



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_DRY CREEK 20-27 PAD

P_DRY CREEK 37-27

P_DRY CREEK 37-27

Plan: PLAN #1 10-29-09 RHS

Standard Planning Report

29 October, 2009





Azimuths to True North
Magnetic North: 9.07°

Magnetic Field
Strength: 53107.1snT
Dip Angle: 66.79°
Date: 10/29/2009
Model: IGRF200510

WELL DETAILS: P_DRY CREEK 37-27

| +N/-S | +E/-W | Northing | Easting | Ground Level: | 5044.00 | Latitude | Longitude | Slot |
|-------|-------|------------|------------|---------------|---------|----------------|-------------------|------|
| 0.00 | 0.00 | 1249886.17 | 3176122.02 | | | 40° 1' 3.396 N | 104° 52' 16.212 W | |

FORMATION TOP DETAILS

| TVDPath | MDPath | Formation |
|---------|---------|-------------|
| 3187.00 | 3222.59 | PARKMAN TOP |
| 4789.00 | 4861.86 | SUSSEX TOP |
| 7371.00 | 7471.19 | NIO A TOP |
| 7771.00 | 7871.19 | CODELL TOP |

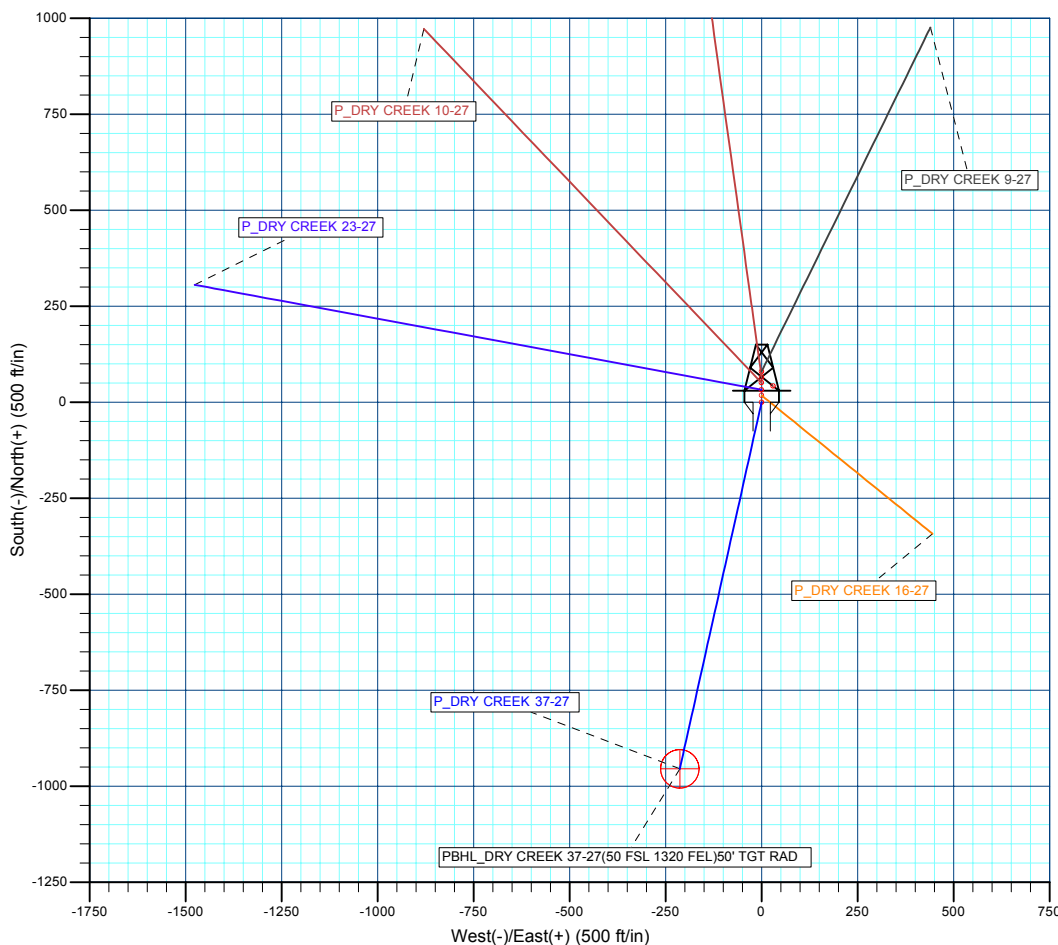
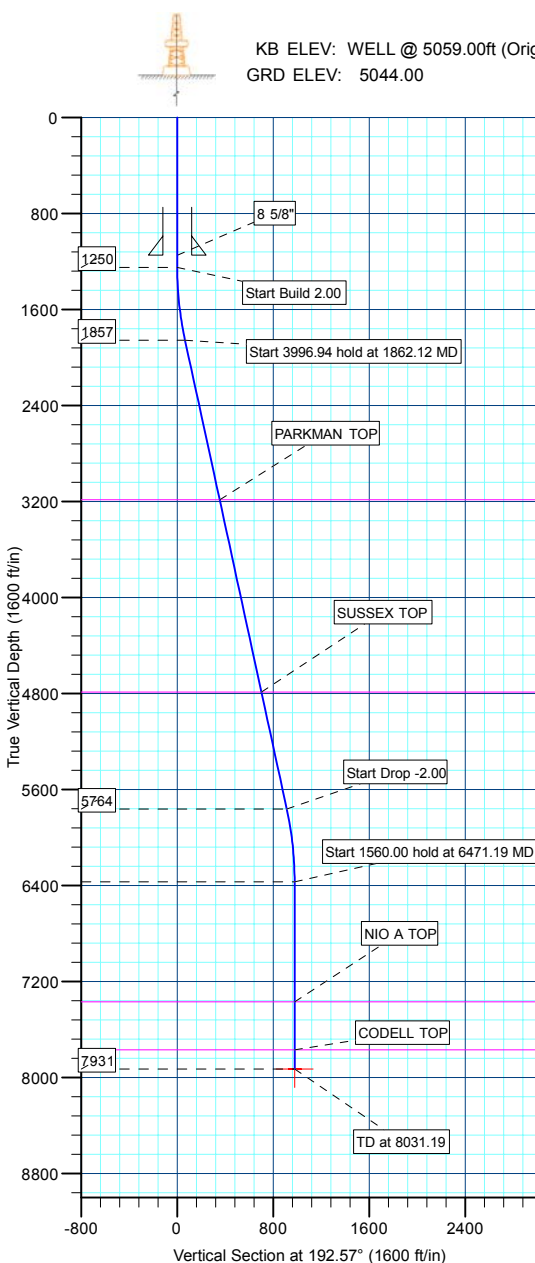
SECTION DETAILS

| MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSec | Target |
|---------|-------|--------|---------|---------|---------|------|--------|--------|--|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1250.00 | 0.00 | 0.00 | 1250.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1862.12 | 12.24 | 192.57 | 1857.48 | -63.59 | -14.18 | 2.00 | 192.57 | 65.15 | |
| 5859.07 | 12.24 | 192.57 | 5763.52 | -890.81 | -198.69 | 0.00 | 0.00 | 912.70 | |
| 6471.19 | 0.00 | 0.00 | 6371.00 | -954.39 | -212.87 | 2.00 | 180.00 | 977.84 | |
| 8031.19 | 0.00 | 0.00 | 7931.00 | -954.39 | -212.87 | 0.00 | 0.00 | 977.84 | PBHL_DRY CREEK 37-27(50 FSL 1320 FEL)50' TGT RAD |

CASING DETAILS

| TVD | MD | Name | Size |
|---------|---------|--------|------|
| 1150.00 | 1150.00 | 8 5/8" | 8.62 |

KB ELEV: WELL @ 5059.00ft (Original Well Elev)
GRD ELEV: 5044.00



WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
|------|---------|---------|---------|------------|------------|-----------------|-------------------|------------------------|
| PBHL | 7931.00 | -954.39 | -212.87 | 1248930.30 | 3175915.92 | 40° 0' 53.964 N | 104° 52' 18.948 W | Circle (Radius: 50.00) |

| | | | |
|------------------|----------------------------|-------------------------------------|---------------------------------------|
| Database: | EDM 2003.21 Single User Db | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Project: | COLORADO NOTHERN ZONE - 83 | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site: | WELD_DRY CREEK 20-27 PAD | North Reference: | True |
| Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_DRY CREEK 37-27 | | |
| Design: | PLAN #1 10-29-09 RHS | | |

| | | | |
|--------------------|---|----------------------|----------------|
| Project | COLORADO NOTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Northern Zone | | |

| | | | | |
|------------------------------|---|---------------------|-----------------|-------------------------------------|
| Site | WELD_DRY CREEK 20-27 PAD, SECTION 27 T1N R67W | | | |
| Site Position: | | Northing: | 1,249,937.18 ft | Latitude: 40° 1' 3.900 N |
| From: | Lat/Long | Easting: | 3,176,121.65 ft | Longitude: 104° 52' 16.212 W |
| Position Uncertainty: | 0.00 ft | Slot Radius: | in | Grid Convergence: 0.41 ° |

| | | | | |
|-----------------------------|-------------------|-----------|----------------------------|-----------------|
| Well | P_DRY CREEK 37-27 | | | |
| Well Position | +N/-S | -51.01 ft | Northing: | 1,249,886.17 ft |
| | +E/-W | 0.00 ft | Easting: | 3,176,122.02 ft |
| Position Uncertainty | | 0.00 ft | Wellhead Elevation: | ft |
| | | | Ground Level: | 5,044.00 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | P_DRY CREEK 37-27 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF200510 | 10/29/2009 | 9.07 | 66.79 | 53,107 |

| | | | | |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| Design | PLAN #1 10-29-09 RHS | | | |
| 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 | 192.57 |

| 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 | |
| 1,250.00 | 0.00 | 0.00 | 1,250.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,862.12 | 12.24 | 192.57 | 1,857.48 | -63.59 | -14.18 | 2.00 | 2.00 | 0.00 | 192.57 | |
| 5,859.07 | 12.24 | 192.57 | 5,763.52 | -890.81 | -198.69 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,471.19 | 0.00 | 0.00 | 6,371.00 | -954.39 | -212.87 | 2.00 | -2.00 | 0.00 | 180.00 | |
| 8,031.19 | 0.00 | 0.00 | 7,931.00 | -954.39 | -212.87 | 0.00 | 0.00 | 0.00 | 0.00 | PBHL_DRY CREEK |

| | | | |
|------------------|----------------------------|-------------------------------------|---------------------------------------|
| Database: | EDM 2003.21 Single User Db | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Project: | COLORADO NOTHERN ZONE - 83 | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site: | WELD_DRY CREEK 20-27 PAD | North Reference: | True |
| Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_DRY CREEK 37-27 | | |
| Design: | PLAN #1 10-29-09 RHS | | |

| 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) |
| Start Build 2.00 | | | | | | | | | |
| 1,250.00 | 0.00 | 0.00 | 1,250.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,300.00 | 1.00 | 192.57 | 1,300.00 | -0.43 | -0.09 | 0.44 | 2.00 | 2.00 | 0.00 |
| 1,400.00 | 3.00 | 192.57 | 1,399.93 | -3.83 | -0.85 | 3.93 | 2.00 | 2.00 | 0.00 |
| 1,500.00 | 5.00 | 192.57 | 1,499.68 | -10.64 | -2.37 | 10.90 | 2.00 | 2.00 | 0.00 |
| 1,600.00 | 7.00 | 192.57 | 1,599.13 | -20.84 | -4.65 | 21.35 | 2.00 | 2.00 | 0.00 |
| 1,700.00 | 9.00 | 192.57 | 1,698.15 | -34.42 | -7.68 | 35.27 | 2.00 | 2.00 | 0.00 |
| 1,800.00 | 11.00 | 192.57 | 1,796.63 | -51.37 | -11.46 | 52.63 | 2.00 | 2.00 | 0.00 |
| Start 3996.94 hold at 1862.12 MD | | | | | | | | | |
| 1,862.12 | 12.24 | 192.57 | 1,857.48 | -63.59 | -14.18 | 65.15 | 2.00 | 2.00 | 0.00 |
| 1,900.00 | 12.24 | 192.57 | 1,894.49 | -71.42 | -15.93 | 73.18 | 0.00 | 0.00 | 0.00 |
| 2,000.00 | 12.24 | 192.57 | 1,992.22 | -92.12 | -20.55 | 94.38 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 12.24 | 192.57 | 2,089.94 | -112.82 | -25.16 | 115.59 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 12.24 | 192.57 | 2,187.67 | -133.51 | -29.78 | 136.79 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 12.24 | 192.57 | 2,285.40 | -154.21 | -34.40 | 158.00 | 0.00 | 0.00 | 0.00 |
| 2,400.00 | 12.24 | 192.57 | 2,383.12 | -174.91 | -39.01 | 179.20 | 0.00 | 0.00 | 0.00 |
| 2,500.00 | 12.24 | 192.57 | 2,480.85 | -195.60 | -43.63 | 200.41 | 0.00 | 0.00 | 0.00 |
| 2,600.00 | 12.24 | 192.57 | 2,578.57 | -216.30 | -48.24 | 221.61 | 0.00 | 0.00 | 0.00 |
| 2,700.00 | 12.24 | 192.57 | 2,676.30 | -237.00 | -52.86 | 242.82 | 0.00 | 0.00 | 0.00 |
| 2,800.00 | 12.24 | 192.57 | 2,774.02 | -257.69 | -57.48 | 264.02 | 0.00 | 0.00 | 0.00 |
| 2,900.00 | 12.24 | 192.57 | 2,871.75 | -278.39 | -62.09 | 285.23 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 12.24 | 192.57 | 2,969.48 | -299.08 | -66.71 | 306.43 | 0.00 | 0.00 | 0.00 |
| 3,100.00 | 12.24 | 192.57 | 3,067.20 | -319.78 | -71.32 | 327.64 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 12.24 | 192.57 | 3,164.93 | -340.48 | -75.94 | 348.84 | 0.00 | 0.00 | 0.00 |
| PARKMAN TOP | | | | | | | | | |
| 3,222.59 | 12.24 | 192.57 | 3,187.00 | -345.15 | -76.98 | 353.63 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 12.24 | 192.57 | 3,262.65 | -361.17 | -80.56 | 370.05 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 12.24 | 192.57 | 3,360.38 | -381.87 | -85.17 | 391.25 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 12.24 | 192.57 | 3,458.11 | -402.57 | -89.79 | 412.46 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 12.24 | 192.57 | 3,555.83 | -423.26 | -94.41 | 433.66 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 12.24 | 192.57 | 3,653.56 | -443.96 | -99.02 | 454.87 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 12.24 | 192.57 | 3,751.28 | -464.66 | -103.64 | 476.07 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 12.24 | 192.57 | 3,849.01 | -485.35 | -108.25 | 497.28 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 12.24 | 192.57 | 3,946.74 | -506.05 | -112.87 | 518.48 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 12.24 | 192.57 | 4,044.46 | -526.74 | -117.49 | 539.69 | 0.00 | 0.00 | 0.00 |
| 4,200.00 | 12.24 | 192.57 | 4,142.19 | -547.44 | -122.10 | 560.89 | 0.00 | 0.00 | 0.00 |
| 4,300.00 | 12.24 | 192.57 | 4,239.91 | -568.14 | -126.72 | 582.10 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 12.24 | 192.57 | 4,337.64 | -588.83 | -131.34 | 603.30 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 12.24 | 192.57 | 4,435.37 | -609.53 | -135.95 | 624.51 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 12.24 | 192.57 | 4,533.09 | -630.23 | -140.57 | 645.71 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 12.24 | 192.57 | 4,630.82 | -650.92 | -145.18 | 666.92 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 12.24 | 192.57 | 4,728.54 | -671.62 | -149.80 | 688.12 | 0.00 | 0.00 | 0.00 |
| SUSSEX TOP | | | | | | | | | |
| 4,861.86 | 12.24 | 192.57 | 4,789.00 | -684.42 | -152.66 | 701.24 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 12.24 | 192.57 | 4,826.27 | -692.31 | -154.42 | 709.33 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 12.24 | 192.57 | 4,923.99 | -713.01 | -159.03 | 730.53 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 12.24 | 192.57 | 5,021.72 | -733.71 | -163.65 | 751.74 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 12.24 | 192.57 | 5,119.45 | -754.40 | -168.26 | 772.94 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 12.24 | 192.57 | 5,217.17 | -775.10 | -172.88 | 794.15 | 0.00 | 0.00 | 0.00 |
| 5,400.00 | 12.24 | 192.57 | 5,314.90 | -795.80 | -177.50 | 815.35 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 12.24 | 192.57 | 5,412.62 | -816.49 | -182.11 | 836.56 | 0.00 | 0.00 | 0.00 |
| 5,600.00 | 12.24 | 192.57 | 5,510.35 | -837.19 | -186.73 | 857.76 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 12.24 | 192.57 | 5,608.08 | -857.89 | -191.35 | 878.97 | 0.00 | 0.00 | 0.00 |

| | | | |
|------------------|----------------------------|-------------------------------------|---------------------------------------|
| Database: | EDM 2003.21 Single User Db | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Project: | COLORADO NOTHERN ZONE - 83 | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site: | WELD_DRY CREEK 20-27 PAD | North Reference: | True |
| Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_DRY CREEK 37-27 | | |
| Design: | PLAN #1 10-29-09 RHS | | |

| 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) |
| 5,800.00 | 12.24 | 192.57 | 5,705.80 | -878.58 | -195.96 | 900.17 | 0.00 | 0.00 | 0.00 |
| Start Drop -2.00 | | | | | | | | | |
| 5,859.07 | 12.24 | 192.57 | 5,763.52 | -890.81 | -198.69 | 912.70 | 0.00 | 0.00 | 0.00 |
| 5,900.00 | 11.42 | 192.57 | 5,803.59 | -899.00 | -200.52 | 921.09 | 2.00 | -2.00 | 0.00 |
| 6,000.00 | 9.42 | 192.57 | 5,901.93 | -916.66 | -204.45 | 939.18 | 2.00 | -2.00 | 0.00 |
| 6,100.00 | 7.42 | 192.57 | 6,000.85 | -930.95 | -207.64 | 953.83 | 2.00 | -2.00 | 0.00 |
| 6,200.00 | 5.42 | 192.57 | 6,100.22 | -941.87 | -210.08 | 965.02 | 2.00 | -2.00 | 0.00 |
| 6,300.00 | 3.42 | 192.57 | 6,199.91 | -949.40 | -211.76 | 972.73 | 2.00 | -2.00 | 0.00 |
| 6,400.00 | 1.42 | 192.57 | 6,299.82 | -953.53 | -212.68 | 976.96 | 2.00 | -2.00 | 0.00 |
| Start 1560.00 hold at 6471.19 MD | | | | | | | | | |
| 6,471.19 | 0.00 | 0.00 | 6,371.00 | -954.39 | -212.87 | 977.84 | 2.00 | -2.00 | 235.19 |
| 6,500.00 | 0.00 | 0.00 | 6,399.81 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| 6,600.00 | 0.00 | 0.00 | 6,499.81 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| 6,700.00 | 0.00 | 0.00 | 6,599.81 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| 6,800.00 | 0.00 | 0.00 | 6,699.81 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| 6,900.00 | 0.00 | 0.00 | 6,799.81 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| 7,000.00 | 0.00 | 0.00 | 6,899.81 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| 7,100.00 | 0.00 | 0.00 | 6,999.81 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| 7,200.00 | 0.00 | 0.00 | 7,099.81 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| 7,300.00 | 0.00 | 0.00 | 7,199.81 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| 7,400.00 | 0.00 | 0.00 | 7,299.81 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| NIO A TOP | | | | | | | | | |
| 7,471.19 | 0.00 | 0.00 | 7,371.00 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| 7,500.00 | 0.00 | 0.00 | 7,399.81 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| 7,600.00 | 0.00 | 0.00 | 7,499.81 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| 7,700.00 | 0.00 | 0.00 | 7,599.81 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| 7,800.00 | 0.00 | 0.00 | 7,699.81 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| CODELL TOP | | | | | | | | | |
| 7,871.19 | 0.00 | 0.00 | 7,771.00 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| 7,900.00 | 0.00 | 0.00 | 7,799.81 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 0.00 | 0.00 | 7,899.81 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |
| PBHL_DRY CREEK 37-27(50 FSL 1320 FEL)50' TGT RAD | | | | | | | | | |
| 8,031.19 | 0.00 | 0.00 | 7,931.00 | -954.39 | -212.87 | 977.84 | 0.00 | 0.00 | 0.00 |

| 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 | | | | | | | | | |
| PBHL_DRY CREEK 3 | 0.00 | 0.00 | 7,931.00 | -954.39 | -212.87 | 1,248,930.30 | 3,175,915.92 | 40° 0' 53.964 N | 104° 52' 18.948 W |
| - plan hits target center | | | | | | | | | |
| - Circle (radius 50.00) | | | | | | | | | |

| Casing Points | | | | | |
|---------------------|---------------------|--------|----------------------|--------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (in) | Hole Diameter (in) | |
| 1,150.00 | 1,150.00 | 8 5/8" | 8.62 | 11.00 | |

| | | | |
|------------------|----------------------------|-------------------------------------|---------------------------------------|
| Database: | EDM 2003.21 Single User Db | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Project: | COLORADO NOTHERN ZONE - 83 | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site: | WELD_DRY CREEK 20-27 PAD | North Reference: | True |
| Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_DRY CREEK 37-27 | | |
| Design: | PLAN #1 10-29-09 RHS | | |

| Formations | | | | | | |
|---------------------|---------------------|-------------|-----------|---------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 3,222.59 | 3,187.00 | PARKMAN TOP | | | | |
| 4,861.86 | 4,789.00 | SUSSEX TOP | | | | |
| 7,471.19 | 7,371.00 | NIO A TOP | | | | |
| 7,871.19 | 7,771.00 | CODELL TOP | | | | |

| Plan Annotations | | | | |
|---------------------|---------------------|-------------------|------------|----------------------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment |
| | | +N/-S (ft) | +E/-W (ft) | |
| 1,250.00 | 1,250.00 | 0.00 | 0.00 | Start Build 2.00 |
| 1,862.12 | 1,857.48 | -63.59 | -14.18 | Start 3996.94 hold at 1862.12 MD |
| 5,859.07 | 5,763.52 | -890.81 | -198.69 | Start Drop -2.00 |
| 6,471.19 | 6,371.00 | -954.39 | -212.87 | Start 1560.00 hold at 6471.19 MD |
| 8,031.19 | 7,931.00 | -954.39 | -212.87 | TD at 8031.19 |



US ROCKIES REGION PLANNING

**COLORADO NOTHERN ZONE - 83
WELD_DRY CREEK 20-27 PAD
P_DRY CREEK 37-27**

**P_DRY CREEK 37-27
PLAN #1 10-29-09 RHS**

Anticollision Report

29 October, 2009



| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Project: | COLORADO NOTHERN ZONE - 83 | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Reference Site: | WELD_DRY CREEK 20-27 PAD | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_DRY CREEK 37-27 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 10-29-09 RHS | Offset TVD Reference: | Offset Datum |

| | | | |
|-------------------------------------|---|-----------------------|---------------------|
| Reference | PLAN #1 10-29-09 RHS | | |
| Filter type: | NO GLOBAL FILTER: Using user defined selection & filtering criteria | | |
| Interpolation Method: | Stations | Error Model: | ISCWSA |
| Depth Range: | 0.00 to 20,000.00ft | Scan Method: | Closest Approach 3D |
| Results Limited by: | Maximum center-center distance of 10,000.00ft | Error Surface: | Elliptical Conic |
| Warning Levels Evaluated at: | 2.00 Sigma | | |

| | | | | |
|----------------------------|------------------------|-----------------------------------|------------------|--------------------|
| Survey Tool Program | Date 10/29/2009 | | | |
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
| 0.00 | 8,031.19 | PLAN #1 10-29-09 RHS (P_DRY CREEK | MWD | MWD - Standard |

| 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 | | | | | | |
| WELD_DRY CREEK 20-27 PAD | | | | | | |
| P_DRY CREEK 10-27 - P_DRY CREEK 10-27 - PLAN # | 1,250.00 | 1,250.00 | 51.01 | 45.65 | 9.516 | CC, ES |
| P_DRY CREEK 10-27 - P_DRY CREEK 10-27 - PLAN # | 1,300.00 | 1,299.35 | 51.75 | 46.18 | 9.296 | SF |
| P_DRY CREEK 16-27 - P_DRY CREEK 16-27 - PLAN # | 1,250.00 | 1,250.00 | 18.22 | 12.86 | 3.398 | CC |
| P_DRY CREEK 16-27 - P_DRY CREEK 16-27 - PLAN # | 1,300.00 | 1,300.20 | 18.37 | 12.81 | 3.305 | ES, SF |
| P_DRY CREEK 23-27 - P_DRY CREEK 23-27 - PLAN # | 200.00 | 200.00 | 32.79 | 32.15 | 51.186 | CC |
| P_DRY CREEK 23-27 - P_DRY CREEK 23-27 - PLAN # | 300.00 | 299.75 | 33.15 | 32.07 | 30.649 | ES |
| P_DRY CREEK 23-27 - P_DRY CREEK 23-27 - PLAN # | 600.00 | 596.61 | 46.64 | 44.19 | 19.059 | SF |
| P_DRY CREEK 24-27 - P_DRY CREEK 24-27 - PLAN # | 1,250.00 | 1,250.00 | 65.57 | 60.21 | 12.232 | CC, ES |
| P_DRY CREEK 24-27 - P_DRY CREEK 24-27 - PLAN # | 1,300.00 | 1,298.88 | 66.42 | 60.85 | 11.930 | SF |
| P_DRY CREEK 9-27 - P_DRY CREEK 9-27 - PLAN #1 1 | 1,250.00 | 1,250.00 | 80.14 | 74.78 | 14.950 | CC, ES |
| P_DRY CREEK 9-27 - P_DRY CREEK 9-27 - PLAN #1 1 | 1,300.00 | 1,298.76 | 80.95 | 75.38 | 14.541 | SF |
| UPRR 42 PAN AM K #2 EXISTING - UPRR 42 PAN AM | 1,250.00 | 1,233.00 | 52.56 | 2.56 | 1.051 | Level 2, CC |
| UPRR 42 PAN AM K #2 EXISTING - UPRR 42 PAN AM | 1,400.00 | 1,382.93 | 56.20 | -0.01 | 1.000 | Level 1, ES, SF |

| Offset Design WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 10-27 - P_DRY CREEK 10-27 - PLAN #1 10-29-09 F | | | | | | | | | | | | | Offset Site Error: | 0.00 ft |
|--|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|-----------------------------------|-------------------------------|--------------------------------|-------------------------|-------------------|---------------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.00 ft |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning | |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 51.01 | 0.00 | 51.01 | | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 0.10 | 0.00 | 51.01 | 0.00 | 51.01 | 50.82 | 0.19 | 267.002 | | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 0.32 | 0.00 | 51.01 | 0.00 | 51.01 | 50.37 | 0.64 | 79.632 | | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 0.55 | 0.00 | 51.01 | 0.00 | 51.01 | 49.92 | 1.09 | 46.794 | | |
| 400.00 | 400.00 | 400.00 | 400.00 | 0.77 | 0.77 | 0.00 | 51.01 | 0.00 | 51.01 | 49.47 | 1.54 | 33.132 | | |
| 500.00 | 500.00 | 500.00 | 500.00 | 0.99 | 0.99 | 0.00 | 51.01 | 0.00 | 51.01 | 49.02 | 1.99 | 25.644 | | |
| 600.00 | 600.00 | 600.00 | 600.00 | 1.22 | 1.22 | 0.00 | 51.01 | 0.00 | 51.01 | 48.57 | 2.44 | 20.917 | | |
| 700.00 | 700.00 | 700.00 | 700.00 | 1.44 | 1.44 | 0.00 | 51.01 | 0.00 | 51.01 | 48.12 | 2.89 | 17.662 | | |
| 800.00 | 800.00 | 800.00 | 800.00 | 1.67 | 1.67 | 0.00 | 51.01 | 0.00 | 51.01 | 47.67 | 3.34 | 15.283 | | |
| 900.00 | 900.00 | 900.00 | 900.00 | 1.89 | 1.89 | 0.00 | 51.01 | 0.00 | 51.01 | 47.22 | 3.79 | 13.469 | | |
| 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 2.12 | 2.12 | 0.00 | 51.01 | 0.00 | 51.01 | 46.77 | 4.24 | 12.040 | | |
| 1,100.00 | 1,100.00 | 1,100.00 | 1,100.00 | 2.34 | 2.34 | 0.00 | 51.01 | 0.00 | 51.01 | 46.32 | 4.69 | 10.885 | | |
| 1,200.00 | 1,200.00 | 1,200.00 | 1,200.00 | 2.57 | 2.57 | 0.00 | 51.01 | 0.00 | 51.01 | 45.88 | 5.14 | 9.932 | | |
| 1,250.00 | 1,250.00 | 1,250.00 | 1,250.00 | 2.68 | 2.68 | 0.00 | 51.01 | 0.00 | 51.01 | 45.65 | 5.36 | 9.516 | CC, ES | |
| 1,300.00 | 1,300.00 | 1,299.35 | 1,299.35 | 2.78 | 2.79 | 167.20 | 51.32 | -0.29 | 51.75 | 46.18 | 5.57 | 9.296 | SF | |

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

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Project: | COLORADO NOTHERN ZONE - 83 | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Reference Site: | WELD_DRY CREEK 20-27 PAD | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_DRY CREEK 37-27 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 10-29-09 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 10-27 - P_DRY CREEK 10-27 - PLAN #1 10-29-09 F | | | | | | | | | | | | Offset Site Error: | 0.00 ft |
|---|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.00 ft |
| 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) | Minimum Separation (ft) | Separation Factor | Warning |
| 1,400.00 | 1,399.93 | 1,397.78 | 1,397.72 | 2.95 | 3.01 | 165.61 | 53.77 | -2.63 | 57.67 | 51.72 | 5.95 | 9.696 | |
| 1,500.00 | 1,499.68 | 1,495.39 | 1,495.09 | 3.13 | 3.22 | 163.24 | 58.61 | -7.25 | 69.57 | 63.24 | 6.33 | 10.990 | |
| 1,600.00 | 1,599.13 | 1,591.66 | 1,590.85 | 3.33 | 3.45 | 160.88 | 65.73 | -14.05 | 87.48 | 80.76 | 6.71 | 13.027 | |
| 1,700.00 | 1,698.15 | 1,686.08 | 1,684.40 | 3.55 | 3.69 | 158.88 | 74.98 | -22.87 | 111.30 | 104.20 | 7.10 | 15.671 | |
| 1,800.00 | 1,796.63 | 1,778.22 | 1,775.23 | 3.81 | 3.94 | 157.28 | 86.14 | -33.52 | 140.91 | 133.41 | 7.50 | 18.799 | |
| 1,862.12 | 1,857.48 | 1,834.12 | 1,830.09 | 3.99 | 4.11 | 156.46 | 93.95 | -40.97 | 162.12 | 154.38 | 7.74 | 20.936 | |
| 1,900.00 | 1,894.49 | 1,867.74 | 1,862.97 | 4.10 | 4.22 | 156.10 | 99.01 | -45.80 | 175.88 | 167.97 | 7.91 | 22.224 | |
| 2,000.00 | 1,992.22 | 1,955.17 | 1,948.07 | 4.43 | 4.52 | 155.08 | 113.48 | -59.61 | 213.89 | 205.51 | 8.38 | 25.532 | |
| 2,100.00 | 2,089.94 | 2,040.60 | 2,030.60 | 4.78 | 4.86 | 154.04 | 129.44 | -74.83 | 254.31 | 245.46 | 8.86 | 28.713 | |
| 2,200.00 | 2,187.67 | 2,123.94 | 2,110.45 | 5.15 | 5.22 | 153.02 | 146.71 | -91.31 | 297.11 | 287.76 | 9.35 | 31.773 | |
| 2,300.00 | 2,285.40 | 2,205.16 | 2,187.56 | 5.54 | 5.62 | 152.04 | 165.15 | -108.91 | 342.22 | 332.36 | 9.86 | 34.718 | |
| 2,400.00 | 2,383.12 | 2,284.18 | 2,261.87 | 5.93 | 6.05 | 151.12 | 184.60 | -127.47 | 389.58 | 379.20 | 10.38 | 37.539 | |
| 2,500.00 | 2,480.85 | 2,361.00 | 2,333.36 | 6.34 | 6.51 | 150.25 | 204.93 | -146.87 | 439.13 | 428.22 | 10.91 | 40.252 | |
| 2,600.00 | 2,578.57 | 2,435.59 | 2,402.04 | 6.75 | 7.00 | 149.43 | 225.98 | -166.96 | 490.79 | 479.34 | 11.45 | 42.875 | |
| 2,700.00 | 2,676.30 | 2,510.25 | 2,470.01 | 7.17 | 7.52 | 148.65 | 248.32 | -188.27 | 544.44 | 532.45 | 12.00 | 45.385 | |
| 2,800.00 | 2,774.02 | 2,593.94 | 2,545.93 | 7.59 | 8.13 | 147.89 | 273.80 | -212.59 | 598.81 | 586.22 | 12.59 | 47.566 | |
| 2,900.00 | 2,871.75 | 2,677.62 | 2,621.84 | 8.02 | 8.77 | 147.25 | 299.28 | -236.90 | 653.24 | 640.05 | 13.19 | 49.519 | |
| 3,000.00 | 2,969.48 | 2,761.31 | 2,697.75 | 8.45 | 9.41 | 146.72 | 324.77 | -261.22 | 707.71 | 693.91 | 13.80 | 51.281 | |
| 3,100.00 | 3,067.20 | 2,845.00 | 2,773.67 | 8.88 | 10.07 | 146.25 | 350.25 | -285.53 | 762.23 | 747.81 | 14.42 | 52.875 | |
| 3,200.00 | 3,164.93 | 2,928.69 | 2,849.58 | 9.32 | 10.74 | 145.85 | 375.73 | -309.85 | 816.77 | 801.74 | 15.04 | 54.322 | |
| 3,300.00 | 3,262.65 | 3,012.37 | 2,925.50 | 9.76 | 11.41 | 145.50 | 401.22 | -334.17 | 871.34 | 855.68 | 15.66 | 55.638 | |
| 3,400.00 | 3,360.38 | 3,096.06 | 3,001.41 | 10.20 | 12.09 | 145.20 | 426.70 | -358.48 | 925.93 | 909.64 | 16.29 | 56.839 | |
| 3,500.00 | 3,458.11 | 3,179.75 | 3,077.32 | 10.65 | 12.77 | 144.92 | 452.18 | -382.80 | 980.53 | 963.61 | 16.92 | 57.935 | |
| 3,600.00 | 3,555.83 | 3,263.44 | 3,153.24 | 11.09 | 13.46 | 144.68 | 477.67 | -407.12 | 1,035.15 | 1,017.59 | 17.56 | 58.942 | |
| 3,700.00 | 3,653.56 | 3,347.12 | 3,229.15 | 11.54 | 14.15 | 144.45 | 503.15 | -431.43 | 1,089.79 | 1,071.58 | 18.20 | 59.869 | |
| 3,800.00 | 3,751.28 | 3,430.81 | 3,305.06 | 11.99 | 14.84 | 144.26 | 528.63 | -455.75 | 1,144.43 | 1,125.58 | 18.85 | 60.725 | |
| 3,900.00 | 3,849.01 | 3,514.50 | 3,380.98 | 12.44 | 15.54 | 144.07 | 554.12 | -480.06 | 1,199.08 | 1,179.59 | 19.49 | 61.518 | |
| 4,000.00 | 3,946.74 | 3,598.19 | 3,456.89 | 12.89 | 16.23 | 143.91 | 579.60 | -504.38 | 1,253.74 | 1,233.60 | 20.14 | 62.252 | |
| 4,100.00 | 4,044.46 | 3,681.87 | 3,532.81 | 13.34 | 16.93 | 143.76 | 605.08 | -528.70 | 1,308.40 | 1,287.61 | 20.79 | 62.934 | |
| 4,200.00 | 4,142.19 | 3,765.56 | 3,608.72 | 13.79 | 17.64 | 143.62 | 630.57 | -553.01 | 1,363.07 | 1,341.63 | 21.44 | 63.569 | |
| 4,300.00 | 4,239.91 | 3,849.25 | 3,684.63 | 14.24 | 18.34 | 143.49 | 656.05 | -577.33 | 1,417.75 | 1,395.65 | 22.10 | 64.163 | |
| 4,400.00 | 4,337.64 | 3,932.94 | 3,760.55 | 14.70 | 19.05 | 143.37 | 681.53 | -601.64 | 1,472.43 | 1,449.68 | 22.75 | 64.718 | |
| 4,500.00 | 4,435.37 | 4,016.62 | 3,836.46 | 15.15 | 19.75 | 143.26 | 707.02 | -625.96 | 1,527.12 | 1,503.71 | 23.41 | 65.238 | |
| 4,600.00 | 4,533.09 | 4,100.31 | 3,912.38 | 15.61 | 20.46 | 143.15 | 732.50 | -650.28 | 1,581.81 | 1,557.74 | 24.07 | 65.726 | |
| 4,700.00 | 4,630.82 | 4,184.00 | 3,988.29 | 16.06 | 21.17 | 143.06 | 757.98 | -674.59 | 1,636.50 | 1,611.77 | 24.73 | 66.185 | |
| 4,800.00 | 4,728.54 | 4,281.16 | 4,076.47 | 16.52 | 21.97 | 142.95 | 787.50 | -702.76 | 1,691.15 | 1,665.72 | 25.43 | 66.505 | |
| 4,900.00 | 4,826.27 | 4,475.96 | 4,256.47 | 16.97 | 23.20 | 142.88 | 841.32 | -754.11 | 1,742.51 | 1,716.14 | 26.37 | 66.086 | |
| 5,000.00 | 4,923.99 | 4,685.49 | 4,455.23 | 17.43 | 24.31 | 142.99 | 889.18 | -799.78 | 1,788.11 | 1,760.80 | 27.31 | 65.475 | |
| 5,100.00 | 5,021.72 | 4,909.00 | 4,671.97 | 17.89 | 25.27 | 143.31 | 928.51 | -837.31 | 1,827.33 | 1,799.09 | 28.24 | 64.714 | |
| 5,200.00 | 5,119.45 | 5,144.97 | 4,904.65 | 18.34 | 26.00 | 143.83 | 956.64 | -864.15 | 1,859.58 | 1,830.46 | 29.12 | 63.860 | |
| 5,300.00 | 5,217.17 | 5,391.02 | 5,149.80 | 18.80 | 26.48 | 144.56 | 971.11 | -877.96 | 1,884.39 | 1,854.45 | 29.93 | 62.952 | |
| 5,400.00 | 5,314.90 | 5,556.14 | 5,314.90 | 19.26 | 26.64 | 145.16 | 972.64 | -879.42 | 1,902.65 | 1,872.11 | 30.54 | 62.296 | |
| 5,500.00 | 5,412.62 | 5,653.87 | 5,412.62 | 19.72 | 26.73 | 145.52 | 972.64 | -879.42 | 1,920.22 | 1,889.17 | 31.05 | 61.851 | |
| 5,600.00 | 5,510.35 | 5,751.59 | 5,510.35 | 20.18 | 26.83 | 145.87 | 972.64 | -879.42 | 1,937.86 | 1,906.31 | 31.55 | 61.416 | |
| 5,700.00 | 5,608.08 | 5,849.32 | 5,608.08 | 20.63 | 26.92 | 146.22 | 972.64 | -879.42 | 1,955.58 | 1,923.52 | 32.06 | 60.999 | |
| 5,800.00 | 5,705.80 | 5,947.04 | 5,705.80 | 21.09 | 27.02 | 146.56 | 972.64 | -879.42 | 1,973.36 | 1,940.80 | 32.56 | 60.599 | |
| 5,859.07 | 5,763.52 | 6,004.77 | 5,763.52 | 21.36 | 27.07 | 146.76 | 972.64 | -879.42 | 1,983.90 | 1,951.03 | 32.86 | 60.372 | |
| 5,900.00 | 5,803.59 | 6,044.83 | 5,803.59 | 21.52 | 27.11 | 146.97 | 972.64 | -879.42 | 1,990.97 | 1,957.82 | 33.15 | 60.067 | |
| 6,000.00 | 5,901.93 | 6,143.17 | 5,901.93 | 21.82 | 27.21 | 147.41 | 972.64 | -879.42 | 2,006.25 | 1,972.48 | 33.77 | 59.407 | |
| 6,100.00 | 6,000.85 | 6,242.09 | 6,000.85 | 22.08 | 27.31 | 147.77 | 972.64 | -879.42 | 2,018.66 | 1,984.31 | 34.34 | 58.776 | |
| 6,200.00 | 6,100.22 | 6,341.46 | 6,100.22 | 22.31 | 27.42 | 148.04 | 972.64 | -879.42 | 2,028.15 | 1,993.29 | 34.87 | 58.171 | |
| 6,300.00 | 6,199.91 | 6,441.15 | 6,199.91 | 22.50 | 27.52 | 148.22 | 972.64 | -879.42 | 2,034.71 | 1,999.38 | 35.33 | 57.591 | |

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

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Project: | COLORADO NOTHERN ZONE - 83 | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Reference Site: | WELD_DRY CREEK 20-27 PAD | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_DRY CREEK 37-27 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 10-29-09 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 10-27 - P_DRY CREEK 10-27 - PLAN #1 10-29-09 F | | | | | | | | | | | | Offset Site Error: | 0.00 ft |
|--|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|---------------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.00 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) | Minimum Separation (ft) | Separation Factor | Warning |
| 6,400.00 | 6,299.82 | 6,541.06 | 6,299.82 | 22.66 | 27.63 | 148.33 | 972.64 | -879.42 | 2,038.30 | 2,002.56 | 35.74 | 57.031 | |
| 6,471.19 | 6,371.00 | 6,612.24 | 6,371.00 | 22.75 | 27.70 | -19.08 | 972.64 | -879.42 | 2,039.06 | 2,003.05 | 36.01 | 56.631 | |
| 6,500.00 | 6,399.81 | 6,641.05 | 6,399.81 | 22.79 | 27.74 | -19.08 | 972.64 | -879.42 | 2,039.06 | 2,002.96 | 36.10 | 56.488 | |
| 6,600.00 | 6,499.81 | 6,741.05 | 6,499.81 | 22.90 | 27.85 | -19.08 | 972.64 | -879.42 | 2,039.06 | 2,002.65 | 36.40 | 56.012 | |
| 6,700.00 | 6,599.81 | 6,841.05 | 6,599.81 | 23.01 | 27.96 | -19.08 | 972.64 | -879.42 | 2,039.06 | 2,002.34 | 36.71 | 55.539 | |
| 6,800.00 | 6,699.81 | 6,941.05 | 6,699.81 | 23.12 | 28.07 | -19.08 | 972.64 | -879.42 | 2,039.06 | 2,002.03 | 37.03 | 55.069 | |
| 6,900.00 | 6,799.81 | 7,041.05 | 6,799.81 | 23.24 | 28.18 | -19.08 | 972.64 | -879.42 | 2,039.06 | 2,001.71 | 37.34 | 54.604 | |
| 7,000.00 | 6,899.81 | 7,141.05 | 6,899.81 | 23.35 | 28.30 | -19.08 | 972.64 | -879.42 | 2,039.06 | 2,001.40 | 37.66 | 54.142 | |
| 7,100.00 | 6,999.81 | 7,241.05 | 6,999.81 | 23.47 | 28.41 | -19.08 | 972.64 | -879.42 | 2,039.06 | 2,001.08 | 37.98 | 53.685 | |
| 7,200.00 | 7,099.81 | 7,341.05 | 7,099.81 | 23.59 | 28.53 | -19.08 | 972.64 | -879.42 | 2,039.06 | 2,000.75 | 38.31 | 53.231 | |
| 7,300.00 | 7,199.81 | 7,441.05 | 7,199.81 | 23.71 | 28.65 | -19.08 | 972.64 | -879.42 | 2,039.06 | 2,000.43 | 38.63 | 52.782 | |
| 7,400.00 | 7,299.81 | 7,541.05 | 7,299.81 | 23.83 | 28.77 | -19.08 | 972.64 | -879.42 | 2,039.06 | 2,000.10 | 38.96 | 52.337 | |
| 7,500.00 | 7,399.81 | 7,641.05 | 7,399.81 | 23.95 | 28.89 | -19.08 | 972.64 | -879.42 | 2,039.06 | 1,999.77 | 39.29 | 51.896 | |
| 7,600.00 | 7,499.81 | 7,741.05 | 7,499.81 | 24.08 | 29.01 | -19.08 | 972.64 | -879.42 | 2,039.06 | 1,999.43 | 39.62 | 51.459 | |
| 7,700.00 | 7,599.81 | 7,841.05 | 7,599.81 | 24.21 | 29.14 | -19.08 | 972.64 | -879.42 | 2,039.06 | 1,999.10 | 39.96 | 51.027 | |
| 7,800.00 | 7,699.81 | 7,941.05 | 7,699.81 | 24.33 | 29.26 | -19.08 | 972.64 | -879.42 | 2,039.06 | 1,998.76 | 40.30 | 50.599 | |
| 7,900.00 | 7,799.81 | 8,041.05 | 7,799.81 | 24.46 | 29.39 | -19.08 | 972.64 | -879.42 | 2,039.06 | 1,998.42 | 40.64 | 50.176 | |
| 8,000.00 | 7,899.81 | 8,141.05 | 7,899.81 | 24.59 | 29.52 | -19.08 | 972.64 | -879.42 | 2,039.06 | 1,998.08 | 40.98 | 49.757 | |
| 8,031.19 | 7,931.00 | 8,172.24 | 7,931.00 | 24.64 | 29.56 | -19.08 | 972.64 | -879.42 | 2,039.06 | 1,997.97 | 41.09 | 49.627 | |

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Project: | COLORADO NOTHERN ZONE - 83 | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Reference Site: | WELD_DRY CREEK 20-27 PAD | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_DRY CREEK 37-27 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 10-29-09 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.00 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.00 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) | Minimum Separation (ft) | Separation Factor | Warning |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 18.22 | 0.00 | 18.22 | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 0.10 | 0.00 | 18.22 | 0.00 | 18.22 | 18.03 | 0.19 | 95.356 | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 0.32 | 0.00 | 18.22 | 0.00 | 18.22 | 17.58 | 0.64 | 28.440 | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 0.55 | 0.00 | 18.22 | 0.00 | 18.22 | 17.13 | 1.09 | 16.712 | |
| 400.00 | 400.00 | 400.00 | 400.00 | 0.77 | 0.77 | 0.00 | 18.22 | 0.00 | 18.22 | 16.68 | 1.54 | 11.833 | |
| 500.00 | 500.00 | 500.00 | 500.00 | 0.99 | 0.99 | 0.00 | 18.22 | 0.00 | 18.22 | 16.23 | 1.99 | 9.159 | |
| 600.00 | 600.00 | 600.00 | 600.00 | 1.22 | 1.22 | 0.00 | 18.22 | 0.00 | 18.22 | 15.78 | 2.44 | 7.470 | |
| 700.00 | 700.00 | 700.00 | 700.00 | 1.44 | 1.44 | 0.00 | 18.22 | 0.00 | 18.22 | 15.33 | 2.89 | 6.308 | |
| 800.00 | 800.00 | 800.00 | 800.00 | 1.67 | 1.67 | 0.00 | 18.22 | 0.00 | 18.22 | 14.88 | 3.34 | 5.458 | |
| 900.00 | 900.00 | 900.00 | 900.00 | 1.89 | 1.89 | 0.00 | 18.22 | 0.00 | 18.22 | 14.43 | 3.79 | 4.810 | |
| 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 2.12 | 2.12 | 0.00 | 18.22 | 0.00 | 18.22 | 13.98 | 4.24 | 4.300 | |
| 1,100.00 | 1,100.00 | 1,100.00 | 1,100.00 | 2.34 | 2.34 | 0.00 | 18.22 | 0.00 | 18.22 | 13.53 | 4.69 | 3.887 | |
| 1,200.00 | 1,200.00 | 1,200.00 | 1,200.00 | 2.57 | 2.57 | 0.00 | 18.22 | 0.00 | 18.22 | 13.08 | 5.14 | 3.547 | |
| 1,250.00 | 1,250.00 | 1,250.00 | 1,250.00 | 2.68 | 2.68 | 0.00 | 18.22 | 0.00 | 18.22 | 12.86 | 5.36 | 3.398 CC | |
| 1,300.00 | 1,300.00 | 1,300.20 | 1,300.19 | 2.78 | 2.78 | 168.79 | 17.94 | 0.34 | 18.37 | 12.81 | 5.56 | 3.305 ES, SF | |
| 1,400.00 | 1,399.93 | 1,400.49 | 1,400.42 | 2.95 | 2.97 | 178.77 | 15.73 | 3.07 | 19.96 | 14.05 | 5.91 | 3.378 | |
| 1,500.00 | 1,499.68 | 1,500.47 | 1,500.15 | 3.13 | 3.16 | -166.21 | 11.33 | 8.50 | 24.52 | 18.25 | 6.27 | 3.911 | |
| 1,600.00 | 1,599.13 | 1,599.95 | 1,599.08 | 3.33 | 3.37 | -152.74 | 4.78 | 16.59 | 33.28 | 26.63 | 6.65 | 5.003 | |
| 1,700.00 | 1,698.15 | 1,698.74 | 1,696.90 | 3.55 | 3.60 | -143.28 | -3.85 | 27.26 | 46.44 | 39.36 | 7.07 | 6.565 | |
| 1,800.00 | 1,796.63 | 1,796.67 | 1,793.36 | 3.81 | 3.87 | -137.06 | -14.50 | 40.41 | 63.72 | 56.17 | 7.55 | 8.444 | |
| 1,862.12 | 1,857.48 | 1,857.48 | 1,853.08 | 3.99 | 4.05 | -134.84 | -21.69 | 49.29 | 76.17 | 68.31 | 7.87 | 9.682 | |
| 1,900.00 | 1,894.49 | 1,894.51 | 1,889.45 | 4.10 | 4.16 | -134.09 | -26.07 | 54.69 | 84.08 | 76.01 | 8.08 | 10.408 | |
| 2,000.00 | 1,992.22 | 1,992.26 | 1,985.47 | 4.43 | 4.48 | -132.67 | -37.63 | 68.97 | 105.01 | 96.35 | 8.66 | 12.122 | |
| 2,100.00 | 2,089.94 | 2,090.02 | 2,081.49 | 4.78 | 4.81 | -131.71 | -49.19 | 83.24 | 125.98 | 116.70 | 9.28 | 13.579 | |
| 2,200.00 | 2,187.67 | 2,187.78 | 2,177.51 | 5.15 | 5.15 | -131.03 | -60.74 | 97.51 | 146.97 | 137.06 | 9.92 | 14.820 | |
| 2,300.00 | 2,285.40 | 2,285.54 | 2,273.53 | 5.54 | 5.50 | -130.52 | -72.30 | 111.78 | 167.98 | 157.40 | 10.58 | 15.880 | |
| 2,400.00 | 2,383.12 | 2,383.30 | 2,369.54 | 5.93 | 5.86 | -130.13 | -83.86 | 126.06 | 189.00 | 177.75 | 11.26 | 16.792 | |
| 2,500.00 | 2,480.85 | 2,481.06 | 2,465.56 | 6.34 | 6.23 | -129.81 | -95.42 | 140.33 | 210.03 | 198.08 | 11.95 | 17.580 | |
| 2,600.00 | 2,578.57 | 2,578.82 | 2,561.58 | 6.75 | 6.61 | -129.55 | -106.97 | 154.60 | 231.06 | 218.41 | 12.65 | 18.265 | |
| 2,700.00 | 2,676.30 | 2,676.58 | 2,657.60 | 7.17 | 6.99 | -129.33 | -118.53 | 168.87 | 252.09 | 238.73 | 13.36 | 18.864 | |
| 2,800.00 | 2,774.02 | 2,774.33 | 2,753.62 | 7.59 | 7.37 | -129.15 | -130.09 | 183.15 | 273.13 | 259.04 | 14.08 | 19.392 | |
| 2,900.00 | 2,871.75 | 2,872.09 | 2,849.64 | 8.02 | 7.76 | -128.99 | -141.65 | 197.42 | 294.17 | 279.35 | 14.81 | 19.859 | |
| 3,000.00 | 2,969.48 | 2,969.85 | 2,945.65 | 8.45 | 8.15 | -128.86 | -153.20 | 211.69 | 315.21 | 299.66 | 15.55 | 20.275 | |
| 3,100.00 | 3,067.20 | 3,067.61 | 3,041.67 | 8.88 | 8.55 | -128.74 | -164.76 | 225.96 | 336.25 | 319.96 | 16.29 | 20.647 | |
| 3,200.00 | 3,164.93 | 3,165.37 | 3,137.69 | 9.32 | 8.94 | -128.63 | -176.32 | 240.24 | 357.29 | 340.26 | 17.03 | 20.981 | |
| 3,300.00 | 3,262.65 | 3,263.13 | 3,233.71 | 9.76 | 9.34 | -128.54 | -187.88 | 254.51 | 378.34 | 360.56 | 17.78 | 21.284 | |
| 3,400.00 | 3,360.38 | 3,360.89 | 3,329.73 | 10.20 | 9.74 | -128.45 | -199.43 | 268.78 | 399.38 | 380.86 | 18.53 | 21.558 | |
| 3,500.00 | 3,458.11 | 3,458.65 | 3,425.74 | 10.65 | 10.14 | -128.38 | -210.99 | 283.05 | 420.43 | 401.15 | 19.28 | 21.808 | |
| 3,600.00 | 3,555.83 | 3,556.40 | 3,521.76 | 11.09 | 10.54 | -128.31 | -222.55 | 297.33 | 441.48 | 421.44 | 20.03 | 22.036 | |
| 3,700.00 | 3,653.56 | 3,654.16 | 3,617.78 | 11.54 | 10.95 | -128.25 | -234.11 | 311.60 | 462.52 | 441.73 | 20.79 | 22.246 | |
| 3,800.00 | 3,751.28 | 3,751.92 | 3,713.80 | 11.99 | 11.35 | -128.19 | -245.66 | 325.87 | 483.57 | 462.02 | 21.55 | 22.439 | |
| 3,900.00 | 3,849.01 | 3,849.68 | 3,809.82 | 12.44 | 11.76 | -128.14 | -257.22 | 340.14 | 504.62 | 482.31 | 22.31 | 22.617 | |
| 4,000.00 | 3,946.74 | 3,947.44 | 3,905.84 | 12.89 | 12.17 | -128.09 | -268.78 | 354.42 | 525.67 | 502.59 | 23.07 | 22.782 | |
| 4,100.00 | 4,044.46 | 4,045.20 | 4,001.85 | 13.34 | 12.57 | -128.05 | -280.34 | 368.69 | 546.72 | 522.88 | 23.84 | 22.936 | |
| 4,200.00 | 4,142.19 | 4,142.96 | 4,097.87 | 13.79 | 12.98 | -128.01 | -291.89 | 382.96 | 567.77 | 543.17 | 24.60 | 23.079 | |
| 4,300.00 | 4,239.91 | 4,240.72 | 4,193.89 | 14.24 | 13.39 | -127.97 | -303.45 | 397.23 | 588.82 | 563.45 | 25.37 | 23.213 | |
| 4,400.00 | 4,337.64 | 4,342.35 | 4,293.77 | 14.70 | 13.77 | -127.97 | -315.26 | 411.82 | 609.74 | 583.64 | 26.10 | 23.364 | |
| 4,500.00 | 4,435.37 | 4,450.01 | 4,400.14 | 15.15 | 14.07 | -128.24 | -325.72 | 424.73 | 629.41 | 602.64 | 26.76 | 23.517 | |
| 4,600.00 | 4,533.09 | 4,557.99 | 4,507.37 | 15.61 | 14.34 | -128.82 | -333.67 | 434.55 | 647.59 | 620.20 | 27.39 | 23.645 | |
| 4,700.00 | 4,630.82 | 4,666.00 | 4,615.03 | 16.06 | 14.57 | -129.70 | -339.07 | 441.23 | 664.36 | 636.40 | 27.96 | 23.759 | |
| 4,800.00 | 4,728.54 | 4,773.71 | 4,722.64 | 16.52 | 14.75 | -130.85 | -341.92 | 444.74 | 679.86 | 651.38 | 28.48 | 23.871 | |
| 4,900.00 | 4,826.27 | 4,877.34 | 4,826.27 | 16.97 | 14.90 | -132.18 | -342.40 | 445.34 | 694.36 | 665.42 | 28.95 | 23.986 | |

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

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Project: | COLORADO NOTHERN ZONE - 83 | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Reference Site: | WELD_DRY CREEK 20-27 PAD | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_DRY CREEK 37-27 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 10-29-09 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 16-27 - P_DRY CREEK 16-27 - PLAN #1 10-29-09 F | | | | | | | | | | | | Offset Site Error: | 0.00 ft |
|--|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|---------------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.00 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) | Minimum Separation (ft) | Separation Factor | Warning |
| 5,000.00 | 4,923.99 | 4,975.07 | 4,923.99 | 17.43 | 15.04 | -133.43 | -342.40 | 445.34 | 708.95 | 679.56 | 29.39 | 24.118 | |
| 5,100.00 | 5,021.72 | 5,072.80 | 5,021.72 | 17.89 | 15.18 | -134.64 | -342.40 | 445.34 | 723.87 | 694.03 | 29.83 | 24.264 | |
| 5,200.00 | 5,119.45 | 5,170.52 | 5,119.45 | 18.34 | 15.32 | -135.79 | -342.40 | 445.34 | 739.09 | 708.82 | 30.27 | 24.420 | |
| 5,300.00 | 5,217.17 | 5,268.25 | 5,217.17 | 18.80 | 15.47 | -136.91 | -342.40 | 445.34 | 754.60 | 723.91 | 30.69 | 24.586 | |
| 5,400.00 | 5,314.90 | 5,365.97 | 5,314.90 | 19.26 | 15.61 | -137.97 | -342.40 | 445.34 | 770.38 | 739.27 | 31.11 | 24.760 | |
| 5,500.00 | 5,412.62 | 5,463.70 | 5,412.62 | 19.72 | 15.76 | -139.00 | -342.40 | 445.34 | 786.42 | 754.89 | 31.53 | 24.940 | |
| 5,600.00 | 5,510.35 | 5,561.43 | 5,510.35 | 20.18 | 15.91 | -139.98 | -342.40 | 445.34 | 802.70 | 770.75 | 31.95 | 25.126 | |
| 5,700.00 | 5,608.08 | 5,659.15 | 5,608.08 | 20.63 | 16.06 | -140.93 | -342.40 | 445.34 | 819.20 | 786.84 | 32.36 | 25.317 | |
| 5,800.00 | 5,705.80 | 5,756.88 | 5,705.80 | 21.09 | 16.21 | -141.83 | -342.40 | 445.34 | 835.91 | 803.15 | 32.77 | 25.511 | |
| 5,859.07 | 5,763.52 | 5,814.60 | 5,763.52 | 21.36 | 16.30 | -142.35 | -342.40 | 445.34 | 845.88 | 812.87 | 33.01 | 25.627 | |
| 5,900.00 | 5,803.59 | 5,854.66 | 5,803.59 | 21.52 | 16.36 | -142.78 | -342.40 | 445.34 | 852.60 | 819.41 | 33.18 | 25.692 | |
| 6,000.00 | 5,901.93 | 5,953.01 | 5,901.93 | 21.82 | 16.52 | -143.67 | -342.40 | 445.34 | 867.18 | 833.61 | 33.57 | 25.833 | |
| 6,100.00 | 6,000.85 | 6,051.92 | 6,000.85 | 22.08 | 16.68 | -144.37 | -342.40 | 445.34 | 879.08 | 845.14 | 33.93 | 25.907 | |
| 6,200.00 | 6,100.22 | 6,151.29 | 6,100.22 | 22.31 | 16.84 | -144.90 | -342.40 | 445.34 | 888.22 | 853.94 | 34.28 | 25.914 | |
| 6,300.00 | 6,199.91 | 6,250.99 | 6,199.91 | 22.50 | 17.00 | -145.26 | -342.40 | 445.34 | 894.55 | 859.96 | 34.59 | 25.858 | |
| 6,400.00 | 6,299.82 | 6,350.89 | 6,299.82 | 22.66 | 17.17 | -145.45 | -342.40 | 445.34 | 898.03 | 863.14 | 34.89 | 25.740 | |
| 6,471.19 | 6,371.00 | 6,422.08 | 6,371.00 | 22.75 | 17.28 | 47.08 | -342.40 | 445.34 | 898.76 | 863.67 | 35.09 | 25.611 | |
| 6,500.00 | 6,399.81 | 6,450.89 | 6,399.81 | 22.79 | 17.33 | 47.08 | -342.40 | 445.34 | 898.76 | 863.57 | 35.18 | 25.544 | |
| 6,600.00 | 6,499.81 | 6,550.89 | 6,499.81 | 22.90 | 17.50 | 47.08 | -342.40 | 445.34 | 898.76 | 863.27 | 35.49 | 25.322 | |
| 6,700.00 | 6,599.81 | 6,650.89 | 6,599.81 | 23.01 | 17.67 | 47.08 | -342.40 | 445.34 | 898.76 | 862.95 | 35.81 | 25.101 | |
| 6,800.00 | 6,699.81 | 6,750.89 | 6,699.81 | 23.12 | 17.84 | 47.08 | -342.40 | 445.34 | 898.76 | 862.64 | 36.12 | 24.883 | |
| 6,900.00 | 6,799.81 | 6,850.89 | 6,799.81 | 23.24 | 18.01 | 47.08 | -342.40 | 445.34 | 898.76 | 862.32 | 36.44 | 24.666 | |
| 7,000.00 | 6,899.81 | 6,950.89 | 6,899.81 | 23.35 | 18.18 | 47.08 | -342.40 | 445.34 | 898.76 | 862.00 | 36.76 | 24.451 | |
| 7,100.00 | 6,999.81 | 7,050.89 | 6,999.81 | 23.47 | 18.35 | 47.08 | -342.40 | 445.34 | 898.76 | 861.68 | 37.08 | 24.238 | |
| 7,200.00 | 7,099.81 | 7,150.89 | 7,099.81 | 23.59 | 18.53 | 47.08 | -342.40 | 445.34 | 898.76 | 861.35 | 37.41 | 24.028 | |
| 7,300.00 | 7,199.81 | 7,250.89 | 7,199.81 | 23.71 | 18.70 | 47.08 | -342.40 | 445.34 | 898.76 | 861.03 | 37.73 | 23.819 | |
| 7,400.00 | 7,299.81 | 7,350.89 | 7,299.81 | 23.83 | 18.88 | 47.08 | -342.40 | 445.34 | 898.76 | 860.70 | 38.06 | 23.612 | |
| 7,500.00 | 7,399.81 | 7,450.89 | 7,399.81 | 23.95 | 19.06 | 47.08 | -342.40 | 445.34 | 898.76 | 860.36 | 38.40 | 23.407 | |
| 7,600.00 | 7,499.81 | 7,550.89 | 7,499.81 | 24.08 | 19.24 | 47.08 | -342.40 | 445.34 | 898.76 | 860.03 | 38.73 | 23.205 | |
| 7,700.00 | 7,599.81 | 7,650.89 | 7,599.81 | 24.21 | 19.42 | 47.08 | -342.40 | 445.34 | 898.76 | 859.69 | 39.07 | 23.004 | |
| 7,800.00 | 7,699.81 | 7,750.89 | 7,699.81 | 24.33 | 19.60 | 47.08 | -342.40 | 445.34 | 898.76 | 859.35 | 39.41 | 22.806 | |
| 7,900.00 | 7,799.81 | 7,850.89 | 7,799.81 | 24.46 | 19.78 | 47.08 | -342.40 | 445.34 | 898.76 | 859.01 | 39.75 | 22.610 | |
| 8,000.00 | 7,899.81 | 7,950.89 | 7,899.81 | 24.59 | 19.96 | 47.08 | -342.40 | 445.34 | 898.76 | 858.66 | 40.09 | 22.416 | |
| 8,031.19 | 7,931.00 | 7,982.08 | 7,931.00 | 24.64 | 20.02 | 47.08 | -342.40 | 445.34 | 898.76 | 858.56 | 40.20 | 22.356 | |

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Project: | COLORADO NOTHERN ZONE - 83 | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Reference Site: | WELD_DRY CREEK 20-27 PAD | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_DRY CREEK 37-27 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 10-29-09 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 23-27 - P_DRY CREEK 23-27 - PLAN #1 10-29-09 F | | | | | | | | | | | | | Offset Site Error: 0.00 ft |
|---|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|----------------------------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: 0.00 ft |
| 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) | Minimum Separation (ft) | Separation Factor | Warning |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 32.79 | 0.00 | 32.79 | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 0.10 | 0.00 | 32.79 | 0.00 | 32.79 | 32.60 | 0.19 | 171.624 | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 0.32 | 0.00 | 32.79 | 0.00 | 32.79 | 32.15 | 0.64 | 51.186 CC | |
| 300.00 | 300.00 | 299.75 | 299.73 | 0.55 | 0.54 | -2.95 | 33.11 | -1.71 | 33.15 | 32.07 | 1.08 | 30.649 ES | |
| 400.00 | 400.00 | 399.26 | 399.10 | 0.77 | 0.76 | -11.31 | 34.05 | -6.81 | 34.74 | 33.21 | 1.53 | 22.729 | |
| 500.00 | 500.00 | 498.29 | 497.75 | 0.99 | 1.01 | -23.19 | 35.61 | -15.26 | 38.81 | 36.82 | 1.99 | 19.528 | |
| 600.00 | 600.00 | 596.61 | 595.35 | 1.22 | 1.30 | -35.51 | 37.78 | -26.95 | 46.64 | 44.19 | 2.45 | 19.059 SF | |
| 700.00 | 700.00 | 694.00 | 691.56 | 1.44 | 1.62 | -45.87 | 40.52 | -41.78 | 58.81 | 55.91 | 2.90 | 20.274 | |
| 800.00 | 800.00 | 790.26 | 786.09 | 1.67 | 1.99 | -53.67 | 43.82 | -59.58 | 75.26 | 71.90 | 3.35 | 22.456 | |
| 900.00 | 900.00 | 885.17 | 878.66 | 1.89 | 2.40 | -59.29 | 47.63 | -80.18 | 95.68 | 91.87 | 3.81 | 25.127 | |
| 1,000.00 | 1,000.00 | 978.58 | 969.03 | 2.12 | 2.87 | -63.33 | 51.93 | -103.39 | 119.77 | 115.50 | 4.27 | 28.020 | |
| 1,100.00 | 1,100.00 | 1,070.33 | 1,057.00 | 2.34 | 3.38 | -66.28 | 56.67 | -129.00 | 147.31 | 142.56 | 4.75 | 31.004 | |
| 1,200.00 | 1,200.00 | 1,160.26 | 1,142.38 | 2.57 | 3.93 | -68.48 | 61.81 | -156.77 | 178.10 | 172.86 | 5.24 | 33.998 | |
| 1,250.00 | 1,250.00 | 1,204.52 | 1,184.06 | 2.68 | 4.22 | -69.37 | 64.52 | -171.40 | 194.65 | 189.17 | 5.48 | 35.493 | |
| 1,300.00 | 1,300.00 | 1,248.28 | 1,225.04 | 2.78 | 4.53 | -97.02 | 67.32 | -186.49 | 212.02 | 206.29 | 5.73 | 37.001 | |
| 1,400.00 | 1,399.93 | 1,334.26 | 1,304.86 | 2.95 | 5.17 | 95.71 | 73.13 | -217.92 | 249.16 | 243.01 | 6.15 | 40.521 | |
| 1,500.00 | 1,499.68 | 1,418.63 | 1,382.21 | 3.13 | 5.83 | 95.07 | 79.26 | -251.03 | 289.33 | 282.75 | 6.59 | 43.935 | |
| 1,600.00 | 1,599.13 | 1,509.46 | 1,465.03 | 3.33 | 6.59 | 94.97 | 86.05 | -287.71 | 330.95 | 323.88 | 7.07 | 46.791 | |
| 1,700.00 | 1,698.15 | 1,599.96 | 1,547.55 | 3.55 | 7.35 | 95.27 | 92.82 | -324.24 | 372.94 | 365.35 | 7.59 | 49.109 | |
| 1,800.00 | 1,796.63 | 1,690.01 | 1,629.66 | 3.81 | 8.11 | 95.83 | 99.55 | -360.60 | 415.40 | 407.24 | 8.16 | 50.921 | |
| 1,862.12 | 1,857.48 | 1,745.68 | 1,680.42 | 3.99 | 8.58 | 96.27 | 103.71 | -383.08 | 442.06 | 433.53 | 8.53 | 51.808 | |
| 1,900.00 | 1,894.49 | 1,779.55 | 1,711.30 | 4.10 | 8.87 | 96.89 | 106.24 | -396.75 | 458.42 | 449.64 | 8.78 | 52.196 | |
| 2,000.00 | 1,992.22 | 1,868.97 | 1,792.84 | 4.43 | 9.64 | 98.35 | 112.93 | -432.86 | 501.79 | 492.32 | 9.47 | 52.989 | |
| 2,100.00 | 2,089.94 | 1,958.40 | 1,874.38 | 4.78 | 10.40 | 99.57 | 119.61 | -468.96 | 545.39 | 535.18 | 10.20 | 53.463 | |
| 2,200.00 | 2,187.67 | 2,047.82 | 1,955.92 | 5.15 | 11.17 | 100.62 | 126.29 | -505.07 | 589.16 | 578.20 | 10.96 | 53.774 | |
| 2,300.00 | 2,285.40 | 2,137.25 | 2,037.46 | 5.54 | 11.94 | 101.52 | 132.98 | -541.17 | 633.06 | 621.33 | 11.73 | 53.970 | |
| 2,400.00 | 2,383.12 | 2,226.67 | 2,119.00 | 5.93 | 12.71 | 102.30 | 139.66 | -577.27 | 677.08 | 664.56 | 12.52 | 54.088 | |
| 2,500.00 | 2,480.85 | 2,316.10 | 2,200.54 | 6.34 | 13.48 | 102.99 | 146.35 | -613.38 | 721.19 | 707.87 | 13.32 | 54.152 | |
| 2,600.00 | 2,578.57 | 2,405.52 | 2,282.08 | 6.75 | 14.25 | 103.61 | 153.03 | -649.48 | 765.38 | 751.25 | 14.13 | 54.178 | |
| 2,700.00 | 2,676.30 | 2,494.95 | 2,363.62 | 7.17 | 15.02 | 104.15 | 159.71 | -685.59 | 809.63 | 794.68 | 14.94 | 54.178 | |
| 2,800.00 | 2,774.02 | 2,584.37 | 2,445.15 | 7.59 | 15.79 | 104.64 | 166.40 | -721.69 | 853.93 | 838.16 | 15.77 | 54.161 | |
| 2,900.00 | 2,871.75 | 2,673.80 | 2,526.69 | 8.02 | 16.57 | 105.08 | 173.08 | -757.80 | 898.27 | 881.68 | 16.59 | 54.132 | |
| 3,000.00 | 2,969.48 | 2,763.22 | 2,608.23 | 8.45 | 17.34 | 105.48 | 179.77 | -793.90 | 942.66 | 925.23 | 17.43 | 54.096 | |
| 3,100.00 | 3,067.20 | 2,852.65 | 2,689.77 | 8.88 | 18.12 | 105.84 | 186.45 | -830.00 | 987.08 | 968.82 | 18.26 | 54.055 | |
| 3,200.00 | 3,164.93 | 2,942.07 | 2,771.31 | 9.32 | 18.89 | 106.18 | 193.13 | -866.11 | 1,031.52 | 1,012.43 | 19.10 | 54.011 | |
| 3,300.00 | 3,262.65 | 3,031.50 | 2,852.85 | 9.76 | 19.67 | 106.48 | 199.82 | -902.21 | 1,076.00 | 1,056.06 | 19.94 | 53.967 | |
| 3,400.00 | 3,360.38 | 3,120.92 | 2,934.39 | 10.20 | 20.44 | 106.76 | 206.50 | -938.32 | 1,120.49 | 1,099.71 | 20.78 | 53.922 | |
| 3,500.00 | 3,458.11 | 3,210.35 | 3,015.93 | 10.65 | 21.22 | 107.02 | 213.19 | -974.42 | 1,165.01 | 1,143.39 | 21.62 | 53.878 | |
| 3,600.00 | 3,555.83 | 3,299.77 | 3,097.46 | 11.09 | 21.99 | 107.26 | 219.87 | -1,010.53 | 1,209.54 | 1,187.08 | 22.47 | 53.835 | |
| 3,700.00 | 3,653.56 | 3,389.20 | 3,179.00 | 11.54 | 22.77 | 107.48 | 226.55 | -1,046.63 | 1,254.09 | 1,230.78 | 23.31 | 53.795 | |
| 3,800.00 | 3,751.28 | 3,478.62 | 3,260.54 | 11.99 | 23.54 | 107.69 | 233.24 | -1,082.74 | 1,298.66 | 1,274.50 | 24.16 | 53.755 | |
| 3,900.00 | 3,849.01 | 3,568.04 | 3,342.08 | 12.44 | 24.32 | 107.89 | 239.92 | -1,118.84 | 1,343.24 | 1,318.23 | 25.01 | 53.718 | |
| 4,000.00 | 3,946.74 | 3,657.47 | 3,423.62 | 12.89 | 25.10 | 108.07 | 246.61 | -1,154.94 | 1,387.82 | 1,361.97 | 25.85 | 53.683 | |
| 4,100.00 | 4,044.46 | 3,746.89 | 3,505.16 | 13.34 | 25.87 | 108.24 | 253.29 | -1,191.05 | 1,432.42 | 1,405.72 | 26.70 | 53.650 | |
| 4,200.00 | 4,142.19 | 3,836.32 | 3,586.70 | 13.79 | 26.65 | 108.40 | 259.98 | -1,227.15 | 1,477.03 | 1,449.49 | 27.55 | 53.619 | |
| 4,300.00 | 4,239.91 | 4,009.04 | 3,746.20 | 14.24 | 27.82 | 108.77 | 272.02 | -1,292.24 | 1,519.23 | 1,490.57 | 28.66 | 53.005 | |
| 4,400.00 | 4,337.64 | 4,190.93 | 3,918.16 | 14.70 | 28.83 | 109.30 | 282.80 | -1,350.43 | 1,556.25 | 1,526.48 | 29.76 | 52.291 | |
| 4,500.00 | 4,435.37 | 4,380.02 | 4,100.54 | 15.15 | 29.69 | 109.99 | 291.87 | -1,399.43 | 1,587.77 | 1,556.92 | 30.85 | 51.467 | |
| 4,600.00 | 4,533.09 | 4,575.02 | 4,291.63 | 15.61 | 30.36 | 110.85 | 298.91 | -1,437.46 | 1,613.54 | 1,581.62 | 31.92 | 50.555 | |
| 4,700.00 | 4,630.82 | 4,774.33 | 4,489.19 | 16.06 | 30.85 | 111.88 | 303.64 | -1,463.02 | 1,633.39 | 1,600.44 | 32.95 | 49.574 | |
| 4,800.00 | 4,728.54 | 4,976.12 | 4,690.56 | 16.52 | 31.14 | 113.10 | 305.88 | -1,475.09 | 1,647.22 | 1,613.28 | 33.94 | 48.535 | |
| 4,900.00 | 4,826.27 | 5,111.83 | 4,826.27 | 16.97 | 31.25 | 114.00 | 306.05 | -1,476.01 | 1,656.30 | 1,621.57 | 34.73 | 47.691 | |

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

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Project: | COLORADO NOTHERN ZONE - 83 | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Reference Site: | WELD_DRY CREEK 20-27 PAD | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_DRY CREEK 37-27 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 10-29-09 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 23-27 - P_DRY CREEK 23-27 - PLAN #1 10-29-09 F | | | | | | | | | | | | Offset Site Error: | 0.00 ft |
|---|---------------------|---------------------|---------------------|----------------|-------------|--|--------------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.00 ft |
| Measured Depth (ft) | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Semi Major Axis Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
| 5,000.00 | 4,923.99 | 5,209.56 | 4,923.99 | 17.43 | 31.32 | 114.66 | 306.05 | -1,476.01 | 1,665.21 | 1,629.79 | 35.42 | 47.014 | |
| 5,100.00 | 5,021.72 | 5,307.28 | 5,021.72 | 17.89 | 31.39 | 115.30 | 306.05 | -1,476.01 | 1,674.33 | 1,638.23 | 36.10 | 46.375 | |
| 5,200.00 | 5,119.45 | 5,405.01 | 5,119.45 | 18.34 | 31.47 | 115.94 | 306.05 | -1,476.01 | 1,683.68 | 1,646.89 | 36.78 | 45.772 | |
| 5,300.00 | 5,217.17 | 5,502.74 | 5,217.17 | 18.80 | 31.54 | 116.58 | 306.05 | -1,476.01 | 1,693.23 | 1,655.77 | 37.46 | 45.202 | |
| 5,400.00 | 5,314.90 | 5,600.46 | 5,314.90 | 19.26 | 31.62 | 117.20 | 306.05 | -1,476.01 | 1,703.00 | 1,664.87 | 38.13 | 44.664 | |
| 5,500.00 | 5,412.62 | 5,698.19 | 5,412.62 | 19.72 | 31.70 | 117.82 | 306.05 | -1,476.01 | 1,712.97 | 1,674.18 | 38.79 | 44.156 | |
| 5,600.00 | 5,510.35 | 5,795.91 | 5,510.35 | 20.18 | 31.78 | 118.44 | 306.05 | -1,476.01 | 1,723.15 | 1,683.70 | 39.45 | 43.676 | |
| 5,700.00 | 5,608.08 | 5,893.64 | 5,608.08 | 20.63 | 31.86 | 119.04 | 306.05 | -1,476.01 | 1,733.53 | 1,693.42 | 40.11 | 43.222 | |
| 5,800.00 | 5,705.80 | 5,991.37 | 5,705.80 | 21.09 | 31.94 | 119.64 | 306.05 | -1,476.01 | 1,744.10 | 1,703.34 | 40.76 | 42.794 | |
| 5,859.07 | 5,763.52 | 6,049.09 | 5,763.52 | 21.36 | 31.99 | 119.99 | 306.05 | -1,476.01 | 1,750.43 | 1,709.30 | 41.14 | 42.552 | |
| 5,900.00 | 5,803.59 | 6,089.15 | 5,803.59 | 21.52 | 32.02 | 120.30 | 306.05 | -1,476.01 | 1,754.72 | 1,713.27 | 41.45 | 42.333 | |
| 6,000.00 | 5,901.93 | 6,187.50 | 5,901.93 | 21.82 | 32.11 | 120.96 | 306.05 | -1,476.01 | 1,764.05 | 1,721.93 | 42.12 | 41.886 | |
| 6,100.00 | 6,000.85 | 6,286.41 | 6,000.85 | 22.08 | 32.20 | 121.49 | 306.05 | -1,476.01 | 1,771.70 | 1,728.99 | 42.71 | 41.483 | |
| 6,200.00 | 6,100.22 | 6,385.78 | 6,100.22 | 22.31 | 32.29 | 121.90 | 306.05 | -1,476.01 | 1,777.61 | 1,734.38 | 43.23 | 41.119 | |
| 6,300.00 | 6,199.91 | 6,485.48 | 6,199.91 | 22.50 | 32.38 | 122.18 | 306.05 | -1,476.01 | 1,781.71 | 1,738.03 | 43.68 | 40.791 | |
| 6,400.00 | 6,299.82 | 6,585.38 | 6,299.82 | 22.66 | 32.47 | 122.33 | 306.05 | -1,476.01 | 1,783.97 | 1,739.92 | 44.05 | 40.497 | |
| 6,471.19 | 6,371.00 | 6,656.56 | 6,371.00 | 22.75 | 32.54 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,740.16 | 44.28 | 40.299 | |
| 6,500.00 | 6,399.81 | 6,685.38 | 6,399.81 | 22.79 | 32.56 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,740.09 | 44.35 | 40.231 | |
| 6,600.00 | 6,499.81 | 6,785.38 | 6,499.81 | 22.90 | 32.66 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,739.84 | 44.60 | 40.008 | |
| 6,700.00 | 6,599.81 | 6,885.38 | 6,599.81 | 23.01 | 32.75 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,739.59 | 44.85 | 39.784 | |
| 6,800.00 | 6,699.81 | 6,985.38 | 6,699.81 | 23.12 | 32.85 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,739.34 | 45.11 | 39.560 | |
| 6,900.00 | 6,799.81 | 7,085.38 | 6,799.81 | 23.24 | 32.95 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,739.08 | 45.36 | 39.336 | |
| 7,000.00 | 6,899.81 | 7,185.38 | 6,899.81 | 23.35 | 33.05 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,738.82 | 45.62 | 39.111 | |
| 7,100.00 | 6,999.81 | 7,285.38 | 6,999.81 | 23.47 | 33.15 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,738.56 | 45.89 | 38.887 | |
| 7,200.00 | 7,099.81 | 7,385.38 | 7,099.81 | 23.59 | 33.25 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,738.29 | 46.15 | 38.663 | |
| 7,300.00 | 7,199.81 | 7,485.38 | 7,199.81 | 23.71 | 33.36 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,738.02 | 46.42 | 38.439 | |
| 7,400.00 | 7,299.81 | 7,585.38 | 7,299.81 | 23.83 | 33.46 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,737.75 | 46.69 | 38.215 | |
| 7,500.00 | 7,399.81 | 7,685.38 | 7,399.81 | 23.95 | 33.57 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,737.47 | 46.97 | 37.992 | |
| 7,600.00 | 7,499.81 | 7,785.38 | 7,499.81 | 24.08 | 33.67 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,737.20 | 47.25 | 37.769 | |
| 7,700.00 | 7,599.81 | 7,885.38 | 7,599.81 | 24.21 | 33.78 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,736.92 | 47.53 | 37.547 | |
| 7,800.00 | 7,699.81 | 7,985.38 | 7,699.81 | 24.33 | 33.89 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,736.63 | 47.81 | 37.325 | |
| 7,900.00 | 7,799.81 | 8,085.38 | 7,799.81 | 24.46 | 34.00 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,736.35 | 48.09 | 37.104 | |
| 8,000.00 | 7,899.81 | 8,185.38 | 7,899.81 | 24.59 | 34.11 | -45.06 | 306.05 | -1,476.01 | 1,784.44 | 1,736.06 | 48.38 | 36.883 | |
| 8,031.19 | 7,931.00 | 8,191.56 | 7,906.00 | 24.64 | 34.12 | -45.06 | 306.05 | -1,476.01 | 1,784.62 | 1,736.18 | 48.43 | 36.846 | |

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Project: | COLORADO NOTHERN ZONE - 83 | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Reference Site: | WELD_DRY CREEK 20-27 PAD | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_DRY CREEK 37-27 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 10-29-09 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 24-27 - P_DRY CREEK 24-27 - PLAN #1 10-29-09 F | | | | | | | | | | | | Offset Site Error: | 0.00 ft |
|---|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.00 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) | Minimum Separation (ft) | Separation Factor | |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 65.57 | 0.00 | 65.57 | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 0.10 | 0.00 | 65.57 | 0.00 | 65.57 | 65.38 | 0.19 | 343.226 | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 0.32 | 0.00 | 65.57 | 0.00 | 65.57 | 64.93 | 0.64 | 102.366 | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 0.55 | 0.00 | 65.57 | 0.00 | 65.57 | 64.48 | 1.09 | 60.153 | |
| 400.00 | 400.00 | 400.00 | 400.00 | 0.77 | 0.77 | 0.00 | 65.57 | 0.00 | 65.57 | 64.03 | 1.54 | 42.590 | |
| 500.00 | 500.00 | 500.00 | 500.00 | 0.99 | 0.99 | 0.00 | 65.57 | 0.00 | 65.57 | 63.58 | 1.99 | 32.965 | |
| 600.00 | 600.00 | 600.00 | 600.00 | 1.22 | 1.22 | 0.00 | 65.57 | 0.00 | 65.57 | 63.14 | 2.44 | 26.889 | |
| 700.00 | 700.00 | 700.00 | 700.00 | 1.44 | 1.44 | 0.00 | 65.57 | 0.00 | 65.57 | 62.69 | 2.89 | 22.704 | |
| 800.00 | 800.00 | 800.00 | 800.00 | 1.67 | 1.67 | 0.00 | 65.57 | 0.00 | 65.57 | 62.24 | 3.34 | 19.646 | |
| 900.00 | 900.00 | 900.00 | 900.00 | 1.89 | 1.89 | 0.00 | 65.57 | 0.00 | 65.57 | 61.79 | 3.79 | 17.314 | |
| 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 2.12 | 2.12 | 0.00 | 65.57 | 0.00 | 65.57 | 61.34 | 4.24 | 15.477 | |
| 1,100.00 | 1,100.00 | 1,100.00 | 1,100.00 | 2.34 | 2.34 | 0.00 | 65.57 | 0.00 | 65.57 | 60.89 | 4.69 | 13.992 | |
| 1,200.00 | 1,200.00 | 1,200.00 | 1,200.00 | 2.57 | 2.57 | 0.00 | 65.57 | 0.00 | 65.57 | 60.44 | 5.14 | 12.768 | |
| 1,250.00 | 1,250.00 | 1,250.00 | 1,250.00 | 2.68 | 2.68 | 0.00 | 65.57 | 0.00 | 65.57 | 60.21 | 5.36 | 12.232 CC, ES | |
| 1,300.00 | 1,300.00 | 1,298.88 | 1,298.88 | 2.78 | 2.79 | 167.45 | 65.99 | -0.06 | 66.42 | 60.85 | 5.57 | 11.930 SF | |
| 1,400.00 | 1,399.93 | 1,396.30 | 1,396.23 | 2.95 | 3.01 | 167.65 | 69.27 | -0.51 | 73.20 | 67.25 | 5.95 | 12.299 | |
| 1,500.00 | 1,499.68 | 1,492.72 | 1,492.43 | 3.13 | 3.23 | 167.93 | 75.75 | -1.41 | 86.70 | 80.37 | 6.33 | 13.692 | |
| 1,600.00 | 1,599.13 | 1,587.50 | 1,586.72 | 3.33 | 3.45 | 168.22 | 85.24 | -2.72 | 106.83 | 100.12 | 6.71 | 15.926 | |
| 1,700.00 | 1,698.15 | 1,680.07 | 1,678.45 | 3.55 | 3.68 | 168.44 | 97.49 | -4.41 | 133.42 | 126.34 | 7.08 | 18.856 | |
| 1,800.00 | 1,796.63 | 1,769.88 | 1,767.03 | 3.81 | 3.92 | 168.59 | 112.17 | -6.44 | 166.28 | 158.84 | 7.44 | 22.362 | |
| 1,862.12 | 1,857.48 | 1,824.07 | 1,820.24 | 3.99 | 4.08 | 168.65 | 122.36 | -7.85 | 189.74 | 182.09 | 7.66 | 24.786 | |
| 1,900.00 | 1,894.49 | 1,856.56 | 1,852.04 | 4.10 | 4.18 | 168.72 | 128.94 | -8.76 | 204.94 | 197.13 | 7.81 | 26.247 | |
| 2,000.00 | 1,992.22 | 1,940.79 | 1,934.11 | 4.43 | 4.46 | 168.80 | 147.67 | -11.35 | 246.91 | 238.69 | 8.22 | 30.053 | |
| 2,100.00 | 2,089.94 | 2,022.74 | 2,013.40 | 4.78 | 4.76 | 168.77 | 168.18 | -14.19 | 291.45 | 282.82 | 8.63 | 33.781 | |
| 2,200.00 | 2,187.67 | 2,100.00 | 2,087.58 | 5.15 | 5.07 | 168.68 | 189.57 | -17.15 | 338.47 | 329.43 | 9.04 | 37.455 | |
| 2,300.00 | 2,285.40 | 2,179.67 | 2,163.44 | 5.54 | 5.44 | 168.54 | 213.69 | -20.48 | 387.84 | 378.38 | 9.46 | 40.996 | |
| 2,400.00 | 2,383.12 | 2,254.62 | 2,234.16 | 5.93 | 5.81 | 168.38 | 238.28 | -23.88 | 439.48 | 429.60 | 9.88 | 44.480 | |
| 2,500.00 | 2,480.85 | 2,333.97 | 2,308.42 | 6.34 | 6.25 | 168.21 | 265.96 | -27.71 | 492.97 | 482.65 | 10.32 | 47.778 | |
| 2,600.00 | 2,578.57 | 2,418.31 | 2,387.29 | 6.75 | 6.73 | 168.06 | 295.56 | -31.80 | 546.68 | 535.91 | 10.77 | 50.740 | |
| 2,700.00 | 2,676.30 | 2,502.65 | 2,466.16 | 7.17 | 7.22 | 167.94 | 325.17 | -35.90 | 600.39 | 589.16 | 11.24 | 53.430 | |
| 2,800.00 | 2,774.02 | 2,587.00 | 2,545.03 | 7.59 | 7.73 | 167.84 | 354.77 | -39.99 | 654.11 | 642.40 | 11.71 | 55.876 | |
| 2,900.00 | 2,871.75 | 2,671.34 | 2,623.91 | 8.02 | 8.26 | 167.75 | 384.38 | -44.08 | 707.82 | 695.64 | 12.18 | 58.109 | |
| 3,000.00 | 2,969.48 | 2,755.69 | 2,702.78 | 8.45 | 8.78 | 167.67 | 413.98 | -48.18 | 761.54 | 748.88 | 12.66 | 60.154 | |
| 3,100.00 | 3,067.20 | 2,840.03 | 2,781.65 | 8.88 | 9.32 | 167.61 | 443.59 | -52.27 | 815.25 | 802.11 | 13.14 | 62.030 | |
| 3,200.00 | 3,164.93 | 2,924.38 | 2,860.52 | 9.32 | 9.86 | 167.55 | 473.20 | -56.36 | 868.97 | 855.34 | 13.63 | 63.757 | |
| 3,300.00 | 3,262.65 | 3,008.72 | 2,939.39 | 9.76 | 10.41 | 167.50 | 502.80 | -60.46 | 922.69 | 908.57 | 14.12 | 65.349 | |
| 3,400.00 | 3,360.38 | 3,093.06 | 3,018.26 | 10.20 | 10.96 | 167.45 | 532.41 | -64.55 | 976.41 | 961.79 | 14.61 | 66.820 | |
| 3,500.00 | 3,458.11 | 3,177.41 | 3,097.13 | 10.65 | 11.52 | 167.41 | 562.01 | -68.65 | 1,030.13 | 1,015.02 | 15.11 | 68.182 | |
| 3,600.00 | 3,555.83 | 3,261.75 | 3,176.01 | 11.09 | 12.08 | 167.38 | 591.62 | -72.74 | 1,083.84 | 1,068.24 | 15.61 | 69.447 | |
| 3,700.00 | 3,653.56 | 3,346.10 | 3,254.88 | 11.54 | 12.64 | 167.34 | 621.22 | -76.83 | 1,137.56 | 1,121.46 | 16.11 | 70.625 | |
| 3,800.00 | 3,751.28 | 3,430.44 | 3,333.75 | 11.99 | 13.20 | 167.31 | 650.83 | -80.93 | 1,191.28 | 1,174.67 | 16.61 | 71.723 | |
| 3,900.00 | 3,849.01 | 3,514.79 | 3,412.62 | 12.44 | 13.77 | 167.29 | 680.43 | -85.02 | 1,245.00 | 1,227.89 | 17.11 | 72.749 | |
| 4,000.00 | 3,946.74 | 3,599.13 | 3,491.49 | 12.89 | 14.34 | 167.26 | 710.04 | -89.11 | 1,298.72 | 1,281.10 | 17.62 | 73.709 | |
| 4,100.00 | 4,044.46 | 3,683.47 | 3,570.36 | 13.34 | 14.91 | 167.24 | 739.65 | -93.21 | 1,352.44 | 1,334.32 | 18.13 | 74.608 | |
| 4,200.00 | 4,142.19 | 3,767.82 | 3,649.23 | 13.79 | 15.48 | 167.22 | 769.25 | -97.30 | 1,406.16 | 1,387.53 | 18.64 | 75.453 | |
| 4,300.00 | 4,239.91 | 3,852.16 | 3,728.11 | 14.24 | 16.05 | 167.20 | 798.86 | -101.40 | 1,459.88 | 1,440.74 | 19.15 | 76.248 | |
| 4,400.00 | 4,337.64 | 3,936.51 | 3,806.98 | 14.70 | 16.63 | 167.18 | 828.46 | -105.49 | 1,513.60 | 1,493.95 | 19.66 | 76.997 | |
| 4,500.00 | 4,435.37 | 4,020.85 | 3,885.85 | 15.15 | 17.20 | 167.16 | 858.07 | -109.58 | 1,567.32 | 1,547.15 | 20.17 | 77.703 | |
| 4,600.00 | 4,533.09 | 4,105.20 | 3,964.72 | 15.61 | 17.78 | 167.15 | 887.67 | -113.68 | 1,621.04 | 1,600.36 | 20.68 | 78.371 | |
| 4,700.00 | 4,630.82 | 4,189.54 | 4,043.59 | 16.06 | 18.35 | 167.13 | 917.28 | -117.77 | 1,674.77 | 1,653.57 | 21.20 | 79.003 | |
| 4,800.00 | 4,728.54 | 4,273.88 | 4,122.46 | 16.52 | 18.93 | 167.12 | 946.88 | -121.87 | 1,728.49 | 1,706.77 | 21.71 | 79.601 | |
| 4,900.00 | 4,826.27 | 4,358.23 | 4,201.33 | 16.97 | 19.51 | 167.10 | 976.49 | -125.96 | 1,782.21 | 1,759.98 | 22.23 | 80.169 | |

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

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Project: | COLORADO NOTHERN ZONE - 83 | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Reference Site: | WELD_DRY CREEK 20-27 PAD | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_DRY CREEK 37-27 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 10-29-09 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 24-27 - P_DRY CREEK 24-27 - PLAN #1 10-29-09 F | | | | | | | | | | | | Offset Site Error: | 0.00 ft |
|---|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.00 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) | Minimum Separation (ft) | Separation Factor | Warning |
| 5,000.00 | 4,923.99 | 4,442.57 | 4,280.21 | 17.43 | 20.09 | 167.09 | 1,006.10 | -130.05 | 1,835.93 | 1,813.18 | 22.75 | 80.708 | |
| 5,100.00 | 5,021.72 | 4,526.92 | 4,359.08 | 17.89 | 20.66 | 167.08 | 1,035.70 | -134.15 | 1,889.65 | 1,866.38 | 23.27 | 81.221 | |
| 5,200.00 | 5,119.45 | 4,611.26 | 4,437.95 | 18.34 | 21.24 | 167.07 | 1,065.31 | -138.24 | 1,943.37 | 1,919.59 | 23.78 | 81.709 | |
| 5,300.00 | 5,217.17 | 4,695.61 | 4,516.82 | 18.80 | 21.82 | 167.06 | 1,094.91 | -142.33 | 1,997.09 | 1,972.79 | 24.30 | 82.174 | |
| 5,400.00 | 5,314.90 | 4,779.95 | 4,595.69 | 19.26 | 22.41 | 167.05 | 1,124.52 | -146.43 | 2,050.81 | 2,025.99 | 24.82 | 82.618 | |
| 5,500.00 | 5,412.62 | 4,864.29 | 4,674.56 | 19.72 | 22.99 | 167.04 | 1,154.12 | -150.52 | 2,104.53 | 2,079.19 | 25.34 | 83.042 | |
| 5,600.00 | 5,510.35 | 4,948.64 | 4,753.43 | 20.18 | 23.57 | 167.03 | 1,183.73 | -154.62 | 2,158.25 | 2,132.39 | 25.86 | 83.447 | |
| 5,700.00 | 5,608.08 | 5,032.98 | 4,832.31 | 20.63 | 24.15 | 167.02 | 1,213.33 | -158.71 | 2,211.98 | 2,185.59 | 26.39 | 83.834 | |
| 5,800.00 | 5,705.80 | 5,117.33 | 4,911.18 | 21.09 | 24.73 | 167.01 | 1,242.94 | -162.80 | 2,265.70 | 2,238.79 | 26.91 | 84.205 | |
| 5,859.07 | 5,763.52 | 5,167.15 | 4,957.76 | 21.36 | 25.08 | 167.01 | 1,260.43 | -165.22 | 2,297.43 | 2,270.21 | 27.22 | 84.417 | |
| 5,900.00 | 5,803.59 | 5,201.82 | 4,990.19 | 21.52 | 25.32 | 167.12 | 1,272.60 | -166.90 | 2,319.18 | 2,291.66 | 27.52 | 84.280 | |
| 6,000.00 | 5,901.93 | 5,287.78 | 5,070.57 | 21.82 | 25.91 | 167.35 | 1,302.77 | -171.08 | 2,370.26 | 2,342.04 | 28.22 | 83.993 | |
| 6,100.00 | 6,000.85 | 5,375.41 | 5,152.52 | 22.08 | 26.52 | 167.54 | 1,333.53 | -175.33 | 2,418.39 | 2,389.49 | 28.89 | 83.697 | |
| 6,200.00 | 6,100.22 | 5,464.62 | 5,235.93 | 22.31 | 27.13 | 167.70 | 1,364.84 | -179.66 | 2,463.50 | 2,433.96 | 29.54 | 83.397 | |
| 6,300.00 | 6,199.91 | 5,555.29 | 5,320.72 | 22.50 | 27.76 | 167.81 | 1,396.67 | -184.06 | 2,505.55 | 2,475.40 | 30.15 | 83.096 | |
| 6,400.00 | 6,299.82 | 5,628.97 | 5,372.23 | 22.66 | 28.33 | 167.52 | 1,560.35 | -206.69 | 2,535.14 | 2,503.10 | 32.04 | 79.125 | |
| 6,471.19 | 6,371.00 | 6,628.81 | 6,371.00 | 22.75 | 31.20 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,506.11 | 32.89 | 77.193 | |
| 6,500.00 | 6,399.81 | 6,657.62 | 6,399.81 | 22.79 | 31.22 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,506.02 | 32.99 | 76.970 | |
| 6,600.00 | 6,499.81 | 6,757.62 | 6,499.81 | 22.90 | 31.32 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,505.69 | 33.32 | 76.210 | |
| 6,700.00 | 6,599.81 | 6,857.62 | 6,599.81 | 23.01 | 31.41 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,505.35 | 33.65 | 75.443 | |
| 6,800.00 | 6,699.81 | 6,957.62 | 6,699.81 | 23.12 | 31.51 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,505.01 | 34.00 | 74.685 | |
| 6,900.00 | 6,799.81 | 7,057.62 | 6,799.81 | 23.24 | 31.61 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,504.66 | 34.34 | 73.938 | |
| 7,000.00 | 6,899.81 | 7,157.62 | 6,899.81 | 23.35 | 31.70 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,504.32 | 34.69 | 73.200 | |
| 7,100.00 | 6,999.81 | 7,257.62 | 6,999.81 | 23.47 | 31.80 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,503.97 | 35.03 | 72.471 | |
| 7,200.00 | 7,099.81 | 7,357.62 | 7,099.81 | 23.59 | 31.91 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,503.62 | 35.39 | 71.753 | |
| 7,300.00 | 7,199.81 | 7,457.62 | 7,199.81 | 23.71 | 32.01 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,503.27 | 35.74 | 71.044 | |
| 7,400.00 | 7,299.81 | 7,557.62 | 7,299.81 | 23.83 | 32.11 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,502.91 | 36.09 | 70.345 | |
| 7,500.00 | 7,399.81 | 7,657.62 | 7,399.81 | 23.95 | 32.22 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,502.55 | 36.45 | 69.655 | |
| 7,600.00 | 7,499.81 | 7,757.62 | 7,499.81 | 24.08 | 32.32 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,502.19 | 36.81 | 68.975 | |
| 7,700.00 | 7,599.81 | 7,857.62 | 7,599.81 | 24.21 | 32.43 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,501.83 | 37.17 | 68.305 | |
| 7,800.00 | 7,699.81 | 7,957.62 | 7,699.81 | 24.33 | 32.54 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,501.47 | 37.53 | 67.644 | |
| 7,900.00 | 7,799.81 | 8,057.62 | 7,799.81 | 24.46 | 32.65 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,501.10 | 37.90 | 66.992 | |
| 8,000.00 | 7,899.81 | 8,157.62 | 7,899.81 | 24.59 | 32.76 | 0.06 | 1,584.61 | -210.05 | 2,539.00 | 2,500.74 | 38.27 | 66.350 | |
| 8,031.19 | 7,931.00 | 8,163.81 | 7,906.00 | 24.64 | 32.77 | 0.06 | 1,584.61 | -210.05 | 2,539.13 | 2,500.79 | 38.34 | 66.234 | |

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Project: | COLORADO NOTHERN ZONE - 83 | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Reference Site: | WELD_DRY CREEK 20-27 PAD | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_DRY CREEK 37-27 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 10-29-09 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.00 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.00 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) | Minimum Separation (ft) | Separation Factor | |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 80.14 | 0.00 | 80.14 | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 0.10 | 0.00 | 80.14 | 0.00 | 80.14 | 79.95 | 0.19 | 419.471 | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 0.32 | 0.00 | 80.14 | 0.00 | 80.14 | 79.50 | 0.64 | 125.106 | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 0.55 | 0.00 | 80.14 | 0.00 | 80.14 | 79.05 | 1.09 | 73.516 | |
| 400.00 | 400.00 | 400.00 | 400.00 | 0.77 | 0.77 | 0.00 | 80.14 | 0.00 | 80.14 | 78.60 | 1.54 | 52.051 | |
| 500.00 | 500.00 | 500.00 | 500.00 | 0.99 | 0.99 | 0.00 | 80.14 | 0.00 | 80.14 | 78.15 | 1.99 | 40.288 | |
| 600.00 | 600.00 | 600.00 | 600.00 | 1.22 | 1.22 | 0.00 | 80.14 | 0.00 | 80.14 | 77.70 | 2.44 | 32.862 | |
| 700.00 | 700.00 | 700.00 | 700.00 | 1.44 | 1.44 | 0.00 | 80.14 | 0.00 | 80.14 | 77.25 | 2.89 | 27.747 | |
| 800.00 | 800.00 | 800.00 | 800.00 | 1.67 | 1.67 | 0.00 | 80.14 | 0.00 | 80.14 | 76.80 | 3.34 | 24.010 | |
| 900.00 | 900.00 | 900.00 | 900.00 | 1.89 | 1.89 | 0.00 | 80.14 | 0.00 | 80.14 | 76.35 | 3.79 | 21.160 | |
| 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 2.12 | 2.12 | 0.00 | 80.14 | 0.00 | 80.14 | 75.90 | 4.24 | 18.915 | |
| 1,100.00 | 1,100.00 | 1,100.00 | 1,100.00 | 2.34 | 2.34 | 0.00 | 80.14 | 0.00 | 80.14 | 75.45 | 4.69 | 17.101 | |
| 1,200.00 | 1,200.00 | 1,200.00 | 1,200.00 | 2.57 | 2.57 | 0.00 | 80.14 | 0.00 | 80.14 | 75.00 | 5.14 | 15.604 | |
| 1,250.00 | 1,250.00 | 1,250.00 | 1,250.00 | 2.68 | 2.68 | 0.00 | 80.14 | 0.00 | 80.14 | 74.78 | 5.36 | 14.950 CC, ES | |
| 1,300.00 | 1,300.00 | 1,298.76 | 1,298.76 | 2.78 | 2.79 | 167.62 | 80.51 | 0.18 | 80.95 | 75.38 | 5.57 | 14.541 SF | |
| 1,400.00 | 1,399.93 | 1,395.94 | 1,395.88 | 2.95 | 3.01 | 169.02 | 83.48 | 1.64 | 87.44 | 81.49 | 5.95 | 14.700 | |
| 1,500.00 | 1,499.68 | 1,492.11 | 1,491.82 | 3.13 | 3.22 | 171.27 | 89.32 | 4.50 | 100.50 | 94.18 | 6.33 | 15.885 | |
| 1,600.00 | 1,599.13 | 1,586.63 | 1,585.85 | 3.33 | 3.44 | 173.71 | 97.88 | 8.70 | 120.20 | 113.50 | 6.70 | 17.941 | |
| 1,700.00 | 1,698.15 | 1,678.89 | 1,677.29 | 3.55 | 3.67 | 175.93 | 108.91 | 14.12 | 146.47 | 139.41 | 7.06 | 20.732 | |
| 1,800.00 | 1,796.63 | 1,768.37 | 1,765.55 | 3.81 | 3.91 | 177.78 | 122.13 | 20.60 | 179.15 | 171.73 | 7.42 | 24.143 | |
| 1,862.12 | 1,857.48 | 1,822.34 | 1,818.54 | 3.99 | 4.06 | 178.74 | 131.30 | 25.10 | 202.58 | 194.94 | 7.64 | 26.529 | |
| 1,900.00 | 1,894.49 | 1,854.69 | 1,850.21 | 4.10 | 4.16 | 179.27 | 137.22 | 28.01 | 217.77 | 209.98 | 7.79 | 27.966 | |
| 2,000.00 | 1,992.22 | 1,943.88 | 1,937.28 | 4.43 | 4.45 | -179.52 | 154.55 | 36.51 | 259.07 | 250.87 | 8.20 | 31.589 | |
| 2,100.00 | 2,089.94 | 2,034.78 | 2,026.01 | 4.78 | 4.77 | -178.61 | 172.30 | 45.22 | 300.55 | 291.92 | 8.63 | 34.834 | |
| 2,200.00 | 2,187.67 | 2,125.69 | 2,114.74 | 5.15 | 5.10 | -177.93 | 190.04 | 53.93 | 342.07 | 333.01 | 9.06 | 37.746 | |
| 2,300.00 | 2,285.40 | 2,216.59 | 2,203.47 | 5.54 | 5.44 | -177.39 | 207.79 | 62.63 | 383.63 | 374.12 | 9.50 | 40.365 | |
| 2,400.00 | 2,383.12 | 2,307.49 | 2,292.20 | 5.93 | 5.79 | -176.96 | 225.54 | 71.34 | 425.20 | 415.25 | 9.95 | 42.729 | |
| 2,500.00 | 2,480.85 | 2,398.40 | 2,380.93 | 6.34 | 6.15 | -176.60 | 243.28 | 80.05 | 466.80 | 456.39 | 10.40 | 44.868 | |
| 2,600.00 | 2,578.57 | 2,489.30 | 2,469.66 | 6.75 | 6.52 | -176.30 | 261.03 | 88.76 | 508.40 | 497.54 | 10.86 | 46.809 | |
| 2,700.00 | 2,676.30 | 2,580.21 | 2,558.39 | 7.17 | 6.89 | -176.05 | 278.77 | 97.47 | 550.02 | 538.70 | 11.32 | 48.576 | |
| 2,800.00 | 2,774.02 | 2,671.11 | 2,647.12 | 7.59 | 7.27 | -175.83 | 296.52 | 106.17 | 591.64 | 579.85 | 11.79 | 50.192 | |
| 2,900.00 | 2,871.75 | 2,762.02 | 2,735.85 | 8.02 | 7.65 | -175.65 | 314.27 | 114.88 | 633.27 | 621.01 | 12.26 | 51.671 | |
| 3,000.00 | 2,969.48 | 2,852.92 | 2,824.58 | 8.45 | 8.04 | -175.48 | 332.01 | 123.59 | 674.90 | 662.18 | 12.73 | 53.031 | |
| 3,100.00 | 3,067.20 | 2,943.83 | 2,913.31 | 8.88 | 8.43 | -175.34 | 349.76 | 132.30 | 716.54 | 703.34 | 13.20 | 54.284 | |
| 3,200.00 | 3,164.93 | 3,034.73 | 3,002.03 | 9.32 | 8.82 | -175.21 | 367.51 | 141.00 | 758.18 | 744.51 | 13.68 | 55.442 | |
| 3,300.00 | 3,262.65 | 3,125.64 | 3,090.76 | 9.76 | 9.21 | -175.09 | 385.25 | 149.71 | 799.83 | 785.68 | 14.15 | 56.514 | |
| 3,400.00 | 3,360.38 | 3,216.54 | 3,179.49 | 10.20 | 9.61 | -174.98 | 403.00 | 158.42 | 841.47 | 826.84 | 14.63 | 57.509 | |
| 3,500.00 | 3,458.11 | 3,307.45 | 3,268.22 | 10.65 | 10.00 | -174.89 | 420.75 | 167.13 | 883.12 | 868.01 | 15.11 | 58.435 | |
| 3,600.00 | 3,555.83 | 3,398.35 | 3,356.95 | 11.09 | 10.40 | -174.80 | 438.49 | 175.84 | 924.77 | 909.18 | 15.60 | 59.298 | |
| 3,700.00 | 3,653.56 | 3,489.26 | 3,445.68 | 11.54 | 10.80 | -174.72 | 456.24 | 184.54 | 966.43 | 950.35 | 16.08 | 60.104 | |
| 3,800.00 | 3,751.28 | 3,580.16 | 3,534.41 | 11.99 | 11.21 | -174.65 | 473.99 | 193.25 | 1,008.08 | 991.52 | 16.56 | 60.858 | |
| 3,900.00 | 3,849.01 | 3,671.07 | 3,623.14 | 12.44 | 11.61 | -174.58 | 491.73 | 201.96 | 1,049.74 | 1,032.69 | 17.05 | 61.566 | |
| 4,000.00 | 3,946.74 | 3,761.97 | 3,711.87 | 12.89 | 12.01 | -174.52 | 509.48 | 210.67 | 1,091.39 | 1,073.85 | 17.54 | 62.231 | |
| 4,100.00 | 4,044.46 | 3,852.88 | 3,800.60 | 13.34 | 12.42 | -174.47 | 527.23 | 219.37 | 1,133.05 | 1,115.02 | 18.03 | 62.857 | |
| 4,200.00 | 4,142.19 | 3,943.78 | 3,889.33 | 13.79 | 12.83 | -174.41 | 544.97 | 228.08 | 1,174.71 | 1,156.19 | 18.51 | 63.446 | |
| 4,300.00 | 4,239.91 | 4,034.69 | 3,978.06 | 14.24 | 13.23 | -174.36 | 562.72 | 236.79 | 1,216.37 | 1,197.36 | 19.00 | 64.003 | |
| 4,400.00 | 4,337.64 | 4,125.59 | 4,066.79 | 14.70 | 13.64 | -174.32 | 580.47 | 245.50 | 1,258.02 | 1,238.53 | 19.50 | 64.530 | |
| 4,500.00 | 4,435.37 | 4,216.49 | 4,155.52 | 15.15 | 14.05 | -174.27 | 598.21 | 254.21 | 1,299.68 | 1,279.70 | 19.99 | 65.028 | |
| 4,600.00 | 4,533.09 | 4,307.40 | 4,244.25 | 15.61 | 14.46 | -174.23 | 615.96 | 262.91 | 1,341.35 | 1,320.87 | 20.48 | 65.501 | |
| 4,700.00 | 4,630.82 | 4,398.30 | 4,332.98 | 16.06 | 14.86 | -174.20 | 633.71 | 271.62 | 1,383.01 | 1,362.04 | 20.97 | 65.949 | |
| 4,800.00 | 4,728.54 | 4,489.21 | 4,421.71 | 16.52 | 15.27 | -174.16 | 651.45 | 280.33 | 1,424.67 | 1,403.20 | 21.46 | 66.375 | |
| 4,900.00 | 4,826.27 | 4,580.11 | 4,510.43 | 16.97 | 15.68 | -174.13 | 669.20 | 289.04 | 1,466.33 | 1,444.37 | 21.96 | 66.781 | |

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

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Project: | COLORADO NOTHERN ZONE - 83 | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Reference Site: | WELD_DRY CREEK 20-27 PAD | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_DRY CREEK 37-27 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 10-29-09 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design WELD_DRY CREEK 20-27 PAD - P_DRY CREEK 9-27 - P_DRY CREEK 9-27 - PLAN #1 10-29-09 RH: | | | | | | | | | | | | Offset Site Error: | 0.00 ft |
|--|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|---------------------------|---------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.00 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) | Minimum Separation (ft) | Separation Factor | Warning |
| 5,000.00 | 4,923.99 | 4,671.02 | 4,599.16 | 17.43 | 16.09 | -174.09 | 686.95 | 297.75 | 1,507.99 | 1,485.54 | 22.45 | 67.167 | |
| 5,100.00 | 5,021.72 | 4,761.92 | 4,687.89 | 17.89 | 16.51 | -174.06 | 704.69 | 306.45 | 1,549.66 | 1,526.71 | 22.95 | 67.535 | |
| 5,200.00 | 5,119.45 | 4,852.83 | 4,776.62 | 18.34 | 16.92 | -174.04 | 722.44 | 315.16 | 1,591.32 | 1,567.88 | 23.44 | 67.887 | |
| 5,300.00 | 5,217.17 | 4,943.73 | 4,865.35 | 18.80 | 17.33 | -174.01 | 740.19 | 323.87 | 1,632.98 | 1,609.05 | 23.94 | 68.223 | |
| 5,400.00 | 5,314.90 | 5,034.64 | 4,954.08 | 19.26 | 17.74 | -173.98 | 757.93 | 332.58 | 1,674.65 | 1,650.21 | 24.43 | 68.544 | |
| 5,500.00 | 5,412.62 | 5,125.54 | 5,042.81 | 19.72 | 18.15 | -173.96 | 775.68 | 341.28 | 1,716.31 | 1,691.38 | 24.93 | 68.852 | |
| 5,600.00 | 5,510.35 | 5,216.45 | 5,131.54 | 20.18 | 18.56 | -173.93 | 793.43 | 349.99 | 1,757.97 | 1,732.55 | 25.42 | 69.146 | |
| 5,700.00 | 5,608.08 | 5,307.35 | 5,220.27 | 20.63 | 18.98 | -173.91 | 811.17 | 358.70 | 1,799.64 | 1,773.72 | 25.92 | 69.429 | |
| 5,800.00 | 5,705.80 | 5,398.26 | 5,309.00 | 21.09 | 19.39 | -173.89 | 828.92 | 367.41 | 1,841.30 | 1,814.89 | 26.42 | 69.700 | |
| 5,859.07 | 5,763.52 | 5,451.95 | 5,361.41 | 21.36 | 19.63 | -173.88 | 839.40 | 372.55 | 1,865.91 | 1,839.20 | 26.71 | 69.855 | |
| 5,900.00 | 5,803.59 | 5,489.28 | 5,397.85 | 21.52 | 19.80 | -173.91 | 846.69 | 376.13 | 1,882.70 | 1,855.72 | 26.98 | 69.777 | |
| 6,000.00 | 5,901.93 | 5,581.45 | 5,487.81 | 21.82 | 20.22 | -173.97 | 864.68 | 384.96 | 1,921.48 | 1,893.87 | 27.60 | 69.608 | |
| 6,100.00 | 6,000.85 | 5,674.90 | 5,579.02 | 22.08 | 20.65 | -174.01 | 882.93 | 393.91 | 1,957.03 | 1,928.84 | 28.19 | 69.414 | |
| 6,200.00 | 6,100.22 | 5,769.52 | 5,671.38 | 22.31 | 21.08 | -174.03 | 901.40 | 402.97 | 1,989.32 | 1,960.57 | 28.75 | 69.197 | |
| 6,300.00 | 6,199.91 | 5,828.65 | 5,826.99 | 22.50 | 21.73 | -173.99 | 931.20 | 417.59 | 2,017.87 | 1,988.47 | 29.40 | 68.636 | |
| 6,400.00 | 6,299.82 | 6,258.72 | 6,154.10 | 22.66 | 22.59 | -173.91 | 969.56 | 436.42 | 2,034.90 | 2,004.64 | 30.26 | 67.254 | |
| 6,471.19 | 6,371.00 | 6,475.79 | 6,371.00 | 22.75 | 22.92 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,007.21 | 30.76 | 66.257 | |
| 6,500.00 | 6,399.81 | 6,504.60 | 6,399.81 | 22.79 | 22.96 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,007.11 | 30.86 | 66.035 | |
| 6,600.00 | 6,499.81 | 6,604.60 | 6,499.81 | 22.90 | 23.09 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,006.75 | 31.23 | 65.264 | |
| 6,700.00 | 6,599.81 | 6,704.60 | 6,599.81 | 23.01 | 23.22 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,006.38 | 31.59 | 64.506 | |
| 6,800.00 | 6,699.81 | 6,804.60 | 6,699.81 | 23.12 | 23.35 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,006.01 | 31.96 | 63.761 | |
| 6,900.00 | 6,799.81 | 6,904.60 | 6,799.81 | 23.24 | 23.49 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,005.64 | 32.33 | 63.030 | |
| 7,000.00 | 6,899.81 | 7,004.60 | 6,899.81 | 23.35 | 23.63 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,005.27 | 32.71 | 62.311 | |
| 7,100.00 | 6,999.81 | 7,104.60 | 6,999.81 | 23.47 | 23.76 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,004.89 | 33.08 | 61.605 | |
| 7,200.00 | 7,099.81 | 7,204.60 | 7,099.81 | 23.59 | 23.90 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,004.51 | 33.46 | 60.911 | |
| 7,300.00 | 7,199.81 | 7,304.60 | 7,199.81 | 23.71 | 24.05 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,004.14 | 33.84 | 60.229 | |
| 7,400.00 | 7,299.81 | 7,404.60 | 7,299.81 | 23.83 | 24.19 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,003.76 | 34.22 | 59.560 | |
| 7,500.00 | 7,399.81 | 7,504.60 | 7,399.81 | 23.95 | 24.33 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,003.37 | 34.60 | 58.903 | |
| 7,600.00 | 7,499.81 | 7,604.60 | 7,499.81 | 24.08 | 24.48 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,002.99 | 34.98 | 58.257 | |
| 7,700.00 | 7,599.81 | 7,704.60 | 7,599.81 | 24.21 | 24.62 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,002.61 | 35.37 | 57.623 | |
| 7,800.00 | 7,699.81 | 7,804.60 | 7,699.81 | 24.33 | 24.77 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,002.22 | 35.75 | 57.000 | |
| 7,900.00 | 7,799.81 | 7,904.60 | 7,799.81 | 24.46 | 24.92 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,001.83 | 36.14 | 56.388 | |
| 8,000.00 | 7,899.81 | 8,004.60 | 7,899.81 | 24.59 | 25.07 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,001.44 | 36.53 | 55.787 | |
| 8,031.19 | 7,931.00 | 8,035.79 | 7,931.00 | 24.64 | 25.11 | 18.68 | 976.27 | 439.71 | 2,037.97 | 2,001.32 | 36.65 | 55.601 | |

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Project: | COLORADO NOTHERN ZONE - 83 | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Reference Site: | WELD_DRY CREEK 20-27 PAD | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_DRY CREEK 37-27 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 10-29-09 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design WELD_DRY CREEK 20-27 PAD - UPRR 42 PAN AM K #2 EXISTING - UPRR 42 PAN AM K #2 EXISTI | | | | | | | | | | | | Offset Site Error: | 0.00 ft |
|--|---------------------|---------------------|---------------------|----------------|-------------|----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-----------------------|---------|
| Survey Program: 0-UNKNOWN | | | | | | | | | | | | Offset Well Error: | 0.00 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 Tooface (") | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 35.14 | 42.98 | 30.25 | 55.24 | | | | |
| 100.00 | 100.00 | 83.00 | 83.00 | 0.10 | 1.66 | 35.14 | 42.98 | 30.25 | 52.56 | 50.80 | 1.76 | 29.938 | |
| 200.00 | 200.00 | 183.00 | 183.00 | 0.32 | 5.32 | 35.14 | 42.98 | 30.25 | 52.56 | 46.92 | 5.64 | 9.318 | |
| 300.00 | 300.00 | 283.00 | 283.00 | 0.55 | 9.32 | 35.14 | 42.98 | 30.25 | 52.56 | 42.69 | 9.87 | 5.328 | |
| 400.00 | 400.00 | 383.00 | 383.00 | 0.77 | 13.32 | 35.14 | 42.98 | 30.25 | 52.56 | 38.47 | 14.09 | 3.730 | |
| 500.00 | 500.00 | 483.00 | 483.00 | 0.99 | 17.32 | 35.14 | 42.98 | 30.25 | 52.56 | 34.24 | 18.31 | 2.870 | |
| 600.00 | 600.00 | 583.00 | 583.00 | 1.22 | 21.32 | 35.14 | 42.98 | 30.25 | 52.56 | 30.02 | 22.54 | 2.332 | |
| 700.00 | 700.00 | 683.00 | 683.00 | 1.44 | 25.32 | 35.14 | 42.98 | 30.25 | 52.56 | 25.79 | 26.76 | 1.964 | |
| 800.00 | 800.00 | 783.00 | 783.00 | 1.67 | 29.32 | 35.14 | 42.98 | 30.25 | 52.56 | 21.57 | 30.99 | 1.696 | |
| 900.00 | 900.00 | 883.00 | 883.00 | 1.89 | 33.32 | 35.14 | 42.98 | 30.25 | 52.56 | 17.34 | 35.21 | 1.493 Level 3 | |
| 1,000.00 | 1,000.00 | 983.00 | 983.00 | 2.12 | 37.32 | 35.14 | 42.98 | 30.25 | 52.56 | 13.12 | 39.44 | 1.333 Level 3 | |
| 1,100.00 | 1,100.00 | 1,083.00 | 1,083.00 | 2.34 | 41.32 | 35.14 | 42.98 | 30.25 | 52.56 | 8.89 | 43.66 | 1.204 Level 2 | |
| 1,200.00 | 1,200.00 | 1,183.00 | 1,183.00 | 2.57 | 45.32 | 35.14 | 42.98 | 30.25 | 52.56 | 4.67 | 47.89 | 1.098 Level 2 | |
| 1,250.00 | 1,250.00 | 1,233.00 | 1,233.00 | 2.68 | 47.32 | 35.14 | 42.98 | 30.25 | 52.56 | 2.56 | 50.00 | 1.051 Level 2, CC | |
| 1,300.00 | 1,300.00 | 1,283.00 | 1,283.00 | 2.78 | 49.32 | -157.61 | 42.98 | 30.25 | 52.96 | 0.87 | 52.09 | 1.017 Level 2 | |
| 1,400.00 | 1,399.93 | 1,382.93 | 1,382.93 | 2.95 | 53.32 | -158.95 | 42.98 | 30.25 | 56.20 | -0.01 | 56.21 | 1.000 Level 1, ES, SF | |
| 1,500.00 | 1,499.68 | 1,482.68 | 1,482.68 | 3.13 | 57.31 | -161.19 | 42.98 | 30.25 | 62.76 | 2.51 | 60.25 | 1.042 Level 2 | |
| 1,600.00 | 1,599.13 | 1,582.13 | 1,582.13 | 3.33 | 61.29 | -163.79 | 42.98 | 30.25 | 72.74 | 8.55 | 64.19 | 1.133 Level 2 | |
| 1,700.00 | 1,698.15 | 1,681.15 | 1,681.15 | 3.55 | 65.25 | -166.31 | 42.98 | 30.25 | 86.20 | 18.19 | 68.01 | 1.267 Level 3 | |
| 1,800.00 | 1,796.63 | 1,779.63 | 1,779.63 | 3.81 | 69.19 | -168.52 | 42.98 | 30.25 | 103.16 | 31.47 | 71.69 | 1.439 Level 3 | |
| 1,862.12 | 1,857.48 | 1,840.48 | 1,840.48 | 3.99 | 71.62 | -169.71 | 42.98 | 30.25 | 115.46 | 41.57 | 73.89 | 1.563 | |
| 1,900.00 | 1,894.49 | 1,877.49 | 1,877.49 | 4.10 | 73.10 | -170.38 | 42.98 | 30.25 | 123.37 | 47.96 | 75.41 | 1.636 | |
| 2,000.00 | 1,992.22 | 1,975.22 | 1,975.22 | 4.43 | 77.01 | -171.78 | 42.98 | 30.25 | 144.34 | 64.89 | 79.44 | 1.817 | |
| 2,100.00 | 2,089.94 | 2,072.94 | 2,072.94 | 4.78 | 80.92 | -172.83 | 42.98 | 30.25 | 165.36 | 81.88 | 83.48 | 1.981 | |
| 2,200.00 | 2,187.67 | 2,170.67 | 2,170.67 | 5.15 | 84.83 | -173.65 | 42.98 | 30.25 | 186.42 | 98.90 | 87.52 | 2.130 | |
| 2,300.00 | 2,285.40 | 2,268.40 | 2,268.40 | 5.54 | 88.74 | -174.29 | 42.98 | 30.25 | 207.52 | 115.94 | 91.57 | 2.266 | |
| 2,400.00 | 2,383.12 | 2,366.12 | 2,366.12 | 5.93 | 92.64 | -174.82 | 42.98 | 30.25 | 228.63 | 133.00 | 95.63 | 2.391 | |
| 2,500.00 | 2,480.85 | 2,463.85 | 2,463.85 | 6.34 | 96.55 | -175.26 | 42.98 | 30.25 | 249.76 | 150.07 | 99.68 | 2.505 | |
| 2,600.00 | 2,578.57 | 2,561.57 | 2,561.57 | 6.75 | 100.46 | -175.63 | 42.98 | 30.25 | 270.90 | 167.15 | 103.75 | 2.611 | |
| 2,700.00 | 2,676.30 | 2,659.30 | 2,659.30 | 7.17 | 104.37 | -175.95 | 42.98 | 30.25 | 292.05 | 184.24 | 107.81 | 2.709 | |
| 2,800.00 | 2,774.02 | 2,757.02 | 2,757.02 | 7.59 | 108.28 | -176.22 | 42.98 | 30.25 | 313.21 | 201.33 | 111.88 | 2.800 | |
| 2,900.00 | 2,871.75 | 2,854.75 | 2,854.75 | 8.02 | 112.19 | -176.46 | 42.98 | 30.25 | 334.37 | 218.43 | 115.95 | 2.884 | |
| 3,000.00 | 2,969.48 | 2,952.48 | 2,952.48 | 8.45 | 116.10 | -176.67 | 42.98 | 30.25 | 355.54 | 235.52 | 120.02 | 2.962 | |
| 3,100.00 | 3,067.20 | 3,050.20 | 3,050.20 | 8.88 | 120.01 | -176.86 | 42.98 | 30.25 | 376.71 | 252.63 | 124.09 | 3.036 | |
| 3,200.00 | 3,164.93 | 3,147.93 | 3,147.93 | 9.32 | 123.92 | -177.03 | 42.98 | 30.25 | 397.89 | 269.73 | 128.16 | 3.105 | |
| 3,300.00 | 3,262.65 | 3,245.65 | 3,245.65 | 9.76 | 127.83 | -177.18 | 42.98 | 30.25 | 419.07 | 286.83 | 132.24 | 3.169 | |
| 3,400.00 | 3,360.38 | 3,343.38 | 3,343.38 | 10.20 | 131.74 | -177.31 | 42.98 | 30.25 | 440.25 | 303.94 | 136.31 | 3.230 | |
| 3,500.00 | 3,458.11 | 3,441.11 | 3,441.11 | 10.65 | 135.64 | -177.44 | 42.98 | 30.25 | 461.43 | 321.04 | 140.39 | 3.287 | |
| 3,600.00 | 3,555.83 | 3,538.83 | 3,538.83 | 11.09 | 139.55 | -177.55 | 42.98 | 30.25 | 482.62 | 338.15 | 144.47 | 3.341 | |
| 3,700.00 | 3,653.56 | 3,636.56 | 3,636.56 | 11.54 | 143.46 | -177.65 | 42.98 | 30.25 | 503.81 | 355.26 | 148.55 | 3.392 | |
| 3,800.00 | 3,751.28 | 3,734.28 | 3,734.28 | 11.99 | 147.37 | -177.75 | 42.98 | 30.25 | 524.99 | 372.37 | 152.63 | 3.440 | |
| 3,900.00 | 3,849.01 | 3,832.01 | 3,832.01 | 12.44 | 151.28 | -177.83 | 42.98 | 30.25 | 546.18 | 389.48 | 156.71 | 3.485 | |
| 4,000.00 | 3,946.74 | 3,929.74 | 3,929.74 | 12.89 | 155.19 | -177.92 | 42.98 | 30.25 | 567.38 | 406.59 | 160.79 | 3.529 | |
| 4,100.00 | 4,044.46 | 4,027.46 | 4,027.46 | 13.34 | 159.10 | -177.99 | 42.98 | 30.25 | 588.57 | 423.70 | 164.87 | 3.570 | |
| 4,200.00 | 4,142.19 | 4,125.19 | 4,125.19 | 13.79 | 163.01 | -178.06 | 42.98 | 30.25 | 609.76 | 440.81 | 168.95 | 3.609 | |
| 4,300.00 | 4,239.91 | 4,222.91 | 4,222.91 | 14.24 | 166.92 | -178.13 | 42.98 | 30.25 | 630.95 | 457.92 | 173.03 | 3.646 | |
| 4,400.00 | 4,337.64 | 4,320.64 | 4,320.64 | 14.70 | 170.83 | -178.19 | 42.98 | 30.25 | 652.15 | 475.03 | 177.12 | 3.682 | |
| 4,500.00 | 4,435.37 | 4,418.37 | 4,418.37 | 15.15 | 174.73 | -178.24 | 42.98 | 30.25 | 673.34 | 492.14 | 181.20 | 3.716 | |
| 4,600.00 | 4,533.09 | 4,516.09 | 4,516.09 | 15.61 | 178.64 | -178.30 | 42.98 | 30.25 | 694.54 | 509.26 | 185.28 | 3.749 | |
| 4,700.00 | 4,630.82 | 4,613.82 | 4,613.82 | 16.06 | 182.55 | -178.35 | 42.98 | 30.25 | 715.74 | 526.37 | 189.37 | 3.780 | |
| 4,800.00 | 4,728.54 | 4,711.54 | 4,711.54 | 16.52 | 186.46 | -178.40 | 42.98 | 30.25 | 736.93 | 543.48 | 193.45 | 3.809 | |
| 4,900.00 | 4,826.27 | 4,809.27 | 4,809.27 | 16.97 | 190.37 | -178.44 | 42.98 | 30.25 | 758.13 | 560.59 | 197.54 | 3.838 | |

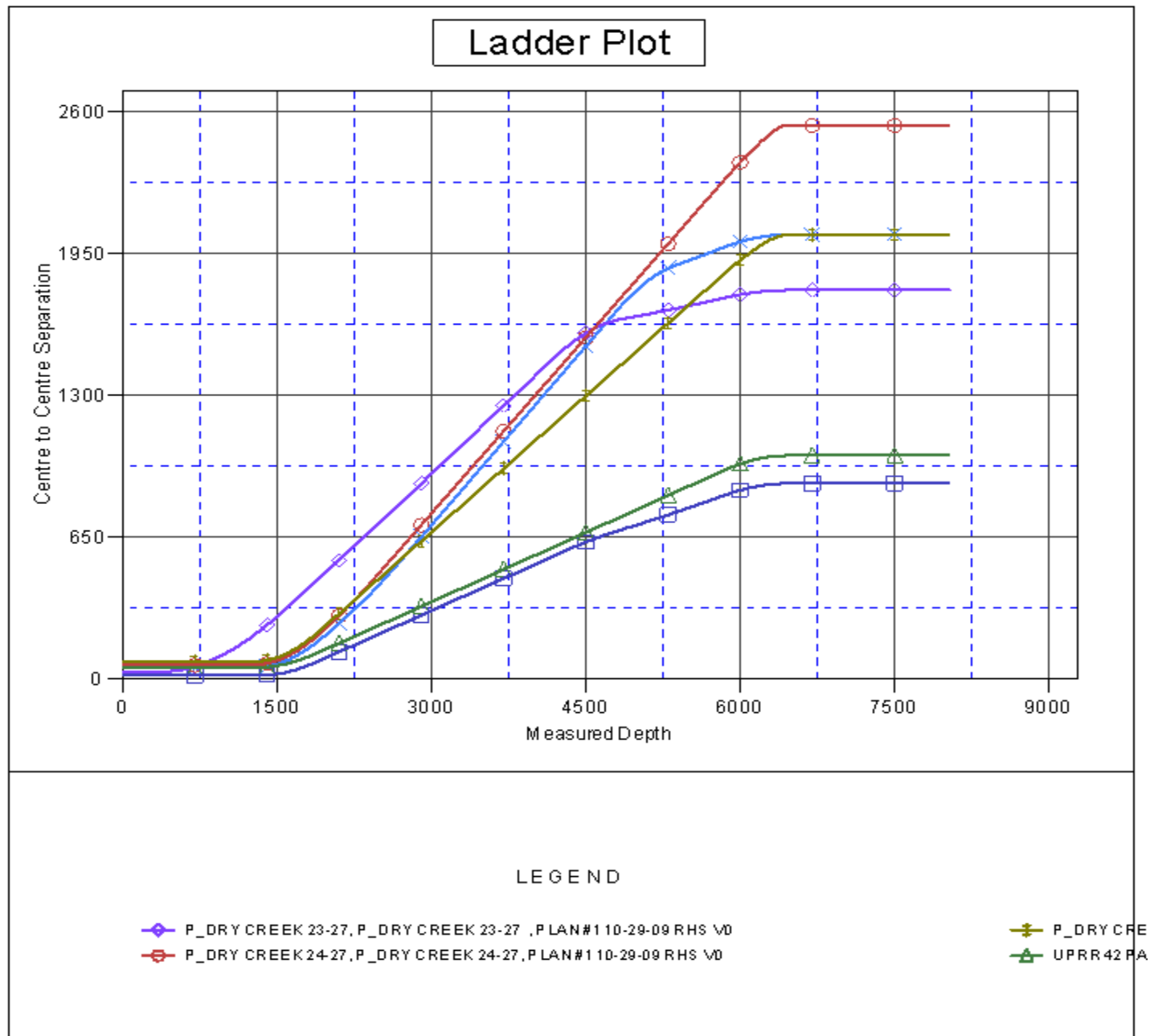
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

| | | | |
|---------------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Reference Site: | WELD_DRY CREEK 20-27 PAD | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_DRY CREEK 37-27 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 10-29-09 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design WELD_DRY CREEK 20-27 PAD - UPRR 42 PAN AM K #2 EXISTING - UPRR 42 PAN AM K #2 EXISTI | | | | | | | | | | Offset Site Error: 0.00 ft | | | |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|----------------------------|-------------------------|---------|-------------------|
| Survey Program: 0-UNKNOWN | | | | | | | | | | Offset Well Error: 0.00 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) | Minimum Separation (ft) | | Separation Factor |
| 5,000.00 | 4,923.99 | 4,906.99 | 4,906.99 | 17.43 | 194.28 | -178.48 | 42.98 | 30.25 | 779.33 | 577.71 | 201.62 | 3.865 | |
| 5,100.00 | 5,021.72 | 5,004.72 | 5,004.72 | 17.89 | 198.19 | -178.52 | 42.98 | 30.25 | 800.52 | 594.82 | 205.71 | 3.892 | |
| 5,200.00 | 5,119.45 | 5,102.45 | 5,102.45 | 18.34 | 202.10 | -178.56 | 42.98 | 30.25 | 821.72 | 611.93 | 209.79 | 3.917 | |
| 5,300.00 | 5,217.17 | 5,200.17 | 5,200.17 | 18.80 | 206.01 | -178.60 | 42.98 | 30.25 | 842.92 | 629.04 | 213.88 | 3.941 | |
| 5,400.00 | 5,314.90 | 5,297.90 | 5,297.90 | 19.26 | 209.92 | -178.63 | 42.98 | 30.25 | 864.12 | 646.16 | 217.96 | 3.965 | |
| 5,500.00 | 5,412.62 | 5,395.62 | 5,395.62 | 19.72 | 213.82 | -178.66 | 42.98 | 30.25 | 885.32 | 663.27 | 222.05 | 3.987 | |
| 5,600.00 | 5,510.35 | 5,493.35 | 5,493.35 | 20.18 | 217.73 | -178.70 | 42.98 | 30.25 | 906.52 | 680.38 | 226.14 | 4.009 | |
| 5,700.00 | 5,608.08 | 5,591.08 | 5,591.08 | 20.63 | 221.64 | -178.73 | 42.98 | 30.25 | 927.72 | 697.50 | 230.22 | 4.030 | |
| 5,800.00 | 5,705.80 | 5,688.80 | 5,688.80 | 21.09 | 225.55 | -178.75 | 42.98 | 30.25 | 948.92 | 714.61 | 234.31 | 4.050 | |
| 5,859.07 | 5,763.52 | 5,746.52 | 5,746.52 | 21.36 | 227.86 | -178.77 | 42.98 | 30.25 | 961.44 | 724.72 | 236.72 | 4.061 | |
| 5,900.00 | 5,803.59 | 5,786.59 | 5,786.59 | 21.52 | 229.46 | -178.78 | 42.98 | 30.25 | 969.83 | 730.83 | 239.00 | 4.058 | |
| 6,000.00 | 5,901.93 | 5,884.93 | 5,884.93 | 21.82 | 233.40 | -178.81 | 42.98 | 30.25 | 987.92 | 743.37 | 244.56 | 4.040 | |
| 6,100.00 | 6,000.85 | 5,983.85 | 5,983.85 | 22.08 | 237.35 | -178.84 | 42.98 | 30.25 | 1,002.57 | 752.69 | 249.87 | 4.012 | |
| 6,200.00 | 6,100.22 | 6,083.22 | 6,083.22 | 22.31 | 241.33 | -178.86 | 42.98 | 30.25 | 1,013.75 | 758.82 | 254.93 | 3.977 | |
| 6,300.00 | 6,199.91 | 6,182.91 | 6,182.91 | 22.50 | 245.32 | -178.87 | 42.98 | 30.25 | 1,021.46 | 761.75 | 259.71 | 3.933 | |
| 6,400.00 | 6,299.82 | 6,282.82 | 6,282.82 | 22.66 | 249.31 | -178.87 | 42.98 | 30.25 | 1,025.69 | 761.51 | 264.19 | 3.882 | |
| 6,471.19 | 6,371.00 | 6,354.00 | 6,354.00 | 22.75 | 252.16 | 13.70 | 42.98 | 30.25 | 1,026.58 | 759.39 | 267.18 | 3.842 | |
| 6,500.00 | 6,399.81 | 6,382.81 | 6,382.81 | 22.79 | 253.31 | 13.70 | 42.98 | 30.25 | 1,026.58 | 758.19 | 268.39 | 3.825 | |
| 6,600.00 | 6,499.81 | 6,482.81 | 6,482.81 | 22.90 | 257.31 | 13.70 | 42.98 | 30.25 | 1,026.58 | 754.02 | 272.56 | 3.766 | |
| 6,700.00 | 6,599.81 | 6,582.81 | 6,582.81 | 23.01 | 261.31 | 13.70 | 42.98 | 30.25 | 1,026.58 | 749.84 | 276.73 | 3.710 | |
| 6,800.00 | 6,699.81 | 6,682.81 | 6,682.81 | 23.12 | 265.31 | 13.70 | 42.98 | 30.25 | 1,026.58 | 745.67 | 280.91 | 3.655 | |
| 6,900.00 | 6,799.81 | 6,782.81 | 6,782.81 | 23.24 | 269.31 | 13.70 | 42.98 | 30.25 | 1,026.58 | 741.49 | 285.08 | 3.601 | |
| 7,000.00 | 6,899.81 | 6,882.81 | 6,882.81 | 23.35 | 273.31 | 13.70 | 42.98 | 30.25 | 1,026.58 | 737.32 | 289.26 | 3.549 | |
| 7,100.00 | 6,999.81 | 6,982.81 | 6,982.81 | 23.47 | 277.31 | 13.70 | 42.98 | 30.25 | 1,026.58 | 733.14 | 293.43 | 3.498 | |
| 7,200.00 | 7,099.81 | 7,082.81 | 7,082.81 | 23.59 | 281.31 | 13.70 | 42.98 | 30.25 | 1,026.58 | 728.96 | 297.61 | 3.449 | |
| 7,300.00 | 7,199.81 | 7,182.81 | 7,182.81 | 23.71 | 285.31 | 13.70 | 42.98 | 30.25 | 1,026.58 | 724.78 | 301.79 | 3.402 | |
| 7,400.00 | 7,299.81 | 7,282.81 | 7,282.81 | 23.83 | 289.31 | 13.70 | 42.98 | 30.25 | 1,026.58 | 720.60 | 305.97 | 3.355 | |
| 7,500.00 | 7,399.81 | 7,382.81 | 7,382.81 | 23.95 | 293.31 | 13.70 | 42.98 | 30.25 | 1,026.58 | 716.42 | 310.16 | 3.310 | |
| 7,600.00 | 7,499.81 | 7,482.81 | 7,482.81 | 24.08 | 297.31 | 13.70 | 42.98 | 30.25 | 1,026.58 | 712.24 | 314.34 | 3.266 | |
| 7,700.00 | 7,599.81 | 7,582.81 | 7,582.81 | 24.21 | 301.31 | 13.70 | 42.98 | 30.25 | 1,026.58 | 708.05 | 318.52 | 3.223 | |
| 7,800.00 | 7,699.81 | 7,682.81 | 7,682.81 | 24.33 | 305.31 | 13.70 | 42.98 | 30.25 | 1,026.58 | 703.87 | 322.71 | 3.181 | |
| 7,900.00 | 7,799.81 | 7,782.81 | 7,782.81 | 24.46 | 309.31 | 13.70 | 42.98 | 30.25 | 1,026.58 | 699.68 | 326.89 | 3.140 | |
| 8,000.00 | 7,899.81 | 7,882.81 | 7,882.81 | 24.59 | 313.31 | 13.70 | 42.98 | 30.25 | 1,026.58 | 695.50 | 331.08 | 3.101 | |
| 8,031.19 | 7,931.00 | 7,914.00 | 7,914.00 | 24.64 | 314.56 | 13.70 | 42.98 | 30.25 | 1,026.58 | 694.19 | 332.39 | 3.089 | |

| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Project: | COLORADO NOTHERN ZONE - 83 | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Reference Site: | WELD_DRY CREEK 20-27 PAD | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_DRY CREEK 37-27 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 10-29-09 RHS | Offset TVD Reference: | Offset Datum |

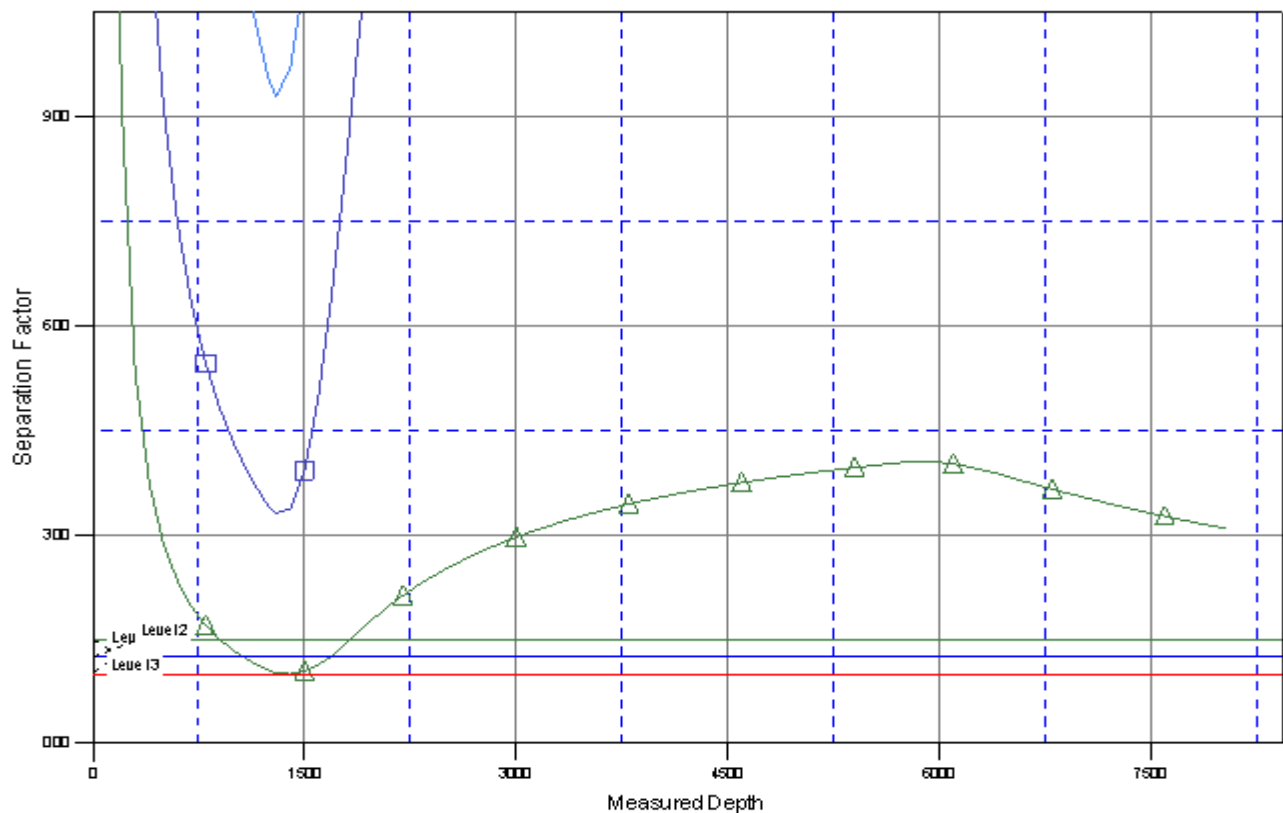
Reference Depths are relative to WELL @ 5059.00ft (Original Well Elev) Coordinates are relative to: P_DRY CREEK 37-27
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.41°



| | | | |
|---------------------------|----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_DRY CREEK 37-27 |
| Project: | COLORADO NOTHERN ZONE - 83 | TVD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Reference Site: | WELD_DRY CREEK 20-27 PAD | MD Reference: | WELL @ 5059.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_DRY CREEK 37-27 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_DRY CREEK 37-27 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 10-29-09 RHS | Offset TVD Reference: | Offset Datum |

Reference Depths are relative to WELL @ 5059.00ft (Original Well Elev) Coordinates are relative to: P_DRY CREEK 37-27
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is 105° 30' 0.000 W ° Grid Convergence at Surface is: 0.41°

Separation Factor Plot



LEGEND

- ◆ P_DRY CREEK 23-27, P_DRY CREEK 23-27, PLAN#1 10-29-09 RHS V0
- ◆ P_DRY CREEK 24-27, P_DRY CREEK 24-27, PLAN#1 10-29-09 RHS V0
- ▲ P_DRY CREEK 37-27
- ▲ UPRR 42 PA