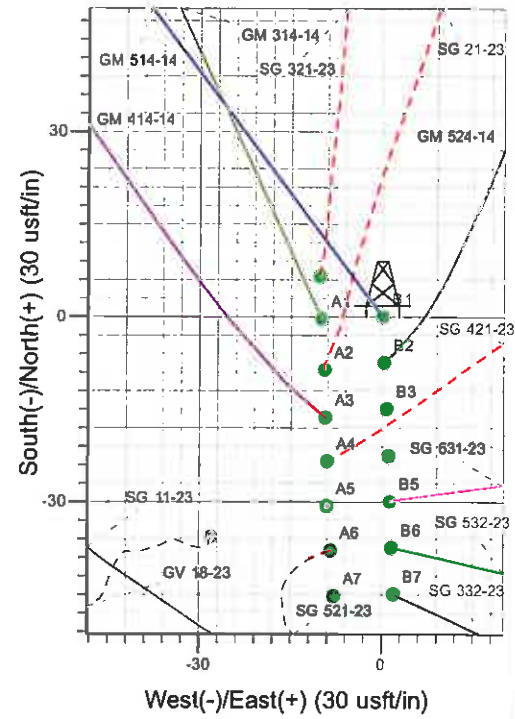
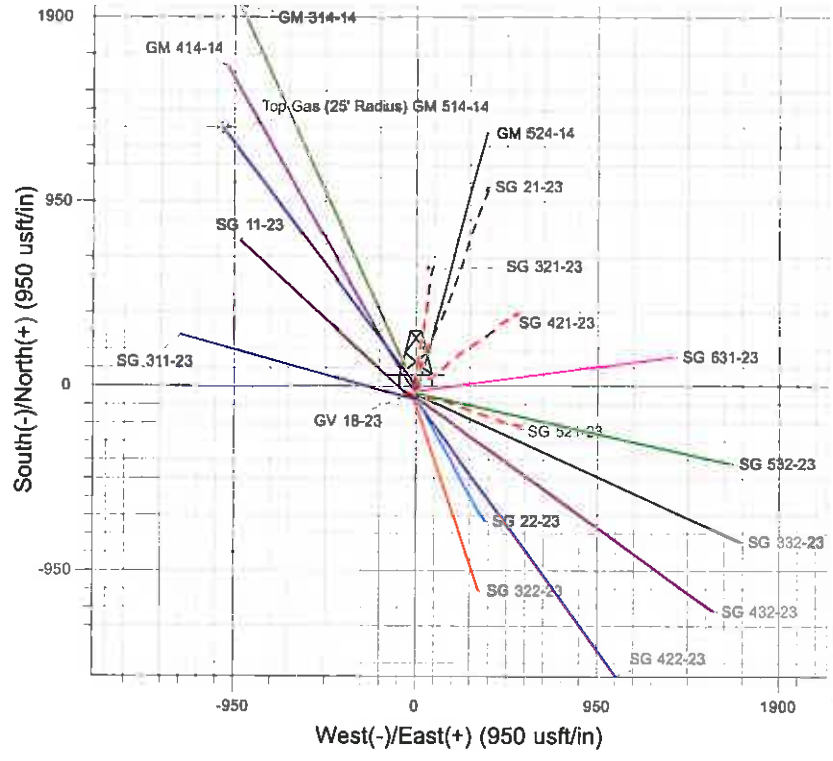
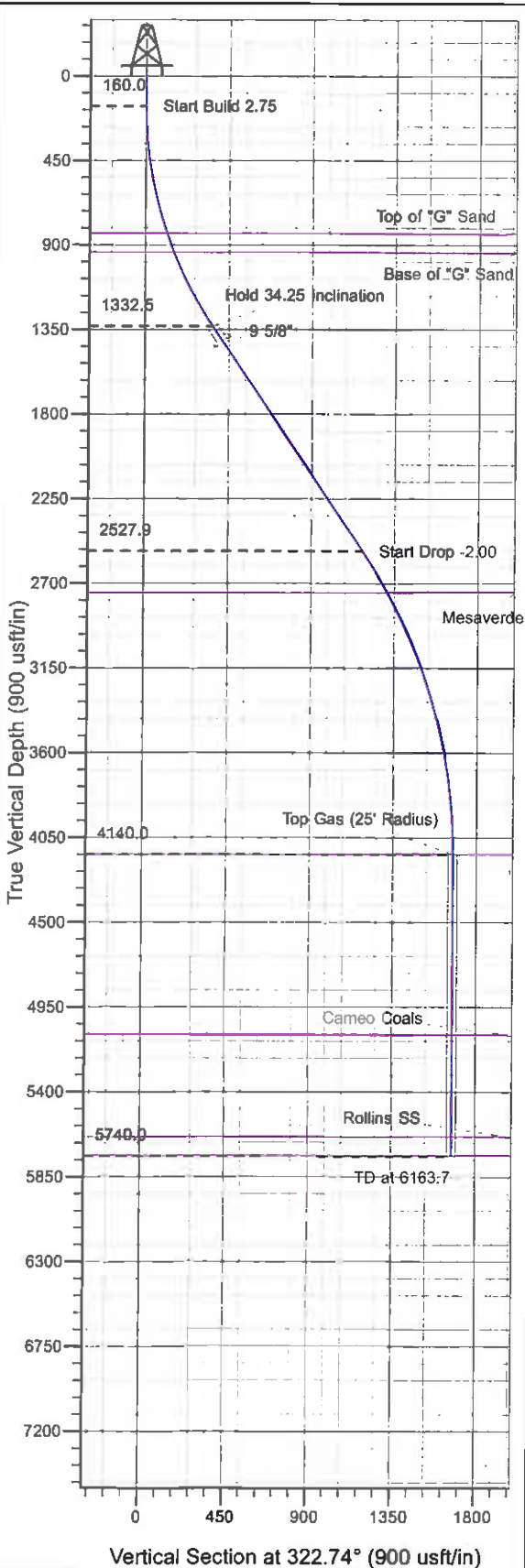




Well Name: GM 514-14  
 Surface Location: GV 18-23 Pad  
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
 Ground Elevation: 5134.0

|       |       |            |            |                  |                  |      |
|-------|-------|------------|------------|------------------|------------------|------|
| +N/-S | +E/-W | Northing   | Easting    | Latitude         | Longitude        | Slot |
| 0.0   | 0.0   | 1590921.60 | 2270836.90 | 39° 25' 38.640 N | 108° 4' 54.021 W | B 1  |

KELLY BUSHING @ 5158.0usft (H&P 278 (24' RKB) kjs)



Project: SG 23-07S-096W  
 Site: GV 18-23 Pad  
 Well: GM 514-14  
 Design #1 06Apr11 kjs

**M**  
 Azimuths to True North  
 Magnetic North: 10.40°  
 Magnetic Field  
 Strength: 52276.5nT  
 Dip Angle: 65.69°  
 Date: 2/4/2011  
 Model: IGRF2005-10

ANNOTATIONS

| TVD    | MD     | Inc   | Azi    | +N/-S  | +E/-W   | VSec   | Departure | Annotation             |
|--------|--------|-------|--------|--------|---------|--------|-----------|------------------------|
| 160.0  | 160.0  | 0.00  | 0.00   | 0.0    | 0.0     | 0.0    | 0.0       | Start Build 2.75       |
| 1332.5 | 1405.3 | 34.25 | 322.74 | 287.5  | -218.7  | 361.2  | 361.2     | Hold 34.25 Inclination |
| 2527.9 | 2851.4 | 34.25 | 322.74 | 935.2  | -711.3  | 1175.0 | 1175.0    | Start Drop -2.00       |
| 4140.0 | 4563.7 | 0.00  | 0.00   | 1330.5 | -1012.0 | 1671.7 | 1671.7    | Top Gas                |
| 5740.0 | 6163.7 | 0.00  | 0.00   | 1330.5 | -1012.0 | 1671.7 | 1671.7    | TD at 6163.7           |

# **PICEANCE VLY NAD 83**

**SG 23-07S-096W**

**GV 18-23 Pad**

**GM 514-14 - Slot B1**

**Wellbore #1**

**Plan: Design #1 06Apr11 kjs**

## **Standard Planning Report - Geographic**

**26 May, 2011**

**Williams**  
Planning Report - Geographic

|           |                        |                              |  |
|-----------|------------------------|------------------------------|--|
| Database: | Compass R5000 WIN AUTH | Local Co-ordinate Reference: | Well GM 514-14 - Slot B1                           |
| Company:  | PICEANCE VLY NAD 83    | TVD Reference:               | KELLY BUSHING @ 5158.0usft (H&P 278 (24' RKB) kjs) |
| Project:  | SG 23-07S-096W         | MD Reference:                | KELLY BUSHING @ 5158.0usft (H&P 278 (24' RKB) kjs) |
| Site:     | GV 18-23 Pad           | North Reference:             | True   |
| Well:     | GM 514-14              | Survey Calculation Method:   | Minimum Curvature                                  |
| Wellbore: | Wellbore #1            |                              |  |
| Design:   | Design #1 06Apr11 kjs  |                              |  |

|             |  |               |                             |
|-------------|--|---------------|-----------------------------|
| Project     | SG 23-07S-096W, Garfield County, CO, 23-07S-096W |               |                             |
| 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                  | GV 18-23 Pad |              |                   |                   |                  |
| Site Position:        |              | Northing:    | 1,590,884.00 usft | Latitude:         | 39° 25' 38.266 N |
| From:                 | Map          | Easting:     | 2,270,829.40 usft | Longitude:        | 108° 4' 54.128 W |
| Position Uncertainty: | 0.0 usft     | Slot Radius: | 13.200 in         | Grid Convergence: | -1.628 °         |

|                      |                     |                     |           |                   |              |                  |
|----------------------|---------------------|---------------------|-----------|-------------------|--------------|------------------|
| Well                 | GM 514-14 - Slot B1 |                     |           |                   |              |                  |
| Well Position        | +N-S                | 0.0 usft            | Northing: | 1,590,921.60 usft | Latitude:    | 39° 25' 38.640 N |
|                      | +E-W                | 0.0 usft            | Easting:  | 2,270,838.90 usft | Longitude:   | 108° 4' 54.021 W |
| Position Uncertainty | 0.0 usft            | Wellhead Elevation: |           | Ground Level:     | 5,134.0 usft |                  |

|           |             |             |                 |               |                     |
|-----------|-------------|-------------|-----------------|---------------|---------------------|
| Wellbore  | Wellbore #1 |             |                 |               |                     |
| Magnetics | Model Name  | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|           | IGRF2005-10 | 2/4/2011    | 10.404          | 65.689        | 52,277              |

|                   |                         |              |               |               |
|-------------------|-------------------------|--------------|---------------|---------------|
| Design            | Design #1 06Apr11 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           | 322.74        |

| 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   |                      |
| 160.0                 | 0.00            | 0.00        | 160.0                 | 0.0          | 0.0          | 0.00                    | 0.00                   | 0.00                  | 0.000   |                      |
| 1,405.3               | 34.25           | 322.74      | 1,332.5               | 287.5        | -218.7       | 2.75                    | 2.75                   | 0.00                  | 322.745 |                      |
| 2,851.4               | 34.25           | 322.74      | 2,527.9               | 935.2        | -711.3       | 0.00                    | 0.00                   | 0.00                  | 0.000   |                      |
| 4,563.7               | 0.00            | 0.00        | 4,140.0               | 1,330.5      | -1,012.0     | 2.00                    | -2.00                  | 0.00                  | 180.000 | Top Gas (25' Radius) |
| 6,163.7               | 0.00            | 0.00        | 5,740.0               | 1,330.5      | -1,012.0     | 0.00                    | 0.00                   | 0.00                  | 0.000   |                      |

**Williams**  
Planning Report - Geographic

|                  |                        |                                     |  |
|------------------|------------------------|-------------------------------------|--|
| <b>Database:</b> | Compass R5000 WIN AUTH | <b>Local Co-ordinate Reference:</b> | Well GM 514-14 - Slot B1                           |
| <b>Company:</b>  | PICEANCE VLY NAD 83    | <b>TVD Reference:</b>               | KELLY BUSHING @ 5158.0usft (H&P 278 (24' RKB) kjs) |
| <b>Project:</b>  | SG 23-07S-096W         | <b>MD Reference:</b>                | KELLY BUSHING @ 5158.0usft (H&P 278 (24' RKB) kjs) |
| <b>Site:</b>     | GV 18-23 Pad           | <b>North Reference:</b>             | True   |
| <b>Well:</b>     | GM 514-14              | <b>Survey Calculation Method:</b>   | Minimum Curvature                                  |
| <b>Wellbore:</b> | Wellbore #1            |                                     |  |
| <b>Design:</b>   | Design #1 06Apr11 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          | 1,590,921.60        | 2,270,838.90       | 39° 25' 38.640 N | 108° 4' 54.021 W |  |
| 160.0                            | 0.00            | 0.00        | 160.0                 | 0.0          | 0.0          | 1,590,921.60        | 2,270,838.90       | 39° 25' 38.640 N | 108° 4' 54.021 W |  |
| <b>Start Build 2.75</b>          |                 |             |                       |              |              |                     |                    |                  |                  |  |
| 852.7                            | 18.05           | 322.74      | 840.0                 | 90.8         | -69.1        | 1,591,014.33        | 2,270,772.44       | 39° 25' 39.537 N | 108° 4' 54.901 W |  |
| <b>Top of "G" Sand</b>           |                 |             |                       |              |              |                     |                    |                  |                  |  |
| 959.5                            | 21.99           | 322.74      | 940.0                 | 120.6        | -91.7        | 1,591,044.74        | 2,270,750.65       | 39° 25' 39.832 N | 108° 4' 55.190 W |  |
| <b>Base of "G" Sand</b>          |                 |             |                       |              |              |                     |                    |                  |                  |  |
| 1,405.3                          | 34.25           | 322.74      | 1,332.5               | 287.5        | -218.7       | 1,591,215.18        | 2,270,628.51       | 39° 25' 41.481 N | 108° 4' 56.807 W |  |
| <b>Hold 34.25 Inclination</b>    |                 |             |                       |              |              |                     |                    |                  |                  |  |
| 1,505.0                          | 34.25           | 322.74      | 1,414.9               | 332.2        | -252.6       | 1,591,260.78        | 2,270,595.82       | 39° 25' 41.923 N | 108° 4' 57.240 W |  |
| <b>9 5/8"</b>                    |                 |             |                       |              |              |                     |                    |                  |                  |  |
| 2,851.4                          | 34.25           | 322.74      | 2,527.9               | 935.2        | -711.3       | 1,591,876.62        | 2,270,154.49       | 39° 25' 47.883 N | 108° 5' 3.086 W  |  |
| <b>Start Drop -2.00</b>          |                 |             |                       |              |              |                     |                    |                  |                  |  |
| 3,112.4                          | 29.03           | 322.74      | 2,750.0               | 1,044.2      | -794.1       | 1,591,987.85        | 2,270,074.78       | 39° 25' 48.960 N | 108° 5' 4.142 W  |  |
| <b>Mesaverde</b>                 |                 |             |                       |              |              |                     |                    |                  |                  |  |
| 4,563.7                          | 0.00            | 0.00        | 4,140.0               | 1,330.5      | -1,012.0     | 1,592,280.30        | 2,269,865.20       | 39° 25' 51.790 N | 108° 5' 6.918 W  |  |
| <b>Top Gas - Approx. Top Gas</b> |                 |             |                       |              |              |                     |                    |                  |                  |  |
| 5,523.7                          | 0.00            | 0.00        | 5,100.0               | 1,330.5      | -1,012.0     | 1,592,280.30        | 2,269,865.20       | 39° 25' 51.790 N | 108° 5' 6.918 W  |  |
| <b>Cameo Coals</b>               |                 |             |                       |              |              |                     |                    |                  |                  |  |
| 6,063.7                          | 0.00            | 0.00        | 5,640.0               | 1,330.5      | -1,012.0     | 1,592,280.30        | 2,269,865.20       | 39° 25' 51.790 N | 108° 5' 6.918 W  |  |
| <b>Rollins SS</b>                |                 |             |                       |              |              |                     |                    |                  |                  |  |
| 6,163.7                          | 0.00            | 0.00        | 5,740.0               | 1,330.5      | -1,012.0     | 1,592,280.30        | 2,269,865.20       | 39° 25' 51.790 N | 108° 5' 6.918 W  |  |
| <b>TD at 6163.7 - TD</b>         |                 |             |                       |              |              |                     |                    |                  |                  |  |

| Design Targets   |               |              |            |              |              |                 |                |                  |                 |  |
|--|---------------|--------------|------------|--------------|--------------|-----------------|----------------|------------------|-----------------|--|
| Target Name<br>- hit/miss target<br>- Shape                                    | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude         | Longitude       |  |
| Top Gas (25' Radius) GI<br>- plan hits target center<br>- Circle (radius 25.0) | 0.00          | 0.00         | 4,140.0    | 1,330.5      | -1,012.0     | 1,592,280.30    | 2,269,865.20   | 39° 25' 51.790 N | 108° 5' 6.918 W |  |

| Casing Points         |                       |        |                      |                    |  |  |
|-----------------------|-----------------------|--------|----------------------|--------------------|--|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name   | Casing Diameter (in) | Hole Diameter (in) |  |  |
| 1,505.0               | 1,414.9               | 9 5/8" | 9.625                | 12.250             |  |  |

**Williams**  
 Planning Report - Geographic

|                  |                        |                                     |  |
|------------------|------------------------|-------------------------------------|--|
| <b>Database:</b> | Compass R5000 WIN AUTH | <b>Local Co-ordinate Reference:</b> | Well GM 514-14 - Slot B1                           |
| <b>Company:</b>  | PICEANCE VLY NAD 83    | <b>TVD Reference:</b>               | KELLY BUSHING @ 5158.0usft (H&P 278 (24' RKB) kjs) |
| <b>Project:</b>  | SG 23-07S-096W         | <b>MD Reference:</b>                | KELLY BUSHING @ 5158.0usft (H&P 278 (24' RKB) kjs) |
| <b>Site:</b>     | GV 18-23 Pad           | <b>North Reference:</b>             | True   |
| <b>Well:</b>     | GM 514-14              | <b>Survey Calculation Method:</b>   | Minimum Curvature                                  |
| <b>Wellbore:</b> | Wellbore #1            |                                     |  |
| <b>Design:</b>   | Design #1 06Apr11 kjs  |                                     |  |

| Formations            |                       |                  |           |         |                   |
|-----------------------|-----------------------|------------------|-----------|---------|-------------------|
| Measured Depth (usft) | Vertical Depth (usft) | Name             | Lithology | Dip (°) | Dip Direction (°) |
| 852.7                 | 840.0                 | Top of "G" Sand  |           |         |                   |
| 959.5                 | 940.0                 | Base of "G" Sand |           |         |                   |
| 3,112.4               | 2,750.0               | Mesaverde        |           |         |                   |
| 4,563.7               | 4,140.0               | Approx. Top Gas  |           |         |                   |
| 5,523.7               | 5,100.0               | Cameo Coals      |           |         |                   |
| 6,063.7               | 5,640.0               | Rollins SS       |           |         |                   |
| 6,163.7               | 5,740.0               | TD               |           |         |                   |

| Plan Annotations      |                       |                   |              |                        |  |
|-----------------------|-----------------------|-------------------|--------------|------------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates |              | Comment                |  |
|                       |                       | +N/-S (usft)      | +E/-W (usft) |                        |  |
| 160.0                 | 160.0                 | 0.0               | 0.0          | Start Build 2.75       |  |
| 1,405.3               | 1,332.5               | 287.5             | -218.7       | Hold 34.25 Inclination |  |
| 2,851.4               | 2,527.9               | 935.2             | -711.3       | Start Drop -2.00       |  |
| 4,563.7               | 4,140.0               | 1,330.5           | -1,012.0     | Top Gas                |  |
| 6,163.7               | 5,740.0               | 1,330.5           | -1,012.0     | TD at 6163.7           |  |