

# BONANZA CREEK ENERGY OPERATING

Well Name: **State Antelope O-K-24HNB**

Surface Location: State Antelope T-24 Pad Sec.24-T5N-R62W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4517.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1383414.31	3343455.17	40.379320	-104.267150	

RKB - 13' WELL @ 4530.0ft (RKB - 13')

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BHL 470'FNL & 2650'FEL	6029.0	4655.9	-1150.4	Point
T1 470'FSL & 2678'FWL	6029.0	269.6	-1164.6	Point



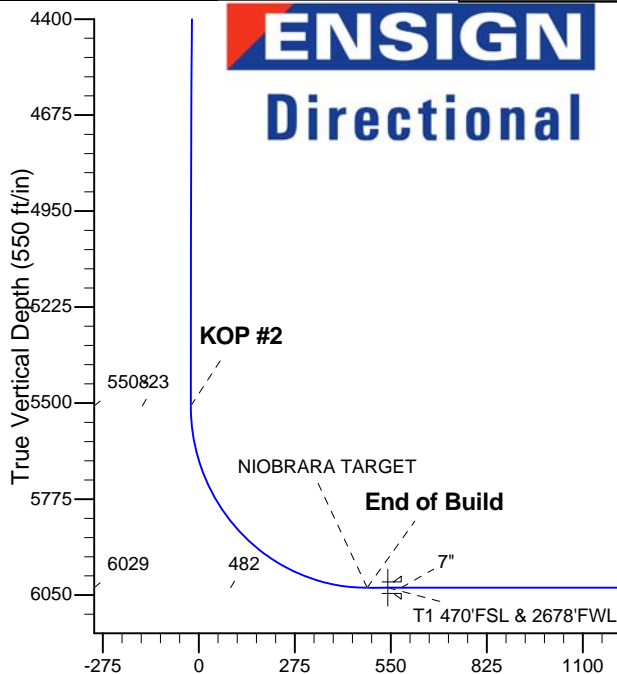
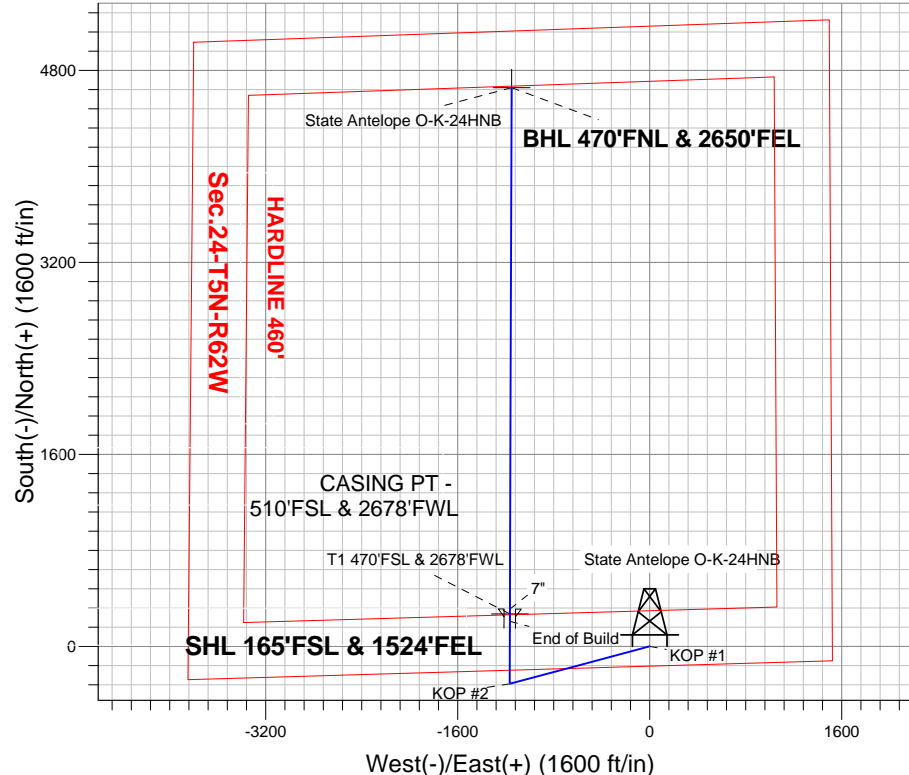
Azimuths to True North  
Magnetic North: 8.41°

Magnetic Field  
Strength: 53030.3srT  
Dip Angle: 67.07°  
Date: 10/30/2012  
Model: IGRF2010

State Antelope T-24 Pad Sec.24-T5N-R62W  
State Antelope O-K-24HNB  
Plan #1 (10-30-12)  
16:49, November 01 2012

## ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP #1
5508.2	5660.6	KOP #2
6029.0	6478.8	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	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	961.7	15.23	255.03	952.8	-26.0	-97.3	2.00	255.03	-1.9	
4	4790.7	15.23	255.03	4647.2	-286.0	-1069.2	0.00	0.00	-21.2	
5	5552.4	0.00	0.00	5400.0	-312.0	-1166.5	2.00	180.00	-23.1	
6	5660.6	0.00	0.00	5508.1	-312.0	-1166.5	0.00	0.00	-23.1	
7	6478.8	90.00	0.18	6029.0	208.9	-1164.9	11.00	0.18	482.2	
8	6579.5	90.00	0.18	6029.0	309.6	-1164.6	0.00	0.00	579.9	
9	6579.8	90.00	0.19	6029.0	309.9	-1164.6	3.00	90.00	580.2	
10	10925.8	90.00	0.19	6029.0	4655.9	-1150.4	0.00	0.00	4796.0	BHL 470'FNL & 2650'FEL

Vertical Section at 346.12° (550 ft/in)



# **BONANZA CREEK ENERGY OPERATING**

**SEC.24-T5N-R62W**

**State Antelope T-24 Pad Sec.24-T5N-R62W**

**State Antelope O-K-24HNB**

**Wellbore #1**

**Plan: Plan #1 (10-30-12)**

## **Standard Planning Report**

**01 November, 2012**

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State Antelope O-K-24HNB
<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>TVD Reference:</b>	WELL @ 4530.0ft (RKB - 13')
<b>Project:</b>	SEC.24-T5N-R62W	<b>MD Reference:</b>	WELL @ 4530.0ft (RKB - 13')
<b>Site:</b>	State Antelope T-24 Pad Sec.24-T5N-R62W	<b>North Reference:</b>	True
<b>Well:</b>	State Antelope O-K-24HNB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (10-30-12)		

<b>Project</b>	SEC.24-T5N-R62W		
<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

Site						State Antelope T-24 Pad Sec.24-T5N-R62W											
<b>Site Position:</b>						<b>Northing:</b>			1,383,414.32 ft			<b>Latitude:</b>			40.379320		
<b>From:</b>			Lat/Long			<b>Easting:</b>			3,343,455.17 ft			<b>Longitude:</b>			-104.267150		
<b>Position Uncertainty:</b>			0.0 ft			<b>Slot Radius:</b>			"			<b>Grid Convergence:</b>			0.80 °		

Well	State Antelope O-K-24HNB					
Well Position	+N/-S	0.0 ft	Northing:	1,383,414.31 ft	Latitude:	40.379320
	+E/-W	0.0 ft	Easting:	3,343,455.17 ft	Longitude:	-104.267150
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,517.0 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	10/30/2012	8.41	67.07	53,030

<b>Design</b>	Plan #1 (10-30-12)			
<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	0.0	0.0	346.12

<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	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
961.7	15.23	255.03	952.8	-26.0	-97.3	2.00	2.00	0.00	255.03	
4,790.7	15.23	255.03	4,647.2	-286.0	-1,069.2	0.00	0.00	0.00	0.00	
5,552.4	0.00	0.00	5,400.0	-312.0	-1,166.5	2.00	-2.00	0.00	180.00	
5,660.6	0.00	0.00	5,508.1	-312.0	-1,166.5	0.00	0.00	0.00	0.00	
6,478.8	90.00	0.18	6,029.0	208.9	-1,164.9	11.00	11.00	0.00	0.18	
6,579.5	90.00	0.18	6,029.0	309.6	-1,164.6	0.00	0.00	0.00	0.00	
6,579.8	90.00	0.19	6,029.0	309.9	-1,164.6	3.00	0.00	3.00	90.00	
10,925.8	90.00	0.19	6,029.0	4,655.9	-1,150.4	0.00	0.00	0.00	0.00	BHL 470'FNL & 26°

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State Antelope O-K-24HNB
<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>TVD Reference:</b>	WELL @ 4530.0ft (RKB - 13')
<b>Project:</b>	SEC.24-T5N-R62W	<b>MD Reference:</b>	WELL @ 4530.0ft (RKB - 13')
<b>Site:</b>	State Antelope T-24 Pad Sec.24-T5N-R62W	<b>North Reference:</b>	True
<b>Well:</b>	State Antelope O-K-24HNB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (10-30-12)		

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	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP #1</b>									
300.0	2.00	255.03	300.0	-0.5	-1.7	0.0	2.00	2.00	0.00
400.0	4.00	255.03	399.8	-1.8	-6.7	-0.1	2.00	2.00	0.00
500.0	6.00	255.03	499.5	-4.1	-15.2	-0.3	2.00	2.00	0.00
600.0	8.00	255.03	598.7	-7.2	-26.9	-0.5	2.00	2.00	0.00
700.0	10.00	255.03	697.5	-11.2	-42.0	-0.8	2.00	2.00	0.00
800.0	12.00	255.03	795.6	-16.2	-60.5	-1.2	2.00	2.00	0.00
900.0	14.00	255.03	893.1	-22.0	-82.2	-1.6	2.00	2.00	0.00
961.7	15.23	255.03	952.8	-26.0	-97.3	-1.9	2.00	2.00	0.00
1,000.0	15.23	255.03	989.7	-28.6	-107.0	-2.1	0.00	0.00	0.00
1,100.0	15.23	255.03	1,086.2	-35.4	-132.4	-2.6	0.00	0.00	0.00
1,200.0	15.23	255.03	1,182.7	-42.2	-157.7	-3.1	0.00	0.00	0.00
1,300.0	15.23	255.03	1,279.2	-49.0	-183.1	-3.6	0.00	0.00	0.00
1,400.0	15.23	255.03	1,375.7	-55.8	-208.5	-4.1	0.00	0.00	0.00
1,500.0	15.23	255.03	1,472.1	-62.6	-233.9	-4.6	0.00	0.00	0.00
1,600.0	15.23	255.03	1,568.6	-69.3	-259.3	-5.1	0.00	0.00	0.00
1,700.0	15.23	255.03	1,665.1	-76.1	-284.7	-5.6	0.00	0.00	0.00
1,800.0	15.23	255.03	1,761.6	-82.9	-310.1	-6.1	0.00	0.00	0.00
1,900.0	15.23	255.03	1,858.1	-89.7	-335.4	-6.6	0.00	0.00	0.00
2,000.0	15.23	255.03	1,954.6	-96.5	-360.8	-7.1	0.00	0.00	0.00
2,100.0	15.23	255.03	2,051.1	-103.3	-386.2	-7.6	0.00	0.00	0.00
2,200.0	15.23	255.03	2,147.5	-110.1	-411.6	-8.1	0.00	0.00	0.00
2,300.0	15.23	255.03	2,244.0	-116.9	-437.0	-8.6	0.00	0.00	0.00
2,400.0	15.23	255.03	2,340.5	-123.7	-462.4	-9.1	0.00	0.00	0.00
2,500.0	15.23	255.03	2,437.0	-130.5	-487.7	-9.6	0.00	0.00	0.00
2,600.0	15.23	255.03	2,533.5	-137.2	-513.1	-10.2	0.00	0.00	0.00
2,700.0	15.23	255.03	2,630.0	-144.0	-538.5	-10.7	0.00	0.00	0.00
2,800.0	15.23	255.03	2,726.5	-150.8	-563.9	-11.2	0.00	0.00	0.00
2,900.0	15.23	255.03	2,822.9	-157.6	-589.3	-11.7	0.00	0.00	0.00
3,000.0	15.23	255.03	2,919.4	-164.4	-614.7	-12.2	0.00	0.00	0.00
3,100.0	15.23	255.03	3,015.9	-171.2	-640.1	-12.7	0.00	0.00	0.00
3,200.0	15.23	255.03	3,112.4	-178.0	-665.4	-13.2	0.00	0.00	0.00
3,300.0	15.23	255.03	3,208.9	-184.8	-690.8	-13.7	0.00	0.00	0.00
3,400.0	15.23	255.03	3,305.4	-191.6	-716.2	-14.2	0.00	0.00	0.00
3,500.0	15.23	255.03	3,401.9	-198.4	-741.6	-14.7	0.00	0.00	0.00
3,600.0	15.23	255.03	3,498.3	-205.1	-767.0	-15.2	0.00	0.00	0.00
3,700.0	15.23	255.03	3,594.8	-211.9	-792.4	-15.7	0.00	0.00	0.00
3,800.0	15.23	255.03	3,691.3	-218.7	-817.8	-16.2	0.00	0.00	0.00
3,900.0	15.23	255.03	3,787.8	-225.5	-843.1	-16.7	0.00	0.00	0.00
4,000.0	15.23	255.03	3,884.3	-232.3	-868.5	-17.2	0.00	0.00	0.00
4,100.0	15.23	255.03	3,980.8	-239.1	-893.9	-17.7	0.00	0.00	0.00
4,200.0	15.23	255.03	4,077.3	-245.9	-919.3	-18.2	0.00	0.00	0.00
4,300.0	15.23	255.03	4,173.7	-252.7	-944.7	-18.7	0.00	0.00	0.00
4,400.0	15.23	255.03	4,270.2	-259.5	-970.1	-19.2	0.00	0.00	0.00
4,500.0	15.23	255.03	4,366.7	-266.2	-995.4	-19.7	0.00	0.00	0.00
4,600.0	15.23	255.03	4,463.2	-273.0	-1,020.8	-20.2	0.00	0.00	0.00
4,700.0	15.23	255.03	4,559.7	-279.8	-1,046.2	-20.7	0.00	0.00	0.00
4,790.7	15.23	255.03	4,647.2	-286.0	-1,069.2	-21.2	0.00	0.00	0.00
4,800.0	15.05	255.03	4,656.2	-286.6	-1,071.6	-21.2	2.00	-2.00	0.00
4,900.0	13.05	255.03	4,753.2	-292.9	-1,095.0	-21.7	2.00	-2.00	0.00
5,000.0	11.05	255.03	4,851.0	-298.3	-1,115.2	-22.1	2.00	-2.00	0.00

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<b>Project:</b>	SEC.24-T5N-R62W	<b>MD Reference:</b>	WELL @ 4530.0ft (RKB - 13')
<b>Site:</b>	State Antelope T-24 Pad Sec.24-T5N-R62W	<b>North Reference:</b>	True
<b>Well:</b>	State Antelope O-K-24HNB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (10-30-12)		

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)
5,100.0	9.05	255.03	4,949.4	-302.8	-1,132.1	-22.4	2.00	-2.00	0.00
5,200.0	7.05	255.03	5,048.4	-306.4	-1,145.6	-22.7	2.00	-2.00	0.00
5,300.0	5.05	255.03	5,147.9	-309.1	-1,155.8	-22.9	2.00	-2.00	0.00
5,400.0	3.05	255.03	5,247.6	-311.0	-1,162.6	-23.0	2.00	-2.00	0.00
5,500.0	1.05	255.03	5,347.6	-311.9	-1,166.0	-23.1	2.00	-2.00	0.00
5,552.4	0.00	0.00	5,400.0	-312.0	-1,166.5	-23.1	2.00	-2.00	0.00
5,600.0	0.00	0.00	5,447.6	-312.0	-1,166.5	-23.1	0.00	0.00	0.00
5,660.6	0.00	0.00	5,508.2	-312.0	-1,166.5	-23.1	0.00	0.00	0.00
<b>KOP #2</b>									
5,700.0	4.34	0.18	5,547.5	-310.5	-1,166.5	-21.6	11.01	11.01	0.00
5,800.0	15.34	0.18	5,645.9	-293.5	-1,166.4	-5.1	11.00	11.00	0.00
5,900.0	26.34	0.18	5,739.2	-257.9	-1,166.3	29.4	11.00	11.00	0.00
6,000.0	37.34	0.18	5,824.0	-205.3	-1,166.2	80.5	11.00	11.00	0.00
6,100.0	48.34	0.18	5,897.3	-137.4	-1,166.0	146.3	11.00	11.00	0.00
6,200.0	59.34	0.18	5,956.2	-56.8	-1,165.7	224.5	11.00	11.00	0.00
6,300.0	70.34	0.18	5,998.6	33.6	-1,165.4	312.2	11.00	11.00	0.00
6,400.0	81.34	0.18	6,023.1	130.4	-1,165.1	406.1	11.00	11.00	0.00
6,478.8	90.00	0.18	6,029.0	208.9	-1,164.9	482.2	11.00	11.00	0.00
<b>End of Build - NIOBRARA TARGET</b>									
6,500.0	90.00	0.18	6,029.0	230.1	-1,164.8	502.8	0.00	0.00	0.00
6,539.5	90.00	0.18	6,029.0	269.6	-1,164.7	541.1	0.00	0.00	0.00
<b>T1 470'FSL &amp; 2678'FWL</b>									
6,579.5	90.00	0.18	6,029.0	309.6	-1,164.6	579.9	0.00	0.00	0.00
<b>7"</b>									
6,579.8	90.00	0.19	6,029.0	309.9	-1,164.6	580.2	3.11	0.00	3.11
6,600.0	90.00	0.19	6,029.0	330.1	-1,164.5	599.8	0.00	0.00	0.00
6,700.0	90.00	0.19	6,029.0	430.1	-1,164.2	696.8	0.00	0.00	0.00
6,800.0	90.00	0.19	6,029.0	530.1	-1,163.8	793.8	0.00	0.00	0.00
6,900.0	90.00	0.19	6,029.0	630.1	-1,163.5	890.8	0.00	0.00	0.00
7,000.0	90.00	0.19	6,029.0	730.1	-1,163.2	987.8	0.00	0.00	0.00
7,100.0	90.00	0.19	6,029.0	830.1	-1,162.9	1,084.8	0.00	0.00	0.00
7,200.0	90.00	0.19	6,029.0	930.1	-1,162.5	1,181.8	0.00	0.00	0.00
7,300.0	90.00	0.19	6,029.0	1,030.1	-1,162.2	1,278.8	0.00	0.00	0.00
7,400.0	90.00	0.19	6,029.0	1,130.1	-1,161.9	1,375.8	0.00	0.00	0.00
7,500.0	90.00	0.19	6,029.0	1,230.1	-1,161.6	1,472.8	0.00	0.00	0.00
7,600.0	90.00	0.19	6,029.0	1,330.1	-1,161.2	1,569.8	0.00	0.00	0.00
7,700.0	90.00	0.19	6,029.0	1,430.1	-1,160.9	1,666.8	0.00	0.00	0.00
7,800.0	90.00	0.19	6,029.0	1,530.1	-1,160.6	1,763.8	0.00	0.00	0.00
7,900.0	90.00	0.19	6,029.0	1,630.1	-1,160.3	1,860.8	0.00	0.00	0.00
8,000.0	90.00	0.19	6,029.0	1,730.1	-1,159.9	1,957.8	0.00	0.00	0.00
8,100.0	90.00	0.19	6,029.0	1,830.1	-1,159.6	2,054.8	0.00	0.00	0.00
8,200.0	90.00	0.19	6,029.0	1,930.1	-1,159.3	2,151.8	0.00	0.00	0.00
8,300.0	90.00	0.19	6,029.0	2,030.1	-1,159.0	2,248.8	0.00	0.00	0.00
8,400.0	90.00	0.19	6,029.0	2,130.1	-1,158.6	2,345.8	0.00	0.00	0.00
8,500.0	90.00	0.19	6,029.0	2,230.1	-1,158.3	2,442.8	0.00	0.00	0.00
8,600.0	90.00	0.19	6,029.0	2,330.1	-1,158.0	2,539.8	0.00	0.00	0.00
8,700.0	90.00	0.19	6,029.0	2,430.1	-1,157.7	2,636.8	0.00	0.00	0.00
8,800.0	90.00	0.19	6,029.0	2,530.1	-1,157.3	2,733.8	0.00	0.00	0.00
8,900.0	90.00	0.19	6,029.0	2,630.1	-1,157.0	2,830.8	0.00	0.00	0.00
9,000.0	90.00	0.19	6,029.0	2,730.1	-1,156.7	2,927.9	0.00	0.00	0.00
9,100.0	90.00	0.19	6,029.0	2,830.1	-1,156.4	3,024.9	0.00	0.00	0.00
9,200.0	90.00	0.19	6,029.0	2,930.1	-1,156.0	3,121.9	0.00	0.00	0.00
9,300.0	90.00	0.19	6,029.0	3,030.1	-1,155.7	3,218.9	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State Antelope O-K-24HNB
<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>TVD Reference:</b>	WELL @ 4530.0ft (RKB - 13')
<b>Project:</b>	SEC.24-T5N-R62W	<b>MD Reference:</b>	WELL @ 4530.0ft (RKB - 13')
<b>Site:</b>	State Antelope T-24 Pad Sec.24-T5N-R62W	<b>North Reference:</b>	True
<b>Well:</b>	State Antelope O-K-24HNB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (10-30-12)		

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)	
9,400.0	90.00	0.19	6,029.0	3,130.1	-1,155.4	3,315.9	0.00	0.00	0.00	
9,500.0	90.00	0.19	6,029.0	3,230.1	-1,155.1	3,412.9	0.00	0.00	0.00	
9,600.0	90.00	0.19	6,029.0	3,330.1	-1,154.7	3,509.9	0.00	0.00	0.00	
9,700.0	90.00	0.19	6,029.0	3,430.1	-1,154.4	3,606.9	0.00	0.00	0.00	
9,800.0	90.00	0.19	6,029.0	3,530.1	-1,154.1	3,703.9	0.00	0.00	0.00	
9,900.0	90.00	0.19	6,029.0	3,630.1	-1,153.8	3,800.9	0.00	0.00	0.00	
10,000.0	90.00	0.19	6,029.0	3,730.1	-1,153.4	3,897.9	0.00	0.00	0.00	
10,100.0	90.00	0.19	6,029.0	3,830.1	-1,153.1	3,994.9	0.00	0.00	0.00	
10,200.0	90.00	0.19	6,029.0	3,930.1	-1,152.8	4,091.9	0.00	0.00	0.00	
10,300.0	90.00	0.19	6,029.0	4,030.1	-1,152.5	4,188.9	0.00	0.00	0.00	
10,400.0	90.00	0.19	6,029.0	4,130.1	-1,152.1	4,285.9	0.00	0.00	0.00	
10,500.0	90.00	0.19	6,029.0	4,230.1	-1,151.8	4,382.9	0.00	0.00	0.00	
10,600.0	90.00	0.19	6,029.0	4,330.1	-1,151.5	4,479.9	0.00	0.00	0.00	
10,700.0	90.00	0.19	6,029.0	4,430.1	-1,151.2	4,576.9	0.00	0.00	0.00	
10,800.0	90.00	0.19	6,029.0	4,530.1	-1,150.8	4,673.9	0.00	0.00	0.00	
10,900.0	90.00	0.19	6,029.0	4,630.1	-1,150.5	4,770.9	0.00	0.00	0.00	
10,925.8	90.00	0.19	6,029.0	4,655.9	-1,150.4	4,796.0	0.00	0.00	0.00	
BHL 470'FNL & 2650'FEL										

Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
BHL 470'FNL & 2650'	0.00	0.00	6,029.0	4,655.9	-1,150.4	1,388,053.61	3,342,240.17	40.392100	-104.271280	
- hit/miss target										
- Shape										
- plan hits target center										
- Point										
T1 470'FSL & 2678'FV	0.00	0.00	6,029.0	269.6	-1,164.6	1,383,667.71	3,342,287.02	40.380060	-104.271330	
- plan misses target center by 0.1ft at 6539.5ft MD (6029.0 TVD, 269.6 N, -1164.7 E)										
- Point										

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")		
6,579.5	6,029.0	7"	7	7-1/2		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
6,478.8	6,029.0	NIOBRARA TARGET		0.00		

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State Antelope O-K-24HNB
<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>TVD Reference:</b>	WELL @ 4530.0ft (RKB - 13')
<b>Project:</b>	SEC.24-T5N-R62W	<b>MD Reference:</b>	WELL @ 4530.0ft (RKB - 13')
<b>Site:</b>	State Antelope T-24 Pad Sec.24-T5N-R62W	<b>North Reference:</b>	True
<b>Well:</b>	State Antelope O-K-24HNB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (10-30-12)		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
200.0	200.0	0.0	0.0	KOP #1	
5,660.6	5,508.2	-312.0	-1,166.5	KOP #2	
6,478.8	6,029.0	208.9	-1,164.9	End of Build	



# **BONANZA CREEK ENERGY OPERATING**

**SEC.24-T5N-R62W**

**State Antelope T-24 Pad Sec.24-T5N-R62W**

**State Antelope O-K-24HNB**

**Wellbore #1**

**Plan #1 (10-30-12)**

## **Anticollision Report**

**01 November, 2012**



<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well State Antelope O-K-24HNB
<b>Project:</b>	SEC.24-T5N-R62W	<b>TVD Reference:</b>	WELL @ 4530.0ft (RKB - 13')
<b>Reference Site:</b>	State Antelope T-24 Pad Sec.24-T5N-R62W	<b>MD Reference:</b>	WELL @ 4530.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	State Antelope O-K-24HNB	<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 #1 (10-30-12)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (10-30-12)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 1,000.0ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 11/1/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	10,925.8	Plan #1 (10-30-12) (Wellbore #1)	MWD	MWD - Standard

<b>Summary</b>						
<b>Site Name</b>	<b>Reference Measured Depth (ft)</b>	<b>Offset Measured Depth (ft)</b>	<b>Distance Between Centres (ft)</b>	<b>Distance Between Ellipses (ft)</b>	<b>Separation Factor</b>	<b>Warning</b>
<b>Offset Well - Wellbore - Design</b>						
State Antelope T-24 Pad Sec.24-T5N-R62W						
State Antelope 44-41-24HNB - Wellbore #1 - Plan #1 (10	200.0	200.0	18.2	17.5	27.014	CC, ES
State Antelope 44-41-24HNB - Wellbore #1 - Plan #1 (10	500.0	499.5	26.9	24.9	13.341	SF

Offset Design		State Antelope T-24 Pad Sec.24-T5N-R62W - State Antelope 44-41-24HNB - Wellbore #1 - Plan #1 (10										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
0.0	0.0	0.0	0.0	0.0	0.0	0.00	18.2	0.0	18.2	18.2	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	0.00	18.2	0.0	18.2	18.0	0.22	81.042		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	18.2	0.0	18.2	17.5	0.67	27.014	CC, ES	
300.0	300.0	300.0	300.0	0.5	0.6	110.12	18.2	0.0	18.7	17.6	1.11	16.864		
400.0	399.8	399.8	399.8	0.8	0.8	123.52	18.2	0.0	21.1	19.6	1.56	13.569		
500.0	499.5	499.5	499.5	1.0	1.0	139.06	18.2	0.0	26.9	24.9	2.02	13.341	SF	
600.0	598.7	598.7	598.7	1.3	1.2	151.40	18.2	0.0	37.0	34.5	2.48	14.907		
700.0	697.5	697.5	697.5	1.6	1.5	159.67	18.2	0.0	51.3	48.4	2.95	17.422		
800.0	795.6	795.6	795.6	2.0	1.7	165.04	18.2	0.0	69.6	66.2	3.41	20.409		
900.0	893.1	893.1	893.1	2.5	1.9	168.58	18.2	0.0	91.5	87.6	3.87	23.633		
961.7	952.8	952.8	952.8	2.8	2.0	170.18	18.2	0.0	106.8	102.7	4.16	25.688		
1,000.0	989.7	989.7	989.7	3.0	2.1	171.02	18.2	0.0	116.8	112.4	4.34	26.913		
1,100.0	1,086.2	1,083.0	1,083.0	3.5	2.3	172.94	17.9	1.1	143.8	139.0	4.80	29.977		
1,200.0	1,182.7	1,174.4	1,174.3	4.1	2.5	174.87	16.6	5.1	173.3	168.0	5.25	33.017		
1,300.0	1,279.2	1,264.2	1,263.8	4.6	2.7	176.73	14.5	11.6	205.4	199.7	5.70	36.003		
1,400.0	1,375.7	1,352.1	1,351.2	5.2	2.9	178.48	11.7	20.6	240.1	233.9	6.17	38.922		
1,500.0	1,472.1	1,438.1	1,436.4	5.8	3.1	-179.90	8.1	31.9	277.3	270.7	6.64	41.769		
1,600.0	1,568.6	1,522.1	1,519.2	6.3	3.3	-178.42	3.8	45.2	317.0	309.9	7.12	44.541		
1,700.0	1,665.1	1,600.0	1,595.6	6.9	3.6	-177.12	-0.8	59.7	359.3	351.7	7.59	47.306		
1,800.0	1,761.6	1,683.9	1,677.4	7.4	3.9	-175.81	-6.4	77.4	403.8	395.7	8.10	49.848		
1,900.0	1,858.1	1,770.5	1,761.4	8.0	4.2	-174.61	-12.8	97.3	450.0	441.4	8.62	52.194		
2,000.0	1,954.6	1,858.8	1,847.1	8.6	4.6	-173.61	-19.2	117.6	496.4	487.2	9.14	54.297		
2,100.0	2,051.1	1,947.1	1,932.8	9.1	5.0	-172.78	-25.7	137.9	542.8	533.1	9.68	56.074		
2,200.0	2,147.5	2,035.4	2,018.5	9.7	5.4	-172.08	-32.1	158.1	589.3	579.1	10.21	57.717		
2,300.0	2,244.0	2,123.7	2,104.2	10.3	5.8	-171.48	-38.6	178.4	635.9	625.2	10.75	59.156		

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

<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well State Antelope O-K-24HNB
<b>Project:</b>	SEC.24-T5N-R62W	<b>TVD Reference:</b>	WELL @ 4530.0ft (RKB - 13')
<b>Reference Site:</b>	State Antelope T-24 Pad Sec.24-T5N-R62W	<b>MD Reference:</b>	WELL @ 4530.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	State Antelope O-K-24HNB	<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 #1 (10-30-12)	<b>Offset TVD Reference:</b>	Offset Datum

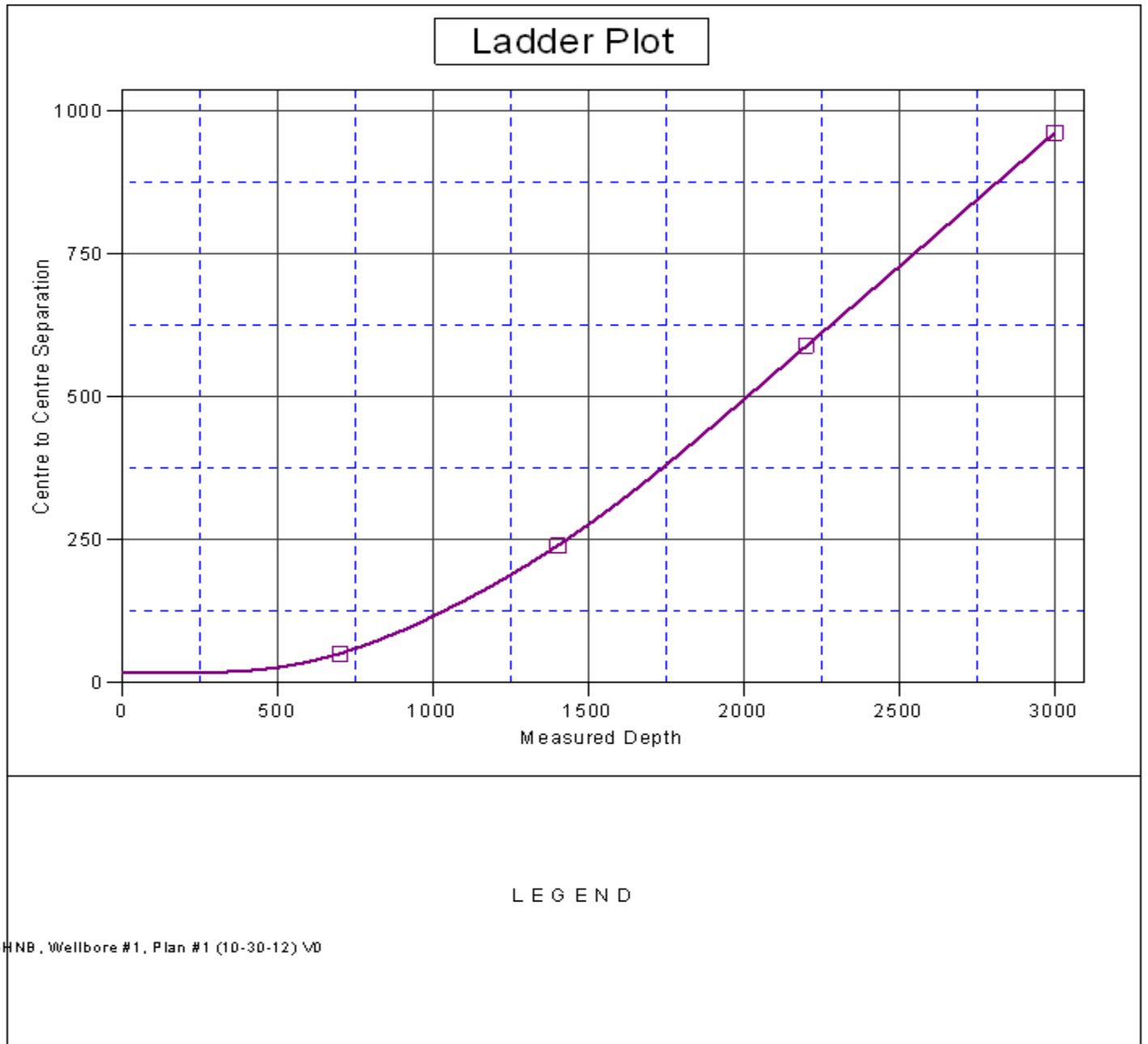
Offset Design		State Antelope T-24 Pad Sec.24-T5N-R62W - State Antelope 44-41-24HNB - Wellbore #1 - Plan #1 (10										Offset Site Error:		0.0 ft
Survey Program: 0-MWD												Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
2,400.0	2,340.5	2,212.0	2,189.9	10.8	6.2	-170.96	-45.1	198.7	682.5	671.3	11.29	60.440		
2,500.0	2,437.0	2,300.3	2,275.6	11.4	6.6	-170.51	-51.5	219.0	729.2	717.4	11.84	61.592		
2,600.0	2,533.5	2,388.6	2,361.3	12.0	7.1	-170.11	-58.0	239.3	775.9	763.5	12.39	62.629		
2,700.0	2,630.0	2,476.9	2,447.0	12.5	7.5	-169.76	-64.4	259.6	822.7	809.7	12.94	63.568		
2,800.0	2,726.5	2,565.2	2,532.7	13.1	7.9	-169.44	-70.9	279.9	869.4	855.9	13.50	64.422		
2,900.0	2,822.9	2,653.5	2,618.4	13.7	8.4	-169.16	-77.4	300.2	916.2	902.1	14.05	65.202		
3,000.0	2,919.4	2,741.8	2,704.1	14.2	8.8	-168.90	-83.8	320.4	963.0	948.3	14.61	65.917		

**Company:** BONANZA CREEK ENERGY OPERATING  
**Project:** SEC.24-T5N-R62W  
**Reference Site:** State Antelope T-24 Pad Sec.24-T5N-R62W  
**Site Error:** 0.0ft  
**Reference Well:** State Antelope O-K-24HNB  
**Well Error:** 0.0ft  
**Reference Wellbore:** Wellbore #1  
**Reference Design:** Plan #1 (10-30-12)

**Local Co-ordinate Reference:** Well State Antelope O-K-24HNB  
**TVD Reference:** WELL @ 4530.0ft (RKB - 13')  
**MD Reference:** WELL @ 4530.0ft (RKB - 13')  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Output errors are at** 2.00 sigma  
**Database:** Landmark  
**Offset TVD Reference:** Offset Datum

Reference Depths are relative to WELL @ 4530.0ft (RKB - 13')  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: State Antelope O-K-24HNB  
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>	Well State Antelope O-K-24HNB
<b>Project:</b>	SEC.24-T5N-R62W	<b>TVD Reference:</b>	WELL @ 4530.0ft (RKB - 13')
<b>Reference Site:</b>	State Antelope T-24 Pad Sec.24-T5N-R62W	<b>MD Reference:</b>	WELL @ 4530.0ft (RKB - 13')
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	State Antelope O-K-24HNB	<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 #1 (10-30-12)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4530.0ft (RKB - 13')  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000 °

Coordinates are relative to: State Antelope O-K-24HNB  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.80°

