.5	80.3	-227.3	0.37	0.37	-0.20
4,600.0	6.10	151.51	4,585.4	-231.2	82.9	-232.1	0.46	-0.40	-2.14
4,645.0	5.92	150.49	4,630.1	-235.4	85.1	-236.2	0.46	-0.40	-2.27
4,700.0	5.92	150.93	4,684.8	-240.3	87.9	-241.2	0.08	0.00	0.80
4,739.0	5.92	151.24	4,723.6	-243.8	89.9	-244.8	0.08	0.00	0.80
4,800.0	5.87	150.17	4,784.3	-249.3	92.9	-250.2	0.20	-0.09	-1.76
4,834.0	5.84	149.56	4,818.1	-252.3	94.7	-253.3	0.20	-0.08	-1.78
4,900.0	5.85	148.13	4,883.8	-258.0	98.1	-259.0	0.22	0.01	-2.17
4,928.0	5.85	147.52	4,911.6	-260.5	99.7	-261.5	0.22	0.01	-2.17
5,000.0	6.33	158.11	4,983.2	-267.2	103.1	-268.3	1.70	0.67	14.70
5,023.0	6.53	161.12	5,006.1	-269.7	104.0	-270.7	1.70	0.85	13.11
5,100.0	6.65	159.30	5,082.6	-278.0	107.0	-279.1	0.31	0.16	-2.36
5,117.0	6.68	158.91	5,099.4	-279.8	107.7	-280.9	0.31	0.16	-2.31
5,200.0	6.46	159.82	5,181.9	-288.7	111.1	-289.8	0.29	-0.26	1.10
5,212.0	6.43	159.96	5,193.8	-290.0	111.5	-291.1	0.29	-0.26	1.14
5,300.0	6.49	159.63	5,281.3	-299.3	114.9	-300.4	0.08	0.06	-0.37
5,306.0	6.49	159.61	5,287.2	-299.9	115.2	-301.1	0.08	0.06	-0.37

Database: EDM5000
Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #5N
Well: Nandina 114H
Wellbore: Nandina 114H As Drilled
Design: Final

Local Co-ordinate Reference: Well Nandina 114H
TVD Reference: KB @ 3044.0usft
MD Reference: KB @ 3044.0usft
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	5.84	157.39	5,380.7	-309.3	118.9	-310.5	0.74	-0.69	-2.37
5,401.0	5.83	157.36	5,381.7	-309.4	118.9	-310.6	0.74	-0.69	-2.63
5,495.0	5.87	162.97	5,475.2	-318.4	122.1	-319.6	0.61	0.04	5.97
5,500.0	5.88	163.23	5,480.2	-318.9	122.3	-320.1	0.59	0.27	5.15
5,590.0	6.15	167.66	5,569.7	-328.0	124.7	-329.3	0.59	0.30	4.92
5,600.0	6.13	167.53	5,579.6	-329.0	124.9	-330.3	0.25	-0.21	-1.27
5,684.0	5.95	166.43	5,663.1	-337.6	126.9	-338.9	0.25	-0.21	-1.31
5,700.0	5.89	166.14	5,679.1	-339.2	127.3	-340.6	0.44	-0.40	-1.78
5,779.0	5.57	164.64	5,757.7	-346.9	129.3	-348.2	0.44	-0.40	-1.90
5,800.0	5.57	165.09	5,778.6	-348.8	129.8	-350.2	0.21	0.00	2.16
5,873.0	5.57	166.67	5,851.2	-355.7	131.5	-357.1	0.21	0.00	2.16
5,900.0	5.57	166.89	5,878.1	-358.3	132.1	-359.6	0.08	0.01	0.81
5,968.0	5.58	167.44	5,945.8	-364.7	133.6	-366.1	0.08	0.01	0.81
6,000.0	5.54	167.08	5,977.6	-367.7	134.3	-369.1	0.18	-0.14	-1.11
6,062.0	5.45	166.38	6,039.3	-373.5	135.6	-374.9	0.18	-0.14	-1.14
6,100.0	5.41	165.95	6,077.2	-377.0	136.5	-378.4	0.16	-0.12	-1.13
6,157.0	5.34	165.29	6,133.9	-382.2	137.8	-383.6	0.16	-0.12	-1.16
6,200.0	5.28	165.22	6,176.7	-386.0	138.8	-387.4	0.14	-0.14	-0.17
6,251.0	5.21	165.13	6,227.5	-390.5	140.0	-392.0	0.14	-0.14	-0.17
6,300.0	5.63	165.59	6,276.3	-395.0	141.2	-396.4	0.86	0.85	0.93
6,346.0	6.02	165.96	6,322.1	-399.5	142.3	-401.0	0.86	0.85	0.81
6,400.0	6.07	164.44	6,375.8	-405.0	143.8	-406.5	0.31	0.09	-2.82
6,441.0	6.11	163.30	6,416.5	-409.2	145.0	-410.7	0.31	0.10	-2.78
6,500.0	6.66	163.63	6,475.2	-415.5	146.9	-417.0	0.93	0.93	0.56
6,535.0	6.98	163.80	6,509.9	-419.5	148.0	-421.0	0.93	0.93	0.49
6,600.0	6.78	161.83	6,574.4	-426.9	150.3	-428.5	0.47	-0.30	-3.04
6,629.0	6.70	160.91	6,603.2	-430.1	151.4	-431.7	0.47	-0.29	-3.16
6,700.0	6.29	162.08	6,673.8	-437.8	154.0	-439.3	0.61	-0.58	1.65
6,724.0	6.15	162.51	6,697.7	-440.2	154.8	-441.8	0.61	-0.58	1.79
6,800.0	5.84	160.62	6,773.2	-447.8	157.3	-449.4	0.49	-0.41	-2.48
6,819.0	5.76	160.12	6,792.1	-449.6	157.9	-451.2	0.49	-0.41	-2.65
6,900.0	5.68	159.08	6,872.7	-457.1	160.7	-458.8	0.16	-0.10	-1.28
6,913.0	5.67	158.91	6,885.7	-458.3	161.2	-460.0	0.16	-0.09	-1.30
7,000.0	6.50	158.22	6,972.2	-466.9	164.6	-468.6	0.96	0.96	-0.80
7,008.0	6.58	158.16	6,980.1	-467.8	164.9	-469.5	0.96	0.96	-0.69
7,100.0	6.20	159.35	7,071.6	-477.3	168.6	-479.0	0.44	-0.41	1.29
7,103.0	6.19	159.39	7,074.5	-477.6	168.7	-479.3	0.44	-0.41	1.37
7,197.0	6.19	157.05	7,168.0	-487.0	172.5	-488.8	0.27	0.00	-2.49
7,200.0	6.17	157.05	7,171.0	-487.3	172.6	-489.1	0.64	-0.64	-0.12
7,292.0	5.58	156.92	7,262.5	-496.0	176.3	-497.8	0.64	-0.64	-0.14
7,300.0	5.53	157.15	7,270.5	-496.7	176.6	-498.5	0.69	-0.63	2.88
7,386.0	4.99	159.92	7,356.1	-504.0	179.5	-505.9	0.69	-0.63	3.22
7,400.0	4.96	159.41	7,370.0	-505.2	179.9	-507.0	0.40	-0.24	-3.66
7,481.0	4.77	156.31	7,450.7	-511.5	182.5	-513.4	0.40	-0.23	-3.83
7,500.0	4.59	155.82	7,469.7	-513.0	183.1	-514.8	0.97	-0.95	-2.56
7,575.0	3.88	153.46	7,544.5	-518.0	185.5	-519.9	0.97	-0.95	-3.15
7,600.0	3.82	152.73	7,569.4	-519.5	186.2	-521.4	0.30	-0.22	-2.94
7,670.0	3.67	150.55	7,639.3	-523.5	188.4	-525.4	0.30	-0.22	-3.11
7,700.0	3.46	150.26	7,669.2	-525.1	189.3	-527.0	0.72	-0.71	-0.96
7,764.0	3.00	149.51	7,733.1	-528.2	191.1	-530.2	0.72	-0.71	-1.17
7,800.0	2.98	149.21	7,769.1	-529.8	192.1	-531.8	0.06	-0.04	-0.84
7,859.0	2.96	148.71	7,828.0	-532.5	193.7	-534.4	0.06	-0.04	-0.85
7,900.0	2.52	148.54	7,868.9	-534.1	194.7	-536.1	1.06	-1.06	-0.41
7,953.0	1.96	148.21	7,921.9	-535.9	195.8	-537.9	1.06	-1.06	-0.62

Database: EDM5000
Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #5N
Well: Nandina 114H
Wellbore: Nandina 114H As Drilled
Design: Final

Local Co-ordinate Reference: Well Nandina 114H
TVD Reference: KB @ 3044.0usft
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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)
8,000.0	1.85	146.68	7,968.9	-537.2	196.6	-539.2	0.26	-0.23	-3.25
8,048.0	1.74	144.93	8,016.8	-538.5	197.5	-540.5	0.26	-0.23	-3.66
8,100.0	1.19	139.90	8,068.8	-539.5	198.3	-541.6	1.08	-1.05	-9.67
8,142.0	0.77	130.69	8,110.8	-540.0	198.8	-542.1	1.08	-1.01	-21.93
8,200.0	0.29	20.23	8,168.8	-540.2	199.1	-542.2	1.58	-0.82	-190.45
8,237.0	0.80	345.11	8,205.8	-539.8	199.1	-541.9	1.58	1.37	-94.92
8,300.0	0.89	353.90	8,268.8	-538.9	198.9	-540.9	0.26	0.15	13.95
8,332.0	0.95	357.65	8,300.8	-538.4	198.9	-540.4	0.26	0.17	11.71
8,400.0	0.72	355.22	8,368.8	-537.4	198.8	-539.4	0.34	-0.34	-3.57
8,426.0	0.63	353.82	8,394.8	-537.1	198.8	-539.1	0.34	-0.34	-5.39
8,500.0	0.64	347.39	8,468.8	-536.3	198.7	-538.3	0.10	0.02	-8.69
8,521.0	0.65	345.62	8,489.8	-536.1	198.6	-538.1	0.10	0.03	-8.41
8,600.0	0.30	333.51	8,568.8	-535.4	198.4	-537.5	0.46	-0.44	-15.33
8,615.0	0.24	327.31	8,583.8	-535.4	198.4	-537.4	0.46	-0.41	-41.30
8,700.0	0.11	5.23	8,668.8	-535.1	198.3	-537.2	0.20	-0.16	44.61
8,710.0	0.10	15.22	8,678.8	-535.1	198.3	-537.2	0.20	-0.08	99.92
8,800.0	0.20	32.31	8,768.8	-534.9	198.4	-537.0	0.12	0.11	18.98
8,804.0	0.20	32.68	8,772.8	-534.9	198.4	-536.9	0.12	0.11	9.35
8,899.0	0.16	129.36	8,867.8	-534.9	198.6	-536.9	0.28	-0.04	101.77
8,900.0	0.16	129.18	8,868.8	-534.9	198.6	-536.9	0.11	-0.10	-17.75
8,993.0	0.08	93.99	8,961.8	-534.9	198.7	-537.0	0.11	-0.08	-37.84
9,000.0	0.08	93.99	8,968.8	-534.9	198.8	-537.0	0.02	0.02	0.05
9,088.0	0.10	94.03	9,056.8	-535.0	198.9	-537.0	0.02	0.02	0.04
9,100.0	0.08	110.80	9,068.8	-535.0	198.9	-537.0	0.27	-0.15	139.74
9,183.0	0.20	204.64	9,151.8	-535.1	198.9	-537.1	0.27	0.14	113.06
9,200.0	0.28	214.84	9,168.8	-535.2	198.9	-537.2	0.53	0.46	60.02
9,277.0	0.67	228.70	9,245.8	-535.6	198.4	-537.7	0.53	0.51	18.00
9,300.0	0.71	226.13	9,268.8	-535.8	198.2	-537.8	0.24	0.19	-11.16
9,371.0	0.86	219.95	9,339.8	-536.5	197.6	-538.5	0.24	0.20	-8.71
9,400.0	0.76	218.06	9,368.8	-536.8	197.3	-538.9	0.35	-0.34	-6.51
9,466.0	0.54	211.21	9,434.8	-537.5	196.9	-539.5	0.35	-0.33	-10.38
9,500.0	0.50	205.04	9,468.8	-537.7	196.7	-539.7	0.19	-0.10	-18.15
9,560.0	0.46	192.17	9,528.8	-538.2	196.6	-540.2	0.19	-0.07	-21.45
9,600.0	0.45	174.46	9,568.8	-538.5	196.5	-540.5	0.35	-0.02	-44.27
9,655.0	0.51	152.30	9,623.8	-538.9	196.7	-541.0	0.35	0.10	-40.29
9,700.0	0.46	90.61	9,668.8	-539.1	197.0	-541.1	1.11	-0.11	-137.08
9,749.0	0.85	55.50	9,717.8	-538.9	197.4	-540.9	1.11	0.80	-71.66
9,800.0	0.99	27.69	9,768.8	-538.3	198.0	-540.3	0.91	0.27	-54.53
9,844.0	1.24	11.67	9,812.7	-537.5	198.2	-539.6	0.91	0.57	-36.40
9,900.0	1.57	5.34	9,868.7	-536.2	198.4	-538.2	0.65	0.59	-11.31
9,938.0	1.80	2.38	9,906.7	-535.0	198.5	-537.1	0.65	0.61	-7.78
10,000.0	1.89	9.76	9,968.7	-533.1	198.7	-535.1	0.41	0.15	11.90
10,016.0	1.92	11.54	9,984.7	-532.5	198.8	-534.6	0.41	0.18	11.13
10,033.0	2.04	16.60	10,001.7	-532.0	199.0	-534.0	1.25	0.71	29.76
10,100.0	2.03	16.77	10,068.6	-529.7	199.6	-531.7	0.01	-0.01	0.25
10,127.0	2.03	16.84	10,095.6	-528.8	199.9	-530.8	0.01	-0.01	0.26
10,200.0	1.84	14.31	10,168.6	-526.4	200.6	-528.5	0.28	-0.25	-3.46
10,222.0	1.79	13.45	10,190.5	-525.7	200.8	-527.8	0.28	-0.25	-3.92
10,300.0	1.57	9.16	10,268.5	-523.5	201.2	-525.5	0.33	-0.29	-5.50
10,317.0	1.52	8.06	10,285.5	-523.0	201.3	-525.1	0.33	-0.28	-6.47
10,400.0	1.40	11.97	10,368.5	-520.9	201.6	-523.0	0.18	-0.14	4.71
10,411.0	1.39	12.54	10,379.5	-520.7	201.7	-522.8	0.18	-0.13	5.15
10,500.0	1.31	4.37	10,468.5	-518.6	202.0	-520.7	0.23	-0.09	-9.18
10,506.0	1.31	3.79	10,474.4	-518.5	202.0	-520.5	0.23	-0.07	-9.70

Database:	EDM5000	Local Co-ordinate Reference:	Well Nandina 114H
Company:	Ameredev Operating, LLC.	TVD Reference:	KB @ 3044.0usft
Project:	NAN/GB	MD Reference:	KB @ 3044.0usft
Site:	NAN/GB #5N	North Reference:	Grid
Well:	Nandina 114H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Nandina 114H As Drilled		
Design:	Final		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,600.0	1.46	2.50	10,568.4	-516.2	202.1	-518.3	0.16	0.16	-1.37	
10,695.0	1.16	357.43	10,663.4	-514.0	202.2	-516.1	0.34	-0.32	-5.34	
10,700.0	1.07	354.21	10,668.4	-513.9	202.1	-516.0	2.12	-1.71	-64.38	
10,789.0	1.23	244.69	10,757.4	-513.5	201.2	-515.6	2.12	0.17	-123.06	
10,800.0	1.25	244.09	10,768.4	-513.6	201.0	-515.7	0.21	0.18	-5.43	
10,883.0	1.40	240.13	10,851.4	-514.5	199.3	-516.6	0.21	0.18	-4.77	
10,900.0	1.46	241.99	10,868.4	-514.7	198.9	-516.8	0.46	0.37	10.95	
10,978.0	1.77	248.76	10,946.3	-515.6	196.9	-517.7	0.46	0.39	8.68	
11,000.0	1.84	248.61	10,968.3	-515.9	196.3	-517.9	0.34	0.34	-0.69	
11,072.0	2.09	248.19	11,040.3	-516.8	194.0	-518.8	0.34	0.34	-0.58	
11,100.0	2.09	250.21	11,068.3	-517.2	193.0	-519.1	0.26	-0.01	7.22	
11,167.0	2.09	255.05	11,135.2	-517.9	190.7	-519.8	0.26	0.00	7.22	
11,200.0	2.19	256.33	11,168.2	-518.2	189.5	-520.1	0.35	0.32	3.89	
11,261.0	2.39	258.41	11,229.1	-518.7	187.1	-520.6	0.35	0.32	3.40	
11,300.0	2.39	260.72	11,268.1	-519.0	185.5	-520.9	0.25	0.01	5.93	
11,331.0	2.40	262.55	11,299.1	-519.2	184.2	-521.1	0.25	0.02	5.90	
11,354.0	2.28	264.14	11,322.1	-519.3	183.3	-521.2	0.59	-0.52	6.91	
11,400.0	3.48	296.90	11,368.0	-518.8	181.1	-520.6	4.32	2.60	71.23	
11,448.0	5.26	311.09	11,415.9	-516.7	178.2	-518.5	4.32	3.72	29.55	
11,497.0	10.81	325.83	11,464.4	-511.4	173.9	-513.2	11.99	11.33	30.08	
11,500.0	11.16	326.00	11,467.3	-510.9	173.6	-512.7	11.75	11.70	5.62	
11,543.0	16.20	327.62	11,509.1	-502.4	168.0	-504.1	11.75	11.72	3.77	
11,600.0	20.75	326.00	11,563.1	-487.3	158.1	-488.9	8.03	7.98	-2.85	
11,638.0	23.79	325.25	11,598.3	-475.4	150.0	-477.0	8.03	8.00	-1.97	
11,685.0	30.25	327.28	11,640.1	-457.7	138.2	-459.1	13.88	13.74	4.32	
11,700.0	31.63	328.25	11,653.0	-451.1	134.1	-452.5	9.79	9.21	6.48	
11,732.0	34.60	330.09	11,679.8	-436.1	125.1	-437.4	9.79	9.28	5.74	
11,785.0	39.77	333.32	11,722.0	-407.9	110.0	-409.0	10.42	9.75	6.09	
11,800.0	41.14	333.70	11,733.4	-399.2	105.7	-400.3	9.26	9.11	2.52	
11,864.0	46.98	335.11	11,779.4	-359.1	86.5	-359.9	9.26	9.13	2.21	
11,896.0	50.46	335.58	11,800.5	-337.2	76.4	-338.0	10.93	10.88	1.47	
11,900.0	51.12	335.59	11,803.0	-334.4	75.2	-335.1	16.44	16.44	0.37	
11,928.0	55.72	335.69	11,819.7	-313.9	65.9	-314.6	16.44	16.44	0.34	
11,959.0	60.45	333.68	11,836.1	-290.1	54.6	-290.7	16.22	15.26	-6.48	
11,991.0	66.58	334.11	11,850.4	-264.4	42.0	-264.8	19.19	19.16	1.34	
12,000.0	68.01	335.10	11,853.8	-256.9	38.5	-257.3	18.90	15.92	11.04	
12,038.0	74.12	339.10	11,866.2	-223.8	24.5	-224.1	18.90	16.07	10.52	
12,085.0	79.65	341.07	11,876.8	-180.8	8.9	-180.9	12.45	11.77	4.19	
12,100.0	80.56	341.50	11,879.4	-166.8	4.2	-166.8	6.71	6.08	2.89	
12,132.0	82.51	342.42	11,884.1	-136.7	-5.6	-136.7	6.71	6.09	2.87	
12,138.8	82.84	342.87	11,885.0	-130.3	-7.6	-130.2	8.26	4.94	6.67	
Nan114 As Drilled FTP										
12,180.0	84.89	345.61	11,889.4	-90.9	-18.7	-90.7	8.26	4.96	6.64	
12,200.0	85.36	347.23	11,891.1	-71.5	-23.4	-71.2	8.42	2.35	8.11	
12,227.0	86.00	349.42	11,893.1	-45.1	-28.9	-44.8	8.42	2.37	8.10	
12,274.0	87.48	354.22	11,895.8	1.3	-35.5	1.7	10.67	3.15	10.21	
12,300.0	87.69	355.72	11,896.9	27.2	-37.8	27.6	5.81	0.82	5.76	
12,369.0	88.27	359.69	11,899.3	96.1	-40.6	96.5	5.81	0.83	5.76	
12,400.0	88.03	359.76	11,900.3	127.1	-40.7	127.5	0.81	-0.78	0.21	
12,483.0	87.38	359.93	11,903.7	210.0	-40.9	210.4	0.81	-0.78	0.21	
12,500.0	87.52	359.97	11,904.4	227.0	-41.0	227.4	0.88	0.84	0.24	
12,577.0	88.17	0.16	11,907.3	303.9	-40.9	304.3	0.88	0.84	0.24	
12,600.0	88.44	0.18	11,908.0	326.9	-40.8	327.3	1.18	1.18	0.07	
12,672.0	89.29	0.23	11,909.4	398.9	-40.5	399.3	1.18	1.18	0.07	

Database: EDM5000
Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #5N
Well: Nandina 114H
Wellbore: Nandina 114H As Drilled
Design: Final

Local Co-ordinate Reference: Well Nandina 114H
TVD Reference: KB @ 3044.0usft
MD Reference: KB @ 3044.0usft
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)
12,700.0	89.72	0.50	11,909.6	426.9	-40.4	427.3	1.81	1.53	0.97
12,767.0	90.74	1.15	11,909.4	493.9	-39.4	494.3	1.81	1.53	0.97
12,800.0	90.45	1.47	11,909.0	526.9	-38.7	527.2	1.30	-0.88	0.96
12,861.0	89.91	2.05	11,908.8	587.8	-36.8	588.2	1.30	-0.88	0.96
12,900.0	89.97	3.01	11,908.9	626.8	-35.1	627.1	2.47	0.16	2.46
12,956.0	90.06	4.39	11,908.9	682.7	-31.4	683.0	2.47	0.16	2.46
13,000.0	88.42	3.27	11,909.5	726.6	-28.5	726.8	4.52	-3.74	-2.54
13,051.0	86.51	1.97	11,911.7	777.5	-26.2	777.7	4.52	-3.74	-2.55
13,100.0	87.02	0.39	11,914.5	826.4	-25.2	826.6	3.38	1.05	-3.22
13,146.0	87.51	358.91	11,916.7	872.3	-25.4	872.5	3.38	1.05	-3.22
13,200.0	86.90	358.26	11,919.3	926.2	-26.8	926.5	1.66	-1.14	-1.21
13,241.0	86.43	357.76	11,921.7	967.2	-28.2	967.4	1.66	-1.14	-1.21
13,300.0	87.06	356.61	11,925.0	1,026.0	-31.1	1,026.3	2.22	1.06	-1.95
13,336.0	87.44	355.91	11,926.8	1,061.9	-33.4	1,062.2	2.22	1.06	-1.95
13,400.0	87.59	356.46	11,929.5	1,125.7	-37.7	1,126.0	0.88	0.23	0.85
13,431.0	87.66	356.72	11,930.8	1,156.6	-39.5	1,156.9	0.88	0.23	0.85
13,500.0	88.90	357.58	11,932.9	1,225.5	-43.0	1,225.8	2.19	1.80	1.24
13,526.0	89.37	357.90	11,933.3	1,251.4	-44.0	1,251.8	2.19	1.80	1.24
13,600.0	88.82	358.80	11,934.5	1,325.4	-46.1	1,325.8	1.43	-0.75	1.22
13,621.0	88.66	359.06	11,934.9	1,346.4	-46.5	1,346.8	1.43	-0.75	1.22
13,700.0	85.77	358.84	11,938.8	1,425.3	-48.0	1,425.7	3.66	-3.65	-0.27
13,716.0	85.19	358.80	11,940.0	1,441.2	-48.3	1,441.6	3.66	-3.65	-0.27
13,800.0	84.81	358.18	11,947.3	1,524.9	-50.5	1,525.3	0.86	-0.45	-0.74
13,811.0	84.76	358.10	11,948.3	1,535.8	-50.9	1,536.3	0.86	-0.45	-0.74
13,900.0	87.67	358.48	11,954.2	1,624.6	-53.5	1,625.0	3.30	3.27	0.43
13,906.0	87.87	358.51	11,954.5	1,630.6	-53.7	1,631.0	3.30	3.27	0.43
14,000.0	88.15	359.39	11,957.7	1,724.5	-55.4	1,725.0	0.98	0.29	0.94
14,001.0	88.15	359.40	11,957.7	1,725.5	-55.4	1,726.0	0.98	0.29	0.94
14,096.0	89.61	0.79	11,959.6	1,820.5	-55.2	1,820.9	2.12	1.54	1.46
14,100.0	89.80	0.80	11,959.6	1,824.5	-55.2	1,824.9	4.86	4.85	0.16
14,191.0	94.22	0.94	11,956.4	1,915.4	-53.8	1,915.8	4.86	4.85	0.16
14,200.0	93.71	0.84	11,955.8	1,924.4	-53.7	1,924.8	5.78	-5.66	-1.14
14,286.0	88.84	359.86	11,953.9	2,010.3	-53.1	2,010.8	5.78	-5.66	-1.14
14,300.0	88.55	359.87	11,954.2	2,024.3	-53.2	2,024.8	2.11	-2.11	0.06
14,380.0	86.86	359.92	11,957.4	2,104.2	-53.3	2,104.7	2.11	-2.11	0.06
14,400.0	87.30	0.17	11,958.4	2,124.2	-53.3	2,124.7	2.51	2.18	1.25
14,475.0	88.93	1.11	11,960.9	2,199.2	-52.5	2,199.6	2.51	2.18	1.25
14,500.0	88.65	0.90	11,961.4	2,224.2	-52.0	2,224.6	1.38	-1.11	-0.82
14,570.0	87.88	0.33	11,963.6	2,294.1	-51.3	2,294.5	1.38	-1.11	-0.82
14,600.0	88.78	0.78	11,964.4	2,324.1	-51.0	2,324.5	3.36	3.00	1.52
14,665.0	90.73	1.77	11,964.7	2,389.1	-49.5	2,389.5	3.36	3.00	1.52
14,700.0	89.79	1.18	11,964.6	2,424.1	-48.6	2,424.4	3.17	-2.69	-1.68
14,759.0	88.20	0.19	11,965.6	2,483.1	-47.9	2,483.4	3.17	-2.69	-1.68
14,800.0	88.21	0.13	11,966.9	2,524.0	-47.8	2,524.4	0.15	0.02	-0.15
14,854.0	88.22	0.05	11,968.6	2,578.0	-47.7	2,578.4	0.15	0.02	-0.15
14,900.0	88.11	359.75	11,970.0	2,624.0	-47.8	2,624.3	0.69	-0.24	-0.64
14,949.0	87.99	359.44	11,971.7	2,673.0	-48.1	2,673.3	0.69	-0.24	-0.64
15,000.0	89.65	359.92	11,972.7	2,723.9	-48.4	2,724.3	3.39	3.25	0.95
15,044.0	91.08	0.34	11,972.5	2,767.9	-48.3	2,768.3	3.39	3.25	0.95
15,100.0	91.09	0.57	11,971.4	2,823.9	-47.9	2,824.3	0.40	0.01	0.40
15,138.0	91.09	0.72	11,970.7	2,861.9	-47.5	2,862.3	0.40	0.01	0.40
15,200.0	89.75	359.69	11,970.2	2,923.9	-47.2	2,924.2	2.72	-2.16	-1.66
15,233.0	89.04	359.14	11,970.6	2,956.9	-47.6	2,957.2	2.72	-2.16	-1.66
15,300.0	87.09	358.87	11,972.8	3,023.9	-48.7	3,024.2	2.93	-2.91	-0.40

Database: EDM5000
Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #5N
Well: Nandina 114H
Wellbore: Nandina 114H As Drilled
Design: Final

Local Co-ordinate Reference: Well Nandina 114H
TVD Reference: KB @ 3044.0usft
MD Reference: KB @ 3044.0usft
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)
15,328.0	86.28	358.76	11,974.5	3,051.8	-49.3	3,052.2	2.93	-2.91	-0.40
15,400.0	87.29	358.61	11,978.5	3,123.7	-51.0	3,124.0	1.42	1.40	-0.21
15,422.0	87.60	358.56	11,979.5	3,145.6	-51.5	3,146.0	1.42	1.40	-0.21
15,500.0	88.31	357.98	11,982.3	3,223.6	-53.9	3,223.9	1.17	0.91	-0.75
15,517.0	88.46	357.85	11,982.7	3,240.5	-54.5	3,240.9	1.17	0.91	-0.75
15,600.0	89.16	358.91	11,984.5	3,323.5	-56.8	3,323.9	1.53	0.84	1.27
15,612.0	89.26	359.06	11,984.6	3,335.5	-57.0	3,335.9	1.53	0.84	1.27
15,700.0	88.82	359.03	11,986.1	3,423.5	-58.5	3,423.9	0.50	-0.50	-0.03
15,706.0	88.79	359.03	11,986.2	3,429.5	-58.6	3,429.9	0.50	-0.50	-0.03
15,800.0	87.34	358.54	11,989.4	3,523.4	-60.6	3,523.8	1.63	-1.55	-0.53
15,801.0	87.32	358.53	11,989.5	3,524.4	-60.6	3,524.8	1.63	-1.55	-0.53
15,895.0	90.30	359.35	11,991.4	3,618.3	-62.4	3,618.8	3.29	3.17	0.87
15,900.0	90.38	359.39	11,991.4	3,623.3	-62.4	3,623.8	1.71	1.53	0.77
15,990.0	91.75	0.08	11,989.7	3,713.3	-62.8	3,713.8	1.71	1.53	0.77
16,000.0	91.76	0.07	11,989.4	3,723.3	-62.8	3,723.8	0.11	0.07	-0.08
16,085.0	91.82	0.00	11,986.7	3,808.3	-62.8	3,808.7	0.11	0.07	-0.08
16,100.0	91.29	359.95	11,986.3	3,823.3	-62.8	3,823.7	3.53	-3.51	-0.33
16,179.0	88.52	359.69	11,986.5	3,902.3	-63.0	3,902.7	3.53	-3.51	-0.33
16,200.0	88.23	359.81	11,987.1	3,923.2	-63.1	3,923.7	1.51	-1.40	0.57
16,274.0	87.19	0.23	11,990.0	3,997.2	-63.1	3,997.6	1.51	-1.40	0.57
16,300.0	87.80	0.16	11,991.2	4,023.2	-63.0	4,023.6	2.35	2.34	-0.27
16,369.0	89.41	359.97	11,992.8	4,092.1	-62.9	4,092.6	2.35	2.34	-0.27
16,400.0	89.81	0.01	11,993.1	4,123.1	-62.9	4,123.6	1.29	1.28	0.12
16,464.0	90.63	0.08	11,992.8	4,187.1	-62.9	4,187.6	1.29	1.28	0.12
16,500.0	90.63	359.98	11,992.4	4,223.1	-62.9	4,223.6	0.27	0.01	-0.27
16,559.0	90.64	359.82	11,991.8	4,282.1	-63.0	4,282.5	0.27	0.01	-0.27
16,600.0	91.27	359.92	11,991.1	4,323.1	-63.1	4,323.5	1.55	1.53	0.24
16,653.0	92.08	0.05	11,989.5	4,376.1	-63.1	4,376.5	1.55	1.53	0.24
16,700.0	91.54	359.48	11,988.0	4,423.1	-63.3	4,423.5	1.67	-1.16	-1.21
16,748.0	90.98	358.90	11,987.0	4,471.1	-63.9	4,471.5	1.67	-1.16	-1.21
16,800.0	91.31	358.56	11,985.9	4,523.0	-65.1	4,523.5	0.92	0.64	-0.65
16,843.0	91.59	358.28	11,984.9	4,566.0	-66.3	4,566.4	0.92	0.64	-0.65
16,900.0	92.41	358.51	11,982.9	4,622.9	-67.9	4,623.4	1.49	1.43	0.40
16,938.0	92.95	358.66	11,981.1	4,660.9	-68.8	4,661.4	1.49	1.43	0.40
17,000.0	91.90	358.24	11,978.5	4,722.8	-70.5	4,723.3	1.82	-1.69	-0.68
17,032.0	91.36	358.02	11,977.6	4,754.8	-71.5	4,755.3	1.82	-1.69	-0.68
17,100.0	92.30	359.14	11,975.4	4,822.7	-73.2	4,823.2	2.15	1.38	1.65
17,127.0	92.67	359.59	11,974.2	4,849.7	-73.5	4,850.2	2.15	1.38	1.65
17,200.0	91.53	359.84	11,971.5	4,922.6	-73.9	4,923.1	1.60	-1.57	0.34
17,222.0	91.18	359.91	11,971.0	4,944.6	-73.9	4,945.1	1.60	-1.57	0.34
17,300.0	90.42	358.72	11,969.9	5,022.6	-74.9	5,023.1	1.81	-0.98	-1.53
17,317.0	90.25	358.46	11,969.8	5,039.6	-75.3	5,040.1	1.81	-0.98	-1.53
17,400.0	91.62	358.36	11,968.5	5,122.6	-77.6	5,123.1	1.66	1.65	-0.13
17,412.0	91.82	358.34	11,968.1	5,134.6	-77.9	5,135.1	1.66	1.65	-0.13
17,500.0	92.01	358.47	11,965.2	5,222.5	-80.4	5,223.0	0.26	0.21	0.15
17,507.0	92.02	358.48	11,964.9	5,229.5	-80.6	5,230.0	0.26	0.21	0.15
17,600.0	90.75	358.62	11,962.7	5,322.4	-82.9	5,323.0	1.37	-1.36	0.15
17,601.0	90.74	358.62	11,962.7	5,323.4	-82.9	5,324.0	1.37	-1.36	0.15
17,696.0	93.86	359.52	11,958.9	5,418.3	-84.5	5,418.9	3.42	3.28	0.95
17,700.0	93.94	359.51	11,958.6	5,422.3	-84.5	5,422.9	1.93	1.93	-0.14
17,791.0	95.69	359.39	11,951.0	5,513.0	-85.4	5,513.6	1.93	1.93	-0.14
17,800.0	95.72	359.31	11,950.1	5,521.9	-85.5	5,522.5	1.00	0.36	-0.94
17,886.0	96.03	358.50	11,941.3	5,607.5	-87.1	5,608.1	1.00	0.36	-0.94
17,900.0	96.05	358.74	11,939.8	5,621.4	-87.5	5,622.0	1.70	0.15	1.70

Database: EDM5000
Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #5N
Well: Nandina 114H
Wellbore: Nandina 114H As Drilled
Design: Final

Local Co-ordinate Reference: Well Nandina 114H
TVD Reference: KB @ 3044.0usft
MD Reference: KB @ 3044.0usft
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)
17,981.0	96.17	0.12	11,931.2	5,701.9	-88.3	5,702.5	1.70	0.15	1.71
18,000.0	95.93	0.30	11,929.2	5,720.8	-88.2	5,721.4	1.59	-1.27	0.96
18,076.0	94.96	1.03	11,922.0	5,796.5	-87.3	5,797.1	1.59	-1.27	0.96
18,100.0	94.06	0.66	11,920.1	5,820.4	-87.0	5,821.0	4.04	-3.74	-1.55
18,171.0	91.41	359.56	11,916.7	5,891.3	-86.8	5,891.9	4.04	-3.74	-1.55
18,200.0	91.92	359.53	11,915.8	5,920.3	-87.1	5,920.9	1.75	1.75	-0.12
18,266.0	93.07	359.45	11,913.0	5,986.2	-87.7	5,986.8	1.75	1.75	-0.12
18,300.0	91.55	359.46	11,911.6	6,020.2	-88.0	6,020.8	4.48	-4.48	0.02
18,361.0	88.81	359.47	11,911.4	6,081.2	-88.5	6,081.8	4.48	-4.48	0.02
18,400.0	88.66	359.02	11,912.3	6,120.2	-89.1	6,120.8	1.21	-0.39	-1.15
18,456.0	88.44	358.38	11,913.7	6,176.1	-90.3	6,176.7	1.21	-0.39	-1.15
18,500.0	89.51	358.62	11,914.5	6,220.1	-91.5	6,220.7	2.50	2.44	0.55
18,551.0	90.76	358.90	11,914.3	6,271.1	-92.6	6,271.7	2.50	2.44	0.55
18,600.0	91.17	358.86	11,913.5	6,320.1	-93.5	6,320.7	0.85	0.84	-0.08
18,646.0	91.56	358.82	11,912.4	6,366.1	-94.5	6,366.7	0.85	0.84	-0.08
18,700.0	92.66	358.95	11,910.4	6,420.0	-95.5	6,420.7	2.05	2.03	0.24
18,741.0	93.49	359.05	11,908.2	6,460.9	-96.2	6,461.6	2.05	2.03	0.24
18,800.0	94.02	359.88	11,904.4	6,519.8	-96.8	6,520.5	1.66	0.91	1.40
18,836.0	94.35	0.38	11,901.7	6,555.7	-96.7	6,556.4	1.66	0.90	1.40
18,900.0	92.17	359.88	11,898.1	6,619.6	-96.6	6,620.3	3.50	-3.41	-0.78
18,931.0	91.11	359.64	11,897.2	6,650.6	-96.7	6,651.2	3.50	-3.41	-0.78
19,000.0	91.42	1.62	11,895.7	6,719.6	-95.9	6,720.2	2.90	0.44	2.86
19,026.0	91.53	2.36	11,895.0	6,745.5	-95.0	6,746.2	2.90	0.44	2.86
19,100.0	93.49	2.46	11,891.8	6,819.4	-91.9	6,820.0	2.65	2.65	0.14
19,120.0	94.02	2.49	11,890.5	6,839.3	-91.1	6,839.9	2.65	2.65	0.14
19,200.0	96.27	1.73	11,883.3	6,919.0	-88.1	6,919.5	2.96	2.81	-0.95
19,215.0	96.69	1.59	11,881.6	6,933.9	-87.7	6,934.4	2.96	2.81	-0.95
19,300.0	93.25	359.61	11,874.3	7,018.5	-86.8	7,019.0	4.67	-4.05	-2.33
19,310.0	92.84	359.38	11,873.7	7,028.5	-86.9	7,029.0	4.67	-4.06	-2.32
19,400.0	91.65	358.22	11,870.2	7,118.4	-88.8	7,118.9	1.85	-1.33	-1.28
19,405.0	91.58	358.16	11,870.1	7,123.4	-88.9	7,123.9	1.85	-1.33	-1.28
19,500.0	89.66	358.46	11,869.0	7,218.4	-91.7	7,218.9	2.05	-2.02	0.32
19,595.0	90.53	358.28	11,868.9	7,313.3	-94.4	7,313.9	0.94	0.92	-0.19
19,600.0	90.63	358.36	11,868.8	7,318.3	-94.6	7,318.9	2.58	2.06	1.56
19,690.0	92.49	359.76	11,866.4	7,408.3	-96.1	7,408.9	2.58	2.06	1.56
19,700.0	92.17	359.68	11,866.0	7,418.3	-96.1	7,418.9	3.31	-3.20	-0.84
19,785.0	89.45	358.96	11,864.8	7,503.2	-97.1	7,503.8	3.31	-3.20	-0.84
19,800.0	90.14	358.91	11,864.8	7,518.2	-97.4	7,518.8	4.61	4.60	-0.36
19,880.0	93.82	358.62	11,862.1	7,598.1	-99.1	7,598.8	4.61	4.60	-0.36
19,900.0	92.99	358.70	11,860.9	7,618.1	-99.6	7,618.7	4.16	-4.14	0.40
19,975.0	89.89	359.00	11,859.0	7,693.1	-101.1	7,693.7	4.16	-4.14	0.40
20,000.0	89.53	359.26	11,859.1	7,718.1	-101.5	7,718.7	1.78	-1.43	1.05
20,070.0	88.53	360.00	11,860.3	7,788.0	-101.9	7,788.7	1.78	-1.43	1.05
20,100.0	90.29	359.90	11,860.6	7,818.0	-102.0	7,818.7	5.87	5.86	-0.35
20,165.0	94.10	359.67	11,858.1	7,883.0	-102.2	7,883.6	5.87	5.86	-0.35
20,200.0	93.02	0.54	11,855.9	7,917.9	-102.1	7,918.5	3.95	-3.08	2.48
20,260.0	91.17	2.02	11,853.7	7,977.9	-100.8	7,978.5	3.95	-3.09	2.47
20,300.0	91.35	3.17	11,852.9	8,017.8	-99.0	8,018.4	2.91	0.44	2.87
20,355.0	91.59	4.75	11,851.5	8,072.6	-95.2	8,073.2	2.91	0.44	2.87
20,400.0	91.83	4.87	11,850.1	8,117.5	-91.4	8,118.0	0.60	0.54	0.26
20,450.0	92.10	5.00	11,848.4	8,167.3	-87.1	8,167.7	0.60	0.54	0.26
20,481.0	91.56	4.18	11,847.4	8,198.1	-84.6	8,198.6	3.17	-1.74	-2.65
20,500.0	90.89	3.94	11,847.0	8,217.1	-83.3	8,217.5	3.77	-3.55	-1.27
20,545.0	89.29	3.37	11,846.9	8,262.0	-80.4	8,262.4	3.77	-3.55	-1.27

Database: EDM5000
 Company: Ameredev Operating, LLC.
 Project: NAN/GB
 Site: NAN/GB #5N
 Well: Nandina 114H
 Wellbore: Nandina 114H As Drilled
 Design: Final

Local Co-ordinate Reference: Well Nandina 114H
 TVD Reference: KB @ 3044.0usft
 MD Reference: KB @ 3044.0usft
 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)
20,577.0	87.83	2.84	11,847.7	8,293.9	-78.7	8,294.3	4.85	-4.56	-1.66
20,600.0	86.51	2.51	11,848.9	8,316.9	-77.6	8,317.2	5.92	-5.74	-1.45
20,608.0	86.05	2.39	11,849.4	8,324.9	-77.3	8,325.2	5.92	-5.74	-1.45
20,640.0	86.32	2.24	11,851.5	8,356.8	-76.0	8,357.1	0.96	0.84	-0.47
20,671.0	86.39	2.48	11,853.5	8,387.7	-74.7	8,388.0	0.80	0.23	0.77
20,700.0	86.92	2.08	11,855.2	8,416.6	-73.6	8,416.9	2.27	1.81	-1.38
20,703.0	86.97	2.04	11,855.3	8,419.6	-73.5	8,419.9	2.27	1.81	-1.37
20,735.0	87.49	0.58	11,856.9	8,451.5	-72.7	8,451.8	4.84	1.63	-4.56
20,766.0	88.11	359.41	11,858.1	8,482.5	-72.7	8,482.8	4.27	2.00	-3.77
20,799.0	88.16	359.20	11,859.2	8,515.5	-73.1	8,515.8	0.65	0.15	-0.64
20,800.0	88.15	359.19	11,859.2	8,516.5	-73.2	8,516.8	1.54	-0.97	-1.19
20,830.0	87.86	358.83	11,860.2	8,546.5	-73.7	8,546.8	1.54	-0.97	-1.19
20,861.0	88.79	359.09	11,861.1	8,577.5	-74.2	8,577.8	3.11	3.00	0.84
20,893.0	89.02	359.24	11,861.7	8,609.5	-74.7	8,609.8	0.86	0.72	0.47
20,900.0	88.77	359.21	11,861.9	8,616.5	-74.8	8,616.8	3.58	-3.56	-0.37
20,925.0	87.88	359.12	11,862.6	8,641.4	-75.2	8,641.8	3.58	-3.56	-0.38
21,000.0	86.05	358.88	11,866.6	8,716.3	-76.5	8,716.6	2.46	-2.44	-0.32
21,020.0	85.56	358.82	11,868.0	8,736.3	-76.9	8,736.6	2.46	-2.44	-0.32
21,067.0	85.96	358.68	11,871.5	8,783.1	-77.9	8,783.5	0.90	0.85	-0.30
21,100.0	88.99	358.35	11,873.0	8,816.1	-78.7	8,816.4	9.24	9.19	-1.00
21,115.0	90.37	358.20	11,873.1	8,831.1	-79.2	8,831.4	9.24	9.19	-1.00
21,200.0	91.09	356.12	11,872.0	8,915.9	-83.4	8,916.3	2.59	0.85	-2.44
21,210.0	91.18	355.88	11,871.8	8,925.9	-84.1	8,926.3	2.59	0.85	-2.44
21,300.0	92.12	356.06	11,869.2	9,015.7	-90.4	9,016.1	1.06	1.04	0.20
21,304.0	92.16	356.07	11,869.0	9,019.6	-90.7	9,020.1	1.06	1.04	0.20
21,400.0	91.58	356.30	11,865.9	9,115.4	-97.1	9,115.9	0.65	-0.60	0.24
21,405.0	91.55	356.31	11,865.8	9,120.4	-97.4	9,120.9	0.65	-0.60	0.24
21,500.0	94.84	357.64	11,860.5	9,215.1	-102.4	9,215.6	3.73	3.46	1.40
21,595.0	95.98	357.52	11,851.5	9,309.6	-106.4	9,310.2	1.21	1.20	-0.13
21,600.0	96.04	357.53	11,851.0	9,314.5	-106.6	9,315.1	1.21	1.18	0.26
21,690.0	97.10	357.77	11,840.7	9,403.9	-110.3	9,404.5	1.21	1.18	0.26
21,700.0	96.98	358.17	11,839.5	9,413.8	-110.6	9,414.4	4.13	-1.19	3.99
21,785.0	95.96	1.55	11,829.9	9,498.2	-110.8	9,498.9	4.13	-1.20	3.98
21,800.0	95.84	1.40	11,828.3	9,513.1	-110.4	9,513.8	1.25	-0.77	-0.99
21,880.0	95.23	0.61	11,820.6	9,592.8	-109.0	9,593.4	1.25	-0.77	-0.99
21,900.0	94.55	0.52	11,818.9	9,612.7	-108.9	9,613.3	3.45	-3.42	-0.45
21,975.0	91.98	0.18	11,814.7	9,687.6	-108.4	9,688.2	3.45	-3.42	-0.45
22,000.0	90.94	0.09	11,814.0	9,712.5	-108.3	9,713.2	4.16	-4.15	-0.37
22,070.0	88.04	359.83	11,814.6	9,782.5	-108.4	9,783.1	4.16	-4.15	-0.37
22,100.0	88.23	359.61	11,815.6	9,812.5	-108.5	9,813.1	0.98	0.63	-0.75
22,165.0	88.64	359.12	11,817.4	9,877.5	-109.3	9,878.1	0.98	0.63	-0.75
22,200.0	88.62	359.21	11,818.2	9,912.5	-109.8	9,913.1	0.26	-0.05	0.25
22,260.0	88.59	359.36	11,819.7	9,972.5	-110.5	9,973.1	0.26	-0.05	0.25
22,300.0	89.80	359.95	11,820.2	10,012.5	-110.8	10,013.1	3.37	3.03	1.47
22,355.0	91.47	0.76	11,819.6	10,067.4	-110.4	10,068.0	3.37	3.03	1.47
22,400.0	92.20	0.85	11,818.2	10,112.4	-109.8	10,113.0	1.63	1.62	0.21
22,450.0	93.01	0.96	11,815.9	10,162.4	-109.0	10,162.9	1.63	1.62	0.21
22,500.0	93.43	0.95	11,813.1	10,212.3	-108.2	10,212.8	0.83	0.83	-0.02
22,509.0	93.50	0.95	11,812.6	10,221.3	-108.0	10,221.8	0.83	0.83	-0.02
Nan114 As Drilled LTP									
22,573.6	93.50	0.95	11,808.6	10,285.8	-106.9	10,286.3	0.00	0.00	0.00
Nan114 As Drilled BHL									

Database: EDM5000
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Well: Nandina 114H
Wellbore: Nandina 114H As Drilled
Design: Final

Local Co-ordinate Reference: Well Nandina 114H
TVD Reference: KB @ 3044.0usft
MD Reference: KB @ 3044.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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
Nan114 As Drilled BHL - plan hits target center - Point	0.00	0.00	11,808.6	10,285.8	-106.9	404,720.40	859,687.33	32° 6' 30.534 N	103° 18' 18.614 W
Nan114 As Drilled LTP - plan misses target center by 10.3usft at 22509.0usft MD (11812.6 TVD, 10221.3 N, -108.0 E) - Point	0.00	0.00	11,811.9	10,231.5	-107.9	404,666.12	859,686.38	32° 6' 29.997 N	103° 18' 18.631 W
Nan114 As Drilled FTP - plan hits target center - Point	0.00	0.00	11,885.0	-130.3	-7.6	394,304.32	859,786.67	32° 4' 47.461 N	103° 18' 18.614 W

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Ameredev Operating, LLC.

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NAN/GB #5N

Nandina 114H

Nandina 114H As Drilled

HOBBS OCD

MAR 11 2020

RECEIVED

Plan: Final

Lease Penetration Section Line Foot

11 November, 2019

Company:	Ameredev Operating, LLC.	Local Co-ordinate Reference:	Well Nandina 114H
Project:	NAN/GB	TVD Reference:	KB @ 3044.0usft
Site:	NAN/GB #5N	MD Reference:	KB @ 3044.0usft
Well:	Nandina 114H	North Reference:	Grid
Wellbore:	Nandina 114H As Drilled	Survey Calculation Method:	Minimum Curvature
Design:	Final	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 #5N				
Site Position:		Northing:	394,434.39 usft	Latitude:	32° 4' 48.750 N
From:	Lat/Long	Easting:	859,774.27 usft	Longitude:	103° 18' 18.744 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.55 °

Well	Nandina 114H				
Well Position	+N/-S	0.0 usft	Northing:	394,434.62 usft	Latitude: 32° 4' 48.750 N
	+E/-W	0.0 usft	Easting:	859,794.28 usft	Longitude: 103° 18' 18.511 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level: 3,017.0 usft

Wellbore	Nandina 114H As Drilled				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/11/2019	6.56	59.94	47,636.30533681

Design	Final				
Audit Notes:					
Version:	Phase:	PROTOTYPE		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	359.40	

Survey Tool Program	Date	11/11/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	22,573.7	Final (Nandina 114H As Drilled)	MWD	OWSG MWD - Standard	

Planned Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	230.2	2,348.0	32° 4' 48.750 N	103° 18' 18.511 W
70.0	1.00	200.00	70.0	229.7	2,347.8	32° 4' 48.744 N	103° 18' 18.514 W
100.0	0.09	70.20	100.0	229.4	2,347.7	32° 4' 48.742 N	103° 18' 18.514 W
149.0	1.80	26.00	149.0	230.1	2,348.1	32° 4' 48.749 N	103° 18' 18.510 W
200.0	1.32	27.79	200.0	231.4	2,348.7	32° 4' 48.761 N	103° 18' 18.503 W
235.0	1.00	30.00	235.0	232.0	2,349.1	32° 4' 48.767 N	103° 18' 18.499 W
300.0	0.90	7.27	300.0	233.0	2,349.4	32° 4' 48.777 N	103° 18' 18.494 W
327.0	0.90	357.00	326.9	233.4	2,349.4	32° 4' 48.781 N	103° 18' 18.494 W
400.0	0.90	2.38	399.9	234.5	2,349.4	32° 4' 48.792 N	103° 18' 18.494 W
422.0	0.90	4.00	421.9	234.9	2,349.5	32° 4' 48.796 N	103° 18' 18.494 W
500.0	0.90	3.17	499.9	236.1	2,349.5	32° 4' 48.808 N	103° 18' 18.493 W
516.0	0.90	3.00	515.9	236.4	2,349.5	32° 4' 48.810 N	103° 18' 18.493 W

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Wellbore: Nandina 114H As Drilled
Design: Final

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TVD Reference: KB @ 3044.0usft
MD Reference: KB @ 3044.0usft
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
600.0	1.26	4.85	599.9	237.9	2,349.7	32° 4' 48.826 N	103° 18' 18.491 W
610.0	1.30	5.00	609.9	238.2	2,349.7	32° 4' 48.828 N	103° 18' 18.491 W
700.0	1.02	5.00	699.9	240.0	2,349.8	32° 4' 48.846 N	103° 18' 18.489 W
705.0	1.00	5.00	704.9	240.1	2,349.8	32° 4' 48.847 N	103° 18' 18.489 W
799.0	0.40	346.00	798.9	241.2	2,349.8	32° 4' 48.858 N	103° 18' 18.489 W
800.0	0.39	345.96	799.9	241.2	2,349.8	32° 4' 48.858 N	103° 18' 18.489 W
894.0	0.10	181.00	893.9	241.4	2,349.8	32° 4' 48.861 N	103° 18' 18.490 W
900.0	0.06	174.93	899.9	241.4	2,349.8	32° 4' 48.861 N	103° 18' 18.490 W
988.0	0.50	13.00	987.9	241.8	2,349.8	32° 4' 48.864 N	103° 18' 18.489 W
1,000.0	0.56	3.24	999.9	241.9	2,349.9	32° 4' 48.865 N	103° 18' 18.488 W
1,083.0	1.20	334.00	1,082.9	243.1	2,349.5	32° 4' 48.877 N	103° 18' 18.492 W
1,100.0	1.18	330.51	1,099.9	243.4	2,349.3	32° 4' 48.880 N	103° 18' 18.494 W
1,200.0	1.13	308.07	1,199.8	244.9	2,348.1	32° 4' 48.895 N	103° 18' 18.509 W
1,242.0	1.16	298.73	1,241.8	245.3	2,347.4	32° 4' 48.899 N	103° 18' 18.517 W
1,300.0	1.16	286.93	1,299.8	245.8	2,346.3	32° 4' 48.904 N	103° 18' 18.530 W
1,336.0	1.18	279.77	1,335.8	245.9	2,345.6	32° 4' 48.906 N	103° 18' 18.538 W
1,400.0	1.35	285.84	1,399.8	246.3	2,344.2	32° 4' 48.909 N	103° 18' 18.554 W
1,430.0	1.43	288.19	1,429.8	246.5	2,343.5	32° 4' 48.911 N	103° 18' 18.562 W
1,500.0	1.08	262.19	1,499.8	246.7	2,342.0	32° 4' 48.913 N	103° 18' 18.579 W
1,525.0	1.03	249.63	1,524.8	246.5	2,341.6	32° 4' 48.912 N	103° 18' 18.584 W
1,600.0	1.00	231.62	1,599.8	245.9	2,340.4	32° 4' 48.906 N	103° 18' 18.598 W
1,700.0	1.10	208.97	1,699.7	244.5	2,339.3	32° 4' 48.892 N	103° 18' 18.611 W
1,714.0	1.13	206.25	1,713.7	244.3	2,339.2	32° 4' 48.890 N	103° 18' 18.613 W
1,800.0	0.95	192.21	1,799.7	242.8	2,338.6	32° 4' 48.875 N	103° 18' 18.619 W
1,809.0	0.94	190.46	1,808.7	242.7	2,338.6	32° 4' 48.874 N	103° 18' 18.619 W
1,900.0	0.89	192.62	1,899.7	241.3	2,338.3	32° 4' 48.860 N	103° 18' 18.623 W
1,903.0	0.89	192.70	1,902.7	241.2	2,338.3	32° 4' 48.859 N	103° 18' 18.623 W
1,998.0	0.98	176.48	1,997.7	239.7	2,338.2	32° 4' 48.844 N	103° 18' 18.624 W
2,000.0	0.97	176.07	1,999.7	239.6	2,338.2	32° 4' 48.844 N	103° 18' 18.624 W
2,092.0	0.68	147.77	2,091.7	238.4	2,338.5	32° 4' 48.832 N	103° 18' 18.620 W
2,100.0	0.95	157.75	2,099.7	238.3	2,338.6	32° 4' 48.831 N	103° 18' 18.620 W
2,187.0	4.24	175.36	2,186.6	234.4	2,339.1	32° 4' 48.792 N	103° 18' 18.614 W
2,200.0	4.41	175.15	2,199.6	233.4	2,339.2	32° 4' 48.783 N	103° 18' 18.613 W
2,281.0	5.50	174.16	2,280.3	226.5	2,339.9	32° 4' 48.714 N	103° 18' 18.606 W
2,300.0	5.57	174.06	2,299.2	224.7	2,340.0	32° 4' 48.696 N	103° 18' 18.604 W
2,376.0	5.83	173.66	2,374.8	217.2	2,340.9	32° 4' 48.621 N	103° 18' 18.596 W
2,400.0	6.20	172.32	2,398.7	214.7	2,341.2	32° 4' 48.596 N	103° 18' 18.592 W
2,470.0	7.28	169.18	2,468.2	206.6	2,342.5	32° 4' 48.516 N	103° 18' 18.578 W
2,500.0	7.20	167.67	2,497.9	202.9	2,343.3	32° 4' 48.479 N	103° 18' 18.569 W
2,565.0	7.05	164.30	2,562.4	195.0	2,345.2	32° 4' 48.402 N	103° 18' 18.548 W
2,600.0	7.12	160.05	2,597.2	190.9	2,346.5	32° 4' 48.361 N	103° 18' 18.533 W
2,659.0	7.31	153.14	2,655.7	184.1	2,349.5	32° 4' 48.294 N	103° 18' 18.499 W
2,700.0	7.23	150.93	2,696.4	179.6	2,351.9	32° 4' 48.248 N	103° 18' 18.472 W
2,754.0	7.14	147.95	2,749.9	173.8	2,355.3	32° 4' 48.190 N	103° 18' 18.432 W

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Database: EDM5000

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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
2,800.0	7.30	144.79	2,795.6	168.9	2,358.5	32° 4' 48.142 N	103° 18' 18.396 W
2,848.0	7.49	141.64	2,843.2	164.0	2,362.2	32° 4' 48.093 N	103° 18' 18.353 W
2,900.0	7.74	139.55	2,894.7	158.7	2,366.6	32° 4' 48.040 N	103° 18' 18.303 W
2,943.0	7.95	137.92	2,937.3	154.3	2,370.5	32° 4' 47.996 N	103° 18' 18.258 W
3,000.0	7.45	141.76	2,993.8	148.4	2,375.4	32° 4' 47.938 N	103° 18' 18.202 W
3,037.0	7.14	144.54	3,030.5	144.7	2,378.2	32° 4' 47.901 N	103° 18' 18.169 W
3,100.0	7.14	141.07	3,093.0	138.4	2,383.0	32° 4' 47.838 N	103° 18' 18.115 W
3,132.0	7.15	139.31	3,124.8	135.4	2,385.5	32° 4' 47.808 N	103° 18' 18.086 W
3,200.0	6.28	142.57	3,192.3	129.2	2,390.5	32° 4' 47.746 N	103° 18' 18.028 W
3,227.0	5.94	144.13	3,219.1	126.9	2,392.2	32° 4' 47.724 N	103° 18' 18.009 W
3,300.0	5.25	155.58	3,291.8	120.8	2,395.8	32° 4' 47.663 N	103° 18' 17.967 W
3,321.0	5.10	159.39	3,312.7	119.1	2,396.6	32° 4' 47.645 N	103° 18' 17.959 W
3,400.0	5.19	175.88	3,391.4	112.2	2,398.1	32° 4' 47.577 N	103° 18' 17.943 W
3,416.0	5.26	179.07	3,407.3	110.8	2,398.1	32° 4' 47.563 N	103° 18' 17.942 W
3,500.0	5.24	177.21	3,491.0	103.1	2,398.4	32° 4' 47.487 N	103° 18' 17.940 W
3,511.0	5.24	176.97	3,501.9	102.1	2,398.4	32° 4' 47.477 N	103° 18' 17.940 W
3,600.0	5.12	179.34	3,590.6	94.0	2,398.7	32° 4' 47.398 N	103° 18' 17.937 W
3,605.0	5.11	179.48	3,595.6	93.6	2,398.7	32° 4' 47.393 N	103° 18' 17.937 W
3,700.0	4.51	182.52	3,690.2	85.6	2,398.6	32° 4' 47.314 N	103° 18' 17.940 W
3,794.0	5.52	168.67	3,783.9	77.5	2,399.3	32° 4' 47.234 N	103° 18' 17.932 W
3,800.0	5.57	168.43	3,789.8	76.9	2,399.4	32° 4' 47.228 N	103° 18' 17.931 W
3,889.0	6.32	165.35	3,878.4	68.0	2,401.5	32° 4' 47.139 N	103° 18' 17.907 W
3,900.0	6.29	165.38	3,889.3	66.8	2,401.8	32° 4' 47.128 N	103° 18' 17.904 W
3,983.0	6.05	165.61	3,971.8	58.2	2,404.0	32° 4' 47.042 N	103° 18' 17.879 W
4,000.0	6.05	165.13	3,988.7	56.4	2,404.5	32° 4' 47.025 N	103° 18' 17.874 W
4,077.0	6.03	162.96	4,065.3	48.7	2,406.7	32° 4' 46.948 N	103° 18' 17.849 W
4,100.0	6.04	161.17	4,088.2	46.4	2,407.5	32° 4' 46.925 N	103° 18' 17.841 W
4,172.0	6.11	155.64	4,159.8	39.3	2,410.3	32° 4' 46.855 N	103° 18' 17.809 W
4,200.0	6.08	155.18	4,187.6	36.6	2,411.5	32° 4' 46.828 N	103° 18' 17.795 W
4,266.0	6.00	154.07	4,253.2	30.3	2,414.5	32° 4' 46.765 N	103° 18' 17.761 W
4,300.0	6.02	153.05	4,287.0	27.1	2,416.1	32° 4' 46.734 N	103° 18' 17.743 W
4,361.0	6.06	151.23	4,347.7	21.4	2,419.1	32° 4' 46.677 N	103° 18' 17.709 W
4,400.0	6.01	151.86	4,386.5	17.8	2,421.0	32° 4' 46.641 N	103° 18' 17.686 W
4,456.0	5.95	152.77	4,442.2	12.7	2,423.7	32° 4' 46.590 N	103° 18' 17.655 W
4,500.0	6.11	152.68	4,485.9	8.6	2,425.9	32° 4' 46.549 N	103° 18' 17.631 W
4,550.0	6.30	152.58	4,535.6	3.8	2,428.3	32° 4' 46.501 N	103° 18' 17.603 W
4,600.0	6.10	151.51	4,585.4	-1.0	2,430.9	32° 4' 46.454 N	103° 18' 17.574 W
4,645.0	5.92	150.49	4,630.1	-5.1	2,433.2	32° 4' 46.413 N	103° 18' 17.548 W
4,700.0	5.92	150.93	4,684.8	-10.1	2,435.9	32° 4' 46.364 N	103° 18' 17.516 W
4,739.0	5.92	151.24	4,723.6	-13.6	2,437.9	32° 4' 46.329 N	103° 18' 17.494 W
4,800.0	5.87	150.17	4,784.3	-19.1	2,440.9	32° 4' 46.274 N	103° 18' 17.459 W
4,834.0	5.84	149.56	4,818.1	-22.1	2,442.7	32° 4' 46.245 N	103° 18' 17.439 W
4,900.0	5.85	148.13	4,883.8	-27.8	2,446.2	32° 4' 46.187 N	103° 18' 17.399 W
4,928.0	5.85	147.52	4,911.6	-30.2	2,447.7	32° 4' 46.163 N	103° 18' 17.382 W

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Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
5,000.0	6.33	158.11	4,983.2	-37.0	2,451.1	32° 4' 46.096 N	103° 18' 17.342 W
5,023.0	6.53	161.12	5,006.1	-39.4	2,452.0	32° 4' 46.072 N	103° 18' 17.332 W
5,100.0	6.65	159.30	5,082.6	-47.7	2,455.0	32° 4' 45.989 N	103° 18' 17.298 W
5,117.0	6.68	158.91	5,099.4	-49.6	2,455.7	32° 4' 45.971 N	103° 18' 17.290 W
5,200.0	6.46	159.82	5,181.9	-58.5	2,459.1	32° 4' 45.883 N	103° 18' 17.253 W
5,212.0	6.43	159.96	5,193.8	-59.7	2,459.5	32° 4' 45.870 N	103° 18' 17.247 W
5,300.0	6.49	159.63	5,281.3	-69.0	2,462.9	32° 4' 45.778 N	103° 18' 17.209 W
5,306.0	6.49	159.61	5,287.2	-69.7	2,463.2	32° 4' 45.772 N	103° 18' 17.206 W
5,400.0	5.84	157.39	5,380.7	-79.1	2,466.9	32° 4' 45.678 N	103° 18' 17.164 W
5,401.0	5.83	157.36	5,381.7	-79.1	2,466.9	32° 4' 45.678 N	103° 18' 17.164 W
5,495.0	5.87	162.97	5,475.2	-88.1	2,470.2	32° 4' 45.588 N	103° 18' 17.127 W
5,500.0	5.88	163.23	5,480.2	-88.6	2,470.3	32° 4' 45.583 N	103° 18' 17.125 W
5,590.0	6.15	167.66	5,569.7	-97.8	2,472.7	32° 4' 45.493 N	103° 18' 17.099 W
5,600.0	6.13	167.53	5,579.6	-98.8	2,472.9	32° 4' 45.482 N	103° 18' 17.096 W
5,684.0	5.95	166.43	5,663.1	-107.4	2,474.9	32° 4' 45.397 N	103° 18' 17.074 W
5,700.0	5.89	166.14	5,679.1	-109.0	2,475.3	32° 4' 45.381 N	103° 18' 17.070 W
5,779.0	5.57	164.64	5,757.7	-116.7	2,477.3	32° 4' 45.305 N	103° 18' 17.047 W
5,800.0	5.57	165.09	5,778.6	-118.6	2,477.8	32° 4' 45.286 N	103° 18' 17.042 W
5,873.0	5.57	166.67	5,851.2	-125.5	2,479.5	32° 4' 45.218 N	103° 18' 17.022 W
5,900.0	5.57	166.89	5,878.1	-128.0	2,480.1	32° 4' 45.192 N	103° 18' 17.016 W
5,968.0	5.58	167.44	5,945.8	-134.5	2,481.6	32° 4' 45.129 N	103° 18' 16.999 W
6,000.0	5.54	167.08	5,977.6	-137.5	2,482.3	32° 4' 45.099 N	103° 18' 16.992 W
6,062.0	5.45	166.38	6,039.3	-143.3	2,483.6	32° 4' 45.041 N	103° 18' 16.976 W
6,100.0	5.41	165.95	6,077.2	-146.8	2,484.5	32° 4' 45.007 N	103° 18' 16.967 W
6,157.0	5.34	165.29	6,133.9	-151.9	2,485.8	32° 4' 44.955 N	103° 18' 16.952 W
6,200.0	5.28	165.22	6,176.7	-155.8	2,486.8	32° 4' 44.917 N	103° 18' 16.941 W
6,251.0	5.21	165.13	6,227.5	-160.3	2,488.0	32° 4' 44.873 N	103° 18' 16.927 W
6,300.0	5.63	165.59	6,276.3	-164.8	2,489.2	32° 4' 44.828 N	103° 18' 16.914 W
6,346.0	6.02	165.96	6,322.1	-169.3	2,490.3	32° 4' 44.783 N	103° 18' 16.901 W
6,400.0	6.07	164.44	6,375.8	-174.8	2,491.8	32° 4' 44.729 N	103° 18' 16.885 W
6,441.0	6.11	163.30	6,416.5	-179.0	2,493.0	32° 4' 44.687 N	103° 18' 16.871 W
6,500.0	6.66	163.63	6,475.2	-185.3	2,494.9	32° 4' 44.625 N	103° 18' 16.850 W
6,535.0	6.98	163.80	6,509.9	-189.3	2,496.0	32° 4' 44.585 N	103° 18' 16.837 W
6,600.0	6.78	161.83	6,574.4	-196.7	2,498.3	32° 4' 44.511 N	103° 18' 16.811 W
6,629.0	6.70	160.91	6,603.2	-199.9	2,499.4	32° 4' 44.479 N	103° 18' 16.799 W
6,700.0	6.29	162.08	6,673.8	-207.5	2,502.0	32° 4' 44.404 N	103° 18' 16.770 W
6,724.0	6.15	162.51	6,697.7	-210.0	2,502.8	32° 4' 44.379 N	103° 18' 16.761 W
6,800.0	5.84	160.62	6,773.2	-217.5	2,505.3	32° 4' 44.305 N	103° 18' 16.733 W
6,819.0	5.76	160.12	6,792.1	-219.3	2,505.9	32° 4' 44.287 N	103° 18' 16.726 W
6,900.0	5.68	159.08	6,872.7	-226.9	2,508.7	32° 4' 44.211 N	103° 18' 16.694 W
6,913.0	5.67	158.91	6,885.7	-228.1	2,509.2	32° 4' 44.200 N	103° 18' 16.689 W
7,000.0	6.50	158.22	6,972.2	-236.7	2,512.6	32° 4' 44.114 N	103° 18' 16.651 W
7,008.0	6.58	158.16	6,980.1	-237.5	2,512.9	32° 4' 44.106 N	103° 18' 16.647 W
7,100.0	6.20	159.35	7,071.6	-247.1	2,516.6	32° 4' 44.011 N	103° 18' 16.605 W
7,103.0	6.19	159.39	7,074.5	-247.4	2,516.7	32° 4' 44.008 N	103° 18' 16.603 W

Company: Ameredev Operating, LLC.
 Project: NAN/GB
 Site: NAN/GB #5N
 Well: Nandina 114H
 Wellbore: Nandina 114H As Drilled
 Design: Final

Local Co-ordinate Reference: Well Nandina 114H
 TVD Reference: KB @ 3044.0usft
 MD Reference: KB @ 3044.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
7,197.0	6.19	157.05	7,168.0	-256.8	2,520.5	32° 4' 43.915 N	103° 18' 16.561 W
7,200.0	6.17	157.05	7,171.0	-257.1	2,520.6	32° 4' 43.912 N	103° 18' 16.559 W
7,292.0	5.58	156.92	7,262.5	-265.8	2,524.3	32° 4' 43.826 N	103° 18' 16.517 W
7,300.0	5.53	157.15	7,270.5	-266.5	2,524.6	32° 4' 43.818 N	103° 18' 16.514 W
7,386.0	4.99	159.92	7,356.1	-273.8	2,527.5	32° 4' 43.746 N	103° 18' 16.481 W
7,400.0	4.96	159.41	7,370.0	-274.9	2,527.9	32° 4' 43.734 N	103° 18' 16.476 W
7,481.0	4.77	156.31	7,450.7	-281.3	2,530.5	32° 4' 43.671 N	103° 18' 16.447 W
7,500.0	4.59	155.82	7,469.7	-282.7	2,531.1	32° 4' 43.657 N	103° 18' 16.440 W
7,575.0	3.88	153.46	7,544.5	-287.7	2,533.5	32° 4' 43.607 N	103° 18' 16.413 W
7,600.0	3.82	152.73	7,569.4	-289.2	2,534.3	32° 4' 43.592 N	103° 18' 16.404 W
7,670.0	3.67	150.55	7,639.3	-293.3	2,536.4	32° 4' 43.552 N	103° 18' 16.380 W
7,700.0	3.46	150.26	7,669.2	-294.9	2,537.3	32° 4' 43.536 N	103° 18' 16.369 W
7,764.0	3.00	149.51	7,733.1	-298.0	2,539.1	32° 4' 43.505 N	103° 18' 16.348 W
7,800.0	2.98	149.21	7,769.1	-299.6	2,540.1	32° 4' 43.489 N	103° 18' 16.337 W
7,859.0	2.96	148.71	7,828.0	-302.2	2,541.7	32° 4' 43.463 N	103° 18' 16.319 W
7,900.0	2.52	148.54	7,868.9	-303.9	2,542.7	32° 4' 43.446 N	103° 18' 16.308 W
7,953.0	1.96	148.21	7,921.9	-305.7	2,543.8	32° 4' 43.429 N	103° 18' 16.295 W
8,000.0	1.85	146.68	7,968.9	-307.0	2,544.6	32° 4' 43.416 N	103° 18' 16.286 W
8,048.0	1.74	144.93	8,016.8	-308.2	2,545.5	32° 4' 43.403 N	103° 18' 16.276 W
8,100.0	1.19	139.90	8,068.8	-309.3	2,546.3	32° 4' 43.393 N	103° 18' 16.267 W
8,142.0	0.77	130.69	8,110.8	-309.8	2,546.8	32° 4' 43.388 N	103° 18' 16.261 W
8,200.0	0.29	20.23	8,168.8	-309.9	2,547.1	32° 4' 43.386 N	103° 18' 16.257 W
8,237.0	0.80	345.11	8,205.8	-309.6	2,547.1	32° 4' 43.390 N	103° 18' 16.257 W
8,300.0	0.89	353.90	8,268.8	-308.7	2,546.9	32° 4' 43.399 N	103° 18' 16.259 W
8,332.0	0.95	357.65	8,300.8	-308.2	2,546.9	32° 4' 43.404 N	103° 18' 16.260 W
8,400.0	0.72	355.22	8,368.8	-307.2	2,546.8	32° 4' 43.414 N	103° 18' 16.260 W
8,426.0	0.63	353.82	8,394.8	-306.9	2,546.8	32° 4' 43.417 N	103° 18' 16.260 W
8,500.0	0.64	347.39	8,468.8	-306.1	2,546.7	32° 4' 43.425 N	103° 18' 16.262 W
8,521.0	0.65	345.62	8,489.8	-305.8	2,546.6	32° 4' 43.427 N	103° 18' 16.263 W
8,600.0	0.30	333.51	8,568.8	-305.2	2,546.4	32° 4' 43.433 N	103° 18' 16.265 W
8,615.0	0.24	327.31	8,583.8	-305.1	2,546.4	32° 4' 43.434 N	103° 18' 16.265 W
8,700.0	0.11	5.23	8,668.8	-304.9	2,546.3	32° 4' 43.436 N	103° 18' 16.266 W
8,710.0	0.10	15.22	8,678.8	-304.9	2,546.3	32° 4' 43.436 N	103° 18' 16.266 W
8,800.0	0.20	32.31	8,768.8	-304.7	2,546.4	32° 4' 43.438 N	103° 18' 16.265 W
8,804.0	0.20	32.68	8,772.8	-304.7	2,546.4	32° 4' 43.438 N	103° 18' 16.265 W
8,899.0	0.16	129.36	8,867.8	-304.6	2,546.6	32° 4' 43.439 N	103° 18' 16.263 W
8,900.0	0.16	129.18	8,868.8	-304.6	2,546.6	32° 4' 43.439 N	103° 18' 16.263 W
8,993.0	0.08	93.99	8,961.8	-304.7	2,546.8	32° 4' 43.438 N	103° 18' 16.261 W
9,000.0	0.08	93.99	8,968.8	-304.7	2,546.8	32° 4' 43.438 N	103° 18' 16.261 W
9,088.0	0.10	94.03	9,056.8	-304.7	2,546.9	32° 4' 43.438 N	103° 18' 16.259 W
9,100.0	0.08	110.80	9,068.8	-304.7	2,546.9	32° 4' 43.438 N	103° 18' 16.259 W
9,183.0	0.20	204.64	9,151.8	-304.9	2,546.9	32° 4' 43.436 N	103° 18' 16.259 W
9,200.0	0.28	214.84	9,168.8	-304.9	2,546.9	32° 4' 43.436 N	103° 18' 16.259 W
9,277.0	0.67	228.70	9,245.8	-305.4	2,546.4	32° 4' 43.431 N	103° 18' 16.265 W

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Wellbore: Nandina 114H As Drilled
Design: Final

Local Co-ordinate Reference: Well Nandina 114H
TVD Reference: KB @ 3044.0usft
MD Reference: KB @ 3044.0usft
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	0.71	226.13	9,268.8	-305.6	2,546.2	32° 4' 43.430 N	103° 18' 16.267 W
9,371.0	0.86	219.95	9,339.8	-306.3	2,545.6	32° 4' 43.422 N	103° 18' 16.275 W
9,400.0	0.76	218.06	9,368.8	-306.6	2,545.3	32° 4' 43.419 N	103° 18' 16.278 W
9,466.0	0.54	211.21	9,434.8	-307.2	2,544.9	32° 4' 43.413 N	103° 18' 16.283 W
9,500.0	0.50	205.04	9,468.8	-307.5	2,544.7	32° 4' 43.411 N	103° 18' 16.285 W
9,560.0	0.46	192.17	9,528.8	-308.0	2,544.6	32° 4' 43.406 N	103° 18' 16.286 W
9,600.0	0.45	174.46	9,568.8	-308.3	2,544.6	32° 4' 43.403 N	103° 18' 16.287 W
9,655.0	0.51	152.30	9,623.8	-308.7	2,544.7	32° 4' 43.399 N	103° 18' 16.285 W
9,700.0	0.46	90.61	9,668.8	-308.9	2,545.0	32° 4' 43.397 N	103° 18' 16.282 W
9,749.0	0.85	55.50	9,717.8	-308.7	2,545.5	32° 4' 43.399 N	103° 18' 16.276 W
9,800.0	0.99	27.69	9,768.8	-308.1	2,546.0	32° 4' 43.405 N	103° 18' 16.270 W
9,844.0	1.24	11.67	9,812.7	-307.3	2,546.2	32° 4' 43.413 N	103° 18' 16.267 W
9,900.0	1.57	5.34	9,868.7	-305.9	2,546.4	32° 4' 43.426 N	103° 18' 16.265 W
9,938.0	1.80	2.38	9,906.7	-304.8	2,546.5	32° 4' 43.437 N	103° 18' 16.264 W
10,000.0	1.89	9.76	9,968.7	-302.8	2,546.7	32° 4' 43.457 N	103° 18' 16.261 W
10,016.0	1.92	11.54	9,984.7	-302.3	2,546.8	32° 4' 43.462 N	103° 18' 16.260 W
10,033.0	2.04	16.60	10,001.7	-301.7	2,547.0	32° 4' 43.467 N	103° 18' 16.258 W
10,100.0	2.03	16.77	10,068.6	-299.5	2,547.7	32° 4' 43.490 N	103° 18' 16.250 W
10,127.0	2.03	16.84	10,095.6	-298.6	2,547.9	32° 4' 43.499 N	103° 18' 16.246 W
10,200.0	1.84	14.31	10,168.6	-296.2	2,548.6	32° 4' 43.522 N	103° 18' 16.238 W
10,222.0	1.79	13.45	10,190.5	-295.5	2,548.8	32° 4' 43.529 N	103° 18' 16.236 W
10,300.0	1.57	9.16	10,268.5	-293.3	2,549.2	32° 4' 43.551 N	103° 18' 16.231 W
10,317.0	1.52	8.06	10,285.5	-292.8	2,549.3	32° 4' 43.556 N	103° 18' 16.230 W
10,400.0	1.40	11.97	10,368.5	-290.7	2,549.6	32° 4' 43.576 N	103° 18' 16.226 W
10,411.0	1.39	12.54	10,379.5	-290.5	2,549.7	32° 4' 43.579 N	103° 18' 16.225 W
10,500.0	1.31	4.37	10,468.5	-288.4	2,550.0	32° 4' 43.599 N	103° 18' 16.221 W
10,506.0	1.31	3.79	10,474.5	-288.3	2,550.0	32° 4' 43.601 N	103° 18' 16.221 W
10,600.0	1.46	2.50	10,568.4	-286.0	2,550.1	32° 4' 43.623 N	103° 18' 16.219 W
10,695.0	1.16	357.43	10,663.4	-283.8	2,550.2	32° 4' 43.645 N	103° 18' 16.219 W
10,700.0	1.07	354.21	10,668.4	-283.7	2,550.2	32° 4' 43.646 N	103° 18' 16.219 W
10,789.0	1.23	244.69	10,757.4	-283.3	2,549.2	32° 4' 43.650 N	103° 18' 16.230 W
10,800.0	1.25	244.09	10,768.4	-283.4	2,549.0	32° 4' 43.649 N	103° 18' 16.232 W
10,883.0	1.40	240.13	10,851.4	-284.3	2,547.3	32° 4' 43.640 N	103° 18' 16.252 W
10,900.0	1.46	241.99	10,868.4	-284.5	2,546.9	32° 4' 43.638 N	103° 18' 16.257 W
10,978.0	1.77	248.76	10,946.3	-285.4	2,544.9	32° 4' 43.629 N	103° 18' 16.280 W
11,000.0	1.84	248.61	10,968.3	-285.7	2,544.3	32° 4' 43.627 N	103° 18' 16.287 W
11,072.0	2.09	248.19	11,040.3	-286.6	2,542.0	32° 4' 43.618 N	103° 18' 16.314 W
11,100.0	2.09	250.21	11,068.3	-286.9	2,541.0	32° 4' 43.615 N	103° 18' 16.325 W
11,167.0	2.09	255.05	11,135.2	-287.7	2,538.7	32° 4' 43.608 N	103° 18' 16.353 W
11,200.0	2.19	256.33	11,168.2	-288.0	2,537.5	32° 4' 43.605 N	103° 18' 16.366 W
11,261.0	2.39	258.41	11,229.1	-288.5	2,535.1	32° 4' 43.600 N	103° 18' 16.394 W
11,300.0	2.39	260.72	11,268.1	-288.8	2,533.5	32° 4' 43.597 N	103° 18' 16.413 W
11,331.0	2.40	262.55	11,299.1	-289.0	2,532.2	32° 4' 43.595 N	103° 18' 16.428 W
11,354.0	2.28	264.14	11,322.1	-289.1	2,531.3	32° 4' 43.594 N	103° 18' 16.439 W

Company: Ameredev Operating, LLC.
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 Survey Calculation Method: Minimum Curvature
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Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL-FNL (usft)	+FWL-FEL (usft)	Latitude	Longitude
11,400.0	3.48	296.90	11,368.0	-288.5	2,529.2	32° 4' 43.600 N	103° 18' 16.464 W
11,448.0	5.26	311.09	11,415.9	-286.4	2,526.2	32° 4' 43.621 N	103° 18' 16.498 W
11,497.0	10.81	325.83	11,464.4	-281.2	2,521.9	32° 4' 43.673 N	103° 18' 16.547 W
11,500.0	11.16	326.00	11,467.3	-280.7	2,521.6	32° 4' 43.678 N	103° 18' 16.550 W
11,543.0	16.20	327.62	11,509.1	-272.2	2,516.1	32° 4' 43.763 N	103° 18' 16.614 W
11,600.0	20.75	326.00	11,563.1	-257.1	2,506.1	32° 4' 43.913 N	103° 18' 16.727 W
11,638.0	23.79	325.25	11,598.3	-245.2	2,498.0	32° 4' 44.032 N	103° 18' 16.821 W
11,685.0	30.25	327.28	11,640.1	-227.4	2,486.2	32° 4' 44.209 N	103° 18' 16.956 W
11,700.0	31.63	328.25	11,653.0	-220.9	2,482.1	32° 4' 44.273 N	103° 18' 17.003 W
11,732.0	34.60	330.09	11,679.8	-205.9	2,473.1	32° 4' 44.423 N	103° 18' 17.105 W
11,785.0	39.77	333.32	11,722.0	-177.7	2,458.0	32° 4' 44.703 N	103° 18' 17.278 W
11,800.0	41.14	333.70	11,733.4	-169.0	2,453.7	32° 4' 44.790 N	103° 18' 17.328 W
11,864.0	46.98	335.11	11,779.4	-128.8	2,434.5	32° 4' 45.189 N	103° 18' 17.546 W
11,896.0	50.46	335.58	11,800.5	-107.0	2,424.4	32° 4' 45.406 N	103° 18' 17.660 W
11,900.0	51.12	335.59	11,803.0	-104.2	2,423.2	32° 4' 45.434 N	103° 18' 17.675 W
11,928.0	55.72	335.69	11,819.7	-83.7	2,413.9	32° 4' 45.638 N	103° 18' 17.780 W
11,959.0	60.45	333.68	11,836.1	-59.9	2,402.6	32° 4' 45.874 N	103° 18' 17.908 W
11,991.0	66.58	334.11	11,850.4	-34.2	2,390.0	32° 4' 46.130 N	103° 18' 18.052 W
12,000.0	68.01	335.10	11,853.8	-26.7	2,386.5	32° 4' 46.204 N	103° 18' 18.093 W
12,038.0	74.12	339.10	11,866.2	6.4	2,372.5	32° 4' 46.533 N	103° 18' 18.251 W
12,085.0	79.65	341.07	11,876.8	49.4	2,357.0	32° 4' 46.960 N	103° 18' 18.427 W
12,100.0	80.56	341.50	11,879.4	63.4	2,352.2	32° 4' 47.099 N	103° 18' 18.481 W
12,132.0	82.51	342.42	11,884.1	93.5	2,342.4	32° 4' 47.398 N	103° 18' 18.591 W
12,138.8	82.84	342.87	11,885.0	99.9	2,340.4	32° 4' 47.461 N	103° 18' 18.614 W
Nan114 As Drilled FTP							
12,180.0	84.89	345.61	11,889.4	139.4	2,329.3	32° 4' 47.853 N	103° 18' 18.739 W
12,200.0	85.36	347.23	11,891.1	158.7	2,324.6	32° 4' 48.045 N	103° 18' 18.791 W
12,227.0	86.00	349.42	11,893.1	185.1	2,319.2	32° 4' 48.306 N	103° 18' 18.852 W
12,274.0	87.48	354.22	11,895.8	231.5	2,312.5	32° 4' 48.766 N	103° 18' 18.924 W
12,300.0	87.69	355.72	11,896.9	257.4	2,310.2	32° 4' 49.022 N	103° 18' 18.948 W
12,369.0	88.27	359.69	11,899.3	326.3	2,307.4	32° 4' 49.704 N	103° 18' 18.972 W
12,400.0	88.03	359.76	11,900.3	357.3	2,307.3	32° 4' 50.011 N	103° 18' 18.970 W
12,483.0	87.38	359.93	11,903.7	440.2	2,307.1	32° 4' 50.831 N	103° 18' 18.964 W
12,500.0	87.52	359.97	11,904.4	457.2	2,307.0	32° 4' 51.000 N	103° 18' 18.962 W
12,577.0	88.17	0.16	11,907.3	534.1	2,307.1	32° 4' 51.761 N	103° 18' 18.953 W
12,600.0	88.44	0.18	11,908.0	557.1	2,307.2	32° 4' 51.988 N	103° 18' 18.949 W
12,672.0	89.29	0.23	11,909.4	629.1	2,307.5	32° 4' 52.701 N	103° 18' 18.938 W
12,700.0	89.72	0.50	11,909.6	657.1	2,307.6	32° 4' 52.978 N	103° 18' 18.933 W
12,767.0	90.74	1.15	11,909.4	724.1	2,308.6	32° 4' 53.640 N	103° 18' 18.914 W
12,800.0	90.45	1.47	11,909.0	757.1	2,309.4	32° 4' 53.967 N	103° 18' 18.902 W
12,861.0	89.91	2.05	11,908.8	818.1	2,311.2	32° 4' 54.570 N	103° 18' 18.874 W
12,900.0	89.97	3.01	11,908.9	857.0	2,312.9	32° 4' 54.955 N	103° 18' 18.849 W
12,956.0	90.06	4.39	11,908.9	912.9	2,316.6	32° 4' 55.508 N	103° 18' 18.801 W
13,000.0	88.42	3.27	11,909.5	956.8	2,319.5	32° 4' 55.942 N	103° 18' 18.762 W

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Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
13,051.0	86.51	1.97	11,911.7	1,007.7	2,321.8	32° 4' 56.445 N	103° 18' 18.729 W
13,100.0	87.02	0.39	11,914.5	1,056.6	2,322.8	32° 4' 56.929 N	103° 18' 18.712 W
13,146.0	87.51	358.91	11,916.7	1,102.6	2,322.6	32° 4' 57.384 N	103° 18' 18.710 W
13,200.0	86.90	358.26	11,919.3	1,156.5	2,321.2	32° 4' 57.917 N	103° 18' 18.720 W
13,241.0	86.43	357.76	11,921.7	1,197.4	2,319.8	32° 4' 58.322 N	103° 18' 18.732 W
13,300.0	87.06	356.61	11,925.0	1,256.2	2,316.9	32° 4' 58.905 N	103° 18' 18.759 W
13,336.0	87.44	355.91	11,926.8	1,292.1	2,314.6	32° 4' 59.260 N	103° 18' 18.782 W
13,400.0	87.59	356.46	11,929.5	1,355.9	2,310.3	32° 4' 59.892 N	103° 18' 18.825 W
13,431.0	87.66	356.72	11,930.8	1,386.8	2,308.5	32° 5' 0.198 N	103° 18' 18.843 W
13,500.0	88.90	357.58	11,932.9	1,455.7	2,305.0	32° 5' 0.880 N	103° 18' 18.875 W
13,526.0	89.37	357.90	11,933.3	1,481.7	2,304.0	32° 5' 1.137 N	103° 18' 18.884 W
13,600.0	88.82	358.80	11,934.5	1,555.6	2,301.9	32° 5' 1.869 N	103° 18' 18.900 W
13,621.0	88.66	359.06	11,934.9	1,576.6	2,301.5	32° 5' 2.076 N	103° 18' 18.903 W
13,700.0	85.77	358.84	11,938.8	1,655.5	2,300.0	32° 5' 2.857 N	103° 18' 18.911 W
13,716.0	85.19	358.80	11,940.0	1,671.4	2,299.7	32° 5' 3.015 N	103° 18' 18.913 W
13,800.0	84.81	358.18	11,947.3	1,755.1	2,297.5	32° 5' 3.843 N	103° 18' 18.929 W
13,811.0	84.76	358.10	11,948.3	1,766.0	2,297.2	32° 5' 3.951 N	103° 18' 18.932 W
13,900.0	87.67	358.48	11,954.2	1,854.8	2,294.5	32° 5' 4.830 N	103° 18' 18.953 W
13,906.0	87.87	358.51	11,954.5	1,860.8	2,294.4	32° 5' 4.889 N	103° 18' 18.954 W
14,000.0	88.15	359.39	11,957.7	1,954.7	2,292.6	32° 5' 5.818 N	103° 18' 18.964 W
14,001.0	88.15	359.40	11,957.7	1,955.7	2,292.6	32° 5' 5.828 N	103° 18' 18.964 W
14,096.0	89.61	0.79	11,959.6	2,050.7	2,292.8	32° 5' 6.768 N	103° 18' 18.951 W
14,100.0	89.80	0.80	11,959.6	2,054.7	2,292.8	32° 5' 6.808 N	103° 18' 18.950 W
14,191.0	94.22	0.94	11,956.4	2,145.6	2,294.2	32° 5' 7.707 N	103° 18' 18.924 W
14,200.0	93.71	0.84	11,955.8	2,154.6	2,294.4	32° 5' 7.796 N	103° 18' 18.922 W
14,286.0	88.84	359.86	11,953.9	2,240.5	2,294.9	32° 5' 8.646 N	103° 18' 18.906 W
14,300.0	88.55	359.87	11,954.2	2,254.5	2,294.8	32° 5' 8.785 N	103° 18' 18.905 W
14,380.0	86.86	359.92	11,957.4	2,334.5	2,294.7	32° 5' 9.576 N	103° 18' 18.898 W
14,400.0	87.30	0.17	11,958.4	2,354.4	2,294.7	32° 5' 9.773 N	103° 18' 18.895 W
14,475.0	88.93	1.11	11,960.9	2,429.4	2,295.5	32° 5' 10.515 N	103° 18' 18.877 W
14,500.0	88.65	0.90	11,961.4	2,454.4	2,296.0	32° 5' 10.762 N	103° 18' 18.869 W
14,570.0	87.88	0.33	11,963.6	2,524.3	2,296.7	32° 5' 11.454 N	103° 18' 18.853 W
14,600.0	88.78	0.78	11,964.4	2,554.3	2,297.0	32° 5' 11.751 N	103° 18' 18.846 W
14,665.0	90.73	1.77	11,964.7	2,619.3	2,298.5	32° 5' 12.394 N	103° 18' 18.822 W
14,700.0	89.79	1.18	11,964.6	2,654.3	2,299.4	32° 5' 12.740 N	103° 18' 18.808 W
14,759.0	88.20	0.19	11,965.6	2,713.3	2,300.1	32° 5' 13.323 N	103° 18' 18.793 W
14,800.0	88.21	0.13	11,966.9	2,754.3	2,300.2	32° 5' 13.729 N	103° 18' 18.787 W
14,854.0	88.22	0.05	11,968.6	2,808.2	2,300.3	32° 5' 14.263 N	103° 18' 18.780 W
14,900.0	88.11	359.75	11,970.0	2,854.2	2,300.2	32° 5' 14.718 N	103° 18' 18.776 W
14,949.0	87.99	359.44	11,971.7	2,903.2	2,299.9	32° 5' 15.202 N	103° 18' 18.775 W
15,000.0	89.65	359.92	11,972.7	2,954.2	2,299.6	32° 5' 15.707 N	103° 18' 18.772 W
15,044.0	91.08	0.34	11,972.5	2,998.2	2,299.7	32° 5' 16.142 N	103° 18' 18.766 W
15,100.0	91.09	0.57	11,971.4	3,054.2	2,300.1	32° 5' 16.696 N	103° 18' 18.755 W
15,138.0	91.09	0.72	11,970.7	3,092.1	2,300.6	32° 5' 17.072 N	103° 18' 18.746 W

Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #5N
Well: Nandina 114H
Wellbore: Nandina 114H As Drilled
Design: Final

Local Co-ordinate Reference: Well Nandina 114H
TVD Reference: KB @ 3044.0usft
MD Reference: KB @ 3044.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL-FNL (usft)	+FWL-FEL (usft)	Latitude	Longitude
15,200.0	89.75	359.69	11,970.2	3,154.1	2,300.8	32° 5' 17.686 N	103° 18' 18.736 W
15,233.0	89.04	359.14	11,970.6	3,187.1	2,300.4	32° 5' 18.012 N	103° 18' 18.736 W
15,300.0	87.09	358.87	11,972.8	3,254.1	2,299.3	32° 5' 18.675 N	103° 18' 18.743 W
15,328.0	86.28	358.76	11,974.5	3,282.0	2,298.7	32° 5' 18.951 N	103° 18' 18.746 W
15,400.0	87.29	358.61	11,978.5	3,353.9	2,297.0	32° 5' 19.662 N	103° 18' 18.757 W
15,422.0	87.60	358.56	11,979.5	3,375.9	2,296.5	32° 5' 19.880 N	103° 18' 18.761 W
15,500.0	88.31	357.98	11,982.3	3,453.8	2,294.1	32° 5' 20.651 N	103° 18' 18.780 W
15,517.0	88.46	357.85	11,982.7	3,470.8	2,293.5	32° 5' 20.819 N	103° 18' 18.785 W
15,600.0	89.16	358.91	11,984.5	3,553.7	2,291.2	32° 5' 21.640 N	103° 18' 18.803 W
15,612.0	89.26	359.06	11,984.6	3,565.7	2,291.0	32° 5' 21.759 N	103° 18' 18.805 W
15,700.0	88.82	359.03	11,986.1	3,653.7	2,289.5	32° 5' 22.629 N	103° 18' 18.812 W
15,706.0	88.79	359.03	11,986.2	3,659.7	2,289.4	32° 5' 22.689 N	103° 18' 18.812 W
15,800.0	87.34	358.54	11,989.4	3,753.6	2,287.4	32° 5' 23.618 N	103° 18' 18.825 W
15,801.0	87.32	358.53	11,989.5	3,754.6	2,287.4	32° 5' 23.628 N	103° 18' 18.825 W
15,895.0	90.30	359.35	11,991.4	3,848.6	2,285.6	32° 5' 24.558 N	103° 18' 18.835 W
15,900.0	90.38	359.39	11,991.4	3,853.6	2,285.6	32° 5' 24.607 N	103° 18' 18.835 W
15,990.0	91.75	0.08	11,989.7	3,943.5	2,285.2	32° 5' 25.498 N	103° 18' 18.830 W
16,000.0	91.76	0.07	11,989.4	3,953.5	2,285.2	32° 5' 25.597 N	103° 18' 18.829 W
16,085.0	91.82	0.00	11,986.7	4,038.5	2,285.2	32° 5' 26.437 N	103° 18' 18.819 W
16,100.0	91.29	359.95	11,986.3	4,053.5	2,285.2	32° 5' 26.586 N	103° 18' 18.817 W
16,179.0	88.52	359.69	11,986.5	4,132.5	2,285.0	32° 5' 27.367 N	103° 18' 18.811 W
16,200.0	88.23	359.81	11,987.1	4,153.5	2,284.9	32° 5' 27.575 N	103° 18' 18.810 W
16,274.0	87.19	0.23	11,990.0	4,227.4	2,284.9	32° 5' 28.307 N	103° 18' 18.802 W
16,300.0	87.80	0.16	11,991.2	4,253.4	2,285.0	32° 5' 28.564 N	103° 18' 18.798 W
16,369.0	89.41	359.97	11,992.8	4,322.4	2,285.1	32° 5' 29.246 N	103° 18' 18.789 W
16,400.0	89.81	0.01	11,993.1	4,353.4	2,285.1	32° 5' 29.553 N	103° 18' 18.786 W
16,464.0	90.63	0.08	11,992.8	4,417.4	2,285.1	32° 5' 30.186 N	103° 18' 18.778 W
16,500.0	90.63	359.98	11,992.4	4,453.4	2,285.1	32° 5' 30.542 N	103° 18' 18.774 W
16,559.0	90.64	359.82	11,991.8	4,512.4	2,285.0	32° 5' 31.126 N	103° 18' 18.769 W
16,600.0	91.27	359.92	11,991.1	4,553.3	2,284.9	32° 5' 31.532 N	103° 18' 18.765 W
16,653.0	92.08	0.05	11,989.5	4,606.3	2,284.9	32° 5' 32.056 N	103° 18' 18.759 W
16,700.0	91.54	359.48	11,988.0	4,653.3	2,284.7	32° 5' 32.521 N	103° 18' 18.756 W
16,748.0	90.98	358.90	11,987.0	4,701.3	2,284.1	32° 5' 32.996 N	103° 18' 18.759 W
16,800.0	91.31	358.56	11,985.9	4,753.3	2,282.9	32° 5' 33.510 N	103° 18' 18.767 W
16,843.0	91.59	358.28	11,984.9	4,796.2	2,281.7	32° 5' 33.935 N	103° 18' 18.776 W
16,900.0	92.41	358.51	11,982.9	4,853.2	2,280.1	32° 5' 34.499 N	103° 18' 18.788 W
16,938.0	92.95	358.66	11,981.1	4,891.1	2,279.2	32° 5' 34.874 N	103° 18' 18.795 W
17,000.0	91.90	358.24	11,978.5	4,953.0	2,277.5	32° 5' 35.487 N	103° 18' 18.807 W
17,032.0	91.36	358.02	11,977.6	4,985.0	2,276.5	32° 5' 35.804 N	103° 18' 18.816 W
17,100.0	92.30	359.14	11,975.4	5,053.0	2,274.8	32° 5' 36.476 N	103° 18' 18.828 W
17,127.0	92.67	359.59	11,974.2	5,079.9	2,274.5	32° 5' 36.743 N	103° 18' 18.828 W
17,200.0	91.53	359.84	11,971.5	5,152.9	2,274.1	32° 5' 37.465 N	103° 18' 18.824 W
17,222.0	91.18	359.91	11,971.0	5,174.9	2,274.1	32° 5' 37.682 N	103° 18' 18.823 W
17,300.0	90.42	358.72	11,969.9	5,252.9	2,273.1	32° 5' 38.454 N	103° 18' 18.825 W
17,317.0	90.25	358.46	11,969.8	5,269.8	2,272.7	32° 5' 38.622 N	103° 18' 18.828 W

Company: Ameredev Operating, LLC.
 Project: NAN/GB
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 Design: Final

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 TVD Reference: KB @ 3044.0usft
 MD Reference: KB @ 3044.0usft
 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
17,400.0	91.82	358.36	11,968.5	5,352.8	2,270.4	32° 5' 39.443 N	103° 18' 18.845 W
17,412.0	91.82	358.34	11,968.1	5,364.8	2,270.1	32° 5' 39.562 N	103° 18' 18.848 W
17,500.0	92.01	358.47	11,965.2	5,452.7	2,267.6	32° 5' 40.432 N	103° 18' 18.867 W
17,507.0	92.02	358.48	11,964.9	5,459.7	2,267.4	32° 5' 40.501 N	103° 18' 18.868 W
17,600.0	90.75	358.62	11,962.7	5,552.6	2,265.1	32° 5' 41.421 N	103° 18' 18.885 W
17,601.0	90.74	358.62	11,962.7	5,553.6	2,265.1	32° 5' 41.431 N	103° 18' 18.885 W
17,696.0	93.86	359.52	11,958.9	5,648.5	2,263.5	32° 5' 42.370 N	103° 18' 18.893 W
17,700.0	93.94	359.51	11,958.6	5,652.5	2,263.5	32° 5' 42.410 N	103° 18' 18.893 W
17,791.0	95.69	359.39	11,951.0	5,743.2	2,262.6	32° 5' 43.307 N	103° 18' 18.893 W
17,800.0	95.72	359.31	11,950.1	5,752.2	2,262.5	32° 5' 43.396 N	103° 18' 18.893 W
17,886.0	96.03	358.50	11,941.3	5,837.7	2,260.9	32° 5' 44.242 N	103° 18' 18.903 W
17,900.0	96.05	358.74	11,939.8	5,851.6	2,260.5	32° 5' 44.380 N	103° 18' 18.905 W
17,981.0	96.17	0.12	11,931.2	5,932.1	2,259.7	32° 5' 45.177 N	103° 18' 18.905 W
18,000.0	95.93	0.30	11,929.2	5,951.0	2,259.8	32° 5' 45.364 N	103° 18' 18.902 W
18,076.0	94.96	1.03	11,922.0	6,026.7	2,260.7	32° 5' 46.112 N	103° 18' 18.884 W
18,100.0	94.06	0.66	11,920.1	6,050.6	2,261.0	32° 5' 46.349 N	103° 18' 18.877 W
18,171.0	91.41	359.56	11,916.7	6,121.5	2,261.2	32° 5' 47.051 N	103° 18' 18.868 W
18,200.0	91.92	359.53	11,915.8	6,150.5	2,260.9	32° 5' 47.337 N	103° 18' 18.867 W
18,266.0	93.07	359.45	11,913.0	6,216.4	2,260.4	32° 5' 47.990 N	103° 18' 18.867 W
18,300.0	91.55	359.46	11,911.6	6,250.4	2,260.0	32° 5' 48.326 N	103° 18' 18.867 W
18,361.0	88.81	359.47	11,911.4	6,311.4	2,259.5	32° 5' 48.930 N	103° 18' 18.867 W
18,400.0	88.66	359.02	11,912.3	6,350.4	2,259.0	32° 5' 49.315 N	103° 18' 18.868 W
18,456.0	88.44	358.38	11,913.7	6,406.4	2,257.7	32° 5' 49.869 N	103° 18' 18.877 W
18,500.0	89.51	358.62	11,914.5	6,450.3	2,256.5	32° 5' 50.304 N	103° 18' 18.885 W
18,551.0	90.76	358.90	11,914.3	6,501.3	2,255.4	32° 5' 50.809 N	103° 18' 18.892 W
18,600.0	91.17	358.86	11,913.5	6,550.3	2,254.5	32° 5' 51.294 N	103° 18' 18.898 W
18,646.0	91.56	358.82	11,912.4	6,596.3	2,253.5	32° 5' 51.749 N	103° 18' 18.904 W
18,700.0	92.66	358.95	11,910.4	6,650.2	2,252.5	32° 5' 52.283 N	103° 18' 18.910 W
18,741.0	93.49	359.05	11,908.2	6,691.2	2,251.8	32° 5' 52.688 N	103° 18' 18.914 W
18,800.0	94.02	359.88	11,904.4	6,750.0	2,251.2	32° 5' 53.270 N	103° 18' 18.914 W
18,836.0	94.35	0.38	11,901.7	6,785.9	2,251.3	32° 5' 53.626 N	103° 18' 18.909 W
18,900.0	92.17	359.88	11,898.1	6,849.8	2,251.4	32° 5' 54.258 N	103° 18' 18.900 W
18,931.0	91.11	359.64	11,897.2	6,880.8	2,251.3	32° 5' 54.564 N	103° 18' 18.898 W
19,000.0	91.42	1.62	11,895.7	6,949.8	2,252.1	32° 5' 55.247 N	103° 18' 18.882 W
19,026.0	91.53	2.36	11,895.0	6,975.8	2,253.0	32° 5' 55.504 N	103° 18' 18.868 W
19,100.0	93.49	2.46	11,891.8	7,049.6	2,256.1	32° 5' 56.234 N	103° 18' 18.824 W
19,120.0	94.02	2.49	11,890.5	7,069.6	2,256.9	32° 5' 56.432 N	103° 18' 18.812 W
19,200.0	96.27	1.73	11,883.3	7,149.2	2,259.9	32° 5' 57.219 N	103° 18' 18.769 W
19,215.0	96.69	1.59	11,881.6	7,164.1	2,260.3	32° 5' 57.366 N	103° 18' 18.762 W
19,300.0	93.25	359.61	11,874.3	7,248.7	2,261.2	32° 5' 58.204 N	103° 18' 18.742 W
19,310.0	92.84	359.38	11,873.7	7,258.7	2,261.1	32° 5' 58.303 N	103° 18' 18.742 W
19,400.0	91.65	358.22	11,870.2	7,348.6	2,259.2	32° 5' 59.193 N	103° 18' 18.754 W
19,405.0	91.58	358.16	11,870.1	7,353.6	2,259.1	32° 5' 59.242 N	103° 18' 18.756 W
19,500.0	89.66	358.46	11,869.0	7,448.6	2,256.3	32° 6' 0.182 N	103° 18' 18.778 W

Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #5N
Well: Nandina 114H
Wellbore: Nandina 114H As Drilled
Design: Final

Local Co-ordinate Reference: Well Nandina 114H
TVD Reference: KB @ 3044.0usft
MD Reference: KB @ 3044.0usft
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
19,595.0	90.53	358.28	11,868.9	7,543.5	2,253.6	32° 6' 1.122 N	103° 18' 18.798 W
19,600.0	90.63	358.36	11,868.8	7,548.5	2,253.4	32° 6' 1.171 N	103° 18' 18.800 W
19,690.0	92.49	359.76	11,866.4	7,638.5	2,251.9	32° 6' 2.061 N	103° 18' 18.807 W
19,700.0	92.17	359.68	11,866.0	7,648.5	2,251.9	32° 6' 2.160 N	103° 18' 18.806 W
19,785.0	89.45	358.96	11,864.8	7,733.5	2,250.9	32° 6' 3.001 N	103° 18' 18.809 W
19,800.0	90.14	358.91	11,864.8	7,748.5	2,250.6	32° 6' 3.149 N	103° 18' 18.810 W
19,880.0	93.82	358.62	11,862.1	7,828.4	2,248.9	32° 6' 3.940 N	103° 18' 18.821 W
19,900.0	92.99	358.70	11,860.9	7,848.3	2,248.4	32° 6' 4.138 N	103° 18' 18.825 W
19,975.0	89.89	359.00	11,859.0	7,923.3	2,246.9	32° 6' 4.880 N	103° 18' 18.834 W
20,000.0	89.53	359.26	11,859.1	7,948.3	2,246.5	32° 6' 5.127 N	103° 18' 18.835 W
20,070.0	88.53	360.00	11,860.3	8,018.3	2,246.1	32° 6' 5.820 N	103° 18' 18.833 W
20,100.0	90.29	359.90	11,860.6	8,048.3	2,246.1	32° 6' 6.116 N	103° 18' 18.830 W
20,165.0	94.10	359.67	11,858.1	8,113.2	2,245.8	32° 6' 6.759 N	103° 18' 18.826 W
20,200.0	93.02	0.54	11,855.9	8,148.1	2,245.9	32° 6' 7.105 N	103° 18' 18.821 W
20,260.0	91.17	2.02	11,853.7	8,208.1	2,247.2	32° 6' 7.698 N	103° 18' 18.799 W
20,300.0	91.35	3.17	11,852.9	8,248.0	2,249.0	32° 6' 8.093 N	103° 18' 18.773 W
20,355.0	91.59	4.75	11,851.5	8,302.9	2,252.8	32° 6' 8.635 N	103° 18' 18.723 W
20,400.0	91.83	4.87	11,850.1	8,347.7	2,256.6	32° 6' 9.078 N	103° 18' 18.674 W
20,450.0	92.10	5.00	11,848.4	8,397.5	2,260.9	32° 6' 9.570 N	103° 18' 18.619 W
20,481.0	91.56	4.18	11,847.4	8,428.4	2,263.4	32° 6' 9.876 N	103° 18' 18.587 W
20,500.0	90.89	3.94	11,847.0	8,447.3	2,264.7	32° 6' 10.063 N	103° 18' 18.569 W
20,545.0	89.29	3.37	11,846.9	8,492.2	2,267.6	32° 6' 10.507 N	103° 18' 18.530 W
20,577.0	87.83	2.84	11,847.7	8,524.2	2,269.3	32° 6' 10.823 N	103° 18' 18.507 W
20,600.0	86.51	2.51	11,848.9	8,547.1	2,270.4	32° 6' 11.050 N	103° 18' 18.492 W
20,608.0	86.05	2.39	11,849.4	8,555.1	2,270.7	32° 6' 11.129 N	103° 18' 18.487 W
20,640.0	86.32	2.24	11,851.5	8,587.0	2,272.0	32° 6' 11.444 N	103° 18' 18.468 W
20,671.0	86.39	2.48	11,853.5	8,617.9	2,273.3	32° 6' 11.750 N	103° 18' 18.450 W
20,700.0	86.92	2.08	11,855.2	8,646.8	2,274.4	32° 6' 12.036 N	103° 18' 18.434 W
20,703.0	86.97	2.04	11,855.3	8,649.8	2,274.5	32° 6' 12.066 N	103° 18' 18.432 W
20,735.0	87.49	0.58	11,856.9	8,681.8	2,275.3	32° 6' 12.382 N	103° 18' 18.420 W
20,766.0	88.11	359.41	11,858.1	8,712.8	2,275.3	32° 6' 12.689 N	103° 18' 18.417 W
20,799.0	88.16	359.20	11,859.2	8,745.7	2,274.9	32° 6' 13.015 N	103° 18' 18.418 W
20,800.0	88.15	359.19	11,859.2	8,746.7	2,274.9	32° 6' 13.025 N	103° 18' 18.418 W
20,830.0	87.86	358.83	11,860.2	8,776.7	2,274.3	32° 6' 13.321 N	103° 18' 18.420 W
20,861.0	88.79	359.09	11,861.1	8,807.7	2,273.8	32° 6' 13.628 N	103° 18' 18.423 W
20,893.0	89.02	359.24	11,861.7	8,839.7	2,273.3	32° 6' 13.945 N	103° 18' 18.425 W
20,900.0	88.77	359.21	11,861.9	8,846.7	2,273.2	32° 6' 14.014 N	103° 18' 18.426 W
20,925.0	87.88	359.12	11,862.6	8,871.7	2,272.9	32° 6' 14.261 N	103° 18' 18.427 W
21,000.0	86.05	358.88	11,866.6	8,946.5	2,271.5	32° 6' 15.002 N	103° 18' 18.434 W
21,020.0	85.56	358.82	11,868.0	8,966.5	2,271.1	32° 6' 15.200 N	103° 18' 18.436 W
21,067.0	85.96	358.68	11,871.5	9,013.3	2,270.1	32° 6' 15.663 N	103° 18' 18.443 W
21,100.0	88.99	358.35	11,873.0	9,046.3	2,269.3	32° 6' 15.989 N	103° 18' 18.449 W
21,115.0	90.37	358.20	11,873.1	9,061.3	2,268.8	32° 6' 16.138 N	103° 18' 18.453 W
21,200.0	91.09	356.12	11,872.0	9,146.2	2,264.6	32° 6' 16.978 N	103° 18' 18.492 W

Company: Ameredev Operating, LLC.
Project: NAN/GB
Site: NAN/GB #5N
Well: Nandina 114H
Wellbore: Nandina 114H As Drilled
Design: Final

Local Co-ordinate Reference: Well Nandina 114H
TVD Reference: KB @ 3044.0usft
MD Reference: KB @ 3044.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
21,210.0	91.18	355.88	11,871.8	9,156.2	2,263.9	32° 6' 17.077 N	103° 18' 18.499 W
21,300.0	92.12	356.06	11,869.2	9,245.9	2,257.6	32° 6' 17.965 N	103° 18' 18.563 W
21,304.0	92.16	356.07	11,869.0	9,249.9	2,257.3	32° 6' 18.005 N	103° 18' 18.566 W
21,400.0	91.58	356.30	11,865.9	9,345.6	2,250.9	32° 6' 18.953 N	103° 18' 18.629 W
21,405.0	91.55	356.31	11,865.8	9,350.6	2,250.6	32° 6' 19.002 N	103° 18' 18.632 W
21,500.0	94.84	357.64	11,860.5	9,445.3	2,245.6	32° 6' 19.940 N	103° 18' 18.680 W
21,595.0	95.98	357.52	11,851.5	9,539.8	2,241.6	32° 6' 20.875 N	103° 18' 18.716 W
21,600.0	96.04	357.53	11,851.0	9,544.8	2,241.4	32° 6' 20.924 N	103° 18' 18.718 W
21,690.0	97.10	357.77	11,840.7	9,634.1	2,237.7	32° 6' 21.808 N	103° 18' 18.751 W
21,700.0	96.98	358.17	11,839.5	9,644.0	2,237.4	32° 6' 21.907 N	103° 18' 18.754 W
21,785.0	95.96	1.55	11,829.9	9,728.5	2,237.2	32° 6' 22.742 N	103° 18' 18.747 W
21,800.0	95.84	1.40	11,828.3	9,743.4	2,237.6	32° 6' 22.890 N	103° 18' 18.741 W
21,880.0	95.23	0.61	11,820.6	9,823.0	2,239.0	32° 6' 23.677 N	103° 18' 18.716 W
21,900.0	94.55	0.52	11,818.9	9,842.9	2,239.2	32° 6' 23.875 N	103° 18' 18.711 W
21,975.0	91.98	0.18	11,814.7	9,917.8	2,239.6	32° 6' 24.615 N	103° 18' 18.697 W
22,000.0	90.94	0.09	11,814.0	9,942.8	2,239.7	32° 6' 24.863 N	103° 18' 18.694 W
22,070.0	88.04	359.83	11,814.6	10,012.8	2,239.6	32° 6' 25.555 N	103° 18' 18.687 W
22,100.0	88.23	359.61	11,815.6	10,042.8	2,239.5	32° 6' 25.852 N	103° 18' 18.685 W
22,165.0	88.64	359.12	11,817.4	10,107.7	2,238.8	32° 6' 26.495 N	103° 18' 18.686 W
22,200.0	88.62	359.21	11,818.2	10,142.7	2,238.2	32° 6' 26.841 N	103° 18' 18.688 W
22,260.0	88.59	359.36	11,819.7	10,202.7	2,237.5	32° 6' 27.434 N	103° 18' 18.691 W
22,300.0	89.80	359.95	11,820.2	10,242.7	2,237.2	32° 6' 27.830 N	103° 18' 18.689 W
22,355.0	91.47	0.76	11,819.6	10,297.7	2,237.6	32° 6' 28.374 N	103° 18' 18.679 W
22,400.0	92.20	0.85	11,818.2	10,342.6	2,238.2	32° 6' 28.819 N	103° 18' 18.666 W
22,450.0	93.01	0.96	11,815.9	10,392.6	2,239.0	32° 6' 29.313 N	103° 18' 18.652 W
22,500.0	93.43	0.95	11,813.1	10,442.5	2,239.8	32° 6' 29.807 N	103° 18' 18.637 W
22,509.0	93.50	0.95	11,812.6	10,451.5	2,240.0	32° 6' 29.896 N	103° 18' 18.634 W
Nan114 As Drilled LTP							
22,573.7	93.50	0.95	11,808.6	10,516.0	2,241.1	32° 6' 30.534 N	103° 18' 18.614 W
Nan114 As Drilled BHL							

Checked By: _____ Approved By: _____ Date: _____