



Ursa Operating Company, LLC

Rio Blanco County, Colorado

Boies Ranch B-19N Pad

Boies Ranch B-19N FED 22C-19-2-97

Wellbore #1

Plan: APD

Standard Planning Report

24 September, 2018

| | | | |
|------------------|-----------------------------------|-------------------------------------|---|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Boies Ranch B-19N FED 22C-19-2-97 |
| Company: | Ursa Operating Company, LLC | TVD Reference: | Boies Ranch B-19N FED 22C-19-2-97 @ 6325.8usft (EST KB) |
| Project: | Rio Blanco County, Colorado | MD Reference: | Boies Ranch B-19N FED 22C-19-2-97 @ 6325.8usft (EST KB) |
| Site: | Boies Ranch B-19N Pad | North Reference: | True |
| Well: | Boies Ranch B-19N FED 22C-19-2-97 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | APD | | |

| | | | |
|--------------------|-----------------------------|----------------------|-----------------------------|
| Project | Rio Blanco County, Colorado | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Northern Zone | | Using geodetic scale factor |

| | | | |
|------------------------------|-----------------------|--------------------------|-------------------|
| Site | Boies Ranch B-19N Pad | | |
| Site Position: | | Northing: | 1,203,643.43 usft |
| From: | Lat/Long | Easting: | 2,206,000.33 usft |
| Position Uncertainty: | 0.0 usft | Slot Radius: | 13-3/16 " |
| | | Latitude: | 39.857609622 |
| | | Longitude: | -108.328733084 |
| | | Grid Convergence: | -1.83 ° |

| | | | |
|-----------------------------|--|----------------------------|------------------------------------|
| Well | Boies Ranch B-19N FED 22C-19-2-97, SHL: Lat 39.857548054 Long -108.328403880 | | |
| Well Position | +N/-S | -22.4 usft | Northing: 1,203,618.07 usft |
| | +E/-W | 92.4 usft | Easting: 2,206,091.99 usft |
| Position Uncertainty | 0.0 usft | Wellhead Elevation: | 6,325.8 usft |
| | | Ground Level: | 6,304.8 usft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Wellbore #1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2015 | 7/17/2018 | 9.78 | 65.80 | 51,557 |

| | | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|--|
| Design | APD | | | | |
| Audit Notes: | | | | | |
| Version: | Phase: | PROTOTYPE | Tie On Depth: | 0.0 | |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) | |
| | 0.0 | 0.0 | 0.0 | 4.09 | |

| Plan Sections | | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|-----------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 800.0 | 0.00 | 0.00 | 800.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,502.2 | 24.58 | 4.09 | 1,480.8 | 147.9 | 10.6 | 3.50 | 3.50 | 0.00 | 4.09 | |
| 5,978.0 | 24.58 | 4.09 | 5,551.2 | 2,004.7 | 143.5 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,680.1 | 0.00 | 0.00 | 6,232.0 | 2,152.6 | 154.1 | 3.50 | -3.50 | 0.00 | 180.00 | 22C-19-2-97 TGT |
| 11,614.1 | 0.00 | 0.00 | 11,166.0 | 2,152.6 | 154.1 | 0.00 | 0.00 | 0.00 | 0.00 | |

| | | | |
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| Project: | Rio Blanco County, Colorado | MD Reference: | Boies Ranch B-19N FED 22C-19-2-97 @ 6325.8usft (EST KB) |
| Site: | Boies Ranch B-19N Pad | North Reference: | True |
| Well: | Boies Ranch B-19N FED 22C-19-2-97 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | APD | | |

| Planned Survey | | | | | | | | | | |
|----------------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 0.1 | 0.00 | 0.00 | 0.1 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| SHL 39.857548054, -108.328403880 | | | | | | | | | | |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 400.0 | 0.00 | 0.00 | 400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 500.0 | 0.00 | 0.00 | 500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 600.0 | 0.00 | 0.00 | 600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 700.0 | 0.00 | 0.00 | 700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 800.0 | 0.00 | 0.00 | 800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| Start Build 3.50 | | | | | | | | | | |
| 900.0 | 3.50 | 4.09 | 899.9 | 3.0 | 0.2 | 3.1 | 3.50 | 3.50 | 0.00 | |
| 900.1 | 3.50 | 4.09 | 900.0 | 3.0 | 0.2 | 3.1 | 0.00 | 0.00 | 0.00 | |
| Mahogany Bench | | | | | | | | | | |
| 957.2 | 5.50 | 4.09 | 957.0 | 7.5 | 0.5 | 7.5 | 3.50 | 3.50 | 0.00 | |
| Dissolution Surface | | | | | | | | | | |
| 1,000.0 | 7.00 | 4.09 | 999.5 | 12.2 | 0.9 | 12.2 | 3.50 | 3.50 | 0.00 | |
| 1,100.0 | 10.50 | 4.09 | 1,098.3 | 27.3 | 2.0 | 27.4 | 3.50 | 3.50 | 0.00 | |
| 1,200.0 | 14.00 | 4.09 | 1,196.0 | 48.5 | 3.5 | 48.6 | 3.50 | 3.50 | 0.00 | |
| 1,300.0 | 17.50 | 4.09 | 1,292.3 | 75.6 | 5.4 | 75.8 | 3.50 | 3.50 | 0.00 | |
| 1,400.0 | 21.00 | 4.09 | 1,386.7 | 108.5 | 7.8 | 108.7 | 3.50 | 3.50 | 0.00 | |
| 1,502.2 | 24.58 | 4.09 | 1,480.8 | 147.9 | 10.6 | 148.3 | 3.50 | 3.50 | 0.00 | |
| Start 4475.8 hold at 1502.2 MD | | | | | | | | | | |
| 1,600.0 | 24.58 | 4.09 | 1,569.8 | 188.5 | 13.5 | 189.0 | 0.00 | 0.00 | 0.00 | |
| 1,700.0 | 24.58 | 4.09 | 1,660.7 | 230.0 | 16.5 | 230.6 | 0.00 | 0.00 | 0.00 | |
| 1,800.0 | 24.58 | 4.09 | 1,751.7 | 271.5 | 19.4 | 272.2 | 0.00 | 0.00 | 0.00 | |
| 1,900.0 | 24.58 | 4.09 | 1,842.6 | 313.0 | 22.4 | 313.8 | 0.00 | 0.00 | 0.00 | |
| 2,000.0 | 24.58 | 4.09 | 1,933.6 | 354.4 | 25.4 | 355.3 | 0.00 | 0.00 | 0.00 | |
| 2,100.0 | 24.58 | 4.09 | 2,024.5 | 395.9 | 28.3 | 396.9 | 0.00 | 0.00 | 0.00 | |
| 2,141.2 | 24.58 | 4.09 | 2,062.0 | 413.0 | 29.6 | 414.1 | 0.00 | 0.00 | 0.00 | |
| Garden Gulch Mbr | | | | | | | | | | |
| 2,200.0 | 24.58 | 4.09 | 2,115.4 | 437.4 | 31.3 | 438.5 | 0.00 | 0.00 | 0.00 | |
| 2,300.0 | 24.58 | 4.09 | 2,206.4 | 478.9 | 34.3 | 480.1 | 0.00 | 0.00 | 0.00 | |
| 2,326.0 | 24.58 | 4.09 | 2,230.0 | 489.7 | 35.0 | 490.9 | 0.00 | 0.00 | 0.00 | |
| Wasatch | | | | | | | | | | |
| 2,400.0 | 24.58 | 4.09 | 2,297.3 | 520.4 | 37.2 | 521.7 | 0.00 | 0.00 | 0.00 | |
| 2,500.0 | 24.58 | 4.09 | 2,388.3 | 561.9 | 40.2 | 563.3 | 0.00 | 0.00 | 0.00 | |
| 2,600.0 | 24.58 | 4.09 | 2,479.2 | 603.3 | 43.2 | 604.9 | 0.00 | 0.00 | 0.00 | |
| 2,700.0 | 24.58 | 4.09 | 2,570.2 | 644.8 | 46.2 | 646.5 | 0.00 | 0.00 | 0.00 | |
| 2,800.0 | 24.58 | 4.09 | 2,661.1 | 686.3 | 49.1 | 688.1 | 0.00 | 0.00 | 0.00 | |
| 2,900.0 | 24.58 | 4.09 | 2,752.0 | 727.8 | 52.1 | 729.7 | 0.00 | 0.00 | 0.00 | |
| 3,000.0 | 24.58 | 4.09 | 2,843.0 | 769.3 | 55.1 | 771.3 | 0.00 | 0.00 | 0.00 | |
| 3,100.0 | 24.58 | 4.09 | 2,933.9 | 810.8 | 58.0 | 812.8 | 0.00 | 0.00 | 0.00 | |
| 3,200.0 | 24.58 | 4.09 | 3,024.9 | 852.3 | 61.0 | 854.4 | 0.00 | 0.00 | 0.00 | |
| 3,300.0 | 24.58 | 4.09 | 3,115.8 | 893.7 | 64.0 | 896.0 | 0.00 | 0.00 | 0.00 | |
| 3,400.0 | 24.58 | 4.09 | 3,206.7 | 935.2 | 66.9 | 937.6 | 0.00 | 0.00 | 0.00 | |
| 3,500.0 | 24.58 | 4.09 | 3,297.7 | 976.7 | 69.9 | 979.2 | 0.00 | 0.00 | 0.00 | |
| 3,600.0 | 24.58 | 4.09 | 3,388.6 | 1,018.2 | 72.9 | 1,020.8 | 0.00 | 0.00 | 0.00 | |
| 3,700.0 | 24.58 | 4.09 | 3,479.6 | 1,059.7 | 75.9 | 1,062.4 | 0.00 | 0.00 | 0.00 | |
| 3,722.5 | 24.58 | 4.09 | 3,500.0 | 1,069.0 | 76.5 | 1,071.7 | 0.00 | 0.00 | 0.00 | |

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| Wellbore: | Wellbore #1 | | |
| Design: | APD | | |

Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Surface Casing | | | | | | | | | |
| 3,800.0 | 24.58 | 4.09 | 3,570.5 | 1,101.2 | 78.8 | 1,104.0 | 0.00 | 0.00 | 0.00 |
| 3,900.0 | 24.58 | 4.09 | 3,661.4 | 1,142.6 | 81.8 | 1,145.6 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 24.58 | 4.09 | 3,752.4 | 1,184.1 | 84.8 | 1,187.2 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 24.58 | 4.09 | 3,843.3 | 1,225.6 | 87.7 | 1,228.8 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 24.58 | 4.09 | 3,934.3 | 1,267.1 | 90.7 | 1,270.3 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 24.58 | 4.09 | 4,025.2 | 1,308.6 | 93.7 | 1,311.9 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 24.58 | 4.09 | 4,116.1 | 1,350.1 | 96.6 | 1,353.5 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 24.58 | 4.09 | 4,207.1 | 1,391.6 | 99.6 | 1,395.1 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 24.58 | 4.09 | 4,298.0 | 1,433.0 | 102.6 | 1,436.7 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 24.58 | 4.09 | 4,389.0 | 1,474.5 | 105.5 | 1,478.3 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 24.58 | 4.09 | 4,479.9 | 1,516.0 | 108.5 | 1,519.9 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 24.58 | 4.09 | 4,570.8 | 1,557.5 | 111.5 | 1,561.5 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 24.58 | 4.09 | 4,661.8 | 1,599.0 | 114.5 | 1,603.1 | 0.00 | 0.00 | 0.00 |
| 5,010.1 | 24.58 | 4.09 | 4,671.0 | 1,603.2 | 114.8 | 1,607.3 | 0.00 | 0.00 | 0.00 |
| Ft Union | | | | | | | | | |
| 5,100.0 | 24.58 | 4.09 | 4,752.7 | 1,640.5 | 117.4 | 1,644.7 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 24.58 | 4.09 | 4,843.7 | 1,681.9 | 120.4 | 1,686.3 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 24.58 | 4.09 | 4,934.6 | 1,723.4 | 123.4 | 1,727.8 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 24.58 | 4.09 | 5,025.6 | 1,764.9 | 126.3 | 1,769.4 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 24.58 | 4.09 | 5,116.5 | 1,806.4 | 129.3 | 1,811.0 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 24.58 | 4.09 | 5,207.4 | 1,847.9 | 132.3 | 1,852.6 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 24.58 | 4.09 | 5,298.4 | 1,889.4 | 135.2 | 1,894.2 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 24.58 | 4.09 | 5,389.3 | 1,930.9 | 138.2 | 1,935.8 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 24.58 | 4.09 | 5,480.3 | 1,972.3 | 141.2 | 1,977.4 | 0.00 | 0.00 | 0.00 |
| 5,978.0 | 24.58 | 4.09 | 5,551.2 | 2,004.7 | 143.5 | 2,009.8 | 0.00 | 0.00 | 0.00 |
| Start Drop -3.50 | | | | | | | | | |
| 6,000.0 | 23.81 | 4.09 | 5,571.3 | 2,013.7 | 144.1 | 2,018.8 | 3.50 | -3.50 | 0.00 |
| 6,100.0 | 20.31 | 4.09 | 5,663.9 | 2,051.1 | 146.8 | 2,056.4 | 3.50 | -3.50 | 0.00 |
| 6,200.0 | 16.81 | 4.09 | 5,758.7 | 2,082.9 | 149.1 | 2,088.2 | 3.50 | -3.50 | 0.00 |
| 6,300.0 | 13.31 | 4.09 | 5,855.3 | 2,108.8 | 150.9 | 2,114.2 | 3.50 | -3.50 | 0.00 |
| 6,400.0 | 9.81 | 4.09 | 5,953.2 | 2,128.8 | 152.4 | 2,134.2 | 3.50 | -3.50 | 0.00 |
| 6,489.7 | 6.67 | 4.09 | 6,042.0 | 2,141.6 | 153.3 | 2,147.0 | 3.50 | -3.50 | 0.00 |
| Ohio Creek | | | | | | | | | |
| 6,500.0 | 6.31 | 4.09 | 6,052.2 | 2,142.7 | 153.4 | 2,148.2 | 3.50 | -3.50 | 0.00 |
| 6,600.0 | 2.81 | 4.09 | 6,151.9 | 2,150.6 | 153.9 | 2,156.2 | 3.50 | -3.50 | 0.00 |
| 6,680.1 | 0.00 | 0.00 | 6,232.0 | 2,152.6 | 154.1 | 2,158.1 | 3.50 | -3.50 | 0.00 |
| Start 4934.0 hold at 6680.1 MD - Back to Vertical - Williams Fork - Top of Gas - 22C-19-2-97 TGT | | | | | | | | | |
| 6,700.0 | 0.00 | 0.00 | 6,251.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 0.00 | 0.00 | 6,351.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 0.00 | 0.00 | 6,451.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 0.00 | 0.00 | 6,551.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 0.00 | 0.00 | 6,651.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 0.00 | 0.00 | 6,751.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 0.00 | 0.00 | 6,851.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 0.00 | 0.00 | 6,951.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 0.00 | 0.00 | 7,051.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 0.00 | 0.00 | 7,151.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 0.00 | 0.00 | 7,251.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 0.00 | 0.00 | 7,351.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 0.00 | 0.00 | 7,451.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 |

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| Well: | Boies Ranch B-19N FED 22C-19-2-97 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | APD | | |

| Planned Survey | | | | | | | | | | |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | |
| 8,000.0 | 0.00 | 0.00 | 7,551.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 8,100.0 | 0.00 | 0.00 | 7,651.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 8,200.0 | 0.00 | 0.00 | 7,751.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 8,300.0 | 0.00 | 0.00 | 7,851.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 8,400.0 | 0.00 | 0.00 | 7,951.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 8,500.0 | 0.00 | 0.00 | 8,051.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 8,600.0 | 0.00 | 0.00 | 8,151.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 8,700.0 | 0.00 | 0.00 | 8,251.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 8,800.0 | 0.00 | 0.00 | 8,351.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 8,900.0 | 0.00 | 0.00 | 8,451.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 9,000.0 | 0.00 | 0.00 | 8,551.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 9,100.0 | 0.00 | 0.00 | 8,651.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 9,200.0 | 0.00 | 0.00 | 8,751.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 9,300.0 | 0.00 | 0.00 | 8,851.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 9,400.0 | 0.00 | 0.00 | 8,951.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 9,500.0 | 0.00 | 0.00 | 9,051.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 9,600.0 | 0.00 | 0.00 | 9,151.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 9,700.0 | 0.00 | 0.00 | 9,251.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 9,789.1 | 0.00 | 0.00 | 9,341.0 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| Cameo | | | | | | | | | | |
| 9,800.0 | 0.00 | 0.00 | 9,351.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 9,900.0 | 0.00 | 0.00 | 9,451.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 10,000.0 | 0.00 | 0.00 | 9,551.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 10,100.0 | 0.00 | 0.00 | 9,651.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 10,200.0 | 0.00 | 0.00 | 9,751.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 10,300.0 | 0.00 | 0.00 | 9,851.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 10,334.1 | 0.00 | 0.00 | 9,886.0 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| Rollins | | | | | | | | | | |
| 10,400.0 | 0.00 | 0.00 | 9,951.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 10,478.1 | 0.00 | 0.00 | 10,030.0 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| Cozzette | | | | | | | | | | |
| 10,500.0 | 0.00 | 0.00 | 10,051.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 10,600.0 | 0.00 | 0.00 | 10,151.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 10,700.0 | 0.00 | 0.00 | 10,251.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 10,800.0 | 0.00 | 0.00 | 10,351.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 10,812.1 | 0.00 | 0.00 | 10,364.0 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| Corcoran | | | | | | | | | | |
| 10,900.0 | 0.00 | 0.00 | 10,451.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 10,996.1 | 0.00 | 0.00 | 10,548.0 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| Upper Sego | | | | | | | | | | |
| 11,000.0 | 0.00 | 0.00 | 10,551.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 11,100.0 | 0.00 | 0.00 | 10,651.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 11,200.0 | 0.00 | 0.00 | 10,751.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 11,300.0 | 0.00 | 0.00 | 10,851.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 11,400.0 | 0.00 | 0.00 | 10,951.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 11,500.0 | 0.00 | 0.00 | 11,051.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 11,600.0 | 0.00 | 0.00 | 11,151.9 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| 11,614.1 | 0.00 | 0.00 | 11,166.0 | 2,152.6 | 154.1 | 2,158.1 | 0.00 | 0.00 | 0.00 | |
| TD at 11614.1 | | | | | | | | | | |

| | | | |
|------------------|-----------------------------------|-------------------------------------|---|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Boies Ranch B-19N FED 22C-19-2-97 |
| Company: | Ursa Operating Company, LLC | TVD Reference: | Boies Ranch B-19N FED 22C-19-2-97 @ 6325.8usft (EST KB) |
| Project: | Rio Blanco County, Colorado | MD Reference: | Boies Ranch B-19N FED 22C-19-2-97 @ 6325.8usft (EST KB) |
| Site: | Boies Ranch B-19N Pad | North Reference: | True |
| Well: | Boies Ranch B-19N FED 22C-19-2-97 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | APD | | |

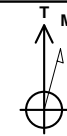
| Design Targets | | | | | | | | | |
|---|-----------|----------|---------|---------|--------|--------------|--------------|--------------|----------------|
| Target Name | Dip Angle | Dip Dir. | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
| - hit/miss target | (°) | (°) | (usft) | (usft) | (usft) | (usft) | (usft) | | |
| - Shape | | | | | | | | | |
| 22C-19-2-97 TGT | 0.00 | 0.00 | 6,232.0 | 2,152.6 | 154.1 | 1,205,764.63 | 2,206,314.64 | 39.863457300 | -108.327855000 |
| - plan hits target center | | | | | | | | | |
| - Rectangle (sides W100.0 H40.0 D4,934.0) | | | | | | | | | |

| Formations | | | | | |
|----------------|----------------|---------------------|-----------|------|---------------|
| Measured Depth | Vertical Depth | Name | Lithology | Dip | Dip Direction |
| (usft) | (usft) | | | (°) | (°) |
| 900.1 | 900.0 | Mahogany Bench | | 0.00 | |
| 957.2 | 957.0 | Dissolution Surface | | 0.00 | |
| 2,141.2 | 2,062.0 | Garden Gulch Mbr | | 0.00 | |
| 2,326.0 | 2,230.0 | Wasatch | | 0.00 | |
| 5,010.1 | 4,671.0 | Ft Union | | 0.00 | |
| 6,489.7 | 6,042.0 | Ohio Creek | | 0.00 | |
| 6,680.1 | 6,232.0 | Williams Fork | | 0.00 | |
| 6,680.1 | 6,232.0 | Top of Gas | | 0.00 | |
| 9,789.1 | 9,341.0 | Cameo | | 0.00 | |
| 10,334.1 | 9,886.0 | Rollins | | 0.00 | |
| 10,478.1 | 10,030.0 | Cozzette | | 0.00 | |
| 10,812.1 | 10,364.0 | Corcoran | | 0.00 | |
| 10,996.1 | 10,548.0 | Upper Sego | | 0.00 | |

| Plan Annotations | | | | |
|------------------|----------------|-------------------|--------------|----------------------------------|
| Measured Depth | Vertical Depth | Local Coordinates | | Comment |
| (usft) | (usft) | +N/-S (usft) | +E/-W (usft) | |
| 0.1 | 0.1 | 0.0 | 0.0 | SHL 39.857548054, -108.328403880 |
| 800.0 | 800.0 | 0.0 | 0.0 | Start Build 3.50 |
| 1,502.2 | 1,480.8 | 147.9 | 10.6 | Start 4475.8 hold at 1502.2 MD |
| 3,722.5 | 3,500.0 | 1,069.0 | 76.5 | Surface Casing |
| 5,978.0 | 5,551.2 | 2,004.7 | 143.5 | Start Drop -3.50 |
| 6,680.1 | 6,232.0 | 2,152.6 | 154.1 | Start 4934.0 hold at 6680.1 MD |
| 6,680.1 | 6,232.0 | 2,152.6 | 154.1 | Back to Vertical |
| 11,614.1 | 11,166.0 | 2,152.6 | 154.1 | TD at 11614.1 |
| 11,614.1 | 11,166.0 | 2,152.6 | 154.1 | BHL 39.8634573, -108.3278550 |



Well Name:Boies Ranch B-19N FED 22C-19-2-97
Surface Location: Boies Ranch B-19N Pad
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 6304.8
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1203618.08 2206091.99 39.857548054 -108.328403880
EST KB Boies Ranch B-19N FED 22C-19-2-97 @ 6325.8usft (EST KB)



Azimuths to True North
Magnetic North: 9.78°
Magnetic Field
Strength: 51556.9nT
Dip Angle: 65.80°
Date: 7/17/2018
Model: IGRF2015

Boies Ranch B-19N Pad
Boies Ranch B-19N FED 22C-19-2-97
APD
11:40, September 24 2018

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
|-----------------|--------|--------|-------|------------|------------|--------------|----------------|---------------------------------|
| 22C-19-2-97 TGT | 6232.0 | 2152.6 | 154.1 | 1205764.63 | 2206314.64 | 39.863457300 | -108.327855000 | Rectangle (Sides: L40.0 W100.0) |

SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | Vsect | Target |
|-----|---------|-------|------|---------|--------|-------|------|--------|--------|-----------------|
| 1 | 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 2 | 800.0 | 0.00 | 0.00 | 800.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 3 | 1502.2 | 24.58 | 4.09 | 1480.8 | 147.9 | 10.6 | 3.50 | 4.09 | 148.3 | |
| 4 | 5978.0 | 24.58 | 4.09 | 5551.2 | 2004.7 | 143.5 | 0.00 | 0.00 | 2009.8 | |
| 5 | 6680.1 | 0.00 | 0.00 | 6232.0 | 2152.6 | 154.1 | 3.50 | 180.00 | 2158.1 | 22C-19-2-97 TGT |
| 6 | 11614.1 | 0.00 | 0.00 | 11166.0 | 2152.6 | 154.1 | 0.00 | 0.00 | 2158.1 | |

ANNOTATIONS

| TVD | MD | Annotation |
|---------|---------|----------------------------------|
| 0.1 | 0.1 | SHL 39.857548054, -108.328403880 |
| 800.0 | 800.0 | Start Build 3.50 |
| 1480.8 | 1502.2 | Start 4475.8 hold at 1502.2 MD |
| 3500.0 | 3722.5 | Surface Casing |
| 5551.2 | 5978.0 | Start Drop -3.50 |
| 6232.0 | 6680.1 | Start 4934.0 hold at 6680.1 MD |
| 6232.0 | 6680.1 | Back to Vertical |
| 11166.0 | 11614.1 | TD at 11614.1 |
| 11166.0 | 11614.1 | BHL 39.8634573, -108.3278550 |

FORMATION TOP DETAILS

| TVDPath | MDPath | Formation | DipAngle | DipDir |
|---------|---------|---------------------|----------|--------|
| 900.0 | 900.1 | Mahogany Bench | 0.00 | |
| 957.0 | 957.2 | Dissolution Surface | 0.00 | |
| 2062.0 | 2141.2 | Garden Gulch Mbr | 0.00 | |
| 2230.0 | 2326.0 | Wasatch | 0.00 | |
| 4671.0 | 5010.1 | Ft Union | 0.00 | |
| 6042.0 | 6489.7 | Ohio Creek | 0.00 | |
| 6232.0 | 6680.1 | Top of Gas | 0.00 | |
| 6232.0 | 6680.1 | Williams Fork | 0.00 | |
| 9341.0 | 9789.1 | Cameo | 0.00 | |
| 9886.0 | 10334.1 | Rollins | 0.00 | |
| 10030.0 | 10478.1 | Cozzette | 0.00 | |
| 10364.0 | 10812.1 | Corcoran | 0.00 | |
| 10548.0 | 10996.1 | Upper Sego | 0.00 | |

