

# BONANZA CREEK ENERGY OPERATING

Well Name: **State Antelope 44-41-12HNB**

Surface Location: State Antelope 34-12 Pad Sec.12-T5N-R62W  
North American Datum 1983, US State Plane 1983, Colorado Northern Zone

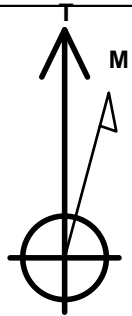
Ground Elevation: 4597.0

| +N/-S | +E/-W | Northing   | Easting    | Latitude  | Longitude   | Slot |
|-------|-------|------------|------------|-----------|-------------|------|
| -21.9 | 2.8   | 1394237.42 | 3342845.16 | 40.409050 | -104.268800 |      |

RKB - 15' WELL @ 4612.0ft (RKB - 15')

## WELLBORE TARGET DETAILS

| Name                 | TVD    | +N/-S  | +E/-W  | Shape |
|----------------------|--------|--------|--------|-------|
| BHL 470'FNL, 656'FEL | 6131.0 | 4539.4 | 1280.8 | Point |
| T1 470'FSL, 657'FEL  | 6131.0 | 218.6  | 1269.9 | Point |



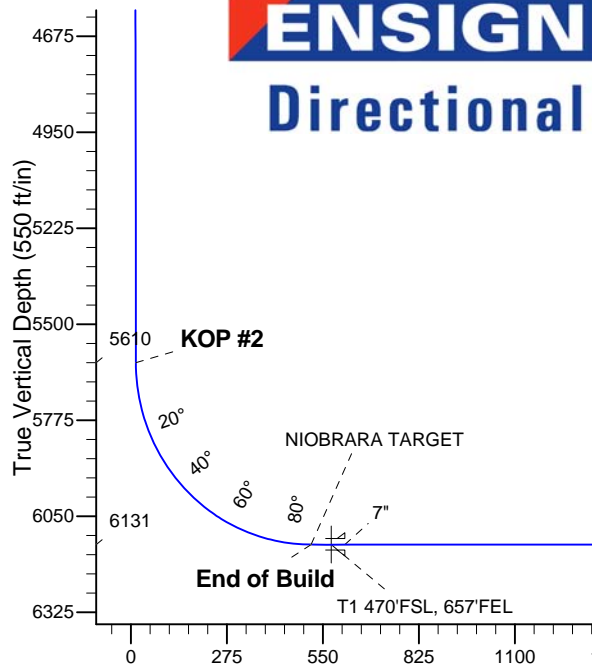
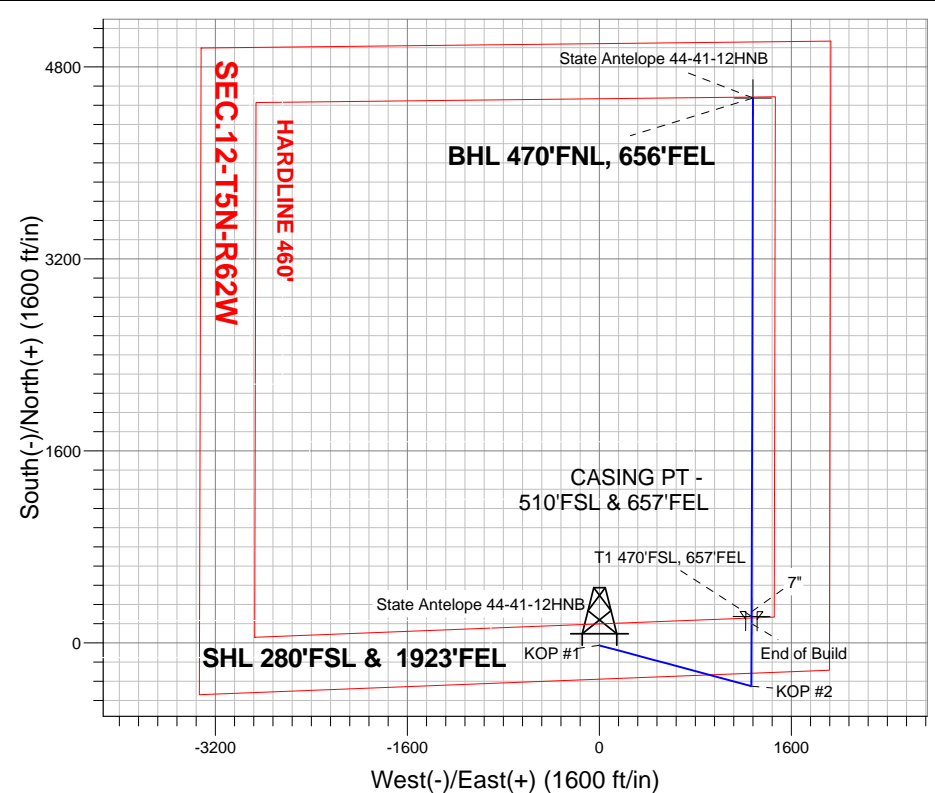
Azimuths to True North  
Magnetic North: 8.40°

Magnetic Field  
Strength: 53036.3srT  
Dip Angle: 67.09°  
Date: 11/29/2012  
Model: IGRF2010

State Antelope 34-12 Pad Sec.12-T5N-R62W  
State Antelope 44-41-12HNB  
Plan #2 (11-29-12)  
12:25, November 29 2012

## ANNOTATIONS

| TVD    | MD     | Annotation   |
|--------|--------|--------------|
| 200.0  | 200.0  | KOP #1       |
| 5610.1 | 5786.8 | KOP #2       |
| 6131.0 | 6605.0 | End of Build |



## SECTION DETAILS

| Sec | MD      | Inc   | Azi    | TVD    | +N/-S  | +E/-W  | DLeg  | TFace  | VSec   | Target               |
|-----|---------|-------|--------|--------|--------|--------|-------|--------|--------|----------------------|
| 1   | 0.0     | 0.00  | 0.00   | 0.0    | -21.9  | 2.8    | 0.00  | 0.00   | 0.0    |                      |
| 2   | 200.0   | 0.00  | 0.00   | 200.0  | -21.9  | 2.8    | 0.00  | 0.00   | 0.0    |                      |
| 3   | 1015.4  | 16.31 | 105.04 | 1004.5 | -51.8  | 114.1  | 2.00  | 105.04 | 1.2    |                      |
| 4   | 4861.2  | 16.31 | 105.04 | 4695.5 | -332.0 | 1157.1 | 0.00  | 0.00   | 12.8   |                      |
| 5   | 5676.7  | 0.00  | 0.00   | 5500.0 | -361.9 | 1268.4 | 2.00  | 180.00 | 14.0   |                      |
| 6   | 5786.8  | 0.00  | 0.00   | 5610.1 | -361.9 | 1268.4 | 0.00  | 0.00   | 14.0   |                      |
| 7   | 6605.0  | 90.00 | 0.14   | 6131.0 | 159.0  | 1269.6 | 11.00 | 0.14   | 515.9  |                      |
| 8   | 6705.1  | 90.00 | 0.14   | 6131.0 | 259.1  | 1269.9 | 0.00  | 0.00   | 612.4  |                      |
| 9   | 6706.0  | 90.00 | 0.15   | 6131.0 | 260.0  | 1269.9 | 1.00  | 90.00  | 613.2  |                      |
| 10  | 10985.4 | 90.00 | 0.15   | 6131.0 | 4539.4 | 1280.8 | 0.00  | 0.00   | 4736.9 | BHL 470'FNL, 656'FEL |

BHL 470'FNL, 656'FEL

Vertical Section at 15.65° (550 ft/in)



# **BONANZA CREEK ENERGY OPERATING**

**SEC.12-T5N-R62W**

**State Antelope 34-12 Pad Sec.12-T5N-R62W**

**State Antelope 44-41-12HNB**

**Wellbore #1**

**Plan: Plan #2 (11-29-12)**

## **Standard Planning Report**

**29 November, 2012**

|                  |  |                                     |  |
|------------------|--|-------------------------------------|--|
| <b>Database:</b> | Landmark                                 | <b>Local Co-ordinate Reference:</b> | Site State Antelope 34-12 Pad<br>Sec.12-T5N-R62W |
| <b>Company:</b>  | BONANZA CREEK ENERGY OPERATING           | <b>TVD Reference:</b>               | WELL @ 4612.0ft (RKB - 15')                      |
| <b>Project:</b>  | SEC.12-T5N-R62W                          | <b>MD Reference:</b>                | WELL @ 4612.0ft (RKB - 15')                      |
| <b>Site:</b>     | State Antelope 34-12 Pad Sec.12-T5N-R62W | <b>North Reference:</b>             | True   |
| <b>Well:</b>     | State Antelope 44-41-12HNB               | <b>Survey Calculation Method:</b>   | Minimum Curvature                                |
| <b>Wellbore:</b> | Wellbore #1                              |                                     |  |
| <b>Design:</b>   | Plan #2 (11-29-12)                       |                                     |  |

|                    |  |                      |                             |
|--------------------|--|----------------------|-----------------------------|
| <b>Project</b>     | SEC.12-T5N-R62W, Weld County, Colorado |                      |                             |
| <b>Map System:</b> | US State Plane 1983                    | <b>System Datum:</b> | Mean Sea Level              |
| <b>Geo Datum:</b>  | North American Datum 1983              |                      | Using Well Reference Point  |
| <b>Map Zone:</b>   | Colorado Northern Zone                 |                      | Using geodetic scale factor |

|                              |  |                          |                 |
|------------------------------|--|--------------------------|-----------------|
| <b>Site</b>                  | State Antelope 34-12 Pad Sec.12-T5N-R62W |                          |                 |
| <b>Site Position:</b>        |  | <b>Northing:</b>         | 1,394,259.24 ft |
| <b>From:</b>                 | Lat/Long                                 | <b>Easting:</b>          | 3,342,842.07 ft |
| <b>Position Uncertainty:</b> | 0.0 ft                                   | <b>Slot Radius:</b>      | "               |
|                              |  | <b>Latitude:</b>         | 40.409110       |
|                              |  | <b>Longitude:</b>        | -104.268810     |
|                              |  | <b>Grid Convergence:</b> | 0.80 °          |

|                             |                            |          |                            |
|-----------------------------|----------------------------|----------|----------------------------|
| <b>Well</b>                 | State Antelope 44-41-12HNB |          |                            |
| <b>Well Position</b>        | <b>+N/-S</b>               | -21.9 ft | <b>Northing:</b>           |
|                             | <b>+E/-W</b>               | 2.8 ft   | <b>Easting:</b>            |
| <b>Position Uncertainty</b> |                            | 0.0 ft   | <b>Wellhead Elevation:</b> |
|                             |                            |          | ft                         |
|                             |                            |          | <b>Latitude:</b>           |
|                             |                            |          | 40.409050                  |
|                             |                            |          | <b>Longitude:</b>          |
|                             |                            |          | -104.268800                |
|                             |                            |          | <b>Ground Level:</b>       |
|                             |                            |          | 4,597.0 ft                 |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Wellbore #1       |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2010          | 11/29/2012         | 8.40                   | 67.09                | 53,036                     |

|                          |                              |                   |                      |                      |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| <b>Design</b>            | Plan #2 (11-29-12)           |                   |                      |                      |
| <b>Audit Notes:</b>      |                              |                   |                      |                      |
| <b>Version:</b>          | <b>Phase:</b>                | PROTOTYPE         | <b>Tie On Depth:</b> | 0.0                  |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b>    | <b>Direction (°)</b> |
|                          | 0.0                          | -21.9             | 2.8                  | 15.65                |

| <b>Plan Sections</b> |                 |             |                     |            |            |                       |                      |                     |         |                   |
|----------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|-------------------|
| 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                 | -21.9      | 2.8        | 0.00                  | 0.00                 | 0.00                | 0.00    |                   |
| 200.0                | 0.00            | 0.00        | 200.0               | -21.9      | 2.8        | 0.00                  | 0.00                 | 0.00                | 0.00    |                   |
| 1,015.4              | 16.31           | 105.04      | 1,004.5             | -51.8      | 114.1      | 2.00                  | 2.00                 | 0.00                | 105.04  |                   |
| 4,861.2              | 16.31           | 105.04      | 4,695.5             | -332.0     | 1,157.1    | 0.00                  | 0.00                 | 0.00                | 0.00    |                   |
| 5,676.7              | 0.00            | 0.00        | 5,500.0             | -361.9     | 1,268.4    | 2.00                  | -2.00                | 0.00                | 180.00  |                   |
| 5,786.8              | 0.00            | 0.00        | 5,610.1             | -361.9     | 1,268.4    | 0.00                  | 0.00                 | 0.00                | 0.00    |                   |
| 6,605.0              | 90.00           | 0.14        | 6,131.0             | 159.0      | 1,269.6    | 11.00                 | 11.00                | 0.00                | 0.14    |                   |
| 6,705.1              | 90.00           | 0.14        | 6,131.0             | 259.1      | 1,269.9    | 0.00                  | 0.00                 | 0.00                | 0.00    |                   |
| 6,706.0              | 90.00           | 0.15        | 6,131.0             | 260.0      | 1,269.9    | 1.00                  | 0.00                 | 1.00                | 90.00   |                   |
| 10,985.4             | 90.00           | 0.15        | 6,131.0             | 4,539.4    | 1,280.8    | 0.00                  | 0.00                 | 0.00                | 0.00    | BHL 470'FNL, 656' |

|                  |  |                                     |  |
|------------------|--|-------------------------------------|--|
| <b>Database:</b> | Landmark                                 | <b>Local Co-ordinate Reference:</b> | Site State Antelope 34-12 Pad<br>Sec.12-T5N-R62W |
| <b>Company:</b>  | BONANZA CREEK ENERGY OPERATING           | <b>TVD Reference:</b>               | WELL @ 4612.0ft (RKB - 15')                      |
| <b>Project:</b>  | SEC.12-T5N-R62W                          | <b>MD Reference:</b>                | WELL @ 4612.0ft (RKB - 15')                      |
| <b>Site:</b>     | State Antelope 34-12 Pad Sec.12-T5N-R62W | <b>North Reference:</b>             | True   |
| <b>Well:</b>     | State Antelope 44-41-12HNB               | <b>Survey Calculation Method:</b>   | Minimum Curvature                                |
| <b>Wellbore:</b> | Wellbore #1                              |                                     |  |
| <b>Design:</b>   | Plan #2 (11-29-12)                       |                                     |  |

| 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                 | -21.9      | 2.8        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 100.0               | 0.00            | 0.00        | 100.0               | -21.9      | 2.8        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| 200.0               | 0.00            | 0.00        | 200.0               | -21.9      | 2.8        | 0.0                   | 0.00                  | 0.00                 | 0.00                |
| <b>KOP #1</b>       |                 |             |                     |            |            |                       |                       |                      |                     |
| 300.0               | 2.00            | 105.04      | 300.0               | -22.3      | 4.5        | 0.0                   | 2.00                  | 2.00                 | 0.00                |
| 400.0               | 4.00            | 105.04      | 399.8               | -23.7      | 9.5        | 0.1                   | 2.00                  | 2.00                 | 0.00                |
| 500.0               | 6.00            | 105.04      | 499.5               | -25.9      | 17.9       | 0.2                   | 2.00                  | 2.00                 | 0.00                |
| 600.0               | 8.00            | 105.04      | 598.7               | -29.1      | 29.7       | 0.3                   | 2.00                  | 2.00                 | 0.00                |
| 700.0               | 10.00           | 105.04      | 697.5               | -33.2      | 44.8       | 0.5                   | 2.00                  | 2.00                 | 0.00                |
| 800.0               | 12.00           | 105.04      | 795.6               | -38.1      | 63.2       | 0.7                   | 2.00                  | 2.00                 | 0.00                |
| 900.0               | 14.00           | 105.04      | 893.1               | -43.9      | 85.0       | 0.9                   | 2.00                  | 2.00                 | 0.00                |
| 1,000.0             | 16.00           | 105.04      | 989.6               | -50.7      | 110.0      | 1.2                   | 2.00                  | 2.00                 | 0.00                |
| 1,015.4             | 16.31           | 105.04      | 1,004.5             | -51.8      | 114.1      | 1.2                   | 2.00                  | 2.00                 | 0.00                |
| 1,100.0             | 16.31           | 105.04      | 1,085.6             | -57.9      | 137.0      | 1.5                   | 0.00                  | 0.00                 | 0.00                |
| 1,200.0             | 16.31           | 105.04      | 1,181.6             | -65.2      | 164.2      | 1.8                   | 0.00                  | 0.00                 | 0.00                |
| 1,300.0             | 16.31           | 105.04      | 1,277.6             | -72.5      | 191.3      | 2.1                   | 0.00                  | 0.00                 | 0.00                |
| 1,400.0             | 16.31           | 105.04      | 1,373.6             | -79.8      | 218.4      | 2.4                   | 0.00                  | 0.00                 | 0.00                |
| 1,500.0             | 16.31           | 105.04      | 1,469.5             | -87.1      | 245.5      | 2.7                   | 0.00                  | 0.00                 | 0.00                |
| 1,600.0             | 16.31           | 105.04      | 1,565.5             | -94.4      | 272.6      | 3.0                   | 0.00                  | 0.00                 | 0.00                |
| 1,700.0             | 16.31           | 105.04      | 1,661.5             | -101.6     | 299.8      | 3.3                   | 0.00                  | 0.00                 | 0.00                |
| 1,800.0             | 16.31           | 105.04      | 1,757.5             | -108.9     | 326.9      | 3.6                   | 0.00                  | 0.00                 | 0.00                |
| 1,900.0             | 16.31           | 105.04      | 1,853.4             | -116.2     | 354.0      | 3.9                   | 0.00                  | 0.00                 | 0.00                |
| 2,000.0             | 16.31           | 105.04      | 1,949.4             | -123.5     | 381.1      | 4.2                   | 0.00                  | 0.00                 | 0.00                |
| 2,100.0             | 16.31           | 105.04      | 2,045.4             | -130.8     | 408.2      | 4.5                   | 0.00                  | 0.00                 | 0.00                |
| 2,200.0             | 16.31           | 105.04      | 2,141.4             | -138.1     | 435.4      | 4.8                   | 0.00                  | 0.00                 | 0.00                |
| 2,300.0             | 16.31           | 105.04      | 2,237.3             | -145.4     | 462.5      | 5.1                   | 0.00                  | 0.00                 | 0.00                |
| 2,400.0             | 16.31           | 105.04      | 2,333.3             | -152.6     | 489.6      | 5.4                   | 0.00                  | 0.00                 | 0.00                |
| 2,500.0             | 16.31           | 105.04      | 2,429.3             | -159.9     | 516.7      | 5.7                   | 0.00                  | 0.00                 | 0.00                |
| 2,600.0             | 16.31           | 105.04      | 2,525.3             | -167.2     | 543.8      | 6.0                   | 0.00                  | 0.00                 | 0.00                |
| 2,700.0             | 16.31           | 105.04      | 2,621.3             | -174.5     | 570.9      | 6.3                   | 0.00                  | 0.00                 | 0.00                |
| 2,800.0             | 16.31           | 105.04      | 2,717.2             | -181.8     | 598.1      | 6.6                   | 0.00                  | 0.00                 | 0.00                |
| 2,900.0             | 16.31           | 105.04      | 2,813.2             | -189.1     | 625.2      | 6.9                   | 0.00                  | 0.00                 | 0.00                |
| 3,000.0             | 16.31           | 105.04      | 2,909.2             | -196.4     | 652.3      | 7.2                   | 0.00                  | 0.00                 | 0.00                |
| 3,100.0             | 16.31           | 105.04      | 3,005.2             | -203.6     | 679.4      | 7.5                   | 0.00                  | 0.00                 | 0.00                |
| 3,200.0             | 16.31           | 105.04      | 3,101.1             | -210.9     | 706.5      | 7.8                   | 0.00                  | 0.00                 | 0.00                |
| 3,300.0             | 16.31           | 105.04      | 3,197.1             | -218.2     | 733.7      | 8.1                   | 0.00                  | 0.00                 | 0.00                |
| 3,400.0             | 16.31           | 105.04      | 3,293.1             | -225.5     | 760.8      | 8.4                   | 0.00                  | 0.00                 | 0.00                |
| 3,500.0             | 16.31           | 105.04      | 3,389.1             | -232.8     | 787.9      | 8.7                   | 0.00                  | 0.00                 | 0.00                |
| 3,600.0             | 16.31           | 105.04      | 3,485.0             | -240.1     | 815.0      | 9.0                   | 0.00                  | 0.00                 | 0.00                |
| 3,700.0             | 16.31           | 105.04      | 3,581.0             | -247.4     | 842.1      | 9.3                   | 0.00                  | 0.00                 | 0.00                |
| 3,800.0             | 16.31           | 105.04      | 3,677.0             | -254.6     | 869.3      | 9.6                   | 0.00                  | 0.00                 | 0.00                |
| 3,900.0             | 16.31           | 105.04      | 3,773.0             | -261.9     | 896.4      | 9.9                   | 0.00                  | 0.00                 | 0.00                |
| 4,000.0             | 16.31           | 105.04      | 3,868.9             | -269.2     | 923.5      | 10.2                  | 0.00                  | 0.00                 | 0.00                |
| 4,100.0             | 16.31           | 105.04      | 3,964.9             | -276.5     | 950.6      | 10.5                  | 0.00                  | 0.00                 | 0.00                |
| 4,200.0             | 16.31           | 105.04      | 4,060.9             | -283.8     | 977.7      | 10.8                  | 0.00                  | 0.00                 | 0.00                |
| 4,300.0             | 16.31           | 105.04      | 4,156.9             | -291.1     | 1,004.9    | 11.1                  | 0.00                  | 0.00                 | 0.00                |
| 4,400.0             | 16.31           | 105.04      | 4,252.9             | -298.4     | 1,032.0    | 11.4                  | 0.00                  | 0.00                 | 0.00                |
| 4,500.0             | 16.31           | 105.04      | 4,348.8             | -305.6     | 1,059.1    | 11.7                  | 0.00                  | 0.00                 | 0.00                |
| 4,600.0             | 16.31           | 105.04      | 4,444.8             | -312.9     | 1,086.2    | 12.0                  | 0.00                  | 0.00                 | 0.00                |
| 4,700.0             | 16.31           | 105.04      | 4,540.8             | -320.2     | 1,113.3    | 12.3                  | 0.00                  | 0.00                 | 0.00                |
| 4,800.0             | 16.31           | 105.04      | 4,636.8             | -327.5     | 1,140.5    | 12.6                  | 0.00                  | 0.00                 | 0.00                |
| 4,861.2             | 16.31           | 105.04      | 4,695.5             | -332.0     | 1,157.1    | 12.8                  | 0.00                  | 0.00                 | 0.00                |
| 4,900.0             | 15.53           | 105.04      | 4,732.8             | -334.7     | 1,167.3    | 12.9                  | 2.00                  | -2.00                | 0.00                |

|                  |  |                                     |  |
|------------------|--|-------------------------------------|--|
| <b>Database:</b> | Landmark                                 | <b>Local Co-ordinate Reference:</b> | Site State Antelope 34-12 Pad<br>Sec.12-T5N-R62W |
| <b>Company:</b>  | BONANZA CREEK ENERGY OPERATING           | <b>TVD Reference:</b>               | WELL @ 4612.0ft (RKB - 15')                      |
| <b>Project:</b>  | SEC.12-T5N-R62W                          | <b>MD Reference:</b>                | WELL @ 4612.0ft (RKB - 15')                      |
| <b>Site:</b>     | State Antelope 34-12 Pad Sec.12-T5N-R62W | <b>North Reference:</b>             | True   |
| <b>Well:</b>     | State Antelope 44-41-12HNB               | <b>Survey Calculation Method:</b>   | Minimum Curvature                                |
| <b>Wellbore:</b> | Wellbore #1                              |                                     |  |
| <b>Design:</b>   | Plan #2 (11-29-12)                       |                                     |  |

| Planned Survey                        |                 |             |                     |            |            |                       |                       |                      |                     |
|---------------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft)                   | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 5,000.0                               | 13.53           | 105.04      | 4,829.6             | -341.2     | 1,191.6    | 13.2                  | 2.00                  | -2.00                | 0.00                |
| 5,100.0                               | 11.53           | 105.04      | 4,927.2             | -346.9     | 1,212.5    | 13.4                  | 2.00                  | -2.00                | 0.00                |
| 5,200.0                               | 9.53            | 105.04      | 5,025.5             | -351.6     | 1,230.2    | 13.6                  | 2.00                  | -2.00                | 0.00                |
| 5,300.0                               | 7.53            | 105.04      | 5,124.4             | -355.5     | 1,244.5    | 13.8                  | 2.00                  | -2.00                | 0.00                |
| 5,400.0                               | 5.53            | 105.04      | 5,223.8             | -358.4     | 1,255.5    | 13.9                  | 2.00                  | -2.00                | 0.00                |
| 5,500.0                               | 3.53            | 105.04      | 5,323.4             | -360.5     | 1,263.1    | 14.0                  | 2.00                  | -2.00                | 0.00                |
| 5,600.0                               | 1.53            | 105.04      | 5,423.3             | -361.6     | 1,267.4    | 14.0                  | 2.00                  | -2.00                | 0.00                |
| 5,676.7                               | 0.00            | 0.00        | 5,500.0             | -361.9     | 1,268.4    | 14.0                  | 2.00                  | -2.00                | 0.00                |
| 5,700.0                               | 0.00            | 0.00        | 5,523.3             | -361.9     | 1,268.4    | 14.0                  | 0.00                  | 0.00                 | 0.00                |
| 5,786.8                               | 0.00            | 0.00        | 5,610.1             | -361.9     | 1,268.4    | 14.0                  | 0.00                  | 0.00                 | 0.00                |
| <b>KOP #2</b>                         |                 |             |                     |            |            |                       |                       |                      |                     |
| 5,800.0                               | 1.45            | 0.14        | 5,623.3             | -361.7     | 1,268.4    | 14.2                  | 11.00                 | 11.00                | 0.00                |
| 5,900.0                               | 12.45           | 0.14        | 5,722.4             | -349.6     | 1,268.4    | 25.8                  | 11.00                 | 11.00                | 0.00                |
| 6,000.0                               | 23.45           | 0.14        | 5,817.4             | -318.8     | 1,268.5    | 55.5                  | 11.00                 | 11.00                | 0.00                |
| 6,100.0                               | 34.45           | 0.14        | 5,904.8             | -270.5     | 1,268.6    | 102.1                 | 11.00                 | 11.00                | 0.00                |
| 6,200.0                               | 45.45           | 0.14        | 5,981.3             | -206.4     | 1,268.8    | 163.8                 | 11.00                 | 11.00                | 0.00                |
| 6,300.0                               | 56.45           | 0.14        | 6,044.2             | -128.8     | 1,268.9    | 238.6                 | 11.00                 | 11.00                | 0.00                |
| 6,400.0                               | 67.45           | 0.14        | 6,091.2             | -40.7      | 1,269.2    | 323.5                 | 11.00                 | 11.00                | 0.00                |
| 6,500.0                               | 78.45           | 0.14        | 6,120.5             | 54.7       | 1,269.4    | 415.4                 | 11.00                 | 11.00                | 0.00                |
| 6,600.0                               | 89.45           | 0.14        | 6,131.0             | 154.0      | 1,269.6    | 511.1                 | 11.00                 | 11.00                | 0.00                |
| 6,605.0                               | 90.00           | 0.14        | 6,131.0             | 159.0      | 1,269.6    | 515.9                 | 11.00                 | 11.00                | 0.00                |
| <b>End of Build - NIOBRARA TARGET</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,664.6                               | 90.00           | 0.14        | 6,131.0             | 218.6      | 1,269.8    | 573.4                 | 0.00                  | 0.00                 | 0.00                |
| <b>T1 470'FSL, 657'FEL</b>            |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,700.0                               | 90.00           | 0.14        | 6,131.0             | 254.0      | 1,269.9    | 607.5                 | 0.00                  | 0.00                 | 0.00                |
| 6,705.1                               | 90.00           | 0.14        | 6,131.0             | 259.1      | 1,269.9    | 612.4                 | 0.00                  | 0.00                 | 0.00                |
| <b>7"</b>                             |                 |             |                     |            |            |                       |                       |                      |                     |
| 6,706.0                               | 90.00           | 0.15        | 6,131.0             | 260.0      | 1,269.9    | 613.2                 | 0.98                  | 0.00                 | 0.98                |
| 6,800.0                               | 90.00           | 0.15        | 6,131.0             | 354.0      | 1,270.1    | 703.8                 | 0.00                  | 0.00                 | 0.00                |
| 6,900.0                               | 90.00           | 0.15        | 6,131.0             | 454.0      | 1,270.4    | 800.2                 | 0.00                  | 0.00                 | 0.00                |
| 7,000.0                               | 90.00           | 0.15        | 6,131.0             | 554.0      | 1,270.6    | 896.6                 | 0.00                  | 0.00                 | 0.00                |
| 7,100.0                               | 90.00           | 0.15        | 6,131.0             | 654.0      | 1,270.9    | 992.9                 | 0.00                  | 0.00                 | 0.00                |
| 7,200.0                               | 90.00           | 0.15        | 6,131.0             | 754.0      | 1,271.1    | 1,089.3               | 0.00                  | 0.00                 | 0.00                |
| 7,300.0                               | 90.00           | 0.15        | 6,131.0             | 854.0      | 1,271.4    | 1,185.6               | 0.00                  | 0.00                 | 0.00                |
| 7,400.0                               | 90.00           | 0.15        | 6,131.0             | 954.0      | 1,271.6    | 1,282.0               | 0.00                  | 0.00                 | 0.00                |
| 7,500.0                               | 90.00           | 0.15        | 6,131.0             | 1,054.0    | 1,271.9    | 1,378.4               | 0.00                  | 0.00                 | 0.00                |
| 7,600.0                               | 90.00           | 0.15        | 6,131.0             | 1,154.0    | 1,272.2    | 1,474.7               | 0.00                  | 0.00                 | 0.00                |
| 7,700.0                               | 90.00           | 0.15        | 6,131.0             | 1,254.0    | 1,272.4    | 1,571.1               | 0.00                  | 0.00                 | 0.00                |
| 7,800.0                               | 90.00           | 0.15        | 6,131.0             | 1,354.0    | 1,272.7    | 1,667.4               | 0.00                  | 0.00                 | 0.00                |
| 7,900.0                               | 90.00           | 0.15        | 6,131.0             | 1,454.0    | 1,272.9    | 1,763.8               | 0.00                  | 0.00                 | 0.00                |
| 8,000.0                               | 90.00           | 0.15        | 6,131.0             | 1,554.0    | 1,273.2    | 1,860.2               | 0.00                  | 0.00                 | 0.00                |
| 8,100.0                               | 90.00           | 0.15        | 6,131.0             | 1,654.0    | 1,273.4    | 1,956.5               | 0.00                  | 0.00                 | 0.00                |
| 8,200.0                               | 90.00           | 0.15        | 6,131.0             | 1,754.0    | 1,273.7    | 2,052.9               | 0.00                  | 0.00                 | 0.00                |
| 8,300.0                               | 90.00           | 0.15        | 6,131.0             | 1,854.0    | 1,273.9    | 2,149.3               | 0.00                  | 0.00                 | 0.00                |
| 8,400.0                               | 90.00           | 0.15        | 6,131.0             | 1,954.0    | 1,274.2    | 2,245.6               | 0.00                  | 0.00                 | 0.00                |
| 8,500.0                               | 90.00           | 0.15        | 6,131.0             | 2,054.0    | 1,274.5    | 2,342.0               | 0.00                  | 0.00                 | 0.00                |
| 8,600.0                               | 90.00           | 0.15        | 6,131.0             | 2,154.0    | 1,274.7    | 2,438.3               | 0.00                  | 0.00                 | 0.00                |
| 8,700.0                               | 90.00           | 0.15        | 6,131.0             | 2,254.0    | 1,275.0    | 2,534.7               | 0.00                  | 0.00                 | 0.00                |
| 8,800.0                               | 90.00           | 0.15        | 6,131.0             | 2,354.0    | 1,275.2    | 2,631.1               | 0.00                  | 0.00                 | 0.00                |
| 8,900.0                               | 90.00           | 0.15        | 6,131.0             | 2,454.0    | 1,275.5    | 2,727.4               | 0.00                  | 0.00                 | 0.00                |
| 9,000.0                               | 90.00           | 0.15        | 6,131.0             | 2,554.0    | 1,275.7    | 2,823.8               | 0.00                  | 0.00                 | 0.00                |
| 9,100.0                               | 90.00           | 0.15        | 6,131.0             | 2,654.0    | 1,276.0    | 2,920.1               | 0.00                  | 0.00                 | 0.00                |

|                  |  |                                     |  |
|------------------|--|-------------------------------------|--|
| <b>Database:</b> | Landmark                                 | <b>Local Co-ordinate Reference:</b> | Site State Antelope 34-12 Pad<br>Sec.12-T5N-R62W |
| <b>Company:</b>  | BONANZA CREEK ENERGY OPERATING           | <b>TVD Reference:</b>               | WELL @ 4612.0ft (RKB - 15')                      |
| <b>Project:</b>  | SEC.12-T5N-R62W                          | <b>MD Reference:</b>                | WELL @ 4612.0ft (RKB - 15')                      |
| <b>Site:</b>     | State Antelope 34-12 Pad Sec.12-T5N-R62W | <b>North Reference:</b>             | True   |
| <b>Well:</b>     | State Antelope 44-41-12HNB               | <b>Survey Calculation Method:</b>   | Minimum Curvature                                |
| <b>Wellbore:</b> | Wellbore #1                              |                                     |  |
| <b>Design:</b>   | Plan #2 (11-29-12)                       |                                     |  |

| 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) |  |
| 9,200.0              | 90.00           | 0.15        | 6,131.0             | 2,754.0    | 1,276.2    | 3,016.5               | 0.00                  | 0.00                 | 0.00                |  |
| 9,300.0              | 90.00           | 0.15        | 6,131.0             | 2,854.0    | 1,276.5    | 3,112.9               | 0.00                  | 0.00                 | 0.00                |  |
| 9,400.0              | 90.00           | 0.15        | 6,131.0             | 2,954.0    | 1,276.8    | 3,209.2               | 0.00                  | 0.00                 | 0.00                |  |
| 9,500.0              | 90.00           | 0.15        | 6,131.0             | 3,054.0    | 1,277.0    | 3,305.6               | 0.00                  | 0.00                 | 0.00                |  |
| 9,600.0              | 90.00           | 0.15        | 6,131.0             | 3,154.0    | 1,277.3    | 3,401.9               | 0.00                  | 0.00                 | 0.00                |  |
| 9,700.0              | 90.00           | 0.15        | 6,131.0             | 3,254.0    | 1,277.5    | 3,498.3               | 0.00                  | 0.00                 | 0.00                |  |
| 9,800.0              | 90.00           | 0.15        | 6,131.0             | 3,354.0    | 1,277.8    | 3,594.7               | 0.00                  | 0.00                 | 0.00                |  |
| 9,900.0              | 90.00           | 0.15        | 6,131.0             | 3,454.0    | 1,278.0    | 3,691.0               | 0.00                  | 0.00                 | 0.00                |  |
| 10,000.0             | 90.00           | 0.15        | 6,131.0             | 3,554.0    | 1,278.3    | 3,787.4               | 0.00                  | 0.00                 | 0.00                |  |
| 10,100.0             | 90.00           | 0.15        | 6,131.0             | 3,654.0    | 1,278.5    | 3,883.7               | 0.00                  | 0.00                 | 0.00                |  |
| 10,200.0             | 90.00           | 0.15        | 6,131.0             | 3,754.0    | 1,278.8    | 3,980.1               | 0.00                  | 0.00                 | 0.00                |  |
| 10,300.0             | 90.00           | 0.15        | 6,131.0             | 3,854.0    | 1,279.0    | 4,076.5               | 0.00                  | 0.00                 | 0.00                |  |
| 10,400.0             | 90.00           | 0.15        | 6,131.0             | 3,954.0    | 1,279.3    | 4,172.8               | 0.00                  | 0.00                 | 0.00                |  |
| 10,500.0             | 90.00           | 0.15        | 6,131.0             | 4,054.0    | 1,279.6    | 4,269.2               | 0.00                  | 0.00                 | 0.00                |  |
| 10,600.0             | 90.00           | 0.15        | 6,131.0             | 4,154.0    | 1,279.8    | 4,365.6               | 0.00                  | 0.00                 | 0.00                |  |
| 10,700.0             | 90.00           | 0.15        | 6,131.0             | 4,254.0    | 1,280.1    | 4,461.9               | 0.00                  | 0.00                 | 0.00                |  |
| 10,800.0             | 90.00           | 0.15        | 6,131.0             | 4,354.0    | 1,280.3    | 4,558.3               | 0.00                  | 0.00                 | 0.00                |  |
| 10,900.0             | 90.00           | 0.15        | 6,131.0             | 4,454.0    | 1,280.6    | 4,654.6               | 0.00                  | 0.00                 | 0.00                |  |
| 10,985.4             | 90.00           | 0.15        | 6,131.0             | 4,539.4    | 1,280.8    | 4,736.9               | 0.00                  | 0.00                 | 0.00                |  |
| BHL 470'FNL, 656'FEL |                 |             |                     |            |            |                       |                       |                      |                     |  |

| Targets             |   |               |              |          |            |            |               |              |           |             |
|---------------------|---|---------------|--------------|----------|------------|------------|---------------|--------------|-----------|-------------|
| Target Name         | - hit/miss target   | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude  | Longitude   |
| BHL 470'FNL, 656'FE | - plan hits target center   | 0.00          | 0.00         | 6,131.0  | 4,539.4    | 1,280.8    | 1,398,815.77  | 3,344,059.67 | 40.421570 | -104.264210 |
| T1 470'FSL, 657'FEL | - plan misses target center by 0.1ft at 6664.6ft MD (6131.0 TVD, 218.6 N, 1269.8 E) | 0.00          | 0.00         | 6,131.0  | 218.6      | 1,269.9    | 1,394,495.46  | 3,344,108.74 | 40.409710 | -104.264250 |
|                     | - Point   |               |              |          |            |            |               |              |           |             |

| Casing Points       |                     |      |                     |                   |  |  |  |  |  |  |
|---------------------|---------------------|------|---------------------|-------------------|--|--|--|--|--|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (") | Hole Diameter (") |  |  |  |  |  |  |
| 6,705.1             | 6,131.0             | 7"   | 7                   | 7-1/2             |  |  |  |  |  |  |

| Formations          |                     |                 |           |         |                   |  |  |  |  |  |
|---------------------|---------------------|-----------------|-----------|---------|-------------------|--|--|--|--|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name            | Lithology | Dip (°) | Dip Direction (°) |  |  |  |  |  |
| 6,605.0             | 6,131.0             | NIOBRARA TARGET |           | 0.00    |                   |  |  |  |  |  |

|                  |  |                                     |  |
|------------------|--|-------------------------------------|--|
| <b>Database:</b> | Landmark                                 | <b>Local Co-ordinate Reference:</b> | Site State Antelope 34-12 Pad<br>Sec.12-T5N-R62W |
| <b>Company:</b>  | BONANZA CREEK ENERGY OPERATING           | <b>TVD Reference:</b>               | WELL @ 4612.0ft (RKB - 15')                      |
| <b>Project:</b>  | SEC.12-T5N-R62W                          | <b>MD Reference:</b>                | WELL @ 4612.0ft (RKB - 15')                      |
| <b>Site:</b>     | State Antelope 34-12 Pad Sec.12-T5N-R62W | <b>North Reference:</b>             | True   |
| <b>Well:</b>     | State Antelope 44-41-12HNB               | <b>Survey Calculation Method:</b>   | Minimum Curvature                                |
| <b>Wellbore:</b> | Wellbore #1                              |                                     |  |
| <b>Design:</b>   | Plan #2 (11-29-12)                       |                                     |  |

| Plan Annotations          |                           |                   |               |              |  |
|---------------------------|---------------------------|-------------------|---------------|--------------|--|
| Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Local Coordinates |               | Comment      |  |
|                           |                           | +N/-S<br>(ft)     | +E/-W<br>(ft) |              |  |
| 200.0                     | 200.0                     | -21.9             | 2.8           | KOP #1       |  |
| 5,786.8                   | 5,610.1                   | -361.9            | 1,268.4       | KOP #2       |  |
| 6,605.0                   | 6,131.0                   | 159.0             | 1,269.6       | End of Build |  |



# **BONANZA CREEK ENERGY OPERATING**

**SEC.12-T5N-R62W**

**State Antelope 34-12 Pad Sec.12-T5N-R62W**

**State Antelope 44-41-12HNB**

**Wellbore #1**

**Plan #2 (11-29-12)**

## **Anticollision Report**

**29 November, 2012**





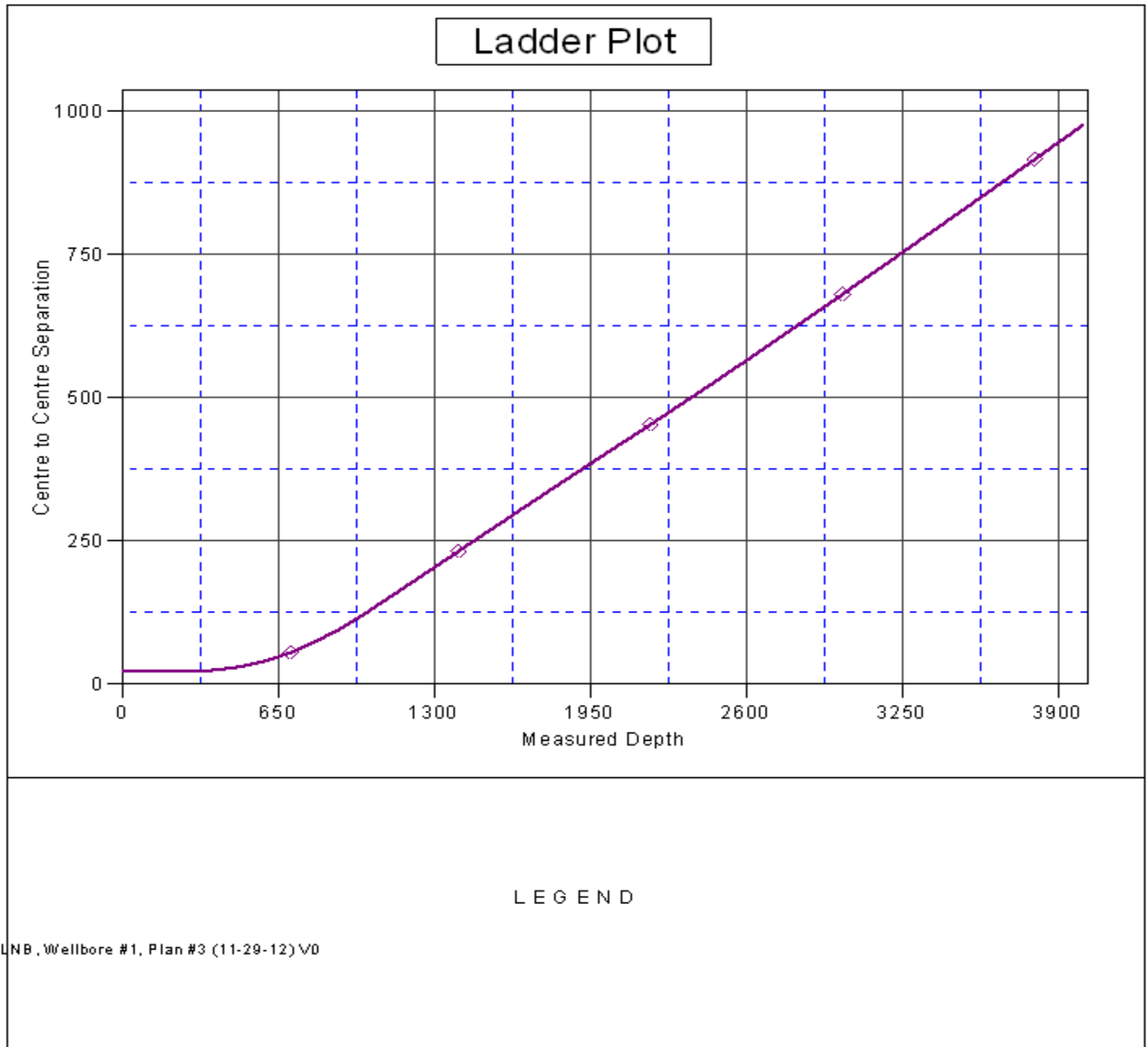
|                           |  |                                     |   |
|---------------------------|--|-------------------------------------|---|
| <b>Company:</b>           | BONANZA CREEK ENERGY OPERATING           | <b>Local Co-ordinate Reference:</b> | Site State Antelope 34-12 Pad Sec.12-T5N-R62W |
| <b>Project:</b>           | SEC.12-T5N-R62W                          | <b>TVD Reference:</b>               | WELL @ 4612.0ft (RKB - 15')                   |
| <b>Reference Site:</b>    | State Antelope 34-12 Pad Sec.12-T5N-R62W | <b>MD Reference:</b>                | WELL @ 4612.0ft (RKB - 15')                   |
| <b>Site Error:</b>        | 0.0ft                                    | <b>North Reference:</b>             | True  |
| <b>Reference Well:</b>    | State Antelope 44-41-12HNB               | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Well Error:</b>        | 0.0ft                                    | <b>Output errors are at</b>         | 2.00 sigma                                    |
| <b>Reference Wellbore</b> | Wellbore #1                              | <b>Database:</b>                    | Landmark                                      |
| <b>Reference Design:</b>  | Plan #2 (11-29-12)                       | <b>Offset TVD Reference:</b>        | Offset Datum                                  |

| Offset Design State Antelope 34-12 Pad Sec.12-T5N-R62W - State Antelope 34-12-1XRLNB - Wellbore #1 - Plan #3 ( |                     |                     |                     |                |             |                       |                                   |                                   |                      |                       |                         |                   | Offset Site Error: | 0.0 ft |
|--|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|-----------------------------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|--------|
| Survey Program: 0-MWD  |                     |                     |                     |                |             |                       |                                   |                                   |                      |                       |                         |                   | Offset Well Error: | 0.0 ft |
| Measured Depth (ft)  | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning            |        |
| 2,300.0  | 2,237.3             | 2,241.4             | 2,238.6             | 10.7           | 4.8         | 176.57                | -47.4                             | -9.0                              | 481.5                | 470.9                 | 10.65                   | 45.208            |                    |        |
| 2,400.0  | 2,333.3             | 2,336.7             | 2,332.9             | 11.3           | 5.0         | 175.14                | -60.9                             | -11.5                             | 509.4                | 498.2                 | 11.20                   | 45.480            |                    |        |
| 2,500.0  | 2,429.3             | 2,431.9             | 2,427.2             | 11.9           | 5.2         | 173.87                | -74.4                             | -14.1                             | 537.6                | 525.9                 | 11.77                   | 45.670            |                    |        |
| 2,600.0  | 2,525.3             | 2,527.2             | 2,521.5             | 12.5           | 5.5         | 172.71                | -87.9                             | -16.6                             | 566.0                | 553.7                 | 12.36                   | 45.801            |                    |        |
| 2,700.0  | 2,621.3             | 2,622.5             | 2,615.7             | 13.1           | 5.7         | 171.67                | -101.4                            | -19.2                             | 594.7                | 581.7                 | 12.96                   | 45.882            |                    |        |
| 2,800.0  | 2,717.2             | 2,717.8             | 2,710.0             | 13.7           | 6.0         | 170.73                | -114.9                            | -21.7                             | 623.4                | 609.9                 | 13.57                   | 45.927            |                    |        |
| 2,900.0  | 2,813.2             | 2,813.1             | 2,804.3             | 14.3           | 6.3         | 169.86                | -128.4                            | -24.3                             | 652.4                | 638.2                 | 14.20                   | 45.942            |                    |        |
| 3,000.0  | 2,909.2             | 2,908.3             | 2,898.6             | 14.9           | 6.6         | 169.07                | -141.9                            | -26.8                             | 681.4                | 666.6                 | 14.83                   | 45.937            |                    |        |
| 3,100.0  | 3,005.2             | 3,003.6             | 2,992.9             | 15.5           | 6.9         | 168.34                | -155.4                            | -29.4                             | 710.6                | 695.1                 | 15.48                   | 45.915            |                    |        |
| 3,200.0  | 3,101.1             | 3,098.9             | 3,087.2             | 16.1           | 7.1         | 167.68                | -168.9                            | -31.9                             | 739.8                | 723.7                 | 16.12                   | 45.881            |                    |        |
| 3,300.0  | 3,197.1             | 3,194.2             | 3,181.4             | 16.7           | 7.4         | 167.06                | -182.4                            | -34.5                             | 769.1                | 752.4                 | 16.78                   | 45.838            |                    |        |
| 3,400.0  | 3,293.1             | 3,289.5             | 3,275.7             | 17.3           | 7.7         | 166.48                | -195.9                            | -37.0                             | 798.6                | 781.1                 | 17.44                   | 45.789            |                    |        |
| 3,500.0  | 3,389.1             | 3,384.7             | 3,370.0             | 17.9           | 8.0         | 165.95                | -209.4                            | -39.6                             | 828.0                | 809.9                 | 18.10                   | 45.736            |                    |        |
| 3,600.0  | 3,485.0             | 3,480.0             | 3,464.3             | 18.5           | 8.4         | 165.45                | -222.9                            | -42.1                             | 857.6                | 838.8                 | 18.77                   | 45.680            |                    |        |
| 3,700.0  | 3,581.0             | 3,575.3             | 3,558.6             | 19.1           | 8.7         | 164.99                | -236.4                            | -44.7                             | 887.2                | 867.7                 | 19.45                   | 45.622            |                    |        |
| 3,800.0  | 3,677.0             | 3,670.6             | 3,652.9             | 19.7           | 9.0         | 164.55                | -249.9                            | -47.2                             | 916.8                | 896.7                 | 20.12                   | 45.564            |                    |        |
| 3,900.0  | 3,773.0             | 3,765.8             | 3,747.1             | 20.3           | 9.3         | 164.15                | -263.4                            | -49.8                             | 946.5                | 925.7                 | 20.80                   | 45.505            |                    |        |
| 4,000.0  | 3,868.9             | 3,861.1             | 3,841.4             | 20.9           | 9.6         | 163.77                | -276.9                            | -52.4                             | 976.3                | 954.8                 | 21.48                   | 45.447            |                    |        |

|                           |  |                                     |   |
|---------------------------|--|-------------------------------------|---|
| <b>Company:</b>           | BONANZA CREEK ENERGY OPERATING           | <b>Local Co-ordinate Reference:</b> | Site State Antelope 34-12 Pad Sec.12-T5N-R62W |
| <b>Project:</b>           | SEC.12-T5N-R62W                          | <b>TVD Reference:</b>               | WELL @ 4612.0ft (RKB - 15')                   |
| <b>Reference Site:</b>    | State Antelope 34-12 Pad Sec.12-T5N-R62W | <b>MD Reference:</b>                | WELL @ 4612.0ft (RKB - 15')                   |
| <b>Site Error:</b>        | 0.0ft                                    | <b>North Reference:</b>             | True  |
| <b>Reference Well:</b>    | State Antelope 44-41-12HNB               | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Well Error:</b>        | 0.0ft                                    | <b>Output errors are at</b>         | 2.00 sigma                                    |
| <b>Reference Wellbore</b> | Wellbore #1                              | <b>Database:</b>                    | Landmark                                      |
| <b>Reference Design:</b>  | Plan #2 (11-29-12)                       | <b>Offset TVD Reference:</b>        | Offset Datum                                  |

Reference Depths are relative to WELL @ 4612.0ft (RKB - 15')  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: State Antelope 34-12 Pad Sec.12-T5N-R62W  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.80°



|                           |  |                                     |   |
|---------------------------|--|-------------------------------------|---|
| <b>Company:</b>           | BONANZA CREEK ENERGY OPERATING           | <b>Local Co-ordinate Reference:</b> | Site State Antelope 34-12 Pad Sec.12-T5N-R62W |
| <b>Project:</b>           | SEC.12-T5N-R62W                          | <b>TVD Reference:</b>               | WELL @ 4612.0ft (RKB - 15')                   |
| <b>Reference Site:</b>    | State Antelope 34-12 Pad Sec.12-T5N-R62W | <b>MD Reference:</b>                | WELL @ 4612.0ft (RKB - 15')                   |
| <b>Site Error:</b>        | 0.0ft                                    | <b>North Reference:</b>             | True  |
| <b>Reference Well:</b>    | State Antelope 44-41-12HNB               | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Well Error:</b>        | 0.0ft                                    | <b>Output errors are at</b>         | 2.00 sigma                                    |
| <b>Reference Wellbore</b> | Wellbore #1                              | <b>Database:</b>                    | Landmark                                      |
| <b>Reference Design:</b>  | Plan #2 (11-29-12)                       | <b>Offset TVD Reference:</b>        | Offset Datum                                  |

Reference Depths are relative to WELL @ 4612.0ft (RKB - 15')  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: State Antelope 34-12 Pad Sec.12-T5N-R62W  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.80°

