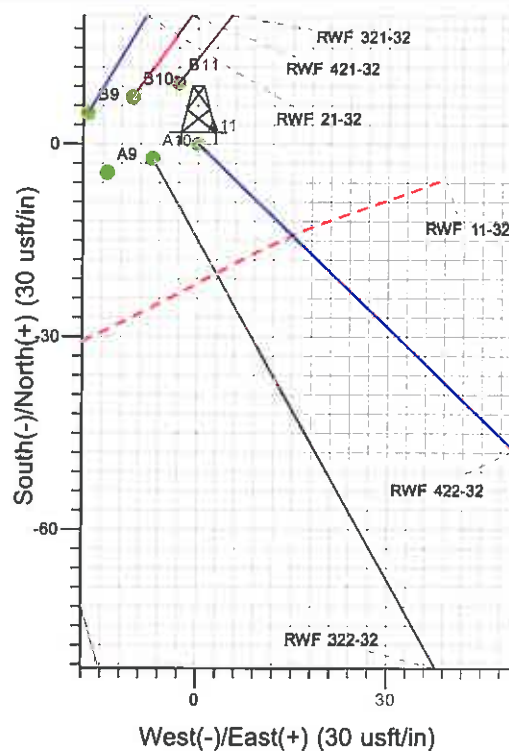
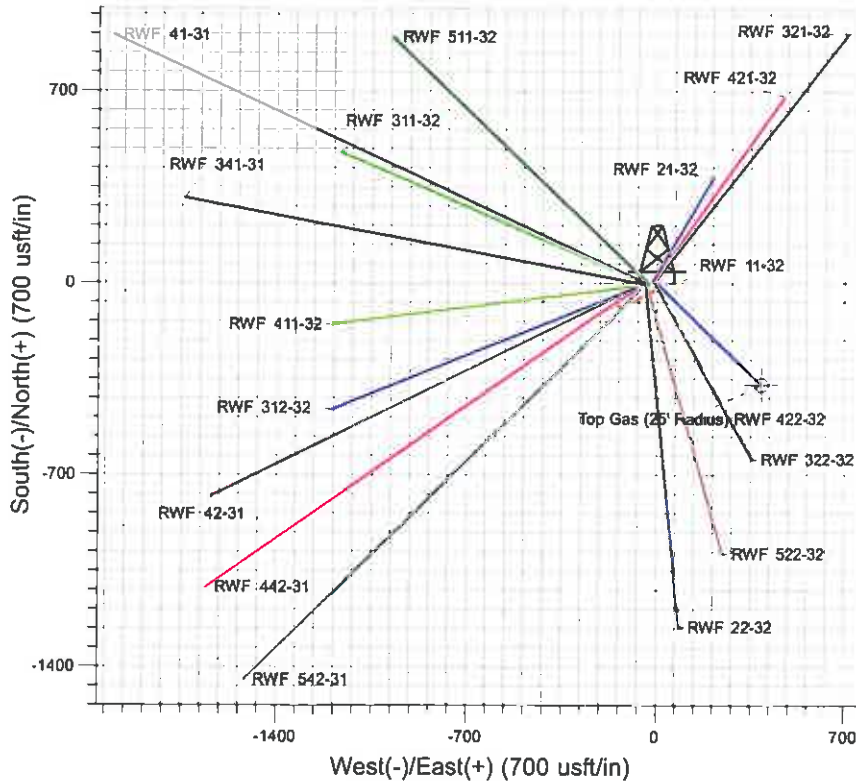
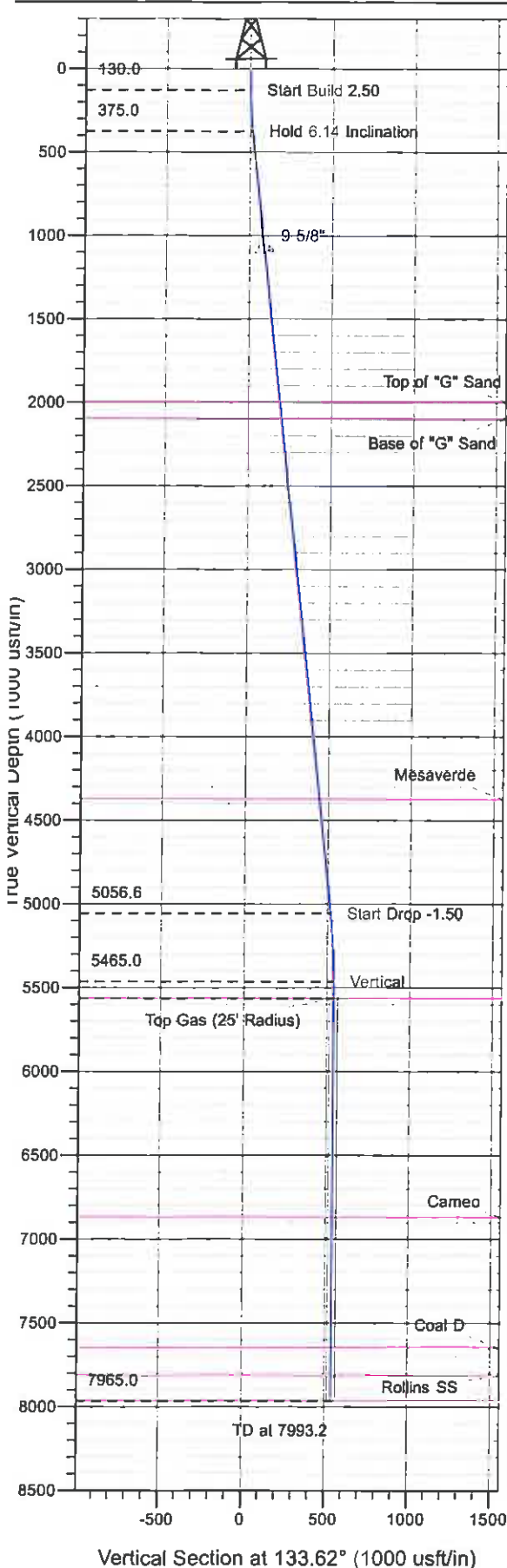




Surface Location: RWF 11-32 Pad  
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
 Ground Elevation: 5539.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1610869.50 2318272.30 39° 29' 8.618 N 107° 54' 56.480 W A11  
 KELLY BUSHING @ 5565.0usft (SSD 573 (26' RKB) kjs)



Project: RU 32-06S-094W  
 Site: RWF 11-32 Pad  
 Well: RWF 422-32  
 Design #1 08Jun11 kjs



Azimuths to True North  
 Magnetic North: 10.32°  
 Magnetic Field  
 Strength: 52261.0nT  
 Dip Angle: 65.75°  
 Date: 6/6/2011  
 Model: IGRF2010

#### ANNOTATIONS

| TVD    | MD     | Inc  | Azi    | +N/-S  | +E/-W | VSec  | Departure | Annotation            |
|--------|--------|------|--------|--------|-------|-------|-----------|-----------------------|
| 130.0  | 130.0  | 0.00 | 0.00   | 0.0    | 0.0   | 0.0   | 0.0       | Start Build 2.50      |
| 375.0  | 375.5  | 6.14 | 133.62 | -9.1   | 9.5   | 13.1  | 13.1      | Hold 6.14 Inclination |
| 5056.6 | 5084.0 | 6.14 | 133.62 | -356.4 | 374.0 | 516.6 | 516.6     | Start Drop -1.50      |
| 5465.0 | 5493.2 | 0.00 | 0.00   | -371.5 | 389.8 | 538.5 | 538.5     | Vertical              |
| 5565.0 | 5593.2 | 0.00 | 0.00   | -371.5 | 389.8 | 538.5 | 538.5     | Top Gas               |
| 7965.0 | 7993.2 | 0.00 | 0.00   | -371.5 | 389.8 | 538.5 | 538.5     | TD at 7993.2          |

# **PICEANCE VLY NAD 83**

**RU 32-06S-094W**

**RWF 11-32 Pad**

**RWF 422-32 - Slot A11**

**Wellbore #1**

**Plan: Design #1 08Jun11 kjs**

## **Standard Planning Report - Geographic**

**27 July, 2011**

**Williams**  
Planning Report - Geographic

|           |                        |                              |  |
|-----------|------------------------|------------------------------|--|
| Database: | Compass R5000 WIN AUTH | Local Co-ordinate Reference: | Well RWF 422-32 - Slot A11                         |
| Company:  | PICEANCE VLY NAD 83    | TVD Reference:               | KELLY BUSHING @ 5565.0usft (SSD 573 (26' RKB) kjs) |
| Project:  | RU 32-06S-094W         | MD Reference:                | KELLY BUSHING @ 5565.0usft (SSD 573 (26' RKB) kjs) |
| Site:     | RWF 11-32 Pad          | North Reference:             | True   |
| Well:     | RWF 422-32             | Survey Calculation Method:   | Minimum Curvature                                  |
| Wellbore: | Wellbore #1            |                              |  |
| Design:   | Design #1 08Jun11 kjs  |                              |  |

|             |                                     |               |                             |
|-------------|-------------------------------------|---------------|-----------------------------|
| Project     | RU 32-06S-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 | RWF 11-32 Pad |  |  |
|------|---------------|--|--|

|                       |          |              |                   |                   |                   |
|-----------------------|----------|--------------|-------------------|-------------------|-------------------|
| Site Position:        |          | Northing:    | 1,610,858.10 usft | Latitude:         | 39° 29' 8.495 N   |
| From:                 | Map      | Easting:     | 2,318,234.00 usft | Longitude:        | 107° 54' 56.965 W |
| Position Uncertainty: | 0.0 usft | Slot Radius: | 13.200 in         | Grid Convergence: | -1.524 °          |

|      |                       |  |  |
|------|-----------------------|--|--|
| Well | RWF 422-32 - Slot A11 |  |  |
|------|-----------------------|--|--|

|                      |       |          |                     |                   |               |                   |
|----------------------|-------|----------|---------------------|-------------------|---------------|-------------------|
| Well Position        | +N/-S | 0.0 usft | Northing:           | 1,610,869.50 usft | Latitude:     | 39° 29' 8.618 N   |
|                      | +E/-W | 0.0 usft | Easting:            | 2,318,272.30 usft | Longitude:    | 107° 54' 56.480 W |
| Position Uncertainty |       | 0.0 usft | Wellhead Elevation: |                   | Ground Level: | 5,539.0 usft      |

|          |             |  |  |
|----------|-------------|--|--|
| Wellbore | Wellbore #1 |  |  |
|----------|-------------|--|--|

| Magnetics | Model Name | Sample Date | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|-----------|------------|-------------|--------------------|------------------|------------------------|
|           | IGRF2010   | 6/6/2011    | 10.319             | 65.746           | 52,261                 |

|        |                       |  |  |
|--------|-----------------------|--|--|
| Design | Design #1 08Jun11 kjs |  |  |
|--------|-----------------------|--|--|

Audit Notes:

|          |        |      |               |     |
|----------|--------|------|---------------|-----|
| Version: | Phase: | PLAN | Tie On Depth: | 0.0 |
|----------|--------|------|---------------|-----|

| Vertical Section: | Depth From (TVD)<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Direction<br>(°) |
|-------------------|----------------------------|-----------------|-----------------|------------------|
|                   | 0.0                        | 0.0             | 0.0             | 133.62           |

|               |  |  |  |  |  |  |  |  |  |  |
|---------------|--|--|--|--|--|--|--|--|--|--|
| Plan Sections |  |  |  |  |  |  |  |  |  |  |
|---------------|--|--|--|--|--|--|--|--|--|--|

| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) | TFO<br>(°) | 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      |                      |
| 375.5                       | 6.14               | 133.62         | 375.0                       | -9.1            | 9.5             | 2.50                          | 2.50                         | 0.00                        | 133.619    |                      |
| 5,084.0                     | 6.14               | 133.62         | 5,056.6                     | -356.4          | 374.0           | 0.00                          | 0.00                         | 0.00                        | 0.000      |                      |
| 5,493.2                     | 0.00               | 0.00           | 5,465.0                     | -371.5          | 389.8           | 1.50                          | -1.50                        | 0.00                        | 180.000    |                      |
| 5,593.2                     | 0.00               | 0.00           | 5,565.0                     | -371.5          | 389.8           | 0.00                          | 0.00                         | 0.00                        | 0.000      | Top Gas (25' Radius) |
| 7,993.2                     | 0.00               | 0.00           | 7,965.0                     | -371.5          | 389.8           | 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 RWF 422-32 - Slot A11                         |
| <b>Company:</b>  | PICEANCE VLY NAD 83    | <b>TVD Reference:</b>               | KELLY BUSHING @ 5565.0usft (SSD 573 (26' RKB) kjs) |
| <b>Project:</b>  | RU 32-06S-094W         | <b>MD Reference:</b>                | KELLY BUSHING @ 5565.0usft (SSD 573 (26' RKB) kjs) |
| <b>Site:</b>     | RWF 11-32 Pad          | <b>North Reference:</b>             | True   |
| <b>Well:</b>     | RWF 422-32             | <b>Survey Calculation Method:</b>   | Minimum Curvature                                  |
| <b>Wellbore:</b> | Wellbore #1            |                                     |  |
| <b>Design:</b>   | Design #1 08Jun11 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          | 1,610,869.50        | 2,318,272.30       | 39° 29' 8.618 N | 107° 54' 56.480 W |
| 130.0  | 0.00            | 0.00        | 130.0                 | 0.0          | 0.0          | 1,610,869.50        | 2,318,272.30       | 39° 29' 8.618 N | 107° 54' 56.480 W |
| <b>Start Build 2.50</b>  |                 |             |                       |              |              |                     |                    |                 |                   |
| 375.5  | 6.14            | 133.62      | 375.0                 | -9.1         | 9.5          | 1,610,860.18        | 2,318,281.57       | 39° 29' 8.528 N | 107° 54' 56.359 W |
| <b>Hold 6.14 Inclination</b>                                       |                 |             |                       |              |              |                     |                    |                 |                   |
| 1,104.6  | 6.14            | 133.62      | 1,100.0               | -62.8        | 66.0         | 1,610,804.92        | 2,318,336.56       | 39° 29' 7.997 N | 107° 54' 55.639 W |
| <b>9 5/8"</b>  |                 |             |                       |              |              |                     |                    |                 |                   |
| 2,004.8  | 6.14            | 133.62      | 1,995.0               | -129.2       | 135.6        | 1,610,736.70        | 2,318,404.44       | 39° 29' 7.340 N | 107° 54' 54.750 W |
| <b>Top of "G" Sand</b>   |                 |             |                       |              |              |                     |                    |                 |                   |
| 2,105.4  | 6.14            | 133.62      | 2,095.0               | -136.7       | 143.4        | 1,610,729.07        | 2,318,412.02       | 39° 29' 7.267 N | 107° 54' 54.651 W |
| <b>Base of "G" Sand</b>  |                 |             |                       |              |              |                     |                    |                 |                   |
| 4,398.5  | 6.14            | 133.62      | 4,375.0               | -305.8       | 320.9        | 1,610,555.27        | 2,318,584.96       | 39° 29' 5.595 N | 107° 54' 52.387 W |
| <b>Mesaverde</b>   |                 |             |                       |              |              |                     |                    |                 |                   |
| 5,084.0  | 6.14            | 133.62      | 5,056.6               | -356.4       | 374.0        | 1,610,503.32        | 2,318,636.66       | 39° 29' 5.096 N | 107° 54' 51.710 W |
| <b>Start Drop -1.50</b>  |                 |             |                       |              |              |                     |                    |                 |                   |
| 5,493.2  | 0.00            | 0.00        | 5,465.0               | -371.5       | 389.8        | 1,610,487.80        | 2,318,652.10       | 39° 29' 4.946 N | 107° 54' 51.508 W |
| <b>Vertical</b>  |                 |             |                       |              |              |                     |                    |                 |                   |
| 5,593.2  | 0.00            | 0.00        | 5,565.0               | -371.5       | 389.8        | 1,610,487.80        | 2,318,652.10       | 39° 29' 4.946 N | 107° 54' 51.508 W |
| <b>Top Gas - Approx. Top Gas - Top Gas (25' Radius) RWF 422-32</b> |                 |             |                       |              |              |                     |                    |                 |                   |
| 6,898.2  | 0.00            | 0.00        | 6,870.0               | -371.5       | 389.8        | 1,610,487.80        | 2,318,652.10       | 39° 29' 4.946 N | 107° 54' 51.508 W |
| <b>Cameo</b>   |                 |             |                       |              |              |                     |                    |                 |                   |
| 7,678.2  | 0.00            | 0.00        | 7,650.0               | -371.5       | 389.8        | 1,610,487.80        | 2,318,652.10       | 39° 29' 4.946 N | 107° 54' 51.508 W |
| <b>Coal D</b>  |                 |             |                       |              |              |                     |                    |                 |                   |
| 7,843.2  | 0.00            | 0.00        | 7,815.0               | -371.5       | 389.8        | 1,610,487.80        | 2,318,652.10       | 39° 29' 4.946 N | 107° 54' 51.508 W |
| <b>Rollins SS</b>  |                 |             |                       |              |              |                     |                    |                 |                   |
| 7,993.2  | 0.00            | 0.00        | 7,965.0               | -371.5       | 389.8        | 1,610,487.80        | 2,318,652.10       | 39° 29' 4.946 N | 107° 54' 51.508 W |
| <b>TD at 7993.2 - TD</b>   |                 |             |                       |              |              |                     |                    |                 |                   |

**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) RI   | 0.00          | 0.00         | 5,565.0    | -371.5       | 389.8        | 1,610,487.80    | 2,318,652.10   | 39° 29' 4.946 N | 107° 54' 51.508 W |
| - plan hits target center |               |              |            |              |              |                 |                |                 |                   |
| - Circle (radius 25.0)    |               |              |            |              |              |                 |                |                 |                   |

**Casing Points**

| Measured Depth (usft) | Vertical Depth (usft) | Name   | Casing Diameter (in) | Hole Diameter (in) |
|-----------------------|-----------------------|--------|----------------------|--------------------|
| 1,104.6               | 1,100.0               | 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 RWF 422-32 - Slot A11                         |
| <b>Company:</b>  | PICEANCE VLY NAD 83    | <b>TVD Reference:</b>               | KELLY BUSHING @ 5565.0usft (SSD 573 (26' RKB) kjs) |
| <b>Project:</b>  | RU 32-06S-094W         | <b>MD Reference:</b>                | KELLY BUSHING @ 5565.0usft (SSD 573 (26' RKB) kjs) |
| <b>Site:</b>     | RWF 11-32 Pad          | <b>North Reference:</b>             | True   |
| <b>Well:</b>     | RWF 422-32             | <b>Survey Calculation Method:</b>   | Minimum Curvature                                  |
| <b>Wellbore:</b> | Wellbore #1            |                                     |  |
| <b>Design:</b>   | Design #1 08Jun11 kjs  |                                     |  |

**Formations:**

| Measured Depth (usft) | Vertical Depth (usft) | Name             | Lithology | Dip (°) | Dip Direction (°) |
|-----------------------|-----------------------|------------------|-----------|---------|-------------------|
| 2,004.8               | 1,995.0               | Top of "G" Sand  |           |         |                   |
| 2,105.4               | 2,095.0               | Base of "G" Sand |           |         |                   |
| 4,398.5               | 4,375.0               | Mesaverde        |           |         |                   |
| 5,593.2               | 5,565.0               | Approx. Top Gas  |           |         |                   |
| 6,898.2               | 6,870.0               | Cameo            |           |         |                   |
| 7,678.2               | 7,650.0               | Coal D           |           |         |                   |
| 7,843.2               | 7,815.0               | Rollins SS       |           |         |                   |
| 7,993.2               | 7,965.0               | TD               |           |         |                   |

**Plan Annotations:**

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates |              | Comment               |
|-----------------------|-----------------------|-------------------|--------------|-----------------------|
|                       |                       | +N/-S (usft)      | +E/-W (usft) |                       |
| 130.0                 | 130.0                 | 0.0               | 0.0          | Start Build 2.50      |
| 375.5                 | 375.0                 | -9.1              | 9.5          | Hold 6.14 Inclination |
| 5,084.0               | 5,056.6               | -356.4            | 374.0        | Start Drop -1.50      |
| 5,493.2               | 5,465.0               | -371.5            | 389.8        | Vertical              |
| 5,593.2               | 5,565.0               | -371.5            | 389.8        | Top Gas               |
| 7,993.2               | 7,965.0               | -371.5            | 389.8        | TD at 7993.2          |