

BISON OIL & GAS II, LLC

WELD COUNTY, COLORADO (NAD 83)

NE SE SEC. 19 T8N R59W 6th P.M.

CASTOR 8-59 19-24-16

ORIGINAL WELLBORE

10 July, 2017

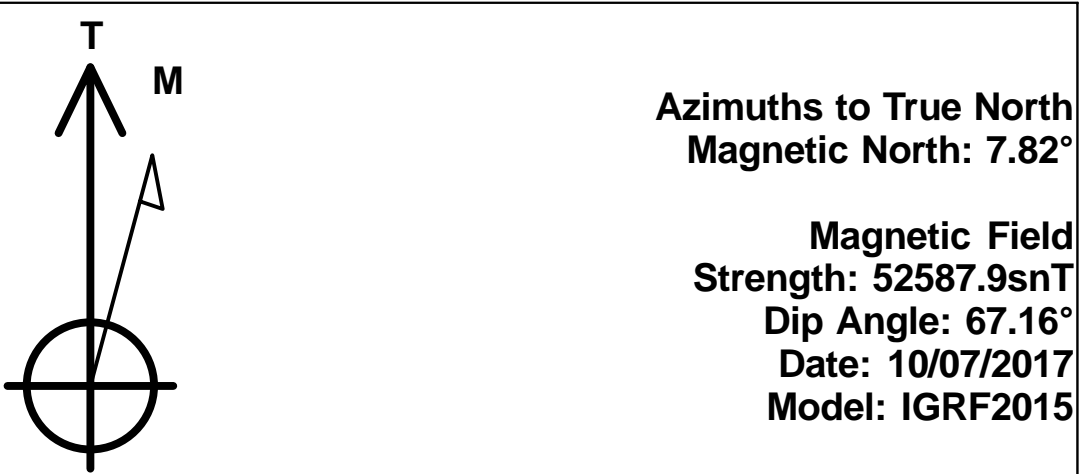
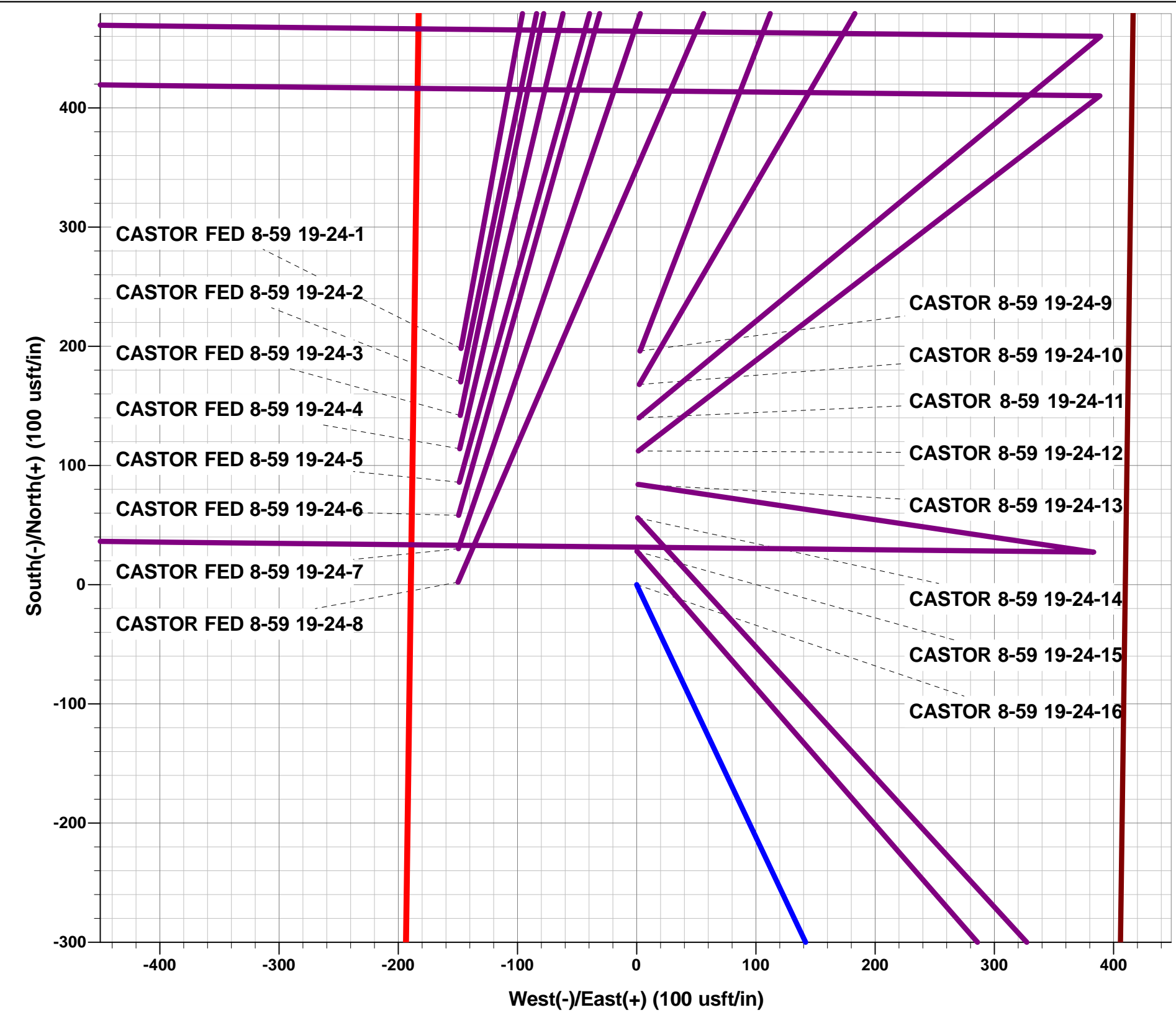
Plan: PROPOSAL #1



Project: WELD COUNTY, COLORADO (NAD 83)
Site: NE SE SEC. 19 T8N R59W 6th P.M.
Well: CASTOR 8-59 19-24-16
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

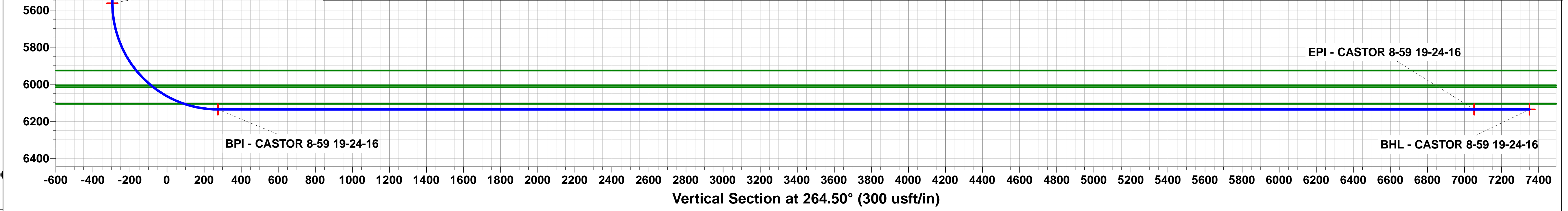
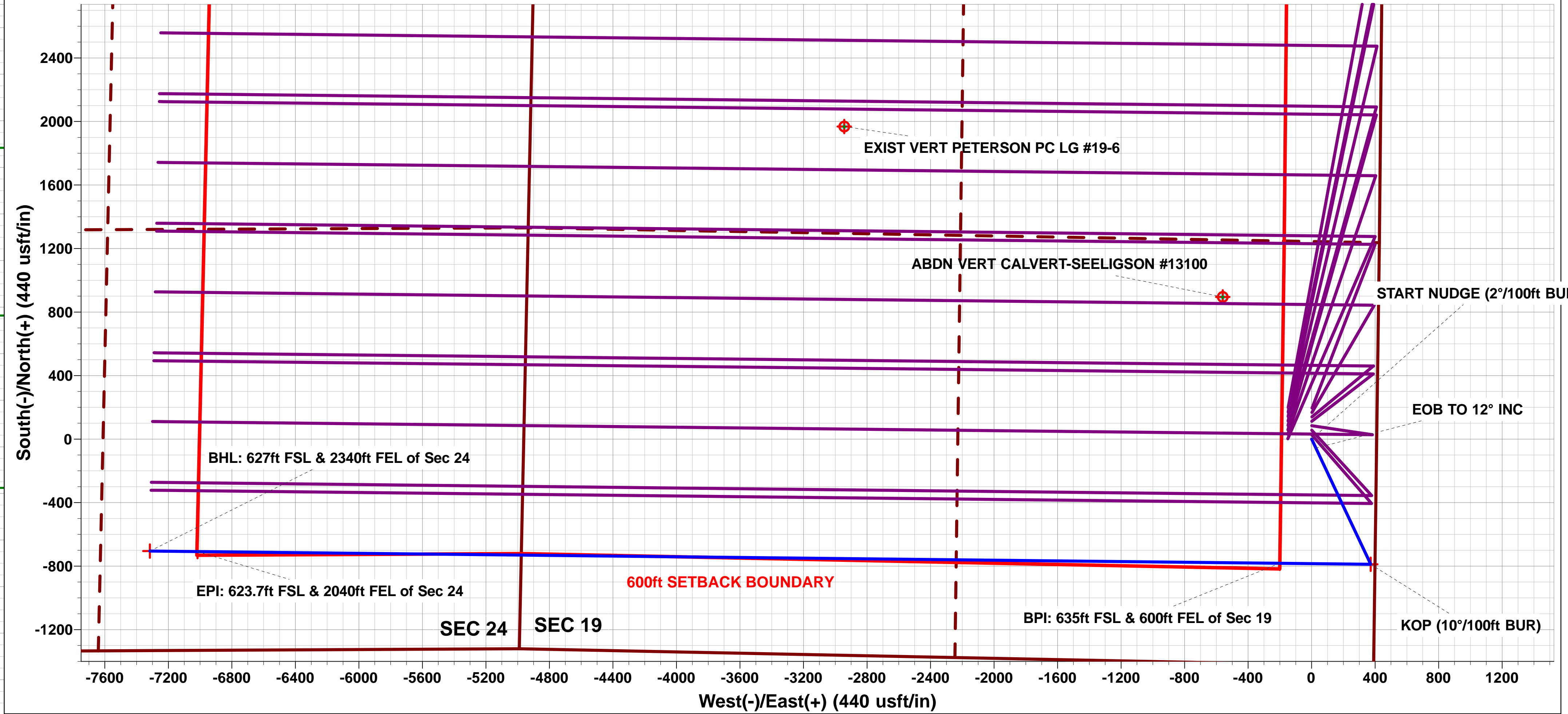
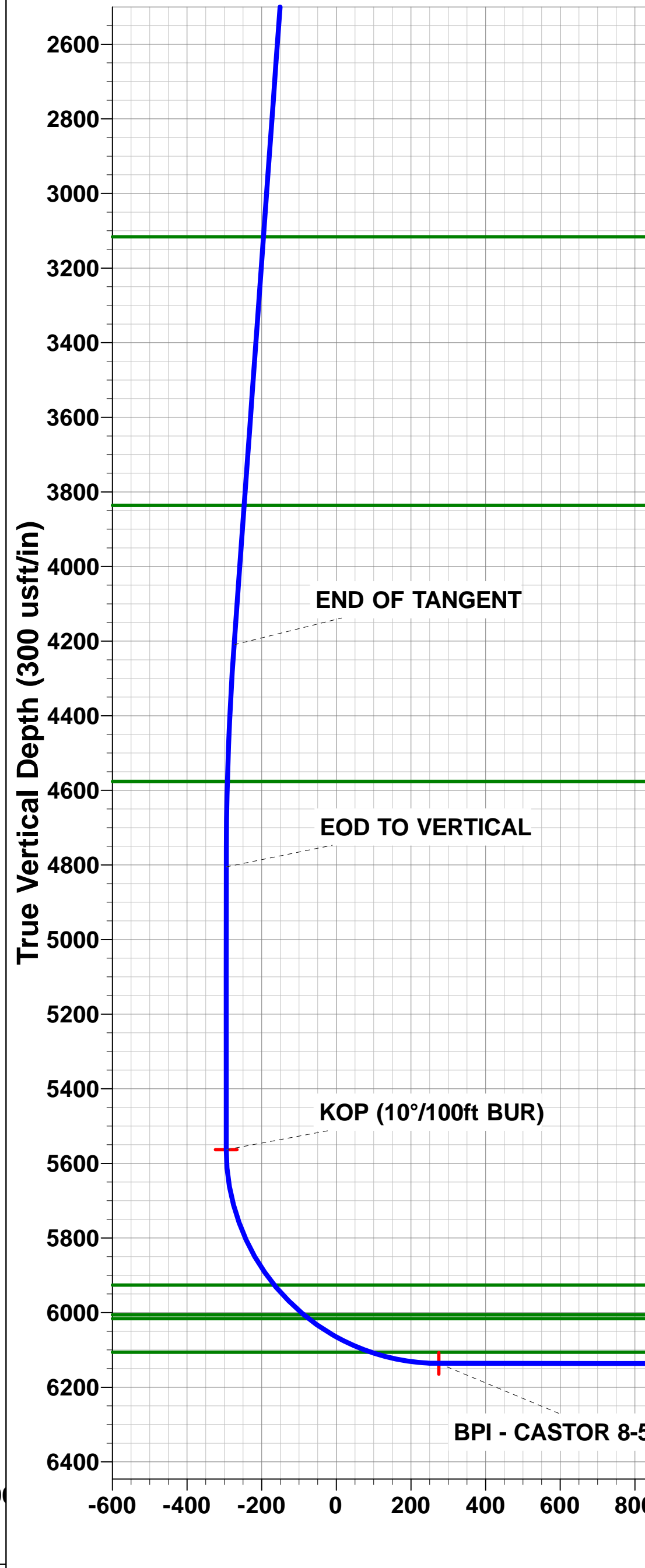
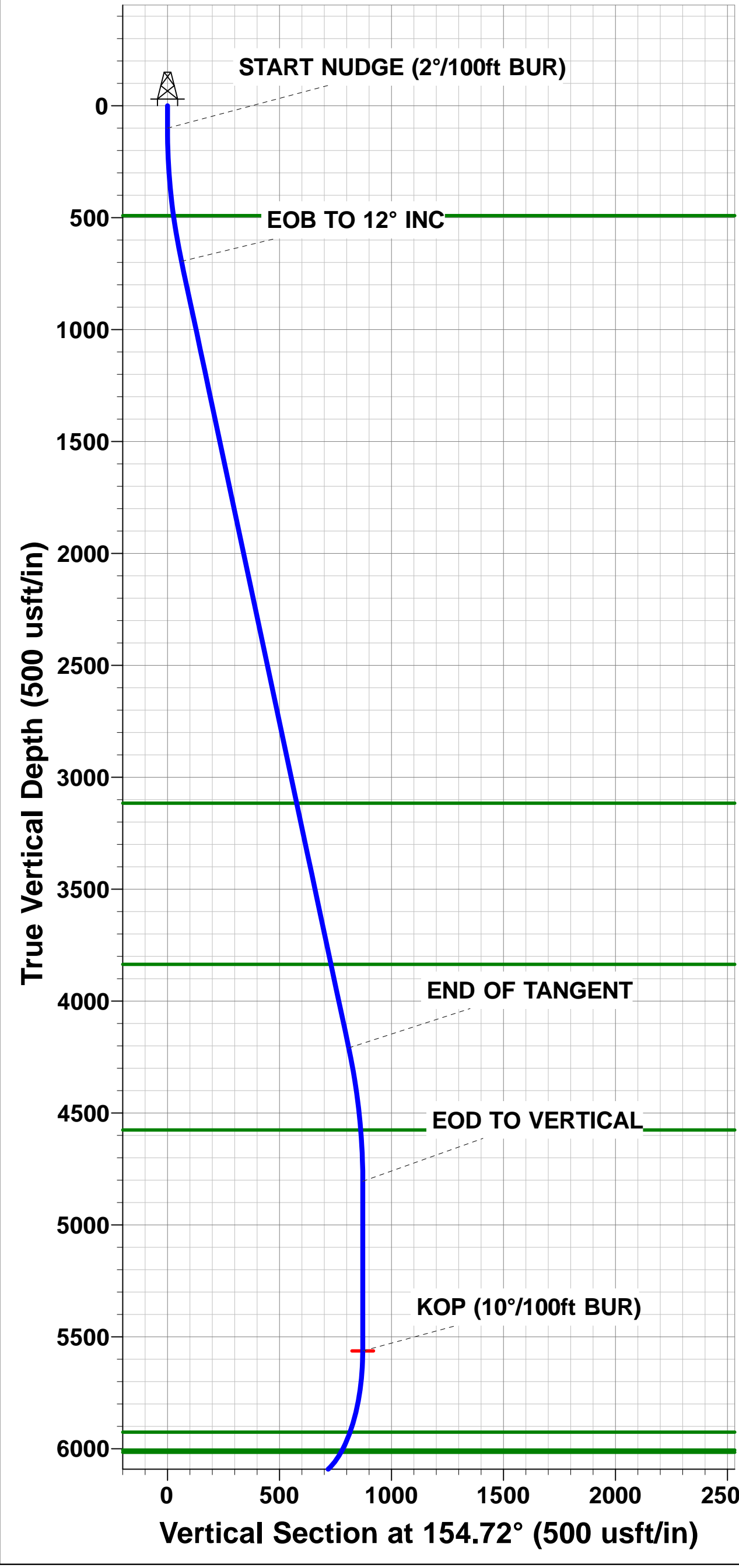
| ANNOTATIONS | | | | | | | | | |
|-------------|---------|-------|--------|--------|---------|--------|--------|---|--|
| TVD | MD | Inc | Azi | +N/-S | +E/-W | Vsect | Dep | Annotation | |
| 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | SHL: 1421ft FSL & 410ft FEL of Sec 19 | |
| 100.0 | 100.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | START NUDGE (2°/100ft BUR) | |
| 695.5 | 699.8 | 12.00 | 154.72 | -56.6 | 26.7 | -21.2 | 62.6 | EOB TO 12° INC | |
| 4209.5 | 4292.4 | 12.00 | 154.72 | -731.8 | 345.6 | -273.8 | 809.3 | END OF TANGENT | |
| 4805.0 | 4892.2 | 0.00 | 0.00 | -788.4 | 372.3 | -295.0 | 871.9 | EOD TO VERTICAL | |
| 5563.0 | 5650.2 | 0.00 | 0.00 | -788.4 | 372.3 | -295.0 | 871.9 | KOP (10°/100ft BUR) | |
| 6136.0 | 6550.3 | 90.00 | 270.62 | -782.2 | -200.6 | 274.7 | 1444.9 | BPI: 635ft FSL & 600ft FEL of Sec 19 | |
| 6136.0 | 13366.5 | 90.00 | 270.62 | -708.2 | -7016.5 | 7052.1 | 8261.1 | EPI: 623.7ft FSL & 2040ft FEL of Sec 24 | |
| 6136.0 | 13666.6 | 90.00 | 270.62 | -705.0 | -7316.5 | 7350.4 | 8561.2 | BHL: 627ft FSL & 2340ft FEL of Sec 24 | |

| WELLBORE TARGET DETAILS (LAT/LONG) | | | | | | |
|------------------------------------|--------|--------|---------|-----------|-------------|--|
| Name | TVD | +N/-S | +E/-W | Latitude | Longitude | |
| KOP - CASTOR 8-59 19-24-16 | 5563.0 | -788.4 | 372.3 | 40.642244 | -104.010651 | |
| BPI - CASTOR 8-59 19-24-16 | 6136.0 | -782.2 | -200.6 | 40.642261 | -104.012716 | |
| BHL - CASTOR 8-59 19-24-16 | 6136.0 | -705.0 | -7316.5 | 40.642470 | -104.038357 | |
| EPI - CASTOR 8-59 19-24-16 | 6136.0 | -708.2 | -7016.5 | 40.642461 | -104.037276 | |



| FORMATION TOP DETAILS | | |
|-----------------------|--------|----------------------------|
| TVDPath | MDPath | Formation |
| 491.0 | 492.2 | PIERRE SH (BASE FOX HILLS) |
| 3116.0 | 3174.4 | PARKMAN |
| 3836.0 | 3910.5 | SUSSEX |
| 4576.0 | 4663.0 | SHANNON |
| 5926.0 | 6043.3 | SHARON SPRINGS SHALE |
| 6006.0 | 6156.6 | NIOBRARA FORMATION |
| 6016.0 | 6172.6 | NIOBRARA A CHALK |
| 6106.0 | 6364.0 | NIOBRARA B CHALK |

PROPOSED LOCAL COORDINATES:
SHL: 1421ft FSL & 410ft FEL of Sec 19
BEGIN PROD INT: 635ft FSL & 600ft FEL of Sec 19
END PROD INTERVAL: 623.7ft FSL & 2040ft FEL of Sec 24
BHL: 627ft FSL & 2340ft FEL of Sec 24



Planning Report



| | | | |
|------------------|---------------------------------|-------------------------------------|--|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well CASTOR 8-59 19-24-16 |
| Company: | BISON OIL & GAS II, LLC | TVD Reference: | KB-EST @ 4886.0usft (Original Well Elev) |
| Project: | WELD COUNTY, COLORADO (NAD 83) | MD Reference: | KB-EST @ 4886.0usft (Original Well Elev) |
| Site: | NE SE SEC. 19 T8N R59W 6th P.M. | North Reference: | True |
| Well: | CASTOR 8-59 19-24-16 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #1 | | |

| | | | |
|--------------------|--------------------------------|----------------------|-----------------------------|
| Project | WELD COUNTY, COLORADO (NAD 83) | | |
| 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 | NE SE SEC. 19 T8N R59W 6th P.M. | | |
| Site Position: | | Northing: | 1,481,260.32 usft |
| From: | Lat/Long | Easting: | 3,412,761.19 usft |
| Position Uncertainty: | 0.0 usft | Slot Radius: | 1.10000ft |
| | | Latitude: | 40.644952 |
| | | Longitude: | -104.012524 |
| | | Grid Convergence: | 0.96 ° |

| | | | |
|-----------------------------|----------------------|-------------|----------------------------|
| Well | CASTOR 8-59 19-24-16 | | |
| Well Position | +N/-S | -198.2 usft | Northing: |
| | +E/-W | 147.4 usft | Easting: |
| Position Uncertainty | | 0.0 usft | Wellhead Elevation: |
| | | | Latitude: |
| | | | Longitude: |
| | | | Ground Level: |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | ORIGINAL WELLBORE | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2015 | 10/07/2017 | 7.82 | 67.16 | 52,588 |

| | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| Design | PROPOSAL #1 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PROTOTYPE | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
| | 6,136.0 | 0.0 | 0.0 | 264.50 |

| Plan Sections | | | | | | | | | | | |
|----------------------|---------|---------|----------------|-----------|--------------|--------------|------------------------|-----------------------|----------------------|---------|-------------------|
| MD (usft) | Inc (°) | Azi (°) | Vertical Depth | SS (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usf) | Build Rate (°/100usf) | Turn Rate (°/100usf) | TFO (°) | Target |
| 0.0 | 0.00 | 0.00 | 0.0 | -4,886.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 100.0 | 0.00 | 0.00 | 100.0 | -4,786.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 699.8 | 12.00 | 154.72 | 695.5 | -4,190.5 | -56.6 | 26.7 | 2.00 | 2.00 | 0.00 | 154.72 | |
| 4,292.4 | 12.00 | 154.72 | 4,209.5 | -676.5 | -731.8 | 345.6 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 4,892.2 | 0.00 | 0.00 | 4,805.0 | -81.0 | -788.4 | 372.3 | 2.00 | -2.00 | 0.00 | 180.00 | |
| 5,650.2 | 0.00 | 0.00 | 5,563.0 | 677.0 | -788.4 | 372.3 | 0.00 | 0.00 | 0.00 | 0.00 | KOP - CASTOR 8-59 |
| 6,550.3 | 90.00 | 270.62 | 6,136.0 | 1,250.0 | -782.2 | -200.6 | 10.00 | 10.00 | -9.93 | 270.62 | BPI - CASTOR 8-59 |
| 13,666.6 | 90.00 | 270.62 | 6,136.0 | 1,250.0 | -705.0 | -7,316.5 | 0.00 | 0.00 | 0.00 | 44.84 | BHL - CASTOR 8-59 |

Planning Report



| | | | |
|------------------|---------------------------------|-------------------------------------|--|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well CASTOR 8-59 19-24-16 |
| Company: | BISON OIL & GAS II, LLC | TVD Reference: | KB-EST @ 4886.0usft (Original Well Elev) |
| Project: | WELD COUNTY, COLORADO (NAD 83) | MD Reference: | KB-EST @ 4886.0usft (Original Well Elev) |
| Site: | NE SE SEC. 19 T8N R59W 6th P.M. | North Reference: | True |
| Well: | CASTOR 8-59 19-24-16 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #1 | | |

| Planned Survey | | | | | | | | | | |
|--|------------|------------|---------------|--------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| MD (usft) | Inc (°) | Azi (°) | TVD (usft) | SS (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| SHL: 1421ft FSL & 410ft FEL of Sec 19 | | | | | | | | | | |
| 0.0 | 0.00 | 0.00 | 0.0 | 4,886.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| START NUDGE (2°/100ft BUR) | | | | | | | | | | |
| 100.0 | 0.00 | 0.00 | 100.0 | 4,786.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 2.00 | 154.72 | 200.0 | 4,686.02 | -1.6 | 0.7 | -0.6 | 2.00 | 2.00 | 0.00 |
| 300.0 | 4.00 | 154.72 | 299.8 | 4,586.16 | -6.3 | 3.0 | -2.4 | 2.00 | 2.00 | 0.00 |
| 400.0 | 6.00 | 154.72 | 399.5 | 4,486.55 | -14.2 | 6.7 | -5.3 | 2.00 | 2.00 | 0.00 |
| PIERRE SHALE (BASE FOX HILLS) | | | | | | | | | | |
| 492.2 | 7.84 | 154.72 | 491.0 | 4,395.00 | -24.2 | 11.4 | -9.1 | 2.00 | 2.00 | 0.00 |
| 500.0 | 8.00 | 154.72 | 498.7 | 4,387.30 | -25.2 | 11.9 | -9.4 | 2.00 | 2.00 | 0.00 |
| 600.0 | 10.00 | 154.72 | 597.5 | 4,288.53 | -39.4 | 18.6 | -14.7 | 2.00 | 2.00 | 0.00 |
| EOB TO 12° INC | | | | | | | | | | |
| 699.8 | 12.00 | 154.72 | 695.5 | 4,190.52 | -56.6 | 26.7 | -21.2 | 2.00 | 2.00 | 0.00 |
| 700.0 | 12.00 | 154.72 | 695.6 | 4,190.38 | -56.6 | 26.7 | -21.2 | 0.00 | 0.00 | 0.00 |
| 800.0 | 12.00 | 154.72 | 793.4 | 4,092.56 | -75.4 | 35.6 | -28.2 | 0.00 | 0.00 | 0.00 |
| 900.0 | 12.00 | 154.72 | 891.3 | 3,994.75 | -94.2 | 44.5 | -35.2 | 0.00 | 0.00 | 0.00 |
| 1,000.0 | 12.00 | 154.72 | 989.1 | 3,896.93 | -113.0 | 53.4 | -42.3 | 0.00 | 0.00 | 0.00 |
| 1,100.0 | 12.00 | 154.72 | 1,086.9 | 3,799.11 | -131.8 | 62.2 | -49.3 | 0.00 | 0.00 | 0.00 |
| 1,200.0 | 12.00 | 154.72 | 1,184.7 | 3,701.30 | -150.6 | 71.1 | -56.3 | 0.00 | 0.00 | 0.00 |
| 1,300.0 | 12.00 | 154.72 | 1,282.5 | 3,603.48 | -169.4 | 80.0 | -63.4 | 0.00 | 0.00 | 0.00 |
| 1,400.0 | 12.00 | 154.72 | 1,380.3 | 3,505.67 | -188.2 | 88.9 | -70.4 | 0.00 | 0.00 | 0.00 |
| 1,500.0 | 12.00 | 154.72 | 1,478.1 | 3,407.85 | -207.0 | 97.7 | -77.4 | 0.00 | 0.00 | 0.00 |
| 1,600.0 | 12.00 | 154.72 | 1,576.0 | 3,310.03 | -225.8 | 106.6 | -84.5 | 0.00 | 0.00 | 0.00 |
| 1,700.0 | 12.00 | 154.72 | 1,673.8 | 3,212.22 | -244.6 | 115.5 | -91.5 | 0.00 | 0.00 | 0.00 |
| 1,800.0 | 12.00 | 154.72 | 1,771.6 | 3,114.40 | -263.4 | 124.4 | -98.5 | 0.00 | 0.00 | 0.00 |
| 1,900.0 | 12.00 | 154.72 | 1,869.4 | 3,016.59 | -282.2 | 133.2 | -105.6 | 0.00 | 0.00 | 0.00 |
| 2,000.0 | 12.00 | 154.72 | 1,967.2 | 2,918.77 | -301.0 | 142.1 | -112.6 | 0.00 | 0.00 | 0.00 |
| 2,100.0 | 12.00 | 154.72 | 2,065.0 | 2,820.95 | -319.7 | 151.0 | -119.6 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 12.00 | 154.72 | 2,162.9 | 2,723.14 | -338.5 | 159.9 | -126.7 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 12.00 | 154.72 | 2,260.7 | 2,625.32 | -357.3 | 168.7 | -133.7 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 12.00 | 154.72 | 2,358.5 | 2,527.51 | -376.1 | 177.6 | -140.7 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 12.00 | 154.72 | 2,456.3 | 2,429.69 | -394.9 | 186.5 | -147.8 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 12.00 | 154.72 | 2,554.1 | 2,331.88 | -413.7 | 195.4 | -154.8 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 12.00 | 154.72 | 2,651.9 | 2,234.06 | -432.5 | 204.2 | -161.8 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 12.00 | 154.72 | 2,749.8 | 2,136.24 | -451.3 | 213.1 | -168.9 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 12.00 | 154.72 | 2,847.6 | 2,038.43 | -470.1 | 222.0 | -175.9 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 12.00 | 154.72 | 2,945.4 | 1,940.61 | -488.9 | 230.9 | -182.9 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 12.00 | 154.72 | 3,043.2 | 1,842.80 | -507.7 | 239.8 | -190.0 | 0.00 | 0.00 | 0.00 |
| PARKMAN | | | | | | | | | | |
| 3,174.4 | 12.00 | 154.72 | 3,116.0 | 1,770.00 | -521.7 | 246.4 | -195.2 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 12.00 | 154.72 | 3,141.0 | 1,744.98 | -526.5 | 248.6 | -197.0 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 12.00 | 154.72 | 3,238.8 | 1,647.16 | -545.3 | 257.5 | -204.0 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 12.00 | 154.72 | 3,336.7 | 1,549.35 | -564.1 | 266.4 | -211.0 | 0.00 | 0.00 | 0.00 |
| 3,500.0 | 12.00 | 154.72 | 3,434.5 | 1,451.53 | -582.9 | 275.3 | -218.1 | 0.00 | 0.00 | 0.00 |
| 3,600.0 | 12.00 | 154.72 | 3,532.3 | 1,353.72 | -601.7 | 284.1 | -225.1 | 0.00 | 0.00 | 0.00 |
| 3,700.0 | 12.00 | 154.72 | 3,630.1 | 1,255.90 | -620.5 | 293.0 | -232.1 | 0.00 | 0.00 | 0.00 |
| 3,800.0 | 12.00 | 154.72 | 3,727.9 | 1,158.09 | -639.3 | 301.9 | -239.2 | 0.00 | 0.00 | 0.00 |
| 3,900.0 | 12.00 | 154.72 | 3,825.7 | 1,060.27 | -658.1 | 310.8 | -246.2 | 0.00 | 0.00 | 0.00 |
| SUSSEX | | | | | | | | | | |
| 3,910.5 | 12.00 | 154.72 | 3,836.0 | 1,050.00 | -660.0 | 311.7 | -246.9 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 12.00 | 154.72 | 3,923.5 | 962.45 | -676.9 | 319.6 | -253.2 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 12.00 | 154.72 | 4,021.4 | 864.64 | -695.7 | 328.5 | -260.3 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 12.00 | 154.72 | 4,119.2 | 766.82 | -714.5 | 337.4 | -267.3 | 0.00 | 0.00 | 0.00 |

Planning Report



| | | | |
|------------------|---------------------------------|-------------------------------------|--|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well CASTOR 8-59 19-24-16 |
| Company: | BISON OIL & GAS II, LLC | TVD Reference: | KB-EST @ 4886.0usft (Original Well Elev) |
| Project: | WELD COUNTY, COLORADO (NAD 83) | MD Reference: | KB-EST @ 4886.0usft (Original Well Elev) |
| Site: | NE SE SEC. 19 T8N R59W 6th P.M. | North Reference: | True |
| Well: | CASTOR 8-59 19-24-16 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #1 | | |

Planned Survey

| MD (usft) | Inc (°) | Azi (°) | TVD (usft) | SS (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|------------|------------|---------------|--------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| END OF TANGENT | | | | | | | | | | |
| 4,292.4 | 12.00 | 154.72 | 4,209.5 | 676.48 | -731.8 | 345.6 | -273.8 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 11.84 | 154.72 | 4,217.0 | 669.00 | -733.2 | 346.3 | -274.3 | 2.00 | -2.00 | 0.00 |
| 4,400.0 | 9.84 | 154.72 | 4,315.2 | 570.79 | -750.3 | 354.3 | -280.7 | 2.00 | -2.00 | 0.00 |
| 4,500.0 | 7.84 | 154.72 | 4,414.0 | 471.99 | -764.2 | 360.9 | -285.9 | 2.00 | -2.00 | 0.00 |
| 4,600.0 | 5.84 | 154.72 | 4,513.3 | 372.71 | -774.9 | 365.9 | -289.9 | 2.00 | -2.00 | 0.00 |
| SHANNON | | | | | | | | | | |
| 4,663.0 | 4.58 | 154.72 | 4,576.0 | 310.00 | -780.1 | 368.4 | -291.9 | 2.00 | -2.00 | 0.00 |
| 4,700.0 | 3.84 | 154.72 | 4,612.9 | 273.07 | -782.6 | 369.5 | -292.8 | 2.00 | -2.00 | 0.00 |
| 4,800.0 | 1.84 | 154.72 | 4,712.8 | 173.20 | -787.1 | 371.7 | -294.5 | 2.00 | -2.00 | 0.00 |
| EOD TO VERTICAL | | | | | | | | | | |
| 4,892.2 | 0.00 | 0.00 | 4,805.0 | 81.00 | -788.4 | 372.3 | -295.0 | 2.00 | -2.00 | 0.00 |
| 4,900.0 | 0.00 | 0.00 | 4,812.8 | 73.21 | -788.4 | 372.3 | -295.0 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 0.00 | 0.00 | 4,912.8 | -26.79 | -788.4 | 372.3 | -295.0 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 0.00 | 0.00 | 5,012.8 | -126.79 | -788.4 | 372.3 | -295.0 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 0.00 | 0.00 | 5,112.8 | -226.79 | -788.4 | 372.3 | -295.0 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 0.00 | 0.00 | 5,212.8 | -326.79 | -788.4 | 372.3 | -295.0 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 0.00 | 0.00 | 5,312.8 | -426.79 | -788.4 | 372.3 | -295.0 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 0.00 | 0.00 | 5,412.8 | -526.79 | -788.4 | 372.3 | -295.0 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 0.00 | 0.00 | 5,512.8 | -626.79 | -788.4 | 372.3 | -295.0 | 0.00 | 0.00 | 0.00 |
| KOP (10°/100ft BUR) | | | | | | | | | | |
| 5,650.2 | 0.00 | 0.00 | 5,563.0 | -677.00 | -788.4 | 372.3 | -295.0 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 4.98 | 270.62 | 5,612.7 | -726.72 | -788.4 | 370.1 | -292.8 | 10.00 | 10.00 | 0.00 |
| 5,800.0 | 14.98 | 270.62 | 5,711.1 | -825.09 | -788.2 | 352.8 | -275.6 | 10.00 | 10.00 | 0.00 |
| 5,900.0 | 24.98 | 270.62 | 5,805.0 | -918.95 | -787.8 | 318.7 | -241.7 | 10.00 | 10.00 | 0.00 |
| 6,000.0 | 34.98 | 270.62 | 5,891.5 | -1,005.46 | -787.3 | 268.8 | -192.1 | 10.00 | 10.00 | 0.00 |
| SHARON SPRINGS SHALE | | | | | | | | | | |
| 6,043.3 | 39.31 | 270.62 | 5,926.0 | -1,040.00 | -787.0 | 242.7 | -166.1 | 10.00 | 10.00 | 0.00 |
| 6,100.0 | 44.98 | 270.62 | 5,968.0 | -1,082.00 | -786.6 | 204.7 | -128.3 | 10.00 | 10.00 | 0.00 |
| NIOBRARA FORMATION | | | | | | | | | | |
| 6,156.6 | 50.64 | 270.62 | 6,006.0 | -1,120.00 | -786.1 | 162.7 | -86.6 | 10.00 | 10.00 | 0.00 |
| NIOBRARA A CHALK | | | | | | | | | | |
| 6,172.6 | 52.24 | 270.62 | 6,016.0 | -1,130.00 | -786.0 | 150.2 | -74.1 | 10.00 | 10.00 | 0.00 |
| 6,200.0 | 54.97 | 270.62 | 6,032.2 | -1,146.23 | -785.8 | 128.2 | -52.2 | 10.00 | 10.00 | 0.00 |
| 6,300.0 | 64.97 | 270.62 | 6,082.2 | -1,196.20 | -784.8 | 41.7 | 33.7 | 10.00 | 10.00 | 0.00 |
| NIOBRARA B CHALK | | | | | | | | | | |
| 6,364.0 | 71.38 | 270.62 | 6,106.0 | -1,220.00 | -784.2 | -17.7 | 92.8 | 10.00 | 10.00 | 0.00 |
| 6,400.0 | 74.97 | 270.62 | 6,116.4 | -1,230.41 | -783.8 | -52.1 | 127.0 | 10.00 | 10.00 | 0.00 |
| 6,500.0 | 84.97 | 270.62 | 6,133.8 | -1,247.80 | -782.7 | -150.5 | 224.8 | 10.00 | 10.00 | 0.00 |
| BPI: 635ft FSL & 600ft FEL of Sec 19 | | | | | | | | | | |
| 6,550.3 | 90.00 | 270.62 | 6,136.0 | -1,250.00 | -782.2 | -200.6 | 274.7 | 10.00 | 10.00 | 0.00 |
| 6,600.0 | 90.00 | 270.62 | 6,136.0 | -1,250.00 | -781.7 | -250.4 | 324.2 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 90.00 | 270.62 | 6,136.0 | -1,250.00 | -780.6 | -350.4 | 423.6 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 90.00 | 270.62 | 6,136.0 | -1,250.01 | -779.5 | -450.4 | 523.1 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 90.00 | 270.62 | 6,136.0 | -1,250.01 | -778.4 | -550.4 | 622.5 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 90.00 | 270.62 | 6,136.0 | -1,250.01 | -777.3 | -650.4 | 721.9 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 90.00 | 270.62 | 6,136.0 | -1,250.02 | -776.3 | -750.4 | 821.3 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 90.00 | 270.62 | 6,136.0 | -1,250.02 | -775.2 | -850.3 | 920.8 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 90.00 | 270.62 | 6,136.0 | -1,250.02 | -774.1 | -950.3 | 1,020.2 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 90.00 | 270.62 | 6,136.0 | -1,250.02 | -773.0 | -1,050.3 | 1,119.6 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 90.00 | 270.62 | 6,136.0 | -1,250.03 | -771.9 | -1,150.3 | 1,219.1 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 90.00 | 270.62 | 6,136.0 | -1,250.03 | -770.8 | -1,250.3 | 1,318.5 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 90.00 | 270.62 | 6,136.0 | -1,250.03 | -769.8 | -1,350.3 | 1,417.9 | 0.00 | 0.00 | 0.00 |

Planning Report



| | | | |
|------------------|---------------------------------|-------------------------------------|--|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well CASTOR 8-59 19-24-16 |
| Company: | BISON OIL & GAS II, LLC | TVD Reference: | KB-EST @ 4886.0usft (Original Well Elev) |
| Project: | WELD COUNTY, COLORADO (NAD 83) | MD Reference: | KB-EST @ 4886.0usft (Original Well Elev) |
| Site: | NE SE SEC. 19 T8N R59W 6th P.M. | North Reference: | True |
| Well: | CASTOR 8-59 19-24-16 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #1 | | |

| Planned Survey | | | | | | | | | | |
|----------------|------------|------------|---------------|--------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| MD (usft) | Inc (°) | Azi (°) | TVD (usft) | SS (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 7,800.0 | 90.00 | 270.62 | 6,136.0 | -1,250.03 | -768.7 | -1,450.3 | 1,517.4 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 90.00 | 270.62 | 6,136.0 | -1,250.04 | -767.6 | -1,550.3 | 1,616.8 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 90.00 | 270.62 | 6,136.0 | -1,250.04 | -766.5 | -1,650.3 | 1,716.2 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 90.00 | 270.62 | 6,136.0 | -1,250.04 | -765.4 | -1,750.3 | 1,815.6 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 90.00 | 270.62 | 6,136.0 | -1,250.04 | -764.3 | -1,850.3 | 1,915.1 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 90.00 | 270.62 | 6,136.0 | -1,250.04 | -763.3 | -1,950.3 | 2,014.5 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 90.00 | 270.62 | 6,136.0 | -1,250.05 | -762.2 | -2,050.3 | 2,113.9 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 90.00 | 270.62 | 6,136.0 | -1,250.05 | -761.1 | -2,150.3 | 2,213.4 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 90.00 | 270.62 | 6,136.0 | -1,250.05 | -760.0 | -2,250.3 | 2,312.8 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 90.00 | 270.62 | 6,136.1 | -1,250.05 | -758.9 | -2,350.3 | 2,412.2 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 90.00 | 270.62 | 6,136.1 | -1,250.05 | -757.8 | -2,450.3 | 2,511.6 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 90.00 | 270.62 | 6,136.1 | -1,250.05 | -756.8 | -2,550.2 | 2,611.1 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 90.00 | 270.62 | 6,136.1 | -1,250.05 | -755.7 | -2,650.2 | 2,710.5 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 90.00 | 270.62 | 6,136.1 | -1,250.05 | -754.6 | -2,750.2 | 2,809.9 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -753.5 | -2,850.2 | 2,909.4 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -752.4 | -2,950.2 | 3,008.8 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -751.3 | -3,050.2 | 3,108.2 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -750.2 | -3,150.2 | 3,207.6 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -749.2 | -3,250.2 | 3,307.1 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -748.1 | -3,350.2 | 3,406.5 | 0.00 | 0.00 | 0.00 |
| 9,800.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -747.0 | -3,450.2 | 3,505.9 | 0.00 | 0.00 | 0.00 |
| 9,900.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -745.9 | -3,550.2 | 3,605.4 | 0.00 | 0.00 | 0.00 |
| 10,000.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -744.8 | -3,650.2 | 3,704.8 | 0.00 | 0.00 | 0.00 |
| 10,100.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -743.7 | -3,750.2 | 3,804.2 | 0.00 | 0.00 | 0.00 |
| 10,200.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -742.7 | -3,850.2 | 3,903.7 | 0.00 | 0.00 | 0.00 |
| 10,300.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -741.6 | -3,950.2 | 4,003.1 | 0.00 | 0.00 | 0.00 |
| 10,400.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -740.5 | -4,050.2 | 4,102.5 | 0.00 | 0.00 | 0.00 |
| 10,500.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -739.4 | -4,150.2 | 4,201.9 | 0.00 | 0.00 | 0.00 |
| 10,600.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -738.3 | -4,250.1 | 4,301.4 | 0.00 | 0.00 | 0.00 |
| 10,700.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -737.2 | -4,350.1 | 4,400.8 | 0.00 | 0.00 | 0.00 |
| 10,800.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -736.1 | -4,450.1 | 4,500.2 | 0.00 | 0.00 | 0.00 |
| 10,900.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -735.1 | -4,550.1 | 4,599.7 | 0.00 | 0.00 | 0.00 |
| 11,000.0 | 90.00 | 270.62 | 6,136.1 | -1,250.06 | -734.0 | -4,650.1 | 4,699.1 | 0.00 | 0.00 | 0.00 |
| 11,100.0 | 90.00 | 270.62 | 6,136.1 | -1,250.05 | -732.9 | -4,750.1 | 4,798.5 | 0.00 | 0.00 | 0.00 |
| 11,200.0 | 90.00 | 270.62 | 6,136.1 | -1,250.05 | -731.8 | -4,850.1 | 4,897.9 | 0.00 | 0.00 | 0.00 |
| 11,300.0 | 90.00 | 270.62 | 6,136.1 | -1,250.05 | -730.7 | -4,950.1 | 4,997.4 | 0.00 | 0.00 | 0.00 |
| 11,400.0 | 90.00 | 270.62 | 6,136.1 | -1,250.05 | -729.6 | -5,050.1 | 5,096.8 | 0.00 | 0.00 | 0.00 |
| 11,500.0 | 90.00 | 270.62 | 6,136.1 | -1,250.05 | -728.5 | -5,150.1 | 5,196.2 | 0.00 | 0.00 | 0.00 |
| 11,600.0 | 90.00 | 270.62 | 6,136.0 | -1,250.05 | -727.4 | -5,250.1 | 5,295.7 | 0.00 | 0.00 | 0.00 |
| 11,700.0 | 90.00 | 270.62 | 6,136.0 | -1,250.05 | -726.4 | -5,350.1 | 5,395.1 | 0.00 | 0.00 | 0.00 |
| 11,800.0 | 90.00 | 270.62 | 6,136.0 | -1,250.05 | -725.3 | -5,450.1 | 5,494.5 | 0.00 | 0.00 | 0.00 |
| 11,900.0 | 90.00 | 270.62 | 6,136.0 | -1,250.04 | -724.2 | -5,550.1 | 5,593.9 | 0.00 | 0.00 | 0.00 |
| 12,000.0 | 90.00 | 270.62 | 6,136.0 | -1,250.04 | -723.1 | -5,650.1 | 5,693.4 | 0.00 | 0.00 | 0.00 |
| 12,100.0 | 90.00 | 270.62 | 6,136.0 | -1,250.04 | -722.0 | -5,750.1 | 5,792.8 | 0.00 | 0.00 | 0.00 |
| 12,200.0 | 90.00 | 270.62 | 6,136.0 | -1,250.04 | -720.9 | -5,850.1 | 5,892.2 | 0.00 | 0.00 | 0.00 |
| 12,300.0 | 90.00 | 270.62 | 6,136.0 | -1,250.04 | -719.8 | -5,950.0 | 5,991.7 | 0.00 | 0.00 | 0.00 |
| 12,400.0 | 90.00 | 270.62 | 6,136.0 | -1,250.03 | -718.7 | -6,050.0 | 6,091.1 | 0.00 | 0.00 | 0.00 |
| 12,500.0 | 90.00 | 270.62 | 6,136.0 | -1,250.03 | -717.7 | -6,150.0 | 6,190.5 | 0.00 | 0.00 | 0.00 |
| 12,600.0 | 90.00 | 270.62 | 6,136.0 | -1,250.03 | -716.6 | -6,250.0 | 6,289.9 | 0.00 | 0.00 | 0.00 |
| 12,700.0 | 90.00 | 270.62 | 6,136.0 | -1,250.03 | -715.5 | -6,350.0 | 6,389.4 | 0.00 | 0.00 | 0.00 |
| 12,800.0 | 90.00 | 270.62 | 6,136.0 | -1,250.03 | -714.4 | -6,450.0 | 6,488.8 | 0.00 | 0.00 | 0.00 |
| 12,900.0 | 90.00 | 270.62 | 6,136.0 | -1,250.02 | -713.3 | -6,550.0 | 6,588.2 | 0.00 | 0.00 | 0.00 |
| 13,000.0 | 90.00 | 270.62 | 6,136.0 | -1,250.02 | -712.2 | -6,650.0 | 6,687.7 | 0.00 | 0.00 | 0.00 |
| 13,100.0 | 90.00 | 270.62 | 6,136.0 | -1,250.02 | -711.1 | -6,750.0 | 6,787.1 | 0.00 | 0.00 | 0.00 |

Planning Report



| | | | |
|------------------|---------------------------------|-------------------------------------|--|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well CASTOR 8-59 19-24-16 |
| Company: | BISON OIL & GAS II, LLC | TVD Reference: | KB-EST @ 4886.0usft (Original Well Elev) |
| Project: | WELD COUNTY, COLORADO (NAD 83) | MD Reference: | KB-EST @ 4886.0usft (Original Well Elev) |
| Site: | NE SE SEC. 19 T8N R59W 6th P.M. | North Reference: | True |
| Well: | CASTOR 8-59 19-24-16 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #1 | | |

| Planned Survey | | | | | | | | | | |
|--|--------------|---------------|----------------|------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| MD (usft) | Inc (°) | Azi (°) | TVD (usft) | SS (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 13,200.0 | 90.00 | 270.62 | 6,136.0 | -1,250.01 | -710.0 | -6,850.0 | 6,886.5 | 0.00 | 0.00 | 0.00 |
| 13,300.0 | 90.00 | 270.62 | 6,136.0 | -1,250.01 | -709.0 | -6,950.0 | 6,985.9 | 0.00 | 0.00 | 0.00 |
| EPI: 623.7ft FSL & 2040ft FEL of Sec 24 | | | | | | | | | | |
| 13,366.5 | 90.00 | 270.62 | 6,136.0 | -1,250.01 | -708.2 | -7,016.5 | 7,052.1 | 0.00 | 0.00 | 0.00 |
| 13,400.0 | 90.00 | 270.62 | 6,136.0 | -1,250.01 | -707.9 | -7,050.0 | 7,085.4 | 0.00 | 0.00 | 0.00 |
| 13,500.0 | 90.00 | 270.62 | 6,136.0 | -1,250.01 | -706.8 | -7,150.0 | 7,184.8 | 0.00 | 0.00 | 0.00 |
| 13,600.0 | 90.00 | 270.62 | 6,136.0 | -1,250.00 | -705.7 | -7,250.0 | 7,284.2 | 0.00 | 0.00 | 0.00 |
| BHL: 627ft FSL & 2340ft FEL of Sec 24 | | | | | | | | | | |
| 13,666.6 | 90.00 | 270.62 | 6,136.0 | -1,250.00 | -705.0 | -7,316.5 | 7,350.4 | 0.00 | 0.00 | 0.00 |

| Formations | | | | | | |
|--------------|---------------|------------------------------|-----------|------------|-------------------------|--|
| MD (usft) | TVD (usft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 492.2 | 491.0 | PIERRE SHALE (BASE FOX HILLS | | | | |
| 3,174.4 | 3,116.0 | PARKMAN | | | | |
| 3,910.5 | 3,836.0 | SUSSEX | | | | |
| 4,663.0 | 4,576.0 | SHANNON | | | | |
| 6,043.3 | 5,926.0 | SHARON SPRINGS SHALE | | | | |
| 6,156.6 | 6,006.0 | NIOBRARA FORMATION | | | | |
| 6,172.6 | 6,016.0 | NIOBRARA A CHALK | | | | |
| 6,364.0 | 6,106.0 | NIOBRARA B CHALK | | | | |

| Plan Annotations | | | | |
|------------------|---------------|-------------------|-----------------|---|
| MD (usft) | TVD (usft) | Local Coordinates | | Comment |
| | | +N/-S (usft) | +E/-W (usft) | |
| 0.0 | 0.0 | 0.0 | 0.0 | SHL: 1421ft FSL & 410ft FEL of Sec 19 |
| 100.0 | 100.0 | 0.0 | 0.0 | START NUDGE (2°/100ft BUR) |
| 699.8 | 695.5 | -56.6 | 26.7 | EOB TO 12° INC |
| 4,292.4 | 4,209.5 | -731.8 | 345.6 | END OF TANGENT |
| 4,892.2 | 4,805.0 | -788.4 | 372.3 | EOD TO VERTICAL |
| 5,650.2 | 5,563.0 | -788.4 | 372.3 | KOP (10°/100ft BUR) |
| 6,550.3 | 6,136.0 | -782.2 | -200.6 | BPI: 635ft FSL & 600ft FEL of Sec 19 |
| 13,366.5 | 6,136.0 | -708.2 | -7,016.5 | EPI: 623.7ft FSL & 2040ft FEL of Sec 24 |
| 13,666.6 | 6,136.0 | -705.0 | -7,316.5 | BHL: 627ft FSL & 2340ft FEL of Sec 24 |