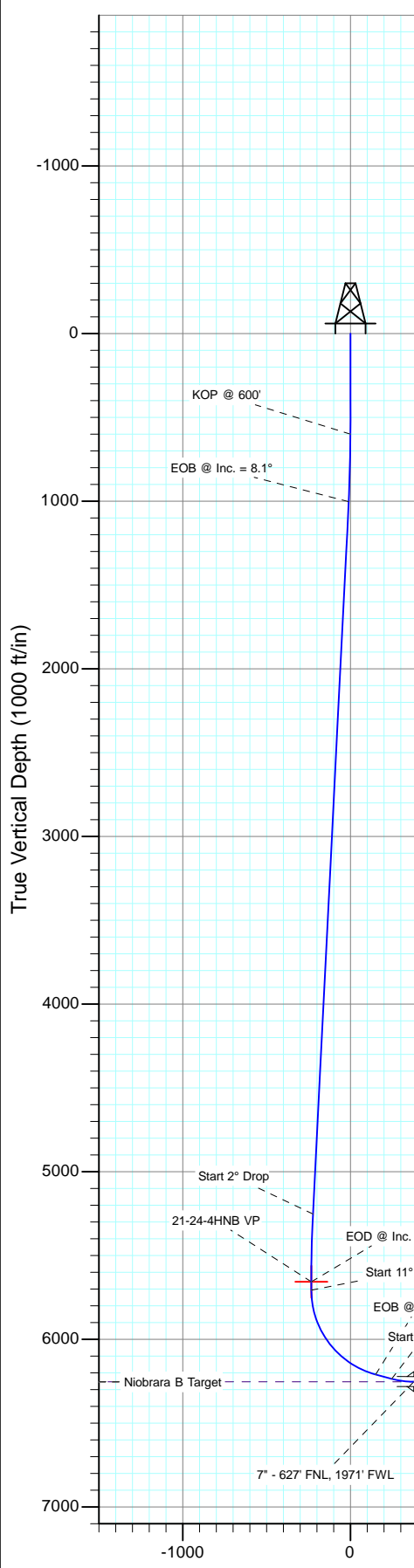
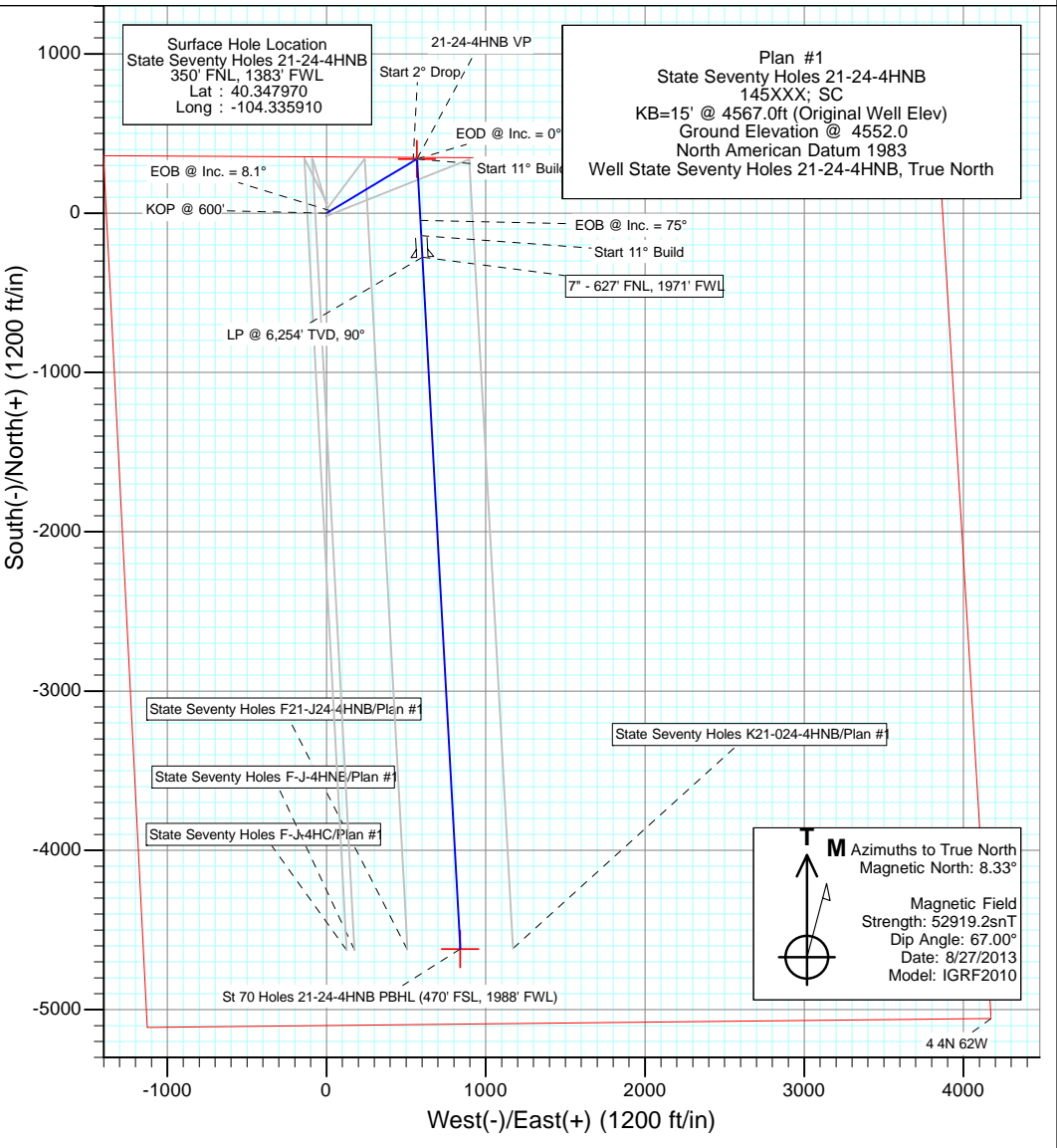




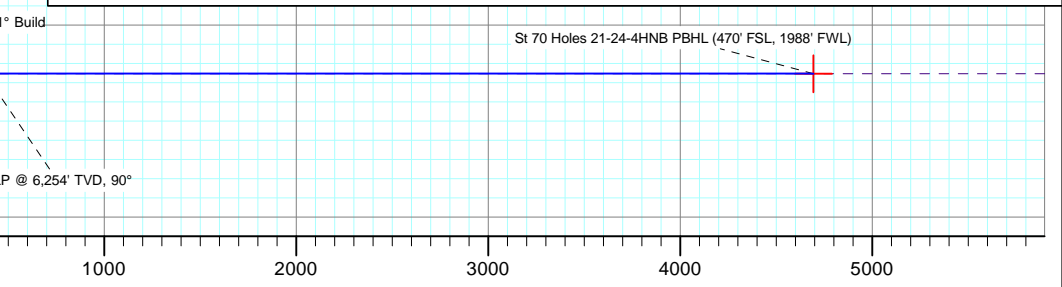
Project: Weld County
Site: State 70 Holes F-4 Pad
Well: State Seventy Holes 21-24-4HNB
Wellbore: OH
Design: Plan #1



| SECTION DETAILS | | | | | | | | | | |
|-----------------|---------|-------|--------|--------|---------|-------|-------|--------|--------|---|
| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | VSect | Target |
| 1 | 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 2 | 600.0 | 0.00 | 0.00 | 600.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 3 | 1004.9 | 8.10 | 59.10 | 1003.6 | 14.7 | 24.5 | 2.00 | 59.10 | -10.1 | |
| 4 | 5297.8 | 8.10 | 59.10 | 5253.6 | 325.2 | 543.4 | 0.00 | 0.00 | -222.8 | |
| 5 | 5702.7 | 0.00 | 0.00 | 5657.2 | 339.9 | 568.0 | 2.00 | 180.00 | -232.9 | 21-24-4HNB VP |
| 6 | 5752.7 | 0.00 | 0.00 | 5707.2 | 339.9 | 568.0 | 0.00 | 0.00 | -232.9 | |
| 7 | 6434.5 | 75.00 | 176.87 | 6210.3 | -45.6 | 589.0 | 11.00 | 176.87 | 150.2 | |
| 8 | 6534.5 | 75.00 | 176.87 | 6236.2 | -142.1 | 594.3 | 0.00 | 0.00 | 246.0 | |
| 9 | 6670.9 | 90.00 | 176.87 | 6254.0 | -276.7 | 601.7 | 11.00 | 0.00 | 379.8 | |
| 10 | 11019.9 | 90.00 | 176.87 | 6254.0 | -4619.2 | 839.1 | 0.00 | 0.00 | 4694.8 | St 70 Holes 21-24-4HNB PBHL (470' FSL, 1988' FWL) |



| DESIGN TARGET DETAILS | | | | | |
|---|---------|-------|------------|------------|-----------|
| Name | +N/-S | +E/-W | Northing | Easting | Latitude |
| 21-24-4HNB VP | 339.9 | 568.0 | 1372085.81 | 3325020.72 | 40.348903 |
| St 70 Holes 21-24-4HNB PBHL (470' FSL, 1988' FWL) | -4619.2 | 839.1 | 1367130.73 | 3325356.96 | 40.335290 |



Cathedral Energy Services

Planning Report

| | | | |
|------------------|---|-------------------------------------|--|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Company: | Bonanza Creek Energy Operating Company, LLC | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Project: | Weld County | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site: | State 70 Holes F-4 Pad | North Reference: | True |
| Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan #1 | | |

| | | | |
|--------------------|---------------------------|----------------------|----------------|
| Project | Weld County | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Northern Zone | | |

| Site | | State 70 Holes F-4 Pad | | | |
|-----------------------|----------|------------------------|-----------------|-------------------|-------------|
| Site Position: | | Northing: | 1,371,738.54 ft | Latitude: | 40.347970 |
| From: | Lat/Long | Easting: | 3,324,457.27 ft | Longitude: | -104.335910 |
| Position Uncertainty: | 0.0 ft | Slot Radius: | 13.200 in | Grid Convergence: | 0.75 ° |

| | | | | | | |
|----------------------|--------------------------------|--------|---------------------|-----------------|---------------|-------------|
| Well | State Seventy Holes 21-24-4HNB | | | | | |
| Well Position | +N/-S | 0.0 ft | Northing: | 1,371,738.53 ft | Latitude: | 40.347970 |
| | +E/-W | 0.0 ft | Easting: | 3,324,457.28 ft | Longitude: | -104.335910 |
| Position Uncertainty | | 0.0 ft | Wellhead Elevation: | ft | Ground Level: | 4,552.0 ft |

| | | | | | |
|------------------|-------------------|--------------------|--------------------|------------------|-----------------------|
| Wellbore | OH | | | | |
| Magnetics | Model Name | Sample Date | Declination | Dip Angle | Field Strength |
| | | | (°) | (°) | (nT) |
| | IGRF2010 | 8/27/2013 | 8.33 | 67.00 | 52,919 |

| | | | | |
|--------------------------|-------------------------|--------------|----------------------|------------------|
| Design | Plan #1 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) | +N/-S | +E/-W | Direction |
| | (ft) | (ft) | (ft) | (°) |
| | 0.0 | 0.0 | 0.0 | 169.70 |

| Plan Sections | | | | | | | | | | |
|----------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|----------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 600.0 | 0.00 | 0.00 | 600.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,004.9 | 8.10 | 59.10 | 1,003.6 | 14.7 | 24.5 | 2.00 | 2.00 | 0.00 | 59.10 | |
| 5,297.8 | 8.10 | 59.10 | 5,253.6 | 325.2 | 543.4 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 5,702.7 | 0.00 | 0.00 | 5,657.2 | 339.9 | 568.0 | 2.00 | -2.00 | 0.00 | 180.00 | 21-24-4HNB VP |
| 5,752.7 | 0.00 | 0.00 | 5,707.2 | 339.9 | 568.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,434.5 | 75.00 | 176.87 | 6,210.3 | -45.6 | 589.0 | 11.00 | 11.00 | 0.00 | 176.87 | |
| 6,534.5 | 75.00 | 176.87 | 6,236.2 | -142.1 | 594.3 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,670.9 | 90.00 | 176.87 | 6,254.0 | -276.7 | 601.7 | 11.00 | 11.00 | 0.00 | 0.00 | |
| 11,019.9 | 90.00 | 176.87 | 6,254.0 | -4,619.2 | 839.1 | 0.00 | 0.00 | 0.00 | 0.00 | St 70 Holes 21-24-4H |

Cathedral Energy Services

Planning Report

Database: USA EDM 5000 Multi Users DB
Company: Bonanza Creek Energy Operating Company, LLC
Project: Weld County
Site: State 70 Holes F-4 Pad
Well: State Seventy Holes 21-24-4HNB
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well State Seventy Holes 21-24-4HNB
TVD Reference: KB=15' @ 4567.0ft (Original Well Elev)
MD Reference: KB=15' @ 4567.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Comments / Formations |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|-----------------------|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | |
| 400.0 | 0.00 | 0.00 | 400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | |
| 500.0 | 0.00 | 0.00 | 500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | |
| 600.0 | 0.00 | 0.00 | 600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | KOP @ 600' |
| 700.0 | 2.00 | 59.10 | 700.0 | 0.9 | 1.5 | -0.6 | 2.00 | 2.00 | |
| 800.0 | 4.00 | 59.10 | 799.8 | 3.6 | 6.0 | -2.5 | 2.00 | 2.00 | |
| 900.0 | 6.00 | 59.10 | 899.5 | 8.1 | 13.5 | -5.5 | 2.00 | 2.00 | |
| 1,004.9 | 8.10 | 59.10 | 1,003.6 | 14.7 | 24.5 | -10.1 | 2.00 | 2.00 | EOB @ Inc. = 8.1° |
| 1,100.0 | 8.10 | 59.10 | 1,097.7 | 21.5 | 36.0 | -14.8 | 0.00 | 0.00 | |
| 1,200.0 | 8.10 | 59.10 | 1,196.7 | 28.8 | 48.1 | -19.7 | 0.00 | 0.00 | |
| 1,300.0 | 8.10 | 59.10 | 1,295.7 | 36.0 | 60.2 | -24.7 | 0.00 | 0.00 | |
| 1,400.0 | 8.10 | 59.10 | 1,394.7 | 43.2 | 72.3 | -29.6 | 0.00 | 0.00 | |
| 1,500.0 | 8.10 | 59.10 | 1,493.7 | 50.5 | 84.4 | -34.6 | 0.00 | 0.00 | |
| 1,600.0 | 8.10 | 59.10 | 1,592.7 | 57.7 | 96.4 | -39.5 | 0.00 | 0.00 | |
| 1,700.0 | 8.10 | 59.10 | 1,691.7 | 64.9 | 108.5 | -44.5 | 0.00 | 0.00 | |
| 1,800.0 | 8.10 | 59.10 | 1,790.7 | 72.2 | 120.6 | -49.5 | 0.00 | 0.00 | |
| 1,900.0 | 8.10 | 59.10 | 1,889.7 | 79.4 | 132.7 | -54.4 | 0.00 | 0.00 | |
| 2,000.0 | 8.10 | 59.10 | 1,988.7 | 86.6 | 144.8 | -59.4 | 0.00 | 0.00 | |
| 2,100.0 | 8.10 | 59.10 | 2,087.7 | 93.9 | 156.9 | -64.3 | 0.00 | 0.00 | |
| 2,200.0 | 8.10 | 59.10 | 2,186.7 | 101.1 | 169.0 | -69.3 | 0.00 | 0.00 | |
| 2,300.0 | 8.10 | 59.10 | 2,285.7 | 108.3 | 181.1 | -74.2 | 0.00 | 0.00 | |
| 2,400.0 | 8.10 | 59.10 | 2,384.7 | 115.6 | 193.2 | -79.2 | 0.00 | 0.00 | |
| 2,500.0 | 8.10 | 59.10 | 2,483.7 | 122.8 | 205.2 | -84.2 | 0.00 | 0.00 | |
| 2,600.0 | 8.10 | 59.10 | 2,582.7 | 130.0 | 217.3 | -89.1 | 0.00 | 0.00 | |
| 2,700.0 | 8.10 | 59.10 | 2,681.7 | 137.3 | 229.4 | -94.1 | 0.00 | 0.00 | |
| 2,800.0 | 8.10 | 59.10 | 2,780.8 | 144.5 | 241.5 | -99.0 | 0.00 | 0.00 | |
| 2,900.0 | 8.10 | 59.10 | 2,879.8 | 151.7 | 253.6 | -104.0 | 0.00 | 0.00 | |
| 3,000.0 | 8.10 | 59.10 | 2,978.8 | 159.0 | 265.7 | -108.9 | 0.00 | 0.00 | |
| 3,100.0 | 8.10 | 59.10 | 3,077.8 | 166.2 | 277.8 | -113.9 | 0.00 | 0.00 | |
| 3,200.0 | 8.10 | 59.10 | 3,176.8 | 173.4 | 289.9 | -118.8 | 0.00 | 0.00 | |
| 3,300.0 | 8.10 | 59.10 | 3,275.8 | 180.7 | 301.9 | -123.8 | 0.00 | 0.00 | |
| 3,400.0 | 8.10 | 59.10 | 3,374.8 | 187.9 | 314.0 | -128.8 | 0.00 | 0.00 | |
| 3,500.0 | 8.10 | 59.10 | 3,473.8 | 195.1 | 326.1 | -133.7 | 0.00 | 0.00 | |
| 3,600.0 | 8.10 | 59.10 | 3,572.8 | 202.4 | 338.2 | -138.7 | 0.00 | 0.00 | |
| 3,700.0 | 8.10 | 59.10 | 3,671.8 | 209.6 | 350.3 | -143.6 | 0.00 | 0.00 | |
| 3,800.0 | 8.10 | 59.10 | 3,770.8 | 216.8 | 362.4 | -148.6 | 0.00 | 0.00 | |
| 3,900.0 | 8.10 | 59.10 | 3,869.8 | 224.1 | 374.5 | -153.5 | 0.00 | 0.00 | |
| 4,000.0 | 8.10 | 59.10 | 3,968.8 | 231.3 | 386.6 | -158.5 | 0.00 | 0.00 | |
| 4,100.0 | 8.10 | 59.10 | 4,067.8 | 238.5 | 398.7 | -163.5 | 0.00 | 0.00 | |
| 4,200.0 | 8.10 | 59.10 | 4,166.8 | 245.8 | 410.7 | -168.4 | 0.00 | 0.00 | |
| 4,300.0 | 8.10 | 59.10 | 4,265.8 | 253.0 | 422.8 | -173.4 | 0.00 | 0.00 | |
| 4,400.0 | 8.10 | 59.10 | 4,364.8 | 260.2 | 434.9 | -178.3 | 0.00 | 0.00 | |
| 4,500.0 | 8.10 | 59.10 | 4,463.8 | 267.5 | 447.0 | -183.3 | 0.00 | 0.00 | |
| 4,600.0 | 8.10 | 59.10 | 4,562.8 | 274.7 | 459.1 | -188.2 | 0.00 | 0.00 | |
| 4,700.0 | 8.10 | 59.10 | 4,661.8 | 281.9 | 471.2 | -193.2 | 0.00 | 0.00 | |
| 4,800.0 | 8.10 | 59.10 | 4,760.8 | 289.2 | 483.3 | -198.1 | 0.00 | 0.00 | |
| 4,900.0 | 8.10 | 59.10 | 4,859.8 | 296.4 | 495.4 | -203.1 | 0.00 | 0.00 | |
| 5,000.0 | 8.10 | 59.10 | 4,958.8 | 303.6 | 507.4 | -208.1 | 0.00 | 0.00 | |
| 5,100.0 | 8.10 | 59.10 | 5,057.8 | 310.9 | 519.5 | -213.0 | 0.00 | 0.00 | |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|---|-------------------------------------|--|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Company: | Bonanza Creek Energy Operating Company, LLC | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Project: | Weld County | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site: | State 70 Holes F-4 Pad | North Reference: | True |
| Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan #1 | | |

Planned Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Comments / Formations |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|--|
| 5,200.0 | 8.10 | 59.10 | 5,156.8 | 318.1 | 531.6 | -218.0 | 0.00 | 0.00 | |
| 5,297.8 | 8.10 | 59.10 | 5,253.6 | 325.2 | 543.4 | -222.8 | 0.00 | 0.00 | Start 2° Drop |
| 5,300.0 | 8.05 | 59.10 | 5,255.8 | 325.3 | 543.7 | -222.9 | 2.00 | -2.00 | |
| 5,400.0 | 6.05 | 59.10 | 5,355.1 | 331.7 | 554.2 | -227.2 | 2.00 | -2.00 | |
| 5,500.0 | 4.05 | 59.10 | 5,454.7 | 336.2 | 561.8 | -230.3 | 2.00 | -2.00 | |
| 5,600.0 | 2.05 | 59.10 | 5,554.5 | 338.9 | 566.4 | -232.2 | 2.00 | -2.00 | |
| 5,702.7 | 0.00 | 0.00 | 5,657.2 | 339.9 | 568.0 | -232.9 | 2.00 | -2.00 | EOD @ Inc. = 0° |
| 5,752.7 | 0.00 | 0.00 | 5,707.2 | 339.9 | 568.0 | -232.9 | 0.00 | 0.00 | Start 11° Build |
| 5,800.0 | 5.20 | 176.87 | 5,754.4 | 337.7 | 568.1 | -230.7 | 11.00 | 11.00 | |
| 5,850.0 | 10.70 | 176.87 | 5,803.9 | 330.8 | 568.5 | -223.9 | 11.00 | 11.00 | |
| 5,900.0 | 16.20 | 176.87 | 5,852.5 | 319.2 | 569.1 | -212.3 | 11.00 | 11.00 | |
| 5,950.0 | 21.70 | 176.87 | 5,899.8 | 303.0 | 570.0 | -196.2 | 11.00 | 11.00 | |
| 6,000.0 | 27.20 | 176.87 | 5,945.3 | 282.3 | 571.1 | -175.7 | 11.00 | 11.00 | |
| 6,050.0 | 32.70 | 176.87 | 5,988.6 | 257.4 | 572.5 | -150.9 | 11.00 | 11.00 | |
| 6,100.0 | 38.20 | 176.87 | 6,029.3 | 228.5 | 574.1 | -122.2 | 11.00 | 11.00 | |
| 6,150.0 | 43.70 | 176.87 | 6,067.1 | 195.8 | 575.8 | -89.7 | 11.00 | 11.00 | |
| 6,200.0 | 49.20 | 176.87 | 6,101.5 | 159.6 | 577.8 | -53.7 | 11.00 | 11.00 | |
| 6,250.0 | 54.70 | 176.87 | 6,132.3 | 120.3 | 580.0 | -14.7 | 11.00 | 11.00 | |
| 6,300.0 | 60.20 | 176.87 | 6,159.2 | 78.2 | 582.3 | 27.1 | 11.00 | 11.00 | |
| 6,350.0 | 65.70 | 176.87 | 6,181.9 | 33.8 | 584.7 | 71.3 | 11.00 | 11.00 | |
| 6,400.0 | 71.20 | 176.87 | 6,200.3 | -12.7 | 587.2 | 117.4 | 11.00 | 11.00 | |
| 6,434.5 | 75.00 | 176.87 | 6,210.3 | -45.6 | 589.0 | 150.2 | 11.00 | 11.00 | EOB @ Inc. = 75° |
| 6,500.0 | 75.00 | 176.87 | 6,227.3 | -108.8 | 592.5 | 212.9 | 0.00 | 0.00 | |
| 6,534.5 | 75.00 | 176.87 | 6,236.2 | -142.1 | 594.3 | 246.0 | 0.00 | 0.00 | Start 11° Build |
| 6,550.0 | 76.70 | 176.87 | 6,240.0 | -157.1 | 595.1 | 260.9 | 11.00 | 11.00 | |
| 6,600.0 | 82.20 | 176.87 | 6,249.1 | -206.1 | 597.8 | 309.7 | 11.00 | 11.00 | |
| 6,650.0 | 87.70 | 176.87 | 6,253.5 | -255.8 | 600.5 | 359.1 | 11.00 | 11.00 | |
| 6,670.9 | 90.00 | 176.87 | 6,254.0 | -276.7 | 601.7 | 379.8 | 10.99 | 10.99 | LP @ 6,254' TVD, 90° - 7" - 627' FNL, 1971' FV |
| 6,700.0 | 90.00 | 176.87 | 6,254.0 | -305.8 | 603.3 | 408.7 | 0.00 | 0.00 | |
| 6,800.0 | 90.00 | 176.87 | 6,254.0 | -405.6 | 608.7 | 507.9 | 0.00 | 0.00 | |
| 6,900.0 | 90.00 | 176.87 | 6,254.0 | -505.5 | 614.2 | 607.1 | 0.00 | 0.00 | |
| 7,000.0 | 90.00 | 176.87 | 6,254.0 | -605.3 | 619.6 | 706.3 | 0.00 | 0.00 | |
| 7,100.0 | 90.00 | 176.87 | 6,254.0 | -705.2 | 625.1 | 805.5 | 0.00 | 0.00 | |
| 7,200.0 | 90.00 | 176.87 | 6,254.0 | -805.0 | 630.6 | 904.8 | 0.00 | 0.00 | |
| 7,300.0 | 90.00 | 176.87 | 6,254.0 | -904.9 | 636.0 | 1,004.0 | 0.00 | 0.00 | |
| 7,400.0 | 90.00 | 176.87 | 6,254.0 | -1,004.7 | 641.5 | 1,103.2 | 0.00 | 0.00 | |
| 7,500.0 | 90.00 | 176.87 | 6,254.0 | -1,104.6 | 646.9 | 1,202.4 | 0.00 | 0.00 | |
| 7,600.0 | 90.00 | 176.87 | 6,254.0 | -1,204.4 | 652.4 | 1,301.6 | 0.00 | 0.00 | |
| 7,700.0 | 90.00 | 176.87 | 6,254.0 | -1,304.3 | 657.9 | 1,400.8 | 0.00 | 0.00 | |
| 7,800.0 | 90.00 | 176.87 | 6,254.0 | -1,404.1 | 663.3 | 1,500.1 | 0.00 | 0.00 | |
| 7,900.0 | 90.00 | 176.87 | 6,254.0 | -1,504.0 | 668.8 | 1,599.3 | 0.00 | 0.00 | |
| 8,000.0 | 90.00 | 176.87 | 6,254.0 | -1,603.8 | 674.2 | 1,698.5 | 0.00 | 0.00 | |
| 8,100.0 | 90.00 | 176.87 | 6,254.0 | -1,703.7 | 679.7 | 1,797.7 | 0.00 | 0.00 | |
| 8,200.0 | 90.00 | 176.87 | 6,254.0 | -1,803.5 | 685.2 | 1,896.9 | 0.00 | 0.00 | |
| 8,300.0 | 90.00 | 176.87 | 6,254.0 | -1,903.4 | 690.6 | 1,996.2 | 0.00 | 0.00 | |
| 8,400.0 | 90.00 | 176.87 | 6,254.0 | -2,003.2 | 696.1 | 2,095.4 | 0.00 | 0.00 | |
| 8,500.0 | 90.00 | 176.87 | 6,254.0 | -2,103.1 | 701.5 | 2,194.6 | 0.00 | 0.00 | |
| 8,600.0 | 90.00 | 176.87 | 6,254.0 | -2,202.9 | 707.0 | 2,293.8 | 0.00 | 0.00 | |
| 8,700.0 | 90.00 | 176.87 | 6,254.0 | -2,302.8 | 712.5 | 2,393.0 | 0.00 | 0.00 | |
| 8,800.0 | 90.00 | 176.87 | 6,254.0 | -2,402.6 | 717.9 | 2,492.3 | 0.00 | 0.00 | |
| 8,900.0 | 90.00 | 176.87 | 6,254.0 | -2,502.5 | 723.4 | 2,591.5 | 0.00 | 0.00 | |
| 9,000.0 | 90.00 | 176.87 | 6,254.0 | -2,602.3 | 728.8 | 2,690.7 | 0.00 | 0.00 | |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|---|-------------------------------------|--|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Company: | Bonanza Creek Energy Operating Company, LLC | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Project: | Weld County | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site: | State 70 Holes F-4 Pad | North Reference: | True |
| Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan #1 | | |

| Planned Survey | | | | | | | | | |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Comments / Formations |
| 9,100.0 | 90.00 | 176.87 | 6,254.0 | -2,702.2 | 734.3 | 2,789.9 | 0.00 | 0.00 | |
| 9,200.0 | 90.00 | 176.87 | 6,254.0 | -2,802.0 | 739.8 | 2,889.1 | 0.00 | 0.00 | |
| 9,300.0 | 90.00 | 176.87 | 6,254.0 | -2,901.9 | 745.2 | 2,988.4 | 0.00 | 0.00 | |
| 9,400.0 | 90.00 | 176.87 | 6,254.0 | -3,001.7 | 750.7 | 3,087.6 | 0.00 | 0.00 | |
| 9,500.0 | 90.00 | 176.87 | 6,254.0 | -3,101.6 | 756.1 | 3,186.8 | 0.00 | 0.00 | |
| 9,600.0 | 90.00 | 176.87 | 6,254.0 | -3,201.4 | 761.6 | 3,286.0 | 0.00 | 0.00 | |
| 9,700.0 | 90.00 | 176.87 | 6,254.0 | -3,301.3 | 767.1 | 3,385.2 | 0.00 | 0.00 | |
| 9,800.0 | 90.00 | 176.87 | 6,254.0 | -3,401.1 | 772.5 | 3,484.4 | 0.00 | 0.00 | |
| 9,900.0 | 90.00 | 176.87 | 6,254.0 | -3,501.0 | 778.0 | 3,583.7 | 0.00 | 0.00 | |
| 10,000.0 | 90.00 | 176.87 | 6,254.0 | -3,600.8 | 783.4 | 3,682.9 | 0.00 | 0.00 | |
| 10,100.0 | 90.00 | 176.87 | 6,254.0 | -3,700.7 | 788.9 | 3,782.1 | 0.00 | 0.00 | |
| 10,200.0 | 90.00 | 176.87 | 6,254.0 | -3,800.5 | 794.4 | 3,881.3 | 0.00 | 0.00 | |
| 10,300.0 | 90.00 | 176.87 | 6,254.0 | -3,900.4 | 799.8 | 3,980.5 | 0.00 | 0.00 | |
| 10,400.0 | 90.00 | 176.87 | 6,254.0 | -4,000.2 | 805.3 | 4,079.8 | 0.00 | 0.00 | |
| 10,500.0 | 90.00 | 176.87 | 6,254.0 | -4,100.1 | 810.7 | 4,179.0 | 0.00 | 0.00 | |
| 10,600.0 | 90.00 | 176.87 | 6,254.0 | -4,199.9 | 816.2 | 4,278.2 | 0.00 | 0.00 | |
| 10,700.0 | 90.00 | 176.87 | 6,254.0 | -4,299.8 | 821.7 | 4,377.4 | 0.00 | 0.00 | |
| 10,800.0 | 90.00 | 176.87 | 6,254.0 | -4,399.6 | 827.1 | 4,476.6 | 0.00 | 0.00 | |
| 10,900.0 | 90.00 | 176.87 | 6,254.0 | -4,499.5 | 832.6 | 4,575.9 | 0.00 | 0.00 | |
| 11,000.0 | 90.00 | 176.87 | 6,254.0 | -4,599.3 | 838.0 | 4,675.1 | 0.00 | 0.00 | |
| 11,019.9 | 90.00 | 176.87 | 6,254.0 | -4,619.2 | 839.1 | 4,694.8 | 0.00 | 0.00 | TD @ 11,019.9' MD - Niobrara B Target |

| Targets | | | | | | | | | |
|---|---------------|--------------|----------|------------|------------|---------------|--------------|-----------|-------------|
| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude |
| - hit/miss target | | | | | | | | | |
| - Shape | | | | | | | | | |
| St 70 Holes 21-24-4HNE | 0.00 | 0.00 | 6,254.0 | -4,619.2 | 839.1 | 1,367,130.73 | 3,325,356.96 | 40.335290 | -104.332900 |
| - plan hits target center | | | | | | | | | |
| - Point | | | | | | | | | |
| 21-24-4HNB TGT 1 | 0.00 | 0.00 | 6,254.0 | -182.1 | 596.5 | 1,371,564.24 | 3,325,056.09 | 40.347470 | -104.333770 |
| - plan misses target center by 8.6ft at 6577.3ft MD (6245.6 TVD, -183.7 N, 596.6 E) | | | | | | | | | |
| - Point | | | | | | | | | |
| 21-24-4HNB VP | 0.00 | 0.00 | 5,657.2 | 339.9 | 568.0 | 1,372,085.81 | 3,325,020.72 | 40.348903 | -104.333872 |
| - plan hits target center | | | | | | | | | |
| - Point | | | | | | | | | |

| Casing Points | | | | | |
|---------------------|---------------------|--------------------------|----------------------|--------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (in) | Hole Diameter (in) | |
| 6,670.9 | 6,254.0 | 7" - 627' FNL, 1971' FWL | | | |

| Formations | | | | | |
|---------------------|---------------------|-------------------|-----------|---------|-------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) |
| 11,019.9 | 6,254.0 | Niobrara B Target | | 0.00 | |

Cathedral Energy Services

Planning Report

| | | | |
|------------------|---|-------------------------------------|--|
| Database: | USA EDM 5000 Multi Users DB | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Company: | Bonanza Creek Energy Operating Company, LLC | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Project: | Weld County | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site: | State 70 Holes F-4 Pad | North Reference: | True |
| Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan #1 | | |

| Plan Annotations | | | | |
|---------------------|---------------------|-------------------|------------|----------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment |
| | | +N/-S (ft) | +E/-W (ft) | |
| 600.0 | 600.0 | 0.0 | 0.0 | KOP @ 600' |
| 1,004.9 | 1,003.6 | 14.7 | 24.5 | EOB @ Inc. = 8.1° |
| 5,297.8 | 5,253.6 | 325.2 | 543.4 | Start 2° Drop |
| 5,702.7 | 5,657.2 | 339.9 | 568.0 | EOD @ Inc. = 0° |
| 5,752.7 | 5,707.2 | 339.9 | 568.0 | Start 11° Build |
| 6,434.5 | 6,210.3 | -45.6 | 589.0 | EOB @ Inc. = 75° |
| 6,534.5 | 6,236.2 | -142.1 | 594.3 | Start 11° Build |
| 6,670.9 | 6,254.0 | -276.7 | 601.7 | LP @ 6,254' TVD, 90° |
| 11,019.9 | 6,254.0 | -4,619.2 | 839.1 | TD @ 11,019.9' MD |

Bonanza Creek Energy Operating Company, LLC

Weld County

State 70 Holes F-4 Pad

State Seventy Holes 21-24-4HNB

OH

Plan #1

Anticollision Report

27 August, 2013

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|--|
| Company: | Bonanza Creek Energy Operating Company, LLC | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Project: | Weld County | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Reference Site: | State 70 Holes F-4 Pad | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Reference | Plan #1 | | |
|------------------------------|---|----------------|---------------------|
| Filter type: | GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference | | |
| Interpolation Method: | MD Interval 100.0ft | Error Model: | Systematic Ellipse |
| Depth Range: | Unlimited | Scan Method: | Closest Approach 3D |
| Results Limited by: | Maximum center-center distance of 1,302.0ft | Error Surface: | Elliptical Conic |
| Warning Levels Evaluated at: | 2.00 Sigma | | |

| Survey Tool Program | | Date | 8/27/2013 | | |
|---------------------|------------|-------------------|-----------|-------------|--|
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description | |
| 0.0 | 11,018.9 | Plan #1 (OH) | MWD | Geolink MWD | |

| Summary | | | | | | |
|---|-------------------------------|----------------------------|-------------------------------|--------------------------------|-------------------|---------|
| Site Name | Reference Measured Depth (ft) | Offset Measured Depth (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Separation Factor | Warning |
| Offset Well - Wellbore - Design | | | | | | |
| State 70 Holes F-4 Pad | | | | | | |
| State Seventy Holes F21-J24-4HNB - OH - Plan #1 | 791.2 | 790.6 | 20.3 | 17.5 | 7.453 | CC |
| State Seventy Holes F21-J24-4HNB - OH - Plan #1 | 800.0 | 799.4 | 20.3 | 17.5 | 7.369 | ES |
| State Seventy Holes F21-J24-4HNB - OH - Plan #1 | 11,019.9 | 10,996.3 | 331.8 | 163.6 | 1.972 | SF |
| State Seventy Holes F-J-4HC - OH - Plan #1 | 973.0 | 970.6 | 53.5 | 50.1 | 15.631 | CC, ES |
| State Seventy Holes F-J-4HC - OH - Plan #1 | 11,019.9 | 11,186.6 | 738.8 | 575.6 | 4.527 | SF |
| State Seventy Holes F-J-4HNB - OH - Plan #1 | 878.2 | 876.8 | 35.3 | 32.3 | 11.608 | CC, ES |
| State Seventy Holes F-J-4HNB - OH - Plan #1 | 11,019.9 | 10,995.5 | 663.5 | 495.3 | 3.943 | SF |
| State Seventy Holes K21-024-4HNB - OH - Plan #1 | 680.0 | 680.2 | 17.2 | 14.9 | 7.389 | CC |
| State Seventy Holes K21-024-4HNB - OH - Plan #1 | 700.0 | 700.2 | 17.3 | 14.9 | 7.176 | ES |
| State Seventy Holes K21-024-4HNB - OH - Plan #1 | 11,019.9 | 11,051.0 | 331.4 | 163.7 | 1.976 | SF |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|--|
| Company: | Bonanza Creek Energy Operating Company, LLC | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Project: | Weld County | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Reference Site: | State 70 Holes F-4 Pad | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design State 70 Holes F-4 Pad - State Seventy Holes F21-J24-4HNB - OH - Plan #1 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|--------------------|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 21.9 | 0.0 | 21.9 | | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 0.00 | 21.9 | 0.0 | 21.9 | 21.6 | 0.30 | 73.654 | | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 0.00 | 21.9 | 0.0 | 21.9 | 21.2 | 0.65 | 33.841 | | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | 0.00 | 21.9 | 0.0 | 21.9 | 20.9 | 0.99 | 21.967 | | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.7 | 0.7 | 0.00 | 21.9 | 0.0 | 21.9 | 20.5 | 1.34 | 16.261 | | |
| 500.0 | 500.0 | 500.0 | 500.0 | 0.8 | 0.8 | 0.00 | 21.9 | 0.0 | 21.9 | 20.2 | 1.69 | 12.908 | | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.0 | 1.0 | 0.00 | 21.9 | 0.0 | 21.9 | 19.8 | 2.04 | 10.702 | | |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.2 | 1.2 | -63.21 | 21.9 | 0.0 | 21.0 | 18.6 | 2.39 | 8.783 | | |
| 791.2 | 791.0 | 790.6 | 790.6 | 1.4 | 1.4 | -72.23 | 23.0 | 0.9 | 20.3 | 17.5 | 2.72 | 7.453 CC | | |
| 800.0 | 799.8 | 799.4 | 799.4 | 1.4 | 1.4 | -73.21 | 23.2 | 1.0 | 20.3 | 17.5 | 2.75 | 7.369 ES | | |
| 900.0 | 899.5 | 898.9 | 898.8 | 1.6 | 1.6 | -84.72 | 27.4 | 4.1 | 21.5 | 18.3 | 3.14 | 6.841 | | |
| 1,000.0 | 998.7 | 998.6 | 998.1 | 1.8 | 1.7 | -96.26 | 33.9 | 9.0 | 24.6 | 21.0 | 3.57 | 6.894 | | |
| 1,100.0 | 1,097.7 | 1,098.4 | 1,097.5 | 2.1 | 1.9 | -107.97 | 40.6 | 14.0 | 29.1 | 25.1 | 4.01 | 7.254 | | |
| 1,200.0 | 1,196.7 | 1,198.1 | 1,196.9 | 2.3 | 2.2 | -116.32 | 47.3 | 19.1 | 34.5 | 30.0 | 4.45 | 7.748 | | |
| 1,300.0 | 1,295.7 | 1,297.9 | 1,296.3 | 2.6 | 2.4 | -122.33 | 54.1 | 24.1 | 40.3 | 35.5 | 4.88 | 8.273 | | |
| 1,400.0 | 1,394.7 | 1,397.6 | 1,395.7 | 2.9 | 2.6 | -126.78 | 60.8 | 29.2 | 46.6 | 41.3 | 5.30 | 8.784 | | |
| 1,500.0 | 1,493.7 | 1,497.4 | 1,495.1 | 3.2 | 2.8 | -130.17 | 67.6 | 34.2 | 53.0 | 47.3 | 5.72 | 9.261 | | |
| 1,600.0 | 1,592.7 | 1,597.1 | 1,594.5 | 3.5 | 3.0 | -132.81 | 74.3 | 39.2 | 59.6 | 53.4 | 6.14 | 9.700 | | |
| 1,700.0 | 1,691.7 | 1,696.9 | 1,693.9 | 3.8 | 3.2 | -134.93 | 81.1 | 44.3 | 66.3 | 59.7 | 6.56 | 10.101 | | |
| 1,800.0 | 1,790.7 | 1,796.6 | 1,793.3 | 4.1 | 3.5 | -136.66 | 87.8 | 49.3 | 73.0 | 66.0 | 6.98 | 10.465 | | |
| 1,900.0 | 1,889.7 | 1,896.4 | 1,892.7 | 4.3 | 3.7 | -138.09 | 94.5 | 54.4 | 79.8 | 72.4 | 7.39 | 10.798 | | |
| 2,000.0 | 1,988.7 | 1,996.1 | 1,992.1 | 4.6 | 3.9 | -139.30 | 101.3 | 59.4 | 86.7 | 78.9 | 7.81 | 11.101 | | |
| 2,100.0 | 2,087.7 | 2,095.9 | 2,091.5 | 4.9 | 4.1 | -140.33 | 108.0 | 64.5 | 93.6 | 85.4 | 8.22 | 11.377 | | |
| 2,200.0 | 2,186.7 | 2,195.6 | 2,190.9 | 5.2 | 4.3 | -141.22 | 114.8 | 69.5 | 100.5 | 91.8 | 8.64 | 11.631 | | |
| 2,300.0 | 2,285.7 | 2,295.4 | 2,290.3 | 5.5 | 4.6 | -141.99 | 121.5 | 74.6 | 107.4 | 98.4 | 9.05 | 11.864 | | |
| 2,400.0 | 2,384.7 | 2,395.1 | 2,389.6 | 5.8 | 4.8 | -142.67 | 128.2 | 79.6 | 114.4 | 104.9 | 9.47 | 12.078 | | |
| 2,500.0 | 2,483.7 | 2,494.9 | 2,489.0 | 6.1 | 5.0 | -143.28 | 135.0 | 84.6 | 121.3 | 111.4 | 9.88 | 12.277 | | |
| 2,600.0 | 2,582.7 | 2,594.6 | 2,588.4 | 6.4 | 5.2 | -143.81 | 141.7 | 89.7 | 128.3 | 118.0 | 10.30 | 12.460 | | |
| 2,700.0 | 2,681.7 | 2,694.4 | 2,687.8 | 6.7 | 5.5 | -144.29 | 148.5 | 94.7 | 135.3 | 124.6 | 10.71 | 12.630 | | |
| 2,800.0 | 2,780.8 | 2,794.1 | 2,787.2 | 7.0 | 5.7 | -144.73 | 155.2 | 99.8 | 142.3 | 131.2 | 11.13 | 12.789 | | |
| 2,900.0 | 2,879.8 | 2,893.9 | 2,886.6 | 7.3 | 5.9 | -145.12 | 162.0 | 104.8 | 149.3 | 137.7 | 11.54 | 12.937 | | |
| 3,000.0 | 2,978.8 | 2,993.6 | 2,986.0 | 7.6 | 6.1 | -145.48 | 168.7 | 109.9 | 156.3 | 144.3 | 11.95 | 13.075 | | |
| 3,100.0 | 3,077.8 | 3,093.4 | 3,085.4 | 7.9 | 6.4 | -145.81 | 175.4 | 114.9 | 163.3 | 150.9 | 12.37 | 13.204 | | |
| 3,200.0 | 3,176.8 | 3,193.1 | 3,184.8 | 8.2 | 6.6 | -146.11 | 182.2 | 119.9 | 170.3 | 157.5 | 12.78 | 13.325 | | |
| 3,300.0 | 3,275.8 | 3,292.9 | 3,284.2 | 8.5 | 6.8 | -146.38 | 188.9 | 125.0 | 177.3 | 164.2 | 13.20 | 13.439 | | |
| 3,400.0 | 3,374.8 | 3,392.6 | 3,383.6 | 8.8 | 7.0 | -146.64 | 195.7 | 130.0 | 184.4 | 170.8 | 13.61 | 13.547 | | |
| 3,500.0 | 3,473.8 | 3,492.4 | 3,483.0 | 9.1 | 7.3 | -146.88 | 202.4 | 135.1 | 191.4 | 177.4 | 14.02 | 13.648 | | |
| 3,600.0 | 3,572.8 | 3,592.1 | 3,582.4 | 9.4 | 7.5 | -147.10 | 209.2 | 140.1 | 198.4 | 184.0 | 14.44 | 13.744 | | |
| 3,700.0 | 3,671.8 | 3,691.9 | 3,681.8 | 9.7 | 7.7 | -147.30 | 215.9 | 145.2 | 205.5 | 190.6 | 14.85 | 13.835 | | |
| 3,800.0 | 3,770.8 | 3,791.6 | 3,781.2 | 10.0 | 8.0 | -147.49 | 222.6 | 150.2 | 212.5 | 197.2 | 15.27 | 13.920 | | |
| 3,900.0 | 3,869.8 | 3,891.4 | 3,880.5 | 10.3 | 8.2 | -147.67 | 229.4 | 155.3 | 219.5 | 203.9 | 15.68 | 14.002 | | |
| 4,000.0 | 3,968.8 | 3,991.1 | 3,979.9 | 10.6 | 8.4 | -147.84 | 236.1 | 160.3 | 226.6 | 210.5 | 16.09 | 14.079 | | |
| 4,100.0 | 4,067.8 | 4,090.9 | 4,079.3 | 10.9 | 8.6 | -148.00 | 242.9 | 165.3 | 233.6 | 217.1 | 16.51 | 14.153 | | |
| 4,200.0 | 4,166.8 | 4,190.6 | 4,178.7 | 11.2 | 8.9 | -148.15 | 249.6 | 170.4 | 240.7 | 223.8 | 16.92 | 14.223 | | |
| 4,300.0 | 4,265.8 | 4,290.4 | 4,278.1 | 11.5 | 9.1 | -148.29 | 256.3 | 175.4 | 247.7 | 230.4 | 17.34 | 14.290 | | |
| 4,400.0 | 4,364.8 | 4,390.1 | 4,377.5 | 11.8 | 9.3 | -148.42 | 263.1 | 180.5 | 254.8 | 237.0 | 17.75 | 14.354 | | |
| 4,500.0 | 4,463.8 | 4,489.9 | 4,476.9 | 12.1 | 9.5 | -148.55 | 269.8 | 185.5 | 261.8 | 243.7 | 18.16 | 14.415 | | |
| 4,600.0 | 4,562.8 | 4,589.6 | 4,576.3 | 12.4 | 9.8 | -148.66 | 276.6 | 190.6 | 268.9 | 250.3 | 18.58 | 14.473 | | |
| 4,700.0 | 4,661.8 | 4,689.4 | 4,675.7 | 12.7 | 10.0 | -148.78 | 283.3 | 195.6 | 275.9 | 256.9 | 18.99 | 14.529 | | |
| 4,800.0 | 4,760.8 | 4,789.1 | 4,775.1 | 13.0 | 10.2 | -148.88 | 290.1 | 200.7 | 283.0 | 263.6 | 19.41 | 14.582 | | |
| 4,900.0 | 4,859.8 | 4,888.9 | 4,874.5 | 13.3 | 10.4 | -148.99 | 296.8 | 205.7 | 290.0 | 270.2 | 19.82 | 14.634 | | |
| 5,000.0 | 4,958.8 | 4,988.6 | 4,973.9 | 13.7 | 10.7 | -149.08 | 303.5 | 210.7 | 297.1 | 276.9 | 20.23 | 14.683 | | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|--|
| Company: | Bonanza Creek Energy Operating Company, LLC | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Project: | Weld County | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Reference Site: | State 70 Holes F-4 Pad | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design State 70 Holes F-4 Pad - State Seventy Holes F21-J24-4HNB - OH - Plan #1 | | | | | | | | | | | | Offset Site Error: 0.0 ft | |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|---------------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: 0.0 ft | |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | |
| 5,100.0 | 5,057.8 | 5,088.4 | 5,073.3 | 14.0 | 10.9 | -149.18 | 310.3 | 215.8 | 304.1 | 283.5 | 20.65 | 14.730 | |
| 5,200.0 | 5,156.8 | 5,188.1 | 5,172.7 | 14.3 | 11.1 | -149.26 | 317.0 | 220.8 | 311.2 | 290.1 | 21.06 | 14.776 | |
| 5,300.0 | 5,255.8 | 5,287.9 | 5,272.1 | 14.6 | 11.4 | -149.35 | 323.8 | 225.9 | 318.3 | 296.8 | 21.48 | 14.819 | |
| 5,400.0 | 5,355.1 | 5,387.7 | 5,371.5 | 14.8 | 11.6 | -149.32 | 330.5 | 230.9 | 323.8 | 301.8 | 21.90 | 14.782 | |
| 5,500.0 | 5,454.7 | 5,484.1 | 5,467.6 | 15.0 | 11.8 | -149.04 | 336.6 | 235.5 | 326.6 | 304.2 | 22.32 | 14.632 | |
| 5,600.0 | 5,554.5 | 5,577.7 | 5,561.1 | 15.2 | 12.0 | -148.85 | 340.4 | 238.3 | 328.1 | 305.5 | 22.66 | 14.480 | |
| 5,700.0 | 5,654.5 | 5,671.3 | 5,654.7 | 15.3 | 12.1 | -148.79 | 341.7 | 239.3 | 328.7 | 305.7 | 22.95 | 14.324 | |
| 5,800.0 | 5,754.4 | 5,772.9 | 5,756.3 | 15.4 | 12.2 | 93.43 | 339.4 | 239.4 | 328.7 | 305.5 | 23.17 | 14.183 | |
| 5,900.0 | 5,852.5 | 5,876.8 | 5,858.0 | 15.4 | 12.2 | 93.31 | 319.4 | 240.5 | 328.7 | 305.6 | 23.07 | 14.248 | |
| 6,000.0 | 5,945.3 | 5,980.3 | 5,953.5 | 15.3 | 12.0 | 93.05 | 279.9 | 242.6 | 328.6 | 305.9 | 22.71 | 14.469 | |
| 6,100.0 | 6,029.3 | 6,083.5 | 6,039.0 | 15.1 | 11.9 | 92.68 | 222.5 | 245.7 | 328.5 | 306.3 | 22.27 | 14.754 | |
| 6,200.0 | 6,101.5 | 6,186.3 | 6,111.2 | 15.0 | 11.8 | 92.21 | 149.8 | 249.6 | 328.5 | 306.5 | 21.94 | 14.969 | |
| 6,300.0 | 6,159.2 | 6,288.4 | 6,167.5 | 15.1 | 11.8 | 91.66 | 64.9 | 254.2 | 328.4 | 306.5 | 21.95 | 14.964 | |
| 6,400.0 | 6,200.3 | 6,389.8 | 6,206.0 | 15.2 | 12.1 | 91.05 | -28.6 | 259.3 | 328.4 | 306.0 | 22.43 | 14.642 | |
| 6,402.9 | 6,201.2 | 6,392.7 | 6,206.8 | 15.2 | 12.1 | 91.03 | -31.4 | 259.4 | 328.4 | 306.0 | 22.45 | 14.627 | |
| 6,500.0 | 6,227.3 | 6,490.0 | 6,232.2 | 15.6 | 12.6 | 90.89 | -125.2 | 264.5 | 328.5 | 305.0 | 23.42 | 14.026 | |
| 6,600.0 | 6,249.1 | 6,590.6 | 6,251.4 | 16.1 | 13.3 | 90.40 | -223.6 | 269.8 | 328.5 | 303.6 | 24.86 | 13.217 | |
| 6,700.0 | 6,254.0 | 6,690.6 | 6,254.0 | 16.8 | 14.2 | 90.00 | -323.5 | 275.2 | 328.6 | 301.9 | 26.70 | 12.308 | |
| 6,800.0 | 6,254.0 | 6,790.6 | 6,254.0 | 17.6 | 15.2 | 90.00 | -423.3 | 280.6 | 328.6 | 299.8 | 28.85 | 11.391 | |
| 6,900.0 | 6,254.0 | 6,890.6 | 6,254.0 | 18.6 | 16.4 | 90.00 | -523.2 | 286.0 | 328.7 | 297.4 | 31.25 | 10.518 | |
| 7,000.0 | 6,254.0 | 6,990.6 | 6,254.0 | 19.7 | 17.6 | 90.00 | -623.0 | 291.4 | 328.8 | 294.9 | 33.84 | 9.714 | |
| 7,100.0 | 6,254.0 | 7,090.6 | 6,254.0 | 20.9 | 19.0 | 90.00 | -722.9 | 296.8 | 328.8 | 292.2 | 36.59 | 8.986 | |
| 7,200.0 | 6,254.0 | 7,190.6 | 6,254.0 | 22.1 | 20.4 | 90.00 | -822.8 | 302.1 | 328.9 | 289.4 | 39.46 | 8.334 | |
| 7,300.0 | 6,254.0 | 7,290.6 | 6,254.0 | 23.4 | 21.8 | 90.00 | -922.6 | 307.5 | 329.0 | 286.5 | 42.43 | 7.753 | |
| 7,400.0 | 6,254.0 | 7,390.6 | 6,254.0 | 24.8 | 23.3 | 90.00 | -1,022.5 | 312.9 | 329.0 | 283.6 | 45.47 | 7.235 | |
| 7,500.0 | 6,254.0 | 7,490.6 | 6,254.0 | 26.2 | 24.9 | 90.00 | -1,122.3 | 318.3 | 329.1 | 280.5 | 48.58 | 6.774 | |
| 7,600.0 | 6,254.0 | 7,590.6 | 6,254.0 | 27.7 | 26.4 | 90.00 | -1,222.2 | 323.7 | 329.2 | 277.4 | 51.74 | 6.362 | |
| 7,700.0 | 6,254.0 | 7,690.6 | 6,254.0 | 29.2 | 28.0 | 90.00 | -1,322.0 | 329.1 | 329.2 | 274.3 | 54.95 | 5.992 | |
| 7,800.0 | 6,254.0 | 7,790.6 | 6,254.0 | 30.7 | 29.6 | 90.00 | -1,421.9 | 334.5 | 329.3 | 271.1 | 58.19 | 5.660 | |
| 7,900.0 | 6,254.0 | 7,890.6 | 6,254.0 | 32.2 | 31.2 | 90.00 | -1,521.7 | 339.9 | 329.4 | 267.9 | 61.45 | 5.360 | |
| 8,000.0 | 6,254.0 | 7,990.6 | 6,254.0 | 33.8 | 32.9 | 90.00 | -1,621.6 | 345.3 | 329.4 | 264.7 | 64.75 | 5.088 | |
| 8,100.0 | 6,254.0 | 8,090.6 | 6,254.0 | 35.4 | 34.5 | 90.00 | -1,721.4 | 350.7 | 329.5 | 261.4 | 68.07 | 4.841 | |
| 8,200.0 | 6,254.0 | 8,190.6 | 6,254.0 | 37.0 | 36.2 | 90.00 | -1,821.3 | 356.1 | 329.6 | 258.2 | 71.40 | 4.616 | |
| 8,300.0 | 6,254.0 | 8,290.6 | 6,254.0 | 38.6 | 37.8 | 90.00 | -1,921.2 | 361.5 | 329.6 | 254.9 | 74.75 | 4.410 | |
| 8,400.0 | 6,254.0 | 8,390.6 | 6,254.0 | 40.2 | 39.5 | 90.00 | -2,021.0 | 366.9 | 329.7 | 251.6 | 78.12 | 4.221 | |
| 8,500.0 | 6,254.0 | 8,490.6 | 6,254.0 | 41.9 | 41.2 | 90.00 | -2,120.9 | 372.2 | 329.8 | 248.3 | 81.50 | 4.046 | |
| 8,600.0 | 6,254.0 | 8,590.6 | 6,254.0 | 43.5 | 42.9 | 90.00 | -2,220.7 | 377.6 | 329.8 | 245.0 | 84.89 | 3.886 | |
| 8,700.0 | 6,254.0 | 8,690.6 | 6,254.0 | 45.2 | 44.5 | 90.00 | -2,320.6 | 383.0 | 329.9 | 241.6 | 88.28 | 3.737 | |
| 8,800.0 | 6,254.0 | 8,790.6 | 6,254.0 | 46.8 | 46.2 | 90.00 | -2,420.4 | 388.4 | 330.0 | 238.3 | 91.69 | 3.599 | |
| 8,900.0 | 6,254.0 | 8,890.6 | 6,254.0 | 48.5 | 47.9 | 90.00 | -2,520.3 | 393.8 | 330.0 | 234.9 | 95.11 | 3.470 | |
| 9,000.0 | 6,254.0 | 8,990.6 | 6,254.0 | 50.2 | 49.6 | 90.00 | -2,620.1 | 399.2 | 330.1 | 231.6 | 98.53 | 3.350 | |
| 9,100.0 | 6,254.0 | 9,090.6 | 6,254.0 | 51.8 | 51.4 | 90.00 | -2,720.0 | 404.6 | 330.2 | 228.2 | 101.96 | 3.238 | |
| 9,200.0 | 6,254.0 | 9,190.6 | 6,254.0 | 53.5 | 53.1 | 90.00 | -2,819.8 | 410.0 | 330.2 | 224.8 | 105.39 | 3.133 | |
| 9,300.0 | 6,254.0 | 9,290.6 | 6,254.0 | 55.2 | 54.8 | 90.00 | -2,919.7 | 415.4 | 330.3 | 221.5 | 108.83 | 3.035 | |
| 9,400.0 | 6,254.0 | 9,390.6 | 6,254.0 | 56.9 | 56.5 | 90.00 | -3,019.5 | 420.8 | 330.4 | 218.1 | 112.27 | 2.943 | |
| 9,500.0 | 6,254.0 | 9,490.6 | 6,254.0 | 58.6 | 58.2 | 90.00 | -3,119.4 | 426.2 | 330.4 | 214.7 | 115.72 | 2.855 | |
| 9,600.0 | 6,254.0 | 9,590.6 | 6,254.0 | 60.3 | 59.9 | 90.00 | -3,219.3 | 431.6 | 330.5 | 211.3 | 119.17 | 2.773 | |
| 9,700.0 | 6,254.0 | 9,690.6 | 6,254.0 | 62.0 | 61.7 | 90.00 | -3,319.1 | 437.0 | 330.6 | 207.9 | 122.63 | 2.696 | |
| 9,800.0 | 6,254.0 | 9,790.6 | 6,254.0 | 63.7 | 63.4 | 90.00 | -3,419.0 | 442.4 | 330.6 | 204.6 | 126.09 | 2.622 | |
| 9,900.0 | 6,254.0 | 9,890.6 | 6,254.0 | 65.4 | 65.1 | 90.00 | -3,518.8 | 447.7 | 330.7 | 201.2 | 129.55 | 2.553 | |
| 10,000.0 | 6,254.0 | 9,990.6 | 6,254.0 | 67.1 | 66.8 | 90.00 | -3,618.7 | 453.1 | 330.8 | 197.8 | 133.01 | 2.487 | |
| 10,100.0 | 6,254.0 | 10,090.6 | 6,254.0 | 68.8 | 68.6 | 90.00 | -3,718.5 | 458.5 | 330.8 | 194.4 | 136.48 | 2.424 | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|--|
| Company: | Bonanza Creek Energy Operating Company, LLC | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Project: | Weld County | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Reference Site: | State 70 Holes F-4 Pad | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | State 70 Holes F-4 Pad - State Seventy Holes F21-J24-4HNB - OH - Plan #1 | | | | | | | | | | Offset Site Error: | | 0.0 ft | | | |
|-----------------|----------------|--|----------------|-----------------|--------|-------------------|------------------------|------------|-----------------|------------------|------------------------|--------------------|---------|--------------------|--|--------|--|
| Survey Program: | | 0-MWD | | | | | | | | | | | | Offset Well Error: | | 0.0 ft | |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | | | | | |
| Measured Depth | Vertical Depth | Measured Depth | Vertical Depth | Reference | Offset | Highside Toolface | Offset Wellbore Centre | | Between Centres | Between Ellipses | Total Uncertainty Axis | Separation Factor | Warning | | | | |
| (ft) | (ft) | (ft) | (ft) | (ft) | (ft) | (°) | +N/-S (ft) | +E/-W (ft) | (ft) | (ft) | | | | | | | |
| 10,200.0 | 6,254.0 | 10,190.6 | 6,254.0 | 70.5 | 70.3 | 90.00 | -3,818.4 | 463.9 | 330.9 | 191.0 | 139.95 | 2.365 | | | | | |
| 10,300.0 | 6,254.0 | 10,290.6 | 6,254.0 | 72.3 | 72.0 | 90.00 | -3,918.2 | 469.3 | 331.0 | 187.6 | 143.42 | 2.308 | | | | | |
| 10,400.0 | 6,254.0 | 10,390.6 | 6,254.0 | 74.0 | 73.8 | 90.00 | -4,018.1 | 474.7 | 331.0 | 184.2 | 146.89 | 2.254 | | | | | |
| 10,500.0 | 6,254.0 | 10,490.6 | 6,254.0 | 75.7 | 75.5 | 90.00 | -4,117.9 | 480.1 | 331.1 | 180.7 | 150.37 | 2.202 | | | | | |
| 10,600.0 | 6,254.0 | 10,590.6 | 6,254.0 | 77.4 | 77.2 | 90.00 | -4,217.8 | 485.5 | 331.2 | 177.3 | 153.84 | 2.153 | | | | | |
| 10,700.0 | 6,254.0 | 10,690.6 | 6,254.0 | 79.1 | 79.0 | 90.00 | -4,317.7 | 490.9 | 331.2 | 173.9 | 157.32 | 2.106 | | | | | |
| 10,800.0 | 6,254.0 | 10,790.6 | 6,254.0 | 80.9 | 80.7 | 90.00 | -4,417.5 | 496.3 | 331.3 | 170.5 | 160.80 | 2.060 | | | | | |
| 10,900.0 | 6,254.0 | 10,890.6 | 6,254.0 | 82.6 | 82.4 | 90.00 | -4,517.4 | 501.7 | 331.4 | 167.1 | 164.28 | 2.017 | | | | | |
| 11,000.0 | 6,254.0 | 10,990.6 | 6,254.0 | 84.3 | 84.2 | 90.00 | -4,617.2 | 507.1 | 331.4 | 163.7 | 167.76 | 1.976 | | | | | |
| 11,019.9 | 6,254.0 | 10,996.3 | 6,254.0 | 84.7 | 84.3 | 90.00 | -4,622.9 | 507.4 | 331.8 | 163.6 | 168.21 | 1.972 SF | | | | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|--|
| Company: | Bonanza Creek Energy Operating Company, LLC | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Project: | Weld County | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Reference Site: | State 70 Holes F-4 Pad | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design State 70 Holes F-4 Pad - State Seventy Holes F-J-4HC - OH - Plan #1 | | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------|-------------------|---------|--------------------|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | Total | | Warning | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Uncertainty Axis | Separation Factor | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.58 | 61.9 | 2.8 | 62.0 | | | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 2.58 | 61.9 | 2.8 | 62.0 | 61.7 | 0.30 | 208.922 | | | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 2.58 | 61.9 | 2.8 | 62.0 | 61.3 | 0.65 | 95.991 | | | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | 2.58 | 61.9 | 2.8 | 62.0 | 61.0 | 0.99 | 62.310 | | | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.7 | 0.7 | 2.58 | 61.9 | 2.8 | 62.0 | 60.6 | 1.34 | 46.126 | | | |
| 500.0 | 500.0 | 500.0 | 500.0 | 0.8 | 0.8 | 2.58 | 61.9 | 2.8 | 62.0 | 60.3 | 1.69 | 36.615 | | | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.0 | 1.0 | 2.58 | 61.9 | 2.8 | 62.0 | 59.9 | 2.04 | 30.356 | | | |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.2 | 1.2 | -57.91 | 61.9 | 2.8 | 61.0 | 58.7 | 2.39 | 25.521 | | | |
| 800.0 | 799.8 | 799.8 | 799.8 | 1.4 | 1.4 | -62.30 | 61.9 | 2.8 | 58.4 | 55.7 | 2.75 | 21.259 | | | |
| 900.0 | 899.5 | 899.5 | 899.5 | 1.6 | 1.5 | -70.42 | 61.9 | 2.8 | 54.9 | 51.8 | 3.13 | 17.572 | | | |
| 973.0 | 971.9 | 970.6 | 970.6 | 1.8 | 1.7 | -79.13 | 62.7 | 2.4 | 53.5 | 50.1 | 3.42 | 15.631 CC, ES | | | |
| 1,000.0 | 998.7 | 996.9 | 996.9 | 1.8 | 1.7 | -82.93 | 63.4 | 2.0 | 53.8 | 50.2 | 3.54 | 15.196 | | | |
| 1,100.0 | 1,097.7 | 1,094.0 | 1,093.9 | 2.1 | 1.9 | -96.55 | 67.8 | -0.2 | 58.8 | 54.9 | 3.96 | 14.853 | | | |
| 1,200.0 | 1,196.7 | 1,192.9 | 1,192.5 | 2.3 | 2.1 | -107.25 | 73.6 | -3.1 | 68.2 | 63.8 | 4.38 | 15.572 | | | |
| 1,300.0 | 1,295.7 | 1,291.7 | 1,291.2 | 2.6 | 2.3 | -115.19 | 79.5 | -6.1 | 79.4 | 74.6 | 4.79 | 16.572 | | | |
| 1,400.0 | 1,394.7 | 1,390.6 | 1,389.8 | 2.9 | 2.5 | -121.11 | 85.3 | -9.0 | 91.7 | 86.5 | 5.19 | 17.653 | | | |
| 1,500.0 | 1,493.7 | 1,489.4 | 1,488.4 | 3.2 | 2.6 | -125.60 | 91.2 | -12.0 | 104.7 | 99.1 | 5.59 | 18.720 | | | |
| 1,600.0 | 1,592.7 | 1,588.3 | 1,587.1 | 3.5 | 2.8 | -129.09 | 97.0 | -14.9 | 118.2 | 112.2 | 5.99 | 19.731 | | | |
| 1,700.0 | 1,691.7 | 1,687.2 | 1,685.7 | 3.8 | 3.0 | -131.85 | 102.8 | -17.8 | 132.1 | 125.7 | 6.39 | 20.670 | | | |
| 1,800.0 | 1,790.7 | 1,786.0 | 1,784.3 | 4.1 | 3.2 | -134.09 | 108.7 | -20.8 | 146.2 | 139.4 | 6.79 | 21.534 | | | |
| 1,900.0 | 1,889.7 | 1,884.9 | 1,883.0 | 4.3 | 3.4 | -135.93 | 114.5 | -23.7 | 160.5 | 153.3 | 7.19 | 22.326 | | | |
| 2,000.0 | 1,988.7 | 1,983.7 | 1,981.6 | 4.6 | 3.6 | -137.47 | 120.4 | -26.7 | 174.9 | 167.3 | 7.59 | 23.051 | | | |
| 2,100.0 | 2,087.7 | 2,082.6 | 2,080.2 | 4.9 | 3.8 | -138.78 | 126.2 | -29.6 | 189.4 | 181.5 | 7.99 | 23.715 | | | |
| 2,200.0 | 2,186.7 | 2,181.4 | 2,178.9 | 5.2 | 4.0 | -139.89 | 132.1 | -32.6 | 204.1 | 195.7 | 8.39 | 24.325 | | | |
| 2,300.0 | 2,285.7 | 2,280.3 | 2,277.5 | 5.5 | 4.2 | -140.86 | 137.9 | -35.5 | 218.7 | 210.0 | 8.79 | 24.885 | | | |
| 2,400.0 | 2,384.7 | 2,379.1 | 2,376.2 | 5.8 | 4.4 | -141.71 | 143.7 | -38.5 | 233.5 | 224.3 | 9.19 | 25.400 | | | |
| 2,500.0 | 2,483.7 | 2,478.0 | 2,474.8 | 6.1 | 4.6 | -142.46 | 149.6 | -41.4 | 248.3 | 238.7 | 9.59 | 25.876 | | | |
| 2,600.0 | 2,582.7 | 2,576.8 | 2,573.4 | 6.4 | 4.9 | -143.12 | 155.4 | -44.4 | 263.1 | 253.1 | 10.00 | 26.317 | | | |
| 2,700.0 | 2,681.7 | 2,675.7 | 2,672.1 | 6.7 | 5.1 | -143.71 | 161.3 | -47.3 | 277.9 | 267.5 | 10.40 | 26.726 | | | |
| 2,800.0 | 2,780.8 | 2,774.5 | 2,770.7 | 7.0 | 5.3 | -144.24 | 167.1 | -50.2 | 292.8 | 282.0 | 10.80 | 27.106 | | | |
| 2,900.0 | 2,879.8 | 2,873.4 | 2,869.3 | 7.3 | 5.5 | -144.72 | 172.9 | -53.2 | 307.7 | 296.5 | 11.21 | 27.460 | | | |
| 3,000.0 | 2,978.8 | 2,972.2 | 2,968.0 | 7.6 | 5.7 | -145.16 | 178.8 | -56.1 | 322.6 | 311.0 | 11.61 | 27.790 | | | |
| 3,100.0 | 3,077.8 | 3,071.1 | 3,066.6 | 7.9 | 5.9 | -145.56 | 184.6 | -59.1 | 337.5 | 325.5 | 12.01 | 28.099 | | | |
| 3,200.0 | 3,176.8 | 3,169.9 | 3,165.2 | 8.2 | 6.1 | -145.92 | 190.5 | -62.0 | 352.5 | 340.1 | 12.42 | 28.389 | | | |
| 3,300.0 | 3,275.8 | 3,268.8 | 3,263.9 | 8.5 | 6.3 | -146.25 | 196.3 | -65.0 | 367.4 | 354.6 | 12.82 | 28.661 | | | |
| 3,400.0 | 3,374.8 | 3,367.7 | 3,362.5 | 8.8 | 6.5 | -146.56 | 202.2 | -67.9 | 382.4 | 369.2 | 13.22 | 28.917 | | | |
| 3,500.0 | 3,473.8 | 3,466.5 | 3,461.2 | 9.1 | 6.7 | -146.85 | 208.0 | -70.9 | 397.4 | 383.8 | 13.63 | 29.159 | | | |
| 3,600.0 | 3,572.8 | 3,565.4 | 3,559.8 | 9.4 | 6.9 | -147.11 | 213.8 | -73.8 | 412.4 | 398.4 | 14.03 | 29.386 | | | |
| 3,700.0 | 3,671.8 | 3,664.2 | 3,658.4 | 9.7 | 7.1 | -147.36 | 219.7 | -76.8 | 427.4 | 412.9 | 14.44 | 29.602 | | | |
| 3,800.0 | 3,770.8 | 3,763.1 | 3,757.1 | 10.0 | 7.3 | -147.59 | 225.5 | -79.7 | 442.4 | 427.5 | 14.84 | 29.806 | | | |
| 3,900.0 | 3,869.8 | 3,861.9 | 3,855.7 | 10.3 | 7.5 | -147.80 | 231.4 | -82.6 | 457.4 | 442.2 | 15.25 | 29.999 | | | |
| 4,000.0 | 3,968.8 | 3,960.8 | 3,954.3 | 10.6 | 7.7 | -148.00 | 237.2 | -85.6 | 472.4 | 456.8 | 15.65 | 30.182 | | | |
| 4,100.0 | 4,067.8 | 4,059.6 | 4,053.0 | 10.9 | 7.9 | -148.19 | 243.1 | -88.5 | 487.4 | 471.4 | 16.06 | 30.357 | | | |
| 4,200.0 | 4,166.8 | 4,158.5 | 4,151.6 | 11.2 | 8.1 | -148.37 | 248.9 | -91.5 | 502.5 | 486.0 | 16.46 | 30.522 | | | |
| 4,300.0 | 4,265.8 | 4,257.3 | 4,250.2 | 11.5 | 8.3 | -148.53 | 254.7 | -94.4 | 517.5 | 500.6 | 16.87 | 30.681 | | | |
| 4,400.0 | 4,364.8 | 4,356.2 | 4,348.9 | 11.8 | 8.5 | -148.69 | 260.6 | -97.4 | 532.5 | 515.3 | 17.27 | 30.831 | | | |
| 4,500.0 | 4,463.8 | 4,455.0 | 4,447.5 | 12.1 | 8.7 | -148.84 | 266.4 | -100.3 | 547.6 | 529.9 | 17.68 | 30.975 | | | |
| 4,600.0 | 4,562.8 | 4,553.9 | 4,546.2 | 12.4 | 9.0 | -148.98 | 272.3 | -103.3 | 562.6 | 544.5 | 18.08 | 31.113 | | | |
| 4,700.0 | 4,661.8 | 4,652.7 | 4,644.8 | 12.7 | 9.2 | -149.11 | 278.1 | -106.2 | 577.7 | 559.2 | 18.49 | 31.245 | | | |
| 4,800.0 | 4,760.8 | 4,751.6 | 4,743.4 | 13.0 | 9.4 | -149.24 | 283.9 | -109.2 | 592.7 | 573.8 | 18.89 | 31.371 | | | |
| 4,900.0 | 4,859.8 | 4,850.4 | 4,842.1 | 13.3 | 9.6 | -149.36 | 289.8 | -112.1 | 607.8 | 588.5 | 19.30 | 31.491 | | | |
| 5,000.0 | 4,958.8 | 4,949.3 | 4,940.7 | 13.7 | 9.8 | -149.47 | 295.6 | -115.0 | 622.8 | 603.1 | 19.70 | 31.607 | | | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|--|
| Company: | Bonanza Creek Energy Operating Company, LLC | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Project: | Weld County | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Reference Site: | State 70 Holes F-4 Pad | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design State 70 Holes F-4 Pad - State Seventy Holes F-J-4HC - OH - Plan #1 | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|---|---------------------------|---------------------------|---------------------------|-------------------|----------------|-----------------------------|---|---------------|----------------------------|-----------------------------|------------------------------|----------------------|--------------------|--------|
| Survey Program: O-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | Total Uncertainty Axis | Separation Factor | Warning | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | | | | |
| 5,100.0 | 5,057.8 | 5,048.2 | 5,039.3 | 14.0 | 10.0 | -149.58 | 301.5 | -118.0 | 637.9 | 617.8 | 20.11 | 31.719 | | |
| 5,200.0 | 5,156.8 | 5,147.0 | 5,138.0 | 14.3 | 10.2 | -149.69 | 307.3 | -120.9 | 652.9 | 632.4 | 20.52 | 31.825 | | |
| 5,300.0 | 5,255.8 | 5,245.9 | 5,236.6 | 14.6 | 10.4 | -149.79 | 313.2 | -123.9 | 668.0 | 647.1 | 20.92 | 31.927 | | |
| 5,400.0 | 5,355.1 | 5,344.9 | 5,335.5 | 14.8 | 10.6 | -149.94 | 319.0 | -126.8 | 681.5 | 660.1 | 21.34 | 31.938 | | |
| 5,500.0 | 5,454.7 | 5,444.4 | 5,434.7 | 15.0 | 10.8 | -149.92 | 324.9 | -129.8 | 692.0 | 670.2 | 21.74 | 31.830 | | |
| 5,600.0 | 5,554.5 | 5,544.0 | 5,534.1 | 15.2 | 11.0 | -149.72 | 330.8 | -132.8 | 699.5 | 677.4 | 22.13 | 31.612 | | |
| 5,700.0 | 5,654.5 | 5,643.8 | 5,633.7 | 15.3 | 11.2 | -149.36 | 336.7 | -135.7 | 704.0 | 681.5 | 22.50 | 31.291 | | |
| 5,800.0 | 5,754.4 | 5,752.8 | 5,742.6 | 15.4 | 11.4 | 93.38 | 342.0 | -138.4 | 706.6 | 683.8 | 22.85 | 30.926 | | |
| 5,900.0 | 5,852.5 | 5,862.9 | 5,852.5 | 15.4 | 11.6 | 94.91 | 343.8 | -139.3 | 708.8 | 685.8 | 23.07 | 30.721 | | |
| 6,000.0 | 5,945.3 | 5,966.5 | 5,956.0 | 15.3 | 11.7 | 97.35 | 340.5 | -139.1 | 712.7 | 689.6 | 23.11 | 30.840 | | |
| 6,100.0 | 6,029.3 | 6,086.9 | 6,073.1 | 15.1 | 11.7 | 99.99 | 313.6 | -137.7 | 718.2 | 695.3 | 22.85 | 31.432 | | |
| 6,200.0 | 6,101.5 | 6,219.7 | 6,191.2 | 15.0 | 11.5 | 102.36 | 253.7 | -134.5 | 724.1 | 701.7 | 22.38 | 32.353 | | |
| 6,300.0 | 6,159.2 | 6,365.1 | 6,298.5 | 15.1 | 11.4 | 104.22 | 156.4 | -129.3 | 729.3 | 707.3 | 22.02 | 33.125 | | |
| 6,400.0 | 6,200.3 | 6,520.4 | 6,378.8 | 15.2 | 11.6 | 105.30 | 24.3 | -122.3 | 732.6 | 710.3 | 22.23 | 32.955 | | |
| 6,500.0 | 6,227.3 | 6,646.5 | 6,415.9 | 15.6 | 12.2 | 105.46 | -95.9 | -115.9 | 733.2 | 710.0 | 23.16 | 31.656 | | |
| 6,600.0 | 6,249.1 | 6,780.1 | 6,442.9 | 16.1 | 13.2 | 105.38 | -226.4 | -108.9 | 733.1 | 708.3 | 24.76 | 29.605 | | |
| 6,696.1 | 6,255.9 | 6,893.4 | 6,445.0 | 16.8 | 14.2 | 104.97 | -339.4 | -102.9 | 731.8 | 705.0 | 26.76 | 27.347 | | |
| 6,700.0 | 6,254.0 | 6,897.3 | 6,445.0 | 16.8 | 14.3 | 105.12 | -343.4 | -102.7 | 732.3 | 705.5 | 26.83 | 27.299 | | |
| 6,800.0 | 6,254.0 | 6,997.3 | 6,445.0 | 17.6 | 15.4 | 105.12 | -443.2 | -97.4 | 732.5 | 703.5 | 28.93 | 25.319 | | |
| 6,900.0 | 6,254.0 | 7,097.3 | 6,445.0 | 18.6 | 16.6 | 105.11 | -543.1 | -92.1 | 732.6 | 701.3 | 31.26 | 23.436 | | |
| 7,000.0 | 6,254.0 | 7,197.3 | 6,445.0 | 19.7 | 17.9 | 105.11 | -642.9 | -86.7 | 732.7 | 699.0 | 33.77 | 21.697 | | |
| 7,100.0 | 6,254.0 | 7,297.3 | 6,445.0 | 20.9 | 19.3 | 105.11 | -742.8 | -81.4 | 732.9 | 696.4 | 36.43 | 20.119 | | |
| 7,200.0 | 6,254.0 | 7,397.3 | 6,445.0 | 22.1 | 20.8 | 105.10 | -842.7 | -76.1 | 733.0 | 693.8 | 39.20 | 18.701 | | |
| 7,300.0 | 6,254.0 | 7,497.3 | 6,445.0 | 23.4 | 22.2 | 105.10 | -942.5 | -70.8 | 733.1 | 691.1 | 42.06 | 17.432 | | |
| 7,400.0 | 6,254.0 | 7,597.3 | 6,445.0 | 24.8 | 23.8 | 105.10 | -1,042.4 | -65.5 | 733.3 | 688.3 | 44.99 | 16.298 | | |
| 7,500.0 | 6,254.0 | 7,697.3 | 6,445.0 | 26.2 | 25.3 | 105.10 | -1,142.2 | -60.1 | 733.4 | 685.4 | 47.99 | 15.283 | | |
| 7,600.0 | 6,254.0 | 7,797.3 | 6,445.0 | 27.7 | 26.9 | 105.09 | -1,242.1 | -54.8 | 733.5 | 682.5 | 51.03 | 14.374 | | |
| 7,700.0 | 6,254.0 | 7,897.3 | 6,445.0 | 29.2 | 28.5 | 105.09 | -1,341.9 | -49.5 | 733.7 | 679.6 | 54.12 | 13.556 | | |
| 7,800.0 | 6,254.0 | 7,997.3 | 6,445.0 | 30.7 | 30.1 | 105.09 | -1,441.8 | -44.2 | 733.8 | 676.6 | 57.24 | 12.819 | | |
| 7,900.0 | 6,254.0 | 8,097.3 | 6,445.0 | 32.2 | 31.8 | 105.08 | -1,541.7 | -38.9 | 733.9 | 673.5 | 60.40 | 12.152 | | |
| 8,000.0 | 6,254.0 | 8,197.3 | 6,445.0 | 33.8 | 33.4 | 105.08 | -1,641.5 | -33.6 | 734.1 | 670.5 | 63.57 | 11.547 | | |
| 8,100.0 | 6,254.0 | 8,297.3 | 6,445.0 | 35.4 | 35.1 | 105.08 | -1,741.4 | -28.2 | 734.2 | 667.4 | 66.77 | 10.996 | | |
| 8,200.0 | 6,254.0 | 8,397.3 | 6,445.0 | 37.0 | 36.7 | 105.08 | -1,841.2 | -22.9 | 734.4 | 664.4 | 69.99 | 10.493 | | |
| 8,300.0 | 6,254.0 | 8,497.3 | 6,445.0 | 38.6 | 38.4 | 105.07 | -1,941.1 | -17.6 | 734.5 | 661.3 | 73.22 | 10.031 | | |
| 8,400.0 | 6,254.0 | 8,597.3 | 6,445.0 | 40.2 | 40.1 | 105.07 | -2,041.0 | -12.3 | 734.6 | 658.2 | 76.47 | 9.607 | | |
| 8,500.0 | 6,254.0 | 8,697.3 | 6,445.0 | 41.9 | 41.8 | 105.07 | -2,140.8 | -7.0 | 734.8 | 655.0 | 79.73 | 9.216 | | |
| 8,600.0 | 6,254.0 | 8,797.3 | 6,445.0 | 43.5 | 43.4 | 105.06 | -2,240.7 | -1.6 | 734.9 | 651.9 | 83.00 | 8.854 | | |
| 8,700.0 | 6,254.0 | 8,897.3 | 6,445.0 | 45.2 | 45.1 | 105.06 | -2,340.5 | 3.7 | 735.0 | 648.8 | 86.28 | 8.519 | | |
| 8,800.0 | 6,254.0 | 8,997.3 | 6,445.0 | 46.8 | 46.8 | 105.06 | -2,440.4 | 9.0 | 735.2 | 645.6 | 89.57 | 8.208 | | |
| 8,900.0 | 6,254.0 | 9,097.3 | 6,445.0 | 48.5 | 48.6 | 105.06 | -2,540.2 | 14.3 | 735.3 | 642.4 | 92.86 | 7.918 | | |
| 9,000.0 | 6,254.0 | 9,197.3 | 6,445.0 | 50.2 | 50.3 | 105.05 | -2,640.1 | 19.6 | 735.4 | 639.3 | 96.17 | 7.647 | | |
| 9,100.0 | 6,254.0 | 9,297.3 | 6,445.0 | 51.8 | 52.0 | 105.05 | -2,740.0 | 25.0 | 735.6 | 636.1 | 99.48 | 7.394 | | |
| 9,200.0 | 6,254.0 | 9,397.3 | 6,445.0 | 53.5 | 53.7 | 105.05 | -2,839.8 | 30.3 | 735.7 | 632.9 | 102.79 | 7.157 | | |
| 9,300.0 | 6,254.0 | 9,497.3 | 6,445.0 | 55.2 | 55.4 | 105.04 | -2,939.7 | 35.6 | 735.8 | 629.7 | 106.11 | 6.935 | | |
| 9,400.0 | 6,254.0 | 9,597.3 | 6,445.0 | 56.9 | 57.1 | 105.04 | -3,039.5 | 40.9 | 736.0 | 626.5 | 109.44 | 6.725 | | |
| 9,500.0 | 6,254.0 | 9,697.3 | 6,445.0 | 58.6 | 58.8 | 105.04 | -3,139.4 | 46.2 | 736.1 | 623.4 | 112.77 | 6.528 | | |
| 9,600.0 | 6,254.0 | 9,797.3 | 6,445.0 | 60.3 | 60.6 | 105.04 | -3,239.3 | 51.6 | 736.3 | 620.2 | 116.10 | 6.341 | | |
| 9,700.0 | 6,254.0 | 9,897.3 | 6,445.0 | 62.0 | 62.3 | 105.03 | -3,339.1 | 56.9 | 736.4 | 617.0 | 119.44 | 6.165 | | |
| 9,800.0 | 6,254.0 | 9,997.3 | 6,445.0 | 63.7 | 64.0 | 105.03 | -3,439.0 | 62.2 | 736.5 | 613.7 | 122.78 | 5.999 | | |
| 9,900.0 | 6,254.0 | 10,097.3 | 6,445.0 | 65.4 | 65.8 | 105.03 | -3,538.8 | 67.5 | 736.7 | 610.5 | 126.12 | 5.841 | | |
| 10,000.0 | 6,254.0 | 10,197.3 | 6,445.0 | 67.1 | 67.5 | 105.02 | -3,638.7 | 72.8 | 736.8 | 607.3 | 129.47 | 5.691 | | |
| 10,100.0 | 6,254.0 | 10,297.3 | 6,445.0 | 68.8 | 69.2 | 105.02 | -3,738.5 | 78.1 | 736.9 | 604.1 | 132.82 | 5.548 | | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|--|
| Company: | Bonanza Creek Energy Operating Company, LLC | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Project: | Weld County | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Reference Site: | State 70 Holes F-4 Pad | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | State 70 Holes F-4 Pad - State Seventy Holes F-J-4HC - OH - Plan #1 | | Offset Site Error: | | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|---|---------|--------------------|--|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | | 0.0 ft | | |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | | Warning | | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | | | | |
| 10,200.0 | 6,254.0 | 10,397.3 | 6,445.0 | 70.5 | 70.9 | 105.02 | -3,838.4 | 83.5 | 737.1 | 600.9 | 136.17 | 5.413 | | | | | |
| 10,300.0 | 6,254.0 | 10,497.3 | 6,445.0 | 72.3 | 72.7 | 105.02 | -3,938.3 | 88.8 | 737.2 | 597.7 | 139.52 | 5.284 | | | | | |
| 10,400.0 | 6,254.0 | 10,597.3 | 6,445.0 | 74.0 | 74.4 | 105.01 | -4,038.1 | 94.1 | 737.3 | 594.5 | 142.88 | 5.161 | | | | | |
| 10,500.0 | 6,254.0 | 10,697.3 | 6,445.0 | 75.7 | 76.2 | 105.01 | -4,138.0 | 99.4 | 737.5 | 591.2 | 146.24 | 5.043 | | | | | |
| 10,600.0 | 6,254.0 | 10,797.3 | 6,445.0 | 77.4 | 77.9 | 105.01 | -4,237.8 | 104.7 | 737.6 | 588.0 | 149.60 | 4.931 | | | | | |
| 10,700.0 | 6,254.0 | 10,897.3 | 6,445.0 | 79.1 | 79.6 | 105.00 | -4,337.7 | 110.1 | 737.7 | 584.8 | 152.96 | 4.823 | | | | | |
| 10,800.0 | 6,254.0 | 10,997.3 | 6,445.0 | 80.9 | 81.4 | 105.00 | -4,437.6 | 115.4 | 737.9 | 581.6 | 156.32 | 4.720 | | | | | |
| 10,900.0 | 6,254.0 | 11,097.3 | 6,445.0 | 82.6 | 83.1 | 105.00 | -4,537.4 | 120.7 | 738.0 | 578.3 | 159.68 | 4.622 | | | | | |
| 10,950.9 | 6,254.0 | 11,148.3 | 6,445.0 | 83.5 | 84.0 | 105.00 | -4,588.3 | 123.4 | 738.1 | 576.7 | 161.40 | 4.573 | | | | | |
| 11,000.0 | 6,254.0 | 11,186.6 | 6,445.0 | 84.3 | 84.7 | 105.00 | -4,626.5 | 125.4 | 738.2 | 575.4 | 162.87 | 4.533 | | | | | |
| 11,019.9 | 6,254.0 | 11,186.6 | 6,445.0 | 84.7 | 84.7 | 105.00 | -4,626.5 | 125.4 | 738.8 | 575.6 | 163.20 | 4.527 SF | | | | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|--|
| Company: | Bonanza Creek Energy Operating Company, LLC | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Project: | Weld County | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Reference Site: | State 70 Holes F-4 Pad | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design State 70 Holes F-4 Pad - State Seventy Holes F-J-4HNB - OH - Plan #1 | | | | | | | | | | | | | | Offset Site Error: | 0.0 ft |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|---------|--------------------|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | | Offset Well Error: | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | Distance | | | | | | | | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | Warning | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.98 | 40.1 | 2.8 | 40.2 | | | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 3.98 | 40.1 | 2.8 | 40.2 | 39.9 | 0.30 | 135.370 | | | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 3.98 | 40.1 | 2.8 | 40.2 | 39.5 | 0.65 | 62.197 | | | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | 3.98 | 40.1 | 2.8 | 40.2 | 39.2 | 0.99 | 40.373 | | | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.7 | 0.7 | 3.98 | 40.1 | 2.8 | 40.2 | 38.8 | 1.34 | 29.887 | | | |
| 500.0 | 500.0 | 500.0 | 500.0 | 0.8 | 0.8 | 3.98 | 40.1 | 2.8 | 40.2 | 38.5 | 1.69 | 23.725 | | | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.0 | 1.0 | 3.98 | 40.1 | 2.8 | 40.2 | 38.1 | 2.04 | 19.669 | | | |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.2 | 1.2 | -57.23 | 40.1 | 2.8 | 39.2 | 36.8 | 2.39 | 16.386 | | | |
| 800.0 | 799.8 | 799.8 | 799.8 | 1.4 | 1.4 | -64.17 | 40.1 | 2.8 | 36.6 | 33.9 | 2.75 | 13.323 | | | |
| 878.2 | 877.8 | 876.8 | 876.8 | 1.5 | 1.5 | -73.96 | 41.1 | 2.5 | 35.3 | 32.3 | 3.04 | 11.608 CC, ES | | | |
| 900.0 | 899.5 | 898.3 | 898.2 | 1.6 | 1.5 | -77.35 | 41.7 | 2.3 | 35.4 | 32.3 | 3.13 | 11.338 | | | |
| 1,000.0 | 998.7 | 996.3 | 996.2 | 1.8 | 1.7 | -94.20 | 46.5 | 0.8 | 39.7 | 36.2 | 3.54 | 11.217 | | | |
| 1,100.0 | 1,097.7 | 1,095.3 | 1,094.9 | 2.1 | 1.9 | -108.28 | 52.9 | -1.1 | 48.7 | 44.7 | 3.95 | 12.318 | | | |
| 1,200.0 | 1,196.7 | 1,194.3 | 1,193.7 | 2.3 | 2.1 | -117.64 | 59.4 | -3.1 | 59.7 | 55.3 | 4.36 | 13.684 | | | |
| 1,300.0 | 1,295.7 | 1,293.3 | 1,292.5 | 2.6 | 2.3 | -123.99 | 65.8 | -5.0 | 71.7 | 67.0 | 4.77 | 15.051 | | | |
| 1,400.0 | 1,394.7 | 1,392.3 | 1,391.3 | 2.9 | 2.5 | -128.48 | 72.2 | -7.0 | 84.4 | 79.3 | 5.17 | 16.325 | | | |
| 1,500.0 | 1,493.7 | 1,491.3 | 1,490.0 | 3.2 | 2.7 | -131.79 | 78.6 | -8.9 | 97.5 | 91.9 | 5.58 | 17.481 | | | |
| 1,600.0 | 1,592.7 | 1,590.3 | 1,588.8 | 3.5 | 2.9 | -134.31 | 85.1 | -10.8 | 110.8 | 104.8 | 5.98 | 18.518 | | | |
| 1,700.0 | 1,691.7 | 1,689.4 | 1,687.6 | 3.8 | 3.1 | -136.29 | 91.5 | -12.8 | 124.3 | 117.9 | 6.39 | 19.447 | | | |
| 1,800.0 | 1,790.7 | 1,788.4 | 1,786.4 | 4.1 | 3.3 | -137.88 | 97.9 | -14.7 | 137.9 | 131.1 | 6.80 | 20.279 | | | |
| 1,900.0 | 1,889.7 | 1,887.4 | 1,885.2 | 4.3 | 3.5 | -139.19 | 104.3 | -16.7 | 151.5 | 144.3 | 7.21 | 21.027 | | | |
| 2,000.0 | 1,988.7 | 1,986.4 | 1,983.9 | 4.6 | 3.7 | -140.28 | 110.8 | -18.6 | 165.3 | 157.7 | 7.62 | 21.701 | | | |
| 2,100.0 | 2,087.7 | 2,085.4 | 2,082.7 | 4.9 | 3.9 | -141.20 | 117.2 | -20.6 | 179.1 | 171.0 | 8.03 | 22.311 | | | |
| 2,200.0 | 2,186.7 | 2,184.4 | 2,181.5 | 5.2 | 4.1 | -141.99 | 123.6 | -22.5 | 192.9 | 184.5 | 8.44 | 22.865 | | | |
| 2,300.0 | 2,285.7 | 2,283.4 | 2,280.3 | 5.5 | 4.3 | -142.67 | 130.0 | -24.5 | 206.8 | 197.9 | 8.85 | 23.370 | | | |
| 2,400.0 | 2,384.7 | 2,382.4 | 2,379.1 | 5.8 | 4.5 | -143.27 | 136.5 | -26.4 | 220.6 | 211.4 | 9.26 | 23.832 | | | |
| 2,500.0 | 2,483.7 | 2,481.4 | 2,477.8 | 6.1 | 4.7 | -143.80 | 142.9 | -28.4 | 234.5 | 224.9 | 9.67 | 24.256 | | | |
| 2,600.0 | 2,582.7 | 2,580.4 | 2,576.6 | 6.4 | 4.9 | -144.26 | 149.3 | -30.3 | 248.5 | 238.4 | 10.08 | 24.646 | | | |
| 2,700.0 | 2,681.7 | 2,679.4 | 2,675.4 | 6.7 | 5.1 | -144.68 | 155.8 | -32.3 | 262.4 | 251.9 | 10.49 | 25.007 | | | |
| 2,800.0 | 2,780.8 | 2,778.4 | 2,774.2 | 7.0 | 5.3 | -145.06 | 162.2 | -34.2 | 276.4 | 265.5 | 10.91 | 25.341 | | | |
| 2,900.0 | 2,879.8 | 2,877.4 | 2,872.9 | 7.3 | 5.5 | -145.40 | 168.6 | -36.2 | 290.3 | 279.0 | 11.32 | 25.650 | | | |
| 3,000.0 | 2,978.8 | 2,976.4 | 2,971.7 | 7.6 | 5.8 | -145.71 | 175.0 | -38.1 | 304.3 | 292.6 | 11.73 | 25.939 | | | |
| 3,100.0 | 3,077.8 | 3,075.4 | 3,070.5 | 7.9 | 6.0 | -145.99 | 181.5 | -40.1 | 318.3 | 306.1 | 12.14 | 26.208 | | | |
| 3,200.0 | 3,176.8 | 3,174.5 | 3,169.3 | 8.2 | 6.2 | -146.25 | 187.9 | -42.0 | 332.3 | 319.7 | 12.56 | 26.460 | | | |
| 3,300.0 | 3,275.8 | 3,273.5 | 3,268.1 | 8.5 | 6.4 | -146.48 | 194.3 | -43.9 | 346.2 | 333.3 | 12.97 | 26.696 | | | |
| 3,400.0 | 3,374.8 | 3,372.5 | 3,366.8 | 8.8 | 6.6 | -146.70 | 200.7 | -45.9 | 360.2 | 346.9 | 13.38 | 26.917 | | | |
| 3,500.0 | 3,473.8 | 3,471.5 | 3,465.6 | 9.1 | 6.8 | -146.91 | 207.2 | -47.8 | 374.2 | 360.5 | 13.80 | 27.125 | | | |
| 3,600.0 | 3,572.8 | 3,570.5 | 3,564.4 | 9.4 | 7.0 | -147.09 | 213.6 | -49.8 | 388.3 | 374.0 | 14.21 | 27.322 | | | |
| 3,700.0 | 3,671.8 | 3,669.5 | 3,663.2 | 9.7 | 7.2 | -147.27 | 220.0 | -51.7 | 402.3 | 387.6 | 14.62 | 27.507 | | | |
| 3,800.0 | 3,770.8 | 3,768.5 | 3,762.0 | 10.0 | 7.4 | -147.43 | 226.4 | -53.7 | 416.3 | 401.2 | 15.04 | 27.682 | | | |
| 3,900.0 | 3,869.8 | 3,867.5 | 3,860.7 | 10.3 | 7.6 | -147.58 | 232.9 | -55.6 | 430.3 | 414.8 | 15.45 | 27.848 | | | |
| 4,000.0 | 3,968.8 | 3,966.5 | 3,959.5 | 10.6 | 7.8 | -147.73 | 239.3 | -57.6 | 444.3 | 428.4 | 15.87 | 28.005 | | | |
| 4,100.0 | 4,067.8 | 4,065.5 | 4,058.3 | 10.9 | 8.0 | -147.86 | 245.7 | -59.5 | 458.3 | 442.1 | 16.28 | 28.154 | | | |
| 4,200.0 | 4,166.8 | 4,164.5 | 4,157.1 | 11.2 | 8.2 | -147.99 | 252.2 | -61.5 | 472.4 | 455.7 | 16.69 | 28.296 | | | |
| 4,300.0 | 4,265.8 | 4,263.5 | 4,255.8 | 11.5 | 8.4 | -148.10 | 258.6 | -63.4 | 486.4 | 469.3 | 17.11 | 28.431 | | | |
| 4,400.0 | 4,364.8 | 4,362.5 | 4,354.6 | 11.8 | 8.7 | -148.22 | 265.0 | -65.4 | 500.4 | 482.9 | 17.52 | 28.560 | | | |
| 4,500.0 | 4,463.8 | 4,461.5 | 4,453.4 | 12.1 | 8.9 | -148.32 | 271.4 | -67.3 | 514.4 | 496.5 | 17.94 | 28.683 | | | |
| 4,600.0 | 4,562.8 | 4,560.5 | 4,552.2 | 12.4 | 9.1 | -148.42 | 277.9 | -69.3 | 528.5 | 510.1 | 18.35 | 28.800 | | | |
| 4,700.0 | 4,661.8 | 4,659.6 | 4,651.0 | 12.7 | 9.3 | -148.52 | 284.3 | -71.2 | 542.5 | 523.7 | 18.76 | 28.912 | | | |
| 4,800.0 | 4,760.8 | 4,758.6 | 4,749.7 | 13.0 | 9.5 | -148.61 | 290.7 | -73.2 | 556.5 | 537.4 | 19.18 | 29.019 | | | |
| 4,900.0 | 4,859.8 | 4,857.6 | 4,848.5 | 13.3 | 9.7 | -148.69 | 297.1 | -75.1 | 570.6 | 551.0 | 19.59 | 29.122 | | | |
| 5,000.0 | 4,958.8 | 4,956.6 | 4,947.3 | 13.7 | 9.9 | -148.78 | 303.6 | -77.0 | 584.6 | 564.6 | 20.01 | 29.220 | | | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|--|
| Company: | Bonanza Creek Energy Operating Company, LLC | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Project: | Weld County | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Reference Site: | State 70 Holes F-4 Pad | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design State 70 Holes F-4 Pad - State Seventy Holes F-J-4HNB - OH - Plan #1 | | | | | | | | | | | | | Offset Site Error: 0.0 ft | |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|---------------------------|--|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: 0.0 ft | |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | |
| 5,100.0 | 5,057.8 | 5,055.6 | 5,046.1 | 14.0 | 10.1 | -148.85 | 310.0 | -79.0 | 598.6 | 578.2 | 20.42 | 29.315 | | |
| 5,200.0 | 5,156.8 | 5,154.6 | 5,144.9 | 14.3 | 10.3 | -148.93 | 316.4 | -80.9 | 612.7 | 591.8 | 20.84 | 29.405 | | |
| 5,300.0 | 5,255.8 | 5,253.6 | 5,243.6 | 14.6 | 10.5 | -149.00 | 322.8 | -82.9 | 626.7 | 605.5 | 21.25 | 29.492 | | |
| 5,400.0 | 5,355.1 | 5,352.8 | 5,342.6 | 14.8 | 10.7 | -149.12 | 329.3 | -84.8 | 639.2 | 617.5 | 21.67 | 29.492 | | |
| 5,500.0 | 5,454.7 | 5,452.3 | 5,441.9 | 15.0 | 10.9 | -149.04 | 335.7 | -86.8 | 648.7 | 626.6 | 22.09 | 29.374 | | |
| 5,600.0 | 5,554.5 | 5,557.7 | 5,547.1 | 15.2 | 11.1 | -148.86 | 341.4 | -88.5 | 654.9 | 632.5 | 22.47 | 29.152 | | |
| 5,700.0 | 5,654.5 | 5,664.9 | 5,654.3 | 15.3 | 11.3 | -148.79 | 343.4 | -89.1 | 657.1 | 634.3 | 22.79 | 28.839 | | |
| 5,800.0 | 5,754.4 | 5,768.9 | 5,758.2 | 15.4 | 11.4 | 93.43 | 340.9 | -89.0 | 657.1 | 634.1 | 23.02 | 28.548 | | |
| 5,900.0 | 5,852.5 | 5,876.7 | 5,863.6 | 15.4 | 11.4 | 93.29 | 319.4 | -87.8 | 657.0 | 634.1 | 22.92 | 28.663 | | |
| 6,000.0 | 5,945.3 | 5,984.0 | 5,961.9 | 15.3 | 11.2 | 93.03 | 277.0 | -85.6 | 656.9 | 634.3 | 22.59 | 29.084 | | |
| 6,100.0 | 6,029.3 | 6,090.4 | 6,048.8 | 15.1 | 11.1 | 92.65 | 215.9 | -82.3 | 656.8 | 634.6 | 22.18 | 29.615 | | |
| 6,200.0 | 6,101.5 | 6,195.7 | 6,120.8 | 15.0 | 11.0 | 92.17 | 139.4 | -78.3 | 656.7 | 634.8 | 21.90 | 29.986 | | |
| 6,300.0 | 6,159.2 | 6,299.8 | 6,175.4 | 15.1 | 11.0 | 91.61 | 51.2 | -73.6 | 656.6 | 634.6 | 21.95 | 29.906 | | |
| 6,386.0 | 6,195.6 | 6,388.1 | 6,207.2 | 15.2 | 11.3 | 91.08 | -31.0 | -69.2 | 656.5 | 634.1 | 22.40 | 29.308 | | |
| 6,400.0 | 6,200.3 | 6,402.3 | 6,211.0 | 15.2 | 11.4 | 90.99 | -44.7 | -68.4 | 656.5 | 634.1 | 22.49 | 29.188 | | |
| 6,500.0 | 6,227.3 | 6,502.4 | 6,236.9 | 15.6 | 11.9 | 90.89 | -141.2 | -63.3 | 656.7 | 633.2 | 23.51 | 27.928 | | |
| 6,600.0 | 6,249.1 | 6,603.6 | 6,252.9 | 16.1 | 12.7 | 90.34 | -240.8 | -58.0 | 656.7 | 631.7 | 25.00 | 26.268 | | |
| 6,700.0 | 6,254.0 | 6,703.6 | 6,254.0 | 16.8 | 13.7 | 90.00 | -340.7 | -52.7 | 656.9 | 630.0 | 26.87 | 24.444 | | |
| 6,800.0 | 6,254.0 | 6,803.6 | 6,254.0 | 17.6 | 14.8 | 90.00 | -440.6 | -47.4 | 657.0 | 628.0 | 29.05 | 22.618 | | |
| 6,900.0 | 6,254.0 | 6,903.6 | 6,254.0 | 18.6 | 16.0 | 90.00 | -540.4 | -42.0 | 657.1 | 625.7 | 31.47 | 20.884 | | |
| 7,000.0 | 6,254.0 | 7,003.6 | 6,254.0 | 19.7 | 17.3 | 90.00 | -640.3 | -36.7 | 657.3 | 623.2 | 34.08 | 19.288 | | |
| 7,100.0 | 6,254.0 | 7,103.6 | 6,254.0 | 20.9 | 18.7 | 90.00 | -740.1 | -31.4 | 657.4 | 620.6 | 36.84 | 17.847 | | |
| 7,200.0 | 6,254.0 | 7,203.6 | 6,254.0 | 22.1 | 20.2 | 90.00 | -840.0 | -26.1 | 657.6 | 617.9 | 39.72 | 16.556 | | |
| 7,300.0 | 6,254.0 | 7,303.6 | 6,254.0 | 23.4 | 21.7 | 90.00 | -939.9 | -20.8 | 657.7 | 615.0 | 42.69 | 15.406 | | |
| 7,400.0 | 6,254.0 | 7,403.6 | 6,254.0 | 24.8 | 23.2 | 90.00 | -1,039.7 | -15.4 | 657.9 | 612.1 | 45.74 | 14.382 | | |
| 7,500.0 | 6,254.0 | 7,503.6 | 6,254.0 | 26.2 | 24.8 | 90.00 | -1,139.6 | -10.1 | 658.0 | 609.1 | 48.86 | 13.468 | | |
| 7,600.0 | 6,254.0 | 7,603.6 | 6,254.0 | 27.7 | 26.3 | 90.00 | -1,239.4 | -4.8 | 658.1 | 606.1 | 52.02 | 12.652 | | |
| 7,700.0 | 6,254.0 | 7,703.6 | 6,254.0 | 29.2 | 28.0 | 90.00 | -1,339.3 | 0.5 | 658.3 | 603.0 | 55.23 | 11.920 | | |
| 7,800.0 | 6,254.0 | 7,803.6 | 6,254.0 | 30.7 | 29.6 | 90.00 | -1,439.1 | 5.8 | 658.4 | 599.9 | 58.47 | 11.261 | | |
| 7,900.0 | 6,254.0 | 7,903.6 | 6,254.0 | 32.2 | 31.2 | 90.00 | -1,539.0 | 11.2 | 658.6 | 596.8 | 61.74 | 10.667 | | |
| 8,000.0 | 6,254.0 | 8,003.6 | 6,254.0 | 33.8 | 32.9 | 90.00 | -1,638.9 | 16.5 | 658.7 | 593.7 | 65.04 | 10.128 | | |
| 8,100.0 | 6,254.0 | 8,103.6 | 6,254.0 | 35.4 | 34.5 | 90.00 | -1,738.7 | 21.8 | 658.8 | 590.5 | 68.35 | 9.639 | | |
| 8,200.0 | 6,254.0 | 8,203.6 | 6,254.0 | 37.0 | 36.2 | 90.00 | -1,838.6 | 27.1 | 659.0 | 587.3 | 71.69 | 9.192 | | |
| 8,300.0 | 6,254.0 | 8,303.6 | 6,254.0 | 38.6 | 37.9 | 90.00 | -1,938.4 | 32.4 | 659.1 | 584.1 | 75.04 | 8.783 | | |
| 8,400.0 | 6,254.0 | 8,403.6 | 6,254.0 | 40.2 | 39.6 | 90.00 | -2,038.3 | 37.8 | 659.3 | 580.8 | 78.41 | 8.408 | | |
| 8,500.0 | 6,254.0 | 8,503.6 | 6,254.0 | 41.9 | 41.2 | 90.00 | -2,138.2 | 43.1 | 659.4 | 577.6 | 81.79 | 8.062 | | |
| 8,600.0 | 6,254.0 | 8,603.6 | 6,254.0 | 43.5 | 42.9 | 90.00 | -2,238.0 | 48.4 | 659.5 | 574.4 | 85.18 | 7.743 | | |
| 8,700.0 | 6,254.0 | 8,703.6 | 6,254.0 | 45.2 | 44.6 | 90.00 | -2,337.9 | 53.7 | 659.7 | 571.1 | 88.58 | 7.447 | | |
| 8,800.0 | 6,254.0 | 8,803.6 | 6,254.0 | 46.8 | 46.3 | 90.00 | -2,437.7 | 59.0 | 659.8 | 567.8 | 91.99 | 7.173 | | |
| 8,900.0 | 6,254.0 | 8,903.6 | 6,254.0 | 48.5 | 48.1 | 90.00 | -2,537.6 | 64.4 | 660.0 | 564.6 | 95.40 | 6.918 | | |
| 9,000.0 | 6,254.0 | 9,003.6 | 6,254.0 | 50.2 | 49.8 | 90.00 | -2,637.4 | 69.7 | 660.1 | 561.3 | 98.83 | 6.679 | | |
| 9,100.0 | 6,254.0 | 9,103.6 | 6,254.0 | 51.8 | 51.5 | 90.00 | -2,737.3 | 75.0 | 660.2 | 558.0 | 102.26 | 6.457 | | |
| 9,200.0 | 6,254.0 | 9,203.6 | 6,254.0 | 53.5 | 53.2 | 90.00 | -2,837.2 | 80.3 | 660.4 | 554.7 | 105.69 | 6.248 | | |
| 9,300.0 | 6,254.0 | 9,303.6 | 6,254.0 | 55.2 | 54.9 | 90.00 | -2,937.0 | 85.6 | 660.5 | 551.4 | 109.13 | 6.053 | | |
| 9,400.0 | 6,254.0 | 9,403.6 | 6,254.0 | 56.9 | 56.6 | 90.00 | -3,036.9 | 91.0 | 660.7 | 548.1 | 112.57 | 5.869 | | |
| 9,500.0 | 6,254.0 | 9,503.6 | 6,254.0 | 58.6 | 58.4 | 90.00 | -3,136.7 | 96.3 | 660.8 | 544.8 | 116.02 | 5.696 | | |
| 9,600.0 | 6,254.0 | 9,603.6 | 6,254.0 | 60.3 | 60.1 | 90.00 | -3,236.6 | 101.6 | 660.9 | 541.5 | 119.47 | 5.532 | | |
| 9,700.0 | 6,254.0 | 9,703.6 | 6,254.0 | 62.0 | 61.8 | 90.00 | -3,336.5 | 106.9 | 661.1 | 538.2 | 122.93 | 5.378 | | |
| 9,800.0 | 6,254.0 | 9,803.6 | 6,254.0 | 63.7 | 63.5 | 90.00 | -3,436.3 | 112.2 | 661.2 | 534.8 | 126.39 | 5.232 | | |
| 9,900.0 | 6,254.0 | 9,903.6 | 6,254.0 | 65.4 | 65.3 | 90.00 | -3,536.2 | 117.5 | 661.4 | 531.5 | 129.85 | 5.093 | | |
| 10,000.0 | 6,254.0 | 10,003.6 | 6,254.0 | 67.1 | 67.0 | 90.00 | -3,636.0 | 122.9 | 661.5 | 528.2 | 133.31 | 4.962 | | |
| 10,100.0 | 6,254.0 | 10,103.6 | 6,254.0 | 68.8 | 68.7 | 90.00 | -3,735.9 | 128.2 | 661.6 | 524.9 | 136.78 | 4.837 | | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|--|
| Company: | Bonanza Creek Energy Operating Company, LLC | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Project: | Weld County | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Reference Site: | State 70 Holes F-4 Pad | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | State 70 Holes F-4 Pad - State Seventy Holes F-J-4HNB - OH - Plan #1 | | | | | | | | | | | Offset Site Error: | | 0.0 ft | | | |
|---------------------------------|---------------------------|--|---------------------------|-------------------|----------------|-----------------------------|---|---------------|----------------------------|-----------------------------|------------------------------|----------------------|--------------------|--|--------------------|--|--------|--|
| Survey Program: | | 0-MWD | | | | | | | | | | | | | Offset Well Error: | | 0.0 ft | |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | | | | | | |
| Measured Depth Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | Warning | | | | | |
| 10,200.0 | 6,254.0 | 10,203.6 | 6,254.0 | 70.5 | 70.5 | 90.00 | -3,835.7 | 133.5 | 661.8 | 521.5 | 140.25 | 4.719 | | | | | | |
| 10,300.0 | 6,254.0 | 10,303.6 | 6,254.0 | 72.3 | 72.2 | 90.00 | -3,935.6 | 138.8 | 661.9 | 518.2 | 143.72 | 4.606 | | | | | | |
| 10,400.0 | 6,254.0 | 10,403.6 | 6,254.0 | 74.0 | 73.9 | 90.00 | -4,035.5 | 144.1 | 662.1 | 514.9 | 147.19 | 4.498 | | | | | | |
| 10,500.0 | 6,254.0 | 10,503.6 | 6,254.0 | 75.7 | 75.7 | 90.00 | -4,135.3 | 149.5 | 662.2 | 511.5 | 150.67 | 4.395 | | | | | | |
| 10,600.0 | 6,254.0 | 10,603.6 | 6,254.0 | 77.4 | 77.4 | 90.00 | -4,235.2 | 154.8 | 662.3 | 508.2 | 154.14 | 4.297 | | | | | | |
| 10,700.0 | 6,254.0 | 10,703.6 | 6,254.0 | 79.1 | 79.2 | 90.00 | -4,335.0 | 160.1 | 662.5 | 504.9 | 157.62 | 4.203 | | | | | | |
| 10,800.0 | 6,254.0 | 10,803.6 | 6,254.0 | 80.9 | 80.9 | 90.00 | -4,434.9 | 165.4 | 662.6 | 501.5 | 161.10 | 4.113 | | | | | | |
| 10,900.0 | 6,254.0 | 10,903.6 | 6,254.0 | 82.6 | 82.6 | 90.00 | -4,534.8 | 170.7 | 662.8 | 498.2 | 164.58 | 4.027 | | | | | | |
| 10,950.8 | 6,254.0 | 10,954.4 | 6,254.0 | 83.5 | 83.5 | 90.00 | -4,585.5 | 173.4 | 662.8 | 496.5 | 166.35 | 3.985 | | | | | | |
| 11,000.0 | 6,254.0 | 10,995.5 | 6,254.0 | 84.3 | 84.2 | 90.00 | -4,626.5 | 175.6 | 663.0 | 495.0 | 167.92 | 3.948 | | | | | | |
| 11,019.9 | 6,254.0 | 10,995.5 | 6,254.0 | 84.7 | 84.2 | 90.00 | -4,626.5 | 175.6 | 663.5 | 495.3 | 168.27 | 3.943 SF | | | | | | |

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|--|
| Company: | Bonanza Creek Energy Operating Company, LLC | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Project: | Weld County | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Reference Site: | State 70 Holes F-4 Pad | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design State 70 Holes F-4 Pad - State Seventy Holes K21-024-4HNB - OH - Plan #1 | | | | | | | | | | | | | Offset Site Error: 0.0 ft | |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|---------------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: 0.0 ft | |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | | Warning |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -180.00 | -18.2 | 0.0 | 18.2 | | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -180.00 | -18.2 | 0.0 | 18.2 | 17.9 | 0.30 | 61.403 | | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -180.00 | -18.2 | 0.0 | 18.2 | 17.6 | 0.65 | 28.212 | | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | -180.00 | -18.2 | 0.0 | 18.2 | 17.2 | 0.99 | 18.313 | | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.7 | 0.7 | -180.00 | -18.2 | 0.0 | 18.2 | 16.9 | 1.34 | 13.557 | | |
| 500.0 | 500.0 | 500.0 | 500.0 | 0.8 | 0.8 | -180.00 | -18.2 | 0.0 | 18.2 | 16.5 | 1.69 | 10.761 | | |
| 600.0 | 600.0 | 600.2 | 600.2 | 1.0 | 1.0 | 174.71 | -17.6 | 1.6 | 17.6 | 15.6 | 2.04 | 8.637 | | |
| 680.0 | 680.0 | 680.2 | 680.1 | 1.2 | 1.2 | 106.43 | -16.1 | 5.3 | 17.2 | 14.9 | 2.33 | 7.389 CC | | |
| 700.0 | 700.0 | 700.2 | 700.1 | 1.2 | 1.2 | 104.06 | -15.6 | 6.5 | 17.3 | 14.9 | 2.41 | 7.176 ES | | |
| 800.0 | 799.8 | 800.2 | 799.6 | 1.4 | 1.4 | 92.55 | -12.4 | 14.6 | 18.2 | 15.4 | 2.80 | 6.490 | | |
| 900.0 | 899.5 | 900.0 | 898.7 | 1.6 | 1.7 | 82.81 | -7.9 | 25.9 | 20.3 | 17.0 | 3.24 | 6.258 | | |
| 1,000.0 | 998.7 | 999.6 | 997.1 | 1.8 | 1.9 | 75.54 | -2.2 | 40.4 | 23.4 | 19.6 | 3.73 | 6.259 | | |
| 1,100.0 | 1,097.7 | 1,099.0 | 1,094.7 | 2.1 | 2.3 | 67.53 | 4.8 | 58.0 | 27.8 | 23.5 | 4.24 | 6.558 | | |
| 1,200.0 | 1,196.7 | 1,198.8 | 1,192.3 | 2.3 | 2.6 | 59.52 | 12.5 | 77.2 | 33.7 | 29.0 | 4.70 | 7.157 | | |
| 1,300.0 | 1,295.7 | 1,298.5 | 1,289.8 | 2.6 | 3.0 | 53.96 | 20.1 | 96.4 | 40.0 | 34.8 | 5.15 | 7.767 | | |
| 1,400.0 | 1,394.7 | 1,398.3 | 1,387.4 | 2.9 | 3.4 | 49.94 | 27.7 | 115.6 | 46.6 | 41.0 | 5.58 | 8.343 | | |
| 1,500.0 | 1,493.7 | 1,498.0 | 1,485.0 | 3.2 | 3.8 | 46.93 | 35.3 | 134.8 | 53.3 | 47.3 | 6.01 | 8.874 | | |
| 1,600.0 | 1,592.7 | 1,597.7 | 1,582.6 | 3.5 | 4.2 | 44.60 | 43.0 | 154.0 | 60.2 | 53.8 | 6.44 | 9.358 | | |
| 1,700.0 | 1,691.7 | 1,697.5 | 1,680.1 | 3.8 | 4.6 | 42.75 | 50.6 | 173.1 | 67.2 | 60.3 | 6.86 | 9.797 | | |
| 1,800.0 | 1,790.7 | 1,797.2 | 1,777.7 | 4.1 | 4.9 | 41.25 | 58.2 | 192.3 | 74.2 | 66.9 | 7.28 | 10.194 | | |
| 1,900.0 | 1,889.7 | 1,896.9 | 1,875.3 | 4.3 | 5.3 | 40.01 | 65.8 | 211.5 | 81.3 | 73.6 | 7.70 | 10.555 | | |
| 2,000.0 | 1,988.7 | 1,996.7 | 1,972.9 | 4.6 | 5.7 | 38.97 | 73.5 | 230.7 | 88.4 | 80.2 | 8.12 | 10.884 | | |
| 2,100.0 | 2,087.7 | 2,096.4 | 2,070.4 | 4.9 | 6.1 | 38.08 | 81.1 | 249.9 | 95.5 | 86.9 | 8.54 | 11.184 | | |
| 2,200.0 | 2,186.7 | 2,196.1 | 2,168.0 | 5.2 | 6.5 | 37.32 | 88.7 | 269.1 | 102.6 | 93.7 | 8.96 | 11.459 | | |
| 2,300.0 | 2,285.7 | 2,295.9 | 2,265.6 | 5.5 | 6.9 | 36.65 | 96.3 | 288.3 | 109.8 | 100.4 | 9.37 | 11.711 | | |
| 2,400.0 | 2,384.7 | 2,395.6 | 2,363.2 | 5.8 | 7.3 | 36.07 | 104.0 | 307.5 | 116.9 | 107.1 | 9.79 | 11.943 | | |
| 2,500.0 | 2,483.7 | 2,495.4 | 2,460.7 | 6.1 | 7.7 | 35.55 | 111.6 | 326.7 | 124.1 | 113.9 | 10.21 | 12.157 | | |
| 2,600.0 | 2,582.7 | 2,595.1 | 2,558.3 | 6.4 | 8.1 | 35.10 | 119.2 | 345.9 | 131.3 | 120.7 | 10.63 | 12.356 | | |
| 2,700.0 | 2,681.7 | 2,694.8 | 2,655.9 | 6.7 | 8.5 | 34.68 | 126.9 | 365.1 | 138.5 | 127.5 | 11.04 | 12.540 | | |
| 2,800.0 | 2,780.8 | 2,794.6 | 2,753.5 | 7.0 | 8.9 | 34.31 | 134.5 | 384.3 | 145.7 | 134.2 | 11.46 | 12.712 | | |
| 2,900.0 | 2,879.8 | 2,894.3 | 2,851.0 | 7.3 | 9.4 | 33.98 | 142.1 | 403.5 | 152.9 | 141.0 | 11.88 | 12.872 | | |
| 3,000.0 | 2,978.8 | 2,994.0 | 2,948.6 | 7.6 | 9.8 | 33.67 | 149.7 | 422.7 | 160.1 | 147.8 | 12.30 | 13.022 | | |
| 3,100.0 | 3,077.8 | 3,093.8 | 3,046.2 | 7.9 | 10.2 | 33.39 | 157.4 | 441.8 | 167.3 | 154.6 | 12.71 | 13.162 | | |
| 3,200.0 | 3,176.8 | 3,193.5 | 3,143.8 | 8.2 | 10.6 | 33.14 | 165.0 | 461.0 | 174.5 | 161.4 | 13.13 | 13.293 | | |
| 3,300.0 | 3,275.8 | 3,293.2 | 3,241.3 | 8.5 | 11.0 | 32.90 | 172.6 | 480.2 | 181.8 | 168.2 | 13.55 | 13.417 | | |
| 3,400.0 | 3,374.8 | 3,393.0 | 3,338.9 | 8.8 | 11.4 | 32.68 | 180.2 | 499.4 | 189.0 | 175.0 | 13.96 | 13.534 | | |
| 3,500.0 | 3,473.8 | 3,492.7 | 3,436.5 | 9.1 | 11.8 | 32.48 | 187.9 | 518.6 | 196.2 | 181.8 | 14.38 | 13.644 | | |
| 3,600.0 | 3,572.8 | 3,592.5 | 3,534.1 | 9.4 | 12.2 | 32.29 | 195.5 | 537.8 | 203.4 | 188.6 | 14.80 | 13.748 | | |
| 3,700.0 | 3,671.8 | 3,692.2 | 3,631.6 | 9.7 | 12.6 | 32.12 | 203.1 | 557.0 | 210.7 | 195.5 | 15.21 | 13.846 | | |
| 3,800.0 | 3,770.8 | 3,791.9 | 3,729.2 | 10.0 | 13.0 | 31.96 | 210.7 | 576.2 | 217.9 | 202.3 | 15.63 | 13.940 | | |
| 3,900.0 | 3,869.8 | 3,891.7 | 3,826.8 | 10.3 | 13.4 | 31.80 | 218.4 | 595.4 | 225.1 | 209.1 | 16.05 | 14.028 | | |
| 4,000.0 | 3,968.8 | 3,991.4 | 3,924.4 | 10.6 | 13.8 | 31.66 | 226.0 | 614.6 | 232.4 | 215.9 | 16.47 | 14.112 | | |
| 4,100.0 | 4,067.8 | 4,091.1 | 4,021.9 | 10.9 | 14.2 | 31.53 | 233.6 | 633.8 | 239.6 | 222.7 | 16.88 | 14.193 | | |
| 4,200.0 | 4,166.8 | 4,190.9 | 4,119.5 | 11.2 | 14.6 | 31.40 | 241.2 | 653.0 | 246.8 | 229.5 | 17.30 | 14.269 | | |
| 4,300.0 | 4,265.8 | 4,290.6 | 4,217.1 | 11.5 | 15.0 | 31.28 | 248.9 | 672.2 | 254.1 | 236.4 | 17.72 | 14.342 | | |
| 4,400.0 | 4,364.8 | 4,390.3 | 4,314.6 | 11.8 | 15.4 | 31.17 | 256.5 | 691.4 | 261.3 | 243.2 | 18.13 | 14.411 | | |
| 4,500.0 | 4,463.8 | 4,490.1 | 4,412.2 | 12.1 | 15.8 | 31.06 | 264.1 | 710.5 | 268.6 | 250.0 | 18.55 | 14.478 | | |
| 4,600.0 | 4,562.8 | 4,589.8 | 4,509.8 | 12.4 | 16.2 | 30.96 | 271.8 | 729.7 | 275.8 | 256.8 | 18.97 | 14.541 | | |
| 4,700.0 | 4,661.8 | 4,689.6 | 4,607.4 | 12.7 | 16.6 | 30.86 | 279.4 | 748.9 | 283.0 | 263.7 | 19.38 | 14.602 | | |
| 4,800.0 | 4,760.8 | 4,789.3 | 4,704.9 | 13.0 | 17.0 | 30.77 | 287.0 | 768.1 | 290.3 | 270.5 | 19.80 | 14.661 | | |
| 4,900.0 | 4,859.8 | 4,889.0 | 4,802.5 | 13.3 | 17.4 | 30.69 | 294.6 | 787.3 | 297.5 | 277.3 | 20.22 | 14.717 | | |
| 5,000.0 | 4,958.8 | 4,988.8 | 4,900.1 | 13.7 | 17.8 | 30.60 | 302.3 | 806.5 | 304.8 | 284.1 | 20.63 | 14.770 | | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|--|
| Company: | Bonanza Creek Energy Operating Company, LLC | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Project: | Weld County | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Reference Site: | State 70 Holes F-4 Pad | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design State 70 Holes F-4 Pad - State Seventy Holes K21-024-4HNB - OH - Plan #1 | | | | | | | | | | | | | Offset Site Error: 0.0 ft | |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|-------------------|---------------------------|--|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: 0.0 ft | |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | |
| 5,100.0 | 5,057.8 | 5,088.5 | 4,997.7 | 14.0 | 18.3 | 30.52 | 309.9 | 825.7 | 312.0 | 291.0 | 21.05 | 14.822 | | |
| 5,200.0 | 5,156.8 | 5,191.9 | 5,098.9 | 14.3 | 18.7 | 30.46 | 317.7 | 845.4 | 319.1 | 297.6 | 21.48 | 14.857 | | |
| 5,300.0 | 5,255.8 | 5,303.5 | 5,208.7 | 14.6 | 19.0 | 30.61 | 325.0 | 863.6 | 323.4 | 301.4 | 21.95 | 14.730 | | |
| 5,400.0 | 5,355.1 | 5,415.2 | 5,319.4 | 14.8 | 19.3 | 30.88 | 330.6 | 877.9 | 325.6 | 303.2 | 22.41 | 14.529 | | |
| 5,500.0 | 5,454.7 | 5,527.0 | 5,430.7 | 15.0 | 19.6 | 31.07 | 334.7 | 888.1 | 327.2 | 304.4 | 22.81 | 14.344 | | |
| 5,600.0 | 5,554.5 | 5,638.9 | 5,542.3 | 15.2 | 19.7 | 31.18 | 337.1 | 894.3 | 328.2 | 305.0 | 23.15 | 14.174 | | |
| 5,700.0 | 5,654.5 | 5,750.8 | 5,654.2 | 15.3 | 19.8 | 31.22 | 338.0 | 896.4 | 328.5 | 305.1 | 23.44 | 14.014 | | |
| 5,800.0 | 5,754.4 | 5,850.0 | 5,753.3 | 15.4 | 19.9 | -86.56 | 336.0 | 896.6 | 328.5 | 304.8 | 23.66 | 13.883 | | |
| 5,841.2 | 5,795.3 | 5,889.1 | 5,792.1 | 15.4 | 19.9 | -86.59 | 331.1 | 896.8 | 328.5 | 304.9 | 23.63 | 13.903 | | |
| 5,900.0 | 5,852.5 | 5,945.7 | 5,847.4 | 15.4 | 19.9 | -86.68 | 318.8 | 897.5 | 328.5 | 304.9 | 23.53 | 13.961 | | |
| 6,000.0 | 5,945.3 | 6,042.3 | 5,937.4 | 15.3 | 19.8 | -86.91 | 284.4 | 899.4 | 328.4 | 305.3 | 23.12 | 14.202 | | |
| 6,100.0 | 6,029.3 | 6,139.1 | 6,019.8 | 15.1 | 19.7 | -87.26 | 233.9 | 902.2 | 328.3 | 305.7 | 22.61 | 14.523 | | |
| 6,200.0 | 6,101.5 | 6,236.3 | 6,091.7 | 15.0 | 19.7 | -87.71 | 168.8 | 905.8 | 328.3 | 306.1 | 22.19 | 14.795 | | |
| 6,300.0 | 6,159.2 | 6,334.1 | 6,150.5 | 15.1 | 19.7 | -88.23 | 91.0 | 910.1 | 328.2 | 306.2 | 22.08 | 14.869 | | |
| 6,400.0 | 6,200.3 | 6,432.4 | 6,193.9 | 15.2 | 19.7 | -88.83 | 3.1 | 915.0 | 328.2 | 305.8 | 22.44 | 14.626 | | |
| 6,402.8 | 6,201.2 | 6,435.2 | 6,194.9 | 15.2 | 19.8 | -88.84 | 0.5 | 915.1 | 328.2 | 305.7 | 22.46 | 14.615 | | |
| 6,500.0 | 6,227.3 | 6,531.8 | 6,222.3 | 15.6 | 20.0 | -89.11 | -92.0 | 920.3 | 328.2 | 304.9 | 23.31 | 14.083 | | |
| 6,600.0 | 6,249.1 | 6,631.4 | 6,246.1 | 16.1 | 20.4 | -89.47 | -188.5 | 925.6 | 328.3 | 303.6 | 24.64 | 13.322 | | |
| 6,700.0 | 6,254.0 | 6,731.1 | 6,254.0 | 16.8 | 20.9 | -90.00 | -287.6 | 931.1 | 328.3 | 301.9 | 26.39 | 12.439 | | |
| 6,800.0 | 6,254.0 | 6,831.1 | 6,254.0 | 17.6 | 21.5 | -90.00 | -387.4 | 936.6 | 328.4 | 299.9 | 28.49 | 11.527 | | |
| 6,900.0 | 6,254.0 | 6,931.1 | 6,254.0 | 18.6 | 22.3 | -90.00 | -487.3 | 942.2 | 328.5 | 297.6 | 30.83 | 10.653 | | |
| 7,000.0 | 6,254.0 | 7,031.1 | 6,254.0 | 19.7 | 23.2 | -90.00 | -587.1 | 947.7 | 328.6 | 295.2 | 33.38 | 9.841 | | |
| 7,100.0 | 6,254.0 | 7,131.1 | 6,254.0 | 20.9 | 24.2 | -90.00 | -687.0 | 953.2 | 328.6 | 292.5 | 36.10 | 9.104 | | |
| 7,200.0 | 6,254.0 | 7,231.1 | 6,254.0 | 22.1 | 25.2 | -90.00 | -786.8 | 958.8 | 328.7 | 289.8 | 38.94 | 8.442 | | |
| 7,300.0 | 6,254.0 | 7,331.1 | 6,254.0 | 23.4 | 26.4 | -90.00 | -886.7 | 964.3 | 328.8 | 286.9 | 41.88 | 7.850 | | |
| 7,400.0 | 6,254.0 | 7,431.1 | 6,254.0 | 24.8 | 27.6 | -90.00 | -986.5 | 969.8 | 328.8 | 283.9 | 44.91 | 7.323 | | |
| 7,500.0 | 6,254.0 | 7,531.1 | 6,254.0 | 26.2 | 28.8 | -90.00 | -1,086.4 | 975.4 | 328.9 | 280.9 | 48.00 | 6.853 | | |
| 7,600.0 | 6,254.0 | 7,631.1 | 6,254.0 | 27.7 | 30.1 | -90.00 | -1,186.2 | 980.9 | 329.0 | 277.8 | 51.15 | 6.432 | | |
| 7,700.0 | 6,254.0 | 7,731.1 | 6,254.0 | 29.2 | 31.5 | -90.00 | -1,286.1 | 986.4 | 329.1 | 274.7 | 54.34 | 6.056 | | |
| 7,800.0 | 6,254.0 | 7,831.1 | 6,254.0 | 30.7 | 32.9 | -90.00 | -1,385.9 | 991.9 | 329.1 | 271.6 | 57.57 | 5.717 | | |
| 7,900.0 | 6,254.0 | 7,931.1 | 6,254.0 | 32.2 | 34.3 | -90.00 | -1,485.8 | 997.5 | 329.2 | 268.4 | 60.83 | 5.412 | | |
| 8,000.0 | 6,254.0 | 8,031.1 | 6,254.0 | 33.8 | 35.8 | -90.00 | -1,585.6 | 1,003.0 | 329.3 | 265.2 | 64.11 | 5.136 | | |
| 8,100.0 | 6,254.0 | 8,131.1 | 6,254.0 | 35.4 | 37.3 | -90.00 | -1,685.5 | 1,008.5 | 329.3 | 261.9 | 67.42 | 4.885 | | |
| 8,200.0 | 6,254.0 | 8,231.1 | 6,254.0 | 37.0 | 38.8 | -90.00 | -1,785.3 | 1,014.1 | 329.4 | 258.7 | 70.75 | 4.656 | | |
| 8,300.0 | 6,254.0 | 8,331.1 | 6,254.0 | 38.6 | 40.3 | -90.00 | -1,885.1 | 1,019.6 | 329.5 | 255.4 | 74.10 | 4.447 | | |
| 8,400.0 | 6,254.0 | 8,431.1 | 6,254.0 | 40.2 | 41.8 | -90.00 | -1,985.0 | 1,025.1 | 329.6 | 252.1 | 77.46 | 4.254 | | |
| 8,500.0 | 6,254.0 | 8,531.1 | 6,254.0 | 41.9 | 43.4 | -90.00 | -2,084.8 | 1,030.7 | 329.6 | 248.8 | 80.84 | 4.078 | | |
| 8,600.0 | 6,254.0 | 8,631.1 | 6,254.0 | 43.5 | 45.0 | -90.00 | -2,184.7 | 1,036.2 | 329.7 | 245.5 | 84.22 | 3.915 | | |
| 8,700.0 | 6,254.0 | 8,731.1 | 6,254.0 | 45.2 | 46.6 | -90.00 | -2,284.5 | 1,041.7 | 329.8 | 242.2 | 87.62 | 3.764 | | |
| 8,800.0 | 6,254.0 | 8,831.1 | 6,254.0 | 46.8 | 48.2 | -90.00 | -2,384.4 | 1,047.3 | 329.8 | 238.8 | 91.02 | 3.624 | | |
| 8,900.0 | 6,254.0 | 8,931.1 | 6,254.0 | 48.5 | 49.8 | -90.00 | -2,484.2 | 1,052.8 | 329.9 | 235.5 | 94.44 | 3.494 | | |
| 9,000.0 | 6,254.0 | 9,031.1 | 6,254.0 | 50.2 | 51.4 | -90.00 | -2,584.1 | 1,058.3 | 330.0 | 232.1 | 97.85 | 3.372 | | |
| 9,100.0 | 6,254.0 | 9,131.1 | 6,254.0 | 51.8 | 53.0 | -90.00 | -2,683.9 | 1,063.9 | 330.1 | 228.8 | 101.28 | 3.259 | | |
| 9,200.0 | 6,254.0 | 9,231.1 | 6,254.0 | 53.5 | 54.7 | -90.00 | -2,783.8 | 1,069.4 | 330.1 | 225.4 | 104.71 | 3.153 | | |
| 9,300.0 | 6,254.0 | 9,331.1 | 6,254.0 | 55.2 | 56.3 | -90.00 | -2,883.6 | 1,074.9 | 330.2 | 222.1 | 108.15 | 3.053 | | |
| 9,400.0 | 6,254.0 | 9,431.1 | 6,254.0 | 56.9 | 57.9 | -90.00 | -2,983.5 | 1,080.4 | 330.3 | 218.7 | 111.59 | 2.960 | | |
| 9,500.0 | 6,254.0 | 9,531.1 | 6,254.0 | 58.6 | 59.6 | -90.00 | -3,083.3 | 1,086.0 | 330.3 | 215.3 | 115.04 | 2.872 | | |
| 9,600.0 | 6,254.0 | 9,631.1 | 6,254.0 | 60.3 | 61.3 | -90.00 | -3,183.2 | 1,091.5 | 330.4 | 211.9 | 118.49 | 2.789 | | |
| 9,700.0 | 6,254.0 | 9,731.1 | 6,254.0 | 62.0 | 62.9 | -90.00 | -3,283.0 | 1,097.0 | 330.5 | 208.5 | 121.94 | 2.710 | | |
| 9,800.0 | 6,254.0 | 9,831.1 | 6,254.0 | 63.7 | 64.6 | -90.00 | -3,382.9 | 1,102.6 | 330.6 | 205.2 | 125.40 | 2.636 | | |
| 9,900.0 | 6,254.0 | 9,931.1 | 6,254.0 | 65.4 | 66.3 | -90.00 | -3,482.7 | 1,108.1 | 330.6 | 201.8 | 128.86 | 2.566 | | |
| 10,000.0 | 6,254.0 | 10,031.1 | 6,254.0 | 67.1 | 68.0 | -90.00 | -3,582.5 | 1,113.6 | 330.7 | 198.4 | 132.32 | 2.499 | | |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|--|
| Company: | Bonanza Creek Energy Operating Company, LLC | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Project: | Weld County | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Reference Site: | State 70 Holes F-4 Pad | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | State 70 Holes F-4 Pad - State Seventy Holes K21-024-4HNB - OH - Plan #1 | | Offset Site Error: | | 0.0 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|------------------------|--|--|--------------------|--|--------|
| Survey Program: 0-MWD | | | | | | | | | | | | | | Offset Well Error: | | 0.0 ft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | | Warning | | |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Total Uncertainty Axis | Separation Factor | | | | |
| 10,100.0 | 6,254.0 | 10,131.1 | 6,254.0 | 68.8 | 69.6 | -90.00 | -3,682.4 | 1,119.2 | 330.8 | 195.0 | 135.79 | 2.436 | | | | |
| 10,200.0 | 6,254.0 | 10,231.1 | 6,254.0 | 70.5 | 71.3 | -90.00 | -3,782.2 | 1,124.7 | 330.9 | 191.6 | 139.26 | 2.376 | | | | |
| 10,300.0 | 6,254.0 | 10,331.1 | 6,254.0 | 72.3 | 73.0 | -90.00 | -3,882.1 | 1,130.2 | 330.9 | 188.2 | 142.73 | 2.319 | | | | |
| 10,400.0 | 6,254.0 | 10,431.1 | 6,254.0 | 74.0 | 74.7 | -90.00 | -3,981.9 | 1,135.8 | 331.0 | 184.8 | 146.20 | 2.264 | | | | |
| 10,500.0 | 6,254.0 | 10,531.1 | 6,254.0 | 75.7 | 76.4 | -90.00 | -4,081.8 | 1,141.3 | 331.1 | 181.4 | 149.67 | 2.212 | | | | |
| 10,600.0 | 6,254.0 | 10,631.1 | 6,254.0 | 77.4 | 78.1 | -90.00 | -4,181.6 | 1,146.8 | 331.1 | 178.0 | 153.15 | 2.162 | | | | |
| 10,700.0 | 6,254.0 | 10,731.1 | 6,254.0 | 79.1 | 79.8 | -90.00 | -4,281.5 | 1,152.4 | 331.2 | 174.6 | 156.63 | 2.115 | | | | |
| 10,800.0 | 6,254.0 | 10,831.1 | 6,254.0 | 80.9 | 81.5 | -90.00 | -4,381.3 | 1,157.9 | 331.3 | 171.2 | 160.11 | 2.069 | | | | |
| 10,900.0 | 6,254.0 | 10,931.1 | 6,254.0 | 82.6 | 83.2 | -90.00 | -4,481.2 | 1,163.4 | 331.4 | 167.8 | 163.59 | 2.026 | | | | |
| 11,000.0 | 6,254.0 | 11,031.1 | 6,254.0 | 84.3 | 84.9 | -90.00 | -4,581.0 | 1,168.9 | 331.4 | 164.4 | 167.07 | 1.984 | | | | |
| 11,019.9 | 6,254.0 | 11,051.0 | 6,254.0 | 84.7 | 85.3 | -90.00 | -4,600.9 | 1,170.0 | 331.4 | 163.7 | 167.76 | 1.976 SF | | | | |

Cathedral Energy Services

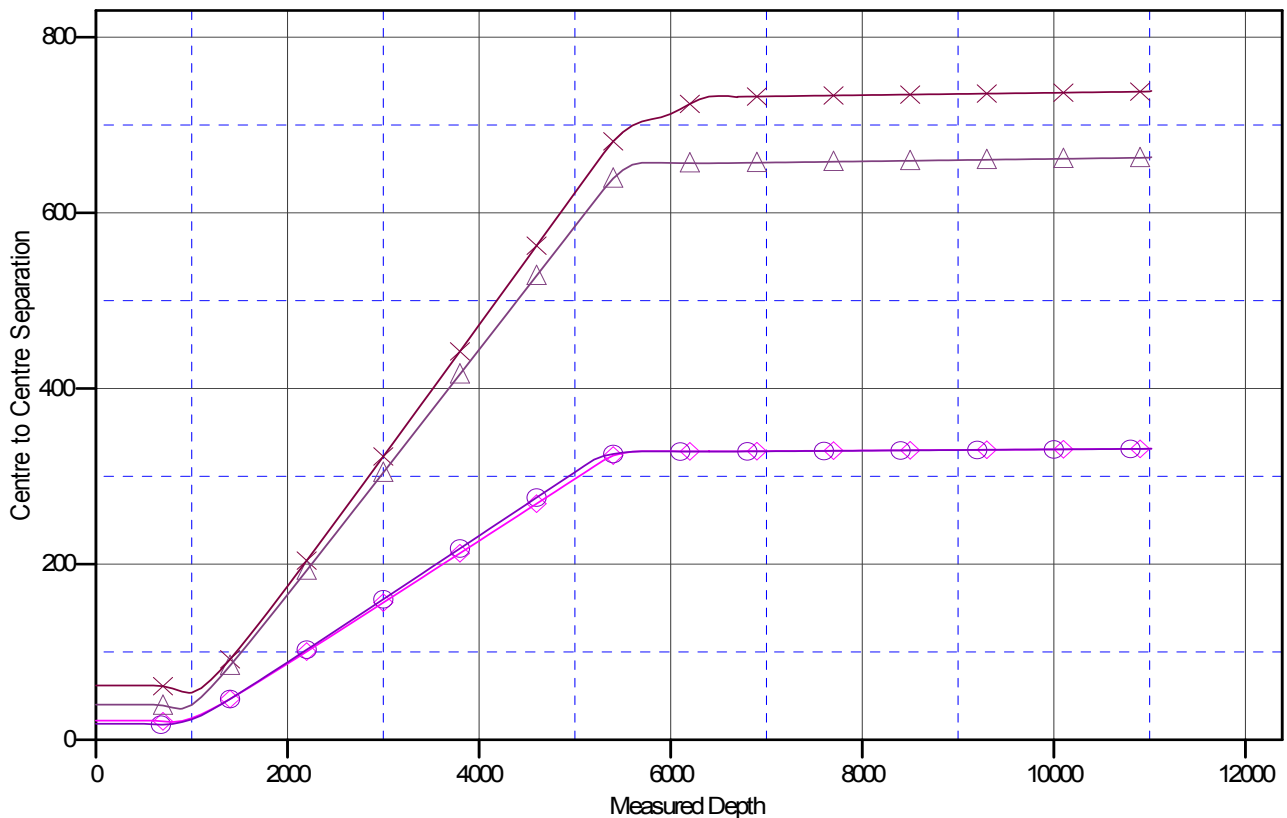
Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|--|
| Company: | Bonanza Creek Energy Operating Company, LLC | Local Co-ordinate Reference: | Well State Seventy Holes 21-24-4HNB |
| Project: | Weld County | TVD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Reference Site: | State 70 Holes F-4 Pad | MD Reference: | KB=15' @ 4567.0ft (Original Well Elev) |
| Site Error: | 0.0ft | North Reference: | True |
| Reference Well: | State Seventy Holes 21-24-4HNB | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OH | Database: | USA EDM 5000 Multi Users DB |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

Reference Depths are relative to KB=15' @ 4567.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: State Seventy Holes 21-24-4HNB
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.75°

Ladder Plot



LEGEND

State Seventy Holes F21-J24-4HNB, OH, Plan #1 V0 State Seventy Holes F-J-4HNB, OH, Plan #1 V0
State Seventy Holes F-J-4HC, OH, Plan #1 V0 State Seventy Holes K21-024-4HNB, OH, Plan #1 V0