

61-01688



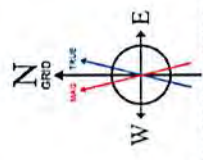
NORTHEAST NATURAL ENERGY, LLC

Location: Monongalia County, WV
 Field: Monongalia
 Facility: Coastal Pad
 Slot: Slot 13
 Well: Coastal 13H
 Wellbore: Coastal 13H PWB

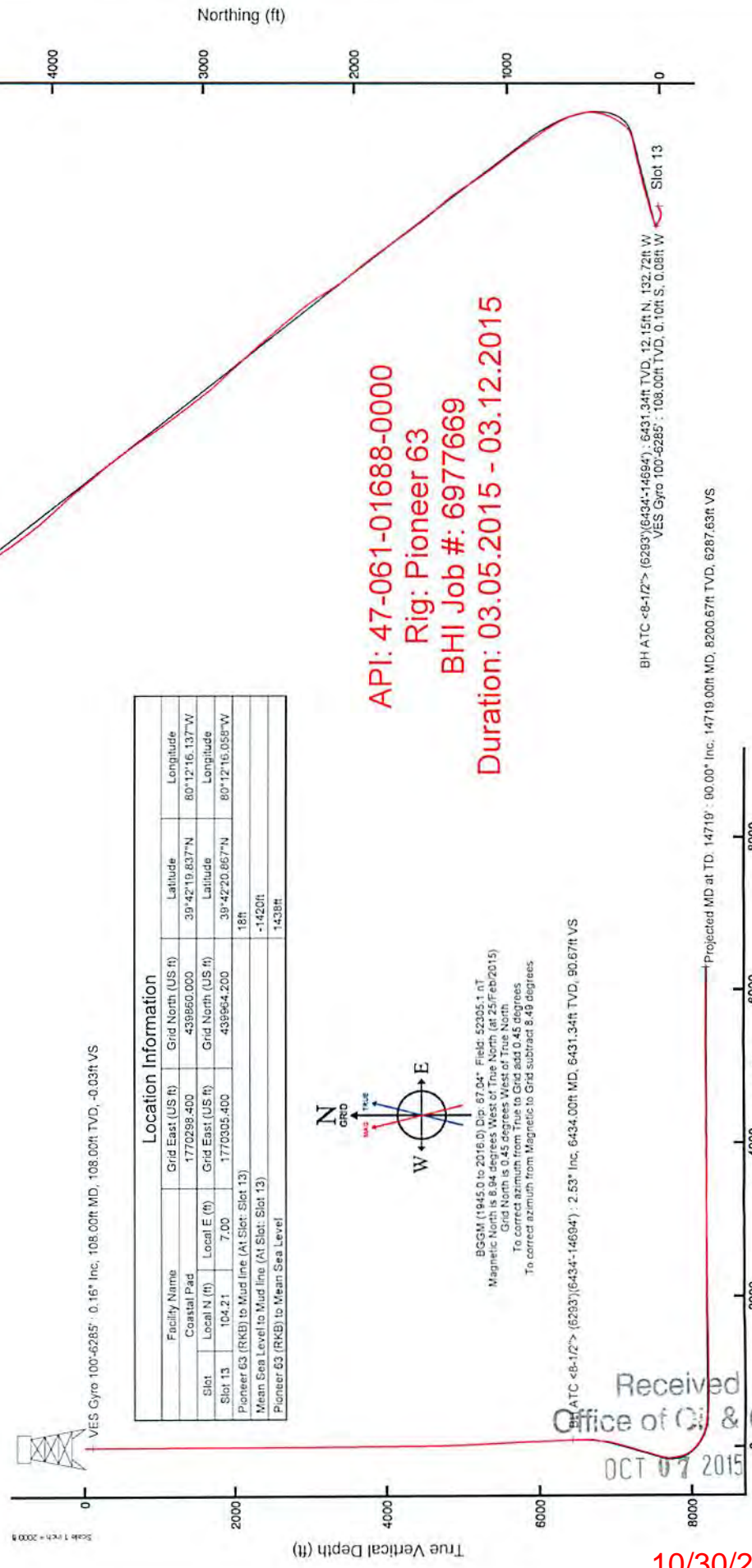


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| Plot reference wellpath is Coastal 13H PWB Rev-B 0 |
| True vertical depths are referenced to Pioneer 63 (RKB) |
| Measured depths are referenced to Pioneer 63 (RKB) |
| Pioneer 63 (RKB) to Mean Sea Level: 1438 feet |
| Mean Sea Level to Mud line (At Slot: Slot 13): -1420 feet |
| Coordinates are in feet referenced to Slot |
| Grid System: NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet |
| North Reference: Grid north |
| Scale: True distance |
| Depths are in feet |
| Created by: gorbali on 18/Mar/2015 |

| Location Information | | | |
|---|-------------------|--------------------|----------------|
| Facility Name | Grid East (US ft) | Grid North (US ft) | Longitude |
| Coastal Pad | 1770298.400 | 439960.000 | 80°12'16.137"W |
| Slot | Local N (ft) | Grid East (US ft) | Longitude |
| Slot 13 | 104.21 | 1770305.400 | 80°12'16.058"W |
| Pioneer 63 (RKB) to Mud line (At Slot: Slot 13) | 7.00 | 439964.200 | 18ft |
| Mean Sea Level to Mud line (At Slot: Slot 13) | | | -1420ft |
| Pioneer 63 (RKB) to Mean Sea Level | | | 1438ft |



BGMN (1945.0 to 2016.0) Dip: 67.04° Field: 52005.1 nT
 Magnetic North is 8.94 degrees West of True North (at 25/feb/2015)
 Grid North is 0.45 degrees West of True North
 To correct azimuth from True to Grid add 0.45 degrees
 To correct azimuth from Magnetic to Grid subtract 8.49 degrees



API: 47-061-01688-0000
 Rig: Pioneer 63
 BHI Job #: 6977669
 Duration: 03.05.2015 - 03.12.2015

BH ATC <8-1/2"> (6293)(6434-14694) : 6431.34ft TVD, 12.15ft N, 132.72ft W
 VES Gyro 100'-6285' : 108.00ft TVD, 0.10ft S, 0.08ft W

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Projected MD at TD: 14719' : 90.00° Inc. 14719.00ft MD, 8200.67ft TVD, 6287.63ft VS

Vertical Section (ft)
 Scale 1 inch = 200ft

Azimuth 322.36° with reference 0.00 N, 0.00 E

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ACTUAL WELLPATH REPORT (CSV version)
 Prepared by Baker Hughes
 Software System: WellArchitect® 4.0.1

REFERENCE WELLPATH IDENTIFICATION

Operator: NORTHEAST NATURAL ENERGY, LLC
 Area: Monongalia County, WV
 Field: Monongalia
 Facility: Coastal Pad
 Slot: Slot 13
 Well: Coastal 13H
 Wellbore: Coastal 13H AWB
 Wellpath: Coastal 13H AWP Proj: 14719'
 Sidetrack: (none)

REPORT SETUP INFORMATION

Projection System: NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet
 North Reference: Grid
 Scale: 0.999942
 Convergence at slot: 0.45° West
 Software System: WellArchitect® 4.0.1
 User: Gotfbral
 Report Generated: 18/Mar/2015 at 08:40
 DataBase/Source file: WANorthEast/ev5758.xml

WELLPATH LOCATION

| | Local [ft] | North [US ft] | East [US ft] | Longitude [ft] |
|-----------------------|------------|---------------|--------------|--|
| Slot Location | 104.21 | 7 | 1770305.4 | 439964.2 39°42'20.867" 80°12'16.058"W |
| Facility Reference Pt | | | 1770298.4 | 439860 39°42'19.837" 80°12'16.137"W |
| Field Reference Pt | | | 1777685.7 | 440640.65 39°42'28.114" 80°10'41.690"W |

WELLPATH DATUM

Calculation method: Minimum curvature
 Slot: Pioneer 63 (RKB)
 Horizontal Reference Point: Pioneer 63 (RKB)
 MD Reference Point: Pioneer 63 (RKB)
 Field Vertical Reference: Mean Sea Level
 Pioneer 63 (RKB) to Facility Vertical Datum: 18.00ft
 Pioneer 63 (RKB) to Mean Sea Level: 1438.00ft
 Pioneer 63 (RKB) to Mud Line at Slot (Slot 13): 18.00ft
 Section Origin: N 0.00, E 0.00 ft
 Section Azimuth: 322.36°

WELLPATH DATA † = interpolated/extrapolated station

| † | MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Vert. Sect [ft] | North [ft] | East [ft] | Grid East [US ft] | Grid North [US ft] | Latitude | Longitude | Closure Di. [ft] | Closure Di. [°] | Closure Di. ["/100ft] |
|---|---------|-----------------|-------------|----------|-----------------|------------|-----------|-------------------|--------------------|----------------|----------------|------------------|-----------------|-----------------------|
| | 0 | 0 | 217.64 | 0 | 0 | 0 | 0 | 1770305.4 | 439964.2 | 39°42'20.867"N | 80°12'16.058"W | 0 | 0 | 0 |
| | 18 | 0 | 217.64 | 18 | 0 | 0 | 0 | 1770305.4 | 439964.2 | 39°42'20.867"N | 80°12'16.058"W | 0 | 0 | 0 |
| | 108 | 0.16 | 217.64 | 108 | -0.03 | -0.1 | -0.1 | 1770305.32 | 439964.1 | 39°42'20.866"N | 80°12'16.059"W | 0.13 | 217.64 | 0.18 |
| | 208 | 0.14 | 259.39 | 208 | -0.01 | -0.23 | -0.23 | 1770305.12 | 439963.97 | 39°42'20.865"N | 80°12'16.062"W | 0.37 | 230.497 | 0.11 |
| | 308 | 0.05 | 296.67 | 308 | 0.08 | -0.24 | -0.24 | 1770304.96 | 439963.96 | 39°42'20.865"N | 80°12'16.064"W | 0.5 | 241.909 | 0.1 |

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|------|------|--------|---------|-------|--------|--------|-------------|-----------|----------------|----------------|-------|---------|------|
| 408 | 0.24 | 312.26 | 408 | 0.33 | -0.08 | -0.64 | 1770304.76 | 439964.12 | 39°42'20.866"N | 80°12'16.066"W | 0.64 | 263.262 | 0.19 |
| 508 | 0.11 | 340.24 | 508 | 0.63 | 0.16 | -0.82 | 1770304.58 | 439964.36 | 39°42'20.869"N | 80°12'16.068"W | 0.84 | 280.747 | 0.15 |
| 608 | 0.1 | 333.03 | 608 | 0.8 | 0.32 | -0.89 | 1770304.51 | 439964.52 | 39°42'20.870"N | 80°12'16.069"W | 0.95 | 289.922 | 0.02 |
| 708 | 0.2 | 336.69 | 708 | 1.06 | 0.56 | -1 | 1770304.4 | 439964.76 | 39°42'20.873"N | 80°12'16.071"W | 1.15 | 299.269 | 0.14 |
| 808 | 0.06 | 345.7 | 808 | 1.28 | 0.77 | -1.09 | 1770304.31 | 439964.97 | 39°42'20.875"N | 80°12'16.072"W | 1.33 | 305.472 | 0.18 |
| 908 | 0.24 | 351.19 | 908 | 1.51 | 1.03 | -1.13 | 1770304.27 | 439965.23 | 39°42'20.877"N | 80°12'16.072"W | 1.53 | 312.371 | 0.18 |
| 1008 | 0.25 | 335.33 | 1008 | 1.9 | 1.44 | -1.25 | 1770304.15 | 439965.64 | 39°42'20.881"N | 80°12'16.074"W | 1.91 | 318.889 | 0.07 |
| 1108 | 0.21 | 308.78 | 1108 | 2.29 | 1.75 | -1.49 | 1770303.91 | 439965.95 | 39°42'20.884"N | 80°12'16.077"W | 2.3 | 319.627 | 0.11 |
| 1208 | 0.15 | 297.87 | 1208 | 2.59 | 1.93 | -1.75 | 1770303.65 | 439966.13 | 39°42'20.886"N | 80°12'16.080"W | 2.6 | 317.797 | 0.07 |
| 1308 | 0.07 | 243.48 | 1308 | 2.72 | 1.96 | -1.92 | 1770303.48 | 439966.16 | 39°42'20.886"N | 80°12'16.083"W | 2.74 | 315.634 | 0.12 |
| 1408 | 0.21 | 246.45 | 1407.99 | 2.78 | 1.86 | -2.14 | 1770303.26 | 439966.06 | 39°42'20.885"N | 80°12'16.085"W | 2.83 | 310.99 | 0.14 |
| 1508 | 0.39 | 232.7 | 1507.99 | 2.82 | 1.58 | -2.58 | 1770302.82 | 439965.78 | 39°42'20.883"N | 80°12'16.091"W | 3.02 | 301.494 | 0.19 |
| 1608 | 0.34 | 256.71 | 1607.99 | 2.95 | 1.3 | -3.14 | 1770302.26 | 439965.5 | 39°42'20.880"N | 80°12'16.098"W | 3.4 | 292.583 | 0.16 |
| 1708 | 0.24 | 238.07 | 1707.99 | 3.09 | 1.13 | -3.6 | 1770301.8 | 439965.33 | 39°42'20.878"N | 80°12'16.104"W | 3.78 | 287.349 | 0.14 |
| 1808 | 0.14 | 214.91 | 1807.99 | 3.08 | 0.91 | -3.85 | 1770301.55 | 439965.11 | 39°42'20.876"N | 80°12'16.107"W | 3.96 | 283.362 | 0.12 |
| 1908 | 0.16 | 211.63 | 1907.99 | 2.99 | 0.7 | -3.99 | 1770301.41 | 439964.9 | 39°42'20.874"N | 80°12'16.109"W | 4.05 | 279.881 | 0.02 |
| 2008 | 0.12 | 235.81 | 2007.99 | 2.95 | 0.52 | -4.15 | 1770301.25 | 439964.72 | 39°42'20.872"N | 80°12'16.111"W | 4.19 | 277.108 | 0.07 |
| 2108 | 0.13 | 277.09 | 2107.99 | 3.03 | 0.47 | -4.35 | 1770301.05 | 439964.67 | 39°42'20.872"N | 80°12'16.114"W | 4.38 | 276.203 | 0.09 |
| 2208 | 0.48 | 258.52 | 2207.99 | 3.3 | 0.4 | -4.88 | 1770300.52 | 439964.6 | 39°42'20.871"N | 80°12'16.120"W | 4.89 | 274.734 | 0.36 |
| 2308 | 1.66 | 256.84 | 2307.97 | 4.08 | -0.01 | -6.7 | 1770298.7 | 439964.19 | 39°42'20.867"N | 80°12'16.144"W | 6.7 | 269.92 | 1.18 |
| 2408 | 2.07 | 258.03 | 2407.91 | 5.47 | -0.71 | -9.87 | 1770295.53 | 439963.49 | 39°42'20.859"N | 80°12'16.184"W | 9.9 | 265.866 | 0.41 |
| 2508 | 1.97 | 250.46 | 2507.85 | 6.78 | -1.66 | -13.26 | 1770292.14 | 439962.54 | 39°42'20.850"N | 80°12'16.227"W | 13.37 | 262.852 | 0.28 |
| 2608 | 1.99 | 233.26 | 2607.79 | 7.34 | -3.28 | -16.27 | 1770289.13 | 439960.92 | 39°42'20.834"N | 80°12'16.266"W | 16.6 | 258.615 | 0.59 |
| 2708 | 2.01 | 229.87 | 2707.73 | 7.29 | -5.45 | -19 | 1770286.4 | 439958.75 | 39°42'20.812"N | 80°12'16.301"W | 19.77 | 254.011 | 0.12 |
| 2808 | 2.11 | 231.7 | 2807.67 | 7.2 | -7.72 | -21.79 | 1770283.61 | 439956.48 | 39°42'20.789"N | 80°12'16.336"W | 23.12 | 250.499 | 0.12 |
| 2908 | 1.97 | 236.96 | 2907.61 | 7.31 | -9.79 | -24.68 | 1770280.73 | 439954.41 | 39°42'20.769"N | 80°12'16.373"W | 26.55 | 248.35 | 0.23 |
| 3008 | 1.58 | 246.08 | 3007.56 | 7.78 | -11.29 | -27.38 | 1770278.02 | 439952.91 | 39°42'20.754"N | 80°12'16.407"W | 29.61 | 247.587 | 0.48 |
| 3108 | 1.39 | 248.62 | 3107.52 | 8.44 | -12.29 | -29.77 | 1770275.64 | 439951.91 | 39°42'20.743"N | 80°12'16.438"W | 32.2 | 247.562 | 0.2 |
| 3208 | 1.47 | 245.28 | 3207.49 | 9.07 | -13.27 | -32.06 | 1770273.34 | 439950.93 | 39°42'20.734"N | 80°12'16.467"W | 34.7 | 247.514 | 0.12 |
| 3308 | 1.29 | 249.46 | 3307.46 | 9.69 | -14.2 | -34.28 | 1770271.12 | 439950 | 39°42'20.724"N | 80°12'16.495"W | 37.11 | 247.496 | 0.21 |
| 3408 | 1.16 | 259.02 | 3407.44 | 10.47 | -14.79 | -36.33 | 1770269.07 | 439949.41 | 39°42'20.718"N | 80°12'16.521"W | 39.22 | 247.848 | 0.24 |
| 3508 | 1.11 | 254.2 | 3507.42 | 11.29 | -15.25 | -38.25 | 1770267.15 | 439948.95 | 39°42'20.714"N | 80°12'16.546"W | 41.18 | 248.27 | 0.11 |
| 3608 | 1.08 | 257.54 | 3607.4 | 12.05 | -15.71 | -40.11 | 1770265.3 | 439948.49 | 39°42'20.709"N | 80°12'16.569"W | 43.07 | 248.605 | 0.07 |
| 3708 | 0.91 | 258.75 | 3707.39 | 12.8 | -16.07 | -41.81 | 1770263.6 | 439948.13 | 39°42'20.705"N | 80°12'16.591"W | 44.79 | 248.971 | 0.17 |
| 3808 | 0.78 | 253.78 | 3807.38 | 13.41 | -16.42 | -43.24 | 1770262.17 | 439947.78 | 39°42'20.702"N | 80°12'16.609"W | 46.25 | 249.209 | 0.15 |
| 3908 | 0.77 | 254.85 | 3907.37 | 13.91 | -16.78 | -44.54 | 1770260.86 | 439947.42 | 39°42'20.698"N | 80°12'16.626"W | 47.6 | 249.354 | 0.02 |
| 4008 | 0.75 | 256.14 | 4007.36 | 14.43 | -17.11 | -45.82 | 1770259.58 | 439947.09 | 39°42'20.695"N | 80°12'16.642"W | 48.92 | 249.52 | 0.03 |
| 4108 | 0.94 | 261.02 | 4107.35 | 15.09 | -17.4 | -47.27 | 1770258.13 | 439946.8 | 39°42'20.692"N | 80°12'16.661"W | 50.37 | 249.792 | 0.2 |
| 4208 | 0.98 | 260.53 | 4207.33 | 15.89 | -17.67 | -48.92 | 1770256.48 | 439946.53 | 39°42'20.689"N | 80°12'16.682"W | 52.02 | 250.143 | 0.04 |
| 4308 | 0.91 | 258.41 | 4307.32 | 16.64 | -17.97 | -50.54 | 1770254.86 | 439946.23 | 39°42'20.686"N | 80°12'16.703"W | 53.64 | 250.43 | 0.08 |
| 4408 | 1.11 | 264.43 | 4407.3 | 17.5 | -18.22 | -52.29 | 1770253.12 | 439945.98 | 39°42'20.683"N | 80°12'16.725"W | 55.37 | 250.786 | 0.23 |
| 4508 | 1.25 | 267.56 | 4507.28 | 18.64 | -18.36 | -54.34 | 1770251.06 | 439945.84 | 39°42'20.682"N | 80°12'16.751"W | 57.36 | 251.329 | 0.15 |
| 4608 | 1.34 | 273.43 | 4607.26 | 20.04 | -18.34 | -56.6 | 1770248.81 | 439945.86 | 39°42'20.682"N | 80°12'16.780"W | 59.49 | 252.046 | 0.16 |
| 4708 | 1.73 | 278.57 | 4707.22 | 21.9 | -18.04 | -59.26 | 1770246.15 | 439946.16 | 39°42'20.684"N | 80°12'16.814"W | 61.94 | 253.064 | 0.41 |
| 4808 | 2.02 | 282.41 | 4807.17 | 24.34 | -17.44 | -62.47 | 1770242.93 | 439946.76 | 39°42'20.690"N | 80°12'16.855"W | 64.86 | 254.401 | 0.32 |
| 4908 | 2.14 | 279.14 | 4907.1 | 27.05 | -16.77 | -66.04 | 1770239.37 | 439947.44 | 39°42'20.696"N | 80°12'16.901"W | 68.13 | 255.755 | 0.17 |
| 5008 | 2.33 | 280.48 | 5007.03 | 29.93 | -16.1 | -69.88 | 1770235.53 | 439948.1 | 39°42'20.703"N | 80°12'16.950"W | 71.71 | 257.026 | 0.2 |
| 5108 | 2.76 | 287.16 | 5106.93 | 33.41 | -15.03 | -74.87 | 1770233.123 | 439949.18 | 39°42'20.713"N | 80°12'17.005"W | 75.68 | 258.554 | 0.52 |
| 5208 | 2.92 | 290.18 | 5206.8 | 37.53 | -13.43 | -78.87 | 1770226.54 | 439950.77 | 39°42'20.728"N | 80°12'17.066"W | 80 | 260.336 | 0.22 |
| 5308 | 3.08 | 297.17 | 5306.67 | 42.12 | -11.32 | -83.65 | 1770221.76 | 439952.88 | 39°42'20.749"N | 80°12'17.127"W | 84.41 | 262.29 | 0.4 |
| 5408 | 3.16 | 298.97 | 5406.52 | 47.08 | -8.76 | -88.45 | 1770216.96 | 439955.44 | 39°42'20.774"N | 80°12'17.189"W | 88.88 | 264.342 | 0.13 |
| 5508 | 3.09 | 298.21 | 5506.37 | 52.07 | -6.15 | -93.24 | 1770212.17 | 439958.05 | 39°42'20.799"N | 80°12'17.250"W | 93.44 | 266.224 | 0.08 |

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| 5608 | 3.03 | 295.64 | 5606.23 | 56.89 | -3.74 | -97.99 | 1770207.41 | 439960.46 | 39°42'20.823"N | 80°12'17.311"W | 98.07 | 267.817 | 0.15 |
| 5708 | 2.9 | 295.08 | 5706.09 | 61.5 | -1.52 | -102.67 | 1770202.74 | 439962.68 | 39°42'20.844"N | 80°12'17.371"W | 102.68 | 269.152 | 0.13 |
| 5808 | 2.79 | 294.03 | 5805.97 | 65.89 | 0.54 | -107.18 | 1770198.22 | 439964.74 | 39°42'20.864"N | 80°12'17.429"W | 107.18 | 270.291 | 0.12 |
| 5908 | 2.68 | 292.82 | 5905.86 | 70.06 | 2.44 | -111.56 | 1770193.85 | 439966.64 | 39°42'20.883"N | 80°12'17.486"W | 111.59 | 271.254 | 0.12 |
| 6008 | 2.76 | 290.87 | 6005.75 | 74.15 | 4.21 | -115.96 | 1770189.44 | 439968.41 | 39°42'20.900"N | 80°12'17.542"W | 116.04 | 272.077 | 0.12 |
| 6108 | 2.54 | 292.14 | 6105.64 | 78.12 | 5.9 | -120.27 | 1770185.14 | 439970.1 | 39°42'20.916"N | 80°12'17.597"W | 120.41 | 272.808 | 0.23 |
| 6208 | 2.45 | 293.96 | 6205.54 | 81.91 | 7.6 | -124.27 | 1770181.14 | 439971.8 | 39°42'20.933"N | 80°12'17.649"W | 124.5 | 273.5 | 0.12 |
| 6293 | 2.37 | 298.2 | 6290.47 | 85.11 | 9.17 | -127.48 | 1770177.93 | 439973.37 | 39°42'20.948"N | 80°12'17.690"W | 127.81 | 274.114 | 0.23 |
| 6434 | 2.53 | 300.93 | 6431.34 | 90.67 | 12.15 | -132.72 | 1770172.69 | 439976.35 | 39°42'20.977"N | 80°12'17.757"W | 133.28 | 275.229 | 0.14 |
| 6497 | 1.77 | 317.69 | 6494.3 | 92.94 | 13.58 | -134.57 | 1770170.84 | 439977.78 | 39°42'20.991"N | 80°12'17.781"W | 135.25 | 275.763 | 1.55 |
| 6560 | 6.72 | 55.87 | 6557.15 | 93.68 | 16.37 | -132.17 | 1770173.24 | 439980.57 | 39°42'21.019"N | 80°12'17.751"W | 133.18 | 277.062 | 11.41 |
| 6624 | 11.22 | 65.2 | 6620.35 | 92.07 | 21.09 | -123.41 | 1770182 | 439985.29 | 39°42'21.066"N | 80°12'17.639"W | 125.2 | 279.697 | 7.37 |
| 6687 | 13.38 | 76.92 | 6681.91 | 87.67 | 25.31 | -110.74 | 1770194.66 | 439989.51 | 39°42'21.109"N | 80°12'17.477"W | 113.6 | 282.873 | 5.22 |
| 6750 | 16.02 | 73.83 | 6742.84 | 81.46 | 29.38 | -95.29 | 1770210.11 | 439993.58 | 39°42'21.150"N | 80°12'17.280"W | 99.72 | 287.136 | 4.37 |
| 6813 | 16.31 | 67.98 | 6803.36 | 75.9 | 35.12 | -78.74 | 1770226.66 | 439999.32 | 39°42'21.208"N | 80°12'17.069"W | 86.22 | 294.037 | 2.62 |
| 6877 | 21.36 | 68.98 | 6863.91 | 70.14 | 42.67 | -59.52 | 1770245.89 | 440006.87 | 39°42'21.284"N | 80°12'16.824"W | 73.23 | 305.641 | 7.91 |
| 6940 | 28.09 | 74.41 | 6921.11 | 61.28 | 50.79 | -34.49 | 1770270.91 | 440014.98 | 39°42'21.366"N | 80°12'16.504"W | 61.39 | 325.819 | 11.26 |
| 7003 | 34.98 | 75.95 | 6974.77 | 48.47 | 59.17 | -2.65 | 1770302.75 | 440023.36 | 39°42'21.452"N | 80°12'16.098"W | 59.23 | 357.44 | 11.01 |
| 7067 | 37.71 | 72.54 | 7026.32 | 34.37 | 69.5 | 33.83 | 1770339.23 | 440033.69 | 39°42'21.557"N | 80°12'15.632"W | 77.29 | 25.959 | 5.31 |
| 7130 | 37.43 | 71.77 | 7076.26 | 21.36 | 81.27 | 70.4 | 1770375.79 | 440045.46 | 39°42'21.676"N | 80°12'15.165"W | 107.52 | 40.901 | 0.87 |
| 7193 | 37.32 | 73.46 | 7126.32 | 8.12 | 92.69 | 106.89 | 1770412.28 | 440056.89 | 39°42'21.792"N | 80°12'14.700"W | 141.48 | 49.069 | 1.64 |
| 7256 | 37.18 | 76 | 7176.48 | -6.39 | 102.74 | 143.67 | 1770449.06 | 440066.93 | 39°42'21.894"N | 80°12'14.233"W | 176.62 | 54.432 | 2.45 |
| 7319 | 37.75 | 78.35 | 7226.48 | -22.47 | 111.24 | 181.03 | 1770486.42 | 440075.43 | 39°42'21.981"N | 80°12'13.753"W | 212.47 | 58.431 | 2.44 |
| 7383 | 37.67 | 77.14 | 7277.12 | -39.25 | 119.54 | 219.28 | 1770524.67 | 440083.74 | 39°42'22.066"N | 80°12'13.264"W | 249.75 | 61.403 | 1.16 |
| 7446 | 36.35 | 73.79 | 7327.43 | -54.15 | 129.04 | 255.98 | 1770561.37 | 440093.23 | 39°42'22.162"N | 80°12'12.796"W | 286.67 | 63.247 | 3.83 |
| 7509 | 35.91 | 73.95 | 7378.31 | -82.54 | 148.52 | 327.73 | 1770597.05 | 440103.55 | 39°42'22.267"N | 80°12'12.340"W | 323.25 | 64.641 | 0.71 |
| 7573 | 35.22 | 77.59 | 7430.38 | -82.54 | 148.52 | 327.73 | 1770633.11 | 440112.71 | 39°42'22.360"N | 80°12'11.880"W | 359.82 | 65.622 | 3.48 |
| 7636 | 36.01 | 78.61 | 7481.59 | -98.48 | 156.08 | 363.63 | 1770669.01 | 440120.27 | 39°42'22.438"N | 80°12'11.421"W | 395.71 | 66.77 | 1.57 |
| 7699 | 35.97 | 77.53 | 7532.57 | -114.54 | 163.73 | 399.85 | 1770705.23 | 440127.92 | 39°42'22.516"N | 80°12'10.958"W | 432.08 | 67.732 | 1.01 |
| 7762 | 35.93 | 76.27 | 7583.57 | -129.9 | 172.11 | 435.87 | 1770741.25 | 440136.3 | 39°42'22.602"N | 80°12'10.498"W | 468.63 | 68.452 | 1.18 |
| 7825 | 34.51 | 70.43 | 7635.05 | -142.93 | 182.48 | 470.66 | 1770776.63 | 440146.67 | 39°42'22.707"N | 80°12'10.054"W | 504.8 | 68.808 | 5.8 |
| 7888 | 31.23 | 53.1 | 7688.08 | -148.69 | 198.31 | 500.61 | 1770805.98 | 440162.49 | 39°42'22.866"N | 80°12'09.673"W | 538.45 | 68.39 | 15.76 |
| 7951 | 31.95 | 39.97 | 7741.8 | -145.32 | 220.91 | 524.41 | 1770829.77 | 440185.1 | 39°42'23.091"N | 80°12'09.371"W | 569.04 | 67.156 | 10.96 |
| 8015 | 31.49 | 35.78 | 7796.25 | -136.91 | 247.46 | 545.06 | 1770850.43 | 440211.64 | 39°42'23.355"N | 80°12'08.865"W | 598.6 | 65.582 | 3.52 |
| 8078 | 34 | 33.23 | 7849.24 | -126.44 | 275.55 | 564.34 | 1770869.7 | 440239.73 | 39°42'23.634"N | 80°12'08.865"W | 628.01 | 63.975 | 4.55 |
| 8141 | 39.14 | 25.11 | 7899.85 | -111.55 | 308.32 | 582.45 | 1770887.81 | 440272.51 | 39°42'23.959"N | 80°12'08.637"W | 659.02 | 62.105 | 11.19 |
| 8204 | 44.21 | 17.91 | 7946.92 | -89.99 | 347.28 | 597.66 | 1770903.02 | 440311.46 | 39°42'24.345"N | 80°12'08.446"W | 691.23 | 59.841 | 11.06 |
| 8267 | 49.84 | 11.77 | 7989.87 | -61.87 | 391.8 | 609.34 | 1770914.7 | 440355.98 | 39°42'24.786"N | 80°12'08.301"W | 724.44 | 57.259 | 11.43 |
| 8330 | 53.74 | 2.4 | 8028.88 | -26.7 | 440.84 | 615.33 | 1770920.69 | 440405.01 | 39°42'25.271"N | 80°12'08.229"W | 756.94 | 54.381 | 13.21 |
| 8393 | 54.87 | 352.05 | 8065.7 | 15.21 | 491.82 | 612.82 | 1770918.18 | 440455.99 | 39°42'25.775"N | 80°12'08.266"W | 785.77 | 51.251 | 13.46 |
| 8456 | 58.29 | 343.92 | 8100.44 | 62.58 | 543.16 | 601.82 | 1770907.18 | 440507.33 | 39°42'26.282"N | 80°12'08.412"W | 810.68 | 47.933 | 12.06 |
| 8519 | 63.7 | 337.51 | 8131 | 114.84 | 595.08 | 583.57 | 1770888.93 | 440559.24 | 39°42'26.793"N | 80°12'08.651"W | 833.47 | 44.44 | 12.36 |
| 8582 | 68.72 | 332.75 | 8156.42 | 171.03 | 647.33 | 559.3 | 1770864.66 | 440611.49 | 39°42'27.308"N | 80°12'08.967"W | 855.48 | 40.827 | 10.55 |
| 8645 | 74.26 | 328.47 | 8176.42 | 230.12 | 699.32 | 529.97 | 1770835.34 | 440663.48 | 39°42'27.819"N | 80°12'09.347"W | 877.45 | 37.156 | 10.9 |
| 8708 | 80.39 | 326.31 | 8190.24 | 291.32 | 751.06 | 496.85 | 1770802.22 | 440715.22 | 39°42'28.328"N | 80°12'09.776"W | 900.53 | 33.486 | 10.29 |
| 8771 | 82.69 | 325.41 | 8199.5 | 353.51 | 802.64 | 461.88 | 1770767.25 | 440766.79 | 39°42'28.835"N | 80°12'10.229"W | 926.04 | 29.918 | 3.91 |
| 8834 | 82.66 | 325.03 | 8207.54 | 415.92 | 853.96 | 426.24 | 1770731.61 | 440818.11 | 39°42'29.339"N | 80°12'10.690"W | 954.42 | 26.525 | 0.6 |
| 8897 | 84.11 | 325.64 | 8214.79 | 478.41 | 905.43 | 390.64 | 1770696.02 | 440869.57 | 39°42'29.845"N | 80°12'11.150"W | 986.11 | 23.338 | 2.49 |
| 8961 | 83.87 | 323.19 | 8221.5 | 542.01 | 957.19 | 353.61 | 1770658.99 | 440971.1 | 39°42'30.354"N | 80°12'11.630"W | 1020.41 | 20.275 | 3.83 |
| 9024 | 87.32 | 321.65 | 8226.33 | 604.82 | 1006.96 | 315.31 | 1770620.69 | 440971.1 | 39°42'30.843"N | 80°12'12.125"W | 1055.17 | 17.387 | 5.99 |
| 9088 | 87.38 | 321.57 | 8229.29 | 668.74 | 1057.07 | 275.6 | 1770580.99 | 441021.2 | 39°42'31.335"N | 80°12'12.638"W | 1092.4 | 14.613 | 0.16 |
| 9152 | 90.98 | 324.48 | 8230.21 | 732.71 | 1108.18 | 237.12 | 1770542.51 | 441072.31 | 39°42'31.837"N | 80°12'13.135"W | 1133.26 | 12.078 | 7.23 |

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|-------|-------|--------|---------|---------|---------|----------|------------|-----------|----------------|----------------|---------|---------|------|
| 9214 | 90.68 | 324.25 | 8229.31 | 794.67 | 1158.56 | 201.01 | 1770506.39 | 441122.69 | 39°42'32.332"N | 80°12'13.602"W | 1175.87 | 9.843 | 0.61 |
| 9277 | 91.23 | 326.89 | 8228.26 | 857.56 | 1210.51 | 165.39 | 1770470.78 | 441174.64 | 39°42'32.843"N | 80°12'14.063"W | 1221.76 | 7.78 | 4.28 |
| 9341 | 90.68 | 327.15 | 8227.19 | 921.33 | 1264.19 | 130.56 | 1770435.95 | 441228.32 | 39°42'33.371"N | 80°12'14.514"W | 1270.92 | 5.896 | 0.95 |
| 9403 | 90.68 | 325.11 | 8226.46 | 983.19 | 1315.67 | 96.01 | 1770401.41 | 441279.79 | 39°42'33.877"N | 80°12'14.961"W | 1319.16 | 4.174 | 3.29 |
| 9467 | 90.65 | 321.38 | 8225.72 | 1047.17 | 1366.93 | 57.72 | 1770363.12 | 441331.05 | 39°42'34.380"N | 80°12'15.456"W | 1368.15 | 2.418 | 5.83 |
| 9530 | 90.25 | 317.51 | 8225.22 | 1110.07 | 1414.79 | 16.77 | 1770322.17 | 441378.9 | 39°42'34.850"N | 80°12'15.985"W | 1414.88 | 0.679 | 6.18 |
| 9594 | 90.89 | 317.5 | 8224.58 | 1173.84 | 1461.97 | -26.46 | 1770278.94 | 441426.08 | 39°42'35.313"N | 80°12'16.543"W | 1462.21 | 358.963 | 1 |
| 9657 | 90.83 | 320.46 | 8223.64 | 1236.72 | 1509.49 | -67.8 | 1770237.61 | 441473.6 | 39°42'35.780"N | 80°12'17.077"W | 1511.02 | 357.428 | 4.7 |
| 9720 | 90.62 | 322.6 | 8222.84 | 1299.7 | 1558.81 | -106.99 | 1770198.42 | 441522.32 | 39°42'36.264"N | 80°12'17.583"W | 1562.48 | 356.074 | 3.41 |
| 9783 | 90.49 | 322.82 | 8222.23 | 1362.7 | 1608.93 | -145.15 | 1770160.26 | 441573.03 | 39°42'36.756"N | 80°12'18.077"W | 1615.47 | 354.845 | 0.41 |
| 9846 | 90.49 | 323.45 | 8221.69 | 1425.69 | 1659.33 | -182.95 | 1770122.46 | 441623.43 | 39°42'37.251"N | 80°12'18.565"W | 1669.39 | 353.708 | 1 |
| 9909 | 90.37 | 324.97 | 8221.22 | 1488.65 | 1710.43 | -219.79 | 1770085.63 | 441674.53 | 39°42'37.754"N | 80°12'19.047"W | 1724.5 | 352.678 | 2.42 |
| 9973 | 90.28 | 325.02 | 8220.86 | 1552.58 | 1762.85 | -256.5 | 1770048.92 | 441726.95 | 39°42'38.269"N | 80°12'19.512"W | 1781.42 | 351.721 | 0.16 |
| 10036 | 90.49 | 323.46 | 8220.43 | 1615.55 | 1813.97 | -293.31 | 1770012.1 | 441778.06 | 39°42'38.771"N | 80°12'19.993"W | 1837.54 | 350.815 | 2.5 |
| 10100 | 90.37 | 322.13 | 8219.95 | 1679.53 | 1865.55 | -331.21 | 1769974.21 | 441829.63 | 39°42'39.278"N | 80°12'20.483"W | 1894.72 | 349.933 | 0.74 |
| 10163 | 90.37 | 323.92 | 8219.55 | 1742.52 | 1915.87 | -369.1 | 1769936.32 | 441879.96 | 39°42'39.772"N | 80°12'20.973"W | 1951.1 | 349.095 | 2.84 |
| 10227 | 90.52 | 319.82 | 8219.05 | 1806.49 | 1965.59 | -409.4 | 1769896.03 | 441929.67 | 39°42'40.260"N | 80°12'21.494"W | 2007.77 | 348.235 | 3.62 |
| 10290 | 90.46 | 319.66 | 8218.51 | 1869.43 | 2013.66 | -450.11 | 1769855.32 | 441977.74 | 39°42'40.732"N | 80°12'22.019"W | 2063.36 | 347.4 | 0.27 |
| 10352 | 90.49 | 323.93 | 8218 | 1931.41 | 2062.37 | -488.44 | 1769816.99 | 442026.45 | 39°42'41.211"N | 80°12'22.515"W | 2119.42 | 346.676 | 6.89 |
| 10415 | 90.77 | 327.4 | 8217.3 | 1994.29 | 2114.38 | -523.97 | 1769781.46 | 442078.45 | 39°42'41.722"N | 80°12'22.975"W | 2178.34 | 346.082 | 5.53 |
| 10479 | 90.8 | 328.07 | 8216.43 | 2058 | 2168.49 | -558.13 | 1769747.3 | 442132.56 | 39°42'42.254"N | 80°12'23.417"W | 2239.17 | 345.566 | 1.05 |
| 10541 | 90.62 | 328.6 | 8215.66 | 2119.66 | 2221.26 | -590.68 | 1769714.76 | 442185.33 | 39°42'42.773"N | 80°12'23.839"W | 2298.45 | 345.109 | 0.9 |
| 10604 | 90.55 | 324.97 | 8215.01 | 2182.46 | 2273.95 | -625.18 | 1769680.26 | 442238.02 | 39°42'43.291"N | 80°12'24.286"W | 2358.33 | 344.627 | 5.76 |
| 10667 | 90.58 | 321.38 | 8214.39 | 2245.44 | 2324.37 | -662.93 | 1769642.51 | 442288.43 | 39°42'43.786"N | 80°12'24.774"W | 2417.06 | 344.081 | 5.7 |
| 10730 | 90.62 | 320.29 | 8213.73 | 2308.41 | 2373.22 | -702.72 | 1769602.94 | 442337.27 | 39°42'44.266"N | 80°12'25.288"W | 2475.07 | 343.506 | 1.73 |
| 10793 | 90.65 | 320.29 | 8212.31 | 2435.36 | 2471.68 | -782.5 | 1769562.94 | 442386.11 | 39°42'44.746"N | 80°12'25.802"W | 2533.31 | 342.957 | 1.73 |
| 10857 | 90.46 | 319.49 | 8211.69 | 2499.29 | 2520.62 | -824.15 | 1769522.53 | 442435.73 | 39°42'45.233"N | 80°12'26.324"W | 2592.71 | 342.424 | 1.7 |
| 10921 | 90.46 | 319.49 | 8211.37 | 2624.22 | 2617.15 | -903.55 | 1769481.3 | 442484.67 | 39°42'45.713"N | 80°12'26.856"W | 2651.93 | 341.894 | 1.28 |
| 10984 | 90 | 321.68 | 8211.16 | 2689.08 | 2665.94 | -946.49 | 1769441.31 | 442533.33 | 39°42'46.191"N | 80°12'27.373"W | 2710.72 | 341.41 | 3.55 |
| 11046 | 90.12 | 319.4 | 8211.37 | 2724.22 | 2617.15 | -903.55 | 1769401.91 | 442581.2 | 39°42'46.661"N | 80°12'27.882"W | 2768.73 | 340.953 | 3.68 |
| 11111 | 90.25 | 317.89 | 8211.16 | 2689.08 | 2665.94 | -946.49 | 1769358.96 | 442629.98 | 39°42'47.140"N | 80°12'28.437"W | 2828.97 | 340.454 | 2.33 |
| 11173 | 90 | 318.22 | 8211.03 | 2750.91 | 2712.06 | -987.93 | 1769317.53 | 442676.09 | 39°42'47.592"N | 80°12'28.972"W | 2886.39 | 339.985 | 0.67 |
| 11237 | 90.43 | 318.11 | 8210.79 | 2814.74 | 2759.74 | -1030.62 | 1769274.84 | 442723.77 | 39°42'48.060"N | 80°12'29.523"W | 2945.9 | 339.522 | 0.69 |
| 11300 | 90.37 | 318.43 | 8210.35 | 2877.57 | 2806.76 | -1072.55 | 1769232.91 | 442770.79 | 39°42'48.522"N | 80°12'30.064"W | 3004.71 | 339.086 | 0.52 |
| 11363 | 90.25 | 317.37 | 8210.35 | 2940.38 | 2853.5 | -1114.79 | 1769190.68 | 442821.53 | 39°42'48.980"N | 80°12'30.609"W | 3063.53 | 338.661 | 1.69 |
| 11426 | 90.25 | 317.63 | 8209.73 | 3003.16 | 2899.95 | -1157.35 | 1769148.12 | 442863.97 | 39°42'49.436"N | 80°12'31.158"W | 3122.36 | 338.243 | 0.41 |
| 11489 | 90.43 | 321.37 | 8209.36 | 3066.06 | 2947.84 | -1198.26 | 1769107.21 | 442911.87 | 39°42'49.906"N | 80°12'31.687"W | 3182.08 | 337.879 | 5.94 |
| 11552 | 90.37 | 322.79 | 8208.92 | 3129.06 | 2997.54 | -1236.97 | 1769068.5 | 442961.56 | 39°42'50.394"N | 80°12'32.187"W | 3242.74 | 337.576 | 2.26 |
| 11615 | 90.55 | 323.19 | 8208.41 | 3192.05 | 3047.85 | -1274.9 | 1769030.58 | 443011.86 | 39°42'50.888"N | 80°12'32.677"W | 3303.74 | 337.301 | 0.7 |
| 11678 | 90.58 | 323.11 | 8207.79 | 3255.05 | 3098.26 | -1312.68 | 1768992.8 | 443062.27 | 39°42'51.384"N | 80°12'33.166"W | 3364.86 | 337.038 | 0.14 |
| 11741 | 90.43 | 323.17 | 8207.23 | 3318.04 | 3148.66 | -1350.47 | 1768955.01 | 443112.67 | 39°42'51.879"N | 80°12'33.655"W | 3426.05 | 336.785 | 0.26 |
| 11804 | 90.52 | 323.66 | 8206.71 | 3381.02 | 3198.25 | -1388.01 | 1768917.47 | 443163.25 | 39°42'52.376"N | 80°12'34.140"W | 3487.57 | 336.546 | 0.79 |
| 11867 | 90.46 | 323.45 | 8206.17 | 3444.01 | 3249.92 | -1425.44 | 1768880.03 | 443213.93 | 39°42'52.874"N | 80°12'34.624"W | 3548.78 | 336.317 | 0.35 |
| 11931 | 90.4 | 325.86 | 8205.69 | 3507.95 | 3302.12 | -1462.46 | 1768843.03 | 443266.12 | 39°42'53.387"N | 80°12'35.103"W | 3611.48 | 336.112 | 3.77 |
| 11994 | 90.31 | 326.43 | 8205.3 | 3570.81 | 3354.44 | -1497.55 | 1768807.94 | 443318.44 | 39°42'53.901"N | 80°12'35.588"W | 3673.54 | 335.948 | 0.92 |
| 12057 | 90.06 | 326.42 | 8205.1 | 3633.65 | 3406.93 | -1532.39 | 1768773.1 | 443370.92 | 39°42'54.417"N | 80°12'36.009"W | 3735.69 | 335.782 | 0.4 |
| 12119 | 90.12 | 323.88 | 8205 | 3695.57 | 3457.8 | -1567.82 | 1768737.67 | 443421.88 | 39°42'54.917"N | 80°12'36.467"W | 3796.64 | 335.61 | 4.1 |
| 12182 | 90.67 | 323.15 | 8204.59 | 3758.56 | 3508.46 | -1605.28 | 1768700.22 | 443472.44 | 39°42'55.415"N | 80°12'36.952"W | 3858.26 | 335.414 | 1.4 |
| 12245 | 90.72 | 323.35 | 8203.83 | 3821.55 | 3558.93 | -1642.97 | 1768662.53 | 443522.92 | 39°42'55.911"N | 80°12'37.439"W | 3919.86 | 335.22 | 0.4 |
| 12307 | 90.46 | 321.86 | 8203.16 | 3883.54 | 3608.18 | -1680.62 | 1768624.88 | 443572.17 | 39°42'56.394"N | 80°12'37.926"W | 3980.39 | 335.025 | 2.45 |
| 12370 | 90.65 | 319.56 | 8202.55 | 3946.51 | 3656.94 | -1720.51 | 1768584.99 | 443620.92 | 39°42'56.873"N | 80°12'38.441"W | 4041.45 | 334.804 | 3.66 |
| 12433 | 90.58 | 320.11 | 8201.88 | 4009.44 | 3705.08 | -1761.14 | 1768544.36 | 443669.05 | 39°42'57.346"N | 80°12'38.966"W | 4102.34 | 334.577 | 0.88 |

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|-------|-------|--------|---------|-----------|------------|----------|------------|-----------|-------------------------------|
| 12496 | 90.86 | 320.08 | 8201.09 | 4072.39 | 3753.4 | -1801.56 | 1768503.95 | 443717.38 | 39°42'57.820"N 80°12'39.488"W |
| 12559 | 90.31 | 321.07 | 8200.44 | 4135.35 | 3802.06 | -1841.56 | 1768463.95 | 443766.03 | 39°42'58.298"N 80°12'40.005"W |
| 12622 | 90.25 | 320.84 | 8200.14 | 4198.33 | 3850.99 | -1881.25 | 1768424.27 | 443814.96 | 39°42'58.778"N 80°12'40.518"W |
| 12685 | 89.38 | 317.48 | 8200.34 | 4261.23 | 3898.65 | -1922.44 | 1768383.08 | 443862.61 | 39°42'59.246"N 80°12'41.050"W |
| 12748 | 89.38 | 317.11 | 8201.02 | 4323.98 | 3944.94 | -1965.16 | 1768340.35 | 443908.9 | 39°42'59.700"N 80°12'41.601"W |
| 12812 | 89.51 | 317.57 | 8201.64 | 4387.73 | 3992 | -2008.53 | 1768296.99 | 443955.96 | 39°43'00.162"N 80°12'42.161"W |
| 12875 | 89.66 | 317.99 | 8202.1 | 4450.52 | 4038.66 | -2050.87 | 1768254.66 | 444002.61 | 39°43'00.619"N 80°12'42.707"W |
| 12938 | 89.69 | 321.26 | 8202.45 | 4513.44 | 4086.64 | -2091.67 | 1768213.86 | 444050.6 | 39°43'01.091"N 80°12'43.234"W |
| 13001 | 89.75 | 323.02 | 8202.76 | 4576.44 | 4136.38 | -2130.33 | 1768175.2 | 444100.33 | 39°43'01.579"N 80°12'43.734"W |
| 13063 | 90.15 | 323.33 | 8202.82 | 4638.43 | 4186.01 | -2167.49 | 1768138.04 | 444149.96 | 39°43'02.067"N 80°12'44.215"W |
| 13127 | 90.18 | 324.12 | 8202.63 | 4702.41 | 4237.6 | -2205.36 | 1768100.17 | 444211.55 | 39°43'02.573"N 80°12'44.704"W |
| 13190 | 90.34 | 326.29 | 8202.35 | 4765.33 | 4289.34 | -2241.31 | 1768064.23 | 444253.28 | 39°43'03.082"N 80°12'45.170"W |
| 13253 | 90.34 | 327.45 | 8201.97 | 4828.13 | 4342.09 | -2275.74 | 1768029.8 | 444306.03 | 39°43'03.601"N 80°12'45.616"W |
| 13316 | 90.62 | 327.73 | 8201.44 | 4890.87 | 4395.28 | -2309.5 | 1767996.04 | 444359.21 | 39°43'04.124"N 80°12'46.053"W |
| 13380 | 90.65 | 327.52 | 8200.73 | 4954.6 | 4449.33 | -2343.77 | 1767961.77 | 444413.26 | 39°43'04.655"N 80°12'46.497"W |
| 13442 | 90.15 | 326.38 | 8200.3 | 5016.39 | 4501.29 | -2377.58 | 1767927.96 | 444465.22 | 39°43'05.166"N 80°12'46.935"W |
| 13506 | 90.28 | 326.09 | 8200.06 | 5080.25 | 4554.5 | -2413.15 | 1767892.39 | 444518.42 | 39°43'05.689"N 80°12'47.396"W |
| 13568 | 90.31 | 325.66 | 8199.74 | 5142.13 | 4605.82 | -2447.93 | 1767857.61 | 444569.74 | 39°43'06.193"N 80°12'47.846"W |
| 13631 | 90.25 | 324.54 | 8199.43 | 5205.06 | 4657.49 | -2483.98 | 1767821.57 | 444621.41 | 39°43'06.701"N 80°12'48.312"W |
| 13695 | 90.4 | 323.23 | 8199.07 | 5269.03 | 4709.19 | -2521.7 | 1767783.85 | 444673.1 | 39°43'07.209"N 80°12'48.800"W |
| 13759 | 89.94 | 323.74 | 8198.88 | 5333.02 | 4760.62 | -2559.78 | 1767745.77 | 444724.54 | 39°43'07.714"N 80°12'49.293"W |
| 13822 | 90.28 | 325.63 | 8198.76 | 5395.96 | 4812.03 | -2596.2 | 1767709.36 | 444775.94 | 39°43'08.220"N 80°12'49.764"W |
| 13885 | 90.18 | 327.83 | 8198.51 | 5458.78 | 4864.7 | -2630.76 | 1767674.8 | 444828.61 | 39°43'08.737"N 80°12'50.212"W |
| 13948 | 89.72 | 326.65 | 8198.56 | 5521.55 | 4917.68 | -2664.85 | 1767640.71 | 444881.58 | 39°43'09.258"N 80°12'50.653"W |
| 14012 | 90 | 327.02 | 8198.72 | 5585.35 | 4971.25 | -2699.86 | 1767605.71 | 444935.15 | 39°43'09.785"N 80°12'51.107"W |
| 14075 | 89.91 | 325.74 | 8198.77 | 5648.19 | 5023.71 | -2734.74 | 1767570.83 | 444987.61 | 39°43'10.301"N 80°12'51.559"W |
| 14138 | 89.75 | 327.5 | 8198.96 | 5711.02 | 5076.32 | -2769.4 | 1767536.17 | 445040.21 | 39°43'10.818"N 80°12'52.007"W |
| 14265 | 89.17 | 329.45 | 8200.34 | 5837.27 | 5184.59 | -2835.74 | 1767502.28 | 445094.49 | 39°43'11.352"N 80°12'52.447"W |
| 14329 | 90.06 | 329.42 | 8200.77 | 5900.78 | 5239.7 | -2868.29 | 1767437.29 | 445203.58 | 39°43'12.425"N 80°12'53.290"W |
| 14392 | 90.34 | 330.46 | 8200.55 | 5963.23 | 5294.23 | -2899.84 | 1767469.83 | 445148.48 | 39°43'11.883"N 80°12'52.868"W |
| 14456 | 90.31 | 331.75 | 8200.19 | 6026.49 | 5350.26 | -2930.77 | 1767405.73 | 445258.11 | 39°43'12.961"N 80°12'53.699"W |
| 14519 | 89.51 | 329.75 | 8200.28 | 6088.81 | 5405.22 | -2961.55 | 1767347.81 | 445314.13 | 39°43'13.512"N 80°12'54.100"W |
| 14582 | 90 | 329.6 | 8200.55 | 6151.29 | 5459.6 | -2993.36 | 1767312.22 | 445423.47 | 39°43'14.588"N 80°12'54.500"W |
| 14645 | 89.88 | 327.84 | 8200.62 | 6213.9 | 5513.44 | -3026.07 | 1767279.52 | 445477.31 | 39°43'15.117"N 80°12'55.337"W |
| 14694 | 90 | 326.99 | 8200.67 | 6262.71 | 5554.73 | -3052.45 | 1767253.13 | 445518.59 | 39°43'15.523"N 80°12'55.679"W |
| 14719 | 90 | 326.99 | 8200.67 | 6287.63 | 5575.69 | -3066.07 | 1767239.51 | 445539.55 | 39°43'15.730"N 80°12'55.855"W |

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T A R G E T S

| Name | MD | TVD | North | East | Grid East | Grid North | Latitude | Longitude | Shape | Comment |
|------------------------------|----|-----|-------|---------|-----------|------------|----------|-------------------------------|-------|---------|
| Coastal 13H Inflection Point | | | 8210 | 4489.77 | -2360.54 | 1767945 | 444453.7 | 39°43'05.053"N 80°12'46.716"W | point | |
| Coastal 13H LP Rev-1 | | | 8210 | 858.55 | 439.83 | 1770745.2 | 440822.7 | 39°42'29.386"N 80°12'10.517"W | point | |
| Coastal 13H PBHL Rev-1 | | | 8210 | 5557.24 | -3093.89 | 1767211.7 | 445521.1 | 39°43'15.545"N 80°12'56.209"W | point | |

WELLPATH COMPOSITION Ref Wellbore: Coastal 13H AWB Ref Wellpath: Coastal 13H AWP Proj: 14719'
Log Name/Comment Start MD End MD Pos Unc Model

| MD | TVD | North | East | Grid East | Grid North | Latitude | Longitude | Shape | Comment |
|-------|-------|--|------|-----------|------------|----------|-----------|-------|---------|
| 18 | 6293 | Generic gyro - northseeking (Standard) | | | | | | | |
| 6293 | 14694 | Mavitrak (AT Curve Short Spaced) | | | | | | | |
| 14694 | 14719 | Blind Drilling (std) | | | | | | | |

61-01688

COMMENTS

Wellpath general comments

APT: 47-051-01688-0000

RIG: Pioneer 63

BH: Job #: 6977669

Duration: 03/05/2015 - 03/12/2015

VES Gyro 100'-6285'

BH ATC <8-1/2> (6293') (6434'-14694')"

Projected MD at TD: 14719'

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10/30/2015

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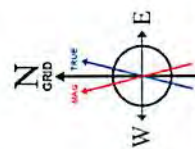
NORTHEAST NATURAL ENERGY, LLC

Location: Monongalia County, WV
 Field: Monongalia
 Facility: Coastal Pad
 Slot: Slot 13
 Well: Coastal 13H
 Wellbore: Coastal 13H PWB

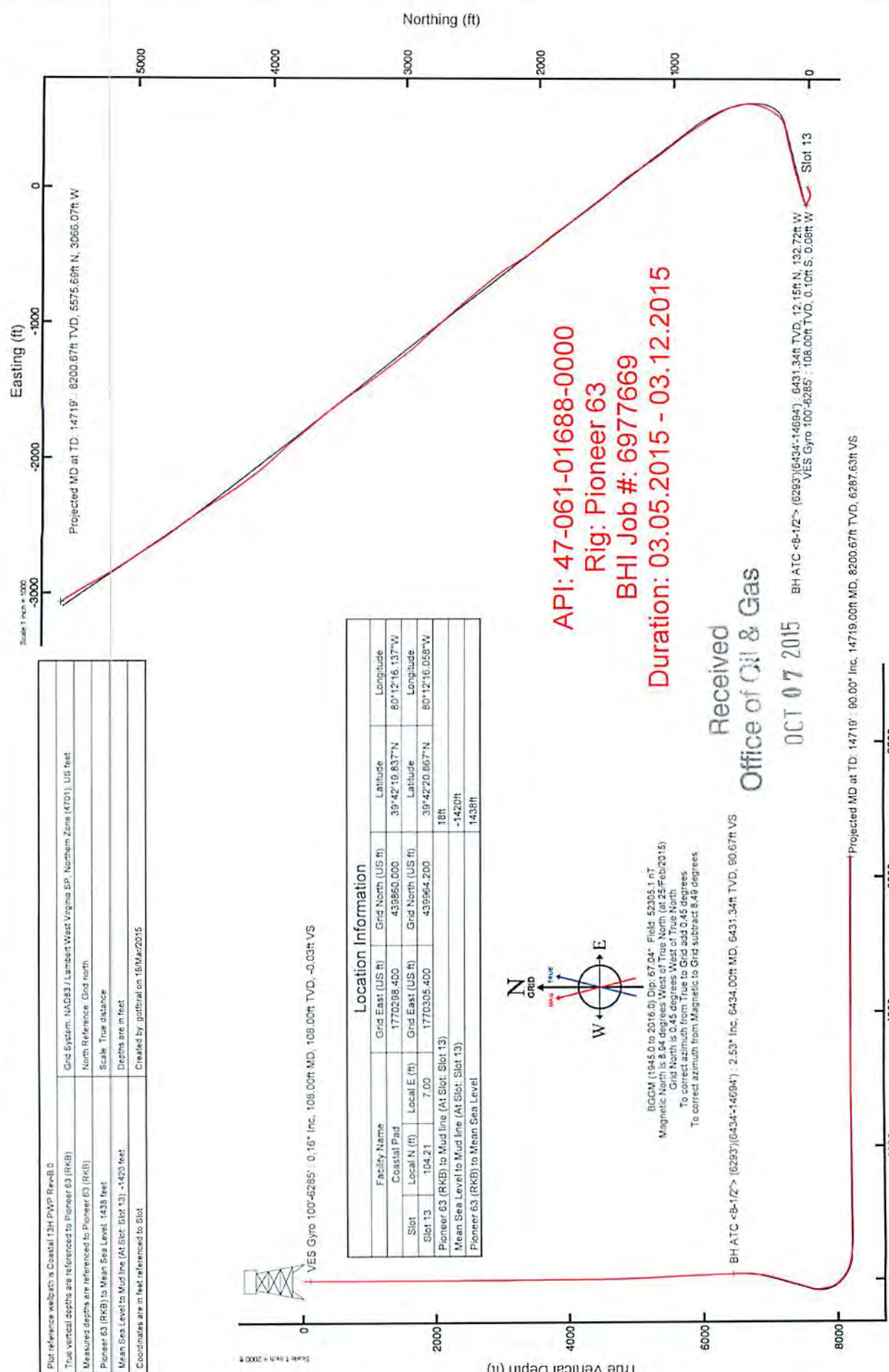


| |
|---|
| Plot reference wellbore is Coastal 13H PWB Rev-B-0 |
| True vertical depths are referenced to Pioneer 63 (RKB) |
| Measured depths are referenced to Pioneer 63 (RKB) |
| Pioneer 63 (RKB) to Mean Sea Level: 1438 feet |
| Scale: True distance |
| Mean Sea Level to Mud line (At Slot: Slot 13): -1420 feet |
| Coordinates are in feet referenced to Slot |
| Created by: gottlieb on 15/Mar/2015 |

| Location Information | | | |
|---|-------------|--------------------|----------------|
| Facility Name | Coastal Pad | Grid East (US ft) | 1770298.400 |
| Grid North (US ft) | 1770305.400 | Grid North (US ft) | 439860.000 |
| Local N (ft) | 104.21 | Local E (ft) | 7.00 |
| Slot | Slot 13 | Grid North (US ft) | 39°42'10.837"N |
| Slot 13 | 104.21 | Grid North (US ft) | 80°12'16.137"W |
| Pioneer 63 (RKB) to Mud line (At Slot: Slot 13) | 18ft | Latitude | 39°42'20.867"N |
| Mean Sea Level to Mud line (At Slot: Slot 13) | -1420ft | Longitude | 80°12'16.058"W |
| Pioneer 63 (RKB) to Mean Sea Level | 1438ft | | |



BGM (1945.0 to 2016.0) Dip: 67.04° Field: 5205.1 AT
 Magnetic North is 8.44 degrees West of True North (at 25/Feb/2015)
 Grid North is 0.45 degrees West of True North
 To correct azimuth from True to Grid add 0.45 degrees
 To correct azimuth from Magnetic to Grid subtract 8.49 degrees



API: 47-061-01688-0000
 Rig: Pioneer 63
 BHI Job #: 6977669
 Duration: 03.05.2015 - 03.12.2015

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