

12/28/2018



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WV Department of
Environmental Protection



EP Bell 507
Lincoln County, WV
Noah Horn 294 Rig

October 23, 2018

Survey Certification Report

12/28/2018



Survey Certification Letter

October 23, 2018

HG Energy

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WV Department of
Environmental Protection

Operator Name: HG Energy
Well Name: EP Bell 507
County/Parish: Lincoln County
State: WV
Rig Name: Noah Horn 294
Job Number: LWW3112418

This is to certify the surveys performed on the referenced well by Professional Directional Ent., Inc. are true and correct MWD Surveys, data provided as follows:

| Surveyor | Surveyed Depths | Projection to Bit | Dates Performed | Type of Survey |
|----------------|-------------------|-------------------|---------------------|----------------|
| ProDirectional | 592'MD – 2,722'MD | 2,787'MD | 10/15/18 – 10/18/18 | MWD-OWSG |

Sincerely,

John Jordan
Well Planning Analyst
Professional Directional

850 Conroe Park West Drive | Conroe, TX 77303 | Phone: 936.441.7266

prodirectional.com

HG Energy LLC

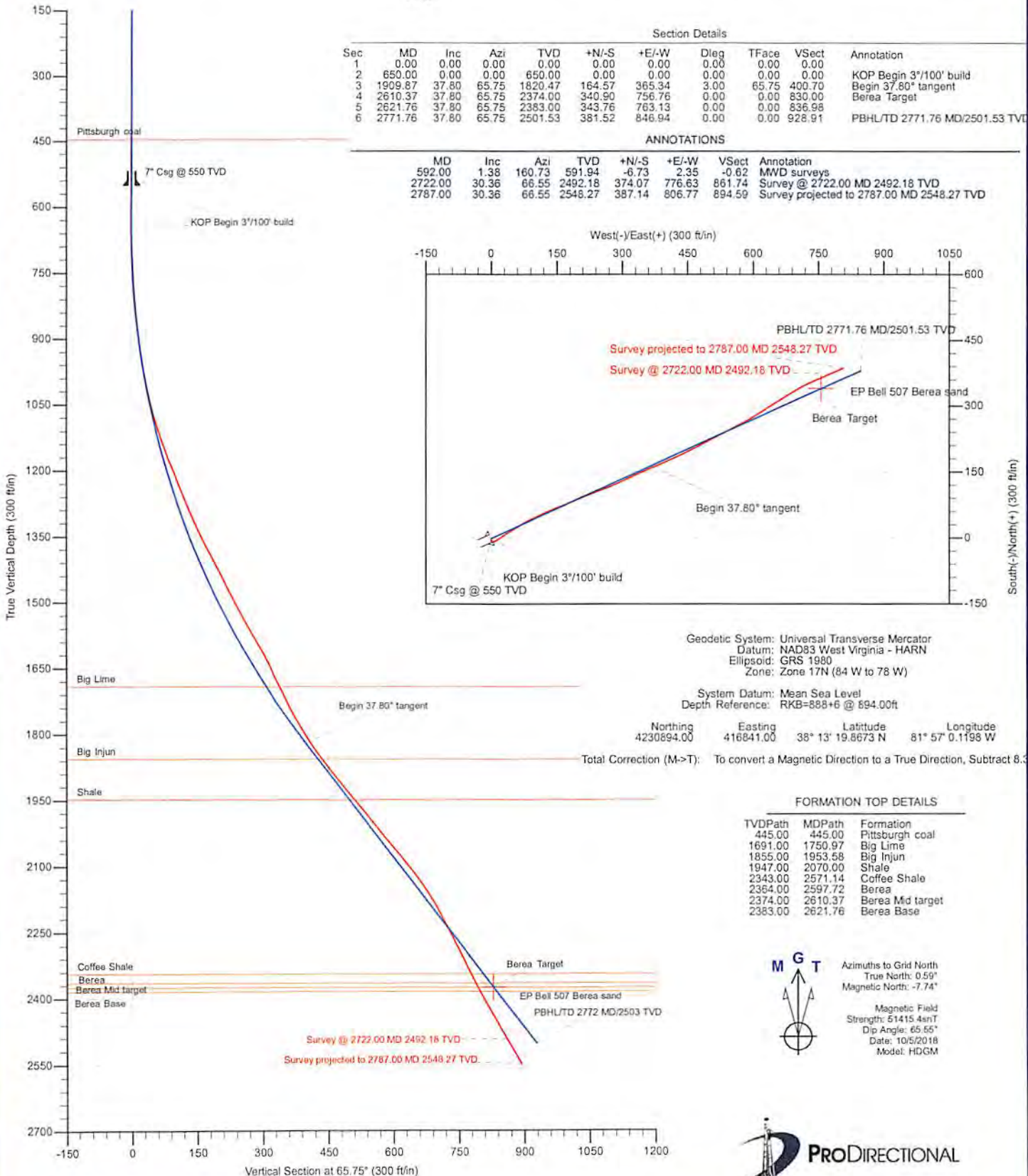
12/28/2018

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WV Department of
Environmental Protection

Well: EP Bell 507
Site: EP Bell
Project: Lincoln County, West Virginia UTM83
Design: plan2
Rig:





Survey Report

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WV Department of
Environmental Protection

| | | | |
|------------------|-------------------------------------|-------------------------------------|----------------------|
| Company: | HG Energy LLC | Local Co-ordinate Reference: | Well EP Bell 507 |
| Project: | Lincoln County, West Virginia UTM83 | TVD Reference: | RKB=888+6 @ 894.00ft |
| Site: | EP Bell | MD Reference: | RKB=888+6 @ 894.00ft |
| Well: | EP Bell 507 | North Reference: | Grid |
| Wellbore: | Original Hole | Survey Calculation Method: | Minimum Curvature |
| Design: | Surveys Original Hole | Database: | DB_Jul2216dt_v14 |

| | | | |
|--------------------|-------------------------------------|----------------------|----------------|
| Project | Lincoln County, West Virginia UTM83 | | |
| Map System: | Universal Transverse Mercator | System Datum: | Mean Sea Level |
| Geo Datum: | NAD83 West Virginia - HARN | | |
| Map Zone: | Zone 17N (84 W to 78 W) | | |

| | | | | | |
|------------------------------|---------|---------------------|----------------|--------------------------|-------------------|
| Site | EP Bell | | | | |
| Site Position: | | Northing: | 4,230,894.00 m | Latitude: | 38° 13' 19.8673 N |
| From: | Map | Easting: | 416,841.00 m | Longitude: | 81° 57' 0.1198 W |
| Position Uncertainty: | 0.00 ft | Slot Radius: | 13-3/16 " | Grid Convergence: | -0.59 ° |

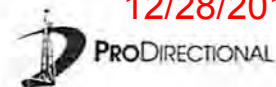
| | | | | | | |
|-----------------------------|--------------|---------|----------------------------|----------------|----------------------|-------------------|
| Well | EP Bell 507 | | | | | |
| Well Position | +N/-S | 0.00 ft | Northing: | 4,230,894.00 m | Latitude: | 38° 13' 19.8673 N |
| | +E/-W | 0.00 ft | Easting: | 416,841.00 m | Longitude: | 81° 57' 0.1198 W |
| Position Uncertainty | | 0.00 ft | Wellhead Elevation: | ft | Ground Level: | 888.00 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Original Hole | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | HDGM | 10/5/2018 | -8.33 | 65.55 | 51,415.40000000 |

| | | | | | |
|--------------------------|------------------------------|-------------------|-------------------|----------------------|------|
| Design | Surveys Original Hole | | | | |
| Audit Notes: | | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) | |
| | 0.00 | 0.00 | 0.00 | 65.75 | |

| | | | | | |
|-----------------------|----------------|----------------------------|------------------|---------------------|--|
| Survey Program | Date | 10/23/2018 | | | |
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description | |
| 592.00 | 2,722.00 | MWD (Original Hole) | MWD | OWSG MWD - Standard | |
| 2,787.00 | 2,787.00 | Projection (Original Hole) | MWD | OWSG MWD - Standard | |

| | | | | | | | | | | |
|----------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|------------------------------|--------------------------------|-------------------------------|------------------------------|--|
| Survey | | | | | | | | | | |
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 592.00 | 1.38 | 160.73 | 591.94 | -6.73 | 2.35 | -0.62 | 0.23 | 0.23 | 0.00 | |
| MWD surveys | | | | | | | | | | |
| 622.00 | 1.35 | 145.71 | 621.93 | -7.36 | 2.67 | -0.59 | 1.19 | -0.10 | -50.07 | |
| 652.00 | 1.25 | 111.90 | 651.93 | -7.78 | 3.17 | -0.30 | 2.54 | -0.33 | -112.70 | |
| 682.00 | 1.71 | 85.99 | 681.92 | -7.87 | 3.92 | 0.35 | 2.67 | 1.53 | -86.37 | |
| 712.00 | 2.62 | 72.83 | 711.90 | -7.63 | 5.03 | 1.45 | 3.44 | 3.03 | -43.87 | |
| 742.00 | 3.34 | 70.90 | 741.86 | -7.15 | 6.51 | 3.00 | 2.42 | 2.40 | -6.43 | |
| 772.00 | 3.76 | 69.80 | 771.80 | -6.52 | 8.26 | 4.85 | 1.42 | 1.40 | -3.67 | |
| 802.00 | 4.09 | 64.86 | 801.73 | -5.73 | 10.15 | 6.90 | 1.57 | 1.10 | -16.47 | |



Survey Report

Company: HG Energy LLC
 Project: Lincoln County, West Virginia UTM83
 Site: EP Bell
 Well: EP Bell 507
 Wellbore: Original Hole
 Design: Surveys Original Hole

Local Co-ordinate Reference: Well EP Bell 507
 TVD Reference: RKB=888+6 @ 894.00ft
 MD Reference: RKB=888+6 @ 894.00ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: DB_Jul2216dt_v14

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 WV Department of
 Environmental Protection

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|
| 832.00 | 4.92 | 56.73 | 831.63 | -4.57 | 12.19 | 9.24 | 3.48 | 2.77 | -27.10 |
| 862.00 | 6.15 | 54.66 | 861.49 | -2.93 | 14.58 | 12.09 | 4.15 | 4.10 | -6.90 |
| 892.00 | 7.25 | 55.27 | 891.29 | -0.92 | 17.44 | 15.53 | 3.67 | 3.67 | 2.03 |
| 922.00 | 7.88 | 55.74 | 921.03 | 1.31 | 20.70 | 19.41 | 2.11 | 2.10 | 1.57 |
| 952.00 | 8.93 | 55.47 | 950.70 | 3.79 | 24.32 | 23.73 | 3.50 | 3.50 | -0.90 |
| 982.00 | 10.75 | 56.13 | 980.26 | 6.67 | 28.56 | 28.78 | 6.08 | 6.07 | 2.20 |
| 1,012.00 | 12.71 | 57.36 | 1,009.63 | 10.01 | 33.66 | 34.80 | 6.59 | 6.53 | 4.10 |
| 1,042.00 | 14.38 | 58.23 | 1,038.80 | 13.75 | 39.61 | 41.76 | 5.61 | 5.57 | 2.90 |
| 1,072.00 | 15.63 | 58.65 | 1,067.78 | 17.82 | 46.23 | 49.47 | 4.18 | 4.17 | 1.40 |
| 1,102.00 | 17.23 | 58.57 | 1,096.55 | 22.24 | 53.47 | 57.89 | 5.33 | 5.33 | -0.27 |
| 1,132.00 | 18.86 | 59.27 | 1,125.07 | 27.03 | 61.43 | 67.11 | 5.48 | 5.43 | 2.33 |
| 1,162.00 | 20.45 | 60.05 | 1,153.32 | 32.13 | 70.14 | 77.15 | 5.37 | 5.30 | 2.60 |
| 1,192.00 | 21.83 | 61.73 | 1,181.30 | 37.38 | 79.59 | 87.93 | 5.02 | 4.60 | 5.60 |
| 1,222.00 | 22.80 | 64.22 | 1,209.06 | 42.55 | 89.74 | 99.30 | 4.51 | 3.23 | 8.30 |
| 1,252.00 | 22.34 | 65.33 | 1,236.76 | 47.46 | 100.16 | 110.81 | 2.09 | -1.53 | 3.70 |
| 1,282.00 | 22.25 | 65.06 | 1,264.52 | 52.24 | 110.49 | 122.19 | 0.45 | -0.30 | -0.90 |
| 1,312.00 | 23.06 | 65.66 | 1,292.20 | 57.05 | 120.99 | 133.75 | 2.81 | 2.70 | 2.00 |
| 1,342.00 | 24.80 | 66.64 | 1,319.62 | 61.97 | 132.12 | 145.92 | 5.95 | 5.80 | 3.27 |
| 1,372.00 | 26.47 | 67.31 | 1,346.67 | 67.04 | 144.07 | 158.89 | 5.65 | 5.57 | 2.23 |
| 1,402.00 | 27.24 | 68.02 | 1,373.43 | 72.19 | 156.60 | 172.44 | 2.78 | 2.57 | 2.37 |
| 1,432.00 | 27.78 | 68.37 | 1,400.04 | 77.34 | 169.47 | 186.28 | 1.88 | 1.80 | 1.17 |
| 1,462.00 | 27.42 | 68.22 | 1,426.63 | 82.48 | 182.38 | 200.16 | 1.22 | -1.20 | -0.50 |
| 1,492.00 | 26.64 | 67.28 | 1,453.35 | 87.64 | 195.00 | 213.79 | 2.96 | -2.60 | -3.13 |
| 1,522.00 | 26.34 | 67.43 | 1,480.20 | 92.79 | 207.35 | 227.17 | 1.02 | -1.00 | 0.50 |
| 1,552.00 | 27.22 | 68.07 | 1,506.98 | 97.91 | 219.86 | 240.67 | 3.09 | 2.93 | 2.13 |
| 1,582.00 | 28.75 | 68.64 | 1,533.47 | 103.10 | 232.95 | 254.74 | 5.18 | 5.10 | 1.90 |
| 1,612.00 | 30.08 | 69.28 | 1,559.61 | 108.39 | 246.70 | 269.45 | 4.56 | 4.43 | 2.13 |
| 1,642.00 | 31.01 | 69.09 | 1,585.44 | 113.81 | 260.95 | 284.67 | 3.12 | 3.10 | -0.63 |
| 1,672.00 | 29.72 | 67.90 | 1,611.33 | 119.36 | 275.06 | 299.81 | 4.74 | -4.30 | -3.97 |
| 1,702.00 | 26.16 | 65.87 | 1,637.83 | 124.87 | 287.99 | 313.86 | 12.28 | -11.87 | -6.77 |
| 1,732.00 | 25.58 | 64.88 | 1,664.82 | 130.32 | 299.89 | 326.95 | 2.41 | -1.93 | -3.30 |
| 1,762.00 | 25.78 | 65.14 | 1,691.86 | 135.81 | 311.67 | 339.95 | 0.77 | 0.67 | 0.87 |
| 1,792.00 | 26.91 | 65.64 | 1,718.74 | 141.35 | 323.77 | 353.26 | 3.84 | 3.77 | 1.67 |
| 1,822.00 | 28.23 | 66.07 | 1,745.33 | 147.03 | 336.44 | 367.15 | 4.45 | 4.40 | 1.43 |
| 1,852.00 | 30.10 | 66.77 | 1,771.53 | 152.88 | 349.84 | 381.76 | 6.34 | 6.23 | 2.33 |
| 1,882.00 | 32.16 | 67.11 | 1,797.21 | 158.95 | 364.11 | 397.27 | 6.89 | 6.87 | 1.13 |
| 1,912.00 | 34.25 | 67.04 | 1,822.31 | 165.35 | 379.24 | 413.69 | 6.97 | 6.97 | -0.23 |
| 1,942.00 | 36.38 | 66.51 | 1,846.79 | 172.19 | 395.18 | 431.03 | 7.17 | 7.10 | -1.77 |
| 1,972.00 | 37.39 | 65.58 | 1,870.78 | 179.50 | 411.63 | 449.04 | 3.85 | 3.37 | -3.10 |
| 2,002.00 | 38.30 | 65.05 | 1,894.47 | 187.19 | 428.36 | 467.44 | 3.22 | 3.03 | -1.77 |
| 2,032.00 | 39.31 | 64.51 | 1,917.85 | 195.20 | 445.36 | 486.24 | 3.55 | 3.37 | -1.80 |
| 2,062.00 | 40.48 | 63.96 | 1,940.87 | 203.57 | 462.69 | 505.47 | 4.07 | 3.90 | -1.83 |
| 2,092.00 | 40.13 | 63.32 | 1,963.74 | 212.18 | 480.08 | 524.87 | 1.81 | -1.17 | -2.13 |



Survey Report

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WV Department of
Environmental Protection

Company: HG Energy LLC
Project: Lincoln County, West Virginia UTM83
Site: EP Bell
Well: EP Bell 507
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference: Well EP Bell 507
TVD Reference: RKB=888+6 @ 894.00ft
MD Reference: RKB=888+6 @ 894.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Jul2216dt_v14

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|
| 2,122.00 | 39.75 | 62.35 | 1,986.75 | 220.98 | 497.21 | 544.10 | 2.43 | -1.27 | -3.23 |
| 2,152.00 | 39.19 | 61.94 | 2,009.91 | 229.89 | 514.07 | 563.13 | 2.06 | -1.87 | -1.37 |
| 2,182.00 | 39.64 | 62.31 | 2,033.08 | 238.79 | 530.91 | 582.14 | 1.69 | 1.50 | 1.23 |
| 2,212.00 | 40.27 | 62.61 | 2,056.08 | 247.70 | 548.00 | 601.38 | 2.20 | 2.10 | 1.00 |
| 2,242.00 | 40.15 | 62.76 | 2,078.99 | 256.59 | 565.20 | 620.72 | 0.51 | -0.40 | 0.50 |
| 2,272.00 | 38.61 | 61.54 | 2,102.18 | 265.47 | 582.03 | 639.71 | 5.75 | -5.13 | -4.07 |
| 2,302.00 | 36.58 | 59.91 | 2,125.95 | 274.42 | 598.00 | 657.94 | 7.53 | -6.77 | -5.43 |
| 2,332.00 | 33.94 | 58.48 | 2,150.44 | 283.28 | 612.88 | 675.14 | 9.22 | -8.80 | -4.77 |
| 2,362.00 | 31.29 | 57.37 | 2,175.71 | 291.86 | 626.58 | 691.16 | 9.06 | -8.83 | -3.70 |
| 2,392.00 | 29.15 | 56.77 | 2,201.63 | 300.07 | 639.25 | 706.09 | 7.20 | -7.13 | -2.00 |
| 2,422.00 | 27.85 | 57.29 | 2,227.99 | 307.86 | 651.26 | 720.24 | 4.41 | -4.33 | 1.73 |
| 2,452.00 | 27.05 | 57.90 | 2,254.62 | 315.27 | 662.94 | 733.93 | 2.83 | -2.67 | 2.03 |
| 2,482.00 | 27.04 | 58.92 | 2,281.34 | 322.41 | 674.55 | 747.45 | 1.55 | -0.03 | 3.40 |
| 2,512.00 | 26.97 | 59.69 | 2,308.07 | 329.37 | 686.27 | 760.99 | 1.19 | -0.23 | 2.57 |
| 2,542.00 | 26.75 | 60.04 | 2,334.83 | 336.17 | 697.99 | 774.47 | 0.90 | -0.73 | 1.17 |
| 2,572.00 | 28.03 | 61.47 | 2,361.47 | 342.91 | 710.03 | 788.22 | 4.80 | 4.27 | 4.77 |
| 2,602.00 | 29.17 | 62.94 | 2,387.80 | 349.60 | 722.74 | 802.55 | 4.47 | 3.80 | 4.90 |
| 2,632.00 | 29.09 | 64.96 | 2,414.01 | 356.02 | 735.86 | 817.15 | 3.29 | -0.27 | 6.73 |
| 2,662.00 | 29.53 | 66.42 | 2,440.17 | 362.06 | 749.24 | 831.83 | 2.80 | 1.47 | 4.87 |
| 2,692.00 | 29.86 | 66.18 | 2,466.23 | 368.03 | 762.85 | 846.69 | 1.17 | 1.10 | -0.80 |
| 2,722.00 | 30.36 | 66.55 | 2,492.18 | 374.07 | 776.63 | 861.74 | 1.78 | 1.67 | 1.23 |
| Survey @ 2722.00 MD 2492.18 TVD | | | | | | | | | |
| 2,787.00 | 30.36 | 66.55 | 2,548.27 | 387.14 | 806.77 | 894.59 | 0.00 | 0.00 | 0.00 |
| Survey projected to 2787.00 MD 2548.27 TVD | | | | | | | | | |

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment |
|---------------------|---------------------|-------------------|------------|---------------------------------|
| | | +N/-S (ft) | +E/-W (ft) | |
| 592.00 | 591.94 | -6.73 | 2.35 | MWD surveys |
| 2,722.00 | 2,492.18 | 374.07 | 776.63 | Survey @ 2722.00 MD 2492.18 TVD |

Survey Report - Geographic



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WV Department of
Environmental Protection

| | | | |
|------------------|-------------------------------------|-------------------------------------|----------------------|
| Company: | HG Energy LLC | Local Co-ordinate Reference: | Well EP Bell 507 |
| Project: | Lincoln County, West Virginia UTM83 | TVD Reference: | RKB=888+6 @ 894.00ft |
| Site: | EP Bell | MD Reference: | RKB=888+6 @ 894.00ft |
| Well: | EP Bell 507 | North Reference: | Grid |
| Wellbore: | Original Hole | Survey Calculation Method: | Minimum Curvature |
| Design: | Surveys Original Hole | Database: | DB_Jul2216dt_v14 |

| | | | |
|--------------------|-------------------------------------|----------------------|----------------|
| Project | Lincoln County, West Virginia UTM83 | | |
| Map System: | Universal Transverse Mercator | System Datum: | Mean Sea Level |
| Geo Datum: | NAD83 West Virginia - HARN | | |
| Map Zone: | Zone 17N (84 W to 78 W) | | |

| | | | | | |
|------------------------------|---------|---------------------|----------------|--------------------------|-------------------|
| Site | EP Bell | | | | |
| Site Position: | | Northing: | 4,230,894.00 m | Latitude: | 38° 13' 19.8673 N |
| From: | Map | Easting: | 416,841.00 m | Longitude: | 81° 57' 0.1198 W |
| Position Uncertainty: | 0.00 ft | Slot Radius: | 13-3/16 " | Grid Convergence: | -0.59 ° |

| | | | | | | |
|-----------------------------|-------------|---------|----------------------------|----------------|----------------------|-------------------|
| Well | EP Bell 507 | | | | | |
| Well Position | +N/-S | 0.00 ft | Northing: | 4,230,894.00 m | Latitude: | 38° 13' 19.8673 N |
| | +E/-W | 0.00 ft | Easting: | 416,841.00 m | Longitude: | 81° 57' 0.1198 W |
| Position Uncertainty | | 0.00 ft | Wellhead Elevation: | ft | Ground Level: | 888.00 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Original Hole | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | HDGM | 10/5/2018 | -8.33 | 65.55 | 51,415.40000000 |

| | | | | | |
|--------------------------|------------------------------|-------------------|-------------------|----------------------|------|
| Design | Surveys Original Hole | | | | |
| Audit Notes: | | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) | |
| | 0.00 | 0.00 | 0.00 | 65.75 | |

| | | | | | |
|-----------------------|----------------|----------------------------|------------------|---------------------|--|
| Survey Program | Date | 10/23/2018 | | | |
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description | |
| 592.00 | 2,722.00 | MWD (Original Hole) | MWD | OWSG MWD - Standard | |
| 2,787.00 | 2,787.00 | Projection (Original Hole) | MWD | OWSG MWD - Standard | |

| | | | | | | | | | |
|----------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|-------------------------|------------------------|-------------------|-------------------|
| Survey | | | | | | | | | |
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (m) | Map Easting (m) | Latitude | Longitude |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4,230,894.00 | 416,841.00 | 38° 13' 19.8673 N | 81° 57' 0.1198 W |
| 592.00 | 1.38 | 160.73 | 591.94 | -6.73 | 2.35 | 4,230,891.95 | 416,841.72 | 38° 13' 19.8010 N | 81° 57' 0.0894 W |
| MWD surveys | | | | | | | | | |
| 622.00 | 1.35 | 145.71 | 621.93 | -7.36 | 2.67 | 4,230,891.76 | 416,841.81 | 38° 13' 19.7947 N | 81° 57' 0.0854 W |
| 652.00 | 1.25 | 111.90 | 651.93 | -7.78 | 3.17 | 4,230,891.63 | 416,841.97 | 38° 13' 19.7907 N | 81° 57' 0.0790 W |
| 682.00 | 1.71 | 85.99 | 681.92 | -7.87 | 3.92 | 4,230,891.61 | 416,842.20 | 38° 13' 19.7899 N | 81° 57' 0.0696 W |
| 712.00 | 2.62 | 72.83 | 711.90 | -7.63 | 5.03 | 4,230,891.68 | 416,842.53 | 38° 13' 19.7923 N | 81° 57' 0.0558 W |
| 742.00 | 3.34 | 70.90 | 741.86 | -7.15 | 6.51 | 4,230,891.83 | 416,842.98 | 38° 13' 19.7973 N | 81° 57' 0.0373 W |
| 772.00 | 3.76 | 69.80 | 771.80 | -6.52 | 8.26 | 4,230,892.02 | 416,843.52 | 38° 13' 19.8036 N | 81° 57' 0.0155 W |
| 802.00 | 4.09 | 64.86 | 801.73 | -5.73 | 10.15 | 4,230,892.26 | 416,844.09 | 38° 13' 19.8117 N | 81° 56' 59.9919 W |
| 832.00 | 4.92 | 56.73 | 831.63 | -4.57 | 12.19 | 4,230,892.61 | 416,844.72 | 38° 13' 19.8234 N | 81° 56' 59.9664 W |



Survey Report - Geographic

Company: HG Energy LLC
 Project: Lincoln County, West Virginia UTM83
 Site: EP Bell
 Well: EP Bell 507
 Wellbore: Original Hole
 Design: Surveys Original Hole

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:
 Database:

Well EP Bell 507
 RKB=888+6 @ 894.00ft
 RKB=888+6 @ 894.00ft
 Grid
 Minimum Curvature
 DB_Jul2216dt_v14

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 Office of Oil and Gas

DEC 10 2018

WV Department of
 Environmental Protection

Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (m) | Map Easting (m) | Latitude | Longitude |
|---------------------|-----------------|-------------|---------------------|------------|------------|------------------|-----------------|-------------------|-------------------|
| 882.00 | 6.15 | 54.88 | 861.49 | -2.93 | 14.58 | 4,230,893.11 | 416,845.44 | 38° 13' 19.8398 N | 81° 56' 59.9387 W |
| 882.00 | 7.25 | 55.27 | 891.29 | -0.92 | 17.44 | 4,230,893.72 | 416,846.32 | 38° 13' 19.8599 N | 81° 56' 59.9010 W |
| 922.00 | 7.88 | 55.74 | 921.03 | 1.31 | 20.70 | 4,230,894.41 | 416,847.31 | 38° 13' 19.8824 N | 81° 56' 59.8805 W |
| 952.00 | 8.93 | 55.47 | 950.70 | 3.79 | 24.32 | 4,230,895.16 | 416,848.41 | 38° 13' 19.9072 N | 81° 56' 59.8155 W |
| 982.00 | 10.75 | 56.13 | 980.26 | 8.67 | 28.58 | 4,230,896.04 | 416,849.70 | 38° 13' 19.9361 N | 81° 56' 59.7827 W |
| 1,012.00 | 12.71 | 57.36 | 1,009.63 | 10.01 | 33.66 | 4,230,897.06 | 416,851.28 | 38° 13' 19.9697 N | 81° 56' 59.6991 W |
| 1,042.00 | 14.38 | 58.23 | 1,038.60 | 13.75 | 39.61 | 4,230,898.20 | 416,853.07 | 38° 13' 20.0073 N | 81° 56' 59.6251 W |
| 1,072.00 | 15.63 | 58.85 | 1,067.78 | 17.82 | 46.23 | 4,230,899.44 | 416,855.09 | 38° 13' 20.0481 N | 81° 56' 59.5427 W |
| 1,102.00 | 17.23 | 58.57 | 1,096.55 | 22.24 | 53.47 | 4,230,900.78 | 416,857.30 | 38° 13' 20.0928 N | 81° 56' 59.4524 W |
| 1,132.00 | 18.88 | 59.27 | 1,125.07 | 27.03 | 61.43 | 4,230,902.24 | 416,859.72 | 38° 13' 20.1408 N | 81° 56' 59.3533 W |
| 1,162.00 | 20.45 | 60.05 | 1,153.32 | 32.13 | 70.14 | 4,230,903.80 | 416,862.38 | 38° 13' 20.1920 N | 81° 56' 59.2448 W |
| 1,192.00 | 21.83 | 61.73 | 1,181.30 | 37.38 | 78.59 | 4,230,905.40 | 416,865.26 | 38° 13' 20.2450 N | 81° 56' 59.1270 W |
| 1,222.00 | 22.80 | 64.22 | 1,209.06 | 42.55 | 89.74 | 4,230,906.98 | 416,868.35 | 38° 13' 20.2972 N | 81° 56' 59.0004 W |
| 1,252.00 | 22.34 | 65.33 | 1,238.76 | 47.46 | 100.16 | 4,230,908.47 | 416,871.53 | 38° 13' 20.3487 N | 81° 56' 58.8705 W |
| 1,282.00 | 22.25 | 65.06 | 1,264.52 | 52.24 | 110.49 | 4,230,909.93 | 416,874.68 | 38° 13' 20.3950 N | 81° 56' 58.7418 W |
| 1,312.00 | 23.08 | 65.66 | 1,282.20 | 57.05 | 120.99 | 4,230,911.39 | 416,877.88 | 38° 13' 20.4437 N | 81° 56' 58.6106 W |
| 1,342.00 | 24.80 | 66.84 | 1,319.62 | 61.97 | 132.12 | 4,230,912.89 | 416,881.27 | 38° 13' 20.4934 N | 81° 56' 58.4717 W |
| 1,372.00 | 28.47 | 67.31 | 1,348.67 | 87.04 | 144.07 | 4,230,914.44 | 418,884.91 | 38° 13' 20.5448 N | 81° 56' 58.3227 W |
| 1,402.00 | 27.24 | 68.02 | 1,373.43 | 72.19 | 156.60 | 4,230,916.01 | 418,886.73 | 38° 13' 20.5970 N | 81° 56' 58.1882 W |
| 1,432.00 | 27.78 | 68.37 | 1,400.04 | 77.34 | 169.47 | 4,230,917.56 | 418,892.65 | 38° 13' 20.6492 N | 81° 56' 58.0056 W |
| 1,462.00 | 27.42 | 68.22 | 1,426.63 | 62.46 | 182.38 | 4,230,919.14 | 418,898.59 | 38° 13' 20.7013 N | 81° 56' 57.8444 W |
| 1,492.00 | 28.64 | 67.28 | 1,453.35 | 67.64 | 195.00 | 4,230,920.72 | 418,900.44 | 38° 13' 20.7536 N | 81° 56' 57.6899 W |
| 1,522.00 | 28.34 | 67.43 | 1,480.20 | 92.79 | 207.35 | 4,230,922.29 | 418,904.20 | 38° 13' 20.8058 N | 81° 56' 57.5326 W |
| 1,552.00 | 27.22 | 68.07 | 1,506.98 | 97.91 | 219.86 | 4,230,923.85 | 418,908.01 | 38° 13' 20.8577 N | 81° 56' 57.3766 W |
| 1,582.00 | 28.75 | 68.64 | 1,533.47 | 103.10 | 232.95 | 4,230,925.43 | 418,912.00 | 38° 13' 20.9104 N | 81° 56' 57.2133 W |
| 1,612.00 | 30.08 | 69.28 | 1,559.81 | 108.39 | 246.70 | 4,230,927.04 | 418,916.19 | 38° 13' 20.9640 N | 81° 56' 57.0416 W |
| 1,642.00 | 31.01 | 69.09 | 1,585.44 | 113.61 | 260.95 | 4,230,928.69 | 418,920.54 | 38° 13' 21.0181 N | 81° 56' 56.8837 W |
| 1,672.00 | 29.72 | 67.60 | 1,611.33 | 119.36 | 275.08 | 4,230,930.39 | 418,924.84 | 38° 13' 21.0754 N | 81° 56' 56.6875 W |
| 1,702.00 | 28.18 | 65.87 | 1,637.83 | 124.87 | 287.89 | 4,230,932.08 | 418,928.78 | 38° 13' 21.1311 N | 81° 56' 56.5262 W |
| 1,732.00 | 25.58 | 64.88 | 1,664.82 | 130.32 | 299.69 | 4,230,933.73 | 418,932.40 | 38° 13' 21.1883 N | 81° 56' 56.3777 W |
| 1,762.00 | 25.76 | 65.14 | 1,691.86 | 135.81 | 311.67 | 4,230,935.40 | 418,936.00 | 38° 13' 21.2418 N | 81° 56' 56.2307 W |
| 1,792.00 | 28.91 | 65.64 | 1,718.74 | 141.35 | 323.77 | 4,230,937.09 | 418,939.69 | 38° 13' 21.2978 N | 81° 56' 56.0797 W |
| 1,822.00 | 28.23 | 66.07 | 1,745.33 | 147.03 | 336.44 | 4,230,938.82 | 418,943.55 | 38° 13' 21.3552 N | 81° 56' 55.9216 W |
| 1,852.00 | 30.10 | 66.77 | 1,771.53 | 152.66 | 349.84 | 4,230,940.60 | 418,947.83 | 38° 13' 21.4144 N | 81° 56' 55.7544 W |
| 1,882.00 | 32.18 | 67.11 | 1,797.21 | 158.95 | 364.11 | 4,230,942.45 | 418,951.98 | 38° 13' 21.4759 N | 81° 56' 55.5764 W |
| 1,912.00 | 34.25 | 67.04 | 1,822.31 | 165.35 | 379.24 | 4,230,944.40 | 418,956.59 | 38° 13' 21.5407 N | 81° 56' 55.3875 W |
| 1,942.00 | 38.38 | 66.51 | 1,846.79 | 172.19 | 395.18 | 4,230,946.49 | 418,961.45 | 38° 13' 21.6100 N | 81° 56' 55.1887 W |
| 1,972.00 | 37.39 | 65.58 | 1,870.78 | 179.50 | 411.63 | 4,230,948.72 | 418,966.47 | 38° 13' 21.6839 N | 81° 56' 54.9834 W |
| 2,002.00 | 38.30 | 65.05 | 1,894.47 | 187.19 | 428.36 | 4,230,951.06 | 418,971.56 | 38° 13' 21.7618 N | 81° 56' 54.7748 W |
| 2,032.00 | 39.31 | 64.51 | 1,917.85 | 195.20 | 445.36 | 4,230,953.50 | 418,976.75 | 38° 13' 21.8426 N | 81° 56' 54.5626 W |
| 2,062.00 | 40.48 | 63.86 | 1,940.87 | 203.57 | 462.69 | 4,230,956.05 | 418,982.03 | 38° 13' 21.9270 N | 81° 56' 54.3465 W |
| 2,092.00 | 40.13 | 63.32 | 1,963.74 | 212.18 | 480.08 | 4,230,958.68 | 418,987.33 | 38° 13' 22.0140 N | 81° 56' 54.1297 W |
| 2,122.00 | 39.75 | 62.35 | 1,986.75 | 220.98 | 497.21 | 4,230,961.38 | 418,992.55 | 38° 13' 22.1027 N | 81° 56' 53.9160 W |
| 2,152.00 | 39.19 | 61.94 | 2,009.91 | 229.89 | 514.07 | 4,230,964.07 | 418,997.89 | 38° 13' 22.1925 N | 81° 56' 53.7058 W |
| 2,182.00 | 39.64 | 62.31 | 2,033.08 | 238.79 | 530.91 | 4,230,966.79 | 417,002.82 | 38° 13' 22.2822 N | 81° 56' 53.4959 W |
| 2,212.00 | 40.27 | 62.61 | 2,056.08 | 247.70 | 548.00 | 4,230,969.50 | 417,008.03 | 38° 13' 22.3720 N | 81° 56' 53.2830 W |
| 2,242.00 | 40.15 | 62.76 | 2,078.99 | 256.59 | 565.20 | 4,230,972.21 | 417,013.27 | 38° 13' 22.4617 N | 81° 56' 53.0884 W |
| 2,272.00 | 38.61 | 61.54 | 2,102.18 | 265.47 | 582.03 | 4,230,974.92 | 417,018.40 | 38° 13' 22.5512 N | 81° 56' 52.8586 W |
| 2,302.00 | 38.58 | 59.91 | 2,125.95 | 274.42 | 598.00 | 4,230,977.65 | 417,023.27 | 38° 13' 22.6413 N | 81° 56' 52.6596 W |
| 2,332.00 | 33.94 | 58.48 | 2,150.44 | 283.28 | 612.88 | 4,230,980.35 | 417,027.80 | 38° 13' 22.7304 N | 81° 56' 52.4743 W |
| 2,362.00 | 31.29 | 57.37 | 2,175.71 | 291.66 | 626.58 | 4,230,982.96 | 417,031.98 | 38° 13' 22.8167 N | 81° 56' 52.3037 W |
| 2,392.00 | 29.15 | 56.77 | 2,201.63 | 300.07 | 639.25 | 4,230,985.46 | 417,035.84 | 38° 13' 22.8991 N | 81° 56' 52.1458 W |
| 2,422.00 | 27.85 | 57.29 | 2,227.99 | 307.86 | 651.26 | 4,230,987.84 | 417,039.50 | 38° 13' 22.9773 N | 81° 56' 51.9983 W |
| 2,452.00 | 27.05 | 57.90 | 2,254.62 | 315.27 | 662.94 | 4,230,990.10 | 417,043.06 | 38° 13' 23.0518 N | 81° 56' 51.8509 W |
| 2,482.00 | 27.04 | 58.92 | 2,281.34 | 322.41 | 674.55 | 4,230,992.28 | 417,046.60 | 38° 13' 23.1236 N | 81° 56' 51.7062 W |



Survey Report - Geographic

| | | | |
|------------------|-------------------------------------|-------------------------------------|----------------------|
| Company: | HG Energy LLC | Local Co-ordinate Reference: | Well EP Bell 507 |
| Project: | Lincoln County, West Virginia UTM83 | TVD Reference: | RKB=888+6 @ 894.00ft |
| Site: | EP Bell | MD Reference: | RKB=888+6 @ 894.00ft |
| Well: | EP Bell 507 | North Reference: | Grid |
| Wellbore: | Original Hole | Survey Calculation Method: | Minimum Curvature |
| Design: | Surveys Original Hole | Database: | DB_Jul2216dt_v14 |

| Survey | | | | | | | | | |
|---|-----------------|-------------|---------------------|------------|------------|------------------|-----------------|-------------------|-------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (m) | Map Easting (m) | Latitude | Longitude |
| 2,512.00 | 26.97 | 59.69 | 2,308.07 | 329.37 | 686.27 | 4,230,994.40 | 417,050.17 | 38° 13' 23.1936 N | 81° 56' 51.5603 W |
| 2,542.00 | 26.75 | 60.04 | 2,334.83 | 336.17 | 697.99 | 4,230,996.47 | 417,053.75 | 38° 13' 23.2620 N | 81° 56' 51.4142 W |
| 2,572.00 | 28.03 | 61.47 | 2,361.47 | 342.91 | 710.03 | 4,230,998.52 | 417,057.42 | 38° 13' 23.3299 N | 81° 56' 51.2642 W |
| 2,602.00 | 29.17 | 62.94 | 2,387.80 | 349.60 | 722.74 | 4,231,000.56 | 417,061.29 | 38° 13' 23.3974 N | 81° 56' 51.1058 W |
| 2,632.00 | 29.09 | 64.96 | 2,414.01 | 356.02 | 735.86 | 4,231,002.52 | 417,065.29 | 38° 13' 23.4621 N | 81° 56' 50.9422 W |
| 2,662.00 | 29.53 | 66.42 | 2,440.17 | 362.06 | 749.24 | 4,231,004.36 | 417,069.37 | 38° 13' 23.5232 N | 81° 56' 50.7752 W |
| 2,692.00 | 29.86 | 66.18 | 2,466.23 | 368.03 | 762.85 | 4,231,006.18 | 417,073.52 | 38° 13' 23.5837 N | 81° 56' 50.6054 W |
| 2,722.00 | 30.36 | 66.55 | 2,492.18 | 374.07 | 776.63 | 4,231,008.02 | 417,077.72 | 38° 13' 23.6447 N | 81° 56' 50.4334 W |
| Survey @ 2722.00 MD 2492.18 TVD | | | | | | | | | |
| 2,787.00 | 30.36 | 66.55 | 2,548.27 | 387.14 | 806.77 | 4,231,012.01 | 417,086.90 | 38° 13' 23.7770 N | 81° 56' 50.0573 W |
| Survey projected to 2787.00 MD 2548.27 TVD | | | | | | | | | |

| Design Annotations | | | | |
|---------------------|---------------------|-------------------|------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment |
| | | +N/-S (ft) | +E/-W (ft) | |
| 592.00 | 591.94 | -6.73 | 2.35 | MWD surveys |
| 2,722.00 | 2,492.18 | 374.07 | 776.63 | Survey @ 2722.00 MD 2492.18 TVD |
| 2,787.00 | 2,548.27 | 387.14 | 806.77 | Survey projected to 2787.00 MD 2548.27 TVD |

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 WV Department of
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Completion Report



| | | | |
|------------------|-------------------------------------|-------------------------------------|----------------------|
| Company: | HG Energy LLC | Local Co-ordinate Reference: | Well EP Bell 507 |
| Project: | Lincoln County, West Virginia UTM83 | TVD Reference: | RKB=888+6 @ 894.00ft |
| Site: | EP Bell | MD Reference: | RKB=888+6 @ 894.00ft |
| Well: | EP Bell 507 | North Reference: | Grid |
| Wellbore: | Original Hole | Survey Calculation Method: | Minimum Curvature |
| Design: | Surveys Original Hole | Database: | DB_Jul2216dt_v14 |

| | | | |
|--------------------|-------------------------------------|----------------------|----------------|
| Project | Lincoln County, West Virginia UTM83 | | |
| Map System: | Universal Transverse Mercator | System Datum: | Mean Sea Level |
| Geo Datum: | NAD83 West Virginia - HARN | | |
| Map Zone: | Zone 17N (84 W to 78 W) | | |

| | | | | | |
|------------------------------|---------|---------------------|----------------|--------------------------|-------------------|
| Site | EP Bell | | | | |
| Site Position: | | Northing: | 4,230,894.00 m | Latitude: | 38° 13' 19.8673 N |
| From: | Map | Easting: | 416,841.00 m | Longitude: | 81° 57' 0.1198 W |
| Position Uncertainty: | 0.00 ft | Slot Radius: | 13-3/16 " | Grid Convergence: | -0.59 ° |

| | | | | | | |
|-----------------------------|--------------|---------|----------------------------|----------------|----------------------|-------------------|
| Well | EP Bell 507 | | | | | |
| Well Position | +N/-S | 0.00 ft | Northing: | 4,230,894.00 m | Latitude: | 38° 13' 19.8673 N |
| | +E/-W | 0.00 ft | Easting: | 416,841.00 m | Longitude: | 81° 57' 0.1198 W |
| Position Uncertainty | | 0.00 ft | Wellhead Elevation: | ft | Ground Level: | 888.00 ft |

| | | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|--|
| Wellbore | Original Hole | | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) | |
| | HDGM | 10/5/2018 | -8.33 | 65.55 | 51,415.40000000 | |

| | | | | | |
|--------------------------|------------------------------|-------------------|-------------------|----------------------|------|
| Design | Surveys Original Hole | | | | |
| Audit Notes: | | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) | |
| | 0.00 | 0.00 | 0.00 | 65.75 | |

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Completion Report

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 WV Department of
 Environmental Protection

Company: HG Energy LLC
Project: Lincoln County, West Virginia UTM83
Site: EP Bell
Well: EP Bell 507
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference: Well EP Bell 507
TVD Reference: RKB=888+6 @ 894.00ft
MD Reference: RKB=888+6 @ 894.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Jul2216dt_v14

| Survey Program | Date | | | | |
|----------------|------------|----------------------------|-----------|---------------------|--|
| | 10/23/2018 | | | | |
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description | |
| 592.00 | 2,722.00 | MWD (Original Hole) | MWD | OWSG MWD - Standard | |
| 2,787.00 | 2,787.00 | Projection (Original Hole) | MWD | OWSG MWD - Standard | |

| MD (ft) | Inc (") | Azi (azimuth) (") | TVD (ft) | DLeg (*100usft) | N/S (ft) | E/W (ft) | Closure Distance (ft) | Closure Azimuth (") | Northing (m) | Easting (m) |
|--------------------|---------|-------------------|----------|-----------------|----------|----------|-----------------------|---------------------|--------------|-------------|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4,230,894.00 | 416,841.00 |
| 592.00 | 1.38 | 160.73 | 591.94 | 0.23 | -6.73 | 2.35 | 7.13 | 160.73 | 4,230,891.85 | 416,841.72 |
| MWD surveys | | | | | | | | | | |
| 622.00 | 1.35 | 145.71 | 621.93 | 1.19 | -7.36 | 2.67 | 7.83 | 160.06 | 4,230,891.76 | 416,841.81 |
| 652.00 | 1.25 | 111.90 | 651.93 | 2.54 | -7.78 | 3.17 | 8.40 | 157.80 | 4,230,891.63 | 416,841.97 |
| 682.00 | 1.71 | 85.99 | 681.92 | 2.67 | -7.87 | 3.92 | 8.79 | 153.49 | 4,230,891.60 | 416,842.20 |
| 712.00 | 2.62 | 72.83 | 711.90 | 3.44 | -7.63 | 5.03 | 9.14 | 146.64 | 4,230,891.67 | 416,842.53 |
| 742.00 | 3.34 | 70.90 | 741.85 | 2.42 | -7.15 | 6.51 | 9.66 | 137.68 | 4,230,891.82 | 416,842.98 |
| 772.00 | 3.76 | 69.80 | 771.80 | 1.42 | -6.52 | 8.26 | 10.52 | 128.30 | 4,230,892.01 | 416,843.52 |
| 802.00 | 4.09 | 64.86 | 801.73 | 1.57 | -5.73 | 10.15 | 11.65 | 119.43 | 4,230,892.25 | 416,844.09 |
| 832.00 | 4.92 | 56.73 | 831.63 | 3.48 | -4.57 | 12.19 | 13.02 | 110.53 | 4,230,892.61 | 416,844.72 |
| 862.00 | 6.15 | 54.66 | 861.49 | 4.15 | -2.93 | 14.58 | 14.87 | 101.36 | 4,230,893.11 | 416,845.44 |
| 892.00 | 7.25 | 55.27 | 891.29 | 3.67 | -0.92 | 17.44 | 17.47 | 93.02 | 4,230,893.72 | 416,846.32 |
| 922.00 | 7.88 | 55.74 | 921.03 | 2.11 | 1.31 | 20.70 | 20.74 | 86.37 | 4,230,894.40 | 416,847.31 |
| 952.00 | 8.93 | 55.47 | 950.70 | 3.50 | 3.79 | 24.32 | 24.61 | 81.14 | 4,230,895.16 | 416,848.41 |
| 982.00 | 10.75 | 56.13 | 980.26 | 6.08 | 6.67 | 28.56 | 29.33 | 76.85 | 4,230,896.03 | 416,849.70 |
| 1,012.00 | 12.71 | 57.36 | 1,009.63 | 6.59 | 10.01 | 33.66 | 35.12 | 73.44 | 4,230,897.05 | 416,851.26 |
| 1,042.00 | 14.38 | 58.23 | 1,038.80 | 5.61 | 13.75 | 39.61 | 41.93 | 70.85 | 4,230,898.19 | 416,853.07 |
| 1,072.00 | 15.63 | 58.65 | 1,067.78 | 4.18 | 17.82 | 46.23 | 49.54 | 68.92 | 4,230,899.43 | 416,855.09 |
| 1,102.00 | 17.23 | 58.57 | 1,096.55 | 5.33 | 22.24 | 53.47 | 57.91 | 67.42 | 4,230,900.78 | 416,857.30 |
| 1,132.00 | 18.86 | 59.27 | 1,125.07 | 5.48 | 27.03 | 61.43 | 67.11 | 66.25 | 4,230,902.24 | 416,859.72 |



Completion Report

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 WV Department of
 Environmental Protection

Company: HG Energy LLC
 Project: Lincoln County, West Virginia UTM83
 Site: EP Bell
 Well: EP Bell 507
 Wellbore: Original Hole
 Design: Surveys Original Hole

Local Co-ordinate Reference: Well EP Bell 507
 TVD Reference: RKB=888+6 @ 894.00ft
 MD Reference: RKB=888+6 @ 894.00ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: DB_Jul2216dt_v14

| Survey | | | | | | | | | | | | |
|----------|---------|-------------------|-------|----------|------------------|----------|----------|-----------------------|---------------------|--------------|-------------|--|
| MD (ft) | Inc (") | Azi (azimuth) (") | | TVD (ft) | DLeg (*/100usft) | N/S (ft) | E/W (ft) | Closure Distance (ft) | Closure Azimuth (") | Northing (m) | Easting (m) | |
| 1,162.00 | 20.45 | 60.05 | 60.05 | 1,153.32 | 5.37 | 32.13 | 70.14 | 77.15 | 65.39 | 4,230,903.79 | 416,862.38 | |
| 1,192.00 | 21.83 | 61.73 | 61.73 | 1,181.30 | 5.02 | 37.38 | 79.59 | 87.94 | 64.84 | 4,230,905.39 | 416,865.26 | |
| 1,222.00 | 22.80 | 64.22 | 64.22 | 1,209.06 | 4.51 | 42.55 | 89.74 | 99.32 | 64.63 | 4,230,906.97 | 416,868.35 | |
| 1,252.00 | 22.34 | 65.33 | 65.33 | 1,236.76 | 2.09 | 47.46 | 100.16 | 110.83 | 64.64 | 4,230,908.47 | 416,871.53 | |
| 1,282.00 | 22.25 | 65.06 | 65.06 | 1,264.52 | 0.45 | 52.24 | 110.49 | 122.21 | 64.70 | 4,230,909.92 | 416,874.68 | |
| 1,312.00 | 23.06 | 65.66 | 65.66 | 1,292.20 | 2.81 | 57.05 | 120.99 | 133.77 | 64.75 | 4,230,911.39 | 416,877.88 | |
| 1,342.00 | 24.80 | 66.64 | 66.64 | 1,319.62 | 5.95 | 61.97 | 132.12 | 145.93 | 64.87 | 4,230,912.89 | 416,881.27 | |
| 1,372.00 | 26.47 | 67.31 | 67.31 | 1,346.67 | 5.65 | 67.04 | 144.07 | 158.90 | 65.04 | 4,230,914.44 | 416,884.91 | |
| 1,402.00 | 27.24 | 68.02 | 68.02 | 1,373.43 | 2.78 | 72.19 | 156.60 | 172.44 | 65.25 | 4,230,916.00 | 416,888.73 | |
| 1,432.00 | 27.78 | 68.37 | 68.37 | 1,400.04 | 1.88 | 77.34 | 169.47 | 186.28 | 65.47 | 4,230,917.57 | 416,892.65 | |
| 1,462.00 | 27.42 | 68.22 | 68.22 | 1,426.63 | 1.22 | 82.48 | 182.38 | 200.17 | 65.67 | 4,230,919.14 | 416,896.59 | |
| 1,492.00 | 26.64 | 67.28 | 67.28 | 1,453.35 | 2.96 | 87.64 | 195.00 | 213.79 | 65.80 | 4,230,920.71 | 416,900.44 | |
| 1,522.00 | 26.34 | 67.43 | 67.43 | 1,480.20 | 1.02 | 92.79 | 207.35 | 227.17 | 65.89 | 4,230,922.28 | 416,904.20 | |
| 1,552.00 | 27.22 | 68.07 | 68.07 | 1,506.98 | 3.09 | 97.91 | 219.86 | 240.68 | 66.00 | 4,230,923.84 | 416,908.01 | |
| 1,582.00 | 28.75 | 68.64 | 68.64 | 1,533.47 | 5.18 | 103.10 | 232.95 | 254.74 | 66.13 | 4,230,925.43 | 416,912.00 | |
| 1,612.00 | 30.08 | 69.28 | 69.28 | 1,559.61 | 4.56 | 108.39 | 246.70 | 269.46 | 66.28 | 4,230,927.04 | 416,916.19 | |
| 1,642.00 | 31.01 | 69.09 | 69.09 | 1,585.44 | 3.12 | 113.81 | 260.95 | 284.69 | 66.44 | 4,230,928.69 | 416,920.54 | |
| 1,672.00 | 29.72 | 67.90 | 67.90 | 1,611.33 | 4.74 | 119.36 | 275.06 | 299.84 | 66.54 | 4,230,930.38 | 416,924.84 | |
| 1,702.00 | 26.16 | 65.87 | 65.87 | 1,637.83 | 12.28 | 124.87 | 287.99 | 313.89 | 66.56 | 4,230,932.06 | 416,928.78 | |
| 1,732.00 | 25.58 | 64.88 | 64.88 | 1,664.82 | 2.41 | 130.32 | 299.89 | 326.98 | 66.51 | 4,230,933.72 | 416,932.41 | |
| 1,762.00 | 25.78 | 65.14 | 65.14 | 1,691.86 | 0.77 | 135.81 | 311.67 | 339.98 | 66.45 | 4,230,935.40 | 416,936.00 | |
| 1,792.00 | 26.91 | 65.64 | 65.64 | 1,718.74 | 3.84 | 141.35 | 323.77 | 353.29 | 66.41 | 4,230,937.08 | 416,939.69 | |
| 1,822.00 | 28.23 | 66.07 | 66.07 | 1,745.33 | 4.45 | 147.03 | 336.44 | 367.17 | 66.39 | 4,230,938.82 | 416,943.55 | |
| 1,852.00 | 30.10 | 66.77 | 66.77 | 1,771.53 | 6.34 | 152.88 | 349.84 | 381.79 | 66.40 | 4,230,940.60 | 416,947.63 | |
| 1,882.00 | 32.16 | 67.11 | 67.11 | 1,797.21 | 6.89 | 158.95 | 364.11 | 397.30 | 66.42 | 4,230,942.45 | 416,951.98 | |
| 1,912.00 | 34.25 | 67.04 | 67.04 | 1,822.31 | 6.97 | 165.35 | 379.24 | 413.72 | 66.44 | 4,230,944.40 | 416,956.59 | |
| 1,942.00 | 36.38 | 66.51 | 66.51 | 1,846.79 | 7.17 | 172.19 | 395.18 | 431.06 | 66.46 | 4,230,946.48 | 416,961.45 | |



Completion Report

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 WV Department of
 Environmental Protection

Company: HG Energy LLC
Project: Lincoln County, West Virginia UTM83
Site: EP Bell
Well: EP Bell 507
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference: Well EP Bell 507
TVD Reference: RKB=888+6 @ 894.00ft
MD Reference: RKB=888+6 @ 894.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Jul2216dt_v14

| Survey | | | | | | | | | | | | |
|----------|---------|-------------------|-------|----------|------------------|----------|----------|-----------------------|---------------------|--------------|-------------|--|
| MD (ft) | Inc (°) | Azi (azimuth) (°) | | TVD (ft) | DLeg (°/100usft) | N/S (ft) | E/W (ft) | Closure Distance (ft) | Closure Azimuth (°) | Northing (m) | Easting (m) | |
| 1,972.00 | 37.39 | 65.58 | 65.58 | 1,870.78 | 3.85 | 179.50 | 411.63 | 449.07 | 66.44 | 4,230,948.71 | 416,966.47 | |
| 2,002.00 | 38.30 | 65.05 | 65.05 | 1,894.47 | 3.22 | 187.19 | 428.36 | 467.47 | 66.39 | 4,230,951.06 | 416,971.56 | |
| 2,032.00 | 39.31 | 64.51 | 64.51 | 1,917.85 | 3.55 | 195.20 | 445.36 | 486.26 | 66.33 | 4,230,953.50 | 416,976.75 | |
| 2,062.00 | 40.48 | 63.96 | 63.96 | 1,940.87 | 4.07 | 203.57 | 462.69 | 505.49 | 66.25 | 4,230,956.05 | 416,982.03 | |
| 2,092.00 | 40.13 | 63.32 | 63.32 | 1,963.74 | 1.81 | 212.18 | 480.08 | 524.88 | 66.16 | 4,230,958.67 | 416,987.33 | |
| 2,122.00 | 39.75 | 62.35 | 62.35 | 1,986.75 | 2.43 | 220.98 | 497.21 | 544.11 | 66.04 | 4,230,961.35 | 416,992.55 | |
| 2,152.00 | 39.19 | 61.94 | 61.94 | 2,009.91 | 2.06 | 229.89 | 514.07 | 563.13 | 65.91 | 4,230,964.07 | 416,997.69 | |
| 2,182.00 | 39.64 | 62.31 | 62.31 | 2,033.08 | 1.69 | 238.79 | 530.91 | 582.14 | 65.78 | 4,230,966.78 | 417,002.82 | |
| 2,212.00 | 40.27 | 62.61 | 62.61 | 2,056.08 | 2.20 | 247.70 | 548.00 | 601.38 | 65.68 | 4,230,969.50 | 417,008.03 | |
| 2,242.00 | 40.15 | 62.76 | 62.76 | 2,078.99 | 0.51 | 256.59 | 565.20 | 620.72 | 65.58 | 4,230,972.21 | 417,013.27 | |
| 2,272.00 | 38.61 | 61.54 | 61.54 | 2,102.18 | 5.75 | 265.47 | 582.03 | 639.72 | 65.48 | 4,230,974.92 | 417,018.40 | |
| 2,302.00 | 36.58 | 59.91 | 59.91 | 2,125.95 | 7.53 | 274.42 | 598.00 | 657.96 | 65.35 | 4,230,977.64 | 417,023.27 | |
| 2,332.00 | 33.94 | 58.48 | 58.48 | 2,150.44 | 9.22 | 283.28 | 612.88 | 675.18 | 65.19 | 4,230,980.34 | 417,027.80 | |
| 2,362.00 | 31.29 | 57.37 | 57.37 | 2,175.71 | 9.06 | 291.86 | 626.58 | 691.22 | 65.02 | 4,230,982.96 | 417,031.98 | |
| 2,392.00 | 29.15 | 56.77 | 56.77 | 2,201.63 | 7.20 | 300.07 | 639.25 | 706.17 | 64.85 | 4,230,985.46 | 417,035.84 | |
| 2,422.00 | 27.85 | 57.29 | 57.29 | 2,227.99 | 4.41 | 307.86 | 651.26 | 720.36 | 64.70 | 4,230,987.83 | 417,039.50 | |
| 2,452.00 | 27.05 | 57.90 | 57.90 | 2,254.62 | 2.83 | 315.27 | 662.94 | 734.08 | 64.57 | 4,230,990.09 | 417,043.06 | |
| 2,482.00 | 27.04 | 58.92 | 58.92 | 2,281.34 | 1.55 | 322.41 | 674.55 | 747.65 | 64.45 | 4,230,992.27 | 417,046.60 | |
| 2,512.00 | 26.97 | 59.69 | 59.69 | 2,308.07 | 1.19 | 329.37 | 686.27 | 761.21 | 64.36 | 4,230,994.39 | 417,050.17 | |
| 2,542.00 | 26.75 | 60.04 | 60.04 | 2,334.83 | 0.90 | 336.17 | 697.99 | 774.73 | 64.28 | 4,230,996.47 | 417,053.75 | |
| 2,572.00 | 28.03 | 61.47 | 61.47 | 2,361.47 | 4.80 | 342.91 | 710.03 | 788.50 | 64.22 | 4,230,998.52 | 417,057.42 | |
| 2,602.00 | 29.17 | 62.94 | 62.94 | 2,387.80 | 4.47 | 349.60 | 722.74 | 802.85 | 64.19 | 4,231,000.56 | 417,061.29 | |
| 2,632.00 | 29.09 | 64.96 | 64.96 | 2,414.01 | 3.29 | 356.02 | 735.86 | 817.45 | 64.18 | 4,231,002.51 | 417,065.29 | |
| 2,662.00 | 29.53 | 66.42 | 66.42 | 2,440.17 | 2.80 | 362.06 | 749.24 | 832.13 | 64.21 | 4,231,004.36 | 417,069.37 | |
| 2,692.00 | 29.86 | 66.18 | 66.18 | 2,466.23 | 1.17 | 368.03 | 762.85 | 846.99 | 64.25 | 4,231,006.18 | 417,073.52 | |
| 2,722.00 | 30.36 | 66.55 | 66.55 | 2,492.18 | 1.78 | 374.07 | 776.63 | 862.03 | 64.28 | 4,231,008.02 | 417,077.72 | |

Survey @ 2722.00 MD 2492.18 TVD

Completion Report



| | |
|---|--|
| Company: HG Energy LLC | Local Co-ordinate Reference: Well EP Bell 507 |
| Project: Lincoln County, West Virginia UTM83 | TVD Reference: RKB=888+6 @ 894.00ft |
| Site: EP Bell | MD Reference: RKB=888+6 @ 894.00ft |
| Well: EP Bell 507 | North Reference: Grid |
| Wellbore: Original Hole | Survey Calculation Method: Minimum Curvature |
| Design: Surveys Original Hole | Database: DB_Jul2216dt_v14 |

| MD (ft) | Inc (°) | Azi (azimuth) (°) | TVD (ft) | DLeg (°/100usft) | N/S (ft) | E/W (ft) | Closure Distance (ft) | Closure Azimuth (°) | Northing (m) | Easting (m) |
|--|---------|-------------------|----------|------------------|----------|----------|-----------------------|---------------------|--------------|-------------|
| 2,787.00 | 30.36 | 66.55 | 2,548.27 | 0.00 | 387.14 | 806.77 | 894.85 | 64.37 | 4,231,012.00 | 417,086.90 |
| Survey projected to 2787.00 MD 2548.27 TVD | | | | | | | | | | |

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment |
|---------------------|---------------------|-------------------|------------|--|
| | | +N/-S (ft) | +E/-W (ft) | |
| 592.00 | 591.94 | -6.73 | 2.35 | MWD surveys |
| 2,722.00 | 2,492.18 | 374.07 | 776.63 | Survey @ 2722.00 MD 2492.18 TVD |
| 2,787.00 | 2,548.27 | 387.14 | 806.77 | Survey projected to 2787.00 MD 2548.27 TVD |

Checked By: _____ Approved By: _____ Date: _____

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DEC 10 2018

WV Department of
Environmental Protection



Report

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 Environmental Protection

Company: HG Energy LLC
Project: Lincoln County, West Virginia UTM83
Site: EP Bell
Well: EP Bell 507
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference: Well EP Bell 507
TVD Reference: RKB=888+6 @ 894.00ft
MD Reference: RKB=888+6 @ 894.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Jul2216dt_v14

Project Lincoln County, West Virginia UTM83

Map System: Universal Transverse Mercator
Geo Datum: NAD83 West Virginia - HARN
Map Zone: Zone 17N (84 W to 78 W)

System Datum: Mean Sea Level

Site EP Bell

| | | | | | |
|------------------------------|---------|---------------------|----------------|--------------------------|-------------------|
| Site Position: | | Northing: | 4,230,894.00 m | Latitude: | 38° 13' 19.8673 N |
| From: | Map | Easting: | 416,841.00 m | Longitude: | 81° 57' 0.1198 W |
| Position Uncertainty: | 0.00 ft | Slot Radius: | 13-3/16 " | Grid Convergence: | -0.59 ° |

Well EP Bell 507

| | | | | | | |
|-----------------------------|--------------|---------|----------------------------|----------------|----------------------|-------------------|
| Well Position | +N/-S | 0.00 ft | Northing: | 4,230,894.00 m | Latitude: | 38° 13' 19.8673 N |
| | +E/-W | 0.00 ft | Easting: | 416,841.00 m | Longitude: | 81° 57' 0.1198 W |
| Position Uncertainty | | 0.00 ft | Wellhead Elevation: | ft | Ground Level: | 888.00 ft |

Wellbore Original Hole

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|-----------|------------|-------------|--------------------|------------------|------------------------|
| | HDGM | 10/5/2018 | -8.33 | 65.55 | 51,415.40000000 |

Design Surveys Original Hole

Audit Notes:

| | | | | | |
|-----------------|-----|---------------|--------|----------------------|------|
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.00 |
|-----------------|-----|---------------|--------|----------------------|------|

| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
|-------------------|--------------------------|---------------|---------------|------------------|
| | 0.00 | 0.00 | 0.00 | 65.75 |

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Report



| | |
|---|--|
| Company: HG Energy LLC | Local Co-ordinate Reference: Well EP Bell 507 |
| Project: Lincoln County, West Virginia UTM83 | TVD Reference: RKB=888+6 @ 894.00ft |
| Site: EP Bell | MD Reference: RKB=888+6 @ 894.00ft |
| Well: EP Bell 507 | North Reference: Grid |
| Wellbore: Original Hole | Survey Calculation Method: Minimum Curvature |
| Design: Surveys Original Hole | Database: DB_Jul2216dt_v14 |

| Survey Program | Date | 10/23/2018 | | |
|----------------|----------|----------------------------|-----------|---------------------|
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
| 592.00 | 2,722.00 | MWD (Original Hole) | MWD | OWSG MWD - Standard |
| 2,787.00 | 2,787.00 | Projection (Original Hole) | MWD | OWSG MWD - Standard |

| MD (ft) | Inc (") | Azi (azimuth) (") | TVD (ft) | N/S (ft) | E/W (ft) | DLeg (*/100usft) | V. Sec (ft) | Northing (m) | Easting (m) | Closure Azimuth (") |
|--------------------|---------|-------------------|----------|----------|----------|------------------|-------------|--------------|-------------|---------------------|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4,230,894.00 | 416,841.00 | 0.00 |
| 592.00 | 1.38 | 160.73 | 591.94 | -6.73 | 2.35 | 0.23 | -0.62 | 4,230,891.95 | 416,841.72 | 160.73 |
| MWD surveys | | | | | | | | | | |
| 622.00 | 1.35 | 145.71 | 621.93 | -7.36 | 2.67 | 1.19 | -0.59 | 4,230,891.76 | 416,841.81 | 160.06 |
| 652.00 | 1.25 | 111.90 | 651.93 | -7.78 | 3.17 | 2.54 | -0.30 | 4,230,891.63 | 416,841.97 | 157.80 |
| 682.00 | 1.71 | 85.99 | 681.92 | -7.87 | 3.92 | 2.67 | 0.35 | 4,230,891.60 | 416,842.20 | 153.49 |
| 712.00 | 2.62 | 72.83 | 711.90 | -7.63 | 5.03 | 3.44 | 1.45 | 4,230,891.67 | 416,842.53 | 146.64 |
| 742.00 | 3.34 | 70.90 | 741.85 | -7.15 | 6.51 | 2.42 | 3.00 | 4,230,891.82 | 416,842.98 | 137.68 |
| 772.00 | 3.76 | 69.80 | 771.80 | -6.52 | 8.26 | 1.42 | 4.85 | 4,230,892.01 | 416,843.52 | 128.30 |
| 802.00 | 4.09 | 64.86 | 801.73 | -5.73 | 10.15 | 1.57 | 6.90 | 4,230,892.25 | 416,844.09 | 119.43 |
| 832.00 | 4.92 | 56.73 | 831.63 | -4.57 | 12.19 | 3.48 | 9.24 | 4,230,892.61 | 416,844.72 | 110.53 |
| 862.00 | 6.15 | 54.66 | 861.49 | -2.93 | 14.58 | 4.15 | 12.09 | 4,230,893.11 | 416,845.44 | 101.36 |
| 892.00 | 7.25 | 55.27 | 891.29 | -0.92 | 17.44 | 3.67 | 15.53 | 4,230,893.72 | 416,846.32 | 93.02 |
| 922.00 | 7.88 | 55.74 | 921.03 | 1.31 | 20.70 | 2.11 | 19.41 | 4,230,894.40 | 416,847.31 | 86.37 |
| 952.00 | 8.93 | 55.47 | 950.70 | 3.79 | 24.32 | 3.50 | 23.73 | 4,230,895.16 | 416,848.41 | 81.14 |
| 982.00 | 10.75 | 56.13 | 980.26 | 6.67 | 28.56 | 6.08 | 28.78 | 4,230,896.03 | 416,849.70 | 76.85 |
| 1,012.00 | 12.71 | 57.36 | 1,009.63 | 10.01 | 33.66 | 6.59 | 34.80 | 4,230,897.05 | 416,851.26 | 73.44 |
| 1,042.00 | 14.38 | 58.23 | 1,038.80 | 13.75 | 39.61 | 5.61 | 41.76 | 4,230,898.19 | 416,853.07 | 70.85 |
| 1,072.00 | 15.63 | 58.65 | 1,067.78 | 17.82 | 46.23 | 4.18 | 49.47 | 4,230,899.43 | 416,855.09 | 68.92 |
| 1,102.00 | 17.23 | 58.57 | 1,096.55 | 22.24 | 53.47 | 5.33 | 57.89 | 4,230,900.78 | 416,857.30 | 67.42 |
| 1,132.00 | 18.86 | 59.27 | 1,125.07 | 27.03 | 61.43 | 5.48 | 67.11 | 4,230,902.24 | 416,859.72 | 66.25 |



Report

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 DEC 10 2018

Company: HG Energy LLC
Project: Lincoln County, West Virginia UTM83
Site: EP Bell
Well: EP Bell 507
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference: Well EP Bell 507
TVD Reference: RKB=888+6 @ 894.00ft
MD Reference: RKB=888+6 @ 894.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Jul2216dt_v14

| Survey | | | | | | | | | | | | |
|----------|---------|-------------------|-------|----------|----------|----------|------------------|-------------|--------------|-------------|---------------------|-------|
| MD (ft) | Inc (°) | Azi (azimuth) (°) | | TVD (ft) | N/S (ft) | E/W (ft) | DLeg (°/100usft) | V. Sec (ft) | Northing (m) | Easting (m) | Closure Azimuth (°) | |
| 1,162.00 | 20.45 | 60.05 | 60.05 | 1,153.32 | 32.13 | 70.14 | 5.37 | 77.15 | 4,230,903.79 | 416,862.38 | | 65.39 |
| 1,192.00 | 21.83 | 61.73 | 61.73 | 1,181.30 | 37.38 | 79.59 | 5.02 | 87.93 | 4,230,905.39 | 416,865.26 | | 64.84 |
| 1,222.00 | 22.80 | 64.22 | 64.22 | 1,209.06 | 42.55 | 89.74 | 4.51 | 99.30 | 4,230,906.97 | 416,868.35 | | 64.63 |
| 1,252.00 | 22.34 | 65.33 | 65.33 | 1,236.76 | 47.46 | 100.16 | 2.09 | 110.81 | 4,230,908.47 | 416,871.53 | | 64.64 |
| 1,282.00 | 22.25 | 65.06 | 65.06 | 1,264.52 | 52.24 | 110.49 | 0.45 | 122.19 | 4,230,909.92 | 416,874.68 | | 64.70 |
| 1,312.00 | 23.06 | 65.66 | 65.66 | 1,292.20 | 57.05 | 120.99 | 2.81 | 133.75 | 4,230,911.39 | 416,877.88 | | 64.75 |
| 1,342.00 | 24.80 | 66.64 | 66.64 | 1,319.62 | 61.97 | 132.12 | 5.95 | 145.92 | 4,230,912.89 | 416,881.27 | | 64.87 |
| 1,372.00 | 26.47 | 67.31 | 67.31 | 1,346.67 | 67.04 | 144.07 | 5.65 | 158.89 | 4,230,914.44 | 416,884.91 | | 65.04 |
| 1,402.00 | 27.24 | 68.02 | 68.02 | 1,373.43 | 72.19 | 156.60 | 2.78 | 172.44 | 4,230,916.00 | 416,888.73 | | 65.25 |
| 1,432.00 | 27.78 | 68.37 | 68.37 | 1,400.04 | 77.34 | 169.47 | 1.88 | 188.28 | 4,230,917.57 | 416,892.65 | | 65.47 |
| 1,462.00 | 27.42 | 68.22 | 68.22 | 1,426.63 | 82.48 | 182.38 | 1.22 | 200.16 | 4,230,919.14 | 416,896.59 | | 65.67 |
| 1,492.00 | 26.64 | 67.28 | 67.28 | 1,453.35 | 87.64 | 195.00 | 2.96 | 213.79 | 4,230,920.71 | 416,900.44 | | 65.80 |
| 1,522.00 | 26.34 | 67.43 | 67.43 | 1,480.20 | 92.79 | 207.35 | 1.02 | 227.17 | 4,230,922.28 | 416,904.20 | | 65.89 |
| 1,552.00 | 27.22 | 68.07 | 68.07 | 1,506.98 | 97.91 | 219.86 | 3.09 | 240.67 | 4,230,923.84 | 416,908.01 | | 66.00 |
| 1,582.00 | 28.75 | 68.64 | 68.64 | 1,533.47 | 103.10 | 232.95 | 5.18 | 254.74 | 4,230,925.43 | 416,912.00 | | 66.13 |
| 1,612.00 | 30.08 | 69.28 | 69.28 | 1,559.61 | 108.39 | 246.70 | 4.56 | 269.45 | 4,230,927.04 | 416,916.19 | | 66.28 |
| 1,642.00 | 31.01 | 69.09 | 69.09 | 1,585.44 | 113.81 | 260.95 | 3.12 | 284.67 | 4,230,928.69 | 416,920.54 | | 66.44 |
| 1,672.00 | 29.72 | 67.90 | 67.90 | 1,611.33 | 119.36 | 275.06 | 4.74 | 299.81 | 4,230,930.38 | 416,924.84 | | 66.54 |
| 1,702.00 | 26.16 | 65.87 | 65.87 | 1,637.83 | 124.87 | 287.99 | 12.28 | 313.86 | 4,230,932.06 | 416,928.78 | | 66.56 |
| 1,732.00 | 25.58 | 64.88 | 64.88 | 1,664.82 | 130.32 | 299.89 | 2.41 | 326.95 | 4,230,933.72 | 416,932.41 | | 66.51 |
| 1,762.00 | 25.78 | 65.14 | 65.14 | 1,691.86 | 135.81 | 311.67 | 0.77 | 339.95 | 4,230,935.40 | 416,936.00 | | 66.45 |
| 1,792.00 | 26.91 | 65.64 | 65.64 | 1,718.74 | 141.35 | 323.77 | 3.84 | 353.26 | 4,230,937.08 | 416,939.69 | | 66.41 |
| 1,822.00 | 28.23 | 66.07 | 66.07 | 1,745.33 | 147.03 | 336.44 | 4.45 | 367.15 | 4,230,938.82 | 416,943.55 | | 66.39 |
| 1,852.00 | 30.10 | 66.77 | 66.77 | 1,771.53 | 152.88 | 349.84 | 6.34 | 381.76 | 4,230,940.60 | 416,947.63 | | 66.40 |
| 1,882.00 | 32.16 | 67.11 | 67.11 | 1,797.21 | 158.95 | 364.11 | 6.89 | 397.27 | 4,230,942.45 | 416,951.98 | | 66.42 |
| 1,912.00 | 34.25 | 67.04 | 67.04 | 1,822.31 | 165.35 | 379.24 | 6.97 | 413.69 | 4,230,944.40 | 416,956.59 | | 66.44 |
| 1,942.00 | 36.38 | 66.51 | 66.51 | 1,846.79 | 172.19 | 395.18 | 7.17 | 431.03 | 4,230,946.48 | 416,961.45 | | 66.46 |



Report

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Company: HG Energy LLC
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: DB_Jul2216dL_v14

| Survey | | | | | | | | | | | | |
|----------|---------|-------------------|-------|----------|----------|----------|------------------|-------------|--------------|-------------|---------------------|--|
| MD (ft) | Inc (°) | Azi (azimuth) (°) | | TVD (ft) | N/S (ft) | E/W (ft) | DLeg (*/100usft) | V. Sec (ft) | Northing (m) | Easting (m) | Closure Azimuth (°) | |
| 1,972.00 | 37.39 | 65.58 | 65.58 | 1,870.78 | 179.50 | 411.63 | 3.85 | 449.04 | 4,230,948.71 | 416,966.47 | 66.44 | |
| 2,002.00 | 38.30 | 65.05 | 65.05 | 1,894.47 | 187.19 | 428.36 | 3.22 | 467.44 | 4,230,951.06 | 416,971.56 | 66.39 | |
| 2,032.00 | 39.31 | 64.51 | 64.51 | 1,917.85 | 195.20 | 445.36 | 3.55 | 486.24 | 4,230,953.50 | 416,976.75 | 66.33 | |
| 2,062.00 | 40.48 | 63.96 | 63.96 | 1,940.87 | 203.57 | 462.69 | 4.07 | 505.47 | 4,230,956.05 | 416,982.03 | 66.25 | |
| 2,092.00 | 40.13 | 63.32 | 63.32 | 1,963.74 | 212.18 | 480.08 | 1.81 | 524.87 | 4,230,958.67 | 416,987.33 | 66.16 | |
| 2,122.00 | 39.75 | 62.35 | 62.35 | 1,986.75 | 220.98 | 497.21 | 2.43 | 544.10 | 4,230,961.35 | 416,992.55 | 66.04 | |
| 2,152.00 | 39.19 | 61.94 | 61.94 | 2,009.91 | 229.89 | 514.07 | 2.06 | 563.13 | 4,230,964.07 | 416,997.69 | 65.91 | |
| 2,182.00 | 39.64 | 62.31 | 62.31 | 2,033.08 | 238.79 | 530.91 | 1.69 | 582.14 | 4,230,966.78 | 417,002.82 | 65.78 | |
| 2,212.00 | 40.27 | 62.61 | 62.61 | 2,056.08 | 247.70 | 548.00 | 2.20 | 601.38 | 4,230,969.50 | 417,008.03 | 65.68 | |
| 2,242.00 | 40.15 | 62.76 | 62.76 | 2,078.99 | 256.59 | 565.20 | 0.51 | 620.72 | 4,230,972.21 | 417,013.27 | 65.58 | |
| 2,272.00 | 38.61 | 61.54 | 61.54 | 2,102.18 | 265.47 | 582.03 | 5.75 | 639.71 | 4,230,974.92 | 417,018.40 | 65.48 | |
| 2,302.00 | 36.58 | 59.91 | 59.91 | 2,125.95 | 274.42 | 598.00 | 7.53 | 657.94 | 4,230,977.64 | 417,023.27 | 65.35 | |
| 2,332.00 | 33.94 | 58.48 | 58.48 | 2,150.44 | 283.28 | 612.88 | 9.22 | 675.14 | 4,230,980.34 | 417,027.80 | 65.19 | |
| 2,362.00 | 31.29 | 57.37 | 57.37 | 2,175.71 | 291.86 | 626.58 | 9.06 | 691.16 | 4,230,982.96 | 417,031.98 | 65.02 | |
| 2,392.00 | 29.15 | 56.77 | 56.77 | 2,201.63 | 300.07 | 639.25 | 7.20 | 706.09 | 4,230,985.46 | 417,035.84 | 64.85 | |
| 2,422.00 | 27.85 | 57.29 | 57.29 | 2,227.99 | 307.86 | 651.26 | 4.41 | 720.24 | 4,230,987.83 | 417,039.50 | 64.70 | |
| 2,452.00 | 27.05 | 57.90 | 57.90 | 2,254.62 | 315.27 | 662.94 | 2.83 | 733.93 | 4,230,990.09 | 417,043.06 | 64.57 | |
| 2,482.00 | 27.04 | 58.92 | 58.92 | 2,281.34 | 322.41 | 674.55 | 1.55 | 747.45 | 4,230,992.27 | 417,046.60 | 64.45 | |
| 2,512.00 | 26.97 | 59.69 | 59.69 | 2,308.07 | 329.37 | 686.27 | 1.19 | 760.99 | 4,230,994.39 | 417,050.17 | 64.36 | |
| 2,542.00 | 26.75 | 60.04 | 60.04 | 2,334.83 | 336.17 | 697.99 | 0.90 | 774.47 | 4,230,996.47 | 417,053.75 | 64.28 | |
| 2,572.00 | 28.03 | 61.47 | 61.47 | 2,361.47 | 342.91 | 710.03 | 4.80 | 788.22 | 4,230,998.52 | 417,057.42 | 64.22 | |
| 2,602.00 | 29.17 | 62.94 | 62.94 | 2,387.80 | 349.60 | 722.74 | 4.47 | 802.55 | 4,231,000.56 | 417,061.29 | 64.19 | |
| 2,632.00 | 29.09 | 64.96 | 64.96 | 2,414.01 | 356.02 | 735.86 | 3.29 | 817.15 | 4,231,002.51 | 417,065.29 | 64.18 | |
| 2,662.00 | 29.53 | 66.42 | 66.42 | 2,440.17 | 362.06 | 749.24 | 2.80 | 831.83 | 4,231,004.36 | 417,069.37 | 64.21 | |
| 2,692.00 | 29.86 | 66.18 | 66.18 | 2,466.23 | 368.03 | 762.85 | 1.17 | 846.69 | 4,231,006.18 | 417,073.52 | 64.25 | |
| 2,722.00 | 30.36 | 66.55 | 66.55 | 2,492.18 | 374.07 | 776.63 | 1.78 | 861.74 | 4,231,008.02 | 417,077.72 | 64.28 | |

Survey @ 2722.00 MD 2492.18 TVD

Report



| | |
|---|--|
| Company: HG Energy LLC | Local Co-ordinate Reference: Well EP Bell 507 |
| Project: Lincoln County, West Virginia UTM83 | TVD Reference: RKB=888+6 @ 894.00ft |
| Site: EP Bell | MD Reference: RKB=888+6 @ 894.00ft |
| Well: EP Bell 507 | North Reference: Grid |
| Wellbore: Original Hole | Survey Calculation Method: Minimum Curvature |
| Design: Surveys Original Hole | Database: DB_Jul2216dt_v14 |

| MD (ft) | Incl (°) | Azi (azimuth) (°) | TVD (ft) | N/S (ft) | E/W (ft) | DLeg (°/100usft) | V. Sec (ft) | Northing (m) | Easting (m) | Closure Azimuth (°) |
|--|----------|-------------------|----------|----------|----------|------------------|-------------|--------------|-------------|---------------------|
| 2,787.00 | 30.36 | 66.55 | 2,548.27 | 387.14 | 806.77 | 0.00 | 894.59 | 4,231,012.00 | 417,086.90 | 64.37 |
| Survey projected to 2787.00 MD 2548.27 TVD | | | | | | | | | | |

| Design Annotations | | | | |
|---------------------|---------------------|-------------------|------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment |
| | | +N/-S (ft) | +E/-W (ft) | |
| 592.00 | 591.94 | -6.73 | 2.35 | MWD surveys |
| 2,722.00 | 2,492.18 | 374.07 | 776.63 | Survey @ 2722.00 MD 2492.18 TVD |
| 2,787.00 | 2,548.27 | 387.14 | 806.77 | Survey projected to 2787.00 MD 2548.27 TVD |

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