



# ConocoPhillips

## Arapahoe County, Colorado

### Arkansas 4-64 3-2 3AH

### Design B

#### Casing Depths

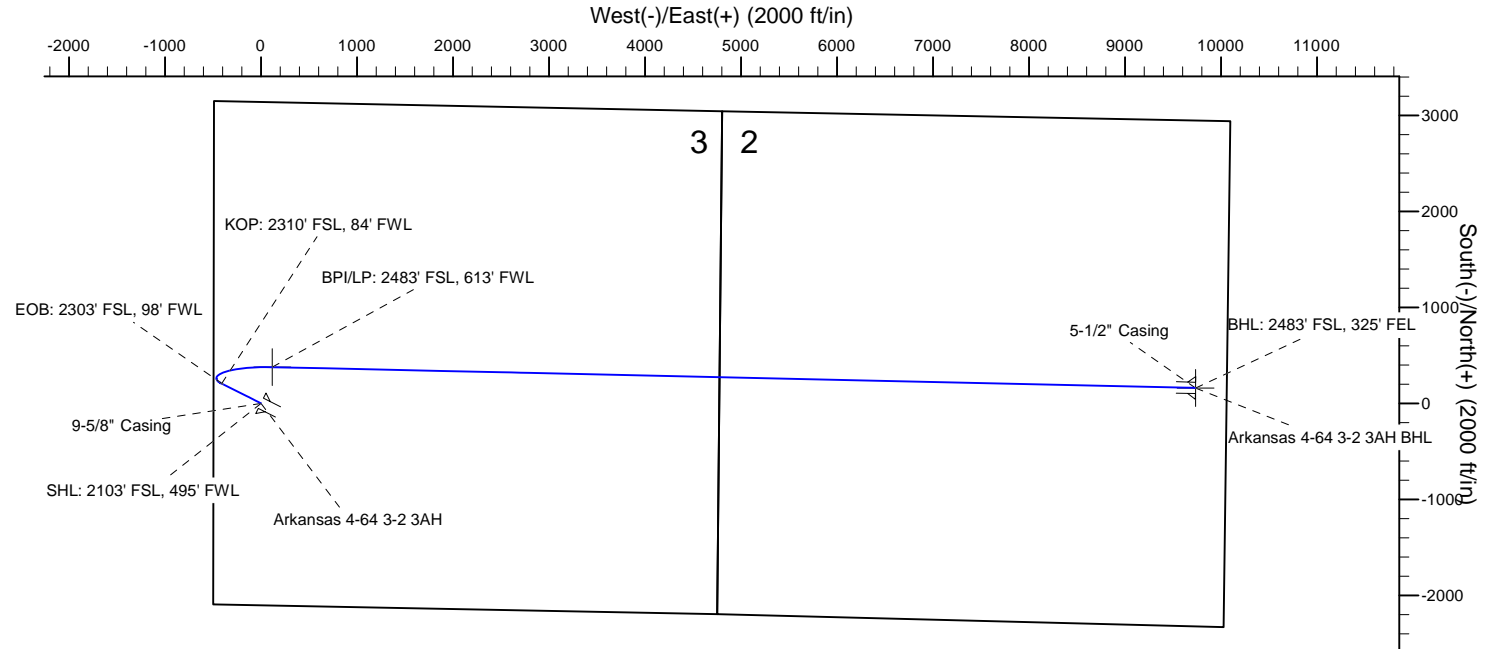
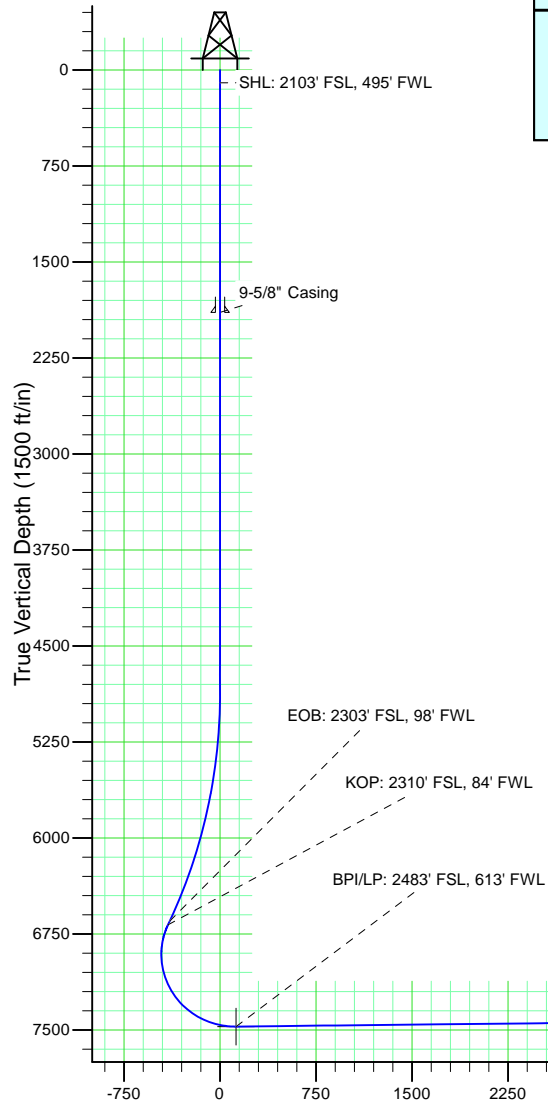
| TVD     | MD       | Name          | Size  |
|---------|----------|---------------|-------|
| 1895.00 | 1895.00  | 9-5/8" Casing | 9-5/8 |
| 7368.00 | 17533.07 | 5-1/2" Casing | 5-1/2 |

Ground Level: 5609.90  
Surface Location Latitude: 39° 43' 48.728 N  
Surface Location Longitude: 104° 32' 38.655 W  
North Reference: True  
27' RKB @ 5636.90ft (27' RKB)

North American Datum 1983  
GRS 1980  
US State Plane 1983  
Colorado Central Zone

#### Well Profile Data

| MD       | Inc   | Azi    | TVD     | +N/-S  | +E/-W   | Dleg  | VSect   |
|----------|-------|--------|---------|--------|---------|-------|---------|
| 0.00     | 0.00  | 0.00   | 0.00    | 0.00   | 0.00    | 0.00  | 0.00    |
| 4861.95  | 0.00  | 0.00   | 4861.95 | 0.00   | 0.00    | 0.00  | 0.00    |
| 6722.06  | 27.90 | 296.70 | 6649.40 | 199.51 | -396.69 | 1.50  | -393.34 |
| 6756.27  | 27.90 | 296.70 | 6679.64 | 206.70 | -410.99 | 0.00  | -407.52 |
| 7912.47  | 90.63 | 91.29  | 7474.00 | 377.58 | 118.40  | 10.00 | 124.62  |
| 17533.07 | 90.63 | 91.29  | 7368.00 | 160.87 | 9735.98 | 0.00  | 9737.31 |



#### Wellbore Targets

| Name                      | TVD     | Latitude         | Longitude         |
|---------------------------|---------|------------------|-------------------|
| Arkansas 4-64 3-2 3AH BHL | 7368.00 | 39° 43' 50.300 N | 104° 30' 34.040 W |
| Arkansas 4-64 3-2 3AH BPI | 7474.00 | 39° 43' 52.460 N | 104° 32' 37.140 W |

# **ConocoPhillips RBU Gold Data**

**Niobrara Central Zone**

**Arkansas**

**Arkansas 4-64 3-2 3AH**

**Arkansas 4-64 3-2 3AH**

**Plan: Design B**

## **Standard Planning Report**

**24 April, 2018**

# ConocoPhillips

## Planning Report

|                  |                              |                                     |                               |
|------------------|------------------------------|-------------------------------------|-------------------------------|
| <b>Database:</b> | EDT 14 Central Planning      | <b>Local Co-ordinate Reference:</b> | Well Arkansas 4-64 3-2 3AH    |
| <b>Company:</b>  | ConocoPhillips RBU Gold Data | <b>TVD Reference:</b>               | 27' RKB @ 5636.90ft (27' RKB) |
| <b>Project:</b>  | Niobrara Central Zone        | <b>MD Reference:</b>                | 27' RKB @ 5636.90ft (27' RKB) |
| <b>Site:</b>     | Arkansas                     | <b>North Reference:</b>             | True                          |
| <b>Well:</b>     | Arkansas 4-64 3-2 3AH        | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Wellbore:</b> | Arkansas 4-64 3-2 3AH        |                                     |                               |
| <b>Design:</b>   | Design B                     |                                     |                               |

|                    |   |                      |                             |
|--------------------|---|----------------------|-----------------------------|
| <b>Project</b>     | Niobrara Central Zone, Colorado Central Zone, FIPS Zone: 0502 |                      |                             |
| <b>Map System:</b> | US State Plane 1983   | <b>System Datum:</b> | Mean Sea Level              |
| <b>Geo Datum:</b>  | North American Datum 1983                                     |                      |                             |
| <b>Map Zone:</b>   | Colorado Central Zone   |                      | Using geodetic scale factor |

| Site                    |          | Arkansas              |                    |              |                   |
|-------------------------|----------|-----------------------|--------------------|--------------|-------------------|
| Site Position:<br>From: | Lat/Long | Northing:             | 1,695,413.984 usft | Latitude:    | 39° 44' 19.849 N  |
|                         |          | Easting:              | 3,268,336.863 usft | Longitude:   | 104° 32' 44.941 W |
|                         |          | Position Uncertainty: | 2.00 ft            | Slot Radius: | 13-3/16 "         |

|                      |                       |              |                     |                    |               |                   |
|----------------------|-----------------------|--------------|---------------------|--------------------|---------------|-------------------|
| Well                 | Arkansas 4-64 3-2 3AH |              |                     |                    |               |                   |
| Well Position        | +N-S                  | -3,148.98 ft | Northing:           | 1,692,270.350 usft | Latitude:     | 39° 43' 48.728 N  |
|                      | +E-W                  | 491.09 ft    | Easting:            | 3,268,861.000 usft | Longitude:    | 104° 32' 38.655 W |
| Position Uncertainty |                       | 2.00 ft      | Wellhead Elevation: | 5,609.90 ft        | Ground Level: | 5,609.90 ft       |

|                  |                       |                    |                        |                      |                            |
|------------------|-----------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Arkansas 4-64 3-2 3AH |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b>     | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | BGGM2017              | 12/1/2018          | 8.09                   | 66.34                | 51,881.67350129            |

|                   |                          |               |               |                  |      |
|-------------------|--------------------------|---------------|---------------|------------------|------|
| Design            | Design B                 |               |               |                  |      |
| Audit Notes:      |                          |               |               |                  |      |
| Version:          | 0                        | Phase:        | PLAN          | Tie On Depth:    | 0.00 |
| Vertical Section: | Depth From (TVD)<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Direction<br>(°) |      |
|                   | 0.00                     | 0.00          | 0.00          | 89.05            |      |

|                                 |                      |                          |                                  |                          |  |
|---------------------------------|----------------------|--------------------------|----------------------------------|--------------------------|--|
| <b>Plan Survey Tool Program</b> | <b>Date</b>          | 4/24/2018                |                                  |                          |  |
| <b>Depth From (ft)</b>          | <b>Depth To (ft)</b> | <b>Survey (Wellbore)</b> | <b>Tool Name</b>                 | <b>Remarks</b>           |  |
| 1                               | 0.00                 | 1,895.00                 | Design B (Arkansas 4-64 3-2 3AH) | Gyro-BM-MS               |  |
|                                 |                      |                          |                                  | Gyro - bat/mem drop m/s  |  |
| 2                               | 1,895.00             | 4,861.95                 | Design B (Arkansas 4-64 3-2 3AH) | MWD+IFR_No SAG           |  |
|                                 |                      |                          |                                  | MWD + IFR (No SAG) corre |  |
| 3                               | 4,861.95             | 6,722.06                 | Design B (Arkansas 4-64 3-2 3AH) | MWD+IFR_No SAG           |  |
|                                 |                      |                          |                                  | MWD + IFR (No SAG) corre |  |
| 4                               | 6,722.06             | 6,756.27                 | Design B (Arkansas 4-64 3-2 3AH) | MWD+IFR_No SAG           |  |
|                                 |                      |                          |                                  | MWD + IFR (No SAG) corre |  |
| 5                               | 6,756.27             | 7,912.47                 | Design B (Arkansas 4-64 3-2 3AH) | MWD+IFR_No SAG           |  |
|                                 |                      |                          |                                  | MWD + IFR (No SAG) corre |  |
| 6                               | 7,912.47             | 17,533.07                | Design B (Arkansas 4-64 3-2 3AH) | MWD+IFR_No SAG           |  |
|                                 |                      |                          |                                  | MWD + IFR (No SAG) corre |  |

# ConocoPhillips

## Planning Report

|                  |                              |                                     |                               |
|------------------|------------------------------|-------------------------------------|-------------------------------|
| <b>Database:</b> | EDT 14 Central Planning      | <b>Local Co-ordinate Reference:</b> | Well Arkansas 4-64 3-2 3AH    |
| <b>Company:</b>  | ConocoPhillips RBU Gold Data | <b>TVD Reference:</b>               | 27' RKB @ 5636.90ft (27' RKB) |
| <b>Project:</b>  | Niobrara Central Zone        | <b>MD Reference:</b>                | 27' RKB @ 5636.90ft (27' RKB) |
| <b>Site:</b>     | Arkansas                     | <b>North Reference:</b>             | True                          |
| <b>Well:</b>     | Arkansas 4-64 3-2 3AH        | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Wellbore:</b> | Arkansas 4-64 3-2 3AH        |                                     |                               |
| <b>Design:</b>   | Design B                     |                                     |                               |

| Plan Sections       |                 |             |                     |            |            |                       |                      |                     |         |                     |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|---------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target              |
| 0.00                | 0.00            | 0.00        | 0.00                | 0.00       | 0.00       | 0.00                  | 0.00                 | 0.00                | 0.00    |                     |
| 4,861.95            | 0.00            | 0.00        | 4,861.95            | 0.00       | 0.00       | 0.00                  | 0.00                 | 0.00                | 0.00    |                     |
| 6,722.06            | 27.90           | 296.70      | 6,649.40            | 199.51     | -396.69    | 1.50                  | 1.50                 | 0.00                | 296.70  |                     |
| 6,756.27            | 27.90           | 296.70      | 6,679.64            | 206.70     | -410.99    | 0.00                  | 0.00                 | 0.00                | 0.00    |                     |
| 7,912.47            | 90.63           | 91.29       | 7,474.00            | 377.58     | 118.40     | 10.00                 | 5.43                 | 13.37               | 151.59  | Arkansas 4-64 3-2 ; |
| 17,533.07           | 90.63           | 91.29       | 7,368.00            | 160.87     | 9,735.98   | 0.00                  | 0.00                 | 0.00                | 0.00    | Arkansas 4-64 3-2 ; |

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## Planning Report

|                  |                              |                                     |                               |
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| <b>Database:</b> | EDT 14 Central Planning      | <b>Local Co-ordinate Reference:</b> | Well Arkansas 4-64 3-2 3AH    |
| <b>Company:</b>  | ConocoPhillips RBU Gold Data | <b>TVD Reference:</b>               | 27' RKB @ 5636.90ft (27' RKB) |
| <b>Project:</b>  | Niobrara Central Zone        | <b>MD Reference:</b>                | 27' RKB @ 5636.90ft (27' RKB) |
| <b>Site:</b>     | Arkansas                     | <b>North Reference:</b>             | True                          |
| <b>Well:</b>     | Arkansas 4-64 3-2 3AH        | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Wellbore:</b> | Arkansas 4-64 3-2 3AH        |                                     |                               |
| <b>Design:</b>   | Design B                     |                                     |                               |

| Planned Survey                 |                 |             |                     |            |            |                       |                       |                      |                     |
|--------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft)            | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | 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                |
| SHL: 2103' FSL, 495' FWL       |                 |             |                     |            |            |                       |                       |                      |                     |
| 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                |
| 400.00                         | 0.00            | 0.00        | 400.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 500.00                         | 0.00            | 0.00        | 500.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 600.00                         | 0.00            | 0.00        | 600.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 700.00                         | 0.00            | 0.00        | 700.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 800.00                         | 0.00            | 0.00        | 800.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 900.00                         | 0.00            | 0.00        | 900.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 1,000.00                       | 0.00            | 0.00        | 1,000.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 1,100.00                       | 0.00            | 0.00        | 1,100.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 1,200.00                       | 0.00            | 0.00        | 1,200.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 1,300.00                       | 0.00            | 0.00        | 1,300.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 1,400.00                       | 0.00            | 0.00        | 1,400.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 1,500.00                       | 0.00            | 0.00        | 1,500.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 1,561.00                       | 0.00            | 0.00        | 1,561.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| Fox Hills Top                  |                 |             |                     |            |            |                       |                       |                      |                     |
| 1,600.00                       | 0.00            | 0.00        | 1,600.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 1,695.00                       | 0.00            | 0.00        | 1,695.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| Fox Hills Base                 |                 |             |                     |            |            |                       |                       |                      |                     |
| 1,700.00                       | 0.00            | 0.00        | 1,700.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 1,800.00                       | 0.00            | 0.00        | 1,800.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 1,895.00                       | 0.00            | 0.00        | 1,895.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| Surface Casing - 9-5/8" Casing |                 |             |                     |            |            |                       |                       |                      |                     |
| 1,900.00                       | 0.00            | 0.00        | 1,900.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 2,000.00                       | 0.00            | 0.00        | 2,000.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 2,100.00                       | 0.00            | 0.00        | 2,100.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 2,200.00                       | 0.00            | 0.00        | 2,200.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 2,300.00                       | 0.00            | 0.00        | 2,300.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 2,400.00                       | 0.00            | 0.00        | 2,400.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 2,500.00                       | 0.00            | 0.00        | 2,500.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 2,600.00                       | 0.00            | 0.00        | 2,600.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 2,700.00                       | 0.00            | 0.00        | 2,700.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 2,800.00                       | 0.00            | 0.00        | 2,800.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 2,900.00                       | 0.00            | 0.00        | 2,900.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 3,000.00                       | 0.00            | 0.00        | 3,000.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 3,100.00                       | 0.00            | 0.00        | 3,100.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 3,200.00                       | 0.00            | 0.00        | 3,200.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 3,300.00                       | 0.00            | 0.00        | 3,300.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 3,400.00                       | 0.00            | 0.00        | 3,400.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 3,500.00                       | 0.00            | 0.00        | 3,500.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 3,600.00                       | 0.00            | 0.00        | 3,600.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 3,700.00                       | 0.00            | 0.00        | 3,700.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 3,800.00                       | 0.00            | 0.00        | 3,800.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 3,900.00                       | 0.00            | 0.00        | 3,900.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 4,000.00                       | 0.00            | 0.00        | 4,000.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 4,100.00                       | 0.00            | 0.00        | 4,100.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 4,200.00                       | 0.00            | 0.00        | 4,200.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 4,300.00                       | 0.00            | 0.00        | 4,300.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 4,400.00                       | 0.00            | 0.00        | 4,400.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 4,500.00                       | 0.00            | 0.00        | 4,500.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 4,600.00                       | 0.00            | 0.00        | 4,600.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |

# ConocoPhillips

## Planning Report

|                  |                              |                                     |                               |
|------------------|------------------------------|-------------------------------------|-------------------------------|
| <b>Database:</b> | EDT 14 Central Planning      | <b>Local Co-ordinate Reference:</b> | Well Arkansas 4-64 3-2 3AH    |
| <b>Company:</b>  | ConocoPhillips RBU Gold Data | <b>TVD Reference:</b>               | 27' RKB @ 5636.90ft (27' RKB) |
| <b>Project:</b>  | Niobrara Central Zone        | <b>MD Reference:</b>                | 27' RKB @ 5636.90ft (27' RKB) |
| <b>Site:</b>     | Arkansas                     | <b>North Reference:</b>             | True                          |
| <b>Well:</b>     | Arkansas 4-64 3-2 3AH        | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Wellbore:</b> | Arkansas 4-64 3-2 3AH        |                                     |                               |
| <b>Design:</b>   | Design B                     |                                     |                               |

| Planned Survey                 |                 |             |                     |            |            |                       |                       |                      |                     |
|--------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft)            | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 4,700.00                       | 0.00            | 0.00        | 4,700.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 4,800.00                       | 0.00            | 0.00        | 4,800.00            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 4,861.95                       | 0.00            | 0.00        | 4,861.95            | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                |
| 4,900.00                       | 0.57            | 296.70      | 4,900.00            | 0.09       | -0.17      | -0.17                 | 1.50                  | 1.50                 | 0.00                |
| 5,000.00                       | 2.07            | 296.70      | 4,999.97            | 1.12       | -2.23      | -2.21                 | 1.50                  | 1.50                 | 0.00                |
| 5,100.00                       | 3.57            | 296.70      | 5,099.85            | 3.33       | -6.62      | -6.57                 | 1.50                  | 1.50                 | 0.00                |
| 5,200.00                       | 5.07            | 296.70      | 5,199.56            | 6.72       | -13.36     | -13.24                | 1.50                  | 1.50                 | 0.00                |
| 5,300.00                       | 6.57            | 296.70      | 5,299.04            | 11.27      | -22.42     | -22.23                | 1.50                  | 1.50                 | 0.00                |
| 5,400.00                       | 8.07            | 296.70      | 5,398.22            | 17.00      | -33.80     | -33.51                | 1.50                  | 1.50                 | 0.00                |
| 5,500.00                       | 9.57            | 296.70      | 5,497.04            | 23.89      | -47.50     | -47.10                | 1.50                  | 1.50                 | 0.00                |
| 5,600.00                       | 11.07           | 296.70      | 5,595.42            | 31.94      | -63.50     | -62.97                | 1.50                  | 1.50                 | 0.00                |
| 5,700.00                       | 12.57           | 296.70      | 5,693.29            | 41.14      | -81.80     | -81.11                | 1.50                  | 1.50                 | 0.00                |
| 5,800.00                       | 14.07           | 296.70      | 5,790.60            | 51.49      | -102.39    | -101.52               | 1.50                  | 1.50                 | 0.00                |
| 5,900.00                       | 15.57           | 296.70      | 5,887.27            | 62.99      | -125.24    | -124.18               | 1.50                  | 1.50                 | 0.00                |
| 6,000.00                       | 17.07           | 296.70      | 5,983.24            | 75.61      | -150.34    | -149.07               | 1.50                  | 1.50                 | 0.00                |
| 6,100.00                       | 18.57           | 296.70      | 6,078.44            | 89.36      | -177.68    | -176.18               | 1.50                  | 1.50                 | 0.00                |
| 6,200.00                       | 20.07           | 296.70      | 6,172.80            | 104.23     | -207.24    | -205.49               | 1.50                  | 1.50                 | 0.00                |
| 6,300.00                       | 21.57           | 296.70      | 6,266.27            | 120.20     | -238.99    | -236.97               | 1.50                  | 1.50                 | 0.00                |
| 6,400.00                       | 23.07           | 296.70      | 6,358.77            | 137.26     | -272.92    | -270.62               | 1.50                  | 1.50                 | 0.00                |
| 6,500.00                       | 24.57           | 296.70      | 6,450.25            | 155.41     | -309.00    | -306.39               | 1.50                  | 1.50                 | 0.00                |
| 6,600.00                       | 26.07           | 296.70      | 6,540.64            | 174.63     | -347.21    | -344.28               | 1.50                  | 1.50                 | 0.00                |
| 6,700.00                       | 27.57           | 296.70      | 6,629.88            | 194.90     | -387.52    | -384.24               | 1.50                  | 1.50                 | 0.00                |
| 6,722.06                       | 27.90           | 296.70      | 6,649.41            | 199.51     | -396.69    | -393.34               | 1.50                  | 1.50                 | 0.00                |
| <b>EOB: 2303' FSL, 98' FWL</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,756.27                       | 27.90           | 296.70      | 6,679.64            | 206.70     | -410.99    | -407.52               | 0.00                  | 0.00                 | 0.00                |
| <b>KOP: 2310' FSL, 84' FWL</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,800.00                       | 24.14           | 301.79      | 6,718.94            | 216.02     | -427.74    | -424.11               | 10.00                 | -8.61                | 11.64               |
| 6,850.00                       | 20.12           | 309.72      | 6,765.25            | 226.90     | -443.05    | -439.24               | 10.00                 | -8.04                | 15.86               |
| 6,900.00                       | 16.61           | 321.10      | 6,812.72            | 237.97     | -454.16    | -450.17               | 10.00                 | -7.01                | 22.76               |
| 6,950.00                       | 14.01           | 337.38      | 6,860.96            | 249.13     | -460.98    | -456.80               | 10.00                 | -5.20                | 32.56               |
| 7,000.00                       | 12.88           | 358.46      | 6,909.62            | 260.29     | -463.46    | -459.10               | 10.00                 | -2.27                | 42.15               |
| 7,050.00                       | 13.59           | 20.21       | 6,958.32            | 271.38     | -461.58    | -457.04               | 10.00                 | 1.41                 | 43.51               |
| 7,100.00                       | 15.89           | 37.78       | 7,006.70            | 282.31     | -455.36    | -450.63               | 10.00                 | 4.60                 | 35.13               |
| 7,150.00                       | 19.22           | 50.21       | 7,054.38            | 292.99     | -444.84    | -439.93               | 10.00                 | 6.66                 | 24.87               |
| 7,200.00                       | 23.14           | 58.84       | 7,101.00            | 303.35     | -430.09    | -425.02               | 10.00                 | 7.84                 | 17.26               |
| 7,250.00                       | 27.40           | 65.00       | 7,146.21            | 313.30     | -411.25    | -406.02               | 10.00                 | 8.52                 | 12.32               |
| 7,300.00                       | 31.86           | 69.58       | 7,189.67            | 322.77     | -388.44    | -383.05               | 10.00                 | 8.92                 | 9.16                |
| 7,350.00                       | 36.45           | 73.13       | 7,231.04            | 331.69     | -361.84    | -356.31               | 10.00                 | 9.18                 | 7.10                |
| 7,400.00                       | 41.12           | 75.98       | 7,270.01            | 339.98     | -331.66    | -326.00               | 10.00                 | 9.34                 | 5.69                |
| 7,450.00                       | 45.85           | 78.34       | 7,306.28            | 347.60     | -298.12    | -292.33               | 10.00                 | 9.46                 | 4.71                |
| 7,485.13                       | 49.20           | 79.78       | 7,330.00            | 352.51     | -272.68    | -266.82               | 10.00                 | 9.53                 | 4.10                |
| <b>Niobrara Top</b>            |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,500.00                       | 50.62           | 80.34       | 7,339.57            | 354.47     | -261.48    | -255.58               | 10.00                 | 9.57                 | 3.81                |
| 7,550.00                       | 55.42           | 82.09       | 7,369.64            | 360.55     | -222.01    | -216.02               | 10.00                 | 9.60                 | 3.49                |
| 7,600.00                       | 60.25           | 83.64       | 7,396.25            | 365.79     | -180.03    | -173.96               | 10.00                 | 9.65                 | 3.11                |
| 7,650.00                       | 65.09           | 85.06       | 7,419.20            | 370.15     | -135.84    | -129.70               | 10.00                 | 9.68                 | 2.82                |
| 7,700.00                       | 69.94           | 86.36       | 7,438.32            | 373.59     | -89.78     | -83.60                | 10.00                 | 9.70                 | 2.61                |
| 7,750.00                       | 74.80           | 87.59       | 7,453.46            | 376.10     | -42.21     | -35.99                | 10.00                 | 9.72                 | 2.45                |
| 7,797.22                       | 79.40           | 88.70       | 7,464.00            | 377.59     | 3.78       | 10.02                 | 10.00                 | 9.74                 | 2.34                |
| <b>C Chalk Top</b>             |                 |             |                     |            |            |                       |                       |                      |                     |
| 7,800.00                       | 79.67           | 88.76       | 7,464.50            | 377.65     | 6.51       | 12.75                 | 10.00                 | 9.74                 | 2.30                |
| 7,850.00                       | 84.54           | 89.90       | 7,471.37            | 378.23     | 56.02      | 62.26                 | 10.00                 | 9.74                 | 2.27                |
| 7,900.00                       | 89.42           | 91.01       | 7,474.01            | 377.83     | 105.93     | 112.16                | 10.00                 | 9.75                 | 2.23                |

# ConocoPhillips

## Planning Report

|                  |                              |                                     |                               |
|------------------|------------------------------|-------------------------------------|-------------------------------|
| <b>Database:</b> | EDT 14 Central Planning      | <b>Local Co-ordinate Reference:</b> | Well Arkansas 4-64 3-2 3AH    |
| <b>Company:</b>  | ConocoPhillips RBU Gold Data | <b>TVD Reference:</b>               | 27' RKB @ 5636.90ft (27' RKB) |
| <b>Project:</b>  | Niobrara Central Zone        | <b>MD Reference:</b>                | 27' RKB @ 5636.90ft (27' RKB) |
| <b>Site:</b>     | Arkansas                     | <b>North Reference:</b>             | True                          |
| <b>Well:</b>     | Arkansas 4-64 3-2 3AH        | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Wellbore:</b> | Arkansas 4-64 3-2 3AH        |                                     |                               |
| <b>Design:</b>   | Design B                     |                                     |                               |

| Planned Survey                     |                 |             |                     |            |            |                       |                       |                      |                     |
|------------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft)                | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 7,912.47                           | 90.63           | 91.29       | 7,474.00            | 377.58     | 118.40     | 124.62                | 10.00                 | 9.75                 | 2.23                |
| <b>BPI/LP: 2483' FSL, 613' FWL</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 8,000.00                           | 90.63           | 91.29       | 7,473.04            | 375.61     | 205.90     | 212.08                | 0.00                  | 0.00                 | 0.00                |
| 8,100.00                           | 90.63           | 91.29       | 7,471.93            | 373.35     | 305.87     | 312.00                | 0.00                  | 0.00                 | 0.00                |
| 8,200.00                           | 90.63           | 91.29       | 7,470.83            | 371.10     | 405.84     | 411.91                | 0.00                  | 0.00                 | 0.00                |
| 8,300.00                           | 90.63           | 91.29       | 7,469.73            | 368.85     | 505.81     | 511.83                | 0.00                  | 0.00                 | 0.00                |
| 8,400.00                           | 90.63           | 91.29       | 7,468.63            | 366.60     | 605.78     | 611.75                | 0.00                  | 0.00                 | 0.00                |
| 8,500.00                           | 90.63           | 91.29       | 7,467.53            | 364.34     | 705.74     | 711.67                | 0.00                  | 0.00                 | 0.00                |
| 8,600.00                           | 90.63           | 91.29       | 7,466.42            | 362.09     | 805.71     | 811.59                | 0.00                  | 0.00                 | 0.00                |
| 8,700.00                           | 90.63           | 91.29       | 7,465.32            | 359.84     | 905.68     | 911.50                | 0.00                  | 0.00                 | 0.00                |
| 8,800.00                           | 90.63           | 91.29       | 7,464.22            | 357.59     | 1,005.65   | 1,011.42              | 0.00                  | 0.00                 | 0.00                |
| 8,900.00                           | 90.63           | 91.29       | 7,463.12            | 355.33     | 1,105.62   | 1,111.34              | 0.00                  | 0.00                 | 0.00                |
| 9,000.00                           | 90.63           | 91.29       | 7,462.02            | 353.08     | 1,205.59   | 1,211.26              | 0.00                  | 0.00                 | 0.00                |
| 9,100.00                           | 90.63           | 91.29       | 7,460.92            | 350.83     | 1,305.56   | 1,311.17              | 0.00                  | 0.00                 | 0.00                |
| 9,200.00                           | 90.63           | 91.29       | 7,459.81            | 348.58     | 1,405.52   | 1,411.09              | 0.00                  | 0.00                 | 0.00                |
| 9,300.00                           | 90.63           | 91.29       | 7,458.71            | 346.32     | 1,505.49   | 1,511.01              | 0.00                  | 0.00                 | 0.00                |
| 9,400.00                           | 90.63           | 91.29       | 7,457.61            | 344.07     | 1,605.46   | 1,610.93              | 0.00                  | 0.00                 | 0.00                |
| 9,500.00                           | 90.63           | 91.29       | 7,456.51            | 341.82     | 1,705.43   | 1,710.84              | 0.00                  | 0.00                 | 0.00                |
| 9,600.00                           | 90.63           | 91.29       | 7,455.41            | 339.57     | 1,805.40   | 1,810.76              | 0.00                  | 0.00                 | 0.00                |
| 9,700.00                           | 90.63           | 91.29       | 7,454.31            | 337.31     | 1,905.37   | 1,910.68              | 0.00                  | 0.00                 | 0.00                |
| 9,800.00                           | 90.63           | 91.29       | 7,453.20            | 335.06     | 2,005.34   | 2,010.60              | 0.00                  | 0.00                 | 0.00                |
| 9,900.00                           | 90.63           | 91.29       | 7,452.10            | 332.81     | 2,105.30   | 2,110.52              | 0.00                  | 0.00                 | 0.00                |
| 10,000.00                          | 90.63           | 91.29       | 7,451.00            | 330.56     | 2,205.27   | 2,210.43              | 0.00                  | 0.00                 | 0.00                |
| 10,100.00                          | 90.63           | 91.29       | 7,449.90            | 328.30     | 2,305.24   | 2,310.35              | 0.00                  | 0.00                 | 0.00                |
| 10,200.00                          | 90.63           | 91.29       | 7,448.80            | 326.05     | 2,405.21   | 2,410.27              | 0.00                  | 0.00                 | 0.00                |
| 10,300.00                          | 90.63           | 91.29       | 7,447.69            | 323.80     | 2,505.18   | 2,510.19              | 0.00                  | 0.00                 | 0.00                |
| 10,400.00                          | 90.63           | 91.29       | 7,446.59            | 321.55     | 2,605.15   | 2,610.10              | 0.00                  | 0.00                 | 0.00                |
| 10,500.00                          | 90.63           | 91.29       | 7,445.49            | 319.29     | 2,705.12   | 2,710.02              | 0.00                  | 0.00                 | 0.00                |
| 10,600.00                          | 90.63           | 91.29       | 7,444.39            | 317.04     | 2,805.08   | 2,809.94              | 0.00                  | 0.00                 | 0.00                |
| 10,700.00                          | 90.63           | 91.29       | 7,443.29            | 314.79     | 2,905.05   | 2,909.86              | 0.00                  | 0.00                 | 0.00                |
| 10,800.00                          | 90.63           | 91.29       | 7,442.19            | 312.54     | 3,005.02   | 3,009.78              | 0.00                  | 0.00                 | 0.00                |
| 10,900.00                          | 90.63           | 91.29       | 7,441.08            | 310.28     | 3,104.99   | 3,109.69              | 0.00                  | 0.00                 | 0.00                |
| 11,000.00                          | 90.63           | 91.29       | 7,439.98            | 308.03     | 3,204.96   | 3,209.61              | 0.00                  | 0.00                 | 0.00                |
| 11,100.00                          | 90.63           | 91.29       | 7,438.88            | 305.78     | 3,304.93   | 3,309.53              | 0.00                  | 0.00                 | 0.00                |
| 11,200.00                          | 90.63           | 91.29       | 7,437.78            | 303.53     | 3,404.90   | 3,409.45              | 0.00                  | 0.00                 | 0.00                |
| 11,300.00                          | 90.63           | 91.29       | 7,436.68            | 301.27     | 3,504.86   | 3,509.36              | 0.00                  | 0.00                 | 0.00                |
| 11,400.00                          | 90.63           | 91.29       | 7,435.57            | 299.02     | 3,604.83   | 3,609.28              | 0.00                  | 0.00                 | 0.00                |
| 11,500.00                          | 90.63           | 91.29       | 7,434.47            | 296.77     | 3,704.80   | 3,709.20              | 0.00                  | 0.00                 | 0.00                |
| 11,600.00                          | 90.63           | 91.29       | 7,433.37            | 294.52     | 3,804.77   | 3,809.12              | 0.00                  | 0.00                 | 0.00                |
| 11,700.00                          | 90.63           | 91.29       | 7,432.27            | 292.26     | 3,904.74   | 3,909.03              | 0.00                  | 0.00                 | 0.00                |
| 11,800.00                          | 90.63           | 91.29       | 7,431.17            | 290.01     | 4,004.71   | 4,008.95              | 0.00                  | 0.00                 | 0.00                |
| 11,900.00                          | 90.63           | 91.29       | 7,430.07            | 287.76     | 4,104.68   | 4,108.87              | 0.00                  | 0.00                 | 0.00                |
| 12,000.00                          | 90.63           | 91.29       | 7,428.96            | 285.51     | 4,204.64   | 4,208.79              | 0.00                  | 0.00                 | 0.00                |
| 12,100.00                          | 90.63           | 91.29       | 7,427.86            | 283.25     | 4,304.61   | 4,308.71              | 0.00                  | 0.00                 | 0.00                |
| 12,200.00                          | 90.63           | 91.29       | 7,426.76            | 281.00     | 4,404.58   | 4,408.62              | 0.00                  | 0.00                 | 0.00                |
| 12,300.00                          | 90.63           | 91.29       | 7,425.66            | 278.75     | 4,504.55   | 4,508.54              | 0.00                  | 0.00                 | 0.00                |
| 12,400.00                          | 90.63           | 91.29       | 7,424.56            | 276.49     | 4,604.52   | 4,608.46              | 0.00                  | 0.00                 | 0.00                |
| 12,500.00                          | 90.63           | 91.29       | 7,423.45            | 274.24     | 4,704.49   | 4,708.38              | 0.00                  | 0.00                 | 0.00                |
| 12,600.00                          | 90.63           | 91.29       | 7,422.35            | 271.99     | 4,804.46   | 4,808.29              | 0.00                  | 0.00                 | 0.00                |
| 12,700.00                          | 90.63           | 91.29       | 7,421.25            | 269.74     | 4,904.42   | 4,908.21              | 0.00                  | 0.00                 | 0.00                |
| 12,800.00                          | 90.63           | 91.29       | 7,420.15            | 267.48     | 5,004.39   | 5,008.13              | 0.00                  | 0.00                 | 0.00                |
| 12,900.00                          | 90.63           | 91.29       | 7,419.05            | 265.23     | 5,104.36   | 5,108.05              | 0.00                  | 0.00                 | 0.00                |
| 13,000.00                          | 90.63           | 91.29       | 7,417.95            | 262.98     | 5,204.33   | 5,207.96              | 0.00                  | 0.00                 | 0.00                |

# ConocoPhillips

## Planning Report

|                  |                              |                                     |                               |
|------------------|------------------------------|-------------------------------------|-------------------------------|
| <b>Database:</b> | EDT 14 Central Planning      | <b>Local Co-ordinate Reference:</b> | Well Arkansas 4-64 3-2 3AH    |
| <b>Company:</b>  | ConocoPhillips RBU Gold Data | <b>TVD Reference:</b>               | 27' RKB @ 5636.90ft (27' RKB) |
| <b>Project:</b>  | Niobrara Central Zone        | <b>MD Reference:</b>                | 27' RKB @ 5636.90ft (27' RKB) |
| <b>Site:</b>     | Arkansas                     | <b>North Reference:</b>             | True                          |
| <b>Well:</b>     | Arkansas 4-64 3-2 3AH        | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Wellbore:</b> | Arkansas 4-64 3-2 3AH        |                                     |                               |
| <b>Design:</b>   | Design B                     |                                     |                               |

| Planned Survey                           |                 |             |                     |            |            |                       |                       |                      |                     |  |
|--|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|--|
| Measured Depth (ft)                      | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |  |
| 13,100.00                                | 90.63           | 91.29       | 7,416.84            | 260.73     | 5,304.30   | 5,307.88              | 0.00                  | 0.00                 | 0.00                |  |
| 13,200.00                                | 90.63           | 91.29       | 7,415.74            | 258.47     | 5,404.27   | 5,407.80              | 0.00                  | 0.00                 | 0.00                |  |
| 13,300.00                                | 90.63           | 91.29       | 7,414.64            | 256.22     | 5,504.24   | 5,507.72              | 0.00                  | 0.00                 | 0.00                |  |
| 13,400.00                                | 90.63           | 91.29       | 7,413.54            | 253.97     | 5,604.20   | 5,607.64              | 0.00                  | 0.00                 | 0.00                |  |
| 13,500.00                                | 90.63           | 91.29       | 7,412.44            | 251.72     | 5,704.17   | 5,707.55              | 0.00                  | 0.00                 | 0.00                |  |
| 13,600.00                                | 90.63           | 91.29       | 7,411.33            | 249.46     | 5,804.14   | 5,807.47              | 0.00                  | 0.00                 | 0.00                |  |
| 13,700.00                                | 90.63           | 91.29       | 7,410.23            | 247.21     | 5,904.11   | 5,907.39              | 0.00                  | 0.00                 | 0.00                |  |
| 13,800.00                                | 90.63           | 91.29       | 7,409.13            | 244.96     | 6,004.08   | 6,007.31              | 0.00                  | 0.00                 | 0.00                |  |
| 13,900.00                                | 90.63           | 91.29       | 7,408.03            | 242.71     | 6,104.05   | 6,107.22              | 0.00                  | 0.00                 | 0.00                |  |
| 14,000.00                                | 90.63           | 91.29       | 7,406.93            | 240.45     | 6,204.02   | 6,207.14              | 0.00                  | 0.00                 | 0.00                |  |
| 14,100.00                                | 90.63           | 91.29       | 7,405.83            | 238.20     | 6,303.98   | 6,307.06              | 0.00                  | 0.00                 | 0.00                |  |
| 14,200.00                                | 90.63           | 91.29       | 7,404.72            | 235.95     | 6,403.95   | 6,406.98              | 0.00                  | 0.00                 | 0.00                |  |
| 14,300.00                                | 90.63           | 91.29       | 7,403.62            | 233.70     | 6,503.92   | 6,506.89              | 0.00                  | 0.00                 | 0.00                |  |
| 14,400.00                                | 90.63           | 91.29       | 7,402.52            | 231.44     | 6,603.89   | 6,606.81              | 0.00                  | 0.00                 | 0.00                |  |
| 14,500.00                                | 90.63           | 91.29       | 7,401.42            | 229.19     | 6,703.86   | 6,706.73              | 0.00                  | 0.00                 | 0.00                |  |
| 14,600.00                                | 90.63           | 91.29       | 7,400.32            | 226.94     | 6,803.83   | 6,806.65              | 0.00                  | 0.00                 | 0.00                |  |
| 14,700.00                                | 90.63           | 91.29       | 7,399.22            | 224.69     | 6,903.80   | 6,906.57              | 0.00                  | 0.00                 | 0.00                |  |
| 14,800.00                                | 90.63           | 91.29       | 7,398.11            | 222.43     | 7,003.76   | 7,006.48              | 0.00                  | 0.00                 | 0.00                |  |
| 14,900.00                                | 90.63           | 91.29       | 7,397.01            | 220.18     | 7,103.73   | 7,106.40              | 0.00                  | 0.00                 | 0.00                |  |
| 15,000.00                                | 90.63           | 91.29       | 7,395.91            | 217.93     | 7,203.70   | 7,206.32              | 0.00                  | 0.00                 | 0.00                |  |
| 15,100.00                                | 90.63           | 91.29       | 7,394.81            | 215.68     | 7,303.67   | 7,306.24              | 0.00                  | 0.00                 | 0.00                |  |
| 15,200.00                                | 90.63           | 91.29       | 7,393.71            | 213.42     | 7,403.64   | 7,406.15              | 0.00                  | 0.00                 | 0.00                |  |
| 15,300.00                                | 90.63           | 91.29       | 7,392.60            | 211.17     | 7,503.61   | 7,506.07              | 0.00                  | 0.00                 | 0.00                |  |
| 15,400.00                                | 90.63           | 91.29       | 7,391.50            | 208.92     | 7,603.58   | 7,605.99              | 0.00                  | 0.00                 | 0.00                |  |
| 15,500.00                                | 90.63           | 91.29       | 7,390.40            | 206.67     | 7,703.54   | 7,705.91              | 0.00                  | 0.00                 | 0.00                |  |
| 15,600.00                                | 90.63           | 91.29       | 7,389.30            | 204.41     | 7,803.51   | 7,805.82              | 0.00                  | 0.00                 | 0.00                |  |
| 15,700.00                                | 90.63           | 91.29       | 7,388.20            | 202.16     | 7,903.48   | 7,905.74              | 0.00                  | 0.00                 | 0.00                |  |
| 15,800.00                                | 90.63           | 91.29       | 7,387.10            | 199.91     | 8,003.45   | 8,005.66              | 0.00                  | 0.00                 | 0.00                |  |
| 15,900.00                                | 90.63           | 91.29       | 7,385.99            | 197.66     | 8,103.42   | 8,105.58              | 0.00                  | 0.00                 | 0.00                |  |
| 16,000.00                                | 90.63           | 91.29       | 7,384.89            | 195.40     | 8,203.39   | 8,205.50              | 0.00                  | 0.00                 | 0.00                |  |
| 16,100.00                                | 90.63           | 91.29       | 7,383.79            | 193.15     | 8,303.36   | 8,305.41              | 0.00                  | 0.00                 | 0.00                |  |
| 16,200.00                                | 90.63           | 91.29       | 7,382.69            | 190.90     | 8,403.32   | 8,405.33              | 0.00                  | 0.00                 | 0.00                |  |
| 16,300.00                                | 90.63           | 91.29       | 7,381.59            | 188.65     | 8,503.29   | 8,505.25              | 0.00                  | 0.00                 | 0.00                |  |
| 16,400.00                                | 90.63           | 91.29       | 7,380.48            | 186.39     | 8,603.26   | 8,605.17              | 0.00                  | 0.00                 | 0.00                |  |
| 16,500.00                                | 90.63           | 91.29       | 7,379.38            | 184.14     | 8,703.23   | 8,705.08              | 0.00                  | 0.00                 | 0.00                |  |
| 16,600.00                                | 90.63           | 91.29       | 7,378.28            | 181.89     | 8,803.20   | 8,805.00              | 0.00                  | 0.00                 | 0.00                |  |
| 16,700.00                                | 90.63           | 91.29       | 7,377.18            | 179.64     | 8,903.17   | 8,904.92              | 0.00                  | 0.00                 | 0.00                |  |
| 16,800.00                                | 90.63           | 91.29       | 7,376.08            | 177.38     | 9,003.14   | 9,004.84              | 0.00                  | 0.00                 | 0.00                |  |
| 16,900.00                                | 90.63           | 91.29       | 7,374.98            | 175.13     | 9,103.10   | 9,104.75              | 0.00                  | 0.00                 | 0.00                |  |
| 17,000.00                                | 90.63           | 91.29       | 7,373.87            | 172.88     | 9,203.07   | 9,204.67              | 0.00                  | 0.00                 | 0.00                |  |
| 17,100.00                                | 90.63           | 91.29       | 7,372.77            | 170.63     | 9,303.04   | 9,304.59              | 0.00                  | 0.00                 | 0.00                |  |
| 17,200.00                                | 90.63           | 91.29       | 7,371.67            | 168.37     | 9,403.01   | 9,404.51              | 0.00                  | 0.00                 | 0.00                |  |
| 17,300.00                                | 90.63           | 91.29       | 7,370.57            | 166.12     | 9,502.98   | 9,504.43              | 0.00                  | 0.00                 | 0.00                |  |
| 17,400.00                                | 90.63           | 91.29       | 7,369.47            | 163.87     | 9,602.95   | 9,604.34              | 0.00                  | 0.00                 | 0.00                |  |
| 17,500.00                                | 90.63           | 91.29       | 7,368.36            | 161.62     | 9,702.92   | 9,704.26              | 0.00                  | 0.00                 | 0.00                |  |
| 17,533.07                                | 90.63           | 91.29       | 7,368.00            | 160.87     | 9,735.97   | 9,737.30              | 0.00                  | 0.00                 | 0.00                |  |
| BHL: 2483' FSL, 325' FEL - 5-1/2" Casing |                 |             |                     |            |            |                       |                       |                      |                     |  |



# ConocoPhillips

## Planning Report

|                  |                              |                                     |                               |
|------------------|------------------------------|-------------------------------------|-------------------------------|
| <b>Database:</b> | EDT 14 Central Planning      | <b>Local Co-ordinate Reference:</b> | Well Arkansas 4-64 3-2 3AH    |
| <b>Company:</b>  | ConocoPhillips RBU Gold Data | <b>TVD Reference:</b>               | 27' RKB @ 5636.90ft (27' RKB) |
| <b>Project:</b>  | Niobrara Central Zone        | <b>MD Reference:</b>                | 27' RKB @ 5636.90ft (27' RKB) |
| <b>Site:</b>     | Arkansas                     | <b>North Reference:</b>             | True                          |
| <b>Well:</b>     | Arkansas 4-64 3-2 3AH        | <b>Survey Calculation Method:</b>   | Minimum Curvature             |
| <b>Wellbore:</b> | Arkansas 4-64 3-2 3AH        |                                     |                               |
| <b>Design:</b>   | Design B                     |                                     |                               |

### Design Targets

#### Target Name

| - hit/miss target<br>- Shape                                 | Dip Angle<br>(°) | Dip Dir.<br>(°) | TVD<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Northing<br>(usft) | Easting<br>(usft) | Latitude         | Longitude         |
|--|------------------|-----------------|-------------|---------------|---------------|--------------------|-------------------|------------------|-------------------|
| Arkansas 4-64 3-2 3A<br>- plan hits target center<br>- Point | 0.00             | 0.00            | 7,368.00    | 160.87        | 9,735.98      | 1,692,533.655      | 3,278,594.689     | 39° 43' 50.300 N | 104° 30' 34.040 W |
| Arkansas 4-64 3-2 3A<br>- plan hits target center<br>- Point | 0.00             | 0.00            | 7,474.00    | 377.58        | 118.40        | 1,692,649.150      | 3,268,975.422     | 39° 43' 52.460 N | 104° 32' 37.140 W |

### Casing Points

| Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Name          | Casing<br>Diameter<br>(") | Hole<br>Diameter<br>(") |
|---------------------------|---------------------------|---------------|---------------------------|-------------------------|
| 1,895.00                  | 1,895.00                  | 9-5/8" Casing | 9-5/8                     | 12-1/4                  |
| 17,533.07                 | 7,368.00                  | 5-1/2" Casing | 5-1/2                     | 8-1/2                   |

### Formations

| Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Name           | Lithology | Dip<br>(°) | Dip<br>Direction<br>(°) |
|---------------------------|---------------------------|----------------|-----------|------------|-------------------------|
| 1,561.00                  | 1,561.00                  | Fox Hills Top  |           | 0.00       |                         |
| 1,695.00                  | 1,695.00                  | Fox Hills Base |           | 0.00       |                         |
| 1,895.00                  | 1,895.00                  | Surface Casing |           | 0.00       |                         |
| 7,485.13                  | 7,330.00                  | Niobrara Top   |           | 0.00       |                         |
| 7,797.22                  | 7,464.00                  | C Chalk Top    |           | 0.00       |                         |

### Plan Annotations

| Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Local Coordinates |               | Comment                     |
|---------------------------|---------------------------|-------------------|---------------|-----------------------------|
|                           |                           | +N/-S<br>(ft)     | +E/-W<br>(ft) |                             |
| 100.00                    | 100.00                    | 0.00              | 0.00          | SHL: 2103' FSL, 495' FWL    |
| 6,722.06                  | 6,649.41                  | 199.51            | -396.69       | EOB: 2303' FSL, 98' FWL     |
| 6,756.27                  | 6,679.64                  | 206.70            | -410.99       | KOP: 2310' FSL, 84' FWL     |
| 7,912.47                  | 7,474.00                  | 377.58            | 118.40        | BPI/LP: 2483' FSL, 613' FWL |
| 17,533.07                 | 7,368.00                  | 160.87            | 9,735.97      | BHL: 2483' FSL, 325' FEL    |