# Verdad Oil & Gas Corporation

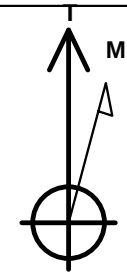
Well Name: Pastelak 01N-64W-02-6N
Surface Location: Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 5012.0

| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Slot |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 1276066.41 | 3273343.92 | 40.087060 | -104.523040 | |

Original Well Elev WELL @ 5025.0ft (Original Well Elev)

## WELLBORE TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Shape |
|---|---|---|---|---|
| 460' Setback BHL | -1.0 | -4582.8 | -875.6 | Polygon |
| 460' Setback SHL | -1.0 | -245.0 | -875.5 | Polygon |
| Sectionline | -1.0 | 215.0 | -875.5 | Polygon |
| SHL 215'FNL & 1331'FWL | 1.0 | 0.0 | 0.0 | Point |
| BHL 460'FSL & 1485'FWL | 6925.0 | -4586.4 | 257.5 | Point |



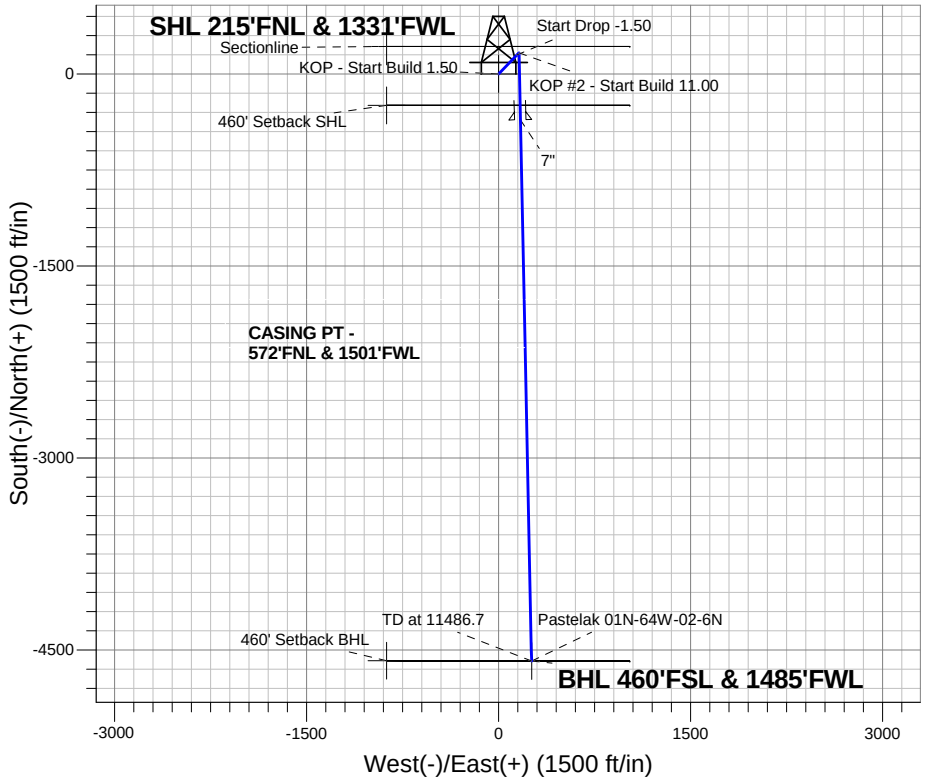

Azimuths to True North
Magnetic North: 8.28°

Magnetic Field
Strength: 52659.7snT
Dip Angle: 66.73°
Date: 8/6/2014
Model: IGRF2010

Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W
Pastelak 01N-64W-02-6N
Plan #1 (8-6-14)

## ANNOTATIONS

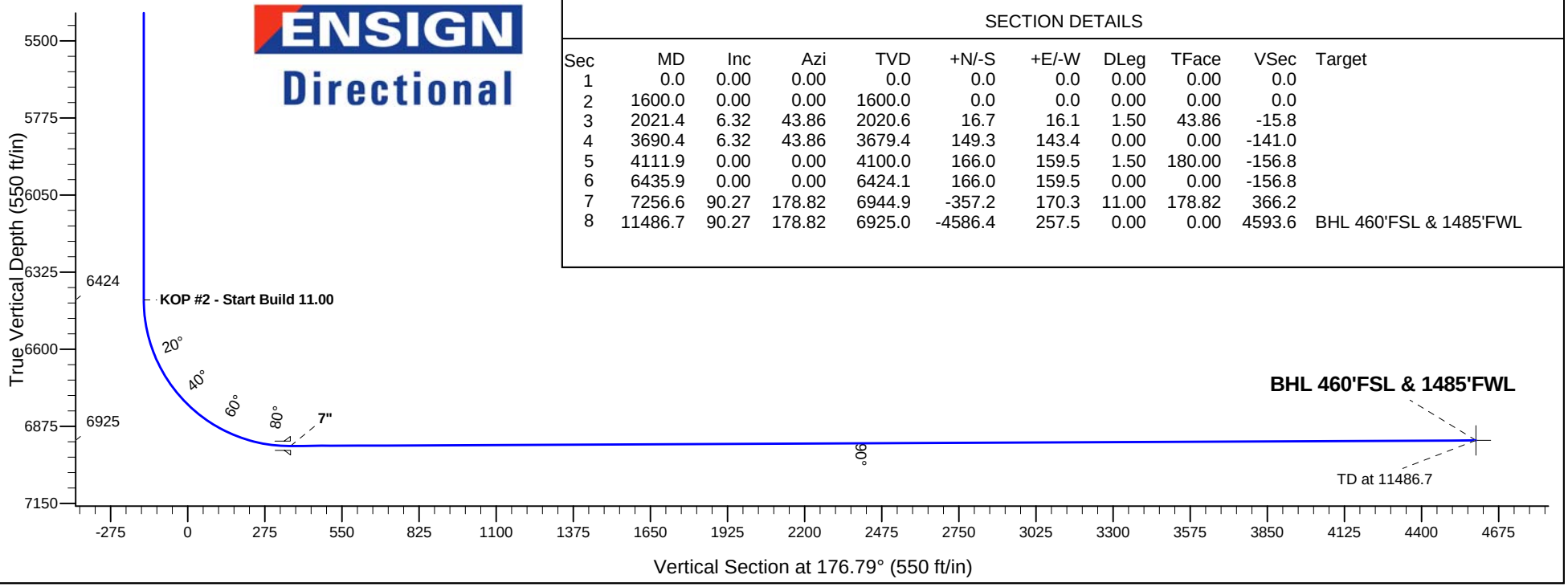
| TVD | MD | Annotation |
|---|---|---|
| 1600.0 | 1600.0 | KOP - Start Build 1.50 |
| 3679.4 | 3690.4 | Start Drop -1.50 |
| 6424.1 | 6435.9 | KOP #2 - Start Build 11.00 |
| 6925.0 | 11486.7 | TD at 11486.7 |




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 | 1600.0 | 0.00 | 0.00 | 1600.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 3 | 2021.4 | 6.32 | 43.86 | 2020.6 | 16.7 | 16.1 | 1.50 | 43.86 | -15.8 | |
| 4 | 3690.4 | 6.32 | 43.86 | 3679.4 | 149.3 | 143.4 | 0.00 | 0.00 | -141.0 | |
| 5 | 4111.9 | 0.00 | 0.00 | 4100.0 | 166.0 | 159.5 | 1.50 | 180.00 | -156.8 | |
| 6 | 6435.9 | 0.00 | 0.00 | 6424.1 | 166.0 | 159.5 | 0.00 | 0.00 | -156.8 | |
| 7 | 7256.6 | 90.27 | 178.82 | 6944.9 | -357.2 | 170.3 | 11.00 | 178.82 | 366.2 | |
| 8 | 11486.7 | 90.27 | 178.82 | 6925.0 | -4586.4 | 257.5 | 0.00 | 0.00 | 4593.6 | BHL 460'FSL & 1485'FWL |



# Verdad Oil & Gas Corporation

**SEC.2-T1N-R64W**
**Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W**
**Pastelak 01N-64W-02-6N**

**Wellbore #1**

**Plan: Plan #1 (8-6-14)**

# Standard Planning Report

**08 August, 2014**

| | | | |
|---|---|---|---|
| **Database:** | landmark | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Company:** | Verdad Oil & Gas Corporation | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Project:** | SEC.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **North Reference:** | True |
| **Well:** | Pastelak 01N-64W-02-6N | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Plan #1 (8-6-14) | | |

**Project** SEC.2-T1N-R64W, Weld County, CO

| | | | |
|---|---|---|---|
| **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** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 1,276,065.60 ft | **Latitude:** | 40.087060 |
| **From:** | Lat/Long | **Easting:** | 3,273,268.38 ft | **Longitude:** | -104.523310 |
| **Position Uncertainty:** | 0.0 ft | **Slot Radius:** | " | **Grid Convergence:** | 0.63 ° |

**Well** Pastelak 01N-64W-02-6N

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.0 ft | **Northing:** | 1,276,066.41 ft | **Latitude:** | 40.087060 |
| | **+E/-W** | 75.5 ft | **Easting:** | 3,273,343.92 ft | **Longitude:** | -104.523040 |
| **Position Uncertainty** | | 0.0 ft | **Wellhead Elevation:** | ft | **Ground Level:** | 5,012.0 ft |

**Wellbore** Wellbore #1

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | IGRF2010 | 8/6/2014 | 8.28 | 66.73 | 52,660 |

**Design** Plan #1 (8-6-14)

**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 | 176.79 |

**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 | |
| 1,600.0 | 0.00 | 0.00 | 1,600.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2,021.4 | 6.32 | 43.86 | 2,020.6 | 16.7 | 16.1 | 1.50 | 1.50 | 0.00 | 43.86 | |
| 3,690.4 | 6.32 | 43.86 | 3,679.4 | 149.3 | 143.4 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 4,111.9 | 0.00 | 0.00 | 4,100.0 | 166.0 | 159.5 | 1.50 | -1.50 | 0.00 | 180.00 | |
| 6,435.9 | 0.00 | 0.00 | 6,424.1 | 166.0 | 159.5 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,256.6 | 90.27 | 178.82 | 6,944.9 | -357.2 | 170.3 | 11.00 | 11.00 | 0.00 | 178.82 | |
| 11,486.7 | 90.27 | 178.82 | 6,925.0 | -4,586.4 | 257.5 | 0.00 | 0.00 | 0.00 | 0.00 | BHL 460'FSL & 148 |

| | | | |
|---|---|---|---|
| **Database:** | landmark | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Company:** | Verdad Oil & Gas Corporation | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Project:** | SEC.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **North Reference:** | True |
| **Well:** | Pastelak 01N-64W-02-6N | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Plan #1 (8-6-14) | | |

**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 |
| 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 |
| **KOP - Start Build 1.50** | | | | | | | | | |
| 1,700.0 | 1.50 | 43.86 | 1,700.0 | 0.9 | 0.9 | -0.9 | 1.50 | 1.50 | 0.00 |
| 1,800.0 | 3.00 | 43.86 | 1,799.9 | 3.8 | 3.6 | -3.6 | 1.50 | 1.50 | 0.00 |
| 1,900.0 | 4.50 | 43.86 | 1,899.7 | 8.5 | 8.2 | -8.0 | 1.50 | 1.50 | 0.00 |
| 2,000.0 | 6.00 | 43.86 | 1,999.3 | 15.1 | 14.5 | -14.3 | 1.50 | 1.50 | 0.00 |
| 2,021.4 | 6.32 | 43.86 | 2,020.6 | 16.7 | 16.1 | -15.8 | 1.50 | 1.50 | 0.00 |
| 2,100.0 | 6.32 | 43.86 | 2,098.7 | 23.0 | 22.1 | -21.7 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 6.32 | 43.86 | 2,198.1 | 30.9 | 29.7 | -29.2 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 6.32 | 43.86 | 2,297.5 | 38.9 | 37.3 | -36.7 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 6.32 | 43.86 | 2,396.8 | 46.8 | 45.0 | -44.2 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 6.32 | 43.86 | 2,496.2 | 54.7 | 52.6 | -51.7 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 6.32 | 43.86 | 2,595.6 | 62.7 | 60.2 | -59.2 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 6.32 | 43.86 | 2,695.0 | 70.6 | 67.9 | -66.7 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 6.32 | 43.86 | 2,794.4 | 78.6 | 75.5 | -74.2 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 6.32 | 43.86 | 2,893.8 | 86.5 | 83.1 | -81.7 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 6.32 | 43.86 | 2,993.2 | 94.4 | 90.7 | -89.2 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 6.32 | 43.86 | 3,092.6 | 102.4 | 98.4 | -96.7 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 6.32 | 43.86 | 3,192.0 | 110.3 | 106.0 | -104.2 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 6.32 | 43.86 | 3,291.4 | 118.3 | 113.6 | -111.7 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 6.32 | 43.86 | 3,390.8 | 126.2 | 121.3 | -119.2 | 0.00 | 0.00 | 0.00 |
| 3,500.0 | 6.32 | 43.86 | 3,490.2 | 134.1 | 128.9 | -126.7 | 0.00 | 0.00 | 0.00 |
| 3,600.0 | 6.32 | 43.86 | 3,589.5 | 142.1 | 136.5 | -134.2 | 0.00 | 0.00 | 0.00 |
| 3,690.4 | 6.32 | 43.86 | 3,679.4 | 149.3 | 143.4 | -141.0 | 0.00 | 0.00 | 0.00 |
| **Start Drop -1.50** | | | | | | | | | |
| 3,700.0 | 6.18 | 43.86 | 3,688.9 | 150.0 | 144.1 | -141.7 | 1.49 | -1.49 | 0.00 |
| 3,800.0 | 4.68 | 43.86 | 3,788.5 | 156.8 | 150.7 | -148.1 | 1.50 | -1.50 | 0.00 |
| 3,900.0 | 3.18 | 43.86 | 3,888.3 | 161.8 | 155.4 | -152.8 | 1.50 | -1.50 | 0.00 |
| 4,000.0 | 1.68 | 43.86 | 3,988.2 | 164.8 | 158.4 | -155.7 | 1.50 | -1.50 | 0.00 |
| 4,100.0 | 0.18 | 43.86 | 4,088.1 | 166.0 | 159.5 | -156.8 | 1.50 | -1.50 | 0.00 |
| 4,111.9 | 0.00 | 0.00 | 4,100.0 | 166.0 | 159.5 | -156.8 | 1.50 | -1.50 | 0.00 |
| 4,200.0 | 0.00 | 0.00 | 4,188.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 0.00 | 0.00 | 4,288.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 0.00 | 0.00 | 4,388.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 0.00 | 0.00 | 4,488.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 0.00 | 0.00 | 4,588.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 0.00 | 0.00 | 4,688.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 0.00 | 0.00 | 4,788.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| **Database:** | landmark | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Company:** | Verdad Oil & Gas Corporation | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Project:** | SEC.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **North Reference:** | True |
| **Well:** | Pastelak 01N-64W-02-6N | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Plan #1 (8-6-14) | | |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|---|---|---|---|---|---|---|---|---|---|
| 4,900.0 | 0.00 | 0.00 | 4,888.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 0.00 | 0.00 | 4,988.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 0.00 | 0.00 | 5,088.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 0.00 | 0.00 | 5,188.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 0.00 | 0.00 | 5,288.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 0.00 | 0.00 | 5,388.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 0.00 | 0.00 | 5,488.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 0.00 | 0.00 | 5,588.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 0.00 | 0.00 | 5,688.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 0.00 | 0.00 | 5,788.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 0.00 | 0.00 | 5,888.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 0.00 | 0.00 | 5,988.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 0.00 | 0.00 | 6,088.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 0.00 | 0.00 | 6,188.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 0.00 | 0.00 | 6,288.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 6,400.0 | 0.00 | 0.00 | 6,388.1 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| 6,435.9 | 0.00 | 0.00 | 6,424.0 | 166.0 | 159.5 | -156.8 | 0.00 | 0.00 | 0.00 |
| **KOP #2 - Start Build 11.00** | | | | | | | | | |
| 6,500.0 | 7.05 | 178.82 | 6,488.0 | 162.1 | 159.6 | -152.9 | 11.00 | 11.00 | 0.00 |
| 6,600.0 | 18.05 | 178.82 | 6,585.4 | 140.4 | 160.0 | -131.2 | 11.00 | 11.00 | 0.00 |
| 6,700.0 | 29.05 | 178.82 | 6,677.0 | 100.5 | 160.9 | -91.3 | 11.00 | 11.00 | 0.00 |
| 6,800.0 | 40.05 | 178.82 | 6,759.2 | 43.9 | 162.0 | -34.7 | 11.00 | 11.00 | 0.00 |
| 6,900.0 | 51.05 | 178.82 | 6,829.1 | -27.4 | 163.5 | 36.5 | 11.00 | 11.00 | 0.00 |
| 7,000.0 | 62.05 | 178.82 | 6,884.2 | -110.7 | 165.2 | 119.8 | 11.00 | 11.00 | 0.00 |
| 7,100.0 | 73.05 | 178.82 | 6,922.3 | -202.9 | 167.1 | 212.0 | 11.00 | 11.00 | 0.00 |
| 7,200.0 | 84.05 | 178.82 | 6,942.1 | -300.8 | 169.1 | 309.8 | 11.00 | 11.00 | 0.00 |
| 7,256.6 | 90.27 | 178.82 | 6,944.9 | -357.3 | 170.3 | 366.2 | 10.99 | 10.99 | 0.00 |
| **7"** | | | | | | | | | |
| 7,300.0 | 90.27 | 178.82 | 6,944.7 | -400.6 | 171.2 | 409.6 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 90.27 | 178.82 | 6,944.3 | -500.6 | 173.2 | 509.5 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 90.27 | 178.82 | 6,943.8 | -600.6 | 175.3 | 609.5 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 90.27 | 178.82 | 6,943.3 | -700.6 | 177.4 | 709.4 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 90.27 | 178.82 | 6,942.8 | -800.6 | 179.4 | 809.4 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 90.27 | 178.82 | 6,942.4 | -900.5 | 181.5 | 909.3 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 90.27 | 178.82 | 6,941.9 | -1,000.5 | 183.5 | 1,009.2 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 90.27 | 178.82 | 6,941.4 | -1,100.5 | 185.6 | 1,109.2 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 90.27 | 178.82 | 6,941.0 | -1,200.5 | 187.7 | 1,209.1 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 90.27 | 178.82 | 6,940.5 | -1,300.4 | 189.7 | 1,309.0 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 90.27 | 178.82 | 6,940.0 | -1,400.4 | 191.8 | 1,409.0 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 90.27 | 178.82 | 6,939.5 | -1,500.4 | 193.9 | 1,508.9 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 90.27 | 178.82 | 6,939.1 | -1,600.4 | 195.9 | 1,608.8 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 90.27 | 178.82 | 6,938.6 | -1,700.4 | 198.0 | 1,708.8 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 90.27 | 178.82 | 6,938.1 | -1,800.3 | 200.0 | 1,808.7 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 90.27 | 178.82 | 6,937.7 | -1,900.3 | 202.1 | 1,908.6 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 90.27 | 178.82 | 6,937.2 | -2,000.3 | 204.2 | 2,008.6 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 90.27 | 178.82 | 6,936.7 | -2,100.3 | 206.2 | 2,108.5 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 90.27 | 178.82 | 6,936.2 | -2,200.2 | 208.3 | 2,208.5 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 90.27 | 178.82 | 6,935.8 | -2,300.2 | 210.3 | 2,308.4 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 90.27 | 178.82 | 6,935.3 | -2,400.2 | 212.4 | 2,408.3 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 90.27 | 178.82 | 6,934.8 | -2,500.2 | 214.5 | 2,508.3 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 90.27 | 178.82 | 6,934.4 | -2,600.2 | 216.5 | 2,608.2 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 90.27 | 178.82 | 6,933.9 | -2,700.1 | 218.6 | 2,708.1 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 90.27 | 178.82 | 6,933.4 | -2,800.1 | 220.6 | 2,808.1 | 0.00 | 0.00 | 0.00 |
| 9,800.0 | 90.27 | 178.82 | 6,932.9 | -2,900.1 | 222.7 | 2,908.0 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| **Database:** | landmark | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Company:** | Verdad Oil & Gas Corporation | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Project:** | SEC.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **North Reference:** | True |
| **Well:** | Pastelak 01N-64W-02-6N | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Plan #1 (8-6-14) | | |

**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 | 90.27 | 178.82 | 6,932.5 | -3,000.1 | 224.8 | 3,007.9 | 0.00 | 0.00 | 0.00 |
| 10,000.0 | 90.27 | 178.82 | 6,932.0 | -3,100.0 | 226.8 | 3,107.9 | 0.00 | 0.00 | 0.00 |
| 10,100.0 | 90.27 | 178.82 | 6,931.5 | -3,200.0 | 228.9 | 3,207.8 | 0.00 | 0.00 | 0.00 |
| 10,200.0 | 90.27 | 178.82 | 6,931.1 | -3,300.0 | 231.0 | 3,307.8 | 0.00 | 0.00 | 0.00 |
| 10,300.0 | 90.27 | 178.82 | 6,930.6 | -3,400.0 | 233.0 | 3,407.7 | 0.00 | 0.00 | 0.00 |
| 10,400.0 | 90.27 | 178.82 | 6,930.1 | -3,500.0 | 235.1 | 3,507.6 | 0.00 | 0.00 | 0.00 |
| 10,500.0 | 90.27 | 178.82 | 6,929.6 | -3,599.9 | 237.1 | 3,607.6 | 0.00 | 0.00 | 0.00 |
| 10,600.0 | 90.27 | 178.82 | 6,929.2 | -3,699.9 | 239.2 | 3,707.5 | 0.00 | 0.00 | 0.00 |
| 10,700.0 | 90.27 | 178.82 | 6,928.7 | -3,799.9 | 241.3 | 3,807.4 | 0.00 | 0.00 | 0.00 |
| 10,800.0 | 90.27 | 178.82 | 6,928.2 | -3,899.9 | 243.3 | 3,907.4 | 0.00 | 0.00 | 0.00 |
| 10,900.0 | 90.27 | 178.82 | 6,927.8 | -3,999.8 | 245.4 | 4,007.3 | 0.00 | 0.00 | 0.00 |
| 11,000.0 | 90.27 | 178.82 | 6,927.3 | -4,099.8 | 247.4 | 4,107.2 | 0.00 | 0.00 | 0.00 |
| 11,100.0 | 90.27 | 178.82 | 6,926.8 | -4,199.8 | 249.5 | 4,207.2 | 0.00 | 0.00 | 0.00 |
| 11,200.0 | 90.27 | 178.82 | 6,926.4 | -4,299.8 | 251.6 | 4,307.1 | 0.00 | 0.00 | 0.00 |
| 11,300.0 | 90.27 | 178.82 | 6,925.9 | -4,399.7 | 253.6 | 4,407.0 | 0.00 | 0.00 | 0.00 |
| 11,400.0 | 90.27 | 178.82 | 6,925.4 | -4,499.7 | 255.7 | 4,507.0 | 0.00 | 0.00 | 0.00 |
| 11,486.7 | 90.27 | 178.82 | 6,925.0 | -4,586.4 | 257.5 | 4,593.6 | 0.00 | 0.00 | 0.00 |

**Casing Points**

| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (") | Hole Diameter (") |
|---|---|---|---|---|
| 7,256.6 | 6,944.9 | 7" | 7 | 7-1/2 |

**Plan Annotations**

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates +N/-S (ft) | Local Coordinates +E/-W (ft) | Comment |
|---|---|---|---|---|
| 1,600.0 | 1,600.0 | 0.0 | 0.0 | KOP - Start Build 1.50 |
| 3,690.4 | 3,679.4 | 16.7 | 16.1 | Start Drop -1.50 |
| 6,435.9 | 6,424.1 | 149.3 | 143.4 | KOP #2 - Start Build 11.00 |
| 11,486.7 | 6,925.0 | 166.0 | 159.5 | TD at 11486.7 |

ENSIGN
Directional

# Verdad Oil & Gas Corporation

**SEC.2-T1N-R64W**
**Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W**
**Pastelak 01N-64W-02-6N**

**Wellbore #1**
**Plan #1 (8-6-14)**

# Anticollision Report

**08 August, 2014**

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Reference** Plan #1 (8-6-14)

| | | | |
|---|---|---|---|
| **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** 8/8/2014

| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
|---|---|---|---|---|
| 0.0 | 11,486.7 | Plan #1 (8-6-14) (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 |
|---|---|---|---|---|---|---|
| Existing Wells Sec.2-T1N-64W | | | | | | |
| Schweitzer 11-2 (P&A) - Wellbore #1 - Wellbore #1 | 1,600.0 | 1,601.0 | 780.0 | 744.5 | 21.970 | CC |
| Schweitzer 11-2 (P&A) - Wellbore #1 - Wellbore #1 | 7,323.3 | 6,945.6 | 815.4 | 659.3 | 5.222 | ES |
| Schweitzer 11-2 (P&A) - Wellbore #1 - Wellbore #1 | 7,400.0 | 6,945.3 | 819.0 | 662.1 | 5.220 | SF |
| Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | | | | | | |
| Pastelak 01N-64W-02-1C - Wellbore #1 - Plan #1 (8-6-14 | 566.0 | 568.0 | 75.5 | 73.2 | 32.507 | CC |
| Pastelak 01N-64W-02-1C - Wellbore #1 - Plan #1 (8-6-14 | 600.0 | 602.0 | 75.5 | 73.1 | 30.505 | ES |
| Pastelak 01N-64W-02-1C - Wellbore #1 - Plan #1 (8-6-14 | 11,486.7 | 11,709.6 | 849.5 | 674.4 | 4.852 | SF |
| Pastelak 01N-64W-02-2N - Wellbore #1 - Plan #1 (8-6-14 | 1,366.3 | 1,367.3 | 61.6 | 55.6 | 10.399 | CC |
| Pastelak 01N-64W-02-2N - Wellbore #1 - Plan #1 (8-6-14 | 1,400.0 | 1,400.0 | 61.6 | 55.5 | 10.145 | ES |
| Pastelak 01N-64W-02-2N - Wellbore #1 - Plan #1 (8-6-14 | 11,486.7 | 11,502.3 | 660.5 | 480.9 | 3.679 | SF |
| Pastelak 01N-64W-02-3N - Wellbore #1 - Plan #1 (8-6-14 | 1,566.3 | 1,567.3 | 44.8 | 38.0 | 6.566 | CC |
| Pastelak 01N-64W-02-3N - Wellbore #1 - Plan #1 (8-6-14 | 1,600.0 | 1,601.0 | 44.8 | 37.8 | 6.423 | ES |
| Pastelak 01N-64W-02-3N - Wellbore #1 - Plan #1 (8-6-14 | 11,486.7 | 11,489.3 | 495.4 | 315.8 | 2.759 | SF |
| Pastelak 01N-64W-02-4N - Wellbore #1 - Plan #1 (8-6-14 | 1,600.0 | 1,601.0 | 30.8 | 23.8 | 4.416 | CC, ES |
| Pastelak 01N-64W-02-4N - Wellbore #1 - Plan #1 (8-6-14 | 11,486.7 | 11,480.5 | 330.2 | 150.6 | 1.839 | SF |
| Pastelak 01N-64W-02-5C - Wellbore #1 - Plan #1 (8-6-14 | 1,600.0 | 1,600.0 | 16.8 | 9.8 | 2.409 | CC, ES |
| Pastelak 01N-64W-02-5C - Wellbore #1 - Plan #1 (8-6-14 | 11,486.7 | 11,675.1 | 259.4 | 132.4 | 2.043 | SF |
| Pastelak 01N-64W-02-7N - Wellbore #1 - Plan #1 (8-6-14 | 1,400.0 | 1,400.0 | 14.0 | 7.9 | 2.305 | CC |
| Pastelak 01N-64W-02-7N - Wellbore #1 - Plan #1 (8-6-14 | 11,486.7 | 11,491.0 | 165.1 | -14.3 | 0.920 | Level 1, ES, SF |
| Pastelak 01N-64W-02-8N - Wellbore #1 - Plan #1 (8-6-14 | 1,000.0 | 999.0 | 28.0 | 23.7 | 6.555 | CC, ES |
| Pastelak 01N-64W-02-8N - Wellbore #1 - Plan #1 (8-6-14 | 11,486.7 | 11,497.3 | 330.2 | 150.4 | 1.836 | SF |
| Pastelak 01N-64W-02-9C - Wellbore #1 - Plan #1 (8-6-14 | 800.0 | 799.0 | 44.8 | 41.4 | 13.288 | CC, ES |
| Pastelak 01N-64W-02-9C - Wellbore #1 - Plan #1 (8-6-14 | 11,486.7 | 11,699.3 | 534.1 | 366.1 | 3.180 | SF |

**Offset Design** Existing Wells Sec.2-T1N-64W - Schweitzer 11-2 (P&A) - Wellbore #1 - Wellbore #1

**Offset Site Error:** 0.0 ft

**Survey Program:** 7690-UNKNOWN

**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 | 1.0 | 1.0 | 0.0 | 0.0 | -124.41 | -440.8 | -643.6 | 780.0 | 780.0 | 0.02 | N/A | |
| 100.0 | 100.0 | 101.0 | 101.0 | 0.1 | 2.0 | -124.41 | -440.8 | -643.6 | 780.0 | 777.9 | 2.13 | 365.769 | |
| 200.0 | 200.0 | 201.0 | 201.0 | 0.3 | 4.0 | -124.41 | -440.8 | -643.6 | 780.0 | 775.7 | 4.36 | 179.016 | |
| 300.0 | 300.0 | 301.0 | 301.0 | 0.6 | 6.0 | -124.41 | -440.8 | -643.6 | 780.0 | 773.4 | 6.58 | 118.508 | |
| 400.0 | 400.0 | 401.0 | 401.0 | 0.8 | 8.0 | -124.41 | -440.8 | -643.6 | 780.0 | 771.2 | 8.81 | 88.571 | |

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

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Existing Wells Sec.2-T1N-64W - Schweitzer 11-2 (P&A) - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.0 ft

**Survey Program:** 7690-UNKNOWN — **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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 500.0 | 500.0 | 501.0 | 501.0 | 1.0 | 10.0 | -124.41 | -440.8 | -643.6 | 780.0 | 769.0 | 11.03 | 70.709 | |
| 600.0 | 600.0 | 601.0 | 601.0 | 1.2 | 12.0 | -124.41 | -440.8 | -643.6 | 780.0 | 766.8 | 13.26 | 58.842 | |
| 700.0 | 700.0 | 701.0 | 701.0 | 1.5 | 14.0 | -124.41 | -440.8 | -643.6 | 780.0 | 764.6 | 15.48 | 50.386 | |
| 800.0 | 800.0 | 801.0 | 801.0 | 1.7 | 16.0 | -124.41 | -440.8 | -643.6 | 780.0 | 762.3 | 17.71 | 44.055 | |
| 900.0 | 900.0 | 901.0 | 901.0 | 1.9 | 18.0 | -124.41 | -440.8 | -643.6 | 780.0 | 760.1 | 19.93 | 39.137 | |
| 1,000.0 | 1,000.0 | 1,001.0 | 1,001.0 | 2.1 | 20.0 | -124.41 | -440.8 | -643.6 | 780.0 | 757.9 | 22.16 | 35.207 | |
| 1,100.0 | 1,100.0 | 1,101.0 | 1,101.0 | 2.4 | 22.0 | -124.41 | -440.8 | -643.6 | 780.0 | 755.7 | 24.38 | 31.994 | |
| 1,200.0 | 1,200.0 | 1,201.0 | 1,201.0 | 2.6 | 24.0 | -124.41 | -440.8 | -643.6 | 780.0 | 753.4 | 26.60 | 29.319 | |
| 1,300.0 | 1,300.0 | 1,301.0 | 1,301.0 | 2.8 | 26.0 | -124.41 | -440.8 | -643.6 | 780.0 | 751.2 | 28.83 | 27.057 | |
| 1,400.0 | 1,400.0 | 1,401.0 | 1,401.0 | 3.0 | 28.0 | -124.41 | -440.8 | -643.6 | 780.0 | 749.0 | 31.05 | 25.118 | |
| 1,500.0 | 1,500.0 | 1,501.0 | 1,501.0 | 3.3 | 30.0 | -124.41 | -440.8 | -643.6 | 780.0 | 746.8 | 33.28 | 23.439 | |
| 1,600.0 | 1,600.0 | 1,601.0 | 1,601.0 | 3.5 | 32.0 | -124.41 | -440.8 | -643.6 | 780.0 | 744.5 | 35.50 | 21.970 | CC |
| 1,700.0 | 1,700.0 | 1,701.0 | 1,701.0 | 3.7 | 34.0 | -168.28 | -440.8 | -643.6 | 781.3 | 743.6 | 37.71 | 20.718 | |
| 1,800.0 | 1,799.9 | 1,800.9 | 1,800.9 | 3.9 | 36.0 | -168.32 | -440.8 | -643.6 | 785.2 | 745.3 | 39.89 | 19.684 | |
| 1,900.0 | 1,899.7 | 1,900.7 | 1,900.7 | 4.1 | 38.0 | -168.40 | -440.8 | -643.6 | 791.6 | 749.5 | 42.03 | 18.833 | |
| 2,000.0 | 1,999.3 | 2,000.3 | 2,000.3 | 4.4 | 40.0 | -168.51 | -440.8 | -643.6 | 800.5 | 756.4 | 44.14 | 18.138 | |
| 2,100.0 | 2,098.7 | 2,099.7 | 2,099.7 | 4.6 | 42.0 | -168.65 | -440.8 | -643.6 | 811.3 | 765.0 | 46.31 | 17.519 | |
| 2,200.0 | 2,198.1 | 2,199.1 | 2,199.1 | 4.9 | 44.0 | -168.80 | -440.8 | -643.6 | 822.1 | 773.6 | 48.51 | 16.948 | |
| 2,300.0 | 2,297.5 | 2,298.5 | 2,298.5 | 5.1 | 46.0 | -168.95 | -440.8 | -643.6 | 832.9 | 782.2 | 50.71 | 16.425 | |
| 2,400.0 | 2,396.8 | 2,397.8 | 2,397.8 | 5.4 | 48.0 | -169.09 | -440.8 | -643.6 | 843.7 | 790.8 | 52.91 | 15.946 | |
| 2,500.0 | 2,496.2 | 2,497.2 | 2,497.2 | 5.6 | 49.9 | -169.23 | -440.8 | -643.6 | 854.5 | 799.4 | 55.11 | 15.505 | |
| 2,600.0 | 2,595.6 | 2,596.6 | 2,596.6 | 5.9 | 51.9 | -169.37 | -440.8 | -643.6 | 865.3 | 808.0 | 57.31 | 15.098 | |
| 2,700.0 | 2,695.0 | 2,696.0 | 2,696.0 | 6.2 | 53.9 | -169.50 | -440.8 | -643.6 | 876.1 | 816.6 | 59.52 | 14.721 | |
| 2,800.0 | 2,794.4 | 2,795.4 | 2,795.4 | 6.4 | 55.9 | -169.63 | -440.8 | -643.6 | 887.0 | 825.3 | 61.72 | 14.370 | |
| 2,900.0 | 2,893.8 | 2,894.8 | 2,894.8 | 6.7 | 57.9 | -169.76 | -440.8 | -643.6 | 897.8 | 833.9 | 63.93 | 14.044 | |
| 3,000.0 | 2,993.2 | 2,994.2 | 2,994.2 | 7.0 | 59.9 | -169.88 | -440.8 | -643.6 | 908.7 | 842.5 | 66.14 | 13.739 | |
| 3,100.0 | 3,092.6 | 3,093.6 | 3,093.6 | 7.3 | 61.9 | -170.00 | -440.8 | -643.6 | 919.5 | 851.2 | 68.34 | 13.454 | |
| 3,200.0 | 3,192.0 | 3,193.0 | 3,193.0 | 7.5 | 63.9 | -170.12 | -440.8 | -643.6 | 930.3 | 859.8 | 70.55 | 13.187 | |
| 3,300.0 | 3,291.4 | 3,292.4 | 3,292.4 | 7.8 | 65.8 | -170.24 | -440.8 | -643.6 | 941.2 | 868.4 | 72.76 | 12.936 | |
| 3,400.0 | 3,390.8 | 3,391.8 | 3,391.8 | 8.1 | 67.8 | -170.35 | -440.8 | -643.6 | 952.0 | 877.1 | 74.97 | 12.699 | |
| 3,500.0 | 3,490.2 | 3,491.2 | 3,491.2 | 8.4 | 69.8 | -170.46 | -440.8 | -643.6 | 962.9 | 885.7 | 77.18 | 12.477 | |
| 3,600.0 | 3,589.5 | 3,590.5 | 3,590.5 | 8.7 | 71.8 | -170.56 | -440.8 | -643.6 | 973.8 | 894.4 | 79.39 | 12.266 | |
| 3,700.0 | 3,688.9 | 3,689.9 | 3,689.9 | 9.0 | 73.8 | -170.67 | -440.8 | -643.6 | 984.6 | 903.0 | 81.61 | 12.064 | |
| 3,800.0 | 3,788.5 | 3,789.5 | 3,789.5 | 9.2 | 75.8 | -170.78 | -440.8 | -643.6 | 994.0 | 910.0 | 83.97 | 11.837 | |
| 6,600.0 | 6,585.4 | 6,586.4 | 6,586.4 | 14.8 | 131.7 | 56.65 | -440.8 | -643.6 | 991.7 | 847.8 | 143.90 | 6.892 | |
| 6,700.0 | 6,677.0 | 6,678.0 | 6,678.0 | 14.9 | 133.6 | 60.65 | -440.8 | -643.6 | 969.6 | 825.8 | 143.77 | 6.744 | |
| 6,800.0 | 6,759.2 | 6,760.2 | 6,760.2 | 15.0 | 135.2 | 66.28 | -440.8 | -643.6 | 940.1 | 795.4 | 144.72 | 6.496 | |
| 6,900.0 | 6,829.1 | 6,830.1 | 6,830.1 | 15.1 | 136.6 | 73.00 | -440.8 | -643.6 | 906.8 | 759.3 | 147.43 | 6.151 | |
| 7,000.0 | 6,884.2 | 6,885.2 | 6,885.2 | 15.3 | 137.7 | 79.79 | -440.8 | -643.6 | 873.5 | 722.7 | 150.88 | 5.790 | |
| 7,100.0 | 6,922.3 | 6,923.3 | 6,923.3 | 15.7 | 138.5 | 85.48 | -440.8 | -643.6 | 844.8 | 691.3 | 153.54 | 5.502 | |
| 7,200.0 | 6,942.1 | 6,943.1 | 6,943.1 | 16.3 | 138.9 | 89.10 | -440.8 | -643.6 | 824.7 | 669.6 | 155.02 | 5.320 | |
| 7,300.0 | 6,944.7 | 6,945.7 | 6,945.7 | 17.2 | 138.9 | 90.01 | -440.8 | -643.6 | 815.7 | 659.8 | 155.92 | 5.232 | |
| 7,323.3 | 6,944.6 | 6,945.6 | 6,945.6 | 17.4 | 138.9 | 90.00 | -440.8 | -643.6 | 815.4 | 659.3 | 156.15 | 5.222 | ES |
| 7,400.0 | 6,944.3 | 6,945.3 | 6,945.3 | 18.1 | 138.9 | 89.97 | -440.8 | -643.6 | 819.0 | 662.1 | 156.91 | 5.220 | SF |
| 7,500.0 | 6,943.8 | 6,944.8 | 6,944.8 | 19.3 | 138.9 | 89.94 | -440.8 | -643.6 | 834.3 | 676.3 | 158.03 | 5.279 | |
| 7,600.0 | 6,943.3 | 6,944.3 | 6,944.3 | 20.5 | 138.9 | 89.91 | -440.8 | -643.6 | 861.1 | 701.8 | 159.28 | 5.406 | |
| 7,700.0 | 6,942.8 | 6,943.8 | 6,943.8 | 21.9 | 138.9 | 89.88 | -440.8 | -643.6 | 898.2 | 737.6 | 160.62 | 5.592 | |
| 7,800.0 | 6,942.4 | 6,943.4 | 6,943.4 | 23.3 | 138.9 | 89.84 | -440.8 | -643.6 | 944.5 | 782.5 | 162.05 | 5.829 | |
| 7,900.0 | 6,941.9 | 6,942.9 | 6,942.9 | 24.8 | 138.9 | 89.81 | -440.8 | -643.6 | 998.7 | 835.2 | 163.54 | 6.107 | |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-1C - Wellbore #1 - Plan #1 (8-6-1 — **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 | 2.0 | 2.0 | 0.0 | 0.0 | -89.99 | 0.0 | -75.5 | 75.5 | 75.5 | 0.00 | N/A | |
| 100.0 | 100.0 | 102.0 | 102.0 | 0.1 | 0.1 | -89.99 | 0.0 | -75.5 | 75.5 | 75.3 | 0.23 | 329.528 | |
| 200.0 | 200.0 | 202.0 | 202.0 | 0.3 | 0.3 | -89.99 | 0.0 | -75.5 | 75.5 | 74.9 | 0.68 | 111.298 | |
| 300.0 | 300.0 | 302.0 | 302.0 | 0.6 | 0.6 | -89.99 | 0.0 | -75.5 | 75.5 | 74.4 | 1.13 | 66.956 | |
| 400.0 | 400.0 | 402.0 | 402.0 | 0.8 | 0.8 | -89.99 | 0.0 | -75.5 | 75.5 | 74.0 | 1.58 | 47.880 | |
| 500.0 | 500.0 | 502.0 | 502.0 | 1.0 | 1.0 | -89.99 | 0.0 | -75.5 | 75.5 | 73.5 | 2.03 | 37.264 | |
| 566.0 | 566.0 | 568.0 | 568.0 | 1.2 | 1.2 | -89.99 | 0.0 | -75.5 | 75.5 | 73.2 | 2.32 | 32.507 | CC |
| 600.0 | 600.0 | 602.0 | 602.0 | 1.2 | 1.2 | -89.99 | 0.0 | -75.5 | 75.5 | 73.1 | 2.48 | 30.505 | ES |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.5 | 1.5 | -89.64 | 0.5 | -77.2 | 77.3 | 74.3 | 2.91 | 26.523 | |
| 800.0 | 800.0 | 796.7 | 796.5 | 1.7 | 1.7 | -88.74 | 1.8 | -82.1 | 82.3 | 78.9 | 3.34 | 24.592 | |
| 900.0 | 900.0 | 893.5 | 893.0 | 1.9 | 1.9 | -87.46 | 4.0 | -90.0 | 90.6 | 86.8 | 3.79 | 23.900 | |
| 1,000.0 | 1,000.0 | 989.6 | 988.4 | 2.1 | 2.1 | -86.02 | 7.0 | -101.1 | 102.2 | 98.0 | 4.25 | 24.050 | |
| 1,100.0 | 1,100.0 | 1,086.7 | 1,084.4 | 2.4 | 2.4 | -84.61 | 10.8 | -114.9 | 116.8 | 112.1 | 4.73 | 24.683 | |
| 1,200.0 | 1,200.0 | 1,185.5 | 1,182.1 | 2.6 | 2.7 | -83.46 | 14.9 | -129.5 | 131.9 | 126.6 | 5.23 | 25.228 | |
| 1,300.0 | 1,300.0 | 1,284.3 | 1,279.7 | 2.8 | 3.0 | -82.54 | 18.9 | -144.1 | 147.0 | 141.3 | 5.73 | 25.654 | |
| 1,400.0 | 1,400.0 | 1,383.2 | 1,377.4 | 3.0 | 3.4 | -81.80 | 22.9 | -158.6 | 162.1 | 155.9 | 6.24 | 25.994 | |
| 1,500.0 | 1,500.0 | 1,482.0 | 1,475.1 | 3.3 | 3.7 | -81.18 | 26.9 | -173.2 | 177.3 | 170.6 | 6.75 | 26.271 | |
| 1,600.0 | 1,600.0 | 1,580.8 | 1,572.7 | 3.5 | 4.0 | -80.67 | 30.9 | -187.8 | 192.5 | 185.2 | 7.26 | 26.501 | |
| 1,700.0 | 1,700.0 | 1,679.5 | 1,670.3 | 3.7 | 4.4 | -124.18 | 34.9 | -202.3 | 208.4 | 201.1 | 7.39 | 28.194 | |
| 1,800.0 | 1,799.9 | 1,778.0 | 1,767.6 | 3.9 | 4.7 | -124.40 | 38.9 | -216.8 | 225.8 | 218.0 | 7.84 | 28.804 | |
| 1,900.0 | 1,899.7 | 1,876.1 | 1,864.6 | 4.1 | 5.1 | -125.05 | 42.8 | -231.3 | 244.7 | 236.4 | 8.29 | 29.527 | |
| 2,000.0 | 1,999.3 | 1,973.9 | 1,961.2 | 4.4 | 5.4 | -126.02 | 46.8 | -245.7 | 265.1 | 256.4 | 8.74 | 30.349 | |
| 2,100.0 | 2,098.7 | 2,071.3 | 2,057.5 | 4.6 | 5.8 | -127.30 | 50.7 | -260.0 | 286.8 | 277.6 | 9.20 | 31.173 | |
| 2,200.0 | 2,198.1 | 2,168.7 | 2,153.7 | 4.9 | 6.1 | -128.47 | 54.7 | -274.4 | 308.5 | 298.9 | 9.67 | 31.904 | |
| 2,300.0 | 2,297.5 | 2,266.2 | 2,250.0 | 5.1 | 6.5 | -129.48 | 58.6 | -288.7 | 330.4 | 320.3 | 10.15 | 32.561 | |
| 2,400.0 | 2,396.8 | 2,363.6 | 2,346.3 | 5.4 | 6.8 | -130.36 | 62.6 | -303.1 | 352.4 | 341.7 | 10.63 | 33.151 | |
| 2,500.0 | 2,496.2 | 2,461.0 | 2,442.6 | 5.6 | 7.2 | -131.14 | 66.5 | -317.5 | 374.4 | 363.3 | 11.11 | 33.684 | |
| 2,600.0 | 2,595.6 | 2,558.4 | 2,538.9 | 5.9 | 7.5 | -131.84 | 70.5 | -331.8 | 396.5 | 384.9 | 11.60 | 34.168 | |
| 2,700.0 | 2,695.0 | 2,655.8 | 2,635.1 | 6.2 | 7.9 | -132.46 | 74.4 | -346.2 | 418.6 | 406.5 | 12.10 | 34.609 | |
| 2,800.0 | 2,794.4 | 2,753.3 | 2,731.4 | 6.4 | 8.2 | -133.02 | 78.4 | -360.5 | 440.8 | 428.2 | 12.59 | 35.011 | |
| 2,900.0 | 2,893.8 | 2,850.7 | 2,827.7 | 6.7 | 8.6 | -133.52 | 82.3 | -374.9 | 463.0 | 450.0 | 13.09 | 35.380 | |
| 3,000.0 | 2,993.2 | 2,948.1 | 2,924.0 | 7.0 | 8.9 | -133.98 | 86.2 | -389.2 | 485.3 | 471.7 | 13.59 | 35.719 | |
| 3,100.0 | 3,092.6 | 3,045.5 | 3,020.2 | 7.3 | 9.3 | -134.40 | 90.2 | -403.6 | 507.6 | 493.5 | 14.09 | 36.031 | |
| 3,200.0 | 3,192.0 | 3,143.0 | 3,116.5 | 7.5 | 9.6 | -134.79 | 94.1 | -417.9 | 529.9 | 515.3 | 14.59 | 36.320 | |
| 3,300.0 | 3,291.4 | 3,240.4 | 3,212.8 | 7.8 | 10.0 | -135.14 | 98.1 | -432.3 | 552.2 | 537.1 | 15.09 | 36.588 | |
| 3,400.0 | 3,390.8 | 3,337.8 | 3,309.1 | 8.1 | 10.4 | -135.46 | 102.0 | -446.7 | 574.5 | 559.0 | 15.60 | 36.837 | |
| 3,500.0 | 3,490.2 | 3,435.2 | 3,405.4 | 8.4 | 10.7 | -135.77 | 106.0 | -461.0 | 596.9 | 580.8 | 16.10 | 37.069 | |
| 3,600.0 | 3,589.5 | 3,532.6 | 3,501.6 | 8.7 | 11.1 | -136.04 | 109.9 | -475.4 | 619.3 | 602.7 | 16.61 | 37.286 | |
| 3,700.0 | 3,688.9 | 3,630.1 | 3,597.9 | 9.0 | 11.4 | -136.33 | 113.9 | -489.7 | 641.7 | 624.5 | 17.12 | 37.485 | |
| 3,800.0 | 3,788.5 | 3,727.8 | 3,694.5 | 9.2 | 11.8 | -136.70 | 117.8 | -504.1 | 663.0 | 645.3 | 17.61 | 37.650 | |
| 3,900.0 | 3,888.3 | 3,825.8 | 3,791.4 | 9.4 | 12.1 | -136.89 | 121.8 | -518.6 | 682.4 | 664.3 | 18.08 | 37.733 | |
| 4,000.0 | 3,988.2 | 3,924.3 | 3,888.7 | 9.6 | 12.5 | -136.91 | 125.8 | -533.1 | 699.9 | 681.4 | 18.55 | 37.742 | |
| 4,100.0 | 4,088.1 | 4,023.0 | 3,986.2 | 9.7 | 12.9 | -136.77 | 129.8 | -547.6 | 715.6 | 696.6 | 18.99 | 37.685 | |
| 4,200.0 | 4,188.1 | 4,121.8 | 4,083.9 | 9.9 | 13.2 | -92.56 | 133.8 | -562.2 | 730.2 | 710.8 | 19.40 | 37.642 | |
| 4,300.0 | 4,288.1 | 4,220.6 | 4,181.5 | 10.1 | 13.6 | -92.19 | 137.8 | -576.7 | 744.7 | 724.9 | 19.85 | 37.517 | |
| 4,400.0 | 4,388.1 | 4,319.4 | 4,279.2 | 10.3 | 13.9 | -91.85 | 141.8 | -591.3 | 759.3 | 739.0 | 20.30 | 37.398 | |
| 4,500.0 | 4,488.1 | 4,418.3 | 4,376.9 | 10.5 | 14.3 | -91.51 | 145.8 | -605.9 | 774.0 | 753.2 | 20.76 | 37.286 | |
| 4,600.0 | 4,588.1 | 4,517.1 | 4,474.5 | 10.7 | 14.7 | -91.19 | 149.8 | -620.4 | 788.6 | 767.4 | 21.21 | 37.179 | |
| 4,700.0 | 4,688.1 | 4,619.6 | 4,575.9 | 10.9 | 15.0 | -90.87 | 153.9 | -635.5 | 803.3 | 781.6 | 21.67 | 37.066 | |
| 4,800.0 | 4,788.1 | 4,755.9 | 4,711.0 | 11.1 | 15.4 | -90.53 | 158.4 | -651.9 | 815.2 | 793.1 | 22.16 | 36.785 | |
| 4,900.0 | 4,888.1 | 4,893.4 | 4,848.2 | 11.4 | 15.7 | -90.33 | 161.2 | -662.1 | 822.7 | 800.0 | 22.62 | 36.361 | |
| 5,000.0 | 4,988.1 | 5,031.7 | 4,986.4 | 11.6 | 15.9 | -90.26 | 162.3 | -665.9 | 825.4 | 802.4 | 23.07 | 35.775 | |

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

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-1C - Wellbore #1 - Plan #1 (8-6-1

**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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,100.0 | 5,088.1 | 5,135.5 | 5,090.1 | 11.8 | 16.0 | -90.26 | 162.3 | -665.9 | 825.5 | 802.0 | 23.48 | 35.162 | |
| 5,200.0 | 5,188.1 | 5,235.5 | 5,190.1 | 12.0 | 16.2 | -90.26 | 162.3 | -665.9 | 825.5 | 801.6 | 23.88 | 34.567 | |
| 5,300.0 | 5,288.1 | 5,335.5 | 5,290.1 | 12.2 | 16.3 | -90.26 | 162.3 | -665.9 | 825.5 | 801.2 | 24.29 | 33.989 | |
| 5,400.0 | 5,388.1 | 5,435.5 | 5,390.1 | 12.4 | 16.5 | -90.26 | 162.3 | -665.9 | 825.5 | 800.8 | 24.69 | 33.429 | |
| 5,500.0 | 5,488.1 | 5,535.5 | 5,490.1 | 12.6 | 16.6 | -90.26 | 162.3 | -665.9 | 825.5 | 800.4 | 25.10 | 32.884 | |
| 5,600.0 | 5,588.1 | 5,635.5 | 5,590.1 | 12.8 | 16.8 | -90.26 | 162.3 | -665.9 | 825.5 | 799.9 | 25.51 | 32.356 | |
| 5,700.0 | 5,688.1 | 5,735.5 | 5,690.1 | 13.0 | 17.0 | -90.26 | 162.3 | -665.9 | 825.5 | 799.5 | 25.92 | 31.843 | |
| 5,800.0 | 5,788.1 | 5,835.5 | 5,790.1 | 13.2 | 17.1 | -90.26 | 162.3 | -665.9 | 825.5 | 799.1 | 26.34 | 31.344 | |
| 5,900.0 | 5,888.1 | 5,935.5 | 5,890.1 | 13.5 | 17.3 | -90.26 | 162.3 | -665.9 | 825.5 | 798.7 | 26.75 | 30.859 | |
| 6,000.0 | 5,988.1 | 6,035.5 | 5,990.1 | 13.7 | 17.4 | -90.26 | 162.3 | -665.9 | 825.5 | 798.3 | 27.16 | 30.388 | |
| 6,100.0 | 6,088.1 | 6,135.5 | 6,090.1 | 13.9 | 17.6 | -90.26 | 162.3 | -665.9 | 825.5 | 797.9 | 27.58 | 29.930 | |
| 6,200.0 | 6,188.1 | 6,235.5 | 6,190.1 | 14.1 | 17.8 | -90.26 | 162.3 | -665.9 | 825.5 | 797.5 | 28.00 | 29.484 | |
| 6,300.0 | 6,288.1 | 6,335.5 | 6,290.1 | 14.3 | 17.9 | -90.26 | 162.3 | -665.9 | 825.5 | 797.0 | 28.41 | 29.050 | |
| 6,400.0 | 6,388.1 | 6,435.5 | 6,390.1 | 14.5 | 18.1 | -90.26 | 162.3 | -665.9 | 825.5 | 796.6 | 28.83 | 28.628 | |
| 6,417.2 | 6,405.3 | 6,452.7 | 6,407.3 | 14.5 | 18.1 | 90.94 | 162.3 | -665.9 | 825.5 | 796.5 | 28.92 | 28.538 | |
| 6,500.0 | 6,488.0 | 6,535.3 | 6,490.0 | 14.7 | 18.3 | 91.19 | 162.3 | -665.9 | 825.5 | 796.3 | 29.23 | 28.241 | |
| 6,600.0 | 6,585.4 | 6,632.8 | 6,587.4 | 14.8 | 18.4 | 92.57 | 162.3 | -665.9 | 826.3 | 796.8 | 29.49 | 28.022 | |
| 6,700.0 | 6,677.0 | 6,734.3 | 6,688.8 | 14.9 | 18.6 | 94.83 | 157.9 | -665.9 | 828.8 | 799.1 | 29.65 | 27.956 | |
| 6,800.0 | 6,759.2 | 6,848.1 | 6,799.1 | 15.0 | 18.7 | 97.18 | 130.9 | -665.3 | 832.7 | 803.0 | 29.73 | 28.011 | |
| 6,900.0 | 6,829.1 | 6,973.5 | 6,910.6 | 15.1 | 18.8 | 99.39 | 74.3 | -664.1 | 837.6 | 807.8 | 29.83 | 28.081 | |
| 7,000.0 | 6,884.2 | 7,111.5 | 7,013.8 | 15.3 | 18.8 | 101.29 | -16.6 | -662.3 | 842.5 | 812.4 | 30.10 | 27.987 | |
| 7,100.0 | 6,922.3 | 7,261.3 | 7,094.7 | 15.7 | 19.0 | 102.68 | -142.2 | -659.7 | 846.3 | 815.5 | 30.79 | 27.489 | |
| 7,200.0 | 6,942.1 | 7,419.2 | 7,137.7 | 16.3 | 19.5 | 103.29 | -293.4 | -656.6 | 848.1 | 816.0 | 32.10 | 26.419 | |
| 7,298.9 | 6,947.1 | 7,543.1 | 7,141.5 | 17.1 | 20.2 | 103.13 | -417.2 | -654.0 | 847.5 | 813.7 | 33.81 | 25.064 | |
| 7,300.0 | 6,944.7 | 7,544.3 | 7,141.5 | 17.2 | 20.2 | 103.28 | -418.3 | -654.0 | 848.0 | 814.2 | 33.81 | 25.081 | |
| 7,400.0 | 6,944.3 | 7,644.3 | 7,141.2 | 18.1 | 20.9 | 103.29 | -518.3 | -651.9 | 848.1 | 812.3 | 35.71 | 23.749 | |
| 7,500.0 | 6,943.8 | 7,744.3 | 7,140.8 | 19.3 | 21.9 | 103.30 | -618.3 | -649.9 | 848.1 | 810.2 | 37.89 | 22.385 | |
| 7,600.0 | 6,943.3 | 7,844.3 | 7,140.5 | 20.5 | 23.0 | 103.30 | -718.3 | -647.8 | 848.1 | 807.8 | 40.30 | 21.047 | |
| 7,700.0 | 6,942.8 | 7,944.3 | 7,140.1 | 21.9 | 24.2 | 103.31 | -818.3 | -645.7 | 848.1 | 805.2 | 42.90 | 19.769 | |
| 7,800.0 | 6,942.4 | 8,044.3 | 7,139.8 | 23.3 | 25.5 | 103.32 | -918.2 | -643.7 | 848.2 | 802.5 | 45.67 | 18.573 | |
| 7,900.0 | 6,941.9 | 8,144.3 | 7,139.4 | 24.8 | 26.8 | 103.33 | -1,018.2 | -641.6 | 848.2 | 799.6 | 48.57 | 17.464 | |
| 8,000.0 | 6,941.4 | 8,244.3 | 7,139.1 | 26.3 | 28.3 | 103.34 | -1,118.2 | -639.5 | 848.2 | 796.6 | 51.58 | 16.445 | |
| 8,100.0 | 6,941.0 | 8,344.3 | 7,138.7 | 27.9 | 29.8 | 103.35 | -1,218.2 | -637.5 | 848.2 | 793.6 | 54.68 | 15.513 | |
| 8,200.0 | 6,940.5 | 8,444.3 | 7,138.4 | 29.6 | 31.3 | 103.35 | -1,318.1 | -635.4 | 848.3 | 790.4 | 57.86 | 14.660 | |
| 8,300.0 | 6,940.0 | 8,544.3 | 7,138.0 | 31.2 | 32.9 | 103.36 | -1,418.1 | -633.4 | 848.3 | 787.2 | 61.11 | 13.882 | |
| 8,400.0 | 6,939.5 | 8,644.3 | 7,137.7 | 32.9 | 34.5 | 103.37 | -1,518.1 | -631.3 | 848.3 | 783.9 | 64.41 | 13.171 | |
| 8,500.0 | 6,939.1 | 8,744.3 | 7,137.4 | 34.7 | 36.2 | 103.38 | -1,618.1 | -629.2 | 848.4 | 780.6 | 67.76 | 12.520 | |
| 8,600.0 | 6,938.6 | 8,844.3 | 7,137.0 | 36.4 | 37.9 | 103.39 | -1,718.1 | -627.2 | 848.4 | 777.2 | 71.15 | 11.924 | |
| 8,700.0 | 6,938.1 | 8,944.3 | 7,136.7 | 38.2 | 39.6 | 103.39 | -1,818.0 | -625.1 | 848.4 | 773.8 | 74.57 | 11.377 | |
| 8,800.0 | 6,937.7 | 9,044.3 | 7,136.3 | 39.9 | 41.3 | 103.40 | -1,918.0 | -623.0 | 848.4 | 770.4 | 78.03 | 10.874 | |
| 8,900.0 | 6,937.2 | 9,144.3 | 7,136.0 | 41.7 | 43.0 | 103.41 | -2,018.0 | -621.0 | 848.5 | 767.0 | 81.51 | 10.409 | |
| 9,000.0 | 6,936.7 | 9,244.3 | 7,135.6 | 43.5 | 44.8 | 103.42 | -2,118.0 | -618.9 | 848.5 | 763.5 | 85.01 | 9.981 | |
| 9,100.0 | 6,936.2 | 9,344.3 | 7,135.3 | 45.3 | 46.5 | 103.43 | -2,217.9 | -616.9 | 848.5 | 760.0 | 88.54 | 9.584 | |
| 9,200.0 | 6,935.8 | 9,444.3 | 7,134.9 | 47.1 | 48.3 | 103.43 | -2,317.9 | -614.8 | 848.5 | 756.5 | 92.08 | 9.215 | |
| 9,300.0 | 6,935.3 | 9,544.3 | 7,134.6 | 49.0 | 50.1 | 103.44 | -2,417.9 | -612.7 | 848.6 | 752.9 | 95.64 | 8.872 | |
| 9,400.0 | 6,934.8 | 9,644.3 | 7,134.2 | 50.8 | 51.9 | 103.45 | -2,517.9 | -610.7 | 848.6 | 749.4 | 99.22 | 8.553 | |
| 9,500.0 | 6,934.4 | 9,744.3 | 7,133.9 | 52.6 | 53.7 | 103.46 | -2,617.9 | -608.6 | 848.6 | 745.8 | 102.80 | 8.255 | |
| 9,600.0 | 6,933.9 | 9,844.3 | 7,133.5 | 54.5 | 55.5 | 103.47 | -2,717.8 | -606.6 | 848.7 | 742.3 | 106.40 | 7.976 | |
| 9,700.0 | 6,933.4 | 9,944.3 | 7,133.2 | 56.3 | 57.4 | 103.47 | -2,817.8 | -604.5 | 848.7 | 738.7 | 110.01 | 7.715 | |
| 9,800.0 | 6,932.9 | 10,044.3 | 7,132.8 | 58.2 | 59.2 | 103.48 | -2,917.8 | -602.4 | 848.7 | 735.1 | 113.63 | 7.469 | |
| 9,900.0 | 6,932.5 | 10,144.3 | 7,132.5 | 60.1 | 61.0 | 103.49 | -3,017.8 | -600.4 | 848.7 | 731.5 | 117.25 | 7.239 | |
| 10,000.0 | 6,932.0 | 10,244.3 | 7,132.1 | 61.9 | 62.9 | 103.50 | -3,117.7 | -598.3 | 848.8 | 727.9 | 120.89 | 7.021 | |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-1C - Wellbore #1 - Plan #1 (8-6-1

**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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10,100.0 | 6,931.5 | 10,344.3 | 7,131.8 | 63.8 | 64.7 | 103.51 | -3,217.7 | -596.2 | 848.8 | 724.3 | 124.53 | 6.816 | |
| 10,200.0 | 6,931.1 | 10,444.3 | 7,131.4 | 65.7 | 66.5 | 103.51 | -3,317.7 | -594.2 | 848.8 | 720.7 | 128.17 | 6.623 | |
| 10,300.0 | 6,930.6 | 10,544.3 | 7,131.1 | 67.5 | 68.4 | 103.52 | -3,417.7 | -592.1 | 848.9 | 717.0 | 131.83 | 6.439 | |
| 10,400.0 | 6,930.1 | 10,644.3 | 7,130.7 | 69.4 | 70.3 | 103.53 | -3,517.7 | -590.1 | 848.9 | 713.4 | 135.48 | 6.266 | |
| 10,500.0 | 6,929.6 | 10,744.3 | 7,130.4 | 71.3 | 72.1 | 103.54 | -3,617.6 | -588.0 | 848.9 | 709.8 | 139.15 | 6.101 | |
| 10,600.0 | 6,929.2 | 10,844.3 | 7,130.0 | 73.2 | 74.0 | 103.55 | -3,717.6 | -585.9 | 848.9 | 706.1 | 142.81 | 5.944 | |
| 10,700.0 | 6,928.7 | 10,944.3 | 7,129.7 | 75.0 | 75.8 | 103.55 | -3,817.6 | -583.9 | 849.0 | 702.5 | 146.48 | 5.796 | |
| 10,800.0 | 6,928.2 | 11,044.3 | 7,129.3 | 76.9 | 77.7 | 103.56 | -3,917.6 | -581.8 | 849.0 | 698.8 | 150.16 | 5.654 | |
| 10,900.0 | 6,927.8 | 11,144.3 | 7,129.0 | 78.8 | 79.6 | 103.57 | -4,017.5 | -579.8 | 849.0 | 695.2 | 153.84 | 5.519 | |
| 11,000.0 | 6,927.3 | 11,244.3 | 7,128.6 | 80.7 | 81.5 | 103.58 | -4,117.5 | -577.7 | 849.1 | 691.5 | 157.52 | 5.390 | |
| 11,100.0 | 6,926.8 | 11,344.3 | 7,128.3 | 82.6 | 83.3 | 103.59 | -4,217.5 | -575.6 | 849.1 | 687.9 | 161.21 | 5.267 | |
| 11,200.0 | 6,926.4 | 11,444.3 | 7,127.9 | 84.5 | 85.2 | 103.59 | -4,317.5 | -573.6 | 849.1 | 684.2 | 164.89 | 5.149 | |
| 11,300.0 | 6,925.9 | 11,544.3 | 7,127.6 | 86.4 | 87.1 | 103.60 | -4,417.5 | -571.5 | 849.1 | 680.6 | 168.58 | 5.037 | |
| 11,400.0 | 6,925.4 | 11,644.3 | 7,127.2 | 88.3 | 89.0 | 103.61 | -4,517.4 | -569.4 | 849.2 | 676.9 | 172.28 | 4.929 | |
| 11,442.0 | 6,925.2 | 11,686.3 | 7,127.1 | 89.1 | 89.8 | 103.61 | -4,559.4 | -568.6 | 849.2 | 675.3 | 173.83 | 4.885 | |
| 11,486.7 | 6,925.0 | 11,709.6 | 7,127.0 | 89.9 | 90.2 | 103.62 | -4,582.8 | -568.1 | 849.5 | 674.4 | 175.09 | 4.852 SF | |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-2N - Wellbore #1 - Plan #1 (8-6-1

**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 | 1.0 | 1.0 | 0.0 | 0.0 | -90.00 | 0.0 | -61.6 | 61.6 | 61.6 | 0.00 | N/A | |
| 100.0 | 100.0 | 101.0 | 101.0 | 0.1 | 0.1 | -90.00 | 0.0 | -61.6 | 61.6 | 61.3 | 0.23 | 271.163 | |
| 200.0 | 200.0 | 201.0 | 201.0 | 0.3 | 0.3 | -90.00 | 0.0 | -61.6 | 61.6 | 60.9 | 0.68 | 90.988 | |
| 300.0 | 300.0 | 301.0 | 301.0 | 0.6 | 0.6 | -90.00 | 0.0 | -61.6 | 61.6 | 60.4 | 1.13 | 54.666 | |
| 400.0 | 400.0 | 401.0 | 401.0 | 0.8 | 0.8 | -90.00 | 0.0 | -61.6 | 61.6 | 60.0 | 1.58 | 39.069 | |
| 500.0 | 500.0 | 501.0 | 501.0 | 1.0 | 1.0 | -90.00 | 0.0 | -61.6 | 61.6 | 59.5 | 2.03 | 30.397 | |
| 600.0 | 600.0 | 601.0 | 601.0 | 1.2 | 1.2 | -90.00 | 0.0 | -61.6 | 61.6 | 59.1 | 2.47 | 24.875 | |
| 700.0 | 700.0 | 701.0 | 701.0 | 1.5 | 1.5 | -90.00 | 0.0 | -61.6 | 61.6 | 58.6 | 2.92 | 21.051 | |
| 800.0 | 800.0 | 801.0 | 801.0 | 1.7 | 1.7 | -90.00 | 0.0 | -61.6 | 61.6 | 58.2 | 3.37 | 18.246 | |
| 900.0 | 900.0 | 901.0 | 901.0 | 1.9 | 1.9 | -90.00 | 0.0 | -61.6 | 61.6 | 57.7 | 3.82 | 16.101 | |
| 1,000.0 | 1,000.0 | 1,001.0 | 1,001.0 | 2.1 | 2.1 | -90.00 | 0.0 | -61.6 | 61.6 | 57.3 | 4.27 | 14.407 | |
| 1,100.0 | 1,100.0 | 1,101.0 | 1,101.0 | 2.4 | 2.4 | -90.00 | 0.0 | -61.6 | 61.6 | 56.8 | 4.72 | 13.035 | |
| 1,200.0 | 1,200.0 | 1,201.0 | 1,201.0 | 2.6 | 2.6 | -90.00 | 0.0 | -61.6 | 61.6 | 56.4 | 5.17 | 11.902 | |
| 1,300.0 | 1,300.0 | 1,301.0 | 1,301.0 | 2.8 | 2.8 | -90.00 | 0.0 | -61.6 | 61.6 | 55.9 | 5.62 | 10.951 | |
| 1,366.3 | 1,366.3 | 1,367.3 | 1,367.3 | 3.0 | 3.0 | -90.00 | 0.0 | -61.6 | 61.6 | 55.6 | 5.92 | 10.399 | CC |
| 1,400.0 | 1,400.0 | 1,400.0 | 1,400.0 | 3.0 | 3.0 | -90.00 | 0.0 | -61.6 | 61.6 | 55.5 | 6.07 | 10.145 | ES |
| 1,500.0 | 1,500.0 | 1,499.0 | 1,498.9 | 3.3 | 3.2 | -89.46 | 0.6 | -63.2 | 63.2 | 56.7 | 6.51 | 9.712 | |
| 1,600.0 | 1,600.0 | 1,596.7 | 1,596.6 | 3.5 | 3.5 | -88.03 | 2.3 | -67.9 | 68.1 | 61.1 | 6.94 | 9.811 | |
| 1,700.0 | 1,700.0 | 1,694.0 | 1,693.4 | 3.7 | 3.7 | -130.54 | 5.2 | -75.7 | 77.1 | 69.7 | 7.37 | 10.466 | |
| 1,800.0 | 1,799.9 | 1,790.3 | 1,789.1 | 3.9 | 3.9 | -130.07 | 9.2 | -86.5 | 91.0 | 83.2 | 7.79 | 11.683 | |
| 1,900.0 | 1,899.7 | 1,887.7 | 1,885.5 | 4.1 | 4.2 | -130.32 | 14.1 | -99.6 | 109.0 | 100.8 | 8.22 | 13.260 | |
| 2,000.0 | 1,999.3 | 1,985.7 | 1,982.5 | 4.4 | 4.4 | -131.31 | 19.0 | -113.0 | 128.8 | 120.2 | 8.65 | 14.893 | |
| 2,100.0 | 2,098.7 | 2,083.4 | 2,079.1 | 4.6 | 4.7 | -132.66 | 23.9 | -126.4 | 149.9 | 140.8 | 9.09 | 16.487 | |
| 2,200.0 | 2,198.1 | 2,181.1 | 2,175.8 | 4.9 | 5.0 | -133.74 | 28.9 | -139.7 | 171.1 | 161.5 | 9.54 | 17.925 | |
| 2,300.0 | 2,297.5 | 2,278.8 | 2,272.4 | 5.1 | 5.3 | -134.58 | 33.8 | -153.1 | 192.3 | 182.3 | 10.00 | 19.225 | |
| 2,400.0 | 2,396.8 | 2,376.5 | 2,369.1 | 5.4 | 5.6 | -135.26 | 38.7 | -166.4 | 213.5 | 203.0 | 10.47 | 20.402 | |
| 2,500.0 | 2,496.2 | 2,474.2 | 2,465.7 | 5.6 | 5.9 | -135.81 | 43.7 | -179.8 | 234.8 | 223.8 | 10.93 | 21.470 | |
| 2,600.0 | 2,595.6 | 2,571.9 | 2,562.4 | 5.9 | 6.2 | -136.27 | 48.6 | -193.1 | 256.1 | 244.6 | 11.41 | 22.442 | |
| 2,700.0 | 2,695.0 | 2,669.6 | 2,659.0 | 6.2 | 6.5 | -136.66 | 53.5 | -206.5 | 277.3 | 265.5 | 11.89 | 23.330 | |
| 2,800.0 | 2,794.4 | 2,767.3 | 2,755.6 | 6.4 | 6.8 | -136.99 | 58.5 | -219.8 | 298.7 | 286.3 | 12.37 | 24.143 | |
| 2,900.0 | 2,893.8 | 2,864.9 | 2,852.3 | 6.7 | 7.1 | -137.28 | 63.4 | -233.2 | 320.0 | 307.1 | 12.86 | 24.889 | |
| 3,000.0 | 2,993.2 | 2,962.6 | 2,948.9 | 7.0 | 7.4 | -137.54 | 68.3 | -246.5 | 341.3 | 327.9 | 13.34 | 25.576 | |
| 3,100.0 | 3,092.6 | 3,060.3 | 3,045.6 | 7.3 | 7.8 | -137.76 | 73.3 | -259.9 | 362.6 | 348.8 | 13.84 | 26.209 | |
| 3,200.0 | 3,192.0 | 3,158.0 | 3,142.2 | 7.5 | 8.1 | -137.96 | 78.2 | -273.2 | 384.0 | 369.6 | 14.33 | 26.796 | |
| 3,300.0 | 3,291.4 | 3,255.7 | 3,238.9 | 7.8 | 8.4 | -138.14 | 83.1 | -286.6 | 405.3 | 390.5 | 14.82 | 27.340 | |
| 3,400.0 | 3,390.8 | 3,353.4 | 3,335.5 | 8.1 | 8.8 | -138.30 | 88.1 | -299.9 | 426.6 | 411.3 | 15.32 | 27.845 | |
| 3,500.0 | 3,490.2 | 3,451.1 | 3,432.2 | 8.4 | 9.1 | -138.44 | 93.0 | -313.3 | 448.0 | 432.1 | 15.82 | 28.316 | |
| 3,600.0 | 3,589.5 | 3,548.8 | 3,528.8 | 8.7 | 9.4 | -138.57 | 97.9 | -326.6 | 469.3 | 453.0 | 16.32 | 28.755 | |
| 3,700.0 | 3,688.9 | 3,646.5 | 3,625.5 | 9.0 | 9.8 | -138.71 | 102.9 | -340.0 | 490.7 | 473.8 | 16.82 | 29.165 | |
| 3,800.0 | 3,788.5 | 3,744.4 | 3,722.4 | 9.2 | 10.1 | -138.91 | 107.8 | -353.4 | 510.9 | 493.6 | 17.30 | 29.526 | |
| 3,900.0 | 3,888.3 | 3,842.7 | 3,819.6 | 9.4 | 10.4 | -138.89 | 112.8 | -366.8 | 529.1 | 511.4 | 17.77 | 29.780 | |
| 4,000.0 | 3,988.2 | 3,941.3 | 3,917.2 | 9.6 | 10.8 | -138.69 | 117.7 | -380.3 | 545.5 | 527.2 | 18.22 | 29.939 | |
| 4,100.0 | 4,088.1 | 4,040.1 | 4,014.9 | 9.7 | 11.1 | -138.31 | 122.7 | -393.8 | 559.9 | 541.2 | 18.66 | 30.012 | |
| 4,200.0 | 4,188.1 | 4,139.1 | 4,112.8 | 9.9 | 11.4 | -93.86 | 127.7 | -407.3 | 573.2 | 554.1 | 19.08 | 30.048 | |
| 4,300.0 | 4,288.1 | 4,238.0 | 4,210.7 | 10.1 | 11.8 | -93.28 | 132.7 | -420.8 | 586.5 | 567.0 | 19.53 | 30.034 | |
| 4,400.0 | 4,388.1 | 4,336.9 | 4,308.6 | 10.3 | 12.1 | -92.73 | 137.7 | -434.3 | 599.9 | 580.0 | 19.98 | 30.023 | |
| 4,500.0 | 4,488.1 | 4,435.9 | 4,406.4 | 10.5 | 12.5 | -92.20 | 142.7 | -447.8 | 613.4 | 593.0 | 20.44 | 30.015 | |
| 4,600.0 | 4,588.1 | 4,534.8 | 4,504.3 | 10.7 | 12.8 | -91.69 | 147.7 | -461.4 | 626.9 | 606.0 | 20.89 | 30.010 | |
| 4,700.0 | 4,688.1 | 4,638.9 | 4,607.4 | 10.9 | 13.2 | -91.18 | 152.9 | -475.5 | 640.4 | 619.0 | 21.35 | 29.995 | |
| 4,800.0 | 4,788.1 | 4,764.7 | 4,732.3 | 11.1 | 13.5 | -90.71 | 158.0 | -489.1 | 651.1 | 629.3 | 21.82 | 29.843 | |
| 4,900.0 | 4,888.1 | 4,891.6 | 4,858.8 | 11.4 | 13.7 | -90.43 | 161.1 | -497.6 | 657.8 | 635.5 | 22.27 | 29.543 | |
| 5,000.0 | 4,988.1 | 5,019.0 | 4,986.2 | 11.6 | 14.0 | -90.32 | 162.3 | -500.8 | 660.3 | 637.6 | 22.70 | 29.085 | |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-2N - Wellbore #1 - Plan #1 (8-6-1

**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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,100.0 | 5,088.1 | 5,121.9 | 5,089.1 | 11.8 | 14.1 | -90.32 | 162.3 | -500.9 | 660.4 | 637.3 | 23.11 | 28.573 | |
| 5,200.0 | 5,188.1 | 5,221.9 | 5,189.1 | 12.0 | 14.3 | -90.32 | 162.3 | -500.9 | 660.4 | 636.8 | 23.53 | 28.070 | |
| 5,300.0 | 5,288.1 | 5,321.9 | 5,289.1 | 12.2 | 14.5 | -90.32 | 162.3 | -500.9 | 660.4 | 636.4 | 23.94 | 27.582 | |
| 5,400.0 | 5,388.1 | 5,421.9 | 5,389.1 | 12.4 | 14.6 | -90.32 | 162.3 | -500.9 | 660.4 | 636.0 | 24.36 | 27.109 | |
| 5,500.0 | 5,488.1 | 5,521.9 | 5,489.1 | 12.6 | 14.8 | -90.32 | 162.3 | -500.9 | 660.4 | 635.6 | 24.78 | 26.651 | |
| 5,600.0 | 5,588.1 | 5,621.9 | 5,589.1 | 12.8 | 15.0 | -90.32 | 162.3 | -500.9 | 660.4 | 635.2 | 25.20 | 26.207 | |
| 5,700.0 | 5,688.1 | 5,721.9 | 5,689.1 | 13.0 | 15.2 | -90.32 | 162.3 | -500.9 | 660.4 | 634.7 | 25.62 | 25.777 | |
| 5,800.0 | 5,788.1 | 5,821.9 | 5,789.1 | 13.2 | 15.4 | -90.32 | 162.3 | -500.9 | 660.4 | 634.3 | 26.04 | 25.360 | |
| 5,900.0 | 5,888.1 | 5,921.9 | 5,889.1 | 13.5 | 15.5 | -90.32 | 162.3 | -500.9 | 660.4 | 633.9 | 26.46 | 24.955 | |
| 6,000.0 | 5,988.1 | 6,021.9 | 5,989.1 | 13.7 | 15.7 | -90.32 | 162.3 | -500.9 | 660.4 | 633.5 | 26.89 | 24.562 | |
| 6,100.0 | 6,088.1 | 6,121.9 | 6,089.1 | 13.9 | 15.9 | -90.32 | 162.3 | -500.9 | 660.4 | 633.1 | 27.31 | 24.181 | |
| 6,200.0 | 6,188.1 | 6,221.9 | 6,189.1 | 14.1 | 16.1 | -90.32 | 162.3 | -500.9 | 660.4 | 632.6 | 27.73 | 23.810 | |
| 6,300.0 | 6,288.1 | 6,321.9 | 6,289.1 | 14.3 | 16.3 | -90.32 | 162.3 | -500.9 | 660.4 | 632.2 | 28.16 | 23.450 | |
| 6,400.0 | 6,388.1 | 6,421.9 | 6,389.1 | 14.5 | 16.5 | -90.32 | 162.3 | -500.9 | 660.4 | 631.8 | 28.59 | 23.101 | |
| 6,500.0 | 6,488.0 | 6,523.2 | 6,490.2 | 14.7 | 16.6 | 90.86 | 158.3 | -500.8 | 660.4 | 631.4 | 28.96 | 22.801 | |
| 6,600.0 | 6,585.4 | 6,625.1 | 6,589.5 | 14.8 | 16.7 | 90.84 | 136.0 | -500.3 | 660.4 | 631.2 | 29.16 | 22.645 | |
| 6,700.0 | 6,677.0 | 6,727.0 | 6,682.5 | 14.9 | 16.8 | 90.79 | 94.8 | -499.5 | 660.4 | 631.1 | 29.29 | 22.547 | |
| 6,800.0 | 6,759.2 | 6,828.6 | 6,765.5 | 15.0 | 16.8 | 90.71 | 36.5 | -498.3 | 660.3 | 630.9 | 29.44 | 22.430 | |
| 6,900.0 | 6,829.1 | 6,930.1 | 6,835.6 | 15.1 | 16.9 | 90.60 | -36.7 | -496.8 | 660.3 | 630.6 | 29.74 | 22.200 | |
| 7,000.0 | 6,884.2 | 7,031.3 | 6,890.0 | 15.3 | 17.0 | 90.47 | -121.8 | -495.0 | 660.3 | 630.0 | 30.32 | 21.779 | |
| 7,100.0 | 6,922.3 | 7,132.2 | 6,926.9 | 15.7 | 17.3 | 90.32 | -215.5 | -493.1 | 660.3 | 629.0 | 31.25 | 21.129 | |
| 7,200.0 | 6,942.1 | 7,232.7 | 6,945.0 | 16.3 | 17.7 | 90.16 | -314.2 | -491.0 | 660.3 | 627.7 | 32.56 | 20.277 | |
| 7,300.0 | 6,944.7 | 7,332.8 | 6,946.6 | 17.2 | 18.4 | 90.08 | -414.3 | -489.0 | 660.3 | 626.1 | 34.24 | 19.286 | |
| 7,400.0 | 6,944.3 | 7,432.8 | 6,946.2 | 18.1 | 19.3 | 90.08 | -514.2 | -486.9 | 660.3 | 624.1 | 36.22 | 18.230 | |
| 7,500.0 | 6,943.8 | 7,532.8 | 6,945.7 | 19.3 | 20.4 | 90.08 | -614.2 | -484.8 | 660.3 | 621.8 | 38.49 | 17.156 | |
| 7,600.0 | 6,943.3 | 7,632.8 | 6,945.2 | 20.5 | 21.6 | 90.08 | -714.2 | -482.8 | 660.3 | 619.3 | 40.99 | 16.109 | |
| 7,700.0 | 6,942.8 | 7,732.8 | 6,944.8 | 21.9 | 22.9 | 90.08 | -814.2 | -480.7 | 660.3 | 616.6 | 43.69 | 15.113 | |
| 7,800.0 | 6,942.4 | 7,832.8 | 6,944.3 | 23.3 | 24.2 | 90.08 | -914.2 | -478.7 | 660.3 | 613.7 | 46.55 | 14.184 | |
| 7,900.0 | 6,941.9 | 7,932.8 | 6,943.8 | 24.8 | 25.7 | 90.08 | -1,014.1 | -476.6 | 660.3 | 610.7 | 49.55 | 13.327 | |
| 8,000.0 | 6,941.4 | 8,032.8 | 6,943.3 | 26.3 | 27.2 | 90.08 | -1,114.1 | -474.5 | 660.3 | 607.6 | 52.65 | 12.541 | |
| 8,100.0 | 6,941.0 | 8,132.8 | 6,942.9 | 27.9 | 28.8 | 90.08 | -1,214.1 | -472.5 | 660.3 | 604.4 | 55.85 | 11.822 | |
| 8,200.0 | 6,940.5 | 8,232.8 | 6,942.4 | 29.6 | 30.4 | 90.08 | -1,314.1 | -470.4 | 660.3 | 601.2 | 59.13 | 11.167 | |
| 8,300.0 | 6,940.0 | 8,332.8 | 6,941.9 | 31.2 | 32.0 | 90.08 | -1,414.0 | -468.3 | 660.3 | 597.8 | 62.47 | 10.570 | |
| 8,400.0 | 6,939.5 | 8,432.8 | 6,941.5 | 32.9 | 33.6 | 90.08 | -1,514.0 | -466.3 | 660.3 | 594.4 | 65.86 | 10.025 | |
| 8,500.0 | 6,939.1 | 8,532.8 | 6,941.0 | 34.7 | 35.3 | 90.08 | -1,614.0 | -464.2 | 660.3 | 591.0 | 69.31 | 9.527 | |
| 8,600.0 | 6,938.6 | 8,632.8 | 6,940.5 | 36.4 | 37.1 | 90.08 | -1,714.0 | -462.2 | 660.3 | 587.5 | 72.79 | 9.071 | |
| 8,700.0 | 6,938.1 | 8,732.8 | 6,940.1 | 38.2 | 38.8 | 90.08 | -1,814.0 | -460.1 | 660.3 | 584.0 | 76.31 | 8.652 | |
| 8,800.0 | 6,937.7 | 8,832.8 | 6,939.6 | 39.9 | 40.5 | 90.08 | -1,913.9 | -458.0 | 660.3 | 580.4 | 79.86 | 8.268 | |
| 8,900.0 | 6,937.2 | 8,932.8 | 6,939.1 | 41.7 | 42.3 | 90.08 | -2,013.9 | -456.0 | 660.3 | 576.8 | 83.44 | 7.913 | |
| 9,000.0 | 6,936.7 | 9,032.8 | 6,938.6 | 43.5 | 44.1 | 90.08 | -2,113.9 | -453.9 | 660.3 | 573.2 | 87.04 | 7.586 | |
| 9,100.0 | 6,936.2 | 9,132.8 | 6,938.2 | 45.3 | 45.9 | 90.08 | -2,213.9 | -451.8 | 660.3 | 569.6 | 90.66 | 7.283 | |
| 9,200.0 | 6,935.8 | 9,232.8 | 6,937.7 | 47.1 | 47.7 | 90.08 | -2,313.8 | -449.8 | 660.3 | 566.0 | 94.29 | 7.002 | |
| 9,300.0 | 6,935.3 | 9,332.8 | 6,937.2 | 49.0 | 49.5 | 90.08 | -2,413.8 | -447.7 | 660.3 | 562.3 | 97.95 | 6.741 | |
| 9,400.0 | 6,934.8 | 9,432.8 | 6,936.8 | 50.8 | 51.3 | 90.08 | -2,513.8 | -445.7 | 660.3 | 558.6 | 101.61 | 6.498 | |
| 9,500.0 | 6,934.4 | 9,532.8 | 6,936.3 | 52.6 | 53.1 | 90.08 | -2,613.8 | -443.6 | 660.3 | 555.0 | 105.30 | 6.271 | |
| 9,600.0 | 6,933.9 | 9,632.8 | 6,935.8 | 54.5 | 55.0 | 90.08 | -2,713.7 | -441.5 | 660.3 | 551.3 | 108.99 | 6.058 | |
| 9,700.0 | 6,933.4 | 9,732.8 | 6,935.3 | 56.3 | 56.8 | 90.08 | -2,813.7 | -439.5 | 660.3 | 547.6 | 112.69 | 5.859 | |
| 9,800.0 | 6,932.9 | 9,832.8 | 6,934.9 | 58.2 | 58.6 | 90.08 | -2,913.7 | -437.4 | 660.3 | 543.9 | 116.40 | 5.672 | |
| 9,900.0 | 6,932.5 | 9,932.8 | 6,934.4 | 60.1 | 60.5 | 90.08 | -3,013.7 | -435.3 | 660.3 | 540.1 | 120.12 | 5.497 | |
| 10,000.0 | 6,932.0 | 10,032.8 | 6,933.9 | 61.9 | 62.3 | 90.08 | -3,113.7 | -433.3 | 660.3 | 536.4 | 123.85 | 5.331 | |
| 10,100.0 | 6,931.5 | 10,132.8 | 6,933.5 | 63.8 | 64.2 | 90.08 | -3,213.6 | -431.2 | 660.3 | 532.7 | 127.59 | 5.175 | |
| 10,200.0 | 6,931.1 | 10,232.8 | 6,933.0 | 65.7 | 66.1 | 90.08 | -3,313.6 | -429.2 | 660.3 | 528.9 | 131.33 | 5.027 | |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-2N - Wellbore #1 - Plan #1 (8-6-1

**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 | 6,930.6 | 10,332.8 | 6,932.5 | 67.5 | 67.9 | 90.08 | -3,413.6 | -427.1 | 660.3 | 525.2 | 135.08 | 4.888 | |
| 10,400.0 | 6,930.1 | 10,432.8 | 6,932.0 | 69.4 | 69.8 | 90.08 | -3,513.6 | -425.0 | 660.3 | 521.4 | 138.83 | 4.756 | |
| 10,500.0 | 6,929.6 | 10,532.8 | 6,931.6 | 71.3 | 71.7 | 90.08 | -3,613.5 | -423.0 | 660.3 | 517.7 | 142.59 | 4.630 | |
| 10,600.0 | 6,929.2 | 10,632.8 | 6,931.1 | 73.2 | 73.5 | 90.08 | -3,713.5 | -420.9 | 660.3 | 513.9 | 146.35 | 4.511 | |
| 10,700.0 | 6,928.7 | 10,732.8 | 6,930.6 | 75.0 | 75.4 | 90.08 | -3,813.5 | -418.9 | 660.3 | 510.1 | 150.12 | 4.398 | |
| 10,800.0 | 6,928.2 | 10,832.8 | 6,930.2 | 76.9 | 77.3 | 90.08 | -3,913.5 | -416.8 | 660.2 | 506.4 | 153.89 | 4.290 | |
| 10,900.0 | 6,927.8 | 10,932.8 | 6,929.7 | 78.8 | 79.2 | 90.08 | -4,013.5 | -414.7 | 660.2 | 502.6 | 157.67 | 4.188 | |
| 11,000.0 | 6,927.3 | 11,032.8 | 6,929.2 | 80.7 | 81.1 | 90.08 | -4,113.4 | -412.7 | 660.2 | 498.8 | 161.44 | 4.090 | |
| 11,100.0 | 6,926.8 | 11,132.8 | 6,928.7 | 82.6 | 82.9 | 90.08 | -4,213.4 | -410.6 | 660.2 | 495.0 | 165.23 | 3.996 | |
| 11,200.0 | 6,926.4 | 11,232.8 | 6,928.3 | 84.5 | 84.8 | 90.08 | -4,313.4 | -408.5 | 660.2 | 491.2 | 169.01 | 3.907 | |
| 11,300.0 | 6,925.9 | 11,332.8 | 6,927.8 | 86.4 | 86.7 | 90.08 | -4,413.4 | -406.5 | 660.2 | 487.4 | 172.80 | 3.821 | |
| 11,400.0 | 6,925.4 | 11,432.8 | 6,927.3 | 88.3 | 88.6 | 90.08 | -4,513.3 | -404.4 | 660.2 | 483.7 | 176.59 | 3.739 | |
| 11,455.6 | 6,925.1 | 11,488.5 | 6,927.1 | 89.3 | 89.6 | 90.08 | -4,569.0 | -403.3 | 660.2 | 481.5 | 178.70 | 3.695 | |
| 11,486.7 | 6,925.0 | 11,502.3 | 6,927.0 | 89.9 | 89.9 | 90.08 | -4,582.8 | -403.0 | 660.5 | 480.9 | 179.55 | 3.679 | SF |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-3N - Wellbore #1 - Plan #1 (8-6-1 — **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 | 1.0 | 1.0 | 0.0 | 0.0 | -90.01 | 0.0 | -44.8 | 44.8 | 44.8 | 0.00 | N/A | |
| 100.0 | 100.0 | 101.0 | 101.0 | 0.1 | 0.1 | -90.01 | 0.0 | -44.8 | 44.8 | 44.5 | 0.23 | 197.209 | |
| 200.0 | 200.0 | 201.0 | 201.0 | 0.3 | 0.3 | -90.01 | 0.0 | -44.8 | 44.8 | 44.1 | 0.68 | 66.173 | |
| 300.0 | 300.0 | 301.0 | 301.0 | 0.6 | 0.6 | -90.01 | 0.0 | -44.8 | 44.8 | 43.6 | 1.13 | 39.757 | |
| 400.0 | 400.0 | 401.0 | 401.0 | 0.8 | 0.8 | -90.01 | 0.0 | -44.8 | 44.8 | 43.2 | 1.58 | 28.414 | |
| 500.0 | 500.0 | 501.0 | 501.0 | 1.0 | 1.0 | -90.01 | 0.0 | -44.8 | 44.8 | 42.7 | 2.03 | 22.107 | |
| 600.0 | 600.0 | 601.0 | 601.0 | 1.2 | 1.2 | -90.01 | 0.0 | -44.8 | 44.8 | 42.3 | 2.47 | 18.091 | |
| 700.0 | 700.0 | 701.0 | 701.0 | 1.5 | 1.5 | -90.01 | 0.0 | -44.8 | 44.8 | 41.8 | 2.92 | 15.310 | |
| 800.0 | 800.0 | 801.0 | 801.0 | 1.7 | 1.7 | -90.01 | 0.0 | -44.8 | 44.8 | 41.4 | 3.37 | 13.270 | |
| 900.0 | 900.0 | 901.0 | 901.0 | 1.9 | 1.9 | -90.01 | 0.0 | -44.8 | 44.8 | 40.9 | 3.82 | 11.710 | |
| 1,000.0 | 1,000.0 | 1,001.0 | 1,001.0 | 2.1 | 2.1 | -90.01 | 0.0 | -44.8 | 44.8 | 40.5 | 4.27 | 10.478 | |
| 1,100.0 | 1,100.0 | 1,101.0 | 1,101.0 | 2.4 | 2.4 | -90.01 | 0.0 | -44.8 | 44.8 | 40.0 | 4.72 | 9.480 | |
| 1,200.0 | 1,200.0 | 1,201.0 | 1,201.0 | 2.6 | 2.6 | -90.01 | 0.0 | -44.8 | 44.8 | 39.6 | 5.17 | 8.656 | |
| 1,300.0 | 1,300.0 | 1,301.0 | 1,301.0 | 2.8 | 2.8 | -90.01 | 0.0 | -44.8 | 44.8 | 39.1 | 5.62 | 7.964 | |
| 1,400.0 | 1,400.0 | 1,401.0 | 1,401.0 | 3.0 | 3.0 | -90.01 | 0.0 | -44.8 | 44.8 | 38.7 | 6.07 | 7.374 | |
| 1,500.0 | 1,500.0 | 1,501.0 | 1,501.0 | 3.3 | 3.3 | -90.01 | 0.0 | -44.8 | 44.8 | 38.2 | 6.52 | 6.866 | |
| 1,566.3 | 1,566.3 | 1,567.3 | 1,567.3 | 3.4 | 3.4 | -90.01 | 0.0 | -44.8 | 44.8 | 38.0 | 6.82 | 6.566 | CC |
| 1,600.0 | 1,600.0 | 1,601.0 | 1,601.0 | 3.5 | 3.5 | -90.01 | 0.0 | -44.8 | 44.8 | 37.8 | 6.97 | 6.423 | ES |
| 1,700.0 | 1,700.0 | 1,700.0 | 1,700.0 | 3.7 | 3.7 | -133.94 | 0.8 | -46.3 | 47.2 | 39.8 | 7.40 | 6.376 | |
| 1,800.0 | 1,799.9 | 1,797.8 | 1,797.6 | 3.9 | 3.9 | -134.17 | 3.3 | -50.7 | 54.5 | 46.6 | 7.83 | 6.957 | |
| 1,900.0 | 1,899.7 | 1,895.3 | 1,894.8 | 4.1 | 4.1 | -134.42 | 7.4 | -58.0 | 66.5 | 58.2 | 8.25 | 8.055 | |
| 2,000.0 | 1,999.3 | 1,992.1 | 1,990.9 | 4.4 | 4.4 | -134.64 | 13.0 | -68.1 | 83.2 | 74.5 | 8.68 | 9.581 | |
| 2,100.0 | 2,098.7 | 2,090.3 | 2,088.2 | 4.6 | 4.6 | -135.27 | 19.3 | -79.4 | 102.1 | 93.0 | 9.12 | 11.199 | |
| 2,200.0 | 2,198.1 | 2,188.4 | 2,185.5 | 4.9 | 4.9 | -135.75 | 25.5 | -90.6 | 121.2 | 111.6 | 9.57 | 12.661 | |
| 2,300.0 | 2,297.5 | 2,286.6 | 2,282.9 | 5.1 | 5.1 | -136.09 | 31.8 | -101.8 | 140.2 | 130.2 | 10.03 | 13.981 | |
| 2,400.0 | 2,396.8 | 2,384.8 | 2,380.2 | 5.4 | 5.4 | -136.36 | 38.1 | -113.0 | 159.2 | 148.7 | 10.49 | 15.177 | |
| 2,500.0 | 2,496.2 | 2,483.0 | 2,477.5 | 5.6 | 5.7 | -136.57 | 44.3 | -124.2 | 178.2 | 167.3 | 10.96 | 16.264 | |
| 2,600.0 | 2,595.6 | 2,581.1 | 2,574.8 | 5.9 | 5.9 | -136.74 | 50.6 | -135.5 | 197.3 | 185.8 | 11.43 | 17.254 | |
| 2,700.0 | 2,695.0 | 2,679.3 | 2,672.2 | 6.2 | 6.2 | -136.88 | 56.8 | -146.7 | 216.3 | 204.4 | 11.91 | 18.158 | |
| 2,800.0 | 2,794.4 | 2,777.5 | 2,769.5 | 6.4 | 6.5 | -136.99 | 63.1 | -157.9 | 235.3 | 223.0 | 12.40 | 18.986 | |
| 2,900.0 | 2,893.8 | 2,875.6 | 2,866.8 | 6.7 | 6.8 | -137.09 | 69.4 | -169.1 | 254.4 | 241.5 | 12.88 | 19.746 | |
| 3,000.0 | 2,993.2 | 2,973.8 | 2,964.1 | 7.0 | 7.1 | -137.18 | 75.6 | -180.4 | 273.4 | 260.0 | 13.37 | 20.447 | |
| 3,100.0 | 3,092.6 | 3,072.0 | 3,061.5 | 7.3 | 7.4 | -137.25 | 81.9 | -191.6 | 292.5 | 278.6 | 13.86 | 21.093 | |
| 3,200.0 | 3,192.0 | 3,170.1 | 3,158.8 | 7.5 | 7.7 | -137.32 | 88.1 | -202.8 | 311.5 | 297.1 | 14.36 | 21.691 | |
| 3,300.0 | 3,291.4 | 3,268.3 | 3,256.1 | 7.8 | 8.0 | -137.37 | 94.4 | -214.0 | 330.5 | 315.7 | 14.86 | 22.247 | |
| 3,400.0 | 3,390.8 | 3,366.5 | 3,353.4 | 8.1 | 8.3 | -137.42 | 100.7 | -225.3 | 349.6 | 334.2 | 15.36 | 22.763 | |
| 3,500.0 | 3,490.2 | 3,464.7 | 3,450.8 | 8.4 | 8.6 | -137.47 | 106.9 | -236.5 | 368.6 | 352.7 | 15.86 | 23.243 | |
| 3,600.0 | 3,589.5 | 3,562.8 | 3,548.1 | 8.7 | 8.9 | -137.51 | 113.2 | -247.7 | 387.6 | 371.3 | 16.36 | 23.692 | |
| 3,700.0 | 3,688.9 | 3,661.0 | 3,645.4 | 9.0 | 9.2 | -137.57 | 119.4 | -258.9 | 406.7 | 389.8 | 16.87 | 24.111 | |
| 3,800.0 | 3,788.5 | 3,759.4 | 3,743.0 | 9.2 | 9.6 | -137.64 | 125.7 | -270.2 | 424.6 | 407.2 | 17.34 | 24.481 | |
| 3,900.0 | 3,888.3 | 3,858.1 | 3,840.8 | 9.4 | 9.9 | -137.47 | 132.0 | -281.5 | 440.6 | 422.8 | 17.81 | 24.742 | |
| 4,000.0 | 3,988.2 | 3,957.0 | 3,938.8 | 9.6 | 10.2 | -137.08 | 138.3 | -292.8 | 454.7 | 436.5 | 18.26 | 24.906 | |
| 4,100.0 | 4,088.1 | 4,056.0 | 4,037.1 | 9.7 | 10.5 | -136.48 | 144.6 | -304.1 | 467.0 | 448.3 | 18.69 | 24.984 | |
| 4,200.0 | 4,188.1 | 4,156.9 | 4,137.1 | 9.9 | 10.8 | -91.80 | 151.1 | -315.6 | 478.2 | 459.1 | 19.12 | 25.012 | |
| 4,300.0 | 4,288.1 | 4,273.3 | 4,252.8 | 10.1 | 11.1 | -91.05 | 157.1 | -326.4 | 487.4 | 467.8 | 19.57 | 24.910 | |
| 4,400.0 | 4,388.1 | 4,390.4 | 4,369.7 | 10.3 | 11.3 | -90.60 | 160.9 | -333.2 | 493.1 | 473.1 | 19.99 | 24.661 | |
| 4,500.0 | 4,488.1 | 4,508.0 | 4,487.2 | 10.5 | 11.5 | -90.43 | 162.3 | -335.7 | 495.3 | 474.8 | 20.41 | 24.261 | |
| 4,600.0 | 4,588.1 | 4,610.0 | 4,589.1 | 10.7 | 11.7 | -90.43 | 162.3 | -335.8 | 495.3 | 474.5 | 20.82 | 23.792 | |
| 4,700.0 | 4,688.1 | 4,710.0 | 4,689.1 | 10.9 | 11.9 | -90.43 | 162.3 | -335.8 | 495.3 | 474.0 | 21.23 | 23.325 | |
| 4,800.0 | 4,788.1 | 4,810.0 | 4,789.1 | 11.1 | 12.1 | -90.43 | 162.3 | -335.8 | 495.3 | 473.6 | 21.65 | 22.874 | |
| 4,900.0 | 4,888.1 | 4,910.0 | 4,889.1 | 11.4 | 12.3 | -90.43 | 162.3 | -335.8 | 495.3 | 473.2 | 22.07 | 22.439 | |
| 5,000.0 | 4,988.1 | 5,010.0 | 4,989.1 | 11.6 | 12.5 | -90.43 | 162.3 | -335.8 | 495.3 | 472.8 | 22.49 | 22.019 | |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-3N - Wellbore #1 - Plan #1 (8-6-1

**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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,100.0 | 5,088.1 | 5,110.0 | 5,089.1 | 11.8 | 12.7 | -90.43 | 162.3 | -335.8 | 495.3 | 472.4 | 22.92 | 21.614 | |
| 5,200.0 | 5,188.1 | 5,210.0 | 5,189.1 | 12.0 | 12.9 | -90.43 | 162.3 | -335.8 | 495.3 | 471.9 | 23.34 | 21.222 | |
| 5,300.0 | 5,288.1 | 5,310.0 | 5,289.1 | 12.2 | 13.1 | -90.43 | 162.3 | -335.8 | 495.3 | 471.5 | 23.76 | 20.844 | |
| 5,400.0 | 5,388.1 | 5,410.0 | 5,389.1 | 12.4 | 13.2 | -90.43 | 162.3 | -335.8 | 495.3 | 471.1 | 24.19 | 20.477 | |
| 5,500.0 | 5,488.1 | 5,510.0 | 5,489.1 | 12.6 | 13.4 | -90.43 | 162.3 | -335.8 | 495.3 | 470.7 | 24.61 | 20.123 | |
| 5,600.0 | 5,588.1 | 5,610.0 | 5,589.1 | 12.8 | 13.6 | -90.43 | 162.3 | -335.8 | 495.3 | 470.2 | 25.04 | 19.780 | |
| 5,700.0 | 5,688.1 | 5,710.0 | 5,689.1 | 13.0 | 13.8 | -90.43 | 162.3 | -335.8 | 495.3 | 469.8 | 25.47 | 19.449 | |
| 5,800.0 | 5,788.1 | 5,810.0 | 5,789.1 | 13.2 | 14.0 | -90.43 | 162.3 | -335.8 | 495.3 | 469.4 | 25.89 | 19.127 | |
| 5,900.0 | 5,888.1 | 5,910.0 | 5,889.1 | 13.5 | 14.2 | -90.43 | 162.3 | -335.8 | 495.3 | 469.0 | 26.32 | 18.815 | |
| 6,000.0 | 5,988.1 | 6,010.0 | 5,989.1 | 13.7 | 14.4 | -90.43 | 162.3 | -335.8 | 495.3 | 468.5 | 26.75 | 18.513 | |
| 6,100.0 | 6,088.1 | 6,110.0 | 6,089.1 | 13.9 | 14.6 | -90.43 | 162.3 | -335.8 | 495.3 | 468.1 | 27.18 | 18.220 | |
| 6,200.0 | 6,188.1 | 6,210.0 | 6,189.1 | 14.1 | 14.8 | -90.43 | 162.3 | -335.8 | 495.3 | 467.7 | 27.61 | 17.936 | |
| 6,300.0 | 6,288.1 | 6,310.0 | 6,289.1 | 14.3 | 15.0 | -90.43 | 162.3 | -335.8 | 495.3 | 467.2 | 28.04 | 17.660 | |
| 6,400.0 | 6,388.1 | 6,410.0 | 6,389.1 | 14.5 | 15.2 | -90.43 | 162.3 | -335.8 | 495.3 | 466.8 | 28.48 | 17.392 | |
| 6,500.0 | 6,488.0 | 6,510.8 | 6,489.8 | 14.7 | 15.4 | 90.75 | 158.3 | -335.7 | 495.3 | 466.4 | 28.84 | 17.175 | |
| 6,600.0 | 6,585.4 | 6,612.0 | 6,588.4 | 14.8 | 15.5 | 90.71 | 136.0 | -335.2 | 495.3 | 466.2 | 29.04 | 17.057 | |
| 6,700.0 | 6,677.0 | 6,713.2 | 6,680.8 | 14.9 | 15.6 | 90.65 | 95.2 | -334.4 | 495.3 | 466.1 | 29.16 | 16.985 | |
| 6,800.0 | 6,759.2 | 6,814.2 | 6,763.4 | 15.0 | 15.7 | 90.57 | 37.4 | -333.2 | 495.3 | 466.0 | 29.31 | 16.897 | |
| 6,900.0 | 6,829.1 | 6,915.1 | 6,833.3 | 15.1 | 15.7 | 90.47 | -35.1 | -331.7 | 495.3 | 465.6 | 29.61 | 16.725 | |
| 7,000.0 | 6,884.2 | 7,015.7 | 6,887.8 | 15.3 | 15.9 | 90.35 | -119.5 | -330.0 | 495.2 | 465.1 | 30.19 | 16.407 | |
| 7,100.0 | 6,922.3 | 7,116.2 | 6,925.1 | 15.7 | 16.2 | 90.21 | -212.6 | -328.0 | 495.2 | 464.1 | 31.12 | 15.916 | |
| 7,200.0 | 6,942.1 | 7,216.4 | 6,943.7 | 16.3 | 16.7 | 90.07 | -310.9 | -326.0 | 495.2 | 462.8 | 32.43 | 15.272 | |
| 7,300.0 | 6,944.7 | 7,316.4 | 6,945.7 | 17.2 | 17.5 | 89.99 | -410.9 | -323.9 | 495.2 | 461.1 | 34.10 | 14.525 | |
| 7,400.0 | 6,944.3 | 7,416.4 | 6,945.2 | 18.1 | 18.5 | 89.99 | -510.8 | -321.9 | 495.2 | 459.1 | 36.08 | 13.725 | |
| 7,500.0 | 6,943.8 | 7,516.4 | 6,944.7 | 19.3 | 19.6 | 89.99 | -610.8 | -319.8 | 495.2 | 456.9 | 38.35 | 12.912 | |
| 7,600.0 | 6,943.3 | 7,616.4 | 6,944.3 | 20.5 | 20.9 | 89.99 | -710.8 | -317.8 | 495.2 | 454.4 | 40.86 | 12.119 | |
| 7,700.0 | 6,942.8 | 7,716.4 | 6,943.8 | 21.9 | 22.2 | 89.99 | -810.8 | -315.7 | 495.2 | 451.7 | 43.57 | 11.367 | |
| 7,800.0 | 6,942.4 | 7,816.4 | 6,943.3 | 23.3 | 23.6 | 89.99 | -910.7 | -313.6 | 495.2 | 448.8 | 46.43 | 10.665 | |
| 7,900.0 | 6,941.9 | 7,916.4 | 6,942.8 | 24.8 | 25.1 | 89.99 | -1,010.7 | -311.6 | 495.2 | 445.8 | 49.43 | 10.018 | |
| 8,000.0 | 6,941.4 | 8,016.4 | 6,942.4 | 26.3 | 26.6 | 89.99 | -1,110.7 | -309.5 | 495.2 | 442.7 | 52.54 | 9.425 | |
| 8,100.0 | 6,941.0 | 8,116.4 | 6,941.9 | 27.9 | 28.2 | 89.99 | -1,210.7 | -307.4 | 495.2 | 439.5 | 55.75 | 8.883 | |
| 8,200.0 | 6,940.5 | 8,216.4 | 6,941.4 | 29.6 | 29.8 | 89.99 | -1,310.7 | -305.4 | 495.2 | 436.2 | 59.03 | 8.390 | |
| 8,300.0 | 6,940.0 | 8,316.4 | 6,941.0 | 31.2 | 31.5 | 89.99 | -1,410.6 | -303.3 | 495.2 | 432.8 | 62.37 | 7.940 | |
| 8,400.0 | 6,939.5 | 8,416.4 | 6,940.5 | 32.9 | 33.2 | 89.99 | -1,510.6 | -301.3 | 495.2 | 429.4 | 65.77 | 7.529 | |
| 8,500.0 | 6,939.1 | 8,516.4 | 6,940.0 | 34.7 | 34.9 | 89.99 | -1,610.6 | -299.2 | 495.2 | 426.0 | 69.22 | 7.155 | |
| 8,600.0 | 6,938.6 | 8,616.4 | 6,939.5 | 36.4 | 36.6 | 89.99 | -1,710.6 | -297.1 | 495.2 | 422.5 | 72.70 | 6.811 | |
| 8,700.0 | 6,938.1 | 8,716.4 | 6,939.1 | 38.2 | 38.4 | 89.99 | -1,810.5 | -295.1 | 495.2 | 419.0 | 76.23 | 6.497 | |
| 8,800.0 | 6,937.7 | 8,816.4 | 6,938.6 | 39.9 | 40.1 | 89.99 | -1,910.5 | -293.0 | 495.2 | 415.4 | 79.78 | 6.207 | |
| 8,900.0 | 6,937.2 | 8,916.4 | 6,938.1 | 41.7 | 41.9 | 89.99 | -2,010.5 | -290.9 | 495.2 | 411.8 | 83.35 | 5.941 | |
| 9,000.0 | 6,936.7 | 9,016.4 | 6,937.7 | 43.5 | 43.7 | 89.99 | -2,110.5 | -288.9 | 495.2 | 408.2 | 86.96 | 5.695 | |
| 9,100.0 | 6,936.2 | 9,116.4 | 6,937.2 | 45.3 | 45.5 | 89.99 | -2,210.5 | -286.8 | 495.2 | 404.6 | 90.58 | 5.467 | |
| 9,200.0 | 6,935.8 | 9,216.4 | 6,936.7 | 47.1 | 47.3 | 89.99 | -2,310.4 | -284.8 | 495.2 | 401.0 | 94.22 | 5.256 | |
| 9,300.0 | 6,935.3 | 9,316.4 | 6,936.2 | 49.0 | 49.1 | 89.99 | -2,410.4 | -282.7 | 495.2 | 397.3 | 97.87 | 5.060 | |
| 9,400.0 | 6,934.8 | 9,416.4 | 6,935.8 | 50.8 | 51.0 | 89.99 | -2,510.4 | -280.6 | 495.2 | 393.7 | 101.54 | 4.877 | |
| 9,500.0 | 6,934.4 | 9,516.4 | 6,935.3 | 52.6 | 52.8 | 89.99 | -2,610.4 | -278.6 | 495.2 | 390.0 | 105.22 | 4.706 | |
| 9,600.0 | 6,933.9 | 9,616.4 | 6,934.8 | 54.5 | 54.7 | 89.99 | -2,710.3 | -276.5 | 495.2 | 386.3 | 108.92 | 4.547 | |
| 9,700.0 | 6,933.4 | 9,716.4 | 6,934.4 | 56.3 | 56.5 | 89.99 | -2,810.3 | -274.4 | 495.2 | 382.6 | 112.62 | 4.397 | |
| 9,800.0 | 6,932.9 | 9,816.4 | 6,933.9 | 58.2 | 58.4 | 89.99 | -2,910.3 | -272.4 | 495.2 | 378.9 | 116.33 | 4.257 | |
| 9,900.0 | 6,932.5 | 9,916.4 | 6,933.4 | 60.1 | 60.2 | 89.99 | -3,010.3 | -270.3 | 495.2 | 375.1 | 120.06 | 4.125 | |
| 10,000.0 | 6,932.0 | 10,016.4 | 6,932.9 | 61.9 | 62.1 | 89.99 | -3,110.3 | -268.3 | 495.2 | 371.4 | 123.78 | 4.000 | |
| 10,100.0 | 6,931.5 | 10,116.4 | 6,932.5 | 63.8 | 63.9 | 89.99 | -3,210.2 | -266.2 | 495.2 | 367.7 | 127.52 | 3.883 | |
| 10,200.0 | 6,931.1 | 10,216.4 | 6,932.0 | 65.7 | 65.8 | 89.99 | -3,310.2 | -264.1 | 495.2 | 363.9 | 131.26 | 3.772 | |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-3N - Wellbore #1 - Plan #1 (8-6-1

**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 | 6,930.6 | 10,316.4 | 6,931.5 | 67.5 | 67.7 | 89.99 | -3,410.2 | -262.1 | 495.2 | 360.2 | 135.01 | 3.668 | |
| 10,400.0 | 6,930.1 | 10,416.4 | 6,931.1 | 69.4 | 69.5 | 89.99 | -3,510.2 | -260.0 | 495.2 | 356.4 | 138.77 | 3.568 | |
| 10,500.0 | 6,929.6 | 10,516.4 | 6,930.6 | 71.3 | 71.4 | 89.99 | -3,610.1 | -257.9 | 495.2 | 352.7 | 142.53 | 3.474 | |
| 10,600.0 | 6,929.2 | 10,616.4 | 6,930.1 | 73.2 | 73.3 | 89.99 | -3,710.1 | -255.9 | 495.2 | 348.9 | 146.29 | 3.385 | |
| 10,700.0 | 6,928.7 | 10,716.4 | 6,929.6 | 75.0 | 75.2 | 89.99 | -3,810.1 | -253.8 | 495.2 | 345.1 | 150.06 | 3.300 | |
| 10,800.0 | 6,928.2 | 10,816.4 | 6,929.2 | 76.9 | 77.1 | 89.99 | -3,910.1 | -251.8 | 495.2 | 341.3 | 153.83 | 3.219 | |
| 10,900.0 | 6,927.8 | 10,916.4 | 6,928.7 | 78.8 | 78.9 | 89.99 | -4,010.1 | -249.7 | 495.2 | 337.6 | 157.60 | 3.142 | |
| 11,000.0 | 6,927.3 | 11,016.4 | 6,928.2 | 80.7 | 80.8 | 89.99 | -4,110.0 | -247.6 | 495.2 | 333.8 | 161.38 | 3.068 | |
| 11,100.0 | 6,926.8 | 11,116.4 | 6,927.8 | 82.6 | 82.7 | 89.99 | -4,210.0 | -245.6 | 495.2 | 330.0 | 165.17 | 2.998 | |
| 11,200.0 | 6,926.4 | 11,216.4 | 6,927.3 | 84.5 | 84.6 | 89.99 | -4,310.0 | -243.5 | 495.2 | 326.2 | 168.95 | 2.931 | |
| 11,300.0 | 6,925.9 | 11,316.4 | 6,926.8 | 86.4 | 86.5 | 89.99 | -4,410.0 | -241.4 | 495.2 | 322.4 | 172.74 | 2.867 | |
| 11,400.0 | 6,925.4 | 11,416.4 | 6,926.3 | 88.3 | 88.4 | 89.99 | -4,509.9 | -239.4 | 495.2 | 318.6 | 176.53 | 2.805 | |
| 11,457.3 | 6,925.1 | 11,473.8 | 6,926.1 | 89.4 | 89.5 | 89.99 | -4,567.3 | -238.2 | 495.2 | 316.5 | 178.70 | 2.771 | |
| 11,486.7 | 6,925.0 | 11,489.3 | 6,926.0 | 89.9 | 89.8 | 89.99 | -4,582.8 | -237.9 | 495.4 | 315.8 | 179.55 | 2.759 | SF |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-4N - Wellbore #1 - Plan #1 (8-6-1 — **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 | 1.0 | 1.0 | 0.0 | 0.0 | -89.96 | 0.0 | -30.8 | 30.8 | 30.8 | 0.00 | N/A | |
| 100.0 | 100.0 | 101.0 | 101.0 | 0.1 | 0.1 | -89.96 | 0.0 | -30.8 | 30.8 | 30.6 | 0.23 | 135.581 | |
| 200.0 | 200.0 | 201.0 | 201.0 | 0.3 | 0.3 | -89.96 | 0.0 | -30.8 | 30.8 | 30.1 | 0.68 | 45.494 | |
| 300.0 | 300.0 | 301.0 | 301.0 | 0.6 | 0.6 | -89.96 | 0.0 | -30.8 | 30.8 | 29.7 | 1.13 | 27.333 | |
| 400.0 | 400.0 | 401.0 | 401.0 | 0.8 | 0.8 | -89.96 | 0.0 | -30.8 | 30.8 | 29.2 | 1.58 | 19.535 | |
| 500.0 | 500.0 | 501.0 | 501.0 | 1.0 | 1.0 | -89.96 | 0.0 | -30.8 | 30.8 | 28.8 | 2.03 | 15.198 | |
| 600.0 | 600.0 | 601.0 | 601.0 | 1.2 | 1.2 | -89.96 | 0.0 | -30.8 | 30.8 | 28.3 | 2.47 | 12.438 | |
| 700.0 | 700.0 | 701.0 | 701.0 | 1.5 | 1.5 | -89.96 | 0.0 | -30.8 | 30.8 | 27.9 | 2.92 | 10.526 | |
| 800.0 | 800.0 | 801.0 | 801.0 | 1.7 | 1.7 | -89.96 | 0.0 | -30.8 | 30.8 | 27.4 | 3.37 | 9.123 | |
| 900.0 | 900.0 | 901.0 | 901.0 | 1.9 | 1.9 | -89.96 | 0.0 | -30.8 | 30.8 | 27.0 | 3.82 | 8.050 | |
| 1,000.0 | 1,000.0 | 1,001.0 | 1,001.0 | 2.1 | 2.1 | -89.96 | 0.0 | -30.8 | 30.8 | 26.5 | 4.27 | 7.203 | |
| 1,100.0 | 1,100.0 | 1,101.0 | 1,101.0 | 2.4 | 2.4 | -89.96 | 0.0 | -30.8 | 30.8 | 26.1 | 4.72 | 6.518 | |
| 1,200.0 | 1,200.0 | 1,201.0 | 1,201.0 | 2.6 | 2.6 | -89.96 | 0.0 | -30.8 | 30.8 | 25.6 | 5.17 | 5.951 | |
| 1,300.0 | 1,300.0 | 1,301.0 | 1,301.0 | 2.8 | 2.8 | -89.96 | 0.0 | -30.8 | 30.8 | 25.2 | 5.62 | 5.475 | |
| 1,400.0 | 1,400.0 | 1,401.0 | 1,401.0 | 3.0 | 3.0 | -89.96 | 0.0 | -30.8 | 30.8 | 24.7 | 6.07 | 5.070 | |
| 1,500.0 | 1,500.0 | 1,501.0 | 1,501.0 | 3.3 | 3.3 | -89.96 | 0.0 | -30.8 | 30.8 | 24.3 | 6.52 | 4.720 | |
| 1,600.0 | 1,600.0 | 1,601.0 | 1,601.0 | 3.5 | 3.5 | -89.96 | 0.0 | -30.8 | 30.8 | 23.8 | 6.97 | 4.416 | CC, ES |
| 1,700.0 | 1,700.0 | 1,701.0 | 1,701.0 | 3.7 | 3.7 | -135.51 | 0.0 | -30.8 | 31.7 | 24.3 | 7.41 | 4.275 | |
| 1,800.0 | 1,799.9 | 1,800.9 | 1,800.9 | 3.9 | 3.9 | -140.04 | 0.0 | -30.8 | 34.6 | 26.8 | 7.85 | 4.408 | |
| 1,900.0 | 1,899.7 | 1,900.0 | 1,900.0 | 4.1 | 4.2 | -144.37 | 1.0 | -31.6 | 40.5 | 32.2 | 8.28 | 4.890 | |
| 2,000.0 | 1,999.3 | 1,999.1 | 1,999.1 | 4.4 | 4.4 | -146.52 | 4.0 | -34.2 | 49.9 | 41.2 | 8.71 | 5.736 | |
| 2,100.0 | 2,098.7 | 2,097.7 | 2,097.4 | 4.6 | 4.6 | -146.78 | 8.8 | -38.4 | 62.1 | 53.0 | 9.14 | 6.794 | |
| 2,200.0 | 2,198.1 | 2,196.0 | 2,195.3 | 4.9 | 4.8 | -145.26 | 15.6 | -44.2 | 75.6 | 66.0 | 9.59 | 7.878 | |
| 2,300.0 | 2,297.5 | 2,294.0 | 2,292.6 | 5.1 | 5.1 | -142.85 | 24.1 | -51.6 | 90.3 | 80.3 | 10.05 | 8.985 | |
| 2,400.0 | 2,396.8 | 2,392.8 | 2,390.7 | 5.4 | 5.3 | -140.76 | 33.3 | -59.5 | 105.6 | 95.1 | 10.52 | 10.037 | |
| 2,500.0 | 2,496.2 | 2,491.5 | 2,488.7 | 5.6 | 5.5 | -139.19 | 42.5 | -67.4 | 121.0 | 110.0 | 11.00 | 11.000 | |
| 2,600.0 | 2,595.6 | 2,590.3 | 2,586.7 | 5.9 | 5.8 | -137.98 | 51.7 | -75.4 | 136.4 | 124.9 | 11.48 | 11.883 | |
| 2,700.0 | 2,695.0 | 2,689.1 | 2,684.7 | 6.2 | 6.1 | -137.02 | 61.0 | -83.3 | 151.9 | 139.9 | 11.97 | 12.692 | |
| 2,800.0 | 2,794.4 | 2,787.8 | 2,782.7 | 6.4 | 6.3 | -136.23 | 70.2 | -91.2 | 167.4 | 155.0 | 12.46 | 13.435 | |
| 2,900.0 | 2,893.8 | 2,886.6 | 2,880.7 | 6.7 | 6.6 | -135.58 | 79.4 | -99.2 | 183.0 | 170.0 | 12.96 | 14.119 | |
| 3,000.0 | 2,993.2 | 2,985.4 | 2,978.7 | 7.0 | 6.9 | -135.03 | 88.6 | -107.1 | 198.5 | 185.1 | 13.46 | 14.748 | |
| 3,100.0 | 3,092.6 | 3,084.1 | 3,076.7 | 7.3 | 7.2 | -134.56 | 97.8 | -115.0 | 214.1 | 200.2 | 13.97 | 15.329 | |
| 3,200.0 | 3,192.0 | 3,182.9 | 3,174.8 | 7.5 | 7.5 | -134.16 | 107.0 | -123.0 | 229.7 | 215.2 | 14.48 | 15.867 | |
| 3,300.0 | 3,291.4 | 3,281.6 | 3,272.8 | 7.8 | 7.7 | -133.80 | 116.2 | -130.9 | 245.3 | 230.3 | 14.99 | 16.366 | |
| 3,400.0 | 3,390.8 | 3,380.4 | 3,370.8 | 8.1 | 8.0 | -133.49 | 125.4 | -138.8 | 260.9 | 245.4 | 15.50 | 16.830 | |
| 3,500.0 | 3,490.2 | 3,479.2 | 3,468.8 | 8.4 | 8.3 | -133.21 | 134.6 | -146.8 | 276.6 | 260.5 | 16.02 | 17.262 | |
| 3,600.0 | 3,589.5 | 3,579.9 | 3,568.8 | 8.7 | 8.6 | -132.99 | 143.8 | -154.7 | 292.1 | 275.5 | 16.54 | 17.663 | |
| 3,700.0 | 3,688.9 | 3,684.3 | 3,672.7 | 9.0 | 8.8 | -133.12 | 151.7 | -161.5 | 306.1 | 289.1 | 17.01 | 17.992 | |
| 3,800.0 | 3,788.5 | 3,789.3 | 3,777.4 | 9.2 | 9.0 | -133.53 | 157.4 | -166.4 | 317.4 | 299.9 | 17.45 | 18.191 | |
| 3,900.0 | 3,888.3 | 3,894.8 | 3,882.8 | 9.4 | 9.2 | -133.91 | 161.0 | -169.5 | 325.0 | 307.1 | 17.85 | 18.203 | |
| 4,000.0 | 3,988.2 | 4,000.6 | 3,988.5 | 9.6 | 9.4 | -134.28 | 162.3 | -170.7 | 329.0 | 310.8 | 18.24 | 18.041 | |
| 4,100.0 | 4,088.1 | 4,101.2 | 4,089.1 | 9.7 | 9.6 | -134.49 | 162.3 | -170.7 | 330.2 | 311.6 | 18.61 | 17.743 | |
| 4,200.0 | 4,188.1 | 4,201.2 | 4,189.1 | 9.9 | 9.8 | -90.64 | 162.3 | -170.7 | 330.2 | 311.2 | 19.01 | 17.372 | |
| 4,300.0 | 4,288.1 | 4,301.2 | 4,289.1 | 10.1 | 10.0 | -90.64 | 162.3 | -170.7 | 330.2 | 310.8 | 19.43 | 16.997 | |
| 4,400.0 | 4,388.1 | 4,401.2 | 4,389.1 | 10.3 | 10.2 | -90.64 | 162.3 | -170.7 | 330.2 | 310.4 | 19.85 | 16.638 | |
| 4,500.0 | 4,488.1 | 4,501.2 | 4,489.1 | 10.5 | 10.4 | -90.64 | 162.3 | -170.7 | 330.2 | 309.9 | 20.27 | 16.292 | |
| 4,600.0 | 4,588.1 | 4,601.2 | 4,589.1 | 10.7 | 10.6 | -90.64 | 162.3 | -170.7 | 330.2 | 309.5 | 20.69 | 15.959 | |
| 4,700.0 | 4,688.1 | 4,701.2 | 4,689.1 | 10.9 | 10.9 | -90.64 | 162.3 | -170.7 | 330.2 | 309.1 | 21.11 | 15.639 | |
| 4,800.0 | 4,788.1 | 4,801.2 | 4,789.1 | 11.1 | 11.1 | -90.64 | 162.3 | -170.7 | 330.2 | 308.7 | 21.54 | 15.331 | |
| 4,900.0 | 4,888.1 | 4,901.2 | 4,889.1 | 11.4 | 11.3 | -90.64 | 162.3 | -170.7 | 330.2 | 308.2 | 21.96 | 15.034 | |
| 5,000.0 | 4,988.1 | 5,001.2 | 4,989.1 | 11.6 | 11.5 | -90.64 | 162.3 | -170.7 | 330.2 | 307.8 | 22.39 | 14.748 | |
| 5,100.0 | 5,088.1 | 5,101.2 | 5,089.1 | 11.8 | 11.7 | -90.64 | 162.3 | -170.7 | 330.2 | 307.4 | 22.82 | 14.471 | |

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

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-4N - Wellbore #1 - Plan #1 (8-6-1

**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 | 5,188.1 | 5,201.2 | 5,189.1 | 12.0 | 11.9 | -90.64 | 162.3 | -170.7 | 330.2 | 307.0 | 23.25 | 14.205 | |
| 5,300.0 | 5,288.1 | 5,301.2 | 5,289.1 | 12.2 | 12.1 | -90.64 | 162.3 | -170.7 | 330.2 | 306.5 | 23.67 | 13.947 | |
| 5,400.0 | 5,388.1 | 5,401.2 | 5,389.1 | 12.4 | 12.3 | -90.64 | 162.3 | -170.7 | 330.2 | 306.1 | 24.10 | 13.699 | |
| 5,500.0 | 5,488.1 | 5,501.2 | 5,489.1 | 12.6 | 12.5 | -90.64 | 162.3 | -170.7 | 330.2 | 305.7 | 24.53 | 13.458 | |
| 5,600.0 | 5,588.1 | 5,601.2 | 5,589.1 | 12.8 | 12.8 | -90.64 | 162.3 | -170.7 | 330.2 | 305.2 | 24.97 | 13.226 | |
| 5,700.0 | 5,688.1 | 5,701.2 | 5,689.1 | 13.0 | 13.0 | -90.64 | 162.3 | -170.7 | 330.2 | 304.8 | 25.40 | 13.001 | |
| 5,800.0 | 5,788.1 | 5,801.2 | 5,789.1 | 13.2 | 13.2 | -90.64 | 162.3 | -170.7 | 330.2 | 304.4 | 25.83 | 12.784 | |
| 5,900.0 | 5,888.1 | 5,901.2 | 5,889.1 | 13.5 | 13.4 | -90.64 | 162.3 | -170.7 | 330.2 | 303.9 | 26.26 | 12.573 | |
| 6,000.0 | 5,988.1 | 6,001.2 | 5,989.1 | 13.7 | 13.6 | -90.64 | 162.3 | -170.7 | 330.2 | 303.5 | 26.70 | 12.369 | |
| 6,100.0 | 6,088.1 | 6,101.2 | 6,089.1 | 13.9 | 13.8 | -90.64 | 162.3 | -170.7 | 330.2 | 303.1 | 27.13 | 12.171 | |
| 6,200.0 | 6,188.1 | 6,201.2 | 6,189.1 | 14.1 | 14.0 | -90.64 | 162.3 | -170.7 | 330.2 | 302.6 | 27.56 | 11.979 | |
| 6,300.0 | 6,288.1 | 6,301.2 | 6,289.1 | 14.3 | 14.3 | -90.64 | 162.3 | -170.7 | 330.2 | 302.2 | 28.00 | 11.793 | |
| 6,400.0 | 6,388.1 | 6,401.2 | 6,389.1 | 14.5 | 14.5 | -90.64 | 162.3 | -170.7 | 330.2 | 301.8 | 28.44 | 11.612 | |
| 6,500.0 | 6,488.0 | 6,501.6 | 6,489.4 | 14.7 | 14.6 | 90.54 | 158.3 | -170.6 | 330.2 | 301.4 | 28.79 | 11.469 | |
| 6,600.0 | 6,585.4 | 6,602.2 | 6,587.4 | 14.8 | 14.8 | 90.51 | 136.4 | -170.1 | 330.2 | 301.2 | 28.99 | 11.391 | |
| 6,700.0 | 6,677.0 | 6,702.7 | 6,679.3 | 14.9 | 14.8 | 90.47 | 96.1 | -169.3 | 330.2 | 301.1 | 29.11 | 11.343 | |
| 6,800.0 | 6,759.2 | 6,803.2 | 6,761.7 | 15.0 | 14.9 | 90.41 | 38.9 | -168.1 | 330.2 | 300.9 | 29.26 | 11.285 | |
| 6,900.0 | 6,829.1 | 6,903.6 | 6,831.6 | 15.1 | 15.0 | 90.34 | -33.0 | -166.6 | 330.2 | 300.6 | 29.56 | 11.170 | |
| 7,000.0 | 6,884.2 | 7,003.9 | 6,886.4 | 15.3 | 15.2 | 90.25 | -116.8 | -164.9 | 330.2 | 300.1 | 30.13 | 10.958 | |
| 7,100.0 | 6,922.3 | 7,104.2 | 6,924.1 | 15.7 | 15.6 | 90.15 | -209.5 | -163.0 | 330.2 | 299.1 | 31.06 | 10.630 | |
| 7,200.0 | 6,942.1 | 7,204.3 | 6,943.4 | 16.3 | 16.3 | 90.05 | -307.5 | -161.0 | 330.2 | 297.8 | 32.37 | 10.199 | |
| 7,300.0 | 6,944.7 | 7,304.3 | 6,945.7 | 17.2 | 17.1 | 89.99 | -407.5 | -158.9 | 330.2 | 296.1 | 34.04 | 9.700 | |
| 7,400.0 | 6,944.3 | 7,404.3 | 6,945.2 | 18.1 | 18.1 | 89.99 | -507.4 | -156.9 | 330.2 | 294.1 | 36.03 | 9.164 | |
| 7,500.0 | 6,943.8 | 7,504.3 | 6,944.7 | 19.3 | 19.2 | 89.99 | -607.4 | -154.8 | 330.2 | 291.9 | 38.30 | 8.620 | |
| 7,600.0 | 6,943.3 | 7,604.3 | 6,944.3 | 20.5 | 20.5 | 89.99 | -707.4 | -152.7 | 330.2 | 289.4 | 40.81 | 8.089 | |
| 7,700.0 | 6,942.8 | 7,704.3 | 6,943.8 | 21.9 | 21.9 | 89.99 | -807.4 | -150.7 | 330.2 | 286.6 | 43.52 | 7.586 | |
| 7,800.0 | 6,942.4 | 7,804.3 | 6,943.3 | 23.3 | 23.3 | 89.99 | -907.3 | -148.6 | 330.2 | 283.8 | 46.39 | 7.117 | |
| 7,900.0 | 6,941.9 | 7,904.3 | 6,942.9 | 24.8 | 24.8 | 89.99 | -1,007.3 | -146.5 | 330.2 | 280.8 | 49.39 | 6.684 | |
| 8,000.0 | 6,941.4 | 8,004.3 | 6,942.4 | 26.3 | 26.3 | 89.99 | -1,107.3 | -144.5 | 330.2 | 277.7 | 52.50 | 6.288 | |
| 8,100.0 | 6,941.0 | 8,104.3 | 6,941.9 | 27.9 | 27.9 | 89.99 | -1,207.3 | -142.4 | 330.2 | 274.4 | 55.71 | 5.926 | |
| 8,200.0 | 6,940.5 | 8,204.3 | 6,941.4 | 29.6 | 29.6 | 89.99 | -1,307.3 | -140.4 | 330.2 | 271.2 | 58.99 | 5.597 | |
| 8,300.0 | 6,940.0 | 8,304.3 | 6,941.0 | 31.2 | 31.2 | 89.99 | -1,407.2 | -138.3 | 330.2 | 267.8 | 62.34 | 5.296 | |
| 8,400.0 | 6,939.5 | 8,404.3 | 6,940.5 | 32.9 | 32.9 | 89.99 | -1,507.2 | -136.2 | 330.1 | 264.4 | 65.74 | 5.022 | |
| 8,500.0 | 6,939.1 | 8,504.3 | 6,940.0 | 34.7 | 34.7 | 89.99 | -1,607.2 | -134.2 | 330.1 | 261.0 | 69.18 | 4.772 | |
| 8,600.0 | 6,938.6 | 8,604.3 | 6,939.6 | 36.4 | 36.4 | 89.99 | -1,707.2 | -132.1 | 330.1 | 257.5 | 72.67 | 4.543 | |
| 8,700.0 | 6,938.1 | 8,704.3 | 6,939.1 | 38.2 | 38.2 | 89.99 | -1,807.1 | -130.0 | 330.1 | 253.9 | 76.20 | 4.333 | |
| 8,800.0 | 6,937.7 | 8,804.3 | 6,938.6 | 39.9 | 39.9 | 89.99 | -1,907.1 | -128.0 | 330.1 | 250.4 | 79.75 | 4.140 | |
| 8,900.0 | 6,937.2 | 8,904.3 | 6,938.1 | 41.7 | 41.7 | 89.99 | -2,007.1 | -125.9 | 330.1 | 246.8 | 83.33 | 3.962 | |
| 9,000.0 | 6,936.7 | 9,004.3 | 6,937.7 | 43.5 | 43.5 | 89.99 | -2,107.1 | -123.8 | 330.1 | 243.2 | 86.93 | 3.798 | |
| 9,100.0 | 6,936.2 | 9,104.3 | 6,937.2 | 45.3 | 45.3 | 89.99 | -2,207.1 | -121.8 | 330.1 | 239.6 | 90.55 | 3.646 | |
| 9,200.0 | 6,935.8 | 9,204.3 | 6,936.7 | 47.1 | 47.2 | 89.99 | -2,307.0 | -119.7 | 330.1 | 235.9 | 94.19 | 3.505 | |
| 9,300.0 | 6,935.3 | 9,304.3 | 6,936.3 | 49.0 | 49.0 | 89.99 | -2,407.0 | -117.7 | 330.1 | 232.3 | 97.85 | 3.374 | |
| 9,400.0 | 6,934.8 | 9,404.3 | 6,935.8 | 50.8 | 50.8 | 89.99 | -2,507.0 | -115.6 | 330.1 | 228.6 | 101.52 | 3.252 | |
| 9,500.0 | 6,934.4 | 9,504.3 | 6,935.3 | 52.6 | 52.7 | 89.99 | -2,607.0 | -113.5 | 330.1 | 224.9 | 105.20 | 3.138 | |
| 9,600.0 | 6,933.9 | 9,604.3 | 6,934.8 | 54.5 | 54.5 | 89.99 | -2,706.9 | -111.5 | 330.1 | 221.2 | 108.89 | 3.032 | |
| 9,700.0 | 6,933.4 | 9,704.3 | 6,934.4 | 56.3 | 56.3 | 89.99 | -2,806.9 | -109.4 | 330.1 | 217.5 | 112.60 | 2.932 | |
| 9,800.0 | 6,932.9 | 9,804.3 | 6,933.9 | 58.2 | 58.2 | 89.99 | -2,906.9 | -107.3 | 330.1 | 213.8 | 116.31 | 2.838 | |
| 9,900.0 | 6,932.5 | 9,904.3 | 6,933.4 | 60.1 | 60.1 | 89.99 | -3,006.9 | -105.3 | 330.1 | 210.1 | 120.03 | 2.750 | |
| 10,000.0 | 6,932.0 | 10,004.3 | 6,933.0 | 61.9 | 61.9 | 89.99 | -3,106.9 | -103.2 | 330.1 | 206.4 | 123.76 | 2.667 | |
| 10,100.0 | 6,931.5 | 10,104.3 | 6,932.5 | 63.8 | 63.8 | 89.99 | -3,206.8 | -101.2 | 330.1 | 202.6 | 127.50 | 2.589 | |
| 10,200.0 | 6,931.1 | 10,204.3 | 6,932.0 | 65.7 | 65.7 | 89.99 | -3,306.8 | -99.1 | 330.1 | 198.9 | 131.24 | 2.515 | |
| 10,300.0 | 6,930.6 | 10,304.3 | 6,931.5 | 67.5 | 67.5 | 89.99 | -3,406.8 | -97.0 | 330.1 | 195.1 | 134.99 | 2.445 | |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-4N - Wellbore #1 - Plan #1 (8-6-1

**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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10,400.0 | 6,930.1 | 10,404.3 | 6,931.1 | 69.4 | 69.4 | 89.99 | -3,506.8 | -95.0 | 330.1 | 191.4 | 138.75 | 2.379 | |
| 10,500.0 | 6,929.6 | 10,504.3 | 6,930.6 | 71.3 | 71.3 | 89.99 | -3,606.7 | -92.9 | 330.1 | 187.6 | 142.51 | 2.316 | |
| 10,600.0 | 6,929.2 | 10,604.3 | 6,930.1 | 73.2 | 73.2 | 89.99 | -3,706.7 | -90.8 | 330.1 | 183.8 | 146.27 | 2.257 | |
| 10,700.0 | 6,928.7 | 10,704.3 | 6,929.7 | 75.0 | 75.1 | 89.99 | -3,806.7 | -88.8 | 330.1 | 180.1 | 150.04 | 2.200 | |
| 10,800.0 | 6,928.2 | 10,804.3 | 6,929.2 | 76.9 | 76.9 | 89.99 | -3,906.7 | -86.7 | 330.1 | 176.3 | 153.81 | 2.146 | |
| 10,900.0 | 6,927.8 | 10,904.3 | 6,928.7 | 78.8 | 78.8 | 89.99 | -4,006.6 | -84.6 | 330.1 | 172.5 | 157.59 | 2.095 | |
| 11,000.0 | 6,927.3 | 11,004.3 | 6,928.2 | 80.7 | 80.7 | 89.99 | -4,106.6 | -82.6 | 330.1 | 168.7 | 161.36 | 2.046 | |
| 11,100.0 | 6,926.8 | 11,104.3 | 6,927.8 | 82.6 | 82.6 | 89.99 | -4,206.6 | -80.5 | 330.1 | 164.9 | 165.15 | 1.999 | |
| 11,200.0 | 6,926.4 | 11,204.3 | 6,927.3 | 84.5 | 84.5 | 89.99 | -4,306.6 | -78.5 | 330.1 | 161.2 | 168.93 | 1.954 | |
| 11,300.0 | 6,925.9 | 11,304.3 | 6,926.8 | 86.4 | 86.4 | 89.99 | -4,406.6 | -76.4 | 330.1 | 157.4 | 172.72 | 1.911 | |
| 11,400.0 | 6,925.4 | 11,404.3 | 6,926.4 | 88.3 | 88.3 | 89.99 | -4,506.5 | -74.3 | 330.1 | 153.6 | 176.51 | 1.870 | |
| 11,458.9 | 6,925.1 | 11,463.2 | 6,926.1 | 89.4 | 89.4 | 89.99 | -4,565.4 | -73.1 | 330.1 | 151.3 | 178.74 | 1.847 | |
| 11,486.7 | 6,925.0 | 11,480.5 | 6,926.0 | 89.9 | 89.7 | 89.99 | -4,582.8 | -72.8 | 330.2 | 150.6 | 179.60 | 1.839 | SF |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-5C - Wellbore #1 - Plan #1 (8-6-1 — **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 | -89.96 | 0.0 | -16.8 | 16.8 | 16.8 | 0.00 | N/A | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -89.96 | 0.0 | -16.8 | 16.8 | 16.6 | 0.22 | 74.693 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -89.96 | 0.0 | -16.8 | 16.8 | 16.1 | 0.67 | 24.898 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.6 | 0.6 | -89.96 | 0.0 | -16.8 | 16.8 | 15.7 | 1.12 | 14.939 | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.8 | 0.8 | -89.96 | 0.0 | -16.8 | 16.8 | 15.2 | 1.57 | 10.670 | |
| 500.0 | 500.0 | 500.0 | 500.0 | 1.0 | 1.0 | -89.96 | 0.0 | -16.8 | 16.8 | 14.8 | 2.02 | 8.299 | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.2 | 1.2 | -89.96 | 0.0 | -16.8 | 16.8 | 14.3 | 2.47 | 6.790 | |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.5 | 1.5 | -89.96 | 0.0 | -16.8 | 16.8 | 13.9 | 2.92 | 5.746 | |
| 800.0 | 800.0 | 800.0 | 800.0 | 1.7 | 1.7 | -89.96 | 0.0 | -16.8 | 16.8 | 13.4 | 3.37 | 4.980 | |
| 900.0 | 900.0 | 900.0 | 900.0 | 1.9 | 1.9 | -89.96 | 0.0 | -16.8 | 16.8 | 13.0 | 3.82 | 4.394 | |
| 1,000.0 | 1,000.0 | 1,000.0 | 1,000.0 | 2.1 | 2.1 | -89.96 | 0.0 | -16.8 | 16.8 | 12.5 | 4.27 | 3.931 | |
| 1,100.0 | 1,100.0 | 1,100.0 | 1,100.0 | 2.4 | 2.4 | -89.96 | 0.0 | -16.8 | 16.8 | 12.1 | 4.72 | 3.557 | |
| 1,200.0 | 1,200.0 | 1,200.0 | 1,200.0 | 2.6 | 2.6 | -89.96 | 0.0 | -16.8 | 16.8 | 11.6 | 5.17 | 3.248 | |
| 1,300.0 | 1,300.0 | 1,300.0 | 1,300.0 | 2.8 | 2.8 | -89.96 | 0.0 | -16.8 | 16.8 | 11.2 | 5.62 | 2.988 | |
| 1,400.0 | 1,400.0 | 1,400.0 | 1,400.0 | 3.0 | 3.0 | -89.96 | 0.0 | -16.8 | 16.8 | 10.7 | 6.07 | 2.766 | |
| 1,500.0 | 1,500.0 | 1,500.0 | 1,500.0 | 3.3 | 3.3 | -89.96 | 0.0 | -16.8 | 16.8 | 10.3 | 6.52 | 2.576 | |
| 1,600.0 | 1,600.0 | 1,600.0 | 1,600.0 | 3.5 | 3.5 | -89.96 | 0.0 | -16.8 | 16.8 | 9.8 | 6.97 | 2.409 | CC, ES |
| 1,700.0 | 1,700.0 | 1,700.0 | 1,700.0 | 3.7 | 3.7 | -136.86 | 0.0 | -16.8 | 17.7 | 10.3 | 7.41 | 2.391 | |
| 1,800.0 | 1,799.9 | 1,799.9 | 1,799.9 | 3.9 | 3.9 | -144.26 | 0.0 | -16.8 | 20.8 | 12.9 | 7.85 | 2.645 | |
| 1,900.0 | 1,899.7 | 1,899.7 | 1,899.7 | 4.1 | 4.2 | -152.55 | 0.0 | -16.8 | 26.3 | 18.1 | 8.28 | 3.182 | |
| 2,000.0 | 1,999.3 | 1,999.3 | 1,999.3 | 4.4 | 4.4 | -159.48 | 0.0 | -16.8 | 34.7 | 26.0 | 8.71 | 3.988 | |
| 2,100.0 | 2,098.7 | 2,098.7 | 2,098.7 | 4.6 | 4.6 | -164.35 | 0.0 | -16.8 | 45.2 | 36.0 | 9.15 | 4.937 | |
| 2,200.0 | 2,198.1 | 2,198.1 | 2,198.1 | 4.9 | 4.8 | -167.40 | 0.0 | -16.8 | 55.8 | 46.2 | 9.59 | 5.822 | |
| 2,300.0 | 2,297.5 | 2,298.5 | 2,298.5 | 5.1 | 5.1 | -168.62 | 1.3 | -16.7 | 65.8 | 55.8 | 10.04 | 6.559 | |
| 2,400.0 | 2,396.8 | 2,399.3 | 2,399.2 | 5.4 | 5.3 | -167.94 | 5.2 | -16.4 | 74.2 | 63.7 | 10.49 | 7.077 | |
| 2,500.0 | 2,496.2 | 2,500.3 | 2,500.0 | 5.6 | 5.5 | -165.90 | 11.8 | -16.0 | 81.0 | 70.1 | 10.94 | 7.407 | |
| 2,600.0 | 2,595.6 | 2,601.3 | 2,600.5 | 5.9 | 5.7 | -162.72 | 21.0 | -15.4 | 86.5 | 75.1 | 11.40 | 7.585 | |
| 2,700.0 | 2,695.0 | 2,701.9 | 2,700.5 | 6.2 | 6.0 | -158.53 | 32.8 | -14.6 | 90.9 | 79.0 | 11.87 | 7.654 | |
| 2,800.0 | 2,794.4 | 2,801.6 | 2,799.4 | 6.4 | 6.2 | -154.36 | 45.2 | -13.7 | 95.4 | 83.0 | 12.36 | 7.720 | |
| 2,900.0 | 2,893.8 | 2,901.2 | 2,898.2 | 6.7 | 6.5 | -150.58 | 57.6 | -12.9 | 100.4 | 87.5 | 12.85 | 7.808 | |
| 3,000.0 | 2,993.2 | 3,000.9 | 2,997.1 | 7.0 | 6.7 | -147.17 | 70.0 | -12.1 | 105.7 | 92.4 | 13.36 | 7.911 | |
| 3,100.0 | 3,092.6 | 3,100.6 | 3,096.0 | 7.3 | 7.0 | -144.10 | 82.5 | -11.2 | 111.4 | 97.6 | 13.89 | 8.025 | |
| 3,200.0 | 3,192.0 | 3,200.2 | 3,194.9 | 7.5 | 7.2 | -141.34 | 94.9 | -10.4 | 117.4 | 103.0 | 14.42 | 8.145 | |
| 3,300.0 | 3,291.4 | 3,299.9 | 3,293.8 | 7.8 | 7.5 | -138.85 | 107.3 | -9.5 | 123.7 | 108.7 | 14.96 | 8.269 | |
| 3,400.0 | 3,390.8 | 3,399.6 | 3,392.7 | 8.1 | 7.8 | -136.60 | 119.7 | -8.7 | 130.1 | 114.6 | 15.50 | 8.393 | |
| 3,500.0 | 3,490.2 | 3,499.2 | 3,491.6 | 8.4 | 8.0 | -134.57 | 132.1 | -7.9 | 136.8 | 120.7 | 16.06 | 8.518 | |
| 3,600.0 | 3,589.5 | 3,598.8 | 3,590.4 | 8.7 | 8.3 | -132.97 | 143.9 | -7.1 | 143.6 | 127.0 | 16.59 | 8.655 | |
| 3,700.0 | 3,688.9 | 3,698.3 | 3,689.5 | 9.0 | 8.5 | -132.45 | 153.3 | -6.4 | 150.6 | 133.5 | 17.07 | 8.824 | |
| 3,800.0 | 3,788.5 | 3,798.0 | 3,788.9 | 9.2 | 8.7 | -132.58 | 160.1 | -6.0 | 156.7 | 139.2 | 17.49 | 8.961 | |
| 3,900.0 | 3,888.3 | 3,897.7 | 3,888.5 | 9.4 | 8.9 | -132.92 | 164.3 | -5.7 | 161.1 | 143.3 | 17.88 | 9.015 | |
| 4,000.0 | 3,988.2 | 3,997.4 | 3,988.2 | 9.6 | 9.1 | -133.47 | 165.9 | -5.6 | 164.0 | 145.7 | 18.24 | 8.991 | |
| 4,100.0 | 4,088.1 | 4,097.3 | 4,088.1 | 9.7 | 9.3 | -133.88 | 165.9 | -5.6 | 165.1 | 146.5 | 18.59 | 8.878 | |
| 4,200.0 | 4,188.1 | 4,197.3 | 4,188.1 | 9.9 | 9.5 | -90.03 | 165.9 | -5.6 | 165.1 | 146.1 | 19.01 | 8.684 | |
| 4,300.0 | 4,288.1 | 4,297.3 | 4,288.1 | 10.1 | 9.7 | -90.03 | 165.9 | -5.6 | 165.1 | 145.7 | 19.43 | 8.497 | |
| 4,400.0 | 4,388.1 | 4,397.3 | 4,388.1 | 10.3 | 9.9 | -90.03 | 165.9 | -5.6 | 165.1 | 145.2 | 19.85 | 8.316 | |
| 4,500.0 | 4,488.1 | 4,497.3 | 4,488.1 | 10.5 | 10.1 | -90.03 | 165.9 | -5.6 | 165.1 | 144.8 | 20.27 | 8.143 | |
| 4,600.0 | 4,588.1 | 4,597.3 | 4,588.1 | 10.7 | 10.3 | -90.03 | 165.9 | -5.6 | 165.1 | 144.4 | 20.70 | 7.976 | |
| 4,700.0 | 4,688.1 | 4,697.3 | 4,688.1 | 10.9 | 10.5 | -90.03 | 165.9 | -5.6 | 165.1 | 144.0 | 21.12 | 7.816 | |
| 4,800.0 | 4,788.1 | 4,797.3 | 4,788.1 | 11.1 | 10.8 | -90.03 | 165.9 | -5.6 | 165.1 | 143.5 | 21.55 | 7.661 | |
| 4,900.0 | 4,888.1 | 4,897.3 | 4,888.1 | 11.4 | 11.0 | -90.03 | 165.9 | -5.6 | 165.1 | 143.1 | 21.98 | 7.512 | |
| 5,000.0 | 4,988.1 | 4,997.3 | 4,988.1 | 11.6 | 11.2 | -90.03 | 165.9 | -5.6 | 165.1 | 142.7 | 22.40 | 7.369 | |
| 5,100.0 | 5,088.1 | 5,097.3 | 5,088.1 | 11.8 | 11.4 | -90.03 | 165.9 | -5.6 | 165.1 | 142.3 | 22.83 | 7.231 | |

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

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-5C - Wellbore #1 - Plan #1 (8-6-1

**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 | 5,188.1 | 5,197.3 | 5,188.1 | 12.0 | 11.6 | -90.03 | 165.9 | -5.6 | 165.1 | 141.8 | 23.26 | 7.097 | |
| 5,300.0 | 5,288.1 | 5,297.3 | 5,288.1 | 12.2 | 11.8 | -90.03 | 165.9 | -5.6 | 165.1 | 141.4 | 23.69 | 6.968 | |
| 5,400.0 | 5,388.1 | 5,397.3 | 5,388.1 | 12.4 | 12.1 | -90.03 | 165.9 | -5.6 | 165.1 | 141.0 | 24.12 | 6.844 | |
| 5,500.0 | 5,488.1 | 5,497.3 | 5,488.1 | 12.6 | 12.3 | -90.03 | 165.9 | -5.6 | 165.1 | 140.5 | 24.55 | 6.724 | |
| 5,600.0 | 5,588.1 | 5,597.3 | 5,588.1 | 12.8 | 12.5 | -90.03 | 165.9 | -5.6 | 165.1 | 140.1 | 24.99 | 6.607 | |
| 5,700.0 | 5,688.1 | 5,697.3 | 5,688.1 | 13.0 | 12.7 | -90.03 | 165.9 | -5.6 | 165.1 | 139.7 | 25.42 | 6.495 | |
| 5,800.0 | 5,788.1 | 5,797.3 | 5,788.1 | 13.2 | 12.9 | -90.03 | 165.9 | -5.6 | 165.1 | 139.2 | 25.85 | 6.386 | |
| 5,900.0 | 5,888.1 | 5,897.3 | 5,888.1 | 13.5 | 13.1 | -90.03 | 165.9 | -5.6 | 165.1 | 138.8 | 26.29 | 6.281 | |
| 6,000.0 | 5,988.1 | 5,997.3 | 5,988.1 | 13.7 | 13.4 | -90.03 | 165.9 | -5.6 | 165.1 | 138.4 | 26.72 | 6.178 | |
| 6,100.0 | 6,088.1 | 6,097.3 | 6,088.1 | 13.9 | 13.6 | -90.03 | 165.9 | -5.6 | 165.1 | 137.9 | 27.15 | 6.080 | |
| 6,200.0 | 6,188.1 | 6,197.3 | 6,188.1 | 14.1 | 13.8 | -90.03 | 165.9 | -5.6 | 165.1 | 137.5 | 27.59 | 5.984 | |
| 6,300.0 | 6,288.1 | 6,297.3 | 6,288.1 | 14.3 | 14.0 | -90.03 | 165.9 | -5.6 | 165.1 | 137.1 | 28.03 | 5.891 | |
| 6,400.0 | 6,388.1 | 6,397.3 | 6,388.1 | 14.5 | 14.2 | -90.03 | 165.9 | -5.6 | 165.1 | 136.6 | 28.46 | 5.800 | |
| 6,431.8 | 6,420.0 | 6,429.1 | 6,420.0 | 14.6 | 14.3 | 91.37 | 165.9 | -5.6 | 165.1 | 136.5 | 28.58 | 5.777 | |
| 6,500.0 | 6,488.0 | 6,497.2 | 6,488.0 | 14.7 | 14.5 | 92.50 | 165.9 | -5.6 | 165.2 | 136.4 | 28.86 | 5.725 | |
| 6,600.0 | 6,585.4 | 6,594.6 | 6,585.4 | 14.8 | 14.7 | 99.47 | 165.9 | -5.6 | 167.6 | 138.4 | 29.20 | 5.738 | |
| 6,700.0 | 6,677.0 | 6,694.6 | 6,685.3 | 14.9 | 14.8 | 110.13 | 161.7 | -5.5 | 177.4 | 148.2 | 29.20 | 6.077 | |
| 6,800.0 | 6,759.2 | 6,805.7 | 6,793.1 | 15.0 | 14.9 | 119.89 | 135.9 | -5.0 | 193.7 | 165.2 | 28.50 | 6.796 | |
| 6,900.0 | 6,829.1 | 6,927.8 | 6,902.3 | 15.1 | 15.0 | 127.77 | 82.1 | -3.9 | 212.9 | 185.8 | 27.17 | 7.836 | |
| 7,000.0 | 6,884.2 | 7,062.3 | 7,004.5 | 15.3 | 15.2 | 133.67 | -4.8 | -2.1 | 231.7 | 206.0 | 25.65 | 9.034 | |
| 7,100.0 | 6,922.3 | 7,209.1 | 7,086.7 | 15.7 | 15.6 | 137.59 | -125.9 | 0.4 | 246.5 | 221.9 | 24.57 | 10.031 | |
| 7,200.0 | 6,942.1 | 7,365.2 | 7,133.5 | 16.3 | 16.4 | 139.52 | -274.2 | 3.5 | 254.5 | 229.8 | 24.66 | 10.321 | |
| 7,300.0 | 6,944.7 | 7,496.1 | 7,139.6 | 17.2 | 17.4 | 139.73 | -404.7 | 6.2 | 255.4 | 229.5 | 25.90 | 9.861 | |
| 7,400.0 | 6,944.3 | 7,596.1 | 7,139.2 | 18.1 | 18.4 | 139.75 | -504.7 | 8.2 | 255.5 | 228.2 | 27.27 | 9.366 | |
| 7,500.0 | 6,943.8 | 7,696.1 | 7,138.9 | 19.3 | 19.5 | 139.77 | -604.7 | 10.3 | 255.6 | 226.7 | 28.84 | 8.860 | |
| 7,600.0 | 6,943.3 | 7,796.1 | 7,138.5 | 20.5 | 20.7 | 139.79 | -704.7 | 12.4 | 255.6 | 225.1 | 30.57 | 8.362 | |
| 7,700.0 | 6,942.8 | 7,896.1 | 7,138.2 | 21.9 | 22.1 | 139.81 | -804.6 | 14.4 | 255.7 | 223.3 | 32.44 | 7.884 | |
| 7,800.0 | 6,942.4 | 7,996.1 | 7,137.8 | 23.3 | 23.5 | 139.82 | -904.6 | 16.5 | 255.8 | 221.4 | 34.42 | 7.433 | |
| 7,900.0 | 6,941.9 | 8,096.1 | 7,137.5 | 24.8 | 25.0 | 139.84 | -1,004.6 | 18.6 | 255.9 | 219.4 | 36.49 | 7.013 | |
| 8,000.0 | 6,941.4 | 8,196.1 | 7,137.1 | 26.3 | 26.5 | 139.86 | -1,104.6 | 20.6 | 256.0 | 217.4 | 38.64 | 6.625 | |
| 8,100.0 | 6,941.0 | 8,296.1 | 7,136.8 | 27.9 | 28.1 | 139.88 | -1,204.6 | 22.7 | 256.1 | 215.2 | 40.86 | 6.268 | |
| 8,200.0 | 6,940.5 | 8,396.1 | 7,136.4 | 29.6 | 29.7 | 139.90 | -1,304.5 | 24.7 | 256.2 | 213.1 | 43.13 | 5.939 | |
| 8,300.0 | 6,940.0 | 8,496.1 | 7,136.1 | 31.2 | 31.4 | 139.91 | -1,404.5 | 26.8 | 256.3 | 210.8 | 45.46 | 5.638 | |
| 8,400.0 | 6,939.5 | 8,596.1 | 7,135.7 | 32.9 | 33.1 | 139.93 | -1,504.5 | 28.9 | 256.4 | 208.6 | 47.82 | 5.362 | |
| 8,500.0 | 6,939.1 | 8,696.1 | 7,135.4 | 34.7 | 34.8 | 139.95 | -1,604.5 | 30.9 | 256.5 | 206.3 | 50.21 | 5.108 | |
| 8,600.0 | 6,938.6 | 8,796.1 | 7,135.0 | 36.4 | 36.5 | 139.97 | -1,704.4 | 33.0 | 256.6 | 203.9 | 52.64 | 4.874 | |
| 8,700.0 | 6,938.1 | 8,896.1 | 7,134.7 | 38.2 | 38.3 | 139.98 | -1,804.4 | 35.1 | 256.7 | 201.6 | 55.09 | 4.659 | |
| 8,800.0 | 6,937.7 | 8,996.1 | 7,134.4 | 39.9 | 40.1 | 140.00 | -1,904.4 | 37.1 | 256.8 | 199.2 | 57.56 | 4.461 | |
| 8,900.0 | 6,937.2 | 9,096.1 | 7,134.0 | 41.7 | 41.8 | 140.02 | -2,004.4 | 39.2 | 256.8 | 196.8 | 60.05 | 4.277 | |
| 9,000.0 | 6,936.7 | 9,196.1 | 7,133.7 | 43.5 | 43.6 | 140.04 | -2,104.4 | 41.2 | 256.9 | 194.4 | 62.56 | 4.107 | |
| 9,100.0 | 6,936.2 | 9,296.1 | 7,133.3 | 45.3 | 45.4 | 140.05 | -2,204.3 | 43.3 | 257.0 | 192.0 | 65.08 | 3.950 | |
| 9,200.0 | 6,935.8 | 9,396.1 | 7,133.0 | 47.1 | 47.3 | 140.07 | -2,304.3 | 45.4 | 257.1 | 189.5 | 67.61 | 3.803 | |
| 9,300.0 | 6,935.3 | 9,496.1 | 7,132.6 | 49.0 | 49.1 | 140.09 | -2,404.3 | 47.4 | 257.2 | 187.1 | 70.16 | 3.666 | |
| 9,400.0 | 6,934.8 | 9,596.1 | 7,132.3 | 50.8 | 50.9 | 140.11 | -2,504.3 | 49.5 | 257.3 | 184.6 | 72.71 | 3.539 | |
| 9,500.0 | 6,934.4 | 9,696.1 | 7,131.9 | 52.6 | 52.7 | 140.13 | -2,604.2 | 51.5 | 257.4 | 182.1 | 75.27 | 3.420 | |
| 9,600.0 | 6,933.9 | 9,796.1 | 7,131.6 | 54.5 | 54.6 | 140.14 | -2,704.2 | 53.6 | 257.5 | 179.7 | 77.84 | 3.308 | |
| 9,700.0 | 6,933.4 | 9,896.1 | 7,131.2 | 56.3 | 56.4 | 140.16 | -2,804.2 | 55.7 | 257.6 | 177.2 | 80.42 | 3.203 | |
| 9,800.0 | 6,932.9 | 9,996.1 | 7,130.9 | 58.2 | 58.3 | 140.18 | -2,904.2 | 57.7 | 257.7 | 174.7 | 83.00 | 3.104 | |
| 9,900.0 | 6,932.5 | 10,096.1 | 7,130.5 | 60.1 | 60.1 | 140.20 | -3,004.2 | 59.8 | 257.8 | 172.2 | 85.59 | 3.012 | |
| 10,000.0 | 6,932.0 | 10,196.1 | 7,130.2 | 61.9 | 62.0 | 140.21 | -3,104.1 | 61.9 | 257.9 | 169.7 | 88.19 | 2.924 | |
| 10,100.0 | 6,931.5 | 10,296.1 | 7,129.8 | 63.8 | 63.9 | 140.23 | -3,204.1 | 63.9 | 258.0 | 167.2 | 90.79 | 2.841 | |
| 10,200.0 | 6,931.1 | 10,396.1 | 7,129.5 | 65.7 | 65.7 | 140.25 | -3,304.1 | 66.0 | 258.1 | 164.7 | 93.39 | 2.763 | |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-5C - Wellbore #1 - Plan #1 (8-6-1

**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 | 6,930.6 | 10,496.1 | 7,129.1 | 67.5 | 67.6 | 140.27 | -3,404.1 | 68.0 | 258.2 | 162.2 | 95.99 | 2.689 | |
| 10,400.0 | 6,930.1 | 10,596.1 | 7,128.8 | 69.4 | 69.5 | 140.28 | -3,504.0 | 70.1 | 258.2 | 159.6 | 98.60 | 2.619 | |
| 10,500.0 | 6,929.6 | 10,696.1 | 7,128.4 | 71.3 | 71.4 | 140.30 | -3,604.0 | 72.2 | 258.3 | 157.1 | 101.21 | 2.553 | |
| 10,600.0 | 6,929.2 | 10,796.1 | 7,128.1 | 73.2 | 73.2 | 140.32 | -3,704.0 | 74.2 | 258.4 | 154.6 | 103.82 | 2.489 | |
| 10,700.0 | 6,928.7 | 10,896.1 | 7,127.7 | 75.0 | 75.1 | 140.34 | -3,804.0 | 76.3 | 258.5 | 152.1 | 106.44 | 2.429 | |
| 10,800.0 | 6,928.2 | 10,996.1 | 7,127.4 | 76.9 | 77.0 | 140.35 | -3,904.0 | 78.4 | 258.6 | 149.6 | 109.05 | 2.371 | |
| 10,900.0 | 6,927.8 | 11,096.1 | 7,127.0 | 78.8 | 78.9 | 140.37 | -4,003.9 | 80.4 | 258.7 | 147.0 | 111.67 | 2.317 | |
| 11,000.0 | 6,927.3 | 11,196.1 | 7,126.7 | 80.7 | 80.8 | 140.39 | -4,103.9 | 82.5 | 258.8 | 144.5 | 114.29 | 2.264 | |
| 11,100.0 | 6,926.8 | 11,296.1 | 7,126.3 | 82.6 | 82.7 | 140.41 | -4,203.9 | 84.5 | 258.9 | 142.0 | 116.91 | 2.215 | |
| 11,200.0 | 6,926.4 | 11,396.1 | 7,126.0 | 84.5 | 84.6 | 140.42 | -4,303.9 | 86.6 | 259.0 | 139.5 | 119.53 | 2.167 | |
| 11,300.0 | 6,925.9 | 11,496.1 | 7,125.6 | 86.4 | 86.5 | 140.44 | -4,403.8 | 88.7 | 259.1 | 136.9 | 122.15 | 2.121 | |
| 11,400.0 | 6,925.4 | 11,596.1 | 7,125.3 | 88.3 | 88.4 | 140.46 | -4,503.8 | 90.7 | 259.2 | 134.4 | 124.78 | 2.077 | |
| 11,447.8 | 6,925.2 | 11,643.9 | 7,125.1 | 89.2 | 89.3 | 140.47 | -4,551.6 | 91.7 | 259.2 | 133.2 | 126.03 | 2.057 | |
| 11,486.7 | 6,925.0 | 11,675.1 | 7,125.0 | 89.9 | 89.8 | 140.47 | -4,582.8 | 92.4 | 259.4 | 132.4 | 126.95 | 2.043 | SF |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-7N - Wellbore #1 - Plan #1 (8-6-1

**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 | 90.07 | 0.0 | 14.0 | 14.0 | 14.0 | 0.00 | N/A | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 90.07 | 0.0 | 14.0 | 14.0 | 13.8 | 0.22 | 62.244 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 90.07 | 0.0 | 14.0 | 14.0 | 13.3 | 0.67 | 20.748 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.6 | 0.6 | 90.07 | 0.0 | 14.0 | 14.0 | 12.9 | 1.12 | 12.449 | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.8 | 0.8 | 90.07 | 0.0 | 14.0 | 14.0 | 12.4 | 1.57 | 8.892 | |
| 500.0 | 500.0 | 500.0 | 500.0 | 1.0 | 1.0 | 90.07 | 0.0 | 14.0 | 14.0 | 12.0 | 2.02 | 6.916 | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.2 | 1.2 | 90.07 | 0.0 | 14.0 | 14.0 | 11.5 | 2.47 | 5.659 | |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.5 | 1.5 | 90.07 | 0.0 | 14.0 | 14.0 | 11.1 | 2.92 | 4.788 | |
| 800.0 | 800.0 | 800.0 | 800.0 | 1.7 | 1.7 | 90.07 | 0.0 | 14.0 | 14.0 | 10.6 | 3.37 | 4.150 | |
| 900.0 | 900.0 | 900.0 | 900.0 | 1.9 | 1.9 | 90.07 | 0.0 | 14.0 | 14.0 | 10.2 | 3.82 | 3.661 | |
| 1,000.0 | 1,000.0 | 1,000.0 | 1,000.0 | 2.1 | 2.1 | 90.07 | 0.0 | 14.0 | 14.0 | 9.7 | 4.27 | 3.276 | |
| 1,100.0 | 1,100.0 | 1,100.0 | 1,100.0 | 2.4 | 2.4 | 90.07 | 0.0 | 14.0 | 14.0 | 9.3 | 4.72 | 2.964 | |
| 1,200.0 | 1,200.0 | 1,200.0 | 1,200.0 | 2.6 | 2.6 | 90.07 | 0.0 | 14.0 | 14.0 | 8.8 | 5.17 | 2.706 | |
| 1,300.0 | 1,300.0 | 1,300.0 | 1,300.0 | 2.8 | 2.8 | 90.07 | 0.0 | 14.0 | 14.0 | 8.4 | 5.62 | 2.490 | |
| 1,400.0 | 1,400.0 | 1,400.0 | 1,400.0 | 3.0 | 3.0 | 90.07 | 0.0 | 14.0 | 14.0 | 7.9 | 6.07 | 2.305 CC | |
| 1,500.0 | 1,500.0 | 1,499.7 | 1,499.6 | 3.3 | 3.3 | 87.76 | 0.6 | 15.1 | 15.2 | 8.6 | 6.51 | 2.328 | |
| 1,600.0 | 1,600.0 | 1,599.2 | 1,599.1 | 3.5 | 3.5 | 82.58 | 2.4 | 18.6 | 18.8 | 11.8 | 6.95 | 2.699 | |
| 1,700.0 | 1,700.0 | 1,698.5 | 1,698.2 | 3.7 | 3.7 | 35.17 | 5.5 | 24.3 | 23.9 | 16.5 | 7.38 | 3.237 | |
| 1,800.0 | 1,799.9 | 1,797.7 | 1,797.0 | 3.9 | 3.9 | 34.34 | 9.7 | 32.3 | 29.4 | 21.6 | 7.80 | 3.766 | |
| 1,900.0 | 1,899.7 | 1,896.9 | 1,895.5 | 4.1 | 4.1 | 35.02 | 15.1 | 42.4 | 35.1 | 26.9 | 8.23 | 4.272 | |
| 2,000.0 | 1,999.3 | 1,996.8 | 1,994.7 | 4.4 | 4.4 | 37.39 | 20.9 | 53.3 | 39.5 | 30.9 | 8.66 | 4.564 | |
| 2,100.0 | 2,098.7 | 2,096.7 | 2,093.8 | 4.6 | 4.7 | 40.85 | 26.7 | 64.2 | 42.6 | 33.5 | 9.11 | 4.672 | |
| 2,200.0 | 2,198.1 | 2,196.7 | 2,193.0 | 4.9 | 4.9 | 43.90 | 32.5 | 75.1 | 45.7 | 36.1 | 9.58 | 4.773 | |
| 2,300.0 | 2,297.5 | 2,296.6 | 2,292.1 | 5.1 | 5.2 | 46.55 | 38.2 | 86.0 | 49.0 | 38.9 | 10.05 | 4.870 | |
| 2,400.0 | 2,396.8 | 2,396.5 | 2,391.3 | 5.4 | 5.5 | 48.86 | 44.0 | 96.9 | 52.3 | 41.8 | 10.54 | 4.961 | |
| 2,500.0 | 2,496.2 | 2,496.4 | 2,490.5 | 5.6 | 5.8 | 50.90 | 49.8 | 107.8 | 55.7 | 44.7 | 11.04 | 5.047 | |
| 2,600.0 | 2,595.6 | 2,596.4 | 2,589.6 | 5.9 | 6.0 | 52.70 | 55.6 | 118.7 | 59.2 | 47.7 | 11.55 | 5.126 | |
| 2,700.0 | 2,695.0 | 2,696.3 | 2,688.8 | 6.2 | 6.3 | 54.29 | 61.4 | 129.6 | 62.7 | 50.7 | 12.07 | 5.200 | |
| 2,800.0 | 2,794.4 | 2,796.2 | 2,787.9 | 6.4 | 6.6 | 55.72 | 67.2 | 140.5 | 66.3 | 53.7 | 12.59 | 5.268 | |
| 2,900.0 | 2,893.8 | 2,896.1 | 2,887.1 | 6.7 | 6.9 | 57.00 | 73.0 | 151.4 | 69.9 | 56.8 | 13.12 | 5.330 | |
| 3,000.0 | 2,993.2 | 2,996.1 | 2,986.2 | 7.0 | 7.2 | 58.15 | 78.8 | 162.3 | 73.6 | 59.9 | 13.65 | 5.388 | |
| 3,100.0 | 3,092.6 | 3,096.0 | 3,085.4 | 7.3 | 7.5 | 59.19 | 84.6 | 173.2 | 77.2 | 63.0 | 14.20 | 5.441 | |
| 3,200.0 | 3,192.0 | 3,195.9 | 3,184.6 | 7.5 | 7.8 | 60.14 | 90.3 | 184.1 | 80.9 | 66.2 | 14.74 | 5.490 | |
| 3,300.0 | 3,291.4 | 3,295.8 | 3,283.7 | 7.8 | 8.1 | 61.01 | 96.1 | 195.0 | 84.7 | 69.4 | 15.29 | 5.535 | |
| 3,400.0 | 3,390.8 | 3,395.7 | 3,382.9 | 8.1 | 8.4 | 61.80 | 101.9 | 205.9 | 88.4 | 72.5 | 15.85 | 5.577 | |
| 3,500.0 | 3,490.2 | 3,495.7 | 3,482.0 | 8.4 | 8.7 | 62.53 | 107.7 | 216.8 | 92.1 | 75.7 | 16.40 | 5.616 | |
| 3,600.0 | 3,589.5 | 3,595.6 | 3,581.2 | 8.7 | 9.0 | 63.20 | 113.5 | 227.7 | 95.9 | 78.9 | 16.97 | 5.652 | |
| 3,700.0 | 3,688.9 | 3,695.5 | 3,680.4 | 9.0 | 9.4 | 63.82 | 119.3 | 238.6 | 99.7 | 82.1 | 17.53 | 5.687 | |
| 3,800.0 | 3,788.5 | 3,795.4 | 3,779.5 | 9.2 | 9.7 | 63.68 | 125.1 | 249.5 | 104.1 | 86.1 | 18.01 | 5.782 | |
| 3,900.0 | 3,888.3 | 3,895.2 | 3,878.5 | 9.4 | 10.0 | 62.35 | 130.8 | 260.3 | 109.8 | 91.4 | 18.44 | 5.954 | |
| 4,000.0 | 3,988.2 | 3,994.9 | 3,977.4 | 9.6 | 10.3 | 60.05 | 136.6 | 271.2 | 116.8 | 98.0 | 18.82 | 6.208 | |
| 4,100.0 | 4,088.1 | 4,094.3 | 4,076.1 | 9.7 | 10.6 | 57.03 | 142.4 | 282.0 | 125.4 | 106.2 | 19.14 | 6.551 | |
| 4,200.0 | 4,188.1 | 4,193.5 | 4,174.5 | 9.9 | 10.9 | 97.63 | 148.1 | 292.9 | 135.2 | 115.7 | 19.51 | 6.933 | |
| 4,300.0 | 4,288.1 | 4,294.2 | 4,274.5 | 10.1 | 11.2 | 94.83 | 153.8 | 303.6 | 145.3 | 125.4 | 19.86 | 7.315 | |
| 4,400.0 | 4,388.1 | 4,397.2 | 4,377.0 | 10.3 | 11.4 | 92.78 | 158.6 | 312.5 | 153.6 | 133.4 | 20.20 | 7.605 | |
| 4,500.0 | 4,488.1 | 4,500.6 | 4,480.1 | 10.5 | 11.6 | 91.43 | 162.0 | 319.0 | 159.7 | 139.2 | 20.56 | 7.771 | |
| 4,600.0 | 4,588.1 | 4,604.3 | 4,583.8 | 10.7 | 11.8 | 90.65 | 164.2 | 323.0 | 163.6 | 142.7 | 20.93 | 7.817 | |
| 4,700.0 | 4,688.1 | 4,708.3 | 4,687.7 | 10.9 | 12.0 | 90.36 | 165.0 | 324.6 | 165.1 | 143.8 | 21.31 | 7.745 | |
| 4,800.0 | 4,788.1 | 4,808.7 | 4,788.1 | 11.1 | 12.2 | 90.35 | 165.0 | 324.6 | 165.1 | 143.4 | 21.71 | 7.603 | |
| 4,900.0 | 4,888.1 | 4,908.7 | 4,888.1 | 11.4 | 12.4 | 90.35 | 165.0 | 324.6 | 165.1 | 143.0 | 22.13 | 7.460 | |
| 5,000.0 | 4,988.1 | 5,008.7 | 4,988.1 | 11.6 | 12.6 | 90.35 | 165.0 | 324.6 | 165.1 | 142.5 | 22.55 | 7.322 | |
| 5,100.0 | 5,088.1 | 5,108.7 | 5,088.1 | 11.8 | 12.7 | 90.35 | 165.0 | 324.6 | 165.1 | 142.1 | 22.97 | 7.188 | |

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

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-7N - Wellbore #1 - Plan #1 (8-6-1 — **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 | 5,188.1 | 5,208.7 | 5,188.1 | 12.0 | 12.9 | 90.35 | 165.0 | 324.6 | 165.1 | 141.7 | 23.39 | 7.059 | |
| 5,300.0 | 5,288.1 | 5,308.7 | 5,288.1 | 12.2 | 13.1 | 90.35 | 165.0 | 324.6 | 165.1 | 141.3 | 23.81 | 6.935 | |
| 5,400.0 | 5,388.1 | 5,408.7 | 5,388.1 | 12.4 | 13.3 | 90.35 | 165.0 | 324.6 | 165.1 | 140.9 | 24.23 | 6.814 | |
| 5,500.0 | 5,488.1 | 5,508.7 | 5,488.1 | 12.6 | 13.5 | 90.35 | 165.0 | 324.6 | 165.1 | 140.4 | 24.65 | 6.697 | |
| 5,600.0 | 5,588.1 | 5,608.7 | 5,588.1 | 12.8 | 13.7 | 90.35 | 165.0 | 324.6 | 165.1 | 140.0 | 25.08 | 6.584 | |
| 5,700.0 | 5,688.1 | 5,708.7 | 5,688.1 | 13.0 | 13.9 | 90.35 | 165.0 | 324.6 | 165.1 | 139.6 | 25.50 | 6.474 | |
| 5,800.0 | 5,788.1 | 5,808.7 | 5,788.1 | 13.2 | 14.1 | 90.35 | 165.0 | 324.6 | 165.1 | 139.2 | 25.93 | 6.368 | |
| 5,900.0 | 5,888.1 | 5,908.7 | 5,888.1 | 13.5 | 14.3 | 90.35 | 165.0 | 324.6 | 165.1 | 138.7 | 26.35 | 6.265 | |
| 6,000.0 | 5,988.1 | 6,008.7 | 5,988.1 | 13.7 | 14.5 | 90.35 | 165.0 | 324.6 | 165.1 | 138.3 | 26.78 | 6.165 | |
| 6,100.0 | 6,088.1 | 6,108.7 | 6,088.1 | 13.9 | 14.7 | 90.35 | 165.0 | 324.6 | 165.1 | 137.9 | 27.21 | 6.068 | |
| 6,200.0 | 6,188.1 | 6,208.7 | 6,188.1 | 14.1 | 14.9 | 90.35 | 165.0 | 324.6 | 165.1 | 137.5 | 27.63 | 5.974 | |
| 6,300.0 | 6,288.1 | 6,308.7 | 6,288.1 | 14.3 | 15.1 | 90.35 | 165.0 | 324.6 | 165.1 | 137.0 | 28.06 | 5.883 | |
| 6,400.0 | 6,388.1 | 6,408.7 | 6,388.1 | 14.5 | 15.3 | 90.35 | 165.0 | 324.6 | 165.1 | 136.6 | 28.49 | 5.794 | |
| 6,500.0 | 6,488.0 | 6,508.2 | 6,487.4 | 14.7 | 15.5 | -88.48 | 161.1 | 324.7 | 165.1 | 136.3 | 28.81 | 5.730 | |
| 6,600.0 | 6,585.4 | 6,607.4 | 6,584.2 | 14.8 | 15.6 | -88.54 | 139.8 | 325.1 | 165.1 | 136.1 | 29.02 | 5.690 | |
| 6,700.0 | 6,677.0 | 6,706.6 | 6,675.1 | 14.9 | 15.7 | -88.66 | 100.5 | 325.9 | 165.1 | 135.9 | 29.14 | 5.665 | |
| 6,800.0 | 6,759.2 | 6,805.9 | 6,757.0 | 15.0 | 15.7 | -88.82 | 44.7 | 327.1 | 165.1 | 135.8 | 29.29 | 5.636 | |
| 6,900.0 | 6,829.1 | 6,905.3 | 6,827.0 | 15.1 | 15.8 | -89.03 | -25.7 | 328.5 | 165.1 | 135.5 | 29.58 | 5.579 | |
| 7,000.0 | 6,884.2 | 7,004.8 | 6,882.3 | 15.3 | 16.0 | -89.27 | -108.3 | 330.2 | 165.1 | 134.9 | 30.15 | 5.474 | |
| 7,100.0 | 6,922.3 | 7,104.5 | 6,921.1 | 15.7 | 16.3 | -89.55 | -199.9 | 332.1 | 165.0 | 134.0 | 31.07 | 5.311 | |
| 7,200.0 | 6,942.1 | 7,204.3 | 6,941.7 | 16.3 | 16.9 | -89.83 | -297.4 | 334.1 | 165.0 | 132.7 | 32.38 | 5.097 | |
| 7,233.1 | 6,945.0 | 7,237.4 | 6,944.3 | 16.6 | 17.1 | -89.77 | -330.4 | 334.8 | 165.0 | 132.1 | 32.91 | 5.015 | |
| 7,300.0 | 6,944.7 | 7,304.3 | 6,944.7 | 17.2 | 17.7 | -90.01 | -397.2 | 336.2 | 165.0 | 131.0 | 34.03 | 4.850 | |
| 7,400.0 | 6,944.3 | 7,404.3 | 6,944.3 | 18.1 | 18.6 | -90.01 | -497.2 | 338.2 | 165.0 | 129.0 | 36.02 | 4.583 | |
| 7,500.0 | 6,943.8 | 7,504.3 | 6,943.8 | 19.3 | 19.7 | -90.01 | -597.2 | 340.3 | 165.0 | 126.8 | 38.28 | 4.311 | |
| 7,600.0 | 6,943.3 | 7,604.3 | 6,943.3 | 20.5 | 20.9 | -90.01 | -697.2 | 342.4 | 165.0 | 124.3 | 40.79 | 4.046 | |
| 7,700.0 | 6,942.8 | 7,704.3 | 6,942.9 | 21.9 | 22.3 | -90.01 | -797.2 | 344.4 | 165.0 | 121.5 | 43.49 | 3.795 | |
| 7,800.0 | 6,942.4 | 7,804.3 | 6,942.4 | 23.3 | 23.7 | -90.01 | -897.1 | 346.5 | 165.0 | 118.7 | 46.36 | 3.560 | |
| 7,900.0 | 6,941.9 | 7,904.3 | 6,941.9 | 24.8 | 25.1 | -90.01 | -997.1 | 348.6 | 165.0 | 115.7 | 49.36 | 3.344 | |
| 8,000.0 | 6,941.4 | 8,004.3 | 6,941.4 | 26.3 | 26.7 | -90.01 | -1,097.1 | 350.6 | 165.0 | 112.6 | 52.47 | 3.146 | |
| 8,100.0 | 6,941.0 | 8,104.3 | 6,941.0 | 27.9 | 28.2 | -90.01 | -1,197.1 | 352.7 | 165.0 | 109.4 | 55.67 | 2.965 | |
| 8,200.0 | 6,940.5 | 8,204.3 | 6,940.5 | 29.6 | 29.9 | -90.01 | -1,297.0 | 354.7 | 165.0 | 106.1 | 58.95 | 2.800 | |
| 8,300.0 | 6,940.0 | 8,304.3 | 6,940.0 | 31.2 | 31.5 | -90.01 | -1,397.0 | 356.8 | 165.0 | 102.8 | 62.30 | 2.649 | |
| 8,400.0 | 6,939.5 | 8,404.3 | 6,939.6 | 32.9 | 33.2 | -90.01 | -1,497.0 | 358.9 | 165.1 | 99.4 | 65.69 | 2.512 | |
| 8,500.0 | 6,939.1 | 8,504.3 | 6,939.1 | 34.7 | 34.9 | -90.01 | -1,597.0 | 360.9 | 165.1 | 95.9 | 69.14 | 2.387 | |
| 8,600.0 | 6,938.6 | 8,604.3 | 6,938.6 | 36.4 | 36.6 | -90.01 | -1,696.9 | 363.0 | 165.1 | 92.4 | 72.63 | 2.273 | |
| 8,700.0 | 6,938.1 | 8,704.3 | 6,938.1 | 38.2 | 38.4 | -90.01 | -1,796.9 | 365.1 | 165.1 | 88.9 | 76.15 | 2.167 | |
| 8,800.0 | 6,937.7 | 8,804.3 | 6,937.7 | 39.9 | 40.1 | -90.01 | -1,896.9 | 367.1 | 165.1 | 85.4 | 79.70 | 2.071 | |
| 8,900.0 | 6,937.2 | 8,904.3 | 6,937.2 | 41.7 | 41.9 | -90.01 | -1,996.9 | 369.2 | 165.1 | 81.8 | 83.28 | 1.982 | |
| 9,000.0 | 6,936.7 | 9,004.3 | 6,936.7 | 43.5 | 43.7 | -90.01 | -2,096.9 | 371.2 | 165.1 | 78.2 | 86.88 | 1.900 | |
| 9,100.0 | 6,936.2 | 9,104.3 | 6,936.3 | 45.3 | 45.5 | -90.01 | -2,196.8 | 373.3 | 165.1 | 74.6 | 90.50 | 1.824 | |
| 9,200.0 | 6,935.8 | 9,204.3 | 6,935.8 | 47.1 | 47.3 | -90.01 | -2,296.8 | 375.4 | 165.1 | 70.9 | 94.14 | 1.753 | |
| 9,300.0 | 6,935.3 | 9,304.3 | 6,935.3 | 49.0 | 49.1 | -90.01 | -2,396.8 | 377.4 | 165.1 | 67.3 | 97.80 | 1.688 | |
| 9,400.0 | 6,934.8 | 9,404.3 | 6,934.8 | 50.8 | 51.0 | -90.01 | -2,496.8 | 379.5 | 165.1 | 63.6 | 101.47 | 1.627 | |
| 9,500.0 | 6,934.4 | 9,504.3 | 6,934.4 | 52.6 | 52.8 | -90.01 | -2,596.7 | 381.5 | 165.1 | 59.9 | 105.15 | 1.570 | |
| 9,600.0 | 6,933.9 | 9,604.3 | 6,933.9 | 54.5 | 54.6 | -90.01 | -2,696.7 | 383.6 | 165.1 | 56.2 | 108.84 | 1.517 | |
| 9,700.0 | 6,933.4 | 9,704.3 | 6,933.4 | 56.3 | 56.5 | -90.01 | -2,796.7 | 385.7 | 165.1 | 52.5 | 112.55 | 1.467 | Level 3 |
| 9,800.0 | 6,932.9 | 9,804.3 | 6,933.0 | 58.2 | 58.3 | -90.01 | -2,896.7 | 387.7 | 165.1 | 48.8 | 116.26 | 1.420 | Level 3 |
| 9,900.0 | 6,932.5 | 9,904.3 | 6,932.5 | 60.1 | 60.2 | -90.01 | -2,996.7 | 389.8 | 165.1 | 45.1 | 119.98 | 1.376 | Level 3 |
| 10,000.0 | 6,932.0 | 10,004.3 | 6,932.0 | 61.9 | 62.0 | -90.01 | -3,096.6 | 391.9 | 165.1 | 41.4 | 123.71 | 1.334 | Level 3 |
| 10,100.0 | 6,931.5 | 10,104.3 | 6,931.6 | 63.8 | 63.9 | -90.01 | -3,196.6 | 393.9 | 165.1 | 37.6 | 127.45 | 1.295 | Level 3 |
| 10,200.0 | 6,931.1 | 10,204.3 | 6,931.1 | 65.7 | 65.8 | -90.01 | -3,296.6 | 396.0 | 165.1 | 33.9 | 131.19 | 1.258 | Level 3 |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-7N - Wellbore #1 - Plan #1 (8-6-1

**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 | 6,930.6 | 10,304.3 | 6,930.6 | 67.5 | 67.6 | -90.01 | -3,396.6 | 398.0 | 165.1 | 30.1 | 134.94 | 1.223 | Level 2 |
| 10,400.0 | 6,930.1 | 10,404.3 | 6,930.1 | 69.4 | 69.5 | -90.01 | -3,496.5 | 400.1 | 165.1 | 26.4 | 138.69 | 1.190 | Level 2 |
| 10,500.0 | 6,929.6 | 10,504.3 | 6,929.7 | 71.3 | 71.4 | -90.01 | -3,596.5 | 402.2 | 165.1 | 22.6 | 142.45 | 1.159 | Level 2 |
| 10,600.0 | 6,929.2 | 10,604.3 | 6,929.2 | 73.2 | 73.3 | -90.01 | -3,696.5 | 404.2 | 165.1 | 18.9 | 146.22 | 1.129 | Level 2 |
| 10,700.0 | 6,928.7 | 10,704.3 | 6,928.7 | 75.0 | 75.1 | -90.01 | -3,796.5 | 406.3 | 165.1 | 15.1 | 149.98 | 1.101 | Level 2 |
| 10,800.0 | 6,928.2 | 10,804.3 | 6,928.3 | 76.9 | 77.0 | -90.01 | -3,896.5 | 408.4 | 165.1 | 11.3 | 153.76 | 1.074 | Level 2 |
| 10,900.0 | 6,927.8 | 10,904.3 | 6,927.8 | 78.8 | 78.9 | -90.01 | -3,996.4 | 410.4 | 165.1 | 7.5 | 157.53 | 1.048 | Level 2 |
| 11,000.0 | 6,927.3 | 11,004.3 | 6,927.3 | 80.7 | 80.8 | -90.01 | -4,096.4 | 412.5 | 165.1 | 3.8 | 161.31 | 1.023 | Level 2 |
| 11,100.0 | 6,926.8 | 11,104.3 | 6,926.8 | 82.6 | 82.7 | -90.01 | -4,196.4 | 414.5 | 165.1 | 0.0 | 165.09 | 1.000 | Level 1 |
| 11,200.0 | 6,926.4 | 11,204.3 | 6,926.4 | 84.5 | 84.6 | -90.01 | -4,296.4 | 416.6 | 165.1 | -3.8 | 168.88 | 0.977 | Level 1 |
| 11,300.0 | 6,925.9 | 11,304.3 | 6,925.9 | 86.4 | 86.5 | -90.01 | -4,396.3 | 418.7 | 165.1 | -7.6 | 172.66 | 0.956 | Level 1 |
| 11,400.0 | 6,925.4 | 11,404.3 | 6,925.4 | 88.3 | 88.3 | -90.01 | -4,496.3 | 420.7 | 165.1 | -11.4 | 176.44 | 0.936 | Level 1 |
| 11,486.7 | 6,925.0 | 11,491.0 | 6,925.0 | 89.9 | 89.7 | -90.01 | -4,583.0 | 422.5 | 165.1 | -14.3 | 179.41 | 0.920 | Level 1, ES, SF |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-8N - Wellbore #1 - Plan #1 (8-6-1 — **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 | 90.07 | 0.0 | 28.0 | 28.0 | | | | |
| 100.0 | 100.0 | 99.0 | 99.0 | 0.1 | 0.1 | 90.07 | 0.0 | 28.0 | 28.0 | 27.8 | 0.22 | 125.113 | |
| 200.0 | 200.0 | 199.0 | 199.0 | 0.3 | 0.3 | 90.07 | 0.0 | 28.0 | 28.0 | 27.3 | 0.67 | 41.635 | |
| 300.0 | 300.0 | 299.0 | 299.0 | 0.6 | 0.6 | 90.07 | 0.0 | 28.0 | 28.0 | 26.9 | 1.12 | 24.948 | |
| 400.0 | 400.0 | 399.0 | 399.0 | 0.8 | 0.8 | 90.07 | 0.0 | 28.0 | 28.0 | 26.4 | 1.57 | 17.810 | |
| 500.0 | 500.0 | 499.0 | 499.0 | 1.0 | 1.0 | 90.07 | 0.0 | 28.0 | 28.0 | 26.0 | 2.02 | 13.847 | |
| 600.0 | 600.0 | 599.0 | 599.0 | 1.2 | 1.2 | 90.07 | 0.0 | 28.0 | 28.0 | 25.5 | 2.47 | 11.327 | |
| 700.0 | 700.0 | 699.0 | 699.0 | 1.5 | 1.5 | 90.07 | 0.0 | 28.0 | 28.0 | 25.1 | 2.92 | 9.583 | |
| 800.0 | 800.0 | 799.0 | 799.0 | 1.7 | 1.7 | 90.07 | 0.0 | 28.0 | 28.0 | 24.6 | 3.37 | 8.305 | |
| 900.0 | 900.0 | 899.0 | 899.0 | 1.9 | 1.9 | 90.07 | 0.0 | 28.0 | 28.0 | 24.2 | 3.82 | 7.327 | |
| 1,000.0 | 1,000.0 | 999.0 | 999.0 | 2.1 | 2.1 | 90.07 | 0.0 | 28.0 | 28.0 | 23.7 | 4.27 | 6.555 | CC, ES |
| 1,100.0 | 1,100.0 | 1,098.1 | 1,098.0 | 2.4 | 2.3 | 88.96 | 0.5 | 29.6 | 29.6 | 24.9 | 4.71 | 6.284 | |
| 1,200.0 | 1,200.0 | 1,196.9 | 1,196.7 | 2.6 | 2.6 | 86.24 | 2.3 | 34.3 | 34.5 | 29.4 | 5.14 | 6.707 | |
| 1,300.0 | 1,300.0 | 1,295.2 | 1,294.7 | 2.8 | 2.8 | 83.11 | 5.1 | 42.3 | 42.8 | 37.2 | 5.59 | 7.664 | |
| 1,400.0 | 1,400.0 | 1,393.4 | 1,392.2 | 3.0 | 3.0 | 80.36 | 9.0 | 53.2 | 54.4 | 48.4 | 6.04 | 9.013 | |
| 1,500.0 | 1,500.0 | 1,492.6 | 1,490.6 | 3.3 | 3.3 | 78.45 | 13.3 | 65.1 | 66.9 | 60.5 | 6.50 | 10.305 | |
| 1,600.0 | 1,600.0 | 1,591.8 | 1,589.0 | 3.5 | 3.5 | 77.14 | 17.6 | 76.9 | 79.5 | 72.6 | 6.96 | 11.422 | |
| 1,700.0 | 1,700.0 | 1,691.1 | 1,687.5 | 3.7 | 3.8 | 32.68 | 21.8 | 88.8 | 91.0 | 83.7 | 7.34 | 12.400 | |
| 1,800.0 | 1,799.9 | 1,790.7 | 1,786.3 | 3.9 | 4.1 | 33.02 | 26.1 | 100.7 | 100.4 | 92.6 | 7.78 | 12.903 | |
| 1,900.0 | 1,899.7 | 1,890.4 | 1,885.2 | 4.1 | 4.4 | 34.07 | 30.4 | 112.6 | 107.5 | 99.3 | 8.22 | 13.087 | |
| 2,000.0 | 1,999.3 | 1,990.2 | 1,984.2 | 4.4 | 4.7 | 35.76 | 34.7 | 124.5 | 112.6 | 104.0 | 8.66 | 13.002 | |
| 2,100.0 | 2,098.7 | 2,090.1 | 2,083.2 | 4.6 | 5.0 | 37.88 | 39.0 | 136.4 | 116.3 | 107.2 | 9.12 | 12.758 | |
| 2,200.0 | 2,198.1 | 2,189.9 | 2,182.2 | 4.9 | 5.3 | 39.88 | 43.2 | 148.3 | 120.2 | 110.6 | 9.59 | 12.533 | |
| 2,300.0 | 2,297.5 | 2,289.7 | 2,281.3 | 5.1 | 5.6 | 41.77 | 47.5 | 160.3 | 124.2 | 114.1 | 10.07 | 12.332 | |
| 2,400.0 | 2,396.8 | 2,389.6 | 2,380.3 | 5.4 | 5.9 | 43.53 | 51.8 | 172.2 | 128.3 | 117.7 | 10.56 | 12.151 | |
| 2,500.0 | 2,496.2 | 2,489.4 | 2,479.3 | 5.6 | 6.2 | 45.18 | 56.1 | 184.1 | 132.5 | 121.4 | 11.05 | 11.988 | |
| 2,600.0 | 2,595.6 | 2,589.3 | 2,578.4 | 5.9 | 6.5 | 46.73 | 60.4 | 196.0 | 136.8 | 125.2 | 11.55 | 11.840 | |
| 2,700.0 | 2,695.0 | 2,689.1 | 2,677.4 | 6.2 | 6.8 | 48.19 | 64.7 | 208.0 | 141.2 | 129.1 | 12.06 | 11.705 | |
| 2,800.0 | 2,794.4 | 2,788.9 | 2,776.4 | 6.4 | 7.2 | 49.55 | 69.0 | 219.9 | 145.7 | 133.1 | 12.58 | 11.581 | |
| 2,900.0 | 2,893.8 | 2,888.8 | 2,875.5 | 6.7 | 7.5 | 50.84 | 73.2 | 231.8 | 150.3 | 137.2 | 13.11 | 11.467 | |
| 3,000.0 | 2,993.2 | 2,988.6 | 2,974.5 | 7.0 | 7.8 | 52.05 | 77.5 | 243.7 | 154.9 | 141.3 | 13.64 | 11.362 | |
| 3,100.0 | 3,092.6 | 3,088.5 | 3,073.5 | 7.3 | 8.1 | 53.18 | 81.8 | 255.6 | 159.6 | 145.5 | 14.17 | 11.265 | |
| 3,200.0 | 3,192.0 | 3,188.3 | 3,172.6 | 7.5 | 8.4 | 54.25 | 86.1 | 267.6 | 164.4 | 149.7 | 14.71 | 11.175 | |
| 3,300.0 | 3,291.4 | 3,288.1 | 3,271.6 | 7.8 | 8.7 | 55.26 | 90.4 | 279.5 | 169.2 | 154.0 | 15.26 | 11.091 | |
| 3,400.0 | 3,390.8 | 3,388.0 | 3,370.6 | 8.1 | 9.1 | 56.22 | 94.7 | 291.4 | 174.1 | 158.3 | 15.81 | 11.014 | |
| 3,500.0 | 3,490.2 | 3,487.8 | 3,469.7 | 8.4 | 9.4 | 57.12 | 99.0 | 303.3 | 179.0 | 162.7 | 16.36 | 10.942 | |
| 3,600.0 | 3,589.5 | 3,587.7 | 3,568.7 | 8.7 | 9.7 | 57.97 | 103.3 | 315.3 | 184.0 | 167.1 | 16.92 | 10.874 | |
| 3,700.0 | 3,688.9 | 3,687.5 | 3,667.7 | 9.0 | 10.0 | 58.78 | 107.5 | 327.2 | 189.0 | 171.5 | 17.48 | 10.813 | |
| 3,800.0 | 3,788.5 | 3,787.3 | 3,766.8 | 9.2 | 10.3 | 59.23 | 111.8 | 339.1 | 194.8 | 176.9 | 17.97 | 10.841 | |
| 3,900.0 | 3,888.3 | 3,887.1 | 3,865.7 | 9.4 | 10.7 | 59.03 | 116.1 | 351.0 | 202.0 | 183.6 | 18.42 | 10.964 | |
| 4,000.0 | 3,988.2 | 3,986.6 | 3,964.5 | 9.6 | 11.0 | 58.26 | 120.4 | 362.9 | 210.5 | 191.7 | 18.83 | 11.178 | |
| 4,100.0 | 4,088.1 | 4,086.0 | 4,063.0 | 9.7 | 11.3 | 57.00 | 124.7 | 374.8 | 220.5 | 201.3 | 19.21 | 11.483 | |
| 4,200.0 | 4,188.1 | 4,185.2 | 4,161.4 | 9.9 | 11.6 | 99.27 | 128.9 | 386.6 | 231.6 | 211.9 | 19.63 | 11.796 | |
| 4,300.0 | 4,288.1 | 4,284.4 | 4,259.8 | 10.1 | 11.9 | 97.82 | 133.2 | 398.5 | 242.8 | 222.7 | 20.03 | 12.122 | |
| 4,400.0 | 4,388.1 | 4,383.6 | 4,358.2 | 10.3 | 12.3 | 96.50 | 137.4 | 410.3 | 254.1 | 233.7 | 20.43 | 12.439 | |
| 4,500.0 | 4,488.1 | 4,482.8 | 4,456.6 | 10.5 | 12.6 | 95.29 | 141.7 | 422.2 | 265.5 | 244.7 | 20.83 | 12.747 | |
| 4,600.0 | 4,588.1 | 4,582.0 | 4,555.0 | 10.7 | 12.9 | 94.18 | 145.9 | 434.0 | 277.1 | 255.9 | 21.24 | 13.045 | |
| 4,700.0 | 4,688.1 | 4,681.2 | 4,653.4 | 10.9 | 13.2 | 93.16 | 150.2 | 445.8 | 288.8 | 267.1 | 21.66 | 13.334 | |
| 4,800.0 | 4,788.1 | 4,780.3 | 4,751.7 | 11.1 | 13.5 | 92.22 | 154.5 | 457.7 | 300.5 | 278.4 | 22.07 | 13.614 | |
| 4,900.0 | 4,888.1 | 4,881.1 | 4,851.7 | 11.4 | 13.9 | 91.33 | 158.8 | 469.7 | 312.3 | 289.8 | 22.49 | 13.883 | |
| 5,000.0 | 4,988.1 | 4,992.1 | 4,962.1 | 11.6 | 14.1 | 90.60 | 162.6 | 480.4 | 321.9 | 299.0 | 22.90 | 14.057 | |
| 5,100.0 | 5,088.1 | 5,103.8 | 5,073.5 | 11.8 | 14.3 | 90.17 | 165.0 | 487.1 | 327.8 | 304.5 | 23.30 | 14.071 | |

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

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-8N - Wellbore #1 - Plan #1 (8-6-1

**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 | 5,188.1 | 5,215.9 | 5,185.6 | 12.0 | 14.5 | 90.01 | 166.0 | 489.6 | 330.2 | 306.4 | 23.70 | 13.930 | |
| 5,300.0 | 5,288.1 | 5,317.4 | 5,287.1 | 12.2 | 14.7 | 90.01 | 166.0 | 489.7 | 330.2 | 306.1 | 24.10 | 13.699 | |
| 5,400.0 | 5,388.1 | 5,417.4 | 5,387.1 | 12.4 | 14.8 | 90.01 | 166.0 | 489.7 | 330.2 | 305.7 | 24.52 | 13.468 | |
| 5,500.0 | 5,488.1 | 5,517.4 | 5,487.1 | 12.6 | 15.0 | 90.01 | 166.0 | 489.7 | 330.2 | 305.3 | 24.93 | 13.245 | |
| 5,600.0 | 5,588.1 | 5,617.4 | 5,587.1 | 12.8 | 15.2 | 90.01 | 166.0 | 489.7 | 330.2 | 304.8 | 25.34 | 13.028 | |
| 5,700.0 | 5,688.1 | 5,717.4 | 5,687.1 | 13.0 | 15.4 | 90.01 | 166.0 | 489.7 | 330.2 | 304.4 | 25.76 | 12.818 | |
| 5,800.0 | 5,788.1 | 5,817.4 | 5,787.1 | 13.2 | 15.5 | 90.01 | 166.0 | 489.7 | 330.2 | 304.0 | 26.18 | 12.614 | |
| 5,900.0 | 5,888.1 | 5,917.4 | 5,887.1 | 13.5 | 15.7 | 90.01 | 166.0 | 489.7 | 330.2 | 303.6 | 26.59 | 12.416 | |
| 6,000.0 | 5,988.1 | 6,017.4 | 5,987.1 | 13.7 | 15.9 | 90.01 | 166.0 | 489.7 | 330.2 | 303.2 | 27.01 | 12.223 | |
| 6,100.0 | 6,088.1 | 6,117.4 | 6,087.1 | 13.9 | 16.1 | 90.01 | 166.0 | 489.7 | 330.2 | 302.7 | 27.43 | 12.036 | |
| 6,200.0 | 6,188.1 | 6,217.4 | 6,187.1 | 14.1 | 16.3 | 90.01 | 166.0 | 489.7 | 330.2 | 302.3 | 27.85 | 11.854 | |
| 6,300.0 | 6,288.1 | 6,317.4 | 6,287.1 | 14.3 | 16.4 | 90.01 | 166.0 | 489.7 | 330.2 | 301.9 | 28.27 | 11.677 | |
| 6,400.0 | 6,388.1 | 6,417.4 | 6,387.1 | 14.5 | 16.6 | 90.01 | 166.0 | 489.7 | 330.2 | 301.5 | 28.70 | 11.506 | |
| 6,500.0 | 6,488.0 | 6,516.6 | 6,486.2 | 14.7 | 16.8 | -88.82 | 162.1 | 489.8 | 330.2 | 301.2 | 29.01 | 11.380 | |
| 6,600.0 | 6,585.4 | 6,615.3 | 6,582.5 | 14.8 | 16.9 | -88.87 | 141.0 | 490.2 | 330.2 | 301.0 | 29.22 | 11.300 | |
| 6,700.0 | 6,677.0 | 6,714.1 | 6,673.1 | 14.9 | 17.0 | -88.96 | 102.0 | 491.0 | 330.2 | 300.8 | 29.35 | 11.250 | |
| 6,800.0 | 6,759.2 | 6,813.1 | 6,754.9 | 15.0 | 17.0 | -89.09 | 46.6 | 492.1 | 330.2 | 300.6 | 29.50 | 11.190 | |
| 6,900.0 | 6,829.1 | 6,912.1 | 6,824.8 | 15.1 | 17.1 | -89.25 | -23.3 | 493.6 | 330.1 | 300.3 | 29.80 | 11.077 | |
| 7,000.0 | 6,884.2 | 7,011.4 | 6,880.3 | 15.3 | 17.3 | -89.44 | -105.4 | 495.3 | 330.1 | 299.8 | 30.37 | 10.870 | |
| 7,100.0 | 6,922.3 | 7,110.9 | 6,919.4 | 15.7 | 17.6 | -89.65 | -196.7 | 497.2 | 330.1 | 298.8 | 31.29 | 10.550 | |
| 7,200.0 | 6,942.1 | 7,210.6 | 6,940.4 | 16.3 | 18.1 | -89.87 | -294.0 | 499.2 | 330.1 | 297.5 | 32.59 | 10.130 | |
| 7,236.3 | 6,945.2 | 7,246.9 | 6,943.4 | 16.6 | 18.3 | -89.86 | -330.2 | 499.9 | 330.1 | 297.0 | 33.16 | 9.954 | |
| 7,300.0 | 6,944.7 | 7,310.6 | 6,943.8 | 17.2 | 18.8 | -90.01 | -393.8 | 501.2 | 330.1 | 295.9 | 34.24 | 9.642 | |
| 7,400.0 | 6,944.3 | 7,410.6 | 6,943.3 | 18.1 | 19.6 | -90.01 | -493.8 | 503.3 | 330.1 | 293.9 | 36.21 | 9.117 | |
| 7,500.0 | 6,943.8 | 7,510.6 | 6,942.8 | 19.3 | 20.7 | -90.01 | -593.8 | 505.4 | 330.1 | 291.6 | 38.47 | 8.581 | |
| 7,600.0 | 6,943.3 | 7,610.6 | 6,942.3 | 20.5 | 21.8 | -90.01 | -693.8 | 507.4 | 330.1 | 289.2 | 40.97 | 8.058 | |
| 7,700.0 | 6,942.8 | 7,710.6 | 6,941.9 | 21.9 | 23.1 | -90.01 | -793.7 | 509.5 | 330.1 | 286.5 | 43.66 | 7.561 | |
| 7,800.0 | 6,942.4 | 7,810.6 | 6,941.4 | 23.3 | 24.4 | -90.01 | -893.7 | 511.5 | 330.1 | 283.6 | 46.52 | 7.097 | |
| 7,900.0 | 6,941.9 | 7,910.6 | 6,940.9 | 24.8 | 25.9 | -90.01 | -993.7 | 513.6 | 330.1 | 280.6 | 49.51 | 6.668 | |
| 8,000.0 | 6,941.4 | 8,010.6 | 6,940.5 | 26.3 | 27.3 | -90.01 | -1,093.7 | 515.7 | 330.1 | 277.5 | 52.61 | 6.275 | |
| 8,100.0 | 6,941.0 | 8,110.6 | 6,940.0 | 27.9 | 28.9 | -90.01 | -1,193.7 | 517.7 | 330.1 | 274.3 | 55.80 | 5.916 | |
| 8,200.0 | 6,940.5 | 8,210.6 | 6,939.5 | 29.6 | 30.5 | -90.01 | -1,293.6 | 519.8 | 330.1 | 271.0 | 59.08 | 5.588 | |
| 8,300.0 | 6,940.0 | 8,310.6 | 6,939.0 | 31.2 | 32.1 | -90.01 | -1,393.6 | 521.8 | 330.1 | 267.7 | 62.41 | 5.289 | |
| 8,400.0 | 6,939.5 | 8,410.6 | 6,938.6 | 32.9 | 33.7 | -90.01 | -1,493.6 | 523.9 | 330.1 | 264.3 | 65.81 | 5.017 | |
| 8,500.0 | 6,939.1 | 8,510.6 | 6,938.1 | 34.7 | 35.4 | -90.01 | -1,593.6 | 526.0 | 330.1 | 260.9 | 69.25 | 4.767 | |
| 8,600.0 | 6,938.6 | 8,610.6 | 6,937.6 | 36.4 | 37.1 | -90.01 | -1,693.5 | 528.0 | 330.1 | 257.4 | 72.73 | 4.539 | |
| 8,700.0 | 6,938.1 | 8,710.6 | 6,937.2 | 38.2 | 38.9 | -90.01 | -1,793.5 | 530.1 | 330.1 | 253.9 | 76.25 | 4.330 | |
| 8,800.0 | 6,937.7 | 8,810.6 | 6,936.7 | 39.9 | 40.6 | -90.01 | -1,893.5 | 532.2 | 330.1 | 250.3 | 79.80 | 4.137 | |
| 8,900.0 | 6,937.2 | 8,910.6 | 6,936.2 | 41.7 | 42.4 | -90.01 | -1,993.5 | 534.2 | 330.1 | 246.8 | 83.37 | 3.960 | |
| 9,000.0 | 6,936.7 | 9,010.6 | 6,935.8 | 43.5 | 44.1 | -90.01 | -2,093.5 | 536.3 | 330.1 | 243.2 | 86.97 | 3.796 | |
| 9,100.0 | 6,936.2 | 9,110.6 | 6,935.3 | 45.3 | 45.9 | -90.01 | -2,193.4 | 538.3 | 330.1 | 239.5 | 90.59 | 3.644 | |
| 9,200.0 | 6,935.8 | 9,210.6 | 6,934.8 | 47.1 | 47.7 | -90.01 | -2,293.4 | 540.4 | 330.1 | 235.9 | 94.22 | 3.504 | |
| 9,300.0 | 6,935.3 | 9,310.6 | 6,934.3 | 49.0 | 49.5 | -90.01 | -2,393.4 | 542.5 | 330.1 | 232.3 | 97.88 | 3.373 | |
| 9,400.0 | 6,934.8 | 9,410.6 | 6,933.9 | 50.8 | 51.3 | -90.01 | -2,493.4 | 544.5 | 330.1 | 228.6 | 101.54 | 3.251 | |
| 9,500.0 | 6,934.4 | 9,510.6 | 6,933.4 | 52.6 | 53.1 | -90.01 | -2,593.3 | 546.6 | 330.1 | 224.9 | 105.22 | 3.137 | |
| 9,600.0 | 6,933.9 | 9,610.6 | 6,932.9 | 54.5 | 55.0 | -90.01 | -2,693.3 | 548.7 | 330.1 | 221.2 | 108.92 | 3.031 | |
| 9,700.0 | 6,933.4 | 9,710.6 | 6,932.5 | 56.3 | 56.8 | -90.01 | -2,793.3 | 550.7 | 330.1 | 217.5 | 112.62 | 2.932 | |
| 9,800.0 | 6,932.9 | 9,810.6 | 6,932.0 | 58.2 | 58.6 | -90.01 | -2,893.3 | 552.8 | 330.1 | 213.8 | 116.33 | 2.838 | |
| 9,900.0 | 6,932.5 | 9,910.6 | 6,931.5 | 60.1 | 60.5 | -90.01 | -2,993.3 | 554.8 | 330.1 | 210.1 | 120.05 | 2.750 | |
| 10,000.0 | 6,932.0 | 10,010.6 | 6,931.0 | 61.9 | 62.3 | -90.01 | -3,093.2 | 556.9 | 330.1 | 206.4 | 123.78 | 2.667 | |
| 10,100.0 | 6,931.5 | 10,110.6 | 6,930.6 | 63.8 | 64.2 | -90.01 | -3,193.2 | 559.0 | 330.1 | 202.6 | 127.51 | 2.589 | |
| 10,200.0 | 6,931.1 | 10,210.6 | 6,930.1 | 65.7 | 66.1 | -90.01 | -3,293.2 | 561.0 | 330.1 | 198.9 | 131.25 | 2.515 | |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-8N - Wellbore #1 - Plan #1 (8-6-1

**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 | 6,930.6 | 10,310.6 | 6,929.6 | 67.5 | 67.9 | -90.01 | -3,393.2 | 563.1 | 330.1 | 195.1 | 135.00 | 2.446 | |
| 10,400.0 | 6,930.1 | 10,410.6 | 6,929.2 | 69.4 | 69.8 | -90.01 | -3,493.1 | 565.2 | 330.1 | 191.4 | 138.75 | 2.379 | |
| 10,500.0 | 6,929.6 | 10,510.6 | 6,928.7 | 71.3 | 71.6 | -90.01 | -3,593.1 | 567.2 | 330.1 | 187.6 | 142.51 | 2.317 | |
| 10,600.0 | 6,929.2 | 10,610.6 | 6,928.2 | 73.2 | 73.5 | -90.01 | -3,693.1 | 569.3 | 330.1 | 183.9 | 146.27 | 2.257 | |
| 10,700.0 | 6,928.7 | 10,710.6 | 6,927.7 | 75.0 | 75.4 | -90.01 | -3,793.1 | 571.3 | 330.2 | 180.1 | 150.04 | 2.200 | |
| 10,800.0 | 6,928.2 | 10,810.6 | 6,927.3 | 76.9 | 77.3 | -90.01 | -3,893.1 | 573.4 | 330.2 | 176.3 | 153.81 | 2.146 | |
| 10,900.0 | 6,927.8 | 10,910.6 | 6,926.8 | 78.8 | 79.1 | -90.01 | -3,993.0 | 575.5 | 330.2 | 172.6 | 157.59 | 2.095 | |
| 11,000.0 | 6,927.3 | 11,010.6 | 6,926.3 | 80.7 | 81.0 | -90.01 | -4,093.0 | 577.5 | 330.2 | 168.8 | 161.36 | 2.046 | |
| 11,100.0 | 6,926.8 | 11,110.6 | 6,925.9 | 82.6 | 82.9 | -90.01 | -4,193.0 | 579.6 | 330.2 | 165.0 | 165.15 | 1.999 | |
| 11,200.0 | 6,926.4 | 11,210.6 | 6,925.4 | 84.5 | 84.8 | -90.01 | -4,293.0 | 581.6 | 330.2 | 161.2 | 168.93 | 1.954 | |
| 11,300.0 | 6,925.9 | 11,310.6 | 6,924.9 | 86.4 | 86.7 | -90.01 | -4,392.9 | 583.7 | 330.2 | 157.4 | 172.72 | 1.912 | |
| 11,400.0 | 6,925.4 | 11,410.6 | 6,924.4 | 88.3 | 88.6 | -90.01 | -4,492.9 | 585.8 | 330.2 | 153.7 | 176.51 | 1.871 | |
| 11,486.7 | 6,925.0 | 11,497.3 | 6,924.0 | 89.9 | 90.2 | -90.01 | -4,579.6 | 587.6 | 330.2 | 150.4 | 179.79 | 1.836 | SF |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-9C - Wellbore #1 - Plan #1 (8-6-1

**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 | 90.04 | 0.0 | 44.8 | 44.8 | | | | |
| 100.0 | 100.0 | 99.0 | 99.0 | 0.1 | 0.1 | 90.04 | 0.0 | 44.8 | 44.8 | 44.5 | 0.22 | 200.180 | |
| 200.0 | 200.0 | 199.0 | 199.0 | 0.3 | 0.3 | 90.04 | 0.0 | 44.8 | 44.8 | 44.1 | 0.67 | 66.616 | |
| 300.0 | 300.0 | 299.0 | 299.0 | 0.6 | 0.6 | 90.04 | 0.0 | 44.8 | 44.8 | 43.6 | 1.12 | 39.916 | |
| 400.0 | 400.0 | 399.0 | 399.0 | 0.8 | 0.8 | 90.04 | 0.0 | 44.8 | 44.8 | 43.2 | 1.57 | 28.495 | |
| 500.0 | 500.0 | 499.0 | 499.0 | 1.0 | 1.0 | 90.04 | 0.0 | 44.8 | 44.8 | 42.7 | 2.02 | 22.156 | |
| 600.0 | 600.0 | 599.0 | 599.0 | 1.2 | 1.2 | 90.04 | 0.0 | 44.8 | 44.8 | 42.3 | 2.47 | 18.124 | |
| 700.0 | 700.0 | 699.0 | 699.0 | 1.5 | 1.5 | 90.04 | 0.0 | 44.8 | 44.8 | 41.8 | 2.92 | 15.333 | |
| 800.0 | 800.0 | 799.0 | 799.0 | 1.7 | 1.7 | 90.04 | 0.0 | 44.8 | 44.8 | 41.4 | 3.37 | 13.288 | CC, ES |
| 900.0 | 900.0 | 897.5 | 897.5 | 1.9 | 1.9 | 89.50 | 0.4 | 46.4 | 46.4 | 42.6 | 3.81 | 12.189 | |
| 1,000.0 | 1,000.0 | 995.7 | 995.6 | 2.1 | 2.1 | 88.07 | 1.7 | 51.2 | 51.4 | 47.1 | 4.24 | 12.112 | |
| 1,100.0 | 1,100.0 | 1,093.5 | 1,093.0 | 2.4 | 2.3 | 86.22 | 3.9 | 59.3 | 59.7 | 55.0 | 4.68 | 12.749 | |
| 1,200.0 | 1,200.0 | 1,191.1 | 1,189.9 | 2.6 | 2.6 | 84.36 | 6.9 | 70.4 | 71.4 | 66.2 | 5.14 | 13.893 | |
| 1,300.0 | 1,300.0 | 1,290.2 | 1,288.2 | 2.8 | 2.8 | 82.89 | 10.3 | 82.9 | 84.2 | 78.6 | 5.60 | 15.038 | |
| 1,400.0 | 1,400.0 | 1,389.4 | 1,386.5 | 3.0 | 3.1 | 81.81 | 13.7 | 95.3 | 97.1 | 91.0 | 6.07 | 15.996 | |
| 1,500.0 | 1,500.0 | 1,488.5 | 1,484.8 | 3.3 | 3.4 | 80.98 | 17.1 | 107.7 | 110.0 | 103.4 | 6.55 | 16.802 | |
| 1,600.0 | 1,600.0 | 1,587.7 | 1,583.1 | 3.5 | 3.7 | 80.33 | 20.5 | 120.1 | 122.9 | 115.9 | 7.03 | 17.488 | |
| 1,700.0 | 1,700.0 | 1,687.0 | 1,681.6 | 3.7 | 4.0 | 36.16 | 23.9 | 132.6 | 134.8 | 127.4 | 7.35 | 18.348 | |
| 1,800.0 | 1,799.9 | 1,786.5 | 1,780.2 | 3.9 | 4.3 | 36.52 | 27.3 | 145.0 | 144.6 | 136.8 | 7.79 | 18.561 | |
| 1,900.0 | 1,899.7 | 1,886.1 | 1,879.0 | 4.1 | 4.6 | 37.43 | 30.7 | 157.5 | 152.3 | 144.1 | 8.23 | 18.494 | |
| 2,000.0 | 1,999.3 | 1,985.9 | 1,978.0 | 4.4 | 4.9 | 38.86 | 34.1 | 170.0 | 158.0 | 149.3 | 8.68 | 18.195 | |
| 2,100.0 | 2,098.7 | 2,085.7 | 2,076.9 | 4.6 | 5.2 | 40.63 | 37.5 | 182.5 | 162.4 | 153.3 | 9.15 | 17.757 | |
| 2,200.0 | 2,198.1 | 2,185.5 | 2,175.8 | 4.9 | 5.5 | 42.33 | 40.9 | 195.0 | 167.0 | 157.4 | 9.62 | 17.355 | |
| 2,300.0 | 2,297.5 | 2,285.2 | 2,274.8 | 5.1 | 5.9 | 43.94 | 44.3 | 207.5 | 171.7 | 161.6 | 10.10 | 16.991 | |
| 2,400.0 | 2,396.8 | 2,385.0 | 2,373.7 | 5.4 | 6.2 | 45.46 | 47.7 | 220.1 | 176.5 | 165.9 | 10.59 | 16.659 | |
| 2,500.0 | 2,496.2 | 2,484.8 | 2,472.6 | 5.6 | 6.5 | 46.91 | 51.1 | 232.6 | 181.4 | 170.3 | 11.09 | 16.356 | |
| 2,600.0 | 2,595.6 | 2,584.6 | 2,571.5 | 5.9 | 6.8 | 48.27 | 54.5 | 245.1 | 186.5 | 174.9 | 11.60 | 16.078 | |
| 2,700.0 | 2,695.0 | 2,684.3 | 2,670.5 | 6.2 | 7.1 | 49.56 | 57.9 | 257.6 | 191.6 | 179.5 | 12.11 | 15.823 | |
| 2,800.0 | 2,794.4 | 2,784.1 | 2,769.4 | 6.4 | 7.5 | 50.79 | 61.3 | 270.1 | 196.8 | 184.2 | 12.63 | 15.588 | |
| 2,900.0 | 2,893.8 | 2,883.9 | 2,868.3 | 6.7 | 7.8 | 51.95 | 64.7 | 282.6 | 202.1 | 189.0 | 13.15 | 15.370 | |
| 3,000.0 | 2,993.2 | 2,983.7 | 2,967.3 | 7.0 | 8.1 | 53.05 | 68.1 | 295.1 | 207.5 | 193.8 | 13.68 | 15.169 | |
| 3,100.0 | 3,092.6 | 3,083.4 | 3,066.2 | 7.3 | 8.4 | 54.09 | 71.5 | 307.6 | 213.0 | 198.8 | 14.22 | 14.982 | |
| 3,200.0 | 3,192.0 | 3,183.2 | 3,165.1 | 7.5 | 8.8 | 55.09 | 74.9 | 320.1 | 218.5 | 203.8 | 14.76 | 14.809 | |
| 3,300.0 | 3,291.4 | 3,283.0 | 3,264.1 | 7.8 | 9.1 | 56.03 | 78.3 | 332.6 | 224.1 | 208.8 | 15.30 | 14.647 | |
| 3,400.0 | 3,390.8 | 3,382.8 | 3,363.0 | 8.1 | 9.4 | 56.93 | 81.7 | 345.1 | 229.8 | 213.9 | 15.85 | 14.496 | |
| 3,500.0 | 3,490.2 | 3,482.6 | 3,461.9 | 8.4 | 9.7 | 57.78 | 85.1 | 357.6 | 235.5 | 219.1 | 16.40 | 14.355 | |
| 3,600.0 | 3,589.5 | 3,582.3 | 3,560.9 | 8.7 | 10.1 | 58.59 | 88.5 | 370.1 | 241.2 | 224.3 | 16.96 | 14.223 | |
| 3,700.0 | 3,688.9 | 3,682.1 | 3,659.8 | 9.0 | 10.4 | 59.37 | 91.9 | 382.6 | 247.1 | 229.5 | 17.52 | 14.102 | |
| 3,800.0 | 3,788.5 | 3,781.9 | 3,758.7 | 9.2 | 10.7 | 59.89 | 95.3 | 395.1 | 253.7 | 235.7 | 18.01 | 14.084 | |
| 3,900.0 | 3,888.3 | 3,881.5 | 3,857.6 | 9.4 | 11.0 | 59.91 | 98.7 | 407.6 | 261.6 | 243.2 | 18.47 | 14.164 | |
| 4,000.0 | 3,988.2 | 3,981.1 | 3,956.2 | 9.6 | 11.4 | 59.47 | 102.1 | 420.1 | 270.9 | 252.0 | 18.89 | 14.339 | |
| 4,100.0 | 4,088.1 | 4,080.4 | 4,054.7 | 9.7 | 11.7 | 58.62 | 105.5 | 432.5 | 281.5 | 262.3 | 19.28 | 14.604 | |
| 4,200.0 | 4,188.1 | 4,179.5 | 4,153.0 | 9.9 | 12.0 | 101.32 | 108.9 | 444.9 | 293.1 | 273.4 | 19.72 | 14.865 | |
| 4,300.0 | 4,288.1 | 4,278.7 | 4,251.3 | 10.1 | 12.4 | 100.23 | 112.2 | 457.4 | 304.8 | 284.7 | 20.13 | 15.144 | |
| 4,400.0 | 4,388.1 | 4,377.9 | 4,349.7 | 10.3 | 12.7 | 99.22 | 115.6 | 469.8 | 316.6 | 296.0 | 20.54 | 15.416 | |
| 4,500.0 | 4,488.1 | 4,477.0 | 4,448.0 | 10.5 | 13.0 | 98.28 | 119.0 | 482.2 | 328.5 | 307.5 | 20.95 | 15.678 | |
| 4,600.0 | 4,588.1 | 4,576.2 | 4,546.3 | 10.7 | 13.3 | 97.41 | 122.4 | 494.6 | 340.4 | 319.1 | 21.37 | 15.931 | |
| 4,700.0 | 4,688.1 | 4,675.3 | 4,644.6 | 10.9 | 13.7 | 96.60 | 125.8 | 507.1 | 352.5 | 330.7 | 21.79 | 16.176 | |
| 4,800.0 | 4,788.1 | 4,774.5 | 4,742.9 | 11.1 | 14.0 | 95.84 | 129.2 | 519.5 | 364.6 | 342.4 | 22.21 | 16.413 | |
| 4,900.0 | 4,888.1 | 4,873.6 | 4,841.2 | 11.4 | 14.3 | 95.13 | 132.5 | 531.9 | 376.7 | 354.1 | 22.64 | 16.641 | |
| 5,000.0 | 4,988.1 | 4,972.8 | 4,939.5 | 11.6 | 14.6 | 94.47 | 135.9 | 544.4 | 388.9 | 365.9 | 23.07 | 16.862 | |
| 5,100.0 | 5,088.1 | 5,071.9 | 5,037.9 | 11.8 | 15.0 | 93.84 | 139.3 | 556.8 | 401.2 | 377.7 | 23.50 | 17.075 | |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-9C - Wellbore #1 - Plan #1 (8-6-1

**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 | 5,188.1 | 5,171.1 | 5,136.2 | 12.0 | 15.3 | 93.26 | 142.7 | 569.2 | 413.5 | 389.6 | 23.93 | 17.282 | |
| 5,300.0 | 5,288.1 | 5,270.2 | 5,234.5 | 12.2 | 15.6 | 92.70 | 146.1 | 581.6 | 425.9 | 401.5 | 24.36 | 17.481 | |
| 5,400.0 | 5,388.1 | 5,369.4 | 5,332.8 | 12.4 | 15.9 | 92.18 | 149.4 | 594.1 | 438.3 | 413.5 | 24.80 | 17.673 | |
| 5,500.0 | 5,488.1 | 5,468.5 | 5,431.1 | 12.6 | 16.3 | 91.69 | 152.8 | 606.5 | 450.7 | 425.4 | 25.23 | 17.859 | |
| 5,600.0 | 5,588.1 | 5,567.7 | 5,529.4 | 12.8 | 16.6 | 91.22 | 156.2 | 618.9 | 463.1 | 437.4 | 25.67 | 18.039 | |
| 5,700.0 | 5,688.1 | 5,666.8 | 5,627.7 | 13.0 | 16.9 | 90.78 | 159.6 | 631.3 | 475.6 | 449.5 | 26.11 | 18.214 | |
| 5,800.0 | 5,788.1 | 5,785.4 | 5,745.5 | 13.2 | 17.2 | 90.36 | 163.0 | 643.8 | 486.1 | 459.6 | 26.55 | 18.312 | |
| 5,900.0 | 5,888.1 | 5,904.8 | 5,864.7 | 13.5 | 17.4 | 90.10 | 165.1 | 651.7 | 492.7 | 465.7 | 26.97 | 18.268 | |
| 6,000.0 | 5,988.1 | 6,024.7 | 5,984.6 | 13.7 | 17.6 | 90.01 | 166.0 | 654.7 | 495.2 | 467.8 | 27.39 | 18.081 | |
| 6,100.0 | 6,088.1 | 6,127.3 | 6,087.1 | 13.9 | 17.8 | 90.00 | 166.0 | 654.8 | 495.3 | 467.5 | 27.80 | 17.818 | |
| 6,200.0 | 6,188.1 | 6,227.3 | 6,187.1 | 14.1 | 18.0 | 90.00 | 166.0 | 654.8 | 495.3 | 467.1 | 28.21 | 17.558 | |
| 6,300.0 | 6,288.1 | 6,327.3 | 6,287.1 | 14.3 | 18.1 | 90.00 | 166.0 | 654.8 | 495.3 | 466.7 | 28.62 | 17.306 | |
| 6,400.0 | 6,388.1 | 6,427.3 | 6,387.1 | 14.5 | 18.3 | 90.00 | 166.0 | 654.8 | 495.3 | 466.2 | 29.03 | 17.059 | |
| 6,500.0 | 6,488.0 | 6,527.2 | 6,487.0 | 14.7 | 18.4 | -89.28 | 166.0 | 654.8 | 495.2 | 465.9 | 29.34 | 16.878 | |
| 6,539.4 | 6,526.9 | 6,566.0 | 6,525.9 | 14.7 | 18.5 | -90.00 | 166.0 | 654.8 | 495.2 | 465.7 | 29.43 | 16.827 | |
| 6,600.0 | 6,585.4 | 6,624.6 | 6,584.4 | 14.8 | 18.6 | -91.69 | 166.0 | 654.8 | 495.4 | 465.9 | 29.53 | 16.774 | |
| 6,700.0 | 6,677.0 | 6,722.7 | 6,682.4 | 14.9 | 18.7 | -95.53 | 162.0 | 654.9 | 497.9 | 468.2 | 29.61 | 16.813 | |
| 6,800.0 | 6,759.2 | 6,830.2 | 6,786.9 | 15.0 | 18.9 | -99.47 | 137.8 | 655.4 | 503.0 | 473.4 | 29.62 | 16.982 | |
| 6,900.0 | 6,829.1 | 6,948.1 | 6,893.2 | 15.1 | 18.9 | -103.21 | 87.3 | 656.4 | 510.2 | 480.6 | 29.60 | 17.236 | |
| 7,000.0 | 6,884.2 | 7,078.1 | 6,993.8 | 15.3 | 19.1 | -106.59 | 5.7 | 658.1 | 518.4 | 488.7 | 29.66 | 17.477 | |
| 7,100.0 | 6,922.3 | 7,220.6 | 7,077.3 | 15.7 | 19.3 | -109.31 | -109.4 | 660.4 | 525.8 | 495.9 | 29.93 | 17.566 | |
| 7,200.0 | 6,942.1 | 7,374.0 | 7,128.8 | 16.3 | 19.8 | -111.04 | -253.3 | 663.4 | 530.8 | 500.1 | 30.71 | 17.286 | |
| 7,300.0 | 6,944.7 | 7,512.6 | 7,138.6 | 17.2 | 20.6 | -111.49 | -391.1 | 666.3 | 532.2 | 500.0 | 32.16 | 16.547 | |
| 7,400.0 | 6,944.3 | 7,612.6 | 7,138.3 | 18.1 | 21.3 | -111.50 | -491.1 | 668.3 | 532.2 | 498.3 | 33.94 | 15.680 | |
| 7,500.0 | 6,943.8 | 7,712.6 | 7,137.9 | 19.3 | 22.3 | -111.51 | -591.1 | 670.4 | 532.2 | 496.2 | 36.00 | 14.785 | |
| 7,600.0 | 6,943.3 | 7,812.6 | 7,137.6 | 20.5 | 23.3 | -111.52 | -691.0 | 672.4 | 532.3 | 494.0 | 38.29 | 13.902 | |
| 7,700.0 | 6,942.8 | 7,912.6 | 7,137.3 | 21.9 | 24.5 | -111.54 | -791.0 | 674.5 | 532.3 | 491.6 | 40.77 | 13.057 | |
| 7,800.0 | 6,942.4 | 8,012.6 | 7,136.9 | 23.3 | 25.8 | -111.55 | -891.0 | 676.6 | 532.4 | 489.0 | 43.41 | 12.263 | |
| 7,900.0 | 6,941.9 | 8,112.6 | 7,136.6 | 24.8 | 27.1 | -111.56 | -991.0 | 678.6 | 532.4 | 486.2 | 46.19 | 11.528 | |
| 8,000.0 | 6,941.4 | 8,212.6 | 7,136.2 | 26.3 | 28.5 | -111.57 | -1,091.0 | 680.7 | 532.5 | 483.4 | 49.07 | 10.852 | |
| 8,100.0 | 6,941.0 | 8,312.6 | 7,135.9 | 27.9 | 30.0 | -111.58 | -1,190.9 | 682.8 | 532.5 | 480.5 | 52.04 | 10.233 | |
| 8,200.0 | 6,940.5 | 8,412.6 | 7,135.5 | 29.6 | 31.6 | -111.60 | -1,290.9 | 684.8 | 532.6 | 477.5 | 55.09 | 9.667 | |
| 8,300.0 | 6,940.0 | 8,512.6 | 7,135.2 | 31.2 | 33.1 | -111.61 | -1,390.9 | 686.9 | 532.6 | 474.4 | 58.20 | 9.151 | |
| 8,400.0 | 6,939.5 | 8,612.6 | 7,134.8 | 32.9 | 34.7 | -111.62 | -1,490.9 | 689.0 | 532.7 | 471.3 | 61.37 | 8.679 | |
| 8,500.0 | 6,939.1 | 8,712.6 | 7,134.5 | 34.7 | 36.4 | -111.63 | -1,590.8 | 691.0 | 532.7 | 468.1 | 64.59 | 8.248 | |
| 8,600.0 | 6,938.6 | 8,812.6 | 7,134.1 | 36.4 | 38.0 | -111.64 | -1,690.8 | 693.1 | 532.8 | 464.9 | 67.84 | 7.853 | |
| 8,700.0 | 6,938.1 | 8,912.6 | 7,133.8 | 38.2 | 39.7 | -111.66 | -1,790.8 | 695.1 | 532.8 | 461.7 | 71.13 | 7.491 | |
| 8,800.0 | 6,937.7 | 9,012.6 | 7,133.4 | 39.9 | 41.4 | -111.67 | -1,890.8 | 697.2 | 532.9 | 458.4 | 74.45 | 7.157 | |
| 8,900.0 | 6,937.2 | 9,112.6 | 7,133.1 | 41.7 | 43.1 | -111.68 | -1,990.8 | 699.3 | 532.9 | 455.1 | 77.79 | 6.850 | |
| 9,000.0 | 6,936.7 | 9,212.6 | 7,132.7 | 43.5 | 44.9 | -111.69 | -2,090.7 | 701.3 | 532.9 | 451.8 | 81.16 | 6.567 | |
| 9,100.0 | 6,936.2 | 9,312.6 | 7,132.4 | 45.3 | 46.6 | -111.71 | -2,190.7 | 703.4 | 533.0 | 448.5 | 84.54 | 6.305 | |
| 9,200.0 | 6,935.8 | 9,412.6 | 7,132.0 | 47.1 | 48.4 | -111.72 | -2,290.7 | 705.5 | 533.0 | 445.1 | 87.94 | 6.061 | |
| 9,300.0 | 6,935.3 | 9,512.6 | 7,131.7 | 49.0 | 50.2 | -111.73 | -2,390.7 | 707.5 | 533.1 | 441.7 | 91.36 | 5.835 | |
| 9,400.0 | 6,934.8 | 9,612.6 | 7,131.3 | 50.8 | 52.0 | -111.74 | -2,490.6 | 709.6 | 533.1 | 438.3 | 94.79 | 5.624 | |
| 9,500.0 | 6,934.4 | 9,712.6 | 7,131.0 | 52.6 | 53.8 | -111.75 | -2,590.6 | 711.6 | 533.2 | 434.9 | 98.24 | 5.428 | |
| 9,600.0 | 6,933.9 | 9,812.6 | 7,130.6 | 54.5 | 55.6 | -111.77 | -2,690.6 | 713.7 | 533.2 | 431.5 | 101.69 | 5.244 | |
| 9,700.0 | 6,933.4 | 9,912.6 | 7,130.3 | 56.3 | 57.4 | -111.78 | -2,790.6 | 715.8 | 533.3 | 428.1 | 105.15 | 5.071 | |
| 9,800.0 | 6,932.9 | 10,012.6 | 7,129.9 | 58.2 | 59.2 | -111.79 | -2,890.6 | 717.8 | 533.3 | 424.7 | 108.63 | 4.910 | |
| 9,900.0 | 6,932.5 | 10,112.6 | 7,129.6 | 60.1 | 61.1 | -111.80 | -2,990.5 | 719.9 | 533.4 | 421.3 | 112.11 | 4.758 | |
| 10,000.0 | 6,932.0 | 10,212.6 | 7,129.2 | 61.9 | 62.9 | -111.81 | -3,090.5 | 722.0 | 533.4 | 417.8 | 115.60 | 4.614 | |
| 10,100.0 | 6,931.5 | 10,312.6 | 7,128.9 | 63.8 | 64.7 | -111.83 | -3,190.5 | 724.0 | 533.5 | 414.4 | 119.09 | 4.479 | |
| 10,200.0 | 6,931.1 | 10,412.6 | 7,128.5 | 65.7 | 66.6 | -111.84 | -3,290.5 | 726.1 | 533.5 | 410.9 | 122.59 | 4.352 | |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W - Pastelak 01N-64W-02-9C - Wellbore #1 - Plan #1 (8-6-1

**Offset Site Error:** 0.0 ft

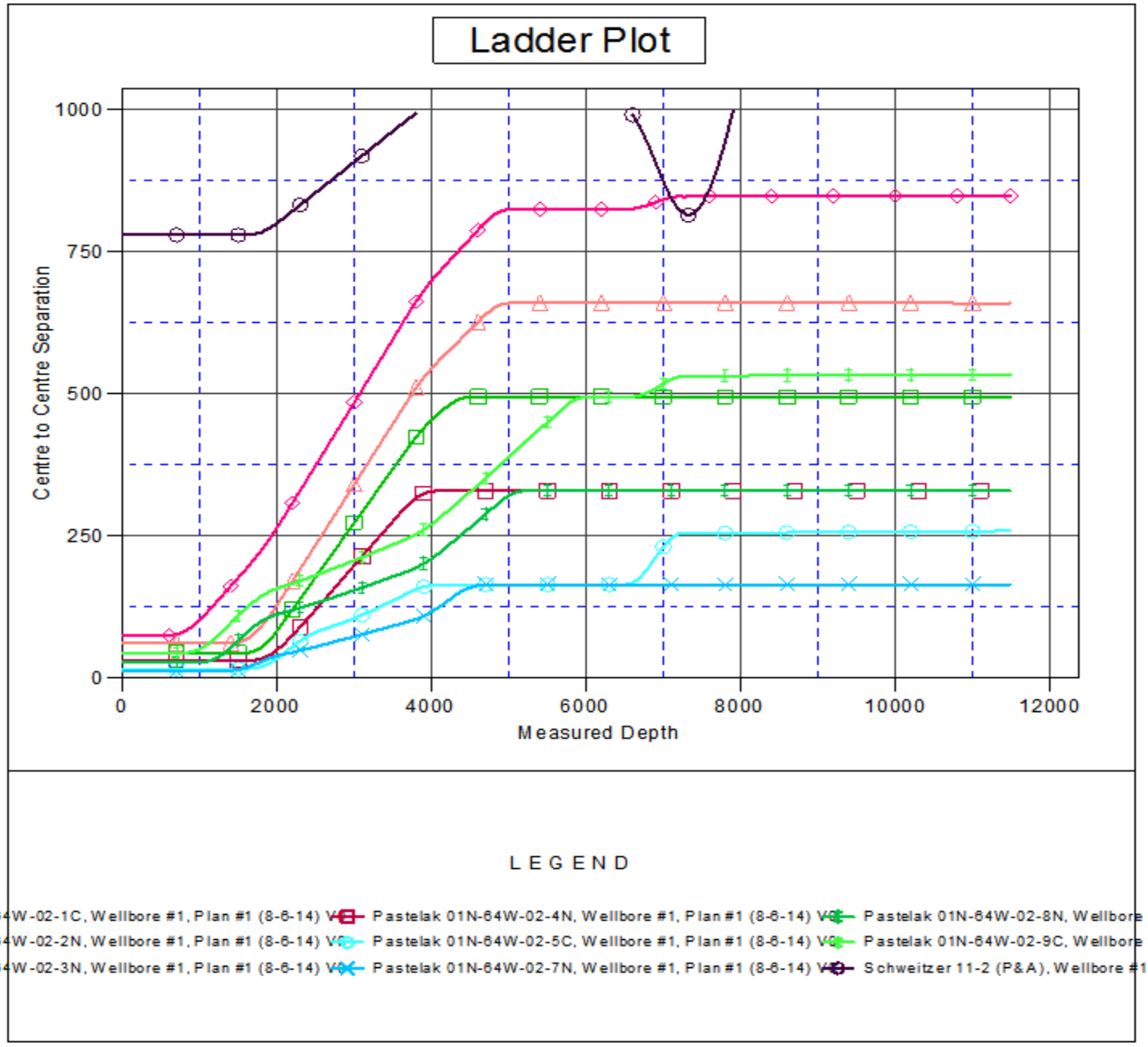
**Survey Program:** 0-MWD

**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 | 6,930.6 | 10,512.6 | 7,128.2 | 67.5 | 68.4 | -111.85 | -3,390.5 | 728.1 | 533.6 | 407.5 | 126.10 | 4.231 | |
| 10,400.0 | 6,930.1 | 10,612.6 | 7,127.8 | 69.4 | 70.3 | -111.86 | -3,490.4 | 730.2 | 533.6 | 404.0 | 129.61 | 4.117 | |
| 10,500.0 | 6,929.6 | 10,712.6 | 7,127.5 | 71.3 | 72.1 | -111.88 | -3,590.4 | 732.3 | 533.6 | 400.5 | 133.12 | 4.009 | |
| 10,600.0 | 6,929.2 | 10,812.6 | 7,127.1 | 73.2 | 74.0 | -111.89 | -3,690.4 | 734.3 | 533.7 | 397.1 | 136.64 | 3.906 | |
| 10,700.0 | 6,928.7 | 10,912.6 | 7,126.8 | 75.0 | 75.9 | -111.90 | -3,790.4 | 736.4 | 533.7 | 393.6 | 140.16 | 3.808 | |
| 10,800.0 | 6,928.2 | 11,012.6 | 7,126.4 | 76.9 | 77.7 | -111.91 | -3,890.3 | 738.5 | 533.8 | 390.1 | 143.69 | 3.715 | |
| 10,900.0 | 6,927.8 | 11,112.6 | 7,126.1 | 78.8 | 79.6 | -111.92 | -3,990.3 | 740.5 | 533.8 | 386.6 | 147.22 | 3.626 | |
| 11,000.0 | 6,927.3 | 11,212.6 | 7,125.7 | 80.7 | 81.5 | -111.94 | -4,090.3 | 742.6 | 533.9 | 383.1 | 150.75 | 3.542 | |
| 11,100.0 | 6,926.8 | 11,312.6 | 7,125.4 | 82.6 | 83.3 | -111.95 | -4,190.3 | 744.6 | 533.9 | 379.6 | 154.28 | 3.461 | |
| 11,200.0 | 6,926.4 | 11,412.6 | 7,125.0 | 84.5 | 85.2 | -111.96 | -4,290.3 | 746.7 | 534.0 | 376.2 | 157.82 | 3.383 | |
| 11,300.0 | 6,925.9 | 11,512.6 | 7,124.7 | 86.4 | 87.1 | -111.97 | -4,390.2 | 748.8 | 534.0 | 372.7 | 161.36 | 3.310 | |
| 11,400.0 | 6,925.4 | 11,612.6 | 7,124.3 | 88.3 | 89.0 | -111.98 | -4,490.2 | 750.8 | 534.1 | 369.2 | 164.90 | 3.239 | |
| 11,486.7 | 6,925.0 | 11,699.3 | 7,124.0 | 89.9 | 90.6 | -111.99 | -4,576.9 | 752.6 | 534.1 | 366.1 | 167.97 | 3.180 | SF |

| | | | |
|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

Reference Depths are relative to WELL @ 5025.0ft (Original Well Elev) Coordinates are relative to: Pastelak 01N-64W-02-6N
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: 0.63°



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|---|---|---|---|
| **Company:** | Verdad Oil & Gas Corporation | **Local Co-ordinate Reference:** | Well Pastelak 01N-64W-02-6N |
| **Project:** | SEC.2-T1N-R64W | **TVD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Reference Site:** | Pastelak 01N-64W-02 Pad Sec.2-T1N-R64W | **MD Reference:** | WELL @ 5025.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | Pastelak 01N-64W-02-6N | **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 (8-6-14) | **Offset TVD Reference:** | Offset Datum |

Reference Depths are relative to WELL @ 5025.0ft (Original Well Elev) Coordinates are relative to: Pastelak 01N-64W-02-6N
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: 0.63°