

# **PICEANCE VLY NAD 83**

**RU 07-07S-093W**

**RU 22-7 Pad**

**RU 31-7 - Slot A8**

**Wellbore #1**

**Plan: Design #2 28Mar16 sam**

## **Standard Planning Report**

**13 April, 2016**

# WPX Planning Report

|                  |                       |                                     |                             |
|------------------|-----------------------|-------------------------------------|-----------------------------|
| <b>Database:</b> | COMPASS               | <b>Local Co-ordinate Reference:</b> | Well RU 31-7 (A8) - Slot A8 |
| <b>Company:</b>  | PICEANCE VLY NAD 83   | <b>TVD Reference:</b>               | KB @ 7363.00usft (HP 318)   |
| <b>Project:</b>  | RU 07-07S-093W        | <b>MD Reference:</b>                | KB @ 7363.00usft (HP 318)   |
| <b>Site:</b>     | RU 22-7 Pad           | <b>North Reference:</b>             | True                        |
| <b>Well:</b>     | RU 31-7               | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Wellbore:</b> | Wellbore #1           |                                     |                             |
| <b>Design:</b>   | Design #2 28Mar16 sam |                                     |                             |

|                    |                                     |                      |                             |
|--------------------|-------------------------------------|----------------------|-----------------------------|
| <b>Project</b>     | RU 07-07S-093W, Garfield County, CO |                      |                             |
| <b>Map System:</b> | US State Plane 1983                 | <b>System Datum:</b> | Mean Sea Level              |
| <b>Geo Datum:</b>  | North American Datum 1983           |                      |                             |
| <b>Map Zone:</b>   | Colorado Central Zone               |                      | Using geodetic scale factor |

|                              |                  |                     |                   |                          |         |
|------------------------------|------------------|---------------------|-------------------|--------------------------|---------|
| <b>Site</b>                  | RU 22-7 Pad      |                     |                   |                          |         |
| <b>Site Position:</b>        | <b>Northing:</b> | 1,599,673.60 usft   | <b>Latitude:</b>  | 39.456918                |         |
| <b>From:</b> Map             | <b>Easting:</b>  | 2,345,086.00 usft   | <b>Longitude:</b> | -107.819705              |         |
| <b>Position Uncertainty:</b> | 0.00 usft        | <b>Slot Radius:</b> | 13.200 in         | <b>Grid Convergence:</b> | -1.46 ° |

|                             |                   |            |                            |                   |                      |               |
|-----------------------------|-------------------|------------|----------------------------|-------------------|----------------------|---------------|
| <b>Well</b>                 | RU 31-7 - Slot A8 |            |                            |                   |                      |               |
| <b>Well Position</b>        | <b>+N/-S</b>      | 42.91 usft | <b>Northing:</b>           | 1,599,716.15 usft | <b>Latitude:</b>     | 39.457036     |
|                             | <b>+E/-W</b>      | 13.58 usft | <b>Easting:</b>            | 2,345,100.67 usft | <b>Longitude:</b>    | -107.819657   |
| <b>Position Uncertainty</b> |                   | 0.00 usft  | <b>Wellhead Elevation:</b> | 0.00 usft         | <b>Ground Level:</b> | 7,339.00 usft |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Wellbore #1       |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2015          | 3/9/2016           | 9.75                   | 65.61                | 51,661                     |

|                          |                                |                     |                      |                            |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------------|
| <b>Design</b>            | Design #2 28Mar16 sam          |                     |                      |                            |
| <b>Audit Notes:</b>      |                                |                     |                      |                            |
| <b>Version:</b>          | <b>Phase:</b>                  | PLAN                | <b>Tie On Depth:</b> | 0.00                       |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b>  | <b>Direction (bearing)</b> |
|                          | 0.00                           | 0.00                | 0.00                 | 13.07                      |

| <b>Plan Sections</b>  |                 |                   |                       |              |              |                         |                        |                       |         |                     |
|-----------------------|-----------------|-------------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|---------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (bearing) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target              |
| 0.00                  | 0.00            | 0.00              | 0.00                  | 0.00         | 0.00         | 0.00                    | 0.00                   | 0.00                  | 0.00    |                     |
| 121.00                | 0.00            | 0.00              | 121.00                | 0.00         | 0.00         | 0.00                    | 0.00                   | 0.00                  | 0.00    |                     |
| 878.45                | 26.51           | 13.05             | 851.71                | 167.69       | 38.87        | 3.50                    | 3.50                   | 0.00                  | 13.05   |                     |
| 4,273.76              | 26.51           | 13.05             | 3,890.01              | 1,644.08     | 381.14       | 0.00                    | 0.00                   | 0.00                  | 0.00    |                     |
| 6,041.15              | 0.00            | 0.00              | 5,595.00              | 2,035.35     | 471.84       | 1.50                    | -1.50                  | 0.00                  | 180.00  |                     |
| 6,141.15              | 0.00            | 0.00              | 5,695.00              | 2,035.35     | 471.84       | 0.00                    | 0.00                   | 0.00                  | 0.00    | 10 acre RU 31-7 MVF |
| 9,901.15              | 0.00            | 0.00              | 9,455.00              | 2,035.35     | 471.84       | 0.00                    | 0.00                   | 0.00                  | 0.00    |                     |

**WPX**  
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|                  |                       |                                     |                             |
|------------------|-----------------------|-------------------------------------|-----------------------------|
| <b>Database:</b> | COMPASS               | <b>Local Co-ordinate Reference:</b> | Well RU 31-7 (A8) - Slot A8 |
| <b>Company:</b>  | PICEANCE VLY NAD 83   | <b>TVD Reference:</b>               | KB @ 7363.00usft (HP 318)   |
| <b>Project:</b>  | RU 07-07S-093W        | <b>MD Reference:</b>                | KB @ 7363.00usft (HP 318)   |
| <b>Site:</b>     | RU 22-7 Pad           | <b>North Reference:</b>             | True                        |
| <b>Well:</b>     | RU 31-7               | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Wellbore:</b> | Wellbore #1           |                                     |                             |
| <b>Design:</b>   | Design #2 28Mar16 sam |                                     |                             |

| Planned Survey                     |                 |                   |                       |              |              |                         |                         |                        |                       |      |
|------------------------------------|-----------------|-------------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|------|
| Measured Depth (usft)              | Inclination (°) | Azimuth (bearing) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |      |
| 0.00                               | 0.00            | 0.00              | 0.00                  | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| 121.00                             | 0.00            | 0.00              | 121.00                | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  | 0.00 |
| <b>Start Build 3.50</b>            |                 |                   |                       |              |              |                         |                         |                        |                       |      |
| 500.00                             | 13.27           | 13.05             | 496.62                | 42.55        | 9.86         | 43.68                   | 3.50                    | 3.50                   | 0.00                  |      |
| 878.45                             | 26.51           | 13.05             | 851.71                | 167.69       | 38.87        | 172.13                  | 3.50                    | 3.50                   | 0.00                  |      |
| <b>Hold 26.51 Inclination</b>      |                 |                   |                       |              |              |                         |                         |                        |                       |      |
| 1,000.00                           | 26.51           | 13.05             | 960.48                | 220.54       | 51.13        | 226.39                  | 0.00                    | 0.00                   | 0.00                  |      |
| 1,124.00                           | 26.51           | 13.05             | 1,071.44              | 274.46       | 63.63        | 281.74                  | 0.00                    | 0.00                   | 0.00                  |      |
| <b>9 5/8"</b>                      |                 |                   |                       |              |              |                         |                         |                        |                       |      |
| 1,500.00                           | 26.51           | 13.05             | 1,407.90              | 437.96       | 101.53       | 449.57                  | 0.00                    | 0.00                   | 0.00                  |      |
| 2,000.00                           | 26.51           | 13.05             | 1,855.33              | 655.37       | 151.93       | 672.75                  | 0.00                    | 0.00                   | 0.00                  |      |
| 2,500.00                           | 26.51           | 13.05             | 2,302.76              | 872.79       | 202.33       | 895.94                  | 0.00                    | 0.00                   | 0.00                  |      |
| 3,000.00                           | 26.51           | 13.05             | 2,750.18              | 1,090.21     | 252.74       | 1,119.12                | 0.00                    | 0.00                   | 0.00                  |      |
| 3,500.00                           | 26.51           | 13.05             | 3,197.61              | 1,307.63     | 303.14       | 1,342.30                | 0.00                    | 0.00                   | 0.00                  |      |
| 3,523.91                           | 26.51           | 13.05             | 3,219.00              | 1,318.02     | 305.55       | 1,352.98                | 0.00                    | 0.00                   | 0.00                  |      |
| <b>Top of "G" Sand</b>             |                 |                   |                       |              |              |                         |                         |                        |                       |      |
| 3,596.55                           | 26.51           | 13.05             | 3,284.00              | 1,349.61     | 312.87       | 1,385.40                | 0.00                    | 0.00                   | 0.00                  |      |
| <b>Base of "G" Sand</b>            |                 |                   |                       |              |              |                         |                         |                        |                       |      |
| 4,000.00                           | 26.51           | 13.05             | 3,645.03              | 1,525.04     | 353.54       | 1,565.49                | 0.00                    | 0.00                   | 0.00                  |      |
| 4,273.76                           | 26.51           | 13.05             | 3,890.01              | 1,644.08     | 381.14       | 1,687.68                | 0.00                    | 0.00                   | 0.00                  |      |
| <b>Start Drop -1.50</b>            |                 |                   |                       |              |              |                         |                         |                        |                       |      |
| 4,500.00                           | 23.12           | 13.05             | 4,095.33              | 1,736.56     | 402.58       | 1,782.62                | 1.50                    | -1.50                  | 0.00                  |      |
| 5,000.00                           | 15.62           | 13.05             | 4,566.70              | 1,897.98     | 440.00       | 1,948.31                | 1.50                    | -1.50                  | 0.00                  |      |
| 5,500.00                           | 8.12            | 13.05             | 5,055.66              | 1,998.07     | 463.20       | 2,051.06                | 1.50                    | -1.50                  | 0.00                  |      |
| 6,000.00                           | 0.62            | 13.05             | 5,553.85              | 2,035.13     | 471.79       | 2,089.11                | 1.50                    | -1.50                  | 0.00                  |      |
| 6,041.15                           | 0.00            | 0.00              | 5,595.00              | 2,035.35     | 471.84       | 2,089.33                | 1.50                    | -1.50                  | 0.00                  |      |
| <b>Vertical</b>                    |                 |                   |                       |              |              |                         |                         |                        |                       |      |
| 6,141.15                           | 0.00            | 0.00              | 5,695.00              | 2,035.35     | 471.84       | 2,089.33                | 0.00                    | 0.00                   | 0.00                  |      |
| <b>MVRD target - Mesaverde</b>     |                 |                   |                       |              |              |                         |                         |                        |                       |      |
| 6,500.00                           | 0.00            | 0.00              | 6,053.85              | 2,035.35     | 471.84       | 2,089.33                | 0.00                    | 0.00                   | 0.00                  |      |
| 7,000.00                           | 0.00            | 0.00              | 6,553.85              | 2,035.35     | 471.84       | 2,089.33                | 0.00                    | 0.00                   | 0.00                  |      |
| 7,500.00                           | 0.00            | 0.00              | 7,053.85              | 2,035.35     | 471.84       | 2,089.33                | 0.00                    | 0.00                   | 0.00                  |      |
| 7,681.15                           | 0.00            | 0.00              | 7,235.00              | 2,035.35     | 471.84       | 2,089.33                | 0.00                    | 0.00                   | 0.00                  |      |
| <b>Approx. Top Gas</b>             |                 |                   |                       |              |              |                         |                         |                        |                       |      |
| 8,000.00                           | 0.00            | 0.00              | 7,553.85              | 2,035.35     | 471.84       | 2,089.33                | 0.00                    | 0.00                   | 0.00                  |      |
| 8,500.00                           | 0.00            | 0.00              | 8,053.85              | 2,035.35     | 471.84       | 2,089.33                | 0.00                    | 0.00                   | 0.00                  |      |
| 8,903.15                           | 0.00            | 0.00              | 8,457.00              | 2,035.35     | 471.84       | 2,089.33                | 0.00                    | 0.00                   | 0.00                  |      |
| <b>Cameo</b>                       |                 |                   |                       |              |              |                         |                         |                        |                       |      |
| 9,000.00                           | 0.00            | 0.00              | 8,553.85              | 2,035.35     | 471.84       | 2,089.33                | 0.00                    | 0.00                   | 0.00                  |      |
| 9,500.00                           | 0.00            | 0.00              | 9,053.85              | 2,035.35     | 471.84       | 2,089.33                | 0.00                    | 0.00                   | 0.00                  |      |
| 9,628.15                           | 0.00            | 0.00              | 9,182.00              | 2,035.35     | 471.84       | 2,089.33                | 0.00                    | 0.00                   | 0.00                  |      |
| <b>Coal D</b>                      |                 |                   |                       |              |              |                         |                         |                        |                       |      |
| 9,751.15                           | 0.00            | 0.00              | 9,305.00              | 2,035.35     | 471.84       | 2,089.33                | 0.00                    | 0.00                   | 0.00                  |      |
| <b>Rollins</b>                     |                 |                   |                       |              |              |                         |                         |                        |                       |      |
| 9,901.15                           | 0.00            | 0.00              | 9,455.00              | 2,035.35     | 471.84       | 2,089.33                | 0.00                    | 0.00                   | 0.00                  |      |
| <b>9901.15 Measured depth - TD</b> |                 |                   |                       |              |              |                         |                         |                        |                       |      |

**WPX**  
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|                  |                       |                                     |                             |
|------------------|-----------------------|-------------------------------------|-----------------------------|
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| <b>Company:</b>  | PICEANCE VLY NAD 83   | <b>TVD Reference:</b>               | KB @ 7363.00usft (HP 318)   |
| <b>Project:</b>  | RU 07-07S-093W        | <b>MD Reference:</b>                | KB @ 7363.00usft (HP 318)   |
| <b>Site:</b>     | RU 22-7 Pad           | <b>North Reference:</b>             | True                        |
| <b>Well:</b>     | RU 31-7               | <b>Survey Calculation Method:</b>   | Minimum Curvature           |
| <b>Wellbore:</b> | Wellbore #1           |                                     |                             |
| <b>Design:</b>   | Design #2 28Mar16 sam |                                     |                             |

| Design Targets   |           |           |          |          |        |              |              |           |             |
|--|-----------|-----------|----------|----------|--------|--------------|--------------|-----------|-------------|
| Target Name  | Dip Angle | Dip Dir.  | TVD      | +N/-S    | +E/-W  | Northing     | Easting      | Latitude  | Longitude   |
| - hit/miss target  | (°)       | (bearing) | (usft)   | (usft)   | (usft) | (usft)       | (usft)       |           |             |
| - Shape  |           |           |          |          |        |              |              |           |             |
| 10 acre RU 31-7 MVRD<br>- plan hits target center<br>- Circle (radius 50.00) | 0.00      | 0.00      | 5,695.00 | 2,035.35 | 471.84 | 1,601,738.70 | 2,345,624.30 | 39.462624 | -107.817985 |

| Casing Points  |                |        |                 |               |  |
|----------------|----------------|--------|-----------------|---------------|--|
| Measured Depth | Vertical Depth | Name   | Casing Diameter | Hole Diameter |  |
| (usft)         | (usft)         |        | (in)            | (in)          |  |
| 1,124.00       | 1,071.44       | 9 5/8" | 9.625           | 13.500        |  |

| Formations     |                |                  |           |      |               |  |
|----------------|----------------|------------------|-----------|------|---------------|--|
| Measured Depth | Vertical Depth | Name             | Lithology | Dip  | Dip Direction |  |
| (usft)         | (usft)         |                  |           | (°)  | (bearing)     |  |
| 3,523.91       | 3,219.00       | Top of "G" Sand  |           | 0.00 |               |  |
| 3,596.55       | 3,284.00       | Base of "G" Sand |           | 0.00 |               |  |
| 6,141.15       | 5,695.00       | Mesaverde        |           | 0.00 |               |  |
| 7,681.15       | 7,235.00       | Approx. Top Gas  |           | 0.00 |               |  |
| 8,903.15       | 8,457.00       | Cameo            |           | 0.00 |               |  |
| 9,628.15       | 9,182.00       | Coal D           |           | 0.00 |               |  |
| 9,751.15       | 9,305.00       | Rollins          |           | 0.00 |               |  |
| 9,901.15       | 9,455.00       | TD               |           | 0.00 |               |  |

| Plan Annotations |                |                   |        |                        |  |
|------------------|----------------|-------------------|--------|------------------------|--|
| Measured Depth   | Vertical Depth | Local Coordinates |        | Comment                |  |
| (usft)           | (usft)         | +N/-S             | +E/-W  |                        |  |
| (usft)           | (usft)         | (usft)            | (usft) |                        |  |
| 121.00           | 121.00         | 0.00              | 0.00   | Start Build 3.50       |  |
| 878.45           | 851.71         | 167.69            | 38.87  | Hold 26.51 Inclination |  |
| 4,273.76         | 3,890.01       | 1,644.08          | 381.14 | Start Drop -1.50       |  |
| 6,041.15         | 5,595.00       | 2,035.35          | 471.84 | Vertical               |  |
| 6,141.15         | 5,695.00       | 2,035.35          | 471.84 | MVRD target            |  |
| 9,901.15         | 9,455.00       | 2,035.35          | 471.84 | 9901.15 Measured depth |  |