



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_KERR MCGEE 19-3 PAD

P_KERR-MCGEE 15-3

P_KERR-MCGEE 15-3

Plan: PLAN #1 1-15-10 RHS

Standard Planning Report

15 January, 2010





P. KERR-MCGEE 15-3
COLORADO NORTHERN ZONE - 83
SECTION 3 T1N R68W
1659 FSL 1155 FWL
LAT: 40° 4' 39.288 N
LONG: 104° 59' 41.323 W



Azimuths to True North
Magnetic North: 9.15°
Magnetic Field
Strength: 53083.1nT
Dip Angle: 66.80°
Date: 1/15/2010
Model: IGRF2010

WELL DETAILS: P_KERR-MCGEE 15-3

| +N/-S | +E/-W | Northing | Ground Level: Easting | 5042.00 Latitude | Longitude | Slot |
|-------|-------|------------|--------------------------|---------------------|-------------------|------|
| 0.00 | 0.00 | 1271510.00 | 3141368.47 | 40° 4' 39.288 N | 104° 59' 41.323 W | |

SECTION DETAILS

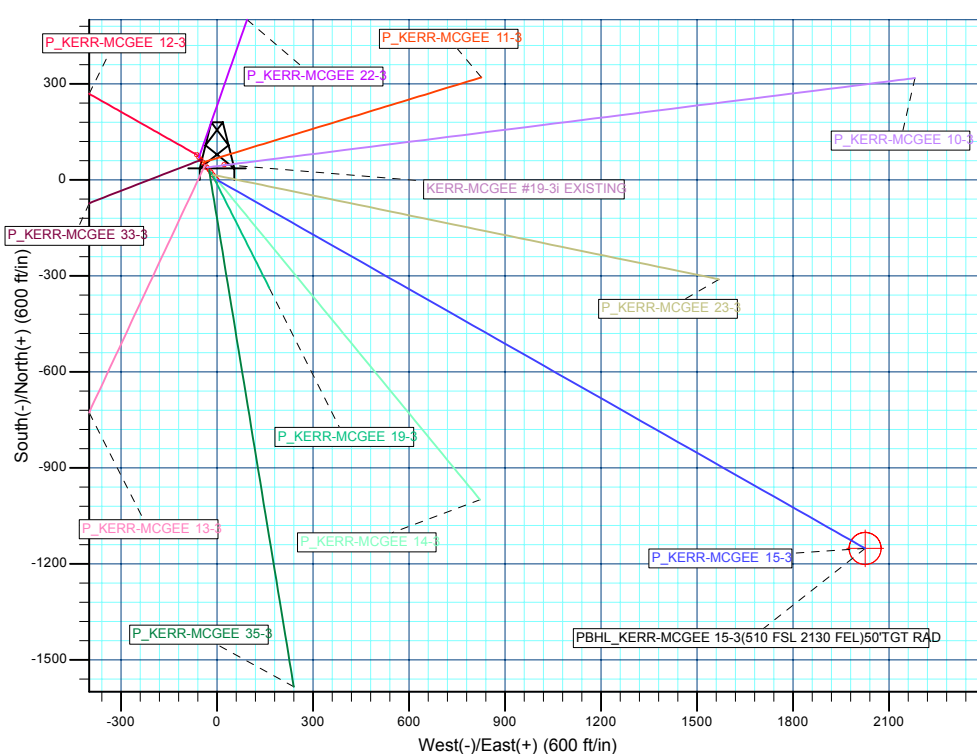
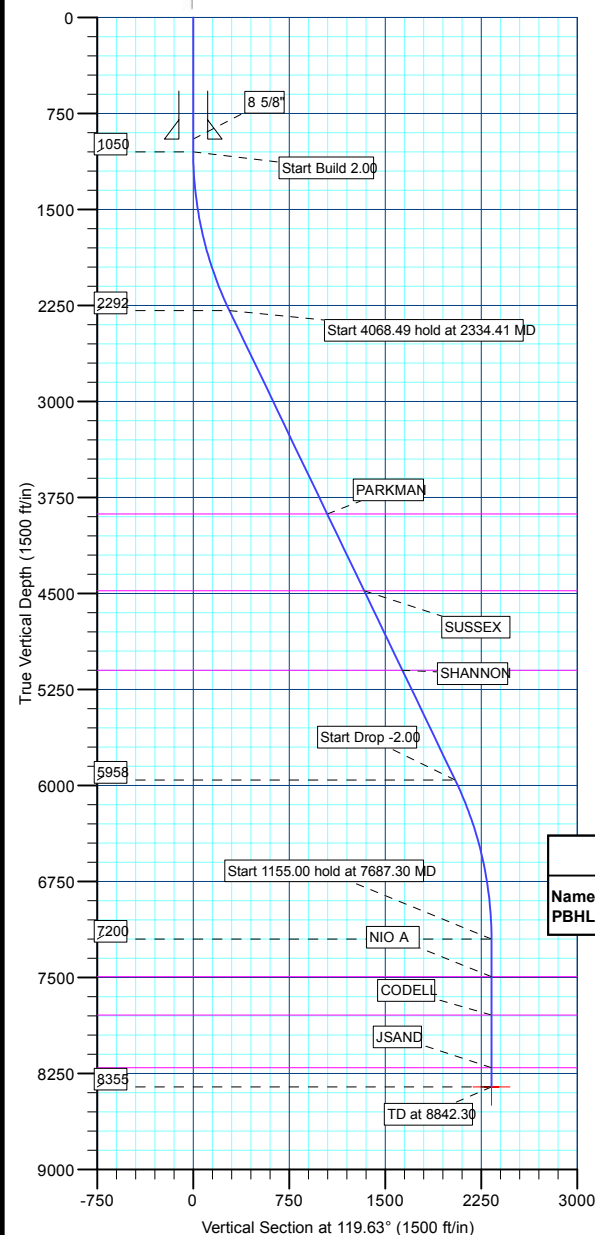
| MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSec | Target |
|---------|-------|--------|---------|----------|---------|------|--------|---------|--|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1050.00 | 0.00 | 0.00 | 1050.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2334.41 | 25.69 | 119.63 | 2291.81 | -139.97 | 246.12 | 2.00 | 119.63 | 283.14 | |
| 6402.89 | 25.69 | 119.63 | 5958.19 | -1011.78 | 1779.14 | 0.00 | 0.00 | 2046.72 | |
| 7687.30 | 0.00 | 0.00 | 7200.00 | -1151.75 | 2025.26 | 2.00 | 180.00 | 2329.85 | |
| 8842.30 | 0.00 | 0.00 | 8355.00 | -1151.75 | 2025.26 | 0.00 | 0.00 | 2329.85 | PBHL_KERR-MCGEE 15-3(510 FSL 2130 FEL)50'TGT RAD |

FORMATION TOP DETAILS

| TVDPath | MDPath | Formation |
|---------|---------|-----------|
| 3880.00 | 4096.78 | PARKMAN |
| 4480.00 | 4762.58 | SUSSEX |
| 5100.00 | 5450.58 | SHANNON |
| 7495.00 | 7982.30 | NIO A |
| 7794.00 | 8281.30 | CODELL |
| 8205.00 | 8692.30 | JSAND |



KB ELEV:WELL @ 5057.00ft (Original Well Elev)
3RD ELEV: 5042.00



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

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
|------|---------|----------|---------|------------|------------|-----------------------------------|-----------|------------------------|
| PBHL | 8355.00 | -1151.76 | 2025.26 | 1270369.80 | 3143400.25 | 40° 4' 27.905 N 104° 59' 15.270 W | | Circle (Radius: 50.00) |

CASING DETAILS

| TVD | MD | Name | Size |
|--------|--------|--------|------|
| 950.00 | 950.00 | 8 5/8" | 8.62 |

Plan: PLAN #1 1-15-10 RHS (P_KERR-MCGEE 15-3 / P_KERR-MCGEE 15-3)

Created By: Robert H. Scott

| | | | |
|------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Database: | EDM 2003.21 Single User Db | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site: | WELD_KERR MCGEE 19-3 PAD | North Reference: | True |
| Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_KERR-MCGEE 15-3 | | |
| Design: | PLAN #1 1-15-10 RHS | | |

| | | | |
|--------------------|--|----------------------|----------------|
| Project | COLORADO NORTHERN 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_KERR MCGEE 19-3 PAD, SECTION 3 T1N R68W | | | | | | | | | | | |
|-----------------------|--|--|-----------|--|--|--|--|--|----------------|--|--|-------------------|--|--|-------------------|--|--|
| Site Position: | | | Northing: | | | 1,271,548.81 ft | | | Latitude: | | | 40° 4' 39.673 N | | | | | |
| | | | | | | | | | | | | | | | | | |
| From: | | | Lat/Long | | | Easting: | | | 3,141,336.90ft | | | Longitude: | | | 104° 59' 41.726 W | | |
| Position Uncertainty: | | | 0.00 ft | | | Slot Radius: | | | in | | | Grid Convergence: | | | 0.33 ° | | |

| | | | | | | |
|----------------------|-------------------|-----------|---------------------|-----------------|---------------|-------------------|
| Well | P_KERR-MCGEE 15-3 | | | | | |
| Well Position | +N/-S | -38.98 ft | Northing: | 1,271,510.00 ft | Latitude: | 40° 4' 39.288 N |
| | +E/-W | 31.34 ft | Easting: | 3,141,368.47 ft | Longitude: | 104° 59' 41.323 W |
| Position Uncertainty | | 0.00 ft | Wellhead Elevation: | ft | Ground Level: | 5,042.00 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | P_KERR-MCGEE 15-3 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2010 | 1/15/2010 | 9.15 | 66.80 | 53,083 |

| | | | | |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| Design | PLAN #1 1-15-10 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 | 119.63 |

| 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 | |
| 1,050.00 | 0.00 | 0.00 | 1,050.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2,334.41 | 25.69 | 119.63 | 2,291.81 | -139.97 | 246.12 | 2.00 | 2.00 | 0.00 | 119.63 | |
| 6,402.89 | 25.69 | 119.63 | 5,958.19 | -1,011.78 | 1,779.14 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,687.30 | 0.00 | 0.00 | 7,200.00 | -1,151.75 | 2,025.26 | 2.00 | -2.00 | 0.00 | 180.00 | |
| 8,842.30 | 0.00 | 0.00 | 8,355.00 | -1,151.75 | 2,025.26 | 0.00 | 0.00 | 0.00 | 0.00 | PBHL_KERR-MCG |

| | | | |
|------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Database: | EDM 2003.21 Single User Db | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site: | WELD_KERR MCGEE 19-3 PAD | North Reference: | True |
| Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_KERR-MCGEE 15-3 | | |
| Design: | PLAN #1 1-15-10 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 | | | | | | | | | |
| 1,050.00 | 0.00 | 0.00 | 1,050.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,100.00 | 1.00 | 119.63 | 1,100.00 | -0.22 | 0.38 | 0.44 | 2.00 | 2.00 | 0.00 |
| 1,200.00 | 3.00 | 119.63 | 1,199.93 | -1.94 | 3.41 | 3.93 | 2.00 | 2.00 | 0.00 |
| 1,300.00 | 5.00 | 119.63 | 1,299.68 | -5.39 | 9.48 | 10.90 | 2.00 | 2.00 | 0.00 |
| 1,400.00 | 7.00 | 119.63 | 1,399.13 | -10.56 | 18.56 | 21.35 | 2.00 | 2.00 | 0.00 |
| 1,500.00 | 9.00 | 119.63 | 1,498.15 | -17.44 | 30.66 | 35.27 | 2.00 | 2.00 | 0.00 |
| 1,600.00 | 11.00 | 119.63 | 1,596.63 | -26.02 | 45.75 | 52.63 | 2.00 | 2.00 | 0.00 |
| 1,700.00 | 13.00 | 119.63 | 1,694.44 | -36.30 | 63.83 | 73.42 | 2.00 | 2.00 | 0.00 |
| 1,800.00 | 15.00 | 119.63 | 1,791.46 | -48.26 | 84.85 | 97.62 | 2.00 | 2.00 | 0.00 |
| 1,900.00 | 17.00 | 119.63 | 1,887.58 | -61.88 | 108.81 | 125.18 | 2.00 | 2.00 | 0.00 |
| 2,000.00 | 19.00 | 119.63 | 1,982.68 | -77.16 | 135.67 | 156.08 | 2.00 | 2.00 | 0.00 |
| 2,100.00 | 21.00 | 119.63 | 2,076.65 | -94.06 | 165.40 | 190.28 | 2.00 | 2.00 | 0.00 |
| 2,200.00 | 23.00 | 119.63 | 2,169.36 | -112.58 | 197.96 | 227.74 | 2.00 | 2.00 | 0.00 |
| 2,300.00 | 25.00 | 119.63 | 2,260.71 | -132.69 | 233.32 | 268.41 | 2.00 | 2.00 | 0.00 |
| Start 4068.49 hold at 2334.41 MD | | | | | | | | | |
| 2,334.41 | 25.69 | 119.63 | 2,291.81 | -139.97 | 246.12 | 283.14 | 2.00 | 2.00 | 0.00 |
| 2,400.00 | 25.69 | 119.63 | 2,350.92 | -154.02 | 270.84 | 311.57 | 0.00 | 0.00 | 0.00 |
| 2,500.00 | 25.69 | 119.63 | 2,441.03 | -175.45 | 308.52 | 354.92 | 0.00 | 0.00 | 0.00 |
| 2,600.00 | 25.69 | 119.63 | 2,531.15 | -196.88 | 346.20 | 398.26 | 0.00 | 0.00 | 0.00 |
| 2,700.00 | 25.69 | 119.63 | 2,621.27 | -218.31 | 383.88 | 441.61 | 0.00 | 0.00 | 0.00 |
| 2,800.00 | 25.69 | 119.63 | 2,711.38 | -239.74 | 421.56 | 484.96 | 0.00 | 0.00 | 0.00 |
| 2,900.00 | 25.69 | 119.63 | 2,801.50 | -261.16 | 459.24 | 528.31 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 25.69 | 119.63 | 2,891.62 | -282.59 | 496.92 | 571.65 | 0.00 | 0.00 | 0.00 |
| 3,100.00 | 25.69 | 119.63 | 2,981.73 | -304.02 | 534.60 | 615.00 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 25.69 | 119.63 | 3,071.85 | -325.45 | 572.28 | 658.35 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 25.69 | 119.63 | 3,161.97 | -346.88 | 609.96 | 701.69 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 25.69 | 119.63 | 3,252.08 | -368.31 | 647.64 | 745.04 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 25.69 | 119.63 | 3,342.20 | -389.73 | 685.32 | 788.39 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 25.69 | 119.63 | 3,432.32 | -411.16 | 723.00 | 831.74 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 25.69 | 119.63 | 3,522.43 | -432.59 | 760.68 | 875.08 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 25.69 | 119.63 | 3,612.55 | -454.02 | 798.36 | 918.43 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 25.69 | 119.63 | 3,702.67 | -475.45 | 836.04 | 961.78 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 25.69 | 119.63 | 3,792.78 | -496.88 | 873.72 | 1,005.13 | 0.00 | 0.00 | 0.00 |
| PARKMAN | | | | | | | | | |
| 4,096.78 | 25.69 | 119.63 | 3,880.00 | -517.62 | 910.19 | 1,047.08 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 25.69 | 119.63 | 3,882.90 | -518.31 | 911.40 | 1,048.47 | 0.00 | 0.00 | 0.00 |
| 4,200.00 | 25.69 | 119.63 | 3,973.02 | -539.73 | 949.08 | 1,091.82 | 0.00 | 0.00 | 0.00 |
| 4,300.00 | 25.69 | 119.63 | 4,063.13 | -561.16 | 986.76 | 1,135.17 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 25.69 | 119.63 | 4,153.25 | -582.59 | 1,024.44 | 1,178.52 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 25.69 | 119.63 | 4,243.37 | -604.02 | 1,062.12 | 1,221.86 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 25.69 | 119.63 | 4,333.48 | -625.45 | 1,099.80 | 1,265.21 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 25.69 | 119.63 | 4,423.60 | -646.88 | 1,137.49 | 1,308.56 | 0.00 | 0.00 | 0.00 |
| SUSSEX | | | | | | | | | |
| 4,762.58 | 25.69 | 119.63 | 4,480.00 | -660.29 | 1,161.07 | 1,335.69 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 25.69 | 119.63 | 4,513.72 | -668.30 | 1,175.17 | 1,351.90 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 25.69 | 119.63 | 4,603.83 | -689.73 | 1,212.85 | 1,395.25 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 25.69 | 119.63 | 4,693.95 | -711.16 | 1,250.53 | 1,438.60 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 25.69 | 119.63 | 4,784.07 | -732.59 | 1,288.21 | 1,481.95 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 25.69 | 119.63 | 4,874.18 | -754.02 | 1,325.89 | 1,525.29 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 25.69 | 119.63 | 4,964.30 | -775.45 | 1,363.57 | 1,568.64 | 0.00 | 0.00 | 0.00 |
| 5,400.00 | 25.69 | 119.63 | 5,054.42 | -796.88 | 1,401.25 | 1,611.99 | 0.00 | 0.00 | 0.00 |
| SHANNON | | | | | | | | | |

| | | | |
|------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Database: | EDM 2003.21 Single User Db | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site: | WELD_KERR MCGEE 19-3 PAD | North Reference: | True |
| Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_KERR-MCGEE 15-3 | | |
| Design: | PLAN #1 1-15-10 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) |
| 5,450.58 | 25.69 | 119.63 | 5,100.00 | -807.71 | 1,420.31 | 1,633.91 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 25.69 | 119.63 | 5,144.53 | -818.30 | 1,438.93 | 1,655.34 | 0.00 | 0.00 | 0.00 |
| 5,600.00 | 25.69 | 119.63 | 5,234.65 | -839.73 | 1,476.61 | 1,698.68 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 25.69 | 119.63 | 5,324.77 | -861.16 | 1,514.29 | 1,742.03 | 0.00 | 0.00 | 0.00 |
| 5,800.00 | 25.69 | 119.63 | 5,414.88 | -882.59 | 1,551.97 | 1,785.38 | 0.00 | 0.00 | 0.00 |
| 5,900.00 | 25.69 | 119.63 | 5,505.00 | -904.02 | 1,589.65 | 1,828.72 | 0.00 | 0.00 | 0.00 |
| 6,000.00 | 25.69 | 119.63 | 5,595.12 | -925.45 | 1,627.33 | 1,872.07 | 0.00 | 0.00 | 0.00 |
| 6,100.00 | 25.69 | 119.63 | 5,685.23 | -946.87 | 1,665.01 | 1,915.42 | 0.00 | 0.00 | 0.00 |
| 6,200.00 | 25.69 | 119.63 | 5,775.35 | -968.30 | 1,702.69 | 1,958.77 | 0.00 | 0.00 | 0.00 |
| 6,300.00 | 25.69 | 119.63 | 5,865.47 | -989.73 | 1,740.37 | 2,002.11 | 0.00 | 0.00 | 0.00 |
| 6,400.00 | 25.69 | 119.63 | 5,955.58 | -1,011.16 | 1,778.05 | 2,045.46 | 0.00 | 0.00 | 0.00 |
| Start Drop -2.00 | | | | | | | | | |
| 6,402.89 | 25.69 | 119.63 | 5,958.19 | -1,011.78 | 1,779.14 | 2,046.72 | 0.00 | 0.00 | 0.00 |
| 6,500.00 | 23.75 | 119.63 | 6,046.40 | -1,031.85 | 1,814.44 | 2,087.32 | 2.00 | -2.00 | 0.00 |
| 6,600.00 | 21.75 | 119.63 | 6,138.62 | -1,050.96 | 1,848.04 | 2,125.98 | 2.00 | -2.00 | 0.00 |
| 6,700.00 | 19.75 | 119.63 | 6,232.13 | -1,068.47 | 1,878.83 | 2,161.40 | 2.00 | -2.00 | 0.00 |
| 6,800.00 | 17.75 | 119.63 | 6,326.82 | -1,084.36 | 1,906.77 | 2,193.54 | 2.00 | -2.00 | 0.00 |
| 6,900.00 | 15.75 | 119.63 | 6,422.57 | -1,098.60 | 1,931.81 | 2,222.35 | 2.00 | -2.00 | 0.00 |
| 7,000.00 | 13.75 | 119.63 | 6,519.27 | -1,111.18 | 1,953.94 | 2,247.80 | 2.00 | -2.00 | 0.00 |
| 7,100.00 | 11.75 | 119.63 | 6,616.80 | -1,122.09 | 1,973.12 | 2,269.86 | 2.00 | -2.00 | 0.00 |
| 7,200.00 | 9.75 | 119.63 | 6,715.04 | -1,131.31 | 1,989.32 | 2,288.51 | 2.00 | -2.00 | 0.00 |
| 7,300.00 | 7.75 | 119.63 | 6,813.88 | -1,138.82 | 2,002.54 | 2,303.71 | 2.00 | -2.00 | 0.00 |
| 7,400.00 | 5.75 | 119.63 | 6,913.18 | -1,144.63 | 2,012.75 | 2,315.46 | 2.00 | -2.00 | 0.00 |
| 7,500.00 | 3.75 | 119.63 | 7,012.83 | -1,148.72 | 2,019.94 | 2,323.73 | 2.00 | -2.00 | 0.00 |
| 7,600.00 | 1.75 | 119.63 | 7,112.71 | -1,151.09 | 2,024.11 | 2,328.52 | 2.00 | -2.00 | 0.00 |
| Start 1155.00 hold at 7687.30 MD | | | | | | | | | |
| 7,687.30 | 0.00 | 0.00 | 7,200.00 | -1,151.75 | 2,025.26 | 2,329.85 | 2.00 | -2.00 | 0.00 |
| 7,700.00 | 0.00 | 0.00 | 7,212.70 | -1,151.75 | 2,025.26 | 2,329.85 | 0.00 | 0.00 | 0.00 |
| 7,800.00 | 0.00 | 0.00 | 7,312.70 | -1,151.75 | 2,025.26 | 2,329.85 | 0.00 | 0.00 | 0.00 |
| 7,900.00 | 0.00 | 0.00 | 7,412.70 | -1,151.75 | 2,025.26 | 2,329.85 | 0.00 | 0.00 | 0.00 |
| NIO A | | | | | | | | | |
| 7,982.30 | 0.00 | 0.00 | 7,495.00 | -1,151.75 | 2,025.26 | 2,329.85 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 0.00 | 0.00 | 7,512.70 | -1,151.75 | 2,025.26 | 2,329.85 | 0.00 | 0.00 | 0.00 |
| 8,100.00 | 0.00 | 0.00 | 7,612.70 | -1,151.75 | 2,025.26 | 2,329.85 | 0.00 | 0.00 | 0.00 |
| 8,200.00 | 0.00 | 0.00 | 7,712.70 | -1,151.75 | 2,025.26 | 2,329.85 | 0.00 | 0.00 | 0.00 |
| CODELL | | | | | | | | | |
| 8,281.30 | 0.00 | 0.00 | 7,794.00 | -1,151.75 | 2,025.26 | 2,329.85 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 0.00 | 0.00 | 7,812.70 | -1,151.75 | 2,025.26 | 2,329.85 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 0.00 | 0.00 | 7,912.70 | -1,151.75 | 2,025.26 | 2,329.85 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 0.00 | 0.00 | 8,012.70 | -1,151.75 | 2,025.26 | 2,329.85 | 0.00 | 0.00 | 0.00 |
| 8,600.00 | 0.00 | 0.00 | 8,112.70 | -1,151.75 | 2,025.26 | 2,329.85 | 0.00 | 0.00 | 0.00 |
| JSAND | | | | | | | | | |
| 8,692.30 | 0.00 | 0.00 | 8,205.00 | -1,151.75 | 2,025.26 | 2,329.85 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 0.00 | 0.00 | 8,212.70 | -1,151.75 | 2,025.26 | 2,329.85 | 0.00 | 0.00 | 0.00 |
| 8,800.00 | 0.00 | 0.00 | 8,312.70 | -1,151.75 | 2,025.26 | 2,329.85 | 0.00 | 0.00 | 0.00 |
| PBHL_KERR-MCGEE 15-3(510 FSL 2130 FEL)50'TGT RAD | | | | | | | | | |
| 8,842.30 | 0.00 | 0.00 | 8,355.00 | -1,151.75 | 2,025.26 | 2,329.85 | 0.00 | 0.00 | 0.00 |

| | | | |
|------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Database: | EDM 2003.21 Single User Db | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Company: | US ROCKIES REGION PLANNING | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Project: | COLORADO NORTHERN ZONE - 83 | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site: | WELD_KERR MCGEE 19-3 PAD | North Reference: | True |
| Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | P_KERR-MCGEE 15-3 | | |
| Design: | PLAN #1 1-15-10 RHS | | |

Design Targets

Target Name

| - hit/miss target | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude |
|--|------------------|-----------------|-------------|---------------|---------------|------------------|-----------------|-----------------|-------------------|
| - Shape | | | | | | | | | |
| PBHL_KERR-MCGEE | 0.00 | 0.00 | 8,355.00 | -1,151.76 | 2,025.26 | 1,270,369.80 | 3,143,400.25 | 40° 4' 27.905 N | 104° 59' 15.270 W |
| - plan misses target center by 0.01ft at 8842.30ft MD (8355.00 TVD, -1151.75 N, 2025.26 E) | | | | | | | | | |
| - Circle (radius 50.00) | | | | | | | | | |

Casing Points

| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (in) | Hole Diameter (in) |
|---------------------------|---------------------------|--------|----------------------------|--------------------------|
| 950.00 | 950.00 | 8 5/8" | 8.62 | 11.00 |

Formations

| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|---------------------------|---------------------------|---------|-----------|------------|-------------------------|
| 4,096.78 | 3,880.00 | PARKMAN | | | |
| 4,762.58 | 4,480.00 | SUSSEX | | | |
| 5,450.58 | 5,100.00 | SHANNON | | | |
| 7,982.30 | 7,495.00 | NIO A | | | |
| 8,281.30 | 7,794.00 | CODELL | | | |
| 8,692.30 | 8,205.00 | JSAND | | | |

Plan Annotations

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment |
|---------------------------|---------------------------|-------------------|---------------|----------------------------------|
| | | +N/-S (ft) | +E/-W (ft) | |
| 1,050.00 | 1,050.00 | 0.00 | 0.00 | Start Build 2.00 |
| 2,334.41 | 2,291.81 | -139.97 | 246.12 | Start 4068.49 hold at 2334.41 MD |
| 6,402.89 | 5,958.19 | -1,011.78 | 1,779.14 | Start Drop -2.00 |
| 7,687.30 | 7,200.00 | -1,151.75 | 2,025.26 | Start 1155.00 hold at 7687.30 MD |
| 8,842.30 | 8,355.00 | -1,151.75 | 2,025.26 | TD at 8842.30 |



US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_KERR MCGEE 19-3 PAD
P_KERR-MCGEE 15-3**

**P_KERR-MCGEE 15-3
PLAN #1 1-15-10 RHS**

Anticollision Report

15 January, 2010



| | | | |
|---------------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 RHS | Offset TVD Reference: | Offset Datum |

| | | | |
|-------------------------------------|---|-----------------------|---------------------|
| Reference | PLAN #1 1-15-10 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 | 1/15/2010 | | |
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
| 0.00 | 8,842.30 | PLAN #1 1-15-10 RHS (P_KERR-MCGEE | 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_KERR MCGEE 19-3 PAD | | | | | | |
| KERR-MCGEE #19-3i EXISTING - KERR-MCGEE #19-3 | 1,050.00 | 1,044.00 | 52.61 | 10.62 | 1.253 | Level 3, CC |
| KERR-MCGEE #19-3i EXISTING - KERR-MCGEE #19-3 | 1,400.00 | 1,393.13 | 58.07 | 1.48 | 1.026 | Level 2, ES, SF |
| P_KERR-MCGEE 10-3 - P_KERR-MCGEE 10-3 - PLAN | 1,050.00 | 1,050.00 | 50.02 | 8.09 | 1.193 | Level 2, CC |
| P_KERR-MCGEE 10-3 - P_KERR-MCGEE 10-3 - PLAN | 1,100.00 | 1,100.46 | 50.19 | 7.02 | 1.163 | Level 2, ES, SF |
| P_KERR-MCGEE 11-3 - P_KERR-MCGEE 11-3 - PLAN | 1,050.00 | 1,050.00 | 70.10 | 65.64 | 15.713 | CC, ES |
| P_KERR-MCGEE 11-3 - P_KERR-MCGEE 11-3 - PLAN | 1,300.00 | 1,301.99 | 76.41 | 70.94 | 13.978 | SF |
| P_KERR-MCGEE 12-3 - P_KERR-MCGEE 12-3 - PLAN | 1,050.00 | 1,050.00 | 100.48 | 96.02 | 22.521 | CC, ES |
| P_KERR-MCGEE 12-3 - P_KERR-MCGEE 12-3 - PLAN | 1,200.00 | 1,194.88 | 107.69 | 102.64 | 21.307 | SF |
| P_KERR-MCGEE 13-3 - P_KERR-MCGEE 13-3 - PLAN | 1,050.00 | 1,050.00 | 59.82 | 55.36 | 13.408 | CC, ES |
| P_KERR-MCGEE 13-3 - P_KERR-MCGEE 13-3 - PLAN | 1,200.00 | 1,201.20 | 61.94 | 56.92 | 12.338 | SF |
| P_KERR-MCGEE 14-3 - P_KERR-MCGEE 14-3 - PLAN | 1,237.87 | 1,238.50 | 9.85 | 4.68 | 1.907 | CC |
| P_KERR-MCGEE 14-3 - P_KERR-MCGEE 14-3 - PLAN | 1,300.00 | 1,300.82 | 10.00 | 4.61 | 1.855 | ES, SF |
| P_KERR-MCGEE 19-3 - P_KERR-MCGEE 19-3 - PLAN | 1,237.49 | 1,239.38 | 30.02 | 24.87 | 5.820 | CC, ES |
| P_KERR-MCGEE 19-3 - P_KERR-MCGEE 19-3 - PLAN | 1,300.00 | 1,302.14 | 30.34 | 24.95 | 5.633 | SF |
| P_KERR-MCGEE 22-3 - P_KERR-MCGEE 22-3 - PLAN | 1,050.00 | 1,050.00 | 90.20 | 85.74 | 20.217 | CC, ES |
| P_KERR-MCGEE 22-3 - P_KERR-MCGEE 22-3 - PLAN | 1,200.00 | 1,197.31 | 95.91 | 90.84 | 18.905 | SF |
| P_KERR-MCGEE 23-3 - P_KERR-MCGEE 23-3 - PLAN | 1,050.00 | 1,050.00 | 20.09 | 15.63 | 4.503 | CC |
| P_KERR-MCGEE 23-3 - P_KERR-MCGEE 23-3 - PLAN | 1,100.00 | 1,100.27 | 20.16 | 15.49 | 4.319 | ES |
| P_KERR-MCGEE 23-3 - P_KERR-MCGEE 23-3 - PLAN | 1,300.00 | 1,301.31 | 21.98 | 16.54 | 4.041 | SF |
| P_KERR-MCGEE 33-3 - P_KERR-MCGEE 33-3 - PLAN | 1,050.00 | 1,050.00 | 80.21 | 75.75 | 17.977 | CC, ES |
| P_KERR-MCGEE 33-3 - P_KERR-MCGEE 33-3 - PLAN | 1,200.00 | 1,198.42 | 85.18 | 80.14 | 16.919 | SF |
| P_KERR-MCGEE 35-3 - P_KERR-MCGEE 35-3 - PLAN | 1,050.00 | 1,050.00 | 40.00 | 35.54 | 8.966 | CC |
| P_KERR-MCGEE 35-3 - P_KERR-MCGEE 35-3 - PLAN | 1,200.00 | 1,201.77 | 40.32 | 35.31 | 8.037 | ES |
| P_KERR-MCGEE 35-3 - P_KERR-MCGEE 35-3 - PLAN | 1,300.00 | 1,302.72 | 41.59 | 36.20 | 7.727 | SF |

| WELD_KERR MCGEE 19-3 PAD - KERR-MCGEE #19-3i EXISTING - KERR-MCGEE #19-3i EXISTING | | | | | | | | | | Offset Site Error: | | 0.00 ft | |
|--|----------------|----------------|----------------|-----------------|--------|-------------------|------------------------|------------|-----------------|--------------------|--------------------|-------------------|---------|
| Survey Program: 0-UNKNOWN | | | | | | | | | | Offset Well Error: | | 0.00 ft | |
| Reference | | Offset | | Semi Major Axis | | Distance | | | | | | | |
| Measured Depth | Vertical Depth | Measured Depth | Vertical Depth | Reference | Offset | Highside Toolface | Offset Wellbore Centre | | Between Centres | Between Ellipses | Minimum Separation | Separation Factor | Warning |
| Depth (ft) | Depth (ft) | Depth (ft) | Depth (ft) | (ft) | (ft) | (°) | +N/-S (ft) | +E/-W (ft) | (ft) | (ft) | (ft) | | |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 25.86 | 47.34 | 22.95 | 52.95 | | | | |
| 100.00 | 100.00 | 94.00 | 94.00 | 0.10 | 1.88 | 25.86 | 47.34 | 22.95 | 52.61 | 50.64 | 1.98 | 26.631 | |
| 200.00 | 200.00 | 194.00 | 194.00 | 0.32 | 5.76 | 25.86 | 47.34 | 22.95 | 52.61 | 46.53 | 6.08 | 8.653 | |
| 300.00 | 300.00 | 294.00 | 294.00 | 0.55 | 9.76 | 25.86 | 47.34 | 22.95 | 52.61 | 42.31 | 10.31 | 5.105 | |

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_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design WELD_KERR MCGEE 19-3 PAD - KERR-MCGEE #19-3i EXISTING - KERR-MCGEE #19-3i EXISTING | | | | | | | | | | | | | 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 | | |
| 400.00 | 400.00 | 394.00 | 394.00 | 0.77 | 13.76 | 25.86 | 47.34 | 22.95 | 52.61 | 38.08 | 14.53 | 3.621 | | |
| 500.00 | 500.00 | 494.00 | 494.00 | 0.99 | 17.76 | 25.86 | 47.34 | 22.95 | 52.61 | 33.86 | 18.75 | 2.805 | | |
| 600.00 | 600.00 | 594.00 | 594.00 | 1.22 | 21.76 | 25.86 | 47.34 | 22.95 | 52.61 | 29.63 | 22.98 | 2.290 | | |
| 700.00 | 700.00 | 694.00 | 694.00 | 1.44 | 25.76 | 25.86 | 47.34 | 22.95 | 52.61 | 25.41 | 27.20 | 1.934 | | |
| 800.00 | 800.00 | 794.00 | 794.00 | 1.67 | 29.76 | 25.86 | 47.34 | 22.95 | 52.61 | 21.18 | 31.43 | 1.674 | | |
| 900.00 | 900.00 | 894.00 | 894.00 | 1.89 | 33.76 | 25.86 | 47.34 | 22.95 | 52.61 | 16.96 | 35.65 | 1.476 | Level 3 | |
| 1,000.00 | 1,000.00 | 994.00 | 994.00 | 2.12 | 37.76 | 25.86 | 47.34 | 22.95 | 52.61 | 12.73 | 39.88 | 1.319 | Level 3 | |
| 1,050.00 | 1,050.00 | 1,044.00 | 1,044.00 | 2.23 | 39.76 | 25.86 | 47.34 | 22.95 | 52.61 | 10.62 | 41.99 | 1.253 | Level 3, CC | |
| 1,100.00 | 1,100.00 | 1,094.00 | 1,094.00 | 2.33 | 41.76 | -94.24 | 47.34 | 22.95 | 52.64 | 8.55 | 44.09 | 1.194 | Level 2 | |
| 1,200.00 | 1,199.93 | 1,193.93 | 1,193.93 | 2.52 | 45.76 | -97.99 | 47.34 | 22.95 | 53.01 | 4.74 | 48.28 | 1.098 | Level 2 | |
| 1,300.00 | 1,299.68 | 1,293.68 | 1,293.68 | 2.72 | 49.75 | -105.24 | 47.34 | 22.95 | 54.43 | 1.97 | 52.46 | 1.038 | Level 2 | |
| 1,400.00 | 1,399.13 | 1,393.13 | 1,393.13 | 2.94 | 53.73 | -115.13 | 47.34 | 22.95 | 58.07 | 1.48 | 56.59 | 1.026 | Level 2, ES, SF | |
| 1,500.00 | 1,498.15 | 1,492.15 | 1,492.15 | 3.19 | 57.69 | -126.08 | 47.34 | 22.95 | 65.24 | 4.64 | 60.60 | 1.077 | Level 2 | |
| 1,600.00 | 1,596.63 | 1,590.63 | 1,590.63 | 3.47 | 61.63 | -136.37 | 47.34 | 22.95 | 76.83 | 12.41 | 64.42 | 1.193 | Level 2 | |
| 1,700.00 | 1,694.44 | 1,688.44 | 1,688.44 | 3.80 | 65.54 | -144.98 | 47.34 | 22.95 | 93.10 | 25.07 | 68.02 | 1.369 | Level 3 | |
| 1,800.00 | 1,791.46 | 1,785.46 | 1,785.46 | 4.19 | 69.42 | -151.73 | 47.34 | 22.95 | 113.89 | 42.47 | 71.42 | 1.595 | | |
| 1,900.00 | 1,887.58 | 1,881.58 | 1,881.58 | 4.64 | 73.26 | -156.89 | 47.34 | 22.95 | 138.94 | 64.32 | 74.62 | 1.862 | | |
| 2,000.00 | 1,982.68 | 1,976.68 | 1,976.68 | 5.15 | 77.07 | -160.81 | 47.34 | 22.95 | 167.95 | 90.33 | 77.62 | 2.164 | | |
| 2,100.00 | 2,076.65 | 2,070.65 | 2,070.65 | 5.74 | 80.83 | -163.81 | 47.34 | 22.95 | 200.72 | 120.31 | 80.41 | 2.496 | | |
| 2,200.00 | 2,169.36 | 2,163.36 | 2,163.36 | 6.41 | 84.53 | -166.14 | 47.34 | 22.95 | 237.08 | 154.09 | 82.99 | 2.857 | | |
| 2,300.00 | 2,260.71 | 2,254.71 | 2,254.71 | 7.15 | 88.19 | -167.97 | 47.34 | 22.95 | 276.89 | 191.54 | 85.34 | 3.244 | | |
| 2,334.41 | 2,291.81 | 2,285.81 | 2,285.81 | 7.42 | 89.43 | -168.51 | 47.34 | 22.95 | 291.36 | 205.27 | 86.10 | 3.384 | | |
| 2,400.00 | 2,350.92 | 2,344.92 | 2,344.92 | 7.96 | 91.80 | -169.52 | 47.34 | 22.95 | 319.37 | 231.00 | 88.37 | 3.614 | | |
| 2,500.00 | 2,441.03 | 2,435.03 | 2,435.03 | 8.79 | 95.40 | -170.77 | 47.34 | 22.95 | 362.20 | 270.33 | 91.87 | 3.943 | | |
| 2,600.00 | 2,531.15 | 2,525.15 | 2,525.15 | 9.64 | 99.01 | -171.75 | 47.34 | 22.95 | 405.14 | 309.74 | 95.39 | 4.247 | | |
| 2,700.00 | 2,621.27 | 2,615.27 | 2,615.27 | 10.51 | 102.61 | -172.54 | 47.34 | 22.95 | 448.15 | 349.22 | 98.93 | 4.530 | | |
| 2,800.00 | 2,711.38 | 2,705.38 | 2,705.38 | 11.38 | 106.22 | -173.20 | 47.34 | 22.95 | 491.23 | 388.74 | 102.49 | 4.793 | | |
| 2,900.00 | 2,801.50 | 2,795.50 | 2,795.50 | 12.26 | 109.82 | -173.75 | 47.34 | 22.95 | 534.35 | 428.29 | 106.05 | 5.038 | | |
| 3,000.00 | 2,891.62 | 2,885.62 | 2,885.62 | 13.14 | 113.42 | -174.22 | 47.34 | 22.95 | 577.50 | 467.87 | 109.63 | 5.268 | | |
| 3,100.00 | 2,981.73 | 2,975.73 | 2,975.73 | 14.03 | 117.03 | -174.62 | 47.34 | 22.95 | 620.68 | 507.47 | 113.21 | 5.483 | | |
| 3,200.00 | 3,071.85 | 3,065.85 | 3,065.85 | 14.92 | 120.63 | -174.97 | 47.34 | 22.95 | 663.88 | 547.09 | 116.80 | 5.684 | | |
| 3,300.00 | 3,161.97 | 3,155.97 | 3,155.97 | 15.82 | 124.24 | -175.28 | 47.34 | 22.95 | 707.10 | 586.72 | 120.39 | 5.874 | | |
| 3,400.00 | 3,252.08 | 3,246.08 | 3,246.08 | 16.72 | 127.84 | -175.55 | 47.34 | 22.95 | 750.34 | 626.36 | 123.98 | 6.052 | | |
| 3,500.00 | 3,342.20 | 3,336.20 | 3,336.20 | 17.62 | 131.45 | -175.79 | 47.34 | 22.95 | 793.59 | 666.01 | 127.58 | 6.220 | | |
| 3,600.00 | 3,432.32 | 3,426.32 | 3,426.32 | 18.53 | 135.05 | -176.01 | 47.34 | 22.95 | 836.84 | 705.66 | 131.18 | 6.379 | | |
| 3,700.00 | 3,522.43 | 3,516.43 | 3,516.43 | 19.43 | 138.66 | -176.21 | 47.34 | 22.95 | 880.11 | 745.32 | 134.78 | 6.530 | | |
| 3,800.00 | 3,612.55 | 3,606.55 | 3,606.55 | 20.34 | 142.26 | -176.38 | 47.34 | 22.95 | 923.38 | 784.99 | 138.39 | 6.672 | | |
| 3,900.00 | 3,702.67 | 3,696.67 | 3,696.67 | 21.25 | 145.87 | -176.55 | 47.34 | 22.95 | 966.66 | 824.66 | 142.00 | 6.808 | | |
| 4,000.00 | 3,792.78 | 3,786.78 | 3,786.78 | 22.16 | 149.47 | -176.69 | 47.34 | 22.95 | 1,009.95 | 864.34 | 145.61 | 6.936 | | |
| 4,100.00 | 3,882.90 | 3,876.90 | 3,876.90 | 23.07 | 153.08 | -176.83 | 47.34 | 22.95 | 1,053.24 | 904.02 | 149.22 | 7.058 | | |
| 4,200.00 | 3,973.02 | 3,967.02 | 3,967.02 | 23.98 | 156.68 | -176.96 | 47.34 | 22.95 | 1,096.54 | 943.71 | 152.83 | 7.175 | | |
| 4,300.00 | 4,063.13 | 4,057.13 | 4,057.13 | 24.89 | 160.29 | -177.07 | 47.34 | 22.95 | 1,139.83 | 983.39 | 156.44 | 7.286 | | |
| 4,400.00 | 4,153.25 | 4,147.25 | 4,147.25 | 25.81 | 163.89 | -177.18 | 47.34 | 22.95 | 1,183.14 | 1,023.08 | 160.06 | 7.392 | | |
| 4,500.00 | 4,243.37 | 4,237.37 | 4,237.37 | 26.72 | 167.49 | -177.28 | 47.34 | 22.95 | 1,226.44 | 1,062.77 | 163.67 | 7.493 | | |
| 4,600.00 | 4,333.48 | 4,327.48 | 4,327.48 | 27.63 | 171.10 | -177.37 | 47.34 | 22.95 | 1,269.75 | 1,102.46 | 167.29 | 7.590 | | |
| 4,700.00 | 4,423.60 | 4,417.60 | 4,417.60 | 28.55 | 174.70 | -177.46 | 47.34 | 22.95 | 1,313.06 | 1,142.16 | 170.91 | 7.683 | | |
| 4,800.00 | 4,513.72 | 4,507.72 | 4,507.72 | 29.46 | 178.31 | -177.54 | 47.34 | 22.95 | 1,356.38 | 1,181.86 | 174.52 | 7.772 | | |
| 4,900.00 | 4,603.83 | 4,597.83 | 4,597.83 | 30.38 | 181.91 | -177.62 | 47.34 | 22.95 | 1,399.69 | 1,221.55 | 178.14 | 7.857 | | |
| 5,000.00 | 4,693.95 | 4,687.95 | 4,687.95 | 31.30 | 185.52 | -177.69 | 47.34 | 22.95 | 1,443.01 | 1,261.25 | 181.76 | 7.939 | | |
| 5,100.00 | 4,784.07 | 4,778.07 | 4,778.07 | 32.21 | 189.12 | -177.75 | 47.34 | 22.95 | 1,486.33 | 1,300.95 | 185.38 | 8.018 | | |
| 5,200.00 | 4,874.18 | 4,868.18 | 4,868.18 | 33.13 | 192.73 | -177.82 | 47.34 | 22.95 | 1,529.65 | 1,340.65 | 189.00 | 8.093 | | |
| 5,300.00 | 4,964.30 | 4,958.30 | 4,958.30 | 34.05 | 196.33 | -177.88 | 47.34 | 22.95 | 1,572.97 | 1,380.35 | 192.62 | 8.166 | | |

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_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.00 ft |
|---------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 0-UNKNOWN | | | | | | | | | | | | 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 |
| 5,400.00 | 5,054.42 | 5,048.42 | 5,048.42 | 34.96 | 199.94 | -177.93 | 47.34 | 22.95 | 1,616.30 | 1,420.06 | 196.24 | 8.236 | |
| 5,500.00 | 5,144.53 | 5,138.53 | 5,138.53 | 35.88 | 203.54 | -177.99 | 47.34 | 22.95 | 1,659.62 | 1,459.76 | 199.86 | 8.304 | |
| 5,600.00 | 5,234.65 | 5,228.65 | 5,228.65 | 36.80 | 207.15 | -178.04 | 47.34 | 22.95 | 1,702.95 | 1,499.47 | 203.48 | 8.369 | |
| 5,700.00 | 5,324.77 | 5,318.77 | 5,318.77 | 37.72 | 210.75 | -178.09 | 47.34 | 22.95 | 1,746.28 | 1,539.17 | 207.11 | 8.432 | |
| 5,800.00 | 5,414.88 | 5,408.88 | 5,408.88 | 38.63 | 214.36 | -178.13 | 47.34 | 22.95 | 1,789.60 | 1,578.88 | 210.73 | 8.492 | |
| 5,900.00 | 5,505.00 | 5,499.00 | 5,499.00 | 39.55 | 217.96 | -178.18 | 47.34 | 22.95 | 1,832.93 | 1,618.58 | 214.35 | 8.551 | |
| 6,000.00 | 5,595.12 | 5,589.12 | 5,589.12 | 40.47 | 221.56 | -178.22 | 47.34 | 22.95 | 1,876.26 | 1,658.29 | 217.97 | 8.608 | |
| 6,100.00 | 5,685.23 | 5,679.23 | 5,679.23 | 41.39 | 225.17 | -178.26 | 47.34 | 22.95 | 1,919.59 | 1,698.00 | 221.60 | 8.663 | |
| 6,200.00 | 5,775.35 | 5,769.35 | 5,769.35 | 42.31 | 228.77 | -178.30 | 47.34 | 22.95 | 1,962.93 | 1,737.71 | 225.22 | 8.716 | |
| 6,300.00 | 5,865.47 | 5,859.47 | 5,859.47 | 43.23 | 232.38 | -178.34 | 47.34 | 22.95 | 2,006.26 | 1,777.41 | 228.84 | 8.767 | |
| 6,402.89 | 5,958.19 | 5,952.19 | 5,952.19 | 44.17 | 236.09 | -178.37 | 47.34 | 22.95 | 2,050.84 | 1,818.27 | 232.57 | 8.818 | |
| 6,500.00 | 6,046.40 | 6,040.40 | 6,040.40 | 44.95 | 239.62 | -178.43 | 47.34 | 22.95 | 2,091.43 | 1,851.96 | 239.47 | 8.734 | |
| 6,600.00 | 6,138.62 | 6,132.62 | 6,132.62 | 45.60 | 243.30 | -178.48 | 47.34 | 22.95 | 2,130.08 | 1,883.63 | 246.46 | 8.643 | |
| 6,700.00 | 6,232.13 | 6,226.13 | 6,226.13 | 46.19 | 247.05 | -178.52 | 47.34 | 22.95 | 2,165.49 | 1,912.22 | 253.27 | 8.550 | |
| 6,800.00 | 6,326.82 | 6,320.82 | 6,320.82 | 46.74 | 250.83 | -178.56 | 47.34 | 22.95 | 2,197.62 | 1,937.72 | 259.90 | 8.456 | |
| 6,900.00 | 6,422.57 | 6,416.57 | 6,416.57 | 47.22 | 254.66 | -178.60 | 47.34 | 22.95 | 2,226.42 | 1,960.11 | 266.31 | 8.360 | |
| 7,000.00 | 6,519.27 | 6,513.27 | 6,513.27 | 47.65 | 258.53 | -178.62 | 47.34 | 22.95 | 2,251.87 | 1,979.37 | 272.50 | 8.264 | |
| 7,100.00 | 6,616.80 | 6,610.80 | 6,610.80 | 48.03 | 262.43 | -178.65 | 47.34 | 22.95 | 2,273.93 | 1,995.50 | 278.43 | 8.167 | |
| 7,200.00 | 6,715.04 | 6,709.04 | 6,709.04 | 48.35 | 266.36 | -178.67 | 47.34 | 22.95 | 2,292.57 | 2,008.48 | 284.09 | 8.070 | |
| 7,300.00 | 6,813.88 | 6,807.88 | 6,807.88 | 48.62 | 270.32 | -178.68 | 47.34 | 22.95 | 2,307.77 | 2,018.31 | 289.45 | 7.973 | |
| 7,400.00 | 6,913.18 | 6,907.18 | 6,907.18 | 48.84 | 274.29 | -178.70 | 47.34 | 22.95 | 2,319.51 | 2,025.00 | 294.51 | 7.876 | |
| 7,500.00 | 7,012.83 | 7,006.83 | 7,006.83 | 49.01 | 278.27 | -178.70 | 47.34 | 22.95 | 2,327.78 | 2,028.55 | 299.23 | 7.779 | |
| 7,600.00 | 7,112.71 | 7,106.71 | 7,106.71 | 49.13 | 282.27 | -178.71 | 47.34 | 22.95 | 2,332.57 | 2,028.98 | 303.59 | 7.683 | |
| 7,687.30 | 7,200.00 | 7,194.00 | 7,194.00 | 49.20 | 285.76 | -59.08 | 47.34 | 22.95 | 2,333.90 | 2,026.80 | 307.10 | 7.600 | |
| 7,700.00 | 7,212.70 | 7,206.70 | 7,206.70 | 49.21 | 286.27 | -59.08 | 47.34 | 22.95 | 2,333.90 | 2,026.27 | 307.63 | 7.587 | |
| 7,800.00 | 7,312.70 | 7,306.70 | 7,306.70 | 49.27 | 290.27 | -59.08 | 47.34 | 22.95 | 2,333.90 | 2,022.13 | 311.77 | 7.486 | |
| 7,900.00 | 7,412.70 | 7,406.70 | 7,406.70 | 49.34 | 294.27 | -59.08 | 47.34 | 22.95 | 2,333.90 | 2,018.00 | 315.90 | 7.388 | |
| 8,000.00 | 7,512.70 | 7,506.70 | 7,506.70 | 49.41 | 298.27 | -59.08 | 47.34 | 22.95 | 2,333.90 | 2,013.86 | 320.04 | 7.292 | |
| 8,100.00 | 7,612.70 | 7,606.70 | 7,606.70 | 49.48 | 302.27 | -59.08 | 47.34 | 22.95 | 2,333.90 | 2,009.72 | 324.18 | 7.199 | |
| 8,200.00 | 7,712.70 | 7,706.70 | 7,706.70 | 49.55 | 306.27 | -59.08 | 47.34 | 22.95 | 2,333.90 | 2,005.57 | 328.33 | 7.108 | |
| 8,300.00 | 7,812.70 | 7,806.70 | 7,806.70 | 49.62 | 310.27 | -59.08 | 47.34 | 22.95 | 2,333.90 | 2,001.43 | 332.47 | 7.020 | |
| 8,400.00 | 7,912.70 | 7,906.70 | 7,906.70 | 49.69 | 314.27 | -59.08 | 47.34 | 22.95 | 2,333.90 | 1,997.28 | 336.62 | 6.933 | |
| 8,500.00 | 8,012.70 | 8,006.70 | 8,006.70 | 49.76 | 318.27 | -59.08 | 47.34 | 22.95 | 2,333.90 | 1,993.14 | 340.76 | 6.849 | |
| 8,600.00 | 8,112.70 | 8,106.70 | 8,106.70 | 49.84 | 322.27 | -59.08 | 47.34 | 22.95 | 2,333.90 | 1,988.99 | 344.91 | 6.767 | |
| 8,700.00 | 8,212.70 | 8,206.70 | 8,206.70 | 49.91 | 326.27 | -59.08 | 47.34 | 22.95 | 2,333.90 | 1,984.84 | 349.06 | 6.686 | |
| 8,800.00 | 8,312.70 | 8,306.70 | 8,306.70 | 49.99 | 330.27 | -59.08 | 47.34 | 22.95 | 2,333.90 | 1,980.69 | 353.21 | 6.608 | |
| 8,842.30 | 8,355.00 | 8,349.00 | 8,349.00 | 50.02 | 331.96 | -59.08 | 47.34 | 22.95 | 2,333.90 | 1,978.94 | 354.96 | 6.575 | |

| | | | |
|---------------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.00 ft |
|---------------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-----------------------|---------|
| Survey Program: 0-UNKNOWN | | | | | | | | | | | | 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 | -38.80 | 38.98 | -31.34 | 50.02 | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 1.70 | -38.80 | 38.98 | -31.34 | 50.02 | 48.22 | 1.80 | 27.857 | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 5.70 | -38.80 | 38.98 | -31.34 | 50.02 | 44.00 | 6.02 | 8.308 | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 9.70 | -38.80 | 38.98 | -31.34 | 50.02 | 39.77 | 10.25 | 4.882 | |
| 400.00 | 400.00 | 400.00 | 400.00 | 0.77 | 13.70 | -38.80 | 38.98 | -31.34 | 50.02 | 35.55 | 14.47 | 3.457 | |
| 500.00 | 500.00 | 500.00 | 500.00 | 0.99 | 17.70 | -38.80 | 38.98 | -31.34 | 50.02 | 31.32 | 18.69 | 2.676 | |
| 600.00 | 600.00 | 600.00 | 600.00 | 1.22 | 21.70 | -38.80 | 38.98 | -31.34 | 50.02 | 27.10 | 22.92 | 2.182 | |
| 700.00 | 700.00 | 700.00 | 700.00 | 1.44 | 25.70 | -38.80 | 38.98 | -31.34 | 50.02 | 22.87 | 27.14 | 1.843 | |
| 800.00 | 800.00 | 800.00 | 800.00 | 1.67 | 29.70 | -38.80 | 38.98 | -31.34 | 50.02 | 18.65 | 31.37 | 1.595 | |
| 900.00 | 900.00 | 900.00 | 900.00 | 1.89 | 33.70 | -38.80 | 38.98 | -31.34 | 50.02 | 14.43 | 35.59 | 1.405 Level 3 | |
| 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 2.12 | 37.70 | -38.80 | 38.98 | -31.34 | 50.02 | 10.20 | 39.82 | 1.256 Level 3 | |
| 1,050.00 | 1,050.00 | 1,050.00 | 1,050.00 | 2.23 | 39.70 | -38.80 | 38.98 | -31.34 | 50.02 | 8.09 | 41.93 | 1.193 Level 2, CC | |
| 1,100.00 | 1,100.00 | 1,100.46 | 1,100.46 | 2.33 | 40.84 | -158.18 | 39.04 | -30.90 | 50.19 | 7.02 | 43.17 | 1.163 Level 2, ES, SF | |
| 1,200.00 | 1,199.93 | 1,201.34 | 1,201.27 | 2.52 | 41.64 | -156.25 | 39.48 | -27.38 | 51.63 | 7.52 | 44.11 | 1.170 Level 2 | |
| 1,300.00 | 1,299.68 | 1,302.11 | 1,301.79 | 2.72 | 42.82 | -152.72 | 40.37 | -20.34 | 54.66 | 9.27 | 45.39 | 1.204 Level 2 | |
| 1,400.00 | 1,399.13 | 1,402.70 | 1,401.81 | 2.94 | 44.36 | -148.12 | 41.70 | -9.83 | 59.53 | 12.55 | 46.98 | 1.267 Level 3 | |
| 1,500.00 | 1,498.15 | 1,503.02 | 1,501.13 | 3.19 | 46.25 | -143.08 | 43.46 | 4.12 | 66.49 | 17.59 | 48.90 | 1.360 Level 3 | |
| 1,600.00 | 1,596.63 | 1,603.02 | 1,599.59 | 3.47 | 48.48 | -138.12 | 45.64 | 21.45 | 75.73 | 24.58 | 51.15 | 1.481 Level 3 | |
| 1,700.00 | 1,694.44 | 1,702.61 | 1,696.98 | 3.80 | 51.03 | -133.58 | 48.25 | 42.09 | 87.33 | 33.59 | 53.74 | 1.625 | |
| 1,800.00 | 1,791.46 | 1,801.75 | 1,793.15 | 4.19 | 53.90 | -129.60 | 51.26 | 65.96 | 101.31 | 44.63 | 56.68 | 1.787 | |
| 1,900.00 | 1,887.58 | 1,900.36 | 1,887.93 | 4.64 | 57.07 | -126.19 | 54.67 | 92.96 | 117.62 | 57.67 | 59.95 | 1.962 | |
| 2,000.00 | 1,982.68 | 1,998.40 | 1,981.17 | 5.15 | 60.54 | -123.30 | 58.46 | 122.99 | 136.21 | 72.66 | 63.55 | 2.143 | |
| 2,100.00 | 2,076.65 | 2,095.81 | 2,072.74 | 5.74 | 64.30 | -120.85 | 62.62 | 155.95 | 157.01 | 89.56 | 67.46 | 2.328 | |
| 2,200.00 | 2,169.36 | 2,192.54 | 2,162.49 | 6.41 | 68.33 | -118.77 | 67.13 | 191.72 | 179.95 | 108.29 | 71.66 | 2.511 | |
| 2,300.00 | 2,260.71 | 2,288.70 | 2,250.49 | 7.15 | 72.63 | -116.99 | 71.98 | 230.19 | 204.95 | 128.82 | 76.13 | 2.692 | |
| 2,334.41 | 2,291.81 | 2,321.89 | 2,280.71 | 7.42 | 74.18 | -116.54 | 73.70 | 243.80 | 213.97 | 136.23 | 77.74 | 2.752 | |
| 2,400.00 | 2,350.92 | 2,385.12 | 2,338.28 | 7.96 | 77.15 | -116.14 | 76.97 | 269.74 | 231.34 | 150.32 | 81.03 | 2.855 | |
| 2,500.00 | 2,441.03 | 2,481.52 | 2,426.05 | 8.79 | 81.82 | -115.64 | 81.96 | 309.29 | 257.85 | 171.68 | 86.17 | 2.992 | |
| 2,600.00 | 2,531.15 | 2,577.92 | 2,513.83 | 9.64 | 86.60 | -115.23 | 86.95 | 348.83 | 284.37 | 192.92 | 91.45 | 3.109 | |
| 2,700.00 | 2,621.27 | 2,674.32 | 2,601.60 | 10.51 | 91.49 | -114.89 | 91.94 | 388.37 | 310.91 | 214.06 | 96.85 | 3.210 | |
| 2,800.00 | 2,711.38 | 2,770.73 | 2,689.38 | 11.38 | 96.47 | -114.61 | 96.93 | 427.92 | 337.45 | 235.10 | 102.35 | 3.297 | |
| 2,900.00 | 2,801.50 | 2,867.13 | 2,777.15 | 12.26 | 101.52 | -114.36 | 101.92 | 467.46 | 364.00 | 256.08 | 107.92 | 3.373 | |
| 3,000.00 | 2,891.62 | 2,963.53 | 2,864.93 | 13.14 | 106.63 | -114.15 | 106.91 | 507.01 | 390.55 | 276.98 | 113.57 | 3.439 | |
| 3,100.00 | 2,981.73 | 3,059.93 | 2,952.70 | 14.03 | 111.79 | -113.97 | 111.90 | 546.55 | 417.11 | 297.83 | 119.28 | 3.497 | |
| 3,200.00 | 3,071.85 | 3,156.33 | 3,040.48 | 14.92 | 117.01 | -113.80 | 116.89 | 586.10 | 443.67 | 318.63 | 125.04 | 3.548 | |
| 3,300.00 | 3,161.97 | 3,252.73 | 3,128.25 | 15.82 | 122.27 | -113.66 | 121.88 | 625.64 | 470.24 | 339.39 | 130.85 | 3.594 | |
| 3,400.00 | 3,252.08 | 3,349.13 | 3,216.03 | 16.72 | 127.56 | -113.53 | 126.87 | 665.19 | 496.80 | 360.10 | 136.70 | 3.634 | |
| 3,500.00 | 3,342.20 | 3,445.53 | 3,303.80 | 17.62 | 132.88 | -113.42 | 131.86 | 704.73 | 523.37 | 380.79 | 142.58 | 3.671 | |
| 3,600.00 | 3,432.32 | 3,541.93 | 3,391.58 | 18.53 | 138.24 | -113.31 | 136.85 | 744.27 | 549.94 | 401.44 | 148.50 | 3.703 | |
| 3,700.00 | 3,522.43 | 3,638.33 | 3,479.35 | 19.43 | 143.62 | -113.22 | 141.84 | 783.82 | 576.51 | 422.07 | 154.44 | 3.733 | |
| 3,800.00 | 3,612.55 | 3,734.73 | 3,567.13 | 20.34 | 149.02 | -113.13 | 146.83 | 823.36 | 603.09 | 442.68 | 160.41 | 3.760 | |
| 3,900.00 | 3,702.67 | 3,831.13 | 3,654.90 | 21.25 | 154.44 | -113.05 | 151.82 | 862.91 | 629.66 | 463.26 | 166.40 | 3.784 | |
| 4,000.00 | 3,792.78 | 3,927.53 | 3,742.68 | 22.16 | 159.88 | -112.98 | 156.81 | 902.45 | 656.24 | 483.82 | 172.41 | 3.806 | |
| 4,100.00 | 3,882.90 | 4,023.94 | 3,830.45 | 23.07 | 165.33 | -112.91 | 161.80 | 942.00 | 682.82 | 504.37 | 178.44 | 3.827 | |
| 4,200.00 | 3,973.02 | 4,120.34 | 3,918.23 | 23.98 | 170.80 | -112.85 | 166.79 | 981.54 | 709.39 | 524.90 | 184.49 | 3.845 | |
| 4,300.00 | 4,063.13 | 4,216.74 | 4,006.00 | 24.89 | 176.29 | -112.79 | 171.78 | 1,021.08 | 735.97 | 545.42 | 190.55 | 3.862 | |
| 4,400.00 | 4,153.25 | 4,313.14 | 4,093.78 | 25.81 | 181.78 | -112.74 | 176.77 | 1,060.63 | 762.55 | 565.93 | 196.62 | 3.878 | |
| 4,500.00 | 4,243.37 | 4,409.54 | 4,181.55 | 26.72 | 187.29 | -112.69 | 181.76 | 1,100.17 | 789.13 | 586.42 | 202.71 | 3.893 | |
| 4,600.00 | 4,333.48 | 4,505.94 | 4,269.33 | 27.63 | 192.81 | -112.64 | 186.75 | 1,139.72 | 815.71 | 606.90 | 208.81 | 3.907 | |
| 4,700.00 | 4,423.60 | 4,602.34 | 4,357.10 | 28.55 | 198.34 | -112.60 | 191.74 | 1,179.26 | 842.29 | 627.38 | 214.91 | 3.919 | |
| 4,800.00 | 4,513.72 | 4,698.74 | 4,444.88 | 29.46 | 203.87 | -112.56 | 196.73 | 1,218.81 | 868.87 | 647.84 | 221.03 | 3.931 | |
| 4,900.00 | 4,603.83 | 4,795.14 | 4,532.65 | 30.38 | 209.41 | -112.52 | 201.72 | 1,258.35 | 895.45 | 668.30 | 227.16 | 3.942 | |

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_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 10-3 - P_KERR-MCGEE 10-3 - PLAN #1 1-15-10 | | | | | | | | | | | | Offset Site Error: | 0.00 ft |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 0-UNKNOWN | | | | | | | | | | | | 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 | 4,693.95 | 4,891.54 | 4,620.43 | 31.30 | 214.97 | -112.48 | 206.71 | 1,297.89 | 922.03 | 688.74 | 233.29 | 3.952 | |
| 5,100.00 | 4,784.07 | 4,987.94 | 4,708.20 | 32.21 | 220.52 | -112.45 | 211.70 | 1,337.44 | 948.62 | 709.19 | 239.43 | 3.962 | |
| 5,200.00 | 4,874.18 | 5,084.34 | 4,795.98 | 33.13 | 226.09 | -112.42 | 216.69 | 1,376.98 | 975.20 | 729.62 | 245.58 | 3.971 | |
| 5,300.00 | 4,964.30 | 5,180.75 | 4,883.75 | 34.05 | 231.66 | -112.39 | 221.68 | 1,416.53 | 1,001.78 | 750.05 | 251.73 | 3.980 | |
| 5,400.00 | 5,054.42 | 5,277.15 | 4,971.53 | 34.96 | 237.23 | -112.36 | 226.67 | 1,456.07 | 1,028.36 | 770.47 | 257.89 | 3.988 | |
| 5,500.00 | 5,144.53 | 5,373.55 | 5,059.30 | 35.88 | 242.81 | -112.33 | 231.66 | 1,495.62 | 1,054.95 | 790.89 | 264.06 | 3.995 | |
| 5,600.00 | 5,234.65 | 5,469.95 | 5,147.08 | 36.80 | 248.39 | -112.30 | 236.65 | 1,535.16 | 1,081.53 | 811.30 | 270.23 | 4.002 | |
| 5,700.00 | 5,324.77 | 5,566.35 | 5,234.85 | 37.72 | 253.98 | -112.28 | 241.64 | 1,574.70 | 1,108.11 | 831.71 | 276.40 | 4.009 | |
| 5,800.00 | 5,414.88 | 5,662.75 | 5,322.63 | 38.63 | 259.58 | -112.25 | 246.63 | 1,614.25 | 1,134.70 | 852.11 | 282.58 | 4.015 | |
| 5,900.00 | 5,505.00 | 5,759.15 | 5,410.40 | 39.55 | 265.17 | -112.23 | 251.62 | 1,653.79 | 1,161.28 | 872.51 | 288.77 | 4.022 | |
| 6,000.00 | 5,595.12 | 5,855.55 | 5,498.18 | 40.47 | 270.77 | -112.21 | 256.61 | 1,693.34 | 1,187.86 | 892.91 | 294.95 | 4.027 | |
| 6,100.00 | 5,685.23 | 5,951.95 | 5,585.95 | 41.39 | 276.38 | -112.19 | 261.60 | 1,732.88 | 1,214.45 | 913.30 | 301.15 | 4.033 | |
| 6,200.00 | 5,775.35 | 6,048.35 | 5,673.73 | 42.31 | 281.98 | -112.17 | 266.59 | 1,772.43 | 1,241.03 | 933.69 | 307.34 | 4.038 | |
| 6,300.00 | 5,865.47 | 6,144.75 | 5,761.50 | 43.23 | 287.59 | -112.15 | 271.58 | 1,811.97 | 1,267.62 | 954.08 | 313.54 | 4.043 | |
| 6,402.89 | 5,958.19 | 6,243.94 | 5,851.82 | 44.17 | 293.37 | -112.13 | 276.72 | 1,852.66 | 1,294.97 | 975.05 | 319.92 | 4.048 | |
| 6,500.00 | 6,046.40 | 6,337.70 | 5,937.18 | 44.95 | 298.83 | -112.53 | 281.57 | 1,891.12 | 1,320.18 | 993.18 | 327.00 | 4.037 | |
| 6,600.00 | 6,138.62 | 6,435.59 | 6,026.33 | 45.60 | 304.52 | -112.77 | 286.64 | 1,931.25 | 1,344.88 | 1,010.67 | 334.21 | 4.024 | |
| 6,700.00 | 6,232.13 | 6,543.23 | 6,125.33 | 46.19 | 310.62 | -112.92 | 291.93 | 1,973.17 | 1,367.84 | 1,026.12 | 341.72 | 4.003 | |
| 6,800.00 | 6,326.82 | 6,651.85 | 6,226.76 | 46.74 | 316.52 | -113.05 | 296.79 | 2,011.69 | 1,388.73 | 1,039.75 | 348.98 | 3.979 | |
| 6,900.00 | 6,422.57 | 6,761.37 | 6,330.45 | 47.22 | 322.19 | -113.17 | 301.20 | 2,046.64 | 1,407.52 | 1,051.57 | 355.95 | 3.954 | |
| 7,000.00 | 6,519.27 | 6,871.72 | 6,436.22 | 47.65 | 327.62 | -113.27 | 305.14 | 2,077.85 | 1,424.15 | 1,061.55 | 362.60 | 3.928 | |
| 7,100.00 | 6,616.80 | 6,982.81 | 6,543.83 | 48.03 | 332.80 | -113.35 | 308.58 | 2,105.17 | 1,438.61 | 1,069.70 | 368.91 | 3.900 | |
| 7,200.00 | 6,715.04 | 7,094.54 | 6,653.07 | 48.35 | 337.72 | -113.43 | 311.52 | 2,128.45 | 1,450.84 | 1,075.98 | 374.86 | 3.870 | |
| 7,300.00 | 6,813.88 | 7,206.82 | 6,763.68 | 48.62 | 342.36 | -113.49 | 313.93 | 2,147.57 | 1,460.84 | 1,080.42 | 380.42 | 3.840 | |
| 7,400.00 | 6,913.18 | 7,319.55 | 6,875.39 | 48.84 | 346.70 | -113.53 | 315.81 | 2,162.42 | 1,468.57 | 1,082.98 | 385.59 | 3.809 | |
| 7,500.00 | 7,012.83 | 7,432.60 | 6,987.94 | 49.01 | 350.77 | -113.57 | 317.13 | 2,172.93 | 1,474.03 | 1,083.66 | 390.36 | 3.776 | |
| 7,600.00 | 7,112.71 | 7,545.88 | 7,101.04 | 49.13 | 354.55 | -113.58 | 317.90 | 2,179.03 | 1,477.19 | 1,082.45 | 394.74 | 3.742 | |
| 7,687.30 | 7,200.00 | 7,644.85 | 7,200.00 | 49.20 | 357.17 | 6.04 | 318.12 | 2,180.73 | 1,478.06 | 1,080.31 | 397.75 | 3.716 | |
| 7,700.00 | 7,212.70 | 7,657.55 | 7,212.70 | 49.21 | 357.28 | 6.04 | 318.12 | 2,180.73 | 1,478.06 | 1,080.20 | 397.86 | 3.715 | |
| 7,800.00 | 7,312.70 | 7,757.55 | 7,312.70 | 49.27 | 358.14 | 6.04 | 318.12 | 2,180.73 | 1,478.06 | 1,079.30 | 398.77 | 3.707 | |
| 7,900.00 | 7,412.70 | 7,857.55 | 7,412.70 | 49.34 | 359.05 | 6.04 | 318.12 | 2,180.73 | 1,478.06 | 1,078.35 | 399.71 | 3.698 | |
| 8,000.00 | 7,512.70 | 7,957.55 | 7,512.70 | 49.41 | 359.99 | 6.04 | 318.12 | 2,180.73 | 1,478.06 | 1,077.37 | 400.69 | 3.689 | |
| 8,100.00 | 7,612.70 | 8,057.55 | 7,612.70 | 49.48 | 360.98 | 6.04 | 318.12 | 2,180.73 | 1,478.06 | 1,076.34 | 401.72 | 3.679 | |
| 8,200.00 | 7,712.70 | 8,157.55 | 7,712.70 | 49.55 | 362.01 | 6.04 | 318.12 | 2,180.73 | 1,478.06 | 1,075.26 | 402.80 | 3.669 | |
| 8,300.00 | 7,812.70 | 8,257.55 | 7,812.70 | 49.62 | 363.09 | 6.04 | 318.12 | 2,180.73 | 1,478.06 | 1,074.15 | 403.91 | 3.659 | |
| 8,400.00 | 7,912.70 | 8,357.55 | 7,912.70 | 49.69 | 364.20 | 6.04 | 318.12 | 2,180.73 | 1,478.06 | 1,072.99 | 405.07 | 3.649 | |
| 8,500.00 | 8,012.70 | 8,457.55 | 8,012.70 | 49.76 | 365.35 | 6.04 | 318.12 | 2,180.73 | 1,478.06 | 1,071.79 | 406.27 | 3.638 | |
| 8,600.00 | 8,112.70 | 8,557.55 | 8,112.70 | 49.84 | 366.55 | 6.04 | 318.12 | 2,180.73 | 1,478.06 | 1,070.54 | 407.52 | 3.627 | |
| 8,700.00 | 8,212.70 | 8,657.55 | 8,212.70 | 49.91 | 367.78 | 6.04 | 318.12 | 2,180.73 | 1,478.06 | 1,069.26 | 408.80 | 3.616 | |
| 8,800.00 | 8,312.70 | 8,757.55 | 8,312.70 | 49.99 | 369.06 | 6.04 | 318.12 | 2,180.73 | 1,478.06 | 1,067.94 | 410.13 | 3.604 | |
| 8,826.31 | 8,339.01 | 8,783.86 | 8,339.01 | 50.01 | 369.40 | 6.04 | 318.12 | 2,180.73 | 1,478.06 | 1,067.58 | 410.48 | 3.601 | |
| 8,842.30 | 8,355.00 | 8,794.85 | 8,350.00 | 50.02 | 369.54 | 6.04 | 318.12 | 2,180.73 | 1,478.07 | 1,067.44 | 410.63 | 3.600 | |

| | | | |
|---------------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 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 | -38.81 | 54.63 | -43.93 | 70.10 | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 0.10 | -38.81 | 54.63 | -43.93 | 70.10 | 69.91 | 0.19 | 366.937 | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 0.32 | -38.81 | 54.63 | -43.93 | 70.10 | 69.46 | 0.64 | 109.437 | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 0.55 | -38.81 | 54.63 | -43.93 | 70.10 | 69.01 | 1.09 | 64.309 | |
| 400.00 | 400.00 | 400.00 | 400.00 | 0.77 | 0.77 | -38.81 | 54.63 | -43.93 | 70.10 | 68.56 | 1.54 | 45.532 | |
| 500.00 | 500.00 | 500.00 | 500.00 | 0.99 | 0.99 | -38.81 | 54.63 | -43.93 | 70.10 | 68.11 | 1.99 | 35.243 | |
| 600.00 | 600.00 | 600.00 | 600.00 | 1.22 | 1.22 | -38.81 | 54.63 | -43.93 | 70.10 | 67.67 | 2.44 | 28.746 | |
| 700.00 | 700.00 | 700.00 | 700.00 | 1.44 | 1.44 | -38.81 | 54.63 | -43.93 | 70.10 | 67.22 | 2.89 | 24.272 | |
| 800.00 | 800.00 | 800.00 | 800.00 | 1.67 | 1.67 | -38.81 | 54.63 | -43.93 | 70.10 | 66.77 | 3.34 | 21.003 | |
| 900.00 | 900.00 | 900.00 | 900.00 | 1.89 | 1.89 | -38.81 | 54.63 | -43.93 | 70.10 | 66.32 | 3.79 | 18.510 | |
| 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 2.12 | 2.12 | -38.81 | 54.63 | -43.93 | 70.10 | 65.87 | 4.24 | 16.546 | |
| 1,050.00 | 1,050.00 | 1,050.00 | 1,050.00 | 2.23 | 2.23 | -38.81 | 54.63 | -43.93 | 70.10 | 65.64 | 4.46 | 15.713 CC, ES | |
| 1,100.00 | 1,100.00 | 1,100.46 | 1,100.45 | 2.33 | 2.34 | -158.23 | 54.76 | -43.51 | 70.35 | 65.68 | 4.67 | 15.060 | |
| 1,200.00 | 1,199.93 | 1,201.31 | 1,201.24 | 2.52 | 2.55 | -156.63 | 55.80 | -40.11 | 72.32 | 67.25 | 5.06 | 14.284 | |
| 1,300.00 | 1,299.68 | 1,301.99 | 1,301.67 | 2.72 | 2.77 | -153.69 | 57.86 | -33.34 | 76.41 | 70.94 | 5.47 | 13.978 SF | |
| 1,400.00 | 1,399.13 | 1,402.38 | 1,401.49 | 2.94 | 3.00 | -149.85 | 60.95 | -23.23 | 82.86 | 76.97 | 5.89 | 14.065 | |
| 1,500.00 | 1,498.15 | 1,502.36 | 1,500.49 | 3.19 | 3.26 | -145.58 | 65.04 | -9.85 | 91.91 | 85.56 | 6.35 | 14.469 | |
| 1,600.00 | 1,596.63 | 1,601.74 | 1,598.36 | 3.47 | 3.55 | -141.40 | 70.05 | 6.59 | 103.76 | 96.90 | 6.87 | 15.110 | |
| 1,700.00 | 1,694.44 | 1,700.52 | 1,695.50 | 3.80 | 3.86 | -138.74 | 75.28 | 23.72 | 118.57 | 111.14 | 7.43 | 15.959 | |
| 1,800.00 | 1,791.46 | 1,798.95 | 1,792.30 | 4.19 | 4.18 | -137.59 | 80.50 | 40.80 | 136.08 | 128.05 | 8.03 | 16.944 | |
| 1,900.00 | 1,887.58 | 1,896.91 | 1,888.64 | 4.64 | 4.52 | -137.50 | 85.69 | 57.80 | 156.14 | 147.47 | 8.66 | 18.020 | |
| 2,000.00 | 1,982.68 | 1,994.28 | 1,984.39 | 5.15 | 4.86 | -138.11 | 90.84 | 74.70 | 178.73 | 169.41 | 9.32 | 19.167 | |
| 2,100.00 | 2,076.65 | 2,090.95 | 2,079.46 | 5.74 | 5.21 | -139.14 | 95.96 | 91.47 | 203.92 | 193.92 | 10.00 | 20.382 | |
| 2,200.00 | 2,169.36 | 2,186.80 | 2,173.71 | 6.41 | 5.56 | -140.41 | 101.04 | 108.10 | 231.79 | 221.10 | 10.70 | 21.665 | |
| 2,300.00 | 2,260.71 | 2,281.70 | 2,267.04 | 7.15 | 5.92 | -141.79 | 106.07 | 124.56 | 262.43 | 251.03 | 11.40 | 23.017 | |
| 2,334.41 | 2,291.81 | 2,314.12 | 2,298.92 | 7.42 | 6.04 | -142.27 | 107.78 | 130.19 | 273.63 | 261.98 | 11.64 | 23.498 | |
| 2,400.00 | 2,350.92 | 2,375.79 | 2,359.57 | 7.96 | 6.27 | -143.38 | 111.05 | 140.89 | 295.34 | 283.19 | 12.15 | 24.312 | |
| 2,500.00 | 2,441.03 | 2,469.81 | 2,452.03 | 8.79 | 6.63 | -144.80 | 116.03 | 157.20 | 328.60 | 315.68 | 12.92 | 25.428 | |
| 2,600.00 | 2,531.15 | 2,563.84 | 2,544.50 | 9.64 | 6.99 | -145.96 | 121.01 | 173.52 | 362.01 | 348.30 | 13.71 | 26.413 | |
| 2,700.00 | 2,621.27 | 2,657.86 | 2,636.96 | 10.51 | 7.36 | -146.92 | 125.99 | 189.83 | 395.53 | 381.03 | 14.50 | 27.286 | |
| 2,800.00 | 2,711.38 | 2,751.89 | 2,729.42 | 11.38 | 7.72 | -147.73 | 130.97 | 206.15 | 429.13 | 413.84 | 15.29 | 28.065 | |
| 2,900.00 | 2,801.50 | 2,845.91 | 2,821.89 | 12.26 | 8.09 | -148.43 | 135.95 | 222.46 | 462.80 | 446.71 | 16.09 | 28.763 | |
| 3,000.00 | 2,891.62 | 2,939.93 | 2,914.35 | 13.14 | 8.46 | -149.03 | 140.93 | 238.77 | 496.52 | 479.62 | 16.89 | 29.391 | |
| 3,100.00 | 2,981.73 | 3,033.96 | 3,006.82 | 14.03 | 8.83 | -149.55 | 145.91 | 255.09 | 530.28 | 512.58 | 17.70 | 29.959 | |
| 3,200.00 | 3,071.85 | 3,127.98 | 3,099.28 | 14.92 | 9.20 | -150.01 | 150.89 | 271.40 | 564.08 | 545.57 | 18.51 | 30.474 | |
| 3,300.00 | 3,161.97 | 3,222.01 | 3,191.74 | 15.82 | 9.57 | -150.42 | 155.87 | 287.72 | 597.90 | 578.58 | 19.32 | 30.944 | |
| 3,400.00 | 3,252.08 | 3,316.03 | 3,284.21 | 16.72 | 9.94 | -150.79 | 160.85 | 304.03 | 631.75 | 611.62 | 20.14 | 31.374 | |
| 3,500.00 | 3,342.20 | 3,410.06 | 3,376.67 | 17.62 | 10.32 | -151.12 | 165.83 | 320.34 | 665.62 | 644.67 | 20.95 | 31.768 | |
| 3,600.00 | 3,432.32 | 3,504.08 | 3,469.14 | 18.53 | 10.69 | -151.41 | 170.81 | 336.66 | 699.51 | 677.74 | 21.77 | 32.131 | |
| 3,700.00 | 3,522.43 | 3,598.10 | 3,561.60 | 19.43 | 11.07 | -151.68 | 175.79 | 352.97 | 733.41 | 710.82 | 22.59 | 32.467 | |
| 3,800.00 | 3,612.55 | 3,692.13 | 3,654.06 | 20.34 | 11.44 | -151.93 | 180.77 | 369.29 | 767.33 | 743.92 | 23.41 | 32.777 | |
| 3,900.00 | 3,702.67 | 3,786.15 | 3,746.53 | 21.25 | 11.82 | -152.15 | 185.75 | 385.60 | 801.26 | 777.02 | 24.23 | 33.066 | |
| 4,000.00 | 3,792.78 | 3,880.18 | 3,838.99 | 22.16 | 12.20 | -152.36 | 190.73 | 401.91 | 835.19 | 810.14 | 25.06 | 33.334 | |
| 4,100.00 | 3,882.90 | 3,974.20 | 3,931.46 | 23.07 | 12.58 | -152.55 | 195.71 | 418.23 | 869.14 | 843.26 | 25.88 | 33.584 | |
| 4,200.00 | 3,973.02 | 4,068.22 | 4,023.92 | 23.98 | 12.95 | -152.72 | 200.69 | 434.54 | 903.09 | 876.39 | 26.70 | 33.818 | |
| 4,300.00 | 4,063.13 | 4,162.25 | 4,116.38 | 24.89 | 13.33 | -152.89 | 205.67 | 450.86 | 937.06 | 909.53 | 27.53 | 34.038 | |
| 4,400.00 | 4,153.25 | 4,256.27 | 4,208.85 | 25.81 | 13.71 | -153.04 | 210.66 | 467.17 | 971.02 | 942.67 | 28.36 | 34.244 | |
| 4,500.00 | 4,243.37 | 4,350.30 | 4,301.31 | 26.72 | 14.09 | -153.18 | 215.64 | 483.48 | 1,005.00 | 975.81 | 29.18 | 34.437 | |
| 4,600.00 | 4,333.48 | 4,444.32 | 4,393.78 | 27.63 | 14.47 | -153.31 | 220.62 | 499.80 | 1,038.97 | 1,008.96 | 30.01 | 34.620 | |
| 4,700.00 | 4,423.60 | 4,538.35 | 4,486.24 | 28.55 | 14.85 | -153.44 | 225.60 | 516.11 | 1,072.96 | 1,042.12 | 30.84 | 34.792 | |
| 4,800.00 | 4,513.72 | 4,632.37 | 4,578.71 | 29.46 | 15.23 | -153.55 | 230.58 | 532.43 | 1,106.94 | 1,075.28 | 31.67 | 34.954 | |
| 4,900.00 | 4,603.83 | 4,726.39 | 4,671.17 | 30.38 | 15.61 | -153.66 | 235.56 | 548.74 | 1,140.93 | 1,108.44 | 32.50 | 35.108 | |

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_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 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 |
| 5,000.00 | 4,693.95 | 4,820.42 | 4,763.63 | 31.30 | 15.99 | -153.77 | 240.54 | 565.05 | 1,174.93 | 1,141.60 | 33.33 | 35.254 | |
| 5,100.00 | 4,784.07 | 4,914.44 | 4,856.10 | 32.21 | 16.37 | -153.86 | 245.52 | 581.37 | 1,208.93 | 1,174.77 | 34.16 | 35.393 | |
| 5,200.00 | 4,874.18 | 5,008.47 | 4,948.56 | 33.13 | 16.75 | -153.96 | 250.50 | 597.68 | 1,242.93 | 1,207.94 | 34.99 | 35.524 | |
| 5,300.00 | 4,964.30 | 5,102.49 | 5,041.03 | 34.05 | 17.13 | -154.04 | 255.48 | 614.00 | 1,276.93 | 1,241.11 | 35.82 | 35.650 | |
| 5,400.00 | 5,054.42 | 5,196.52 | 5,133.49 | 34.96 | 17.52 | -154.13 | 260.46 | 630.31 | 1,310.93 | 1,274.28 | 36.65 | 35.769 | |
| 5,500.00 | 5,144.53 | 5,290.54 | 5,225.95 | 35.88 | 17.90 | -154.20 | 265.44 | 646.62 | 1,344.94 | 1,307.46 | 37.48 | 35.883 | |
| 5,600.00 | 5,234.65 | 5,384.56 | 5,318.42 | 36.80 | 18.28 | -154.28 | 270.42 | 662.94 | 1,378.95 | 1,340.64 | 38.31 | 35.991 | |
| 5,700.00 | 5,324.77 | 5,478.59 | 5,410.88 | 37.72 | 18.66 | -154.35 | 275.40 | 679.25 | 1,412.96 | 1,373.82 | 39.15 | 36.095 | |
| 5,800.00 | 5,414.88 | 5,572.61 | 5,503.35 | 38.63 | 19.04 | -154.42 | 280.38 | 695.57 | 1,446.98 | 1,407.00 | 39.98 | 36.194 | |
| 5,900.00 | 5,505.00 | 5,666.64 | 5,595.81 | 39.55 | 19.42 | -154.48 | 285.36 | 711.88 | 1,480.99 | 1,440.18 | 40.81 | 36.289 | |
| 6,000.00 | 5,595.12 | 5,760.66 | 5,688.27 | 40.47 | 19.81 | -154.54 | 290.34 | 728.19 | 1,515.01 | 1,473.37 | 41.64 | 36.380 | |
| 6,100.00 | 5,685.23 | 5,854.68 | 5,780.74 | 41.39 | 20.19 | -154.60 | 295.32 | 744.51 | 1,549.03 | 1,506.55 | 42.48 | 36.468 | |
| 6,200.00 | 5,775.35 | 5,948.71 | 5,873.20 | 42.31 | 20.57 | -154.66 | 300.30 | 760.82 | 1,583.05 | 1,539.74 | 43.31 | 36.552 | |
| 6,300.00 | 5,865.47 | 6,042.73 | 5,965.67 | 43.23 | 20.95 | -154.71 | 305.28 | 777.14 | 1,617.07 | 1,572.93 | 44.14 | 36.632 | |
| 6,402.89 | 5,958.19 | 6,126.81 | 6,048.47 | 44.17 | 21.24 | -154.78 | 309.53 | 791.05 | 1,652.37 | 1,607.47 | 44.90 | 36.801 | |
| 6,500.00 | 6,046.40 | 6,200.00 | 6,120.87 | 44.95 | 21.45 | -155.18 | 312.66 | 801.32 | 1,685.13 | 1,639.55 | 45.58 | 36.973 | |
| 6,600.00 | 6,138.62 | 6,281.48 | 6,201.76 | 45.60 | 21.64 | -155.61 | 315.52 | 810.67 | 1,716.80 | 1,670.63 | 46.17 | 37.184 | |
| 6,700.00 | 6,232.13 | 6,360.23 | 6,280.17 | 46.19 | 21.81 | -156.02 | 317.64 | 817.61 | 1,746.37 | 1,699.69 | 46.68 | 37.411 | |
| 6,800.00 | 6,326.82 | 6,439.09 | 6,358.86 | 46.74 | 21.96 | -156.44 | 319.13 | 822.50 | 1,773.82 | 1,726.71 | 47.11 | 37.653 | |
| 6,900.00 | 6,422.57 | 6,517.99 | 6,437.71 | 47.22 | 22.08 | -156.85 | 319.98 | 825.31 | 1,799.16 | 1,751.70 | 47.46 | 37.912 | |
| 7,000.00 | 6,519.27 | 6,599.56 | 6,519.27 | 47.65 | 22.19 | -157.28 | 320.22 | 826.06 | 1,822.36 | 1,774.64 | 47.72 | 38.188 | |
| 7,100.00 | 6,616.80 | 6,697.10 | 6,616.80 | 48.03 | 22.33 | -157.70 | 320.22 | 826.06 | 1,842.82 | 1,794.87 | 47.95 | 38.433 | |
| 7,200.00 | 6,715.04 | 6,795.34 | 6,715.04 | 48.35 | 22.46 | -158.05 | 320.22 | 826.06 | 1,860.13 | 1,811.98 | 48.15 | 38.630 | |
| 7,300.00 | 6,813.88 | 6,894.17 | 6,813.88 | 48.62 | 22.60 | -158.33 | 320.22 | 826.06 | 1,874.27 | 1,825.94 | 48.33 | 38.781 | |
| 7,400.00 | 6,913.18 | 6,993.47 | 6,913.18 | 48.84 | 22.75 | -158.54 | 320.22 | 826.06 | 1,885.21 | 1,836.73 | 48.48 | 38.888 | |
| 7,500.00 | 7,012.83 | 7,093.12 | 7,012.83 | 49.01 | 22.89 | -158.69 | 320.22 | 826.06 | 1,892.91 | 1,844.32 | 48.60 | 38.952 | |
| 7,600.00 | 7,112.71 | 7,193.00 | 7,112.71 | 49.13 | 23.04 | -158.77 | 320.22 | 826.06 | 1,897.38 | 1,848.69 | 48.68 | 38.973 | |
| 7,687.30 | 7,200.00 | 7,280.29 | 7,200.00 | 49.20 | 23.17 | -39.17 | 320.22 | 826.06 | 1,898.62 | 1,849.88 | 48.74 | 38.955 | |
| 7,700.00 | 7,212.70 | 7,292.99 | 7,212.70 | 49.21 | 23.18 | -39.17 | 320.22 | 826.06 | 1,898.62 | 1,849.85 | 48.77 | 38.928 | |
| 7,800.00 | 7,312.70 | 7,392.99 | 7,312.70 | 49.27 | 23.33 | -39.17 | 320.22 | 826.06 | 1,898.62 | 1,849.58 | 49.04 | 38.716 | |
| 7,900.00 | 7,412.70 | 7,492.99 | 7,412.70 | 49.34 | 23.48 | -39.17 | 320.22 | 826.06 | 1,898.62 | 1,849.31 | 49.31 | 38.504 | |
| 8,000.00 | 7,512.70 | 7,592.99 | 7,512.70 | 49.41 | 23.63 | -39.17 | 320.22 | 826.06 | 1,898.62 | 1,849.04 | 49.58 | 38.293 | |
| 8,100.00 | 7,612.70 | 7,692.99 | 7,612.70 | 49.48 | 23.79 | -39.17 | 320.22 | 826.06 | 1,898.62 | 1,848.76 | 49.86 | 38.082 | |
| 8,200.00 | 7,712.70 | 7,792.99 | 7,712.70 | 49.55 | 23.94 | -39.17 | 320.22 | 826.06 | 1,898.62 | 1,848.49 | 50.13 | 37.872 | |
| 8,300.00 | 7,812.70 | 7,892.99 | 7,812.70 | 49.62 | 24.09 | -39.17 | 320.22 | 826.06 | 1,898.62 | 1,848.21 | 50.41 | 37.662 | |
| 8,400.00 | 7,912.70 | 7,992.99 | 7,912.70 | 49.69 | 24.25 | -39.17 | 320.22 | 826.06 | 1,898.62 | 1,847.92 | 50.69 | 37.452 | |
| 8,500.00 | 8,012.70 | 8,092.99 | 8,012.70 | 49.76 | 24.41 | -39.17 | 320.22 | 826.06 | 1,898.62 | 1,847.64 | 50.98 | 37.243 | |
| 8,600.00 | 8,112.70 | 8,192.99 | 8,112.70 | 49.84 | 24.56 | -39.17 | 320.22 | 826.06 | 1,898.62 | 1,847.35 | 51.27 | 37.035 | |
| 8,700.00 | 8,212.70 | 8,292.99 | 8,212.70 | 49.91 | 24.72 | -39.17 | 320.22 | 826.06 | 1,898.62 | 1,847.06 | 51.55 | 36.827 | |
| 8,800.00 | 8,312.70 | 8,392.99 | 8,312.70 | 49.99 | 24.88 | -39.17 | 320.22 | 826.06 | 1,898.62 | 1,846.77 | 51.85 | 36.621 | |
| 8,823.84 | 8,336.53 | 8,416.83 | 8,336.53 | 50.01 | 24.92 | -39.17 | 320.22 | 826.06 | 1,898.62 | 1,846.70 | 51.92 | 36.571 | |
| 8,842.30 | 8,355.00 | 8,425.29 | 8,345.00 | 50.02 | 24.93 | -39.17 | 320.22 | 826.06 | 1,898.64 | 1,846.69 | 51.95 | 36.545 | |

| | | | |
|---------------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 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 | -38.80 | 78.31 | -62.96 | 100.48 | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 0.10 | -38.80 | 78.31 | -62.96 | 100.48 | 100.29 | 0.19 | 525.934 | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 0.32 | -38.80 | 78.31 | -62.96 | 100.48 | 99.84 | 0.64 | 156.858 | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 0.55 | -38.80 | 78.31 | -62.96 | 100.48 | 99.39 | 1.09 | 92.174 | |
| 400.00 | 400.00 | 400.00 | 400.00 | 0.77 | 0.77 | -38.80 | 78.31 | -62.96 | 100.48 | 98.94 | 1.54 | 65.262 | |
| 500.00 | 500.00 | 500.00 | 500.00 | 0.99 | 0.99 | -38.80 | 78.31 | -62.96 | 100.48 | 98.49 | 1.99 | 50.514 | |
| 600.00 | 600.00 | 600.00 | 600.00 | 1.22 | 1.22 | -38.80 | 78.31 | -62.96 | 100.48 | 98.04 | 2.44 | 41.202 | |
| 700.00 | 700.00 | 700.00 | 700.00 | 1.44 | 1.44 | -38.80 | 78.31 | -62.96 | 100.48 | 97.59 | 2.89 | 34.789 | |
| 800.00 | 800.00 | 800.00 | 800.00 | 1.67 | 1.67 | -38.80 | 78.31 | -62.96 | 100.48 | 97.14 | 3.34 | 30.104 | |
| 900.00 | 900.00 | 900.00 | 900.00 | 1.89 | 1.89 | -38.80 | 78.31 | -62.96 | 100.48 | 96.69 | 3.79 | 26.531 | |
| 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 2.12 | 2.12 | -38.80 | 78.31 | -62.96 | 100.48 | 96.24 | 4.24 | 23.716 | |
| 1,050.00 | 1,050.00 | 1,050.00 | 1,050.00 | 2.23 | 2.23 | -38.80 | 78.31 | -62.96 | 100.48 | 96.02 | 4.46 | 22.521 CC, ES | |
| 1,100.00 | 1,100.00 | 1,098.41 | 1,098.41 | 2.33 | 2.34 | -158.59 | 78.51 | -63.32 | 101.28 | 96.61 | 4.67 | 21.696 | |
| 1,200.00 | 1,199.93 | 1,194.88 | 1,194.82 | 2.52 | 2.54 | -159.84 | 80.11 | -66.15 | 107.69 | 102.64 | 5.05 | 21.307 SF | |
| 1,300.00 | 1,299.68 | 1,290.35 | 1,290.07 | 2.72 | 2.75 | -161.93 | 83.27 | -71.73 | 120.62 | 115.17 | 5.44 | 22.168 | |
| 1,400.00 | 1,399.13 | 1,387.08 | 1,386.38 | 2.94 | 2.98 | -164.30 | 87.71 | -79.56 | 139.45 | 133.62 | 5.83 | 23.918 | |
| 1,500.00 | 1,498.15 | 1,484.34 | 1,483.20 | 3.19 | 3.21 | -166.42 | 92.26 | -87.59 | 161.98 | 155.76 | 6.22 | 26.043 | |
| 1,600.00 | 1,596.63 | 1,580.72 | 1,579.15 | 3.47 | 3.45 | -168.22 | 96.76 | -95.54 | 188.00 | 181.40 | 6.61 | 28.464 | |
| 1,700.00 | 1,694.44 | 1,676.12 | 1,674.11 | 3.80 | 3.69 | -169.72 | 101.22 | -103.42 | 217.47 | 210.49 | 6.99 | 31.130 | |
| 1,800.00 | 1,791.46 | 1,770.41 | 1,767.98 | 4.19 | 3.94 | -170.98 | 105.63 | -111.20 | 250.34 | 242.98 | 7.36 | 34.002 | |
| 1,900.00 | 1,887.58 | 1,863.48 | 1,860.63 | 4.64 | 4.18 | -172.02 | 109.98 | -118.88 | 286.54 | 278.81 | 7.73 | 37.048 | |
| 2,000.00 | 1,982.68 | 1,955.23 | 1,951.96 | 5.15 | 4.42 | -172.88 | 114.27 | -126.45 | 326.03 | 317.93 | 8.10 | 40.239 | |
| 2,100.00 | 2,076.65 | 2,045.52 | 2,041.85 | 5.74 | 4.66 | -173.61 | 118.49 | -133.91 | 368.75 | 360.28 | 8.47 | 43.553 | |
| 2,200.00 | 2,169.36 | 2,134.26 | 2,130.19 | 6.41 | 4.90 | -174.22 | 122.64 | -141.23 | 414.63 | 405.80 | 8.83 | 46.970 | |
| 2,300.00 | 2,260.71 | 2,221.34 | 2,216.88 | 7.15 | 5.13 | -174.73 | 126.71 | -148.42 | 463.61 | 454.42 | 9.18 | 50.474 | |
| 2,334.41 | 2,291.81 | 2,250.90 | 2,246.31 | 7.42 | 5.21 | -174.88 | 128.09 | -150.86 | 481.16 | 471.86 | 9.31 | 51.697 | |
| 2,400.00 | 2,350.92 | 2,307.05 | 2,302.20 | 7.96 | 5.37 | -175.22 | 130.72 | -155.49 | 514.98 | 505.36 | 9.62 | 53.514 | |
| 2,500.00 | 2,441.03 | 2,392.65 | 2,387.41 | 8.79 | 5.60 | -175.66 | 134.72 | -162.56 | 566.56 | 556.45 | 10.11 | 56.026 | |
| 2,600.00 | 2,531.15 | 2,478.25 | 2,472.62 | 9.64 | 5.83 | -176.02 | 138.72 | -169.62 | 618.16 | 607.55 | 10.61 | 58.267 | |
| 2,700.00 | 2,621.27 | 2,563.84 | 2,557.84 | 10.51 | 6.07 | -176.33 | 142.72 | -176.69 | 669.78 | 658.66 | 11.11 | 60.274 | |
| 2,800.00 | 2,711.38 | 2,649.44 | 2,643.05 | 11.38 | 6.30 | -176.59 | 146.72 | -183.75 | 721.40 | 709.78 | 11.62 | 62.079 | |
| 2,900.00 | 2,801.50 | 2,735.04 | 2,728.26 | 12.26 | 6.54 | -176.82 | 150.72 | -190.82 | 773.04 | 760.91 | 12.13 | 63.710 | |
| 3,000.00 | 2,891.62 | 2,820.64 | 2,813.47 | 13.14 | 6.78 | -177.02 | 154.73 | -197.88 | 824.68 | 812.03 | 12.65 | 65.188 | |
| 3,100.00 | 2,981.73 | 2,906.24 | 2,898.69 | 14.03 | 7.01 | -177.20 | 158.73 | -204.95 | 876.34 | 863.16 | 13.17 | 66.534 | |
| 3,200.00 | 3,071.85 | 2,991.84 | 2,983.90 | 14.92 | 7.25 | -177.36 | 162.73 | -212.01 | 927.99 | 914.30 | 13.69 | 67.763 | |
| 3,300.00 | 3,161.97 | 3,077.44 | 3,069.11 | 15.82 | 7.49 | -177.50 | 166.73 | -219.08 | 979.65 | 965.43 | 14.22 | 68.888 | |
| 3,400.00 | 3,252.08 | 3,163.03 | 3,154.32 | 16.72 | 7.73 | -177.62 | 170.73 | -226.14 | 1,031.32 | 1,016.57 | 14.75 | 69.923 | |
| 3,500.00 | 3,342.20 | 3,248.63 | 3,239.54 | 17.62 | 7.97 | -177.74 | 174.73 | -233.21 | 1,082.99 | 1,067.71 | 15.28 | 70.877 | |
| 3,600.00 | 3,432.32 | 3,334.23 | 3,324.75 | 18.53 | 8.21 | -177.84 | 178.73 | -240.27 | 1,134.66 | 1,118.85 | 15.81 | 71.759 | |
| 3,700.00 | 3,522.43 | 3,419.83 | 3,409.96 | 19.43 | 8.45 | -177.94 | 182.74 | -247.34 | 1,186.33 | 1,169.99 | 16.35 | 72.577 | |
| 3,800.00 | 3,612.55 | 3,505.43 | 3,495.17 | 20.34 | 8.69 | -178.02 | 186.74 | -254.40 | 1,238.01 | 1,221.13 | 16.88 | 73.336 | |
| 3,900.00 | 3,702.67 | 3,591.03 | 3,580.39 | 21.25 | 8.93 | -178.10 | 190.74 | -261.47 | 1,289.69 | 1,272.27 | 17.42 | 74.044 | |
| 4,000.00 | 3,792.78 | 3,676.63 | 3,665.60 | 22.16 | 9.17 | -178.18 | 194.74 | -268.53 | 1,341.37 | 1,323.41 | 17.96 | 74.704 | |
| 4,100.00 | 3,882.90 | 3,762.22 | 3,750.81 | 23.07 | 9.41 | -178.25 | 198.74 | -275.60 | 1,393.05 | 1,374.55 | 18.49 | 75.322 | |
| 4,200.00 | 3,973.02 | 3,847.82 | 3,836.03 | 23.98 | 9.65 | -178.31 | 202.74 | -282.66 | 1,444.73 | 1,425.69 | 19.03 | 75.901 | |
| 4,300.00 | 4,063.13 | 3,933.42 | 3,921.24 | 24.89 | 9.89 | -178.37 | 206.75 | -289.73 | 1,496.41 | 1,476.84 | 19.58 | 76.444 | |
| 4,400.00 | 4,153.25 | 4,019.02 | 4,006.45 | 25.81 | 10.13 | -178.42 | 210.75 | -296.79 | 1,548.10 | 1,527.98 | 20.12 | 76.956 | |
| 4,500.00 | 4,243.37 | 4,104.62 | 4,091.66 | 26.72 | 10.37 | -178.47 | 214.75 | -303.86 | 1,599.78 | 1,579.12 | 20.66 | 77.438 | |
| 4,600.00 | 4,333.48 | 4,190.22 | 4,176.88 | 27.63 | 10.61 | -178.52 | 218.75 | -310.92 | 1,651.47 | 1,630.27 | 21.20 | 77.893 | |
| 4,700.00 | 4,423.60 | 4,275.82 | 4,262.09 | 28.55 | 10.85 | -178.57 | 222.75 | -317.99 | 1,703.16 | 1,681.41 | 21.75 | 78.323 | |
| 4,800.00 | 4,513.72 | 4,361.41 | 4,347.30 | 29.46 | 11.10 | -178.61 | 226.75 | -325.05 | 1,754.85 | 1,732.56 | 22.29 | 78.730 | |
| 4,900.00 | 4,603.83 | 4,447.01 | 4,432.51 | 30.38 | 11.34 | -178.65 | 230.76 | -332.12 | 1,806.53 | 1,783.70 | 22.83 | 79.116 | |

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_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 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 | |
| 5,000.00 | 4,693.95 | 4,532.61 | 4,517.73 | 31.30 | 11.58 | -178.69 | 234.76 | -339.18 | 1,858.22 | 1,834.85 | 23.38 | 79.482 | |
| 5,100.00 | 4,784.07 | 4,618.21 | 4,602.94 | 32.21 | 11.82 | -178.73 | 238.76 | -346.25 | 1,909.91 | 1,885.99 | 23.92 | 79.830 | |
| 5,200.00 | 4,874.18 | 4,703.81 | 4,688.15 | 33.13 | 12.06 | -178.76 | 242.76 | -353.31 | 1,961.60 | 1,937.13 | 24.47 | 80.162 | |
| 5,300.00 | 4,964.30 | 4,789.41 | 4,773.36 | 34.05 | 12.31 | -178.79 | 246.76 | -360.38 | 2,013.30 | 1,988.28 | 25.02 | 80.477 | |
| 5,400.00 | 5,054.42 | 4,875.01 | 4,858.58 | 34.96 | 12.55 | -178.82 | 250.76 | -367.44 | 2,064.99 | 2,039.42 | 25.56 | 80.778 | |
| 5,500.00 | 5,144.53 | 4,960.60 | 4,943.79 | 35.88 | 12.79 | -178.85 | 254.77 | -374.51 | 2,116.68 | 2,090.57 | 26.11 | 81.065 | |
| 5,600.00 | 5,234.65 | 5,046.20 | 5,029.00 | 36.80 | 13.03 | -178.88 | 258.77 | -381.57 | 2,168.37 | 2,141.71 | 26.66 | 81.340 | |
| 5,700.00 | 5,324.77 | 5,131.80 | 5,114.21 | 37.72 | 13.27 | -178.91 | 262.77 | -388.64 | 2,220.06 | 2,192.86 | 27.21 | 81.603 | |
| 5,800.00 | 5,414.88 | 5,217.40 | 5,199.43 | 38.63 | 13.52 | -178.93 | 266.77 | -395.70 | 2,271.76 | 2,244.00 | 27.75 | 81.854 | |
| 5,900.00 | 5,505.00 | 5,303.00 | 5,284.64 | 39.55 | 13.76 | -178.96 | 270.77 | -402.77 | 2,323.45 | 2,295.15 | 28.30 | 82.095 | |
| 6,000.00 | 5,595.12 | 5,388.60 | 5,369.85 | 40.47 | 14.00 | -178.98 | 274.77 | -409.83 | 2,375.14 | 2,346.29 | 28.85 | 82.326 | |
| 6,100.00 | 5,685.23 | 5,474.20 | 5,455.06 | 41.39 | 14.25 | -179.00 | 278.77 | -416.90 | 2,426.84 | 2,397.44 | 29.40 | 82.548 | |
| 6,200.00 | 5,775.35 | 5,559.79 | 5,540.28 | 42.31 | 14.49 | -179.02 | 282.78 | -423.96 | 2,478.53 | 2,448.58 | 29.95 | 82.762 | |
| 6,300.00 | 5,865.47 | 5,645.39 | 5,625.49 | 43.23 | 14.73 | -179.04 | 286.78 | -431.03 | 2,530.23 | 2,499.73 | 30.50 | 82.967 | |
| 6,402.89 | 5,958.19 | 5,733.47 | 5,713.17 | 44.17 | 14.98 | -179.06 | 290.90 | -438.30 | 2,583.42 | 2,552.35 | 31.06 | 83.169 | |
| 6,500.00 | 6,046.40 | 5,817.42 | 5,796.75 | 44.95 | 15.22 | -179.10 | 294.82 | -445.23 | 2,632.20 | 2,600.39 | 31.81 | 82.747 | |
| 6,600.00 | 6,138.62 | 5,905.56 | 5,884.48 | 45.60 | 15.47 | -179.13 | 298.94 | -452.50 | 2,679.43 | 2,646.90 | 32.53 | 82.380 | |
| 6,700.00 | 6,232.13 | 5,995.29 | 5,973.81 | 46.19 | 15.72 | -179.16 | 303.14 | -459.91 | 2,723.56 | 2,690.36 | 33.20 | 82.046 | |
| 6,800.00 | 6,326.82 | 6,086.50 | 6,064.61 | 46.74 | 15.98 | -179.19 | 307.40 | -467.44 | 2,764.53 | 2,730.71 | 33.82 | 81.742 | |
| 6,900.00 | 6,422.57 | 6,179.09 | 6,156.78 | 47.22 | 16.25 | -179.21 | 311.73 | -475.08 | 2,802.29 | 2,767.89 | 34.40 | 81.470 | |
| 7,000.00 | 6,519.27 | 6,500.00 | 6,476.87 | 47.65 | 16.95 | -179.25 | 322.23 | -493.62 | 2,836.73 | 2,801.42 | 35.31 | 80.334 | |
| 7,100.00 | 6,616.80 | 6,639.94 | 6,616.80 | 48.03 | 17.18 | -179.26 | 322.39 | -493.90 | 2,858.80 | 2,822.95 | 35.84 | 79.764 | |
| 7,200.00 | 6,715.04 | 6,738.18 | 6,715.04 | 48.35 | 17.36 | -179.27 | 322.39 | -493.90 | 2,877.44 | 2,841.19 | 36.25 | 79.374 | |
| 7,300.00 | 6,813.88 | 6,837.01 | 6,813.88 | 48.62 | 17.54 | -179.28 | 322.39 | -493.90 | 2,892.64 | 2,856.04 | 36.61 | 79.019 | |
| 7,400.00 | 6,913.18 | 6,936.31 | 6,913.18 | 48.84 | 17.73 | -179.28 | 322.39 | -493.90 | 2,904.39 | 2,867.48 | 36.90 | 78.701 | |
| 7,500.00 | 7,012.83 | 7,035.96 | 7,012.83 | 49.01 | 17.92 | -179.29 | 322.39 | -493.90 | 2,912.66 | 2,875.52 | 37.14 | 78.417 | |
| 7,600.00 | 7,112.71 | 7,135.84 | 7,112.71 | 49.13 | 18.10 | -179.29 | 322.39 | -493.90 | 2,917.45 | 2,880.13 | 37.32 | 78.167 | |
| 7,687.30 | 7,200.00 | 7,223.13 | 7,200.00 | 49.20 | 18.27 | -59.67 | 322.39 | -493.90 | 2,918.78 | 2,881.34 | 37.44 | 77.967 | |
| 7,700.00 | 7,212.70 | 7,235.83 | 7,212.70 | 49.21 | 18.29 | -59.67 | 322.39 | -493.90 | 2,918.78 | 2,881.30 | 37.48 | 77.875 | |
| 7,800.00 | 7,312.70 | 7,335.83 | 7,312.70 | 49.27 | 18.48 | -59.67 | 322.39 | -493.90 | 2,918.78 | 2,880.95 | 37.83 | 77.159 | |
| 7,900.00 | 7,412.70 | 7,435.83 | 7,412.70 | 49.34 | 18.67 | -59.67 | 322.39 | -493.90 | 2,918.78 | 2,880.60 | 38.18 | 76.453 | |
| 8,000.00 | 7,512.70 | 7,535.83 | 7,512.70 | 49.41 | 18.86 | -59.67 | 322.39 | -493.90 | 2,918.78 | 2,880.25 | 38.53 | 75.756 | |
| 8,100.00 | 7,612.70 | 7,635.83 | 7,612.70 | 49.48 | 19.06 | -59.67 | 322.39 | -493.90 | 2,918.78 | 2,879.90 | 38.88 | 75.069 | |
| 8,200.00 | 7,712.70 | 7,735.83 | 7,712.70 | 49.55 | 19.25 | -59.67 | 322.39 | -493.90 | 2,918.78 | 2,879.54 | 39.24 | 74.390 | |
| 8,300.00 | 7,812.70 | 7,835.83 | 7,812.70 | 49.62 | 19.44 | -59.67 | 322.39 | -493.90 | 2,918.78 | 2,879.19 | 39.59 | 73.721 | |
| 8,400.00 | 7,912.70 | 7,935.83 | 7,912.70 | 49.69 | 19.63 | -59.67 | 322.39 | -493.90 | 2,918.78 | 2,878.83 | 39.95 | 73.060 | |
| 8,500.00 | 8,012.70 | 8,035.83 | 8,012.70 | 49.76 | 19.83 | -59.67 | 322.39 | -493.90 | 2,918.78 | 2,878.47 | 40.31 | 72.409 | |
| 8,600.00 | 8,112.70 | 8,135.83 | 8,112.70 | 49.84 | 20.02 | -59.67 | 322.39 | -493.90 | 2,918.78 | 2,878.11 | 40.67 | 71.766 | |
| 8,700.00 | 8,212.70 | 8,235.83 | 8,212.70 | 49.91 | 20.22 | -59.67 | 322.39 | -493.90 | 2,918.78 | 2,877.75 | 41.03 | 71.131 | |
| 8,800.00 | 8,312.70 | 8,335.83 | 8,312.70 | 49.99 | 20.42 | -59.67 | 322.39 | -493.90 | 2,918.78 | 2,877.38 | 41.40 | 70.506 | |
| 8,842.30 | 8,355.00 | 8,378.13 | 8,355.00 | 50.02 | 20.50 | -59.67 | 322.39 | -493.90 | 2,918.78 | 2,877.23 | 41.55 | 70.244 | |

| | | | |
|---------------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 13-3 - P_KERR-MCGEE 13-3 - PLAN #1 1-15-10 | | | | | | | | | | | | | 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 | -38.82 | 46.61 | -37.50 | 59.82 | | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 0.10 | -38.82 | 46.61 | -37.50 | 59.82 | 59.63 | 0.19 | 313.119 | | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 0.32 | -38.82 | 46.61 | -37.50 | 59.82 | 59.18 | 0.64 | 93.387 | | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 0.55 | -38.82 | 46.61 | -37.50 | 59.82 | 58.73 | 1.09 | 54.877 | | |
| 400.00 | 400.00 | 400.00 | 400.00 | 0.77 | 0.77 | -38.82 | 46.61 | -37.50 | 59.82 | 58.28 | 1.54 | 38.854 | | |
| 500.00 | 500.00 | 500.00 | 500.00 | 0.99 | 0.99 | -38.82 | 46.61 | -37.50 | 59.82 | 57.83 | 1.99 | 30.074 | | |
| 600.00 | 600.00 | 600.00 | 600.00 | 1.22 | 1.22 | -38.82 | 46.61 | -37.50 | 59.82 | 57.38 | 2.44 | 24.530 | | |
| 700.00 | 700.00 | 700.00 | 700.00 | 1.44 | 1.44 | -38.82 | 46.61 | -37.50 | 59.82 | 56.93 | 2.89 | 20.712 | | |
| 800.00 | 800.00 | 800.00 | 800.00 | 1.67 | 1.67 | -38.82 | 46.61 | -37.50 | 59.82 | 56.48 | 3.34 | 17.923 | | |
| 900.00 | 900.00 | 900.00 | 900.00 | 1.89 | 1.89 | -38.82 | 46.61 | -37.50 | 59.82 | 56.03 | 3.79 | 15.795 | | |
| 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 2.12 | 2.12 | -38.82 | 46.61 | -37.50 | 59.82 | 55.59 | 4.24 | 14.119 | | |
| 1,050.00 | 1,050.00 | 1,050.00 | 1,050.00 | 2.23 | 2.23 | -38.82 | 46.61 | -37.50 | 59.82 | 55.36 | 4.46 | 13.408 CC, ES | | |
| 1,100.00 | 1,100.00 | 1,100.46 | 1,100.45 | 2.33 | 2.33 | -158.98 | 46.21 | -37.69 | 60.04 | 55.37 | 4.66 | 12.878 | | |
| 1,200.00 | 1,199.93 | 1,201.20 | 1,201.13 | 2.52 | 2.51 | -163.09 | 43.00 | -39.19 | 61.94 | 56.92 | 5.02 | 12.338 SF | | |
| 1,300.00 | 1,299.68 | 1,301.42 | 1,301.10 | 2.72 | 2.69 | -170.48 | 36.63 | -42.18 | 66.60 | 61.21 | 5.39 | 12.361 | | |
| 1,400.00 | 1,399.13 | 1,400.81 | 1,399.93 | 2.94 | 2.90 | -179.54 | 27.19 | -46.60 | 75.31 | 69.54 | 5.77 | 13.051 | | |
| 1,500.00 | 1,498.15 | 1,499.03 | 1,497.20 | 3.19 | 3.13 | 171.47 | 14.81 | -52.40 | 89.11 | 82.93 | 6.18 | 14.427 | | |
| 1,600.00 | 1,596.63 | 1,595.80 | 1,592.50 | 3.47 | 3.39 | 163.69 | -0.32 | -59.50 | 108.42 | 101.80 | 6.62 | 16.379 | | |
| 1,700.00 | 1,694.44 | 1,690.83 | 1,685.50 | 3.80 | 3.69 | 157.42 | -18.02 | -67.79 | 133.18 | 126.06 | 7.11 | 18.721 | | |
| 1,800.00 | 1,791.46 | 1,785.70 | 1,777.95 | 4.19 | 4.03 | 152.89 | -37.29 | -76.82 | 162.61 | 154.94 | 7.66 | 21.218 | | |
| 1,900.00 | 1,887.58 | 1,879.86 | 1,869.71 | 4.64 | 4.38 | 150.11 | -56.42 | -85.79 | 195.49 | 187.24 | 8.25 | 23.683 | | |
| 2,000.00 | 1,982.68 | 1,973.08 | 1,960.55 | 5.15 | 4.75 | 148.46 | -75.36 | -94.66 | 231.40 | 222.52 | 8.88 | 26.047 | | |
| 2,100.00 | 2,076.65 | 2,065.25 | 2,050.37 | 5.74 | 5.13 | 147.51 | -94.08 | -103.44 | 270.12 | 260.57 | 9.55 | 28.284 | | |
| 2,200.00 | 2,169.36 | 2,156.26 | 2,139.06 | 6.41 | 5.51 | 147.03 | -112.58 | -112.11 | 311.55 | 301.30 | 10.25 | 30.391 | | |
| 2,300.00 | 2,260.71 | 2,246.00 | 2,226.51 | 7.15 | 5.90 | 146.83 | -130.81 | -120.65 | 355.62 | 344.64 | 10.98 | 32.377 | | |
| 2,334.41 | 2,291.81 | 2,276.56 | 2,256.30 | 7.42 | 6.03 | 146.82 | -137.02 | -123.56 | 371.40 | 360.15 | 11.24 | 33.035 | | |
| 2,400.00 | 2,350.92 | 2,334.67 | 2,312.92 | 7.96 | 6.29 | 147.15 | -148.82 | -129.10 | 401.77 | 389.97 | 11.79 | 34.066 | | |
| 2,500.00 | 2,441.03 | 2,423.25 | 2,399.25 | 8.79 | 6.68 | 147.56 | -166.82 | -137.53 | 448.08 | 435.44 | 12.65 | 35.429 | | |
| 2,600.00 | 2,531.15 | 2,511.84 | 2,485.57 | 9.64 | 7.08 | 147.90 | -184.82 | -145.97 | 494.42 | 480.90 | 13.51 | 36.584 | | |
| 2,700.00 | 2,621.27 | 2,600.42 | 2,571.90 | 10.51 | 7.48 | 148.18 | -202.82 | -154.40 | 540.76 | 526.37 | 14.39 | 37.573 | | |
| 2,800.00 | 2,711.38 | 2,689.00 | 2,658.22 | 11.38 | 7.88 | 148.42 | -220.82 | -162.84 | 587.11 | 571.84 | 15.28 | 38.427 | | |
| 2,900.00 | 2,801.50 | 2,777.59 | 2,744.55 | 12.26 | 8.29 | 148.62 | -238.82 | -171.27 | 633.47 | 617.30 | 16.17 | 39.171 | | |
| 3,000.00 | 2,891.62 | 2,866.17 | 2,830.87 | 13.14 | 8.70 | 148.79 | -256.81 | -179.71 | 679.84 | 662.77 | 17.07 | 39.824 | | |
| 3,100.00 | 2,981.73 | 2,954.76 | 2,917.20 | 14.03 | 9.11 | 148.95 | -274.81 | -188.15 | 726.21 | 708.23 | 17.97 | 40.402 | | |
| 3,200.00 | 3,071.85 | 3,043.34 | 3,003.52 | 14.92 | 9.52 | 149.08 | -292.81 | -196.58 | 772.58 | 753.70 | 18.88 | 40.917 | | |
| 3,300.00 | 3,161.97 | 3,131.93 | 3,089.85 | 15.82 | 9.94 | 149.20 | -310.81 | -205.02 | 818.96 | 799.16 | 19.79 | 41.378 | | |
| 3,400.00 | 3,252.08 | 3,220.51 | 3,176.17 | 16.72 | 10.35 | 149.31 | -328.81 | -213.45 | 865.33 | 844.63 | 20.70 | 41.794 | | |
| 3,500.00 | 3,342.20 | 3,309.09 | 3,262.50 | 17.62 | 10.77 | 149.40 | -346.81 | -221.89 | 911.71 | 890.09 | 21.62 | 42.170 | | |
| 3,600.00 | 3,432.32 | 3,397.68 | 3,348.83 | 18.53 | 11.19 | 149.49 | -364.80 | -230.32 | 958.10 | 935.56 | 22.54 | 42.513 | | |
| 3,700.00 | 3,522.43 | 3,486.26 | 3,435.15 | 19.43 | 11.61 | 149.56 | -382.80 | -238.76 | 1,004.48 | 981.02 | 23.45 | 42.827 | | |
| 3,800.00 | 3,612.55 | 3,574.85 | 3,521.48 | 20.34 | 12.03 | 149.64 | -400.80 | -247.19 | 1,050.86 | 1,026.49 | 24.37 | 43.114 | | |
| 3,900.00 | 3,702.67 | 3,663.43 | 3,607.80 | 21.25 | 12.45 | 149.70 | -418.80 | -255.63 | 1,097.25 | 1,071.96 | 25.29 | 43.380 | | |
| 4,000.00 | 3,792.78 | 3,752.02 | 3,694.13 | 22.16 | 12.87 | 149.76 | -436.80 | -264.07 | 1,143.64 | 1,117.42 | 26.21 | 43.625 | | |
| 4,100.00 | 3,882.90 | 3,840.60 | 3,780.45 | 23.07 | 13.29 | 149.82 | -454.80 | -272.50 | 1,190.03 | 1,162.89 | 27.14 | 43.854 | | |
| 4,200.00 | 3,973.02 | 3,929.18 | 3,866.78 | 23.98 | 13.71 | 149.87 | -472.79 | -280.94 | 1,236.41 | 1,208.36 | 28.06 | 44.066 | | |
| 4,300.00 | 4,063.13 | 4,017.77 | 3,953.10 | 24.89 | 14.13 | 149.91 | -490.79 | -289.37 | 1,282.80 | 1,253.82 | 28.98 | 44.265 | | |
| 4,400.00 | 4,153.25 | 4,106.35 | 4,039.43 | 25.81 | 14.56 | 149.96 | -508.79 | -297.81 | 1,329.19 | 1,299.29 | 29.90 | 44.451 | | |
| 4,500.00 | 4,243.37 | 4,194.94 | 4,125.75 | 26.72 | 14.98 | 150.00 | -526.79 | -306.24 | 1,375.58 | 1,344.76 | 30.82 | 44.626 | | |
| 4,600.00 | 4,333.48 | 4,283.52 | 4,212.08 | 27.63 | 15.40 | 150.04 | -544.79 | -314.68 | 1,421.97 | 1,390.23 | 31.75 | 44.791 | | |
| 4,700.00 | 4,423.60 | 4,372.11 | 4,298.40 | 28.55 | 15.83 | 150.07 | -562.79 | -323.12 | 1,468.37 | 1,435.70 | 32.67 | 44.947 | | |
| 4,800.00 | 4,513.72 | 4,460.69 | 4,384.73 | 29.46 | 16.25 | 150.11 | -580.78 | -331.55 | 1,514.76 | 1,481.17 | 33.59 | 45.094 | | |
| 4,900.00 | 4,603.83 | 4,549.27 | 4,471.06 | 30.38 | 16.68 | 150.14 | -598.78 | -339.99 | 1,561.15 | 1,526.64 | 34.51 | 45.234 | | |

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_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 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 | |
| 5,000.00 | 4,693.95 | 4,637.86 | 4,557.38 | 31.30 | 17.10 | 150.17 | -616.78 | -348.42 | 1,607.54 | 1,572.11 | 35.43 | 45.368 | |
| 5,100.00 | 4,784.07 | 4,726.44 | 4,643.71 | 32.21 | 17.53 | 150.20 | -634.78 | -356.86 | 1,653.94 | 1,617.58 | 36.35 | 45.494 | |
| 5,200.00 | 4,874.18 | 4,815.03 | 4,730.03 | 33.13 | 17.95 | 150.22 | -652.78 | -365.29 | 1,700.33 | 1,663.05 | 37.28 | 45.615 | |
| 5,300.00 | 4,964.30 | 4,903.61 | 4,816.36 | 34.05 | 18.38 | 150.25 | -670.78 | -373.73 | 1,746.72 | 1,708.53 | 38.20 | 45.731 | |
| 5,400.00 | 5,054.42 | 4,992.20 | 4,902.68 | 34.96 | 18.80 | 150.27 | -688.77 | -382.17 | 1,793.12 | 1,754.00 | 39.12 | 45.842 | |
| 5,500.00 | 5,144.53 | 5,080.78 | 4,989.01 | 35.88 | 19.23 | 150.30 | -706.77 | -390.60 | 1,839.51 | 1,799.48 | 40.03 | 45.949 | |
| 5,600.00 | 5,234.65 | 5,169.36 | 5,075.33 | 36.80 | 19.66 | 150.32 | -724.77 | -399.04 | 1,885.91 | 1,844.95 | 40.95 | 46.051 | |
| 5,700.00 | 5,324.77 | 5,257.95 | 5,161.66 | 37.72 | 20.08 | 150.34 | -742.77 | -407.47 | 1,932.30 | 1,890.43 | 41.87 | 46.149 | |
| 5,800.00 | 5,414.88 | 5,346.53 | 5,247.98 | 38.63 | 20.51 | 150.36 | -760.77 | -415.91 | 1,978.70 | 1,935.91 | 42.79 | 46.244 | |
| 5,900.00 | 5,505.00 | 5,435.12 | 5,334.31 | 39.55 | 20.94 | 150.38 | -778.77 | -424.34 | 2,025.09 | 1,981.39 | 43.70 | 46.336 | |
| 6,000.00 | 5,595.12 | 5,523.70 | 5,420.63 | 40.47 | 21.36 | 150.40 | -796.76 | -432.78 | 2,071.49 | 2,026.86 | 44.62 | 46.424 | |
| 6,100.00 | 5,685.23 | 5,612.29 | 5,506.96 | 41.39 | 21.79 | 150.41 | -814.76 | -441.21 | 2,117.88 | 2,072.34 | 45.54 | 46.509 | |
| 6,200.00 | 5,775.35 | 5,700.87 | 5,593.29 | 42.31 | 22.22 | 150.43 | -832.76 | -449.65 | 2,164.28 | 2,117.82 | 46.45 | 46.592 | |
| 6,300.00 | 5,865.47 | 5,789.45 | 5,679.61 | 43.23 | 22.64 | 150.44 | -850.76 | -458.09 | 2,210.67 | 2,163.31 | 47.37 | 46.673 | |
| 6,402.89 | 5,958.19 | 5,880.60 | 5,768.43 | 44.17 | 23.08 | 150.46 | -869.28 | -466.77 | 2,258.41 | 2,210.10 | 48.31 | 46.753 | |
| 6,500.00 | 6,046.40 | 5,967.27 | 5,852.90 | 44.95 | 23.50 | 150.93 | -886.89 | -475.02 | 2,302.19 | 2,252.97 | 49.22 | 46.774 | |
| 6,600.00 | 6,138.62 | 6,087.80 | 5,970.70 | 45.60 | 23.93 | 151.35 | -909.90 | -485.81 | 2,344.13 | 2,294.06 | 50.07 | 46.818 | |
| 6,700.00 | 6,232.13 | 6,221.91 | 6,102.89 | 46.19 | 24.31 | 151.78 | -930.30 | -495.37 | 2,381.73 | 2,330.92 | 50.80 | 46.880 | |
| 6,800.00 | 6,326.82 | 6,359.16 | 6,239.12 | 46.74 | 24.63 | 152.24 | -945.36 | -502.42 | 2,414.79 | 2,363.38 | 51.42 | 46.966 | |
| 6,900.00 | 6,422.57 | 6,498.89 | 6,378.46 | 47.22 | 24.89 | 152.74 | -954.60 | -506.76 | 2,443.22 | 2,391.32 | 51.90 | 47.077 | |
| 7,000.00 | 6,519.27 | 6,639.75 | 6,519.27 | 47.65 | 25.07 | 153.28 | -957.68 | -508.20 | 2,466.92 | 2,414.68 | 52.24 | 47.223 | |
| 7,100.00 | 6,616.80 | 6,737.28 | 6,616.80 | 48.03 | 25.18 | 153.69 | -957.68 | -508.20 | 2,486.76 | 2,434.23 | 52.52 | 47.345 | |
| 7,200.00 | 6,715.04 | 6,835.53 | 6,715.04 | 48.35 | 25.28 | 154.02 | -957.68 | -508.20 | 2,503.55 | 2,450.74 | 52.81 | 47.405 | |
| 7,300.00 | 6,813.88 | 6,934.36 | 6,813.88 | 48.62 | 25.39 | 154.30 | -957.68 | -508.20 | 2,517.27 | 2,464.21 | 53.06 | 47.445 | |
| 7,400.00 | 6,913.18 | 7,033.66 | 6,913.18 | 48.84 | 25.49 | 154.50 | -957.68 | -508.20 | 2,527.87 | 2,474.62 | 53.26 | 47.465 | |
| 7,500.00 | 7,012.83 | 7,133.31 | 7,012.83 | 49.01 | 25.60 | 154.65 | -957.68 | -508.20 | 2,535.35 | 2,481.94 | 53.41 | 47.466 | |
| 7,600.00 | 7,112.71 | 7,233.19 | 7,112.71 | 49.13 | 25.71 | 154.73 | -957.68 | -508.20 | 2,539.68 | 2,486.15 | 53.53 | 47.447 | |
| 7,687.30 | 7,200.00 | 7,320.48 | 7,200.00 | 49.20 | 25.80 | -85.62 | -957.68 | -508.20 | 2,540.88 | 2,487.29 | 53.60 | 47.407 | |
| 7,700.00 | 7,212.70 | 7,333.18 | 7,212.70 | 49.21 | 25.82 | -85.62 | -957.68 | -508.20 | 2,540.88 | 2,487.26 | 53.62 | 47.383 | |
| 7,800.00 | 7,312.70 | 7,433.18 | 7,312.70 | 49.27 | 25.93 | -85.62 | -957.68 | -508.20 | 2,540.88 | 2,487.04 | 53.84 | 47.192 | |
| 7,900.00 | 7,412.70 | 7,533.18 | 7,412.70 | 49.34 | 26.04 | -85.62 | -957.68 | -508.20 | 2,540.88 | 2,486.82 | 54.06 | 47.001 | |
| 8,000.00 | 7,512.70 | 7,633.18 | 7,512.70 | 49.41 | 26.16 | -85.62 | -957.68 | -508.20 | 2,540.88 | 2,486.60 | 54.28 | 46.809 | |
| 8,100.00 | 7,612.70 | 7,733.18 | 7,612.70 | 49.48 | 26.28 | -85.62 | -957.68 | -508.20 | 2,540.88 | 2,486.38 | 54.51 | 46.616 | |
| 8,200.00 | 7,712.70 | 7,833.18 | 7,712.70 | 49.55 | 26.39 | -85.62 | -957.68 | -508.20 | 2,540.88 | 2,486.15 | 54.73 | 46.422 | |
| 8,300.00 | 7,812.70 | 7,933.18 | 7,812.70 | 49.62 | 26.51 | -85.62 | -957.68 | -508.20 | 2,540.88 | 2,485.92 | 54.96 | 46.228 | |
| 8,400.00 | 7,912.70 | 8,033.18 | 7,912.70 | 49.69 | 26.63 | -85.62 | -957.68 | -508.20 | 2,540.88 | 2,485.69 | 55.20 | 46.033 | |
| 8,500.00 | 8,012.70 | 8,133.18 | 8,012.70 | 49.76 | 26.76 | -85.62 | -957.68 | -508.20 | 2,540.88 | 2,485.45 | 55.43 | 45.837 | |
| 8,600.00 | 8,112.70 | 8,233.18 | 8,112.70 | 49.84 | 26.88 | -85.62 | -957.68 | -508.20 | 2,540.88 | 2,485.21 | 55.67 | 45.641 | |
| 8,700.00 | 8,212.70 | 8,333.18 | 8,212.70 | 49.91 | 27.01 | -85.62 | -957.68 | -508.20 | 2,540.88 | 2,484.97 | 55.91 | 45.444 | |
| 8,800.00 | 8,312.70 | 8,433.18 | 8,312.70 | 49.99 | 27.13 | -85.62 | -957.68 | -508.20 | 2,540.88 | 2,484.73 | 56.16 | 45.248 | |
| 8,823.84 | 8,336.53 | 8,457.02 | 8,336.53 | 50.01 | 27.16 | -85.62 | -957.68 | -508.20 | 2,540.88 | 2,484.67 | 56.21 | 45.201 | |
| 8,842.30 | 8,355.00 | 8,465.48 | 8,345.00 | 50.02 | 27.17 | -85.62 | -957.68 | -508.20 | 2,540.90 | 2,484.66 | 56.25 | 45.175 | |

| | | | |
|---------------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 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 | -37.56 | 8.01 | -6.16 | 10.10 | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 0.10 | -37.56 | 8.01 | -6.16 | 10.10 | 9.91 | 0.19 | 52.861 | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 0.32 | -37.56 | 8.01 | -6.16 | 10.10 | 9.46 | 0.64 | 15.766 | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 0.55 | -37.56 | 8.01 | -6.16 | 10.10 | 9.01 | 1.09 | 9.264 | |
| 400.00 | 400.00 | 400.00 | 400.00 | 0.77 | 0.77 | -37.56 | 8.01 | -6.16 | 10.10 | 8.56 | 1.54 | 6.559 | |
| 500.00 | 500.00 | 500.00 | 500.00 | 0.99 | 0.99 | -37.56 | 8.01 | -6.16 | 10.10 | 8.11 | 1.99 | 5.077 | |
| 600.00 | 600.00 | 600.00 | 600.00 | 1.22 | 1.22 | -37.56 | 8.01 | -6.16 | 10.10 | 7.66 | 2.44 | 4.141 | |
| 700.00 | 700.00 | 700.00 | 700.00 | 1.44 | 1.44 | -37.56 | 8.01 | -6.16 | 10.10 | 7.21 | 2.89 | 3.497 | |
| 800.00 | 800.00 | 800.00 | 800.00 | 1.67 | 1.67 | -37.56 | 8.01 | -6.16 | 10.10 | 6.76 | 3.34 | 3.026 | |
| 900.00 | 900.00 | 900.00 | 900.00 | 1.89 | 1.89 | -37.56 | 8.01 | -6.16 | 10.10 | 6.31 | 3.79 | 2.667 | |
| 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 2.12 | 2.12 | -37.56 | 8.01 | -6.16 | 10.10 | 5.86 | 4.24 | 2.384 | |
| 1,050.00 | 1,050.00 | 1,050.00 | 1,050.00 | 2.23 | 2.23 | -37.56 | 8.01 | -6.16 | 10.10 | 5.64 | 4.46 | 2.264 | |
| 1,100.00 | 1,100.00 | 1,100.18 | 1,100.17 | 2.33 | 2.33 | -158.07 | 7.67 | -5.88 | 10.06 | 5.40 | 4.66 | 2.159 | |
| 1,200.00 | 1,199.93 | 1,200.52 | 1,200.45 | 2.52 | 2.51 | -165.33 | 4.95 | -3.65 | 9.88 | 4.86 | 5.02 | 1.967 | |
| 1,237.87 | 1,237.73 | 1,238.50 | 1,238.37 | 2.60 | 2.58 | -170.07 | 3.22 | -2.22 | 9.85 | 4.68 | 5.16 | 1.907 CC | |
| 1,300.00 | 1,299.68 | 1,300.82 | 1,300.50 | 2.72 | 2.70 | 179.95 | -0.47 | 0.81 | 10.00 | 4.61 | 5.39 | 1.855 ES, SF | |
| 1,400.00 | 1,399.13 | 1,401.06 | 1,400.18 | 2.94 | 2.92 | 160.51 | -8.59 | 7.48 | 11.30 | 5.52 | 5.78 | 1.956 | |
| 1,500.00 | 1,498.15 | 1,501.22 | 1,499.35 | 3.19 | 3.16 | 142.70 | -19.39 | 16.36 | 14.48 | 8.25 | 6.24 | 2.323 | |
| 1,600.00 | 1,596.63 | 1,601.26 | 1,597.87 | 3.47 | 3.44 | 129.97 | -32.84 | 27.42 | 19.61 | 12.81 | 6.79 | 2.887 | |
| 1,700.00 | 1,694.44 | 1,701.18 | 1,695.59 | 3.80 | 3.76 | 121.63 | -48.92 | 40.63 | 26.43 | 18.98 | 7.45 | 3.549 | |
| 1,800.00 | 1,791.46 | 1,800.94 | 1,792.37 | 4.19 | 4.14 | 116.12 | -67.60 | 55.98 | 34.77 | 26.55 | 8.22 | 4.232 | |
| 1,900.00 | 1,887.58 | 1,900.48 | 1,888.28 | 4.64 | 4.58 | 113.48 | -88.17 | 72.89 | 44.52 | 35.44 | 9.08 | 4.903 | |
| 2,000.00 | 1,982.68 | 1,999.84 | 1,983.98 | 5.15 | 5.04 | 114.89 | -108.82 | 89.85 | 55.71 | 45.71 | 10.00 | 5.572 | |
| 2,100.00 | 2,076.65 | 2,098.93 | 2,079.42 | 5.74 | 5.52 | 118.38 | -129.41 | 106.78 | 68.51 | 57.58 | 10.94 | 6.265 | |
| 2,200.00 | 2,169.36 | 2,197.64 | 2,174.49 | 6.41 | 6.01 | 122.73 | -149.92 | 123.63 | 83.34 | 71.48 | 11.86 | 7.025 | |
| 2,300.00 | 2,260.71 | 2,295.84 | 2,269.07 | 7.15 | 6.52 | 127.28 | -170.33 | 140.41 | 100.60 | 87.84 | 12.76 | 7.886 | |
| 2,334.41 | 2,291.81 | 2,329.49 | 2,301.48 | 7.42 | 6.69 | 128.81 | -177.32 | 146.15 | 107.16 | 94.10 | 13.05 | 8.210 | |
| 2,400.00 | 2,350.92 | 2,393.56 | 2,363.19 | 7.96 | 7.03 | 131.58 | -190.63 | 157.09 | 120.12 | 106.49 | 13.63 | 8.814 | |
| 2,500.00 | 2,441.03 | 2,491.24 | 2,457.27 | 8.79 | 7.54 | 134.80 | -210.93 | 173.78 | 140.28 | 125.76 | 14.52 | 9.664 | |
| 2,600.00 | 2,531.15 | 2,588.92 | 2,551.35 | 9.64 | 8.06 | 137.22 | -231.23 | 190.46 | 160.76 | 145.34 | 15.42 | 10.428 | |
| 2,700.00 | 2,621.27 | 2,686.61 | 2,645.44 | 10.51 | 8.59 | 139.08 | -251.53 | 207.14 | 181.45 | 165.12 | 16.33 | 11.114 | |
| 2,800.00 | 2,711.38 | 2,784.29 | 2,739.52 | 11.38 | 9.12 | 140.57 | -271.83 | 223.83 | 202.29 | 185.04 | 17.25 | 11.728 | |
| 2,900.00 | 2,801.50 | 2,881.98 | 2,833.61 | 12.26 | 9.66 | 141.78 | -292.13 | 240.51 | 223.23 | 205.06 | 18.18 | 12.281 | |
| 3,000.00 | 2,891.62 | 2,979.66 | 2,927.69 | 13.14 | 10.19 | 142.78 | -312.43 | 257.19 | 244.26 | 225.14 | 19.11 | 12.779 | |
| 3,100.00 | 2,981.73 | 3,077.34 | 3,021.77 | 14.03 | 10.73 | 143.62 | -332.73 | 273.87 | 265.34 | 245.28 | 20.06 | 13.230 | |
| 3,200.00 | 3,071.85 | 3,175.03 | 3,115.86 | 14.92 | 11.28 | 144.34 | -353.02 | 290.56 | 286.47 | 265.47 | 21.00 | 13.640 | |
| 3,300.00 | 3,161.97 | 3,272.71 | 3,209.94 | 15.82 | 11.82 | 144.96 | -373.32 | 307.24 | 307.64 | 285.68 | 21.95 | 14.013 | |
| 3,400.00 | 3,252.08 | 3,370.39 | 3,304.02 | 16.72 | 12.36 | 145.50 | -393.62 | 323.92 | 328.84 | 305.93 | 22.91 | 14.355 | |
| 3,500.00 | 3,342.20 | 3,468.08 | 3,398.11 | 17.62 | 12.91 | 145.97 | -413.92 | 340.60 | 350.06 | 326.19 | 23.87 | 14.668 | |
| 3,600.00 | 3,432.32 | 3,565.76 | 3,492.19 | 18.53 | 13.46 | 146.39 | -434.22 | 357.29 | 371.30 | 346.47 | 24.83 | 14.956 | |
| 3,700.00 | 3,522.43 | 3,663.44 | 3,586.27 | 19.43 | 14.00 | 146.77 | -454.52 | 373.97 | 392.56 | 366.77 | 25.79 | 15.222 | |
| 3,800.00 | 3,612.55 | 3,761.13 | 3,680.36 | 20.34 | 14.55 | 147.10 | -474.82 | 390.65 | 413.83 | 387.08 | 26.75 | 15.469 | |
| 3,900.00 | 3,702.67 | 3,858.81 | 3,774.44 | 21.25 | 15.10 | 147.40 | -495.12 | 407.33 | 435.12 | 407.40 | 27.72 | 15.698 | |
| 4,000.00 | 3,792.78 | 3,956.49 | 3,868.52 | 22.16 | 15.65 | 147.68 | -515.42 | 424.02 | 456.42 | 427.73 | 28.69 | 15.911 | |
| 4,100.00 | 3,882.90 | 4,054.18 | 3,962.61 | 23.07 | 16.20 | 147.93 | -535.71 | 440.70 | 477.72 | 448.07 | 29.65 | 16.110 | |
| 4,200.00 | 3,973.02 | 4,151.86 | 4,056.69 | 23.98 | 16.76 | 148.16 | -556.01 | 457.38 | 499.04 | 468.41 | 30.62 | 16.296 | |
| 4,300.00 | 4,063.13 | 4,249.55 | 4,150.78 | 24.89 | 17.31 | 148.37 | -576.31 | 474.07 | 520.36 | 488.76 | 31.59 | 16.470 | |
| 4,400.00 | 4,153.25 | 4,347.23 | 4,244.86 | 25.81 | 17.86 | 148.56 | -596.61 | 490.75 | 541.68 | 509.12 | 32.57 | 16.634 | |
| 4,500.00 | 4,243.37 | 4,444.91 | 4,338.94 | 26.72 | 18.42 | 148.74 | -616.91 | 507.43 | 563.02 | 529.48 | 33.54 | 16.788 | |
| 4,600.00 | 4,333.48 | 4,542.60 | 4,433.03 | 27.63 | 18.97 | 148.91 | -637.21 | 524.11 | 584.35 | 549.84 | 34.51 | 16.933 | |
| 4,700.00 | 4,423.60 | 4,640.28 | 4,527.11 | 28.55 | 19.52 | 149.06 | -657.51 | 540.80 | 605.69 | 570.21 | 35.48 | 17.071 | |
| 4,800.00 | 4,513.72 | 4,737.96 | 4,621.19 | 29.46 | 20.08 | 149.21 | -677.81 | 557.48 | 627.04 | 590.59 | 36.45 | 17.201 | |

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_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.00 ft |
|--|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 14-3 - P_KERR-MCGEE 14-3 - PLAN #1 1-15-10 | | | | | | | | | | | | Offset Well Error: | 0.00 ft |
| Survey Program: 0-MWD | | | | | | | | | | | | | |
| 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 |
| 4,900.00 | 4,603.83 | 4,835.65 | 4,715.28 | 30.38 | 20.63 | 149.34 | -698.11 | 574.16 | 648.39 | 610.96 | 37.43 | 17.324 | |
| 5,000.00 | 4,693.95 | 4,933.33 | 4,809.36 | 31.30 | 21.19 | 149.47 | -718.41 | 590.84 | 669.74 | 631.34 | 38.40 | 17.441 | |
| 5,100.00 | 4,784.07 | 5,031.01 | 4,903.44 | 32.21 | 21.74 | 149.58 | -738.70 | 607.53 | 691.10 | 651.72 | 39.37 | 17.552 | |
| 5,200.00 | 4,874.18 | 5,128.70 | 4,997.53 | 33.13 | 22.30 | 149.70 | -759.00 | 624.21 | 712.45 | 672.11 | 40.35 | 17.658 | |
| 5,300.00 | 4,964.30 | 5,226.38 | 5,091.61 | 34.05 | 22.85 | 149.80 | -779.30 | 640.89 | 733.81 | 692.49 | 41.32 | 17.759 | |
| 5,400.00 | 5,054.42 | 5,324.07 | 5,185.70 | 34.96 | 23.41 | 149.90 | -799.60 | 657.57 | 755.18 | 712.88 | 42.29 | 17.855 | |
| 5,500.00 | 5,144.53 | 5,421.75 | 5,279.78 | 35.88 | 23.97 | 149.99 | -819.90 | 674.26 | 776.54 | 733.27 | 43.27 | 17.947 | |
| 5,600.00 | 5,234.65 | 5,519.43 | 5,373.86 | 36.80 | 24.52 | 150.08 | -840.20 | 690.94 | 797.91 | 753.67 | 44.24 | 18.035 | |
| 5,700.00 | 5,324.77 | 5,617.12 | 5,467.95 | 37.72 | 25.08 | 150.16 | -860.50 | 707.62 | 819.28 | 774.06 | 45.21 | 18.120 | |
| 5,800.00 | 5,414.88 | 5,714.80 | 5,562.03 | 38.63 | 25.63 | 150.24 | -880.80 | 724.30 | 840.64 | 794.46 | 46.19 | 18.201 | |
| 5,900.00 | 5,505.00 | 5,812.48 | 5,656.11 | 39.55 | 26.19 | 150.32 | -901.10 | 740.99 | 862.02 | 814.85 | 47.16 | 18.278 | |
| 6,000.00 | 5,595.12 | 5,900.00 | 5,740.41 | 40.47 | 26.69 | 150.38 | -919.28 | 755.93 | 883.45 | 835.36 | 48.09 | 18.370 | |
| 6,100.00 | 5,685.23 | 5,988.30 | 5,825.86 | 41.39 | 27.04 | 150.52 | -936.47 | 770.06 | 905.99 | 857.13 | 48.86 | 18.541 | |
| 6,200.00 | 5,775.35 | 6,068.35 | 5,903.87 | 42.31 | 27.33 | 150.76 | -950.29 | 781.42 | 930.37 | 880.84 | 49.53 | 18.785 | |
| 6,300.00 | 5,865.47 | 6,147.44 | 5,981.43 | 43.23 | 27.59 | 151.08 | -962.28 | 791.27 | 956.55 | 906.44 | 50.10 | 19.091 | |
| 6,402.89 | 5,958.19 | 6,227.74 | 6,060.57 | 44.17 | 27.83 | 151.49 | -972.76 | 799.89 | 985.36 | 934.75 | 50.61 | 19.469 | |
| 6,500.00 | 6,046.40 | 6,300.00 | 6,132.09 | 44.95 | 28.02 | 152.17 | -980.73 | 806.43 | 1,012.93 | 961.97 | 50.95 | 19.879 | |
| 6,600.00 | 6,138.62 | 6,379.85 | 6,211.39 | 45.60 | 28.20 | 152.87 | -987.91 | 812.33 | 1,040.18 | 989.00 | 51.17 | 20.326 | |
| 6,700.00 | 6,232.13 | 6,456.59 | 6,287.82 | 46.19 | 28.35 | 153.52 | -993.19 | 816.68 | 1,066.28 | 1,014.94 | 51.33 | 20.771 | |
| 6,800.00 | 6,326.82 | 6,533.04 | 6,364.13 | 46.74 | 28.48 | 154.16 | -996.88 | 819.71 | 1,091.21 | 1,039.73 | 51.48 | 21.196 | |
| 6,900.00 | 6,422.57 | 6,609.22 | 6,440.25 | 47.22 | 28.58 | 154.77 | -998.99 | 821.45 | 1,114.97 | 1,063.40 | 51.56 | 21.623 | |
| 7,000.00 | 6,519.27 | 6,688.25 | 6,519.27 | 47.65 | 28.67 | 155.38 | -999.56 | 821.91 | 1,137.52 | 1,085.94 | 51.58 | 22.054 | |
| 7,100.00 | 6,616.80 | 6,785.78 | 6,616.80 | 48.03 | 28.76 | 156.00 | -999.56 | 821.91 | 1,157.71 | 1,106.18 | 51.53 | 22.466 | |
| 7,200.00 | 6,715.04 | 6,884.02 | 6,715.04 | 48.35 | 28.86 | 156.51 | -999.56 | 821.91 | 1,174.82 | 1,123.33 | 51.49 | 22.815 | |
| 7,300.00 | 6,813.88 | 6,982.85 | 6,813.88 | 48.62 | 28.95 | 156.91 | -999.56 | 821.91 | 1,188.82 | 1,137.35 | 51.46 | 23.101 | |
| 7,400.00 | 6,913.18 | 7,082.15 | 6,913.18 | 48.84 | 29.05 | 157.22 | -999.56 | 821.91 | 1,199.64 | 1,148.21 | 51.43 | 23.325 | |
| 7,500.00 | 7,012.83 | 7,181.81 | 7,012.83 | 49.01 | 29.15 | 157.43 | -999.56 | 821.91 | 1,207.28 | 1,155.88 | 51.40 | 23.487 | |
| 7,600.00 | 7,112.71 | 7,281.69 | 7,112.71 | 49.13 | 29.25 | 157.55 | -999.56 | 821.91 | 1,211.71 | 1,160.34 | 51.37 | 23.588 | |
| 7,687.30 | 7,200.00 | 7,368.97 | 7,200.00 | 49.20 | 29.34 | -82.79 | -999.56 | 821.91 | 1,212.94 | 1,161.59 | 51.35 | 23.622 | |
| 7,700.00 | 7,212.70 | 7,381.67 | 7,212.70 | 49.21 | 29.35 | -82.79 | -999.56 | 821.91 | 1,212.94 | 1,161.56 | 51.38 | 23.609 | |
| 7,800.00 | 7,312.70 | 7,481.67 | 7,312.70 | 49.27 | 29.46 | -82.79 | -999.56 | 821.91 | 1,212.94 | 1,161.33 | 51.60 | 23.504 | |
| 7,900.00 | 7,412.70 | 7,581.67 | 7,412.70 | 49.34 | 29.56 | -82.79 | -999.56 | 821.91 | 1,212.94 | 1,161.10 | 51.84 | 23.400 | |
| 8,000.00 | 7,512.70 | 7,681.67 | 7,512.70 | 49.41 | 29.67 | -82.79 | -999.56 | 821.91 | 1,212.94 | 1,160.87 | 52.07 | 23.294 | |
| 8,100.00 | 7,612.70 | 7,781.67 | 7,612.70 | 49.48 | 29.78 | -82.79 | -999.56 | 821.91 | 1,212.94 | 1,160.63 | 52.31 | 23.189 | |
| 8,200.00 | 7,712.70 | 7,881.67 | 7,712.70 | 49.55 | 29.89 | -82.79 | -999.56 | 821.91 | 1,212.94 | 1,160.39 | 52.55 | 23.083 | |
| 8,300.00 | 7,812.70 | 7,981.67 | 7,812.70 | 49.62 | 30.00 | -82.79 | -999.56 | 821.91 | 1,212.94 | 1,160.15 | 52.79 | 22.978 | |
| 8,400.00 | 7,912.70 | 8,081.67 | 7,912.70 | 49.69 | 30.11 | -82.79 | -999.56 | 821.91 | 1,212.94 | 1,159.91 | 53.03 | 22.871 | |
| 8,500.00 | 8,012.70 | 8,181.67 | 8,012.70 | 49.76 | 30.22 | -82.79 | -999.56 | 821.91 | 1,212.94 | 1,159.66 | 53.28 | 22.765 | |
| 8,600.00 | 8,112.70 | 8,281.67 | 8,112.70 | 49.84 | 30.34 | -82.79 | -999.56 | 821.91 | 1,212.94 | 1,159.41 | 53.53 | 22.659 | |
| 8,700.00 | 8,212.70 | 8,381.67 | 8,212.70 | 49.91 | 30.45 | -82.79 | -999.56 | 821.91 | 1,212.94 | 1,159.16 | 53.78 | 22.552 | |
| 8,800.00 | 8,312.70 | 8,481.67 | 8,312.70 | 49.99 | 30.57 | -82.79 | -999.56 | 821.91 | 1,212.94 | 1,158.90 | 54.04 | 22.446 | |
| 8,842.30 | 8,355.00 | 8,523.97 | 8,355.00 | 50.02 | 30.62 | -82.79 | -999.56 | 821.91 | 1,212.94 | 1,158.79 | 54.15 | 22.401 | |

| | | | |
|---------------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 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 | -38.38 | 23.67 | -18.75 | 30.20 | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 0.10 | -38.38 | 23.67 | -18.75 | 30.20 | 30.00 | 0.19 | 158.050 | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 0.32 | -38.38 | 23.67 | -18.75 | 30.20 | 29.56 | 0.64 | 47.138 | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 0.55 | -38.38 | 23.67 | -18.75 | 30.20 | 29.11 | 1.09 | 27.699 | |
| 400.00 | 400.00 | 400.00 | 400.00 | 0.77 | 0.77 | -38.38 | 23.67 | -18.75 | 30.20 | 28.66 | 1.54 | 19.612 | |
| 500.00 | 500.00 | 500.00 | 500.00 | 0.99 | 0.99 | -38.38 | 23.67 | -18.75 | 30.20 | 28.21 | 1.99 | 15.180 | |
| 600.00 | 600.00 | 600.00 | 600.00 | 1.22 | 1.22 | -38.38 | 23.67 | -18.75 | 30.20 | 27.76 | 2.44 | 12.382 | |
| 700.00 | 700.00 | 700.00 | 700.00 | 1.44 | 1.44 | -38.38 | 23.67 | -18.75 | 30.20 | 27.31 | 2.89 | 10.455 | |
| 800.00 | 800.00 | 800.00 | 800.00 | 1.67 | 1.67 | -38.38 | 23.67 | -18.75 | 30.20 | 26.86 | 3.34 | 9.047 | |
| 900.00 | 900.00 | 900.00 | 900.00 | 1.89 | 1.89 | -38.38 | 23.67 | -18.75 | 30.20 | 26.41 | 3.79 | 7.973 | |
| 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 2.12 | 2.12 | -38.38 | 23.67 | -18.75 | 30.20 | 25.96 | 4.24 | 7.127 | |
| 1,050.00 | 1,050.00 | 1,050.00 | 1,050.00 | 2.23 | 2.23 | -38.38 | 23.67 | -18.75 | 30.20 | 25.73 | 4.46 | 6.768 | |
| 1,100.00 | 1,100.00 | 1,100.52 | 1,100.52 | 2.33 | 2.33 | -158.49 | 23.27 | -18.55 | 30.17 | 25.51 | 4.66 | 6.471 | |
| 1,200.00 | 1,199.93 | 1,201.53 | 1,201.46 | 2.52 | 2.51 | -162.39 | 20.09 | -16.95 | 30.04 | 25.02 | 5.02 | 5.983 | |
| 1,237.49 | 1,237.36 | 1,239.38 | 1,239.24 | 2.60 | 2.58 | -164.86 | 18.08 | -15.93 | 30.02 | 24.87 | 5.16 | 5.820 CC, ES | |
| 1,300.00 | 1,299.68 | 1,302.14 | 1,301.83 | 2.72 | 2.70 | -170.02 | 13.92 | -13.83 | 30.34 | 24.95 | 5.39 | 5.633 SF | |
| 1,400.00 | 1,399.13 | 1,401.96 | 1,401.35 | 2.94 | 2.90 | -178.32 | 7.04 | -10.36 | 33.93 | 28.17 | 5.76 | 5.893 | |
| 1,500.00 | 1,498.15 | 1,501.58 | 1,500.68 | 3.19 | 3.11 | 175.48 | 0.18 | -6.90 | 41.57 | 35.42 | 6.14 | 6.769 | |
| 1,600.00 | 1,596.63 | 1,600.88 | 1,599.68 | 3.47 | 3.33 | 171.79 | -6.66 | -3.46 | 52.97 | 46.43 | 6.53 | 8.108 | |
| 1,700.00 | 1,694.44 | 1,699.74 | 1,698.24 | 3.80 | 3.55 | 169.92 | -13.47 | -0.02 | 67.91 | 60.98 | 6.93 | 9.795 | |
| 1,800.00 | 1,791.46 | 1,798.03 | 1,796.24 | 4.19 | 3.78 | 169.14 | -20.24 | 3.39 | 86.28 | 78.94 | 7.34 | 11.755 | |
| 1,900.00 | 1,887.58 | 1,895.63 | 1,893.55 | 4.64 | 4.02 | 168.97 | -26.97 | 6.78 | 108.00 | 100.26 | 7.75 | 13.937 | |
| 2,000.00 | 1,982.68 | 1,992.43 | 1,990.06 | 5.15 | 4.25 | 169.11 | -33.64 | 10.14 | 133.06 | 124.90 | 8.16 | 16.303 | |
| 2,100.00 | 2,076.65 | 2,088.31 | 2,085.66 | 5.74 | 4.49 | 169.40 | -40.24 | 13.47 | 161.43 | 152.86 | 8.58 | 18.822 | |
| 2,200.00 | 2,169.36 | 2,183.16 | 2,180.22 | 6.41 | 4.72 | 169.76 | -46.78 | 16.77 | 193.08 | 184.09 | 8.99 | 21.471 | |
| 2,300.00 | 2,260.71 | 2,276.85 | 2,273.63 | 7.15 | 4.96 | 170.13 | -53.23 | 20.02 | 227.98 | 218.57 | 9.41 | 24.227 | |
| 2,334.41 | 2,291.81 | 2,308.80 | 2,305.49 | 7.42 | 5.04 | 170.26 | -55.43 | 21.13 | 240.74 | 231.18 | 9.55 | 25.197 | |
| 2,400.00 | 2,350.92 | 2,369.56 | 2,366.07 | 7.96 | 5.19 | 170.56 | -59.62 | 23.24 | 265.42 | 255.51 | 9.90 | 26.807 | |
| 2,500.00 | 2,441.03 | 2,462.19 | 2,458.42 | 8.79 | 5.43 | 170.92 | -66.00 | 26.46 | 303.05 | 292.61 | 10.44 | 29.033 | |
| 2,600.00 | 2,531.15 | 2,554.82 | 2,550.78 | 9.64 | 5.66 | 171.21 | -72.38 | 29.68 | 340.69 | 329.71 | 10.98 | 31.017 | |
| 2,700.00 | 2,621.27 | 2,647.46 | 2,643.14 | 10.51 | 5.90 | 171.43 | -78.76 | 32.89 | 378.34 | 366.80 | 11.54 | 32.793 | |
| 2,800.00 | 2,711.38 | 2,740.09 | 2,735.49 | 11.38 | 6.14 | 171.62 | -85.14 | 36.11 | 415.99 | 403.90 | 12.10 | 34.389 | |
| 2,900.00 | 2,801.50 | 2,832.72 | 2,827.85 | 12.26 | 6.38 | 171.78 | -91.52 | 39.33 | 453.65 | 440.99 | 12.66 | 35.830 | |
| 3,000.00 | 2,891.62 | 2,925.36 | 2,920.21 | 13.14 | 6.62 | 171.91 | -97.90 | 42.55 | 491.31 | 478.08 | 13.23 | 37.135 | |
| 3,100.00 | 2,981.73 | 3,017.99 | 3,012.56 | 14.03 | 6.86 | 172.02 | -104.28 | 45.76 | 528.97 | 515.16 | 13.80 | 38.322 | |
| 3,200.00 | 3,071.85 | 3,110.62 | 3,104.92 | 14.92 | 7.10 | 172.12 | -110.67 | 48.98 | 566.63 | 552.25 | 14.38 | 39.406 | |
| 3,300.00 | 3,161.97 | 3,203.26 | 3,197.28 | 15.82 | 7.35 | 172.20 | -117.05 | 52.20 | 604.29 | 589.33 | 14.96 | 40.398 | |
| 3,400.00 | 3,252.08 | 3,295.89 | 3,289.63 | 16.72 | 7.59 | 172.28 | -123.43 | 55.41 | 641.96 | 626.42 | 15.54 | 41.309 | |
| 3,500.00 | 3,342.20 | 3,388.52 | 3,381.99 | 17.62 | 7.84 | 172.35 | -129.81 | 58.63 | 679.62 | 663.50 | 16.12 | 42.149 | |
| 3,600.00 | 3,432.32 | 3,481.15 | 3,474.35 | 18.53 | 8.08 | 172.41 | -136.19 | 61.85 | 717.29 | 700.57 | 16.71 | 42.925 | |
| 3,700.00 | 3,522.43 | 3,573.79 | 3,566.70 | 19.43 | 8.32 | 172.46 | -142.57 | 65.07 | 754.95 | 737.65 | 17.30 | 43.643 | |
| 3,800.00 | 3,612.55 | 3,666.42 | 3,659.06 | 20.34 | 8.57 | 172.51 | -148.95 | 68.28 | 792.62 | 774.73 | 17.89 | 44.311 | |
| 3,900.00 | 3,702.67 | 3,759.05 | 3,751.42 | 21.25 | 8.82 | 172.55 | -155.34 | 71.50 | 830.28 | 811.81 | 18.48 | 44.933 | |
| 4,000.00 | 3,792.78 | 3,851.69 | 3,843.78 | 22.16 | 9.06 | 172.59 | -161.72 | 74.72 | 867.95 | 848.88 | 19.07 | 45.513 | |
| 4,100.00 | 3,882.90 | 3,944.32 | 3,936.13 | 23.07 | 9.31 | 172.63 | -168.10 | 77.94 | 905.62 | 885.96 | 19.66 | 46.055 | |
| 4,200.00 | 3,973.02 | 4,036.95 | 4,028.49 | 23.98 | 9.55 | 172.67 | -174.48 | 81.15 | 943.29 | 923.03 | 20.26 | 46.563 | |
| 4,300.00 | 4,063.13 | 4,129.58 | 4,120.85 | 24.89 | 9.80 | 172.70 | -180.86 | 84.37 | 980.96 | 960.10 | 20.85 | 47.040 | |
| 4,400.00 | 4,153.25 | 4,222.22 | 4,213.20 | 25.81 | 10.05 | 172.73 | -187.24 | 87.59 | 1,018.62 | 997.17 | 21.45 | 47.489 | |
| 4,500.00 | 4,243.37 | 4,314.85 | 4,305.56 | 26.72 | 10.30 | 172.75 | -193.62 | 90.80 | 1,056.29 | 1,034.25 | 22.05 | 47.911 | |
| 4,600.00 | 4,333.48 | 4,407.48 | 4,397.92 | 27.63 | 10.54 | 172.78 | -200.00 | 94.02 | 1,093.96 | 1,071.32 | 22.64 | 48.310 | |
| 4,700.00 | 4,423.60 | 4,500.12 | 4,490.27 | 28.55 | 10.79 | 172.80 | -206.39 | 97.24 | 1,131.63 | 1,108.39 | 23.24 | 48.687 | |
| 4,800.00 | 4,513.72 | 4,592.75 | 4,582.63 | 29.46 | 11.04 | 172.82 | -212.77 | 100.46 | 1,169.30 | 1,145.46 | 23.84 | 49.043 | |

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_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 19-3 - P_KERR-MCGEE 19-3 - PLAN #1 1-15-10 | | | | | | | | | | | | 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 |
| 4,900.00 | 4,603.83 | 4,685.38 | 4,674.99 | 30.38 | 11.29 | 172.85 | -219.15 | 103.67 | 1,206.97 | 1,182.53 | 24.44 | 49.381 | |
| 5,000.00 | 4,693.95 | 4,778.02 | 4,767.34 | 31.30 | 11.54 | 172.87 | -225.53 | 106.89 | 1,244.64 | 1,219.60 | 25.04 | 49.702 | |
| 5,100.00 | 4,784.07 | 4,870.65 | 4,859.70 | 32.21 | 11.78 | 172.88 | -231.91 | 110.11 | 1,282.31 | 1,256.67 | 25.64 | 50.007 | |
| 5,200.00 | 4,874.18 | 4,963.28 | 4,952.06 | 33.13 | 12.03 | 172.90 | -238.29 | 113.33 | 1,319.98 | 1,293.73 | 26.24 | 50.297 | |
| 5,300.00 | 4,964.30 | 5,055.91 | 5,044.41 | 34.05 | 12.28 | 172.92 | -244.67 | 116.54 | 1,357.65 | 1,330.80 | 26.85 | 50.573 | |
| 5,400.00 | 5,054.42 | 5,148.55 | 5,136.77 | 34.96 | 12.53 | 172.93 | -251.05 | 119.76 | 1,395.32 | 1,367.87 | 27.45 | 50.836 | |
| 5,500.00 | 5,144.53 | 5,241.18 | 5,229.13 | 35.88 | 12.78 | 172.95 | -257.44 | 122.98 | 1,432.99 | 1,404.94 | 28.05 | 51.087 | |
| 5,600.00 | 5,234.65 | 5,333.81 | 5,321.49 | 36.80 | 13.03 | 172.96 | -263.82 | 126.20 | 1,470.66 | 1,442.01 | 28.65 | 51.327 | |
| 5,700.00 | 5,324.77 | 5,426.45 | 5,413.84 | 37.72 | 13.28 | 172.97 | -270.20 | 129.41 | 1,508.33 | 1,479.07 | 29.26 | 51.557 | |
| 5,800.00 | 5,414.88 | 5,519.08 | 5,506.20 | 38.63 | 13.53 | 172.99 | -276.58 | 132.63 | 1,546.00 | 1,516.14 | 29.86 | 51.777 | |
| 5,900.00 | 5,505.00 | 5,611.71 | 5,598.56 | 39.55 | 13.77 | 173.00 | -282.96 | 135.85 | 1,583.67 | 1,553.21 | 30.46 | 51.987 | |
| 6,000.00 | 5,595.12 | 5,704.34 | 5,690.91 | 40.47 | 14.02 | 173.01 | -289.34 | 139.06 | 1,621.34 | 1,590.27 | 31.07 | 52.189 | |
| 6,100.00 | 5,685.23 | 5,796.98 | 5,783.27 | 41.39 | 14.27 | 173.02 | -295.72 | 142.28 | 1,659.01 | 1,627.34 | 31.67 | 52.383 | |
| 6,200.00 | 5,775.35 | 5,889.61 | 5,875.63 | 42.31 | 14.52 | 173.03 | -302.11 | 145.50 | 1,696.68 | 1,664.40 | 32.27 | 52.570 | |
| 6,300.00 | 5,865.47 | 5,982.24 | 5,967.98 | 43.23 | 14.77 | 173.04 | -308.49 | 148.72 | 1,734.35 | 1,701.47 | 32.88 | 52.749 | |
| 6,402.89 | 5,958.19 | 6,077.56 | 6,063.01 | 44.17 | 15.03 | 173.05 | -315.05 | 152.03 | 1,773.11 | 1,739.61 | 33.50 | 52.926 | |
| 6,500.00 | 6,046.40 | 6,168.11 | 6,153.29 | 44.95 | 15.27 | 173.14 | -321.29 | 155.17 | 1,808.17 | 1,773.93 | 34.24 | 52.807 | |
| 6,600.00 | 6,138.62 | 6,262.54 | 6,247.44 | 45.60 | 15.53 | 173.21 | -327.80 | 158.45 | 1,841.07 | 1,806.13 | 34.94 | 52.688 | |
| 6,700.00 | 6,232.13 | 6,342.43 | 6,327.11 | 46.19 | 15.73 | 173.27 | -333.15 | 161.15 | 1,870.87 | 1,835.32 | 35.55 | 52.624 | |
| 6,800.00 | 6,326.82 | 6,400.00 | 6,384.59 | 46.74 | 15.86 | 173.34 | -336.04 | 162.61 | 1,898.79 | 1,862.75 | 36.04 | 52.684 | |
| 6,900.00 | 6,422.57 | 6,470.13 | 6,454.67 | 47.22 | 15.98 | 173.43 | -338.17 | 163.68 | 1,924.99 | 1,888.52 | 36.47 | 52.782 | |
| 7,000.00 | 6,519.27 | 6,534.73 | 6,519.27 | 47.65 | 16.09 | 173.53 | -338.77 | 163.99 | 1,949.50 | 1,912.66 | 36.83 | 52.926 | |
| 7,100.00 | 6,616.80 | 6,632.26 | 6,616.80 | 48.03 | 16.26 | 173.65 | -338.77 | 163.99 | 1,971.43 | 1,934.23 | 37.20 | 53.002 | |
| 7,200.00 | 6,715.04 | 6,730.51 | 6,715.04 | 48.35 | 16.42 | 173.75 | -338.77 | 163.99 | 1,989.97 | 1,952.47 | 37.49 | 53.076 | |
| 7,300.00 | 6,813.88 | 6,829.34 | 6,813.88 | 48.62 | 16.58 | 173.83 | -338.77 | 163.99 | 2,005.08 | 1,967.35 | 37.74 | 53.131 | |
| 7,400.00 | 6,913.18 | 6,928.64 | 6,913.18 | 48.84 | 16.74 | 173.89 | -338.77 | 163.99 | 2,016.76 | 1,978.83 | 37.93 | 53.169 | |
| 7,500.00 | 7,012.83 | 7,028.29 | 7,012.83 | 49.01 | 16.91 | 173.94 | -338.77 | 163.99 | 2,024.99 | 1,986.92 | 38.07 | 53.192 | |
| 7,600.00 | 7,112.71 | 7,128.17 | 7,112.71 | 49.13 | 17.08 | 173.96 | -338.77 | 163.99 | 2,029.76 | 1,991.60 | 38.15 | 53.201 | |
| 7,687.30 | 7,200.00 | 7,215.46 | 7,200.00 | 49.20 | 17.22 | -66.41 | -338.77 | 163.99 | 2,031.08 | 1,992.89 | 38.19 | 53.189 | |
| 7,700.00 | 7,212.70 | 7,228.16 | 7,212.70 | 49.21 | 17.24 | -66.41 | -338.77 | 163.99 | 2,031.08 | 1,992.85 | 38.23 | 53.133 | |
| 7,800.00 | 7,312.70 | 7,328.16 | 7,312.70 | 49.27 | 17.41 | -66.41 | -338.77 | 163.99 | 2,031.08 | 1,992.54 | 38.54 | 52.705 | |
| 7,900.00 | 7,412.70 | 7,428.16 | 7,412.70 | 49.34 | 17.59 | -66.41 | -338.77 | 163.99 | 2,031.08 | 1,992.23 | 38.85 | 52.280 | |
| 8,000.00 | 7,512.70 | 7,528.16 | 7,512.70 | 49.41 | 17.76 | -66.41 | -338.77 | 163.99 | 2,031.08 | 1,991.91 | 39.17 | 51.859 | |
| 8,100.00 | 7,612.70 | 7,628.16 | 7,612.70 | 49.48 | 17.93 | -66.41 | -338.77 | 163.99 | 2,031.08 | 1,991.59 | 39.48 | 51.441 | |
| 8,200.00 | 7,712.70 | 7,728.16 | 7,712.70 | 49.55 | 18.11 | -66.41 | -338.77 | 163.99 | 2,031.08 | 1,991.27 | 39.80 | 51.026 | |
| 8,300.00 | 7,812.70 | 7,828.16 | 7,812.70 | 49.62 | 18.28 | -66.41 | -338.77 | 163.99 | 2,031.08 | 1,990.95 | 40.13 | 50.615 | |
| 8,400.00 | 7,912.70 | 7,928.16 | 7,912.70 | 49.69 | 18.46 | -66.41 | -338.77 | 163.99 | 2,031.08 | 1,990.62 | 40.45 | 50.208 | |
| 8,500.00 | 8,012.70 | 8,028.16 | 8,012.70 | 49.76 | 18.63 | -66.41 | -338.77 | 163.99 | 2,031.08 | 1,990.30 | 40.78 | 49.805 | |
| 8,600.00 | 8,112.70 | 8,128.16 | 8,112.70 | 49.84 | 18.81 | -66.41 | -338.77 | 163.99 | 2,031.08 | 1,989.97 | 41.11 | 49.405 | |
| 8,700.00 | 8,212.70 | 8,228.16 | 8,212.70 | 49.91 | 18.99 | -66.41 | -338.77 | 163.99 | 2,031.08 | 1,989.64 | 41.44 | 49.010 | |
| 8,800.00 | 8,312.70 | 8,328.16 | 8,312.70 | 49.99 | 19.17 | -66.41 | -338.77 | 163.99 | 2,031.08 | 1,989.30 | 41.78 | 48.618 | |
| 8,842.30 | 8,355.00 | 8,370.46 | 8,355.00 | 50.02 | 19.25 | -66.41 | -338.77 | 163.99 | 2,031.08 | 1,989.16 | 41.92 | 48.453 | |

| | | | |
|---------------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 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 | -38.80 | 70.29 | -56.53 | 90.20 | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 0.10 | -38.80 | 70.29 | -56.53 | 90.20 | 90.01 | 0.19 | 472.134 | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 0.32 | -38.80 | 70.29 | -56.53 | 90.20 | 89.56 | 0.64 | 140.812 | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 0.55 | -38.80 | 70.29 | -56.53 | 90.20 | 89.11 | 1.09 | 82.745 | |
| 400.00 | 400.00 | 400.00 | 400.00 | 0.77 | 0.77 | -38.80 | 70.29 | -56.53 | 90.20 | 88.66 | 1.54 | 58.586 | |
| 500.00 | 500.00 | 500.00 | 500.00 | 0.99 | 0.99 | -38.80 | 70.29 | -56.53 | 90.20 | 88.21 | 1.99 | 45.346 | |
| 600.00 | 600.00 | 600.00 | 600.00 | 1.22 | 1.22 | -38.80 | 70.29 | -56.53 | 90.20 | 87.76 | 2.44 | 36.988 | |
| 700.00 | 700.00 | 700.00 | 700.00 | 1.44 | 1.44 | -38.80 | 70.29 | -56.53 | 90.20 | 87.31 | 2.89 | 31.231 | |
| 800.00 | 800.00 | 800.00 | 800.00 | 1.67 | 1.67 | -38.80 | 70.29 | -56.53 | 90.20 | 86.86 | 3.34 | 27.025 | |
| 900.00 | 900.00 | 900.00 | 900.00 | 1.89 | 1.89 | -38.80 | 70.29 | -56.53 | 90.20 | 86.41 | 3.79 | 23.817 | |
| 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 2.12 | 2.12 | -38.80 | 70.29 | -56.53 | 90.20 | 85.97 | 4.24 | 21.290 | |
| 1,050.00 | 1,050.00 | 1,050.00 | 1,050.00 | 2.23 | 2.23 | -38.80 | 70.29 | -56.53 | 90.20 | 85.74 | 4.46 | 20.217 CC, ES | |
| 1,100.00 | 1,100.00 | 1,099.17 | 1,099.17 | 2.33 | 2.34 | -158.30 | 70.69 | -56.39 | 90.83 | 86.16 | 4.67 | 19.440 | |
| 1,200.00 | 1,199.93 | 1,197.31 | 1,197.25 | 2.52 | 2.56 | -157.31 | 73.87 | -55.28 | 95.91 | 90.84 | 5.07 | 18.905 SF | |
| 1,300.00 | 1,299.68 | 1,294.83 | 1,294.53 | 2.72 | 2.78 | -155.62 | 80.16 | -53.07 | 106.10 | 100.63 | 5.48 | 19.374 | |
| 1,400.00 | 1,399.13 | 1,391.34 | 1,390.53 | 2.94 | 3.01 | -153.59 | 89.46 | -49.82 | 121.47 | 115.58 | 5.89 | 20.633 | |
| 1,500.00 | 1,498.15 | 1,486.45 | 1,484.76 | 3.19 | 3.25 | -151.56 | 101.61 | -45.57 | 142.00 | 135.69 | 6.31 | 22.503 | |
| 1,600.00 | 1,596.63 | 1,579.82 | 1,576.80 | 3.47 | 3.50 | -149.67 | 116.41 | -40.39 | 167.63 | 160.88 | 6.75 | 24.831 | |
| 1,700.00 | 1,694.44 | 1,675.28 | 1,670.63 | 3.80 | 3.79 | -148.31 | 132.97 | -34.60 | 197.24 | 190.02 | 7.22 | 27.306 | |
| 1,800.00 | 1,791.46 | 1,769.85 | 1,763.59 | 4.19 | 4.09 | -147.67 | 149.38 | -28.86 | 229.71 | 222.00 | 7.72 | 29.772 | |
| 1,900.00 | 1,887.58 | 1,863.42 | 1,855.57 | 4.64 | 4.41 | -147.49 | 165.62 | -23.18 | 264.96 | 256.73 | 8.23 | 32.201 | |
| 2,000.00 | 1,982.68 | 1,955.88 | 1,946.46 | 5.15 | 4.72 | -147.60 | 181.66 | -17.56 | 302.95 | 294.19 | 8.76 | 34.582 | |
| 2,100.00 | 2,076.65 | 2,047.12 | 2,036.14 | 5.74 | 5.04 | -147.88 | 197.50 | -12.02 | 343.70 | 334.38 | 9.31 | 36.910 | |
| 2,200.00 | 2,169.36 | 2,137.01 | 2,124.50 | 6.41 | 5.37 | -148.27 | 213.10 | -6.57 | 387.18 | 377.30 | 9.88 | 39.184 | |
| 2,300.00 | 2,260.71 | 2,225.46 | 2,211.44 | 7.15 | 5.69 | -148.71 | 228.44 | -1.20 | 433.40 | 422.94 | 10.47 | 41.407 | |
| 2,334.41 | 2,291.81 | 2,255.54 | 2,241.01 | 7.42 | 5.80 | -148.86 | 233.66 | 0.63 | 449.94 | 439.27 | 10.67 | 42.160 | |
| 2,400.00 | 2,350.92 | 2,312.71 | 2,297.20 | 7.96 | 6.01 | -149.49 | 243.58 | 4.10 | 481.79 | 470.67 | 11.12 | 43.321 | |
| 2,500.00 | 2,441.03 | 2,399.86 | 2,382.86 | 8.79 | 6.33 | -150.31 | 258.71 | 9.39 | 530.43 | 518.61 | 11.82 | 44.889 | |
| 2,600.00 | 2,531.15 | 2,487.01 | 2,468.53 | 9.64 | 6.66 | -150.99 | 273.83 | 14.68 | 579.13 | 566.61 | 12.52 | 46.250 | |
| 2,700.00 | 2,621.27 | 2,574.16 | 2,554.19 | 10.51 | 6.99 | -151.56 | 288.95 | 19.97 | 627.88 | 614.65 | 13.23 | 47.442 | |
| 2,800.00 | 2,711.38 | 2,661.31 | 2,639.86 | 11.38 | 7.32 | -152.05 | 304.08 | 25.26 | 676.68 | 662.73 | 13.95 | 48.491 | |
| 2,900.00 | 2,801.50 | 2,748.46 | 2,725.52 | 12.26 | 7.66 | -152.47 | 319.20 | 30.56 | 725.51 | 710.83 | 14.68 | 49.422 | |
| 3,000.00 | 2,891.62 | 2,835.61 | 2,811.19 | 13.14 | 7.99 | -152.85 | 334.32 | 35.85 | 774.36 | 758.96 | 15.41 | 50.252 | |
| 3,100.00 | 2,981.73 | 2,922.75 | 2,896.85 | 14.03 | 8.33 | -153.17 | 349.44 | 41.14 | 823.24 | 807.10 | 16.14 | 50.995 | |
| 3,200.00 | 3,071.85 | 3,009.90 | 2,982.51 | 14.92 | 8.67 | -153.46 | 364.57 | 46.43 | 872.14 | 855.26 | 16.88 | 51.665 | |
| 3,300.00 | 3,161.97 | 3,097.05 | 3,068.18 | 15.82 | 9.01 | -153.72 | 379.69 | 51.72 | 921.05 | 903.43 | 17.62 | 52.271 | |
| 3,400.00 | 3,252.08 | 3,184.20 | 3,153.84 | 16.72 | 9.35 | -153.96 | 394.81 | 57.01 | 969.97 | 951.61 | 18.36 | 52.821 | |
| 3,500.00 | 3,342.20 | 3,271.35 | 3,239.51 | 17.62 | 9.69 | -154.17 | 409.94 | 62.30 | 1,018.91 | 999.80 | 19.11 | 53.322 | |
| 3,600.00 | 3,432.32 | 3,358.50 | 3,325.17 | 18.53 | 10.03 | -154.36 | 425.06 | 67.59 | 1,067.85 | 1,048.00 | 19.86 | 53.781 | |
| 3,700.00 | 3,522.43 | 3,445.65 | 3,410.84 | 19.43 | 10.37 | -154.54 | 440.18 | 72.88 | 1,116.81 | 1,096.20 | 20.60 | 54.203 | |
| 3,800.00 | 3,612.55 | 3,532.80 | 3,496.50 | 20.34 | 10.72 | -154.70 | 455.31 | 78.17 | 1,165.77 | 1,144.41 | 21.35 | 54.591 | |
| 3,900.00 | 3,702.67 | 3,619.95 | 3,582.17 | 21.25 | 11.06 | -154.85 | 470.43 | 83.46 | 1,214.73 | 1,192.63 | 22.11 | 54.950 | |
| 4,000.00 | 3,792.78 | 3,707.10 | 3,667.83 | 22.16 | 11.41 | -154.98 | 485.55 | 88.76 | 1,263.71 | 1,240.85 | 22.86 | 55.282 | |
| 4,100.00 | 3,882.90 | 3,794.25 | 3,753.49 | 23.07 | 11.75 | -155.11 | 500.68 | 94.05 | 1,312.68 | 1,289.07 | 23.61 | 55.591 | |
| 4,200.00 | 3,973.02 | 3,881.40 | 3,839.16 | 23.98 | 12.10 | -155.22 | 515.80 | 99.34 | 1,361.67 | 1,337.30 | 24.37 | 55.879 | |
| 4,300.00 | 4,063.13 | 3,968.55 | 3,924.82 | 24.89 | 12.44 | -155.33 | 530.92 | 104.63 | 1,410.65 | 1,385.53 | 25.12 | 56.147 | |
| 4,400.00 | 4,153.25 | 4,055.70 | 4,010.49 | 25.81 | 12.79 | -155.44 | 546.05 | 109.92 | 1,459.64 | 1,433.76 | 25.88 | 56.398 | |
| 4,500.00 | 4,243.37 | 4,142.85 | 4,096.15 | 26.72 | 13.14 | -155.53 | 561.17 | 115.21 | 1,508.64 | 1,482.00 | 26.64 | 56.633 | |
| 4,600.00 | 4,333.48 | 4,230.00 | 4,181.82 | 27.63 | 13.48 | -155.62 | 576.29 | 120.50 | 1,557.63 | 1,530.23 | 27.40 | 56.853 | |
| 4,700.00 | 4,423.60 | 4,317.15 | 4,267.48 | 28.55 | 13.83 | -155.70 | 591.41 | 125.79 | 1,606.63 | 1,578.47 | 28.16 | 57.061 | |
| 4,800.00 | 4,513.72 | 4,404.30 | 4,353.14 | 29.46 | 14.18 | -155.78 | 606.54 | 131.08 | 1,655.63 | 1,626.71 | 28.92 | 57.256 | |
| 4,900.00 | 4,603.83 | 4,491.45 | 4,438.81 | 30.38 | 14.53 | -155.86 | 621.66 | 136.37 | 1,704.63 | 1,674.96 | 29.68 | 57.441 | |

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_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 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 | |
| 5,000.00 | 4,693.95 | 4,578.60 | 4,524.47 | 31.30 | 14.88 | -155.93 | 636.78 | 141.66 | 1,753.64 | 1,723.20 | 30.44 | 57.615 | |
| 5,100.00 | 4,784.07 | 4,665.75 | 4,610.14 | 32.21 | 15.22 | -155.99 | 651.91 | 146.96 | 1,802.65 | 1,771.45 | 31.20 | 57.780 | |
| 5,200.00 | 4,874.18 | 4,752.90 | 4,695.80 | 33.13 | 15.57 | -156.05 | 667.03 | 152.25 | 1,851.66 | 1,819.70 | 31.96 | 57.937 | |
| 5,300.00 | 4,964.30 | 4,840.05 | 4,781.47 | 34.05 | 15.92 | -156.11 | 682.15 | 157.54 | 1,900.67 | 1,867.94 | 32.72 | 58.085 | |
| 5,400.00 | 5,054.42 | 4,927.20 | 4,867.13 | 34.96 | 16.27 | -156.17 | 697.28 | 162.83 | 1,949.68 | 1,916.19 | 33.48 | 58.226 | |
| 5,500.00 | 5,144.53 | 5,014.35 | 4,952.80 | 35.88 | 16.62 | -156.22 | 712.40 | 168.12 | 1,998.69 | 1,964.44 | 34.25 | 58.360 | |
| 5,600.00 | 5,234.65 | 5,101.50 | 5,038.46 | 36.80 | 16.97 | -156.27 | 727.52 | 173.41 | 2,047.71 | 2,012.70 | 35.01 | 58.488 | |
| 5,700.00 | 5,324.77 | 5,188.65 | 5,124.12 | 37.72 | 17.32 | -156.32 | 742.65 | 178.70 | 2,096.72 | 2,060.95 | 35.77 | 58.610 | |
| 5,800.00 | 5,414.88 | 5,275.80 | 5,209.79 | 38.63 | 17.67 | -156.37 | 757.77 | 183.99 | 2,145.74 | 2,109.20 | 36.54 | 58.727 | |
| 5,900.00 | 5,505.00 | 5,362.95 | 5,295.45 | 39.55 | 18.02 | -156.41 | 772.89 | 189.28 | 2,194.76 | 2,157.46 | 37.30 | 58.838 | |
| 6,000.00 | 5,595.12 | 5,450.10 | 5,381.12 | 40.47 | 18.37 | -156.46 | 788.01 | 194.57 | 2,243.78 | 2,205.71 | 38.07 | 58.944 | |
| 6,100.00 | 5,685.23 | 5,537.25 | 5,466.78 | 41.39 | 18.72 | -156.50 | 803.14 | 199.87 | 2,292.80 | 2,253.97 | 38.83 | 59.046 | |
| 6,200.00 | 5,775.35 | 5,624.40 | 5,552.45 | 42.31 | 19.07 | -156.54 | 818.26 | 205.16 | 2,341.82 | 2,302.22 | 39.60 | 59.144 | |
| 6,300.00 | 5,865.47 | 5,711.55 | 5,638.11 | 43.23 | 19.42 | -156.57 | 833.38 | 210.45 | 2,390.84 | 2,350.48 | 40.36 | 59.237 | |
| 6,402.89 | 5,958.19 | 5,801.22 | 5,726.25 | 44.17 | 19.78 | -156.61 | 848.94 | 215.89 | 2,441.28 | 2,400.13 | 41.15 | 59.330 | |
| 6,500.00 | 6,046.40 | 5,886.58 | 5,810.16 | 44.95 | 20.12 | -157.04 | 863.76 | 221.07 | 2,487.56 | 2,445.54 | 42.01 | 59.208 | |
| 6,600.00 | 6,138.62 | 5,975.95 | 5,898.01 | 45.60 | 20.48 | -157.41 | 879.27 | 226.50 | 2,532.41 | 2,489.55 | 42.86 | 59.090 | |
| 6,700.00 | 6,232.13 | 6,066.70 | 5,987.21 | 46.19 | 20.85 | -157.71 | 895.01 | 232.01 | 2,574.35 | 2,530.68 | 43.67 | 58.946 | |
| 6,800.00 | 6,326.82 | 6,240.10 | 6,158.50 | 46.74 | 21.35 | -157.97 | 920.28 | 240.85 | 2,611.93 | 2,567.36 | 44.58 | 58.596 | |
| 6,900.00 | 6,422.57 | 6,420.67 | 6,338.26 | 47.22 | 21.75 | -158.34 | 936.15 | 246.40 | 2,643.47 | 2,598.16 | 45.31 | 58.342 | |
| 7,000.00 | 6,519.27 | 6,601.80 | 6,519.27 | 47.65 | 22.03 | -158.80 | 941.30 | 248.20 | 2,668.75 | 2,622.89 | 45.86 | 58.195 | |
| 7,100.00 | 6,616.80 | 6,699.33 | 6,616.80 | 48.03 | 22.17 | -159.12 | 941.30 | 248.20 | 2,689.41 | 2,643.14 | 46.26 | 58.135 | |
| 7,200.00 | 6,715.04 | 6,797.57 | 6,715.04 | 48.35 | 22.31 | -159.39 | 941.30 | 248.20 | 2,706.88 | 2,660.26 | 46.62 | 58.065 | |
| 7,300.00 | 6,813.88 | 6,896.40 | 6,813.88 | 48.62 | 22.45 | -159.60 | 941.30 | 248.20 | 2,721.14 | 2,674.22 | 46.93 | 57.987 | |
| 7,400.00 | 6,913.18 | 6,995.70 | 6,913.18 | 48.84 | 22.59 | -159.76 | 941.30 | 248.20 | 2,732.17 | 2,684.98 | 47.19 | 57.900 | |
| 7,500.00 | 7,012.83 | 7,095.36 | 7,012.83 | 49.01 | 22.74 | -159.88 | 941.30 | 248.20 | 2,739.94 | 2,692.54 | 47.40 | 57.804 | |
| 7,600.00 | 7,112.71 | 7,195.24 | 7,112.71 | 49.13 | 22.88 | -159.94 | 941.30 | 248.20 | 2,744.44 | 2,696.87 | 47.56 | 57.699 | |
| 7,687.30 | 7,200.00 | 7,282.52 | 7,200.00 | 49.20 | 23.01 | -40.33 | 941.30 | 248.20 | 2,745.69 | 2,698.01 | 47.67 | 57.597 | |
| 7,700.00 | 7,212.70 | 7,295.22 | 7,212.70 | 49.21 | 23.03 | -40.33 | 941.30 | 248.20 | 2,745.69 | 2,697.98 | 47.71 | 57.555 | |
| 7,800.00 | 7,312.70 | 7,395.22 | 7,312.70 | 49.27 | 23.18 | -40.33 | 941.30 | 248.20 | 2,745.69 | 2,697.70 | 47.98 | 57.223 | |
| 7,900.00 | 7,412.70 | 7,495.22 | 7,412.70 | 49.34 | 23.33 | -40.33 | 941.30 | 248.20 | 2,745.69 | 2,697.42 | 48.26 | 56.892 | |
| 8,000.00 | 7,512.70 | 7,595.22 | 7,512.70 | 49.41 | 23.48 | -40.33 | 941.30 | 248.20 | 2,745.69 | 2,697.14 | 48.54 | 56.562 | |
| 8,100.00 | 7,612.70 | 7,695.22 | 7,612.70 | 49.48 | 23.63 | -40.33 | 941.30 | 248.20 | 2,745.69 | 2,696.86 | 48.83 | 56.233 | |
| 8,200.00 | 7,712.70 | 7,795.22 | 7,712.70 | 49.55 | 23.79 | -40.33 | 941.30 | 248.20 | 2,745.69 | 2,696.57 | 49.11 | 55.905 | |
| 8,300.00 | 7,812.70 | 7,895.22 | 7,812.70 | 49.62 | 23.94 | -40.33 | 941.30 | 248.20 | 2,745.69 | 2,696.28 | 49.40 | 55.578 | |
| 8,400.00 | 7,912.70 | 7,995.22 | 7,912.70 | 49.69 | 24.10 | -40.33 | 941.30 | 248.20 | 2,745.69 | 2,695.99 | 49.69 | 55.253 | |
| 8,446.50 | 7,959.19 | 8,041.72 | 7,959.19 | 49.72 | 24.17 | -40.33 | 941.30 | 248.20 | 2,745.69 | 2,695.86 | 49.83 | 55.101 | |
| 8,500.00 | 8,012.70 | 8,057.52 | 7,975.00 | 49.76 | 24.20 | -40.33 | 941.30 | 248.20 | 2,745.94 | 2,696.02 | 49.92 | 55.003 | |
| 8,600.00 | 8,112.70 | 8,057.52 | 7,975.00 | 49.84 | 24.20 | -40.33 | 941.30 | 248.20 | 2,749.14 | 2,699.09 | 50.05 | 54.927 | |
| 8,700.00 | 8,212.70 | 8,057.52 | 7,975.00 | 49.91 | 24.20 | -40.33 | 941.30 | 248.20 | 2,755.95 | 2,705.78 | 50.18 | 54.923 | |
| 8,800.00 | 8,312.70 | 8,057.52 | 7,975.00 | 49.99 | 24.20 | -40.33 | 941.30 | 248.20 | 2,766.37 | 2,716.07 | 50.31 | 54.988 | |
| 8,842.30 | 8,355.00 | 8,057.52 | 7,975.00 | 50.02 | 24.20 | -40.33 | 941.30 | 248.20 | 2,771.86 | 2,721.49 | 50.36 | 55.037 | |

| | | | |
|---------------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 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 | -38.81 | 15.66 | -12.59 | 20.09 | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 0.10 | -38.81 | 15.66 | -12.59 | 20.09 | 19.90 | 0.19 | 105.163 | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 0.32 | -38.81 | 15.66 | -12.59 | 20.09 | 19.45 | 0.64 | 31.364 | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 0.55 | -38.81 | 15.66 | -12.59 | 20.09 | 19.00 | 1.09 | 18.431 | |
| 400.00 | 400.00 | 400.00 | 400.00 | 0.77 | 0.77 | -38.81 | 15.66 | -12.59 | 20.09 | 18.55 | 1.54 | 13.049 | |
| 500.00 | 500.00 | 500.00 | 500.00 | 0.99 | 0.99 | -38.81 | 15.66 | -12.59 | 20.09 | 18.10 | 1.99 | 10.100 | |
| 600.00 | 600.00 | 600.00 | 600.00 | 1.22 | 1.22 | -38.81 | 15.66 | -12.59 | 20.09 | 17.65 | 2.44 | 8.239 | |
| 700.00 | 700.00 | 700.00 | 700.00 | 1.44 | 1.44 | -38.81 | 15.66 | -12.59 | 20.09 | 17.20 | 2.89 | 6.956 | |
| 800.00 | 800.00 | 800.00 | 800.00 | 1.67 | 1.67 | -38.81 | 15.66 | -12.59 | 20.09 | 16.75 | 3.34 | 6.019 | |
| 900.00 | 900.00 | 900.00 | 900.00 | 1.89 | 1.89 | -38.81 | 15.66 | -12.59 | 20.09 | 16.30 | 3.79 | 5.305 | |
| 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 2.12 | 2.12 | -38.81 | 15.66 | -12.59 | 20.09 | 15.85 | 4.24 | 4.742 | |
| 1,050.00 | 1,050.00 | 1,050.00 | 1,050.00 | 2.23 | 2.23 | -38.81 | 15.66 | -12.59 | 20.09 | 15.63 | 4.46 | 4.503 CC | |
| 1,100.00 | 1,100.00 | 1,100.27 | 1,100.27 | 2.33 | 2.34 | -158.10 | 15.57 | -12.16 | 20.16 | 15.49 | 4.67 | 4.319 ES | |
| 1,200.00 | 1,199.93 | 1,200.81 | 1,200.74 | 2.52 | 2.53 | -155.46 | 14.85 | -8.71 | 20.73 | 15.68 | 5.05 | 4.108 | |
| 1,300.00 | 1,299.68 | 1,301.31 | 1,300.99 | 2.72 | 2.74 | -150.62 | 13.43 | -1.80 | 21.98 | 16.54 | 5.44 | 4.041 SF | |
| 1,400.00 | 1,399.13 | 1,401.77 | 1,400.89 | 2.94 | 2.97 | -144.38 | 11.30 | 8.53 | 24.11 | 18.25 | 5.86 | 4.116 | |
| 1,500.00 | 1,498.15 | 1,502.17 | 1,500.29 | 3.19 | 3.22 | -137.68 | 8.46 | 22.28 | 27.30 | 20.97 | 6.32 | 4.317 | |
| 1,600.00 | 1,596.63 | 1,602.48 | 1,599.06 | 3.47 | 3.51 | -131.31 | 4.92 | 39.42 | 31.68 | 24.81 | 6.86 | 4.616 | |
| 1,700.00 | 1,694.44 | 1,702.69 | 1,697.06 | 3.80 | 3.85 | -125.71 | 0.69 | 59.91 | 37.29 | 29.79 | 7.50 | 4.972 | |
| 1,800.00 | 1,791.46 | 1,802.79 | 1,794.16 | 4.19 | 4.24 | -121.02 | -4.22 | 83.72 | 44.13 | 35.88 | 8.25 | 5.349 | |
| 1,900.00 | 1,887.58 | 1,902.76 | 1,890.22 | 4.64 | 4.69 | -117.18 | -9.81 | 110.79 | 52.17 | 43.04 | 9.13 | 5.714 | |
| 2,000.00 | 1,982.68 | 2,002.57 | 1,985.12 | 5.15 | 5.20 | -114.05 | -16.06 | 141.09 | 61.38 | 51.23 | 10.15 | 6.048 | |
| 2,100.00 | 2,076.65 | 2,102.13 | 2,078.79 | 5.74 | 5.78 | -111.88 | -22.87 | 174.08 | 71.75 | 60.45 | 11.30 | 6.352 | |
| 2,200.00 | 2,169.36 | 2,201.44 | 2,172.11 | 6.41 | 6.39 | -112.17 | -29.74 | 207.37 | 83.41 | 70.92 | 12.49 | 6.679 | |
| 2,300.00 | 2,260.71 | 2,300.51 | 2,265.20 | 7.15 | 7.02 | -114.24 | -36.60 | 240.58 | 96.47 | 82.76 | 13.71 | 7.038 | |
| 2,334.41 | 2,291.81 | 2,334.52 | 2,297.16 | 7.42 | 7.24 | -115.22 | -38.95 | 251.98 | 101.33 | 87.20 | 14.12 | 7.174 | |
| 2,400.00 | 2,350.92 | 2,399.32 | 2,358.04 | 7.96 | 7.66 | -117.19 | -43.43 | 273.70 | 110.85 | 95.93 | 14.92 | 7.428 | |
| 2,500.00 | 2,441.03 | 2,498.11 | 2,450.86 | 8.79 | 8.32 | -119.61 | -50.27 | 306.82 | 125.58 | 109.43 | 16.15 | 7.775 | |
| 2,600.00 | 2,531.15 | 2,596.89 | 2,543.68 | 9.64 | 8.98 | -121.52 | -57.10 | 339.93 | 140.48 | 123.09 | 17.39 | 8.078 | |
| 2,700.00 | 2,621.27 | 2,695.68 | 2,636.50 | 10.51 | 9.65 | -123.06 | -63.94 | 373.04 | 155.50 | 136.86 | 18.63 | 8.345 | |
| 2,800.00 | 2,711.38 | 2,794.47 | 2,729.32 | 11.38 | 10.33 | -124.33 | -70.77 | 406.16 | 170.61 | 150.72 | 19.89 | 8.580 | |
| 2,900.00 | 2,801.50 | 2,893.26 | 2,822.14 | 12.26 | 11.01 | -125.40 | -77.61 | 439.27 | 185.79 | 164.65 | 21.14 | 8.788 | |
| 3,000.00 | 2,891.62 | 2,992.04 | 2,914.96 | 13.14 | 11.69 | -126.30 | -84.44 | 472.38 | 201.02 | 178.62 | 22.40 | 8.973 | |
| 3,100.00 | 2,981.73 | 3,090.83 | 3,007.78 | 14.03 | 12.38 | -127.07 | -91.28 | 505.50 | 216.30 | 192.63 | 23.67 | 9.138 | |
| 3,200.00 | 3,071.85 | 3,189.62 | 3,100.60 | 14.92 | 13.07 | -127.75 | -98.11 | 538.61 | 231.61 | 206.67 | 24.94 | 9.287 | |
| 3,300.00 | 3,161.97 | 3,288.40 | 3,193.42 | 15.82 | 13.76 | -128.34 | -104.94 | 571.72 | 246.95 | 220.74 | 26.21 | 9.422 | |
| 3,400.00 | 3,252.08 | 3,387.19 | 3,286.24 | 16.72 | 14.45 | -128.86 | -111.78 | 604.84 | 262.31 | 234.82 | 27.49 | 9.543 | |
| 3,500.00 | 3,342.20 | 3,485.98 | 3,379.06 | 17.62 | 15.15 | -129.32 | -118.61 | 637.95 | 277.69 | 248.92 | 28.76 | 9.654 | |
| 3,600.00 | 3,432.32 | 3,584.76 | 3,471.88 | 18.53 | 15.85 | -129.74 | -125.45 | 671.06 | 293.08 | 263.04 | 30.04 | 9.755 | |
| 3,700.00 | 3,522.43 | 3,683.55 | 3,564.70 | 19.43 | 16.54 | -130.11 | -132.28 | 704.18 | 308.49 | 277.16 | 31.32 | 9.848 | |
| 3,800.00 | 3,612.55 | 3,782.34 | 3,657.52 | 20.34 | 17.24 | -130.45 | -139.12 | 737.29 | 323.91 | 291.30 | 32.61 | 9.934 | |
| 3,900.00 | 3,702.67 | 3,881.12 | 3,750.34 | 21.25 | 17.94 | -130.75 | -145.95 | 770.41 | 339.34 | 305.45 | 33.89 | 10.012 | |
| 4,000.00 | 3,792.78 | 3,979.91 | 3,843.17 | 22.16 | 18.65 | -131.03 | -152.79 | 803.52 | 354.78 | 319.60 | 35.18 | 10.085 | |
| 4,100.00 | 3,882.90 | 4,078.70 | 3,935.99 | 23.07 | 19.35 | -131.29 | -159.62 | 836.63 | 370.22 | 333.76 | 36.46 | 10.153 | |
| 4,200.00 | 3,973.02 | 4,177.48 | 4,028.81 | 23.98 | 20.05 | -131.53 | -166.46 | 869.75 | 385.67 | 347.92 | 37.75 | 10.216 | |
| 4,300.00 | 4,063.13 | 4,276.27 | 4,121.63 | 24.89 | 20.76 | -131.75 | -173.29 | 902.86 | 401.13 | 362.09 | 39.04 | 10.274 | |
| 4,400.00 | 4,153.25 | 4,375.06 | 4,214.45 | 25.81 | 21.46 | -131.95 | -180.12 | 935.97 | 416.60 | 376.26 | 40.33 | 10.329 | |
| 4,500.00 | 4,243.37 | 4,473.85 | 4,307.27 | 26.72 | 22.16 | -132.14 | -186.96 | 969.09 | 432.06 | 390.44 | 41.62 | 10.381 | |
| 4,600.00 | 4,333.48 | 4,572.63 | 4,400.09 | 27.63 | 22.87 | -132.31 | -193.79 | 1,002.20 | 447.54 | 404.62 | 42.91 | 10.429 | |
| 4,700.00 | 4,423.60 | 4,671.42 | 4,492.91 | 28.55 | 23.58 | -132.47 | -200.63 | 1,035.31 | 463.01 | 418.81 | 44.21 | 10.474 | |
| 4,800.00 | 4,513.72 | 4,770.21 | 4,585.73 | 29.46 | 24.28 | -132.63 | -207.46 | 1,068.43 | 478.49 | 432.99 | 45.50 | 10.517 | |
| 4,900.00 | 4,603.83 | 4,868.99 | 4,678.55 | 30.38 | 24.99 | -132.77 | -214.30 | 1,101.54 | 493.97 | 447.18 | 46.79 | 10.557 | |

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_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 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 | |
| 5,000.00 | 4,693.95 | 4,967.78 | 4,771.37 | 31.30 | 25.69 | -132.90 | -221.13 | 1,134.65 | 509.46 | 461.38 | 48.08 | 10.595 | |
| 5,100.00 | 4,784.07 | 5,066.57 | 4,864.19 | 32.21 | 26.40 | -133.03 | -227.97 | 1,167.77 | 524.95 | 475.57 | 49.38 | 10.631 | |
| 5,200.00 | 4,874.18 | 5,165.35 | 4,957.01 | 33.13 | 27.11 | -133.15 | -234.80 | 1,200.88 | 540.44 | 489.77 | 50.67 | 10.665 | |
| 5,300.00 | 4,964.30 | 5,264.14 | 5,049.83 | 34.05 | 27.82 | -133.26 | -241.63 | 1,234.00 | 555.93 | 503.96 | 51.97 | 10.697 | |
| 5,400.00 | 5,054.42 | 5,362.93 | 5,142.65 | 34.96 | 28.52 | -133.37 | -248.47 | 1,267.11 | 571.43 | 518.16 | 53.26 | 10.728 | |
| 5,500.00 | 5,144.53 | 5,461.71 | 5,235.47 | 35.88 | 29.23 | -133.47 | -255.30 | 1,300.22 | 586.92 | 532.36 | 54.56 | 10.757 | |
| 5,600.00 | 5,234.65 | 5,560.50 | 5,328.29 | 36.80 | 29.94 | -133.56 | -262.14 | 1,333.34 | 602.42 | 546.56 | 55.86 | 10.785 | |
| 5,700.00 | 5,324.77 | 5,659.29 | 5,421.11 | 37.72 | 30.65 | -133.65 | -268.97 | 1,366.45 | 617.92 | 560.77 | 57.15 | 10.812 | |
| 5,800.00 | 5,414.88 | 5,756.53 | 5,512.48 | 38.63 | 31.35 | -133.74 | -275.70 | 1,399.04 | 633.42 | 574.98 | 58.44 | 10.839 | |
| 5,900.00 | 5,505.00 | 5,847.40 | 5,598.34 | 39.55 | 31.86 | -133.93 | -281.71 | 1,428.17 | 649.65 | 590.14 | 59.51 | 10.916 | |
| 6,000.00 | 5,595.12 | 5,936.24 | 5,683.16 | 40.47 | 32.30 | -134.32 | -287.05 | 1,454.06 | 667.32 | 606.92 | 60.41 | 11.047 | |
| 6,100.00 | 5,685.23 | 6,024.30 | 5,768.00 | 41.39 | 32.70 | -134.90 | -291.82 | 1,477.16 | 686.46 | 625.32 | 61.14 | 11.227 | |
| 6,200.00 | 5,775.35 | 6,111.43 | 5,852.60 | 42.31 | 33.05 | -135.63 | -296.02 | 1,497.50 | 707.13 | 645.40 | 61.74 | 11.454 | |
| 6,300.00 | 5,865.47 | 6,200.00 | 5,939.23 | 43.23 | 33.37 | -136.53 | -299.75 | 1,515.58 | 729.41 | 667.23 | 62.18 | 11.731 | |
| 6,402.89 | 5,958.19 | 6,284.73 | 6,022.60 | 44.17 | 33.64 | -137.51 | -302.81 | 1,530.42 | 754.09 | 691.57 | 62.51 | 12.063 | |
| 6,500.00 | 6,046.40 | 6,366.23 | 6,103.16 | 44.95 | 33.86 | -138.81 | -305.29 | 1,542.40 | 777.89 | 715.30 | 62.59 | 12.427 | |
| 6,600.00 | 6,138.62 | 6,449.71 | 6,186.03 | 45.60 | 34.05 | -140.08 | -307.34 | 1,552.34 | 801.66 | 739.10 | 62.57 | 12.813 | |
| 6,700.00 | 6,232.13 | 6,532.76 | 6,268.71 | 46.19 | 34.22 | -141.27 | -308.90 | 1,559.89 | 824.64 | 762.16 | 62.48 | 13.199 | |
| 6,800.00 | 6,326.82 | 6,615.39 | 6,351.17 | 46.74 | 34.35 | -142.41 | -309.96 | 1,565.06 | 846.79 | 784.47 | 62.32 | 13.587 | |
| 6,900.00 | 6,422.57 | 6,700.00 | 6,435.73 | 47.22 | 34.45 | -143.51 | -310.56 | 1,567.94 | 868.10 | 806.01 | 62.09 | 13.981 | |
| 7,000.00 | 6,519.27 | 6,783.55 | 6,519.27 | 47.65 | 34.53 | -144.55 | -310.67 | 1,568.50 | 888.47 | 826.67 | 61.80 | 14.377 | |
| 7,100.00 | 6,616.80 | 6,881.08 | 6,616.80 | 48.03 | 34.61 | -145.57 | -310.67 | 1,568.50 | 906.70 | 845.23 | 61.47 | 14.750 | |
| 7,200.00 | 6,715.04 | 6,979.32 | 6,715.04 | 48.35 | 34.70 | -146.39 | -310.67 | 1,568.50 | 922.24 | 861.03 | 61.21 | 15.066 | |
| 7,300.00 | 6,813.88 | 7,078.16 | 6,813.88 | 48.62 | 34.79 | -147.05 | -310.67 | 1,568.50 | 935.00 | 873.99 | 61.01 | 15.326 | |
| 7,400.00 | 6,913.18 | 7,177.46 | 6,913.18 | 48.84 | 34.88 | -147.54 | -310.67 | 1,568.50 | 944.90 | 884.05 | 60.86 | 15.526 | |
| 7,500.00 | 7,012.83 | 7,277.11 | 7,012.83 | 49.01 | 34.97 | -147.88 | -310.67 | 1,568.50 | 951.91 | 891.15 | 60.76 | 15.667 | |
| 7,600.00 | 7,112.71 | 7,376.99 | 7,112.71 | 49.13 | 35.07 | -148.08 | -310.67 | 1,568.50 | 955.97 | 895.26 | 60.71 | 15.747 | |
| 7,687.30 | 7,200.00 | 7,464.28 | 7,200.00 | 49.20 | 35.15 | -28.51 | -310.67 | 1,568.50 | 957.10 | 896.40 | 60.70 | 15.767 | |
| 7,700.00 | 7,212.70 | 7,476.98 | 7,212.70 | 49.21 | 35.16 | -28.51 | -310.67 | 1,568.50 | 957.10 | 896.37 | 60.73 | 15.760 | |
| 7,800.00 | 7,312.70 | 7,576.98 | 7,312.70 | 49.27 | 35.26 | -28.51 | -310.67 | 1,568.50 | 957.10 | 896.16 | 60.94 | 15.705 | |
| 7,900.00 | 7,412.70 | 7,676.98 | 7,412.70 | 49.34 | 35.36 | -28.51 | -310.67 | 1,568.50 | 957.10 | 895.94 | 61.16 | 15.650 | |
| 8,000.00 | 7,512.70 | 7,776.98 | 7,512.70 | 49.41 | 35.46 | -28.51 | -310.67 | 1,568.50 | 957.10 | 895.73 | 61.37 | 15.595 | |
| 8,100.00 | 7,612.70 | 7,876.98 | 7,612.70 | 49.48 | 35.56 | -28.51 | -310.67 | 1,568.50 | 957.10 | 895.51 | 61.59 | 15.539 | |
| 8,200.00 | 7,712.70 | 7,976.98 | 7,712.70 | 49.55 | 35.66 | -28.51 | -310.67 | 1,568.50 | 957.10 | 895.28 | 61.81 | 15.483 | |
| 8,300.00 | 7,812.70 | 8,076.98 | 7,812.70 | 49.62 | 35.76 | -28.51 | -310.67 | 1,568.50 | 957.10 | 895.06 | 62.04 | 15.427 | |
| 8,400.00 | 7,912.70 | 8,176.98 | 7,912.70 | 49.69 | 35.86 | -28.51 | -310.67 | 1,568.50 | 957.10 | 894.83 | 62.27 | 15.371 | |
| 8,500.00 | 8,012.70 | 8,276.98 | 8,012.70 | 49.76 | 35.97 | -28.51 | -310.67 | 1,568.50 | 957.10 | 894.60 | 62.50 | 15.315 | |
| 8,600.00 | 8,112.70 | 8,376.98 | 8,112.70 | 49.84 | 36.08 | -28.51 | -310.67 | 1,568.50 | 957.10 | 894.37 | 62.73 | 15.258 | |
| 8,700.00 | 8,212.70 | 8,476.98 | 8,212.70 | 49.91 | 36.18 | -28.51 | -310.67 | 1,568.50 | 957.10 | 894.14 | 62.96 | 15.201 | |
| 8,800.00 | 8,312.70 | 8,576.98 | 8,312.70 | 49.99 | 36.29 | -28.51 | -310.67 | 1,568.50 | 957.10 | 893.90 | 63.20 | 15.144 | |
| 8,842.30 | 8,355.00 | 8,619.28 | 8,355.00 | 50.02 | 36.34 | -28.51 | -310.67 | 1,568.50 | 957.10 | 893.80 | 63.30 | 15.120 | |

| | | | |
|---------------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 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 | -38.65 | 62.64 | -50.09 | 80.21 | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 0.10 | -38.65 | 62.64 | -50.09 | 80.21 | 80.02 | 0.19 | 419.821 | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 0.32 | -38.65 | 62.64 | -50.09 | 80.21 | 79.57 | 0.64 | 125.210 | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 0.55 | -38.65 | 62.64 | -50.09 | 80.21 | 79.12 | 1.09 | 73.577 | |
| 400.00 | 400.00 | 400.00 | 400.00 | 0.77 | 0.77 | -38.65 | 62.64 | -50.09 | 80.21 | 78.67 | 1.54 | 52.095 | |
| 500.00 | 500.00 | 500.00 | 500.00 | 0.99 | 0.99 | -38.65 | 62.64 | -50.09 | 80.21 | 78.22 | 1.99 | 40.322 | |
| 600.00 | 600.00 | 600.00 | 600.00 | 1.22 | 1.22 | -38.65 | 62.64 | -50.09 | 80.21 | 77.77 | 2.44 | 32.889 | |
| 700.00 | 700.00 | 700.00 | 700.00 | 1.44 | 1.44 | -38.65 | 62.64 | -50.09 | 80.21 | 77.32 | 2.89 | 27.770 | |
| 800.00 | 800.00 | 800.00 | 800.00 | 1.67 | 1.67 | -38.65 | 62.64 | -50.09 | 80.21 | 76.87 | 3.34 | 24.030 | |
| 900.00 | 900.00 | 900.00 | 900.00 | 1.89 | 1.89 | -38.65 | 62.64 | -50.09 | 80.21 | 76.42 | 3.79 | 21.178 | |
| 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 2.12 | 2.12 | -38.65 | 62.64 | -50.09 | 80.21 | 75.97 | 4.24 | 18.931 | |
| 1,050.00 | 1,050.00 | 1,050.00 | 1,050.00 | 2.23 | 2.23 | -38.65 | 62.64 | -50.09 | 80.21 | 75.75 | 4.46 | 17.977 CC, ES | |
| 1,100.00 | 1,100.00 | 1,099.57 | 1,099.57 | 2.33 | 2.33 | -158.67 | 62.49 | -50.49 | 80.74 | 76.08 | 4.66 | 17.311 | |
| 1,200.00 | 1,199.93 | 1,198.42 | 1,198.36 | 2.52 | 2.52 | -161.68 | 61.25 | -53.67 | 85.18 | 80.14 | 5.03 | 16.919 SF | |
| 1,300.00 | 1,299.68 | 1,296.40 | 1,296.10 | 2.72 | 2.72 | -166.78 | 58.82 | -59.96 | 94.64 | 89.23 | 5.41 | 17.488 | |
| 1,400.00 | 1,399.13 | 1,392.96 | 1,392.15 | 2.94 | 2.94 | -172.66 | 55.23 | -69.21 | 109.91 | 104.12 | 5.79 | 18.969 | |
| 1,500.00 | 1,498.15 | 1,487.58 | 1,485.88 | 3.19 | 3.17 | -178.27 | 50.59 | -81.19 | 131.48 | 125.30 | 6.18 | 21.271 | |
| 1,600.00 | 1,596.63 | 1,579.89 | 1,576.87 | 3.47 | 3.43 | 176.91 | 44.98 | -95.65 | 159.46 | 152.89 | 6.57 | 24.264 | |
| 1,700.00 | 1,694.44 | 1,673.64 | 1,669.05 | 3.80 | 3.72 | 173.16 | 38.79 | -111.64 | 192.54 | 185.56 | 6.98 | 27.595 | |
| 1,800.00 | 1,791.46 | 1,766.23 | 1,760.07 | 4.19 | 4.02 | 170.59 | 32.67 | -127.44 | 229.35 | 221.96 | 7.39 | 31.045 | |
| 1,900.00 | 1,887.58 | 1,857.55 | 1,849.85 | 4.64 | 4.34 | 168.80 | 26.63 | -143.01 | 269.58 | 261.77 | 7.80 | 34.546 | |
| 2,000.00 | 1,982.68 | 1,947.47 | 1,938.26 | 5.15 | 4.65 | 167.54 | 20.68 | -158.35 | 313.04 | 304.81 | 8.23 | 38.055 | |
| 2,100.00 | 2,076.65 | 2,035.90 | 2,025.19 | 5.74 | 4.98 | 166.64 | 14.84 | -173.43 | 359.60 | 350.95 | 8.66 | 41.539 | |
| 2,200.00 | 2,169.36 | 2,122.72 | 2,110.54 | 6.41 | 5.30 | 166.00 | 9.10 | -188.24 | 409.16 | 400.07 | 9.10 | 44.973 | |
| 2,300.00 | 2,260.71 | 2,207.83 | 2,194.22 | 7.15 | 5.62 | 165.52 | 3.47 | -202.75 | 461.65 | 452.10 | 9.55 | 48.351 | |
| 2,334.41 | 2,291.81 | 2,236.70 | 2,222.60 | 7.42 | 5.73 | 165.39 | 1.57 | -207.68 | 480.37 | 470.66 | 9.70 | 49.497 | |
| 2,400.00 | 2,350.92 | 2,291.52 | 2,276.50 | 7.96 | 5.94 | 165.36 | -2.06 | -217.03 | 516.37 | 506.29 | 10.08 | 51.203 | |
| 2,500.00 | 2,441.03 | 2,375.11 | 2,358.68 | 8.79 | 6.26 | 165.33 | -7.58 | -231.28 | 571.27 | 560.59 | 10.67 | 53.516 | |
| 2,600.00 | 2,531.15 | 2,458.69 | 2,440.85 | 9.64 | 6.59 | 165.30 | -13.11 | -245.54 | 626.16 | 614.89 | 11.27 | 55.537 | |
| 2,700.00 | 2,621.27 | 2,542.28 | 2,523.03 | 10.51 | 6.92 | 165.28 | -18.64 | -259.79 | 681.05 | 669.17 | 11.88 | 57.314 | |
| 2,800.00 | 2,711.38 | 2,625.87 | 2,605.20 | 11.38 | 7.25 | 165.26 | -24.16 | -274.05 | 735.95 | 723.45 | 12.50 | 58.884 | |
| 2,900.00 | 2,801.50 | 2,709.45 | 2,687.38 | 12.26 | 7.58 | 165.25 | -29.69 | -288.31 | 790.84 | 777.72 | 13.12 | 60.281 | |
| 3,000.00 | 2,891.62 | 2,793.04 | 2,769.55 | 13.14 | 7.91 | 165.23 | -35.21 | -302.56 | 845.74 | 831.99 | 13.74 | 61.531 | |
| 3,100.00 | 2,981.73 | 2,876.63 | 2,851.73 | 14.03 | 8.25 | 165.22 | -40.74 | -316.82 | 900.63 | 886.25 | 14.37 | 62.655 | |
| 3,200.00 | 3,071.85 | 2,960.21 | 2,933.91 | 14.92 | 8.58 | 165.21 | -46.26 | -331.08 | 955.52 | 940.52 | 15.01 | 63.671 | |
| 3,300.00 | 3,161.97 | 3,043.80 | 3,016.08 | 15.82 | 8.92 | 165.20 | -51.79 | -345.33 | 1,010.42 | 994.77 | 15.64 | 64.593 | |
| 3,400.00 | 3,252.08 | 3,127.38 | 3,098.26 | 16.72 | 9.26 | 165.19 | -57.31 | -359.59 | 1,065.31 | 1,049.03 | 16.28 | 65.434 | |
| 3,500.00 | 3,342.20 | 3,210.97 | 3,180.43 | 17.62 | 9.60 | 165.18 | -62.84 | -373.84 | 1,120.20 | 1,103.28 | 16.92 | 66.205 | |
| 3,600.00 | 3,432.32 | 3,294.56 | 3,262.61 | 18.53 | 9.94 | 165.18 | -68.36 | -388.10 | 1,175.10 | 1,157.54 | 17.56 | 66.914 | |
| 3,700.00 | 3,522.43 | 3,378.14 | 3,344.79 | 19.43 | 10.28 | 165.17 | -73.89 | -402.36 | 1,229.99 | 1,211.79 | 18.20 | 67.568 | |
| 3,800.00 | 3,612.55 | 3,461.73 | 3,426.96 | 20.34 | 10.62 | 165.16 | -79.42 | -416.61 | 1,284.89 | 1,266.04 | 18.85 | 68.165 | |
| 3,900.00 | 3,702.67 | 3,545.31 | 3,509.14 | 21.25 | 10.97 | 165.16 | -84.94 | -430.87 | 1,339.78 | 1,320.28 | 19.50 | 68.696 | |
| 4,000.00 | 3,792.78 | 3,628.90 | 3,591.31 | 22.16 | 11.31 | 165.15 | -90.47 | -445.12 | 1,394.67 | 1,374.52 | 20.16 | 69.186 | |
| 4,100.00 | 3,882.90 | 3,712.49 | 3,673.49 | 23.07 | 11.65 | 165.15 | -95.99 | -459.38 | 1,449.57 | 1,428.75 | 20.81 | 69.642 | |
| 4,200.00 | 3,973.02 | 3,796.07 | 3,755.66 | 23.98 | 12.00 | 165.15 | -101.52 | -473.64 | 1,504.46 | 1,482.99 | 21.47 | 70.065 | |
| 4,300.00 | 4,063.13 | 3,879.66 | 3,837.84 | 24.89 | 12.34 | 165.14 | -107.04 | -487.89 | 1,559.36 | 1,537.23 | 22.13 | 70.458 | |
| 4,400.00 | 4,153.25 | 3,963.24 | 3,920.02 | 25.81 | 12.69 | 165.14 | -112.57 | -502.15 | 1,614.25 | 1,591.46 | 22.79 | 70.826 | |
| 4,500.00 | 4,243.37 | 4,046.83 | 4,002.19 | 26.72 | 13.03 | 165.13 | -118.09 | -516.41 | 1,669.14 | 1,645.69 | 23.45 | 71.170 | |
| 4,600.00 | 4,333.48 | 4,130.42 | 4,084.37 | 27.63 | 13.38 | 165.13 | -123.62 | -530.66 | 1,724.04 | 1,699.92 | 24.11 | 71.493 | |
| 4,700.00 | 4,423.60 | 4,214.00 | 4,166.54 | 28.55 | 13.72 | 165.13 | -129.15 | -544.92 | 1,778.93 | 1,754.16 | 24.78 | 71.796 | |
| 4,800.00 | 4,513.72 | 4,297.59 | 4,248.72 | 29.46 | 14.07 | 165.13 | -134.67 | -559.17 | 1,833.83 | 1,808.39 | 25.44 | 72.081 | |
| 4,900.00 | 4,603.83 | 4,381.18 | 4,330.90 | 30.38 | 14.42 | 165.12 | -140.20 | -573.43 | 1,888.72 | 1,862.62 | 26.11 | 72.349 | |

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_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 RHS | Offset TVD Reference: | Offset Datum |

| Offset Design WELD_KERR MCGEE 19-3 PAD - P_KERR-MCGEE 33-3 - P_KERR-MCGEE 33-3 - PLAN #1 1-15-10 | | | | | | | | | | | | 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 | 4,693.95 | 4,464.76 | 4,413.07 | 31.30 | 14.76 | 165.12 | -145.72 | -587.69 | 1,943.61 | 1,916.84 | 26.77 | 72.602 | |
| 5,100.00 | 4,784.07 | 4,548.35 | 4,495.25 | 32.21 | 15.11 | 165.12 | -151.25 | -601.94 | 1,998.51 | 1,971.07 | 27.44 | 72.842 | |
| 5,200.00 | 4,874.18 | 4,631.93 | 4,577.42 | 33.13 | 15.46 | 165.12 | -156.77 | -616.20 | 2,053.40 | 2,025.30 | 28.10 | 73.068 | |
| 5,300.00 | 4,964.30 | 4,715.52 | 4,659.60 | 34.05 | 15.80 | 165.11 | -162.30 | -630.45 | 2,108.30 | 2,079.53 | 28.77 | 73.283 | |
| 5,400.00 | 5,054.42 | 4,799.11 | 4,741.78 | 34.96 | 16.15 | 165.11 | -167.82 | -644.71 | 2,163.19 | 2,133.75 | 29.44 | 73.487 | |
| 5,500.00 | 5,144.53 | 4,882.69 | 4,823.95 | 35.88 | 16.50 | 165.11 | -173.35 | -658.97 | 2,218.09 | 2,187.98 | 30.10 | 73.680 | |
| 5,600.00 | 5,234.65 | 4,966.28 | 4,906.13 | 36.80 | 16.85 | 165.11 | -178.87 | -673.22 | 2,272.98 | 2,242.21 | 30.77 | 73.865 | |
| 5,700.00 | 5,324.77 | 5,049.86 | 4,988.30 | 37.72 | 17.19 | 165.11 | -184.40 | -687.48 | 2,327.87 | 2,296.43 | 31.44 | 74.040 | |
| 5,800.00 | 5,414.88 | 5,133.45 | 5,070.48 | 38.63 | 17.54 | 165.10 | -189.93 | -701.74 | 2,382.77 | 2,350.66 | 32.11 | 74.207 | |
| 5,900.00 | 5,505.00 | 5,217.04 | 5,152.65 | 39.55 | 17.89 | 165.10 | -195.45 | -715.99 | 2,437.66 | 2,404.88 | 32.78 | 74.367 | |
| 6,000.00 | 5,595.12 | 5,300.62 | 5,234.83 | 40.47 | 18.24 | 165.10 | -200.98 | -730.25 | 2,492.56 | 2,459.11 | 33.45 | 74.520 | |
| 6,100.00 | 5,685.23 | 5,384.21 | 5,317.01 | 41.39 | 18.59 | 165.10 | -206.50 | -744.50 | 2,547.45 | 2,513.33 | 34.12 | 74.665 | |
| 6,200.00 | 5,775.35 | 5,467.79 | 5,399.18 | 42.31 | 18.94 | 165.10 | -212.03 | -758.76 | 2,602.34 | 2,567.56 | 34.79 | 74.805 | |
| 6,300.00 | 5,865.47 | 5,551.38 | 5,481.36 | 43.23 | 19.28 | 165.10 | -217.55 | -773.02 | 2,657.24 | 2,621.78 | 35.46 | 74.939 | |
| 6,402.89 | 5,958.19 | 5,637.39 | 5,565.91 | 44.17 | 19.64 | 165.10 | -223.24 | -787.68 | 2,713.72 | 2,677.57 | 36.15 | 75.071 | |
| 6,500.00 | 6,046.40 | 5,719.41 | 5,646.55 | 44.95 | 19.99 | 165.40 | -228.66 | -801.67 | 2,765.69 | 2,728.69 | 36.99 | 74.761 | |
| 6,600.00 | 6,138.62 | 5,805.60 | 5,731.29 | 45.60 | 20.34 | 165.66 | -234.36 | -816.38 | 2,816.36 | 2,778.56 | 37.80 | 74.497 | |
| 6,700.00 | 6,232.13 | 5,893.44 | 5,817.65 | 46.19 | 20.71 | 165.87 | -240.17 | -831.36 | 2,864.09 | 2,825.51 | 38.58 | 74.234 | |
| 6,800.00 | 6,326.82 | 5,982.82 | 5,905.52 | 46.74 | 21.08 | 166.05 | -246.07 | -846.60 | 2,908.82 | 2,869.50 | 39.32 | 73.976 | |
| 6,900.00 | 6,422.57 | 6,073.63 | 5,994.80 | 47.22 | 21.46 | 166.19 | -252.08 | -862.09 | 2,950.51 | 2,910.49 | 40.02 | 73.726 | |
| 7,000.00 | 6,519.27 | 6,165.76 | 6,085.37 | 47.65 | 21.85 | 166.28 | -258.17 | -877.80 | 2,989.09 | 2,948.42 | 40.67 | 73.487 | |
| 7,100.00 | 6,616.80 | 6,259.09 | 6,177.13 | 48.03 | 22.24 | 166.35 | -264.34 | -893.72 | 3,024.53 | 2,983.25 | 41.28 | 73.261 | |
| 7,200.00 | 6,715.04 | 6,353.52 | 6,269.97 | 48.35 | 22.63 | 166.38 | -270.58 | -909.83 | 3,056.80 | 3,014.95 | 41.85 | 73.050 | |
| 7,300.00 | 6,813.88 | 6,448.93 | 6,363.76 | 48.62 | 23.03 | 166.39 | -276.89 | -926.10 | 3,085.85 | 3,043.49 | 42.36 | 72.854 | |
| 7,400.00 | 6,913.18 | 6,545.20 | 6,458.41 | 48.84 | 23.44 | 166.36 | -283.25 | -942.52 | 3,111.66 | 3,068.84 | 42.82 | 72.674 | |
| 7,500.00 | 7,012.83 | 6,642.21 | 6,553.79 | 49.01 | 23.84 | 166.30 | -289.66 | -959.06 | 3,134.20 | 3,090.97 | 43.22 | 72.511 | |
| 7,600.00 | 7,112.71 | 6,739.86 | 6,649.78 | 49.13 | 24.25 | 166.21 | -296.12 | -975.72 | 3,153.45 | 3,109.87 | 43.58 | 72.366 | |
| 7,687.30 | 7,200.00 | 6,825.52 | 6,734.00 | 49.20 | 24.61 | -74.26 | -301.78 | -990.33 | 3,167.55 | 3,123.71 | 43.85 | 72.242 | |
| 7,700.00 | 7,212.70 | 6,838.00 | 6,746.27 | 49.21 | 24.66 | -74.28 | -302.61 | -992.46 | 3,169.42 | 3,125.51 | 43.91 | 72.184 | |
| 7,800.00 | 7,312.70 | 6,936.31 | 6,842.92 | 49.27 | 25.07 | -74.48 | -309.10 | -1,009.22 | 3,184.16 | 3,139.77 | 44.39 | 71.737 | |
| 7,900.00 | 7,412.70 | 7,034.63 | 6,939.58 | 49.34 | 25.48 | -74.68 | -315.60 | -1,025.99 | 3,198.93 | 3,154.06 | 44.87 | 71.299 | |
| 8,000.00 | 7,512.70 | 7,529.57 | 7,430.59 | 49.41 | 26.70 | -75.29 | -336.42 | -1,079.69 | 3,211.27 | 3,165.11 | 46.15 | 69.576 | |
| 8,100.00 | 7,612.70 | 7,711.70 | 7,612.70 | 49.48 | 26.93 | -75.30 | -336.93 | -1,081.02 | 3,211.37 | 3,164.82 | 46.55 | 68.987 | |
| 8,200.00 | 7,712.70 | 7,811.70 | 7,712.70 | 49.55 | 27.05 | -75.30 | -336.93 | -1,081.02 | 3,211.37 | 3,164.55 | 46.82 | 68.586 | |
| 8,300.00 | 7,812.70 | 7,911.70 | 7,812.70 | 49.62 | 27.18 | -75.30 | -336.93 | -1,081.02 | 3,211.37 | 3,164.27 | 47.10 | 68.186 | |
| 8,400.00 | 7,912.70 | 8,011.70 | 7,912.70 | 49.69 | 27.31 | -75.30 | -336.93 | -1,081.02 | 3,211.37 | 3,164.00 | 47.37 | 67.787 | |
| 8,450.47 | 7,963.17 | 8,062.17 | 7,963.17 | 49.73 | 27.37 | -75.30 | -336.93 | -1,081.02 | 3,211.37 | 3,163.86 | 47.52 | 67.585 | |
| 8,500.00 | 8,012.70 | 8,079.00 | 7,980.00 | 49.76 | 27.39 | -75.30 | -336.93 | -1,081.02 | 3,211.54 | 3,163.93 | 47.60 | 67.462 | |
| 8,600.00 | 8,112.70 | 8,079.00 | 7,980.00 | 49.84 | 27.39 | -75.30 | -336.93 | -1,081.02 | 3,214.11 | 3,166.38 | 47.73 | 67.333 | |
| 8,700.00 | 8,212.70 | 8,079.00 | 7,980.00 | 49.91 | 27.39 | -75.30 | -336.93 | -1,081.02 | 3,219.79 | 3,171.93 | 47.87 | 67.268 | |
| 8,800.00 | 8,312.70 | 8,079.00 | 7,980.00 | 49.99 | 27.39 | -75.30 | -336.93 | -1,081.02 | 3,228.56 | 3,180.56 | 48.00 | 67.265 | |
| 8,842.30 | 8,355.00 | 8,079.00 | 7,980.00 | 50.02 | 27.39 | -75.30 | -336.93 | -1,081.02 | 3,233.19 | 3,185.14 | 48.05 | 67.283 | |

| | | | |
|---------------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 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 | -38.50 | 31.31 | -24.91 | 40.00 | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 0.10 | -38.50 | 31.31 | -24.91 | 40.00 | 39.81 | 0.19 | 209.394 | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 0.32 | -38.50 | 31.31 | -24.91 | 40.00 | 39.36 | 0.64 | 62.451 | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 0.55 | -38.50 | 31.31 | -24.91 | 40.00 | 38.91 | 1.09 | 36.698 | |
| 400.00 | 400.00 | 400.00 | 400.00 | 0.77 | 0.77 | -38.50 | 31.31 | -24.91 | 40.00 | 38.47 | 1.54 | 25.983 | |
| 500.00 | 500.00 | 500.00 | 500.00 | 0.99 | 0.99 | -38.50 | 31.31 | -24.91 | 40.00 | 38.02 | 1.99 | 20.111 | |
| 600.00 | 600.00 | 600.00 | 600.00 | 1.22 | 1.22 | -38.50 | 31.31 | -24.91 | 40.00 | 37.57 | 2.44 | 16.404 | |
| 700.00 | 700.00 | 700.00 | 700.00 | 1.44 | 1.44 | -38.50 | 31.31 | -24.91 | 40.00 | 37.12 | 2.89 | 13.851 | |
| 800.00 | 800.00 | 800.00 | 800.00 | 1.67 | 1.67 | -38.50 | 31.31 | -24.91 | 40.00 | 36.67 | 3.34 | 11.986 | |
| 900.00 | 900.00 | 900.00 | 900.00 | 1.89 | 1.89 | -38.50 | 31.31 | -24.91 | 40.00 | 36.22 | 3.79 | 10.563 | |
| 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 2.12 | 2.12 | -38.50 | 31.31 | -24.91 | 40.00 | 35.77 | 4.24 | 9.442 | |
| 1,050.00 | 1,050.00 | 1,050.00 | 1,050.00 | 2.23 | 2.23 | -38.50 | 31.31 | -24.91 | 40.00 | 35.54 | 4.46 | 8.966 CC | |
| 1,100.00 | 1,100.00 | 1,100.61 | 1,100.61 | 2.33 | 2.33 | -158.68 | 30.87 | -24.83 | 40.03 | 35.36 | 4.66 | 8.586 | |
| 1,200.00 | 1,199.93 | 1,201.77 | 1,201.70 | 2.52 | 2.50 | -163.02 | 27.34 | -24.26 | 40.32 | 35.31 | 5.02 | 8.037 ES | |
| 1,300.00 | 1,299.68 | 1,302.72 | 1,302.39 | 2.72 | 2.69 | -171.37 | 20.31 | -23.10 | 41.59 | 36.20 | 5.38 | 7.727 SF | |
| 1,400.00 | 1,399.13 | 1,403.32 | 1,402.43 | 2.94 | 2.90 | 177.42 | 9.83 | -21.39 | 44.97 | 39.21 | 5.76 | 7.805 | |
| 1,500.00 | 1,498.15 | 1,503.44 | 1,501.55 | 3.19 | 3.13 | 165.42 | -4.03 | -19.11 | 51.66 | 45.48 | 6.18 | 8.361 | |
| 1,600.00 | 1,596.63 | 1,602.95 | 1,599.52 | 3.47 | 3.40 | 154.63 | -21.19 | -16.30 | 62.31 | 55.65 | 6.66 | 9.351 | |
| 1,700.00 | 1,694.44 | 1,701.72 | 1,696.12 | 3.80 | 3.71 | 145.94 | -41.53 | -12.97 | 76.99 | 69.75 | 7.24 | 10.637 | |
| 1,800.00 | 1,791.46 | 1,799.65 | 1,791.13 | 4.19 | 4.08 | 139.30 | -64.93 | -9.13 | 95.45 | 87.54 | 7.91 | 12.066 | |
| 1,900.00 | 1,887.58 | 1,896.62 | 1,884.36 | 4.64 | 4.49 | 134.26 | -91.25 | -4.82 | 117.41 | 108.71 | 8.70 | 13.496 | |
| 2,000.00 | 1,982.68 | 1,992.55 | 1,975.63 | 5.15 | 4.97 | 130.41 | -120.33 | -0.05 | 142.60 | 133.00 | 9.60 | 14.851 | |
| 2,100.00 | 2,076.65 | 2,087.60 | 2,065.10 | 5.74 | 5.50 | 127.42 | -152.01 | 5.14 | 170.81 | 160.19 | 10.62 | 16.087 | |
| 2,200.00 | 2,169.36 | 2,182.73 | 2,154.33 | 6.41 | 6.06 | 125.66 | -184.54 | 10.47 | 201.39 | 189.67 | 11.72 | 17.180 | |
| 2,300.00 | 2,260.71 | 2,277.27 | 2,243.02 | 7.15 | 6.64 | 124.92 | -216.88 | 15.77 | 233.94 | 221.05 | 12.89 | 18.148 | |
| 2,334.41 | 2,291.81 | 2,309.65 | 2,273.39 | 7.42 | 6.84 | 124.83 | -227.95 | 17.59 | 245.58 | 232.27 | 13.31 | 18.456 | |
| 2,400.00 | 2,350.92 | 2,371.29 | 2,331.21 | 7.96 | 7.23 | 125.10 | -249.03 | 21.04 | 267.98 | 253.84 | 14.13 | 18.960 | |
| 2,500.00 | 2,441.03 | 2,465.26 | 2,419.36 | 8.79 | 7.83 | 125.42 | -281.16 | 26.31 | 302.13 | 286.72 | 15.42 | 19.598 | |
| 2,600.00 | 2,531.15 | 2,559.24 | 2,507.51 | 9.64 | 8.44 | 125.68 | -313.30 | 31.58 | 336.30 | 319.58 | 16.72 | 20.112 | |
| 2,700.00 | 2,621.27 | 2,653.21 | 2,595.66 | 10.51 | 9.05 | 125.89 | -345.43 | 36.85 | 370.47 | 352.43 | 18.04 | 20.532 | |
| 2,800.00 | 2,711.38 | 2,747.18 | 2,683.81 | 11.38 | 9.68 | 126.07 | -377.57 | 42.11 | 404.64 | 385.27 | 19.38 | 20.881 | |
| 2,900.00 | 2,801.50 | 2,841.15 | 2,771.96 | 12.26 | 10.30 | 126.22 | -409.71 | 47.38 | 438.82 | 418.10 | 20.72 | 21.174 | |
| 3,000.00 | 2,891.62 | 2,935.13 | 2,860.11 | 13.14 | 10.93 | 126.34 | -441.84 | 52.65 | 473.00 | 450.92 | 22.08 | 21.423 | |
| 3,100.00 | 2,981.73 | 3,029.10 | 2,948.26 | 14.03 | 11.57 | 126.45 | -473.98 | 57.91 | 507.18 | 483.74 | 23.44 | 21.637 | |
| 3,200.00 | 3,071.85 | 3,123.07 | 3,036.41 | 14.92 | 12.20 | 126.55 | -506.11 | 63.18 | 541.36 | 516.56 | 24.81 | 21.823 | |
| 3,300.00 | 3,161.97 | 3,217.04 | 3,124.56 | 15.82 | 12.84 | 126.63 | -538.25 | 68.45 | 575.55 | 549.37 | 26.18 | 21.985 | |
| 3,400.00 | 3,252.08 | 3,311.02 | 3,212.71 | 16.72 | 13.48 | 126.71 | -570.38 | 73.72 | 609.73 | 582.18 | 27.55 | 22.128 | |
| 3,500.00 | 3,342.20 | 3,404.99 | 3,300.86 | 17.62 | 14.12 | 126.77 | -602.52 | 78.98 | 643.92 | 614.99 | 28.93 | 22.256 | |
| 3,600.00 | 3,432.32 | 3,498.96 | 3,389.01 | 18.53 | 14.77 | 126.83 | -634.66 | 84.25 | 678.10 | 647.79 | 30.31 | 22.369 | |
| 3,700.00 | 3,522.43 | 3,592.94 | 3,477.16 | 19.43 | 15.41 | 126.89 | -666.79 | 89.52 | 712.29 | 680.59 | 31.70 | 22.472 | |
| 3,800.00 | 3,612.55 | 3,686.91 | 3,565.31 | 20.34 | 16.06 | 126.94 | -698.93 | 94.79 | 746.48 | 713.40 | 33.08 | 22.564 | |
| 3,900.00 | 3,702.67 | 3,780.88 | 3,653.46 | 21.25 | 16.70 | 126.98 | -731.06 | 100.05 | 780.67 | 746.20 | 34.47 | 22.648 | |
| 4,000.00 | 3,792.78 | 3,874.85 | 3,741.61 | 22.16 | 17.35 | 127.02 | -763.20 | 105.32 | 814.85 | 779.00 | 35.86 | 22.725 | |
| 4,100.00 | 3,882.90 | 3,968.83 | 3,829.76 | 23.07 | 18.00 | 127.06 | -795.33 | 110.59 | 849.04 | 811.80 | 37.25 | 22.796 | |
| 4,200.00 | 3,973.02 | 4,062.80 | 3,917.91 | 23.98 | 18.65 | 127.10 | -827.47 | 115.86 | 883.23 | 844.60 | 38.64 | 22.860 | |
| 4,300.00 | 4,063.13 | 4,156.77 | 4,006.06 | 24.89 | 19.30 | 127.13 | -859.61 | 121.12 | 917.42 | 877.39 | 40.03 | 22.921 | |
| 4,400.00 | 4,153.25 | 4,250.75 | 4,094.21 | 25.81 | 19.95 | 127.16 | -891.74 | 126.39 | 951.61 | 910.19 | 41.42 | 22.976 | |
| 4,500.00 | 4,243.37 | 4,344.72 | 4,182.36 | 26.72 | 20.60 | 127.19 | -923.88 | 131.66 | 985.80 | 942.99 | 42.81 | 23.028 | |
| 4,600.00 | 4,333.48 | 4,438.69 | 4,270.51 | 27.63 | 21.25 | 127.21 | -956.01 | 136.92 | 1,019.99 | 975.79 | 44.20 | 23.077 | |
| 4,700.00 | 4,423.60 | 4,532.66 | 4,358.66 | 28.55 | 21.91 | 127.24 | -988.15 | 142.19 | 1,054.18 | 1,008.59 | 45.59 | 23.122 | |
| 4,800.00 | 4,513.72 | 4,626.64 | 4,446.81 | 29.46 | 22.56 | 127.26 | -1,020.29 | 147.46 | 1,088.37 | 1,041.39 | 46.98 | 23.165 | |
| 4,900.00 | 4,603.83 | 4,720.61 | 4,534.96 | 30.38 | 23.21 | 127.28 | -1,052.42 | 152.73 | 1,122.56 | 1,074.18 | 48.38 | 23.205 | |

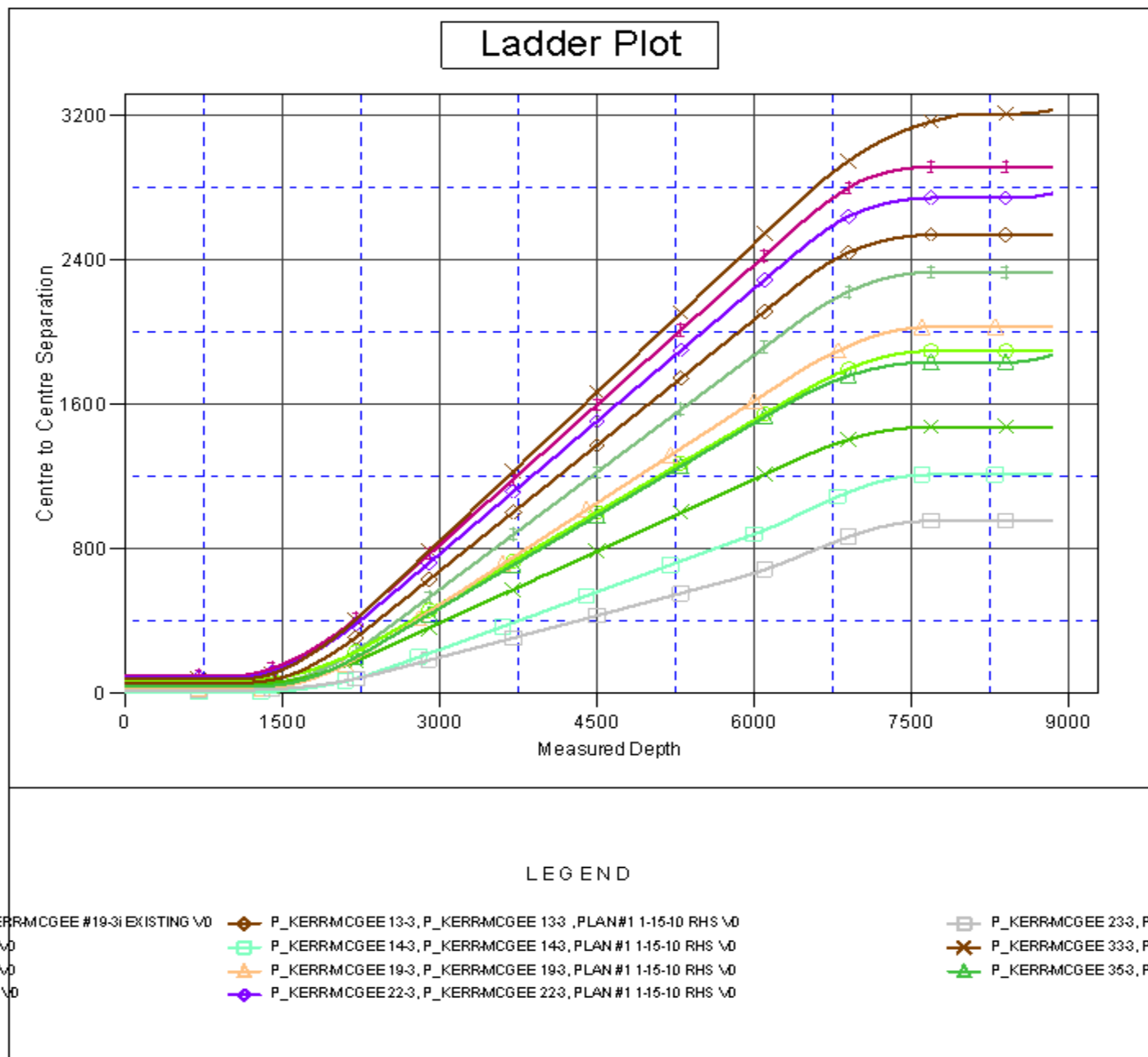
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

| | | | |
|---------------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 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 | |
| 5,000.00 | 4,693.95 | 4,814.58 | 4,623.11 | 31.30 | 23.86 | 127.30 | -1,084.56 | 157.99 | 1,156.75 | 1,106.98 | 49.77 | 23.243 | |
| 5,100.00 | 4,784.07 | 4,908.55 | 4,711.26 | 32.21 | 24.52 | 127.32 | -1,116.69 | 163.26 | 1,190.94 | 1,139.78 | 51.16 | 23.279 | |
| 5,200.00 | 4,874.18 | 5,002.53 | 4,799.41 | 33.13 | 25.17 | 127.34 | -1,148.83 | 168.53 | 1,225.13 | 1,172.58 | 52.55 | 23.313 | |
| 5,300.00 | 4,964.30 | 5,096.50 | 4,887.56 | 34.05 | 25.83 | 127.36 | -1,180.96 | 173.80 | 1,259.32 | 1,205.38 | 53.94 | 23.346 | |
| 5,400.00 | 5,054.42 | 5,190.47 | 4,975.71 | 34.96 | 26.48 | 127.37 | -1,213.10 | 179.06 | 1,293.51 | 1,238.18 | 55.33 | 23.377 | |
| 5,500.00 | 5,144.53 | 5,284.45 | 5,063.86 | 35.88 | 27.13 | 127.39 | -1,245.24 | 184.33 | 1,327.70 | 1,270.98 | 56.72 | 23.407 | |
| 5,600.00 | 5,234.65 | 5,378.42 | 5,152.01 | 36.80 | 27.79 | 127.40 | -1,277.37 | 189.60 | 1,361.89 | 1,303.78 | 58.11 | 23.435 | |
| 5,700.00 | 5,324.77 | 5,472.39 | 5,240.16 | 37.72 | 28.44 | 127.42 | -1,309.51 | 194.87 | 1,396.08 | 1,336.58 | 59.50 | 23.462 | |
| 5,800.00 | 5,414.88 | 5,566.36 | 5,328.31 | 38.63 | 29.10 | 127.43 | -1,341.64 | 200.13 | 1,430.28 | 1,369.38 | 60.89 | 23.488 | |
| 5,900.00 | 5,505.00 | 5,660.34 | 5,416.46 | 39.55 | 29.75 | 127.44 | -1,373.78 | 205.40 | 1,464.47 | 1,402.18 | 62.28 | 23.513 | |
| 6,000.00 | 5,595.12 | 5,754.31 | 5,504.61 | 40.47 | 30.41 | 127.46 | -1,405.91 | 210.67 | 1,498.66 | 1,434.99 | 63.67 | 23.537 | |
| 6,100.00 | 5,685.23 | 5,857.06 | 5,601.52 | 41.39 | 30.95 | 127.53 | -1,439.60 | 216.19 | 1,532.60 | 1,467.67 | 64.94 | 23.601 | |
| 6,200.00 | 5,775.35 | 5,960.84 | 5,700.57 | 42.31 | 31.42 | 127.74 | -1,470.13 | 221.19 | 1,565.97 | 1,499.89 | 66.08 | 23.697 | |
| 6,300.00 | 5,865.47 | 6,064.55 | 5,800.62 | 43.23 | 31.84 | 128.09 | -1,497.09 | 225.61 | 1,598.78 | 1,531.64 | 67.15 | 23.810 | |
| 6,402.89 | 5,958.19 | 6,170.90 | 5,904.17 | 44.17 | 32.22 | 128.56 | -1,521.00 | 229.53 | 1,632.03 | 1,563.88 | 68.15 | 23.947 | |
| 6,500.00 | 6,046.40 | 6,271.26 | 6,002.64 | 44.95 | 32.55 | 129.56 | -1,540.07 | 232.66 | 1,661.99 | 1,593.03 | 68.96 | 24.099 | |
| 6,600.00 | 6,138.62 | 6,375.02 | 6,105.10 | 45.60 | 32.83 | 130.55 | -1,556.19 | 235.30 | 1,690.36 | 1,620.74 | 69.62 | 24.280 | |
| 6,700.00 | 6,232.13 | 6,479.08 | 6,208.38 | 46.19 | 33.07 | 131.49 | -1,568.68 | 237.35 | 1,716.17 | 1,646.01 | 70.16 | 24.460 | |
| 6,800.00 | 6,326.82 | 6,583.28 | 6,312.19 | 46.74 | 33.26 | 132.40 | -1,577.46 | 238.79 | 1,739.41 | 1,668.82 | 70.59 | 24.641 | |
| 6,900.00 | 6,422.57 | 6,687.47 | 6,416.25 | 47.22 | 33.41 | 133.28 | -1,582.52 | 239.61 | 1,760.04 | 1,689.14 | 70.90 | 24.824 | |
| 7,000.00 | 6,519.27 | 6,790.50 | 6,519.27 | 47.65 | 33.51 | 134.12 | -1,583.87 | 239.84 | 1,778.08 | 1,706.98 | 71.11 | 25.005 | |
| 7,100.00 | 6,616.80 | 6,888.03 | 6,616.80 | 48.03 | 33.59 | 134.85 | -1,583.87 | 239.84 | 1,793.74 | 1,722.48 | 71.26 | 25.172 | |
| 7,200.00 | 6,715.04 | 6,986.28 | 6,715.04 | 48.35 | 33.66 | 135.45 | -1,583.87 | 239.84 | 1,807.08 | 1,735.69 | 71.39 | 25.314 | |
| 7,300.00 | 6,813.88 | 7,085.11 | 6,813.88 | 48.62 | 33.74 | 135.94 | -1,583.87 | 239.84 | 1,818.02 | 1,746.53 | 71.49 | 25.429 | |
| 7,400.00 | 6,913.18 | 7,184.41 | 6,913.18 | 48.84 | 33.82 | 136.31 | -1,583.87 | 239.84 | 1,826.52 | 1,754.93 | 71.59 | 25.514 | |
| 7,500.00 | 7,012.83 | 7,284.06 | 7,012.83 | 49.01 | 33.90 | 136.58 | -1,583.87 | 239.84 | 1,832.52 | 1,760.85 | 71.67 | 25.568 | |
| 7,600.00 | 7,112.71 | 7,383.94 | 7,112.71 | 49.13 | 33.98 | 136.73 | -1,583.87 | 239.84 | 1,836.01 | 1,764.26 | 71.75 | 25.590 | |
| 7,687.30 | 7,200.00 | 7,471.23 | 7,200.00 | 49.20 | 34.05 | -103.61 | -1,583.87 | 239.84 | 1,836.98 | 1,765.16 | 71.81 | 25.579 | |
| 7,700.00 | 7,212.70 | 7,483.93 | 7,212.70 | 49.21 | 34.06 | -103.61 | -1,583.87 | 239.84 | 1,836.98 | 1,765.14 | 71.84 | 25.572 | |
| 7,800.00 | 7,312.70 | 7,583.93 | 7,312.70 | 49.27 | 34.15 | -103.61 | -1,583.87 | 239.84 | 1,836.98 | 1,764.98 | 72.00 | 25.514 | |
| 7,900.00 | 7,412.70 | 7,683.93 | 7,412.70 | 49.34 | 34.23 | -103.61 | -1,583.87 | 239.84 | 1,836.98 | 1,764.81 | 72.17 | 25.455 | |
| 8,000.00 | 7,512.70 | 7,783.93 | 7,512.70 | 49.41 | 34.32 | -103.61 | -1,583.87 | 239.84 | 1,836.98 | 1,764.64 | 72.33 | 25.396 | |
| 8,100.00 | 7,612.70 | 7,883.93 | 7,612.70 | 49.48 | 34.41 | -103.61 | -1,583.87 | 239.84 | 1,836.98 | 1,764.47 | 72.51 | 25.336 | |
| 8,200.00 | 7,712.70 | 7,983.93 | 7,712.70 | 49.55 | 34.49 | -103.61 | -1,583.87 | 239.84 | 1,836.98 | 1,764.30 | 72.68 | 25.275 | |
| 8,300.00 | 7,812.70 | 8,083.93 | 7,812.70 | 49.62 | 34.58 | -103.61 | -1,583.87 | 239.84 | 1,836.98 | 1,764.12 | 72.86 | 25.214 | |
| 8,400.00 | 7,912.70 | 8,183.93 | 7,912.70 | 49.69 | 34.68 | -103.61 | -1,583.87 | 239.84 | 1,836.98 | 1,763.94 | 73.03 | 25.153 | |
| 8,436.26 | 7,948.96 | 8,220.19 | 7,948.96 | 49.72 | 34.71 | -103.61 | -1,583.87 | 239.84 | 1,836.98 | 1,763.88 | 73.10 | 25.130 | |
| 8,500.00 | 8,012.70 | 8,236.23 | 7,965.00 | 49.76 | 34.72 | -103.61 | -1,583.87 | 239.84 | 1,837.60 | 1,764.43 | 73.17 | 25.114 | |
| 8,600.00 | 8,112.70 | 8,236.23 | 7,965.00 | 49.84 | 34.72 | -103.61 | -1,583.87 | 239.84 | 1,842.91 | 1,769.65 | 73.26 | 25.156 | |
| 8,700.00 | 8,212.70 | 8,236.23 | 7,965.00 | 49.91 | 34.72 | -103.61 | -1,583.87 | 239.84 | 1,853.60 | 1,780.25 | 73.35 | 25.271 | |
| 8,800.00 | 8,312.70 | 8,236.23 | 7,965.00 | 49.99 | 34.72 | -103.61 | -1,583.87 | 239.84 | 1,869.59 | 1,796.15 | 73.44 | 25.458 | |
| 8,842.30 | 8,355.00 | 8,236.23 | 7,965.00 | 50.02 | 34.72 | -103.61 | -1,583.87 | 239.84 | 1,877.92 | 1,804.44 | 73.48 | 25.558 | |

| | | | |
|---------------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 RHS | Offset TVD Reference: | Offset Datum |

Reference Depths are relative to WELL @ 5057.00ft (Original Well Elev) Coordinates are relative to: P_KERR-MCGEE 15-3
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: 0.33°



| | | | |
|---------------------------|-----------------------------|-------------------------------------|---------------------------------------|
| Company: | US ROCKIES REGION PLANNING | Local Co-ordinate Reference: | Well P_KERR-MCGEE 15-3 |
| Project: | COLORADO NORTHERN ZONE - 83 | TVD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Reference Site: | WELD_KERR MCGEE 19-3 PAD | MD Reference: | WELL @ 5057.00ft (Original Well Elev) |
| Site Error: | 0.00ft | North Reference: | True |
| Reference Well: | P_KERR-MCGEE 15-3 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00ft | Output errors are at | 2.00 sigma |
| Reference Wellbore | P_KERR-MCGEE 15-3 | Database: | EDM 2003.21 Single User Db |
| Reference Design: | PLAN #1 1-15-10 RHS | Offset TVD Reference: | Offset Datum |

Reference Depths are relative to WELL @ 5057.00ft (Original Well Elev) Coordinates are relative to: P_KERR-MCGEE 15-3
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: 0.33°

