# Great Western

Well Name: **Kodak North FD 25-039HN**

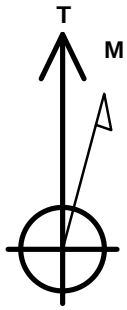
Surface Location: Kodak North Pad Sec.26-T6N-R67W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4760.1

| +N/-S | +E/-W | Northing | Easting | Latittude | Longitude | Slot |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 1410693.27 | 3177056.47 | 40.459011 | -104.863714 | |

RKB - 16.5' WELL @ 4776.6ft (RKB - 16.5')

## WELLBORE TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Shape |
|---|---|---|---|---|
| SHL 2252'FNL & 1850'FWL, Sec.26 | 1.0 | 0.0 | 0.0 | Point |
| BHL 470'FNL & 470'FWL, Sec.25 | 6922.6 | 1862.3 | 8211.7 | Point |
| Entry Pt. 470'FNL & 2025'FWL, Sec.26 | 6922.6 | 1781.2 | 171.7 | Point |



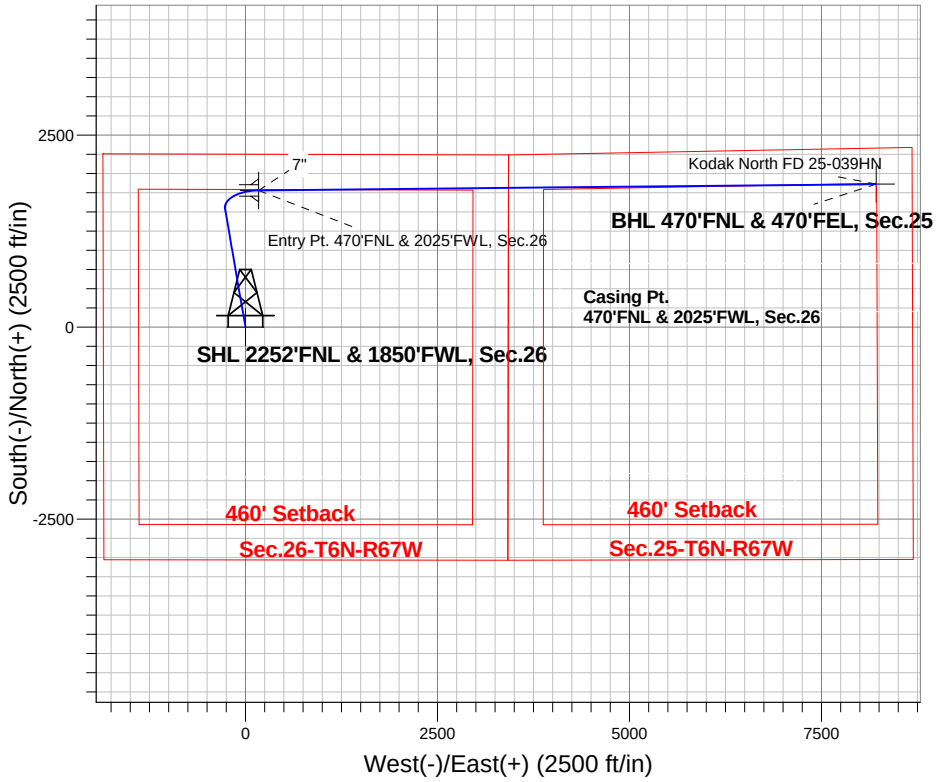

Azimuths to True North
Magnetic North: 8.59°

Magnetic Field
Strength: 52895.6snT
Dip Angle: 67.00°
Date: 11/21/2013
Model: IGRF2010

Kodak North Pad Sec.26-T6N-R67W
Kodak North FD 25-039HN
Plan #1 (11-21-13)
13:05, November 22 2013

## ANNOTATIONS

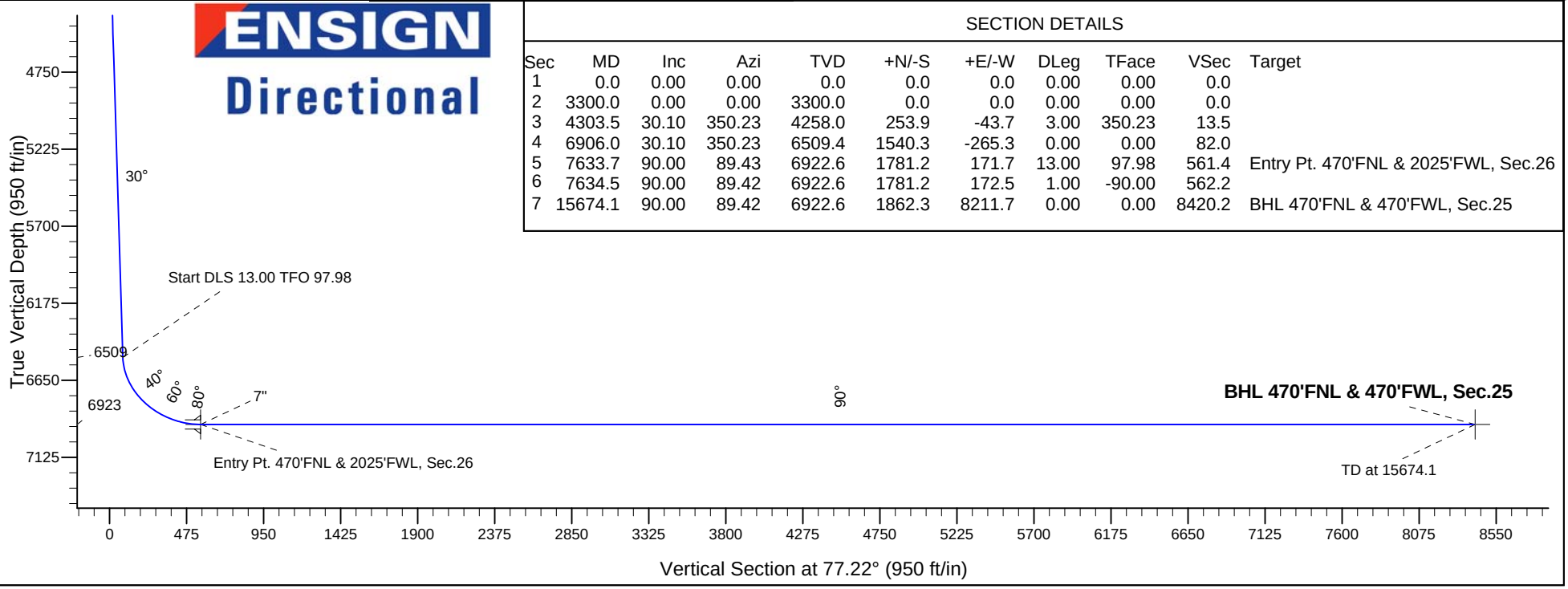
| TVD | MD | Annotation |
|---|---|---|
| 3300.0 | 3300.0 | KOP - Start Build 3.00 |
| 6509.4 | 6906.0 | Start DLS 13.00 TFO 97.98 |
| 6922.6 | 15674.1 | TD at 15674.1 |




ENSIGN Directional

## SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSec | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 2 | 3300.0 | 0.00 | 0.00 | 3300.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 3 | 4303.5 | 30.10 | 350.23 | 4258.0 | 253.9 | -43.7 | 3.00 | 350.23 | 13.5 | |
| 4 | 6906.0 | 30.10 | 350.23 | 6509.4 | 1540.3 | -265.3 | 0.00 | 0.00 | 82.0 | |
| 5 | 7633.7 | 90.00 | 89.43 | 6922.6 | 1781.2 | 171.7 | 13.00 | 97.98 | 561.4 | Entry Pt. 470'FNL & 2025'FWL, Sec.26 |
| 6 | 7634.5 | 90.00 | 89.42 | 6922.6 | 1781.2 | 172.5 | 1.00 | -90.00 | 562.2 | |
| 7 | 15674.1 | 90.00 | 89.42 | 6922.6 | 1862.3 | 8211.7 | 0.00 | 0.00 | 8420.2 | BHL 470'FNL & 470'FWL, Sec.25 |



# Great Western

**SEC.26-T6N-R67W**
**Kodak North Pad Sec.26-T6N-R67W**
**Kodak North FD 25-039HN**

**Wellbore #1**

**Plan: Plan #1 (11-21-13)**

# Standard Planning Report

**22 November, 2013**

| | | | |
|---|---|---|---|
| **Database:** | Landmark | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Company:** | Great Western | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Project:** | SEC.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site:** | Kodak North Pad Sec.26-T6N-R67W | **North Reference:** | True |
| **Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Plan #1 (11-21-13) | | |

**Project** SEC.26-T6N-R67W, Weld County, Colorado

| | | | |
|---|---|---|---|
| **Map System:** | US State Plane 1983 | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | North American Datum 1983 | | Using Well Reference Point |
| **Map Zone:** | Colorado Northern Zone | | Using geodetic scale factor |

**Site** Kodak North Pad Sec.26-T6N-R67W

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 1,410,693.08 ft | **Latitude:** | 40.459011 |
| **From:** | Lat/Long | **Easting:** | 3,177,026.41 ft | **Longitude:** | -104.863822 |
| **Position Uncertainty:** | 0.0 ft | **Slot Radius:** | " | **Grid Convergence:** | 0.41 ° |

**Well** Kodak North FD 25-039HN

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.0 ft | **Northing:** | 1,410,693.27 ft | **Latitude:** | 40.459011 |
| | **+E/-W** | 30.1 ft | **Easting:** | 3,177,056.47 ft | **Longitude:** | -104.863714 |
| **Position Uncertainty** | | 0.0 ft | **Wellhead Elevation:** | ft | **Ground Level:** | 4,760.1 ft |

**Wellbore** Wellbore #1

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | IGRF2010 | 11/21/2013 | 8.59 | 67.00 | 52,896 |

**Design** Plan #1 (11-21-13)

**Audit Notes:**

| | | | | | |
|---|---|---|---|---|---|
| **Version:** | | **Phase:** | PROTOTYPE | **Tie On Depth:** | 0.0 |

| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
|---|---|---|---|---|
| | 0.0 | 0.0 | 0.0 | 77.22 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3,300.0 | 0.00 | 0.00 | 3,300.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 4,303.5 | 30.10 | 350.23 | 4,258.0 | 253.9 | -43.7 | 3.00 | 3.00 | 0.00 | 350.23 | |
| 6,906.0 | 30.10 | 350.23 | 6,509.4 | 1,540.3 | -265.3 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,633.7 | 90.00 | 89.43 | 6,922.6 | 1,781.2 | 171.7 | 13.00 | 8.23 | 13.63 | 97.98 | Entry Pt. 470'FNL & |
| 7,634.5 | 90.00 | 89.42 | 6,922.6 | 1,781.2 | 172.5 | 1.00 | 0.00 | -1.00 | -90.00 | |
| 15,674.1 | 90.00 | 89.42 | 6,922.6 | 1,862.3 | 8,211.7 | 0.00 | 0.00 | 0.00 | 0.00 | BHL 470'FNL & 47( |

| | | | |
|---|---|---|---|
| **Database:** | Landmark | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Company:** | Great Western | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Project:** | SEC.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site:** | Kodak North Pad Sec.26-T6N-R67W | **North Reference:** | True |
| **Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Plan #1 (11-21-13) | | |

**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) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1.0 | 0.00 | 0.00 | 1.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| **SHL 2252'FNL & 1850'FWL, Sec.26** | | | | | | | | | |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 400.0 | 0.00 | 0.00 | 400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 500.0 | 0.00 | 0.00 | 500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 600.0 | 0.00 | 0.00 | 600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 700.0 | 0.00 | 0.00 | 700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 800.0 | 0.00 | 0.00 | 800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 900.0 | 0.00 | 0.00 | 900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,000.0 | 0.00 | 0.00 | 1,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,100.0 | 0.00 | 0.00 | 1,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,200.0 | 0.00 | 0.00 | 1,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,300.0 | 0.00 | 0.00 | 1,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,400.0 | 0.00 | 0.00 | 1,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,500.0 | 0.00 | 0.00 | 1,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,600.0 | 0.00 | 0.00 | 1,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,700.0 | 0.00 | 0.00 | 1,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,800.0 | 0.00 | 0.00 | 1,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,900.0 | 0.00 | 0.00 | 1,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,000.0 | 0.00 | 0.00 | 2,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,100.0 | 0.00 | 0.00 | 2,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 0.00 | 0.00 | 2,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 0.00 | 0.00 | 2,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 0.00 | 0.00 | 2,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 0.00 | 0.00 | 2,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 0.00 | 0.00 | 2,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 0.00 | 0.00 | 2,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 0.00 | 0.00 | 2,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 0.00 | 0.00 | 2,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 0.00 | 0.00 | 3,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 0.00 | 0.00 | 3,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 0.00 | 0.00 | 3,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 0.00 | 0.00 | 3,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| **KOP - Start Build 3.00** | | | | | | | | | |
| 3,400.0 | 3.00 | 350.23 | 3,400.0 | 2.6 | -0.4 | 0.1 | 3.00 | 3.00 | 0.00 |
| 3,500.0 | 6.00 | 350.23 | 3,499.6 | 10.3 | -1.8 | 0.5 | 3.00 | 3.00 | 0.00 |
| 3,600.0 | 9.00 | 350.23 | 3,598.8 | 23.2 | -4.0 | 1.2 | 3.00 | 3.00 | 0.00 |
| 3,700.0 | 12.00 | 350.23 | 3,697.1 | 41.1 | -7.1 | 2.2 | 3.00 | 3.00 | 0.00 |
| 3,800.0 | 15.00 | 350.23 | 3,794.3 | 64.1 | -11.0 | 3.4 | 3.00 | 3.00 | 0.00 |
| 3,900.0 | 18.00 | 350.23 | 3,890.2 | 92.1 | -15.9 | 4.9 | 3.00 | 3.00 | 0.00 |
| 4,000.0 | 21.00 | 350.23 | 3,984.4 | 125.0 | -21.5 | 6.7 | 3.00 | 3.00 | 0.00 |
| 4,100.0 | 24.00 | 350.23 | 4,076.8 | 162.7 | -28.0 | 8.7 | 3.00 | 3.00 | 0.00 |
| 4,200.0 | 27.00 | 350.23 | 4,167.1 | 205.1 | -35.3 | 10.9 | 3.00 | 3.00 | 0.00 |
| 4,300.0 | 30.00 | 350.23 | 4,254.9 | 252.2 | -43.4 | 13.4 | 3.00 | 3.00 | 0.00 |
| 4,303.5 | 30.10 | 350.23 | 4,258.0 | 253.9 | -43.7 | 13.5 | 3.00 | 3.00 | 0.00 |
| 4,400.0 | 30.10 | 350.23 | 4,341.4 | 301.6 | -51.9 | 16.1 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 30.10 | 350.23 | 4,428.0 | 351.0 | -60.4 | 18.7 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 30.10 | 350.23 | 4,514.5 | 400.4 | -69.0 | 21.3 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 30.10 | 350.23 | 4,601.0 | 449.9 | -77.5 | 23.9 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 30.10 | 350.23 | 4,687.5 | 499.3 | -86.0 | 26.6 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 30.10 | 350.23 | 4,774.0 | 548.7 | -94.5 | 29.2 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| **Database:** | Landmark | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Company:** | Great Western | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Project:** | SEC.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site:** | Kodak North Pad Sec.26-T6N-R67W | **North Reference:** | True |
| **Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Plan #1 (11-21-13) | | |

**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) |
|---|---|---|---|---|---|---|---|---|---|
| 5,000.0 | 30.10 | 350.23 | 4,860.5 | 598.2 | -103.0 | 31.8 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 30.10 | 350.23 | 4,947.0 | 647.6 | -111.5 | 34.5 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 30.10 | 350.23 | 5,033.5 | 697.0 | -120.0 | 37.1 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 30.10 | 350.23 | 5,120.0 | 746.5 | -128.5 | 39.7 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 30.10 | 350.23 | 5,206.6 | 795.9 | -137.1 | 42.4 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 30.10 | 350.23 | 5,293.1 | 845.3 | -145.6 | 45.0 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 30.10 | 350.23 | 5,379.6 | 894.8 | -154.1 | 47.6 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 30.10 | 350.23 | 5,466.1 | 944.2 | -162.6 | 50.3 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 30.10 | 350.23 | 5,552.6 | 993.6 | -171.1 | 52.9 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 30.10 | 350.23 | 5,639.1 | 1,043.0 | -179.6 | 55.5 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 30.10 | 350.23 | 5,725.6 | 1,092.5 | -188.1 | 58.2 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 30.10 | 350.23 | 5,812.1 | 1,141.9 | -196.6 | 60.8 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 30.10 | 350.23 | 5,898.6 | 1,191.3 | -205.2 | 63.4 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 30.10 | 350.23 | 5,985.1 | 1,240.8 | -213.7 | 66.0 | 0.00 | 0.00 | 0.00 |
| 6,400.0 | 30.10 | 350.23 | 6,071.7 | 1,290.2 | -222.2 | 68.7 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 30.10 | 350.23 | 6,158.2 | 1,339.6 | -230.7 | 71.3 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 30.10 | 350.23 | 6,244.7 | 1,389.1 | -239.2 | 73.9 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 30.10 | 350.23 | 6,331.2 | 1,438.5 | -247.7 | 76.6 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 30.10 | 350.23 | 6,417.7 | 1,487.9 | -256.2 | 79.2 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 30.10 | 350.23 | 6,504.2 | 1,537.4 | -264.7 | 81.8 | 0.00 | 0.00 | 0.00 |
| 6,906.0 | 30.10 | 350.23 | 6,509.4 | 1,540.3 | -265.3 | 82.0 | 0.00 | 0.00 | 0.00 |
| **Start DLS 13.00 TFO 97.98** | | | | | | | | | |
| 7,000.0 | 30.66 | 14.50 | 6,590.8 | 1,586.9 | -263.2 | 94.3 | 13.00 | 0.59 | 25.82 |
| 7,100.0 | 35.68 | 36.57 | 6,674.8 | 1,635.2 | -239.4 | 128.2 | 13.00 | 5.02 | 22.07 |
| 7,200.0 | 43.72 | 52.67 | 6,751.9 | 1,679.8 | -194.3 | 182.0 | 13.00 | 8.04 | 16.09 |
| 7,300.0 | 53.41 | 64.28 | 6,818.1 | 1,718.4 | -130.4 | 252.9 | 13.00 | 9.69 | 11.62 |
| 7,400.0 | 63.96 | 73.19 | 6,870.1 | 1,748.9 | -50.9 | 337.2 | 13.00 | 10.56 | 8.91 |
| 7,500.0 | 74.97 | 80.59 | 6,905.1 | 1,769.9 | 40.1 | 430.6 | 13.00 | 11.01 | 7.40 |
| 7,600.0 | 86.20 | 87.25 | 6,921.5 | 1,780.2 | 138.0 | 528.3 | 13.00 | 11.23 | 6.66 |
| 7,633.7 | 90.00 | 89.43 | 6,922.6 | 1,781.2 | 171.7 | 561.4 | 13.00 | 11.28 | 6.47 |
| **7" - Entry Pt. 470'FNL & 2025'FWL, Sec.26** | | | | | | | | | |
| 7,634.5 | 90.00 | 89.42 | 6,922.6 | 1,781.2 | 172.5 | 562.2 | 0.94 | 0.12 | -0.93 |
| 7,700.0 | 90.00 | 89.42 | 6,922.6 | 1,781.8 | 238.0 | 626.2 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 90.00 | 89.42 | 6,922.6 | 1,782.8 | 338.0 | 723.9 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 90.00 | 89.42 | 6,922.6 | 1,783.9 | 438.0 | 821.7 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 90.00 | 89.42 | 6,922.6 | 1,784.9 | 538.0 | 919.4 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 90.00 | 89.42 | 6,922.6 | 1,785.9 | 638.0 | 1,017.2 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 90.00 | 89.42 | 6,922.6 | 1,786.9 | 738.0 | 1,114.9 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 90.00 | 89.42 | 6,922.6 | 1,787.9 | 838.0 | 1,212.6 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 90.00 | 89.42 | 6,922.6 | 1,788.9 | 938.0 | 1,310.4 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 90.00 | 89.42 | 6,922.6 | 1,789.9 | 1,037.9 | 1,408.1 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 90.00 | 89.42 | 6,922.6 | 1,790.9 | 1,137.9 | 1,505.9 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 90.00 | 89.42 | 6,922.6 | 1,791.9 | 1,237.9 | 1,603.6 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 90.00 | 89.42 | 6,922.6 | 1,792.9 | 1,337.9 | 1,701.3 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 90.00 | 89.42 | 6,922.6 | 1,793.9 | 1,437.9 | 1,799.1 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 90.00 | 89.42 | 6,922.6 | 1,795.0 | 1,537.9 | 1,896.8 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 90.00 | 89.42 | 6,922.6 | 1,796.0 | 1,637.9 | 1,994.6 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 90.00 | 89.42 | 6,922.6 | 1,797.0 | 1,737.9 | 2,092.3 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 90.00 | 89.42 | 6,922.6 | 1,798.0 | 1,837.9 | 2,190.1 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 90.00 | 89.42 | 6,922.6 | 1,799.0 | 1,937.9 | 2,287.8 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 90.00 | 89.42 | 6,922.6 | 1,800.0 | 2,037.9 | 2,385.5 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 90.00 | 89.42 | 6,922.6 | 1,801.0 | 2,137.9 | 2,483.3 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 90.00 | 89.42 | 6,922.6 | 1,802.0 | 2,237.9 | 2,581.0 | 0.00 | 0.00 | 0.00 |
| 9,800.0 | 90.00 | 89.42 | 6,922.6 | 1,803.0 | 2,337.9 | 2,678.8 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| **Database:** | Landmark | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Company:** | Great Western | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Project:** | SEC.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site:** | Kodak North Pad Sec.26-T6N-R67W | **North Reference:** | True |
| **Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Plan #1 (11-21-13) | | |

**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) |
|---|---|---|---|---|---|---|---|---|---|
| 9,900.0 | 90.00 | 89.42 | 6,922.6 | 1,804.0 | 2,437.9 | 2,776.5 | 0.00 | 0.00 | 0.00 |
| 10,000.0 | 90.00 | 89.42 | 6,922.6 | 1,805.0 | 2,537.9 | 2,874.2 | 0.00 | 0.00 | 0.00 |
| 10,100.0 | 90.00 | 89.42 | 6,922.6 | 1,806.1 | 2,637.9 | 2,972.0 | 0.00 | 0.00 | 0.00 |
| 10,200.0 | 90.00 | 89.42 | 6,922.6 | 1,807.1 | 2,737.9 | 3,069.7 | 0.00 | 0.00 | 0.00 |
| 10,300.0 | 90.00 | 89.42 | 6,922.6 | 1,808.1 | 2,837.9 | 3,167.5 | 0.00 | 0.00 | 0.00 |
| 10,400.0 | 90.00 | 89.42 | 6,922.6 | 1,809.1 | 2,937.9 | 3,265.2 | 0.00 | 0.00 | 0.00 |
| 10,500.0 | 90.00 | 89.42 | 6,922.6 | 1,810.1 | 3,037.8 | 3,363.0 | 0.00 | 0.00 | 0.00 |
| 10,600.0 | 90.00 | 89.42 | 6,922.6 | 1,811.1 | 3,137.8 | 3,460.7 | 0.00 | 0.00 | 0.00 |
| 10,700.0 | 90.00 | 89.42 | 6,922.6 | 1,812.1 | 3,237.8 | 3,558.4 | 0.00 | 0.00 | 0.00 |
| 10,800.0 | 90.00 | 89.42 | 6,922.6 | 1,813.1 | 3,337.8 | 3,656.2 | 0.00 | 0.00 | 0.00 |
| 10,900.0 | 90.00 | 89.42 | 6,922.6 | 1,814.1 | 3,437.8 | 3,753.9 | 0.00 | 0.00 | 0.00 |
| 11,000.0 | 90.00 | 89.42 | 6,922.6 | 1,815.1 | 3,537.8 | 3,851.7 | 0.00 | 0.00 | 0.00 |
| 11,100.0 | 90.00 | 89.42 | 6,922.6 | 1,816.2 | 3,637.8 | 3,949.4 | 0.00 | 0.00 | 0.00 |
| 11,200.0 | 90.00 | 89.42 | 6,922.6 | 1,817.2 | 3,737.8 | 4,047.2 | 0.00 | 0.00 | 0.00 |
| 11,300.0 | 90.00 | 89.42 | 6,922.6 | 1,818.2 | 3,837.8 | 4,144.9 | 0.00 | 0.00 | 0.00 |
| 11,400.0 | 90.00 | 89.42 | 6,922.6 | 1,819.2 | 3,937.8 | 4,242.6 | 0.00 | 0.00 | 0.00 |
| 11,500.0 | 90.00 | 89.42 | 6,922.6 | 1,820.2 | 4,037.8 | 4,340.4 | 0.00 | 0.00 | 0.00 |
| 11,600.0 | 90.00 | 89.42 | 6,922.6 | 1,821.2 | 4,137.8 | 4,438.1 | 0.00 | 0.00 | 0.00 |
| 11,700.0 | 90.00 | 89.42 | 6,922.6 | 1,822.2 | 4,237.8 | 4,535.9 | 0.00 | 0.00 | 0.00 |
| 11,800.0 | 90.00 | 89.42 | 6,922.6 | 1,823.2 | 4,337.8 | 4,633.6 | 0.00 | 0.00 | 0.00 |
| 11,900.0 | 90.00 | 89.42 | 6,922.6 | 1,824.2 | 4,437.8 | 4,731.3 | 0.00 | 0.00 | 0.00 |
| 12,000.0 | 90.00 | 89.42 | 6,922.6 | 1,825.2 | 4,537.8 | 4,829.1 | 0.00 | 0.00 | 0.00 |
| 12,100.0 | 90.00 | 89.42 | 6,922.6 | 1,826.2 | 4,637.8 | 4,926.8 | 0.00 | 0.00 | 0.00 |
| 12,200.0 | 90.00 | 89.42 | 6,922.6 | 1,827.3 | 4,737.8 | 5,024.6 | 0.00 | 0.00 | 0.00 |
| 12,300.0 | 90.00 | 89.42 | 6,922.6 | 1,828.3 | 4,837.8 | 5,122.3 | 0.00 | 0.00 | 0.00 |
| 12,400.0 | 90.00 | 89.42 | 6,922.6 | 1,829.3 | 4,937.8 | 5,220.1 | 0.00 | 0.00 | 0.00 |
| 12,500.0 | 90.00 | 89.42 | 6,922.6 | 1,830.3 | 5,037.7 | 5,317.8 | 0.00 | 0.00 | 0.00 |
| 12,600.0 | 90.00 | 89.42 | 6,922.6 | 1,831.3 | 5,137.7 | 5,415.5 | 0.00 | 0.00 | 0.00 |
| 12,700.0 | 90.00 | 89.42 | 6,922.6 | 1,832.3 | 5,237.7 | 5,513.3 | 0.00 | 0.00 | 0.00 |
| 12,800.0 | 90.00 | 89.42 | 6,922.6 | 1,833.3 | 5,337.7 | 5,611.0 | 0.00 | 0.00 | 0.00 |
| 12,900.0 | 90.00 | 89.42 | 6,922.6 | 1,834.3 | 5,437.7 | 5,708.8 | 0.00 | 0.00 | 0.00 |
| 13,000.0 | 90.00 | 89.42 | 6,922.6 | 1,835.3 | 5,537.7 | 5,806.5 | 0.00 | 0.00 | 0.00 |
| 13,100.0 | 90.00 | 89.42 | 6,922.6 | 1,836.3 | 5,637.7 | 5,904.2 | 0.00 | 0.00 | 0.00 |
| 13,200.0 | 90.00 | 89.42 | 6,922.6 | 1,837.3 | 5,737.7 | 6,002.0 | 0.00 | 0.00 | 0.00 |
| 13,300.0 | 90.00 | 89.42 | 6,922.6 | 1,838.4 | 5,837.7 | 6,099.7 | 0.00 | 0.00 | 0.00 |
| 13,400.0 | 90.00 | 89.42 | 6,922.6 | 1,839.4 | 5,937.7 | 6,197.5 | 0.00 | 0.00 | 0.00 |
| 13,500.0 | 90.00 | 89.42 | 6,922.6 | 1,840.4 | 6,037.7 | 6,295.2 | 0.00 | 0.00 | 0.00 |
| 13,600.0 | 90.00 | 89.42 | 6,922.6 | 1,841.4 | 6,137.7 | 6,393.0 | 0.00 | 0.00 | 0.00 |
| 13,700.0 | 90.00 | 89.42 | 6,922.6 | 1,842.4 | 6,237.7 | 6,490.7 | 0.00 | 0.00 | 0.00 |
| 13,800.0 | 90.00 | 89.42 | 6,922.6 | 1,843.4 | 6,337.7 | 6,588.4 | 0.00 | 0.00 | 0.00 |
| 13,900.0 | 90.00 | 89.42 | 6,922.6 | 1,844.4 | 6,437.7 | 6,686.2 | 0.00 | 0.00 | 0.00 |
| 14,000.0 | 90.00 | 89.42 | 6,922.6 | 1,845.4 | 6,537.7 | 6,783.9 | 0.00 | 0.00 | 0.00 |
| 14,100.0 | 90.00 | 89.42 | 6,922.6 | 1,846.4 | 6,637.7 | 6,881.7 | 0.00 | 0.00 | 0.00 |
| 14,200.0 | 90.00 | 89.42 | 6,922.6 | 1,847.4 | 6,737.7 | 6,979.4 | 0.00 | 0.00 | 0.00 |
| 14,300.0 | 90.00 | 89.42 | 6,922.6 | 1,848.4 | 6,837.7 | 7,077.1 | 0.00 | 0.00 | 0.00 |
| 14,400.0 | 90.00 | 89.42 | 6,922.6 | 1,849.5 | 6,937.6 | 7,174.9 | 0.00 | 0.00 | 0.00 |
| 14,500.0 | 90.00 | 89.42 | 6,922.6 | 1,850.5 | 7,037.6 | 7,272.6 | 0.00 | 0.00 | 0.00 |
| 14,600.0 | 90.00 | 89.42 | 6,922.6 | 1,851.5 | 7,137.6 | 7,370.4 | 0.00 | 0.00 | 0.00 |
| 14,700.0 | 90.00 | 89.42 | 6,922.6 | 1,852.5 | 7,237.6 | 7,468.1 | 0.00 | 0.00 | 0.00 |
| 14,800.0 | 90.00 | 89.42 | 6,922.6 | 1,853.5 | 7,337.6 | 7,565.9 | 0.00 | 0.00 | 0.00 |
| 14,900.0 | 90.00 | 89.42 | 6,922.6 | 1,854.5 | 7,437.6 | 7,663.6 | 0.00 | 0.00 | 0.00 |
| 15,000.0 | 90.00 | 89.42 | 6,922.6 | 1,855.5 | 7,537.6 | 7,761.3 | 0.00 | 0.00 | 0.00 |
| 15,100.0 | 90.00 | 89.42 | 6,922.6 | 1,856.5 | 7,637.6 | 7,859.1 | 0.00 | 0.00 | 0.00 |
| 15,200.0 | 90.00 | 89.42 | 6,922.6 | 1,857.5 | 7,737.6 | 7,956.8 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| **Database:** | Landmark | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Company:** | Great Western | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Project:** | SEC.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site:** | Kodak North Pad Sec.26-T6N-R67W | **North Reference:** | True |
| **Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Plan #1 (11-21-13) | | |

**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) |
|---|---|---|---|---|---|---|---|---|---|
| 15,300.0 | 90.00 | 89.42 | 6,922.6 | 1,858.5 | 7,837.6 | 8,054.6 | 0.00 | 0.00 | 0.00 |
| 15,400.0 | 90.00 | 89.42 | 6,922.6 | 1,859.6 | 7,937.6 | 8,152.3 | 0.00 | 0.00 | 0.00 |
| 15,500.0 | 90.00 | 89.42 | 6,922.6 | 1,860.6 | 8,037.6 | 8,250.0 | 0.00 | 0.00 | 0.00 |
| 15,600.0 | 90.00 | 89.42 | 6,922.6 | 1,861.6 | 8,137.6 | 8,347.8 | 0.00 | 0.00 | 0.00 |
| 15,674.1 | 90.00 | 89.42 | 6,922.6 | 1,862.3 | 8,211.7 | 8,420.2 | 0.00 | 0.00 | 0.00 |
| **BHL 470'FNL & 470'FEL, Sec.25** | | | | | | | | | |

**Casing Points**

| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (") | Hole Diameter (") |
|---|---|---|---|---|
| 7,633.7 | 6,922.6 | 7" | 7 | 7-1/2 |

**Plan Annotations**

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates +N/-S (ft) | Local Coordinates +E/-W (ft) | Comment |
|---|---|---|---|---|
| 3,300.0 | 3,300.0 | 0.0 | 0.0 | KOP - Start Build 3.00 |
| 6,906.0 | 6,509.4 | 1,540.3 | -265.3 | Start DLS 13.00 TFO 97.98 |
| 15,674.1 | 6,922.6 | 1,862.3 | 8,211.7 | TD at 15674.1 |

ENSIGN
Directional

# Great Western

**SEC.26-T6N-R67W**
**Kodak North Pad Sec.26-T6N-R67W**
**Kodak North FD 25-039HN**

**Wellbore #1**
**Plan #1 (11-21-13)**

# Anticollision Report

**22 November, 2013**

| | | | |
|---|---|---|---|
| **Company:** | Great Western | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Project:** | SEC.26-T6N-R67W | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Reference Site:** | Kodak North Pad Sec.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | Landmark |
| **Reference Design:** | Plan #1 (11-21-13) | **Offset TVD Reference:** | Offset Datum |

**Reference** Plan #1 (11-21-13)

| | | | |
|---|---|---|---|
| **Filter type:** | NO GLOBAL FILTER: Using user defined selection & filtering criteria | | |
| **Interpolation Method:** | MD Interval 100.0ft | **Error Model:** | ISCWSA |
| **Depth Range:** | Unlimited | **Scan Method:** | Closest Approach 3D |
| **Results Limited by:** | Maximum center-center distance of 1,000.0ft | **Error Surface:** | Elliptical Conic |

**Warning Levels Evaluated at:** 2.00 **Sigma**

**Survey Tool Program** **Date** 11/22/2013

| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
|---|---|---|---|---|
| 0.0 | 15,674.1 | Plan #1 (11-21-13) (Wellbore #1) | MWD | MWD - Standard |

**Summary**

| Site Name / Offset Well - Wellbore - Design | Reference Measured Depth (ft) | Offset Measured Depth (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|
| Kodak North Pad Sec.26-T6N-R67W | | | | | | |
| Kodak North FD 25-039HC - Wellbore #1 - Plan #1 (11-2 | 3,100.0 | 3,100.0 | 30.1 | 16.3 | 2.192 | CC |
| Kodak North FD 25-039HC - Wellbore #1 - Plan #1 (11-2 | 15,674.1 | 15,915.8 | 263.4 | -77.5 | 0.773 | Level 1, ES, SF |
| Kodak North FD 25-079HN - Wellbore #1 - Plan #1 (11-2 | 3,300.0 | 3,300.0 | 29.5 | 14.9 | 2.019 | CC, ES |
| Kodak North FD 25-079HN - Wellbore #1 - Plan #1 (11-2 | 15,674.1 | 15,520.6 | 620.1 | 150.7 | 1.321 | Level 3, SF |
| Kodak North FD 25-119HC - Wellbore #1 - Plan #1 (11-2 | 3,300.0 | 3,300.0 | 59.6 | 44.9 | 4.076 | CC, ES |
| Kodak North FD 25-119HC - Wellbore #1 - Plan #1 (11-2 | 3,400.0 | 3,400.0 | 60.1 | 45.0 | 3.988 | SF |
| Kodak North FD 25-122HN - Wellbore #1 - Plan #1 (11-2 | 3,300.0 | 3,300.0 | 116.5 | 101.9 | 7.977 | CC, ES |
| Kodak North FD 25-122HN - Wellbore #1 - Plan #1 (11-2 | 3,400.0 | 3,400.0 | 119.0 | 104.0 | 7.910 | SF |
| Kodak North FD 27-102HN - Wellbore #1 - Plan #1 (11-2 | 3,300.0 | 3,300.0 | 89.6 | 75.0 | 6.133 | CC, ES |
| Kodak North FD 27-102HN - Wellbore #1 - Plan #1 (11-2 | 3,500.0 | 3,499.6 | 92.0 | 76.5 | 5.934 | SF |

**Offset Design** Kodak North Pad Sec.26-T6N-R67W - Kodak North FD 25-039HC - Wellbore #1 - Plan #1 (11-21-13)

**Offset Site Error:** 0.0 ft

**Survey Program:** 0-MWD

**Offset Well Error:** 0.0 ft

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -89.98 | 0.0 | -30.1 | 30.1 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -89.98 | 0.0 | -30.1 | 30.1 | 29.8 | 0.22 | 133.713 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -89.98 | 0.0 | -30.1 | 30.1 | 29.4 | 0.67 | 44.571 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.6 | 0.6 | -89.98 | 0.0 | -30.1 | 30.1 | 28.9 | 1.12 | 26.743 | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.8 | 0.8 | -89.98 | 0.0 | -30.1 | 30.1 | 28.5 | 1.57 | 19.102 | |
| 500.0 | 500.0 | 500.0 | 500.0 | 1.0 | 1.0 | -89.98 | 0.0 | -30.1 | 30.1 | 28.0 | 2.02 | 14.857 | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.2 | 1.2 | -89.98 | 0.0 | -30.1 | 30.1 | 27.6 | 2.47 | 12.156 | |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.5 | 1.5 | -89.98 | 0.0 | -30.1 | 30.1 | 27.1 | 2.92 | 10.286 | |
| 800.0 | 800.0 | 800.0 | 800.0 | 1.7 | 1.7 | -89.98 | 0.0 | -30.1 | 30.1 | 26.7 | 3.37 | 8.914 | |
| 900.0 | 900.0 | 900.0 | 900.0 | 1.9 | 1.9 | -89.98 | 0.0 | -30.1 | 30.1 | 26.2 | 3.82 | 7.865 | |
| 1,000.0 | 1,000.0 | 1,000.0 | 1,000.0 | 2.1 | 2.1 | -89.98 | 0.0 | -30.1 | 30.1 | 25.8 | 4.27 | 7.038 | |
| 1,100.0 | 1,100.0 | 1,100.0 | 1,100.0 | 2.4 | 2.4 | -89.98 | 0.0 | -30.1 | 30.1 | 25.3 | 4.72 | 6.367 | |
| 1,200.0 | 1,200.0 | 1,200.0 | 1,200.0 | 2.6 | 2.6 | -89.98 | 0.0 | -30.1 | 30.1 | 24.9 | 5.17 | 5.814 | |
| 1,300.0 | 1,300.0 | 1,300.0 | 1,300.0 | 2.8 | 2.8 | -89.98 | 0.0 | -30.1 | 30.1 | 24.4 | 5.62 | 5.349 | |
| 1,400.0 | 1,400.0 | 1,400.0 | 1,400.0 | 3.0 | 3.0 | -89.98 | 0.0 | -30.1 | 30.1 | 24.0 | 6.07 | 4.952 | |
| 1,500.0 | 1,500.0 | 1,500.0 | 1,500.0 | 3.3 | 3.3 | -89.98 | 0.0 | -30.1 | 30.1 | 23.5 | 6.52 | 4.611 | |
| 1,600.0 | 1,600.0 | 1,600.0 | 1,600.0 | 3.5 | 3.5 | -89.98 | 0.0 | -30.1 | 30.1 | 23.1 | 6.97 | 4.313 | |

| | | | |
|---|---|---|---|
| **Company:** | Great Western | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Project:** | SEC.26-T6N-R67W | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Reference Site:** | Kodak North Pad Sec.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | Landmark |
| **Reference Design:** | Plan #1 (11-21-13) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Kodak North Pad Sec.26-T6N-R67W - Kodak North FD 25-039HC - Wellbore #1 - Plan #1 (11-21-13) — **Offset Site Error:** 0.0 ft

**Survey Program:** 0-MWD — **Offset Well Error:** 0.0 ft

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,700.0 | 1,700.0 | 1,700.0 | 1,700.0 | 3.7 | 3.7 | -89.98 | 0.0 | -30.1 | 30.1 | 22.6 | 7.42 | 4.052 | |
| 1,800.0 | 1,800.0 | 1,800.0 | 1,800.0 | 3.9 | 3.9 | -89.98 | 0.0 | -30.1 | 30.1 | 22.2 | 7.87 | 3.820 | |
| 1,900.0 | 1,900.0 | 1,900.0 | 1,900.0 | 4.2 | 4.2 | -89.98 | 0.0 | -30.1 | 30.1 | 21.7 | 8.32 | 3.614 | |
| 2,000.0 | 2,000.0 | 2,000.0 | 2,000.0 | 4.4 | 4.4 | -89.98 | 0.0 | -30.1 | 30.1 | 21.3 | 8.77 | 3.429 | |
| 2,100.0 | 2,100.0 | 2,100.0 | 2,100.0 | 4.6 | 4.6 | -89.98 | 0.0 | -30.1 | 30.1 | 20.8 | 9.22 | 3.261 | |
| 2,200.0 | 2,200.0 | 2,200.0 | 2,200.0 | 4.8 | 4.8 | -89.98 | 0.0 | -30.1 | 30.1 | 20.4 | 9.66 | 3.110 | |
| 2,300.0 | 2,300.0 | 2,300.0 | 2,300.0 | 5.1 | 5.1 | -89.98 | 0.0 | -30.1 | 30.1 | 19.9 | 10.11 | 2.971 | |
| 2,400.0 | 2,400.0 | 2,400.0 | 2,400.0 | 5.3 | 5.3 | -89.98 | 0.0 | -30.1 | 30.1 | 19.5 | 10.56 | 2.845 | |
| 2,500.0 | 2,500.0 | 2,500.0 | 2,500.0 | 5.5 | 5.5 | -89.98 | 0.0 | -30.1 | 30.1 | 19.0 | 11.01 | 2.729 | |
| 2,600.0 | 2,600.0 | 2,600.0 | 2,600.0 | 5.7 | 5.7 | -89.98 | 0.0 | -30.1 | 30.1 | 18.6 | 11.46 | 2.622 | |
| 2,700.0 | 2,700.0 | 2,700.0 | 2,700.0 | 6.0 | 6.0 | -89.98 | 0.0 | -30.1 | 30.1 | 18.1 | 11.91 | 2.523 | |
| 2,800.0 | 2,800.0 | 2,800.0 | 2,800.0 | 6.2 | 6.2 | -89.98 | 0.0 | -30.1 | 30.1 | 17.7 | 12.36 | 2.431 | |
| 2,900.0 | 2,900.0 | 2,900.0 | 2,900.0 | 6.4 | 6.4 | -89.98 | 0.0 | -30.1 | 30.1 | 17.2 | 12.81 | 2.346 | |
| 3,000.0 | 3,000.0 | 3,000.0 | 3,000.0 | 6.6 | 6.6 | -89.98 | 0.0 | -30.1 | 30.1 | 16.8 | 13.26 | 2.266 | |
| 3,100.0 | 3,100.0 | 3,100.0 | 3,100.0 | 6.9 | 6.9 | -89.98 | 0.0 | -30.1 | 30.1 | 16.3 | 13.71 | 2.192 | CC |
| 3,200.0 | 3,200.0 | 3,199.7 | 3,199.7 | 7.1 | 7.1 | -85.13 | 2.6 | -30.4 | 30.5 | 16.4 | 14.16 | 2.155 | |
| 3,300.0 | 3,300.0 | 3,298.9 | 3,298.5 | 7.3 | 7.3 | -71.92 | 10.3 | -31.4 | 33.1 | 18.5 | 14.60 | 2.267 | |
| 3,400.0 | 3,400.0 | 3,397.3 | 3,396.1 | 7.5 | 7.5 | -48.18 | 22.9 | -33.1 | 38.7 | 23.6 | 15.04 | 2.572 | |
| 3,500.0 | 3,499.6 | 3,495.2 | 3,492.4 | 7.8 | 7.8 | -38.04 | 40.4 | -35.5 | 45.8 | 30.3 | 15.45 | 2.962 | |
| 3,600.0 | 3,598.8 | 3,592.7 | 3,587.2 | 8.0 | 8.0 | -30.68 | 62.6 | -38.5 | 53.7 | 37.8 | 15.82 | 3.392 | |
| 3,700.0 | 3,697.1 | 3,689.6 | 3,680.3 | 8.2 | 8.3 | -25.18 | 89.5 | -42.1 | 62.0 | 45.9 | 16.16 | 3.838 | |
| 3,800.0 | 3,794.3 | 3,786.1 | 3,771.4 | 8.5 | 8.6 | -20.93 | 120.8 | -46.3 | 70.6 | 54.1 | 16.46 | 4.288 | |
| 3,900.0 | 3,890.2 | 3,882.1 | 3,860.4 | 8.8 | 9.0 | -17.55 | 156.5 | -51.1 | 79.2 | 62.5 | 16.73 | 4.735 | |
| 4,000.0 | 3,984.4 | 3,977.7 | 3,947.1 | 9.1 | 9.4 | -14.78 | 196.4 | -56.5 | 87.8 | 70.8 | 16.97 | 5.174 | |
| 4,100.0 | 4,076.8 | 4,072.8 | 4,031.3 | 9.5 | 9.9 | -12.45 | 240.3 | -62.4 | 96.3 | 79.1 | 17.18 | 5.604 | |
| 4,200.0 | 4,167.1 | 4,171.2 | 4,116.6 | 9.9 | 10.5 | -10.54 | 288.9 | -68.9 | 103.4 | 86.0 | 17.38 | 5.947 | |
| 4,300.0 | 4,254.9 | 4,271.1 | 4,203.2 | 10.5 | 11.2 | -9.29 | 338.4 | -75.6 | 105.5 | 88.0 | 17.58 | 6.005 | |
| 4,400.0 | 4,341.4 | 4,371.1 | 4,289.8 | 11.1 | 11.9 | -8.33 | 387.9 | -82.2 | 105.0 | 86.9 | 18.13 | 5.793 | |
| 4,500.0 | 4,428.0 | 4,471.1 | 4,376.4 | 11.8 | 12.7 | -7.35 | 437.4 | -88.9 | 104.5 | 85.8 | 18.71 | 5.586 | |
| 4,600.0 | 4,514.5 | 4,571.1 | 4,463.0 | 12.5 | 13.4 | -6.36 | 486.9 | -95.5 | 104.0 | 84.7 | 19.31 | 5.389 | |
| 4,700.0 | 4,601.0 | 4,671.1 | 4,549.6 | 13.2 | 14.2 | -5.37 | 536.4 | -102.2 | 103.6 | 83.7 | 19.92 | 5.203 | |
| 4,800.0 | 4,687.5 | 4,771.1 | 4,636.2 | 14.0 | 15.1 | -4.36 | 585.9 | -108.9 | 103.2 | 82.7 | 20.54 | 5.025 | |
| 4,900.0 | 4,774.0 | 4,871.0 | 4,722.8 | 14.8 | 15.9 | -3.35 | 635.4 | -115.5 | 102.8 | 81.7 | 21.17 | 4.857 | |
| 5,000.0 | 4,860.5 | 4,971.0 | 4,809.4 | 15.6 | 16.7 | -2.33 | 684.9 | -122.2 | 102.5 | 80.7 | 21.82 | 4.697 | |
| 5,100.0 | 4,947.0 | 5,071.0 | 4,896.0 | 16.5 | 17.6 | -1.31 | 734.4 | -128.8 | 102.2 | 79.7 | 22.49 | 4.544 | |
| 5,200.0 | 5,033.5 | 5,171.0 | 4,982.6 | 17.3 | 18.5 | -0.28 | 784.0 | -135.5 | 101.9 | 78.7 | 23.17 | 4.399 | |
| 5,300.0 | 5,120.0 | 5,271.0 | 5,069.3 | 18.2 | 19.4 | 0.76 | 833.5 | -142.2 | 101.7 | 77.8 | 23.87 | 4.259 | |
| 5,400.0 | 5,206.6 | 5,371.0 | 5,155.9 | 19.1 | 20.3 | 1.80 | 883.0 | -148.8 | 101.4 | 76.9 | 24.59 | 4.126 | |
| 5,500.0 | 5,293.1 | 5,470.9 | 5,242.5 | 20.0 | 21.2 | 2.85 | 932.5 | -155.5 | 101.3 | 75.9 | 25.33 | 3.998 | |
| 5,600.0 | 5,379.6 | 5,570.9 | 5,329.1 | 20.9 | 22.1 | 3.89 | 982.0 | -162.1 | 101.1 | 75.0 | 26.10 | 3.874 | |
| 5,700.0 | 5,466.1 | 5,670.9 | 5,415.7 | 21.8 | 23.0 | 4.94 | 1,031.5 | -168.8 | 101.0 | 74.1 | 26.90 | 3.755 | |
| 5,800.0 | 5,552.6 | 5,770.9 | 5,502.3 | 22.7 | 23.9 | 6.00 | 1,081.0 | -175.5 | 100.9 | 73.2 | 27.73 | 3.640 | |
| 5,900.0 | 5,639.1 | 5,870.9 | 5,588.9 | 23.6 | 24.8 | 7.05 | 1,130.5 | -182.1 | 100.9 | 72.3 | 28.59 | 3.529 | |
| 5,969.6 | 5,699.3 | 5,940.4 | 5,649.2 | 24.2 | 25.5 | 7.78 | 1,165.0 | -186.8 | 100.9 | 71.7 | 29.22 | 3.453 | |
| 6,000.0 | 5,725.6 | 5,970.9 | 5,675.5 | 24.5 | 25.7 | 8.11 | 1,180.0 | -188.8 | 100.9 | 71.4 | 29.50 | 3.421 | |
| 6,100.0 | 5,812.1 | 6,070.8 | 5,762.1 | 25.4 | 26.7 | 9.16 | 1,229.6 | -195.4 | 100.9 | 70.5 | 30.44 | 3.316 | |
| 6,200.0 | 5,898.6 | 6,170.8 | 5,848.7 | 26.4 | 27.6 | 10.21 | 1,279.1 | -202.1 | 101.0 | 69.6 | 31.42 | 3.214 | |
| 6,300.0 | 5,985.1 | 6,270.8 | 5,935.3 | 27.3 | 28.5 | 11.26 | 1,328.6 | -208.8 | 101.1 | 68.6 | 32.44 | 3.116 | |
| 6,400.0 | 6,071.7 | 6,370.8 | 6,021.9 | 28.2 | 29.5 | 12.31 | 1,378.1 | -215.4 | 101.2 | 67.7 | 33.51 | 3.020 | |
| 6,500.0 | 6,158.2 | 6,470.8 | 6,108.5 | 29.2 | 30.4 | 13.36 | 1,427.6 | -222.1 | 101.4 | 66.7 | 34.62 | 2.928 | |
| 6,600.0 | 6,244.7 | 6,570.8 | 6,195.1 | 30.1 | 31.4 | 14.40 | 1,477.1 | -228.7 | 101.6 | 65.8 | 35.79 | 2.838 | |
| 6,700.0 | 6,331.2 | 6,670.7 | 6,281.8 | 31.1 | 32.3 | 15.44 | 1,526.6 | -235.4 | 101.8 | 64.8 | 37.00 | 2.752 | |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

| | | | |
|---|---|---|---|
| **Company:** | Great Western | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Project:** | SEC.26-T6N-R67W | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Reference Site:** | Kodak North Pad Sec.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | Landmark |
| **Reference Design:** | Plan #1 (11-21-13) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Kodak North Pad Sec.26-T6N-R67W - Kodak North FD 25-039HC - Wellbore #1 - Plan #1 (11-21-13) **Offset Site Error:** 0.0 ft

**Survey Program:** 0-MWD **Offset Well Error:** 0.0 ft

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6,800.0 | 6,417.7 | 6,770.7 | 6,368.4 | 32.0 | 33.2 | 16.47 | 1,576.1 | -242.1 | 102.1 | 63.8 | 38.26 | 2.668 | |
| 6,900.0 | 6,504.2 | 6,870.7 | 6,455.0 | 33.0 | 34.2 | 17.50 | 1,625.7 | -248.7 | 102.4 | 62.8 | 39.56 | 2.587 | |
| 7,000.0 | 6,590.8 | 6,970.2 | 6,541.1 | 33.8 | 35.1 | -8.16 | 1,674.9 | -255.3 | 101.3 | 62.8 | 38.56 | 2.628 | |
| 7,037.4 | 6,622.7 | 7,006.5 | 6,572.6 | 34.0 | 35.5 | -20.67 | 1,692.9 | -257.8 | 101.0 | 63.3 | 37.67 | 2.680 | |
| 7,100.0 | 6,674.8 | 7,065.2 | 6,623.5 | 34.4 | 36.0 | -42.58 | 1,722.0 | -261.7 | 103.2 | 65.4 | 37.87 | 2.726 | |
| 7,200.0 | 6,751.9 | 7,151.1 | 6,697.8 | 35.0 | 36.9 | -73.78 | 1,764.5 | -267.4 | 124.2 | 82.0 | 42.26 | 2.939 | |
| 7,300.0 | 6,818.1 | 7,253.7 | 6,786.7 | 35.5 | 37.7 | -98.25 | 1,815.3 | -263.3 | 167.5 | 123.6 | 43.89 | 3.816 | |
| 7,400.0 | 6,870.1 | 7,383.3 | 6,893.5 | 35.8 | 38.6 | -114.29 | 1,876.7 | -224.7 | 217.0 | 177.5 | 39.49 | 5.495 | |
| 7,500.0 | 6,905.1 | 7,556.8 | 7,012.6 | 36.1 | 39.5 | -124.58 | 1,945.4 | -120.8 | 261.3 | 229.0 | 32.28 | 8.094 | |
| 7,600.0 | 6,921.5 | 7,787.9 | 7,101.0 | 36.3 | 40.2 | -129.70 | 1,997.1 | 83.5 | 286.8 | 259.4 | 27.38 | 10.474 | |
| 7,700.0 | 6,922.6 | 7,941.8 | 7,108.6 | 36.4 | 40.4 | -130.15 | 2,002.3 | 236.7 | 288.5 | 259.8 | 28.70 | 10.051 | |
| 7,800.0 | 6,922.6 | 8,041.8 | 7,108.6 | 36.6 | 40.6 | -130.20 | 2,002.9 | 336.7 | 288.1 | 257.1 | 31.06 | 9.276 | |
| 7,900.0 | 6,922.6 | 8,141.8 | 7,108.6 | 36.9 | 40.9 | -130.26 | 2,003.5 | 436.7 | 287.8 | 254.0 | 33.82 | 8.509 | |
| 8,000.0 | 6,922.6 | 8,241.8 | 7,108.6 | 37.4 | 41.3 | -130.31 | 2,004.1 | 536.7 | 287.5 | 250.6 | 36.89 | 7.793 | |
| 8,100.0 | 6,922.6 | 8,341.8 | 7,108.6 | 38.1 | 41.9 | -130.37 | 2,004.7 | 636.7 | 287.2 | 247.0 | 40.19 | 7.144 | |
| 8,200.0 | 6,922.6 | 8,441.8 | 7,108.6 | 39.0 | 42.6 | -130.42 | 2,005.2 | 736.7 | 286.8 | 243.2 | 43.68 | 6.567 | |
| 8,300.0 | 6,922.6 | 8,541.8 | 7,108.6 | 40.1 | 43.6 | -130.48 | 2,005.8 | 836.7 | 286.5 | 239.2 | 47.30 | 6.058 | |
| 8,400.0 | 6,922.6 | 8,641.8 | 7,108.6 | 41.5 | 44.7 | -130.53 | 2,006.4 | 936.7 | 286.2 | 235.2 | 51.02 | 5.609 | |
| 8,500.0 | 6,922.6 | 8,741.8 | 7,108.6 | 43.2 | 46.1 | -130.59 | 2,007.0 | 1,036.7 | 285.9 | 231.0 | 54.84 | 5.213 | |
| 8,600.0 | 6,922.6 | 8,841.8 | 7,108.6 | 45.0 | 47.7 | -130.65 | 2,007.6 | 1,136.7 | 285.5 | 226.8 | 58.71 | 4.864 | |
| 8,700.0 | 6,922.6 | 8,941.8 | 7,108.6 | 47.0 | 49.5 | -130.70 | 2,008.2 | 1,236.7 | 285.2 | 222.6 | 62.64 | 4.553 | |
| 8,800.0 | 6,922.6 | 9,041.8 | 7,108.6 | 49.2 | 51.4 | -130.76 | 2,008.7 | 1,336.7 | 284.9 | 218.3 | 66.61 | 4.277 | |
| 8,900.0 | 6,922.6 | 9,141.8 | 7,108.6 | 51.4 | 53.5 | -130.81 | 2,009.3 | 1,436.7 | 284.6 | 214.0 | 70.62 | 4.030 | |
| 9,000.0 | 6,922.6 | 9,241.8 | 7,108.6 | 53.7 | 55.6 | -130.87 | 2,009.9 | 1,536.7 | 284.3 | 209.6 | 74.65 | 3.808 | |
| 9,100.0 | 6,922.6 | 9,341.8 | 7,108.6 | 56.1 | 57.9 | -130.93 | 2,010.5 | 1,636.7 | 283.9 | 205.2 | 78.70 | 3.608 | |
| 9,200.0 | 6,922.6 | 9,441.8 | 7,108.6 | 58.6 | 60.2 | -130.98 | 2,011.1 | 1,736.7 | 283.6 | 200.8 | 82.77 | 3.427 | |
| 9,300.0 | 6,922.6 | 9,541.8 | 7,108.6 | 61.0 | 62.6 | -131.04 | 2,011.7 | 1,836.7 | 283.3 | 196.4 | 86.85 | 3.262 | |
| 9,400.0 | 6,922.6 | 9,641.8 | 7,108.6 | 63.6 | 65.0 | -131.10 | 2,012.2 | 1,936.7 | 283.0 | 192.0 | 90.95 | 3.111 | |
| 9,500.0 | 6,922.6 | 9,741.8 | 7,108.6 | 66.1 | 67.5 | -131.15 | 2,012.8 | 2,036.7 | 282.7 | 187.6 | 95.05 | 2.974 | |
| 9,600.0 | 6,922.6 | 9,841.7 | 7,108.6 | 68.7 | 70.0 | -131.21 | 2,013.4 | 2,136.7 | 282.3 | 183.2 | 99.16 | 2.847 | |
| 9,700.0 | 6,922.6 | 9,941.7 | 7,108.6 | 71.3 | 72.5 | -131.27 | 2,014.0 | 2,236.7 | 282.0 | 178.7 | 103.28 | 2.731 | |
| 9,800.0 | 6,922.6 | 10,041.7 | 7,108.6 | 73.9 | 75.1 | -131.32 | 2,014.6 | 2,336.6 | 281.7 | 174.3 | 107.40 | 2.623 | |
| 9,900.0 | 6,922.6 | 10,141.7 | 7,108.6 | 76.5 | 77.6 | -131.38 | 2,015.2 | 2,436.6 | 281.4 | 169.9 | 111.52 | 2.523 | |
| 10,000.0 | 6,922.6 | 10,241.7 | 7,108.6 | 79.1 | 80.2 | -131.44 | 2,015.7 | 2,536.6 | 281.1 | 165.4 | 115.64 | 2.430 | |
| 10,100.0 | 6,922.6 | 10,341.7 | 7,108.6 | 81.8 | 82.8 | -131.49 | 2,016.3 | 2,636.6 | 280.7 | 161.0 | 119.76 | 2.344 | |
| 10,200.0 | 6,922.6 | 10,441.7 | 7,108.6 | 84.4 | 85.5 | -131.55 | 2,016.9 | 2,736.6 | 280.4 | 156.5 | 123.88 | 2.264 | |
| 10,300.0 | 6,922.6 | 10,541.7 | 7,108.6 | 87.1 | 88.1 | -131.61 | 2,017.5 | 2,836.6 | 280.1 | 152.1 | 128.00 | 2.188 | |
| 10,400.0 | 6,922.6 | 10,641.7 | 7,108.6 | 89.8 | 90.8 | -131.67 | 2,018.1 | 2,936.6 | 279.8 | 147.7 | 132.12 | 2.118 | |
| 10,500.0 | 6,922.6 | 10,741.7 | 7,108.6 | 92.5 | 93.4 | -131.73 | 2,018.7 | 3,036.6 | 279.5 | 143.2 | 136.24 | 2.051 | |
| 10,600.0 | 6,922.6 | 10,841.7 | 7,108.6 | 95.2 | 96.1 | -131.78 | 2,019.2 | 3,136.6 | 279.1 | 138.8 | 140.35 | 1.989 | |
| 10,700.0 | 6,922.6 | 10,941.7 | 7,108.6 | 97.9 | 98.8 | -131.84 | 2,019.8 | 3,236.6 | 278.8 | 134.4 | 144.46 | 1.930 | |
| 10,800.0 | 6,922.6 | 11,041.7 | 7,108.6 | 100.6 | 101.4 | -131.90 | 2,020.4 | 3,336.6 | 278.5 | 129.9 | 148.57 | 1.875 | |
| 10,900.0 | 6,922.6 | 11,141.7 | 7,108.6 | 103.3 | 104.1 | -131.96 | 2,021.0 | 3,436.6 | 278.2 | 125.5 | 152.68 | 1.822 | |
| 11,000.0 | 6,922.6 | 11,241.7 | 7,108.6 | 106.0 | 106.8 | -132.02 | 2,021.6 | 3,536.6 | 277.9 | 121.1 | 156.77 | 1.772 | |
| 11,100.0 | 6,922.6 | 11,341.7 | 7,108.6 | 108.7 | 109.5 | -132.08 | 2,022.2 | 3,636.6 | 277.6 | 116.7 | 160.87 | 1.725 | |
| 11,200.0 | 6,922.6 | 11,441.7 | 7,108.6 | 111.5 | 112.3 | -132.14 | 2,022.7 | 3,736.6 | 277.2 | 112.3 | 164.96 | 1.681 | |
| 11,300.0 | 6,922.6 | 11,541.7 | 7,108.6 | 114.2 | 115.0 | -132.20 | 2,023.3 | 3,836.6 | 276.9 | 107.9 | 169.04 | 1.638 | |
| 11,400.0 | 6,922.6 | 11,641.7 | 7,108.6 | 116.9 | 117.7 | -132.25 | 2,023.9 | 3,936.6 | 276.6 | 103.5 | 173.12 | 1.598 | |
| 11,500.0 | 6,922.6 | 11,741.7 | 7,108.6 | 119.7 | 120.4 | -132.31 | 2,024.5 | 4,036.6 | 276.3 | 99.1 | 177.20 | 1.559 | |
| 11,600.0 | 6,922.6 | 11,841.7 | 7,108.6 | 122.4 | 123.1 | -132.37 | 2,025.1 | 4,136.6 | 276.0 | 94.7 | 181.27 | 1.523 | |
| 11,700.0 | 6,922.6 | 11,941.7 | 7,108.6 | 125.1 | 125.9 | -132.43 | 2,025.7 | 4,236.6 | 275.7 | 90.3 | 185.33 | 1.487 | Level 3 |
| 11,800.0 | 6,922.6 | 12,041.7 | 7,108.6 | 127.9 | 128.6 | -132.49 | 2,026.2 | 4,336.6 | 275.4 | 86.0 | 189.39 | 1.454 | Level 3 |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

| | | | |
|---|---|---|---|
| **Company:** | Great Western | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Project:** | SEC.26-T6N-R67W | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Reference Site:** | Kodak North Pad Sec.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | Landmark |
| **Reference Design:** | Plan #1 (11-21-13) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Kodak North Pad Sec.26-T6N-R67W - Kodak North FD 25-039HC - Wellbore #1 - Plan #1 (11-21-13)

**Offset Site Error:** 0.0 ft

**Survey Program:** 0-MWD

**Offset Well Error:** 0.0 ft

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11,900.0 | 6,922.6 | 12,141.7 | 7,108.6 | 130.6 | 131.3 | -132.55 | 2,026.8 | 4,436.6 | 275.0 | 81.6 | 193.44 | 1.422 | Level 3 |
| 12,000.0 | 6,922.6 | 12,241.7 | 7,108.6 | 133.4 | 134.1 | -132.61 | 2,027.4 | 4,536.6 | 274.7 | 77.2 | 197.48 | 1.391 | Level 3 |
| 12,100.0 | 6,922.6 | 12,341.7 | 7,108.6 | 136.1 | 136.8 | -132.67 | 2,028.0 | 4,636.6 | 274.4 | 72.9 | 201.52 | 1.362 | Level 3 |
| 12,200.0 | 6,922.6 | 12,441.7 | 7,108.6 | 138.9 | 139.6 | -132.73 | 2,028.6 | 4,736.6 | 274.1 | 68.5 | 205.55 | 1.333 | Level 3 |
| 12,300.0 | 6,922.6 | 12,541.7 | 7,108.6 | 141.7 | 142.3 | -132.79 | 2,029.2 | 4,836.6 | 273.8 | 64.2 | 209.58 | 1.306 | Level 3 |
| 12,400.0 | 6,922.6 | 12,641.7 | 7,108.6 | 144.4 | 145.1 | -132.85 | 2,029.7 | 4,936.6 | 273.5 | 59.9 | 213.60 | 1.280 | Level 3 |
| 12,500.0 | 6,922.6 | 12,741.7 | 7,108.6 | 147.2 | 147.8 | -132.92 | 2,030.3 | 5,036.6 | 273.2 | 55.6 | 217.61 | 1.255 | Level 3 |
| 12,600.0 | 6,922.6 | 12,841.7 | 7,108.6 | 149.9 | 150.6 | -132.98 | 2,030.9 | 5,136.6 | 272.9 | 51.2 | 221.61 | 1.231 | Level 2 |
| 12,700.0 | 6,922.6 | 12,941.7 | 7,108.6 | 152.7 | 153.3 | -133.04 | 2,031.5 | 5,236.6 | 272.5 | 46.9 | 225.61 | 1.208 | Level 2 |
| 12,800.0 | 6,922.6 | 13,041.7 | 7,108.6 | 155.5 | 156.1 | -133.10 | 2,032.1 | 5,336.6 | 272.2 | 42.6 | 229.60 | 1.186 | Level 2 |
| 12,900.0 | 6,922.6 | 13,141.7 | 7,108.6 | 158.2 | 158.9 | -133.16 | 2,032.7 | 5,436.6 | 271.9 | 38.3 | 233.59 | 1.164 | Level 2 |
| 13,000.0 | 6,922.6 | 13,241.7 | 7,108.6 | 161.0 | 161.6 | -133.22 | 2,033.2 | 5,536.6 | 271.6 | 34.0 | 237.56 | 1.143 | Level 2 |
| 13,100.0 | 6,922.6 | 13,341.7 | 7,108.6 | 163.8 | 164.4 | -133.28 | 2,033.8 | 5,636.6 | 271.3 | 29.8 | 241.53 | 1.123 | Level 2 |
| 13,200.0 | 6,922.6 | 13,441.7 | 7,108.6 | 166.6 | 167.2 | -133.34 | 2,034.4 | 5,736.6 | 271.0 | 25.5 | 245.49 | 1.104 | Level 2 |
| 13,300.0 | 6,922.6 | 13,541.7 | 7,108.6 | 169.3 | 169.9 | -133.41 | 2,035.0 | 5,836.6 | 270.7 | 21.2 | 249.45 | 1.085 | Level 2 |
| 13,400.0 | 6,922.6 | 13,641.7 | 7,108.6 | 172.1 | 172.7 | -133.47 | 2,035.6 | 5,936.6 | 270.4 | 17.0 | 253.39 | 1.067 | Level 2 |
| 13,500.0 | 6,922.6 | 13,741.7 | 7,108.6 | 174.9 | 175.5 | -133.53 | 2,036.2 | 6,036.6 | 270.1 | 12.7 | 257.33 | 1.049 | Level 2 |
| 13,600.0 | 6,922.6 | 13,841.7 | 7,108.6 | 177.7 | 178.2 | -133.59 | 2,036.7 | 6,136.6 | 269.8 | 8.5 | 261.26 | 1.032 | Level 2 |
| 13,700.0 | 6,922.6 | 13,941.7 | 7,108.6 | 180.4 | 181.0 | -133.66 | 2,037.3 | 6,236.5 | 269.4 | 4.3 | 265.19 | 1.016 | Level 2 |
| 13,800.0 | 6,922.6 | 14,041.7 | 7,108.6 | 183.2 | 183.8 | -133.72 | 2,037.9 | 6,336.5 | 269.1 | 0.0 | 269.10 | 1.000 | Level 2 |
| 13,900.0 | 6,922.6 | 14,141.7 | 7,108.6 | 186.0 | 186.6 | -133.78 | 2,038.5 | 6,436.5 | 268.8 | -4.2 | 273.01 | 0.985 | Level 1 |
| 14,000.0 | 6,922.6 | 14,241.7 | 7,108.6 | 188.8 | 189.3 | -133.84 | 2,039.1 | 6,536.5 | 268.5 | -8.4 | 276.91 | 0.970 | Level 1 |
| 14,100.0 | 6,922.6 | 14,341.7 | 7,108.6 | 191.6 | 192.1 | -133.91 | 2,039.7 | 6,636.5 | 268.2 | -12.6 | 280.80 | 0.955 | Level 1 |
| 14,200.0 | 6,922.6 | 14,441.7 | 7,108.6 | 194.3 | 194.9 | -133.97 | 2,040.3 | 6,736.5 | 267.9 | -16.8 | 284.68 | 0.941 | Level 1 |
| 14,300.0 | 6,922.6 | 14,541.7 | 7,108.6 | 197.1 | 197.7 | -134.03 | 2,040.8 | 6,836.5 | 267.6 | -21.0 | 288.56 | 0.927 | Level 1 |
| 14,400.0 | 6,922.6 | 14,641.7 | 7,108.6 | 199.9 | 200.4 | -134.10 | 2,041.4 | 6,936.5 | 267.3 | -25.1 | 292.42 | 0.914 | Level 1 |
| 14,500.0 | 6,922.6 | 14,741.7 | 7,108.6 | 202.7 | 203.2 | -134.16 | 2,042.0 | 7,036.5 | 267.0 | -29.3 | 296.28 | 0.901 | Level 1 |
| 14,600.0 | 6,922.6 | 14,841.7 | 7,108.6 | 205.5 | 206.0 | -134.22 | 2,042.6 | 7,136.5 | 266.7 | -33.5 | 300.13 | 0.889 | Level 1 |
| 14,700.0 | 6,922.6 | 14,941.7 | 7,108.6 | 208.2 | 208.8 | -134.29 | 2,043.2 | 7,236.5 | 266.4 | -37.6 | 303.98 | 0.876 | Level 1 |
| 14,800.0 | 6,922.6 | 15,041.7 | 7,108.6 | 211.0 | 211.6 | -134.35 | 2,043.8 | 7,336.5 | 266.1 | -41.7 | 307.81 | 0.864 | Level 1 |
| 14,900.0 | 6,922.6 | 15,141.7 | 7,108.6 | 213.8 | 214.3 | -134.42 | 2,044.3 | 7,436.5 | 265.8 | -45.9 | 311.63 | 0.853 | Level 1 |
| 15,000.0 | 6,922.6 | 15,241.7 | 7,108.6 | 216.6 | 217.1 | -134.48 | 2,044.9 | 7,536.5 | 265.5 | -50.0 | 315.45 | 0.842 | Level 1 |
| 15,100.0 | 6,922.6 | 15,341.7 | 7,108.6 | 219.4 | 219.9 | -134.54 | 2,045.5 | 7,636.5 | 265.2 | -54.1 | 319.26 | 0.831 | Level 1 |
| 15,200.0 | 6,922.6 | 15,441.7 | 7,108.6 | 222.2 | 222.7 | -134.61 | 2,046.1 | 7,736.5 | 264.9 | -58.2 | 323.05 | 0.820 | Level 1 |
| 15,300.0 | 6,922.6 | 15,541.7 | 7,108.6 | 225.0 | 225.5 | -134.67 | 2,046.7 | 7,836.5 | 264.6 | -62.3 | 326.84 | 0.809 | Level 1 |
| 15,400.0 | 6,922.6 | 15,641.7 | 7,108.6 | 227.8 | 228.3 | -134.74 | 2,047.3 | 7,936.5 | 264.3 | -66.4 | 330.63 | 0.799 | Level 1 |
| 15,500.0 | 6,922.6 | 15,741.7 | 7,108.6 | 230.5 | 231.1 | -134.80 | 2,047.8 | 8,036.5 | 263.9 | -70.4 | 334.40 | 0.789 | Level 1 |
| 15,600.0 | 6,922.6 | 15,841.7 | 7,108.6 | 233.3 | 233.8 | -134.87 | 2,048.4 | 8,136.5 | 263.6 | -74.5 | 338.16 | 0.780 | Level 1 |
| 15,674.1 | 6,922.6 | 15,915.8 | 7,108.6 | 235.4 | 235.9 | -134.92 | 2,048.9 | 8,210.6 | 263.4 | -77.5 | 340.94 | 0.773 | Level 1, ES, SF |

| | | | |
|---|---|---|---|
| **Company:** | Great Western | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Project:** | SEC.26-T6N-R67W | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Reference Site:** | Kodak North Pad Sec.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | Landmark |
| **Reference Design:** | Plan #1 (11-21-13) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Kodak North Pad Sec.26-T6N-R67W - Kodak North FD 25-079HN - Wellbore #1 - Plan #1 (11-21-13)

**Offset Site Error:** 0.0 ft

**Survey Program:** 0-MWD

**Offset Well Error:** 0.0 ft

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 90.02 | 0.0 | 29.5 | 29.5 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 90.02 | 0.0 | 29.5 | 29.5 | 29.3 | 0.22 | 131.237 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 90.02 | 0.0 | 29.5 | 29.5 | 28.8 | 0.67 | 43.746 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.6 | 0.6 | 90.02 | 0.0 | 29.5 | 29.5 | 28.4 | 1.12 | 26.247 | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.8 | 0.8 | 90.02 | 0.0 | 29.5 | 29.5 | 27.9 | 1.57 | 18.748 | |
| 500.0 | 500.0 | 500.0 | 500.0 | 1.0 | 1.0 | 90.02 | 0.0 | 29.5 | 29.5 | 27.5 | 2.02 | 14.582 | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.2 | 1.2 | 90.02 | 0.0 | 29.5 | 29.5 | 27.0 | 2.47 | 11.931 | |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.5 | 1.5 | 90.02 | 0.0 | 29.5 | 29.5 | 26.6 | 2.92 | 10.095 | |
| 800.0 | 800.0 | 800.0 | 800.0 | 1.7 | 1.7 | 90.02 | 0.0 | 29.5 | 29.5 | 26.1 | 3.37 | 8.749 | |
| 900.0 | 900.0 | 900.0 | 900.0 | 1.9 | 1.9 | 90.02 | 0.0 | 29.5 | 29.5 | 25.7 | 3.82 | 7.720 | |
| 1,000.0 | 1,000.0 | 1,000.0 | 1,000.0 | 2.1 | 2.1 | 90.02 | 0.0 | 29.5 | 29.5 | 25.2 | 4.27 | 6.907 | |
| 1,100.0 | 1,100.0 | 1,100.0 | 1,100.0 | 2.4 | 2.4 | 90.02 | 0.0 | 29.5 | 29.5 | 24.8 | 4.72 | 6.249 | |
| 1,200.0 | 1,200.0 | 1,200.0 | 1,200.0 | 2.6 | 2.6 | 90.02 | 0.0 | 29.5 | 29.5 | 24.3 | 5.17 | 5.706 | |
| 1,300.0 | 1,300.0 | 1,300.0 | 1,300.0 | 2.8 | 2.8 | 90.02 | 0.0 | 29.5 | 29.5 | 23.9 | 5.62 | 5.249 | |
| 1,400.0 | 1,400.0 | 1,400.0 | 1,400.0 | 3.0 | 3.0 | 90.02 | 0.0 | 29.5 | 29.5 | 23.4 | 6.07 | 4.861 | |
| 1,500.0 | 1,500.0 | 1,500.0 | 1,500.0 | 3.3 | 3.3 | 90.02 | 0.0 | 29.5 | 29.5 | 23.0 | 6.52 | 4.525 | |
| 1,600.0 | 1,600.0 | 1,600.0 | 1,600.0 | 3.5 | 3.5 | 90.02 | 0.0 | 29.5 | 29.5 | 22.5 | 6.97 | 4.233 | |
| 1,700.0 | 1,700.0 | 1,700.0 | 1,700.0 | 3.7 | 3.7 | 90.02 | 0.0 | 29.5 | 29.5 | 22.1 | 7.42 | 3.977 | |
| 1,800.0 | 1,800.0 | 1,800.0 | 1,800.0 | 3.9 | 3.9 | 90.02 | 0.0 | 29.5 | 29.5 | 21.6 | 7.87 | 3.750 | |
| 1,900.0 | 1,900.0 | 1,900.0 | 1,900.0 | 4.2 | 4.2 | 90.02 | 0.0 | 29.5 | 29.5 | 21.2 | 8.32 | 3.547 | |
| 2,000.0 | 2,000.0 | 2,000.0 | 2,000.0 | 4.4 | 4.4 | 90.02 | 0.0 | 29.5 | 29.5 | 20.7 | 8.77 | 3.365 | |
| 2,100.0 | 2,100.0 | 2,100.0 | 2,100.0 | 4.6 | 4.6 | 90.02 | 0.0 | 29.5 | 29.5 | 20.3 | 9.22 | 3.201 | |
| 2,200.0 | 2,200.0 | 2,200.0 | 2,200.0 | 4.8 | 4.8 | 90.02 | 0.0 | 29.5 | 29.5 | 19.8 | 9.66 | 3.052 | |
| 2,300.0 | 2,300.0 | 2,300.0 | 2,300.0 | 5.1 | 5.1 | 90.02 | 0.0 | 29.5 | 29.5 | 19.4 | 10.11 | 2.916 | |
| 2,400.0 | 2,400.0 | 2,400.0 | 2,400.0 | 5.3 | 5.3 | 90.02 | 0.0 | 29.5 | 29.5 | 18.9 | 10.56 | 2.792 | |
| 2,500.0 | 2,500.0 | 2,500.0 | 2,500.0 | 5.5 | 5.5 | 90.02 | 0.0 | 29.5 | 29.5 | 18.5 | 11.01 | 2.678 | |
| 2,600.0 | 2,600.0 | 2,600.0 | 2,600.0 | 5.7 | 5.7 | 90.02 | 0.0 | 29.5 | 29.5 | 18.0 | 11.46 | 2.573 | |
| 2,700.0 | 2,700.0 | 2,700.0 | 2,700.0 | 6.0 | 6.0 | 90.02 | 0.0 | 29.5 | 29.5 | 17.6 | 11.91 | 2.476 | |
| 2,800.0 | 2,800.0 | 2,800.0 | 2,800.0 | 6.2 | 6.2 | 90.02 | 0.0 | 29.5 | 29.5 | 17.1 | 12.36 | 2.386 | |
| 2,900.0 | 2,900.0 | 2,900.0 | 2,900.0 | 6.4 | 6.4 | 90.02 | 0.0 | 29.5 | 29.5 | 16.7 | 12.81 | 2.302 | |
| 3,000.0 | 3,000.0 | 3,000.0 | 3,000.0 | 6.6 | 6.6 | 90.02 | 0.0 | 29.5 | 29.5 | 16.2 | 13.26 | 2.224 | |
| 3,100.0 | 3,100.0 | 3,100.0 | 3,100.0 | 6.9 | 6.9 | 90.02 | 0.0 | 29.5 | 29.5 | 15.8 | 13.71 | 2.151 | |
| 3,200.0 | 3,200.0 | 3,200.0 | 3,200.0 | 7.1 | 7.1 | 90.02 | 0.0 | 29.5 | 29.5 | 15.3 | 14.16 | 2.083 | |
| 3,300.0 | 3,300.0 | 3,300.0 | 3,300.0 | 7.3 | 7.3 | 90.02 | 0.0 | 29.5 | 29.5 | 14.9 | 14.61 | 2.019 | CC, ES |
| 3,400.0 | 3,400.0 | 3,400.0 | 3,400.0 | 7.5 | 7.5 | 104.70 | 0.0 | 29.5 | 30.1 | 15.0 | 15.06 | 1.996 | |
| 3,500.0 | 3,499.6 | 3,499.6 | 3,499.6 | 7.8 | 7.8 | 117.91 | 0.0 | 29.5 | 32.9 | 17.4 | 15.49 | 2.127 | |
| 3,600.0 | 3,598.8 | 3,598.8 | 3,598.8 | 8.0 | 8.0 | 134.11 | 0.0 | 29.5 | 40.7 | 24.9 | 15.87 | 2.567 | |
| 3,700.0 | 3,697.1 | 3,697.1 | 3,697.1 | 8.2 | 8.2 | 147.56 | 0.0 | 29.5 | 55.1 | 38.9 | 16.18 | 3.401 | |
| 3,800.0 | 3,794.3 | 3,794.3 | 3,794.3 | 8.5 | 8.4 | 156.77 | 0.0 | 29.5 | 75.9 | 59.4 | 16.45 | 4.614 | |
| 3,900.0 | 3,890.2 | 3,890.2 | 3,890.2 | 8.8 | 8.6 | 162.76 | 0.0 | 29.5 | 102.7 | 86.0 | 16.66 | 6.163 | |
| 4,000.0 | 3,984.4 | 3,984.4 | 3,984.4 | 9.1 | 8.8 | 166.72 | 0.0 | 29.5 | 135.0 | 118.2 | 16.84 | 8.019 | |
| 4,100.0 | 4,076.8 | 4,076.8 | 4,076.8 | 9.5 | 9.1 | 169.41 | 0.0 | 29.5 | 172.6 | 155.6 | 16.98 | 10.166 | |
| 4,200.0 | 4,167.1 | 4,167.1 | 4,167.1 | 9.9 | 9.3 | 171.30 | 0.0 | 29.5 | 215.2 | 198.1 | 17.08 | 12.599 | |
| 4,300.0 | 4,254.9 | 4,254.9 | 4,254.9 | 10.5 | 9.5 | 172.67 | 0.0 | 29.5 | 262.5 | 245.4 | 17.14 | 15.314 | |
| 4,400.0 | 4,341.4 | 4,349.5 | 4,349.5 | 11.1 | 9.7 | 173.93 | 0.6 | 29.3 | 311.9 | 294.3 | 17.58 | 17.741 | |
| 4,500.0 | 4,428.0 | 4,457.5 | 4,457.3 | 11.8 | 9.9 | 174.99 | 6.2 | 27.6 | 357.1 | 339.0 | 18.06 | 19.769 | |
| 4,600.0 | 4,514.5 | 4,571.5 | 4,570.6 | 12.5 | 10.2 | 175.87 | 18.4 | 23.7 | 397.1 | 378.6 | 18.58 | 21.379 | |
| 4,700.0 | 4,601.0 | 4,691.3 | 4,688.5 | 13.2 | 10.4 | 176.67 | 38.1 | 17.6 | 431.6 | 412.5 | 19.12 | 22.574 | |
| 4,800.0 | 4,687.5 | 4,816.1 | 4,809.8 | 14.0 | 10.7 | 177.44 | 66.1 | 8.8 | 460.0 | 440.3 | 19.69 | 23.365 | |
| 4,900.0 | 4,774.0 | 4,945.3 | 4,933.1 | 14.8 | 11.1 | 178.21 | 103.0 | -2.7 | 482.1 | 461.8 | 20.29 | 23.763 | |
| 5,000.0 | 4,860.5 | 5,077.8 | 5,056.5 | 15.6 | 11.6 | 179.02 | 149.1 | -17.1 | 497.5 | 476.6 | 20.91 | 23.786 | |
| 5,100.0 | 4,947.0 | 5,212.4 | 5,178.1 | 16.5 | 12.1 | 179.91 | 204.1 | -34.3 | 506.0 | 484.5 | 21.57 | 23.455 | |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

| | | | |
|---|---|---|---|
| **Company:** | Great Western | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Project:** | SEC.26-T6N-R67W | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Reference Site:** | Kodak North Pad Sec.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | Landmark |
| **Reference Design:** | Plan #1 (11-21-13) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Kodak North Pad Sec.26-T6N-R67W - Kodak North FD 25-079HN - Wellbore #1 - Plan #1 (11-21-13)

**Offset Site Error:** 0.0 ft

**Survey Program:** 0-MWD

**Offset Well Error:** 0.0 ft

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,200.0 | 5,033.5 | 5,338.6 | 5,288.3 | 17.3 | 12.8 | -179.17 | 262.8 | -52.7 | 507.9 | 485.7 | 22.25 | 22.831 | |
| 5,204.4 | 5,037.3 | 5,343.0 | 5,292.1 | 17.4 | 12.8 | -179.14 | 264.9 | -53.4 | 507.9 | 485.6 | 22.27 | 22.803 | |
| 5,300.0 | 5,120.0 | 5,438.4 | 5,374.4 | 18.2 | 13.4 | -178.42 | 311.0 | -67.8 | 508.0 | 485.1 | 22.88 | 22.205 | |
| 5,400.0 | 5,206.6 | 5,538.2 | 5,460.4 | 19.1 | 14.0 | -177.67 | 359.1 | -82.8 | 508.1 | 484.6 | 23.53 | 21.594 | |
| 5,500.0 | 5,293.1 | 5,638.0 | 5,546.5 | 20.0 | 14.7 | -176.92 | 407.3 | -97.9 | 508.3 | 484.1 | 24.21 | 20.998 | |
| 5,600.0 | 5,379.6 | 5,737.7 | 5,632.6 | 20.9 | 15.4 | -176.16 | 455.5 | -113.0 | 508.6 | 483.7 | 24.91 | 20.417 | |
| 5,700.0 | 5,466.1 | 5,837.5 | 5,718.7 | 21.8 | 16.1 | -175.41 | 503.6 | -128.0 | 509.0 | 483.4 | 25.64 | 19.852 | |
| 5,800.0 | 5,552.6 | 5,937.3 | 5,804.7 | 22.7 | 16.9 | -174.67 | 551.8 | -143.1 | 509.5 | 483.1 | 26.40 | 19.301 | |
| 5,900.0 | 5,639.1 | 6,037.1 | 5,890.8 | 23.6 | 17.7 | -173.92 | 600.0 | -158.1 | 510.0 | 482.9 | 27.18 | 18.765 | |
| 6,000.0 | 5,725.6 | 6,136.8 | 5,976.9 | 24.5 | 18.5 | -173.17 | 648.1 | -173.2 | 510.7 | 482.7 | 27.99 | 18.243 | |
| 6,100.0 | 5,812.1 | 6,236.6 | 6,062.9 | 25.4 | 19.3 | -172.43 | 696.3 | -188.3 | 511.4 | 482.6 | 28.84 | 17.736 | |
| 6,200.0 | 5,898.6 | 6,336.4 | 6,149.0 | 26.4 | 20.2 | -171.69 | 744.4 | -203.3 | 512.3 | 482.6 | 29.71 | 17.243 | |
| 6,300.0 | 5,985.1 | 6,436.2 | 6,235.1 | 27.3 | 21.0 | -170.95 | 792.6 | -218.4 | 513.2 | 482.6 | 30.61 | 16.764 | |
| 6,400.0 | 6,071.7 | 6,536.0 | 6,321.2 | 28.2 | 21.9 | -170.21 | 840.8 | -233.5 | 514.2 | 482.6 | 31.55 | 16.300 | |
| 6,500.0 | 6,158.2 | 6,635.7 | 6,407.2 | 29.2 | 22.8 | -169.48 | 888.9 | -248.5 | 515.3 | 482.7 | 32.51 | 15.849 | |
| 6,600.0 | 6,244.7 | 6,736.4 | 6,494.1 | 30.1 | 23.7 | -168.77 | 937.6 | -263.5 | 516.4 | 482.9 | 33.50 | 15.416 | |
| 6,700.0 | 6,331.2 | 6,841.9 | 6,585.9 | 31.1 | 24.4 | -169.78 | 989.0 | -263.4 | 516.9 | 482.9 | 34.01 | 15.198 | |
| 6,800.0 | 6,417.7 | 6,938.0 | 6,667.3 | 32.0 | 25.0 | -173.07 | 1,034.8 | -241.5 | 517.5 | 483.5 | 33.98 | 15.229 | |
| 6,900.0 | 6,504.2 | 7,018.4 | 6,730.8 | 33.0 | 25.4 | -177.43 | 1,070.7 | -208.1 | 521.8 | 487.8 | 34.01 | 15.346 | |
| 7,000.0 | 6,590.8 | 7,087.7 | 6,780.5 | 33.8 | 25.6 | 156.15 | 1,098.9 | -169.0 | 532.0 | 497.3 | 34.73 | 15.321 | |
| 7,100.0 | 6,674.8 | 7,153.6 | 6,822.3 | 34.4 | 25.8 | 132.47 | 1,122.7 | -123.9 | 545.7 | 509.6 | 36.15 | 15.096 | |
| 7,200.0 | 6,751.9 | 7,217.4 | 6,856.7 | 35.0 | 26.0 | 115.52 | 1,142.3 | -74.0 | 560.7 | 523.1 | 37.58 | 14.919 | |
| 7,300.0 | 6,818.1 | 7,279.5 | 6,883.8 | 35.5 | 26.1 | 104.07 | 1,157.9 | -20.3 | 574.9 | 536.4 | 38.49 | 14.937 | |
| 7,400.0 | 6,870.1 | 7,340.7 | 6,903.7 | 35.8 | 26.2 | 96.61 | 1,169.5 | 36.2 | 586.8 | 548.0 | 38.88 | 15.094 | |
| 7,500.0 | 6,905.1 | 7,400.0 | 6,916.4 | 36.1 | 26.3 | 92.15 | 1,177.1 | 93.6 | 595.3 | 556.2 | 39.16 | 15.201 | |
| 7,600.0 | 6,921.5 | 7,461.3 | 6,922.3 | 36.3 | 26.4 | 90.15 | 1,180.8 | 154.5 | 599.6 | 559.7 | 39.94 | 15.012 | |
| 7,700.0 | 6,922.6 | 7,549.4 | 6,922.6 | 36.4 | 26.5 | 90.00 | 1,181.7 | 242.6 | 600.2 | 558.1 | 42.10 | 14.257 | |
| 7,800.0 | 6,922.6 | 7,649.4 | 6,922.6 | 36.6 | 26.8 | 90.00 | 1,182.4 | 342.5 | 600.4 | 555.3 | 45.10 | 13.313 | |
| 7,900.0 | 6,922.6 | 7,749.4 | 6,922.6 | 36.9 | 27.5 | 90.00 | 1,183.2 | 442.5 | 600.7 | 552.1 | 48.57 | 12.368 | |
| 8,000.0 | 6,922.6 | 7,849.4 | 6,922.6 | 37.4 | 28.6 | 90.00 | 1,183.9 | 542.5 | 600.9 | 548.5 | 52.41 | 11.466 | |
| 8,100.0 | 6,922.6 | 7,949.4 | 6,922.6 | 38.1 | 30.2 | 90.00 | 1,184.7 | 642.5 | 601.2 | 544.6 | 56.55 | 10.632 | |
| 8,200.0 | 6,922.6 | 8,049.4 | 6,922.6 | 39.0 | 32.1 | 90.00 | 1,185.5 | 742.5 | 601.4 | 540.5 | 60.92 | 9.872 | |
| 8,300.0 | 6,922.6 | 8,149.4 | 6,922.6 | 40.1 | 34.1 | 90.00 | 1,186.2 | 842.5 | 601.7 | 536.2 | 65.48 | 9.188 | |
| 8,400.0 | 6,922.6 | 8,249.4 | 6,922.6 | 41.5 | 36.3 | 90.00 | 1,187.0 | 942.5 | 601.9 | 531.7 | 70.20 | 8.575 | |
| 8,500.0 | 6,922.6 | 8,349.4 | 6,922.6 | 43.2 | 38.7 | 90.00 | 1,187.7 | 1,042.5 | 602.2 | 527.1 | 75.04 | 8.025 | |
| 8,600.0 | 6,922.6 | 8,449.4 | 6,922.6 | 45.0 | 41.0 | 90.00 | 1,188.5 | 1,142.5 | 602.4 | 522.4 | 79.98 | 7.532 | |
| 8,700.0 | 6,922.6 | 8,549.4 | 6,922.6 | 47.0 | 43.5 | 90.00 | 1,189.3 | 1,242.5 | 602.7 | 517.7 | 85.00 | 7.090 | |
| 8,800.0 | 6,922.6 | 8,649.4 | 6,922.6 | 49.2 | 46.0 | 90.00 | 1,190.0 | 1,342.5 | 602.9 | 512.8 | 90.10 | 6.692 | |
| 8,900.0 | 6,922.6 | 8,749.4 | 6,922.6 | 51.4 | 48.5 | 90.00 | 1,190.8 | 1,442.5 | 603.2 | 507.9 | 95.25 | 6.333 | |
| 9,000.0 | 6,922.6 | 8,849.4 | 6,922.6 | 53.7 | 51.1 | 90.00 | 1,191.5 | 1,542.5 | 603.4 | 503.0 | 100.45 | 6.007 | |
| 9,100.0 | 6,922.6 | 8,949.4 | 6,922.6 | 56.1 | 53.6 | 90.00 | 1,192.3 | 1,642.5 | 603.7 | 498.0 | 105.69 | 5.712 | |
| 9,200.0 | 6,922.6 | 9,049.4 | 6,922.6 | 58.6 | 56.2 | 90.00 | 1,193.1 | 1,742.5 | 603.9 | 493.0 | 110.97 | 5.442 | |
| 9,300.0 | 6,922.6 | 9,149.4 | 6,922.6 | 61.0 | 58.9 | 90.00 | 1,193.8 | 1,842.5 | 604.2 | 487.9 | 116.28 | 5.196 | |
| 9,400.0 | 6,922.6 | 9,249.4 | 6,922.6 | 63.6 | 61.5 | 90.00 | 1,194.6 | 1,942.5 | 604.4 | 482.8 | 121.62 | 4.970 | |
| 9,500.0 | 6,922.6 | 9,349.4 | 6,922.6 | 66.1 | 64.2 | 90.00 | 1,195.3 | 2,042.5 | 604.7 | 477.7 | 126.98 | 4.762 | |
| 9,600.0 | 6,922.6 | 9,449.4 | 6,922.6 | 68.7 | 66.8 | 90.00 | 1,196.1 | 2,142.5 | 604.9 | 472.6 | 132.36 | 4.570 | |
| 9,700.0 | 6,922.6 | 9,549.4 | 6,922.6 | 71.3 | 69.5 | 90.00 | 1,196.9 | 2,242.5 | 605.2 | 467.4 | 137.77 | 4.393 | |
| 9,800.0 | 6,922.6 | 9,649.4 | 6,922.6 | 73.9 | 72.2 | 90.00 | 1,197.6 | 2,342.5 | 605.4 | 462.2 | 143.18 | 4.228 | |
| 9,900.0 | 6,922.6 | 9,749.4 | 6,922.6 | 76.5 | 74.9 | 90.00 | 1,198.4 | 2,442.5 | 605.7 | 457.1 | 148.61 | 4.075 | |
| 10,000.0 | 6,922.6 | 9,849.4 | 6,922.6 | 79.1 | 77.6 | 90.00 | 1,199.1 | 2,542.5 | 605.9 | 451.9 | 154.06 | 3.933 | |
| 10,100.0 | 6,922.6 | 9,949.4 | 6,922.6 | 81.8 | 80.3 | 90.00 | 1,199.9 | 2,642.5 | 606.2 | 446.7 | 159.51 | 3.800 | |
| 10,200.0 | 6,922.6 | 10,049.4 | 6,922.6 | 84.4 | 83.0 | 90.00 | 1,200.7 | 2,742.5 | 606.4 | 441.4 | 164.98 | 3.676 | |

| | | | |
|---|---|---|---|
| **Company:** | Great Western | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Project:** | SEC.26-T6N-R67W | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Reference Site:** | Kodak North Pad Sec.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | Landmark |
| **Reference Design:** | Plan #1 (11-21-13) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Kodak North Pad Sec.26-T6N-R67W - Kodak North FD 25-079HN - Wellbore #1 - Plan #1 (11-21-13) — **Offset Site Error:** 0.0 ft

**Survey Program:** 0-MWD — **Offset Well Error:** 0.0 ft

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10,300.0 | 6,922.6 | 10,149.4 | 6,922.6 | 87.1 | 85.7 | 90.00 | 1,201.4 | 2,842.5 | 606.7 | 436.2 | 170.46 | 3.559 | |
| 10,400.0 | 6,922.6 | 10,249.4 | 6,922.6 | 89.8 | 88.5 | 90.00 | 1,202.2 | 2,942.5 | 606.9 | 431.0 | 175.94 | 3.450 | |
| 10,500.0 | 6,922.6 | 10,349.4 | 6,922.6 | 92.5 | 91.2 | 90.00 | 1,202.9 | 3,042.5 | 607.2 | 425.7 | 181.43 | 3.346 | |
| 10,600.0 | 6,922.6 | 10,449.4 | 6,922.6 | 95.2 | 93.9 | 90.00 | 1,203.7 | 3,142.5 | 607.4 | 420.5 | 186.93 | 3.249 | |
| 10,700.0 | 6,922.6 | 10,549.4 | 6,922.6 | 97.9 | 96.7 | 90.00 | 1,204.5 | 3,242.5 | 607.7 | 415.2 | 192.44 | 3.158 | |
| 10,800.0 | 6,922.6 | 10,649.4 | 6,922.6 | 100.6 | 99.4 | 90.00 | 1,205.2 | 3,342.5 | 607.9 | 410.0 | 197.95 | 3.071 | |
| 10,900.0 | 6,922.6 | 10,749.4 | 6,922.6 | 103.3 | 102.2 | 90.00 | 1,206.0 | 3,442.4 | 608.2 | 404.7 | 203.47 | 2.989 | |
| 11,000.0 | 6,922.6 | 10,849.4 | 6,922.6 | 106.0 | 104.9 | 90.00 | 1,206.7 | 3,542.4 | 608.4 | 399.4 | 208.99 | 2.911 | |
| 11,100.0 | 6,922.6 | 10,949.4 | 6,922.6 | 108.7 | 107.7 | 90.00 | 1,207.5 | 3,642.4 | 608.7 | 394.1 | 214.52 | 2.837 | |
| 11,200.0 | 6,922.6 | 11,049.4 | 6,922.6 | 111.5 | 110.4 | 90.00 | 1,208.3 | 3,742.4 | 608.9 | 388.9 | 220.05 | 2.767 | |
| 11,300.0 | 6,922.6 | 11,149.4 | 6,922.6 | 114.2 | 113.2 | 90.00 | 1,209.0 | 3,842.4 | 609.2 | 383.6 | 225.59 | 2.700 | |
| 11,400.0 | 6,922.6 | 11,249.4 | 6,922.6 | 116.9 | 116.0 | 90.00 | 1,209.8 | 3,942.4 | 609.4 | 378.3 | 231.13 | 2.637 | |
| 11,500.0 | 6,922.6 | 11,349.4 | 6,922.6 | 119.7 | 118.7 | 90.00 | 1,210.5 | 4,042.4 | 609.7 | 373.0 | 236.67 | 2.576 | |
| 11,600.0 | 6,922.6 | 11,449.4 | 6,922.6 | 122.4 | 121.5 | 90.00 | 1,211.3 | 4,142.4 | 609.9 | 367.7 | 242.21 | 2.518 | |
| 11,700.0 | 6,922.6 | 11,549.4 | 6,922.6 | 125.1 | 124.3 | 90.00 | 1,212.1 | 4,242.4 | 610.2 | 362.4 | 247.76 | 2.463 | |
| 11,800.0 | 6,922.6 | 11,649.4 | 6,922.6 | 127.9 | 127.0 | 90.00 | 1,212.8 | 4,342.4 | 610.4 | 357.1 | 253.32 | 2.410 | |
| 11,900.0 | 6,922.6 | 11,749.4 | 6,922.6 | 130.6 | 129.8 | 90.00 | 1,213.6 | 4,442.4 | 610.7 | 351.8 | 258.87 | 2.359 | |
| 12,000.0 | 6,922.6 | 11,849.4 | 6,922.6 | 133.4 | 132.6 | 90.00 | 1,214.3 | 4,542.4 | 610.9 | 346.5 | 264.43 | 2.310 | |
| 12,100.0 | 6,922.6 | 11,949.4 | 6,922.6 | 136.1 | 135.3 | 90.00 | 1,215.1 | 4,642.4 | 611.2 | 341.2 | 269.99 | 2.264 | |
| 12,200.0 | 6,922.6 | 12,049.4 | 6,922.6 | 138.9 | 138.1 | 90.00 | 1,215.9 | 4,742.4 | 611.4 | 335.9 | 275.55 | 2.219 | |
| 12,300.0 | 6,922.6 | 12,149.4 | 6,922.6 | 141.7 | 140.9 | 90.00 | 1,216.6 | 4,842.4 | 611.7 | 330.5 | 281.11 | 2.176 | |
| 12,400.0 | 6,922.6 | 12,249.4 | 6,922.6 | 144.4 | 143.7 | 90.00 | 1,217.4 | 4,942.4 | 611.9 | 325.2 | 286.68 | 2.134 | |
| 12,500.0 | 6,922.6 | 12,349.4 | 6,922.6 | 147.2 | 146.4 | 90.00 | 1,218.1 | 5,042.4 | 612.2 | 319.9 | 292.24 | 2.095 | |
| 12,600.0 | 6,922.6 | 12,449.4 | 6,922.6 | 149.9 | 149.2 | 90.00 | 1,218.9 | 5,142.4 | 612.4 | 314.6 | 297.81 | 2.056 | |
| 12,700.0 | 6,922.6 | 12,549.4 | 6,922.6 | 152.7 | 152.0 | 90.00 | 1,219.7 | 5,242.4 | 612.7 | 309.3 | 303.38 | 2.019 | |
| 12,800.0 | 6,922.6 | 12,649.4 | 6,922.6 | 155.5 | 154.8 | 90.00 | 1,220.4 | 5,342.4 | 612.9 | 303.9 | 308.95 | 1.984 | |
| 12,900.0 | 6,922.6 | 12,749.4 | 6,922.6 | 158.2 | 157.6 | 90.00 | 1,221.2 | 5,442.4 | 613.2 | 298.6 | 314.53 | 1.949 | |
| 13,000.0 | 6,922.6 | 12,849.4 | 6,922.6 | 161.0 | 160.4 | 90.00 | 1,221.9 | 5,542.4 | 613.4 | 293.3 | 320.10 | 1.916 | |
| 13,100.0 | 6,922.6 | 12,949.4 | 6,922.6 | 163.8 | 163.1 | 90.00 | 1,222.7 | 5,642.4 | 613.7 | 288.0 | 325.68 | 1.884 | |
| 13,200.0 | 6,922.6 | 13,049.4 | 6,922.6 | 166.6 | 165.9 | 90.00 | 1,223.5 | 5,742.4 | 613.9 | 282.6 | 331.26 | 1.853 | |
| 13,300.0 | 6,922.6 | 13,149.4 | 6,922.6 | 169.3 | 168.7 | 90.00 | 1,224.2 | 5,842.4 | 614.2 | 277.3 | 336.83 | 1.823 | |
| 13,400.0 | 6,922.6 | 13,249.4 | 6,922.6 | 172.1 | 171.5 | 90.00 | 1,225.0 | 5,942.4 | 614.4 | 272.0 | 342.41 | 1.794 | |
| 13,500.0 | 6,922.6 | 13,349.4 | 6,922.6 | 174.9 | 174.3 | 90.00 | 1,225.7 | 6,042.4 | 614.6 | 266.7 | 347.99 | 1.766 | |
| 13,600.0 | 6,922.6 | 13,449.4 | 6,922.6 | 177.7 | 177.1 | 90.00 | 1,226.5 | 6,142.4 | 614.9 | 261.3 | 353.58 | 1.739 | |
| 13,700.0 | 6,922.6 | 13,549.4 | 6,922.6 | 180.4 | 179.9 | 90.00 | 1,227.3 | 6,242.4 | 615.1 | 256.0 | 359.16 | 1.713 | |
| 13,800.0 | 6,922.6 | 13,649.4 | 6,922.6 | 183.2 | 182.6 | 90.00 | 1,228.0 | 6,342.4 | 615.4 | 250.7 | 364.74 | 1.687 | |
| 13,900.0 | 6,922.6 | 13,749.4 | 6,922.6 | 186.0 | 185.4 | 90.00 | 1,228.8 | 6,442.4 | 615.6 | 245.3 | 370.33 | 1.662 | |
| 14,000.0 | 6,922.6 | 13,849.4 | 6,922.6 | 188.8 | 188.2 | 90.00 | 1,229.5 | 6,542.3 | 615.9 | 240.0 | 375.91 | 1.638 | |
| 14,100.0 | 6,922.6 | 13,949.4 | 6,922.6 | 191.6 | 191.0 | 90.00 | 1,230.3 | 6,642.3 | 616.1 | 234.6 | 381.50 | 1.615 | |
| 14,200.0 | 6,922.6 | 14,049.4 | 6,922.6 | 194.3 | 193.8 | 90.00 | 1,231.1 | 6,742.3 | 616.4 | 229.3 | 387.08 | 1.592 | |
| 14,300.0 | 6,922.6 | 14,149.4 | 6,922.6 | 197.1 | 196.6 | 90.00 | 1,231.8 | 6,842.3 | 616.6 | 224.0 | 392.67 | 1.570 | |
| 14,400.0 | 6,922.6 | 14,249.4 | 6,922.6 | 199.9 | 199.4 | 90.00 | 1,232.6 | 6,942.3 | 616.9 | 218.6 | 398.26 | 1.549 | |
| 14,500.0 | 6,922.6 | 14,349.4 | 6,922.6 | 202.7 | 202.2 | 90.00 | 1,233.3 | 7,042.3 | 617.1 | 213.3 | 403.85 | 1.528 | |
| 14,600.0 | 6,922.6 | 14,449.4 | 6,922.6 | 205.5 | 205.0 | 90.00 | 1,234.1 | 7,142.3 | 617.4 | 208.0 | 409.44 | 1.508 | |
| 14,700.0 | 6,922.6 | 14,549.4 | 6,922.6 | 208.2 | 207.8 | 90.00 | 1,234.9 | 7,242.3 | 617.6 | 202.6 | 415.03 | 1.488 | Level 3 |
| 14,800.0 | 6,922.6 | 14,649.4 | 6,922.6 | 211.0 | 210.6 | 90.00 | 1,235.6 | 7,342.3 | 617.9 | 197.3 | 420.62 | 1.469 | Level 3 |
| 14,900.0 | 6,922.6 | 14,749.4 | 6,922.6 | 213.8 | 213.3 | 90.00 | 1,236.4 | 7,442.3 | 618.1 | 191.9 | 426.21 | 1.450 | Level 3 |
| 15,000.0 | 6,922.6 | 14,849.4 | 6,922.6 | 216.6 | 216.1 | 90.00 | 1,237.1 | 7,542.3 | 618.4 | 186.6 | 431.80 | 1.432 | Level 3 |
| 15,100.0 | 6,922.6 | 14,949.4 | 6,922.6 | 219.4 | 218.9 | 90.00 | 1,237.9 | 7,642.3 | 618.6 | 181.2 | 437.39 | 1.414 | Level 3 |
| 15,200.0 | 6,922.6 | 15,049.4 | 6,922.6 | 222.2 | 221.7 | 90.00 | 1,238.7 | 7,742.3 | 618.9 | 175.9 | 442.99 | 1.397 | Level 3 |
| 15,300.0 | 6,922.6 | 15,149.4 | 6,922.6 | 225.0 | 224.5 | 90.00 | 1,239.4 | 7,842.3 | 619.1 | 170.6 | 448.58 | 1.380 | Level 3 |
| 15,400.0 | 6,922.6 | 15,249.4 | 6,922.6 | 227.8 | 227.3 | 90.00 | 1,240.2 | 7,942.3 | 619.4 | 165.2 | 454.17 | 1.364 | Level 3 |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

| | | | |
|---|---|---|---|
| **Company:** | Great Western | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Project:** | SEC.26-T6N-R67W | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Reference Site:** | Kodak North Pad Sec.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | Landmark |
| **Reference Design:** | Plan #1 (11-21-13) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Kodak North Pad Sec.26-T6N-R67W - Kodak North FD 25-079HN - Wellbore #1 - Plan #1 (11-21-13)

**Offset Site Error:** 0.0 ft

**Survey Program:** 0-MWD

**Offset Well Error:** 0.0 ft

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15,500.0 | 6,922.6 | 15,349.4 | 6,922.6 | 230.5 | 230.1 | 90.00 | 1,240.9 | 8,042.3 | 619.6 | 159.9 | 459.77 | 1.348 | Level 3 |
| 15,600.0 | 6,922.6 | 15,449.4 | 6,922.6 | 233.3 | 232.9 | 90.00 | 1,241.7 | 8,142.3 | 619.9 | 154.5 | 465.36 | 1.332 | Level 3 |
| 15,674.1 | 6,922.6 | 15,520.6 | 6,922.6 | 235.4 | 234.9 | 90.00 | 1,242.2 | 8,213.5 | 620.1 | 150.7 | 469.43 | 1.321 | Level 3, SF |

| | | | |
|---|---|---|---|
| **Company:** | Great Western | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Project:** | SEC.26-T6N-R67W | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Reference Site:** | Kodak North Pad Sec.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | Landmark |
| **Reference Design:** | Plan #1 (11-21-13) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Kodak North Pad Sec.26-T6N-R67W - Kodak North FD 25-119HC - Wellbore #1 - Plan #1 (11-21-13)

**Offset Site Error:** 0.0 ft

**Survey Program:** 0-MWD

**Offset Well Error:** 0.0 ft

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 90.02 | 0.0 | 59.6 | 59.6 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 90.02 | 0.0 | 59.6 | 59.6 | 59.3 | 0.22 | 264.949 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 90.02 | 0.0 | 59.6 | 59.6 | 58.9 | 0.67 | 88.316 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.6 | 0.6 | 90.02 | 0.0 | 59.6 | 59.6 | 58.4 | 1.12 | 52.990 | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.8 | 0.8 | 90.02 | 0.0 | 59.6 | 59.6 | 58.0 | 1.57 | 37.850 | |
| 500.0 | 500.0 | 500.0 | 500.0 | 1.0 | 1.0 | 90.02 | 0.0 | 59.6 | 59.6 | 57.5 | 2.02 | 29.439 | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.2 | 1.2 | 90.02 | 0.0 | 59.6 | 59.6 | 57.1 | 2.47 | 24.086 | |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.5 | 1.5 | 90.02 | 0.0 | 59.6 | 59.6 | 56.6 | 2.92 | 20.381 | |
| 800.0 | 800.0 | 800.0 | 800.0 | 1.7 | 1.7 | 90.02 | 0.0 | 59.6 | 59.6 | 56.2 | 3.37 | 17.663 | |
| 900.0 | 900.0 | 900.0 | 900.0 | 1.9 | 1.9 | 90.02 | 0.0 | 59.6 | 59.6 | 55.7 | 3.82 | 15.585 | |
| 1,000.0 | 1,000.0 | 1,000.0 | 1,000.0 | 2.1 | 2.1 | 90.02 | 0.0 | 59.6 | 59.6 | 55.3 | 4.27 | 13.945 | |
| 1,100.0 | 1,100.0 | 1,100.0 | 1,100.0 | 2.4 | 2.4 | 90.02 | 0.0 | 59.6 | 59.6 | 54.8 | 4.72 | 12.617 | |
| 1,200.0 | 1,200.0 | 1,200.0 | 1,200.0 | 2.6 | 2.6 | 90.02 | 0.0 | 59.6 | 59.6 | 54.4 | 5.17 | 11.520 | |
| 1,300.0 | 1,300.0 | 1,300.0 | 1,300.0 | 2.8 | 2.8 | 90.02 | 0.0 | 59.6 | 59.6 | 53.9 | 5.62 | 10.598 | |
| 1,400.0 | 1,400.0 | 1,400.0 | 1,400.0 | 3.0 | 3.0 | 90.02 | 0.0 | 59.6 | 59.6 | 53.5 | 6.07 | 9.813 | |
| 1,500.0 | 1,500.0 | 1,500.0 | 1,500.0 | 3.3 | 3.3 | 90.02 | 0.0 | 59.6 | 59.6 | 53.0 | 6.52 | 9.136 | |
| 1,600.0 | 1,600.0 | 1,600.0 | 1,600.0 | 3.5 | 3.5 | 90.02 | 0.0 | 59.6 | 59.6 | 52.6 | 6.97 | 8.547 | |
| 1,700.0 | 1,700.0 | 1,700.0 | 1,700.0 | 3.7 | 3.7 | 90.02 | 0.0 | 59.6 | 59.6 | 52.1 | 7.42 | 8.029 | |
| 1,800.0 | 1,800.0 | 1,800.0 | 1,800.0 | 3.9 | 3.9 | 90.02 | 0.0 | 59.6 | 59.6 | 51.7 | 7.87 | 7.570 | |
| 1,900.0 | 1,900.0 | 1,900.0 | 1,900.0 | 4.2 | 4.2 | 90.02 | 0.0 | 59.6 | 59.6 | 51.2 | 8.32 | 7.161 | |
| 2,000.0 | 2,000.0 | 2,000.0 | 2,000.0 | 4.4 | 4.4 | 90.02 | 0.0 | 59.6 | 59.6 | 50.8 | 8.77 | 6.794 | |
| 2,100.0 | 2,100.0 | 2,100.0 | 2,100.0 | 4.6 | 4.6 | 90.02 | 0.0 | 59.6 | 59.6 | 50.3 | 9.22 | 6.462 | |
| 2,200.0 | 2,200.0 | 2,200.0 | 2,200.0 | 4.8 | 4.8 | 90.02 | 0.0 | 59.6 | 59.6 | 49.9 | 9.66 | 6.162 | |
| 2,300.0 | 2,300.0 | 2,300.0 | 2,300.0 | 5.1 | 5.1 | 90.02 | 0.0 | 59.6 | 59.6 | 49.4 | 10.11 | 5.888 | |
| 2,400.0 | 2,400.0 | 2,400.0 | 2,400.0 | 5.3 | 5.3 | 90.02 | 0.0 | 59.6 | 59.6 | 49.0 | 10.56 | 5.637 | |
| 2,500.0 | 2,500.0 | 2,500.0 | 2,500.0 | 5.5 | 5.5 | 90.02 | 0.0 | 59.6 | 59.6 | 48.5 | 11.01 | 5.407 | |
| 2,600.0 | 2,600.0 | 2,600.0 | 2,600.0 | 5.7 | 5.7 | 90.02 | 0.0 | 59.6 | 59.6 | 48.1 | 11.46 | 5.195 | |
| 2,700.0 | 2,700.0 | 2,700.0 | 2,700.0 | 6.0 | 6.0 | 90.02 | 0.0 | 59.6 | 59.6 | 47.6 | 11.91 | 4.999 | |
| 2,800.0 | 2,800.0 | 2,800.0 | 2,800.0 | 6.2 | 6.2 | 90.02 | 0.0 | 59.6 | 59.6 | 47.2 | 12.36 | 4.817 | |
| 2,900.0 | 2,900.0 | 2,900.0 | 2,900.0 | 6.4 | 6.4 | 90.02 | 0.0 | 59.6 | 59.6 | 46.7 | 12.81 | 4.648 | |
| 3,000.0 | 3,000.0 | 3,000.0 | 3,000.0 | 6.6 | 6.6 | 90.02 | 0.0 | 59.6 | 59.6 | 46.3 | 13.26 | 4.491 | |
| 3,100.0 | 3,100.0 | 3,100.0 | 3,100.0 | 6.9 | 6.9 | 90.02 | 0.0 | 59.6 | 59.6 | 45.8 | 13.71 | 4.343 | |
| 3,200.0 | 3,200.0 | 3,200.0 | 3,200.0 | 7.1 | 7.1 | 90.02 | 0.0 | 59.6 | 59.6 | 45.4 | 14.16 | 4.206 | |
| 3,300.0 | 3,300.0 | 3,300.0 | 3,300.0 | 7.3 | 7.3 | 90.02 | 0.0 | 59.6 | 59.6 | 44.9 | 14.61 | 4.076 | CC, ES |
| 3,400.0 | 3,400.0 | 3,400.0 | 3,400.0 | 7.5 | 7.5 | 102.24 | 0.0 | 59.6 | 60.1 | 45.0 | 15.06 | 3.988 | SF |
| 3,500.0 | 3,499.6 | 3,499.6 | 3,499.6 | 7.8 | 7.8 | 109.24 | 0.0 | 59.6 | 62.2 | 46.7 | 15.49 | 4.014 | |
| 3,600.0 | 3,598.8 | 3,598.8 | 3,598.8 | 8.0 | 8.0 | 119.52 | 0.0 | 59.6 | 67.6 | 51.7 | 15.91 | 4.252 | |
| 3,700.0 | 3,697.1 | 3,697.1 | 3,697.1 | 8.2 | 8.2 | 130.84 | 0.0 | 59.6 | 78.3 | 62.0 | 16.27 | 4.814 | |
| 3,800.0 | 3,794.3 | 3,794.3 | 3,794.3 | 8.5 | 8.4 | 141.07 | 0.0 | 59.6 | 95.4 | 78.8 | 16.57 | 5.759 | |
| 3,900.0 | 3,890.2 | 3,890.2 | 3,890.2 | 8.8 | 8.6 | 149.22 | 0.0 | 59.6 | 119.1 | 102.3 | 16.80 | 7.089 | |
| 4,000.0 | 3,984.4 | 3,984.4 | 3,984.4 | 9.1 | 8.8 | 155.35 | 0.0 | 59.6 | 149.0 | 132.0 | 16.98 | 8.778 | |
| 4,100.0 | 4,076.8 | 4,076.8 | 4,076.8 | 9.5 | 9.1 | 159.87 | 0.0 | 59.6 | 184.8 | 167.7 | 17.11 | 10.800 | |
| 4,200.0 | 4,167.1 | 4,167.1 | 4,167.1 | 9.9 | 9.3 | 163.21 | 0.0 | 59.6 | 226.0 | 208.8 | 17.21 | 13.136 | |
| 4,300.0 | 4,254.9 | 4,254.9 | 4,254.9 | 10.5 | 9.5 | 165.71 | 0.0 | 59.6 | 272.4 | 255.1 | 17.27 | 15.773 | |
| 4,400.0 | 4,341.4 | 4,341.4 | 4,341.4 | 11.1 | 9.6 | 167.89 | 0.0 | 59.6 | 321.6 | 303.9 | 17.67 | 18.198 | |
| 4,500.0 | 4,428.0 | 4,428.0 | 4,428.0 | 11.8 | 9.8 | 169.51 | 0.0 | 59.6 | 371.0 | 352.9 | 18.11 | 20.490 | |
| 4,600.0 | 4,514.5 | 4,514.5 | 4,514.5 | 12.5 | 10.0 | 170.75 | 0.0 | 59.6 | 420.6 | 402.0 | 18.56 | 22.662 | |
| 4,700.0 | 4,601.0 | 4,601.0 | 4,601.0 | 13.2 | 10.2 | 171.73 | 0.0 | 59.6 | 470.3 | 451.3 | 19.03 | 24.720 | |
| 4,800.0 | 4,687.5 | 4,687.5 | 4,687.5 | 14.0 | 10.4 | 172.52 | 0.0 | 59.6 | 520.1 | 500.6 | 19.50 | 26.668 | |
| 4,900.0 | 4,774.0 | 4,774.0 | 4,774.0 | 14.8 | 10.6 | 173.18 | 0.0 | 59.6 | 570.0 | 550.0 | 19.99 | 28.513 | |
| 5,000.0 | 4,860.5 | 4,860.5 | 4,860.5 | 15.6 | 10.8 | 173.73 | 0.0 | 59.6 | 619.9 | 599.4 | 20.49 | 30.259 | |
| 5,100.0 | 4,947.0 | 4,947.0 | 4,947.0 | 16.5 | 11.0 | 174.20 | 0.0 | 59.6 | 669.8 | 648.9 | 20.99 | 31.913 | |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

| | | | |
|---|---|---|---|
| **Company:** | Great Western | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Project:** | SEC.26-T6N-R67W | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Reference Site:** | Kodak North Pad Sec.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | Landmark |
| **Reference Design:** | Plan #1 (11-21-13) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Kodak North Pad Sec.26-T6N-R67W - Kodak North FD 25-119HC - Wellbore #1 - Plan #1 (11-21-13)

**Offset Site Error:** 0.0 ft

**Survey Program:** 0-MWD

**Offset Well Error:** 0.0 ft

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,200.0 | 5,033.5 | 5,033.5 | 5,033.5 | 17.3 | 11.2 | 174.60 | 0.0 | 59.6 | 719.8 | 698.3 | 21.50 | 33.481 | |
| 5,300.0 | 5,120.0 | 5,120.0 | 5,120.0 | 18.2 | 11.4 | 174.95 | 0.0 | 59.6 | 769.8 | 747.8 | 22.02 | 34.967 | |
| 5,400.0 | 5,206.6 | 5,206.6 | 5,206.6 | 19.1 | 11.6 | 175.26 | 0.0 | 59.6 | 819.8 | 797.3 | 22.54 | 36.377 | |
| 5,500.0 | 5,293.1 | 5,293.1 | 5,293.1 | 20.0 | 11.8 | 175.53 | 0.0 | 59.6 | 869.9 | 846.8 | 23.06 | 37.716 | |
| 5,600.0 | 5,379.6 | 5,679.5 | 5,673.0 | 20.9 | 12.7 | 177.60 | 47.8 | 29.8 | 915.0 | 890.9 | 24.16 | 37.879 | |
| 5,700.0 | 5,466.1 | 5,935.2 | 5,901.1 | 21.8 | 13.5 | -179.65 | 145.0 | -30.6 | 919.5 | 894.4 | 25.12 | 36.607 | |
| 5,800.0 | 5,552.6 | 6,033.4 | 5,986.0 | 22.7 | 14.0 | -178.50 | 186.9 | -56.7 | 922.9 | 897.1 | 25.77 | 35.814 | |
| 5,900.0 | 5,639.1 | 6,131.5 | 6,070.8 | 23.6 | 14.5 | -177.36 | 228.8 | -82.7 | 926.7 | 900.3 | 26.46 | 35.019 | |
| 6,000.0 | 5,725.6 | 6,229.7 | 6,155.7 | 24.5 | 15.0 | -176.22 | 270.6 | -108.8 | 931.0 | 903.8 | 27.20 | 34.224 | |
| 6,100.0 | 5,812.1 | 6,327.8 | 6,240.5 | 25.4 | 15.6 | -175.10 | 312.5 | -134.8 | 935.5 | 907.6 | 27.99 | 33.430 | |
| 6,200.0 | 5,898.6 | 6,425.9 | 6,325.4 | 26.4 | 16.3 | -173.99 | 354.4 | -160.9 | 940.5 | 911.7 | 28.82 | 32.637 | |
| 6,300.0 | 5,985.1 | 6,524.1 | 6,410.2 | 27.3 | 17.0 | -172.89 | 396.3 | -186.9 | 945.8 | 916.1 | 29.70 | 31.847 | |
| 6,400.0 | 6,071.7 | 6,622.2 | 6,495.1 | 28.2 | 17.7 | -171.80 | 438.2 | -213.0 | 951.5 | 920.8 | 30.63 | 31.062 | |
| 6,500.0 | 6,158.2 | 6,720.4 | 6,579.9 | 29.2 | 18.4 | -170.72 | 480.1 | -239.0 | 957.5 | 925.9 | 31.61 | 30.286 | |
| 6,600.0 | 6,244.7 | 6,824.2 | 6,670.6 | 30.1 | 19.2 | -169.90 | 524.9 | -261.6 | 963.7 | 931.1 | 32.56 | 29.595 | |
| 6,700.0 | 6,331.2 | 6,931.4 | 6,766.4 | 31.1 | 19.7 | -170.47 | 572.6 | -261.2 | 969.2 | 936.0 | 33.13 | 29.252 | |
| 6,800.0 | 6,417.7 | 7,028.7 | 6,850.7 | 32.0 | 20.1 | -172.29 | 615.0 | -238.4 | 974.6 | 941.2 | 33.39 | 29.192 | |
| 6,900.0 | 6,504.2 | 7,109.8 | 6,916.1 | 33.0 | 20.3 | -174.66 | 648.1 | -204.0 | 981.9 | 948.3 | 33.56 | 29.254 | |
| 7,000.0 | 6,590.8 | 7,179.3 | 6,966.8 | 33.8 | 20.4 | 160.78 | 674.0 | -164.2 | 992.3 | 958.4 | 33.91 | 29.265 | |

| | | | |
|---|---|---|---|
| **Company:** | Great Western | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Project:** | SEC.26-T6N-R67W | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Reference Site:** | Kodak North Pad Sec.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | Landmark |
| **Reference Design:** | Plan #1 (11-21-13) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Kodak North Pad Sec.26-T6N-R67W - Kodak North FD 25-122HN - Wellbore #1 - Plan #1 (11-21-13) — **Offset Site Error:** 0.0 ft

**Survey Program:** 0-MWD — **Offset Well Error:** 0.0 ft

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 149.27 | -100.2 | 59.6 | 116.5 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 149.27 | -100.2 | 59.6 | 116.5 | 116.3 | 0.22 | 518.522 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 149.27 | -100.2 | 59.6 | 116.5 | 115.9 | 0.67 | 172.841 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.6 | 0.6 | 149.27 | -100.2 | 59.6 | 116.5 | 115.4 | 1.12 | 103.704 | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.8 | 0.8 | 149.27 | -100.2 | 59.6 | 116.5 | 115.0 | 1.57 | 74.075 | |
| 500.0 | 500.0 | 500.0 | 500.0 | 1.0 | 1.0 | 149.27 | -100.2 | 59.6 | 116.5 | 114.5 | 2.02 | 57.614 | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.2 | 1.2 | 149.27 | -100.2 | 59.6 | 116.5 | 114.1 | 2.47 | 47.138 | |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.5 | 1.5 | 149.27 | -100.2 | 59.6 | 116.5 | 113.6 | 2.92 | 39.886 | |
| 800.0 | 800.0 | 800.0 | 800.0 | 1.7 | 1.7 | 149.27 | -100.2 | 59.6 | 116.5 | 113.2 | 3.37 | 34.568 | |
| 900.0 | 900.0 | 900.0 | 900.0 | 1.9 | 1.9 | 149.27 | -100.2 | 59.6 | 116.5 | 112.7 | 3.82 | 30.501 | |
| 1,000.0 | 1,000.0 | 1,000.0 | 1,000.0 | 2.1 | 2.1 | 149.27 | -100.2 | 59.6 | 116.5 | 112.3 | 4.27 | 27.291 | |
| 1,100.0 | 1,100.0 | 1,100.0 | 1,100.0 | 2.4 | 2.4 | 149.27 | -100.2 | 59.6 | 116.5 | 111.8 | 4.72 | 24.692 | |
| 1,200.0 | 1,200.0 | 1,200.0 | 1,200.0 | 2.6 | 2.6 | 149.27 | -100.2 | 59.6 | 116.5 | 111.4 | 5.17 | 22.544 | |
| 1,300.0 | 1,300.0 | 1,300.0 | 1,300.0 | 2.8 | 2.8 | 149.27 | -100.2 | 59.6 | 116.5 | 110.9 | 5.62 | 20.741 | |
| 1,400.0 | 1,400.0 | 1,400.0 | 1,400.0 | 3.0 | 3.0 | 149.27 | -100.2 | 59.6 | 116.5 | 110.5 | 6.07 | 19.205 | |
| 1,500.0 | 1,500.0 | 1,500.0 | 1,500.0 | 3.3 | 3.3 | 149.27 | -100.2 | 59.6 | 116.5 | 110.0 | 6.52 | 17.880 | |
| 1,600.0 | 1,600.0 | 1,600.0 | 1,600.0 | 3.5 | 3.5 | 149.27 | -100.2 | 59.6 | 116.5 | 109.6 | 6.97 | 16.727 | |
| 1,700.0 | 1,700.0 | 1,700.0 | 1,700.0 | 3.7 | 3.7 | 149.27 | -100.2 | 59.6 | 116.5 | 109.1 | 7.42 | 15.713 | |
| 1,800.0 | 1,800.0 | 1,800.0 | 1,800.0 | 3.9 | 3.9 | 149.27 | -100.2 | 59.6 | 116.5 | 108.7 | 7.87 | 14.815 | |
| 1,900.0 | 1,900.0 | 1,900.0 | 1,900.0 | 4.2 | 4.2 | 149.27 | -100.2 | 59.6 | 116.5 | 108.2 | 8.32 | 14.014 | |
| 2,000.0 | 2,000.0 | 2,000.0 | 2,000.0 | 4.4 | 4.4 | 149.27 | -100.2 | 59.6 | 116.5 | 107.8 | 8.77 | 13.295 | |
| 2,100.0 | 2,100.0 | 2,100.0 | 2,100.0 | 4.6 | 4.6 | 149.27 | -100.2 | 59.6 | 116.5 | 107.3 | 9.22 | 12.647 | |
| 2,200.0 | 2,200.0 | 2,200.0 | 2,200.0 | 4.8 | 4.8 | 149.27 | -100.2 | 59.6 | 116.5 | 106.9 | 9.66 | 12.059 | |
| 2,300.0 | 2,300.0 | 2,300.0 | 2,300.0 | 5.1 | 5.1 | 149.27 | -100.2 | 59.6 | 116.5 | 106.4 | 10.11 | 11.523 | |
| 2,400.0 | 2,400.0 | 2,400.0 | 2,400.0 | 5.3 | 5.3 | 149.27 | -100.2 | 59.6 | 116.5 | 106.0 | 10.56 | 11.032 | |
| 2,500.0 | 2,500.0 | 2,500.0 | 2,500.0 | 5.5 | 5.5 | 149.27 | -100.2 | 59.6 | 116.5 | 105.5 | 11.01 | 10.582 | |
| 2,600.0 | 2,600.0 | 2,600.0 | 2,600.0 | 5.7 | 5.7 | 149.27 | -100.2 | 59.6 | 116.5 | 105.1 | 11.46 | 10.167 | |
| 2,700.0 | 2,700.0 | 2,700.0 | 2,700.0 | 6.0 | 6.0 | 149.27 | -100.2 | 59.6 | 116.5 | 104.6 | 11.91 | 9.783 | |
| 2,800.0 | 2,800.0 | 2,800.0 | 2,800.0 | 6.2 | 6.2 | 149.27 | -100.2 | 59.6 | 116.5 | 104.2 | 12.36 | 9.428 | |
| 2,900.0 | 2,900.0 | 2,900.0 | 2,900.0 | 6.4 | 6.4 | 149.27 | -100.2 | 59.6 | 116.5 | 103.7 | 12.81 | 9.097 | |
| 3,000.0 | 3,000.0 | 3,000.0 | 3,000.0 | 6.6 | 6.6 | 149.27 | -100.2 | 59.6 | 116.5 | 103.3 | 13.26 | 8.789 | |
| 3,100.0 | 3,100.0 | 3,100.0 | 3,100.0 | 6.9 | 6.9 | 149.27 | -100.2 | 59.6 | 116.5 | 102.8 | 13.71 | 8.500 | |
| 3,200.0 | 3,200.0 | 3,200.0 | 3,200.0 | 7.1 | 7.1 | 149.27 | -100.2 | 59.6 | 116.5 | 102.4 | 14.16 | 8.231 | |
| 3,300.0 | 3,300.0 | 3,300.0 | 3,300.0 | 7.3 | 7.3 | 149.27 | -100.2 | 59.6 | 116.5 | 101.9 | 14.61 | 7.977 | CC, ES |
| 3,400.0 | 3,400.0 | 3,400.0 | 3,400.0 | 7.5 | 7.5 | 159.47 | -100.2 | 59.6 | 119.0 | 104.0 | 15.04 | 7.910 | SF |
| 3,500.0 | 3,499.6 | 3,499.6 | 3,499.6 | 7.8 | 7.8 | 160.64 | -100.2 | 59.6 | 126.4 | 110.9 | 15.44 | 8.183 | |
| 3,600.0 | 3,598.8 | 3,598.8 | 3,598.8 | 8.0 | 8.0 | 162.31 | -100.2 | 59.6 | 138.8 | 123.0 | 15.80 | 8.780 | |
| 3,700.0 | 3,697.1 | 3,697.1 | 3,697.1 | 8.2 | 8.2 | 164.20 | -100.2 | 59.6 | 156.2 | 140.1 | 16.12 | 9.690 | |
| 3,800.0 | 3,794.3 | 3,794.3 | 3,794.3 | 8.5 | 8.4 | 166.06 | -100.2 | 59.6 | 178.8 | 162.4 | 16.40 | 10.906 | |
| 3,900.0 | 3,890.2 | 3,890.2 | 3,890.2 | 8.8 | 8.6 | 167.78 | -100.2 | 59.6 | 206.6 | 189.9 | 16.63 | 12.420 | |
| 4,000.0 | 3,984.4 | 3,984.4 | 3,984.4 | 9.1 | 8.8 | 169.27 | -100.2 | 59.6 | 239.3 | 222.5 | 16.82 | 14.230 | |
| 4,100.0 | 4,076.8 | 4,076.8 | 4,076.8 | 9.5 | 9.1 | 170.54 | -100.2 | 59.6 | 277.1 | 260.1 | 16.97 | 16.332 | |
| 4,200.0 | 4,167.1 | 4,167.1 | 4,167.1 | 9.9 | 9.3 | 171.60 | -100.2 | 59.6 | 319.7 | 302.7 | 17.07 | 18.726 | |
| 4,300.0 | 4,254.9 | 4,254.9 | 4,254.9 | 10.5 | 9.5 | 172.48 | -100.2 | 59.6 | 367.1 | 349.9 | 17.14 | 21.412 | |
| 4,400.0 | 4,341.4 | 4,341.4 | 4,341.4 | 11.1 | 9.6 | 173.37 | -100.2 | 59.6 | 417.0 | 399.4 | 17.57 | 23.731 | |
| 4,500.0 | 4,428.0 | 4,428.0 | 4,428.0 | 11.8 | 9.8 | 174.08 | -100.2 | 59.6 | 466.9 | 448.9 | 18.02 | 25.904 | |
| 4,600.0 | 4,514.5 | 4,514.5 | 4,514.5 | 12.5 | 10.0 | 174.66 | -100.2 | 59.6 | 516.9 | 498.4 | 18.49 | 27.956 | |
| 4,700.0 | 4,601.0 | 4,601.0 | 4,601.0 | 13.2 | 10.2 | 175.13 | -100.2 | 59.6 | 566.9 | 547.9 | 18.96 | 29.893 | |
| 4,800.0 | 4,687.5 | 4,687.5 | 4,687.5 | 14.0 | 10.4 | 175.52 | -100.2 | 59.6 | 616.9 | 597.5 | 19.45 | 31.722 | |
| 4,900.0 | 4,774.0 | 4,774.0 | 4,774.0 | 14.8 | 10.6 | 175.86 | -100.2 | 59.6 | 667.0 | 647.0 | 19.94 | 33.448 | |
| 5,000.0 | 4,860.5 | 4,860.5 | 4,860.5 | 15.6 | 10.8 | 176.15 | -100.2 | 59.6 | 717.0 | 696.6 | 20.44 | 35.079 | |
| 5,100.0 | 4,947.0 | 4,947.0 | 4,947.0 | 16.5 | 11.0 | 176.40 | -100.2 | 59.6 | 767.1 | 746.2 | 20.95 | 36.621 | |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

| | | | |
|---|---|---|---|
| **Company:** | Great Western | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Project:** | SEC.26-T6N-R67W | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Reference Site:** | Kodak North Pad Sec.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | Landmark |
| **Reference Design:** | Plan #1 (11-21-13) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Kodak North Pad Sec.26-T6N-R67W - Kodak North FD 25-122HN - Wellbore #1 - Plan #1 (11-21-13)

**Offset Site Error:** 0.0 ft

**Survey Program:** 0-MWD

**Offset Well Error:** 0.0 ft

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,200.0 | 5,033.5 | 5,033.5 | 5,033.5 | 17.3 | 11.2 | 176.62 | -100.2 | 59.6 | 817.2 | 795.7 | 21.46 | 38.080 | |
| 5,300.0 | 5,120.0 | 5,120.0 | 5,120.0 | 18.2 | 11.4 | 176.82 | -100.2 | 59.6 | 867.3 | 845.3 | 21.98 | 39.461 | |
| 5,400.0 | 5,206.6 | 5,206.6 | 5,206.6 | 19.1 | 11.6 | 176.99 | -100.2 | 59.6 | 917.4 | 894.9 | 22.50 | 40.768 | |
| 5,500.0 | 5,293.1 | 5,293.1 | 5,293.1 | 20.0 | 11.8 | 177.15 | -100.2 | 59.6 | 967.5 | 944.5 | 23.03 | 42.008 | |

| | | | |
|---|---|---|---|
| **Company:** | Great Western | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Project:** | SEC.26-T6N-R67W | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Reference Site:** | Kodak North Pad Sec.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | Landmark |
| **Reference Design:** | Plan #1 (11-21-13) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Kodak North Pad Sec.26-T6N-R67W - Kodak North FD 27-102HN - Wellbore #1 - Plan #1 (11-21-13)

**Offset Site Error:** 0.0 ft

**Survey Program:** 0-MWD

**Offset Well Error:** 0.0 ft

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 89.99 | 0.0 | 89.6 | 89.6 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 89.99 | 0.0 | 89.6 | 89.6 | 89.4 | 0.22 | 398.662 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 89.99 | 0.0 | 89.6 | 89.6 | 88.9 | 0.67 | 132.887 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.6 | 0.6 | 89.99 | 0.0 | 89.6 | 89.6 | 88.5 | 1.12 | 79.732 | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.8 | 0.8 | 89.99 | 0.0 | 89.6 | 89.6 | 88.0 | 1.57 | 56.952 | |
| 500.0 | 500.0 | 500.0 | 500.0 | 1.0 | 1.0 | 89.99 | 0.0 | 89.6 | 89.6 | 87.6 | 2.02 | 44.296 | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.2 | 1.2 | 89.99 | 0.0 | 89.6 | 89.6 | 87.1 | 2.47 | 36.242 | |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.5 | 1.5 | 89.99 | 0.0 | 89.6 | 89.6 | 86.7 | 2.92 | 30.666 | |
| 800.0 | 800.0 | 800.0 | 800.0 | 1.7 | 1.7 | 89.99 | 0.0 | 89.6 | 89.6 | 86.2 | 3.37 | 26.577 | |
| 900.0 | 900.0 | 900.0 | 900.0 | 1.9 | 1.9 | 89.99 | 0.0 | 89.6 | 89.6 | 85.8 | 3.82 | 23.451 | |
| 1,000.0 | 1,000.0 | 1,000.0 | 1,000.0 | 2.1 | 2.1 | 89.99 | 0.0 | 89.6 | 89.6 | 85.3 | 4.27 | 20.982 | |
| 1,100.0 | 1,100.0 | 1,100.0 | 1,100.0 | 2.4 | 2.4 | 89.99 | 0.0 | 89.6 | 89.6 | 84.9 | 4.72 | 18.984 | |
| 1,200.0 | 1,200.0 | 1,200.0 | 1,200.0 | 2.6 | 2.6 | 89.99 | 0.0 | 89.6 | 89.6 | 84.4 | 5.17 | 17.333 | |
| 1,300.0 | 1,300.0 | 1,300.0 | 1,300.0 | 2.8 | 2.8 | 89.99 | 0.0 | 89.6 | 89.6 | 84.0 | 5.62 | 15.946 | |
| 1,400.0 | 1,400.0 | 1,400.0 | 1,400.0 | 3.0 | 3.0 | 89.99 | 0.0 | 89.6 | 89.6 | 83.5 | 6.07 | 14.765 | |
| 1,500.0 | 1,500.0 | 1,500.0 | 1,500.0 | 3.3 | 3.3 | 89.99 | 0.0 | 89.6 | 89.6 | 83.1 | 6.52 | 13.747 | |
| 1,600.0 | 1,600.0 | 1,600.0 | 1,600.0 | 3.5 | 3.5 | 89.99 | 0.0 | 89.6 | 89.6 | 82.6 | 6.97 | 12.860 | |
| 1,700.0 | 1,700.0 | 1,700.0 | 1,700.0 | 3.7 | 3.7 | 89.99 | 0.0 | 89.6 | 89.6 | 82.2 | 7.42 | 12.081 | |
| 1,800.0 | 1,800.0 | 1,800.0 | 1,800.0 | 3.9 | 3.9 | 89.99 | 0.0 | 89.6 | 89.6 | 81.7 | 7.87 | 11.390 | |
| 1,900.0 | 1,900.0 | 1,900.0 | 1,900.0 | 4.2 | 4.2 | 89.99 | 0.0 | 89.6 | 89.6 | 81.3 | 8.32 | 10.775 | |
| 2,000.0 | 2,000.0 | 2,000.0 | 2,000.0 | 4.4 | 4.4 | 89.99 | 0.0 | 89.6 | 89.6 | 80.8 | 8.77 | 10.222 | |
| 2,100.0 | 2,100.0 | 2,100.0 | 2,100.0 | 4.6 | 4.6 | 89.99 | 0.0 | 89.6 | 89.6 | 80.4 | 9.22 | 9.723 | |
| 2,200.0 | 2,200.0 | 2,200.0 | 2,200.0 | 4.8 | 4.8 | 89.99 | 0.0 | 89.6 | 89.6 | 79.9 | 9.66 | 9.271 | |
| 2,300.0 | 2,300.0 | 2,300.0 | 2,300.0 | 5.1 | 5.1 | 89.99 | 0.0 | 89.6 | 89.6 | 79.5 | 10.11 | 8.859 | |
| 2,400.0 | 2,400.0 | 2,400.0 | 2,400.0 | 5.3 | 5.3 | 89.99 | 0.0 | 89.6 | 89.6 | 79.0 | 10.56 | 8.482 | |
| 2,500.0 | 2,500.0 | 2,500.0 | 2,500.0 | 5.5 | 5.5 | 89.99 | 0.0 | 89.6 | 89.6 | 78.6 | 11.01 | 8.136 | |
| 2,600.0 | 2,600.0 | 2,600.0 | 2,600.0 | 5.7 | 5.7 | 89.99 | 0.0 | 89.6 | 89.6 | 78.1 | 11.46 | 7.817 | |
| 2,700.0 | 2,700.0 | 2,700.0 | 2,700.0 | 6.0 | 6.0 | 89.99 | 0.0 | 89.6 | 89.6 | 77.7 | 11.91 | 7.522 | |
| 2,800.0 | 2,800.0 | 2,800.0 | 2,800.0 | 6.2 | 6.2 | 89.99 | 0.0 | 89.6 | 89.6 | 77.2 | 12.36 | 7.248 | |
| 2,900.0 | 2,900.0 | 2,900.0 | 2,900.0 | 6.4 | 6.4 | 89.99 | 0.0 | 89.6 | 89.6 | 76.8 | 12.81 | 6.994 | |
| 3,000.0 | 3,000.0 | 3,000.0 | 3,000.0 | 6.6 | 6.6 | 89.99 | 0.0 | 89.6 | 89.6 | 76.3 | 13.26 | 6.757 | |
| 3,100.0 | 3,100.0 | 3,100.0 | 3,100.0 | 6.9 | 6.9 | 89.99 | 0.0 | 89.6 | 89.6 | 75.9 | 13.71 | 6.535 | |
| 3,200.0 | 3,200.0 | 3,200.0 | 3,200.0 | 7.1 | 7.1 | 89.99 | 0.0 | 89.6 | 89.6 | 75.4 | 14.16 | 6.328 | |
| 3,300.0 | 3,300.0 | 3,300.0 | 3,300.0 | 7.3 | 7.3 | 89.99 | 0.0 | 89.6 | 89.6 | 75.0 | 14.61 | 6.133 | CC, ES |
| 3,400.0 | 3,400.0 | 3,400.0 | 3,400.0 | 7.5 | 7.5 | 101.39 | 0.0 | 89.6 | 90.1 | 75.0 | 15.06 | 5.983 | |
| 3,500.0 | 3,499.6 | 3,499.6 | 3,499.6 | 7.8 | 7.8 | 106.11 | 0.0 | 89.6 | 92.0 | 76.5 | 15.50 | 5.934 | SF |
| 3,600.0 | 3,598.8 | 3,598.8 | 3,598.8 | 8.0 | 8.0 | 113.41 | 0.0 | 89.6 | 96.4 | 80.5 | 15.92 | 6.056 | |
| 3,700.0 | 3,697.1 | 3,697.1 | 3,697.1 | 8.2 | 8.2 | 122.23 | 0.0 | 89.6 | 105.1 | 88.8 | 16.31 | 6.440 | |
| 3,800.0 | 3,794.3 | 3,794.3 | 3,794.3 | 8.5 | 8.4 | 131.28 | 0.0 | 89.6 | 119.3 | 102.7 | 16.65 | 7.167 | |
| 3,900.0 | 3,890.2 | 3,890.2 | 3,890.2 | 8.8 | 8.6 | 139.49 | 0.0 | 89.6 | 140.0 | 123.1 | 16.92 | 8.275 | |
| 4,000.0 | 3,984.4 | 3,984.4 | 3,984.4 | 9.1 | 8.8 | 146.34 | 0.0 | 89.6 | 167.3 | 150.1 | 17.13 | 9.765 | |
| 4,100.0 | 4,076.8 | 4,076.8 | 4,076.8 | 9.5 | 9.1 | 151.80 | 0.0 | 89.6 | 200.8 | 183.5 | 17.28 | 11.618 | |
| 4,200.0 | 4,167.1 | 4,167.1 | 4,167.1 | 9.9 | 9.3 | 156.07 | 0.0 | 89.6 | 240.2 | 222.8 | 17.39 | 13.814 | |
| 4,300.0 | 4,254.9 | 4,254.9 | 4,254.9 | 10.5 | 9.5 | 159.38 | 0.0 | 89.6 | 285.1 | 267.6 | 17.46 | 16.332 | |
| 4,400.0 | 4,341.4 | 4,341.4 | 4,341.4 | 11.1 | 9.6 | 162.37 | 0.0 | 89.6 | 333.1 | 315.3 | 17.83 | 18.684 | |
| 4,500.0 | 4,428.0 | 4,428.0 | 4,428.0 | 11.8 | 9.8 | 164.63 | 0.0 | 89.6 | 381.7 | 363.5 | 18.25 | 20.921 | |
| 4,600.0 | 4,514.5 | 4,514.5 | 4,514.5 | 12.5 | 10.0 | 166.39 | 0.0 | 89.6 | 430.7 | 412.0 | 18.69 | 23.050 | |
| 4,700.0 | 4,601.0 | 4,601.0 | 4,601.0 | 13.2 | 10.2 | 167.79 | 0.0 | 89.6 | 479.9 | 460.7 | 19.14 | 25.072 | |
| 4,800.0 | 4,687.5 | 4,687.5 | 4,687.5 | 14.0 | 10.4 | 168.93 | 0.0 | 89.6 | 529.3 | 509.7 | 19.61 | 26.991 | |
| 4,900.0 | 4,774.0 | 4,774.0 | 4,774.0 | 14.8 | 10.6 | 169.88 | 0.0 | 89.6 | 578.8 | 558.7 | 20.09 | 28.811 | |
| 5,000.0 | 4,860.5 | 4,878.3 | 4,878.3 | 15.6 | 10.9 | 170.71 | 1.4 | 90.4 | 627.5 | 606.9 | 20.61 | 30.447 | |
| 5,100.0 | 4,947.0 | 4,994.9 | 4,994.5 | 16.5 | 11.1 | 171.04 | 8.8 | 94.3 | 672.9 | 651.7 | 21.18 | 31.773 | |

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

| | | | |
|---|---|---|---|
| **Company:** | Great Western | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Project:** | SEC.26-T6N-R67W | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Reference Site:** | Kodak North Pad Sec.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | Landmark |
| **Reference Design:** | Plan #1 (11-21-13) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Kodak North Pad Sec.26-T6N-R67W - Kodak North FD 27-102HN - Wellbore #1 - Plan #1 (11-21-13)

**Offset Site Error:** 0.0 ft

**Survey Program:** 0-MWD

**Offset Well Error:** 0.0 ft

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,200.0 | 5,033.5 | 5,116.4 | 5,115.0 | 17.3 | 11.4 | 170.84 | 23.0 | 102.0 | 714.3 | 692.5 | 21.79 | 32.786 | |
| 5,300.0 | 5,120.0 | 5,242.3 | 5,238.4 | 18.2 | 11.7 | 170.19 | 44.9 | 113.9 | 751.7 | 729.2 | 22.45 | 33.483 | |
| 5,400.0 | 5,206.6 | 5,371.6 | 5,363.1 | 19.1 | 12.0 | 169.12 | 74.7 | 130.0 | 784.8 | 761.7 | 23.18 | 33.860 | |
| 5,500.0 | 5,293.1 | 5,503.1 | 5,487.3 | 20.0 | 12.4 | 167.67 | 112.6 | 150.5 | 813.8 | 789.8 | 24.00 | 33.910 | |
| 5,600.0 | 5,379.6 | 5,635.8 | 5,609.3 | 20.9 | 12.9 | 165.85 | 158.3 | 175.2 | 838.8 | 813.9 | 24.95 | 33.622 | |
| 5,700.0 | 5,466.1 | 5,768.2 | 5,727.3 | 21.8 | 13.4 | 163.70 | 211.3 | 203.9 | 860.0 | 834.0 | 26.06 | 33.003 | |
| 5,800.0 | 5,552.6 | 5,875.7 | 5,820.2 | 22.7 | 14.0 | 161.76 | 258.7 | 229.5 | 878.7 | 851.6 | 27.18 | 32.325 | |
| 5,900.0 | 5,639.1 | 5,970.3 | 5,901.8 | 23.6 | 14.5 | 160.10 | 300.9 | 252.3 | 898.0 | 869.7 | 28.32 | 31.710 | |
| 6,000.0 | 5,725.6 | 6,064.8 | 5,983.3 | 24.5 | 15.1 | 158.50 | 343.0 | 275.1 | 918.0 | 888.5 | 29.53 | 31.088 | |
| 6,100.0 | 5,812.1 | 6,159.4 | 6,064.9 | 25.4 | 15.7 | 156.98 | 385.1 | 297.9 | 938.7 | 907.9 | 30.81 | 30.469 | |
| 6,200.0 | 5,898.6 | 6,253.9 | 6,146.4 | 26.4 | 16.4 | 155.51 | 427.2 | 320.7 | 960.1 | 927.9 | 32.15 | 29.860 | |
| 6,300.0 | 5,985.1 | 6,348.5 | 6,228.0 | 27.3 | 17.0 | 154.10 | 469.3 | 343.5 | 982.1 | 948.5 | 33.56 | 29.267 | |
| 6,400.0 | 6,071.7 | 7,590.6 | 6,930.6 | 28.2 | 23.3 | -174.84 | 825.4 | -217.9 | 976.7 | 940.2 | 36.44 | 26.804 | |
| 6,500.0 | 6,158.2 | 7,598.6 | 6,930.6 | 29.2 | 23.4 | -174.29 | 825.3 | -226.0 | 928.0 | 891.0 | 37.02 | 25.069 | |
| 6,600.0 | 6,244.7 | 7,606.7 | 6,930.6 | 30.1 | 23.6 | -173.74 | 825.2 | -234.1 | 887.9 | 850.3 | 37.62 | 23.602 | |
| 6,700.0 | 6,331.2 | 7,614.8 | 6,930.6 | 31.1 | 23.7 | -173.18 | 825.1 | -242.1 | 857.6 | 819.4 | 38.24 | 22.429 | |
| 6,800.0 | 6,417.7 | 7,622.8 | 6,930.6 | 32.0 | 23.8 | -172.63 | 825.1 | -250.2 | 838.1 | 799.3 | 38.86 | 21.566 | |
| 6,900.0 | 6,504.2 | 7,630.9 | 6,930.6 | 33.0 | 23.9 | -172.07 | 825.0 | -258.2 | 830.2 | 790.7 | 39.50 | 21.018 | |
| 6,916.3 | 6,518.3 | 7,631.9 | 6,930.6 | 33.1 | 24.0 | -175.40 | 825.0 | -259.3 | 830.1 | 790.5 | 39.59 | 20.965 | |
| 7,000.0 | 6,590.8 | 7,628.9 | 6,930.6 | 33.8 | 23.9 | 166.23 | 825.0 | -256.3 | 834.3 | 794.6 | 39.73 | 20.999 | |
| 7,100.0 | 6,674.8 | 7,604.6 | 6,930.6 | 34.4 | 23.5 | 144.06 | 825.2 | -232.0 | 849.5 | 810.0 | 39.43 | 21.543 | |
| 7,200.0 | 6,751.9 | 7,559.2 | 6,930.6 | 35.0 | 22.8 | 125.81 | 825.7 | -186.5 | 872.7 | 833.3 | 39.38 | 22.162 | |
| 7,300.0 | 6,818.1 | 7,494.9 | 6,930.6 | 35.5 | 22.1 | 111.42 | 826.2 | -122.3 | 899.2 | 859.7 | 39.49 | 22.771 | |
| 7,400.0 | 6,870.1 | 7,415.1 | 6,930.6 | 35.8 | 21.5 | 100.74 | 827.0 | -42.5 | 923.9 | 884.7 | 39.28 | 23.525 | |
| 7,500.0 | 6,905.1 | 7,360.0 | 6,929.1 | 36.1 | 21.2 | 94.33 | 826.7 | 12.6 | 943.9 | 905.0 | 38.91 | 24.259 | |
| 7,600.0 | 6,921.5 | 7,312.1 | 6,923.0 | 36.3 | 21.1 | 90.59 | 824.0 | 60.0 | 959.4 | 920.7 | 38.68 | 24.805 | |
| 7,700.0 | 6,922.6 | 7,264.7 | 6,912.6 | 36.4 | 21.1 | 89.40 | 819.1 | 105.9 | 971.8 | 932.7 | 39.16 | 24.817 | |
| 7,800.0 | 6,922.6 | 7,225.0 | 6,900.5 | 36.6 | 21.0 | 88.69 | 813.2 | 143.3 | 989.2 | 949.0 | 40.22 | 24.598 | |

| | | | |
|---|---|---|---|
| **Company:** | Great Western | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Project:** | SEC.26-T6N-R67W | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Reference Site:** | Kodak North Pad Sec.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | Landmark |
| **Reference Design:** | Plan #1 (11-21-13) | **Offset TVD Reference:** | Offset Datum |

| | |
|---|---|
| Reference Depths are relative to WELL @ 4776.6ft (RKB - 16.5') | Coordinates are relative to: Kodak North FD 25-039HN |
| Offset Depths are relative to Offset Datum | Coordinate System is US State Plane 1983, Colorado Northern Zone |
| Central Meridian is -105.500000 ° | Grid Convergence at Surface is: 0.41° |

| | | | |
|---|---|---|---|
| **Company:** | Great Western | **Local Co-ordinate Reference:** | Well Kodak North FD 25-039HN |
| **Project:** | SEC.26-T6N-R67W | **TVD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Reference Site:** | Kodak North Pad Sec.26-T6N-R67W | **MD Reference:** | WELL @ 4776.6ft (RKB - 16.5') |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Kodak North FD 25-039HN | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.0ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | Wellbore #1 | **Database:** | Landmark |
| **Reference Design:** | Plan #1 (11-21-13) | **Offset TVD Reference:** | Offset Datum |

| | |
|---|---|
| Reference Depths are relative to WELL @ 4776.6ft (RKB - 16.5') | Coordinates are relative to: Kodak North FD 25-039HN |
| Offset Depths are relative to Offset Datum | Coordinate System is US State Plane 1983, Colorado Northern Zone |
| Central Meridian is -105.500000 ° | Grid Convergence at Surface is: 0.41° |