

BISON OIL & GAS II, LLC

WELD COUNTY, COLORADO (NAD 83)

SE SW SEC. 20 T8N R59W 6th P.M.

MELODY JOAN 8-59 20B-9

ORIGINAL WELLBORE

31 December, 2017

Plan: PROPOSAL #2

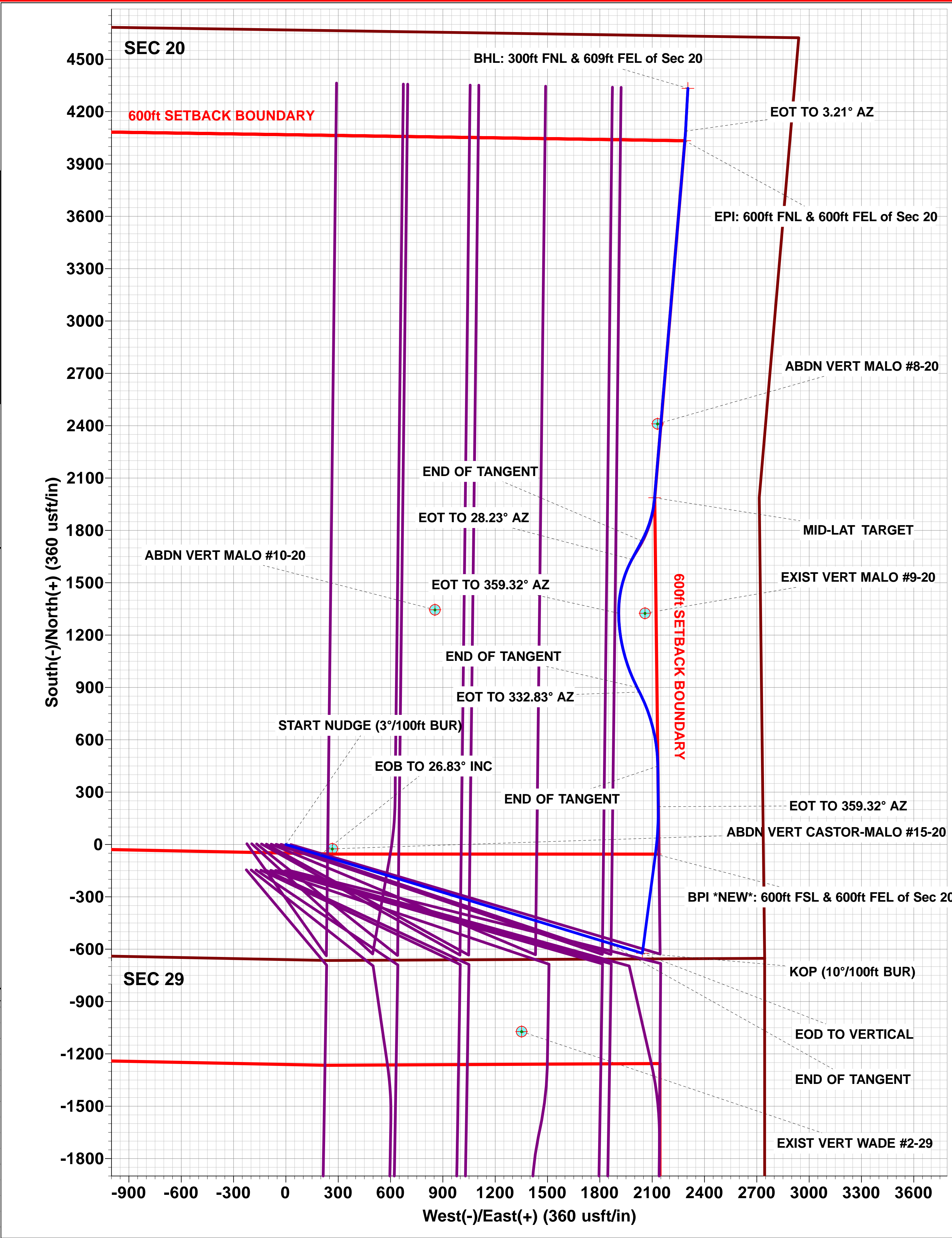
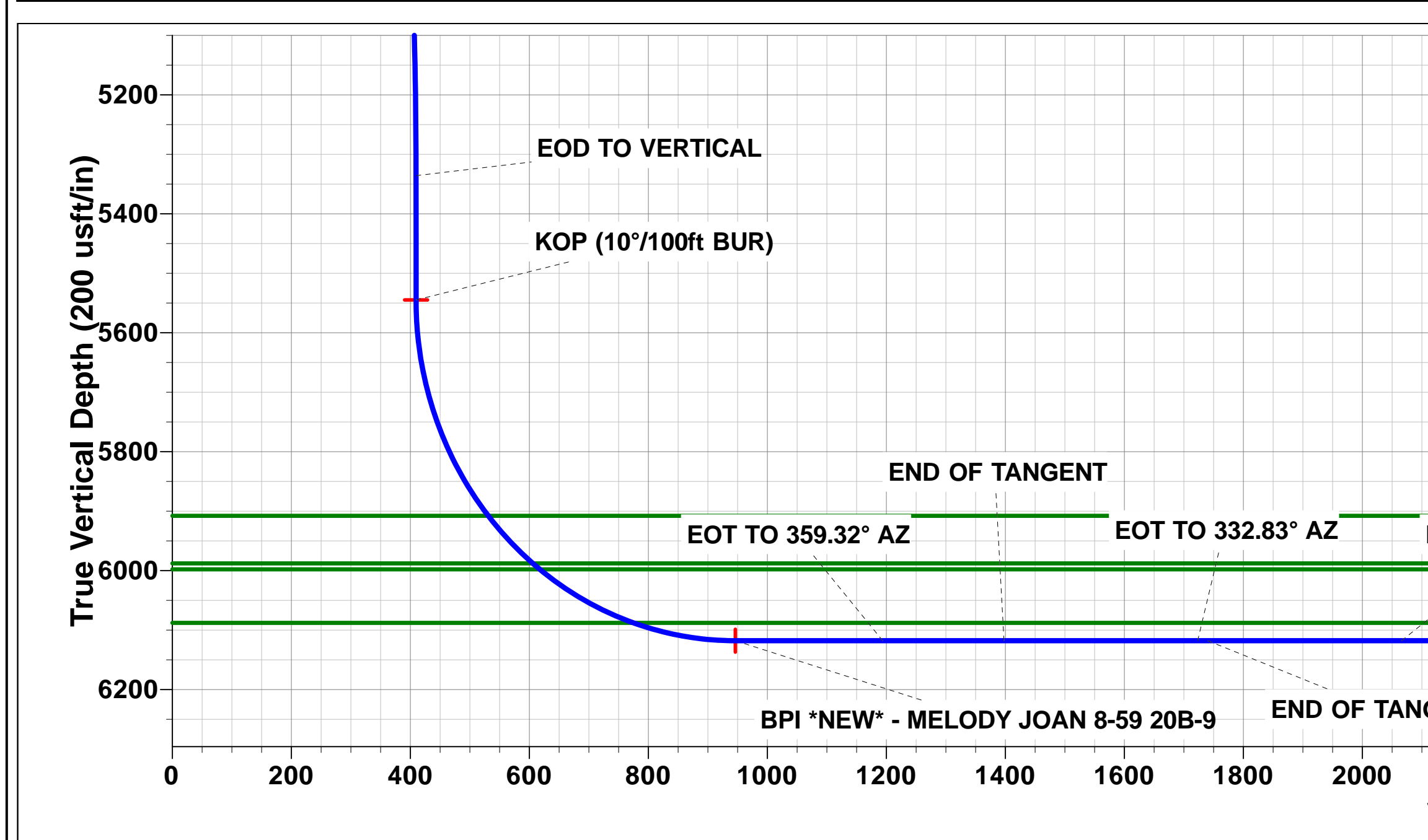
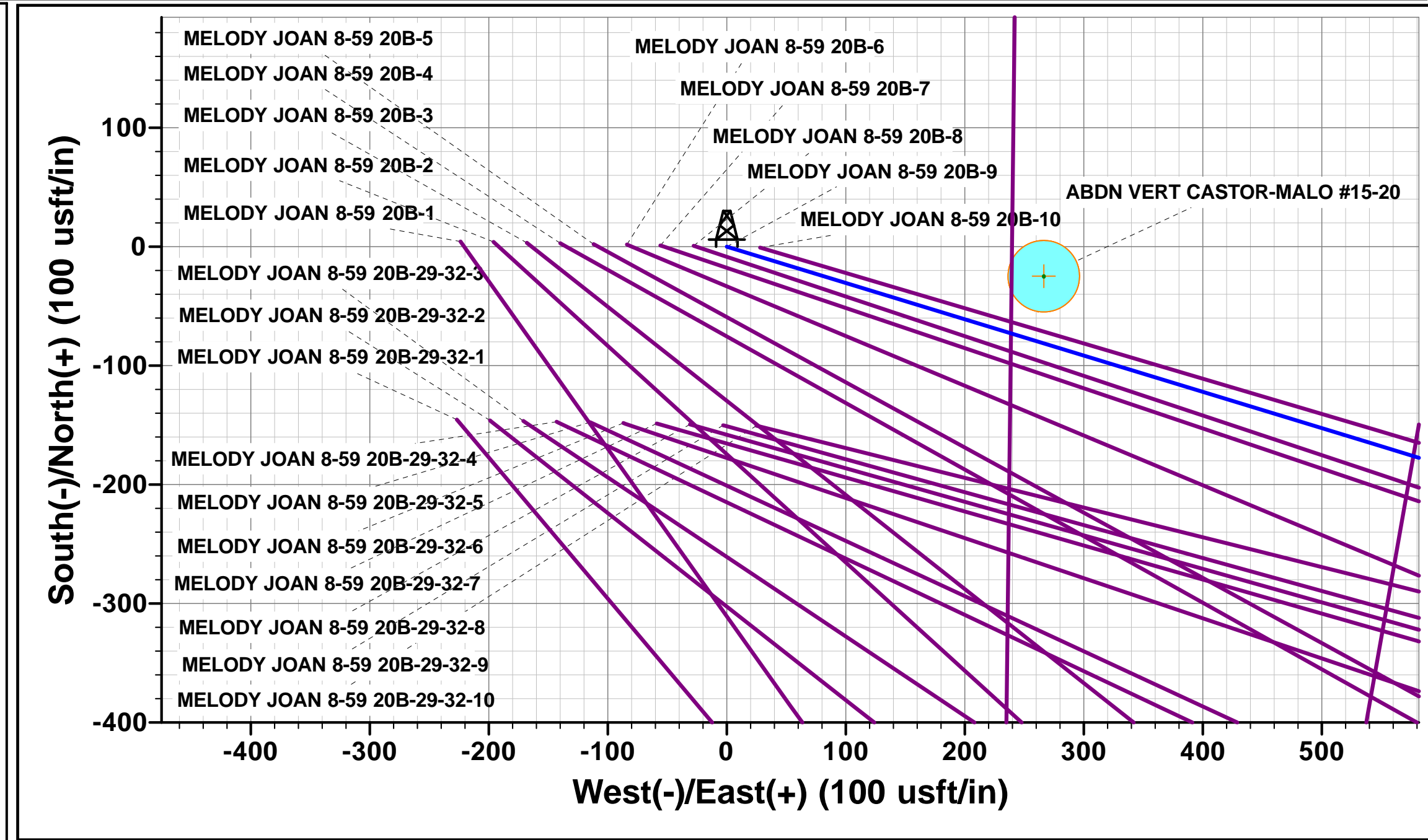
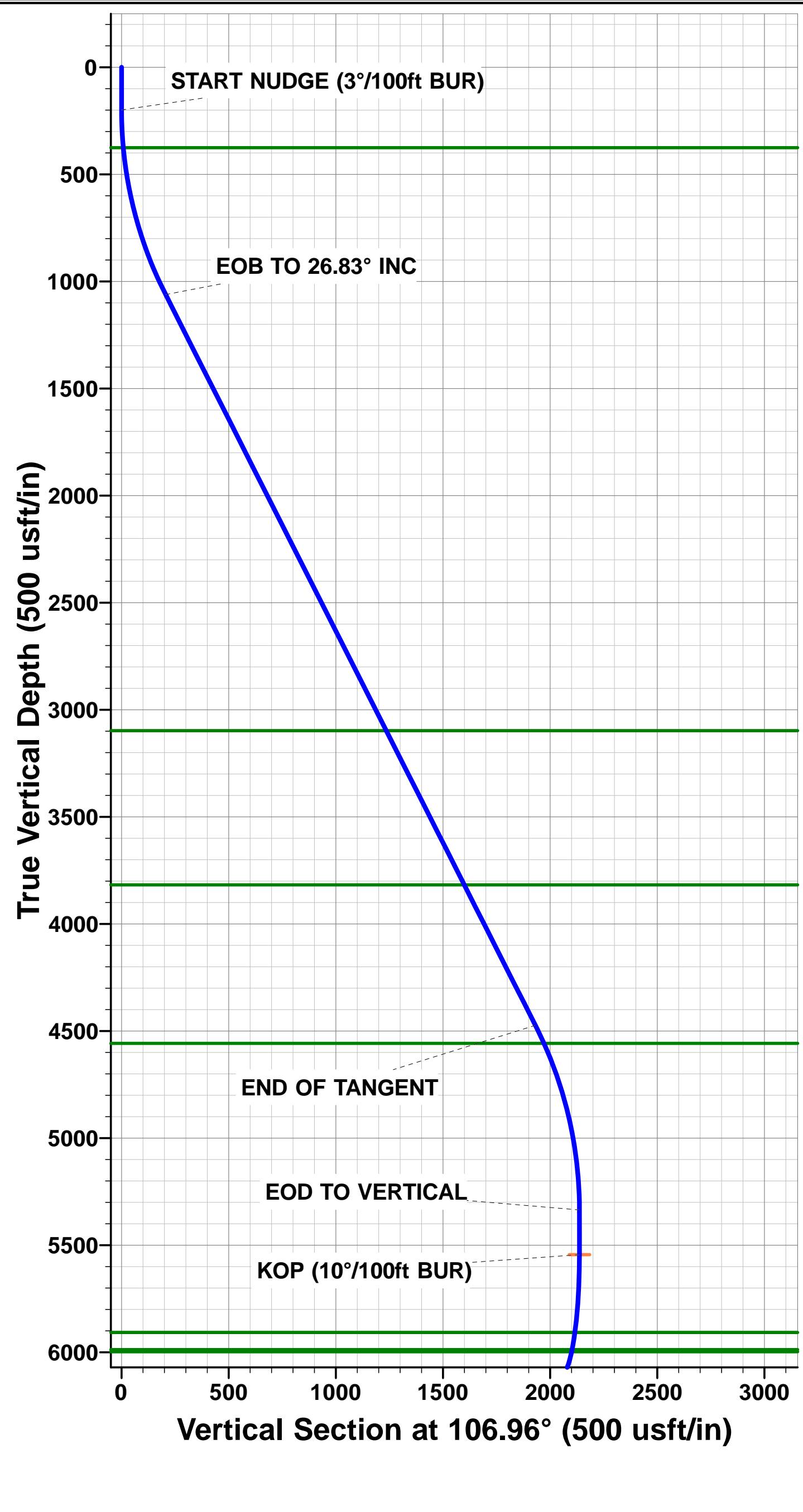




Project: WELD COUNTY, COLORADO (NAD 83)
Site: SE SW SEC. 20 T8N R59W 6th P.M.
Well: MELODY JOAN 8-59 20B-9
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #2

| ANNOTATIONS | | | | | | | | | | |
|-------------|----------|-------|--------|---------|---------|---------|---------|--|--|--|
| TVD | MD | Inc | Azi | +N/-S | +E/-W | Vsect | Dep | Annotation | | |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | SHL: 600ft FSL & 2425ft FWL of Sec 20 | | |
| 200.00 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | START NUDGE (3"/100ft BUR) | | |
| 1061.99 | 1094.32 | 26.83 | 106.96 | -59.97 | 196.65 | 39.41 | 205.59 | EOB TO 26.83° INC | | |
| 4473.95 | 4917.87 | 26.83 | 106.96 | -563.36 | 1847.31 | 370.19 | 1931.30 | END OF TANGENT | | |
| 5335.94 | 5812.19 | 0.00 | 0.00 | -623.33 | 2043.96 | 409.60 | 2136.89 | EOD TO VERTICAL | | |
| 5544.94 | 6021.19 | 0.00 | 0.00 | -623.33 | 2043.96 | 409.60 | 2136.89 | KOP (10"/100ft BUR) | | |
| 6117.90 | 6921.20 | 90.00 | 7.50 | -55.27 | 2118.75 | 946.25 | 2709.86 | BPI *NEW*: 600ft FSL & 600ft FEL of Sec 20 | | |
| 6117.90 | 7193.87 | 90.00 | 359.32 | 216.70 | 2134.96 | 1193.97 | 2982.54 | EOT TO 359.32° AZ | | |
| 6117.89 | 7426.15 | 90.00 | 359.32 | 448.96 | 2132.20 | 1397.72 | 3214.81 | END OF TANGENT | | |
| 6117.89 | 7867.65 | 90.00 | 332.83 | 873.68 | 2026.90 | 1723.24 | 3656.31 | EOT TO 332.83° AZ | | |
| 6117.89 | 7897.65 | 90.00 | 332.83 | 900.37 | 2013.20 | 1740.37 | 3686.31 | END OF TANGENT | | |
| 6117.89 | 8339.15 | 90.00 | 359.32 | 1325.08 | 1907.89 | 2065.88 | 4127.81 | EOT TO 359.32° AZ | | |
| 6117.89 | 8660.39 | 90.00 | 28.23 | 1633.78 | 1983.58 | 2373.96 | 4449.05 | EOT TO 28.23° AZ | | |
| 6117.90 | 8780.69 | 90.00 | 28.23 | 1739.77 | 2040.48 | 2494.26 | 4569.35 | END OF TANGENT | | |
| 6117.90 | 9040.59 | 90.00 | 4.84 | 1987.20 | 2113.94 | 2747.20 | 4829.25 | MID-LAT TARGET | | |
| 6117.90 | 11093.95 | 90.00 | 4.85 | 4033.22 | 2287.38 | 4635.01 | 6882.61 | EPI: 600ft FNL & 600ft FEL of Sec 20 | | |
| 6117.90 | 11148.79 | 90.00 | 3.21 | 4087.92 | 2291.23 | 4685.11 | 6937.45 | EOT TO 3.21° AZ | | |
| 6117.90 | 11394.31 | 90.00 | 3.21 | 4333.06 | 2304.96 | 4907.98 | 7182.97 | BHL: 300ft FNL & 609ft FEL of Sec 20 | | |

| WELLBORE TARGET DETAILS (LAT/LONG) | | | | | |
|--------------------------------------|---------|---------|---------|-----------|-------------|
| Name | TVD | +N/-S | +E/-W | Latitude | Longitude |
| KOP - MELODY JOAN 8-59 20B-9 | 5544.94 | -623.33 | 2043.96 | 40.640452 | -103.994454 |
| BPI *NEW* - MELODY JOAN 8-59 20B-9 | 6117.90 | -55.27 | 2118.75 | 40.642011 | -103.994184 |
| MID-LAT TGT - MELODY JOAN 8-59 20B-9 | 6117.90 | 1987.20 | 2113.94 | 40.647617 | -103.994201 |
| EPI *NEW* - MELODY JOAN 8-59 20B-9 | 6117.90 | 4033.22 | 2287.38 | 40.653233 | -103.993575 |
| BHL - MELODY JOAN 8-59 20B-9 | 6117.90 | 4333.06 | 2304.96 | 40.654056 | -103.993512 |



Planning Report



| | | | |
|------------------|---------------------------------|-------------------------------------|---|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well MELODY JOAN 8-59 20B-9 |
| Company: | BISON OIL & GAS II, LLC | TVD Reference: | KB-EST @ 4892.90usft (Original Well Elev) |
| Project: | WELD COUNTY, COLORADO (NAD 83) | MD Reference: | KB-EST @ 4892.90usft (Original Well Elev) |
| Site: | SE SW SEC. 20 T8N R59W 6th P.M. | North Reference: | True |
| Well: | MELODY JOAN 8-59 20B-9 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #2 | | |

| | | | |
|--------------------|--------------------------------|----------------------|-----------------------------|
| 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 | SE SW SEC. 20 T8N R59W 6th P.M. | | |
| Site Position: | | Northing: | 1,480,294.98 usft |
| From: | Lat/Long | Easting: | 3,415,524.90 usft |
| Position Uncertainty: | 0.00 usft | Slot Radius: | 1.10000ft |
| | | Latitude: | 40.642175 |
| | | Longitude: | -104.002625 |
| | | Grid Convergence: | 0.97 ° |

| | | | | | | |
|----------------------|------------------------|-------------|---------------------|-------------------|---------------|---------------|
| Well | MELODY JOAN 8-59 20B-9 | | | | | |
| Well Position | +N/-S | -4.38 usft | Northing: | 1,480,294.38 usfi | Latitude: | 40.642163 |
| | +E/-W | 223.68 usft | Easting: | 3,415,748.62 usfi | Longitude: | -104.001819 |
| Position Uncertainty | | 0.00 usft | Wellhead Elevation: | usfi | Ground Level: | 4,867.90 usft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | ORIGINAL WELLBORE | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2015 | 07/12/2017 | 7.77 | 67.15 | 52,541 |

| | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| Design | PROPOSAL #2 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PROTOTYPE | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
| | 0.00 | 0.00 | 0.00 | 28.01 |

Planning Report



| | | | |
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| Project: | WELD COUNTY, COLORADO (NAD 83) | MD Reference: | KB-EST @ 4892.90usft (Original Well Elev) |
| Site: | SE SW SEC. 20 T8N R59W 6th P.M. | North Reference: | True |
| Well: | MELODY JOAN 8-59 20B-9 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #2 | | |

| 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 |
| 0.00 | 0.00 | 0.00 | 0.00 | -4,892.90 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 200.00 | 0.00 | 0.00 | 200.00 | -4,692.90 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,094.32 | 26.83 | 106.96 | 1,061.99 | -3,830.91 | -59.97 | 196.65 | 3.00 | 3.00 | 0.00 | 106.96 | |
| 4,917.87 | 26.83 | 106.96 | 4,473.95 | -418.95 | -563.36 | 1,847.31 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 5,812.19 | 0.00 | 0.00 | 5,335.94 | 443.04 | -623.33 | 2,043.96 | 3.00 | -3.00 | 0.00 | 180.00 | |
| 6,021.19 | 0.00 | 0.00 | 5,544.94 | 652.04 | -623.33 | 2,043.96 | 0.00 | 0.00 | 0.00 | 0.00 | KOP - MELODY JC |
| 6,921.20 | 90.00 | 7.50 | 6,117.90 | 1,225.00 | -55.27 | 2,118.75 | 10.00 | 10.00 | 0.83 | 7.50 | BPI *NEW* - MELO |
| 7,193.87 | 90.00 | 359.32 | 6,117.90 | 1,225.00 | 216.70 | 2,134.96 | 3.00 | 0.00 | -3.00 | -90.00 | |
| 7,426.15 | 90.00 | 359.32 | 6,117.89 | 1,224.99 | 448.96 | 2,132.20 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,867.65 | 90.00 | 332.83 | 6,117.89 | 1,224.99 | 873.68 | 2,026.90 | 6.00 | 0.00 | -6.00 | 270.00 | |
| 7,897.65 | 90.00 | 332.83 | 6,117.89 | 1,224.99 | 900.37 | 2,013.20 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 8,339.15 | 90.00 | 359.32 | 6,117.89 | 1,224.99 | 1,325.09 | 1,907.89 | 6.00 | 0.00 | 6.00 | 90.00 | |
| 8,660.39 | 90.00 | 28.23 | 6,117.89 | 1,224.99 | 1,633.78 | 1,983.57 | 9.00 | 0.00 | 9.00 | 90.00 | |
| 8,780.69 | 90.00 | 28.23 | 6,117.90 | 1,225.00 | 1,739.78 | 2,040.48 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 9,040.59 | 90.00 | 4.84 | 6,117.90 | 1,225.00 | 1,987.20 | 2,113.94 | 9.00 | 0.00 | -9.00 | -90.00 | MID-LAT TGT - ME |
| 11,093.95 | 90.00 | 4.85 | 6,117.90 | 1,225.00 | 4,033.22 | 2,287.38 | 0.00 | 0.00 | 0.00 | 90.00 | EPI *NEW* - MELO |
| 11,148.79 | 90.00 | 3.21 | 6,117.90 | 1,225.00 | 4,087.92 | 2,291.23 | 3.00 | 0.00 | -3.00 | -90.00 | |
| 11,394.31 | 90.00 | 3.21 | 6,117.90 | 1,225.00 | 4,333.06 | 2,304.96 | 0.00 | 0.00 | 0.00 | 0.00 | BHL - MELODY JO |

Planning Report



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| Site: | SE SW SEC. 20 T8N R59W 6th P.M. | North Reference: | True |
| Well: | MELODY JOAN 8-59 20B-9 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #2 | | |

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: 660ft FSL & 2425ft FWL of Sec 20 | | | | | | | | | | |
| 0.00 | 0.00 | 0.00 | 0.00 | 4,892.90 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 100.00 | 0.00 | 0.00 | 100.00 | 4,792.90 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| START NUDGE (3°/100ft BUR) | | | | | | | | | | |
| 200.00 | 0.00 | 0.00 | 200.00 | 4,692.90 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 300.00 | 3.00 | 106.96 | 299.95 | 4,592.95 | -0.76 | 2.50 | 0.50 | 3.00 | 3.00 | 0.00 |
| PIERRE SHALE (BASE OF FOX HILLS) | | | | | | | | | | |
| 376.15 | 5.28 | 106.96 | 375.90 | 4,517.00 | -2.37 | 7.76 | 1.56 | 3.00 | 3.00 | 0.00 |
| 400.00 | 6.00 | 106.96 | 399.63 | 4,493.27 | -3.05 | 10.01 | 2.01 | 3.00 | 3.00 | 0.00 |
| 500.00 | 9.00 | 106.96 | 498.77 | 4,394.13 | -6.86 | 22.49 | 4.51 | 3.00 | 3.00 | 0.00 |
| 600.00 | 12.00 | 106.96 | 597.08 | 4,295.82 | -12.17 | 39.92 | 8.00 | 3.00 | 3.00 | 0.00 |
| 700.00 | 15.00 | 106.96 | 694.31 | 4,198.59 | -18.98 | 62.25 | 12.47 | 3.00 | 3.00 | 0.00 |
| 800.00 | 18.00 | 106.96 | 790.18 | 4,102.72 | -27.27 | 89.41 | 17.92 | 3.00 | 3.00 | 0.00 |
| 900.00 | 21.00 | 106.96 | 884.43 | 4,008.47 | -37.00 | 121.34 | 24.32 | 3.00 | 3.00 | 0.00 |
| 1,000.00 | 24.00 | 106.96 | 976.81 | 3,916.09 | -48.16 | 157.94 | 31.65 | 3.00 | 3.00 | 0.00 |
| EOB TO 26.83° INC | | | | | | | | | | |
| 1,094.32 | 26.83 | 106.96 | 1,061.99 | 3,830.91 | -59.97 | 196.65 | 39.41 | 3.00 | 3.00 | 0.00 |
| 1,100.00 | 26.83 | 106.96 | 1,067.06 | 3,825.84 | -60.72 | 199.10 | 39.90 | 0.00 | 0.00 | 0.00 |
| 1,200.00 | 26.83 | 106.96 | 1,156.30 | 3,736.60 | -73.88 | 242.27 | 48.55 | 0.00 | 0.00 | 0.00 |
| 1,300.00 | 26.83 | 106.96 | 1,245.53 | 3,647.37 | -87.05 | 285.44 | 57.20 | 0.00 | 0.00 | 0.00 |
| 1,400.00 | 26.83 | 106.96 | 1,334.77 | 3,558.13 | -100.22 | 328.61 | 65.85 | 0.00 | 0.00 | 0.00 |
| 1,500.00 | 26.83 | 106.96 | 1,424.00 | 3,468.90 | -113.38 | 371.79 | 74.50 | 0.00 | 0.00 | 0.00 |
| 1,600.00 | 26.83 | 106.96 | 1,513.24 | 3,379.66 | -126.55 | 414.96 | 83.16 | 0.00 | 0.00 | 0.00 |
| 1,700.00 | 26.83 | 106.96 | 1,602.47 | 3,290.43 | -139.71 | 458.13 | 91.81 | 0.00 | 0.00 | 0.00 |
| 1,800.00 | 26.83 | 106.96 | 1,691.71 | 3,201.19 | -152.88 | 501.30 | 100.46 | 0.00 | 0.00 | 0.00 |
| 1,900.00 | 26.83 | 106.96 | 1,780.94 | 3,111.96 | -166.04 | 544.47 | 109.11 | 0.00 | 0.00 | 0.00 |
| 2,000.00 | 26.83 | 106.96 | 1,870.18 | 3,022.72 | -179.21 | 587.64 | 117.76 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 26.83 | 106.96 | 1,959.41 | 2,933.49 | -192.37 | 630.81 | 126.41 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 26.83 | 106.96 | 2,048.65 | 2,844.25 | -205.54 | 673.98 | 135.06 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 26.83 | 106.96 | 2,137.89 | 2,755.01 | -218.70 | 717.15 | 143.72 | 0.00 | 0.00 | 0.00 |
| 2,400.00 | 26.83 | 106.96 | 2,227.12 | 2,665.78 | -231.87 | 760.32 | 152.37 | 0.00 | 0.00 | 0.00 |
| 2,500.00 | 26.83 | 106.96 | 2,316.36 | 2,576.54 | -245.04 | 803.49 | 161.02 | 0.00 | 0.00 | 0.00 |
| 2,600.00 | 26.83 | 106.96 | 2,405.59 | 2,487.31 | -258.20 | 846.67 | 169.67 | 0.00 | 0.00 | 0.00 |
| 2,700.00 | 26.83 | 106.96 | 2,494.83 | 2,398.07 | -271.37 | 889.84 | 178.32 | 0.00 | 0.00 | 0.00 |
| 2,800.00 | 26.83 | 106.96 | 2,584.06 | 2,308.84 | -284.53 | 933.01 | 186.97 | 0.00 | 0.00 | 0.00 |
| 2,900.00 | 26.83 | 106.96 | 2,673.30 | 2,219.60 | -297.70 | 976.18 | 195.62 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 26.83 | 106.96 | 2,762.53 | 2,130.37 | -310.86 | 1,019.35 | 204.27 | 0.00 | 0.00 | 0.00 |
| 3,100.00 | 26.83 | 106.96 | 2,851.77 | 2,041.13 | -324.03 | 1,062.52 | 212.93 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 26.83 | 106.96 | 2,941.00 | 1,951.90 | -337.19 | 1,105.69 | 221.58 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 26.83 | 106.96 | 3,030.24 | 1,862.66 | -350.36 | 1,148.86 | 230.23 | 0.00 | 0.00 | 0.00 |
| PARKMAN | | | | | | | | | | |
| 3,375.82 | 26.83 | 106.96 | 3,097.90 | 1,795.00 | -360.34 | 1,181.60 | 236.79 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 26.83 | 106.96 | 3,119.47 | 1,773.43 | -363.52 | 1,192.03 | 238.88 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 26.83 | 106.96 | 3,208.71 | 1,684.19 | -376.69 | 1,235.20 | 247.53 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 26.83 | 106.96 | 3,297.94 | 1,594.96 | -389.86 | 1,278.38 | 256.18 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 26.83 | 106.96 | 3,387.18 | 1,505.72 | -403.02 | 1,321.55 | 264.83 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 26.83 | 106.96 | 3,476.42 | 1,416.48 | -416.19 | 1,364.72 | 273.48 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 26.83 | 106.96 | 3,565.65 | 1,327.25 | -429.35 | 1,407.89 | 282.14 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 26.83 | 106.96 | 3,654.89 | 1,238.01 | -442.52 | 1,451.06 | 290.79 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 26.83 | 106.96 | 3,744.12 | 1,148.78 | -455.68 | 1,494.23 | 299.44 | 0.00 | 0.00 | 0.00 |
| SUSSEX | | | | | | | | | | |
| 4,182.68 | 26.83 | 106.96 | 3,817.90 | 1,075.00 | -466.57 | 1,529.92 | 306.59 | 0.00 | 0.00 | 0.00 |
| 4,200.00 | 26.83 | 106.96 | 3,833.36 | 1,059.54 | -468.85 | 1,537.40 | 308.09 | 0.00 | 0.00 | 0.00 |

Planning Report



| | | | |
|------------------|---------------------------------|-------------------------------------|---|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well MELODY JOAN 8-59 20B-9 |
| Company: | BISON OIL & GAS II, LLC | TVD Reference: | KB-EST @ 4892.90usft (Original Well Elev) |
| Project: | WELD COUNTY, COLORADO (NAD 83) | MD Reference: | KB-EST @ 4892.90usft (Original Well Elev) |
| Site: | SE SW SEC. 20 T8N R59W 6th P.M. | North Reference: | True |
| Well: | MELODY JOAN 8-59 20B-9 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #2 | | |

| 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) |
| 4,300.00 | 26.83 | 106.96 | 3,922.59 | 970.31 | -482.01 | 1,580.57 | 316.74 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 26.83 | 106.96 | 4,011.83 | 881.07 | -495.18 | 1,623.74 | 325.39 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 26.83 | 106.96 | 4,101.06 | 791.84 | -508.35 | 1,666.91 | 334.04 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 26.83 | 106.96 | 4,190.30 | 702.60 | -521.51 | 1,710.08 | 342.70 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 26.83 | 106.96 | 4,279.53 | 613.37 | -534.68 | 1,753.26 | 351.35 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 26.83 | 106.96 | 4,368.77 | 524.13 | -547.84 | 1,796.43 | 360.00 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 26.83 | 106.96 | 4,458.00 | 434.90 | -561.01 | 1,839.60 | 368.65 | 0.00 | 0.00 | 0.00 |
| END OF TANGENT | | | | | | | | | | |
| 4,917.87 | 26.83 | 106.96 | 4,473.95 | 418.95 | -563.36 | 1,847.31 | 370.19 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 24.37 | 106.96 | 4,548.01 | 344.89 | -573.71 | 1,881.25 | 377.00 | 3.00 | -3.00 | 0.00 |
| SHANNON | | | | | | | | | | |
| 5,010.84 | 24.04 | 106.96 | 4,557.90 | 335.00 | -575.01 | 1,885.50 | 377.85 | 3.00 | -3.00 | 0.00 |
| 5,100.00 | 21.37 | 106.96 | 4,640.14 | 252.76 | -585.04 | 1,918.41 | 384.44 | 3.00 | -3.00 | 0.00 |
| 5,200.00 | 18.37 | 106.96 | 4,734.18 | 158.72 | -594.95 | 1,950.91 | 390.96 | 3.00 | -3.00 | 0.00 |
| 5,300.00 | 15.37 | 106.96 | 4,829.87 | 63.03 | -603.42 | 1,978.66 | 396.52 | 3.00 | -3.00 | 0.00 |
| 5,400.00 | 12.37 | 106.96 | 4,926.95 | -34.05 | -610.41 | 2,001.58 | 401.11 | 3.00 | -3.00 | 0.00 |
| 5,500.00 | 9.37 | 106.96 | 5,025.14 | -132.24 | -615.90 | 2,019.61 | 404.72 | 3.00 | -3.00 | 0.00 |
| 5,600.00 | 6.37 | 106.96 | 5,124.19 | -231.29 | -619.90 | 2,032.70 | 407.35 | 3.00 | -3.00 | 0.00 |
| 5,700.00 | 3.37 | 106.96 | 5,223.82 | -330.92 | -622.37 | 2,040.81 | 408.97 | 3.00 | -3.00 | 0.00 |
| 5,800.00 | 0.37 | 106.96 | 5,323.75 | -430.85 | -623.32 | 2,043.92 | 409.60 | 3.00 | -3.00 | 0.00 |
| EOD TO VERTICAL | | | | | | | | | | |
| 5,812.19 | 0.00 | 0.00 | 5,335.94 | -443.04 | -623.33 | 2,043.96 | 409.60 | 3.00 | -3.00 | 0.00 |
| 5,900.00 | 0.00 | 0.00 | 5,423.75 | -530.85 | -623.33 | 2,043.96 | 409.60 | 0.00 | 0.00 | 0.00 |
| 6,000.00 | 0.00 | 0.00 | 5,523.75 | -630.85 | -623.33 | 2,043.96 | 409.60 | 0.00 | 0.00 | 0.00 |
| KOP (10°/100ft BUR) | | | | | | | | | | |
| 6,021.19 | 0.00 | 0.00 | 5,544.94 | -652.04 | -623.33 | 2,043.96 | 409.60 | 0.00 | 0.00 | 0.00 |
| 6,100.00 | 7.88 | 7.50 | 5,623.51 | -730.61 | -617.96 | 2,044.67 | 414.67 | 10.00 | 10.00 | 0.00 |
| 6,200.00 | 17.88 | 7.50 | 5,720.87 | -827.97 | -595.89 | 2,047.57 | 435.53 | 10.00 | 10.00 | 0.00 |
| 6,300.00 | 27.88 | 7.50 | 5,812.88 | -919.98 | -557.39 | 2,052.64 | 471.90 | 10.00 | 10.00 | 0.00 |
| 6,400.00 | 37.88 | 7.50 | 5,896.75 | -1,003.85 | -503.63 | 2,059.72 | 522.68 | 10.00 | 10.00 | 0.00 |
| SHARON SPRINGS SHALE | | | | | | | | | | |
| 6,414.26 | 39.31 | 7.50 | 5,907.90 | -1,015.00 | -494.81 | 2,060.88 | 531.01 | 10.00 | 10.00 | 0.00 |
| 6,500.00 | 47.88 | 7.50 | 5,969.94 | -1,077.04 | -436.25 | 2,068.59 | 586.33 | 10.00 | 10.00 | 0.00 |
| NIOBRARA FORMATION | | | | | | | | | | |
| 6,527.53 | 50.63 | 7.50 | 5,987.90 | -1,095.00 | -415.58 | 2,071.31 | 605.87 | 10.00 | 10.00 | 0.00 |
| NIOBRARA A CHALK | | | | | | | | | | |
| 6,543.57 | 52.24 | 7.50 | 5,997.90 | -1,105.00 | -403.14 | 2,072.95 | 617.61 | 10.00 | 10.00 | 0.00 |
| 6,600.00 | 57.88 | 7.50 | 6,030.21 | -1,137.31 | -357.30 | 2,078.99 | 660.92 | 10.00 | 10.00 | 0.00 |
| 6,700.00 | 67.88 | 7.50 | 6,075.73 | -1,182.83 | -269.16 | 2,090.59 | 744.18 | 10.00 | 10.00 | 0.00 |
| NIOBRARA B CHALK | | | | | | | | | | |
| 6,734.96 | 71.38 | 7.50 | 6,087.90 | -1,195.00 | -236.68 | 2,094.87 | 774.87 | 10.00 | 10.00 | 0.00 |
| 6,800.00 | 77.88 | 7.50 | 6,105.13 | -1,212.23 | -174.53 | 2,103.05 | 833.58 | 10.00 | 10.00 | 0.00 |
| 6,900.00 | 87.88 | 7.50 | 6,117.51 | -1,224.61 | -76.28 | 2,115.98 | 926.40 | 10.00 | 10.00 | 0.00 |
| BPI *NEW*: 600ft FSL & 600ft FEL of Sec 20 | | | | | | | | | | |
| 6,921.20 | 90.00 | 7.50 | 6,117.90 | -1,225.00 | -55.27 | 2,118.75 | 946.25 | 10.00 | 10.00 | 0.00 |
| 7,000.00 | 90.00 | 5.14 | 6,117.90 | -1,225.00 | 23.05 | 2,127.42 | 1,019.47 | 3.00 | 0.00 | -3.00 |
| 7,100.00 | 90.00 | 2.14 | 6,117.90 | -1,225.00 | 122.84 | 2,133.76 | 1,110.54 | 3.00 | 0.00 | -3.00 |
| EOT TO 359.32° AZ | | | | | | | | | | |
| 7,193.87 | 90.00 | 359.32 | 6,117.90 | -1,225.00 | 216.70 | 2,134.96 | 1,193.97 | 3.00 | 0.00 | -3.00 |
| 7,200.00 | 90.00 | 359.32 | 6,117.90 | -1,225.00 | 222.82 | 2,134.88 | 1,199.34 | 0.00 | 0.00 | 0.00 |
| 7,300.00 | 90.00 | 359.32 | 6,117.90 | -1,225.00 | 322.82 | 2,133.70 | 1,287.06 | 0.00 | 0.00 | 0.00 |
| 7,400.00 | 90.00 | 359.32 | 6,117.90 | -1,225.00 | 422.81 | 2,132.51 | 1,374.78 | 0.00 | 0.00 | 0.00 |
| END OF TANGENT | | | | | | | | | | |

Planning Report



| | | | |
|------------------|---------------------------------|-------------------------------------|---|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well MELODY JOAN 8-59 20B-9 |
| Company: | BISON OIL & GAS II, LLC | TVD Reference: | KB-EST @ 4892.90usft (Original Well Elev) |
| Project: | WELD COUNTY, COLORADO (NAD 83) | MD Reference: | KB-EST @ 4892.90usft (Original Well Elev) |
| Site: | SE SW SEC. 20 T8N R59W 6th P.M. | North Reference: | True |
| Well: | MELODY JOAN 8-59 20B-9 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #2 | | |

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) |
|---|--------------|---------------|-----------------|------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| 7,426.15 | 90.00 | 359.32 | 6,117.89 | -1,224.99 | 448.96 | 2,132.20 | 1,397.72 | 0.00 | 0.00 | 0.00 |
| 7,500.00 | 90.00 | 354.89 | 6,117.89 | -1,224.99 | 522.70 | 2,128.47 | 1,461.07 | 6.00 | 0.00 | -6.00 |
| 7,600.00 | 90.00 | 348.89 | 6,117.89 | -1,224.99 | 621.65 | 2,114.37 | 1,541.81 | 6.00 | 0.00 | -6.00 |
| 7,700.00 | 90.00 | 342.89 | 6,117.89 | -1,224.99 | 718.59 | 2,090.00 | 1,615.95 | 6.00 | 0.00 | -6.00 |
| 7,800.00 | 90.00 | 336.89 | 6,117.89 | -1,224.99 | 812.45 | 2,055.63 | 1,682.67 | 6.00 | 0.00 | -6.00 |
| EOT TO 332.83° AZ | | | | | | | | | | |
| 7,867.65 | 90.00 | 332.83 | 6,117.89 | -1,224.99 | 873.68 | 2,026.90 | 1,723.24 | 6.00 | 0.00 | -6.00 |
| END OF TANGENT | | | | | | | | | | |
| 7,897.65 | 90.00 | 332.83 | 6,117.89 | -1,224.99 | 900.37 | 2,013.20 | 1,740.37 | 0.00 | 0.00 | 0.00 |
| 7,900.00 | 90.00 | 332.97 | 6,117.89 | -1,224.99 | 902.46 | 2,012.13 | 1,741.71 | 5.99 | 0.00 | 5.99 |
| 8,000.00 | 90.00 | 338.97 | 6,117.89 | -1,224.99 | 993.75 | 1,971.43 | 1,803.19 | 6.00 | 0.00 | 6.00 |
| 8,100.00 | 90.00 | 344.97 | 6,117.89 | -1,224.99 | 1,088.80 | 1,940.49 | 1,872.58 | 6.00 | 0.00 | 6.00 |
| 8,200.00 | 90.00 | 350.97 | 6,117.89 | -1,224.99 | 1,186.56 | 1,919.66 | 1,949.10 | 6.00 | 0.00 | 6.00 |
| 8,300.00 | 90.00 | 356.97 | 6,117.89 | -1,224.99 | 1,285.96 | 1,909.16 | 2,031.93 | 6.00 | 0.00 | 6.00 |
| EOT TO 359.32° AZ | | | | | | | | | | |
| 8,339.15 | 90.00 | 359.32 | 6,117.89 | -1,224.99 | 1,325.08 | 1,907.89 | 2,065.88 | 6.00 | 0.00 | 6.00 |
| 8,400.00 | 90.00 | 4.80 | 6,117.89 | -1,224.99 | 1,385.87 | 1,910.08 | 2,120.57 | 9.00 | 0.00 | 9.00 |
| 8,500.00 | 90.00 | 13.80 | 6,117.89 | -1,224.99 | 1,484.46 | 1,926.21 | 2,215.19 | 9.00 | 0.00 | 9.00 |
| 8,600.00 | 90.00 | 22.80 | 6,117.89 | -1,224.99 | 1,579.30 | 1,957.58 | 2,313.65 | 9.00 | 0.00 | 9.00 |
| EOT TO 28.23° AZ | | | | | | | | | | |
| 8,660.39 | 90.00 | 28.23 | 6,117.89 | -1,224.99 | 1,633.78 | 1,983.58 | 2,373.96 | 9.00 | 0.00 | 9.00 |
| 8,700.00 | 90.00 | 28.23 | 6,117.89 | -1,224.99 | 1,668.68 | 2,002.31 | 2,413.57 | 0.00 | 0.00 | 0.00 |
| END OF TANGENT | | | | | | | | | | |
| 8,780.69 | 90.00 | 28.23 | 6,117.90 | -1,225.00 | 1,739.77 | 2,040.48 | 2,494.26 | 0.00 | 0.00 | 0.00 |
| 8,800.00 | 90.00 | 26.49 | 6,117.90 | -1,225.00 | 1,756.92 | 2,049.36 | 2,513.57 | 9.00 | 0.00 | -9.00 |
| 8,900.00 | 90.00 | 17.49 | 6,117.90 | -1,225.00 | 1,849.55 | 2,086.77 | 2,612.92 | 9.00 | 0.00 | -9.00 |
| 9,000.00 | 90.00 | 8.49 | 6,117.90 | -1,225.00 | 1,946.89 | 2,109.23 | 2,709.40 | 9.00 | 0.00 | -9.00 |
| MID-LAT TARGET | | | | | | | | | | |
| 9,040.59 | 90.00 | 4.84 | 6,117.90 | -1,225.00 | 1,987.20 | 2,113.94 | 2,747.20 | 9.00 | 0.00 | -9.00 |
| 9,100.00 | 90.00 | 4.84 | 6,117.90 | -1,225.00 | 2,046.40 | 2,118.95 | 2,801.82 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 90.00 | 4.84 | 6,117.90 | -1,225.00 | 2,146.04 | 2,127.39 | 2,893.75 | 0.00 | 0.00 | 0.00 |
| 9,300.00 | 90.00 | 4.84 | 6,117.90 | -1,225.00 | 2,245.68 | 2,135.83 | 2,985.69 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 90.00 | 4.84 | 6,117.90 | -1,225.00 | 2,345.33 | 2,144.27 | 3,077.62 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 90.00 | 4.84 | 6,117.90 | -1,225.00 | 2,444.97 | 2,152.71 | 3,169.56 | 0.00 | 0.00 | 0.00 |
| 9,600.00 | 90.00 | 4.84 | 6,117.90 | -1,225.00 | 2,544.61 | 2,161.15 | 3,261.49 | 0.00 | 0.00 | 0.00 |
| 9,700.00 | 90.00 | 4.84 | 6,117.90 | -1,225.00 | 2,644.26 | 2,169.60 | 3,353.43 | 0.00 | 0.00 | 0.00 |
| 9,800.00 | 90.00 | 4.84 | 6,117.90 | -1,225.00 | 2,743.90 | 2,178.04 | 3,445.37 | 0.00 | 0.00 | 0.00 |
| 9,900.00 | 90.00 | 4.84 | 6,117.90 | -1,225.00 | 2,843.54 | 2,186.48 | 3,537.30 | 0.00 | 0.00 | 0.00 |
| 10,000.00 | 90.00 | 4.85 | 6,117.90 | -1,225.00 | 2,943.18 | 2,194.93 | 3,629.24 | 0.00 | 0.00 | 0.00 |
| 10,100.00 | 90.00 | 4.85 | 6,117.90 | -1,225.00 | 3,042.83 | 2,203.38 | 3,721.18 | 0.00 | 0.00 | 0.00 |
| 10,200.00 | 90.00 | 4.85 | 6,117.90 | -1,225.00 | 3,142.47 | 2,211.82 | 3,813.11 | 0.00 | 0.00 | 0.00 |
| 10,300.00 | 90.00 | 4.85 | 6,117.90 | -1,225.00 | 3,242.11 | 2,220.27 | 3,905.05 | 0.00 | 0.00 | 0.00 |
| 10,400.00 | 90.00 | 4.85 | 6,117.90 | -1,225.00 | 3,341.75 | 2,228.72 | 3,996.99 | 0.00 | 0.00 | 0.00 |
| 10,500.00 | 90.00 | 4.85 | 6,117.90 | -1,225.00 | 3,441.40 | 2,237.17 | 4,088.93 | 0.00 | 0.00 | 0.00 |
| 10,600.00 | 90.00 | 4.85 | 6,117.90 | -1,225.00 | 3,541.04 | 2,245.62 | 4,180.87 | 0.00 | 0.00 | 0.00 |
| 10,700.00 | 90.00 | 4.85 | 6,117.90 | -1,225.00 | 3,640.68 | 2,254.07 | 4,272.81 | 0.00 | 0.00 | 0.00 |
| 10,800.00 | 90.00 | 4.85 | 6,117.90 | -1,225.00 | 3,740.32 | 2,262.53 | 4,364.75 | 0.00 | 0.00 | 0.00 |
| 10,900.00 | 90.00 | 4.85 | 6,117.90 | -1,225.00 | 3,839.97 | 2,270.98 | 4,456.69 | 0.00 | 0.00 | 0.00 |
| 11,000.00 | 90.00 | 4.85 | 6,117.90 | -1,225.00 | 3,939.61 | 2,279.44 | 4,548.63 | 0.00 | 0.00 | 0.00 |
| EPI: 600ft FNL & 600ft FEL of Sec 20 | | | | | | | | | | |
| 11,093.95 | 90.00 | 4.85 | 6,117.90 | -1,225.00 | 4,033.22 | 2,287.38 | 4,635.01 | 0.00 | 0.00 | 0.00 |
| 11,100.00 | 90.00 | 4.67 | 6,117.90 | -1,225.00 | 4,039.25 | 2,287.88 | 4,640.57 | 3.00 | 0.00 | -3.00 |
| EOT TO 3.21° AZ | | | | | | | | | | |

| | | | |
|------------------|---------------------------------|-------------------------------------|---|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well MELODY JOAN 8-59 20B-9 |
| Company: | BISON OIL & GAS II, LLC | TVD Reference: | KB-EST @ 4892.90usft (Original Well Elev) |
| Project: | WELD COUNTY, COLORADO (NAD 83) | MD Reference: | KB-EST @ 4892.90usft (Original Well Elev) |
| Site: | SE SW SEC. 20 T8N R59W 6th P.M. | North Reference: | True |
| Well: | MELODY JOAN 8-59 20B-9 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #2 | | |

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) |
|---|------------|------------|---------------|--------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| 11,148.79 | 90.00 | 3.21 | 6,117.90 | -1,225.00 | 4,087.92 | 2,291.23 | 4,685.11 | 3.00 | 0.00 | -3.00 |
| 11,200.00 | 90.00 | 3.21 | 6,117.90 | -1,225.00 | 4,139.05 | 2,294.10 | 4,731.60 | 0.00 | 0.00 | 0.00 |
| 11,300.00 | 90.00 | 3.21 | 6,117.90 | -1,225.00 | 4,238.90 | 2,299.69 | 4,822.37 | 0.00 | 0.00 | 0.00 |
| BHL: 300ft FNL & 609ft FEL of Sec 20 | | | | | | | | | | |
| 11,394.31 | 90.00 | 3.21 | 6,117.90 | -1,225.00 | 4,333.06 | 2,304.96 | 4,907.98 | 0.00 | 0.00 | 0.00 |

Formations

| MD (usft) | TVD (usft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|--------------|---------------|------------------------------|-----------|------------|-------------------------|
| 376.15 | 375.90 | PIERRE SHALE (BASE OF FOX HI | | | |
| 3,375.82 | 3,097.90 | PARKMAN | | | |
| 4,182.68 | 3,817.90 | SUSSEX | | | |
| 5,010.84 | 4,557.90 | SHANNON | | | |
| 6,414.26 | 5,907.90 | SHARON SPRINGS SHALE | | | |
| 6,527.53 | 5,987.90 | NIOBRARA FORMATION | | | |
| 6,543.57 | 5,997.90 | NIOBRARA A CHALK | | | |
| 6,734.96 | 6,087.90 | NIOBRARA B CHALK | | | |

Plan Annotations

| MD (usft) | TVD (usft) | Local Coordinates | | Comment |
|--------------|---------------|-------------------|-----------------|--|
| | | +N/-S (usft) | +E/-W (usft) | |
| 0.00 | 0.00 | 0.00 | 0.00 | SHL: 660ft FSL & 2425ft FWL of Sec 20 |
| 200.00 | 200.00 | 0.00 | 0.00 | START NUDGE (3°/100ft BUR) |
| 1,094.32 | 1,061.99 | -59.97 | 196.65 | EOB TO 26.83° INC |
| 4,917.87 | 4,473.95 | -563.36 | 1,847.31 | END OF TANGENT |
| 5,812.19 | 5,335.94 | -623.33 | 2,043.96 | EOD TO VERTICAL |
| 6,021.19 | 5,544.94 | -623.33 | 2,043.96 | KOP (10°/100ft BUR) |
| 6,921.20 | 6,117.90 | -55.27 | 2,118.75 | BPI *NEW*: 600ft FSL & 600ft FEL of Sec 20 |
| 7,193.87 | 6,117.90 | 216.70 | 2,134.96 | EOT TO 359.32° AZ |
| 7,426.15 | 6,117.89 | 448.96 | 2,132.20 | END OF TANGENT |
| 7,867.65 | 6,117.89 | 873.68 | 2,026.90 | EOT TO 332.83° AZ |
| 7,897.65 | 6,117.89 | 900.37 | 2,013.20 | END OF TANGENT |
| 8,339.15 | 6,117.89 | 1,325.08 | 1,907.89 | EOT TO 359.32° AZ |
| 8,660.39 | 6,117.89 | 1,633.78 | 1,983.58 | EOT TO 28.23° AZ |
| 8,780.69 | 6,117.90 | 1,739.77 | 2,040.48 | END OF TANGENT |
| 9,040.59 | 6,117.90 | 1,987.20 | 2,113.94 | MID-LAT TARGET |
| 11,093.95 | 6,117.90 | 4,033.22 | 2,287.38 | EPI: 600ft FNL & 600ft FEL of Sec 20 |
| 11,148.79 | 6,117.90 | 4,087.92 | 2,291.23 | EOT TO 3.21° AZ |
| 11,394.31 | 6,117.90 | 4,333.06 | 2,304.96 | BHL: 300ft FNL & 609ft FEL of Sec 20 |