ENSIGN Directional

**Well Name: SRC Avex 32-10D**

Surface Location: SRC Avex 42-10D Pad Sec.10-T4N-R68W

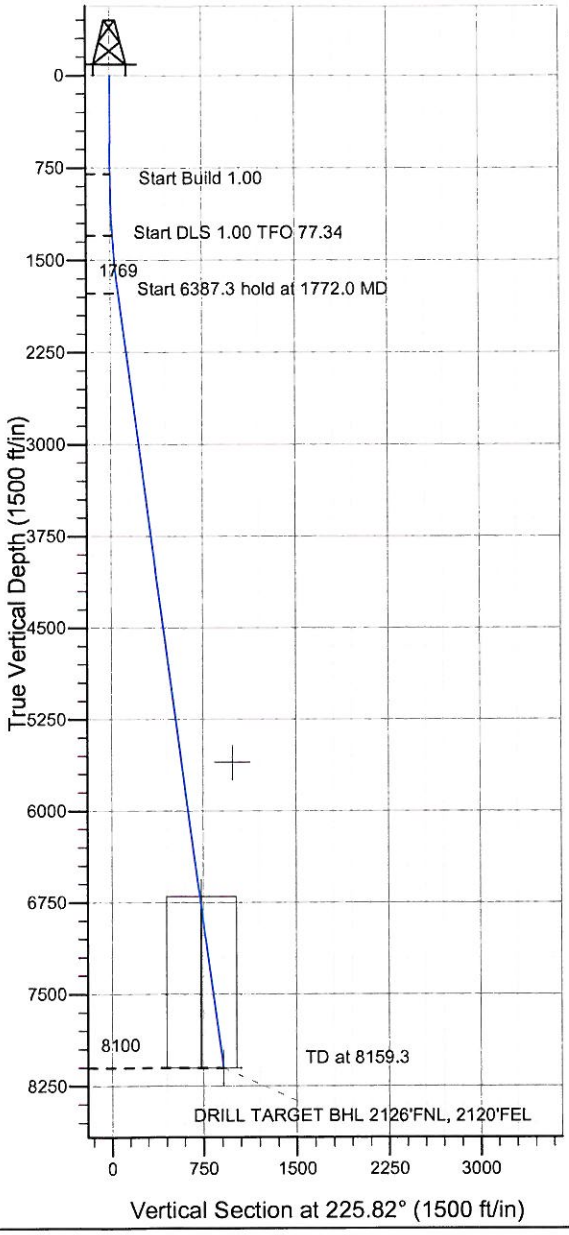
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

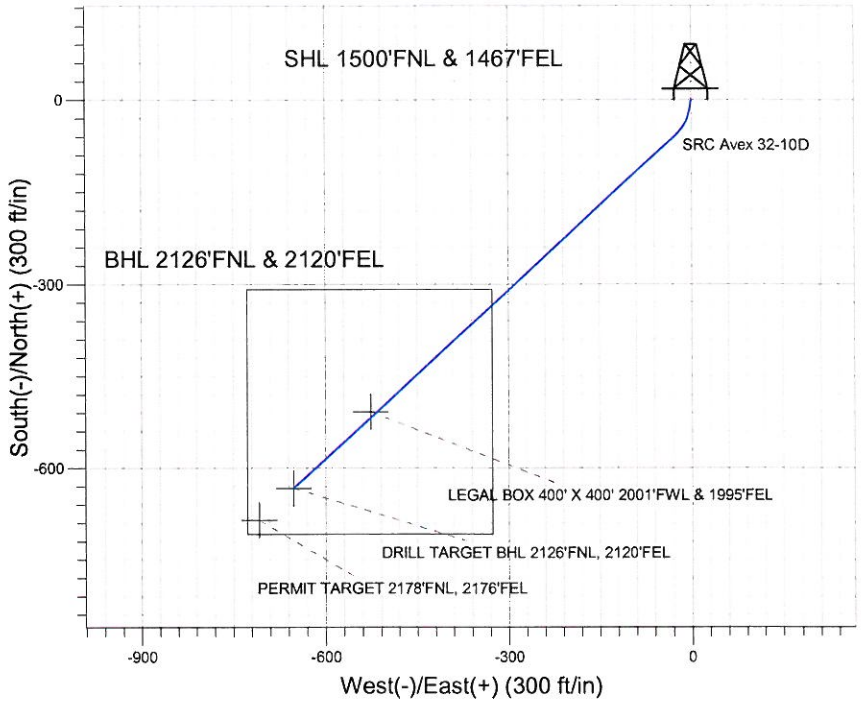
Ground Elevation: 5038.0

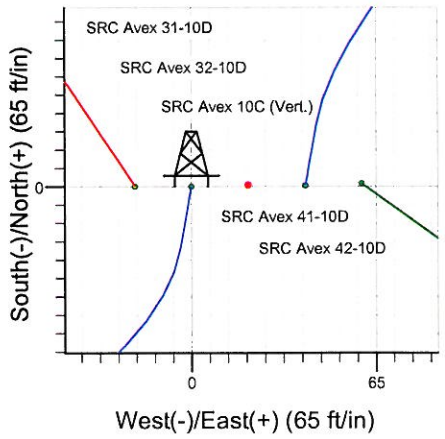
| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Slot |
|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 1363965.53 | 3143566.42 | 40.331342 | -104.985039 | |

Original Well Elev WELL @ 5051.0ft (Original Well Elev)

## Synergy Resources




SRC Avex 42-10D Pad Sec.10-T4N-R68W
SRC Avex 32-10D
Plan #1 (7-12-11)
9:56, July 26 2011


Azimuths to True North
Magnetic North: 8.96°

Magnetic Field
Strength: 53057.8snT
Dip Angle: 66.95°
Date: 7/26/2011
Model: IGRF2010

### WELLBORE TARGET DETAILS (LAT/LONG)

| Name | TVD | +N/-S | +E/-W | Latitude | Longitude | Shape |
|---|---|---|---|---|---|---|
| PERMIT TARGET 2178'FNL, 2176'FEL | 5600.0 | -685.2 | -707.6 | 40.329461 | -104.987577 | Point |
| LEGAL BOX 400' X 400' 2001'FWL & 1995'FEL | 6700.0 | -508.2 | -526.6 | 40.329947 | -104.986928 | Rectangle (Sides: L400.0 W400.0) |
| DRILL TARGET BHL 2126'FNL, 2120'FEL | 8100.0 | -633.2 | -651.6 | 40.329604 | -104.987376 | Point |

### 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 | 800.0 | 0.00 | 0.00 | 800.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 3 | 1300.0 | 5.00 | 190.00 | 1299.4 | -21.5 | -3.8 | 1.00 | 190.00 | 17.7 | |
| 4 | 1772.0 | 7.59 | 227.45 | 1768.7 | -62.8 | -30.3 | 1.00 | 77.34 | 65.5 | |
| 5 | 8159.3 | 7.59 | 227.45 | 8100.0 | -633.2 | -651.6 | 0.00 | 0.00 | 908.6 | DRILL TARGET BHL 2126'FNL, 2120'FEL |

ENSIGN
Directional

# Synergy Resources

**SEC.10-T4N-R68W**
**SRC Avex 42-10D Pad Sec.10-T4N-R68W**
**SRC Avex 32-10D**

**Wellbore #1**

**Plan: Plan #1 (7-12-11)**

# Standard Planning Report

**26 July, 2011**

ENSIGN Directional

# Planning Report

| | | | |
|---|---|---|---|
| **Database:** | Landmark | **Local Co-ordinate Reference:** | Well SRC Avex 32-10D |
| **Company:** | Synergy Resources | **TVD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Project:** | SEC.10-T4N-R68W | **MD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Site:** | SRC Avex 42-10D Pad Sec.10-T4N-R68W | **North Reference:** | True |
| **Well:** | SRC Avex 32-10D | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Plan #1 (7-12-11) | | |

**Project** SEC.10-T4N-R68W, Weld County, Colorado

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

**Site** SRC Avex 42-10D Pad Sec.10-T4N-R68W

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 1,363,966.99 ft | **Latitude:** | 40.331345 |
| **From:** | Lat/Long | **Easting:** | 3,143,626.35 ft | **Longitude:** | -104.984824 |
| **Position Uncertainty:** | 0.0 ft | **Slot Radius:** | " | **Grid Convergence:** | 0.33 ° |

**Well** SRC Avex 32-10D

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | -1.1 ft | **Northing:** | 1,363,965.53 ft | **Latitude:** | 40.331342 |
| | **+E/-W** | -59.9 ft | **Easting:** | 3,143,566.42 ft | **Longitude:** | -104.985039 |
| **Position Uncertainty** | | 0.0 ft | **Wellhead Elevation:** | ft | **Ground Level:** | 5,038.0 ft |

**Wellbore** Wellbore #1

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | IGRF2010 | 7/26/2011 | 8.96 | 66.95 | 53,058 |

**Design** Plan #1 (7-12-11)

**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 | 225.82 |

**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 | |
| 800.0 | 0.00 | 0.00 | 800.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,300.0 | 5.00 | 190.00 | 1,299.4 | -21.5 | -3.8 | 1.00 | 1.00 | 0.00 | 190.00 | |
| 1,772.0 | 7.59 | 227.45 | 1,768.7 | -62.8 | -30.3 | 1.00 | 0.55 | 7.93 | 77.34 | |
| 8,159.3 | 7.59 | 227.45 | 8,100.0 | -633.2 | -651.6 | 0.00 | 0.00 | 0.00 | 0.00 | DRILL TARGET BH |

| | | | |
|---|---|---|---|
| **Database:** | Landmark | **Local Co-ordinate Reference:** | Well SRC Avex 32-10D |
| **Company:** | Synergy Resources | **TVD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Project:** | SEC.10-T4N-R68W | **MD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Site:** | SRC Avex 42-10D Pad Sec.10-T4N-R68W | **North Reference:** | True |
| **Well:** | SRC Avex 32-10D | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Plan #1 (7-12-11) | | |

**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 |
| 40.0 | 0.00 | 0.00 | 40.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 80.0 | 0.00 | 0.00 | 80.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 120.0 | 0.00 | 0.00 | 120.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 160.0 | 0.00 | 0.00 | 160.0 | 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 |
| 240.0 | 0.00 | 0.00 | 240.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 280.0 | 0.00 | 0.00 | 280.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 320.0 | 0.00 | 0.00 | 320.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 360.0 | 0.00 | 0.00 | 360.0 | 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 |
| 440.0 | 0.00 | 0.00 | 440.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 480.0 | 0.00 | 0.00 | 480.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 520.0 | 0.00 | 0.00 | 520.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 550.0 | 0.00 | 0.00 | 550.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| **8 5/8"** | | | | | | | | | |
| 560.0 | 0.00 | 0.00 | 560.0 | 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 |
| 640.0 | 0.00 | 0.00 | 640.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 680.0 | 0.00 | 0.00 | 680.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 720.0 | 0.00 | 0.00 | 720.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 760.0 | 0.00 | 0.00 | 760.0 | 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 |
| 840.0 | 0.40 | 190.00 | 840.0 | -0.1 | 0.0 | 0.1 | 1.00 | 1.00 | 0.00 |
| 880.0 | 0.80 | 190.00 | 880.0 | -0.6 | -0.1 | 0.5 | 1.00 | 1.00 | 0.00 |
| 920.0 | 1.20 | 190.00 | 920.0 | -1.2 | -0.2 | 1.0 | 1.00 | 1.00 | 0.00 |
| 960.0 | 1.60 | 190.00 | 960.0 | -2.2 | -0.4 | 1.8 | 1.00 | 1.00 | 0.00 |
| 1,000.0 | 2.00 | 190.00 | 1,000.0 | -3.4 | -0.6 | 2.8 | 1.00 | 1.00 | 0.00 |
| 1,040.0 | 2.40 | 190.00 | 1,039.9 | -4.9 | -0.9 | 4.1 | 1.00 | 1.00 | 0.00 |
| 1,080.0 | 2.80 | 190.00 | 1,079.9 | -6.7 | -1.2 | 5.5 | 1.00 | 1.00 | 0.00 |
| 1,120.0 | 3.20 | 190.00 | 1,119.8 | -8.8 | -1.6 | 7.2 | 1.00 | 1.00 | 0.00 |
| 1,160.0 | 3.60 | 190.00 | 1,159.8 | -11.1 | -2.0 | 9.2 | 1.00 | 1.00 | 0.00 |
| 1,200.0 | 4.00 | 190.00 | 1,199.7 | -13.7 | -2.4 | 11.3 | 1.00 | 1.00 | 0.00 |
| 1,240.0 | 4.40 | 190.00 | 1,239.6 | -16.6 | -2.9 | 13.7 | 1.00 | 1.00 | 0.00 |
| 1,280.0 | 4.80 | 190.00 | 1,279.4 | -19.8 | -3.5 | 16.3 | 1.00 | 1.00 | 0.00 |
| 1,300.0 | 5.00 | 190.00 | 1,299.4 | -21.5 | -3.8 | 17.7 | 1.00 | 1.00 | 0.00 |
| 1,320.0 | 5.05 | 192.22 | 1,319.3 | -23.2 | -4.1 | 19.1 | 1.00 | 0.24 | 11.09 |
| 1,360.0 | 5.16 | 196.52 | 1,359.1 | -26.6 | -5.0 | 22.2 | 1.00 | 0.29 | 10.75 |
| 1,400.0 | 5.31 | 200.60 | 1,399.0 | -30.1 | -6.2 | 25.4 | 1.00 | 0.36 | 10.22 |
| 1,440.0 | 5.48 | 204.46 | 1,438.8 | -33.6 | -7.6 | 28.9 | 1.00 | 0.43 | 9.63 |
| 1,480.0 | 5.67 | 208.06 | 1,478.6 | -37.0 | -9.3 | 32.5 | 1.00 | 0.48 | 9.02 |
| 1,520.0 | 5.89 | 211.42 | 1,518.4 | -40.5 | -11.3 | 36.4 | 1.00 | 0.53 | 8.39 |
| 1,560.0 | 6.12 | 214.53 | 1,558.2 | -44.0 | -13.6 | 40.5 | 1.00 | 0.58 | 7.78 |
| 1,600.0 | 6.37 | 217.41 | 1,597.9 | -47.6 | -16.2 | 44.7 | 1.00 | 0.62 | 7.19 |
| 1,640.0 | 6.63 | 220.07 | 1,637.7 | -51.1 | -19.0 | 49.2 | 1.00 | 0.66 | 6.64 |
| 1,680.0 | 6.91 | 222.52 | 1,677.4 | -54.6 | -22.1 | 53.9 | 1.00 | 0.69 | 6.12 |
| 1,720.0 | 7.20 | 224.77 | 1,717.1 | -58.2 | -25.5 | 58.8 | 1.00 | 0.72 | 5.64 |
| 1,760.0 | 7.50 | 226.85 | 1,756.8 | -61.8 | -29.2 | 64.0 | 1.00 | 0.75 | 5.20 |
| 1,772.0 | 7.59 | 227.45 | 1,768.7 | -62.8 | -30.3 | 65.5 | 1.00 | 0.76 | 4.94 |
| 1,800.0 | 7.59 | 227.45 | 1,796.4 | -65.3 | -33.1 | 69.2 | 0.00 | 0.00 | 0.00 |
| 1,840.0 | 7.59 | 227.45 | 1,836.1 | -68.9 | -36.9 | 74.5 | 0.00 | 0.00 | 0.00 |
| 1,880.0 | 7.59 | 227.45 | 1,875.7 | -72.5 | -40.8 | 79.8 | 0.00 | 0.00 | 0.00 |
| 1,920.0 | 7.59 | 227.45 | 1,915.4 | -76.0 | -44.7 | 85.1 | 0.00 | 0.00 | 0.00 |
| 1,960.0 | 7.59 | 227.45 | 1,955.0 | -79.6 | -48.6 | 90.3 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| **Database:** | Landmark | **Local Co-ordinate Reference:** | Well SRC Avex 32-10D |
| **Company:** | Synergy Resources | **TVD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Project:** | SEC.10-T4N-R68W | **MD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Site:** | SRC Avex 42-10D Pad Sec.10-T4N-R68W | **North Reference:** | True |
| **Well:** | SRC Avex 32-10D | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Plan #1 (7-12-11) | | |

**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) |
|---|---|---|---|---|---|---|---|---|---|
| 2,000.0 | 7.59 | 227.45 | 1,994.7 | -83.2 | -52.5 | 95.6 | 0.00 | 0.00 | 0.00 |
| 2,040.0 | 7.59 | 227.45 | 2,034.3 | -86.8 | -56.4 | 100.9 | 0.00 | 0.00 | 0.00 |
| 2,080.0 | 7.59 | 227.45 | 2,074.0 | -90.3 | -60.3 | 106.2 | 0.00 | 0.00 | 0.00 |
| 2,120.0 | 7.59 | 227.45 | 2,113.6 | -93.9 | -64.2 | 111.5 | 0.00 | 0.00 | 0.00 |
| 2,160.0 | 7.59 | 227.45 | 2,153.3 | -97.5 | -68.1 | 116.7 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 7.59 | 227.45 | 2,192.9 | -101.0 | -72.0 | 122.0 | 0.00 | 0.00 | 0.00 |
| 2,240.0 | 7.59 | 227.45 | 2,232.6 | -104.6 | -75.8 | 127.3 | 0.00 | 0.00 | 0.00 |
| 2,280.0 | 7.59 | 227.45 | 2,272.2 | -108.2 | -79.7 | 132.6 | 0.00 | 0.00 | 0.00 |
| 2,320.0 | 7.59 | 227.45 | 2,311.9 | -111.8 | -83.6 | 137.9 | 0.00 | 0.00 | 0.00 |
| 2,360.0 | 7.59 | 227.45 | 2,351.5 | -115.3 | -87.5 | 143.1 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 7.59 | 227.45 | 2,391.2 | -118.9 | -91.4 | 148.4 | 0.00 | 0.00 | 0.00 |
| 2,440.0 | 7.59 | 227.45 | 2,430.8 | -122.5 | -95.3 | 153.7 | 0.00 | 0.00 | 0.00 |
| 2,480.0 | 7.59 | 227.45 | 2,470.5 | -126.0 | -99.2 | 159.0 | 0.00 | 0.00 | 0.00 |
| 2,520.0 | 7.59 | 227.45 | 2,510.1 | -129.6 | -103.1 | 164.3 | 0.00 | 0.00 | 0.00 |
| 2,560.0 | 7.59 | 227.45 | 2,549.8 | -133.2 | -107.0 | 169.5 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 7.59 | 227.45 | 2,589.4 | -136.8 | -110.9 | 174.8 | 0.00 | 0.00 | 0.00 |
| 2,640.0 | 7.59 | 227.45 | 2,629.1 | -140.3 | -114.8 | 180.1 | 0.00 | 0.00 | 0.00 |
| 2,680.0 | 7.59 | 227.45 | 2,668.7 | -143.9 | -118.6 | 185.4 | 0.00 | 0.00 | 0.00 |
| 2,720.0 | 7.59 | 227.45 | 2,708.4 | -147.5 | -122.5 | 190.7 | 0.00 | 0.00 | 0.00 |
| 2,760.0 | 7.59 | 227.45 | 2,748.0 | -151.1 | -126.4 | 195.9 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 7.59 | 227.45 | 2,787.7 | -154.6 | -130.3 | 201.2 | 0.00 | 0.00 | 0.00 |
| 2,840.0 | 7.59 | 227.45 | 2,827.3 | -158.2 | -134.2 | 206.5 | 0.00 | 0.00 | 0.00 |
| 2,880.0 | 7.59 | 227.45 | 2,867.0 | -161.8 | -138.1 | 211.8 | 0.00 | 0.00 | 0.00 |
| 2,920.0 | 7.59 | 227.45 | 2,906.6 | -165.3 | -142.0 | 217.1 | 0.00 | 0.00 | 0.00 |
| 2,960.0 | 7.59 | 227.45 | 2,946.3 | -168.9 | -145.9 | 222.3 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 7.59 | 227.45 | 2,985.9 | -172.5 | -149.8 | 227.6 | 0.00 | 0.00 | 0.00 |
| 3,040.0 | 7.59 | 227.45 | 3,025.6 | -176.1 | -153.7 | 232.9 | 0.00 | 0.00 | 0.00 |
| 3,080.0 | 7.59 | 227.45 | 3,065.2 | -179.6 | -157.6 | 238.2 | 0.00 | 0.00 | 0.00 |
| 3,120.0 | 7.59 | 227.45 | 3,104.9 | -183.2 | -161.4 | 243.5 | 0.00 | 0.00 | 0.00 |
| 3,160.0 | 7.59 | 227.45 | 3,144.5 | -186.8 | -165.3 | 248.7 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 7.59 | 227.45 | 3,184.2 | -190.3 | -169.2 | 254.0 | 0.00 | 0.00 | 0.00 |
| 3,240.0 | 7.59 | 227.45 | 3,223.8 | -193.9 | -173.1 | 259.3 | 0.00 | 0.00 | 0.00 |
| 3,280.0 | 7.59 | 227.45 | 3,263.5 | -197.5 | -177.0 | 264.6 | 0.00 | 0.00 | 0.00 |
| 3,320.0 | 7.59 | 227.45 | 3,303.1 | -201.1 | -180.9 | 269.9 | 0.00 | 0.00 | 0.00 |
| 3,360.0 | 7.59 | 227.45 | 3,342.8 | -204.6 | -184.8 | 275.1 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 7.59 | 227.45 | 3,382.4 | -208.2 | -188.7 | 280.4 | 0.00 | 0.00 | 0.00 |
| 3,440.0 | 7.59 | 227.45 | 3,422.1 | -211.8 | -192.6 | 285.7 | 0.00 | 0.00 | 0.00 |
| 3,480.0 | 7.59 | 227.45 | 3,461.7 | -215.3 | -196.5 | 291.0 | 0.00 | 0.00 | 0.00 |
| 3,520.0 | 7.59 | 227.45 | 3,501.4 | -218.9 | -200.4 | 296.3 | 0.00 | 0.00 | 0.00 |
| 3,560.0 | 7.59 | 227.45 | 3,541.0 | -222.5 | -204.2 | 301.5 | 0.00 | 0.00 | 0.00 |
| 3,600.0 | 7.59 | 227.45 | 3,580.7 | -226.1 | -208.1 | 306.8 | 0.00 | 0.00 | 0.00 |
| 3,640.0 | 7.59 | 227.45 | 3,620.3 | -229.6 | -212.0 | 312.1 | 0.00 | 0.00 | 0.00 |
| 3,680.0 | 7.59 | 227.45 | 3,660.0 | -233.2 | -215.9 | 317.4 | 0.00 | 0.00 | 0.00 |
| 3,720.0 | 7.59 | 227.45 | 3,699.6 | -236.8 | -219.8 | 322.6 | 0.00 | 0.00 | 0.00 |
| 3,760.0 | 7.59 | 227.45 | 3,739.3 | -240.4 | -223.7 | 327.9 | 0.00 | 0.00 | 0.00 |
| 3,800.0 | 7.59 | 227.45 | 3,778.9 | -243.9 | -227.6 | 333.2 | 0.00 | 0.00 | 0.00 |
| 3,840.0 | 7.59 | 227.45 | 3,818.6 | -247.5 | -231.5 | 338.5 | 0.00 | 0.00 | 0.00 |
| 3,880.0 | 7.59 | 227.45 | 3,858.2 | -251.1 | -235.4 | 343.8 | 0.00 | 0.00 | 0.00 |
| 3,920.0 | 7.59 | 227.45 | 3,897.9 | -254.6 | -239.3 | 349.0 | 0.00 | 0.00 | 0.00 |
| 3,960.0 | 7.59 | 227.45 | 3,937.5 | -258.2 | -243.1 | 354.3 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 7.59 | 227.45 | 3,977.2 | -261.8 | -247.0 | 359.6 | 0.00 | 0.00 | 0.00 |
| 4,040.0 | 7.59 | 227.45 | 4,016.8 | -265.4 | -250.9 | 364.9 | 0.00 | 0.00 | 0.00 |
| 4,080.0 | 7.59 | 227.45 | 4,056.5 | -268.9 | -254.8 | 370.2 | 0.00 | 0.00 | 0.00 |
| 4,120.0 | 7.59 | 227.45 | 4,096.1 | -272.5 | -258.7 | 375.4 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| **Database:** | Landmark | **Local Co-ordinate Reference:** | Well SRC Avex 32-10D |
| **Company:** | Synergy Resources | **TVD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Project:** | SEC.10-T4N-R68W | **MD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Site:** | SRC Avex 42-10D Pad Sec.10-T4N-R68W | **North Reference:** | True |
| **Well:** | SRC Avex 32-10D | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Plan #1 (7-12-11) | | |

**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) |
|---|---|---|---|---|---|---|---|---|---|
| 4,160.0 | 7.59 | 227.45 | 4,135.8 | -276.1 | -262.6 | 380.7 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 7.59 | 227.45 | 4,175.4 | -279.6 | -266.5 | 386.0 | 0.00 | 0.00 | 0.00 |
| 4,240.0 | 7.59 | 227.45 | 4,215.1 | -283.2 | -270.4 | 391.3 | 0.00 | 0.00 | 0.00 |
| 4,280.0 | 7.59 | 227.45 | 4,254.7 | -286.8 | -274.3 | 396.6 | 0.00 | 0.00 | 0.00 |
| 4,320.0 | 7.59 | 227.45 | 4,294.4 | -290.4 | -278.2 | 401.8 | 0.00 | 0.00 | 0.00 |
| 4,360.0 | 7.59 | 227.45 | 4,334.0 | -293.9 | -282.1 | 407.1 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 7.59 | 227.45 | 4,373.7 | -297.5 | -285.9 | 412.4 | 0.00 | 0.00 | 0.00 |
| 4,440.0 | 7.59 | 227.45 | 4,413.3 | -301.1 | -289.8 | 417.7 | 0.00 | 0.00 | 0.00 |
| 4,480.0 | 7.59 | 227.45 | 4,453.0 | -304.6 | -293.7 | 423.0 | 0.00 | 0.00 | 0.00 |
| 4,520.0 | 7.59 | 227.45 | 4,492.6 | -308.2 | -297.6 | 428.2 | 0.00 | 0.00 | 0.00 |
| 4,560.0 | 7.59 | 227.45 | 4,532.3 | -311.8 | -301.5 | 433.5 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 7.59 | 227.45 | 4,571.9 | -315.4 | -305.4 | 438.8 | 0.00 | 0.00 | 0.00 |
| 4,640.0 | 7.59 | 227.45 | 4,611.6 | -318.9 | -309.3 | 444.1 | 0.00 | 0.00 | 0.00 |
| 4,680.0 | 7.59 | 227.45 | 4,651.2 | -322.5 | -313.2 | 449.4 | 0.00 | 0.00 | 0.00 |
| 4,720.0 | 7.59 | 227.45 | 4,690.9 | -326.1 | -317.1 | 454.6 | 0.00 | 0.00 | 0.00 |
| 4,760.0 | 7.59 | 227.45 | 4,730.5 | -329.6 | -321.0 | 459.9 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 7.59 | 227.45 | 4,770.2 | -333.2 | -324.9 | 465.2 | 0.00 | 0.00 | 0.00 |
| 4,840.0 | 7.59 | 227.45 | 4,809.8 | -336.8 | -328.7 | 470.5 | 0.00 | 0.00 | 0.00 |
| 4,880.0 | 7.59 | 227.45 | 4,849.5 | -340.4 | -332.6 | 475.8 | 0.00 | 0.00 | 0.00 |
| 4,920.0 | 7.59 | 227.45 | 4,889.1 | -343.9 | -336.5 | 481.0 | 0.00 | 0.00 | 0.00 |
| 4,960.0 | 7.59 | 227.45 | 4,928.8 | -347.5 | -340.4 | 486.3 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 7.59 | 227.45 | 4,968.4 | -351.1 | -344.3 | 491.6 | 0.00 | 0.00 | 0.00 |
| 5,040.0 | 7.59 | 227.45 | 5,008.1 | -354.7 | -348.2 | 496.9 | 0.00 | 0.00 | 0.00 |
| 5,080.0 | 7.59 | 227.45 | 5,047.7 | -358.2 | -352.1 | 502.2 | 0.00 | 0.00 | 0.00 |
| 5,120.0 | 7.59 | 227.45 | 5,087.4 | -361.8 | -356.0 | 507.4 | 0.00 | 0.00 | 0.00 |
| 5,160.0 | 7.59 | 227.45 | 5,127.0 | -365.4 | -359.9 | 512.7 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 7.59 | 227.45 | 5,166.7 | -368.9 | -363.8 | 518.0 | 0.00 | 0.00 | 0.00 |
| 5,240.0 | 7.59 | 227.45 | 5,206.3 | -372.5 | -367.7 | 523.3 | 0.00 | 0.00 | 0.00 |
| 5,280.0 | 7.59 | 227.45 | 5,246.0 | -376.1 | -371.5 | 528.6 | 0.00 | 0.00 | 0.00 |
| 5,320.0 | 7.59 | 227.45 | 5,285.6 | -379.7 | -375.4 | 533.8 | 0.00 | 0.00 | 0.00 |
| 5,360.0 | 7.59 | 227.45 | 5,325.3 | -383.2 | -379.3 | 539.1 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 7.59 | 227.45 | 5,364.9 | -386.8 | -383.2 | 544.4 | 0.00 | 0.00 | 0.00 |
| 5,440.0 | 7.59 | 227.45 | 5,404.6 | -390.4 | -387.1 | 549.7 | 0.00 | 0.00 | 0.00 |
| 5,480.0 | 7.59 | 227.45 | 5,444.2 | -393.9 | -391.0 | 554.9 | 0.00 | 0.00 | 0.00 |
| 5,520.0 | 7.59 | 227.45 | 5,483.8 | -397.5 | -394.9 | 560.2 | 0.00 | 0.00 | 0.00 |
| 5,560.0 | 7.59 | 227.45 | 5,523.5 | -401.1 | -398.8 | 565.5 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 7.59 | 227.45 | 5,563.1 | -404.7 | -402.7 | 570.8 | 0.00 | 0.00 | 0.00 |
| 5,640.0 | 7.59 | 227.45 | 5,602.8 | -408.2 | -406.6 | 576.1 | 0.00 | 0.00 | 0.00 |
| 5,680.0 | 7.59 | 227.45 | 5,642.4 | -411.8 | -410.4 | 581.3 | 0.00 | 0.00 | 0.00 |
| 5,691.2 | 7.59 | 227.45 | 5,653.6 | -412.8 | -411.5 | 582.8 | 0.00 | 0.00 | 0.00 |
| **PERMIT TARGET 2178'FNL, 2176'FEL** | | | | | | | | | |
| 5,720.0 | 7.59 | 227.45 | 5,682.1 | -415.4 | -414.3 | 586.6 | 0.00 | 0.00 | 0.00 |
| 5,760.0 | 7.59 | 227.45 | 5,721.7 | -418.9 | -418.2 | 591.9 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 7.59 | 227.45 | 5,761.4 | -422.5 | -422.1 | 597.2 | 0.00 | 0.00 | 0.00 |
| 5,840.0 | 7.59 | 227.45 | 5,801.0 | -426.1 | -426.0 | 602.5 | 0.00 | 0.00 | 0.00 |
| 5,880.0 | 7.59 | 227.45 | 5,840.7 | -429.7 | -429.9 | 607.7 | 0.00 | 0.00 | 0.00 |
| 5,920.0 | 7.59 | 227.45 | 5,880.3 | -433.2 | -433.8 | 613.0 | 0.00 | 0.00 | 0.00 |
| 5,960.0 | 7.59 | 227.45 | 5,920.0 | -436.8 | -437.7 | 618.3 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 7.59 | 227.45 | 5,959.6 | -440.4 | -441.6 | 623.6 | 0.00 | 0.00 | 0.00 |
| 6,040.0 | 7.59 | 227.45 | 5,999.3 | -443.9 | -445.5 | 628.9 | 0.00 | 0.00 | 0.00 |
| 6,080.0 | 7.59 | 227.45 | 6,038.9 | -447.5 | -449.4 | 634.1 | 0.00 | 0.00 | 0.00 |
| 6,120.0 | 7.59 | 227.45 | 6,078.6 | -451.1 | -453.2 | 639.4 | 0.00 | 0.00 | 0.00 |
| 6,160.0 | 7.59 | 227.45 | 6,118.2 | -454.7 | -457.1 | 644.7 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 7.59 | 227.45 | 6,157.9 | -458.2 | -461.0 | 650.0 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| **Database:** | Landmark | **Local Co-ordinate Reference:** | Well SRC Avex 32-10D |
| **Company:** | Synergy Resources | **TVD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Project:** | SEC.10-T4N-R68W | **MD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Site:** | SRC Avex 42-10D Pad Sec.10-T4N-R68W | **North Reference:** | True |
| **Well:** | SRC Avex 32-10D | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Plan #1 (7-12-11) | | |

**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) |
|---|---|---|---|---|---|---|---|---|---|
| 6,240.0 | 7.59 | 227.45 | 6,197.5 | -461.8 | -464.9 | 655.3 | 0.00 | 0.00 | 0.00 |
| 6,280.0 | 7.59 | 227.45 | 6,237.2 | -465.4 | -468.8 | 660.5 | 0.00 | 0.00 | 0.00 |
| 6,320.0 | 7.59 | 227.45 | 6,276.8 | -469.0 | -472.7 | 665.8 | 0.00 | 0.00 | 0.00 |
| 6,360.0 | 7.59 | 227.45 | 6,316.5 | -472.5 | -476.6 | 671.1 | 0.00 | 0.00 | 0.00 |
| 6,400.0 | 7.59 | 227.45 | 6,356.1 | -476.1 | -480.5 | 676.4 | 0.00 | 0.00 | 0.00 |
| 6,440.0 | 7.59 | 227.45 | 6,395.8 | -479.7 | -484.4 | 681.7 | 0.00 | 0.00 | 0.00 |
| 6,480.0 | 7.59 | 227.45 | 6,435.4 | -483.2 | -488.3 | 686.9 | 0.00 | 0.00 | 0.00 |
| 6,520.0 | 7.59 | 227.45 | 6,475.1 | -486.8 | -492.2 | 692.2 | 0.00 | 0.00 | 0.00 |
| 6,560.0 | 7.59 | 227.45 | 6,514.7 | -490.4 | -496.0 | 697.5 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 7.59 | 227.45 | 6,554.4 | -494.0 | -499.9 | 702.8 | 0.00 | 0.00 | 0.00 |
| 6,640.0 | 7.59 | 227.45 | 6,594.0 | -497.5 | -503.8 | 708.1 | 0.00 | 0.00 | 0.00 |
| 6,680.0 | 7.59 | 227.45 | 6,633.7 | -501.1 | -507.7 | 713.3 | 0.00 | 0.00 | 0.00 |
| 6,720.0 | 7.59 | 227.45 | 6,673.3 | -504.7 | -511.6 | 718.6 | 0.00 | 0.00 | 0.00 |
| 6,748.2 | 7.59 | 227.45 | 6,701.3 | -507.2 | -514.3 | 722.3 | 0.00 | 0.00 | 0.00 |
| **LEGAL BOX 400' X 400' 2001'FWL & 1995'FEL** | | | | | | | | | |
| 6,760.0 | 7.59 | 227.45 | 6,713.0 | -508.2 | -515.5 | 723.9 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 7.59 | 227.45 | 6,752.6 | -511.8 | -519.4 | 729.2 | 0.00 | 0.00 | 0.00 |
| 6,840.0 | 7.59 | 227.45 | 6,792.3 | -515.4 | -523.3 | 734.5 | 0.00 | 0.00 | 0.00 |
| 6,880.0 | 7.59 | 227.45 | 6,831.9 | -519.0 | -527.2 | 739.7 | 0.00 | 0.00 | 0.00 |
| 6,920.0 | 7.59 | 227.45 | 6,871.6 | -522.5 | -531.1 | 745.0 | 0.00 | 0.00 | 0.00 |
| 6,960.0 | 7.59 | 227.45 | 6,911.2 | -526.1 | -535.0 | 750.3 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 7.59 | 227.45 | 6,950.9 | -529.7 | -538.8 | 755.6 | 0.00 | 0.00 | 0.00 |
| 7,040.0 | 7.59 | 227.45 | 6,990.5 | -533.2 | -542.7 | 760.9 | 0.00 | 0.00 | 0.00 |
| 7,080.0 | 7.59 | 227.45 | 7,030.2 | -536.8 | -546.6 | 766.1 | 0.00 | 0.00 | 0.00 |
| 7,120.0 | 7.59 | 227.45 | 7,069.8 | -540.4 | -550.5 | 771.4 | 0.00 | 0.00 | 0.00 |
| 7,160.0 | 7.59 | 227.45 | 7,109.5 | -544.0 | -554.4 | 776.7 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 7.59 | 227.45 | 7,149.1 | -547.5 | -558.3 | 782.0 | 0.00 | 0.00 | 0.00 |
| 7,240.0 | 7.59 | 227.45 | 7,188.8 | -551.1 | -562.2 | 787.2 | 0.00 | 0.00 | 0.00 |
| 7,280.0 | 7.59 | 227.45 | 7,228.4 | -554.7 | -566.1 | 792.5 | 0.00 | 0.00 | 0.00 |
| 7,320.0 | 7.59 | 227.45 | 7,268.1 | -558.3 | -570.0 | 797.8 | 0.00 | 0.00 | 0.00 |
| 7,360.0 | 7.59 | 227.45 | 7,307.7 | -561.8 | -573.9 | 803.1 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 7.59 | 227.45 | 7,347.4 | -565.4 | -577.7 | 808.4 | 0.00 | 0.00 | 0.00 |
| 7,440.0 | 7.59 | 227.45 | 7,387.0 | -569.0 | -581.6 | 813.6 | 0.00 | 0.00 | 0.00 |
| 7,480.0 | 7.59 | 227.45 | 7,426.7 | -572.5 | -585.5 | 818.9 | 0.00 | 0.00 | 0.00 |
| 7,520.0 | 7.59 | 227.45 | 7,466.3 | -576.1 | -589.4 | 824.2 | 0.00 | 0.00 | 0.00 |
| 7,560.0 | 7.59 | 227.45 | 7,506.0 | -579.7 | -593.3 | 829.5 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 7.59 | 227.45 | 7,545.6 | -583.3 | -597.2 | 834.8 | 0.00 | 0.00 | 0.00 |
| 7,640.0 | 7.59 | 227.45 | 7,585.3 | -586.8 | -601.1 | 840.0 | 0.00 | 0.00 | 0.00 |
| 7,680.0 | 7.59 | 227.45 | 7,624.9 | -590.4 | -605.0 | 845.3 | 0.00 | 0.00 | 0.00 |
| 7,720.0 | 7.59 | 227.45 | 7,664.6 | -594.0 | -608.9 | 850.6 | 0.00 | 0.00 | 0.00 |
| 7,760.0 | 7.59 | 227.45 | 7,704.2 | -597.5 | -612.8 | 855.9 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 7.59 | 227.45 | 7,743.9 | -601.1 | -616.7 | 861.2 | 0.00 | 0.00 | 0.00 |
| 7,840.0 | 7.59 | 227.45 | 7,783.5 | -604.7 | -620.5 | 866.4 | 0.00 | 0.00 | 0.00 |
| 7,880.0 | 7.59 | 227.45 | 7,823.2 | -608.3 | -624.4 | 871.7 | 0.00 | 0.00 | 0.00 |
| 7,920.0 | 7.59 | 227.45 | 7,862.8 | -611.8 | -628.3 | 877.0 | 0.00 | 0.00 | 0.00 |
| 7,960.0 | 7.59 | 227.45 | 7,902.5 | -615.4 | -632.2 | 882.3 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 7.59 | 227.45 | 7,942.1 | -619.0 | -636.1 | 887.6 | 0.00 | 0.00 | 0.00 |
| 8,040.0 | 7.59 | 227.45 | 7,981.8 | -622.5 | -640.0 | 892.8 | 0.00 | 0.00 | 0.00 |
| 8,080.0 | 7.59 | 227.45 | 8,021.4 | -626.1 | -643.9 | 898.1 | 0.00 | 0.00 | 0.00 |
| 8,120.0 | 7.59 | 227.45 | 8,061.1 | -629.7 | -647.8 | 903.4 | 0.00 | 0.00 | 0.00 |
| 8,159.3 | 7.59 | 227.45 | 8,100.0 | -633.2 | -651.6 | 908.6 | 0.00 | 0.00 | 0.00 |
| **DRILL TARGET BHL 2126'FNL, 2120'FEL** | | | | | | | | | |

| | | | |
|---|---|---|---|
| **Database:** | Landmark | **Local Co-ordinate Reference:** | Well SRC Avex 32-10D |
| **Company:** | Synergy Resources | **TVD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Project:** | SEC.10-T4N-R68W | **MD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Site:** | SRC Avex 42-10D Pad Sec.10-T4N-R68W | **North Reference:** | True |
| **Well:** | SRC Avex 32-10D | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Plan #1 (7-12-11) | | |

**Targets**

| Target Name<br>- hit/miss target<br>- Shape | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| PERMIT TARGET 21<br>- plan misses target center by 405.9ft at 5691.2ft MD (5653.6 TVD, -412.8 N, -411.5 E)<br>- Point | 0.00 | 0.00 | 5,600.0 | -685.2 | -707.6 | 1,363,276.23 | 3,142,862.81 | 40.329461 | -104.987577 |
| DRILL TARGET BHL<br>- plan hits target center<br>- Point | 0.00 | 0.00 | 8,100.0 | -633.2 | -651.6 | 1,363,328.59 | 3,142,918.53 | 40.329604 | -104.987376 |
| LEGAL BOX 400' X 4<br>- plan misses target center by 12.4ft at 6748.2ft MD (6701.3 TVD, -507.2 N, -514.3 E)<br>- Rectangle (sides W400.0 H400.0 D1,400.0) | 0.00 | 0.00 | 6,700.0 | -508.2 | -526.6 | 1,363,454.31 | 3,143,042.80 | 40.329947 | -104.986928 |

**Casing Points**

| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (") | Hole Diameter (") |
|---|---|---|---|---|
| 550.0 | 550.0 | 8 5/8" | 8-5/8 | 12-1/4 |

ENSIGN
Directional

# Synergy Resources

**SEC.10-T4N-R68W**
**SRC Avex 42-10D Pad Sec.10-T4N-R68W**
**SRC Avex 32-10D**

**Wellbore #1**
**Plan #1 (7-12-11)**

# Anticollision Report

**26 July, 2011**

ENSIGN Directional

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Synergy Resources | **Local Co-ordinate Reference:** | Well SRC Avex 32-10D |
| **Project:** | SEC.10-T4N-R68W | **TVD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Reference Site:** | SRC Avex 42-10D Pad Sec.10-T4N-R68W | **MD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | SRC Avex 32-10D | **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 (7-12-11) | **Offset TVD Reference:** | Offset Datum |

**Reference** Plan #1 (7-12-11)

| | | | |
|---|---|---|---|
| **Filter type:** | NO GLOBAL FILTER: Using user defined selection & filtering criteria | | |
| **Interpolation Method:** | Stations | **Error Model:** | ISCWSA |
| **Depth Range:** | Unlimited | **Scan Method:** | Closest Approach 3D |
| **Results Limited by:** | Maximum center-center distance of 10,000.0ft | **Error Surface:** | Elliptical Conic |
| **Warning Levels Evaluated at:** | 2.00 **Sigma** | | |

**Survey Tool Program** **Date** 7/26/2011

| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
|---|---|---|---|---|
| 0.0 | 8,159.3 | Plan #1 (7-12-11) (Wellbore #1) | MWD | MWD - Standard |

**Summary**

| Site Name<br>Offset Well - Wellbore - Design | Reference Measured Depth (ft) | Offset Measured Depth (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|
| SRC Avex 42-10D Pad Sec.10-T4N-R68W | | | | | | |
| SRC Avex 10C (Vert.) - Wellbore #1 - Design #1 | 800.0 | 800.0 | 20.1 | 16.7 | 5.955 | CC |
| SRC Avex 10C (Vert.) - Wellbore #1 - Design #1 | 900.0 | 900.0 | 20.3 | 16.5 | 5.343 | ES |
| SRC Avex 10C (Vert.) - Wellbore #1 - Design #1 | 1,100.0 | 1,099.9 | 22.9 | 18.3 | 4.976 | SF |
| SRC Avex 31-10D - Wellbore #1 - Plan #1 (7-12-11) | 999.9 | 999.8 | 19.8 | 15.6 | 4.714 | CC |
| SRC Avex 31-10D - Wellbore #1 - Plan #1 (7-12-11) | 1,000.0 | 1,000.0 | 19.8 | 15.6 | 4.713 | ES |
| SRC Avex 31-10D - Wellbore #1 - Plan #1 (7-12-11) | 1,100.0 | 1,099.6 | 21.0 | 16.4 | 4.555 | SF |

**Offset Design** SRC Avex 42-10D Pad Sec.10-T4N-R68W - SRC Avex 10C (Vert.) - Wellbore #1 - Design #1

**Offset Site Error:** 0.0 ft
**Offset Well Error:** 0.0 ft

**Survey Program:** 0-MWD

| 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 | 88.96 | 0.4 | 20.1 | 20.1 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 88.96 | 0.4 | 20.1 | 20.1 | 19.9 | 0.22 | 89.325 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 88.96 | 0.4 | 20.1 | 20.1 | 19.4 | 0.67 | 29.775 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.6 | 0.6 | 88.96 | 0.4 | 20.1 | 20.1 | 19.0 | 1.12 | 17.865 | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.8 | 0.8 | 88.96 | 0.4 | 20.1 | 20.1 | 18.5 | 1.57 | 12.761 | |
| 500.0 | 500.0 | 500.0 | 500.0 | 1.0 | 1.0 | 88.96 | 0.4 | 20.1 | 20.1 | 18.1 | 2.02 | 9.925 | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.2 | 1.2 | 88.96 | 0.4 | 20.1 | 20.1 | 17.6 | 2.47 | 8.120 | |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.5 | 1.5 | 88.96 | 0.4 | 20.1 | 20.1 | 17.2 | 2.92 | 6.871 | |
| 800.0 | 800.0 | 800.0 | 800.0 | 1.7 | 1.7 | 88.96 | 0.4 | 20.1 | 20.1 | 16.7 | 3.37 | 5.955 | CC |
| 900.0 | 900.0 | 900.0 | 900.0 | 1.9 | 1.9 | -103.46 | 0.4 | 20.1 | 20.3 | 16.5 | 3.79 | 5.343 | ES |
| 1,000.0 | 1,000.0 | 1,000.0 | 1,000.0 | 2.1 | 2.1 | -110.40 | 0.4 | 20.1 | 21.0 | 16.8 | 4.19 | 5.013 | |
| 1,100.0 | 1,099.9 | 1,099.9 | 1,099.9 | 2.2 | 2.4 | -120.66 | 0.4 | 20.1 | 22.9 | 18.3 | 4.61 | 4.976 | SF |
| 1,200.0 | 1,199.7 | 1,199.7 | 1,199.7 | 2.4 | 2.6 | -132.02 | 0.4 | 20.1 | 26.6 | 21.5 | 5.03 | 5.285 | |
| 1,300.0 | 1,299.4 | 1,299.4 | 1,299.4 | 2.7 | 2.8 | -142.36 | 0.4 | 20.1 | 32.3 | 26.9 | 5.45 | 5.936 | |
| 1,400.0 | 1,399.0 | 1,399.0 | 1,399.0 | 2.9 | 3.0 | -159.77 | 0.4 | 20.1 | 40.2 | 34.3 | 5.88 | 6.839 | |
| 1,500.0 | 1,498.5 | 1,498.5 | 1,498.5 | 3.1 | 3.3 | -171.93 | 0.4 | 20.1 | 49.6 | 43.2 | 6.31 | 7.849 | |
| 1,600.0 | 1,597.9 | 1,597.9 | 1,597.9 | 3.4 | 3.5 | 179.68 | 0.4 | 20.1 | 60.1 | 53.3 | 6.75 | 8.903 | |
| 1,700.0 | 1,697.3 | 1,697.3 | 1,697.3 | 3.7 | 3.7 | 173.97 | 0.4 | 20.1 | 71.7 | 64.6 | 7.19 | 9.983 | |
| 1,772.0 | 1,768.7 | 1,768.7 | 1,768.7 | 3.9 | 3.9 | 171.05 | 0.4 | 20.1 | 80.8 | 73.3 | 7.50 | 10.776 | |
| 1,800.0 | 1,796.4 | 1,796.4 | 1,796.4 | 3.9 | 3.9 | 171.44 | 0.4 | 20.1 | 84.5 | 76.9 | 7.62 | 11.080 | |
| 1,900.0 | 1,895.5 | 1,895.5 | 1,895.5 | 4.2 | 4.1 | 172.60 | 0.4 | 20.1 | 97.6 | 89.5 | 8.07 | 12.095 | |

| | | | |
|---|---|---|---|
| **Company:** | Synergy Resources | **Local Co-ordinate Reference:** | Well SRC Avex 32-10D |
| **Project:** | SEC.10-T4N-R68W | **TVD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Reference Site:** | SRC Avex 42-10D Pad Sec.10-T4N-R68W | **MD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | SRC Avex 32-10D | **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 (7-12-11) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** SRC Avex 42-10D Pad Sec.10-T4N-R68W - SRC Avex 10C (Vert.) - Wellbore #1 - Design #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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2,000.0 | 1,994.7 | 1,994.7 | 1,994.7 | 4.5 | 4.4 | 173.48 | 0.4 | 20.1 | 110.7 | 102.2 | 8.51 | 13.004 | |
| 2,100.0 | 2,093.8 | 2,093.8 | 2,093.8 | 4.8 | 4.6 | 174.17 | 0.4 | 20.1 | 123.8 | 114.8 | 8.96 | 13.821 | |
| 2,200.0 | 2,192.9 | 2,192.9 | 2,192.9 | 5.1 | 4.8 | 174.73 | 0.4 | 20.1 | 136.9 | 127.5 | 9.41 | 14.560 | |
| 2,300.0 | 2,292.0 | 2,292.0 | 2,292.0 | 5.4 | 5.0 | 175.20 | 0.4 | 20.1 | 150.1 | 140.2 | 9.86 | 15.230 | |
| 2,400.0 | 2,391.2 | 2,391.2 | 2,391.2 | 5.7 | 5.3 | 175.58 | 0.4 | 20.1 | 163.3 | 153.0 | 10.31 | 15.840 | |
| 2,500.0 | 2,490.3 | 2,490.3 | 2,490.3 | 6.1 | 5.5 | 175.91 | 0.4 | 20.1 | 176.4 | 165.7 | 10.76 | 16.397 | |
| 2,600.0 | 2,589.4 | 2,589.4 | 2,589.4 | 6.4 | 5.7 | 176.20 | 0.4 | 20.1 | 189.6 | 178.4 | 11.21 | 16.909 | |
| 2,700.0 | 2,688.5 | 2,688.5 | 2,688.5 | 6.7 | 5.9 | 176.45 | 0.4 | 20.1 | 202.8 | 191.1 | 11.67 | 17.379 | |
| 2,800.0 | 2,787.7 | 2,787.7 | 2,787.7 | 7.0 | 6.2 | 176.66 | 0.4 | 20.1 | 216.0 | 203.8 | 12.12 | 17.814 | |
| 2,900.0 | 2,886.8 | 2,886.8 | 2,886.8 | 7.4 | 6.4 | 176.85 | 0.4 | 20.1 | 229.1 | 216.6 | 12.58 | 18.216 | |
| 3,000.0 | 2,985.9 | 2,985.9 | 2,985.9 | 7.7 | 6.6 | 177.03 | 0.4 | 20.1 | 242.3 | 229.3 | 13.04 | 18.589 | |
| 3,100.0 | 3,085.0 | 3,085.0 | 3,085.0 | 8.0 | 6.8 | 177.18 | 0.4 | 20.1 | 255.5 | 242.0 | 13.49 | 18.936 | |
| 3,200.0 | 3,184.2 | 3,184.2 | 3,184.2 | 8.3 | 7.0 | 177.32 | 0.4 | 20.1 | 268.7 | 254.8 | 13.95 | 19.260 | |
| 3,300.0 | 3,283.3 | 3,283.3 | 3,283.3 | 8.7 | 7.3 | 177.44 | 0.4 | 20.1 | 281.9 | 267.5 | 14.41 | 19.563 | |
| 3,400.0 | 3,382.4 | 3,382.4 | 3,382.4 | 9.0 | 7.5 | 177.56 | 0.4 | 20.1 | 295.1 | 280.2 | 14.87 | 19.847 | |
| 3,500.0 | 3,481.5 | 3,481.5 | 3,481.5 | 9.3 | 7.7 | 177.66 | 0.4 | 20.1 | 308.3 | 293.0 | 15.33 | 20.113 | |
| 3,600.0 | 3,580.7 | 3,580.7 | 3,580.7 | 9.7 | 7.9 | 177.76 | 0.4 | 20.1 | 321.5 | 305.7 | 15.79 | 20.363 | |
| 3,700.0 | 3,679.8 | 3,679.8 | 3,679.8 | 10.0 | 8.2 | 177.85 | 0.4 | 20.1 | 334.7 | 318.4 | 16.25 | 20.599 | |
| 3,800.0 | 3,778.9 | 3,778.9 | 3,778.9 | 10.3 | 8.4 | 177.93 | 0.4 | 20.1 | 347.9 | 331.2 | 16.71 | 20.821 | |
| 3,900.0 | 3,878.0 | 3,878.0 | 3,878.0 | 10.7 | 8.6 | 178.00 | 0.4 | 20.1 | 361.1 | 343.9 | 17.17 | 21.031 | |
| 4,000.0 | 3,977.2 | 3,977.2 | 3,977.2 | 11.0 | 8.8 | 178.07 | 0.4 | 20.1 | 374.3 | 356.6 | 17.63 | 21.230 | |
| 4,100.0 | 4,076.3 | 4,076.3 | 4,076.3 | 11.3 | 9.0 | 178.14 | 0.4 | 20.1 | 387.5 | 369.4 | 18.09 | 21.419 | |
| 4,200.0 | 4,175.4 | 4,175.4 | 4,175.4 | 11.7 | 9.3 | 178.20 | 0.4 | 20.1 | 400.7 | 382.1 | 18.55 | 21.598 | |
| 4,300.0 | 4,274.5 | 4,274.5 | 4,274.5 | 12.0 | 9.5 | 178.26 | 0.4 | 20.1 | 413.9 | 394.8 | 19.01 | 21.768 | |
| 4,400.0 | 4,373.7 | 4,373.7 | 4,373.7 | 12.3 | 9.7 | 178.31 | 0.4 | 20.1 | 427.1 | 407.6 | 19.47 | 21.930 | |
| 4,500.0 | 4,472.8 | 4,472.8 | 4,472.8 | 12.7 | 9.9 | 178.36 | 0.4 | 20.1 | 440.2 | 420.3 | 19.94 | 22.084 | |
| 4,600.0 | 4,571.9 | 4,571.9 | 4,571.9 | 13.0 | 10.2 | 178.41 | 0.4 | 20.1 | 453.4 | 433.1 | 20.40 | 22.231 | |
| 4,700.0 | 4,671.0 | 4,671.0 | 4,671.0 | 13.4 | 10.4 | 178.46 | 0.4 | 20.1 | 466.6 | 445.8 | 20.86 | 22.371 | |
| 4,800.0 | 4,770.2 | 4,770.2 | 4,770.2 | 13.7 | 10.6 | 178.50 | 0.4 | 20.1 | 479.8 | 458.5 | 21.32 | 22.505 | |
| 4,900.0 | 4,869.3 | 4,869.3 | 4,869.3 | 14.0 | 10.8 | 178.54 | 0.4 | 20.1 | 493.0 | 471.3 | 21.78 | 22.633 | |
| 5,000.0 | 4,968.4 | 4,968.4 | 4,968.4 | 14.4 | 11.1 | 178.58 | 0.4 | 20.1 | 506.2 | 484.0 | 22.25 | 22.756 | |
| 5,100.0 | 5,067.5 | 5,067.5 | 5,067.5 | 14.7 | 11.3 | 178.61 | 0.4 | 20.1 | 519.4 | 496.7 | 22.71 | 22.874 | |
| 5,200.0 | 5,166.7 | 5,166.7 | 5,166.7 | 15.0 | 11.5 | 178.65 | 0.4 | 20.1 | 532.6 | 509.5 | 23.17 | 22.987 | |
| 5,300.0 | 5,265.8 | 5,265.8 | 5,265.8 | 15.4 | 11.7 | 178.68 | 0.4 | 20.1 | 545.8 | 522.2 | 23.63 | 23.095 | |
| 5,400.0 | 5,364.9 | 5,364.9 | 5,364.9 | 15.7 | 11.9 | 178.71 | 0.4 | 20.1 | 559.0 | 535.0 | 24.10 | 23.199 | |
| 5,500.0 | 5,464.0 | 5,464.0 | 5,464.0 | 16.1 | 12.2 | 178.74 | 0.4 | 20.1 | 572.3 | 547.7 | 24.56 | 23.299 | |
| 5,600.0 | 5,563.1 | 5,563.1 | 5,563.1 | 16.4 | 12.4 | 178.77 | 0.4 | 20.1 | 585.5 | 560.4 | 25.02 | 23.396 | |
| 5,700.0 | 5,662.3 | 5,662.3 | 5,662.3 | 16.7 | 12.6 | 178.80 | 0.4 | 20.1 | 598.7 | 573.2 | 25.49 | 23.488 | |
| 5,800.0 | 5,761.4 | 5,761.4 | 5,761.4 | 17.1 | 12.8 | 178.82 | 0.4 | 20.1 | 611.9 | 585.9 | 25.95 | 23.577 | |
| 5,900.0 | 5,860.5 | 5,860.5 | 5,860.5 | 17.4 | 13.1 | 178.85 | 0.4 | 20.1 | 625.1 | 598.6 | 26.41 | 23.664 | |
| 6,000.0 | 5,959.6 | 5,959.6 | 5,959.6 | 17.8 | 13.3 | 178.87 | 0.4 | 20.1 | 638.3 | 611.4 | 26.88 | 23.747 | |
| 6,100.0 | 6,058.8 | 6,058.8 | 6,058.8 | 18.1 | 13.5 | 178.89 | 0.4 | 20.1 | 651.5 | 624.1 | 27.34 | 23.827 | |
| 6,200.0 | 6,157.9 | 6,157.9 | 6,157.9 | 18.4 | 13.7 | 178.92 | 0.4 | 20.1 | 664.7 | 636.9 | 27.81 | 23.904 | |
| 6,300.0 | 6,257.0 | 6,257.0 | 6,257.0 | 18.8 | 14.0 | 178.94 | 0.4 | 20.1 | 677.9 | 649.6 | 28.27 | 23.979 | |
| 6,400.0 | 6,356.1 | 6,356.1 | 6,356.1 | 19.1 | 14.2 | 178.96 | 0.4 | 20.1 | 691.1 | 662.3 | 28.73 | 24.051 | |
| 6,500.0 | 6,455.3 | 6,455.3 | 6,455.3 | 19.5 | 14.4 | 178.98 | 0.4 | 20.1 | 704.3 | 675.1 | 29.20 | 24.121 | |
| 6,600.0 | 6,554.4 | 6,554.4 | 6,554.4 | 19.8 | 14.6 | 179.00 | 0.4 | 20.1 | 717.5 | 687.8 | 29.66 | 24.189 | |
| 6,700.0 | 6,653.5 | 6,653.5 | 6,653.5 | 20.1 | 14.8 | 179.01 | 0.4 | 20.1 | 730.7 | 700.5 | 30.13 | 24.255 | |
| 6,800.0 | 6,752.6 | 6,752.6 | 6,752.6 | 20.5 | 15.1 | 179.03 | 0.4 | 20.1 | 743.9 | 713.3 | 30.59 | 24.318 | |
| 6,900.0 | 6,851.8 | 6,851.8 | 6,851.8 | 20.8 | 15.3 | 179.05 | 0.4 | 20.1 | 757.1 | 726.0 | 31.05 | 24.380 | |
| 7,000.0 | 6,950.9 | 6,950.9 | 6,950.9 | 21.2 | 15.5 | 179.06 | 0.4 | 20.1 | 770.3 | 738.8 | 31.52 | 24.439 | |
| 7,100.0 | 7,050.0 | 7,050.0 | 7,050.0 | 21.5 | 15.7 | 179.08 | 0.4 | 20.1 | 783.5 | 751.5 | 31.98 | 24.497 | |

ENSIGN Directional

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Synergy Resources | **Local Co-ordinate Reference:** | Well SRC Avex 32-10D |
| **Project:** | SEC.10-T4N-R68W | **TVD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Reference Site:** | SRC Avex 42-10D Pad Sec.10-T4N-R68W | **MD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | SRC Avex 32-10D | **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 (7-12-11) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** SRC Avex 42-10D Pad Sec.10-T4N-R68W - SRC Avex 10C (Vert.) - Wellbore #1 - Design #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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7,200.0 | 7,149.1 | 7,149.1 | 7,149.1 | 21.8 | 16.0 | 179.10 | 0.4 | 20.1 | 796.7 | 764.2 | 32.45 | 24.554 | |
| 7,300.0 | 7,248.3 | 7,248.3 | 7,248.3 | 22.2 | 16.2 | 179.11 | 0.4 | 20.1 | 809.9 | 777.0 | 32.91 | 24.608 | |
| 7,400.0 | 7,347.4 | 7,347.4 | 7,347.4 | 22.5 | 16.4 | 179.12 | 0.4 | 20.1 | 823.1 | 789.7 | 33.38 | 24.661 | |
| 7,500.0 | 7,446.5 | 7,446.5 | 7,446.5 | 22.9 | 16.6 | 179.14 | 0.4 | 20.1 | 836.3 | 802.5 | 33.84 | 24.713 | |
| 7,600.0 | 7,545.6 | 7,545.6 | 7,545.6 | 23.2 | 16.8 | 179.15 | 0.4 | 20.1 | 849.5 | 815.2 | 34.31 | 24.763 | |
| 7,700.0 | 7,644.8 | 7,644.8 | 7,644.8 | 23.5 | 17.1 | 179.17 | 0.4 | 20.1 | 862.7 | 827.9 | 34.77 | 24.812 | |
| 7,800.0 | 7,743.9 | 7,743.9 | 7,743.9 | 23.9 | 17.3 | 179.18 | 0.4 | 20.1 | 875.9 | 840.7 | 35.23 | 24.859 | |
| 7,900.0 | 7,843.0 | 7,843.0 | 7,843.0 | 24.2 | 17.5 | 179.19 | 0.4 | 20.1 | 889.1 | 853.4 | 35.70 | 24.905 | |
| 8,000.0 | 7,942.1 | 7,942.1 | 7,942.1 | 24.6 | 17.7 | 179.20 | 0.4 | 20.1 | 902.3 | 866.1 | 36.16 | 24.950 | |
| 8,100.0 | 8,041.3 | 8,041.3 | 8,041.3 | 24.9 | 18.0 | 179.21 | 0.4 | 20.1 | 915.5 | 878.9 | 36.63 | 24.994 | |
| 8,159.3 | 8,100.0 | 8,100.0 | 8,100.0 | 25.1 | 18.1 | 179.22 | 0.4 | 20.1 | 923.3 | 886.4 | 36.91 | 25.019 | |

| | | | |
|---|---|---|---|
| **Company:** | Synergy Resources | **Local Co-ordinate Reference:** | Well SRC Avex 32-10D |
| **Project:** | SEC.10-T4N-R68W | **TVD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Reference Site:** | SRC Avex 42-10D Pad Sec.10-T4N-R68W | **MD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | SRC Avex 32-10D | **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 (7-12-11) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** SRC Avex 42-10D Pad Sec.10-T4N-R68W - SRC Avex 31-10D - Wellbore #1 - Plan #1 (7-12-11) — **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 | -90.00 | 0.0 | -20.1 | 20.1 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -90.00 | 0.0 | -20.1 | 20.1 | 19.8 | 0.22 | 89.310 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -90.00 | 0.0 | -20.1 | 20.1 | 19.4 | 0.67 | 29.770 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.6 | 0.6 | -90.00 | 0.0 | -20.1 | 20.1 | 19.0 | 1.12 | 17.862 | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.8 | 0.8 | -90.00 | 0.0 | -20.1 | 20.1 | 18.5 | 1.57 | 12.759 | |
| 500.0 | 500.0 | 500.0 | 500.0 | 1.0 | 1.0 | -90.00 | 0.0 | -20.1 | 20.1 | 18.1 | 2.02 | 9.923 | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.2 | 1.2 | -90.00 | 0.0 | -20.1 | 20.1 | 17.6 | 2.47 | 8.119 | |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.5 | 1.5 | -90.00 | 0.0 | -20.1 | 20.1 | 17.2 | 2.92 | 6.870 | |
| 800.0 | 800.0 | 800.0 | 800.0 | 1.7 | 1.7 | -90.00 | 0.0 | -20.1 | 20.1 | 16.7 | 3.37 | 5.954 | |
| 900.0 | 900.0 | 900.0 | 900.0 | 1.9 | 1.9 | 82.47 | 0.0 | -20.1 | 19.9 | 16.1 | 3.79 | 5.258 | |
| 999.9 | 999.8 | 999.8 | 999.8 | 2.1 | 2.1 | 90.00 | 0.0 | -20.1 | 19.8 | 15.6 | 4.19 | 4.714 | CC |
| 1,000.0 | 1,000.0 | 1,000.0 | 1,000.0 | 2.1 | 2.1 | 90.01 | 0.0 | -20.1 | 19.8 | 15.6 | 4.19 | 4.713 | ES |
| 1,100.0 | 1,099.9 | 1,099.6 | 1,099.6 | 2.2 | 2.4 | 103.71 | 0.7 | -20.6 | 21.0 | 16.4 | 4.60 | 4.555 | SF |
| 1,200.0 | 1,199.7 | 1,198.9 | 1,198.8 | 2.4 | 2.6 | 120.17 | 2.9 | -22.0 | 25.7 | 20.7 | 5.02 | 5.114 | |
| 1,300.0 | 1,299.4 | 1,297.7 | 1,297.6 | 2.7 | 2.8 | 133.30 | 6.4 | -24.4 | 34.7 | 29.3 | 5.45 | 6.372 | |
| 1,400.0 | 1,399.0 | 1,396.1 | 1,395.7 | 2.9 | 3.0 | 131.61 | 11.4 | -27.7 | 46.8 | 40.9 | 5.89 | 7.957 | |
| 1,500.0 | 1,498.5 | 1,494.0 | 1,493.4 | 3.1 | 3.3 | 128.80 | 17.7 | -31.9 | 60.7 | 54.4 | 6.33 | 9.584 | |
| 1,600.0 | 1,597.9 | 1,591.5 | 1,590.5 | 3.4 | 3.5 | 125.98 | 25.4 | -37.0 | 76.2 | 69.4 | 6.79 | 11.229 | |
| 1,700.0 | 1,697.3 | 1,688.5 | 1,686.8 | 3.7 | 3.7 | 123.52 | 34.4 | -43.0 | 93.4 | 86.1 | 7.26 | 12.872 | |
| 1,772.0 | 1,768.7 | 1,758.0 | 1,755.8 | 3.9 | 3.9 | 122.03 | 41.7 | -47.8 | 106.7 | 99.1 | 7.60 | 14.044 | |
| 1,800.0 | 1,796.4 | 1,785.0 | 1,782.5 | 3.9 | 4.0 | 122.84 | 44.7 | -49.8 | 112.1 | 104.4 | 7.73 | 14.501 | |
| 1,900.0 | 1,895.5 | 1,880.9 | 1,877.4 | 4.2 | 4.3 | 125.00 | 56.2 | -57.6 | 132.6 | 124.4 | 8.22 | 16.131 | |
| 2,000.0 | 1,994.7 | 1,976.3 | 1,971.6 | 4.5 | 4.6 | 126.29 | 69.0 | -66.1 | 154.6 | 145.9 | 8.72 | 17.735 | |
| 2,100.0 | 2,093.8 | 2,073.5 | 2,067.4 | 4.8 | 4.9 | 127.14 | 82.8 | -75.3 | 177.4 | 168.2 | 9.23 | 19.223 | |
| 2,200.0 | 2,192.9 | 2,170.9 | 2,163.3 | 5.1 | 5.2 | 127.79 | 96.6 | -84.5 | 200.3 | 190.5 | 9.75 | 20.546 | |
| 2,300.0 | 2,292.0 | 2,268.2 | 2,259.2 | 5.4 | 5.5 | 128.31 | 110.4 | -93.6 | 223.1 | 212.9 | 10.27 | 21.719 | |
| 2,400.0 | 2,391.2 | 2,365.5 | 2,355.1 | 5.7 | 5.8 | 128.74 | 124.2 | -102.8 | 246.0 | 235.2 | 10.81 | 22.765 | |
| 2,500.0 | 2,490.3 | 2,462.9 | 2,451.0 | 6.1 | 6.2 | 129.09 | 138.0 | -112.0 | 268.9 | 257.6 | 11.35 | 23.702 | |
| 2,600.0 | 2,589.4 | 2,560.2 | 2,546.9 | 6.4 | 6.5 | 129.39 | 151.8 | -121.2 | 291.8 | 279.9 | 11.89 | 24.544 | |
| 2,700.0 | 2,688.5 | 2,657.5 | 2,642.9 | 6.7 | 6.9 | 129.64 | 165.6 | -130.4 | 314.7 | 302.3 | 12.44 | 25.304 | |
| 2,800.0 | 2,787.7 | 2,754.8 | 2,738.8 | 7.0 | 7.2 | 129.86 | 179.3 | -139.6 | 337.7 | 324.7 | 12.99 | 25.993 | |
| 2,900.0 | 2,886.8 | 2,852.2 | 2,834.7 | 7.4 | 7.6 | 130.05 | 193.1 | -148.8 | 360.6 | 347.0 | 13.55 | 26.619 | |
| 3,000.0 | 2,985.9 | 2,949.5 | 2,930.6 | 7.7 | 7.9 | 130.22 | 206.9 | -158.0 | 383.5 | 369.4 | 14.10 | 27.191 | |
| 3,100.0 | 3,085.0 | 3,046.8 | 3,026.5 | 8.0 | 8.3 | 130.37 | 220.7 | -167.2 | 406.4 | 391.8 | 14.66 | 27.715 | |
| 3,200.0 | 3,184.2 | 3,144.2 | 3,122.4 | 8.3 | 8.7 | 130.50 | 234.5 | -176.4 | 429.4 | 414.1 | 15.23 | 28.196 | |
| 3,300.0 | 3,283.3 | 3,241.5 | 3,218.3 | 8.7 | 9.0 | 130.62 | 248.3 | -185.5 | 452.3 | 436.5 | 15.79 | 28.639 | |
| 3,400.0 | 3,382.4 | 3,338.8 | 3,314.2 | 9.0 | 9.4 | 130.73 | 262.1 | -194.7 | 475.2 | 458.9 | 16.36 | 29.048 | |
| 3,500.0 | 3,481.5 | 3,436.2 | 3,410.1 | 9.3 | 9.7 | 130.83 | 275.9 | -203.9 | 498.2 | 481.2 | 16.93 | 29.427 | |
| 3,600.0 | 3,580.7 | 3,533.5 | 3,506.0 | 9.7 | 10.1 | 130.92 | 289.7 | -213.1 | 521.1 | 503.6 | 17.50 | 29.779 | |
| 3,700.0 | 3,679.8 | 3,630.8 | 3,602.0 | 10.0 | 10.5 | 131.00 | 303.4 | -222.3 | 544.0 | 526.0 | 18.07 | 30.106 | |
| 3,800.0 | 3,778.9 | 3,728.2 | 3,697.9 | 10.3 | 10.8 | 131.08 | 317.2 | -231.5 | 567.0 | 548.3 | 18.64 | 30.411 | |
| 3,900.0 | 3,878.0 | 3,825.5 | 3,793.8 | 10.7 | 11.2 | 131.15 | 331.0 | -240.7 | 589.9 | 570.7 | 19.22 | 30.696 | |
| 4,000.0 | 3,977.2 | 3,922.8 | 3,889.7 | 11.0 | 11.6 | 131.21 | 344.8 | -249.9 | 612.9 | 593.1 | 19.79 | 30.964 | |
| 4,100.0 | 4,076.3 | 4,020.1 | 3,985.6 | 11.3 | 11.9 | 131.27 | 358.6 | -259.1 | 635.8 | 615.4 | 20.37 | 31.214 | |
| 4,200.0 | 4,175.4 | 4,117.5 | 4,081.5 | 11.7 | 12.3 | 131.33 | 372.4 | -268.2 | 658.8 | 637.8 | 20.95 | 31.450 | |
| 4,300.0 | 4,274.5 | 4,214.8 | 4,177.4 | 12.0 | 12.7 | 131.38 | 386.2 | -277.4 | 681.7 | 660.2 | 21.52 | 31.671 | |
| 4,400.0 | 4,373.7 | 4,312.1 | 4,273.3 | 12.3 | 13.1 | 131.43 | 400.0 | -286.6 | 704.6 | 682.5 | 22.10 | 31.880 | |
| 4,500.0 | 4,472.8 | 4,409.5 | 4,369.2 | 12.7 | 13.4 | 131.47 | 413.7 | -295.8 | 727.6 | 704.9 | 22.68 | 32.078 | |
| 4,600.0 | 4,571.9 | 4,506.8 | 4,465.1 | 13.0 | 13.8 | 131.52 | 427.5 | -305.0 | 750.5 | 727.3 | 23.26 | 32.265 | |
| 4,700.0 | 4,671.0 | 4,604.1 | 4,561.0 | 13.4 | 14.2 | 131.56 | 441.3 | -314.2 | 773.5 | 749.6 | 23.84 | 32.441 | |
| 4,800.0 | 4,770.2 | 4,701.5 | 4,657.0 | 13.7 | 14.5 | 131.59 | 455.1 | -323.4 | 796.4 | 772.0 | 24.42 | 32.609 | |
| 4,900.0 | 4,869.3 | 4,798.8 | 4,752.9 | 14.0 | 14.9 | 131.63 | 468.9 | -332.6 | 819.4 | 794.4 | 25.00 | 32.768 | |

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

ENSIGN Directional

# Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | Synergy Resources | **Local Co-ordinate Reference:** | Well SRC Avex 32-10D |
| **Project:** | SEC.10-T4N-R68W | **TVD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Reference Site:** | SRC Avex 42-10D Pad Sec.10-T4N-R68W | **MD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | SRC Avex 32-10D | **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 (7-12-11) | **Offset TVD Reference:** | Offset Datum |

**Offset Design** SRC Avex 42-10D Pad Sec.10-T4N-R68W - SRC Avex 31-10D - Wellbore #1 - Plan #1 (7-12-11)

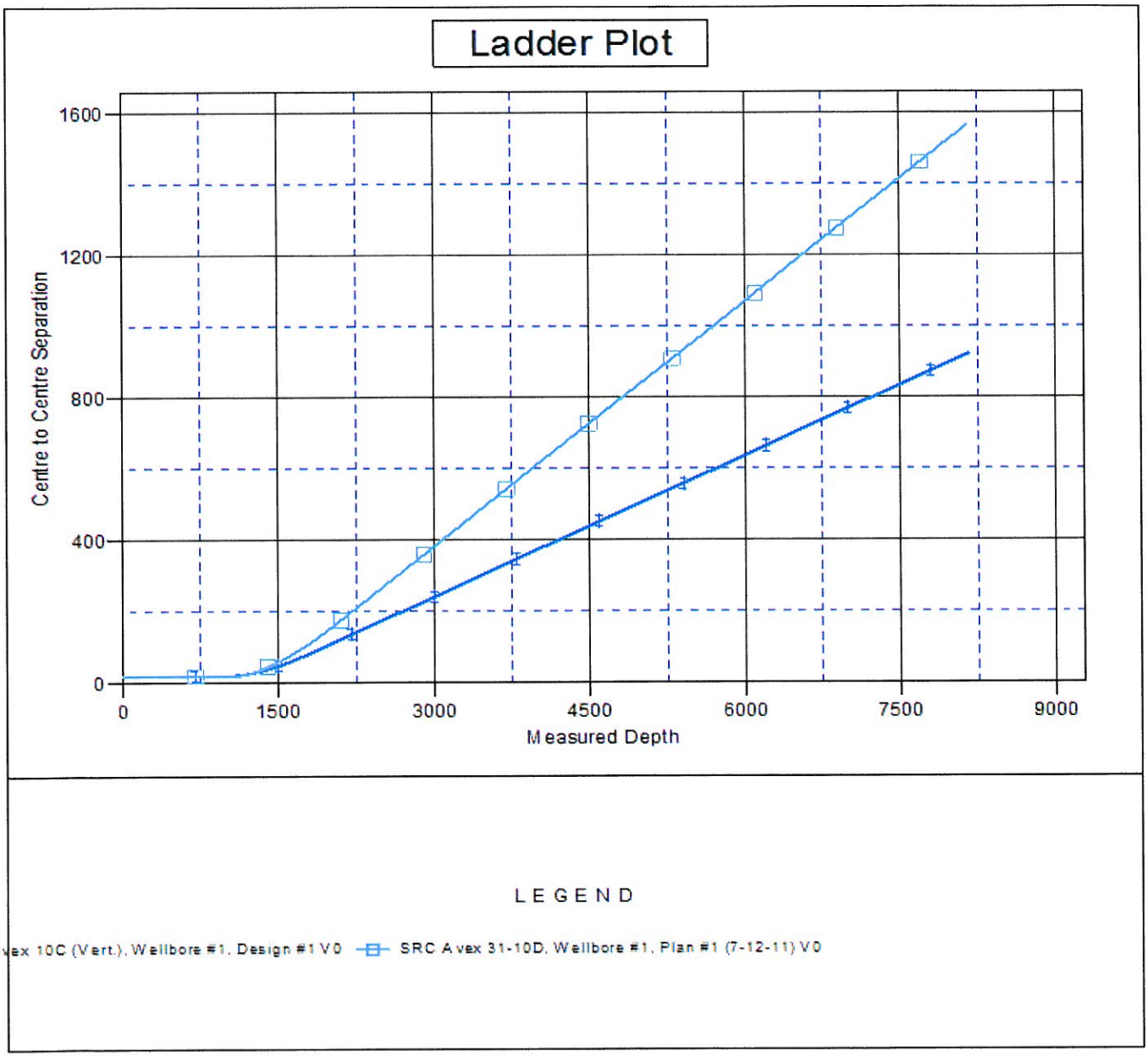
**Offset Site Error:** 0.0 ft

**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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,000.0 | 4,968.4 | 4,896.1 | 4,848.8 | 14.4 | 15.3 | 131.66 | 482.7 | -341.8 | 842.3 | 816.7 | 25.59 | 32.919 | |
| 5,100.0 | 5,067.5 | 4,993.5 | 4,944.7 | 14.7 | 15.7 | 131.70 | 496.5 | -351.0 | 865.3 | 839.1 | 26.17 | 33.063 | |
| 5,200.0 | 5,166.7 | 5,090.8 | 5,040.6 | 15.0 | 16.0 | 131.73 | 510.3 | -360.1 | 888.2 | 861.5 | 26.75 | 33.200 | |
| 5,300.0 | 5,265.8 | 5,188.1 | 5,136.5 | 15.4 | 16.4 | 131.75 | 524.1 | -369.3 | 911.2 | 883.8 | 27.34 | 33.331 | |
| 5,400.0 | 5,364.9 | 5,285.4 | 5,232.4 | 15.7 | 16.8 | 131.78 | 537.8 | -378.5 | 934.1 | 906.2 | 27.92 | 33.456 | |
| 5,500.0 | 5,464.0 | 5,382.8 | 5,328.3 | 16.1 | 17.2 | 131.81 | 551.6 | -387.7 | 957.0 | 928.5 | 28.50 | 33.575 | |
| 5,600.0 | 5,563.1 | 5,480.1 | 5,424.2 | 16.4 | 17.5 | 131.83 | 565.4 | -396.9 | 980.0 | 950.9 | 29.09 | 33.689 | |
| 5,700.0 | 5,662.3 | 5,577.4 | 5,520.1 | 16.7 | 17.9 | 131.86 | 579.2 | -406.1 | 1,002.9 | 973.3 | 29.67 | 33.798 | |
| 5,800.0 | 5,761.4 | 5,674.8 | 5,616.1 | 17.1 | 18.3 | 131.88 | 593.0 | -415.3 | 1,025.9 | 995.6 | 30.26 | 33.903 | |
| 5,900.0 | 5,860.5 | 5,772.1 | 5,712.0 | 17.4 | 18.7 | 131.90 | 606.8 | -424.5 | 1,048.8 | 1,018.0 | 30.85 | 34.003 | |
| 6,000.0 | 5,959.6 | 5,869.4 | 5,807.9 | 17.8 | 19.0 | 131.92 | 620.6 | -433.7 | 1,071.8 | 1,040.4 | 31.43 | 34.100 | |
| 6,100.0 | 6,058.8 | 5,966.8 | 5,903.8 | 18.1 | 19.4 | 131.94 | 634.4 | -442.8 | 1,094.7 | 1,062.7 | 32.02 | 34.192 | |
| 6,200.0 | 6,157.9 | 6,064.1 | 5,999.7 | 18.4 | 19.8 | 131.96 | 648.2 | -452.0 | 1,117.7 | 1,085.1 | 32.60 | 34.281 | |
| 6,300.0 | 6,257.0 | 6,161.4 | 6,095.6 | 18.8 | 20.2 | 131.98 | 661.9 | -461.2 | 1,140.6 | 1,107.4 | 33.19 | 34.366 | |
| 6,400.0 | 6,356.1 | 6,258.7 | 6,191.5 | 19.1 | 20.5 | 132.00 | 675.7 | -470.4 | 1,163.6 | 1,129.8 | 33.78 | 34.448 | |
| 6,500.0 | 6,455.3 | 6,356.1 | 6,287.4 | 19.5 | 20.9 | 132.01 | 689.5 | -479.6 | 1,186.5 | 1,152.2 | 34.36 | 34.528 | |
| 6,600.0 | 6,554.4 | 6,453.4 | 6,383.3 | 19.8 | 21.3 | 132.03 | 703.3 | -488.8 | 1,209.5 | 1,174.5 | 34.95 | 34.604 | |
| 6,700.0 | 6,653.5 | 6,550.7 | 6,479.2 | 20.1 | 21.7 | 132.05 | 717.1 | -498.0 | 1,232.4 | 1,196.9 | 35.54 | 34.677 | |
| 6,800.0 | 6,752.6 | 6,648.1 | 6,575.2 | 20.5 | 22.0 | 132.06 | 730.9 | -507.2 | 1,255.4 | 1,219.2 | 36.13 | 34.748 | |
| 6,900.0 | 6,851.8 | 6,745.4 | 6,671.1 | 20.8 | 22.4 | 132.07 | 744.7 | -516.4 | 1,278.3 | 1,241.6 | 36.72 | 34.817 | |
| 7,000.0 | 6,950.9 | 6,842.7 | 6,767.0 | 21.2 | 22.8 | 132.09 | 758.5 | -525.6 | 1,301.3 | 1,264.0 | 37.30 | 34.883 | |
| 7,100.0 | 7,050.0 | 6,940.1 | 6,862.9 | 21.5 | 23.2 | 132.10 | 772.2 | -534.7 | 1,324.2 | 1,286.3 | 37.89 | 34.947 | |
| 7,200.0 | 7,149.1 | 7,037.4 | 6,958.8 | 21.8 | 23.5 | 132.12 | 786.0 | -543.9 | 1,347.2 | 1,308.7 | 38.48 | 35.008 | |
| 7,300.0 | 7,248.3 | 7,134.7 | 7,054.7 | 22.2 | 23.9 | 132.13 | 799.8 | -553.1 | 1,370.1 | 1,331.0 | 39.07 | 35.068 | |
| 7,400.0 | 7,347.4 | 7,232.1 | 7,150.6 | 22.5 | 24.3 | 132.14 | 813.6 | -562.3 | 1,393.1 | 1,353.4 | 39.66 | 35.126 | |
| 7,500.0 | 7,446.5 | 7,329.4 | 7,246.5 | 22.9 | 24.7 | 132.15 | 827.4 | -571.5 | 1,416.0 | 1,375.8 | 40.25 | 35.182 | |
| 7,600.0 | 7,545.6 | 7,426.7 | 7,342.4 | 23.2 | 25.1 | 132.16 | 841.2 | -580.7 | 1,439.0 | 1,398.1 | 40.84 | 35.236 | |
| 7,700.0 | 7,644.8 | 7,524.0 | 7,438.3 | 23.5 | 25.4 | 132.17 | 855.0 | -589.9 | 1,461.9 | 1,420.5 | 41.43 | 35.288 | |
| 7,800.0 | 7,743.9 | 7,621.4 | 7,534.3 | 23.9 | 25.8 | 132.19 | 868.8 | -599.1 | 1,484.9 | 1,442.8 | 42.02 | 35.339 | |
| 7,900.0 | 7,843.0 | 7,718.7 | 7,630.2 | 24.2 | 26.2 | 132.20 | 882.6 | -608.3 | 1,507.8 | 1,465.2 | 42.61 | 35.388 | |
| 8,000.0 | 7,942.1 | 7,816.0 | 7,726.1 | 24.6 | 26.6 | 132.21 | 896.3 | -617.4 | 1,530.8 | 1,487.6 | 43.20 | 35.436 | |
| 8,100.0 | 8,041.3 | 7,913.4 | 7,822.0 | 24.9 | 26.9 | 132.22 | 910.1 | -626.6 | 1,553.7 | 1,509.9 | 43.79 | 35.483 | |
| 8,159.3 | 8,100.0 | 7,971.0 | 7,878.8 | 25.1 | 27.2 | 132.22 | 918.3 | -632.1 | 1,567.3 | 1,523.2 | 44.14 | 35.509 | |

| | | | |
|---|---|---|---|
| **Company:** | Synergy Resources | **Local Co-ordinate Reference:** | Well SRC Avex 32-10D |
| **Project:** | SEC.10-T4N-R68W | **TVD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Reference Site:** | SRC Avex 42-10D Pad Sec.10-T4N-R68W | **MD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | SRC Avex 32-10D | **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 (7-12-11) | **Offset TVD Reference:** | Offset Datum |

Reference Depths are relative to WELL @ 5051.0ft (Original Well Elev) Coordinates are relative to: SRC Avex 32-10D
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: 0.33°



| | | | |
|---|---|---|---|
| **Company:** | Synergy Resources | **Local Co-ordinate Reference:** | Well SRC Avex 32-10D |
| **Project:** | SEC.10-T4N-R68W | **TVD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Reference Site:** | SRC Avex 42-10D Pad Sec.10-T4N-R68W | **MD Reference:** | WELL @ 5051.0ft (Original Well Elev) |
| **Site Error:** | 0.0ft | **North Reference:** | True |
| **Reference Well:** | SRC Avex 32-10D | **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 (7-12-11) | **Offset TVD Reference:** | Offset Datum |

Reference Depths are relative to WELL @ 5051.0ft (Original Well Elev) Coordinates are relative to: SRC Avex 32-10D
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: 0.33°