



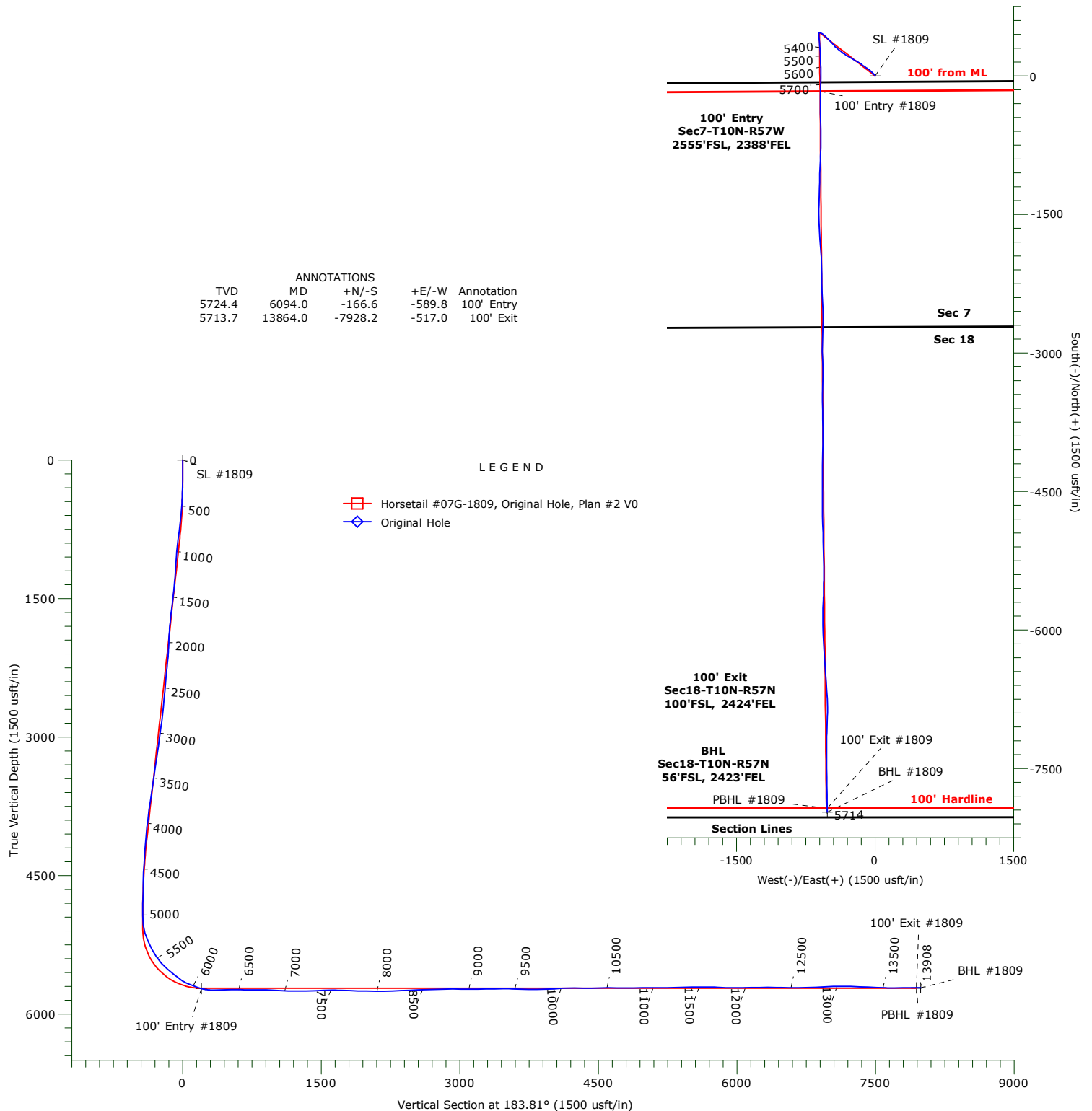
# WHITING PETROLEUM CORP.

Project: Weld County, CO  
Site: Sec 7-T10N-R57W  
Well: Horsetail #07G-1809  
Wellbore: Original Hole  
Design: Original Hole



**Precision**  
Directional Services

Surface  
Section 7-T10N-R57W  
2593'FNL, 1795'FEL



## WELLBORE TARGET DETAILS

| Name             | TVD    | +N/-S   | +E/-W  | Northing   | Easting    | Latitude    | Longitude    | Shape |
|------------------|--------|---------|--------|------------|------------|-------------|--------------|-------|
| SL #1809         | 0.0    | 0.0     | 0.0    | 1558382.23 | 3472545.37 | 40.853642°N | 103.791775°W | Point |
| 100' Exit #1809  | 5713.7 | -7928.2 | -517.0 | 1550445.56 | 3472181.15 | 40.831881°N | 103.793643°W | Point |
| BHL #1809        | 5713.8 | -7972.2 | -516.0 | 1550401.60 | 3472183.07 | 40.831761°N | 103.793639°W | Point |
| PBHL #1809       | 5720.0 | -7928.5 | -527.3 | 1550445.05 | 3472170.86 | 40.831881°N | 103.793681°W | Point |
| 100' Entry #1809 | 5724.4 | -166.6  | -589.8 | 1558204.30 | 3471958.88 | 40.853184°N | 103.793907°W | Point |

# Precision Drilling Corporation

## Survey Report

|                  |                         |                                     |                          |
|------------------|-------------------------|-------------------------------------|--------------------------|
| <b>Company:</b>  | WHITING PETROLEUM CORP. | <b>Local Co-ordinate Reference:</b> | Well Horsetail #07G-1809 |
| <b>Project:</b>  | Weld County, CO         | <b>TVD Reference:</b>               | KBE @ 4916.0usft         |
| <b>Site:</b>     | Sec 7-T10N-R57W         | <b>MD Reference:</b>                | KBE @ 4916.0usft         |
| <b>Well:</b>     | Horsetail #07G-1809     | <b>North Reference:</b>             | True                     |
| <b>Wellbore:</b> | Original Hole           | <b>Survey Calculation Method:</b>   | Minimum Curvature        |
| <b>Design:</b>   | Original Hole           | <b>Database:</b>                    | Compass_Rockies          |

|                    |                           |                      |                |
|--------------------|---------------------------|----------------------|----------------|
| <b>Project</b>     | Weld 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 Northern Zone    |                      |                |

|                       |          |                 |                   |            |                   |        |
|-----------------------|----------|-----------------|-------------------|------------|-------------------|--------|
| Site                  |          | Sec 7-T10N-R57W |                   |            |                   |        |
| Site Position:        |          | Northing:       | 1,558,398.04 usft | Latitude:  | 40° 51' 13.770 N  |        |
| From:                 | Lat/Long | Easting:        | 3,469,889.54 usft | Longitude: | 103° 48' 4.940 W  |        |
| Position Uncertainty: |          | 0.0 usft        | Slot Radius:      | 13.20 in   | Grid Convergence: | 1.10 ° |

| Well                 |      | Horsetail #07G-1809 |                     |                   |               |                   |
|----------------------|------|---------------------|---------------------|-------------------|---------------|-------------------|
| Well Position        | +N-S | 0.0 usft            | Northing:           | 1,558,382.24 usft | Latitude:     | 40° 51' 13.110 N  |
|                      | +E-W | 0.0 usft            | Easting:            | 3,472,545.37 usft | Longitude:    | 103° 47' 30.390 W |
| Position Uncertainty |      | 0.0 usft            | Wellhead Elevation: | usft              | Ground Level: | 4,895.0 usft      |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Original Hole     |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2010          | 01/06/15           | 7.88                   | 67.44                | 53,088                     |

|                          |                                |                     |                     |                      |     |
|--------------------------|--------------------------------|---------------------|---------------------|----------------------|-----|
| <b>Design</b>            | Original Hole                  |                     |                     |                      |     |
| <b>Audit Notes:</b>      |                                |                     |                     |                      |     |
| <b>Version:</b>          | 1.0                            | <b>Phase:</b>       | ACTUAL              | <b>Tie On Depth:</b> | 0.0 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b> | <b>Direction (°)</b> |     |
|                          | 0.0                            | 0.0                 | 0.0                 | 183.81               |     |

|                       |                  |                           |                  |                           |  |
|-----------------------|------------------|---------------------------|------------------|---------------------------|--|
| <b>Survey Program</b> | <b>Date</b>      | 04/06/16                  |                  |                           |  |
| <b>From (usft)</b>    | <b>To (usft)</b> | <b>Survey (Wellbore)</b>  | <b>Tool Name</b> | <b>Description</b>        |  |
| 222.0                 | 13,807.0         | Survey #1 (Original Hole) | MWD+IFR+MS       | MWD + IFR + Multi Station |  |
| 13,908.0              | 13,908.0         | Survey #2 (Original Hole) | BLIND            | OWSG BLIND                |  |

|                              |                        |                    |                              |                     |                     |                                |                                |                               |                              |
|------------------------------|------------------------|--------------------|------------------------------|---------------------|---------------------|--------------------------------|--------------------------------|-------------------------------|------------------------------|
| <b>Survey</b>                |                        |                    |                              |                     |                     |                                |                                |                               |                              |
| <b>Measured Depth (usft)</b> | <b>Inclination (°)</b> | <b>Azimuth (°)</b> | <b>Vertical Depth (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b> | <b>Vertical Section (usft)</b> | <b>Dogleg Rate (°/100usft)</b> | <b>Build Rate (°/100usft)</b> | <b>Turn Rate (°/100usft)</b> |
| 0.0                          | 0.00                   | 0.00               | 0.0                          | 0.0                 | 0.0                 | 0.0                            | 0.00                           | 0.00                          | 0.00                         |
| <b>SL #1809</b>              |                        |                    |                              |                     |                     |                                |                                |                               |                              |
| 222.0                        | 1.06                   | 121.59             | 222.0                        | -1.1                | 1.7                 | 1.0                            | 0.48                           | 0.48                          | 0.00                         |
| 314.0                        | 1.73                   | 6.50               | 314.0                        | -0.1                | 2.6                 | 0.0                            | 2.59                           | 0.73                          | -125.10                      |
| 405.0                        | 2.90                   | 338.77             | 404.9                        | 3.4                 | 2.0                 | -3.5                           | 1.74                           | 1.29                          | -30.47                       |
| 497.0                        | 4.94                   | 321.67             | 496.7                        | 8.6                 | -1.3                | -8.5                           | 2.53                           | 2.22                          | -18.59                       |
| 589.0                        | 7.46                   | 317.37             | 588.1                        | 16.1                | -7.8                | -15.6                          | 2.78                           | 2.74                          | -4.67                        |
| 681.0                        | 11.27                  | 313.53             | 678.9                        | 26.7                | -18.4               | -25.5                          | 4.19                           | 4.14                          | -4.17                        |
| 772.0                        | 11.60                  | 311.92             | 768.1                        | 39.0                | -31.7               | -36.8                          | 0.50                           | 0.36                          | -1.77                        |
| 863.0                        | 10.90                  | 312.55             | 857.3                        | 50.9                | -44.8               | -47.8                          | 0.78                           | -0.77                         | 0.69                         |

# Precision Drilling Corporation

## Survey Report

|                  |                         |                                     |                          |
|------------------|-------------------------|-------------------------------------|--------------------------|
| <b>Company:</b>  | WHITING PETROLEUM CORP. | <b>Local Co-ordinate Reference:</b> | Well Horsetail #07G-1809 |
| <b>Project:</b>  | Weld County, CO         | <b>TVD Reference:</b>               | KBE @ 4916.0usft         |
| <b>Site:</b>     | Sec 7-T10N-R57W         | <b>MD Reference:</b>                | KBE @ 4916.0usft         |
| <b>Well:</b>     | Horsetail #07G-1809     | <b>North Reference:</b>             | True                     |
| <b>Wellbore:</b> | Original Hole           | <b>Survey Calculation Method:</b>   | Minimum Curvature        |
| <b>Design:</b>   | Original Hole           | <b>Database:</b>                    | Compass_Rockies          |

### Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 955.0                 | 9.16            | 311.02      | 947.9                 | 61.6         | -56.8        | -57.7                   | 1.91                    | -1.89                  | -1.66                 |
| 1,046.0               | 8.06            | 309.30      | 1,037.9               | 70.4         | -67.2        | -65.8                   | 1.24                    | -1.21                  | -1.89                 |
| 1,138.0               | 8.84            | 302.01      | 1,128.9               | 78.2         | -78.1        | -72.9                   | 1.44                    | 0.85                   | -7.92                 |
| 1,229.0               | 8.24            | 300.82      | 1,218.9               | 85.3         | -89.7        | -79.1                   | 0.69                    | -0.66                  | -1.31                 |
| 1,321.0               | 9.78            | 304.21      | 1,309.8               | 93.0         | -101.8       | -86.1                   | 1.77                    | 1.67                   | 3.68                  |
| 1,412.0               | 10.67           | 305.24      | 1,399.3               | 102.2        | -115.1       | -94.4                   | 1.00                    | 0.98                   | 1.13                  |
| 1,504.0               | 11.38           | 305.69      | 1,489.6               | 112.5        | -129.4       | -103.6                  | 0.78                    | 0.77                   | 0.49                  |
| 1,596.0               | 12.03           | 306.62      | 1,579.7               | 123.5        | -144.5       | -113.6                  | 0.74                    | 0.71                   | 1.01                  |
| 1,688.0               | 13.01           | 307.79      | 1,669.5               | 135.5        | -160.3       | -124.6                  | 1.10                    | 1.07                   | 1.27                  |
| 1,780.0               | 10.82           | 305.01      | 1,759.5               | 146.8        | -175.6       | -134.8                  | 2.46                    | -2.38                  | -3.02                 |
| 1,872.0               | 9.57            | 295.45      | 1,850.1               | 155.1        | -189.6       | -142.1                  | 2.28                    | -1.36                  | -10.39                |
| 1,964.0               | 7.78            | 294.81      | 1,941.0               | 161.0        | -202.1       | -147.2                  | 1.95                    | -1.95                  | -0.70                 |
| 2,057.0               | 6.77            | 291.16      | 2,033.3               | 165.6        | -213.0       | -151.1                  | 1.19                    | -1.09                  | -3.92                 |
| 2,151.0               | 10.00           | 307.24      | 2,126.3               | 172.5        | -224.6       | -157.2                  | 4.21                    | 3.44                   | 17.11                 |
| 2,340.0               | 11.90           | 298.81      | 2,311.8               | 191.9        | -254.8       | -174.5                  | 1.31                    | 1.01                   | -4.46                 |
| 2,434.0               | 11.33           | 297.90      | 2,403.9               | 200.9        | -271.4       | -182.4                  | 0.64                    | -0.61                  | -0.97                 |
| 2,529.0               | 12.20           | 303.69      | 2,496.9               | 210.8        | -288.0       | -191.2                  | 1.54                    | 0.92                   | 6.09                  |
| 2,624.0               | 11.88           | 302.16      | 2,589.8               | 221.6        | -304.7       | -200.8                  | 0.48                    | -0.34                  | -1.61                 |
| 2,718.0               | 11.65           | 301.67      | 2,681.8               | 231.7        | -320.9       | -209.9                  | 0.27                    | -0.24                  | -0.52                 |
| 2,813.0               | 11.35           | 300.72      | 2,774.9               | 241.5        | -337.1       | -218.6                  | 0.37                    | -0.32                  | -1.00                 |
| 2,907.0               | 13.89           | 310.85      | 2,866.7               | 253.6        | -353.6       | -229.6                  | 3.57                    | 2.70                   | 10.78                 |
| 3,001.0               | 13.53           | 309.88      | 2,958.0               | 268.0        | -370.6       | -242.8                  | 0.45                    | -0.38                  | -1.03                 |
| 3,096.0               | 13.21           | 308.68      | 3,050.4               | 282.0        | -387.6       | -255.6                  | 0.45                    | -0.34                  | -1.26                 |
| 3,190.0               | 14.28           | 308.75      | 3,141.7               | 295.9        | -405.0       | -268.4                  | 1.14                    | 1.14                   | 0.07                  |
| 3,284.0               | 13.30           | 308.27      | 3,233.0               | 309.9        | -422.5       | -281.1                  | 1.05                    | -1.04                  | -0.51                 |
| 3,379.0               | 12.27           | 317.61      | 3,325.7               | 324.1        | -437.9       | -294.3                  | 2.43                    | -1.08                  | 9.83                  |
| 3,474.0               | 12.27           | 317.61      | 3,418.5               | 339.0        | -451.5       | -308.3                  | 0.00                    | 0.00                   | 0.00                  |
| 3,757.0               | 11.80           | 317.45      | 3,695.3               | 382.5        | -491.4       | -349.0                  | 0.17                    | -0.17                  | -0.06                 |
| 3,852.0               | 11.27           | 316.68      | 3,788.4               | 396.5        | -504.3       | -362.1                  | 0.58                    | -0.56                  | -0.81                 |
| 3,946.0               | 10.41           | 315.40      | 3,880.7               | 409.2        | -516.6       | -374.0                  | 0.95                    | -0.91                  | -1.36                 |
| 4,040.0               | 9.27            | 312.41      | 3,973.3               | 420.3        | -528.1       | -384.3                  | 1.33                    | -1.21                  | -3.18                 |
| 4,158.0               | 8.28            | 312.30      | 4,089.9               | 432.5        | -541.4       | -395.5                  | 0.84                    | -0.84                  | -0.09                 |
| 4,441.0               | 6.65            | 305.17      | 4,370.5               | 455.6        | -569.9       | -416.7                  | 0.66                    | -0.58                  | -2.52                 |
| 4,536.0               | 5.87            | 298.62      | 4,464.9               | 461.1        | -578.7       | -421.6                  | 1.11                    | -0.82                  | -6.89                 |
| 4,630.0               | 5.20            | 290.42      | 4,558.5               | 464.9        | -586.9       | -424.9                  | 1.10                    | -0.71                  | -8.72                 |
| 4,724.0               | 4.43            | 288.10      | 4,652.2               | 467.5        | -594.3       | -427.0                  | 0.84                    | -0.82                  | -2.47                 |
| 4,819.0               | 3.81            | 287.53      | 4,746.9               | 469.6        | -600.8       | -428.6                  | 0.65                    | -0.65                  | -0.60                 |
| 4,913.0               | 0.64            | 268.07      | 4,840.8               | 470.5        | -604.3       | -429.3                  | 3.42                    | -3.37                  | -20.70                |
| 5,007.0               | 0.49            | 288.26      | 4,934.8               | 470.6        | -605.2       | -429.4                  | 0.26                    | -0.16                  | 21.48                 |
| 5,101.0               | 5.10            | 197.11      | 5,028.7               | 466.8        | -606.8       | -425.4                  | 5.46                    | 4.90                   | -96.97                |
| 5,195.0               | 18.27           | 178.10      | 5,120.6               | 448.0        | -607.6       | -406.6                  | 14.41                   | 14.01                  | -20.22                |
| 5,290.0               | 24.26           | 175.86      | 5,209.1               | 413.6        | -605.7       | -372.4                  | 6.36                    | 6.31                   | -2.36                 |
| 5,384.0               | 27.46           | 173.40      | 5,293.7               | 372.8        | -601.8       | -332.0                  | 3.59                    | 3.40                   | -2.62                 |

# Precision Drilling Corporation

## Survey Report

|                  |                         |                                     |                          |
|------------------|-------------------------|-------------------------------------|--------------------------|
| <b>Company:</b>  | WHITING PETROLEUM CORP. | <b>Local Co-ordinate Reference:</b> | Well Horsetail #07G-1809 |
| <b>Project:</b>  | Weld County, CO         | <b>TVD Reference:</b>               | KBE @ 4916.0usft         |
| <b>Site:</b>     | Sec 7-T10N-R57W         | <b>MD Reference:</b>                | KBE @ 4916.0usft         |
| <b>Well:</b>     | Horsetail #07G-1809     | <b>North Reference:</b>             | True                     |
| <b>Wellbore:</b> | Original Hole           | <b>Survey Calculation Method:</b>   | Minimum Curvature        |
| <b>Design:</b>   | Original Hole           | <b>Database:</b>                    | Compass_Rockies          |

### Survey

| Measured Depth (usft)                | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|--------------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 5,478.0                              | 33.28           | 175.60      | 5,374.7               | 325.5        | -597.3       | -285.1                  | 6.30                    | 6.19                   | 2.34                  |
| 5,573.0                              | 42.08           | 176.06      | 5,449.8               | 267.6        | -593.1       | -227.6                  | 9.27                    | 9.26                   | 0.48                  |
| 5,667.0                              | 50.13           | 178.85      | 5,515.0               | 200.0        | -590.2       | -160.4                  | 8.83                    | 8.56                   | 2.97                  |
| 5,761.0                              | 51.43           | 179.03      | 5,574.4               | 127.2        | -588.9       | -87.8                   | 1.39                    | 1.38                   | 0.19                  |
| 5,808.0                              | 51.17           | 177.69      | 5,603.8               | 90.6         | -587.8       | -51.3                   | 2.29                    | -0.55                  | -2.85                 |
| 5,855.0                              | 56.32           | 177.77      | 5,631.6               | 52.7         | -586.3       | -13.6                   | 10.96                   | 10.96                  | 0.17                  |
| 5,902.0                              | 62.22           | 180.51      | 5,655.6               | 12.3         | -585.8       | 26.6                    | 13.51                   | 12.55                  | 5.83                  |
| 5,949.0                              | 68.17           | 181.97      | 5,675.3               | -30.3        | -586.7       | 69.2                    | 12.97                   | 12.66                  | 3.11                  |
| 6,044.0                              | 69.64           | 181.09      | 5,709.5               | -118.9       | -589.1       | 157.8                   | 1.77                    | 1.55                   | -0.93                 |
| 6,094.0                              | 75.60           | 180.69      | 5,724.4               | -166.6       | -589.8       | 205.4                   | 11.94                   | 11.91                  | -0.80                 |
| <b>100' Entry - 100' Entry #1809</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 6,139.0                              | 80.96           | 180.35      | 5,733.6               | -210.6       | -590.2       | 249.4                   | 11.94                   | 11.92                  | -0.76                 |
| 6,233.0                              | 91.19           | 180.09      | 5,740.0               | -304.3       | -590.6       | 342.9                   | 10.89                   | 10.88                  | -0.28                 |
| 6,327.0                              | 92.79           | 179.37      | 5,736.7               | -398.2       | -590.1       | 436.6                   | 1.87                    | 1.70                   | -0.77                 |
| 6,421.0                              | 89.89           | 179.01      | 5,734.5               | -492.2       | -588.8       | 530.2                   | 3.11                    | -3.09                  | -0.38                 |
| 6,516.0                              | 88.93           | 179.25      | 5,735.5               | -587.2       | -587.3       | 624.9                   | 1.04                    | -1.01                  | 0.25                  |
| 6,610.0                              | 90.21           | 179.61      | 5,736.2               | -681.2       | -586.4       | 718.6                   | 1.41                    | 1.36                   | 0.38                  |
| 6,705.0                              | 90.02           | 181.53      | 5,736.0               | -776.2       | -587.4       | 813.5                   | 2.03                    | -0.20                  | 2.02                  |
| 6,799.0                              | 87.08           | 181.51      | 5,738.4               | -870.1       | -589.9       | 907.3                   | 3.13                    | -3.13                  | -0.02                 |
| 6,894.0                              | 87.09           | 182.92      | 5,743.2               | -964.9       | -593.5       | 1,002.2                 | 1.48                    | 0.01                   | 1.48                  |
| 6,988.0                              | 87.75           | 182.01      | 5,747.5               | -1,058.7     | -597.6       | 1,096.1                 | 1.20                    | 0.70                   | -0.97                 |
| 7,083.0                              | 88.76           | 180.73      | 5,750.4               | -1,153.6     | -599.8       | 1,190.9                 | 1.72                    | 1.06                   | -1.35                 |
| 7,136.0                              | 89.85           | 181.72      | 5,751.0               | -1,206.6     | -601.0       | 1,243.9                 | 2.78                    | 2.06                   | 1.87                  |
| 7,230.0                              | 91.28           | 181.97      | 5,750.1               | -1,300.5     | -604.0       | 1,337.8                 | 1.54                    | 1.52                   | 0.27                  |
| 7,324.0                              | 92.69           | 181.33      | 5,746.8               | -1,394.5     | -606.7       | 1,431.7                 | 1.65                    | 1.50                   | -0.68                 |
| 7,418.0                              | 92.33           | 180.03      | 5,742.7               | -1,488.4     | -607.8       | 1,525.5                 | 1.43                    | -0.38                  | -1.38                 |
| 7,512.0                              | 90.40           | 177.82      | 5,740.5               | -1,582.3     | -606.0       | 1,619.1                 | 3.12                    | -2.05                  | -2.35                 |
| 7,607.0                              | 87.76           | 177.06      | 5,742.0               | -1,677.2     | -601.8       | 1,713.5                 | 2.89                    | -2.78                  | -0.80                 |
| 7,701.0                              | 87.88           | 175.84      | 5,745.6               | -1,770.9     | -596.0       | 1,806.6                 | 1.30                    | 0.13                   | -1.30                 |
| 7,795.0                              | 88.14           | 175.02      | 5,748.8               | -1,864.6     | -588.5       | 1,899.6                 | 0.91                    | 0.28                   | -0.87                 |
| 7,889.0                              | 89.77           | 176.70      | 5,750.5               | -1,958.3     | -581.7       | 1,992.6                 | 2.49                    | 1.73                   | 1.79                  |
| 7,984.0                              | 89.57           | 179.44      | 5,751.1               | -2,053.2     | -578.5       | 2,087.1                 | 2.89                    | -0.21                  | 2.88                  |
| 8,078.0                              | 90.15           | 179.18      | 5,751.3               | -2,147.2     | -577.4       | 2,180.9                 | 0.68                    | 0.62                   | -0.28                 |
| 8,172.0                              | 91.76           | 179.08      | 5,749.7               | -2,241.2     | -576.0       | 2,274.5                 | 1.72                    | 1.71                   | -0.11                 |
| 8,266.0                              | 92.60           | 177.67      | 5,746.2               | -2,335.1     | -573.3       | 2,368.0                 | 1.75                    | 0.89                   | -1.50                 |
| 8,360.0                              | 93.40           | 176.83      | 5,741.2               | -2,428.9     | -568.8       | 2,461.3                 | 1.23                    | 0.85                   | -0.89                 |
| 8,454.0                              | 92.12           | 177.60      | 5,736.7               | -2,522.6     | -564.2       | 2,554.6                 | 1.59                    | -1.36                  | 0.82                  |
| 8,549.0                              | 91.35           | 179.62      | 5,733.8               | -2,617.6     | -561.9       | 2,649.1                 | 2.27                    | -0.81                  | 2.13                  |
| 8,641.0                              | 91.11           | 181.55      | 5,731.9               | -2,709.5     | -562.9       | 2,740.9                 | 2.11                    | -0.26                  | 2.10                  |
| 8,732.0                              | 92.23           | 182.42      | 5,729.2               | -2,800.4     | -566.0       | 2,831.9                 | 1.56                    | 1.23                   | 0.96                  |
| 8,824.0                              | 89.24           | 181.85      | 5,728.0               | -2,892.4     | -569.4       | 2,923.8                 | 3.31                    | -3.25                  | -0.62                 |
| 8,915.0                              | 89.45           | 178.89      | 5,729.1               | -2,983.3     | -570.0       | 3,014.6                 | 3.26                    | 0.23                   | -3.25                 |
| 9,007.0                              | 89.83           | 177.19      | 5,729.7               | -3,075.3     | -566.9       | 3,106.1                 | 1.89                    | 0.41                   | -1.85                 |
| 9,098.0                              | 90.83           | 180.38      | 5,729.1               | -3,166.2     | -565.0       | 3,196.8                 | 3.67                    | 1.10                   | 3.51                  |

# Precision Drilling Corporation

## Survey Report

|                  |                         |                                     |                          |
|------------------|-------------------------|-------------------------------------|--------------------------|
| <b>Company:</b>  | WHITING PETROLEUM CORP. | <b>Local Co-ordinate Reference:</b> | Well Horsetail #07G-1809 |
| <b>Project:</b>  | Weld County, CO         | <b>TVD Reference:</b>               | KBE @ 4916.0usft         |
| <b>Site:</b>     | Sec 7-T10N-R57W         | <b>MD Reference:</b>                | KBE @ 4916.0usft         |
| <b>Well:</b>     | Horsetail #07G-1809     | <b>North Reference:</b>             | True                     |
| <b>Wellbore:</b> | Original Hole           | <b>Survey Calculation Method:</b>   | Minimum Curvature        |
| <b>Design:</b>   | Original Hole           | <b>Database:</b>                    | Compass_Rockies          |

### Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 9,190.0               | 91.90           | 180.19      | 5,726.9               | -3,258.2     | -565.4       | 3,288.6                 | 1.18                    | 1.16                   | -0.21                 |
| 9,282.0               | 89.71           | 180.83      | 5,725.6               | -3,350.2     | -566.2       | 3,380.4                 | 2.48                    | -2.38                  | 0.70                  |
| 9,373.0               | 90.70           | 180.35      | 5,725.3               | -3,441.2     | -567.2       | 3,471.3                 | 1.21                    | 1.09                   | -0.53                 |
| 9,465.0               | 88.13           | 179.92      | 5,726.3               | -3,533.2     | -567.4       | 3,563.1                 | 2.83                    | -2.79                  | -0.47                 |
| 9,556.0               | 88.25           | 179.59      | 5,729.1               | -3,624.1     | -567.0       | 3,653.8                 | 0.39                    | 0.13                   | -0.36                 |
| 9,648.0               | 88.69           | 178.82      | 5,731.6               | -3,716.1     | -565.7       | 3,745.5                 | 0.96                    | 0.48                   | -0.84                 |
| 9,739.0               | 89.74           | 178.72      | 5,732.8               | -3,807.1     | -563.8       | 3,836.1                 | 1.16                    | 1.15                   | -0.11                 |
| 9,831.0               | 92.58           | 181.22      | 5,731.0               | -3,899.0     | -563.7       | 3,927.9                 | 4.11                    | 3.09                   | 2.72                  |
| 9,922.0               | 93.89           | 180.56      | 5,725.8               | -3,989.9     | -565.1       | 4,018.6                 | 1.61                    | 1.44                   | -0.73                 |
| 10,014.0              | 93.34           | 180.35      | 5,720.0               | -4,081.7     | -565.9       | 4,110.3                 | 0.64                    | -0.60                  | -0.23                 |
| 10,147.0              | 89.29           | 180.91      | 5,717.0               | -4,214.6     | -567.3       | 4,243.0                 | 3.07                    | -3.05                  | 0.42                  |
| 10,239.0              | 89.39           | 180.48      | 5,718.0               | -4,306.6     | -568.4       | 4,334.8                 | 0.48                    | 0.11                   | -0.47                 |
| 10,331.0              | 90.29           | 180.31      | 5,718.3               | -4,398.6     | -569.1       | 4,426.7                 | 1.00                    | 0.98                   | -0.18                 |
| 10,423.0              | 91.51           | 179.56      | 5,716.9               | -4,490.6     | -569.0       | 4,518.5                 | 1.56                    | 1.33                   | -0.82                 |
| 10,515.0              | 89.35           | 180.92      | 5,716.2               | -4,582.6     | -569.4       | 4,610.3                 | 2.77                    | -2.35                  | 1.48                  |
| 10,607.0              | 89.96           | 179.69      | 5,716.7               | -4,674.6     | -569.8       | 4,702.1                 | 1.49                    | 0.66                   | -1.34                 |
| 10,698.0              | 89.96           | 179.70      | 5,716.8               | -4,765.6     | -569.4       | 4,792.9                 | 0.01                    | 0.00                   | 0.01                  |
| 10,789.0              | 90.13           | 175.89      | 5,716.7               | -4,856.5     | -565.9       | 4,883.3                 | 4.19                    | 0.19                   | -4.19                 |
| 10,881.0              | 90.16           | 178.95      | 5,716.5               | -4,948.4     | -561.7       | 4,974.8                 | 3.33                    | 0.03                   | 3.33                  |
| 10,971.0              | 89.98           | 179.33      | 5,716.4               | -5,038.4     | -560.4       | 5,064.5                 | 0.47                    | -0.20                  | 0.42                  |
| 11,063.0              | 90.77           | 178.82      | 5,715.8               | -5,130.3     | -558.9       | 5,156.1                 | 1.02                    | 0.86                   | -0.55                 |
| 11,152.0              | 90.69           | 177.52      | 5,714.6               | -5,219.3     | -556.0       | 5,244.7                 | 1.46                    | -0.09                  | -1.46                 |
| 11,243.0              | 91.37           | 180.78      | 5,713.0               | -5,310.2     | -554.7       | 5,335.4                 | 3.66                    | 0.75                   | 3.58                  |
| 11,334.0              | 92.22           | 179.40      | 5,710.2               | -5,401.2     | -554.8       | 5,426.1                 | 1.78                    | 0.93                   | -1.52                 |
| 11,425.0              | 90.46           | 181.51      | 5,708.0               | -5,492.2     | -555.6       | 5,516.9                 | 3.02                    | -1.93                  | 2.32                  |
| 11,515.0              | 91.03           | 180.24      | 5,706.9               | -5,582.1     | -556.9       | 5,606.8                 | 1.55                    | 0.63                   | -1.41                 |
| 11,607.0              | 89.09           | 182.90      | 5,706.8               | -5,674.1     | -559.4       | 5,698.7                 | 3.58                    | -2.11                  | 2.89                  |
| 11,698.0              | 86.50           | 182.05      | 5,710.3               | -5,764.9     | -563.4       | 5,789.6                 | 3.00                    | -2.85                  | -0.93                 |
| 11,789.0              | 87.60           | 180.49      | 5,714.9               | -5,855.8     | -565.4       | 5,880.4                 | 2.10                    | 1.21                   | -1.71                 |
| 11,881.0              | 90.51           | 178.54      | 5,716.5               | -5,947.8     | -564.6       | 5,972.1                 | 3.81                    | 3.16                   | -2.12                 |
| 11,972.0              | 91.26           | 177.09      | 5,715.1               | -6,038.7     | -561.1       | 6,062.6                 | 1.79                    | 0.82                   | -1.59                 |
| 12,064.0              | 91.14           | 176.53      | 5,713.1               | -6,130.5     | -556.0       | 6,153.9                 | 0.62                    | -0.13                  | -0.61                 |
| 12,155.0              | 91.36           | 176.60      | 5,711.1               | -6,221.3     | -550.6       | 6,244.2                 | 0.25                    | 0.24                   | 0.08                  |
| 12,246.0              | 89.60           | 176.05      | 5,710.4               | -6,312.1     | -544.7       | 6,334.4                 | 2.03                    | -1.93                  | -0.60                 |
| 12,341.0              | 89.56           | 176.74      | 5,711.1               | -6,406.9     | -538.8       | 6,428.6                 | 0.73                    | -0.04                  | 0.73                  |
| 12,394.0              | 89.06           | 177.07      | 5,711.7               | -6,459.9     | -535.9       | 6,481.2                 | 1.13                    | -0.94                  | 0.62                  |
| 12,488.0              | 88.38           | 174.86      | 5,713.8               | -6,553.6     | -529.3       | 6,574.3                 | 2.46                    | -0.72                  | -2.35                 |
| 12,582.0              | 90.62           | 176.72      | 5,714.6               | -6,647.3     | -522.4       | 6,667.4                 | 3.10                    | 2.38                   | 1.98                  |
| 12,676.0              | 91.55           | 176.57      | 5,712.9               | -6,741.2     | -516.9       | 6,760.6                 | 1.00                    | 0.99                   | -0.16                 |
| 12,771.0              | 92.76           | 179.42      | 5,709.3               | -6,836.0     | -513.6       | 6,855.0                 | 3.26                    | 1.27                   | 3.00                  |
| 12,865.0              | 92.21           | 181.73      | 5,705.2               | -6,929.9     | -514.5       | 6,948.8                 | 2.52                    | -0.59                  | 2.46                  |
| 12,960.0              | 92.72           | 181.92      | 5,701.1               | -7,024.8     | -517.5       | 7,043.6                 | 0.57                    | 0.54                   | 0.20                  |
| 13,054.0              | 89.04           | 182.91      | 5,699.7               | -7,118.7     | -521.5       | 7,137.6                 | 4.05                    | -3.91                  | 1.05                  |

# Precision Drilling Corporation

## Survey Report

|                  |                         |                                     |                          |
|------------------|-------------------------|-------------------------------------|--------------------------|
| <b>Company:</b>  | WHITING PETROLEUM CORP. | <b>Local Co-ordinate Reference:</b> | Well Horsetail #07G-1809 |
| <b>Project:</b>  | Weld County, CO         | <b>TVD Reference:</b>               | KBE @ 4916.0usft         |
| <b>Site:</b>     | Sec 7-T10N-R57W         | <b>MD Reference:</b>                | KBE @ 4916.0usft         |
| <b>Well:</b>     | Horsetail #07G-1809     | <b>North Reference:</b>             | True                     |
| <b>Wellbore:</b> | Original Hole           | <b>Survey Calculation Method:</b>   | Minimum Curvature        |
| <b>Design:</b>   | Original Hole           | <b>Database:</b>                    | Compass_Rockies          |

### Survey

| Measured Depth (usft)                           | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 13,148.0  | 89.10           | 180.40      | 5,701.2               | -7,212.6     | -524.2       | 7,231.5                 | 2.67                    | 0.06                   | -2.67                 |
| 13,243.0  | 87.88           | 179.42      | 5,703.7               | -7,307.6     | -524.1       | 7,326.2                 | 1.65                    | -1.28                  | -1.03                 |
| 13,337.0  | 87.48           | 179.55      | 5,707.5               | -7,401.5     | -523.2       | 7,419.9                 | 0.45                    | -0.43                  | 0.14                  |
| 13,432.0  | 87.13           | 179.46      | 5,712.0               | -7,496.4     | -522.4       | 7,514.5                 | 0.38                    | -0.37                  | -0.09                 |
| 13,526.0  | 87.61           | 179.22      | 5,716.3               | -7,590.3     | -521.3       | 7,608.1                 | 0.57                    | 0.51                   | -0.26                 |
| 13,621.0  | 91.31           | 179.85      | 5,717.2               | -7,685.3     | -520.5       | 7,702.9                 | 3.95                    | 3.89                   | 0.66                  |
| 13,715.0  | 91.69           | 179.47      | 5,714.7               | -7,779.2     | -520.0       | 7,796.6                 | 0.57                    | 0.40                   | -0.40                 |
| 13,807.0  | 89.82           | 178.60      | 5,713.5               | -7,871.2     | -518.4       | 7,888.2                 | 2.24                    | -2.03                  | -0.95                 |
| 13,864.0  | 89.82           | 178.60      | 5,713.7               | -7,928.2     | -517.0       | 7,945.0                 | 0.00                    | 0.00                   | 0.00                  |
| <b>100' Exit - 100' Exit #1809 - PBHL #1809</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 13,908.0  | 89.82           | 178.60      | 5,713.8               | -7,972.2     | -516.0       | 7,988.8                 | 0.00                    | 0.00                   | 0.00                  |
| <b>BHL #1809</b>                                |                 |             |                       |              |              |                         |                         |                        |                       |

### Design Targets

| Target Name  | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude         | Longitude         |
|--|---------------|--------------|------------|--------------|--------------|-----------------|----------------|------------------|-------------------|
| SL #1809   | 0.00          | 0.00         | 0.0        | 0.0          | 0.0          | 1,558,382.24    | 3,472,545.37   | 40° 51' 13.110 N | 103° 47' 30.390 W |
| - hit/miss target  |               |              |            |              |              |                 |                |                  |                   |
| - actual wellpath hits target center   |               |              |            |              |              |                 |                |                  |                   |
| - Point  |               |              |            |              |              |                 |                |                  |                   |
| 100' Exit #1809  | 0.00          | 0.00         | 5,713.7    | -7,928.2     | -517.0       | 1,550,445.57    | 3,472,181.15   | 40° 49' 54.773 N | 103° 47' 37.116 W |
| - actual wellpath hits target center   |               |              |            |              |              |                 |                |                  |                   |
| - Point  |               |              |            |              |              |                 |                |                  |                   |
| BHL #1809  | 0.00          | 0.00         | 5,713.8    | -7,972.2     | -516.0       | 1,550,401.61    | 3,472,183.06   | 40° 49' 54.338 N | 103° 47' 37.102 W |
| - actual wellpath hits target center   |               |              |            |              |              |                 |                |                  |                   |
| - Point  |               |              |            |              |              |                 |                |                  |                   |
| PBHL #1809   | 0.00          | 0.00         | 5,720.0    | -7,928.5     | -527.3       | 1,550,445.05    | 3,472,170.86   | 40° 49' 54.770 N | 103° 47' 37.250 W |
| - actual wellpath misses target center by 12.1usft at 13864.0usft MD (5713.7 TVD, -7928.2 N, -517.0 E) |               |              |            |              |              |                 |                |                  |                   |
| - Point  |               |              |            |              |              |                 |                |                  |                   |
| 100' Entry #1809   | 0.00          | 0.00         | 5,724.4    | -166.6       | -589.8       | 1,558,204.31    | 3,471,958.88   | 40° 51' 11.464 N | 103° 47' 38.065 W |
| - actual wellpath hits target center   |               |              |            |              |              |                 |                |                  |                   |
| - Point  |               |              |            |              |              |                 |                |                  |                   |

### Design Annotations

|  | Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Local Coordinates |                 | Comment    |
|--|-----------------------------|-----------------------------|-------------------|-----------------|------------|
|  |                             |                             | +N/-S<br>(usft)   | +E/-W<br>(usft) |            |
|  | 6,094.0                     | 5,724.4                     | -166.6            | -589.8          | 100' Entry |
|  | 13,864.0                    | 5,713.7                     | -7,928.2          | -517.0          | 100' Exit  |