



# **Whiting Petroleum Corp.**

**Weld County, CO**

**Sec 7-T10N-R57W**

**Horsetail Fed #07G-0642**

**Hz**

**Plan: Design #1**

## **Standard Planning Report**

**26 March, 2015**



# WOG

## Planning Report

|                  |                         |                                     |  |
|------------------|-------------------------|-------------------------------------|--|
| <b>Database:</b> | LandmarkEDM             | <b>Local Co-ordinate Reference:</b> | Well Horsetail Fed #07G-0642           |
| <b>Company:</b>  | Whiting Petroleum Corp. | <b>TVD Reference:</b>               | KBE @ 4913.00usft (Original Well Elev) |
| <b>Project:</b>  | Weld County, CO         | <b>MD Reference:</b>                | KBE @ 4913.00usft (Original Well Elev) |
| <b>Site:</b>     | Sec 7-T10N-R57W         | <b>North Reference:</b>             | True                                   |
| <b>Well:</b>     | Horsetail Fed #07G-0642 | <b>Survey Calculation Method:</b>   | Minimum Curvature                      |
| <b>Wellbore:</b> | Hz                      |                                     |  |
| <b>Design:</b>   | Design #1               |                                     |  |

|                    |                           |                      |                |
|--------------------|---------------------------|----------------------|----------------|
| <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    |                      |                |

|                              |                 |                     |                   |                                    |
|------------------------------|-----------------|---------------------|-------------------|------------------------------------|
| <b>Site</b>                  | Sec 7-T10N-R57W |                     |                   |                                    |
| <b>Site Position:</b>        |                 | <b>Northing:</b>    | 1,558,450.14 usft | <b>Latitude:</b> 40° 51' 14.300 N  |
| <b>From:</b>                 | Lat/Long        | <b>Easting:</b>     | 3,469,810.15 usft | <b>Longitude:</b> 103° 48' 5.960 W |
| <b>Position Uncertainty:</b> | 0.00 usft       | <b>Slot Radius:</b> | 13.200 in         | <b>Grid Convergence:</b> 1.10 °    |

|                             |                         |               |                            |                   |
|-----------------------------|-------------------------|---------------|----------------------------|-------------------|
| <b>Well</b>                 | Horsetail Fed #07G-0642 |               |                            |                   |
| <b>Well Position</b>        | <b>+N/-S</b>            | -170.86 usft  | <b>Northing:</b>           | 1,558,332.20 usft |
|                             | <b>+E/-W</b>            | 2,761.86 usft | <b>Easting:</b>            | 3,472,574.77 usft |
| <b>Position Uncertainty</b> | 0.00 usft               |               | <b>Wellhead Elevation:</b> |                   |
|                             |                         |               | <b>Ground Level:</b>       | 4,896.00 usft     |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Hz                |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2010          | 1/6/2015           | 7.88                   | 67.44                | 53,088                     |

|                          |                                |                     |                      |                      |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| <b>Design</b>            | Design #1                      |                     |                      |                      |
| <b>Audit Notes:</b>      |                                |                     |                      |                      |
| <b>Version:</b>          | <b>Phase:</b>                  | PROTOTYPE           | <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 (°)</b> |
|                          | 0.00                           | 0.00                | 0.00                 | 355.83               |

|                              |                        |                    |                              |                     |                     |                              |                             |                            |                |               |
|------------------------------|------------------------|--------------------|------------------------------|---------------------|---------------------|------------------------------|-----------------------------|----------------------------|----------------|---------------|
| <b>Plan Sections</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>Dogleg Rate (°/100ft)</b> | <b>Build Rate (°/100ft)</b> | <b>Turn Rate (°/100ft)</b> | <b>TFO (°)</b> | <b>Target</b> |
| 0.00                         | 0.00                   | 0.00               | 0.00                         | 0.00                | 0.00                | 0.00                         | 0.00                        | 0.00                       | 0.00           |               |
| 300.00                       | 0.00                   | 0.00               | 300.00                       | 0.00                | 0.00                | 0.00                         | 0.00                        | 0.00                       | 0.00           |               |
| 700.00                       | 8.00                   | 228.00             | 698.70                       | -18.66              | -20.72              | 2.00                         | 2.00                        | 0.00                       | 228.00         |               |
| 4,900.00                     | 8.00                   | 228.00             | 4,857.83                     | -409.78             | -455.11             | 0.00                         | 0.00                        | 0.00                       | 0.00           |               |
| 5,300.00                     | 0.00                   | 0.00               | 5,256.53                     | -428.44             | -475.83             | 2.00                         | -2.00                       | 0.00                       | 180.00         |               |
| 5,571.60                     | 0.00                   | 0.00               | 5,528.13                     | -428.44             | -475.83             | 0.00                         | 0.00                        | 0.00                       | 0.00           |               |
| 6,389.78                     | 90.00                  | 359.55             | 6,049.00                     | 92.42               | -479.91             | 11.00                        | 11.00                       | 0.00                       | 359.55         | PBHL 0642D    |
| 13,667.50                    | 90.00                  | 359.55             | 6,049.00                     | 7,369.92            | -537.00             | 0.00                         | 0.00                        | 0.00                       | 0.00           | PBHL 0642D    |



# WOG

## Planning Report

|                  |                         |                                     |  |
|------------------|-------------------------|-------------------------------------|--|
| <b>Database:</b> | LandmarkEDM             | <b>Local Co-ordinate Reference:</b> | Well Horsetail Fed #07G-0642           |
| <b>Company:</b>  | Whiting Petroleum Corp. | <b>TVD Reference:</b>               | KBE @ 4913.00usft (Original Well Elev) |
| <b>Project:</b>  | Weld County, CO         | <b>MD Reference:</b>                | KBE @ 4913.00usft (Original Well Elev) |
| <b>Site:</b>     | Sec 7-T10N-R57W         | <b>North Reference:</b>             | True                                   |
| <b>Well:</b>     | Horsetail Fed #07G-0642 | <b>Survey Calculation Method:</b>   | Minimum Curvature                      |
| <b>Wellbore:</b> | Hz                      |                                     |  |
| <b>Design:</b>   | Design #1               |                                     |  |

| Planned Survey        |                 |             |                       |              |              |                         |                       |                      |                     |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-----------------------|----------------------|---------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 0.00                  | 0.00            | 0.00        | 0.00                  | 0.00         | 0.00         | 0.00                    | 0.00                  | 0.00                 | 0.00                |
| 100.00                | 0.00            | 0.00        | 100.00                | 0.00         | 0.00         | 0.00                    | 0.00                  | 0.00                 | 0.00                |
| 200.00                | 0.00            | 0.00        | 200.00                | 0.00         | 0.00         | 0.00                    | 0.00                  | 0.00                 | 0.00                |
| 300.00                | 0.00            | 0.00        | 300.00                | 0.00         | 0.00         | 0.00                    | 0.00                  | 0.00                 | 0.00                |
| <b>Build 2°/100'</b>  |                 |             |                       |              |              |                         |                       |                      |                     |
| 400.00                | 2.00            | 228.00      | 399.98                | -1.17        | -1.30        | -1.07                   | 2.00                  | 2.00                 | 0.00                |
| 500.00                | 4.00            | 228.00      | 499.84                | -4.67        | -5.19        | -4.28                   | 2.00                  | 2.00                 | 0.00                |
| 600.00                | 6.00            | 228.00      | 599.45                | -10.50       | -11.66       | -9.63                   | 2.00                  | 2.00                 | 0.00                |
| 700.00                | 8.00            | 228.00      | 698.70                | -18.66       | -20.72       | -17.10                  | 2.00                  | 2.00                 | 0.00                |
| <b>Hold 8° Inc</b>    |                 |             |                       |              |              |                         |                       |                      |                     |
| 800.00                | 8.00            | 228.00      | 797.73                | -27.97       | -31.06       | -25.64                  | 0.00                  | 0.00                 | 0.00                |
| 900.00                | 8.00            | 228.00      | 896.76                | -37.28       | -41.40       | -34.17                  | 0.00                  | 0.00                 | 0.00                |
| 1,000.00              | 8.00            | 228.00      | 995.78                | -46.59       | -51.75       | -42.71                  | 0.00                  | 0.00                 | 0.00                |
| 1,100.00              | 8.00            | 228.00      | 1,094.81              | -55.91       | -62.09       | -51.25                  | 0.00                  | 0.00                 | 0.00                |
| 1,200.00              | 8.00            | 228.00      | 1,193.84              | -65.22       | -72.43       | -59.78                  | 0.00                  | 0.00                 | 0.00                |
| 1,300.00              | 8.00            | 228.00      | 1,292.86              | -74.53       | -82.77       | -68.32                  | 0.00                  | 0.00                 | 0.00                |
| 1,400.00              | 8.00            | 228.00      | 1,391.89              | -83.84       | -93.12       | -76.85                  | 0.00                  | 0.00                 | 0.00                |
| 1,500.00              | 8.00            | 228.00      | 1,490.92              | -93.16       | -103.46      | -85.39                  | 0.00                  | 0.00                 | 0.00                |
| 1,559.66              | 8.00            | 228.00      | 1,550.00              | -98.71       | -109.63      | -90.48                  | 0.00                  | 0.00                 | 0.00                |
| <b>Upper Pierre</b>   |                 |             |                       |              |              |                         |                       |                      |                     |
| 1,600.00              | 8.00            | 228.00      | 1,589.94              | -102.47      | -113.80      | -93.93                  | 0.00                  | 0.00                 | 0.00                |
| 1,700.00              | 8.00            | 228.00      | 1,688.97              | -111.78      | -124.14      | -102.46                 | 0.00                  | 0.00                 | 0.00                |
| 1,800.00              | 8.00            | 228.00      | 1,788.00              | -121.09      | -134.49      | -111.00                 | 0.00                  | 0.00                 | 0.00                |
| 1,900.00              | 8.00            | 228.00      | 1,887.02              | -130.41      | -144.83      | -119.54                 | 0.00                  | 0.00                 | 0.00                |
| 2,000.00              | 8.00            | 228.00      | 1,986.05              | -139.72      | -155.17      | -128.07                 | 0.00                  | 0.00                 | 0.00                |
| 2,100.00              | 8.00            | 228.00      | 2,085.08              | -149.03      | -165.51      | -136.61                 | 0.00                  | 0.00                 | 0.00                |
| 2,200.00              | 8.00            | 228.00      | 2,184.10              | -158.34      | -175.86      | -145.14                 | 0.00                  | 0.00                 | 0.00                |
| 2,300.00              | 8.00            | 228.00      | 2,283.13              | -167.66      | -186.20      | -153.68                 | 0.00                  | 0.00                 | 0.00                |
| 2,400.00              | 8.00            | 228.00      | 2,382.16              | -176.97      | -196.54      | -162.22                 | 0.00                  | 0.00                 | 0.00                |
| 2,500.00              | 8.00            | 228.00      | 2,481.18              | -186.28      | -206.89      | -170.75                 | 0.00                  | 0.00                 | 0.00                |
| 2,600.00              | 8.00            | 228.00      | 2,580.21              | -195.59      | -217.23      | -179.29                 | 0.00                  | 0.00                 | 0.00                |
| 2,700.00              | 8.00            | 228.00      | 2,679.24              | -204.91      | -227.57      | -187.83                 | 0.00                  | 0.00                 | 0.00                |
| 2,800.00              | 8.00            | 228.00      | 2,778.26              | -214.22      | -237.91      | -196.36                 | 0.00                  | 0.00                 | 0.00                |
| 2,900.00              | 8.00            | 228.00      | 2,877.29              | -223.53      | -248.26      | -204.90                 | 0.00                  | 0.00                 | 0.00                |
| 3,000.00              | 8.00            | 228.00      | 2,976.32              | -232.84      | -258.60      | -213.43                 | 0.00                  | 0.00                 | 0.00                |
| 3,100.00              | 8.00            | 228.00      | 3,075.34              | -242.16      | -268.94      | -221.97                 | 0.00                  | 0.00                 | 0.00                |
| 3,200.00              | 8.00            | 228.00      | 3,174.37              | -251.47      | -279.28      | -230.51                 | 0.00                  | 0.00                 | 0.00                |
| 3,300.00              | 8.00            | 228.00      | 3,273.40              | -260.78      | -289.63      | -239.04                 | 0.00                  | 0.00                 | 0.00                |
| 3,400.00              | 8.00            | 228.00      | 3,372.43              | -270.09      | -299.97      | -247.58                 | 0.00                  | 0.00                 | 0.00                |
| 3,500.00              | 8.00            | 228.00      | 3,471.45              | -279.41      | -310.31      | -256.12                 | 0.00                  | 0.00                 | 0.00                |
| 3,528.83              | 8.00            | 228.00      | 3,500.00              | -282.09      | -313.29      | -258.58                 | 0.00                  | 0.00                 | 0.00                |
| <b>Hygiene</b>        |                 |             |                       |              |              |                         |                       |                      |                     |
| 3,600.00              | 8.00            | 228.00      | 3,570.48              | -288.72      | -320.65      | -264.65                 | 0.00                  | 0.00                 | 0.00                |
| 3,680.30              | 8.00            | 228.00      | 3,650.00              | -296.20      | -328.96      | -271.51                 | 0.00                  | 0.00                 | 0.00                |
| <b>Lower Pierre</b>   |                 |             |                       |              |              |                         |                       |                      |                     |
| 3,700.00              | 8.00            | 228.00      | 3,669.51              | -298.03      | -331.00      | -273.19                 | 0.00                  | 0.00                 | 0.00                |
| 3,800.00              | 8.00            | 228.00      | 3,768.53              | -307.34      | -341.34      | -281.72                 | 0.00                  | 0.00                 | 0.00                |
| 3,900.00              | 8.00            | 228.00      | 3,867.56              | -316.66      | -351.68      | -290.26                 | 0.00                  | 0.00                 | 0.00                |
| 4,000.00              | 8.00            | 228.00      | 3,966.59              | -325.97      | -362.02      | -298.80                 | 0.00                  | 0.00                 | 0.00                |
| 4,100.00              | 8.00            | 228.00      | 4,065.61              | -335.28      | -372.37      | -307.33                 | 0.00                  | 0.00                 | 0.00                |
| 4,200.00              | 8.00            | 228.00      | 4,164.64              | -344.59      | -382.71      | -315.87                 | 0.00                  | 0.00                 | 0.00                |
| 4,300.00              | 8.00            | 228.00      | 4,263.67              | -353.91      | -393.05      | -324.41                 | 0.00                  | 0.00                 | 0.00                |
| 4,400.00              | 8.00            | 228.00      | 4,362.69              | -363.22      | -403.39      | -332.94                 | 0.00                  | 0.00                 | 0.00                |
| 4,500.00              | 8.00            | 228.00      | 4,461.72              | -372.53      | -413.74      | -341.48                 | 0.00                  | 0.00                 | 0.00                |



# WOG

## Planning Report

|                  |                         |                                     |  |
|------------------|-------------------------|-------------------------------------|--|
| <b>Database:</b> | LandmarkEDM             | <b>Local Co-ordinate Reference:</b> | Well Horsetail Fed #07G-0642           |
| <b>Company:</b>  | Whiting Petroleum Corp. | <b>TVD Reference:</b>               | KBE @ 4913.00usft (Original Well Elev) |
| <b>Project:</b>  | Weld County, CO         | <b>MD Reference:</b>                | KBE @ 4913.00usft (Original Well Elev) |
| <b>Site:</b>     | Sec 7-T10N-R57W         | <b>North Reference:</b>             | True                                   |
| <b>Well:</b>     | Horsetail Fed #07G-0642 | <b>Survey Calculation Method:</b>   | Minimum Curvature                      |
| <b>Wellbore:</b> | Hz                      |                                     |  |
| <b>Design:</b>   | Design #1               |                                     |  |

| Planned Survey             |                 |             |                       |              |              |                         |                       |                      |                     |
|----------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-----------------------|----------------------|---------------------|
| Measured Depth (usft)      | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 4,600.00                   | 8.00            | 228.00      | 4,560.75              | -381.84      | -424.08      | -350.02                 | 0.00                  | 0.00                 | 0.00                |
| 4,700.00                   | 8.00            | 228.00      | 4,659.77              | -391.16      | -434.42      | -358.55                 | 0.00                  | 0.00                 | 0.00                |
| 4,800.00                   | 8.00            | 228.00      | 4,758.80              | -400.47      | -444.76      | -367.09                 | 0.00                  | 0.00                 | 0.00                |
| 4,900.00                   | 8.00            | 228.00      | 4,857.83              | -409.78      | -455.11      | -375.62                 | 0.00                  | 0.00                 | 0.00                |
| <b>Drop 2°/100'</b>        |                 |             |                       |              |              |                         |                       |                      |                     |
| 5,000.00                   | 6.00            | 228.00      | 4,957.08              | -417.93      | -464.16      | -383.10                 | 2.00                  | -2.00                | 0.00                |
| 5,100.00                   | 4.00            | 228.00      | 5,056.69              | -423.77      | -470.64      | -388.44                 | 2.00                  | -2.00                | 0.00                |
| 5,200.00                   | 2.00            | 228.00      | 5,156.55              | -427.27      | -474.53      | -391.65                 | 2.00                  | -2.00                | 0.00                |
| 5,300.00                   | 0.00            | 0.00        | 5,256.53              | -428.44      | -475.83      | -392.72                 | 2.00                  | -2.00                | 0.00                |
| <b>Hold Vertical</b>       |                 |             |                       |              |              |                         |                       |                      |                     |
| 5,400.00                   | 0.00            | 0.00        | 5,356.53              | -428.44      | -475.83      | -392.72                 | 0.00                  | 0.00                 | 0.00                |
| 5,500.00                   | 0.00            | 0.00        | 5,456.53              | -428.44      | -475.83      | -392.72                 | 0.00                  | 0.00                 | 0.00                |
| 5,558.47                   | 0.00            | 0.00        | 5,515.00              | -428.44      | -475.83      | -392.72                 | 0.00                  | 0.00                 | 0.00                |
| <b>P200 Marker</b>         |                 |             |                       |              |              |                         |                       |                      |                     |
| 5,571.60                   | 0.00            | 0.00        | 5,528.13              | -428.44      | -475.83      | -392.72                 | 0.00                  | 0.00                 | 0.00                |
| <b>KOP, Build 11°/100'</b> |                 |             |                       |              |              |                         |                       |                      |                     |
| 5,573.47                   | 0.21            | 359.55      | 5,530.00              | -428.43      | -475.83      | -392.72                 | 11.00                 | 11.00                | 0.00                |
| <b>P300 Marker</b>         |                 |             |                       |              |              |                         |                       |                      |                     |
| 5,593.48                   | 2.41            | 359.55      | 5,550.00              | -427.98      | -475.83      | -392.27                 | 11.00                 | 11.00                | 0.00                |
| <b>P350 Marker</b>         |                 |             |                       |              |              |                         |                       |                      |                     |
| 5,600.00                   | 3.12            | 359.55      | 5,556.52              | -427.66      | -475.83      | -391.95                 | 11.00                 | 11.00                | 0.00                |
| 5,650.00                   | 8.62            | 359.55      | 5,606.23              | -422.55      | -475.87      | -386.85                 | 11.00                 | 11.00                | 0.00                |
| 5,700.00                   | 14.12           | 359.55      | 5,655.23              | -412.69      | -475.95      | -377.01                 | 11.00                 | 11.00                | 0.00                |
| 5,748.87                   | 19.50           | 359.55      | 5,702.00              | -398.56      | -476.06      | -362.91                 | 11.00                 | 11.00                | 0.00                |
| <b>Sharon Springs</b>      |                 |             |                       |              |              |                         |                       |                      |                     |
| 5,750.00                   | 19.62           | 359.55      | 5,703.06              | -398.18      | -476.06      | -362.53                 | 11.00                 | 11.00                | 0.00                |
| 5,754.19                   | 20.08           | 359.55      | 5,707.00              | -396.76      | -476.07      | -361.11                 | 11.00                 | 11.00                | 0.00                |
| <b>Niobrara</b>            |                 |             |                       |              |              |                         |                       |                      |                     |
| 5,775.65                   | 22.45           | 359.55      | 5,727.00              | -388.98      | -476.14      | -353.35                 | 11.00                 | 11.00                | 0.00                |
| <b>Top A Chalk</b>         |                 |             |                       |              |              |                         |                       |                      |                     |
| 5,800.00                   | 25.12           | 359.55      | 5,749.28              | -379.16      | -476.21      | -343.55                 | 11.00                 | 11.00                | 0.00                |
| 5,816.38                   | 26.93           | 359.55      | 5,764.00              | -371.97      | -476.27      | -336.38                 | 11.00                 | 11.00                | 0.00                |
| <b>Top A Marl</b>          |                 |             |                       |              |              |                         |                       |                      |                     |
| 5,837.93                   | 29.30           | 359.55      | 5,783.00              | -361.82      | -476.35      | -326.25                 | 11.00                 | 11.00                | 0.00                |
| <b>A Marl</b>              |                 |             |                       |              |              |                         |                       |                      |                     |
| 5,848.30                   | 30.44           | 359.55      | 5,792.00              | -356.65      | -476.39      | -321.09                 | 11.00                 | 11.00                | 0.00                |
| <b>Top Upper B</b>         |                 |             |                       |              |              |                         |                       |                      |                     |
| 5,850.00                   | 30.62           | 359.55      | 5,793.46              | -355.79      | -476.40      | -320.23                 | 11.00                 | 11.00                | 0.00                |
| 5,881.42                   | 34.08           | 359.55      | 5,820.00              | -338.98      | -476.53      | -303.45                 | 11.00                 | 11.00                | 0.00                |
| <b>Base Upper B</b>        |                 |             |                       |              |              |                         |                       |                      |                     |
| 5,900.00                   | 36.12           | 359.55      | 5,835.20              | -328.30      | -476.61      | -292.79                 | 11.00                 | 11.00                | 0.00                |
| 5,902.23                   | 36.37           | 359.55      | 5,837.00              | -326.98      | -476.62      | -291.48                 | 11.00                 | 11.00                | 0.00                |
| <b>Top Lower B</b>         |                 |             |                       |              |              |                         |                       |                      |                     |
| 5,927.53                   | 39.15           | 359.55      | 5,857.00              | -311.49      | -476.74      | -276.02                 | 11.00                 | 11.00                | 0.00                |
| <b>Base Lower B</b>        |                 |             |                       |              |              |                         |                       |                      |                     |
| 5,936.62                   | 40.15           | 359.55      | 5,864.00              | -305.68      | -476.79      | -270.23                 | 11.00                 | 11.00                | 0.00                |
| <b>Top B Marl</b>          |                 |             |                       |              |              |                         |                       |                      |                     |
| 5,950.00                   | 41.62           | 359.55      | 5,874.11              | -296.93      | -476.86      | -261.49                 | 11.00                 | 11.00                | 0.00                |
| 6,000.00                   | 47.12           | 359.55      | 5,909.84              | -261.98      | -477.13      | -226.61                 | 11.00                 | 11.00                | 0.00                |
| 6,006.16                   | 47.80           | 359.55      | 5,914.00              | -257.44      | -477.17      | -222.08                 | 11.00                 | 11.00                | 0.00                |
| <b>Top C Chalk</b>         |                 |             |                       |              |              |                         |                       |                      |                     |
| 6,018.22                   | 49.13           | 359.55      | 5,922.00              | -248.41      | -477.24      | -213.07                 | 11.00                 | 11.00                | 0.00                |



# WOG

## Planning Report

|                  |                         |                                     |  |
|------------------|-------------------------|-------------------------------------|--|
| <b>Database:</b> | LandmarkEDM             | <b>Local Co-ordinate Reference:</b> | Well Horsetail Fed #07G-0642           |
| <b>Company:</b>  | Whiting Petroleum Corp. | <b>TVD Reference:</b>               | KBE @ 4913.00usft (Original Well Elev) |
| <b>Project:</b>  | Weld County, CO         | <b>MD Reference:</b>                | KBE @ 4913.00usft (Original Well Elev) |
| <b>Site:</b>     | Sec 7-T10N-R57W         | <b>North Reference:</b>             | True                                   |
| <b>Well:</b>     | Horsetail Fed #07G-0642 | <b>Survey Calculation Method:</b>   | Minimum Curvature                      |
| <b>Wellbore:</b> | Hz                      |                                     |  |
| <b>Design:</b>   | Design #1               |                                     |  |

| Planned Survey                              |                 |             |                       |              |              |                         |                       |                      |                     |  |
|---|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-----------------------|----------------------|---------------------|--|
| Measured Depth (usft)                       | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |  |
| <b>Middle C Chalk</b>                       |                 |             |                       |              |              |                         |                       |                      |                     |  |
| 6,040.16                                    | 51.54           | 359.55      | 5,936.00              | -231.52      | -477.37      | -196.22                 | 11.00                 | 11.00                | 0.00                |  |
| <b>Middle C Marl</b>                        |                 |             |                       |              |              |                         |                       |                      |                     |  |
| 6,050.00                                    | 52.62           | 359.55      | 5,942.05              | -223.76      | -477.43      | -188.47                 | 11.00                 | 11.00                | 0.00                |  |
| 6,071.95                                    | 55.04           | 359.55      | 5,955.00              | -206.04      | -477.57      | -170.79                 | 11.00                 | 11.00                | 0.00                |  |
| <b>Lower C Chalk</b>                        |                 |             |                       |              |              |                         |                       |                      |                     |  |
| 6,100.00                                    | 58.12           | 359.55      | 5,970.45              | -182.63      | -477.75      | -147.43                 | 11.00                 | 11.00                | 0.00                |  |
| 6,104.87                                    | 58.66           | 359.55      | 5,973.00              | -178.49      | -477.79      | -143.29                 | 11.00                 | 11.00                | 0.00                |  |
| <b>Lower C Marl</b>                         |                 |             |                       |              |              |                         |                       |                      |                     |  |
| 6,150.00                                    | 63.62           | 359.55      | 5,994.77              | -138.97      | -478.10      | -103.86                 | 11.00                 | 11.00                | 0.00                |  |
| 6,171.68                                    | 66.01           | 359.55      | 6,004.00              | -119.35      | -478.25      | -84.28                  | 11.00                 | 11.00                | 0.00                |  |
| <b>Lower C Marker</b>                       |                 |             |                       |              |              |                         |                       |                      |                     |  |
| 6,184.33                                    | 67.40           | 359.55      | 6,009.00              | -107.74      | -478.34      | -72.70                  | 11.00                 | 11.00                | 0.00                |  |
| <b>Top Ft. Hays</b>                         |                 |             |                       |              |              |                         |                       |                      |                     |  |
| 6,200.00                                    | 69.12           | 359.55      | 6,014.81              | -93.18       | -478.46      | -58.17                  | 11.00                 | 11.00                | 0.00                |  |
| 6,244.98                                    | 74.07           | 359.55      | 6,029.00              | -50.52       | -478.79      | -15.59                  | 11.00                 | 11.00                | 0.00                |  |
| <b>Ft. Hays Marker</b>                      |                 |             |                       |              |              |                         |                       |                      |                     |  |
| 6,250.00                                    | 74.62           | 359.55      | 6,030.35              | -45.68       | -478.83      | -10.77                  | 11.00                 | 11.00                | 0.00                |  |
| 6,300.00                                    | 80.12           | 359.55      | 6,041.28              | 3.09         | -479.21      | 37.90                   | 11.00                 | 11.00                | 0.00                |  |
| 6,350.00                                    | 85.62           | 359.55      | 6,047.48              | 52.68        | -479.60      | 87.39                   | 11.00                 | 11.00                | 0.00                |  |
| 6,389.78                                    | 90.00           | 359.55      | 6,049.00              | 92.42        | -479.91      | 127.05                  | 11.00                 | 11.00                | 0.00                |  |
| <b>LP @ 90° Inc, Hold - Top Codell - 7"</b> |                 |             |                       |              |              |                         |                       |                      |                     |  |
| 6,400.00                                    | 90.00           | 359.55      | 6,049.00              | 102.64       | -479.99      | 137.25                  | 0.00                  | 0.00                 | 0.00                |  |
| 6,500.00                                    | 90.00           | 359.55      | 6,049.00              | 202.64       | -480.78      | 237.04                  | 0.00                  | 0.00                 | 0.00                |  |
| 6,600.00                                    | 90.00           | 359.55      | 6,049.00              | 302.63       | -481.56      | 336.83                  | 0.00                  | 0.00                 | 0.00                |  |
| 6,700.00                                    | 90.00           | 359.55      | 6,049.00              | 402.63       | -482.34      | 436.62                  | 0.00                  | 0.00                 | 0.00                |  |
| 6,800.00                                    | 90.00           | 359.55      | 6,049.00              | 502.63       | -483.13      | 536.41                  | 0.00                  | 0.00                 | 0.00                |  |
| 6,900.00                                    | 90.00           | 359.55      | 6,049.00              | 602.62       | -483.91      | 636.20                  | 0.00                  | 0.00                 | 0.00                |  |
| 7,000.00                                    | 90.00           | 359.55      | 6,049.00              | 702.62       | -484.70      | 735.99                  | 0.00                  | 0.00                 | 0.00                |  |
| 7,100.00                                    | 90.00           | 359.55      | 6,049.00              | 802.62       | -485.48      | 835.78                  | 0.00                  | 0.00                 | 0.00                |  |
| 7,200.00                                    | 90.00           | 359.55      | 6,049.00              | 902.61       | -486.27      | 935.57                  | 0.00                  | 0.00                 | 0.00                |  |
| 7,300.00                                    | 90.00           | 359.55      | 6,049.00              | 1,002.61     | -487.05      | 1,035.35                | 0.00                  | 0.00                 | 0.00                |  |
| 7,400.00                                    | 90.00           | 359.55      | 6,049.00              | 1,102.61     | -487.84      | 1,135.14                | 0.00                  | 0.00                 | 0.00                |  |
| 7,500.00                                    | 90.00           | 359.55      | 6,049.00              | 1,202.61     | -488.62      | 1,234.93                | 0.00                  | 0.00                 | 0.00                |  |
| 7,600.00                                    | 90.00           | 359.55      | 6,049.00              | 1,302.60     | -489.40      | 1,334.72                | 0.00                  | 0.00                 | 0.00                |  |
| 7,700.00                                    | 90.00           | 359.55      | 6,049.00              | 1,402.60     | -490.19      | 1,434.51                | 0.00                  | 0.00                 | 0.00                |  |
| 7,800.00                                    | 90.00           | 359.55      | 6,049.00              | 1,502.60     | -490.97      | 1,534.30                | 0.00                  | 0.00                 | 0.00                |  |
| 7,900.00                                    | 90.00           | 359.55      | 6,049.00              | 1,602.59     | -491.76      | 1,634.09                | 0.00                  | 0.00                 | 0.00                |  |
| 8,000.00                                    | 90.00           | 359.55      | 6,049.00              | 1,702.59     | -492.54      | 1,733.88                | 0.00                  | 0.00                 | 0.00                |  |
| 8,100.00                                    | 90.00           | 359.55      | 6,049.00              | 1,802.59     | -493.33      | 1,833.67                | 0.00                  | 0.00                 | 0.00                |  |
| 8,200.00                                    | 90.00           | 359.55      | 6,049.00              | 1,902.58     | -494.11      | 1,933.46                | 0.00                  | 0.00                 | 0.00                |  |
| 8,300.00                                    | 90.00           | 359.55      | 6,049.00              | 2,002.58     | -494.89      | 2,033.25                | 0.00                  | 0.00                 | 0.00                |  |
| 8,400.00                                    | 90.00           | 359.55      | 6,049.00              | 2,102.58     | -495.68      | 2,133.04                | 0.00                  | 0.00                 | 0.00                |  |
| 8,500.00                                    | 90.00           | 359.55      | 6,049.00              | 2,202.57     | -496.46      | 2,232.83                | 0.00                  | 0.00                 | 0.00                |  |
| 8,600.00                                    | 90.00           | 359.55      | 6,049.00              | 2,302.57     | -497.25      | 2,332.62                | 0.00                  | 0.00                 | 0.00                |  |
| 8,700.00                                    | 90.00           | 359.55      | 6,049.00              | 2,402.57     | -498.03      | 2,432.41                | 0.00                  | 0.00                 | 0.00                |  |
| 8,800.00                                    | 90.00           | 359.55      | 6,049.00              | 2,502.57     | -498.82      | 2,532.20                | 0.00                  | 0.00                 | 0.00                |  |
| 8,900.00                                    | 90.00           | 359.55      | 6,049.00              | 2,602.56     | -499.60      | 2,631.99                | 0.00                  | 0.00                 | 0.00                |  |
| 9,000.00                                    | 90.00           | 359.55      | 6,049.00              | 2,702.56     | -500.38      | 2,731.78                | 0.00                  | 0.00                 | 0.00                |  |
| 9,100.00                                    | 90.00           | 359.55      | 6,049.00              | 2,802.56     | -501.17      | 2,831.57                | 0.00                  | 0.00                 | 0.00                |  |
| 9,200.00                                    | 90.00           | 359.55      | 6,049.00              | 2,902.55     | -501.95      | 2,931.36                | 0.00                  | 0.00                 | 0.00                |  |
| 9,300.00                                    | 90.00           | 359.55      | 6,049.00              | 3,002.55     | -502.74      | 3,031.15                | 0.00                  | 0.00                 | 0.00                |  |
| 9,400.00                                    | 90.00           | 359.55      | 6,049.00              | 3,102.55     | -503.52      | 3,130.94                | 0.00                  | 0.00                 | 0.00                |  |



# WOG

## Planning Report

|                  |                         |                                     |  |
|------------------|-------------------------|-------------------------------------|--|
| <b>Database:</b> | LandmarkEDM             | <b>Local Co-ordinate Reference:</b> | Well Horsetail Fed #07G-0642           |
| <b>Company:</b>  | Whiting Petroleum Corp. | <b>TVD Reference:</b>               | KBE @ 4913.00usft (Original Well Elev) |
| <b>Project:</b>  | Weld County, CO         | <b>MD Reference:</b>                | KBE @ 4913.00usft (Original Well Elev) |
| <b>Site:</b>     | Sec 7-T10N-R57W         | <b>North Reference:</b>             | True                                   |
| <b>Well:</b>     | Horsetail Fed #07G-0642 | <b>Survey Calculation Method:</b>   | Minimum Curvature                      |
| <b>Wellbore:</b> | H2                      |                                     |  |
| <b>Design:</b>   | Design #1               |                                     |  |

| Planned Survey        |                 |             |                       |              |              |                         |                       |                      |                     |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-----------------------|----------------------|---------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 9,500.00              | 90.00           | 359.55      | 6,049.00              | 3,202.54     | -504.31      | 3,230.72                | 0.00                  | 0.00                 | 0.00                |
| 9,600.00              | 90.00           | 359.55      | 6,049.00              | 3,302.54     | -505.09      | 3,330.51                | 0.00                  | 0.00                 | 0.00                |
| 9,700.00              | 90.00           | 359.55      | 6,049.00              | 3,402.54     | -505.88      | 3,430.30                | 0.00                  | 0.00                 | 0.00                |
| 9,800.00              | 90.00           | 359.55      | 6,049.00              | 3,502.53     | -506.66      | 3,530.09                | 0.00                  | 0.00                 | 0.00                |
| 9,900.00              | 90.00           | 359.55      | 6,049.00              | 3,602.53     | -507.44      | 3,629.88                | 0.00                  | 0.00                 | 0.00                |
| 10,000.00             | 90.00           | 359.55      | 6,049.00              | 3,702.53     | -508.23      | 3,729.67                | 0.00                  | 0.00                 | 0.00                |
| 10,100.00             | 90.00           | 359.55      | 6,049.00              | 3,802.53     | -509.01      | 3,829.46                | 0.00                  | 0.00                 | 0.00                |
| 10,200.00             | 90.00           | 359.55      | 6,049.00              | 3,902.52     | -509.80      | 3,929.25                | 0.00                  | 0.00                 | 0.00                |
| 10,300.00             | 90.00           | 359.55      | 6,049.00              | 4,002.52     | -510.58      | 4,029.04                | 0.00                  | 0.00                 | 0.00                |
| 10,400.00             | 90.00           | 359.55      | 6,049.00              | 4,102.52     | -511.37      | 4,128.83                | 0.00                  | 0.00                 | 0.00                |
| 10,500.00             | 90.00           | 359.55      | 6,049.00              | 4,202.51     | -512.15      | 4,228.62                | 0.00                  | 0.00                 | 0.00                |
| 10,600.00             | 90.00           | 359.55      | 6,049.00              | 4,302.51     | -512.93      | 4,328.41                | 0.00                  | 0.00                 | 0.00                |
| 10,700.00             | 90.00           | 359.55      | 6,049.00              | 4,402.51     | -513.72      | 4,428.20                | 0.00                  | 0.00                 | 0.00                |
| 10,800.00             | 90.00           | 359.55      | 6,049.00              | 4,502.50     | -514.50      | 4,527.99                | 0.00                  | 0.00                 | 0.00                |
| 10,900.00             | 90.00           | 359.55      | 6,049.00              | 4,602.50     | -515.29      | 4,627.78                | 0.00                  | 0.00                 | 0.00                |
| 11,000.00             | 90.00           | 359.55      | 6,049.00              | 4,702.50     | -516.07      | 4,727.57                | 0.00                  | 0.00                 | 0.00                |
| 11,100.00             | 90.00           | 359.55      | 6,049.00              | 4,802.49     | -516.86      | 4,827.36                | 0.00                  | 0.00                 | 0.00                |
| 11,200.00             | 90.00           | 359.55      | 6,049.00              | 4,902.49     | -517.64      | 4,927.15                | 0.00                  | 0.00                 | 0.00                |
| 11,300.00             | 90.00           | 359.55      | 6,049.00              | 5,002.49     | -518.43      | 5,026.94                | 0.00                  | 0.00                 | 0.00                |
| 11,400.00             | 90.00           | 359.55      | 6,049.00              | 5,102.49     | -519.21      | 5,126.73                | 0.00                  | 0.00                 | 0.00                |
| 11,500.00             | 90.00           | 359.55      | 6,049.00              | 5,202.48     | -519.99      | 5,226.52                | 0.00                  | 0.00                 | 0.00                |
| 11,600.00             | 90.00           | 359.55      | 6,049.00              | 5,302.48     | -520.78      | 5,326.30                | 0.00                  | 0.00                 | 0.00                |
| 11,700.00             | 90.00           | 359.55      | 6,049.00              | 5,402.48     | -521.56      | 5,426.09                | 0.00                  | 0.00                 | 0.00                |
| 11,800.00             | 90.00           | 359.55      | 6,049.00              | 5,502.47     | -522.35      | 5,525.88                | 0.00                  | 0.00                 | 0.00                |
| 11,900.00             | 90.00           | 359.55      | 6,049.00              | 5,602.47     | -523.13      | 5,625.67                | 0.00                  | 0.00                 | 0.00                |
| 12,000.00             | 90.00           | 359.55      | 6,049.00              | 5,702.47     | -523.92      | 5,725.46                | 0.00                  | 0.00                 | 0.00                |
| 12,100.00             | 90.00           | 359.55      | 6,049.00              | 5,802.46     | -524.70      | 5,825.25                | 0.00                  | 0.00                 | 0.00                |
| 12,200.00             | 90.00           | 359.55      | 6,049.00              | 5,902.46     | -525.48      | 5,925.04                | 0.00                  | 0.00                 | 0.00                |
| 12,300.00             | 90.00           | 359.55      | 6,049.00              | 6,002.46     | -526.27      | 6,024.83                | 0.00                  | 0.00                 | 0.00                |
| 12,400.00             | 90.00           | 359.55      | 6,049.00              | 6,102.45     | -527.05      | 6,124.62                | 0.00                  | 0.00                 | 0.00                |
| 12,500.00             | 90.00           | 359.55      | 6,049.00              | 6,202.45     | -527.84      | 6,224.41                | 0.00                  | 0.00                 | 0.00                |
| 12,600.00             | 90.00           | 359.55      | 6,049.00              | 6,302.45     | -528.62      | 6,324.20                | 0.00                  | 0.00                 | 0.00                |
| 12,700.00             | 90.00           | 359.55      | 6,049.00              | 6,402.45     | -529.41      | 6,423.99                | 0.00                  | 0.00                 | 0.00                |
| 12,800.00             | 90.00           | 359.55      | 6,049.00              | 6,502.44     | -530.19      | 6,523.78                | 0.00                  | 0.00                 | 0.00                |
| 12,900.00             | 90.00           | 359.55      | 6,049.00              | 6,602.44     | -530.98      | 6,623.57                | 0.00                  | 0.00                 | 0.00                |
| 13,000.00             | 90.00           | 359.55      | 6,049.00              | 6,702.44     | -531.76      | 6,723.36                | 0.00                  | 0.00                 | 0.00                |
| 13,100.00             | 90.00           | 359.55      | 6,049.00              | 6,802.43     | -532.54      | 6,823.15                | 0.00                  | 0.00                 | 0.00                |
| 13,200.00             | 90.00           | 359.55      | 6,049.00              | 6,902.43     | -533.33      | 6,922.94                | 0.00                  | 0.00                 | 0.00                |
| 13,300.00             | 90.00           | 359.55      | 6,049.00              | 7,002.43     | -534.11      | 7,022.73                | 0.00                  | 0.00                 | 0.00                |
| 13,400.00             | 90.00           | 359.55      | 6,049.00              | 7,102.42     | -534.90      | 7,122.52                | 0.00                  | 0.00                 | 0.00                |
| 13,500.00             | 90.00           | 359.55      | 6,049.00              | 7,202.42     | -535.68      | 7,222.31                | 0.00                  | 0.00                 | 0.00                |
| 13,600.00             | 90.00           | 359.55      | 6,049.00              | 7,302.42     | -536.47      | 7,322.10                | 0.00                  | 0.00                 | 0.00                |
| 13,667.50             | 90.00           | 359.55      | 6,049.00              | 7,369.92     | -537.00      | 7,389.46                | 0.00                  | 0.00                 | 0.00                |
| TD at 13667.50' MD    |                 |             |                       |              |              |                         |                       |                      |                     |



# WOG

## Planning Report

|                  |                         |                                     |  |
|------------------|-------------------------|-------------------------------------|--|
| <b>Database:</b> | LandmarkEDM             | <b>Local Co-ordinate Reference:</b> | Well Horsetail Fed #07G-0642           |
| <b>Company:</b>  | Whiting Petroleum Corp. | <b>TVD Reference:</b>               | KBE @ 4913.00usft (Original Well Elev) |
| <b>Project:</b>  | Weld County, CO         | <b>MD Reference:</b>                | KBE @ 4913.00usft (Original Well Elev) |
| <b>Site:</b>     | Sec 7-T10N-R57W         | <b>North Reference:</b>             | True                                   |
| <b>Well:</b>     | Horsetail Fed #07G-0642 | <b>Survey Calculation Method:</b>   | Minimum Curvature                      |
| <b>Wellbore:</b> | Hz                      |                                     |  |
| <b>Design:</b>   | Design #1               |                                     |  |

| Design Targets            |           |          |          |          |         |              |              |                  |                   |
|---------------------------|-----------|----------|----------|----------|---------|--------------|--------------|------------------|-------------------|
| Target Name               | Dip Angle | Dip Dir. | TVD      | +N/-S    | +E/-W   | Northing     | Easting      | Latitude         | Longitude         |
| - hit/miss target         | (°)       | (°)      | (usft)   | (usft)   | (usft)  | (usft)       | (usft)       |                  |                   |
| - Shape                   |           |          |          |          |         |              |              |                  |                   |
| PBHL 0642D                | 0.00      | 0.00     | 6,049.00 | 7,369.92 | -537.00 | 1,565,690.41 | 3,471,895.91 | 40° 52' 25.430 N | 103° 47' 37.010 W |
| - plan hits target center |           |          |          |          |         |              |              |                  |                   |
| - Point                   |           |          |          |          |         |              |              |                  |                   |

| Casing Points  |                |      |  |                 |               |
|----------------|----------------|------|--|-----------------|---------------|
| Measured Depth | Vertical Depth | Name |  | Casing Diameter | Hole Diameter |
| (usft)         | (usft)         |      |  | (in)            | (in)          |
| 6,389.78       | 6,049.00       | 7"   |  | 7.000           | 8.750         |

| Formations     |                |                 |           |     |               |  |
|----------------|----------------|-----------------|-----------|-----|---------------|--|
| Measured Depth | Vertical Depth | Name            | Lithology | Dip | Dip Direction |  |
| (usft)         | (usft)         |                 |           | (°) | (°)           |  |
| 1,559.66       | 1,550.00       | Upper Pierre    |           |     |               |  |
| 3,528.83       | 3,500.00       | Hygiene         |           |     |               |  |
| 3,680.30       | 3,650.00       | Lower Pierre    |           |     |               |  |
| 5,558.47       | 5,515.00       | P200 Marker     |           |     |               |  |
| 5,573.47       | 5,530.00       | P300 Marker     |           |     |               |  |
| 5,593.48       | 5,550.00       | P350 Marker     |           |     |               |  |
| 5,748.87       | 5,702.00       | Sharon Springs  |           |     |               |  |
| 5,754.19       | 5,707.00       | Niobrara        |           |     |               |  |
| 5,775.65       | 5,727.00       | Top A Chalk     |           |     |               |  |
| 5,816.38       | 5,764.00       | Top A Marl      |           |     |               |  |
| 5,837.93       | 5,783.00       | A Marl          |           |     |               |  |
| 5,848.30       | 5,792.00       | Top Upper B     |           |     |               |  |
| 5,881.42       | 5,820.00       | Base Upper B    |           |     |               |  |
| 5,902.23       | 5,837.00       | Top Lower B     |           |     |               |  |
| 5,927.53       | 5,857.00       | Base Lower B    |           |     |               |  |
| 5,936.62       | 5,864.00       | Top B Marl      |           |     |               |  |
| 6,006.16       | 5,914.00       | Top C Chalk     |           |     |               |  |
| 6,018.22       | 5,922.00       | Middle C Chalk  |           |     |               |  |
| 6,040.16       | 5,936.00       | Middle C Marl   |           |     |               |  |
| 6,071.95       | 5,955.00       | Lower C Chalk   |           |     |               |  |
| 6,104.87       | 5,973.00       | Lower C Marl    |           |     |               |  |
| 6,171.68       | 6,004.00       | Lower C Marker  |           |     |               |  |
| 6,184.33       | 6,009.00       | Top Ft. Hays    |           |     |               |  |
| 6,244.98       | 6,029.00       | Ft. Hays Marker |           |     |               |  |
| 6,389.78       | 6,049.00       | Top Codell      |           |     |               |  |



**WOG**  
Planning Report

|                  |                         |                                     |  |
|------------------|-------------------------|-------------------------------------|--|
| <b>Database:</b> | LandmarkEDM             | <b>Local Co-ordinate Reference:</b> | Well Horsetail Fed #07G-0642           |
| <b>Company:</b>  | Whiting Petroleum Corp. | <b>TVD Reference:</b>               | KBE @ 4913.00usft (Original Well Elev) |
| <b>Project:</b>  | Weld County, CO         | <b>MD Reference:</b>                | KBE @ 4913.00usft (Original Well Elev) |
| <b>Site:</b>     | Sec 7-T10N-R57W         | <b>North Reference:</b>             | True                                   |
| <b>Well:</b>     | Horsetail Fed #07G-0642 | <b>Survey Calculation Method:</b>   | Minimum Curvature                      |
| <b>Wellbore:</b> | Hz                      |                                     |  |
| <b>Design:</b>   | Design #1               |                                     |  |

| Plan Annotations            |                             |                   |                 |                     |
|-----------------------------|-----------------------------|-------------------|-----------------|---------------------|
| Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Local Coordinates |                 | Comment             |
|                             |                             | +N/-S<br>(usft)   | +E/-W<br>(usft) |                     |
| 300.00                      | 300.00                      | 0.00              | 0.00            | Build 2°/100'       |
| 700.00                      | 698.70                      | -18.66            | -20.72          | Hold 8° Inc         |
| 4,900.00                    | 4,857.83                    | -409.78           | -455.11         | Drop 2°/100'        |
| 5,300.00                    | 5,256.53                    | -428.44           | -475.83         | Hold Vertical       |
| 5,571.60                    | 5,528.13                    | -428.44           | -475.83         | KOP, Build 11°/100' |
| 6,389.78                    | 6,049.00                    | 92.42             | -479.91         | LP @ 90° Inc, Hold  |
| 13,667.50                   | 6,049.00                    | 7,369.92          | -537.00         | TD at 13667.50' MD  |