

PICEANCE VLY NAD 83

GV 34-06S-096W

GM 23-34 Pad

GM 423-34 - Slot A4

Wellbore #1

Plan: Plan #1 06Jul09 kjs

Standard Planning Report - Geographic

29 January, 2010

Williams
Planning Report - Geographic

| | | | |
|------------------|------------------------|-------------------------------------|--|
| Database: | Compass R5000 WIN AUTH | Local Co-ordinate Reference: | Well GM 423-34 - Slot A4 |
| Company: | PICEANCE VLY NAD 83 | TVD Reference: | KELLY BUSHING @ 5380.0usft (Cyclone 30 @3' RKB) kjs) |
| Project: | GV 34-06S-096W | MD Reference: | KELLY BUSHING @ 5380.0usft (Cyclone 30 @3' RKB) kjs) |
| Site: | GM 23-34 Pad | North Reference: | True |
| Well: | GM 423-34 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Plan #1 06Jul09 kjs | | |

| | | | |
|--------------------|---------------------------|----------------------|----------------|
| Project | GV 34-06S-096W | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Central Zone | | |

| | | | | | |
|-----------------------|----------|--------------|-------------------|-------------------|------------------|
| Site | | GM 23-34 Pad | | | |
| Site Position: | | Northing: | 1,609,695.00 usft | Latitude: | 39° 28' 43.119 N |
| From: | Map | Easting: | 2,267,298.20 usft | Longitude: | 108° 5' 45.963 W |
| Position Uncertainty: | 0.0 usft | Slot Radius: | 13.200 in | Grid Convergence: | -1.637 ° |

| | | | | | | |
|----------------------|---------------------|----------|---------------------|-------------------|---------------|------------------|
| Well | GM 423-34 - Slot A4 | | | | | |
| Well Position | +N/-S | 0.0 usft | Northing: | 1,609,697.50 usft | Latitude: | 39° 28' 43.139 N |
| | +E/-W | 0.0 usft | Easting: | 2,267,283.40 usft | Longitude: | 108° 5' 46.153 W |
| Position Uncertainty | | 0.0 usft | Wellhead Elevation: | | Ground Level: | 5,357.0 usft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Wellbore #1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2005-10 | 7/6/2009 | 10.624 | 65.769 | 52,455 |

| | | | | | |
|--------------------------|--------------------------------|---------------------|---------------------|----------------------|-----|
| Design | Plan #1 06Jul09 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 | 121.45 | |

| 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 | |
| 120.0 | 0.00 | 0.00 | 120.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.000 | |
| 451.0 | 11.59 | 121.45 | 448.8 | -17.4 | 28.5 | 3.50 | 3.50 | 0.00 | 121.446 | |
| 3,924.9 | 11.59 | 121.45 | 3,851.9 | -381.4 | 623.6 | 0.00 | 0.00 | 0.00 | 0.000 | |
| 4,697.3 | 0.00 | 0.00 | 4,619.0 | -422.0 | 690.0 | 1.50 | -1.50 | 0.00 | 180.000 | Top Gas (25' Radius) |
| 6,597.3 | 0.00 | 0.00 | 6,519.0 | -422.0 | 690.0 | 0.00 | 0.00 | 0.00 | 0.000 | TD / PBHL GM 423-3- |

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| Site: | GM 23-34 Pad | North Reference: | True |
| Well: | GM 423-34 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Plan #1 06Jul09 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 | 1,609,697.50 | 2,267,283.40 | 39° 28' 43.139 N | 108° 5' 46.153 W | |
| 120.0 | 0.00 | 0.00 | 120.0 | 0.0 | 0.0 | 1,609,697.50 | 2,267,283.40 | 39° 28' 43.139 N | 108° 5' 46.153 W | |
| Start Build 3.50 | | | | | | | | | | |
| 451.0 | 11.59 | 121.45 | 448.8 | -17.4 | 28.5 | 1,609,679.29 | 2,267,311.35 | 39° 28' 42.967 N | 108° 5' 45.790 W | |
| Hold 11.59 Inclination | | | | | | | | | | |
| 660.0 | 11.59 | 121.45 | 653.5 | -39.3 | 64.3 | 1,609,656.38 | 2,267,346.51 | 39° 28' 42.751 N | 108° 5' 45.333 W | |
| 9 5/8" | | | | | | | | | | |
| 1,676.2 | 11.59 | 121.45 | 1,649.0 | -145.8 | 238.4 | 1,609,544.98 | 2,267,517.51 | 39° 28' 41.698 N | 108° 5' 43.113 W | |
| Top of "G" Sand | | | | | | | | | | |
| 1,778.3 | 11.59 | 121.45 | 1,749.0 | -156.5 | 255.9 | 1,609,533.79 | 2,267,534.69 | 39° 28' 41.593 N | 108° 5' 42.889 W | |
| Base of "G" Sand | | | | | | | | | | |
| 3,432.0 | 11.59 | 121.45 | 3,369.0 | -329.7 | 539.2 | 1,609,352.51 | 2,267,812.95 | 39° 28' 39.880 N | 108° 5' 39.276 W | |
| Mesaverde | | | | | | | | | | |
| 3,924.9 | 11.59 | 121.45 | 3,851.9 | -381.4 | 623.6 | 1,609,298.47 | 2,267,895.90 | 39° 28' 39.370 N | 108° 5' 38.199 W | |
| Start Drop -1.50 | | | | | | | | | | |
| 4,697.3 | 0.00 | 0.00 | 4,619.0 | -422.0 | 690.0 | 1,609,256.00 | 2,267,961.10 | 39° 28' 38.969 N | 108° 5' 37.352 W | |
| Top Gas - Approx. Top Gas | | | | | | | | | | |
| 5,987.3 | 0.00 | 0.00 | 5,909.0 | -422.0 | 690.0 | 1,609,256.00 | 2,267,961.10 | 39° 28' 38.969 N | 108° 5' 37.352 W | |
| Cameo Coals | | | | | | | | | | |
| 6,497.3 | 0.00 | 0.00 | 6,419.0 | -422.0 | 690.0 | 1,609,256.00 | 2,267,961.10 | 39° 28' 38.969 N | 108° 5' 37.352 W | |
| Rollins SS | | | | | | | | | | |
| 6,597.3 | 0.00 | 0.00 | 6,519.0 | -422.0 | 690.0 | 1,609,256.00 | 2,267,961.10 | 39° 28' 38.969 N | 108° 5' 37.352 W | |
| TD at 6597.3 - TD | | | | | | | | | | |

| Design Targets | | | | | | | | | | |
|--|---------------|--------------|------------|--------------|--------------|-----------------|----------------|------------------|------------------|--|
| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude | |
| Top Gas (25' Radius) GI - plan hits target center - Circle (radius 25.0) | 0.00 | 0.00 | 4,619.0 | -422.0 | 690.0 | 1,609,256.00 | 2,267,961.10 | 39° 28' 38.969 N | 108° 5' 37.352 W | |
| TD / PBHL GM 423-34 - plan hits target center - Point | 0.00 | 0.00 | 6,519.0 | -422.0 | 690.0 | 1,609,256.00 | 2,267,961.10 | 39° 28' 38.969 N | 108° 5' 37.352 W | |

| Casing Points | | | | | | | | | | |
|-----------------------|-----------------------|--------|--|--|----------------------|--------------------|--|--|--|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name | | | Casing Diameter (in) | Hole Diameter (in) | | | | |
| 660.0 | 653.5 | 9 5/8" | | | 9.625 | 12.250 | | | | |

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| Site: | GM 23-34 Pad | North Reference: | True |
| Well: | GM 423-34 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
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| Formations | | | | | | |
|-----------------------|-----------------------|------------------|-----------|---------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 1,676.2 | 1,649.0 | Top of "G" Sand | | | | |
| 1,778.3 | 1,749.0 | Base of "G" Sand | | | | |
| 3,432.0 | 3,369.0 | Mesaverde | | | | |
| 4,697.3 | 4,619.0 | Approx. Top Gas | | | | |
| 5,987.3 | 5,909.0 | Cameo Coals | | | | |
| 6,497.3 | 6,419.0 | Rollins SS | | | | |
| 6,597.3 | 6,519.0 | TD | | | | |

| Plan Annotations | | | | | |
|-----------------------|-----------------------|-------------------|--------------|------------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | | |
| | | +N/-S (usft) | +E/-W (usft) | Comment | |
| 120.0 | 120.0 | 0.0 | 0.0 | Start Build 3.50 | |
| 451.0 | 448.8 | -17.4 | 28.5 | Hold 11.59 Inclination | |
| 3,924.9 | 3,851.9 | -381.4 | 623.6 | Start Drop -1.50 | |
| 4,697.3 | 4,619.0 | -422.0 | 690.0 | Top Gas | |
| 6,597.3 | 6,519.0 | -422.0 | 690.0 | TD at 6597.3 | |