

PDC ENERGY

**WELD COUNTY, COLORADO
SW NW SEC. 17 T5N R64W 6th P.M.
SCHAUMBERG 17F-202**

ORIGINAL WELLBORE

16 December, 2015

Plan: PROPOSAL #1





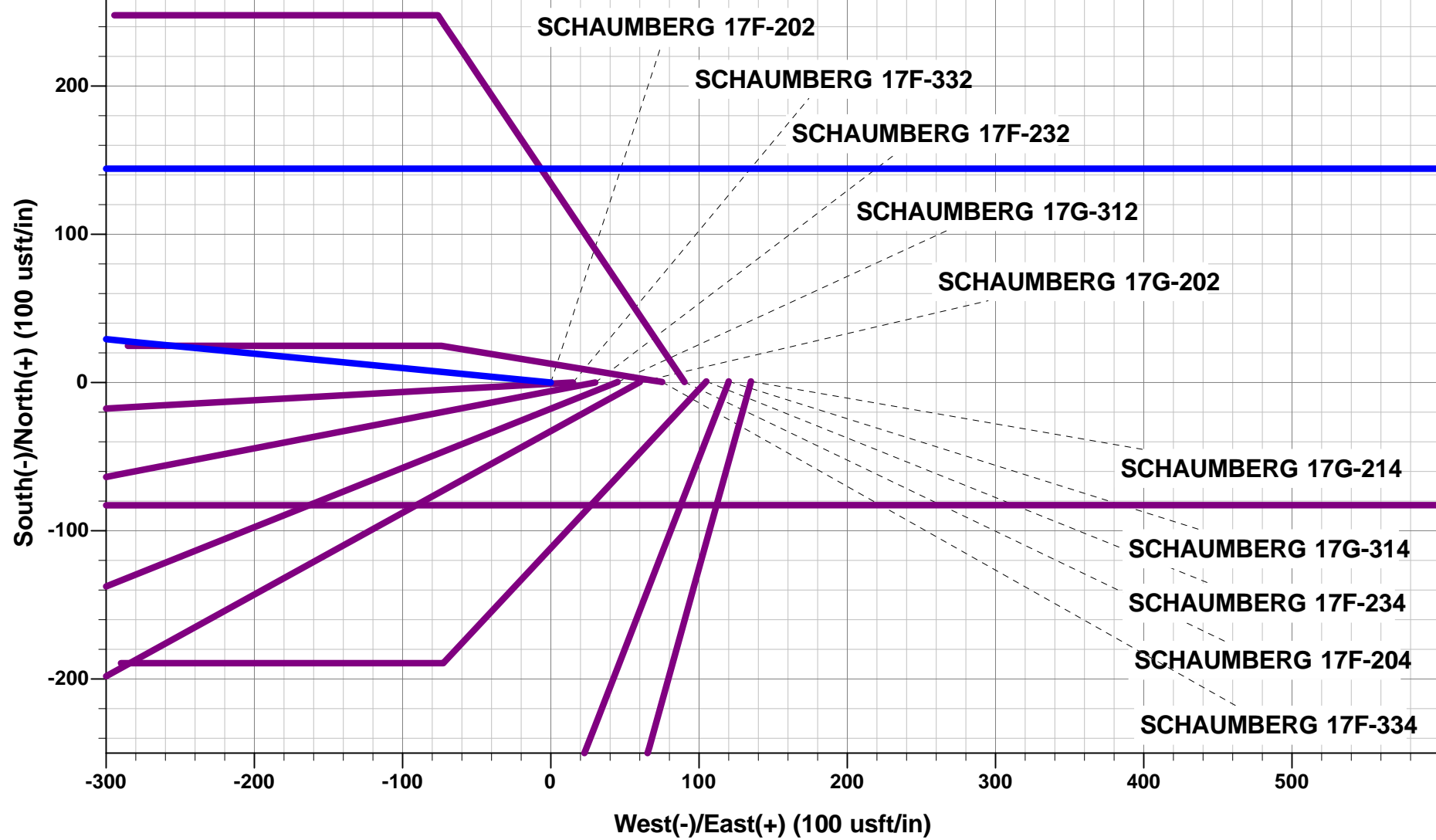
Project: WELD COUNTY, COLORADO
Site: SW NW SEC. 17 T5N R64W 6th P.M.
Well: SCHAUMBERG 17F-202
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

ANNOTATIONS

| TVD | MD | Inc | Azi | +N/-S | +E/-W | VSec | Dep | Annotation |
|--------|---------|-------|--------|-------|---------|---------|--------|-----------------------------------|
| 1000.0 | 1000.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | START NUDGE (2°/100ft BUR) |
| 2021.9 | 2044.9 | 20.90 | 275.56 | 18.3 | -187.6 | -186.8 | 188.5 | EOB TO 20.9° INC |
| 4932.0 | 5159.9 | 20.90 | 275.56 | 125.9 | -1293.5 | -1287.9 | 1299.6 | END OF TANGENT |
| 5953.9 | 6204.9 | 0.00 | 0.00 | 144.2 | -1481.1 | -1474.7 | 1488.1 | EOD TO VERTICAL |
| 5983.9 | 6234.9 | 0.00 | 0.00 | 144.2 | -1481.1 | -1474.7 | 1488.1 | KOP (8°/100ft BUR) |
| 6700.0 | 7364.4 | 90.37 | 90.00 | 144.2 | -760.3 | -754.4 | 2208.9 | 7" ICP *NEW* - SCHAUMBERG 17F-202 |
| 6670.0 | 11987.2 | 90.37 | 90.00 | 144.2 | 3862.4 | 3865.1 | 6831.6 | BHL - SCHAUMBERG 17F-202 |

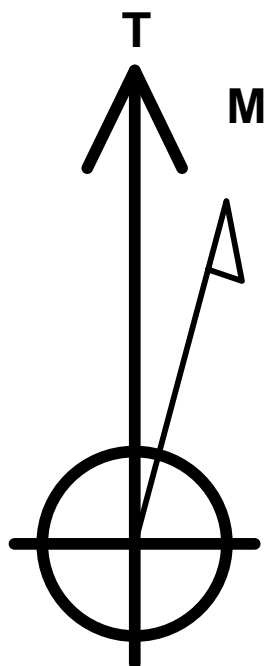
WELLBORE TARGET DETAILS (LAT/LONG)

| Name | TVD | +N/-S | +E/-W | Latitude | Longitude |
|-----------------------------------|--------|-------|---------|-----------|-------------|
| KOP - SCHAUMBERG 17F-202 | 5983.9 | 144.2 | -1481.1 | 40.402396 | -104.585436 |
| 7" ICP *NEW* - SCHAUMBERG 17F-202 | 6700.0 | 144.2 | -760.3 | 40.402396 | -104.582848 |
| BHL - SCHAUMBERG 17F-202 | 6670.0 | 144.2 | 3862.4 | 40.402395 | -104.566250 |



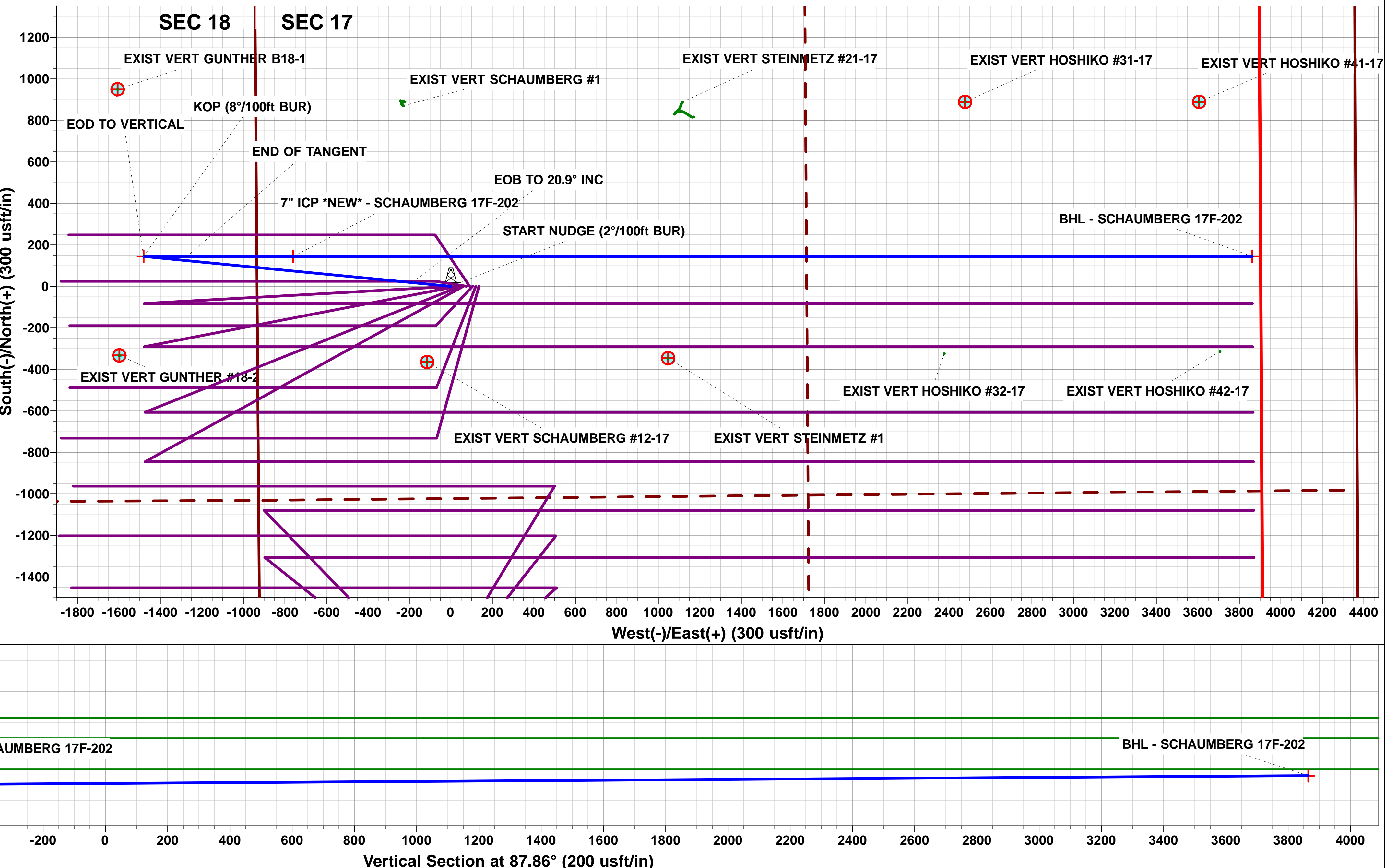
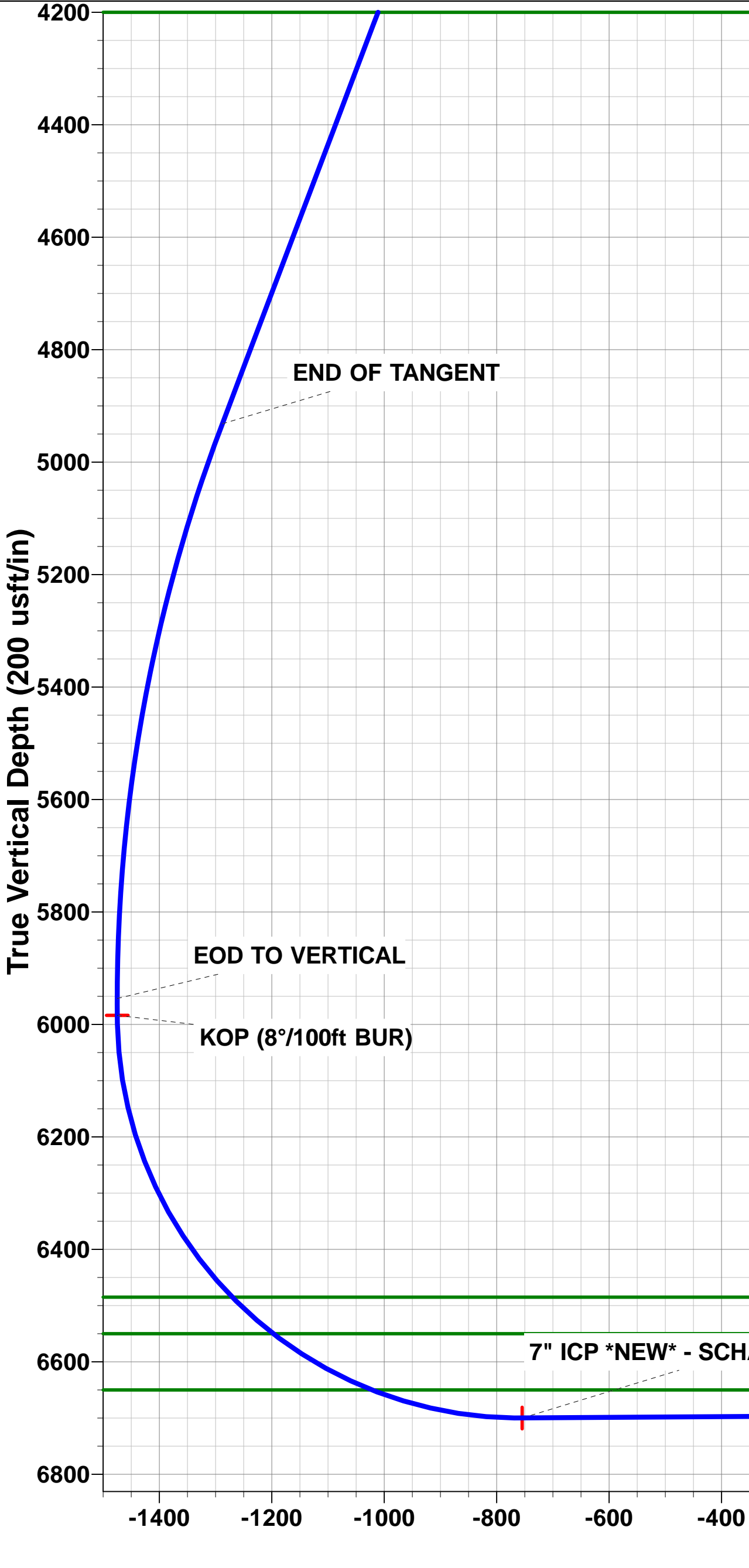
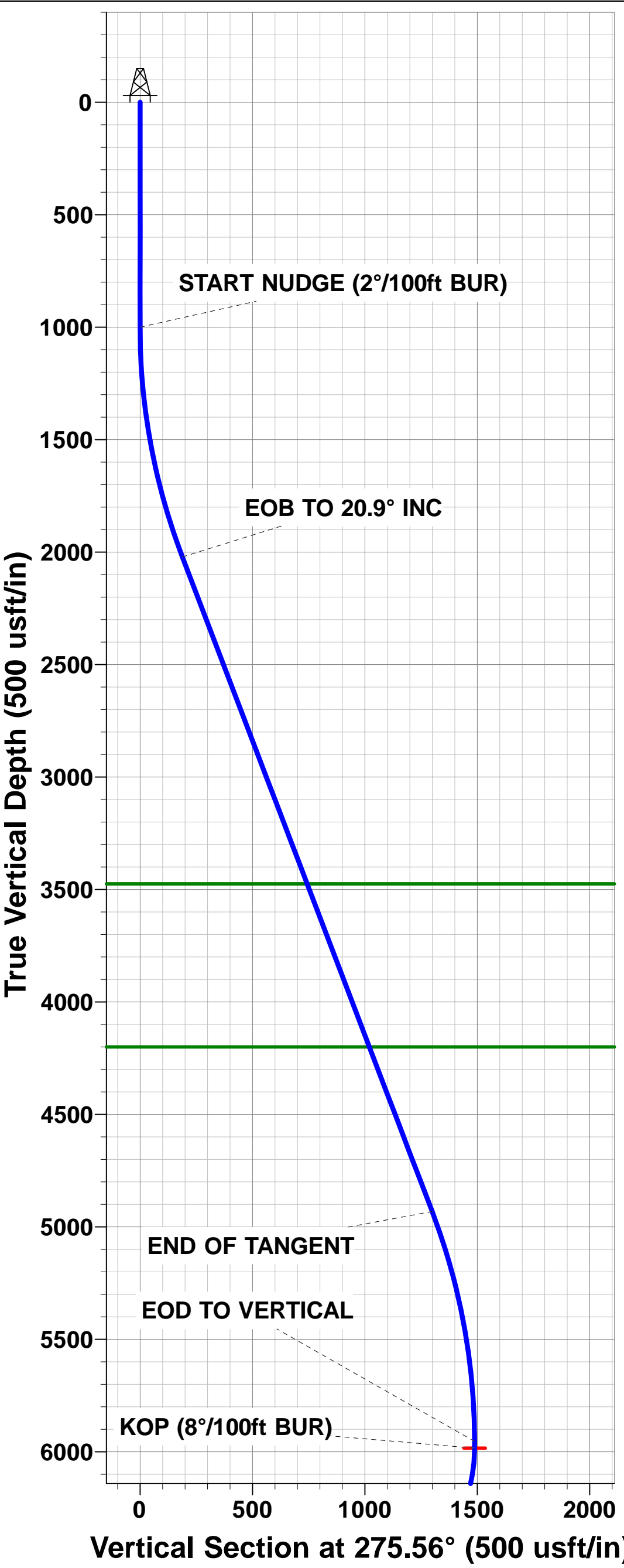
PROPOSED LOCAL COORDINATES:

SHL: 1624ft FNL & 935ft FWL of Sec 17
7" ICP *NEW*: 1473.6ft FNL & 175ft FWL of Sec 17
BHL: 1511ft FNL & 500ft FEL of Sec 17



Azimuths to True North
Magnetic North: 8.27°

Magnetic Field
Strength: 52585.8snT
Dip Angle: 66.92°
Date: 16/12/2015
Model: IGRF2015



Planning Report



| | | | |
|------------------|---------------------------------|-------------------------------------|--|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well SCHAUMBERG 17F-202 |
| Company: | PDC ENERGY | TVD Reference: | KB-EST @ 4633.0usft (Original Well Elev) |
| Project: | WELD COUNTY, COLORADO | MD Reference: | KB-EST @ 4633.0usft (Original Well Elev) |
| Site: | SW NW SEC. 17 T5N R64W 6th P.M. | North Reference: | True |
| Well: | SCHAUMBERG 17F-202 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #1 | | |

| | | | |
|--------------------|---------------------------|----------------------|-----------------------------|
| Project | WELD 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 | SW NW SEC. 17 T5N R64W 6th P.M. | | |
| Site Position: | | Northing: | 1,390,619.91 usft |
| From: | Lat/Long | Easting: | 3,256,319.57 usft |
| Position Uncertainty: | 0.0 usft | Slot Radius: | 1.10000ft |
| | | Latitude: | 40.402002 |
| | | Longitude: | -104.579633 |
| | | Grid Convergence: | 0.59 ° |

| | | | |
|-----------------------------|--------------------|-------------|----------------------------|
| Well | SCHAUMBERG 17F-202 | | |
| Well Position | +N/-S | -0.7 usft | Northing: |
| | +E/-W | -135.1 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 | 16/12/2015 | 8.27 | 66.92 | 52,586 |

| | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| 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 (°) |
| | 6,670.0 | 0.0 | 0.0 | 87.86 |

| 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 | -4,633.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,000.0 | 0.00 | 0.00 | 1,000.0 | -3,633.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2,044.9 | 20.90 | 275.56 | 2,021.9 | -2,611.1 | 18.3 | -187.6 | 2.00 | 2.00 | 0.00 | 275.56 | |
| 5,159.9 | 20.90 | 275.56 | 4,932.0 | 299.0 | 125.9 | -1,293.5 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,204.9 | 0.00 | 0.00 | 5,953.9 | 1,320.9 | 144.2 | -1,481.1 | 2.00 | -2.00 | 0.00 | 180.00 | |
| 6,234.9 | 0.00 | 0.00 | 5,983.9 | 1,350.9 | 144.2 | -1,481.1 | 0.00 | 0.00 | 0.00 | 0.00 | KOP - SCHAUMBE |
| 7,364.4 | 90.37 | 90.00 | 6,700.0 | 2,067.0 | 144.2 | -760.3 | 8.00 | 8.00 | 7.97 | 90.00 | 7" ICP *NEW* - SC |
| 11,987.2 | 90.37 | 90.00 | 6,670.0 | 2,037.0 | 144.2 | 3,862.4 | 0.00 | 0.00 | 0.00 | 0.00 | BHL - SCHAUMBE |

Planning Report



| | | | |
|------------------|---------------------------------|-------------------------------------|--|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well SCHAUMBERG 17F-202 |
| Company: | PDC ENERGY | TVD Reference: | KB-EST @ 4633.0usft (Original Well Elev) |
| Project: | WELD COUNTY, COLORADO | MD Reference: | KB-EST @ 4633.0usft (Original Well Elev) |
| Site: | SW NW SEC. 17 T5N R64W 6th P.M. | North Reference: | True |
| Well: | SCHAUMBERG 17F-202 | 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) |
|-----------------------------------|------------|------------|---------------|--------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| 0.0 | 0.00 | 0.00 | 0.0 | 4,633.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 100.0 | 0.00 | 0.00 | 100.0 | 4,533.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 0.00 | 0.00 | 200.0 | 4,433.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 300.0 | 0.00 | 0.00 | 300.0 | 4,333.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 400.0 | 0.00 | 0.00 | 400.0 | 4,233.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 500.0 | 0.00 | 0.00 | 500.0 | 4,133.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 600.0 | 0.00 | 0.00 | 600.0 | 4,033.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 700.0 | 0.00 | 0.00 | 700.0 | 3,933.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 800.0 | 0.00 | 0.00 | 800.0 | 3,833.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 900.0 | 0.00 | 0.00 | 900.0 | 3,733.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| START NUDGE (2°/100ft BUR) | | | | | | | | | | |
| 1,000.0 | 0.00 | 0.00 | 1,000.0 | 3,633.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,100.0 | 2.00 | 275.56 | 1,100.0 | 3,533.02 | 0.2 | -1.7 | -1.7 | 2.00 | 2.00 | 0.00 |
| 1,200.0 | 4.00 | 275.56 | 1,199.8 | 3,433.16 | 0.7 | -6.9 | -6.9 | 2.00 | 2.00 | 0.00 |
| 1,300.0 | 6.00 | 275.56 | 1,299.5 | 3,333.55 | 1.5 | -15.6 | -15.6 | 2.00 | 2.00 | 0.00 |
| 1,400.0 | 8.00 | 275.56 | 1,398.7 | 3,234.30 | 2.7 | -27.7 | -27.6 | 2.00 | 2.00 | 0.00 |
| 1,500.0 | 10.00 | 275.56 | 1,497.5 | 3,135.53 | 4.2 | -43.3 | -43.1 | 2.00 | 2.00 | 0.00 |
| 1,600.0 | 12.00 | 275.56 | 1,595.6 | 3,037.38 | 6.1 | -62.3 | -62.0 | 2.00 | 2.00 | 0.00 |
| 1,700.0 | 14.00 | 275.56 | 1,693.1 | 2,939.94 | 8.2 | -84.7 | -84.3 | 2.00 | 2.00 | 0.00 |
| 1,800.0 | 16.00 | 275.56 | 1,789.6 | 2,843.36 | 10.8 | -110.5 | -110.0 | 2.00 | 2.00 | 0.00 |
| 1,900.0 | 18.00 | 275.56 | 1,885.3 | 2,747.73 | 13.6 | -139.6 | -138.9 | 2.00 | 2.00 | 0.00 |
| 2,000.0 | 20.00 | 275.56 | 1,979.8 | 2,653.18 | 16.7 | -172.0 | -171.2 | 2.00 | 2.00 | 0.00 |
| EOB TO 20.9° INC | | | | | | | | | | |
| 2,044.9 | 20.90 | 275.56 | 2,021.9 | 2,611.08 | 18.3 | -187.6 | -186.8 | 2.00 | 2.00 | 0.00 |
| 2,100.0 | 20.90 | 275.56 | 2,073.4 | 2,559.64 | 20.2 | -207.1 | -206.2 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 20.90 | 275.56 | 2,166.8 | 2,466.22 | 23.6 | -242.6 | -241.6 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 20.90 | 275.56 | 2,260.2 | 2,372.80 | 27.1 | -278.1 | -276.9 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 20.90 | 275.56 | 2,353.6 | 2,279.38 | 30.5 | -313.6 | -312.3 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 20.90 | 275.56 | 2,447.0 | 2,185.95 | 34.0 | -349.1 | -347.6 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 20.90 | 275.56 | 2,540.5 | 2,092.53 | 37.4 | -384.6 | -383.0 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 20.90 | 275.56 | 2,633.9 | 1,999.11 | 40.9 | -420.2 | -418.3 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 20.90 | 275.56 | 2,727.3 | 1,905.69 | 44.4 | -455.7 | -453.7 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 20.90 | 275.56 | 2,820.7 | 1,812.27 | 47.8 | -491.2 | -489.0 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 20.90 | 275.56 | 2,914.2 | 1,718.85 | 51.3 | -526.7 | -524.4 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 20.90 | 275.56 | 3,007.6 | 1,625.43 | 54.7 | -562.2 | -559.7 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 20.90 | 275.56 | 3,101.0 | 1,532.01 | 58.2 | -597.7 | -595.1 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 20.90 | 275.56 | 3,194.4 | 1,438.58 | 61.6 | -633.2 | -630.4 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 20.90 | 275.56 | 3,287.8 | 1,345.16 | 65.1 | -668.7 | -665.8 | 0.00 | 0.00 | 0.00 |
| 3,500.0 | 20.90 | 275.56 | 3,381.3 | 1,251.74 | 68.6 | -704.2 | -701.1 | 0.00 | 0.00 | 0.00 |
| 3,600.0 | 20.90 | 275.56 | 3,474.7 | 1,158.32 | 72.0 | -739.7 | -736.5 | 0.00 | 0.00 | 0.00 |
| PARKMAN SANDSTONE | | | | | | | | | | |
| 3,600.3 | 20.90 | 275.56 | 3,475.0 | 1,158.00 | 72.0 | -739.8 | -736.6 | 0.00 | 0.00 | 0.00 |
| 3,700.0 | 20.90 | 275.56 | 3,568.1 | 1,064.90 | 75.5 | -775.2 | -771.8 | 0.00 | 0.00 | 0.00 |
| 3,800.0 | 20.90 | 275.56 | 3,661.5 | 971.48 | 78.9 | -810.7 | -807.2 | 0.00 | 0.00 | 0.00 |
| 3,900.0 | 20.90 | 275.56 | 3,754.9 | 878.06 | 82.4 | -846.2 | -842.5 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 20.90 | 275.56 | 3,848.4 | 784.64 | 85.8 | -881.7 | -877.9 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 20.90 | 275.56 | 3,941.8 | 691.21 | 89.3 | -917.2 | -913.2 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 20.90 | 275.56 | 4,035.2 | 597.79 | 92.8 | -952.7 | -948.6 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 20.90 | 275.56 | 4,128.6 | 504.37 | 96.2 | -988.2 | -983.9 | 0.00 | 0.00 | 0.00 |
| SUSSEX SANDSTONE | | | | | | | | | | |
| 4,376.4 | 20.90 | 275.56 | 4,200.0 | 433.00 | 98.9 | -1,015.3 | -1,010.9 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 20.90 | 275.56 | 4,222.0 | 410.95 | 99.7 | -1,023.7 | -1,019.3 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 20.90 | 275.56 | 4,315.5 | 317.53 | 103.1 | -1,059.2 | -1,054.6 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 20.90 | 275.56 | 4,408.9 | 224.11 | 106.6 | -1,094.7 | -1,090.0 | 0.00 | 0.00 | 0.00 |

Planning Report



| | | | |
|------------------|---------------------------------|-------------------------------------|--|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well SCHAUMBERG 17F-202 |
| Company: | PDC ENERGY | TVD Reference: | KB-EST @ 4633.0usft (Original Well Elev) |
| Project: | WELD COUNTY, COLORADO | MD Reference: | KB-EST @ 4633.0usft (Original Well Elev) |
| Site: | SW NW SEC. 17 T5N R64W 6th P.M. | North Reference: | True |
| Well: | SCHAUMBERG 17F-202 | 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) |
|--|--------------|---------------|----------------|------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| 4,700.0 | 20.90 | 275.56 | 4,502.3 | 130.69 | 110.0 | -1,130.2 | -1,125.3 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 20.90 | 275.56 | 4,595.7 | 37.27 | 113.5 | -1,165.7 | -1,160.7 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 20.90 | 275.56 | 4,689.2 | -56.16 | 117.0 | -1,201.2 | -1,196.0 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 20.90 | 275.56 | 4,782.6 | -149.58 | 120.4 | -1,236.7 | -1,231.4 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 20.90 | 275.56 | 4,876.0 | -243.00 | 123.9 | -1,272.2 | -1,266.7 | 0.00 | 0.00 | 0.00 |
| END OF TANGENT | | | | | | | | | | |
| 5,159.9 | 20.90 | 275.56 | 4,932.0 | -298.98 | 125.9 | -1,293.5 | -1,287.9 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 20.10 | 275.56 | 4,969.5 | -336.52 | 127.3 | -1,307.5 | -1,301.8 | 2.00 | -2.00 | 0.00 |
| 5,300.0 | 18.10 | 275.56 | 5,064.0 | -431.01 | 130.5 | -1,340.0 | -1,334.2 | 2.00 | -2.00 | 0.00 |
| 5,400.0 | 16.10 | 275.56 | 5,159.6 | -526.59 | 133.3 | -1,369.3 | -1,363.4 | 2.00 | -2.00 | 0.00 |
| 5,500.0 | 14.10 | 275.56 | 5,256.1 | -623.13 | 135.8 | -1,395.2 | -1,389.2 | 2.00 | -2.00 | 0.00 |
| 5,600.0 | 12.10 | 275.56 | 5,353.5 | -720.52 | 138.0 | -1,417.8 | -1,411.6 | 2.00 | -2.00 | 0.00 |
| 5,700.0 | 10.10 | 275.56 | 5,451.6 | -818.65 | 139.9 | -1,436.9 | -1,430.7 | 2.00 | -2.00 | 0.00 |
| 5,800.0 | 8.10 | 275.56 | 5,550.4 | -917.39 | 141.4 | -1,452.7 | -1,446.4 | 2.00 | -2.00 | 0.00 |
| 5,900.0 | 6.10 | 275.56 | 5,649.6 | -1,016.61 | 142.6 | -1,465.0 | -1,458.6 | 2.00 | -2.00 | 0.00 |
| 6,000.0 | 4.10 | 275.56 | 5,749.2 | -1,116.21 | 143.5 | -1,473.8 | -1,467.4 | 2.00 | -2.00 | 0.00 |
| 6,100.0 | 2.10 | 275.56 | 5,849.1 | -1,216.06 | 144.0 | -1,479.2 | -1,472.8 | 2.00 | -2.00 | 0.00 |
| 6,200.0 | 0.10 | 275.56 | 5,949.0 | -1,316.04 | 144.2 | -1,481.1 | -1,474.7 | 2.00 | -2.00 | 0.00 |
| EOD TO VERTICAL | | | | | | | | | | |
| 6,204.9 | 0.00 | 0.00 | 5,953.9 | -1,320.90 | 144.2 | -1,481.1 | -1,474.7 | 2.00 | -2.00 | 0.00 |
| KOP (8°/100ft BUR) | | | | | | | | | | |
| 6,234.9 | 0.00 | 0.00 | 5,983.9 | -1,350.90 | 144.2 | -1,481.1 | -1,474.7 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 5.21 | 90.00 | 6,048.9 | -1,415.95 | 144.2 | -1,478.1 | -1,471.7 | 8.00 | 8.00 | 0.00 |
| 6,400.0 | 13.21 | 90.00 | 6,147.6 | -1,514.58 | 144.2 | -1,462.1 | -1,455.7 | 8.00 | 8.00 | 0.00 |
| 6,500.0 | 21.21 | 90.00 | 6,243.0 | -1,610.02 | 144.2 | -1,432.6 | -1,426.2 | 8.00 | 8.00 | 0.00 |
| 6,600.0 | 29.21 | 90.00 | 6,333.4 | -1,700.42 | 144.2 | -1,390.0 | -1,383.7 | 8.00 | 8.00 | 0.00 |
| 6,700.0 | 37.22 | 90.00 | 6,417.0 | -1,784.02 | 144.2 | -1,335.3 | -1,329.0 | 8.00 | 8.00 | 0.00 |
| SHARON SPRINGS | | | | | | | | | | |
| 6,789.9 | 44.41 | 90.00 | 6,485.0 | -1,852.00 | 144.2 | -1,276.6 | -1,270.3 | 8.00 | 8.00 | 0.00 |
| 6,800.0 | 45.22 | 90.00 | 6,492.2 | -1,859.18 | 144.2 | -1,269.4 | -1,263.2 | 8.00 | 8.00 | 0.00 |
| NIORARA A | | | | | | | | | | |
| 6,887.7 | 52.23 | 90.00 | 6,550.0 | -1,917.00 | 144.2 | -1,203.6 | -1,197.3 | 8.00 | 8.00 | 0.00 |
| 6,900.0 | 53.22 | 90.00 | 6,557.4 | -1,924.45 | 144.2 | -1,193.8 | -1,187.6 | 8.00 | 8.00 | 0.00 |
| 7,000.0 | 61.22 | 90.00 | 6,611.5 | -1,978.55 | 144.2 | -1,109.8 | -1,103.6 | 8.00 | 8.00 | 0.00 |
| NIORARA B | | | | | | | | | | |
| 7,090.5 | 68.46 | 90.00 | 6,650.0 | -2,017.00 | 144.2 | -1,027.9 | -1,021.8 | 8.00 | 8.00 | 0.00 |
| 7,100.0 | 69.22 | 90.00 | 6,653.4 | -2,020.43 | 144.2 | -1,019.1 | -1,013.0 | 8.00 | 8.00 | 0.00 |
| 7,200.0 | 77.22 | 90.00 | 6,682.3 | -2,049.27 | 144.2 | -923.4 | -917.4 | 8.00 | 8.00 | 0.00 |
| 7,300.0 | 85.22 | 90.00 | 6,697.5 | -2,064.53 | 144.2 | -824.6 | -818.7 | 8.00 | 8.00 | 0.00 |
| 7" ICP *NEW* - SCHAUMBERG 17F-202 | | | | | | | | | | |
| 7,364.4 | 90.37 | 90.00 | 6,700.0 | -2,067.00 | 144.2 | -760.3 | -754.4 | 8.00 | 8.00 | 0.00 |
| 7,400.0 | 90.37 | 90.00 | 6,699.8 | -2,066.77 | 144.2 | -724.7 | -718.8 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 90.37 | 90.00 | 6,699.1 | -2,066.12 | 144.2 | -624.7 | -618.9 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 90.37 | 90.00 | 6,698.5 | -2,065.47 | 144.2 | -524.7 | -519.0 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 90.37 | 90.00 | 6,697.8 | -2,064.82 | 144.2 | -424.7 | -419.0 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 90.37 | 90.00 | 6,697.2 | -2,064.17 | 144.2 | -324.7 | -319.1 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 90.37 | 90.00 | 6,696.5 | -2,063.52 | 144.2 | -224.7 | -219.2 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 90.37 | 90.00 | 6,695.9 | -2,062.88 | 144.2 | -124.7 | -119.3 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 90.37 | 90.00 | 6,695.2 | -2,062.23 | 144.2 | -24.7 | -19.3 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 90.37 | 90.00 | 6,694.6 | -2,061.58 | 144.2 | 75.3 | 80.6 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 90.37 | 90.00 | 6,693.9 | -2,060.93 | 144.2 | 175.3 | 180.5 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 90.37 | 90.00 | 6,693.3 | -2,060.28 | 144.2 | 275.3 | 280.5 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 90.37 | 90.00 | 6,692.6 | -2,059.63 | 144.2 | 375.3 | 380.4 | 0.00 | 0.00 | 0.00 |

Planning Report



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|------------------|---------------------------------|-------------------------------------|--|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well SCHAUMBERG 17F-202 |
| Company: | PDC ENERGY | TVD Reference: | KB-EST @ 4633.0usft (Original Well Elev) |
| Project: | WELD COUNTY, COLORADO | MD Reference: | KB-EST @ 4633.0usft (Original Well Elev) |
| Site: | SW NW SEC. 17 T5N R64W 6th P.M. | North Reference: | True |
| Well: | SCHAUMBERG 17F-202 | 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) |
| 8,600.0 | 90.37 | 90.00 | 6,692.0 | -2,058.98 | 144.2 | 475.3 | 480.3 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 90.37 | 90.00 | 6,691.3 | -2,058.33 | 144.2 | 575.3 | 580.2 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 90.37 | 90.00 | 6,690.7 | -2,057.68 | 144.2 | 675.3 | 680.2 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 90.37 | 90.00 | 6,690.0 | -2,057.03 | 144.2 | 775.3 | 780.1 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 90.37 | 90.00 | 6,689.4 | -2,056.39 | 144.2 | 875.2 | 880.0 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 90.37 | 90.00 | 6,688.7 | -2,055.74 | 144.2 | 975.2 | 979.9 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 90.37 | 90.00 | 6,688.1 | -2,055.09 | 144.2 | 1,075.2 | 1,079.9 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 90.37 | 90.00 | 6,687.4 | -2,054.44 | 144.2 | 1,175.2 | 1,179.8 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 90.37 | 90.00 | 6,686.8 | -2,053.79 | 144.2 | 1,275.2 | 1,279.7 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 90.37 | 90.00 | 6,686.1 | -2,053.14 | 144.2 | 1,375.2 | 1,379.7 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 90.37 | 90.00 | 6,685.5 | -2,052.49 | 144.2 | 1,475.2 | 1,479.6 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 90.37 | 90.00 | 6,684.8 | -2,051.84 | 144.2 | 1,575.2 | 1,579.5 | 0.00 | 0.00 | 0.00 |
| 9,800.0 | 90.37 | 90.00 | 6,684.2 | -2,051.19 | 144.2 | 1,675.2 | 1,679.4 | 0.00 | 0.00 | 0.00 |
| 9,900.0 | 90.37 | 90.00 | 6,683.5 | -2,050.55 | 144.2 | 1,775.2 | 1,779.4 | 0.00 | 0.00 | 0.00 |
| 10,000.0 | 90.37 | 90.00 | 6,682.9 | -2,049.90 | 144.2 | 1,875.2 | 1,879.3 | 0.00 | 0.00 | 0.00 |
| 10,100.0 | 90.37 | 90.00 | 6,682.2 | -2,049.25 | 144.2 | 1,975.2 | 1,979.2 | 0.00 | 0.00 | 0.00 |
| 10,200.0 | 90.37 | 90.00 | 6,681.6 | -2,048.60 | 144.2 | 2,075.2 | 2,079.2 | 0.00 | 0.00 | 0.00 |
| 10,300.0 | 90.37 | 90.00 | 6,680.9 | -2,047.95 | 144.2 | 2,175.2 | 2,179.1 | 0.00 | 0.00 | 0.00 |
| 10,400.0 | 90.37 | 90.00 | 6,680.3 | -2,047.30 | 144.2 | 2,275.2 | 2,279.0 | 0.00 | 0.00 | 0.00 |
| 10,500.0 | 90.37 | 90.00 | 6,679.7 | -2,046.65 | 144.2 | 2,375.2 | 2,378.9 | 0.00 | 0.00 | 0.00 |
| 10,600.0 | 90.37 | 90.00 | 6,679.0 | -2,046.00 | 144.2 | 2,475.2 | 2,478.9 | 0.00 | 0.00 | 0.00 |
| 10,700.0 | 90.37 | 90.00 | 6,678.4 | -2,045.35 | 144.2 | 2,575.2 | 2,578.8 | 0.00 | 0.00 | 0.00 |
| 10,800.0 | 90.37 | 90.00 | 6,677.7 | -2,044.70 | 144.2 | 2,675.2 | 2,678.7 | 0.00 | 0.00 | 0.00 |
| 10,900.0 | 90.37 | 90.00 | 6,677.1 | -2,044.06 | 144.2 | 2,775.2 | 2,778.7 | 0.00 | 0.00 | 0.00 |
| 11,000.0 | 90.37 | 90.00 | 6,676.4 | -2,043.41 | 144.2 | 2,875.2 | 2,878.6 | 0.00 | 0.00 | 0.00 |
| 11,100.0 | 90.37 | 90.00 | 6,675.8 | -2,042.76 | 144.2 | 2,975.2 | 2,978.5 | 0.00 | 0.00 | 0.00 |
| 11,200.0 | 90.37 | 90.00 | 6,675.1 | -2,042.11 | 144.2 | 3,075.2 | 3,078.4 | 0.00 | 0.00 | 0.00 |
| 11,300.0 | 90.37 | 90.00 | 6,674.5 | -2,041.46 | 144.2 | 3,175.2 | 3,178.4 | 0.00 | 0.00 | 0.00 |
| 11,400.0 | 90.37 | 90.00 | 6,673.8 | -2,040.81 | 144.2 | 3,275.2 | 3,278.3 | 0.00 | 0.00 | 0.00 |
| 11,500.0 | 90.37 | 90.00 | 6,673.2 | -2,040.16 | 144.2 | 3,375.2 | 3,378.2 | 0.00 | 0.00 | 0.00 |
| 11,600.0 | 90.37 | 90.00 | 6,672.5 | -2,039.51 | 144.2 | 3,475.2 | 3,478.2 | 0.00 | 0.00 | 0.00 |
| 11,700.0 | 90.37 | 90.00 | 6,671.9 | -2,038.86 | 144.2 | 3,575.2 | 3,578.1 | 0.00 | 0.00 | 0.00 |
| 11,800.0 | 90.37 | 90.00 | 6,671.2 | -2,038.22 | 144.2 | 3,675.2 | 3,678.0 | 0.00 | 0.00 | 0.00 |
| 11,900.0 | 90.37 | 90.00 | 6,670.6 | -2,037.57 | 144.2 | 3,775.2 | 3,777.9 | 0.00 | 0.00 | 0.00 |
| BHL - SCHAUMBERG 17F-202 | | | | | | | | | | |
| 11,987.2 | 90.37 | 90.00 | 6,670.0 | -2,037.00 | 144.2 | 3,862.4 | 3,865.1 | 0.00 | 0.00 | 0.00 |

| Formations | | | | | | |
|--------------|---------------|-------------------|-----------|------------|-------------------------|--|
| MD (usft) | TVD (usft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 3,600.3 | 3,475.0 | PARKMAN SANDSTONE | | | | |
| 4,376.4 | 4,200.0 | SUSSEX SANDSTONE | | | | |
| 6,789.9 | 6,485.0 | SHARON SPRINGS | | | | |
| 6,887.7 | 6,550.0 | NIOBRARA A | | | | |
| 7,090.5 | 6,650.0 | NIOBRARA B | | | | |

Planning Report



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|------------------|---------------------------------|-------------------------------------|--|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well SCHAUMBERG 17F-202 |
| Company: | PDC ENERGY | TVD Reference: | KB-EST @ 4633.0usft (Original Well Elev) |
| Project: | WELD COUNTY, COLORADO | MD Reference: | KB-EST @ 4633.0usft (Original Well Elev) |
| Site: | SW NW SEC. 17 T5N R64W 6th P.M. | North Reference: | True |
| Well: | SCHAUMBERG 17F-202 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #1 | | |

| Plan Annotations | | | | |
|-------------------|---------------|-----------------|-----------------|-----------------------------------|
| Local Coordinates | | | | |
| MD (usft) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Comment |
| 1,000.0 | 1,000.0 | 0.0 | 0.0 | START NUDGE (2°/100ft BUR) |
| 2,044.9 | 2,021.9 | 18.3 | -187.6 | EOB TO 20.9° INC |
| 5,159.9 | 4,932.0 | 125.9 | -1,293.5 | END OF TANGENT |
| 6,204.9 | 5,953.9 | 144.2 | -1,481.1 | EOD TO VERTICAL |
| 6,234.9 | 5,983.9 | 144.2 | -1,481.1 | KOP (8°/100ft BUR) |
| 7,364.4 | 6,700.0 | 144.2 | -760.3 | 7" ICP *NEW* - SCHAUMBERG 17F-202 |
| 11,987.2 | 6,670.0 | 144.2 | 3,862.4 | BHL - SCHAUMBERG 17F-202 |