

EXTRACTION OIL & GAS

WELD COUNTY, COLORADO (NAD 83)

SE NE SEC. 22 T6N R67W 6th P.M.

STROMBERGER 8

ORIGINAL WELLBORE

15 March, 2017

Plan: PROPOSAL #4

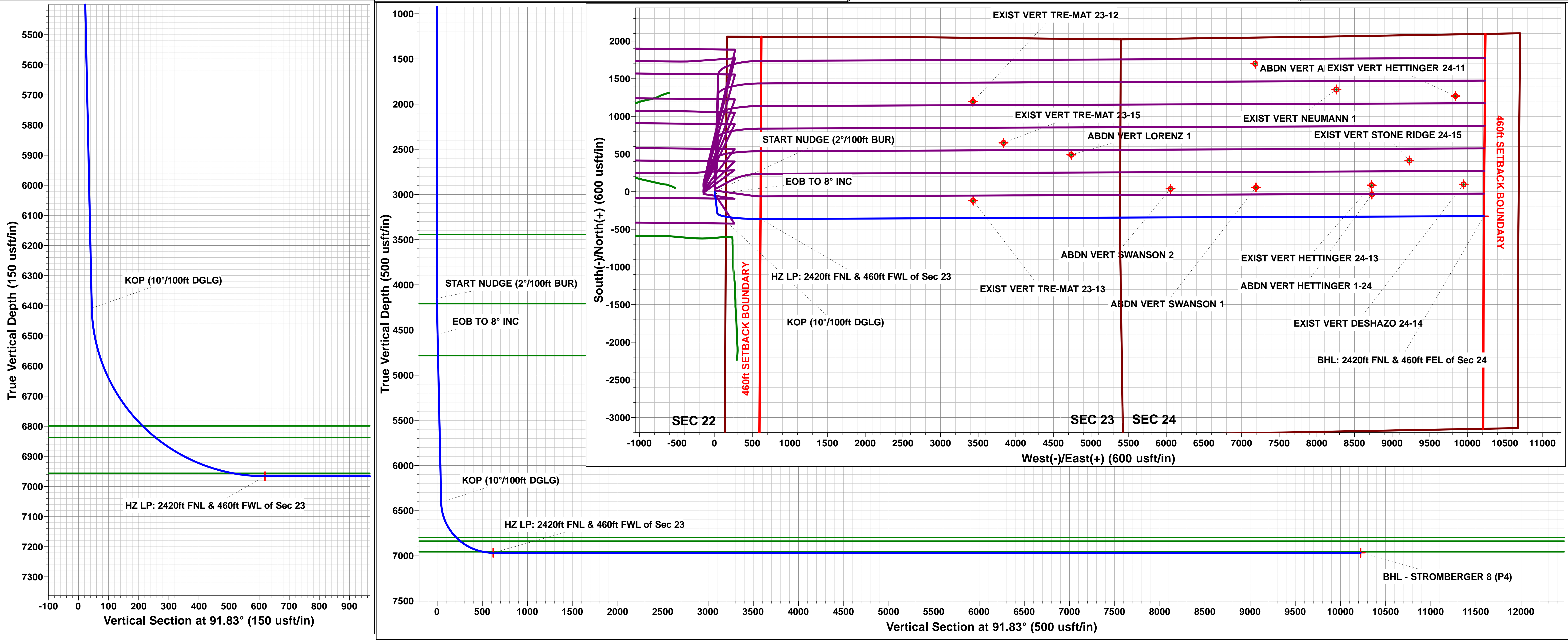
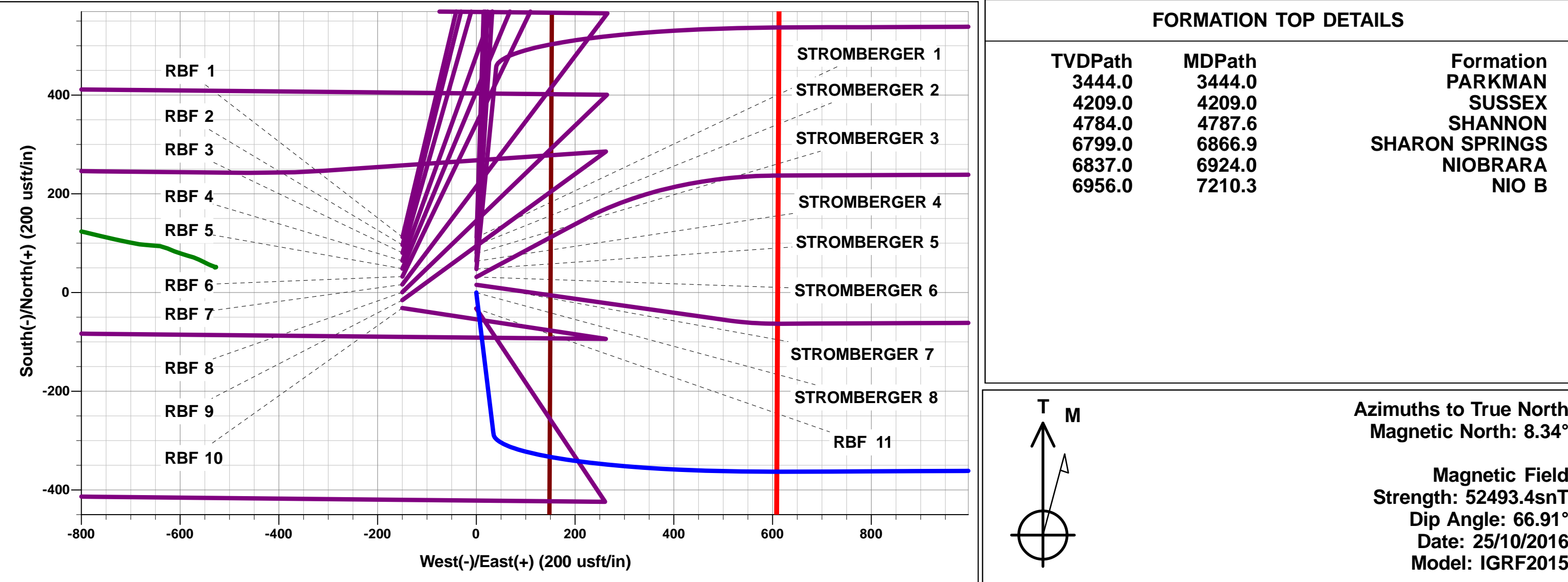




Project: WELD COUNTY, COLORADO (NAD 83)
Site: SE NE SEC. 22 T6N R67W 6th P.M.
Well: STROMBERGER 8
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #4

| ANNOTATIONS | | | | | | | | | |
|-------------|---------|-------|--------|--------|---------|---------|---------|---|--|
| TVD | MD | Inc | Azi | +N/-S | +E/-W | VSec | Dep | Annotation | |
| 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | SHL: 2058ft FNL & 150ft FEL of Sec 22 | |
| 4150.0 | 4150.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | START NUDGE (2°/100ft BUR) | |
| 4548.8 | 4550.1 | 8.00 | 173.05 | -27.7 | 3.4 | 4.3 | 27.9 | EOB TO 8° INC | |
| 6407.8 | 6427.4 | 8.00 | 173.05 | -287.1 | 35.0 | 44.1 | 289.2 | KOP (10°/100ft DGLG) | |
| 6966.0 | 7318.0 | 90.00 | 89.78 | -362.8 | 608.2 | 619.4 | 876.9 | HZ LP: 2420ft FNL & 460ft FWL of Sec 23 | |
| 6966.0 | 16928.4 | 90.00 | 89.78 | -325.8 | 10218.5 | 10223.6 | 10487.3 | BHL: 2420ft FNL & 460ft FEL of Sec 24 | |

| WELLBORE TARGET DETAILS (LAT/LONG) | | | | | |
|------------------------------------|--------|--------|---------|-----------|-------------|
| Name | TVD | +N/-S | +E/-W | Latitude | Longitude |
| LANDING PNT - STROMBERGER 8 (P4) | 6966.0 | -362.8 | 608.2 | 40.473064 | -104.868676 |
| BHL - STROMBERGER 8 (P4) | 6966.0 | -325.8 | 10218.5 | 40.473160 | -104.834134 |



Planning Report



| | | | |
|------------------|---------------------------------|-------------------------------------|---------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well STROMBERGER 8 |
| Company: | EXTRACTION OIL & GAS | TVD Reference: | KB-EST @ 4794.0usft |
| Project: | WELD COUNTY, COLORADO (NAD 83) | MD Reference: | KB-EST @ 4794.0usft |
| Site: | SE NE SEC. 22 T6N R67W 6th P.M. | North Reference: | True |
| Well: | STROMBERGER 8 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #4 | | |

| | | | |
|--------------------|--------------------------------|----------------------|-----------------------------|
| 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 NE SEC. 22 T6N R67W 6th P.M. | | |
| Site Position: | | Northing: | 1,417,027.42 usft |
| From: | Lat/Long | Easting: | 3,175,712.36 usft |
| Position Uncertainty: | 0.0 usft | Slot Radius: | 1.10000ft |
| | | Latitude: | 40.476424 |
| | | Longitude: | -104.868382 |
| | | Grid Convergence: | 0.41 ° |

| | | | |
|-----------------------------|---------------|----------------------------|------------------|
| Well | STROMBERGER 8 | | |
| Well Position | +N/-S | -861.2 usft | Northing: |
| | +E/-W | -690.0 usft | Easting: |
| Position Uncertainty | 0.0 usft | Wellhead Elevation: | usft |
| | | Latitude: | 40.474060 |
| | | Longitude: | -104.870862 |
| | | Ground Level: | 4,778.0 usft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | ORIGINAL WELLBORE | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2015 | 25/10/2016 | 8.34 | 66.91 | 52,493 |

| | | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|--|
| Design | PROPOSAL #4 | | | | |
| Audit Notes: | | | | | |
| Version: | Phase: | PROTOTYPE | Tie On Depth: | 0.0 | |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) | |
| | 6,966.0 | 0.0 | 0.0 | 91.83 | |

| 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 | -4,794.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 4,150.0 | 0.00 | 0.00 | 4,150.0 | -644.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 4,550.1 | 8.00 | 173.05 | 4,548.8 | -245.2 | -27.7 | 3.4 | 2.00 | 2.00 | 0.00 | 173.05 | |
| 6,427.4 | 8.00 | 173.05 | 6,407.8 | 1,613.8 | -287.1 | 35.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,318.0 | 90.00 | 89.78 | 6,966.0 | 2,172.0 | -362.8 | 608.2 | 10.00 | 9.21 | -9.35 | -83.33 | LANDING PNT - S1 |
| 16,928.4 | 90.00 | 89.78 | 6,966.0 | 2,172.0 | -325.8 | 10,218.5 | 0.00 | 0.00 | 0.00 | 0.00 | BHL - STROMBER |

Planning Report



| | | | |
|------------------|---------------------------------|-------------------------------------|---------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well STROMBERGER 8 |
| Company: | EXTRACTION OIL & GAS | TVD Reference: | KB-EST @ 4794.0usft |
| Project: | WELD COUNTY, COLORADO (NAD 83) | MD Reference: | KB-EST @ 4794.0usft |
| Site: | SE NE SEC. 22 T6N R67W 6th P.M. | North Reference: | True |
| Well: | STROMBERGER 8 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #4 | | |

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: 2058ft FNL & 150ft FEL of Sec 22 | | | | | | | | | | |
| 0.0 | 0.00 | 0.00 | 0.0 | 4,794.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 100.0 | 0.00 | 0.00 | 100.0 | 4,694.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 0.00 | 0.00 | 200.0 | 4,594.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 300.0 | 0.00 | 0.00 | 300.0 | 4,494.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 400.0 | 0.00 | 0.00 | 400.0 | 4,394.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 500.0 | 0.00 | 0.00 | 500.0 | 4,294.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 600.0 | 0.00 | 0.00 | 600.0 | 4,194.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 700.0 | 0.00 | 0.00 | 700.0 | 4,094.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 800.0 | 0.00 | 0.00 | 800.0 | 3,994.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 900.0 | 0.00 | 0.00 | 900.0 | 3,894.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,000.0 | 0.00 | 0.00 | 1,000.0 | 3,794.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,100.0 | 0.00 | 0.00 | 1,100.0 | 3,694.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,200.0 | 0.00 | 0.00 | 1,200.0 | 3,594.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,300.0 | 0.00 | 0.00 | 1,300.0 | 3,494.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,400.0 | 0.00 | 0.00 | 1,400.0 | 3,394.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,500.0 | 0.00 | 0.00 | 1,500.0 | 3,294.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,600.0 | 0.00 | 0.00 | 1,600.0 | 3,194.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,700.0 | 0.00 | 0.00 | 1,700.0 | 3,094.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,800.0 | 0.00 | 0.00 | 1,800.0 | 2,994.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,900.0 | 0.00 | 0.00 | 1,900.0 | 2,894.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,000.0 | 0.00 | 0.00 | 2,000.0 | 2,794.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,100.0 | 0.00 | 0.00 | 2,100.0 | 2,694.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 0.00 | 0.00 | 2,200.0 | 2,594.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 0.00 | 0.00 | 2,300.0 | 2,494.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 0.00 | 0.00 | 2,400.0 | 2,394.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 0.00 | 0.00 | 2,500.0 | 2,294.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 0.00 | 0.00 | 2,600.0 | 2,194.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 0.00 | 0.00 | 2,700.0 | 2,094.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 0.00 | 0.00 | 2,800.0 | 1,994.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 0.00 | 0.00 | 2,900.0 | 1,894.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 0.00 | 0.00 | 3,000.0 | 1,794.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 0.00 | 0.00 | 3,100.0 | 1,694.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 0.00 | 0.00 | 3,200.0 | 1,594.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 0.00 | 0.00 | 3,300.0 | 1,494.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 0.00 | 0.00 | 3,400.0 | 1,394.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| PARKMAN | | | | | | | | | | |
| 3,444.0 | 0.00 | 0.00 | 3,444.0 | 1,350.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,500.0 | 0.00 | 0.00 | 3,500.0 | 1,294.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,600.0 | 0.00 | 0.00 | 3,600.0 | 1,194.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,700.0 | 0.00 | 0.00 | 3,700.0 | 1,094.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,800.0 | 0.00 | 0.00 | 3,800.0 | 994.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,900.0 | 0.00 | 0.00 | 3,900.0 | 894.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 0.00 | 0.00 | 4,000.0 | 794.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 0.00 | 0.00 | 4,100.0 | 694.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| START NUDGE (2°/100ft BUR) | | | | | | | | | | |
| 4,150.0 | 0.00 | 0.00 | 4,150.0 | 644.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 1.00 | 173.05 | 4,200.0 | 594.00 | -0.4 | 0.1 | 0.1 | 2.00 | 2.00 | 0.00 |
| SUSSEX | | | | | | | | | | |
| 4,209.0 | 1.18 | 173.05 | 4,209.0 | 585.00 | -0.6 | 0.1 | 0.1 | 2.00 | 2.00 | 0.00 |
| 4,300.0 | 3.00 | 173.05 | 4,299.9 | 494.07 | -3.9 | 0.5 | 0.6 | 2.00 | 2.00 | 0.00 |
| 4,400.0 | 5.00 | 173.05 | 4,399.7 | 394.32 | -10.8 | 1.3 | 1.7 | 2.00 | 2.00 | 0.00 |
| 4,500.0 | 7.00 | 173.05 | 4,499.1 | 294.87 | -21.2 | 2.6 | 3.3 | 2.00 | 2.00 | 0.00 |
| EOB TO 8° INC | | | | | | | | | | |

| | | | |
|------------------|---------------------------------|-------------------------------------|---------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well STROMBERGER 8 |
| Company: | EXTRACTION OIL & GAS | TVD Reference: | KB-EST @ 4794.0usft |
| Project: | WELD COUNTY, COLORADO (NAD 83) | MD Reference: | KB-EST @ 4794.0usft |
| Site: | SE NE SEC. 22 T6N R67W 6th P.M. | North Reference: | True |
| Well: | STROMBERGER 8 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #4 | | |

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) |
|--|--------------|---------------|----------------|------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| 4,550.1 | 8.00 | 173.05 | 4,548.8 | 245.20 | -27.7 | 3.4 | 4.3 | 2.00 | 2.00 | 0.00 |
| 4,600.0 | 8.00 | 173.05 | 4,598.2 | 195.79 | -34.6 | 4.2 | 5.3 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 8.00 | 173.05 | 4,697.2 | 96.76 | -48.4 | 5.9 | 7.4 | 0.00 | 0.00 | 0.00 |
| SHANNON | | | | | | | | | | |
| 4,787.6 | 8.00 | 173.05 | 4,784.0 | 10.00 | -60.5 | 7.4 | 9.3 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 8.00 | 173.05 | 4,796.3 | -2.27 | -62.2 | 7.6 | 9.6 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 8.00 | 173.05 | 4,895.3 | -101.29 | -76.0 | 9.3 | 11.7 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 8.00 | 173.05 | 4,994.3 | -200.32 | -89.9 | 11.0 | 13.8 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 8.00 | 173.05 | 5,093.3 | -299.35 | -103.7 | 12.6 | 15.9 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 8.00 | 173.05 | 5,192.4 | -398.37 | -117.5 | 14.3 | 18.1 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 8.00 | 173.05 | 5,291.4 | -497.40 | -131.3 | 16.0 | 20.2 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 8.00 | 173.05 | 5,390.4 | -596.42 | -145.1 | 17.7 | 22.3 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 8.00 | 173.05 | 5,489.5 | -695.45 | -159.0 | 19.4 | 24.4 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 8.00 | 173.05 | 5,588.5 | -794.48 | -172.8 | 21.1 | 26.6 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 8.00 | 173.05 | 5,687.5 | -893.50 | -186.6 | 22.8 | 28.7 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 8.00 | 173.05 | 5,786.5 | -992.53 | -200.4 | 24.4 | 30.8 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 8.00 | 173.05 | 5,885.6 | -1,091.55 | -214.2 | 26.1 | 32.9 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 8.00 | 173.05 | 5,984.6 | -1,190.58 | -228.1 | 27.8 | 35.1 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 8.00 | 173.05 | 6,083.6 | -1,289.61 | -241.9 | 29.5 | 37.2 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 8.00 | 173.05 | 6,182.6 | -1,388.63 | -255.7 | 31.2 | 39.3 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 8.00 | 173.05 | 6,281.7 | -1,487.66 | -269.5 | 32.9 | 41.4 | 0.00 | 0.00 | 0.00 |
| 6,400.0 | 8.00 | 173.05 | 6,380.7 | -1,586.69 | -283.3 | 34.5 | 43.6 | 0.00 | 0.00 | 0.00 |
| KOP (10°/100ft DGLG) | | | | | | | | | | |
| 6,427.4 | 8.00 | 173.05 | 6,407.8 | -1,613.82 | -287.1 | 35.0 | 44.1 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 11.40 | 133.61 | 6,479.4 | -1,685.45 | -297.1 | 40.8 | 50.3 | 10.00 | 4.68 | -54.32 |
| 6,600.0 | 19.80 | 112.59 | 6,575.7 | -1,781.75 | -310.5 | 63.7 | 73.5 | 10.00 | 8.40 | -21.02 |
| 6,700.0 | 29.21 | 104.24 | 6,666.7 | -1,872.66 | -323.0 | 103.1 | 113.3 | 10.00 | 9.40 | -8.35 |
| 6,800.0 | 38.89 | 99.75 | 6,749.4 | -1,955.44 | -334.3 | 157.8 | 168.4 | 10.00 | 9.68 | -4.50 |
| SHARON SPRINGS | | | | | | | | | | |
| 6,866.9 | 45.44 | 97.68 | 6,799.0 | -2,005.00 | -341.1 | 202.2 | 212.9 | 10.00 | 9.78 | -3.08 |
| 6,900.0 | 48.69 | 96.83 | 6,821.5 | -2,027.54 | -344.1 | 226.2 | 237.0 | 10.00 | 9.82 | -2.58 |
| NIOBRARA | | | | | | | | | | |
| 6,924.0 | 51.04 | 96.26 | 6,837.0 | -2,043.00 | -346.2 | 244.4 | 255.3 | 10.00 | 9.84 | -2.37 |
| 7,000.0 | 58.54 | 94.68 | 6,880.8 | -2,086.80 | -352.1 | 306.2 | 317.3 | 10.00 | 9.86 | -2.08 |
| 7,100.0 | 68.42 | 92.95 | 6,925.4 | -2,131.41 | -358.0 | 395.4 | 406.6 | 10.00 | 9.88 | -1.73 |
| 7,200.0 | 78.31 | 91.43 | 6,954.0 | -2,160.00 | -361.6 | 491.0 | 502.3 | 10.00 | 9.89 | -1.51 |
| NIO B | | | | | | | | | | |
| 7,210.3 | 79.33 | 91.29 | 6,956.0 | -2,162.00 | -361.9 | 501.1 | 512.4 | 10.00 | 9.90 | -1.44 |
| 7,300.0 | 88.21 | 90.03 | 6,965.7 | -2,171.72 | -362.9 | 590.2 | 601.4 | 10.00 | 9.90 | -1.40 |
| HZ LP: 2420ft FNL & 460ft FWL of Sec 23 | | | | | | | | | | |
| 7,318.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -362.8 | 608.2 | 619.4 | 10.00 | 9.90 | -1.38 |
| 7,400.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -362.5 | 690.2 | 701.4 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -362.1 | 790.2 | 801.3 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -361.8 | 890.1 | 901.2 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -361.4 | 990.1 | 1,001.2 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -361.0 | 1,090.1 | 1,101.1 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -360.6 | 1,190.1 | 1,201.0 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -360.2 | 1,290.1 | 1,301.0 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -359.8 | 1,390.1 | 1,400.9 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -359.4 | 1,490.1 | 1,500.8 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -359.1 | 1,590.1 | 1,600.8 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -358.7 | 1,690.1 | 1,700.7 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -358.3 | 1,790.1 | 1,800.7 | 0.00 | 0.00 | 0.00 |

Planning Report



| | | | |
|------------------|---------------------------------|-------------------------------------|---------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well STROMBERGER 8 |
| Company: | EXTRACTION OIL & GAS | TVD Reference: | KB-EST @ 4794.0usft |
| Project: | WELD COUNTY, COLORADO (NAD 83) | MD Reference: | KB-EST @ 4794.0usft |
| Site: | SE NE SEC. 22 T6N R67W 6th P.M. | North Reference: | True |
| Well: | STROMBERGER 8 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #4 | | |

| 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 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -357.9 | 1,890.1 | 1,900.6 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -357.5 | 1,990.1 | 2,000.5 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -357.1 | 2,090.1 | 2,100.5 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -356.7 | 2,190.1 | 2,200.4 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -356.4 | 2,290.1 | 2,300.3 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -356.0 | 2,390.1 | 2,400.3 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -355.6 | 2,490.1 | 2,500.2 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -355.2 | 2,590.1 | 2,600.1 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -354.8 | 2,690.1 | 2,700.1 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -354.4 | 2,790.1 | 2,800.0 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -354.0 | 2,890.1 | 2,899.9 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -353.7 | 2,990.1 | 2,999.9 | 0.00 | 0.00 | 0.00 |
| 9,800.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -353.3 | 3,090.1 | 3,099.8 | 0.00 | 0.00 | 0.00 |
| 9,900.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -352.9 | 3,190.1 | 3,199.8 | 0.00 | 0.00 | 0.00 |
| 10,000.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -352.5 | 3,290.1 | 3,299.7 | 0.00 | 0.00 | 0.00 |
| 10,100.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -352.1 | 3,390.1 | 3,399.6 | 0.00 | 0.00 | 0.00 |
| 10,200.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -351.7 | 3,490.1 | 3,499.6 | 0.00 | 0.00 | 0.00 |
| 10,300.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -351.3 | 3,590.1 | 3,599.5 | 0.00 | 0.00 | 0.00 |
| 10,400.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -351.0 | 3,690.1 | 3,699.4 | 0.00 | 0.00 | 0.00 |
| 10,500.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -350.6 | 3,790.1 | 3,799.4 | 0.00 | 0.00 | 0.00 |
| 10,600.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -350.2 | 3,890.1 | 3,899.3 | 0.00 | 0.00 | 0.00 |
| 10,700.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -349.8 | 3,990.1 | 3,999.2 | 0.00 | 0.00 | 0.00 |
| 10,800.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -349.4 | 4,090.1 | 4,099.2 | 0.00 | 0.00 | 0.00 |
| 10,900.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -349.0 | 4,190.1 | 4,199.1 | 0.00 | 0.00 | 0.00 |
| 11,000.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -348.6 | 4,290.1 | 4,299.1 | 0.00 | 0.00 | 0.00 |
| 11,100.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -348.2 | 4,390.1 | 4,399.0 | 0.00 | 0.00 | 0.00 |
| 11,200.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -347.9 | 4,490.1 | 4,498.9 | 0.00 | 0.00 | 0.00 |
| 11,300.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -347.5 | 4,590.1 | 4,598.9 | 0.00 | 0.00 | 0.00 |
| 11,400.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -347.1 | 4,690.1 | 4,698.8 | 0.00 | 0.00 | 0.00 |
| 11,500.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -346.7 | 4,790.1 | 4,798.7 | 0.00 | 0.00 | 0.00 |
| 11,600.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -346.3 | 4,890.1 | 4,898.7 | 0.00 | 0.00 | 0.00 |
| 11,700.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -345.9 | 4,990.1 | 4,998.6 | 0.00 | 0.00 | 0.00 |
| 11,800.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -345.5 | 5,090.1 | 5,098.5 | 0.00 | 0.00 | 0.00 |
| 11,900.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -345.2 | 5,190.1 | 5,198.5 | 0.00 | 0.00 | 0.00 |
| 12,000.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -344.8 | 5,290.1 | 5,298.4 | 0.00 | 0.00 | 0.00 |
| 12,100.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -344.4 | 5,390.1 | 5,398.4 | 0.00 | 0.00 | 0.00 |
| 12,200.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -344.0 | 5,490.1 | 5,498.3 | 0.00 | 0.00 | 0.00 |
| 12,300.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -343.6 | 5,590.1 | 5,598.2 | 0.00 | 0.00 | 0.00 |
| 12,400.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -343.2 | 5,690.1 | 5,698.2 | 0.00 | 0.00 | 0.00 |
| 12,500.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -342.8 | 5,790.1 | 5,798.1 | 0.00 | 0.00 | 0.00 |
| 12,600.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -342.5 | 5,890.1 | 5,898.0 | 0.00 | 0.00 | 0.00 |
| 12,700.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -342.1 | 5,990.1 | 5,998.0 | 0.00 | 0.00 | 0.00 |
| 12,800.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -341.7 | 6,090.1 | 6,097.9 | 0.00 | 0.00 | 0.00 |
| 12,900.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -341.3 | 6,190.1 | 6,197.8 | 0.00 | 0.00 | 0.00 |
| 13,000.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -340.9 | 6,290.1 | 6,297.8 | 0.00 | 0.00 | 0.00 |
| 13,100.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -340.5 | 6,390.1 | 6,397.7 | 0.00 | 0.00 | 0.00 |
| 13,200.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -340.1 | 6,490.1 | 6,497.7 | 0.00 | 0.00 | 0.00 |
| 13,300.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -339.8 | 6,590.1 | 6,597.6 | 0.00 | 0.00 | 0.00 |
| 13,400.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -339.4 | 6,690.1 | 6,697.5 | 0.00 | 0.00 | 0.00 |
| 13,500.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -339.0 | 6,790.1 | 6,797.5 | 0.00 | 0.00 | 0.00 |
| 13,600.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -338.6 | 6,890.1 | 6,897.4 | 0.00 | 0.00 | 0.00 |
| 13,700.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -338.2 | 6,990.1 | 6,997.3 | 0.00 | 0.00 | 0.00 |
| 13,800.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -337.8 | 7,090.1 | 7,097.3 | 0.00 | 0.00 | 0.00 |
| 13,900.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -337.4 | 7,190.1 | 7,197.2 | 0.00 | 0.00 | 0.00 |

Planning Report



| | | | |
|------------------|---------------------------------|-------------------------------------|---------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well STROMBERGER 8 |
| Company: | EXTRACTION OIL & GAS | TVD Reference: | KB-EST @ 4794.0usft |
| Project: | WELD COUNTY, COLORADO (NAD 83) | MD Reference: | KB-EST @ 4794.0usft |
| Site: | SE NE SEC. 22 T6N R67W 6th P.M. | North Reference: | True |
| Well: | STROMBERGER 8 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #4 | | |

| 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) |
| 14,000.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -337.1 | 7,290.1 | 7,297.1 | 0.00 | 0.00 | 0.00 |
| 14,100.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -336.7 | 7,390.1 | 7,397.1 | 0.00 | 0.00 | 0.00 |
| 14,200.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -336.3 | 7,490.1 | 7,497.0 | 0.00 | 0.00 | 0.00 |
| 14,300.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -335.9 | 7,590.1 | 7,596.9 | 0.00 | 0.00 | 0.00 |
| 14,400.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -335.5 | 7,690.1 | 7,696.9 | 0.00 | 0.00 | 0.00 |
| 14,500.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -335.1 | 7,790.1 | 7,796.8 | 0.00 | 0.00 | 0.00 |
| 14,600.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -334.7 | 7,890.1 | 7,896.8 | 0.00 | 0.00 | 0.00 |
| 14,700.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -334.4 | 7,990.1 | 7,996.7 | 0.00 | 0.00 | 0.00 |
| 14,800.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -334.0 | 8,090.1 | 8,096.6 | 0.00 | 0.00 | 0.00 |
| 14,900.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -333.6 | 8,190.1 | 8,196.6 | 0.00 | 0.00 | 0.00 |
| 15,000.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -333.2 | 8,290.1 | 8,296.5 | 0.00 | 0.00 | 0.00 |
| 15,100.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -332.8 | 8,390.1 | 8,396.4 | 0.00 | 0.00 | 0.00 |
| 15,200.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -332.4 | 8,490.1 | 8,496.4 | 0.00 | 0.00 | 0.00 |
| 15,300.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -332.0 | 8,590.1 | 8,596.3 | 0.00 | 0.00 | 0.00 |
| 15,400.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -331.7 | 8,690.1 | 8,696.2 | 0.00 | 0.00 | 0.00 |
| 15,500.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -331.3 | 8,790.1 | 8,796.2 | 0.00 | 0.00 | 0.00 |
| 15,600.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -330.9 | 8,890.1 | 8,896.1 | 0.00 | 0.00 | 0.00 |
| 15,700.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -330.5 | 8,990.1 | 8,996.1 | 0.00 | 0.00 | 0.00 |
| 15,800.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -330.1 | 9,090.1 | 9,096.0 | 0.00 | 0.00 | 0.00 |
| 15,900.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -329.7 | 9,190.1 | 9,195.9 | 0.00 | 0.00 | 0.00 |
| 16,000.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -329.3 | 9,290.1 | 9,295.9 | 0.00 | 0.00 | 0.00 |
| 16,100.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -329.0 | 9,390.1 | 9,395.8 | 0.00 | 0.00 | 0.00 |
| 16,200.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -328.6 | 9,490.1 | 9,495.7 | 0.00 | 0.00 | 0.00 |
| 16,300.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -328.2 | 9,590.1 | 9,595.7 | 0.00 | 0.00 | 0.00 |
| 16,400.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -327.8 | 9,690.1 | 9,695.6 | 0.00 | 0.00 | 0.00 |
| 16,500.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -327.4 | 9,790.1 | 9,795.5 | 0.00 | 0.00 | 0.00 |
| 16,600.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -327.0 | 9,890.1 | 9,895.5 | 0.00 | 0.00 | 0.00 |
| 16,700.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -326.6 | 9,990.1 | 9,995.4 | 0.00 | 0.00 | 0.00 |
| 16,800.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -326.3 | 10,090.1 | 10,095.4 | 0.00 | 0.00 | 0.00 |
| 16,900.0 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -325.9 | 10,190.1 | 10,195.3 | 0.00 | 0.00 | 0.00 |
| BHL: 2420ft FNL & 460ft FEL of Sec 24 | | | | | | | | | | |
| 16,928.4 | 90.00 | 89.78 | 6,966.0 | -2,172.00 | -325.8 | 10,218.5 | 10,223.6 | 0.00 | 0.00 | 0.00 |

| Formations | | | | | | |
|--------------|---------------|----------------|-----------|------------|-------------------------|--|
| MD (usft) | TVD (usft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 3,444.0 | 3,444.0 | PARKMAN | | | | |
| 4,209.0 | 4,209.0 | SUSSEX | | | | |
| 4,787.6 | 4,784.0 | SHANNON | | | | |
| 6,866.9 | 6,799.0 | SHARON SPRINGS | | | | |
| 6,924.0 | 6,837.0 | NIOBRARA | | | | |
| 7,210.3 | 6,956.0 | NIO B | | | | |

| | | | |
|------------------|---------------------------------|-------------------------------------|---------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well STROMBERGER 8 |
| Company: | EXTRACTION OIL & GAS | TVD Reference: | KB-EST @ 4794.0usft |
| Project: | WELD COUNTY, COLORADO (NAD 83) | MD Reference: | KB-EST @ 4794.0usft |
| Site: | SE NE SEC. 22 T6N R67W 6th P.M. | North Reference: | True |
| Well: | STROMBERGER 8 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | ORIGINAL WELLBORE | | |
| Design: | PROPOSAL #4 | | |

Plan Annotations

| MD (usft) | TVD (usft) | Local Coordinates | | Comment |
|--------------|---------------|-------------------|-----------------|---|
| | | +N/-S (usft) | +E/-W (usft) | |
| 0.0 | 0.0 | 0.0 | 0.0 | SHL: 2058ft FNL & 150ft FEL of Sec 22 |
| 4,150.0 | 4,150.0 | 0.0 | 0.0 | START NUDGE (2°/100ft BUR) |
| 4,550.1 | 4,548.8 | -27.7 | 3.4 | EOB TO 8° INC |
| 6,427.4 | 6,407.8 | -287.1 | 35.0 | KOP (10°/100ft DGLG) |
| 7,318.0 | 6,966.0 | -362.8 | 608.2 | HZ LP: 2420ft FNL & 460ft FWL of Sec 23 |
| 16,928.4 | 6,966.0 | -325.8 | 10,218.5 | BHL: 2420ft FNL & 460ft FEL of Sec 24 |