



Survey Report - Geographic



| | | | |
|------------------|--------------------------------|-------------------------------------|--------------------------------------|
| Company: | Tug Hill Operating LLC | Local Co-ordinate Reference: | Well Woodford 06HU (F) |
| Project: | Marshall County, West Virginia | TVD Reference: | RKB=1235+33 @ 1268.00ft (Nabors X08) |
| Site: | Woodford | MD Reference: | RKB=1235+33 @ 1268.00ft (Nabors X08) |
| Well: | Woodford 06HU (F) | North Reference: | Grid |
| Wellbore: | Original Hole | Survey Calculation Method: | Minimum Curvature |
| Design: | Surveys Original Hole | Database: | DB_Aug1919_v14 |

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

| | |
|------------------------------|------------------------------|
| Site | Woodford |
| Site Position: | |
| From: | Latitude: 39.80414597 |
| | Longitude: -80.81199526 |
| Position Uncertainty: | Slot Radius: 0.00 ft |
| | Grid Convergence: 0.120 ° |
| | Northing: 14,455,471.78 usft |
| | Easting: 1,693,217.70 usft |
| | Latitude: 39.80417668 |
| | Longitude: -80.81198554 |
| | Ground Level: 1,235.00 ft |

| | |
|-----------------------------|------------------------------|
| Well | Woodford 06HU (F) |
| Well Position | |
| +N-S | 0.00 ft |
| +E-W | 0.00 ft |
| Position Uncertainty | 0.00 ft |
| | Wellhead Elevation: |
| | Northing: 14,455,482.96 usft |
| | Easting: 1,693,220.41 usft |
| | Latitude: 39.80417668 |
| | Longitude: -80.81198554 |
| | Ground Level: 1,235.00 ft |

| | |
|----------------------------|-----------------|
| Wellbore | Original Hole |
| Magnetics | |
| Model Name | IGRF2015 |
| Sample Date | 11/12/2019 |
| Declination (°) | -8.696 |
| Dip Angle (°) | 66.783 |
| Field Strength (nT) | 51,916.53526243 |

| | |
|------------------------------|-----------------------|
| Design | Surveys Original Hole |
| Audit Notes: | |
| Version: | 1.0 |
| Phase: | ACTUAL |
| Depth From (TVD) (ft) | 0.00 |
| +N-S (ft) | 0.00 |
| +E-W (ft) | 0.00 |
| Tie On Depth: | 0.00 |
| Direction (°) | 171.120 |
| 0.00 | |

| Survey Program | From (ft) | To (ft) | Date | Survey (Wellbore) | Tool Name | Description |
|----------------|-----------|-----------|------|----------------------------|-----------|----------------|
| | 158.00 | 888.00 | | MWD surf (Original Hole) | MWD | MWD - Standard |
| | 980.00 | 2,685.00 | | MWD int (Original Hole) | MWD | MWD - Standard |
| | 2,785.00 | 17,418.00 | | MWD (Original Hole) | MWD | MWD - Standard |
| | 17,473.00 | 17,473.00 | | Projection (Original Hole) | MWD | MWD - Standard |

| Survey | Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N-S (ft) | +E-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude | |
|--------|---------------------|-----------------|-------------|---------------------|-----------|-----------|---------------------|--------------------|-------------|--------------|--|
| | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 14,455,482.96 | 1,693,220.41 | 39.80417668 | -80.81198554 | |
| | 158.00 | 0.78 | 266.970 | 158.00 | -0.06 | -1.07 | 14,455,482.91 | 1,693,219.33 | 39.80417653 | -80.81198937 | |
| | MWD surveys | | | | | | | | | | |
| | 188.00 | 0.86 | 267.530 | 187.99 | -0.08 | -1.50 | 14,455,482.89 | 1,693,218.90 | 39.80417648 | -80.81199089 | |
| | 218.00 | 0.54 | 282.510 | 217.99 | -0.06 | -1.87 | 14,455,482.91 | 1,693,218.54 | 39.80417654 | -80.81199218 | |
| | 248.00 | 0.47 | 294.140 | 247.99 | 0.02 | -2.12 | 14,455,482.99 | 1,693,218.29 | 39.80417676 | -80.81199308 | |
| | 280.00 | 0.47 | 277.420 | 279.99 | 0.10 | -2.37 | 14,455,483.06 | 1,693,218.04 | 39.80417696 | -80.81199396 | |
| | 310.00 | 0.55 | 273.610 | 309.99 | 0.12 | -2.63 | 14,455,483.08 | 1,693,217.78 | 39.80417703 | -80.81199491 | |
| | 340.00 | 0.58 | 267.350 | 339.98 | 0.12 | -2.93 | 14,455,483.09 | 1,693,217.48 | 39.80417703 | -80.81199596 | |



Survey Report - Geographic



Company: Tug Hill Operating LLC
Project: Marshall County, West Virginia
Site: Woodford
Well: Woodford 06HU (F)
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference:
TVD Reference: Well Woodford 06HU (F)
MD Reference: RKB=1235+33 @ 1268.00ft (Nabors X08)
North Reference: RKB=1235+33 @ 1268.00ft (Nabors X08)
Survey Calculation Method: Grid
Database: Minimum Curvature
 DB_Aug1919_v14

Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---------------------|-----------------|-------------|---------------------|------------|------------|---------------------|--------------------|-------------|---------------|
| 370.00 | 0.48 | 270.350 | 369.98 | 0.12 | -3.20 | 14,455,483.08 | 1,693,217.20 | 39.80417702 | -80.81199695 |
| 400.00 | 0.34 | 287.760 | 399.98 | 0.14 | -3.41 | 14,455,483.11 | 1,693,216.99 | 39.80417710 | -80.81199770 |
| 430.00 | 0.37 | 268.170 | 429.98 | 0.17 | -3.60 | 14,455,483.13 | 1,693,216.81 | 39.80417716 | -80.81199835 |
| 460.00 | 0.47 | 289.540 | 459.98 | 0.21 | -3.81 | 14,455,483.17 | 1,693,216.60 | 39.80417727 | -80.81199910 |
| 490.00 | 0.46 | 275.740 | 489.98 | 0.26 | -4.04 | 14,455,483.22 | 1,693,216.36 | 39.80417742 | -80.81199994 |
| 520.00 | 0.50 | 293.990 | 519.98 | 0.32 | -4.28 | 14,455,483.29 | 1,693,216.12 | 39.80417760 | -80.81200079 |
| 550.00 | 0.50 | 288.880 | 549.98 | 0.42 | -4.53 | 14,455,483.38 | 1,693,215.88 | 39.80417786 | -80.81200166 |
| 580.00 | 0.50 | 277.140 | 579.98 | 0.48 | -4.78 | 14,455,483.44 | 1,693,215.63 | 39.80417802 | -80.81200256 |
| 610.00 | 0.48 | 280.410 | 609.98 | 0.52 | -5.04 | 14,455,483.48 | 1,693,215.37 | 39.80417813 | -80.81200347 |
| 640.00 | 0.36 | 274.860 | 639.98 | 0.55 | -5.25 | 14,455,483.51 | 1,693,215.16 | 39.80417822 | -80.81200424 |
| 670.00 | 0.47 | 275.570 | 669.97 | 0.57 | -5.47 | 14,455,483.53 | 1,693,214.94 | 39.80417827 | -80.81200501 |
| 700.00 | 0.42 | 260.790 | 699.97 | 0.56 | -5.70 | 14,455,483.53 | 1,693,214.71 | 39.80417826 | -80.81200583 |
| 730.00 | 0.64 | 295.880 | 729.97 | 0.62 | -5.96 | 14,455,483.58 | 1,693,214.45 | 39.80417841 | -80.81200675 |
| 762.00 | 0.63 | 296.530 | 761.97 | 0.77 | -6.28 | 14,455,483.74 | 1,693,214.13 | 39.80417885 | -80.81200789 |
| 794.00 | 0.66 | 300.360 | 793.97 | 0.95 | -6.59 | 14,455,483.91 | 1,693,213.81 | 39.80417932 | -80.81200901 |
| 825.00 | 0.77 | 291.850 | 824.97 | 1.11 | -6.94 | 14,455,484.08 | 1,693,213.47 | 39.80417978 | -80.81201025 |
| 857.00 | 0.72 | 296.840 | 856.96 | 1.28 | -7.32 | 14,455,484.25 | 1,693,213.09 | 39.80418025 | -80.81201160 |
| 888.00 | 0.77 | 286.710 | 887.96 | 1.43 | -7.69 | 14,455,484.40 | 1,693,212.71 | 39.80418066 | -80.81201292 |
| 980.00 | 1.72 | 272.740 | 979.94 | 1.68 | -9.66 | 14,455,484.64 | 1,693,210.74 | 39.80418134 | -80.81201994 |
| 1,075.00 | 1.25 | 256.990 | 1,074.91 | 1.51 | -12.10 | 14,455,484.48 | 1,693,208.31 | 39.80418090 | -80.81202861 |
| 1,170.00 | 0.77 | 250.820 | 1,169.89 | 1.07 | -13.71 | 14,455,484.03 | 1,693,206.70 | 39.80417970 | -80.81203435 |
| 1,265.00 | 0.94 | 239.580 | 1,264.88 | 1.06 | -14.99 | 14,455,483.43 | 1,693,205.42 | 39.80417804 | -80.81203890 |
| 1,359.00 | 1.15 | 237.300 | 1,358.87 | -0.44 | -16.44 | 14,455,482.53 | 1,693,203.96 | 39.80417558 | -80.81204410 |
| 1,454.00 | 1.26 | 228.660 | 1,453.84 | -1.64 | -18.03 | 14,455,481.32 | 1,693,202.38 | 39.80417228 | -80.81205272 |
| 1,549.00 | 1.07 | 182.870 | 1,548.83 | -3.22 | -18.86 | 14,455,479.75 | 1,693,201.55 | 39.80416796 | -80.81204826 |
| 1,643.00 | 2.07 | 130.110 | 1,642.79 | -5.19 | -17.61 | 14,455,477.78 | 1,693,202.80 | 39.80416254 | -80.81201923 |
| 1,738.00 | 2.88 | 109.240 | 1,737.71 | -7.08 | -14.04 | 14,455,475.89 | 1,693,206.37 | 39.80415474 | -80.81203558 |
| 1,833.00 | 2.83 | 93.550 | 1,832.59 | -8.01 | -9.45 | 14,455,475.19 | 1,693,215.37 | 39.80415535 | -80.81200354 |
| 1,927.00 | 2.59 | 79.800 | 1,926.49 | -7.78 | -5.04 | 14,455,475.63 | 1,693,218.57 | 39.80415654 | -80.81199215 |
| 2,022.00 | 1.31 | 86.840 | 2,021.43 | -7.34 | -1.84 | 14,455,475.63 | 1,693,218.57 | 39.80415654 | -80.81199215 |
| 2,116.00 | 1.38 | 171.080 | 2,115.41 | -8.40 | -0.59 | 14,455,474.57 | 1,693,219.81 | 39.80415362 | -80.81198772 |
| 2,211.00 | 1.92 | 170.740 | 2,210.37 | -11.10 | -0.16 | 14,455,471.87 | 1,693,220.25 | 39.80414620 | -80.81198619 |
| 2,306.00 | 0.20 | 257.390 | 2,305.35 | -12.10 | -0.07 | 14,455,470.26 | 1,693,220.34 | 39.80414179 | -80.81198587 |
| 2,401.00 | 2.94 | 334.020 | 2,400.31 | -10.55 | -1.30 | 14,455,472.41 | 1,693,219.11 | 39.80414771 | -80.81199023 |
| 2,496.00 | 4.02 | 338.660 | 2,495.13 | -5.25 | -3.56 | 14,455,477.71 | 1,693,216.84 | 39.80416227 | -80.811999827 |
| 2,590.00 | 3.46 | 351.420 | 2,588.94 | 0.62 | -5.17 | 14,455,483.59 | 1,693,215.23 | 39.80417842 | -80.81200396 |
| 2,685.00 | 2.17 | 19.660 | 2,683.74 | 5.15 | -5.00 | 14,455,488.12 | 1,693,215.41 | 39.80419086 | -80.81200330 |
| 2,785.00 | 2.43 | 39.790 | 2,780.74 | 8.56 | -3.00 | 14,455,491.53 | 1,693,217.40 | 39.80420022 | -80.81199617 |
| 2,868.00 | 1.75 | 44.660 | 2,866.69 | 10.82 | -0.99 | 14,455,493.78 | 1,693,219.42 | 39.80420640 | -80.81198697 |
| 2,962.00 | 0.35 | 37.230 | 2,960.67 | 12.07 | 0.20 | 14,455,495.03 | 1,693,220.60 | 39.80420982 | -80.81198475 |
| 3,057.00 | 1.40 | 238.760 | 3,055.66 | 11.70 | -0.62 | 14,455,494.66 | 1,693,219.79 | 39.80420881 | -80.81198766 |
| 3,152.00 | 3.65 | 232.420 | 3,150.56 | 9.25 | -4.01 | 14,455,492.21 | 1,693,216.40 | 39.80420211 | -80.81199975 |
| 3,246.00 | 4.86 | 231.350 | 3,244.30 | 4.94 | -8.49 | 14,455,487.90 | 1,693,210.92 | 39.80419030 | -80.81201930 |
| 3,341.00 | 5.04 | 231.970 | 3,338.95 | -0.15 | -15.92 | 14,455,482.82 | 1,693,204.49 | 39.80417637 | -80.81204223 |
| 3,435.00 | 5.82 | 232.900 | 3,432.53 | -5.57 | -22.97 | 14,455,477.40 | 1,693,197.43 | 39.80416153 | -80.812026739 |
| 3,530.00 | 7.32 | 239.300 | 3,526.90 | -11.56 | -32.02 | 14,455,471.40 | 1,693,188.39 | 39.80414512 | -80.81209964 |
| 3,625.00 | 8.39 | 243.660 | 3,621.01 | -17.73 | -43.44 | 14,455,465.24 | 1,693,176.97 | 39.80412825 | -80.81214033 |
| 3,720.00 | 9.23 | 246.280 | 3,714.89 | -23.87 | -56.62 | 14,455,459.10 | 1,693,163.78 | 39.80411147 | -80.81218733 |
| 3,814.00 | 9.77 | 246.830 | 3,807.60 | -30.04 | -70.86 | 14,455,452.93 | 1,693,149.55 | 39.80409460 | -80.812223806 |
| 3,909.00 | 10.80 | 247.410 | 3,901.07 | -36.63 | -86.49 | 14,455,446.34 | 1,693,133.92 | 39.80407659 | -80.81229376 |
| 4,003.00 | 13.12 | 247.510 | 3,993.02 | -44.09 | -104.48 | 14,455,438.87 | 1,693,115.93 | 39.80405619 | -80.81235787 |
| 4,098.00 | 14.68 | 249.900 | 4,085.24 | -52.35 | -125.74 | 14,455,430.61 | 1,693,094.66 | 39.80403363 | -80.81249366 |
| 4,193.00 | 15.96 | 251.990 | 4,176.86 | -60.68 | -149.42 | 14,455,422.28 | 1,693,070.99 | 39.80401090 | -80.81251802 |
| 4,287.00 | 17.46 | 252.370 | 4,266.89 | -69.10 | -175.10 | 14,455,413.87 | 1,693,045.31 | 39.80398793 | -80.81260953 |
| 4,382.00 | 20.75 | 250.410 | 4,356.65 | -79.06 | -204.55 | 14,455,403.90 | 1,693,015.86 | 39.80396074 | -80.81271444 |



Survey Report - Geographic



Company: Tug Hill Operating LLC
Project: Marshall County, West Virginia
Site: Woodford
Well: Woodford 06HU (F)
Wellbore: Original Hole
Design: Surveys Original Hole

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

Well Woodford 06HU (F)
RKB=1235+33 @ 1268.00ft (Nabors X08)
RKB=1235+33 @ 1268.00ft (Nabors X08)
Grid
Minimum Curvature
DB_Aug1919_v14

Table with columns: Measured Depth (ft), Inclination (°), Azimuth (°), Vertical Depth (ft), +N/S (ft), +E/W (ft), Map Northing (usft), Map Easting (usft), Latitude, Longitude. Contains 48 rows of survey data.



Survey Report - Geographic



Company: Tug Hill Operating LLC
Project: Marshall County, West Virginia
Site: Woodford
Well: Woodford 06HU (F)
Wellbore: Original Hole
Design: Surveys Original Hole

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

Well Woodford 06HU (F)
RKB=1235+33 @ 1268.00ft (Nabors X08)
RKB=1235+33 @ 1268.00ft (Nabors X08)
Grid
Minimum Curvature
DB_Aug1919_v14

Survey

Table with 10 columns: Measured Depth (ft), Inclination (°), Azimuth (°), Vertical Depth (ft), +N/-S (ft), +E/-W (ft), Map Northing (usft), Map Easting (usft), Latitude, Longitude. Contains 30 rows of survey data.



TUG HILL
OPERATING

Survey Report - Geographic



Company: Tug Hill Operating LLC
Project: Marshall County, West Virginia
Site: Woodford
Well: Woodford 06HU (F)
Wellbore: Original Hole
Design: Surveys Original Hole

Local Co-ordinate Reference:
TVD Reference: Well Woodford 06HU (F)
MD Reference: RKB=1235+33 @ 1268.00ft (Nabors X08)
North Reference: RKB=1235+33 @ 1268.00ft (Nabors X08)
Survey Calculation Method: Grid
Database: Minimum Curvature
 DB_Aug1919_v14

Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude |
|---|-----------------|-------------|---------------------|------------|------------|---------------------|--------------------|-------------|--------------|
| 13,206.00 | 88.75 | 147.900 | 10,996.98 | -2,876.54 | -1,105.77 | 14,452,606.43 | 1,692,114.64 | 39.79628325 | -80.81594381 |
| 13,300.00 | 88.79 | 147.990 | 10,999.00 | -2,956.19 | -1,055.89 | 14,452,526.78 | 1,692,164.52 | 39.79606423 | -80.81576682 |
| 13,395.00 | 88.26 | 148.250 | 11,001.44 | -3,036.83 | -1,005.73 | 14,452,446.14 | 1,692,214.67 | 39.79584248 | -80.81558884 |
| 13,489.00 | 89.19 | 148.430 | 11,003.53 | -3,116.82 | -956.41 | 14,452,366.15 | 1,692,264.00 | 39.79562252 | -80.81541382 |
| 13,584.00 | 90.20 | 149.660 | 11,004.04 | -3,198.29 | -907.55 | 14,452,284.68 | 1,692,312.86 | 39.79539852 | -80.81524046 |
| 13,678.00 | 90.20 | 149.830 | 11,003.71 | -3,279.48 | -860.19 | 14,452,203.49 | 1,692,360.22 | 39.79517526 | -80.81507244 |
| 13,773.00 | 89.98 | 149.570 | 11,003.56 | -3,361.50 | -812.26 | 14,452,121.47 | 1,692,408.15 | 39.79494974 | -80.81490241 |
| 13,868.00 | 89.58 | 149.830 | 11,003.93 | -3,443.53 | -764.33 | 14,452,039.44 | 1,692,456.08 | 39.79472421 | -80.81473238 |
| 13,962.00 | 89.41 | 149.390 | 11,004.76 | -3,524.61 | -716.77 | 14,451,958.36 | 1,692,503.63 | 39.79450127 | -80.81456369 |
| 14,056.00 | 89.27 | 150.010 | 11,005.84 | -3,605.76 | -669.35 | 14,451,877.21 | 1,692,551.06 | 39.79427813 | -80.81439546 |
| 14,151.00 | 89.54 | 151.240 | 11,006.82 | -3,688.54 | -622.76 | 14,451,794.43 | 1,692,597.65 | 39.79405053 | -80.81423019 |
| 14,245.00 | 89.67 | 152.380 | 11,007.47 | -3,771.39 | -578.35 | 14,451,711.58 | 1,692,642.06 | 39.79382276 | -80.81407272 |
| 14,339.00 | 88.54 | 152.560 | 11,008.12 | -3,854.74 | -534.91 | 14,451,628.23 | 1,692,685.50 | 39.79359359 | -80.81391866 |
| 14,434.00 | 89.45 | 153.000 | 11,008.96 | -3,939.22 | -491.45 | 14,451,543.75 | 1,692,728.96 | 39.79336135 | -80.81376459 |
| 14,529.00 | 89.85 | 151.590 | 11,009.54 | -4,023.32 | -447.29 | 14,451,459.65 | 1,692,773.12 | 39.79313013 | -80.81360799 |
| 14,623.00 | 89.67 | 151.850 | 11,009.93 | -4,106.10 | -402.75 | 14,451,376.87 | 1,692,817.66 | 39.79290254 | -80.81345006 |
| 14,717.00 | 89.45 | 151.060 | 11,010.65 | -4,188.67 | -357.84 | 14,451,294.30 | 1,692,862.57 | 39.79267552 | -80.81329077 |
| 14,811.00 | 88.70 | 149.390 | 11,012.17 | -4,270.25 | -311.17 | 14,451,212.72 | 1,692,909.24 | 39.79245122 | -80.81312522 |
| 14,906.00 | 88.66 | 149.570 | 11,014.36 | -4,352.06 | -262.93 | 14,451,130.91 | 1,692,957.47 | 39.79222825 | -80.81295412 |
| 15,000.00 | 88.22 | 149.390 | 11,016.92 | -4,433.01 | -215.21 | 14,451,049.96 | 1,693,005.19 | 39.79200368 | -80.81278485 |
| 15,095.00 | 88.79 | 149.860 | 11,019.40 | -4,514.86 | -167.05 | 14,450,968.11 | 1,693,053.36 | 39.79177863 | -80.81261400 |
| 15,190.00 | 88.92 | 149.740 | 11,021.30 | -4,596.86 | -119.13 | 14,450,886.11 | 1,693,101.28 | 39.79155314 | -80.81244401 |
| 15,284.00 | 88.66 | 149.220 | 11,023.28 | -4,677.82 | -71.40 | 14,450,805.15 | 1,693,149.00 | 39.79133053 | -80.81227471 |
| 15,379.00 | 90.37 | 152.820 | 11,024.09 | -4,760.91 | -25.39 | 14,450,722.07 | 1,693,195.02 | 39.79110209 | -80.81211152 |
| 15,474.00 | 90.77 | 153.520 | 11,023.14 | -4,845.68 | 17.49 | 14,450,637.30 | 1,693,237.90 | 39.79086905 | -80.81195952 |
| 15,569.00 | 90.42 | 151.240 | 11,022.15 | -4,929.84 | 61.52 | 14,450,553.13 | 1,693,281.93 | 39.79063766 | -80.81180338 |
| 15,663.00 | 89.60 | 148.690 | 11,022.01 | -5,011.21 | 108.57 | 14,450,471.21 | 1,693,328.98 | 39.79041392 | -80.81163651 |
| 15,758.00 | 90.37 | 147.280 | 11,021.90 | -5,091.76 | 158.93 | 14,450,312.60 | 1,693,430.87 | 39.78997623 | -80.81145783 |
| 15,852.00 | 89.80 | 146.230 | 11,021.76 | -5,170.37 | 210.46 | 14,449,992.57 | 1,693,579.64 | 39.78971922 | -80.81127498 |
| 15,947.00 | 89.89 | 148.340 | 11,022.02 | -5,250.30 | 261.80 | 14,450,232.68 | 1,693,482.21 | 39.78975643 | -80.81109281 |
| 16,042.00 | 89.32 | 148.600 | 11,022.67 | -5,331.27 | 311.48 | 14,450,151.70 | 1,693,531.89 | 39.78953377 | -80.81091657 |
| 16,134.00 | 90.42 | 148.870 | 11,022.88 | -5,409.91 | 359.23 | 14,450,073.07 | 1,693,579.64 | 39.78931753 | -80.81074719 |
| 16,228.00 | 90.77 | 148.950 | 11,021.90 | -5,490.40 | 407.77 | 14,449,992.57 | 1,693,628.17 | 39.78909620 | -80.81057501 |
| 16,323.00 | 90.99 | 149.310 | 11,020.44 | -5,571.93 | 456.51 | 14,449,911.04 | 1,693,676.91 | 39.78887200 | -80.81040213 |
| 16,418.00 | 91.03 | 149.660 | 11,018.77 | -5,653.76 | 504.74 | 14,449,829.21 | 1,693,725.14 | 39.78864700 | -80.81023106 |
| 16,512.00 | 90.99 | 149.740 | 11,017.11 | -5,734.91 | 552.15 | 14,449,748.07 | 1,693,772.56 | 39.78842387 | -80.81006287 |
| 16,607.00 | 90.64 | 149.830 | 11,015.76 | -5,817.00 | 599.96 | 14,449,665.98 | 1,693,820.36 | 39.78819816 | -80.80989332 |
| 16,702.00 | 90.46 | 149.920 | 11,014.85 | -5,899.16 | 647.63 | 14,449,583.82 | 1,693,868.04 | 39.78797224 | -80.80972422 |
| 16,796.00 | 90.33 | 149.740 | 11,014.20 | -5,980.42 | 694.87 | 14,449,502.55 | 1,693,915.28 | 39.78774879 | -80.80955667 |
| 16,890.00 | 89.93 | 149.740 | 11,013.99 | -6,061.62 | 742.24 | 14,449,421.36 | 1,693,962.65 | 39.78752554 | -80.80938867 |
| 16,985.00 | 88.70 | 149.390 | 11,015.12 | -6,143.52 | 790.36 | 14,449,339.46 | 1,694,010.77 | 39.78730033 | -80.80921800 |
| 17,080.00 | 88.13 | 148.690 | 11,017.75 | -6,224.95 | 839.21 | 14,449,258.03 | 1,694,059.62 | 39.78707641 | -80.80904471 |
| 17,174.00 | 88.66 | 150.450 | 11,020.38 | -6,305.97 | 886.80 | 14,449,177.01 | 1,694,107.21 | 39.78685364 | -80.80887593 |
| 17,268.00 | 88.35 | 150.010 | 11,022.84 | -6,387.53 | 933.46 | 14,449,095.44 | 1,694,153.87 | 39.78662936 | -80.80871046 |
| 17,363.00 | 88.22 | 149.830 | 11,025.68 | -6,469.70 | 981.05 | 14,449,013.27 | 1,694,201.46 | 39.78640342 | -80.80854167 |
| 17,418.00 | 88.57 | 149.830 | 11,027.22 | -6,517.23 | 1,008.68 | 14,448,965.74 | 1,694,229.09 | 39.78627272 | -80.80844368 |
| Survey @ 17418.00 MD 11027.22 TVD | | | | | | | | | |
| 17,473.00 | 88.57 | 149.830 | 11,028.59 | -6,564.77 | 1,036.32 | 14,448,918.21 | 1,694,256.72 | 39.78614202 | -80.80834568 |
| Survey projected to 17473.00 MD 11028.59 TVD | | | | | | | | | |



| | | | |
|------------------|--------------------------------|-------------------------------------|--------------------------------------|
| Company: | Tug Hill Operating LLC | Local Co-ordinate Reference: | Well Woodford 06HU (F) |
| Project: | Marshall County, West Virginia | TVD Reference: | RKB=1235+33 @ 1268.00ft (Nabors X08) |
| Site: | Woodford | MD Reference: | RKB=1235+33 @ 1268.00ft (Nabors X08) |
| Well: | Woodford 06HU (F) | North Reference: | Grid |
| Wellbore: | Original Hole | Survey Calculation Method: | Minimum Curvature |
| Design: | Surveys Original Hole | Database: | DB_Aug1919_v14 |

| Design Annotations | | | | |
|---------------------|---------------------|------------------------------|------------------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates +N/-S (ft) | Local Coordinates +E/-W (ft) | Comment |
| 158.00 | 158.00 | -0.06 | -1.07 | MWD surveys |
| 17,418.00 | 11,027.22 | -6,517.23 | 1,008.68 | Survey @ 17418.00 MD 11027.22 TVD |
| 17,473.00 | 11,028.59 | -6,564.77 | 1,036.32 | Survey projected to 17473.00 MD 11028.59 TVD |