

PICEANCE VLY NAD 83

RU 09-07S-094W

SR 33-9 Pad

SR 434-9 - Slot A3

Wellbore #1

Plan: Plan #2 09Jun10 kjs

Standard Planning Report - Geographic

12 July, 2010

Williams
Planning Report - Geographic

| | | | |
|------------------|------------------------|-------------------------------------|--|
| Database: | Compass R5000 WIN AUTH | Local Co-ordinate Reference: | Well SR 434-9 - Slot A3 |
| Company: | PICEANCE VLY NAD 83 | TVD Reference: | KELLY BUSHING @ 7027.0usft (H&P (24' RKB) kjs) |
| Project: | RU 09-07S-094W | MD Reference: | KELLY BUSHING @ 7027.0usft (H&P (24' RKB) kjs) |
| Site: | SR 33-9 Pad | North Reference: | True |
| Well: | SR 434-9 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Plan #2 09Jun10 kjs | | |

| | | | |
|--------------------|-------------------------------------|----------------------|-----------------------------|
| Project | RU 09-07S-094W, Garfield County, CO | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Central Zone | | Using geodetic scale factor |

| | | | |
|------------------------------|-------------|--------------------------|-------------------|
| Site | SR 33-9 Pad | | |
| Site Position: | | Northing: | 1,597,935.60 usft |
| From: | Map | Easting: | 2,325,884.60 usft |
| Position Uncertainty: | 0.0 usft | Slot Radius: | 13.200 in |
| | | Latitude: | 39° 27' 2.817 N |
| | | Longitude: | 107° 53' 15.083 W |
| | | Grid Convergence: | -1.506 ° |

| | | | |
|-----------------------------|--------------------|----------|----------------------------|
| Well | SR 434-9 - Slot A3 | | |
| Well Position | +N/-S | 0.0 usft | Northing: |
| | +E/-W | 0.0 usft | Easting: |
| Position Uncertainty | 0.0 usft | | Wellhead Elevation: |
| | | | Latitude: |
| | | | Longitude: |
| | | | Ground Level: |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Wellbore #1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2005-10 | 2/9/2009 | 10.579 | 65.796 | 52,493 |

| | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| Design | Plan #2 09Jun10 kjs | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
| | 0.0 | 0.0 | 0.0 | 191.30 |

| Plan Sections | | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.000 | |
| 130.0 | 0.00 | 0.00 | 130.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.000 | |
| 521.0 | 11.73 | 191.30 | 518.3 | -39.1 | -7.8 | 3.00 | 3.00 | 0.00 | 191.304 | |
| 5,791.2 | 11.73 | 191.30 | 5,678.4 | -1,089.9 | -217.9 | 0.00 | 0.00 | 0.00 | 0.000 | |
| 6,573.3 | 0.00 | 0.00 | 6,455.0 | -1,168.1 | -233.5 | 1.50 | -1.50 | 0.00 | 180.000 | |
| 6,673.3 | 0.00 | 0.00 | 6,555.0 | -1,168.1 | -233.5 | 0.00 | 0.00 | 0.00 | 0.000 | Top Gas (25' Radius) |
| 9,193.3 | 0.00 | 0.00 | 9,075.0 | -1,168.1 | -233.5 | 0.00 | 0.00 | 0.00 | 0.000 | |

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| Project: | RU 09-07S-094W | MD Reference: | KELLY BUSHING @ 7027.0usft (H&P (24' RKB) kjs) |
| Site: | SR 33-9 Pad | North Reference: | True |
| Well: | SR 434-9 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Plan #2 09Jun10 kjs | | |

| Planned Survey | | | | | | | | | | |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|---------------------------|--------------------------|------------------|-------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude | |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 1,597,910.50 | 2,325,829.60 | 39° 27' 2.554 N | 107° 53' 15.776 W | |
| 130.0 | 0.00 | 0.00 | 130.0 | 0.0 | 0.0 | 1,597,910.50 | 2,325,829.60 | 39° 27' 2.554 N | 107° 53' 15.776 W | |
| Start Build 3.00 | | | | | | | | | | |
| 521.0 | 11.73 | 191.30 | 518.3 | -39.1 | -7.8 | 1,597,871.60 | 2,325,820.76 | 39° 27' 2.168 N | 107° 53' 15.876 W | |
| Hold 11.73 Inclination | | | | | | | | | | |
| 1,115.1 | 11.73 | 191.30 | 1,100.0 | -157.6 | -31.5 | 1,597,753.82 | 2,325,793.98 | 39° 27' 0.997 N | 107° 53' 16.177 W | |
| 9 5/8" | | | | | | | | | | |
| 3,280.4 | 11.73 | 191.30 | 3,220.0 | -589.3 | -117.8 | 1,597,324.56 | 2,325,696.37 | 39° 26' 56.731 N | 107° 53' 17.277 W | |
| Top of "G" Sand | | | | | | | | | | |
| 3,382.5 | 11.73 | 191.30 | 3,320.0 | -609.6 | -121.9 | 1,597,304.31 | 2,325,691.77 | 39° 26' 56.529 N | 107° 53' 17.329 W | |
| Base of "G" Sand | | | | | | | | | | |
| 5,752.0 | 11.73 | 191.30 | 5,640.0 | -1,082.0 | -216.3 | 1,596,834.56 | 2,325,584.96 | 39° 26' 51.860 N | 107° 53' 18.533 W | |
| Mesaverde | | | | | | | | | | |
| 5,791.2 | 11.73 | 191.30 | 5,678.4 | -1,089.9 | -217.9 | 1,596,826.79 | 2,325,583.19 | 39° 26' 51.783 N | 107° 53' 18.553 W | |
| Start Drop -1.50 | | | | | | | | | | |
| 6,573.3 | 0.00 | 0.00 | 6,455.0 | -1,168.1 | -233.5 | 1,596,749.00 | 2,325,565.50 | 39° 26' 51.010 N | 107° 53' 18.752 W | |
| Vertical | | | | | | | | | | |
| 6,673.3 | 0.00 | 0.00 | 6,555.0 | -1,168.1 | -233.5 | 1,596,749.00 | 2,325,565.50 | 39° 26' 51.010 N | 107° 53' 18.752 W | |
| Top Gas - Approx. Top Gas | | | | | | | | | | |
| 8,193.3 | 0.00 | 0.00 | 8,075.0 | -1,168.1 | -233.5 | 1,596,749.00 | 2,325,565.50 | 39° 26' 51.010 N | 107° 53' 18.752 W | |
| Cameo Coals | | | | | | | | | | |
| 8,898.3 | 0.00 | 0.00 | 8,780.0 | -1,168.1 | -233.5 | 1,596,749.00 | 2,325,565.50 | 39° 26' 51.010 N | 107° 53' 18.752 W | |
| Coal D | | | | | | | | | | |
| 8,948.3 | 0.00 | 0.00 | 8,830.0 | -1,168.1 | -233.5 | 1,596,749.00 | 2,325,565.50 | 39° 26' 51.010 N | 107° 53' 18.752 W | |
| Base L. Cameo Pay | | | | | | | | | | |
| 9,073.3 | 0.00 | 0.00 | 8,955.0 | -1,168.1 | -233.5 | 1,596,749.00 | 2,325,565.50 | 39° 26' 51.010 N | 107° 53' 18.752 W | |
| Rollins SS | | | | | | | | | | |
| 9,193.3 | 0.00 | 0.00 | 9,075.0 | -1,168.1 | -233.5 | 1,596,749.00 | 2,325,565.50 | 39° 26' 51.010 N | 107° 53' 18.752 W | |
| TD at 9193.3 - TD | | | | | | | | | | |

| Design Targets | | | | | | | | | | |
|---------------------------|---------------|--------------|------------|--------------|--------------|-----------------|----------------|------------------|-------------------|--|
| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude | |
| - hit/miss target | | | | | | | | | | |
| - Shape | | | | | | | | | | |
| Top Gas (25' Radius) SF | 0.00 | 0.00 | 6,555.0 | -1,168.1 | -233.5 | 1,596,749.00 | 2,325,565.50 | 39° 26' 51.010 N | 107° 53' 18.752 W | |
| - plan hits target center | | | | | | | | | | |
| - Circle (radius 25.0) | | | | | | | | | | |

| Casing Points | | | | | |
|-----------------------|-----------------------|--------|--|----------------------|--------------------|
| Measured Depth (usft) | Vertical Depth (usft) | Name | | Casing Diameter (in) | Hole Diameter (in) |
| 1,115.1 | 1,100.0 | 9 5/8" | | 9.625 | 12.250 |

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| Site: | SR 33-9 Pad | North Reference: | True |
| Well: | SR 434-9 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Plan #2 09Jun10 kjs | | |

| Formations | | | | | | |
|-----------------------|-----------------------|-------------------|-----------|---------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 3,280.4 | 3,220.0 | Top of "G" Sand | | | | |
| 3,382.5 | 3,320.0 | Base of "G" Sand | | | | |
| 5,752.0 | 5,640.0 | Mesaverde | | | | |
| 6,673.3 | 6,555.0 | Approx. Top Gas | | | | |
| 8,193.3 | 8,075.0 | Cameo Coals | | | | |
| 8,898.3 | 8,780.0 | Coal D | | | | |
| 8,948.3 | 8,830.0 | Base L. Cameo Pay | | | | |
| 9,073.3 | 8,955.0 | Rollins SS | | | | |
| 9,193.3 | 9,075.0 | TD | | | | |

| Plan Annotations | | | | | |
|-----------------------|-----------------------|-------------------|--------------|------------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | | |
| | | +N/-S (usft) | +E/-W (usft) | Comment | |
| 130.0 | 130.0 | 0.0 | 0.0 | Start Build 3.00 | |
| 521.0 | 518.3 | -39.1 | -7.8 | Hold 11.73 Inclination | |
| 5,791.2 | 5,678.4 | -1,089.9 | -217.9 | Start Drop -1.50 | |
| 6,573.3 | 6,455.0 | -1,168.1 | -233.5 | Vertical | |
| 6,673.3 | 6,555.0 | -1,168.1 | -233.5 | Top Gas | |
| 9,193.3 | 9,075.0 | -1,168.1 | -233.5 | TD at 9193.3 | |