

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_CANNON 2 PAD

CANNON 1N-11HZ

CANNON 1N-11HZ

Plan: CANNON 1N-11HZ (wp01)

Standard Planning Report

21 July, 2011





T

M

Azimuths to True North

Magnetic North: 8.81°

Magnetic Field

Strength: 52989.3snT

Dip Angle: 66.85°

Date: 7/20/2011

Model: IGRF2010

Project: COLORADO NORTHERN ZONE - 83

Site: WELD_CANNON 2 PAD

Well: CANNON 1N-11HZ

Wellbore: CANNON 1N-11HZ

Section: SHL:

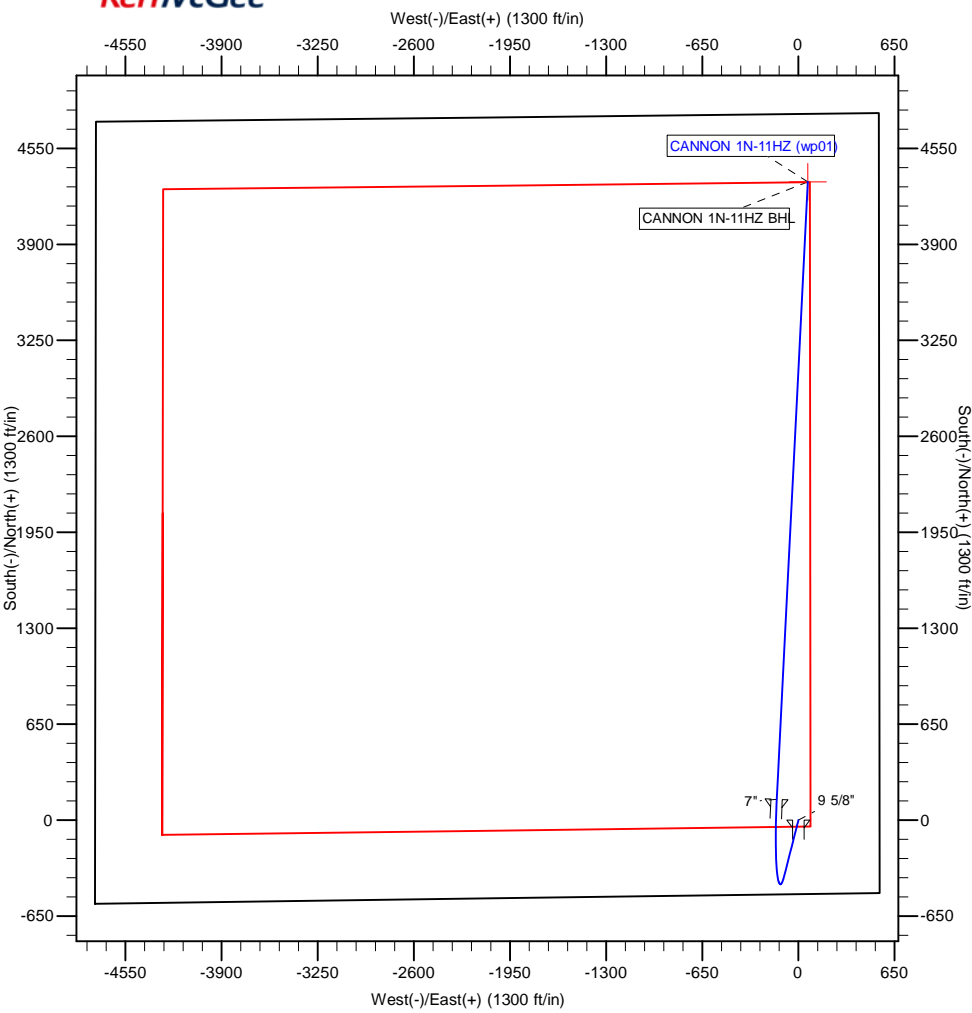
Design: CANNON 1N-11HZ (wp01)

Latitude: 40.146991

Longitude: -104.736804

GL: 5057.00

KB: 17' RKB + 5057' GL @ 5074.00ft



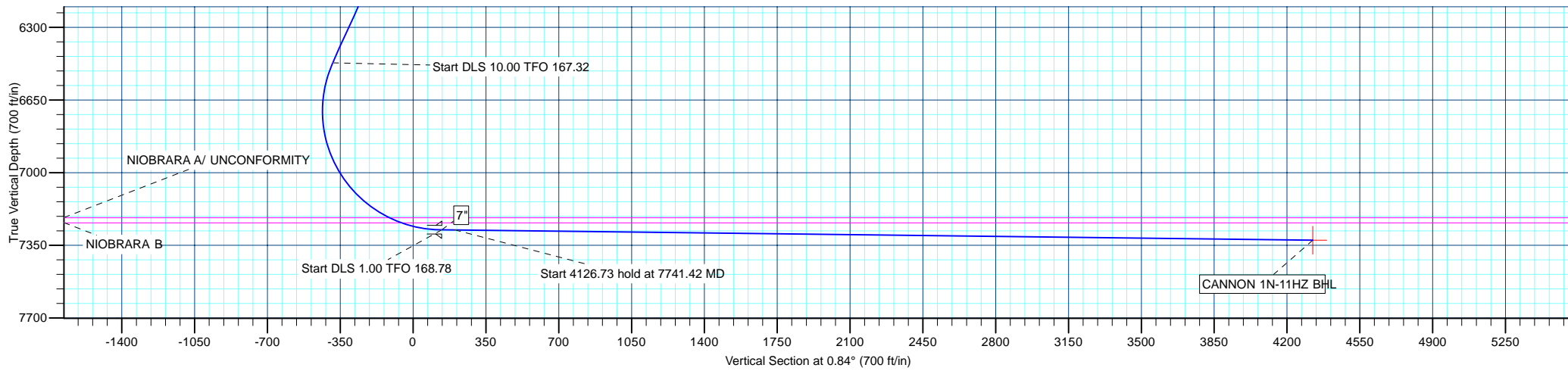
| WELL DETAILS: CANNON 1N-11HZ | | | | | | |
|------------------------------|-------|------------|-----------------------|------------------|-------------------|------|
| +N/-S | +E/-W | Northing | Ground Level: Easting | 5057.00 Latitude | 5057.00 Longitude | Slot |
| 0.00 | 0.00 | 1297310.36 | 3213348.62 | 40.146991 | -104.736804 | |

| WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG) | | | | | | |
|---|---------|---------|-------|-----------|-------------|-------|
| Name | TVD | +N/-S | +E/-W | Latitude | Longitude | Shape |
| CANNON 1N-11HZ BHL | 7325.00 | 4323.29 | 63.73 | 40.158859 | -104.736576 | Point |

| SECTION DETAILS | | | | | | | | | |
|-----------------|-------|--------|---------|---------|---------|-------|--------|---------|--------------------|
| MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | VSect | Target |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 4980.00 | 0.00 | 0.00 | 4980.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6215.29 | 24.71 | 194.32 | 6177.37 | -254.08 | -64.86 | 2.00 | 194.32 | -255.01 | |
| 6538.31 | 24.71 | 194.32 | 6470.82 | -384.90 | -98.25 | 0.00 | 0.00 | -386.30 | |
| 7679.26 | 89.92 | 2.76 | 7275.00 | 140.00 | -147.00 | 10.00 | 167.32 | 137.82 | |
| 7741.42 | 89.31 | 2.88 | 7275.42 | 202.09 | -143.94 | 1.00 | 168.78 | 199.95 | |
| 11868.15 | 89.31 | 2.88 | 7325.00 | 4323.29 | 63.73 | 0.00 | 0.00 | 4323.76 | CANNON 1N-11HZ BHL |

| FORMATION TOP DETAILS | | |
|-----------------------|---------|--------------------------|
| TVDPath | MDPath | Formation |
| 4195.00 | 4195.00 | PARKMAN |
| 4553.00 | 4553.00 | SUSSEX |
| 7217.00 | 7419.46 | NIOBRARA A/ UNCONFORMITY |
| 7241.00 | 7481.25 | NIOBRARA B |

| CASING DETAILS | | | |
|----------------|---------|--------|-------|
| TVD | MD | Name | Size |
| 900.00 | 900.00 | 9 5/8" | 9-5/8 |
| 7275.00 | 7679.26 | 7" | 7 |



| | | | |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
| Database: | edm5000p | Local Co-ordinate Reference: | Well CANNON 1N-11HZ |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | 17' RKB + 5057' GL @ 5074.00ft |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | 17' RKB + 5057' GL @ 5074.00ft |
| Site: | WELD_CANNON 2 PAD | North Reference: | True |
| Well: | CANNON 1N-11HZ | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | CANNON 1N-11HZ | | |
| Design: | CANNON 1N-11HZ (wp01) | | |

| | | | |
|--------------------|-----------------------------|----------------------|----------------|
| Project | COLORADO NORTHERN ZONE - 83 | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Northern Zone | | |

| Site | | WELD_CANNON 2 PAD | | | |
|-----------------------|----------|-------------------|-----------------|-------------------|-------------|
| Site Position: | | Northing: | 1,297,310.37 ft | Latitude: | 40.146991 |
| From: | Lat/Long | Easting: | 3,213,348.62 ft | Longitude: | -104.736804 |
| Position Uncertainty: | 0.00 ft | Slot Radius: | 0 " | Grid Convergence: | 0.49 |

| | | | | | | |
|----------------------|----------------|----------|---------------------|-----------------|---------------|-------------|
| Well | CANNON 1N-11HZ | | | | | |
| Well Position | +N-S | -0.01 ft | Northing: | 1,297,310.36 ft | Latitude: | 40.146991 |
| | +E-W | 0.00 ft | Easting: | 3,213,348.62 ft | Longitude: | -104.736804 |
| Position Uncertainty | | 0.00 ft | Wellhead Elevation: | | Ground Level: | 5,057.00 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | CANNON 1N-11HZ | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2010 | 7/20/2011 | 8.81 | 66.85 | 52,989 |

| | | | | |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| Design | CANNON 1N-11HZ (wp01) | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
| | 0.00 | 0.00 | 0.00 | 0.84 |

| 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 |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 4,980.00 | 0.00 | 0.00 | 4,980.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,215.29 | 24.71 | 194.32 | 6,177.37 | -254.08 | -64.86 | 2.00 | 2.00 | 0.00 | 194.32 | |
| 6,538.31 | 24.71 | 194.32 | 6,470.82 | -384.90 | -98.25 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,679.26 | 89.92 | 2.76 | 7,275.00 | 140.00 | -147.00 | 10.00 | 5.72 | 14.76 | 167.32 | |
| 7,741.42 | 89.31 | 2.88 | 7,275.42 | 202.09 | -143.94 | 1.00 | -0.98 | 0.19 | 168.78 | |
| 11,868.15 | 89.31 | 2.88 | 7,325.00 | 4,323.29 | 63.73 | 0.00 | 0.00 | 0.00 | 0.00 | CANNON 1N-11HZ |

| | | | |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
| Database: | edm5000p | Local Co-ordinate Reference: | Well CANNON 1N-11HZ |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | 17' RKB + 5057' GL @ 5074.00ft |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | 17' RKB + 5057' GL @ 5074.00ft |
| Site: | WELD_CANNON 2 PAD | North Reference: | True |
| Well: | CANNON 1N-11HZ | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | CANNON 1N-11HZ | | |
| Design: | CANNON 1N-11HZ (wp01) | | |

| 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) | Turn Rate (°/100ft) |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 100.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 200.00 | 0.00 | 0.00 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 300.00 | 0.00 | 0.00 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 400.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 500.00 | 0.00 | 0.00 | 500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 600.00 | 0.00 | 0.00 | 600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 700.00 | 0.00 | 0.00 | 700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 800.00 | 0.00 | 0.00 | 800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 900.00 | 0.00 | 0.00 | 900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9 5/8" | | | | | | | | | |
| 1,000.00 | 0.00 | 0.00 | 1,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,100.00 | 0.00 | 0.00 | 1,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,200.00 | 0.00 | 0.00 | 1,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,300.00 | 0.00 | 0.00 | 1,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,400.00 | 0.00 | 0.00 | 1,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,500.00 | 0.00 | 0.00 | 1,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,600.00 | 0.00 | 0.00 | 1,600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,700.00 | 0.00 | 0.00 | 1,700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,800.00 | 0.00 | 0.00 | 1,800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,900.00 | 0.00 | 0.00 | 1,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,000.00 | 0.00 | 0.00 | 2,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 0.00 | 0.00 | 2,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 0.00 | 0.00 | 2,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 0.00 | 0.00 | 2,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,400.00 | 0.00 | 0.00 | 2,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,500.00 | 0.00 | 0.00 | 2,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,600.00 | 0.00 | 0.00 | 2,600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,700.00 | 0.00 | 0.00 | 2,700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,800.00 | 0.00 | 0.00 | 2,800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,900.00 | 0.00 | 0.00 | 2,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 0.00 | 0.00 | 3,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,100.00 | 0.00 | 0.00 | 3,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 0.00 | 0.00 | 3,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 0.00 | 0.00 | 3,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 0.00 | 0.00 | 3,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 0.00 | 0.00 | 3,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 0.00 | 0.00 | 3,600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 0.00 | 0.00 | 3,700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 0.00 | 0.00 | 3,800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 0.00 | 0.00 | 3,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 0.00 | 0.00 | 4,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 0.00 | 0.00 | 4,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,195.00 | 0.00 | 0.00 | 4,195.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PARKMAN | | | | | | | | | |
| 4,200.00 | 0.00 | 0.00 | 4,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,300.00 | 0.00 | 0.00 | 4,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 0.00 | 0.00 | 4,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 0.00 | 0.00 | 4,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,553.00 | 0.00 | 0.00 | 4,553.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| SUSSEX | | | | | | | | | |
| 4,600.00 | 0.00 | 0.00 | 4,600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 0.00 | 0.00 | 4,700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
| Database: | edm5000p | Local Co-ordinate Reference: | Well CANNON 1N-11HZ |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | 17' RKB + 5057' GL @ 5074.00ft |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | 17' RKB + 5057' GL @ 5074.00ft |
| Site: | WELD_CANNON 2 PAD | North Reference: | True |
| Well: | CANNON 1N-11HZ | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | CANNON 1N-11HZ | | |
| Design: | CANNON 1N-11HZ (wp01) | | |

| 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) | Turn Rate (°/100ft) |
| 4,800.00 | 0.00 | 0.00 | 4,800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 0.00 | 0.00 | 4,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,980.00 | 0.00 | 0.00 | 4,980.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Start Build 2.00 | | | | | | | | | |
| 5,000.00 | 0.40 | 194.32 | 5,000.00 | -0.07 | -0.02 | -0.07 | 2.00 | 2.00 | 0.00 |
| 5,100.00 | 2.40 | 194.32 | 5,099.97 | -2.43 | -0.62 | -2.44 | 2.00 | 2.00 | 0.00 |
| 5,200.00 | 4.40 | 194.32 | 5,199.78 | -8.18 | -2.09 | -8.21 | 2.00 | 2.00 | 0.00 |
| 5,300.00 | 6.40 | 194.32 | 5,299.34 | -17.30 | -4.42 | -17.36 | 2.00 | 2.00 | 0.00 |
| 5,400.00 | 8.40 | 194.32 | 5,398.50 | -29.78 | -7.60 | -29.89 | 2.00 | 2.00 | 0.00 |
| 5,500.00 | 10.40 | 194.32 | 5,497.15 | -45.60 | -11.64 | -45.77 | 2.00 | 2.00 | 0.00 |
| 5,600.00 | 12.40 | 194.32 | 5,595.17 | -64.75 | -16.53 | -64.99 | 2.00 | 2.00 | 0.00 |
| 5,700.00 | 14.40 | 194.32 | 5,692.44 | -87.21 | -22.26 | -87.52 | 2.00 | 2.00 | 0.00 |
| 5,800.00 | 16.40 | 194.32 | 5,788.85 | -112.94 | -28.83 | -113.35 | 2.00 | 2.00 | 0.00 |
| 5,900.00 | 18.40 | 194.32 | 5,884.27 | -141.91 | -36.22 | -142.43 | 2.00 | 2.00 | 0.00 |
| 6,000.00 | 20.40 | 194.32 | 5,978.59 | -174.09 | -44.44 | -174.73 | 2.00 | 2.00 | 0.00 |
| 6,100.00 | 22.40 | 194.32 | 6,071.69 | -209.44 | -53.46 | -210.21 | 2.00 | 2.00 | 0.00 |
| 6,200.00 | 24.40 | 194.32 | 6,163.46 | -247.92 | -63.28 | -248.83 | 2.00 | 2.00 | 0.00 |
| 6,215.29 | 24.71 | 194.32 | 6,177.37 | -254.08 | -64.86 | -255.01 | 2.00 | 2.00 | 0.00 |
| Start 323.02 hold at 6215.29 MD | | | | | | | | | |
| 6,300.00 | 24.71 | 194.32 | 6,254.32 | -288.38 | -73.61 | -289.44 | 0.00 | 0.00 | 0.00 |
| 6,400.00 | 24.71 | 194.32 | 6,345.17 | -328.88 | -83.95 | -330.08 | 0.00 | 0.00 | 0.00 |
| 6,500.00 | 24.71 | 194.32 | 6,436.01 | -369.38 | -94.29 | -370.73 | 0.00 | 0.00 | 0.00 |
| 6,538.31 | 24.71 | 194.32 | 6,470.82 | -384.90 | -98.25 | -386.30 | 0.00 | 0.00 | 0.00 |
| Start DLS 10.00 TFO 167.32 | | | | | | | | | |
| 6,600.00 | 18.73 | 198.53 | 6,528.10 | -406.80 | -104.59 | -408.30 | 10.00 | -9.68 | 6.83 |
| 6,700.00 | 9.57 | 215.88 | 6,625.01 | -428.82 | -114.59 | -430.46 | 10.00 | -9.16 | 17.35 |
| 6,800.00 | 5.63 | 293.57 | 6,724.32 | -433.60 | -123.98 | -435.38 | 10.00 | -3.94 | 77.69 |
| 6,900.00 | 13.08 | 339.42 | 6,823.03 | -421.02 | -132.48 | -422.92 | 10.00 | 7.46 | 45.85 |
| 7,000.00 | 22.59 | 349.98 | 6,918.14 | -391.43 | -139.81 | -393.45 | 10.00 | 9.50 | 10.56 |
| 7,100.00 | 32.38 | 354.42 | 7,006.76 | -345.76 | -145.78 | -347.87 | 10.00 | 9.79 | 4.44 |
| 7,200.00 | 42.26 | 356.95 | 7,086.19 | -285.38 | -150.18 | -287.56 | 10.00 | 9.88 | 2.53 |
| 7,300.00 | 52.18 | 358.67 | 7,154.02 | -212.12 | -152.89 | -214.35 | 10.00 | 9.92 | 1.72 |
| 7,400.00 | 62.12 | 359.98 | 7,208.19 | -128.22 | -153.82 | -130.48 | 10.00 | 9.94 | 1.31 |
| 7,419.46 | 64.06 | 0.20 | 7,217.00 | -110.87 | -153.79 | -113.13 | 10.00 | 9.95 | 1.15 |
| NIORARA A/ UNCONFORMITY | | | | | | | | | |
| 7,481.25 | 70.21 | 0.87 | 7,241.00 | -53.97 | -153.25 | -56.22 | 10.00 | 9.95 | 1.08 |
| NIORARA B | | | | | | | | | |
| 7,500.00 | 72.07 | 1.06 | 7,247.06 | -36.23 | -152.95 | -38.48 | 10.00 | 9.95 | 1.02 |
| 7,600.00 | 82.03 | 2.03 | 7,269.44 | 61.07 | -150.31 | 58.85 | 10.00 | 9.96 | 0.97 |
| 7,679.26 | 89.92 | 2.76 | 7,275.00 | 140.00 | -147.00 | 137.82 | 10.00 | 9.96 | 0.92 |
| Start DLS 1.00 TFO 168.78 - 7" | | | | | | | | | |
| 7,700.00 | 89.72 | 2.80 | 7,275.07 | 160.72 | -145.99 | 158.55 | 1.00 | -0.98 | 0.19 |
| 7,741.42 | 89.31 | 2.88 | 7,275.42 | 202.09 | -143.94 | 199.95 | 1.00 | -0.98 | 0.19 |
| Start 4126.73 hold at 7741.42 MD | | | | | | | | | |
| 7,800.00 | 89.31 | 2.88 | 7,276.12 | 260.59 | -140.99 | 258.48 | 0.00 | 0.00 | 0.00 |
| 7,900.00 | 89.31 | 2.88 | 7,277.32 | 360.45 | -135.96 | 358.41 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 89.31 | 2.88 | 7,278.52 | 460.32 | -130.93 | 458.34 | 0.00 | 0.00 | 0.00 |
| 8,100.00 | 89.31 | 2.88 | 7,279.72 | 560.18 | -125.89 | 558.27 | 0.00 | 0.00 | 0.00 |
| 8,200.00 | 89.31 | 2.88 | 7,280.93 | 660.05 | -120.86 | 658.20 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 89.31 | 2.88 | 7,282.13 | 759.92 | -115.83 | 758.13 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 89.31 | 2.88 | 7,283.33 | 859.78 | -110.80 | 858.06 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 89.31 | 2.88 | 7,284.53 | 959.65 | -105.76 | 957.99 | 0.00 | 0.00 | 0.00 |
| 8,600.00 | 89.31 | 2.88 | 7,285.73 | 1,059.51 | -100.73 | 1,057.91 | 0.00 | 0.00 | 0.00 |

| | | | |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
| Database: | edm5000p | Local Co-ordinate Reference: | Well CANNON 1N-11HZ |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | 17' RKB + 5057' GL @ 5074.00ft |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | 17' RKB + 5057' GL @ 5074.00ft |
| Site: | WELD_CANNON 2 PAD | North Reference: | True |
| Well: | CANNON 1N-11HZ | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | CANNON 1N-11HZ | | |
| Design: | CANNON 1N-11HZ (wp01) | | |

| 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) | Turn Rate (°/100ft) | |
| 8,700.00 | 89.31 | 2.88 | 7,286.93 | 1,159.38 | -95.70 | 1,157.84 | 0.00 | 0.00 | 0.00 | |
| 8,800.00 | 89.31 | 2.88 | 7,288.14 | 1,259.25 | -90.67 | 1,257.77 | 0.00 | 0.00 | 0.00 | |
| 8,900.00 | 89.31 | 2.88 | 7,289.34 | 1,359.11 | -85.64 | 1,357.70 | 0.00 | 0.00 | 0.00 | |
| 9,000.00 | 89.31 | 2.88 | 7,290.54 | 1,458.98 | -80.60 | 1,457.63 | 0.00 | 0.00 | 0.00 | |
| 9,100.00 | 89.31 | 2.88 | 7,291.74 | 1,558.84 | -75.57 | 1,557.56 | 0.00 | 0.00 | 0.00 | |
| 9,200.00 | 89.31 | 2.88 | 7,292.94 | 1,658.71 | -70.54 | 1,657.49 | 0.00 | 0.00 | 0.00 | |
| 9,300.00 | 89.31 | 2.88 | 7,294.14 | 1,758.58 | -65.51 | 1,757.42 | 0.00 | 0.00 | 0.00 | |
| 9,400.00 | 89.31 | 2.88 | 7,295.34 | 1,858.44 | -60.48 | 1,857.35 | 0.00 | 0.00 | 0.00 | |
| 9,500.00 | 89.31 | 2.88 | 7,296.55 | 1,958.31 | -55.44 | 1,957.28 | 0.00 | 0.00 | 0.00 | |
| 9,600.00 | 89.31 | 2.88 | 7,297.75 | 2,058.18 | -50.41 | 2,057.21 | 0.00 | 0.00 | 0.00 | |
| 9,700.00 | 89.31 | 2.88 | 7,298.95 | 2,158.04 | -45.38 | 2,157.14 | 0.00 | 0.00 | 0.00 | |
| 9,800.00 | 89.31 | 2.88 | 7,300.15 | 2,257.91 | -40.35 | 2,257.07 | 0.00 | 0.00 | 0.00 | |
| 9,900.00 | 89.31 | 2.88 | 7,301.35 | 2,357.77 | -35.31 | 2,357.00 | 0.00 | 0.00 | 0.00 | |
| 10,000.00 | 89.31 | 2.88 | 7,302.55 | 2,457.64 | -30.28 | 2,456.93 | 0.00 | 0.00 | 0.00 | |
| 10,100.00 | 89.31 | 2.88 | 7,303.76 | 2,557.51 | -25.25 | 2,556.86 | 0.00 | 0.00 | 0.00 | |
| 10,200.00 | 89.31 | 2.88 | 7,304.96 | 2,657.37 | -20.22 | 2,656.79 | 0.00 | 0.00 | 0.00 | |
| 10,300.00 | 89.31 | 2.88 | 7,306.16 | 2,757.24 | -15.19 | 2,756.71 | 0.00 | 0.00 | 0.00 | |
| 10,400.00 | 89.31 | 2.88 | 7,307.36 | 2,857.10 | -10.15 | 2,856.64 | 0.00 | 0.00 | 0.00 | |
| 10,500.00 | 89.31 | 2.88 | 7,308.56 | 2,956.97 | -5.12 | 2,956.57 | 0.00 | 0.00 | 0.00 | |
| 10,600.00 | 89.31 | 2.88 | 7,309.76 | 3,056.84 | -0.09 | 3,056.50 | 0.00 | 0.00 | 0.00 | |
| 10,700.00 | 89.31 | 2.88 | 7,310.96 | 3,156.70 | 4.94 | 3,156.43 | 0.00 | 0.00 | 0.00 | |
| 10,800.00 | 89.31 | 2.88 | 7,312.17 | 3,256.57 | 9.98 | 3,256.36 | 0.00 | 0.00 | 0.00 | |
| 10,900.00 | 89.31 | 2.88 | 7,313.37 | 3,356.43 | 15.01 | 3,356.29 | 0.00 | 0.00 | 0.00 | |
| 11,000.00 | 89.31 | 2.88 | 7,314.57 | 3,456.30 | 20.04 | 3,456.22 | 0.00 | 0.00 | 0.00 | |
| 11,100.00 | 89.31 | 2.88 | 7,315.77 | 3,556.17 | 25.07 | 3,556.15 | 0.00 | 0.00 | 0.00 | |
| 11,200.00 | 89.31 | 2.88 | 7,316.97 | 3,656.03 | 30.10 | 3,656.08 | 0.00 | 0.00 | 0.00 | |
| 11,300.00 | 89.31 | 2.88 | 7,318.17 | 3,755.90 | 35.14 | 3,756.01 | 0.00 | 0.00 | 0.00 | |
| 11,400.00 | 89.31 | 2.88 | 7,319.38 | 3,855.76 | 40.17 | 3,855.94 | 0.00 | 0.00 | 0.00 | |
| 11,500.00 | 89.31 | 2.88 | 7,320.58 | 3,955.63 | 45.20 | 3,955.87 | 0.00 | 0.00 | 0.00 | |
| 11,600.00 | 89.31 | 2.88 | 7,321.78 | 4,055.50 | 50.23 | 4,055.80 | 0.00 | 0.00 | 0.00 | |
| 11,700.00 | 89.31 | 2.88 | 7,322.98 | 4,155.36 | 55.26 | 4,155.73 | 0.00 | 0.00 | 0.00 | |
| 11,800.00 | 89.31 | 2.88 | 7,324.18 | 4,255.23 | 60.30 | 4,255.66 | 0.00 | 0.00 | 0.00 | |
| 11,868.15 | 89.31 | 2.88 | 7,325.00 | 4,323.29 | 63.73 | 4,323.76 | 0.00 | 0.00 | 0.00 | |
| TD at 11868.15 - CANNON 1N-11HZ BHL | | | | | | | | | | |

| Design 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 | | | | | | | | | |
| CANNON 1N-11HZ B | 0.00 | 0.00 | 7,325.00 | 4,323.29 | 63.73 | 1,301,634.04 | 3,213,375.13 | 40.158859 | -104.736576 |
| - plan hits target center | | | | | | | | | |
| - Point | | | | | | | | | |

| Casing Points | | | | | |
|---------------------|---------------------|--------|---------------------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (") | Hole Diameter (") | |
| 900.00 | 900.00 | 9 5/8" | 9-5/8 | 12-1/4 | |
| 7,679.26 | 7,275.00 | 7" | 7 | 8-3/4 | |

| | | | |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
| Database: | edm5000p | Local Co-ordinate Reference: | Well CANNON 1N-11HZ |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | 17' RKB + 5057' GL @ 5074.00ft |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | 17' RKB + 5057' GL @ 5074.00ft |
| Site: | WELD_CANNON 2 PAD | North Reference: | True |
| Well: | CANNON 1N-11HZ | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | CANNON 1N-11HZ | | |
| Design: | CANNON 1N-11HZ (wp01) | | |

| Formations | | | | | |
|---------------------|---------------------|--------------------------|-----------|---------|-------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) |
| 4,195.00 | 4,195.00 | PARKMAN | | 0.00 | |
| 4,553.00 | 4,553.00 | SUSSEX | | 0.00 | |
| 7,419.46 | 7,217.00 | NIOBRARA A/ UNCONFORMITY | | 0.00 | |
| 7,481.25 | 7,241.00 | NIOBRARA B | | 0.00 | |

| Plan Annotations | | | | |
|---------------------|---------------------|-------------------|------------|----------------------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment |
| | | +N/-S (ft) | +E/-W (ft) | |
| 4,980.00 | 4,980.00 | 0.00 | 0.00 | Start Build 2.00 |
| 6,215.29 | 6,177.37 | -254.08 | -64.86 | Start 323.02 hold at 6215.29 MD |
| 6,538.31 | 6,470.82 | -384.90 | -98.25 | Start DLS 10.00 TFO 167.32 |
| 7,679.26 | 7,275.00 | 140.00 | -147.00 | Start DLS 1.00 TFO 168.78 |
| 7,741.42 | 7,275.42 | 202.09 | -143.94 | Start 4126.73 hold at 7741.42 MD |
| 11,868.15 | 7,325.00 | 4,323.29 | 63.73 | TD at 11868.15 |