



Survey Report

HOBBS OCD
JAN 06 2020
RECEIVED

Service Company: Aim Directional Services LLC

Location: Jal

Well: Nandina Fed Com 25 36 31 #121H

Rig: H&P 616

API or UWI: 30-025-46196

Job Number: WT-19-113

State: New Mexico

Operating Company: Ameredev Operating

County: Lea

Magnetic Declination: 6.00

Country: USA

Proposed Azimuth: 359.43

Comment

North Reference: GRID

Latitude: 32.0802027777778

Longitude: -103.311397222222

Tie-In Data

MD	Inclination	Azimuth	TVD	NS	EW
0.00	0.00	0.00	0.00	0.00	0.00

Survey Data

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
161.00	0.50	341.90	161.00	0.67	-0.22	341.90	0.70	0.67	0.31
216.00	0.70	281.00	216.00	0.96	-0.62	327.03	1.14	0.97	1.15
370.00	0.80	287.20	369.98	1.46	-2.57	299.53	2.96	1.48	0.08
462.00	0.80	296.60	461.97	1.93	-3.76	297.22	4.23	1.97	0.14
647.00	0.20	271.40	646.97	2.52	-5.24	295.70	5.81	2.57	0.34
741.00	0.30	263.40	740.96	2.50	-5.65	293.85	6.17	2.55	0.11
832.00	0.50	250.60	831.96	2.34	-6.26	290.48	6.68	2.40	0.24
929.00	0.50	230.60	928.96	1.93	-6.98	285.43	7.25	2.00	0.18
1019.00	1.10	245.60	1018.95	1.32	-8.07	279.30	8.18	1.40	0.70
1186.00	1.05	226.87	1185.92	-0.39	-10.65	267.92	10.66	-0.28	0.21
1249.00	1.79	201.37	1248.90	-1.70	-11.43	261.56	11.56	-1.58	1.52
1343.00	2.93	172.26	1342.82	-5.45	-11.64	244.93	12.85	-5.33	1.72
1438.00	3.90	159.05	1437.66	-10.87	-10.16	223.07	14.88	-10.77	1.31
1533.00	4.79	150.94	1532.38	-17.35	-7.08	202.19	18.74	-17.28	1.14
1627.00	5.05	143.05	1626.04	-24.09	-2.68	186.36	24.24	-24.06	0.77
1722.00	5.11	140.80	1720.66	-30.71	2.50	175.34	30.81	-30.73	0.22

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
1817.00	5.11	138.71	1815.29	-37.17	7.97	167.90	38.01	-37.24	0.20
1911.00	5.08	138.05	1908.91	-43.41	13.51	162.71	45.46	-43.54	0.07
2006.00	5.32	135.14	2003.52	-49.66	19.43	158.63	53.32	-49.85	0.38
2101.00	5.54	133.37	2098.10	-55.93	25.87	155.18	61.62	-56.18	0.29
2195.00	5.72	132.36	2191.64	-62.20	32.63	152.32	70.24	-62.52	0.22
2290.00	6.09	132.71	2286.14	-68.81	39.83	149.93	79.51	-69.20	0.39
2384.00	6.50	132.74	2379.57	-75.80	47.40	147.98	89.40	-76.27	0.44
2479.00	6.98	132.20	2473.92	-83.33	55.63	146.27	100.19	-83.88	0.51
2573.00	7.13	129.81	2567.20	-90.90	64.34	144.71	111.37	-91.54	0.35
2668.00	7.11	128.33	2661.47	-98.32	73.48	143.23	122.75	-99.05	0.19
2763.00	7.09	129.45	2755.74	-105.69	82.62	141.98	134.15	-106.51	0.15
2857.00	7.18	128.04	2849.02	-113.00	91.73	140.93	145.54	-113.91	0.21
2952.00	6.26	130.81	2943.36	-120.04	100.32	140.11	156.44	-121.03	1.03
3046.00	6.47	127.93	3036.78	-126.65	108.38	139.44	166.69	-127.72	0.41
3141.00	6.42	123.63	3131.18	-132.88	117.02	138.63	177.06	-134.04	0.51
3235.00	6.83	120.89	3224.56	-138.66	126.20	137.69	187.49	-139.91	0.55
3330.00	7.15	118.95	3318.85	-144.42	136.22	136.67	198.53	-145.77	0.42
3424.00	6.70	118.11	3412.16	-149.84	146.17	135.71	209.33	-151.28	0.49
3519.00	4.94	115.23	3506.67	-154.19	154.76	134.89	218.46	-155.72	1.88
3613.00	2.90	107.77	3600.45	-156.64	160.69	134.27	224.40	-158.23	2.23
3707.00	1.46	142.36	3694.38	-158.32	163.68	134.04	227.72	-159.94	2.01
3802.00	3.14	182.15	3789.30	-161.88	164.33	134.57	230.67	-163.50	2.34
3896.00	5.84	189.01	3883.01	-169.17	163.48	135.98	235.26	-170.79	2.92
3991.00	8.82	185.20	3977.22	-181.20	162.06	138.19	243.10	-182.81	3.18
4085.00	10.98	182.11	4069.82	-197.33	161.08	140.77	254.72	-198.92	2.37
4180.00	10.56	178.41	4163.14	-215.07	160.99	143.18	268.65	-216.66	0.85
4274.00	10.65	179.71	4255.54	-232.37	161.27	145.24	282.85	-233.96	0.27
4369.00	10.59	180.89	4348.91	-249.87	161.18	147.18	297.35	-251.46	0.24
4463.00	10.74	182.36	4441.29	-267.26	160.69	148.98	311.85	-268.85	0.33
4558.00	10.72	182.84	4534.63	-284.93	159.88	150.70	326.72	-286.51	0.10
4652.00	10.76	183.35	4626.98	-302.42	158.94	152.28	341.64	-303.99	0.11
4747.00	10.66	183.22	4720.33	-320.05	157.93	153.74	356.89	-321.60	0.11
4842.00	10.71	181.66	4813.68	-337.64	157.18	155.04	372.43	-339.19	0.31
4936.00	10.68	178.45	4906.05	-355.08	157.16	156.13	388.31	-356.63	0.63
5031.00	10.61	174.75	4999.41	-372.59	158.20	156.99	404.78	-374.15	0.72
5125.00	10.70	169.48	5091.79	-389.79	160.58	157.61	421.57	-391.37	1.04
5220.00	10.50	164.33	5185.18	-406.79	164.53	157.98	438.81	-408.41	1.02

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
5314.00	10.52	159.19	5277.60	-423.06	169.89	158.12	455.90	-424.73	1.00
5409.00	10.51	152.94	5371.01	-438.88	176.92	158.05	473.20	-440.62	1.20
5503.00	10.54	147.89	5463.43	-453.80	185.39	157.78	490.21	-455.62	0.98
5597.00	10.59	144.92	5555.84	-468.15	194.92	157.40	507.11	-470.07	0.58
5692.00	10.30	144.85	5649.26	-482.24	204.83	156.99	523.94	-484.25	0.31
5786.00	10.42	145.15	5741.73	-496.09	214.52	156.61	540.48	-498.20	0.14
5880.00	9.62	144.25	5834.29	-509.44	223.97	156.27	556.50	-511.64	0.87
5974.00	5.80	136.67	5927.43	-519.27	231.82	155.94	568.67	-521.55	4.20
6069.00	1.60	117.40	6022.21	-523.38	236.29	155.70	574.24	-525.70	4.55
6163.00	0.04	40.52	6116.20	-523.96	237.48	155.62	575.26	-526.29	1.69
6257.00	0.08	87.46	6210.20	-523.93	237.57	155.61	575.27	-526.26	0.06
6352.00	0.12	14.06	6305.20	-523.83	237.66	155.60	575.22	-526.17	0.13
6446.00	0.12	279.93	6399.20	-523.72	237.58	155.60	575.09	-526.05	0.19
6541.00	0.07	279.05	6494.20	-523.69	237.43	155.61	575.00	-526.03	0.05
6635.00	0.09	62.46	6588.20	-523.65	237.44	155.61	574.96	-525.98	0.16
6730.00	0.03	187.55	6683.20	-523.64	237.50	155.60	574.98	-525.97	0.12
6824.00	0.03	338.26	6777.20	-523.64	237.49	155.60	574.98	-525.97	0.06
6918.00	0.01	316.45	6871.20	-523.61	237.47	155.60	574.94	-525.95	0.02
7013.00	0.08	111.23	6966.20	-523.63	237.53	155.60	574.98	-525.96	0.09
7107.00	0.10	281.52	7060.20	-523.63	237.51	155.60	574.98	-525.97	0.19
7202.00	0.10	338.52	7155.20	-523.54	237.40	155.61	574.85	-525.88	0.10
7296.00	0.04	358.67	7249.20	-523.43	237.37	155.61	574.74	-525.77	0.07
7391.00	0.08	134.72	7344.20	-523.44	237.41	155.60	574.77	-525.78	0.12
7485.00	0.09	120.82	7438.20	-523.53	237.52	155.60	574.89	-525.87	0.02
7580.00	0.08	19.23	7533.20	-523.50	237.61	155.59	574.90	-525.84	0.14
7605.00	0.11	79.68	7558.20	-523.48	237.64	155.58	574.90	-525.82	0.40
7686.00	0.08	77.71	7639.20	-523.46	237.77	155.57	574.93	-525.80	0.04
7780.00	0.17	17.46	7733.20	-523.31	237.88	155.56	574.84	-525.65	0.16
7875.00	0.13	301.76	7828.20	-523.12	237.83	155.55	574.64	-525.46	0.20
7970.00	0.28	337.74	7923.20	-522.85	237.65	155.56	574.32	-525.19	0.20
8064.00	0.22	345.87	8017.20	-522.46	237.52	155.55	573.92	-524.80	0.07
8158.00	0.50	355.32	8111.20	-521.88	237.44	155.54	573.35	-524.21	0.30
8253.00	0.44	24.14	8206.19	-521.13	237.56	155.49	572.72	-523.47	0.25
8347.00	0.66	40.98	8300.19	-520.39	238.06	155.42	572.26	-522.73	0.29
8442.00	0.87	45.30	8395.18	-519.47	238.93	155.30	571.79	-521.82	0.23
8537.00	0.77	36.62	8490.17	-518.45	239.82	155.18	571.23	-520.81	0.17
8632.00	0.90	17.04	8585.16	-517.23	240.42	155.07	570.37	-519.59	0.33

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
8731.00	0.72	6.58	8684.15	-515.87	240.72	154.98	569.27	-518.23	0.23
8826.00	0.97	341.59	8779.14	-514.51	240.54	154.94	567.96	-516.88	0.46
8921.00	1.14	315.50	8874.12	-513.07	239.62	154.97	566.27	-515.43	0.53
9015.00	1.26	313.26	8968.10	-511.70	238.21	155.04	564.43	-514.04	0.14
9109.00	1.78	286.99	9062.07	-510.56	236.06	155.19	562.49	-512.89	0.91
9223.00	2.29	270.31	9176.00	-510.03	232.09	155.53	560.36	-512.32	0.68
9318.00	2.89	243.38	9270.91	-511.10	228.05	155.95	559.67	-513.34	1.41
9395.00	3.62	231.85	9347.78	-513.47	224.41	156.39	560.36	-515.67	1.27
9489.00	3.56	228.71	9441.60	-517.23	219.88	156.97	562.02	-519.39	0.22
9583.00	2.37	221.78	9535.47	-520.60	216.39	157.43	563.78	-522.73	1.32
9678.00	2.45	196.63	9630.39	-524.01	214.50	157.74	566.21	-526.12	1.11
9771.00	3.31	173.91	9723.27	-528.59	214.22	157.94	570.34	-530.69	1.52
9867.00	4.12	168.43	9819.07	-534.72	215.20	158.08	576.40	-536.83	0.92
9962.00	5.70	167.78	9913.72	-542.68	216.89	158.22	584.41	-544.81	1.66
10056.00	7.18	167.02	10007.12	-552.96	219.19	158.38	594.82	-555.12	1.58
10151.00	8.43	167.88	10101.24	-565.56	221.99	158.57	607.56	-567.74	1.32
10242.00	8.97	169.00	10191.20	-579.04	224.74	158.79	621.13	-581.25	0.62
10322.00	8.90	170.53	10270.22	-591.27	226.95	159.00	633.33	-593.50	0.31
10417.00	8.76	170.49	10364.10	-605.65	229.36	159.26	647.62	-607.90	0.15
10510.00	8.64	172.63	10456.03	-619.56	231.42	159.52	661.37	-621.84	0.37
10605.00	7.78	177.71	10550.06	-633.07	232.59	159.83	674.44	-635.35	1.18
10699.00	6.45	183.50	10643.33	-644.69	232.53	160.17	685.35	-646.97	1.61
10794.00	5.75	194.27	10737.80	-654.63	231.03	160.56	694.20	-656.90	1.41
10888.00	5.38	209.08	10831.36	-663.05	227.72	161.04	701.06	-665.28	1.57
10983.00	5.40	218.32	10925.94	-670.45	222.79	161.62	706.49	-672.63	0.91
11077.00	4.59	211.45	11019.58	-677.13	218.08	162.15	711.38	-679.26	1.07
11172.00	4.14	205.47	11114.31	-683.46	214.63	162.57	716.37	-685.57	0.67
11266.00	3.50	207.15	11208.10	-689.08	211.86	162.91	720.91	-691.15	0.69
11361.00	3.46	212.08	11302.92	-694.09	209.01	163.24	724.88	-696.14	0.32
11455.00	2.94	216.53	11396.78	-698.43	206.07	163.56	728.20	-700.45	0.61
11549.00	2.76	218.72	11490.66	-702.13	203.22	163.86	730.95	-704.12	0.22
11644.00	2.22	220.30	11585.57	-705.32	200.60	164.12	733.29	-707.28	0.57
11739.00	2.11	220.19	11680.50	-708.06	198.28	164.36	735.30	-710.00	0.12
11775.00	2.20	223.09	11716.48	-709.07	197.38	164.44	736.03	-711.00	0.39
11870.00	4.16	58.50	11811.41	-708.60	199.07	164.31	736.04	-710.55	6.64
11917.00	13.09	9.86	11857.88	-702.45	201.45	164.00	730.76	-704.42	22.97
11965.00	20.20	9.19	11903.84	-688.90	203.70	163.53	718.38	-690.89	14.82

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
12012.00	27.16	2.97	11946.86	-670.15	205.56	162.95	700.96	-672.16	15.71
12060.00	31.60	355.68	11988.69	-646.65	205.18	162.40	678.42	-648.66	11.86
12107.00	38.62	348.23	12027.13	-619.96	201.25	162.02	651.81	-621.94	17.48
12156.00	41.93	345.42	12064.51	-589.14	194.01	161.77	620.26	-591.04	7.70
12208.00	50.18	341.83	12100.57	-553.28	183.39	161.66	582.88	-555.08	16.62
12251.00	57.53	342.40	12125.92	-520.26	172.74	161.63	548.18	-521.95	17.13
12298.00	61.17	340.94	12149.88	-481.89	160.02	161.63	507.76	-483.45	8.19
12345.00	64.12	340.45	12171.47	-442.49	146.21	161.71	466.03	-443.93	6.34
12392.00	67.35	339.73	12190.78	-402.21	131.62	161.88	423.20	-403.50	7.01
12438.00	72.59	340.31	12206.53	-361.61	116.86	162.09	380.03	-362.76	11.45
12470.00	72.98	340.14	12216.00	-332.85	106.52	162.25	349.48	-333.89	1.32
12517.00	75.42	340.68	12228.80	-290.24	91.36	162.53	304.28	-291.14	5.31
12565.00	81.07	343.06	12238.58	-245.60	76.75	162.65	257.32	-246.35	12.73
12611.00	87.06	346.98	12243.33	-201.43	64.94	162.13	211.64	-202.07	15.54
12661.00	88.70	347.56	12245.18	-152.69	53.93	160.55	161.94	-153.22	3.48
12755.00	91.62	353.97	12244.92	-59.97	38.86	147.06	71.46	-60.35	7.49
12850.00	91.68	354.85	12242.18	34.54	29.61	40.61	45.49	34.24	0.93
12945.00	91.34	356.91	12239.68	129.25	22.79	10.00	131.25	129.02	2.20
13040.00	90.27	357.67	12238.35	224.14	18.29	4.67	224.88	223.94	1.38
13135.00	88.74	356.22	12239.17	318.99	13.23	2.38	319.27	318.84	2.22
13230.00	91.19	357.03	12239.23	413.82	7.64	1.06	413.89	413.72	2.72
13326.00	91.73	359.62	12236.78	509.74	4.83	0.54	509.76	509.66	2.76
13421.00	92.02	358.58	12233.67	604.67	3.34	0.32	604.68	604.61	1.14
13516.00	92.70	357.19	12229.76	699.53	-0.16	359.99	699.53	699.49	1.63
13611.00	91.96	357.95	12225.90	794.36	-4.18	359.70	794.37	794.36	1.12
13706.00	90.61	357.29	12223.77	889.25	-8.13	359.48	889.29	889.29	1.58
13801.00	86.43	0.07	12226.22	984.17	-10.32	359.40	984.22	984.22	5.28
13896.00	86.88	359.77	12231.76	1079.00	-10.45	359.45	1079.05	1079.05	0.57
13991.00	88.38	359.34	12235.69	1173.92	-11.19	359.45	1173.97	1173.97	1.64
14086.00	85.18	357.60	12241.03	1268.72	-13.72	359.38	1268.79	1268.79	3.83
14180.00	87.40	357.45	12247.11	1362.43	-17.77	359.25	1362.54	1362.53	2.37
14275.00	91.57	359.13	12247.96	1457.36	-20.60	359.19	1457.50	1457.49	4.73
14370.00	88.22	358.21	12248.14	1552.31	-22.81	359.16	1552.48	1552.46	3.66
14465.00	91.70	358.55	12248.20	1647.26	-25.49	359.11	1647.46	1647.43	3.68
14560.00	88.75	352.68	12247.83	1741.93	-32.75	358.92	1742.24	1742.17	6.91
14655.00	88.88	350.69	12249.79	1835.91	-46.49	358.55	1836.50	1836.28	2.10
14688.00	88.83	349.66	12250.45	1868.42	-52.12	358.40	1869.14	1868.84	3.12

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
14720.00	89.53	350.03	12250.91	1899.91	-57.76	358.26	1900.79	1900.39	2.47
14750.00	90.29	351.51	12250.96	1929.52	-62.57	358.14	1930.54	1930.05	5.55
14781.00	90.46	353.10	12250.76	1960.24	-66.72	358.05	1961.38	1960.81	5.16
14812.00	89.90	354.58	12250.66	1991.06	-70.05	357.99	1992.29	1991.66	5.10
14845.00	88.53	356.52	12251.11	2023.96	-72.61	357.95	2025.26	2024.58	7.20
14876.00	89.57	358.91	12251.62	2054.93	-73.84	357.94	2056.25	2055.56	8.41
14908.00	89.43	359.11	12251.90	2086.92	-74.39	357.96	2088.24	2087.56	0.76
14940.00	89.86	359.03	12252.10	2118.91	-74.91	357.98	2120.24	2119.55	1.37
14971.00	91.04	357.41	12251.86	2149.90	-75.88	357.98	2151.24	2150.55	6.46
15003.00	89.67	355.06	12251.66	2181.82	-77.98	357.95	2183.22	2182.49	8.50
15034.00	88.75	356.39	12252.09	2212.73	-80.29	357.92	2214.19	2213.42	5.22
15066.00	91.01	0.47	12252.15	2244.71	-81.16	357.93	2246.18	2245.41	14.57
15097.00	89.73	3.72	12251.95	2275.69	-80.03	357.99	2277.09	2276.37	11.27
15129.00	90.69	5.92	12251.84	2307.57	-77.34	358.08	2308.87	2308.23	7.50
15224.00	89.23	5.72	12251.90	2402.08	-67.71	358.39	2403.03	2402.63	1.55
15319.00	89.22	3.82	12253.19	2496.74	-59.81	358.63	2497.45	2497.21	2.00
15414.00	84.51	8.28	12258.39	2591.02	-49.83	358.90	2591.50	2591.38	6.82
15509.00	89.91	10.79	12263.01	2684.55	-34.11	359.27	2684.77	2684.76	6.27
15604.00	86.12	6.02	12266.30	2778.43	-20.24	359.58	2778.50	2778.49	6.41
15699.00	88.95	6.23	12270.39	2872.79	-10.11	359.80	2872.81	2872.75	2.99
15793.00	89.11	0.49	12271.98	2966.57	-4.60	359.91	2966.58	2966.47	6.11
15888.00	85.49	357.45	12276.45	3061.43	-6.30	359.88	3061.43	3061.34	4.97
15983.00	87.38	359.69	12282.36	3156.20	-8.67	359.84	3156.22	3156.13	3.08
16078.00	85.81	357.22	12288.00	3250.99	-11.22	359.80	3251.01	3250.94	3.08
16173.00	86.61	355.62	12294.28	3345.59	-17.14	359.71	3345.64	3345.60	1.88
16268.00	88.08	356.08	12298.69	3440.24	-24.01	359.60	3440.32	3440.31	1.62
16362.00	90.85	356.09	12299.56	3534.01	-30.43	359.51	3534.14	3534.14	2.95
16457.00	92.06	356.59	12297.15	3628.78	-36.49	359.42	3628.97	3628.97	1.38
16552.00	93.25	359.43	12292.75	3723.61	-39.79	359.39	3723.82	3723.82	3.24
16647.00	93.53	356.78	12287.13	3818.38	-42.92	359.36	3818.63	3818.62	2.80
16741.00	88.49	353.12	12285.47	3911.96	-51.19	359.25	3912.29	3912.27	6.63
16836.00	86.87	354.07	12289.32	4006.28	-61.78	359.12	4006.76	4006.70	1.98
16931.00	85.64	355.13	12295.52	4100.66	-70.70	359.01	4101.27	4101.16	1.71
16961.00	88.09	357.95	12297.17	4130.55	-72.51	358.99	4131.19	4131.07	12.44
17056.00	89.19	2.23	12299.42	4225.50	-72.36	359.02	4226.12	4226.01	4.65
17151.00	88.61	358.22	12301.25	4320.46	-71.99	359.05	4321.06	4320.97	4.26
17246.00	89.09	349.77	12303.16	4414.84	-81.91	358.94	4415.60	4415.43	8.91

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
17340.00	89.71	350.18	12304.14	4507.40	-98.28	358.75	4508.47	4508.15	0.79
17372.00	89.97	352.89	12304.23	4539.04	-102.99	358.70	4540.21	4539.84	8.51
17404.00	89.99	356.13	12304.24	4570.89	-106.05	358.67	4572.12	4571.72	10.13
17435.00	89.88	358.72	12304.28	4601.86	-107.44	358.66	4603.11	4602.70	8.36
17467.00	89.78	1.32	12304.37	4633.86	-107.43	358.67	4635.10	4634.70	8.13
17499.00	89.52	2.67	12304.57	4665.84	-106.32	358.69	4667.05	4666.66	4.30
17530.00	89.72	3.73	12304.77	4696.79	-104.58	358.72	4697.95	4697.59	3.48
17562.00	89.28	4.89	12305.05	4728.69	-102.18	358.76	4729.80	4729.48	3.88
17594.00	89.18	6.31	12305.48	4760.54	-99.06	358.81	4761.57	4761.29	4.45
17625.00	89.30	7.78	12305.89	4791.30	-95.26	358.86	4792.25	4792.01	4.76
17657.00	89.01	8.83	12306.36	4822.96	-90.63	358.92	4823.81	4823.62	3.40
17688.00	88.78	9.92	12306.96	4853.54	-85.59	358.99	4854.30	4854.15	3.59
17720.00	88.47	11.07	12307.73	4885.00	-79.76	359.06	4885.65	4885.55	3.72
17752.00	88.82	12.78	12308.49	4916.30	-73.15	359.15	4916.84	4916.78	5.45
17784.00	88.53	13.92	12309.23	4947.42	-65.76	359.24	4947.86	4947.83	3.68
17815.00	88.51	14.97	12310.03	4977.43	-58.03	359.33	4977.77	4977.76	3.39
17847.00	88.64	16.39	12310.82	5008.23	-49.39	359.44	5008.47	5008.47	4.45
17879.00	88.89	16.37	12311.51	5038.92	-40.36	359.54	5039.09	5039.08	0.78
17910.00	89.15	14.93	12312.04	5068.77	-32.00	359.64	5068.87	5068.84	4.72
17942.00	90.07	13.03	12312.26	5099.82	-24.27	359.73	5099.88	5099.81	6.60
17973.00	90.83	11.36	12312.02	5130.12	-17.73	359.80	5130.15	5130.04	5.92
18005.00	91.39	8.81	12311.40	5161.61	-12.12	359.87	5161.63	5161.48	8.16
18037.00	92.01	5.89	12310.45	5193.33	-8.03	359.91	5193.34	5193.16	9.32
18068.00	93.05	4.85	12309.08	5224.17	-5.13	359.94	5224.17	5223.96	4.74
18100.00	93.81	3.87	12307.16	5256.02	-2.70	359.97	5256.02	5255.78	3.87
18131.00	93.44	3.74	12305.20	5286.89	-0.65	359.99	5286.89	5286.63	1.26
18163.00	93.04	3.09	12303.40	5318.78	1.25	0.01	5318.78	5318.50	2.38
18195.00	92.43	1.79	12301.87	5350.71	2.61	0.03	5350.71	5350.42	4.48
18226.00	92.56	359.34	12300.52	5381.68	2.92	0.03	5381.68	5381.38	7.91
18290.00	92.57	357.24	12297.66	5445.58	1.01	0.01	5445.58	5445.30	3.28
18321.00	92.56	356.91	12296.27	5476.51	-0.57	359.99	5476.51	5476.25	1.06
18384.00	91.37	1.19	12294.11	5539.45	-1.61	359.98	5539.45	5539.19	7.05
18416.00	90.82	4.72	12293.49	5571.40	0.04	0.00	5571.40	5571.12	11.16
18479.00	91.95	3.19	12291.97	5634.22	4.38	0.04	5634.23	5633.90	3.02
18524.00	93.96	0.81	12289.65	5679.13	5.95	0.06	5679.13	5678.79	6.92
18574.00	94.64	357.59	12285.90	5728.98	5.25	0.05	5728.98	5728.64	6.56
18606.00	93.35	356.90	12283.67	5760.86	3.72	0.04	5760.86	5760.54	4.57

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
18638.00	91.91	356.23	12282.20	5792.77	1.80	0.02	5792.77	5792.47	4.96
18669.00	91.03	355.61	12281.41	5823.68	-0.40	360.00	5823.68	5823.40	3.47
18732.00	88.93	354.05	12281.43	5886.42	-6.08	359.94	5886.42	5886.19	4.15
18764.00	87.76	353.57	12282.36	5918.22	-9.53	359.91	5918.23	5918.02	3.95
18796.00	86.83	353.00	12283.87	5949.96	-13.26	359.87	5949.98	5949.80	3.41
18827.00	87.84	352.97	12285.31	5980.70	-17.05	359.84	5980.72	5980.57	3.26
18922.00	88.84	354.35	12288.06	6075.07	-27.53	359.74	6075.14	6075.05	1.79
19017.00	90.01	355.31	12289.01	6169.68	-36.09	359.66	6169.79	6169.73	1.59
19112.00	90.77	356.51	12288.37	6264.43	-42.87	359.61	6264.58	6264.55	1.50
19207.00	92.38	358.47	12285.75	6359.30	-47.03	359.58	6359.47	6359.45	2.67
19301.00	94.86	359.53	12279.82	6453.09	-48.66	359.57	6453.27	6453.25	2.87
19396.00	95.34	0.04	12271.37	6547.71	-49.02	359.57	6547.90	6547.88	0.74
19459.00	95.34	359.72	12265.51	6610.44	-49.15	359.57	6610.62	6610.60	0.51
19491.00	95.10	359.40	12262.60	6642.30	-49.40	359.57	6642.49	6642.47	1.25
19554.00	92.96	358.45	12258.17	6705.13	-50.58	359.57	6705.32	6705.30	3.71
19586.00	91.39	357.74	12256.96	6737.09	-51.64	359.56	6737.29	6737.27	5.38
19617.00	90.65	357.40	12256.41	6768.06	-52.95	359.55	6768.27	6768.25	2.63
19681.00	91.13	358.27	12255.41	6832.00	-55.37	359.54	6832.23	6832.22	1.55
19776.00	90.04	355.35	12254.44	6926.84	-60.66	359.50	6927.11	6927.10	3.28
19807.00	91.02	355.46	12254.16	6957.74	-63.14	359.48	6958.03	6958.02	3.18
19839.00	90.65	354.40	12253.69	6989.61	-65.97	359.46	6989.92	6989.92	3.51
19870.00	90.12	353.53	12253.48	7020.44	-69.23	359.44	7020.78	7020.78	3.29
19902.00	92.88	355.66	12252.64	7052.28	-72.24	359.41	7052.65	7052.65	10.89
19933.00	92.85	356.81	12251.09	7083.17	-74.27	359.40	7083.56	7083.56	3.71
19965.00	92.69	357.72	12249.55	7115.10	-75.80	359.39	7115.50	7115.50	2.88
19996.00	89.85	357.70	12248.86	7146.06	-77.04	359.38	7146.48	7146.48	9.16
20028.00	90.29	358.39	12248.82	7178.04	-78.13	359.38	7178.47	7178.47	2.56
20059.00	91.14	359.49	12248.43	7209.04	-78.70	359.37	7209.46	7209.46	4.48
20091.00	89.01	359.40	12248.39	7241.03	-79.01	359.37	7241.46	7241.46	6.66
20123.00	89.30	358.77	12248.86	7273.02	-79.52	359.37	7273.46	7273.46	2.17
20154.00	90.90	0.10	12248.81	7304.02	-79.83	359.37	7304.46	7304.45	6.71
20201.00	89.75	0.98	12248.54	7351.02	-79.38	359.38	7351.45	7351.44	3.08
20249.00	89.38	1.53	12248.91	7399.00	-78.33	359.39	7399.42	7399.42	1.38
20295.00	89.05	1.74	12249.54	7444.98	-77.02	359.41	7445.38	7445.38	0.85
20343.00	90.05	1.73	12249.92	7492.96	-75.57	359.42	7493.34	7493.34	2.08
20390.00	92.64	2.82	12248.81	7539.90	-73.70	359.44	7540.26	7540.26	5.98
20438.00	91.36	3.33	12247.14	7587.80	-71.13	359.46	7588.14	7588.13	2.87

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
20485.00	91.66	3.81	12245.90	7634.69	-68.20	359.49	7635.00	7635.00	1.20
20533.00	91.00	4.07	12244.78	7682.57	-64.91	359.52	7682.84	7682.83	1.48
20579.00	90.83	3.17	12244.05	7728.47	-62.00	359.54	7728.72	7728.70	1.99
20627.00	91.12	2.80	12243.23	7776.40	-59.50	359.56	7776.63	7776.60	0.98
20673.00	90.00	2.14	12242.78	7822.35	-57.52	359.58	7822.56	7822.54	2.83
20721.00	91.09	1.80	12242.33	7870.32	-55.87	359.59	7870.52	7870.49	2.38
20766.00	92.70	0.79	12240.84	7915.28	-54.85	359.60	7915.47	7915.44	4.22
20816.00	92.73	0.30	12238.47	7965.22	-54.38	359.61	7965.41	7965.37	0.98
20861.00	92.05	0.43	12236.59	8010.18	-54.09	359.61	8010.37	8010.33	1.54
20911.00	92.62	0.99	12234.56	8060.14	-53.47	359.62	8060.32	8060.27	1.60
20956.00	92.13	1.37	12232.69	8105.09	-52.55	359.63	8105.26	8105.21	1.38
21005.00	92.10	1.31	12230.88	8154.04	-51.40	359.64	8154.20	8154.15	0.14
21050.00	91.31	1.58	12229.54	8199.01	-50.27	359.65	8199.16	8199.10	1.86
21100.00	91.43	1.13	12228.35	8248.98	-49.09	359.66	8249.13	8249.06	0.93
21145.00	92.61	359.49	12226.76	8293.95	-48.84	359.66	8294.09	8294.02	4.49
21194.00	91.95	358.64	12224.81	8342.90	-49.64	359.66	8343.05	8342.98	2.20
21239.00	92.62	358.14	12223.02	8387.85	-50.91	359.65	8388.00	8387.94	1.86
21289.00	92.52	357.82	12220.78	8437.77	-52.67	359.64	8437.93	8437.87	0.67
21335.00	92.67	357.48	12218.69	8483.68	-54.55	359.63	8483.86	8483.80	0.81
21383.00	92.67	357.35	12216.46	8531.58	-56.71	359.62	8531.77	8531.72	0.27
21477.00	92.20	357.83	12212.46	8625.41	-60.66	359.60	8625.63	8625.59	0.71
21572.00	91.46	357.88	12209.43	8720.30	-64.22	359.58	8720.53	8720.50	0.78
21667.00	91.27	357.12	12207.17	8815.18	-68.36	359.56	8815.44	8815.42	0.82
21761.00	90.97	357.59	12205.33	8909.06	-72.70	359.53	8909.36	8909.34	0.59
21857.00	90.27	356.54	12204.29	9004.93	-77.61	359.51	9005.26	9005.25	1.31
21952.00	91.56	357.44	12202.77	9099.78	-82.60	359.48	9100.15	9100.15	1.66
22046.00	90.97	358.90	12200.70	9193.71	-85.60	359.47	9194.10	9194.10	1.67
22140.00	90.38	0.40	12199.59	9287.69	-86.17	359.47	9288.09	9288.09	1.71
22235.00	89.87	1.91	12199.38	9382.67	-84.26	359.49	9383.05	9383.05	1.68
22330.00	90.04	2.14	12199.46	9477.61	-80.90	359.51	9477.96	9477.95	0.30
22425.00	90.02	0.34	12199.41	9572.59	-78.85	359.53	9572.91	9572.90	1.89
22520.00	89.83	358.65	12199.53	9667.58	-79.68	359.53	9667.91	9667.89	1.79
22615.00	89.88	358.66	12199.77	9762.55	-81.91	359.52	9762.90	9762.88	0.05
22710.00	90.12	358.67	12199.77	9857.53	-84.13	359.51	9857.89	9857.88	0.25
22804.00	89.96	358.78	12199.71	9951.50	-86.22	359.50	9951.88	9951.87	0.21
22899.00	90.10	358.70	12199.66	10046.48	-88.31	359.50	10046.87	10046.86	0.17
22994.00	89.86	358.56	12199.69	10141.45	-90.58	359.49	10141.86	10141.85	0.29

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
23060.00	89.88	358.57	12199.84	10207.43	-92.23	359.48	10207.85	10207.85	0.03

Projected Survey

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
23136.00	89.88	358.57	12200.00	10283.41	-94.13	359.48	10283.84	10283.84	0.00



Azimuths to Grid North
 True North: -0.54°
 Magnetic North: 6.03°
 Magnetic Field
 Strength: 47852.2nT
 Dip Angle: 59.94°
 Date: 9/13/2019
 Model: IGRF2015

Project: NAN/GB
 Site: NAN/GB #1N
 Well: Nandina 121H
 Wellbore: Final Survey
 Design: Design #1
 Latitude: 32° 4' 48.739 N
 Longitude: 103° 18' 40.803 W
 GL: 3023.0

WELL DETAILS: Nandina 121H

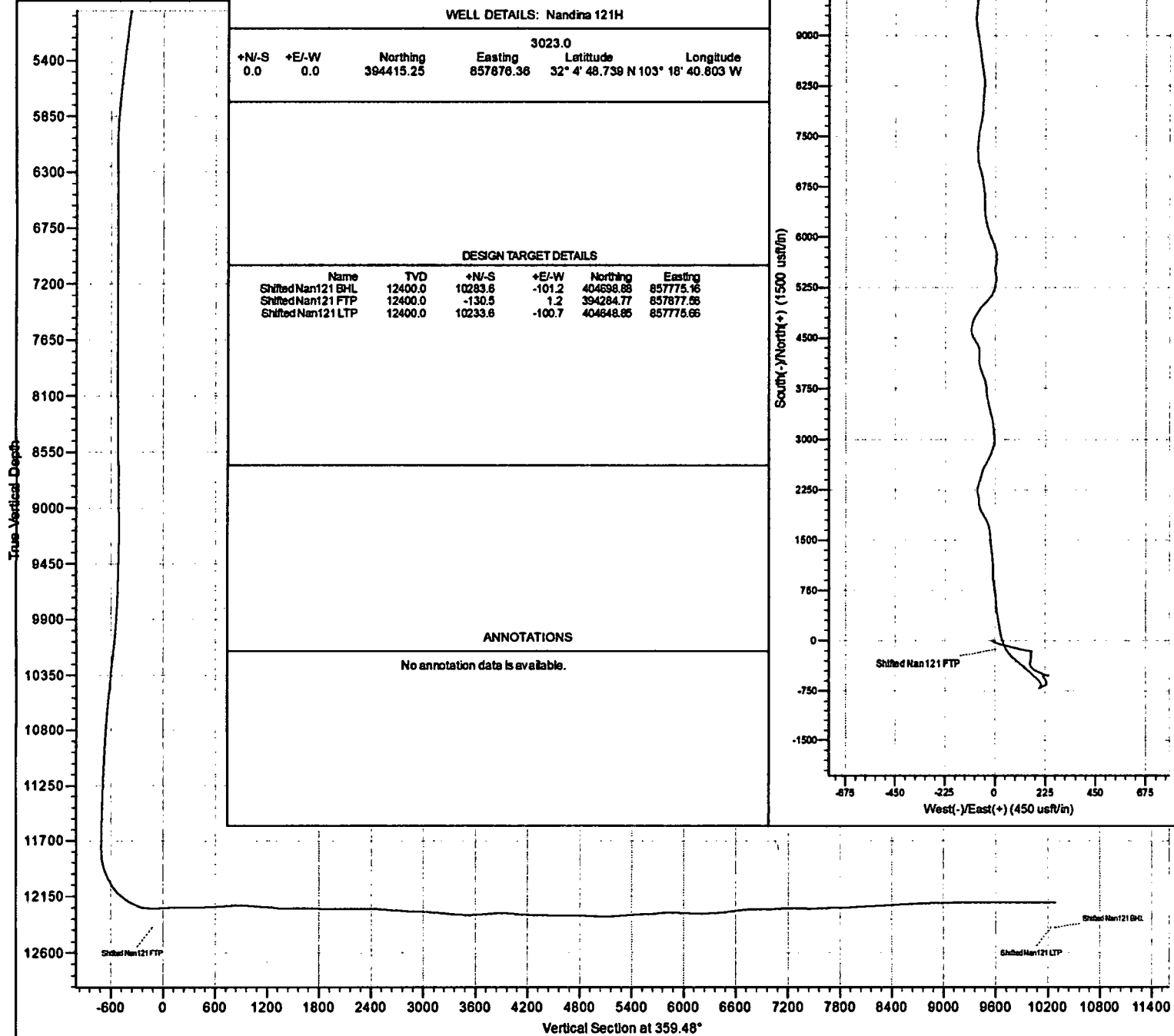
+N-S	+E-W	North	East	Latitude	Longitude
0.0	0.0	394415.25	857876.36	32° 4' 48.739 N	103° 18' 40.803 W

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	North	East
Shifted Nan121 BHL	12400.0	10283.6	-101.2	404698.88	857775.16
Shifted Nan121 FTP	12400.0	-130.5	1.2	394284.77	857877.58
Shifted Nan121 LTP	12400.0	10233.6	-100.7	404648.85	857775.66

ANNOTATIONS

No annotation data is available.





AMEREDEV

Ameredev Operating, LLC.

NAN/GB

NAN/GB #1N

Nandina 121H

Final Survey

Plan: Design #1

Standard Planning Report

30 September, 2019

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

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

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

Well	Nandina 121H					
Well Position	+N/-S	1.0 usft	Northing:	394,415.24 usft	Latitude:	32° 4' 48.739 N
	+E/-W	100.0 usft	Easting:	857,876.36 usft	Longitude:	103° 18' 40.803 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,023.0 usft

Wellbore	Final Survey				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/13/2019	6.58	59.94	47,652.24736688

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

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

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

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
161.0	0.50	341.90	161.0	0.7	-0.2	0.31	0.31	0.00	341.90	
216.0	0.70	281.00	216.0	1.0	-0.6	1.15	0.36	-110.73	-104.62	
370.0	0.80	287.20	370.0	1.5	-2.6	0.08	0.06	4.03	42.19	
462.0	0.80	296.60	462.0	1.9	-3.8	0.14	0.00	10.22	94.70	
647.0	0.20	271.40	647.0	2.5	-5.2	0.34	-0.32	-13.62	-172.17	
741.0	0.30	263.40	741.0	2.5	-5.6	0.11	0.11	-8.51	-23.27	
832.0	0.50	250.60	832.0	2.3	-6.3	0.24	0.22	-14.07	-30.56	
929.0	0.50	230.60	929.0	1.9	-7.0	0.18	0.00	-20.62	-100.00	
1,019.0	1.10	245.60	1,018.9	1.3	-8.1	0.70	0.67	16.67	26.84	
1,186.0	1.05	226.87	1,185.9	-0.4	-10.7	0.21	-0.03	-11.22	-107.39	
1,249.0	1.79	201.37	1,248.9	-1.7	-11.4	1.52	1.17	-40.48	-53.72	
1,343.0	2.93	172.26	1,342.8	-5.4	-11.6	1.72	1.21	-30.97	-61.61	
1,438.0	3.90	159.05	1,437.7	-10.9	-10.2	1.31	1.02	-13.91	-45.77	
1,533.0	4.79	150.94	1,532.4	-17.4	-7.1	1.14	0.94	-8.54	-38.71	
1,627.0	5.05	143.05	1,626.0	-24.1	-2.7	0.77	0.28	-8.39	-72.94	
1,722.0	5.11	140.80	1,720.7	-30.7	2.5	0.22	0.06	-2.37	-74.36	
1,817.0	5.11	138.71	1,815.3	-37.2	8.0	0.20	0.00	-2.20	-91.04	
1,911.0	5.08	138.05	1,908.9	-43.4	13.5	0.07	-0.03	-0.70	-117.43	
2,006.0	5.32	135.14	2,003.5	-49.7	19.4	0.38	0.25	-3.06	-49.15	
2,101.0	5.54	133.37	2,098.1	-55.9	25.9	0.29	0.23	-1.86	-38.17	
2,195.0	5.72	132.36	2,191.6	-62.2	32.6	0.22	0.19	-1.07	-29.33	
2,290.0	6.09	132.71	2,286.1	-68.8	39.8	0.39	0.39	0.37	5.73	
2,384.0	6.50	132.74	2,379.6	-75.8	47.4	0.44	0.44	0.03	0.47	
2,479.0	6.98	132.20	2,473.9	-83.3	55.6	0.51	0.51	-0.57	-7.79	
2,573.0	7.13	129.81	2,567.2	-90.9	64.3	0.35	0.16	-2.54	-64.12	
2,668.0	7.11	128.33	2,661.5	-98.3	73.5	0.19	-0.02	-1.56	-96.96	
2,763.0	7.09	129.45	2,755.7	-105.7	82.6	0.15	-0.02	1.18	98.78	
2,857.0	7.18	128.04	2,849.0	-113.0	91.7	0.21	0.10	-1.50	-63.50	
2,952.0	6.26	130.81	2,943.4	-120.0	100.3	1.03	-0.97	2.92	161.96	
3,046.0	6.47	127.93	3,036.8	-126.6	108.4	0.41	0.22	-3.06	-58.10	
3,141.0	6.42	123.63	3,131.2	-132.9	117.0	0.51	-0.05	-4.53	-98.05	
3,235.0	6.83	120.89	3,224.6	-138.7	126.2	0.55	0.44	-2.91	-39.00	
3,330.0	7.15	118.95	3,318.8	-144.4	136.2	0.42	0.34	-2.04	-37.38	
3,424.0	6.70	118.11	3,412.2	-149.8	146.2	0.49	-0.48	-0.89	-167.73	
3,519.0	4.94	115.23	3,506.7	-154.2	154.8	1.88	-1.85	-3.03	-172.01	
3,613.0	2.90	107.77	3,600.4	-156.6	160.7	2.23	-2.17	-7.94	-169.67	
3,707.0	1.46	142.36	3,694.4	-158.3	163.7	2.01	-1.53	36.80	153.98	
3,802.0	3.14	182.15	3,789.3	-161.9	164.3	2.34	1.77	41.88	64.61	
3,896.0	5.84	189.01	3,883.0	-169.2	163.5	2.92	2.87	7.30	14.68	
3,991.0	8.82	185.20	3,977.2	-181.2	162.1	3.18	3.14	-4.01	-11.16	
4,085.0	10.98	182.11	4,069.8	-197.3	161.1	2.37	2.30	-3.29	-15.34	
4,180.0	10.56	178.41	4,163.1	-215.1	161.0	0.85	-0.44	-3.89	-123.09	
4,274.0	10.65	179.71	4,255.5	-232.4	161.3	0.27	0.10	1.38	70.02	
4,369.0	10.59	180.89	4,348.9	-249.9	161.2	0.24	-0.06	1.24	106.00	
4,463.0	10.74	182.36	4,441.3	-267.3	160.7	0.33	0.16	1.56	61.85	
4,558.0	10.72	182.84	4,534.6	-284.9	159.9	0.10	-0.02	0.51	102.85	
4,652.0	10.76	183.35	4,627.0	-302.4	158.9	0.11	0.04	0.54	67.43	

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.31	341.90	100.0	0.3	-0.1	0.3	0.31	0.31	0.00
161.0	0.50	341.90	161.0	0.7	-0.2	0.7	0.31	0.31	0.00
200.0	0.58	293.63	200.0	0.9	-0.5	0.9	1.15	0.21	-123.76
216.0	0.70	281.00	216.0	1.0	-0.6	1.0	1.15	0.74	-78.95
300.0	0.75	284.59	300.0	1.2	-1.7	1.2	0.08	0.06	4.27
370.0	0.80	287.20	370.0	1.5	-2.6	1.5	0.08	0.07	3.73
400.0	0.80	290.26	400.0	1.6	-3.0	1.6	0.14	-0.01	10.21
462.0	0.80	296.60	462.0	1.9	-3.8	2.0	0.14	0.00	10.22
500.0	0.67	295.11	500.0	2.1	-4.2	2.2	0.34	-0.33	-3.92
600.0	0.34	285.96	600.0	2.5	-5.0	2.5	0.34	-0.33	-9.15
647.0	0.20	271.40	647.0	2.5	-5.2	2.6	0.34	-0.31	-30.99
700.0	0.26	266.12	700.0	2.5	-5.4	2.6	0.11	0.11	-9.96
741.0	0.30	263.40	741.0	2.5	-5.6	2.5	0.11	0.11	-6.63
800.0	0.43	253.73	800.0	2.4	-6.0	2.5	0.24	0.22	-16.39
832.0	0.50	250.60	832.0	2.3	-6.3	2.4	0.24	0.23	-9.79
900.0	0.49	236.54	900.0	2.1	-6.8	2.1	0.18	-0.01	-20.67
929.0	0.50	230.60	929.0	1.9	-7.0	2.0	0.18	0.02	-20.50
1,000.0	0.97	243.99	1,000.0	1.5	-7.8	1.5	0.70	0.66	18.85
1,019.0	1.10	245.60	1,018.9	1.3	-8.1	1.4	0.70	0.68	8.49
1,100.0	1.06	236.74	1,099.9	0.6	-9.4	0.7	0.21	-0.05	-10.94
1,186.0	1.05	226.87	1,185.9	-0.4	-10.7	-0.3	0.21	-0.01	-11.47
1,200.0	1.19	218.58	1,199.9	-0.6	-10.8	-0.5	1.52	0.99	-59.19
1,249.0	1.79	201.37	1,248.9	-1.7	-11.4	-1.6	1.52	1.23	-35.13
1,300.0	2.34	182.07	1,299.9	-3.5	-11.8	-3.4	1.72	1.08	-37.85
1,343.0	2.93	172.26	1,342.8	-5.4	-11.6	-5.3	1.72	1.37	-22.81
1,400.0	3.49	163.45	1,399.7	-8.6	-11.0	-8.5	1.31	0.98	-15.45
1,438.0	3.90	159.05	1,437.7	-10.9	-10.2	-10.8	1.31	1.08	-11.58
1,500.0	4.47	153.39	1,499.5	-15.0	-8.3	-14.9	1.14	0.92	-9.13
1,533.0	4.79	150.94	1,532.4	-17.4	-7.1	-17.3	1.14	0.97	-7.43
1,600.0	4.97	145.23	1,599.1	-22.2	-4.1	-22.1	0.77	0.26	-8.52
1,627.0	5.05	143.05	1,626.0	-24.1	-2.7	-24.1	0.77	0.31	-8.07
1,700.0	5.10	141.32	1,698.8	-29.2	1.3	-29.2	0.22	0.06	-2.37
1,722.0	5.11	140.80	1,720.7	-30.7	2.5	-30.7	0.22	0.07	-2.35
1,800.0	5.11	139.08	1,798.4	-36.0	7.0	-36.1	0.20	0.00	-2.20
1,817.0	5.11	138.71	1,815.3	-37.2	8.0	-37.2	0.20	0.00	-2.20
1,900.0	5.08	138.13	1,898.0	-42.7	12.9	-42.8	0.07	-0.03	-0.70
1,911.0	5.08	138.05	1,908.9	-43.4	13.5	-43.5	0.07	-0.03	-0.71
2,000.0	5.30	135.32	1,997.5	-49.3	19.0	-49.4	0.38	0.25	-3.07
2,006.0	5.32	135.14	2,003.5	-49.7	19.4	-49.8	0.38	0.26	-2.93
2,100.0	5.54	133.39	2,097.1	-55.9	25.8	-56.1	0.29	0.23	-1.86
2,101.0	5.54	133.37	2,098.1	-55.9	25.9	-56.2	0.29	0.23	-1.79
2,195.0	5.72	132.36	2,191.6	-62.2	32.6	-62.5	0.22	0.19	-1.07
2,200.0	5.74	132.38	2,196.6	-62.5	33.0	-62.8	0.39	0.39	0.39
2,290.0	6.09	132.71	2,286.1	-68.8	39.8	-69.2	0.39	0.39	0.37
2,300.0	6.13	132.71	2,296.1	-69.5	40.6	-69.9	0.44	0.44	0.03
2,384.0	6.50	132.74	2,379.6	-75.8	47.4	-76.2	0.44	0.44	0.03
2,400.0	6.58	132.64	2,395.5	-77.0	48.7	-77.5	0.51	0.50	-0.60
2,479.0	6.98	132.20	2,473.9	-83.3	55.6	-83.8	0.51	0.51	-0.56
2,500.0	7.01	131.66	2,494.8	-85.0	57.5	-85.6	0.35	0.15	-2.58
2,573.0	7.13	129.81	2,567.2	-90.9	64.3	-91.5	0.35	0.16	-2.53
2,600.0	7.12	129.39	2,594.0	-93.0	66.9	-93.6	0.19	-0.02	-1.55
2,668.0	7.11	128.33	2,661.5	-98.3	73.5	-99.0	0.19	-0.02	-1.56
2,700.0	7.10	128.71	2,693.2	-100.8	76.6	-101.5	0.15	-0.02	1.18

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

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,763.0	7.09	129.45	2,755.7	-105.7	82.6	-106.4	0.15	-0.02	1.18
2,800.0	7.12	128.89	2,792.5	-108.6	86.2	-109.4	0.21	0.09	-1.51
2,857.0	7.18	128.04	2,849.0	-113.0	91.7	-113.8	0.21	0.10	-1.49
2,900.0	6.76	129.20	2,891.7	-116.3	95.8	-117.1	1.03	-0.97	2.70
2,952.0	6.26	130.81	2,943.4	-120.0	100.3	-121.0	1.03	-0.96	3.09
3,000.0	6.37	129.32	2,991.1	-123.4	104.4	-124.4	0.41	0.22	-3.11
3,046.0	6.47	127.93	3,036.8	-126.6	108.4	-127.6	0.41	0.23	-3.01
3,100.0	6.44	125.49	3,090.4	-130.3	113.2	-131.3	0.51	-0.06	-4.51
3,141.0	6.42	123.63	3,131.2	-132.9	117.0	-133.9	0.51	-0.04	-4.55
3,200.0	6.68	121.87	3,189.8	-136.5	122.7	-137.6	0.55	0.43	-2.98
3,235.0	6.83	120.89	3,224.6	-138.7	126.2	-139.8	0.55	0.44	-2.80
3,300.0	7.05	119.54	3,289.1	-142.6	133.0	-143.8	0.42	0.34	-2.07
3,330.0	7.15	118.95	3,318.8	-144.4	136.2	-145.7	0.42	0.34	-1.98
3,400.0	6.81	118.33	3,388.3	-148.5	143.7	-149.8	0.49	-0.48	-0.88
3,424.0	6.70	118.11	3,412.2	-149.8	146.2	-151.2	0.49	-0.48	-0.94
3,500.0	5.29	115.96	3,487.7	-153.5	153.2	-154.9	1.88	-1.85	-2.83
3,519.0	4.94	115.23	3,506.7	-154.2	154.8	-155.6	1.88	-1.85	-3.83
3,600.0	3.18	109.37	3,587.5	-156.4	160.0	-157.9	2.23	-2.18	-7.24
3,613.0	2.90	107.77	3,600.4	-156.6	160.7	-158.1	2.23	-2.14	-12.30
3,700.0	1.53	137.78	3,687.4	-158.2	163.6	-159.7	2.01	-1.57	34.49
3,707.0	1.46	142.36	3,694.4	-158.3	163.7	-159.8	2.01	-1.06	65.48
3,800.0	3.10	181.79	3,787.3	-161.8	164.3	-163.3	2.34	1.76	42.39
3,802.0	3.14	182.15	3,789.3	-161.9	164.3	-163.4	2.34	2.12	18.20
3,896.0	5.84	189.01	3,883.0	-169.2	163.5	-170.7	2.92	2.87	7.30
3,900.0	5.96	188.77	3,887.0	-169.6	163.4	-171.1	3.18	3.12	-5.92
3,991.0	8.82	185.20	3,977.2	-181.2	162.1	-182.7	3.18	3.14	-3.93
4,000.0	9.03	184.84	3,986.1	-182.6	161.9	-184.1	2.37	2.28	-3.99
4,085.0	10.98	182.11	4,069.8	-197.3	161.1	-198.8	2.37	2.30	-3.21
4,100.0	10.91	181.54	4,084.5	-200.2	161.0	-201.6	0.85	-0.46	-3.77
4,180.0	10.56	178.41	4,163.1	-215.1	161.0	-216.5	0.85	-0.44	-3.92
4,200.0	10.58	178.69	4,182.8	-218.7	161.1	-220.2	0.27	0.09	1.39
4,274.0	10.65	179.71	4,255.5	-232.4	161.3	-233.8	0.27	0.10	1.38
4,300.0	10.63	180.03	4,281.1	-237.2	161.3	-238.6	0.24	-0.06	1.24
4,369.0	10.59	180.89	4,348.9	-249.9	161.2	-251.3	0.24	-0.06	1.24
4,400.0	10.64	181.38	4,379.4	-255.6	161.1	-257.0	0.33	0.16	1.58
4,463.0	10.74	182.36	4,441.3	-267.3	160.7	-268.7	0.33	0.16	1.56
4,500.0	10.73	182.55	4,477.6	-274.1	160.4	-275.6	0.10	-0.02	0.50
4,558.0	10.72	182.84	4,534.6	-284.9	159.9	-286.4	0.10	-0.02	0.51
4,600.0	10.74	183.07	4,575.9	-292.7	159.5	-294.2	0.11	0.04	0.54
4,652.0	10.76	183.35	4,627.0	-302.4	158.9	-303.9	0.11	0.04	0.54
4,700.0	10.71	183.28	4,674.1	-311.3	158.4	-312.8	0.11	-0.11	-0.14
4,747.0	10.66	183.22	4,720.3	-320.0	157.9	-321.5	0.11	-0.11	-0.14
4,800.0	10.69	182.35	4,772.4	-329.9	157.4	-331.3	0.31	0.05	-1.65
4,842.0	10.71	181.66	4,813.7	-337.6	157.2	-339.1	0.31	0.05	-1.64
4,900.0	10.69	179.68	4,870.7	-348.4	157.1	-349.8	0.63	-0.04	-3.41
4,936.0	10.68	178.45	4,906.0	-355.1	157.2	-356.5	0.63	-0.02	-3.42
5,000.0	10.63	175.96	4,968.9	-366.9	157.7	-368.3	0.72	-0.08	-3.89
5,031.0	10.61	174.75	4,999.4	-372.6	158.2	-374.0	0.72	-0.06	-3.91
5,100.0	10.67	170.87	5,087.2	-385.2	159.8	-386.7	1.04	0.08	-5.62
5,125.0	10.70	169.48	5,091.8	-389.8	160.6	-391.2	1.04	0.13	-5.57
5,200.0	10.54	165.43	5,165.5	-403.3	163.6	-404.7	1.02	-0.22	-5.40
5,220.0	10.50	164.33	5,185.2	-406.8	164.5	-408.3	1.02	-0.18	-5.50
5,300.0	10.51	159.95	5,263.8	-420.7	169.0	-422.2	1.00	0.01	-5.47
5,314.0	10.52	159.19	5,277.6	-423.1	169.9	-424.6	1.00	0.06	-5.46

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

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

Planned Survey

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

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

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

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,970.0	0.28	337.74	7,923.2	-522.8	237.6	-525.0	0.20	0.17	29.16
8,000.0	0.26	339.93	7,953.2	-522.7	237.6	-524.9	0.07	-0.07	7.29
8,064.0	0.22	345.87	8,017.2	-522.5	237.5	-524.6	0.07	-0.06	9.29
8,100.0	0.33	351.40	8,053.2	-522.3	237.5	-524.4	0.30	0.29	15.37
8,158.0	0.50	355.32	8,111.2	-521.9	237.4	-524.0	0.30	0.30	6.76
8,200.0	0.46	7.11	8,153.2	-521.5	237.4	-523.7	0.25	-0.10	28.06
8,253.0	0.44	24.14	8,206.2	-521.1	237.6	-523.3	0.25	-0.04	32.14
8,300.0	0.54	34.26	8,253.2	-520.8	237.8	-522.9	0.29	0.22	21.52
8,347.0	0.66	40.98	8,300.2	-520.4	238.1	-522.5	0.29	0.25	14.31
8,400.0	0.78	43.68	8,353.2	-519.9	238.5	-522.1	0.23	0.22	5.09
8,442.0	0.87	45.30	8,395.2	-519.5	238.9	-521.6	0.23	0.22	3.86
8,500.0	0.81	40.25	8,453.2	-518.9	239.5	-521.0	0.17	-0.11	-8.70
8,537.0	0.77	36.62	8,490.2	-518.5	239.8	-520.6	0.17	-0.10	-9.82
8,600.0	0.85	22.94	8,553.2	-517.7	240.3	-519.9	0.33	0.12	-21.72
8,632.0	0.90	17.04	8,585.2	-517.2	240.4	-519.4	0.33	0.17	-18.44
8,700.0	0.77	10.37	8,653.2	-516.3	240.7	-518.4	0.23	-0.19	-9.80
8,731.0	0.72	6.58	8,684.2	-515.9	240.7	-518.0	0.23	-0.17	-12.24
8,800.0	0.89	346.98	8,753.1	-514.9	240.7	-517.1	0.46	0.24	-28.41
8,826.0	0.97	341.59	8,779.1	-514.5	240.5	-516.7	0.46	0.32	-20.71
8,900.0	1.08	320.49	8,853.1	-513.4	239.9	-515.5	0.53	0.15	-28.52
8,921.0	1.14	315.50	8,874.1	-513.1	239.6	-515.2	0.53	0.26	-23.75
9,000.0	1.24	313.59	8,953.1	-511.9	238.4	-514.1	0.14	0.13	-2.42
9,015.0	1.26	313.26	8,968.1	-511.7	238.2	-513.9	0.14	0.13	-2.19
9,100.0	1.72	288.77	9,053.1	-510.6	236.3	-512.8	0.91	0.54	-28.81
9,109.0	1.78	286.99	9,062.1	-510.6	236.1	-512.7	0.91	0.68	-19.78
9,200.0	2.17	273.03	9,153.0	-510.1	233.0	-512.2	0.68	0.43	-15.34
9,223.0	2.29	270.31	9,176.0	-510.0	232.1	-512.1	0.68	0.50	-11.81
9,300.0	2.74	247.50	9,252.9	-510.7	228.9	-512.8	1.41	0.58	-29.62
9,318.0	2.89	243.38	9,270.9	-511.1	228.1	-513.2	1.41	0.85	-22.88
9,395.0	3.62	231.85	9,347.8	-513.5	224.4	-515.5	1.27	0.95	-14.97
9,400.0	3.62	231.69	9,352.8	-513.7	224.2	-515.7	0.22	-0.07	-3.29
9,489.0	3.56	228.71	9,441.6	-517.2	219.9	-519.2	0.22	-0.06	-3.34
9,500.0	3.42	228.15	9,452.6	-517.7	219.4	-519.7	1.32	-1.28	-5.10
9,583.0	2.37	221.78	9,535.5	-520.6	216.4	-522.6	1.32	-1.26	-7.67
9,600.0	2.35	217.23	9,552.5	-521.1	215.9	-523.1	1.11	-0.12	-26.75
9,678.0	2.45	196.63	9,630.4	-524.0	214.5	-526.0	1.11	0.13	-26.41
9,700.0	2.61	189.98	9,652.4	-525.0	214.3	-526.9	1.52	0.73	-30.24
9,771.0	3.31	173.91	9,723.3	-528.6	214.2	-530.5	1.52	0.99	-22.63
9,800.0	3.55	171.99	9,752.2	-530.3	214.4	-532.2	0.92	0.83	-6.61
9,867.0	4.12	168.43	9,819.1	-534.7	215.2	-536.7	0.92	0.85	-5.32
9,900.0	4.67	168.15	9,852.0	-537.2	215.7	-539.1	1.66	1.66	-0.83
9,962.0	5.70	167.78	9,913.7	-542.7	216.9	-544.6	1.66	1.66	-0.60
10,000.0	6.30	167.43	9,951.5	-546.6	217.7	-548.5	1.58	1.57	-0.92
10,056.0	7.18	167.02	10,007.1	-553.0	219.2	-554.9	1.58	1.57	-0.73
10,100.0	7.76	167.45	10,050.8	-558.5	220.5	-560.5	1.32	1.32	0.98
10,151.0	8.43	167.88	10,101.2	-565.6	222.0	-567.6	1.32	1.32	0.84
10,200.0	8.72	168.50	10,149.7	-572.7	223.5	-574.7	0.62	0.59	1.27
10,242.0	8.97	169.00	10,191.2	-579.0	224.7	-581.1	0.62	0.59	1.19
10,300.0	8.92	170.11	10,248.5	-587.9	226.4	-590.0	0.31	-0.09	1.91
10,322.0	8.90	170.53	10,270.2	-591.3	227.0	-593.3	0.31	-0.08	1.92
10,400.0	8.79	170.50	10,347.3	-603.1	228.9	-605.2	0.15	-0.15	-0.04
10,417.0	8.76	170.49	10,364.1	-605.7	229.4	-607.7	0.15	-0.15	-0.04
10,500.0	8.65	172.40	10,446.1	-618.1	231.2	-620.2	0.37	-0.13	2.30
10,510.0	8.64	172.63	10,456.0	-619.6	231.4	-621.7	0.37	-0.12	2.33

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

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,600.0	7.82	177.42	10,545.1	-632.4	232.6	-634.5	1.18	-0.91	5.32
10,605.0	7.78	177.71	10,550.1	-633.1	232.6	-635.2	1.18	-0.87	5.89
10,699.0	6.45	183.50	10,643.3	-644.7	232.5	-646.8	1.61	-1.41	6.16
10,700.0	6.44	183.60	10,644.3	-644.8	232.5	-646.9	1.41	-0.84	10.07
10,794.0	5.75	194.27	10,737.8	-654.6	231.0	-656.7	1.41	-0.74	11.35
10,800.0	5.72	195.15	10,743.8	-655.2	230.9	-657.3	1.57	-0.57	14.67
10,888.0	5.38	209.08	10,831.4	-663.0	227.7	-665.1	1.57	-0.38	15.83
10,900.0	5.37	210.25	10,843.3	-664.0	227.2	-666.1	0.91	-0.04	9.73
10,983.0	5.40	218.32	10,925.9	-670.4	222.8	-672.5	0.91	0.03	9.73
11,000.0	5.25	217.24	10,942.9	-671.7	221.8	-673.7	1.07	-0.89	-6.38
11,077.0	4.59	211.45	11,019.6	-677.1	218.1	-679.1	1.07	-0.86	-7.51
11,100.0	4.48	210.11	11,042.5	-678.7	217.2	-680.6	0.67	-0.49	-5.81
11,172.0	4.14	205.47	11,114.3	-683.5	214.6	-685.4	0.67	-0.47	-6.45
11,200.0	3.95	205.91	11,142.2	-685.2	213.8	-687.2	0.69	-0.68	1.58
11,266.0	3.50	207.15	11,208.1	-689.1	211.9	-691.0	0.69	-0.68	1.87
11,300.0	3.48	208.90	11,242.0	-690.9	210.9	-692.8	0.32	-0.05	5.15
11,361.0	3.46	212.08	11,302.9	-694.1	209.0	-696.0	0.32	-0.04	5.21
11,400.0	3.24	213.75	11,341.9	-696.0	207.8	-697.9	0.61	-0.56	4.29
11,455.0	2.94	216.53	11,396.8	-698.4	206.1	-700.3	0.61	-0.55	5.05
11,500.0	2.85	217.54	11,441.7	-700.2	204.7	-702.1	0.22	-0.19	2.25
11,549.0	2.76	218.72	11,490.7	-702.1	203.2	-704.0	0.22	-0.19	2.40
11,600.0	2.47	219.48	11,541.6	-703.9	201.8	-705.8	0.57	-0.57	1.49
11,644.0	2.22	220.30	11,585.6	-705.3	200.6	-707.1	0.57	-0.57	1.86
11,700.0	2.16	220.24	11,641.5	-707.0	199.2	-708.7	0.12	-0.12	-0.11
11,739.0	2.11	220.19	11,680.5	-708.1	198.3	-709.8	0.12	-0.12	-0.12
11,775.0	2.20	223.09	11,716.5	-709.1	197.4	-710.8	0.39	0.25	8.06
11,800.0	0.64	195.85	11,741.5	-709.6	197.0	-711.3	6.64	-6.25	-108.94
11,870.0	4.16	58.50	11,811.4	-708.6	199.1	-710.4	6.64	5.03	-196.22
11,900.0	9.42	16.81	11,841.2	-705.7	200.7	-707.5	22.97	17.54	-138.98
11,917.0	13.09	9.86	11,857.9	-702.4	201.4	-704.3	22.97	21.58	-40.86
11,965.0	20.20	9.19	11,903.8	-688.9	203.7	-690.7	14.82	14.81	-1.40
12,000.0	25.36	4.25	11,936.1	-675.4	205.2	-677.3	15.71	14.75	-14.11
12,012.0	27.16	2.97	11,946.9	-670.1	205.6	-672.0	15.71	14.99	-10.68
12,060.0	31.60	355.68	11,988.7	-646.6	205.2	-648.5	11.86	9.25	-15.19
12,100.0	37.55	349.18	12,021.6	-624.2	202.1	-626.0	17.48	14.87	-16.24
12,107.0	38.62	348.23	12,027.1	-620.0	201.3	-621.8	17.48	15.32	-13.64
12,156.0	41.93	345.42	12,064.5	-589.1	194.0	-590.9	7.70	6.76	-5.73
12,200.0	48.90	342.32	12,095.4	-559.1	185.3	-560.7	16.62	15.85	-7.04
12,208.0	50.18	341.83	12,100.6	-553.3	183.4	-554.9	16.62	15.95	-6.14
12,251.0	57.53	342.40	12,125.9	-520.3	172.7	-521.8	17.13	17.09	1.33
12,298.0	61.17	340.94	12,149.9	-481.9	160.0	-483.3	8.19	7.74	-3.11
12,300.0	61.30	340.92	12,150.8	-480.2	159.4	-481.7	6.34	6.27	-1.07
12,345.0	64.12	340.45	12,171.5	-442.5	146.2	-443.8	6.34	6.28	-1.04
12,392.0	67.35	339.73	12,190.8	-402.2	131.6	-403.4	7.01	6.87	-1.53
12,400.0	68.26	339.83	12,193.8	-395.3	129.1	-396.4	11.45	11.39	1.30
12,438.0	72.59	340.31	12,206.5	-361.6	116.9	-362.7	11.45	11.39	1.25
12,470.0	72.98	340.14	12,216.0	-332.8	106.5	-333.8	1.32	1.22	-0.53
12,500.0	74.54	340.49	12,224.4	-305.7	96.8	-306.6	5.31	5.19	1.15
12,517.0	75.42	340.68	12,228.8	-290.2	91.4	-291.1	5.31	5.19	1.14
12,565.0	81.07	343.06	12,238.6	-245.6	76.8	-246.3	12.73	11.77	4.96
12,600.0	85.63	346.05	12,242.6	-212.1	67.5	-212.7	15.54	13.02	8.54
12,611.0	87.06	346.98	12,243.3	-201.4	64.9	-202.0	15.54	13.04	8.46
12,661.0	88.70	347.56	12,245.2	-152.7	53.9	-153.2	3.48	3.28	1.16
12,694.8	89.75	349.87	12,245.6	-119.5	47.3	-119.9	7.49	3.11	6.82

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

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Shifted Nan121 FTP									
12,700.0	89.91	350.22	12,245.7	-114.4	46.4	-114.9	7.49	3.11	6.82
12,755.0	91.62	353.97	12,244.9	-60.0	38.9	-60.3	7.49	3.11	6.82
12,800.0	91.65	354.39	12,243.6	-15.2	34.3	-15.5	0.93	0.06	0.93
12,850.0	91.68	354.85	12,242.2	34.5	29.6	34.3	0.93	0.06	0.93
12,900.0	91.50	355.93	12,240.8	84.4	25.6	84.1	2.20	-0.36	2.17
12,945.0	91.34	356.91	12,239.7	129.3	22.8	129.0	2.20	-0.36	2.17
13,000.0	90.72	357.35	12,238.7	184.2	20.0	184.0	1.38	-1.13	0.80
13,040.0	90.27	357.67	12,238.3	224.1	18.3	224.0	1.38	-1.13	0.80
13,100.0	89.30	356.75	12,238.6	284.1	15.4	283.9	2.22	-1.61	-1.53
13,135.0	88.74	356.22	12,239.2	319.0	13.2	318.9	2.22	-1.61	-1.53
13,200.0	90.42	356.77	12,239.6	383.9	9.3	383.8	2.72	2.58	0.85
13,230.0	91.19	357.03	12,239.2	413.8	7.6	413.7	2.72	2.58	0.85
13,300.0	91.58	358.92	12,237.5	483.8	5.2	483.7	2.76	0.56	2.70
13,326.0	91.73	359.62	12,236.8	509.7	4.8	509.7	2.76	0.56	2.70
13,400.0	91.96	358.81	12,234.4	583.7	3.8	583.6	1.14	0.31	-1.09
13,421.0	92.02	358.58	12,233.7	604.7	3.3	604.6	1.14	0.31	-1.09
13,500.0	92.59	357.42	12,230.5	683.6	0.6	683.5	1.63	0.72	-1.46
13,516.0	92.70	357.19	12,229.8	699.5	-0.2	699.5	1.63	0.72	-1.46
13,600.0	92.05	357.86	12,226.3	783.4	-3.8	783.4	1.12	-0.78	0.80
13,611.0	91.96	357.95	12,225.9	794.4	-4.2	794.4	1.12	-0.78	0.80
13,700.0	90.70	357.33	12,223.8	883.3	-7.8	883.3	1.58	-1.42	-0.69
13,706.0	90.61	357.29	12,223.8	889.3	-8.1	889.3	1.58	-1.42	-0.69
13,800.0	86.47	0.04	12,226.2	983.2	-10.3	983.2	5.28	-4.40	2.93
13,801.0	86.43	0.07	12,226.2	984.2	-10.3	984.2	5.28	-4.40	2.93
13,896.0	86.88	359.77	12,231.8	1,079.0	-10.4	1,079.1	0.57	0.47	-0.32
13,900.0	86.94	359.75	12,232.0	1,083.0	-10.5	1,083.0	1.64	1.58	-0.45
13,991.0	88.38	359.34	12,235.7	1,173.9	-11.2	1,174.0	1.64	1.58	-0.45
14,000.0	88.08	359.18	12,236.0	1,182.9	-11.3	1,183.0	3.83	-3.37	-1.83
14,086.0	85.18	357.60	12,241.0	1,268.7	-13.7	1,268.8	3.83	-3.37	-1.83
14,100.0	85.51	357.58	12,242.2	1,282.7	-14.3	1,282.7	2.37	2.36	-0.16
14,180.0	87.40	357.45	12,247.1	1,362.4	-17.8	1,362.5	2.37	2.36	-0.16
14,200.0	88.28	357.80	12,247.9	1,382.4	-18.6	1,382.5	4.73	4.39	1.77
14,275.0	91.57	359.13	12,248.0	1,457.4	-20.6	1,457.5	4.73	4.39	1.77
14,300.0	90.69	358.89	12,247.5	1,482.3	-21.0	1,482.5	3.66	-3.53	-0.97
14,370.0	88.22	358.21	12,248.1	1,552.3	-22.8	1,552.5	3.66	-3.53	-0.97
14,400.0	89.32	358.32	12,248.8	1,582.3	-23.7	1,582.4	3.68	3.66	0.36
14,465.0	91.70	358.55	12,248.2	1,647.3	-25.5	1,647.4	3.68	3.66	0.36
14,500.0	90.61	356.39	12,247.5	1,682.2	-27.0	1,682.4	6.91	-3.10	-6.18
14,560.0	88.75	352.68	12,247.8	1,741.9	-32.8	1,742.2	6.91	-3.11	-6.18
14,600.0	88.80	351.84	12,248.7	1,781.6	-38.1	1,781.8	2.10	0.14	-2.09
14,655.0	88.88	350.69	12,249.8	1,835.9	-46.5	1,836.3	2.10	0.14	-2.09
14,688.0	88.83	349.66	12,250.5	1,868.4	-52.1	1,868.8	3.12	-0.15	-3.12
14,700.0	89.09	349.80	12,250.7	1,880.2	-54.3	1,880.6	2.47	2.19	1.16
14,720.0	89.53	350.03	12,250.9	1,899.9	-57.8	1,900.4	2.47	2.19	1.16
14,750.0	90.29	351.51	12,251.0	1,929.5	-62.6	1,930.0	5.55	2.53	4.93
14,781.0	90.46	353.10	12,250.8	1,960.2	-66.7	1,960.8	5.16	0.55	5.13
14,800.0	90.12	354.01	12,250.7	1,979.1	-68.9	1,979.7	5.10	-1.81	4.77
14,812.0	89.90	354.58	12,250.7	1,991.1	-70.0	1,991.6	5.10	-1.81	4.77
14,845.0	88.53	356.52	12,251.1	2,024.0	-72.6	2,024.5	7.20	-4.15	5.88
14,876.0	89.57	358.91	12,251.6	2,054.9	-73.8	2,055.5	8.41	3.35	7.71
14,900.0	89.47	359.06	12,251.8	2,078.9	-74.3	2,079.5	0.76	-0.44	0.62
14,908.0	89.43	359.11	12,251.9	2,086.9	-74.4	2,087.5	0.76	-0.44	0.63

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

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,940.0	89.86	359.03	12,252.1	2,118.9	-74.9	2,119.5	1.37	1.34	-0.25
14,971.0	91.04	357.41	12,251.9	2,149.9	-75.9	2,150.5	6.46	3.81	-5.23
15,000.0	89.80	355.28	12,251.6	2,178.8	-77.7	2,179.5	8.50	-4.28	-7.34
15,003.0	89.67	355.06	12,251.7	2,181.8	-78.0	2,182.4	8.50	-4.28	-7.34
15,034.0	88.75	356.39	12,252.1	2,212.7	-80.3	2,213.4	5.22	-2.97	4.29
15,066.0	91.01	0.47	12,252.2	2,244.7	-81.2	2,245.4	14.57	7.06	12.75
15,097.0	89.73	3.72	12,252.0	2,275.7	-80.0	2,276.3	11.27	-4.13	10.48
15,100.0	89.82	3.93	12,252.0	2,278.7	-79.8	2,279.3	7.50	3.00	6.87
15,129.0	90.69	5.92	12,251.8	2,307.6	-77.3	2,308.2	7.50	3.00	6.88
15,200.0	89.60	5.77	12,251.7	2,378.2	-70.1	2,378.7	1.55	-1.54	-0.21
15,224.0	89.23	5.72	12,251.9	2,402.1	-67.7	2,402.6	1.55	-1.54	-0.21
15,300.0	89.22	4.20	12,252.9	2,477.8	-61.1	2,478.2	2.00	-0.01	-2.00
15,319.0	89.22	3.82	12,253.2	2,496.7	-59.8	2,497.2	2.00	-0.01	-2.00
15,400.0	85.20	7.62	12,257.1	2,577.2	-51.8	2,577.6	6.82	-4.96	4.69
15,414.0	84.51	8.28	12,258.4	2,591.0	-49.8	2,591.4	6.82	-4.95	4.72
15,500.0	89.40	10.55	12,263.0	2,675.7	-35.8	2,675.9	6.27	5.68	2.64
15,509.0	89.91	10.79	12,263.0	2,684.6	-34.1	2,684.7	6.27	5.69	2.63
15,600.0	86.28	6.22	12,266.0	2,774.5	-20.7	2,774.5	6.41	-3.99	-5.02
15,604.0	86.12	6.02	12,266.3	2,778.4	-20.2	2,778.5	6.41	-3.98	-5.04
15,699.0	88.95	6.23	12,270.4	2,872.8	-10.1	2,872.8	2.99	2.98	0.22
15,700.0	88.95	6.17	12,270.4	2,873.8	-10.0	2,873.8	6.11	0.16	-6.11
15,793.0	89.11	0.49	12,272.0	2,966.6	-4.6	2,966.5	6.11	0.17	-6.11
15,800.0	88.84	0.27	12,272.1	2,973.6	-4.6	2,973.5	4.97	-3.81	-3.19
15,888.0	85.49	357.45	12,276.5	3,061.4	-6.3	3,061.4	4.97	-3.81	-3.20
15,900.0	85.73	357.73	12,277.4	3,073.4	-6.8	3,073.3	3.08	1.99	2.36
15,983.0	87.38	359.69	12,282.4	3,156.2	-8.7	3,156.2	3.08	1.99	2.36
16,000.0	87.10	359.25	12,283.2	3,173.2	-8.8	3,173.1	3.08	-1.66	-2.60
16,078.0	85.81	357.22	12,288.0	3,251.0	-11.2	3,251.0	3.08	-1.65	-2.60
16,100.0	85.99	356.85	12,289.6	3,272.9	-12.4	3,272.9	1.88	0.84	-1.69
16,173.0	86.61	355.62	12,294.3	3,345.6	-17.1	3,345.6	1.88	0.84	-1.68
16,200.0	87.03	355.75	12,295.8	3,372.5	-19.2	3,372.5	1.62	1.55	0.48
16,268.0	88.08	356.08	12,298.7	3,440.2	-24.0	3,440.3	1.62	1.55	0.48
16,300.0	89.02	356.08	12,299.5	3,472.2	-26.2	3,472.2	2.95	2.95	0.01
16,362.0	90.85	356.09	12,299.6	3,534.0	-30.4	3,534.1	2.95	2.95	0.01
16,400.0	91.33	356.29	12,298.8	3,571.9	-33.0	3,572.1	1.38	1.27	0.53
16,457.0	92.06	356.59	12,297.2	3,628.8	-36.5	3,629.0	1.38	1.27	0.53
16,500.0	92.60	357.87	12,295.4	3,671.7	-38.6	3,671.9	3.24	1.25	2.99
16,552.0	93.25	359.43	12,292.7	3,723.6	-39.8	3,723.8	3.24	1.25	2.99
16,600.0	93.39	358.09	12,290.0	3,771.5	-40.8	3,771.7	2.80	0.30	-2.79
16,647.0	93.53	356.78	12,287.1	3,818.4	-42.9	3,818.6	2.80	0.29	-2.79
16,700.0	90.69	354.72	12,285.2	3,871.2	-46.8	3,871.5	6.63	-5.36	-3.90
16,741.0	88.49	353.12	12,285.5	3,912.0	-51.2	3,912.3	6.63	-5.36	-3.89
16,800.0	87.48	353.71	12,287.5	3,970.5	-58.0	3,970.9	1.98	-1.71	1.00
16,836.0	86.87	354.07	12,289.3	4,006.3	-61.8	4,006.7	1.98	-1.71	1.00
16,900.0	86.04	354.78	12,293.3	4,069.9	-68.0	4,070.3	1.71	-1.29	1.12
16,931.0	85.64	355.13	12,295.5	4,100.7	-70.7	4,101.1	1.71	-1.29	1.12
16,961.0	88.09	357.95	12,297.2	4,130.6	-72.5	4,131.0	12.44	8.17	9.40
17,000.0	88.54	359.71	12,298.3	4,169.5	-73.3	4,170.0	4.65	1.16	4.51
17,056.0	89.19	2.23	12,299.4	4,225.5	-72.4	4,226.0	4.65	1.16	4.50
17,100.0	88.92	0.37	12,300.1	4,269.5	-71.4	4,270.0	4.26	-0.61	-4.22
17,151.0	88.61	358.22	12,301.2	4,320.5	-72.0	4,320.9	4.26	-0.61	-4.22
17,200.0	88.85	353.86	12,302.3	4,369.3	-75.4	4,369.8	8.91	0.50	-8.90
17,246.0	89.09	349.77	12,303.2	4,414.8	-81.9	4,415.4	8.91	0.51	-8.89
17,300.0	89.45	350.01	12,303.8	4,468.0	-91.4	4,468.6	0.79	0.66	0.44

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

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

Planned Survey

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

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

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

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
18,796.0	86.83	353.00	12,283.9	5,950.0	-13.3	5,949.8	3.41	-2.91	-1.78
18,800.0	86.96	353.00	12,284.1	5,953.9	-13.8	5,953.8	3.26	3.26	-0.10
18,827.0	87.84	352.97	12,285.3	5,980.7	-17.0	5,980.6	3.26	3.26	-0.10
18,900.0	88.61	354.03	12,287.6	6,053.2	-25.3	6,053.2	1.79	1.05	1.45
18,922.0	88.84	354.35	12,288.1	6,075.1	-27.5	6,075.1	1.79	1.05	1.45
19,000.0	89.80	355.14	12,289.0	6,152.7	-34.7	6,152.8	1.59	1.23	1.01
19,017.0	90.01	355.31	12,289.0	6,169.7	-36.1	6,169.8	1.59	1.23	1.01
19,100.0	90.67	356.36	12,288.5	6,252.5	-42.1	6,252.6	1.50	0.80	1.26
19,112.0	90.77	356.51	12,288.4	6,264.4	-42.9	6,264.6	1.50	0.80	1.26
19,200.0	92.26	358.33	12,286.0	6,352.3	-46.8	6,352.5	2.67	1.69	2.06
19,207.0	92.38	358.47	12,285.8	6,359.3	-47.0	6,359.5	2.67	1.69	2.06
19,300.0	94.83	359.52	12,279.9	6,452.1	-48.7	6,452.3	2.87	2.64	1.13
19,301.0	94.86	359.53	12,279.8	6,453.1	-48.7	6,453.3	2.87	2.64	1.13
19,396.0	95.34	0.04	12,271.4	6,547.7	-49.0	6,547.9	0.74	0.51	0.54
19,400.0	95.34	0.02	12,271.0	6,551.7	-49.0	6,551.9	0.51	0.00	-0.51
19,459.0	95.34	359.72	12,265.5	6,610.4	-49.2	6,610.6	0.51	0.00	-0.51
19,491.0	95.10	359.40	12,262.6	6,642.3	-49.4	6,642.5	1.25	-0.75	-1.00
19,500.0	94.79	359.26	12,261.8	6,651.3	-49.5	6,651.4	3.71	-3.40	-1.51
19,554.0	92.96	358.45	12,258.2	6,705.1	-50.6	6,705.3	3.71	-3.40	-1.51
19,586.0	91.39	357.74	12,257.0	6,737.1	-51.6	6,737.3	5.38	-4.91	-2.22
19,600.0	91.06	357.59	12,256.7	6,751.1	-52.2	6,751.3	2.63	-2.39	-1.10
19,617.0	90.65	357.40	12,256.4	6,768.1	-53.0	6,768.3	2.63	-2.39	-1.10
19,681.0	91.13	358.27	12,255.4	6,832.0	-55.4	6,832.2	1.55	0.75	1.36
19,700.0	90.91	357.69	12,255.1	6,851.0	-56.0	6,851.2	3.28	-1.15	-3.07
19,776.0	90.04	355.35	12,254.4	6,926.8	-60.7	6,927.1	3.28	-1.15	-3.07
19,800.0	90.80	355.44	12,254.3	6,950.8	-62.6	6,951.0	3.18	3.16	0.35
19,807.0	91.02	355.46	12,254.2	6,957.7	-63.1	6,958.0	3.18	3.16	0.35
19,839.0	90.65	354.40	12,253.7	6,989.6	-66.0	6,989.9	3.51	-1.16	-3.31
19,870.0	90.12	353.53	12,253.5	7,020.4	-69.2	7,020.8	3.29	-1.71	-2.81
19,900.0	92.71	355.53	12,252.7	7,050.3	-72.1	7,050.7	10.89	8.63	6.66
19,902.0	92.88	355.66	12,252.6	7,052.3	-72.2	7,052.6	10.89	8.62	6.67
19,933.0	92.85	356.81	12,251.1	7,083.2	-74.3	7,083.6	3.71	-0.10	3.71
19,965.0	92.69	357.72	12,249.5	7,115.1	-75.8	7,115.5	2.88	-0.50	2.84
19,996.0	89.85	357.70	12,248.9	7,146.1	-77.0	7,146.5	9.16	-9.16	-0.06
20,000.0	89.91	357.79	12,248.9	7,150.1	-77.2	7,150.5	2.56	1.38	2.16
20,028.0	90.29	358.39	12,248.8	7,178.0	-78.1	7,178.5	2.56	1.37	2.16
20,059.0	91.14	359.49	12,248.4	7,209.0	-78.7	7,209.5	4.48	2.74	3.55
20,091.0	89.01	359.40	12,248.4	7,241.0	-79.0	7,241.5	6.66	-6.66	-0.28
20,100.0	89.09	359.22	12,248.5	7,250.0	-79.1	7,250.5	2.17	0.91	-1.97
20,123.0	89.30	358.77	12,248.9	7,273.0	-79.5	7,273.4	2.17	0.91	-1.97
20,154.0	90.90	0.10	12,248.8	7,304.0	-79.8	7,304.4	6.71	5.16	4.29
20,200.0	89.77	0.96	12,248.5	7,350.0	-79.4	7,350.4	3.08	-2.45	1.87
20,201.0	89.75	0.98	12,248.5	7,351.0	-79.4	7,351.4	3.08	-2.45	1.87
20,249.0	89.38	1.53	12,248.9	7,399.0	-78.3	7,399.4	1.38	-0.77	1.15
20,295.0	89.05	1.74	12,249.5	7,445.0	-77.0	7,445.4	0.85	-0.72	0.46
20,300.0	89.15	1.74	12,249.6	7,450.0	-76.9	7,450.4	2.08	2.08	-0.02
20,343.0	90.05	1.73	12,249.9	7,493.0	-75.6	7,493.3	2.08	2.08	-0.02
20,390.0	92.64	2.82	12,248.8	7,539.9	-73.7	7,540.3	5.98	5.51	2.32
20,400.0	92.37	2.93	12,248.4	7,549.9	-73.2	7,550.2	2.87	-2.67	1.06
20,438.0	91.36	3.33	12,247.1	7,587.8	-71.1	7,588.1	2.87	-2.67	1.06
20,485.0	91.66	3.81	12,245.9	7,634.7	-68.2	7,635.0	1.20	0.64	1.02
20,500.0	91.45	3.89	12,245.5	7,649.7	-67.2	7,649.9	1.48	-1.37	0.54
20,533.0	91.00	4.07	12,244.8	7,682.6	-64.9	7,682.8	1.48	-1.38	0.54
20,579.0	90.83	3.17	12,244.0	7,728.5	-62.0	7,728.7	1.99	-0.37	-1.96

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

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

Planned Survey

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

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

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
22,899.0	90.10	358.70	12,199.7	10,046.5	-88.3	10,046.9	0.17	0.15	-0.08
22,900.0	90.10	358.70	12,199.7	10,047.5	-88.3	10,047.9	0.29	-0.25	-0.15
22,994.0	89.86	358.56	12,199.7	10,141.5	-90.6	10,141.9	0.29	-0.25	-0.15
23,000.0	89.86	358.56	12,199.7	10,147.5	-90.7	10,147.9	0.03	0.03	0.02
23,060.0	89.88	358.57	12,199.8	10,207.4	-92.2	10,207.8	0.03	0.03	0.02
23,086.8	89.88	358.57	12,199.9	10,234.2	-92.9	10,234.6	0.00	0.00	0.00
Shifted Nan121 LTP									
23,100.0	89.88	358.57	12,199.9	10,247.4	-93.2	10,247.8	0.00	0.00	0.00
23,136.3	89.88	358.57	12,200.0	10,283.7	-94.1	10,284.1	0.00	0.00	0.00
Shifted Nan121 BHL									

Design Targets

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