BONANZA CREEK ENERGY OPERATING

Well Name: **Antelope K31-O34-15HNB**

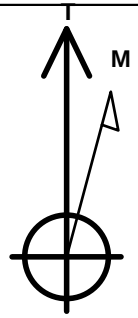
Surface Location: Antelope K-15 Pad Sec.15-T5N-R62W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4680.0

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude	Slot
0.0	0.0	1393086.07	3331637.14	40.406310	-104.309100	

RKB - 13' WELL @ 4693.0ft (RKB - 13')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 352'FNL & 2544'FEL	1.0	0.0	0.0	Point
BHL 470'FSL & 2302'FEL	6307.0	-4521.1	331.5	Point
T1 531'FNL & 2302'FEL	6307.0	-174.9	245.1	Point



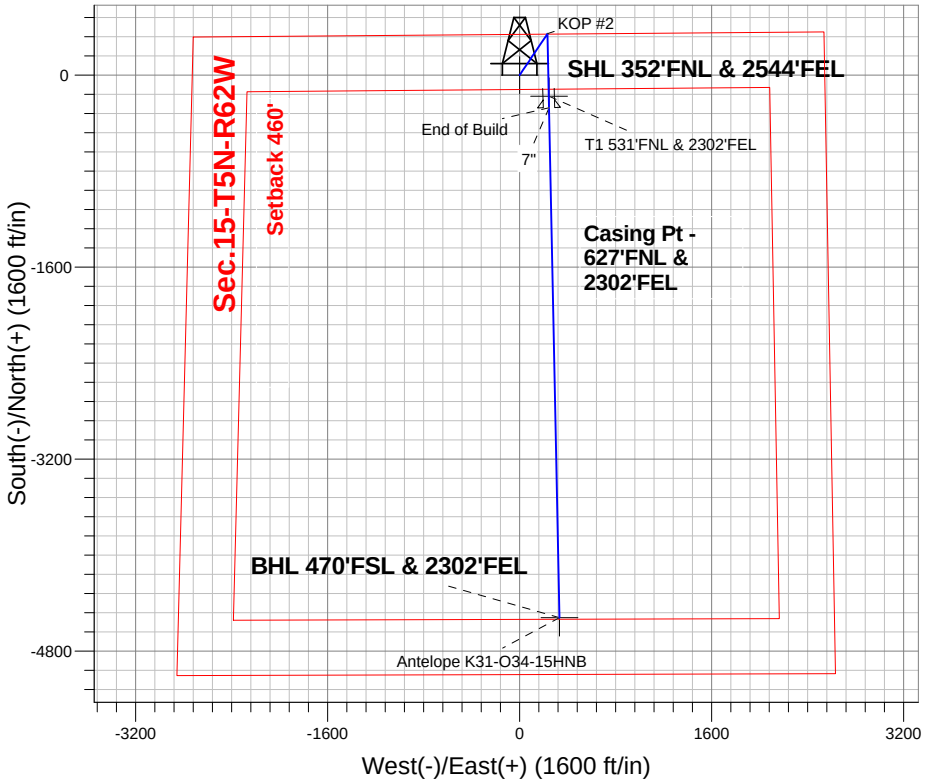
Azimuths to True North
Magnetic North: 8.30°

Magnetic Field
Strength: 52936.6snT
Dip Angle: 67.05°
Date: 10/17/2013
Model: IGRF2010

Antelope K-15 Pad Sec.15-T5N-R62W
Antelope K31-O34-15HNB
Plan #1 (10-28-13)
16:10, October 28 2013

ANNOTATIONS

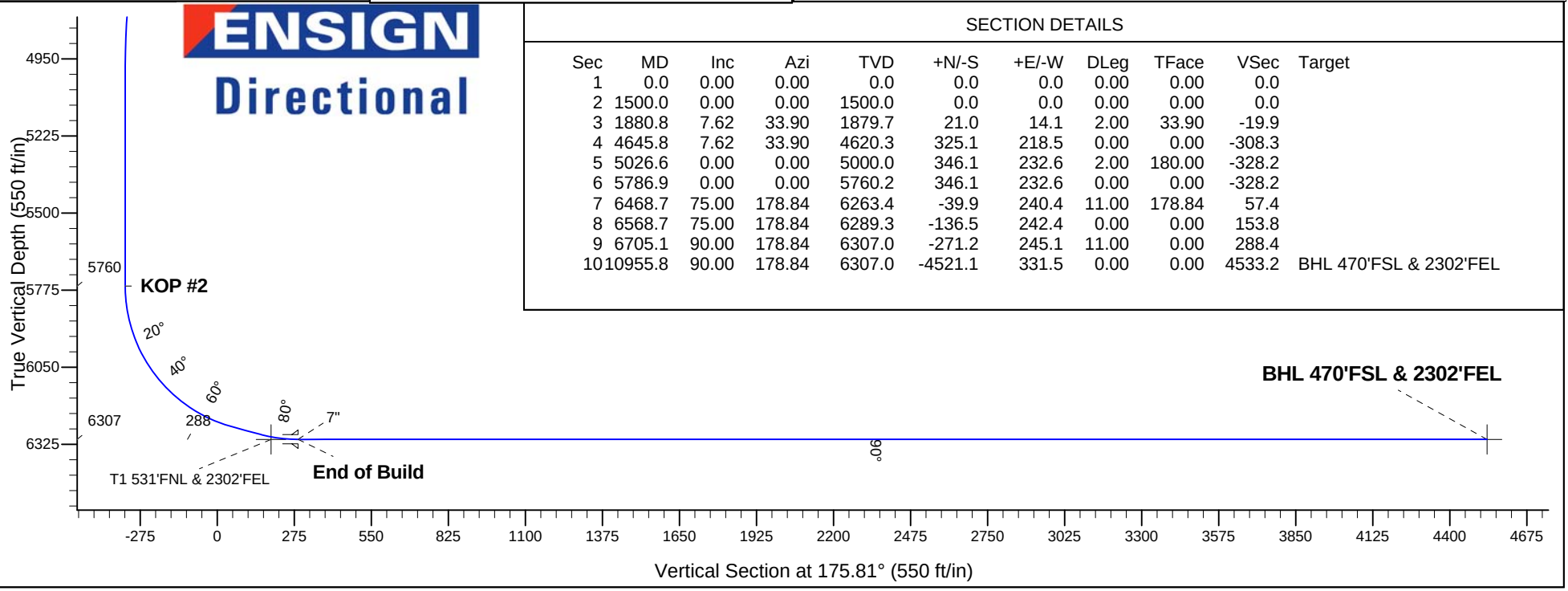
TVD	MD	Annotation
1500.0	1500.0	KOP #1
5760.3	5786.9	KOP #2
6307.0	6705.1	End of Build



ENSIGN Directional

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	
3	1880.8	7.62	33.90	1879.7	21.0	14.1	2.00	33.90	-19.9	
4	4645.8	7.62	33.90	4620.3	325.1	218.5	0.00	0.00	-308.3	
5	5026.6	0.00	0.00	5000.0	346.1	232.6	2.00	180.00	-328.2	
6	5786.9	0.00	0.00	5760.2	346.1	232.6	0.00	0.00	-328.2	
7	6468.7	75.00	178.84	6263.4	-39.9	240.4	11.00	178.84	57.4	
8	6568.7	75.00	178.84	6289.3	-136.5	242.4	0.00	0.00	153.8	
9	6705.1	90.00	178.84	6307.0	-271.2	245.1	11.00	0.00	288.4	
10	10955.8	90.00	178.84	6307.0	-4521.1	331.5	0.00	0.00	4533.2	BHL 470'FSL & 2302'FEL



BONANZA CREEK ENERGY OPERATING

SEC.15-T5N-R62W
Antelope K-15 Pad Sec.15-T5N-R62W
Antelope K31-O34-15HNB

Wellbore #1

Plan: Plan #1 (10-28-13)

Standard Planning Report

28 October, 2013

Database:	Landmark	**Local Co-ordinate Reference:**	Well Antelope K31-O34-15HNB
Company:	BONANZA CREEK ENERGY OPERATING	**TVD Reference:**	WELL @ 4693.0ft (RKB - 13')
Project:	SEC.15-T5N-R62W	**MD Reference:**	WELL @ 4693.0ft (RKB - 13')
Site:	Antelope K-15 Pad Sec.15-T5N-R62W	**North Reference:**	True
Well:	Antelope K31-O34-15HNB	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (10-28-13)		

Project SEC.15-T5N-R62W

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 Antelope K-15 Pad Sec.15-T5N-R62W

Site Position:		**Northing:**	1,393,107.93 ft	**Latitude:**	40.406370
From:	Lat/Long	**Easting:**	3,331,636.85 ft	**Longitude:**	-104.309100
Position Uncertainty:	0.0 ft	**Slot Radius:**	"	**Grid Convergence:**	0.77 °

Well Antelope K31-O34-15HNB

Well Position	**+N/-S**	-21.9 ft	**Northing:**	1,393,086.07 ft	**Latitude:**	40.406310
	+E/-W	0.0 ft	**Easting:**	3,331,637.14 ft	**Longitude:**	-104.309100
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,680.0 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/17/2013	8.30	67.05	52,937

Design Plan #1 (10-28-13)

Audit Notes:

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

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	175.81

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,880.8	7.62	33.90	1,879.7	21.0	14.1	2.00	2.00	0.00	33.90	
4,645.8	7.62	33.90	4,620.3	325.1	218.5	0.00	0.00	0.00	0.00	
5,026.6	0.00	0.00	5,000.0	346.1	232.6	2.00	-2.00	0.00	180.00	
5,786.9	0.00	0.00	5,760.2	346.1	232.6	0.00	0.00	0.00	0.00	
6,468.7	75.00	178.84	6,263.4	-39.9	240.4	11.00	11.00	0.00	178.84	
6,568.7	75.00	178.84	6,289.3	-136.5	242.4	0.00	0.00	0.00	0.00	
6,705.1	90.00	178.84	6,307.0	-271.2	245.1	11.00	11.00	0.00	0.00	
10,955.8	90.00	178.84	6,307.0	-4,521.1	331.5	0.00	0.00	0.00	0.00	BHL 470'FSL & 23(

Database:	Landmark	**Local Co-ordinate Reference:**	Well Antelope K31-O34-15HNB
Company:	BONANZA CREEK ENERGY OPERATING	**TVD Reference:**	WELL @ 4693.0ft (RKB - 13')
Project:	SEC.15-T5N-R62W	**MD Reference:**	WELL @ 4693.0ft (RKB - 13')
Site:	Antelope K-15 Pad Sec.15-T5N-R62W	**North Reference:**	True
Well:	Antelope K31-O34-15HNB	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (10-28-13)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL 352'FNL & 2544'FEL									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP #1									
1,600.0	2.00	33.90	1,600.0	1.4	1.0	-1.4	2.00	2.00	0.00
1,700.0	4.00	33.90	1,699.8	5.8	3.9	-5.5	2.00	2.00	0.00
1,800.0	6.00	33.90	1,799.5	13.0	8.8	-12.4	2.00	2.00	0.00
1,880.8	7.62	33.90	1,879.7	21.0	14.1	-19.9	2.00	2.00	0.00
1,900.0	7.62	33.90	1,898.7	23.1	15.5	-21.9	0.00	0.00	0.00
2,000.0	7.62	33.90	1,997.8	34.1	22.9	-32.3	0.00	0.00	0.00
2,100.0	7.62	33.90	2,096.9	45.1	30.3	-42.8	0.00	0.00	0.00
2,200.0	7.62	33.90	2,196.1	56.1	37.7	-53.2	0.00	0.00	0.00
2,300.0	7.62	33.90	2,295.2	67.1	45.1	-63.6	0.00	0.00	0.00
2,400.0	7.62	33.90	2,394.3	78.1	52.5	-74.0	0.00	0.00	0.00
2,500.0	7.62	33.90	2,493.4	89.1	59.9	-84.5	0.00	0.00	0.00
2,600.0	7.62	33.90	2,592.5	100.1	67.3	-94.9	0.00	0.00	0.00
2,700.0	7.62	33.90	2,691.7	111.1	74.7	-105.3	0.00	0.00	0.00
2,800.0	7.62	33.90	2,790.8	122.1	82.0	-115.8	0.00	0.00	0.00
2,900.0	7.62	33.90	2,889.9	133.1	89.4	-126.2	0.00	0.00	0.00
3,000.0	7.62	33.90	2,989.0	144.1	96.8	-136.6	0.00	0.00	0.00
3,100.0	7.62	33.90	3,088.1	155.1	104.2	-147.0	0.00	0.00	0.00
3,200.0	7.62	33.90	3,187.2	166.1	111.6	-157.5	0.00	0.00	0.00
3,300.0	7.62	33.90	3,286.4	177.1	119.0	-167.9	0.00	0.00	0.00
3,400.0	7.62	33.90	3,385.5	188.1	126.4	-178.3	0.00	0.00	0.00
3,500.0	7.62	33.90	3,484.6	199.1	133.8	-188.8	0.00	0.00	0.00
3,600.0	7.62	33.90	3,583.7	210.1	141.2	-199.2	0.00	0.00	0.00
3,700.0	7.62	33.90	3,682.8	221.1	148.6	-209.6	0.00	0.00	0.00
3,800.0	7.62	33.90	3,781.9	232.1	156.0	-220.1	0.00	0.00	0.00
3,900.0	7.62	33.90	3,881.1	243.1	163.4	-230.5	0.00	0.00	0.00
4,000.0	7.62	33.90	3,980.2	254.1	170.8	-240.9	0.00	0.00	0.00
4,100.0	7.62	33.90	4,079.3	265.1	178.2	-251.3	0.00	0.00	0.00
4,200.0	7.62	33.90	4,178.4	276.1	185.5	-261.8	0.00	0.00	0.00
4,300.0	7.62	33.90	4,277.5	287.1	192.9	-272.2	0.00	0.00	0.00
4,400.0	7.62	33.90	4,376.7	298.1	200.3	-282.6	0.00	0.00	0.00
4,500.0	7.62	33.90	4,475.8	309.1	207.7	-293.1	0.00	0.00	0.00
4,600.0	7.62	33.90	4,574.9	320.1	215.1	-303.5	0.00	0.00	0.00
4,645.8	7.62	33.90	4,620.3	325.1	218.5	-308.3	0.00	0.00	0.00
4,700.0	6.53	33.90	4,674.1	330.7	222.2	-313.5	2.00	-2.00	0.00
4,800.0	4.53	33.90	4,773.6	338.7	227.6	-321.1	2.00	-2.00	0.00

Database:	Landmark	**Local Co-ordinate Reference:**	Well Antelope K31-O34-15HNB
Company:	BONANZA CREEK ENERGY OPERATING	**TVD Reference:**	WELL @ 4693.0ft (RKB - 13')
Project:	SEC.15-T5N-R62W	**MD Reference:**	WELL @ 4693.0ft (RKB - 13')
Site:	Antelope K-15 Pad Sec.15-T5N-R62W	**North Reference:**	True
Well:	Antelope K31-O34-15HNB	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (10-28-13)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,900.0	2.53	33.90	4,873.4	343.8	231.0	-326.0	2.00	-2.00	0.00
5,000.0	0.53	33.90	4,973.4	346.0	232.5	-328.1	2.00	-2.00	0.00
5,026.6	0.00	0.00	5,000.0	346.1	232.6	-328.2	2.00	-2.00	0.00
5,100.0	0.00	0.00	5,073.4	346.1	232.6	-328.2	0.00	0.00	0.00
5,200.0	0.00	0.00	5,173.4	346.1	232.6	-328.2	0.00	0.00	0.00
5,300.0	0.00	0.00	5,273.4	346.1	232.6	-328.2	0.00	0.00	0.00
5,400.0	0.00	0.00	5,373.4	346.1	232.6	-328.2	0.00	0.00	0.00
5,500.0	0.00	0.00	5,473.4	346.1	232.6	-328.2	0.00	0.00	0.00
5,600.0	0.00	0.00	5,573.4	346.1	232.6	-328.2	0.00	0.00	0.00
5,700.0	0.00	0.00	5,673.4	346.1	232.6	-328.2	0.00	0.00	0.00
5,786.9	0.00	0.00	5,760.3	346.1	232.6	-328.2	0.00	0.00	0.00
KOP #2									
5,800.0	1.44	178.84	5,773.4	345.9	232.6	-328.0	11.02	11.02	0.00
5,900.0	12.44	178.84	5,872.5	333.9	232.8	-315.9	11.00	11.00	0.00
6,000.0	23.44	178.84	5,967.5	303.1	233.5	-285.2	11.00	11.00	0.00
6,100.0	34.44	178.84	6,054.8	254.8	234.5	-237.0	11.00	11.00	0.00
6,200.0	45.44	178.84	6,131.4	190.7	235.8	-173.0	11.00	11.00	0.00
6,300.0	56.44	178.84	6,194.3	113.2	237.3	-95.5	11.00	11.00	0.00
6,400.0	67.44	178.84	6,241.3	25.1	239.1	-7.5	11.00	11.00	0.00
6,468.7	75.00	178.84	6,263.4	-39.9	240.4	57.4	11.00	11.00	0.00
6,500.0	75.00	178.84	6,271.5	-70.1	241.1	87.5	0.00	0.00	0.00
6,568.7	75.00	178.84	6,289.3	-136.5	242.4	153.8	0.00	0.00	0.00
6,600.0	78.44	178.84	6,296.4	-166.9	243.0	184.2	11.00	11.00	0.00
6,609.1	79.44	178.84	6,298.2	-175.8	243.2	193.1	11.00	11.00	0.00
T1 531'FNL & 2302'FEL									
6,700.0	89.44	178.84	6,307.0	-266.2	245.0	283.4	11.00	11.00	0.00
6,705.1	90.00	178.84	6,307.0	-271.3	245.1	288.5	10.92	10.92	0.00
End of Build - 7"									
6,800.0	90.00	178.84	6,307.0	-366.2	247.1	383.2	0.00	0.00	0.00
6,900.0	90.00	178.84	6,307.0	-466.1	249.1	483.1	0.00	0.00	0.00
7,000.0	90.00	178.84	6,307.0	-566.1	251.1	583.0	0.00	0.00	0.00
7,100.0	90.00	178.84	6,307.0	-666.1	253.2	682.8	0.00	0.00	0.00
7,200.0	90.00	178.84	6,307.0	-766.1	255.2	782.7	0.00	0.00	0.00
7,300.0	90.00	178.84	6,307.0	-866.1	257.2	882.5	0.00	0.00	0.00
7,400.0	90.00	178.84	6,307.0	-966.0	259.3	982.4	0.00	0.00	0.00
7,500.0	90.00	178.84	6,307.0	-1,066.0	261.3	1,082.3	0.00	0.00	0.00
7,600.0	90.00	178.84	6,307.0	-1,166.0	263.3	1,182.1	0.00	0.00	0.00
7,700.0	90.00	178.84	6,307.0	-1,266.0	265.3	1,282.0	0.00	0.00	0.00
7,800.0	90.00	178.84	6,307.0	-1,365.9	267.4	1,381.8	0.00	0.00	0.00
7,900.0	90.00	178.84	6,307.0	-1,465.9	269.4	1,481.7	0.00	0.00	0.00
8,000.0	90.00	178.84	6,307.0	-1,565.9	271.4	1,581.6	0.00	0.00	0.00
8,100.0	90.00	178.84	6,307.0	-1,665.9	273.5	1,681.4	0.00	0.00	0.00
8,200.0	90.00	178.84	6,307.0	-1,765.9	275.5	1,781.3	0.00	0.00	0.00
8,300.0	90.00	178.84	6,307.0	-1,865.8	277.5	1,881.1	0.00	0.00	0.00
8,400.0	90.00	178.84	6,307.0	-1,965.8	279.6	1,981.0	0.00	0.00	0.00
8,500.0	90.00	178.84	6,307.0	-2,065.8	281.6	2,080.9	0.00	0.00	0.00
8,600.0	90.00	178.84	6,307.0	-2,165.8	283.6	2,180.7	0.00	0.00	0.00
8,700.0	90.00	178.84	6,307.0	-2,265.8	285.7	2,280.6	0.00	0.00	0.00
8,800.0	90.00	178.84	6,307.0	-2,365.7	287.7	2,380.4	0.00	0.00	0.00
8,900.0	90.00	178.84	6,307.0	-2,465.7	289.7	2,480.3	0.00	0.00	0.00
9,000.0	90.00	178.84	6,307.0	-2,565.7	291.7	2,580.2	0.00	0.00	0.00
9,100.0	90.00	178.84	6,307.0	-2,665.7	293.8	2,680.0	0.00	0.00	0.00
9,200.0	90.00	178.84	6,307.0	-2,765.7	295.8	2,779.9	0.00	0.00	0.00

Database:	Landmark	**Local Co-ordinate Reference:**	Well Antelope K31-O34-15HNB
Company:	BONANZA CREEK ENERGY OPERATING	**TVD Reference:**	WELL @ 4693.0ft (RKB - 13')
Project:	SEC.15-T5N-R62W	**MD Reference:**	WELL @ 4693.0ft (RKB - 13')
Site:	Antelope K-15 Pad Sec.15-T5N-R62W	**North Reference:**	True
Well:	Antelope K31-O34-15HNB	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (10-28-13)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,300.0	90.00	178.84	6,307.0	-2,865.6	297.8	2,879.7	0.00	0.00	0.00
9,400.0	90.00	178.84	6,307.0	-2,965.6	299.9	2,979.6	0.00	0.00	0.00
9,500.0	90.00	178.84	6,307.0	-3,065.6	301.9	3,079.5	0.00	0.00	0.00
9,600.0	90.00	178.84	6,307.0	-3,165.6	303.9	3,179.3	0.00	0.00	0.00
9,700.0	90.00	178.84	6,307.0	-3,265.6	306.0	3,279.2	0.00	0.00	0.00
9,800.0	90.00	178.84	6,307.0	-3,365.5	308.0	3,379.0	0.00	0.00	0.00
9,900.0	90.00	178.84	6,307.0	-3,465.5	310.0	3,478.9	0.00	0.00	0.00
10,000.0	90.00	178.84	6,307.0	-3,565.5	312.1	3,578.8	0.00	0.00	0.00
10,100.0	90.00	178.84	6,307.0	-3,665.5	314.1	3,678.6	0.00	0.00	0.00
10,200.0	90.00	178.84	6,307.0	-3,765.5	316.1	3,778.5	0.00	0.00	0.00
10,300.0	90.00	178.84	6,307.0	-3,865.4	318.2	3,878.3	0.00	0.00	0.00
10,400.0	90.00	178.84	6,307.0	-3,965.4	320.2	3,978.2	0.00	0.00	0.00
10,500.0	90.00	178.84	6,307.0	-4,065.4	322.2	4,078.1	0.00	0.00	0.00
10,600.0	90.00	178.84	6,307.0	-4,165.4	324.2	4,177.9	0.00	0.00	0.00
10,700.0	90.00	178.84	6,307.0	-4,265.4	326.3	4,277.8	0.00	0.00	0.00
10,800.0	90.00	178.84	6,307.0	-4,365.3	328.3	4,377.7	0.00	0.00	0.00
10,900.0	90.00	178.84	6,307.0	-4,465.3	330.3	4,477.5	0.00	0.00	0.00
10,955.8	90.00	178.84	6,307.0	-4,521.1	331.5	4,533.2	0.00	0.00	0.00
BHL 470'FSL & 2302'FEL									

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
BHL 470'FSL & 2302'I - plan hits target center - Point	0.00	0.00	6,307.0	-4,521.1	331.5	1,388,570.01	3,332,029.28	40.393900	-104.307910
SHL 352'FNL & 2544' - plan hits target center - Point	0.00	0.00	1.0	0.0	0.0	1,393,086.08	3,331,637.14	40.406310	-104.309100
T1 531'FNL & 2302'FI - plan misses target center by 9.1ft at 6609.1ft MD (6298.2 TVD, -175.8 N, 243.2 E) - Point	0.00	0.00	6,307.0	-174.9	245.1	1,392,914.52	3,331,884.54	40.405830	-104.308220

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
6,705.1	6,307.0	7"	7	7-1/2

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
1,500.0	1,500.0	0.0	0.0	KOP #1
5,786.9	5,760.3	346.1	232.6	KOP #2
6,705.1	6,307.0	-271.3	245.1	End of Build

ENSIGN Directional

BONANZA CREEK ENERGY OPERATING

SEC.15-T5N-R62W
Antelope K-15 Pad Sec.15-T5N-R62W
Antelope K31-O34-15HNB

Wellbore #1
Plan #1 (10-28-13)

Anticollision Report

28 October, 2013

Company:	BONANZA CREEK ENERGY OPERATING	**Local Co-ordinate Reference:**	Well Antelope K31-O34-15HNB
Project:	SEC.15-T5N-R62W	**TVD Reference:**	WELL @ 4693.0ft (RKB - 13')
Reference Site:	Antelope K-15 Pad Sec.15-T5N-R62W	**MD Reference:**	WELL @ 4693.0ft (RKB - 13')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope K31-O34-15HNB	**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 (10-28-13)	**Offset TVD Reference:**	Offset Datum

Reference Plan #1 (10-28-13)

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

Warning Levels Evaluated at: 2.00 **Sigma**

Survey Tool Program **Date** 10/28/2013

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	10,955.8	Plan #1 (10-28-13) (Wellbore #1)	MWD	MWD - Standard

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Antelope K-15 Pad Sec.15-T5N-R62W						
Antelope 31-34-15HNB - Wellbore #1 - Plan #1 (10-28-13	1,200.0	1,200.0	21.9	16.7	4.228	CC, ES
Antelope 31-34-15HNB - Wellbore #1 - Plan #1 (10-28-13	10,955.8	10,973.5	328.7	149.0	1.830	SF
Antelope K21-O24-15HNB - Wellbore #1 - Plan #1 (10-28	1,200.0	1,200.0	40.1	34.9	7.753	CC
Antelope K21-O24-15HNB - Wellbore #1 - Plan #1 (10-28	1,300.0	1,300.0	40.1	34.5	7.156	ES
Antelope K21-O24-15HNB - Wellbore #1 - Plan #1 (10-28	10,955.8	10,966.2	632.3	453.5	3.537	SF
Antelope K-O-15HNB - Wellbore #1 - Plan #1 (10-28-13)	1,500.0	1,499.0	18.2	11.7	2.796	CC, ES
Antelope K-O-15HNB - Wellbore #1 - Plan #1 (10-28-13)	10,955.8	10,950.0	325.9	146.7	1.818	SF

Offset Design Antelope K-15 Pad Sec.15-T5N-R62W - Antelope 31-34-15HNB - Wellbore #1 - Plan #1 (10-28-13)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	0.00	21.9	0.0	21.9				
100.0	100.0	100.0	100.0	0.1	0.1	0.00	21.9	0.0	21.9	21.6	0.22	97.251	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	21.9	0.0	21.9	21.2	0.67	32.417	
300.0	300.0	300.0	300.0	0.6	0.6	0.00	21.9	0.0	21.9	20.7	1.12	19.450	
400.0	400.0	400.0	400.0	0.8	0.8	0.00	21.9	0.0	21.9	20.3	1.57	13.893	
500.0	500.0	500.0	500.0	1.0	1.0	0.00	21.9	0.0	21.9	19.8	2.02	10.806	
600.0	600.0	600.0	600.0	1.2	1.2	0.00	21.9	0.0	21.9	19.4	2.47	8.841	
700.0	700.0	700.0	700.0	1.5	1.5	0.00	21.9	0.0	21.9	18.9	2.92	7.481	
800.0	800.0	800.0	800.0	1.7	1.7	0.00	21.9	0.0	21.9	18.5	3.37	6.483	
900.0	900.0	900.0	900.0	1.9	1.9	0.00	21.9	0.0	21.9	18.0	3.82	5.721	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	0.00	21.9	0.0	21.9	17.6	4.27	5.118	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	0.00	21.9	0.0	21.9	17.1	4.72	4.631	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	0.00	21.9	0.0	21.9	16.7	5.17	4.228	CC, ES
1,300.0	1,300.0	1,299.6	1,299.6	2.8	2.8	3.77	22.7	1.5	22.8	17.2	5.61	4.059	
1,400.0	1,400.0	1,398.9	1,398.8	3.0	3.0	13.28	25.3	6.0	26.0	20.0	6.05	4.303	
1,500.0	1,500.0	1,497.8	1,497.2	3.3	3.2	24.34	29.6	13.4	32.6	26.1	6.50	5.016	
1,600.0	1,600.0	1,596.1	1,594.9	3.5	3.5	-0.25	35.5	23.7	41.3	34.3	6.94	5.951	
1,700.0	1,699.8	1,694.5	1,692.1	3.7	3.7	7.40	43.1	36.8	50.3	43.0	7.37	6.830	
1,800.0	1,799.5	1,794.1	1,790.3	3.9	4.0	13.68	51.2	50.8	57.5	49.7	7.79	7.380	
1,900.0	1,898.7	1,893.8	1,888.7	4.2	4.3	19.52	59.3	64.8	62.0	53.8	8.22	7.544	
2,000.0	1,997.8	1,993.5	1,987.1	4.4	4.6	24.96	67.4	78.9	66.0	57.3	8.67	7.612	

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

Company:	BONANZA CREEK ENERGY OPERATING	**Local Co-ordinate Reference:**	Well Antelope K31-O34-15HNB
Project:	SEC.15-T5N-R62W	**TVD Reference:**	WELL @ 4693.0ft (RKB - 13')
Reference Site:	Antelope K-15 Pad Sec.15-T5N-R62W	**MD Reference:**	WELL @ 4693.0ft (RKB - 13')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope K31-O34-15HNB	**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 (10-28-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope K-15 Pad Sec.15-T5N-R62W - Antelope 31-34-15HNB - Wellbore #1 - Plan #1 (10-28-13)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,100.0	2,096.9	2,093.2	2,085.5	4.7	5.0	29.74	75.6	92.9	70.6	61.4	9.14	7.721	
2,200.0	2,196.1	2,193.0	2,183.9	4.9	5.3	33.91	83.7	106.9	75.5	65.9	9.62	7.851	
2,300.0	2,295.2	2,292.7	2,282.3	5.2	5.6	37.56	91.8	121.0	80.9	70.7	10.12	7.991	
2,400.0	2,394.3	2,392.4	2,380.7	5.5	6.0	40.74	99.9	135.0	86.5	75.8	10.63	8.132	
2,500.0	2,493.4	2,492.2	2,479.1	5.8	6.3	43.53	108.0	149.1	92.3	81.1	11.16	8.270	
2,600.0	2,592.5	2,591.9	2,577.5	6.1	6.6	45.99	116.2	163.1	98.3	86.6	11.71	8.401	
2,700.0	2,691.7	2,691.6	2,675.9	6.4	7.0	48.15	124.3	177.2	104.5	92.3	12.26	8.525	
2,800.0	2,790.8	2,791.4	2,774.3	6.7	7.3	50.08	132.4	191.2	110.9	98.0	12.83	8.642	
2,900.0	2,889.9	2,891.1	2,872.7	7.0	7.7	51.79	140.5	205.3	117.3	103.9	13.41	8.750	
3,000.0	2,989.0	2,990.8	2,971.2	7.3	8.1	53.32	148.6	219.3	123.8	109.8	13.99	8.850	
3,100.0	3,088.1	3,090.6	3,069.6	7.6	8.4	54.70	156.7	233.3	130.5	115.9	14.59	8.944	
3,200.0	3,187.2	3,190.3	3,168.0	7.9	8.8	55.95	164.9	247.4	137.1	121.9	15.19	9.030	
3,300.0	3,286.4	3,290.1	3,266.4	8.2	9.1	57.08	173.0	261.4	143.9	128.1	15.79	9.111	
3,400.0	3,385.5	3,389.8	3,364.8	8.5	9.5	58.11	181.1	275.5	150.7	134.3	16.40	9.185	
3,500.0	3,484.6	3,489.5	3,463.2	8.8	9.9	59.05	189.2	289.5	157.5	140.5	17.02	9.255	
3,600.0	3,583.7	3,589.3	3,561.6	9.1	10.2	59.91	197.3	303.6	164.4	146.7	17.64	9.320	
3,700.0	3,682.8	3,689.0	3,660.0	9.5	10.6	60.70	205.5	317.6	171.3	153.0	18.26	9.380	
3,800.0	3,781.9	3,788.7	3,758.4	9.8	11.0	61.43	213.6	331.6	178.2	159.3	18.88	9.437	
3,900.0	3,881.1	3,888.5	3,856.8	10.1	11.3	62.10	221.7	345.7	185.2	165.7	19.51	9.490	
4,000.0	3,980.2	3,988.2	3,955.2	10.4	11.7	62.73	229.8	359.7	192.2	172.0	20.14	9.539	
4,100.0	4,079.3	4,087.9	4,053.6	10.7	12.1	63.31	237.9	373.8	199.2	178.4	20.78	9.586	
4,200.0	4,178.4	4,187.7	4,152.0	11.1	12.5	63.86	246.1	387.8	206.2	184.8	21.41	9.629	
4,300.0	4,277.5	4,287.4	4,250.4	11.4	12.8	64.36	254.2	401.9	213.2	191.2	22.05	9.671	
4,400.0	4,376.7	4,387.1	4,348.8	11.7	13.2	64.84	262.3	415.9	220.3	197.6	22.69	9.710	
4,500.0	4,475.8	4,486.9	4,447.2	12.0	13.6	65.28	270.4	430.0	227.4	204.0	23.33	9.746	
4,600.0	4,574.9	4,586.6	4,545.7	12.3	13.9	65.70	278.5	444.0	234.5	210.5	23.97	9.781	
4,700.0	4,674.1	4,686.3	4,644.1	12.6	14.3	66.06	286.6	458.0	241.8	217.2	24.59	9.833	
4,800.0	4,773.6	4,785.9	4,742.3	12.9	14.7	65.83	294.8	472.1	250.3	225.3	25.08	9.980	
4,900.0	4,873.4	4,885.3	4,840.4	13.1	15.1	64.94	302.8	486.1	260.4	234.9	25.49	10.215	
5,000.0	4,973.4	4,984.3	4,938.1	13.2	15.4	63.51	310.9	500.0	272.1	246.3	25.81	10.540	
5,100.0	5,073.4	5,083.0	5,035.5	13.4	15.8	95.52	318.9	513.9	285.1	258.9	26.20	10.885	
5,200.0	5,173.4	5,181.7	5,132.8	13.6	16.2	93.71	327.0	527.8	298.6	272.1	26.50	11.269	
5,300.0	5,273.4	5,290.3	5,240.2	13.8	16.5	92.09	334.8	541.4	310.7	284.0	26.78	11.603	
5,400.0	5,373.4	5,400.0	5,349.4	13.9	16.7	90.98	340.7	551.5	319.8	292.7	27.09	11.805	
5,500.0	5,473.4	5,510.5	5,459.6	14.1	16.9	90.29	344.4	558.0	325.7	298.3	27.43	11.876	
5,600.0	5,573.4	5,621.4	5,570.4	14.3	17.1	90.00	346.1	560.9	328.3	300.5	27.78	11.817	
5,700.0	5,673.4	5,724.3	5,673.4	14.5	17.3	89.99	346.2	561.0	328.4	300.2	28.15	11.666	
5,800.0	5,773.4	5,824.2	5,773.2	14.7	17.4	-88.85	346.0	561.0	328.4	300.0	28.41	11.559	
5,900.0	5,872.5	5,922.9	5,871.1	14.8	17.5	-88.87	334.2	561.2	328.4	299.8	28.57	11.494	
6,000.0	5,967.5	6,021.7	5,965.1	14.7	17.5	-88.94	304.2	561.9	328.4	299.9	28.50	11.522	
6,100.0	6,054.8	6,120.6	6,051.8	14.6	17.4	-89.05	257.0	562.8	328.4	300.1	28.29	11.609	
6,200.0	6,131.4	6,219.6	6,128.1	14.5	17.3	-89.19	194.1	564.1	328.4	300.3	28.06	11.703	
6,300.0	6,194.3	6,318.8	6,191.3	14.4	17.2	-89.36	117.8	565.7	328.4	300.4	27.97	11.739	
6,400.0	6,241.3	6,418.2	6,238.9	14.3	17.2	-89.55	30.8	567.4	328.4	300.2	28.18	11.654	
6,440.4	6,255.8	6,458.4	6,253.3	14.2	17.2	-89.55	-6.7	568.2	328.4	300.0	28.39	11.565	
6,500.0	6,271.5	6,517.9	6,269.8	14.3	17.2	-89.70	-63.9	569.4	328.4	299.6	28.78	11.408	
6,600.0	6,296.4	6,617.8	6,295.1	14.9	17.5	-89.76	-160.5	571.3	328.4	298.5	29.82	11.010	
6,700.0	6,307.0	6,717.7	6,306.9	15.6	17.9	-89.98	-259.5	573.3	328.4	297.1	31.27	10.502	
6,800.0	6,307.0	6,817.7	6,307.0	16.6	18.7	-90.00	-359.5	575.4	328.4	295.3	33.10	9.922	
6,900.0	6,307.0	6,917.7	6,307.0	17.7	19.6	-90.00	-459.4	577.4	328.4	293.2	35.24	9.318	
7,000.0	6,307.0	7,017.7	6,307.0	18.9	20.7	-90.00	-559.4	579.5	328.4	290.7	37.66	8.720	
7,100.0	6,307.0	7,117.7	6,307.0	20.2	21.9	-90.00	-659.4	581.5	328.4	288.1	40.31	8.148	

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

Company:	BONANZA CREEK ENERGY OPERATING	**Local Co-ordinate Reference:**	Well Antelope K31-O34-15HNB
Project:	SEC.15-T5N-R62W	**TVD Reference:**	WELL @ 4693.0ft (RKB - 13')
Reference Site:	Antelope K-15 Pad Sec.15-T5N-R62W	**MD Reference:**	WELL @ 4693.0ft (RKB - 13')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope K31-O34-15HNB	**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 (10-28-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope K-15 Pad Sec.15-T5N-R62W - Antelope 31-34-15HNB - Wellbore #1 - Plan #1 (10-28-13)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,200.0	6,307.0	7,217.7	6,307.0	21.6	23.2	-90.00	-759.4	583.5	328.4	285.3	43.13	7.614	
7,300.0	6,307.0	7,317.7	6,307.0	23.1	24.6	-90.00	-859.4	585.6	328.4	282.3	46.11	7.122	
7,400.0	6,307.0	7,417.7	6,307.0	24.7	26.1	-90.00	-959.3	587.6	328.4	279.2	49.21	6.674	
7,500.0	6,307.0	7,517.7	6,307.0	26.3	27.6	-90.00	-1,059.3	589.7	328.4	276.0	52.41	6.266	
7,600.0	6,307.0	7,617.7	6,307.0	27.9	29.2	-90.00	-1,159.3	591.7	328.4	272.7	55.70	5.897	
7,700.0	6,307.0	7,717.7	6,307.0	29.6	30.8	-90.00	-1,259.3	593.7	328.5	269.4	59.05	5.562	
7,800.0	6,307.0	7,817.7	6,307.0	31.3	32.4	-90.00	-1,359.3	595.8	328.5	266.0	62.46	5.258	
7,900.0	6,307.0	7,917.7	6,307.0	33.0	34.1	-90.00	-1,459.2	597.8	328.5	262.5	65.92	4.982	
8,000.0	6,307.0	8,017.7	6,307.0	34.8	35.8	-90.00	-1,559.2	599.8	328.5	259.0	69.43	4.731	
8,100.0	6,307.0	8,117.7	6,307.0	36.5	37.5	-90.00	-1,659.2	601.9	328.5	255.5	72.97	4.502	
8,200.0	6,307.0	8,217.7	6,307.0	38.3	39.3	-90.00	-1,759.2	603.9	328.5	252.0	76.54	4.292	
8,300.0	6,307.0	8,317.7	6,307.0	40.1	41.0	-90.00	-1,859.2	606.0	328.5	248.4	80.13	4.099	
8,400.0	6,307.0	8,417.7	6,307.0	41.9	42.8	-90.00	-1,959.1	608.0	328.5	244.8	83.75	3.922	
8,500.0	6,307.0	8,517.7	6,307.0	43.7	44.6	-90.00	-2,059.1	610.0	328.5	241.1	87.39	3.759	
8,600.0	6,307.0	8,617.7	6,307.0	45.5	46.4	-90.00	-2,159.1	612.1	328.5	237.5	91.05	3.608	
8,700.0	6,307.0	8,717.7	6,307.0	47.4	48.2	-90.00	-2,259.1	614.1	328.5	233.8	94.72	3.468	
8,800.0	6,307.0	8,817.7	6,307.0	49.2	50.0	-90.00	-2,359.0	616.2	328.5	230.1	98.41	3.338	
8,900.0	6,307.0	8,917.7	6,307.0	51.1	51.9	-90.00	-2,459.0	618.2	328.5	226.4	102.11	3.217	
9,000.0	6,307.0	9,017.7	6,307.0	52.9	53.7	-90.00	-2,559.0	620.2	328.5	222.7	105.82	3.105	
9,100.0	6,307.0	9,117.7	6,307.0	54.8	55.5	-90.00	-2,659.0	622.3	328.6	219.0	109.55	2.999	
9,200.0	6,307.0	9,217.7	6,307.0	56.6	57.4	-90.00	-2,759.0	624.3	328.6	215.3	113.28	2.901	
9,300.0	6,307.0	9,317.7	6,307.0	58.5	59.2	-90.00	-2,858.9	626.3	328.6	211.6	117.02	2.808	
9,400.0	6,307.0	9,417.7	6,307.0	60.4	61.1	-90.00	-2,958.9	628.4	328.6	207.8	120.76	2.721	
9,500.0	6,307.0	9,517.7	6,307.0	62.3	62.9	-90.00	-3,058.9	630.4	328.6	204.1	124.52	2.639	
9,600.0	6,307.0	9,617.7	6,307.0	64.1	64.8	-90.00	-3,158.9	632.5	328.6	200.3	128.28	2.562	
9,700.0	6,307.0	9,717.7	6,307.0	66.0	66.7	-90.00	-3,258.9	634.5	328.6	196.6	132.04	2.489	
9,800.0	6,307.0	9,817.7	6,307.0	67.9	68.5	-90.00	-3,358.8	636.5	328.6	192.8	135.81	2.420	
9,900.0	6,307.0	9,917.7	6,307.0	69.8	70.4	-90.00	-3,458.8	638.6	328.6	189.0	139.59	2.354	
10,000.0	6,307.0	10,017.7	6,307.0	71.7	72.3	-90.00	-3,558.8	640.6	328.6	185.3	143.37	2.292	
10,100.0	6,307.0	10,117.7	6,307.0	73.6	74.2	-90.00	-3,658.8	642.7	328.6	181.5	147.15	2.233	
10,200.0	6,307.0	10,217.7	6,307.0	75.5	76.0	-90.00	-3,758.8	644.7	328.6	177.7	150.94	2.177	
10,300.0	6,307.0	10,317.7	6,307.0	77.4	77.9	-90.00	-3,858.7	646.7	328.6	173.9	154.73	2.124	
10,400.0	6,307.0	10,417.7	6,307.0	79.3	79.8	-90.00	-3,958.7	648.8	328.7	170.1	158.52	2.073	
10,500.0	6,307.0	10,517.7	6,307.0	81.2	81.7	-90.00	-4,058.7	650.8	328.7	166.3	162.32	2.025	
10,600.0	6,307.0	10,617.7	6,307.0	83.0	83.6	-90.00	-4,158.7	652.8	328.7	162.5	166.12	1.979	
10,700.0	6,307.0	10,717.7	6,307.0	85.0	85.5	-90.00	-4,258.7	654.9	328.7	158.8	169.92	1.934	
10,800.0	6,307.0	10,817.7	6,307.0	86.9	87.4	-90.00	-4,358.6	656.9	328.7	155.0	173.73	1.892	
10,900.0	6,307.0	10,917.7	6,307.0	88.8	89.3	-90.00	-4,458.6	659.0	328.7	151.2	177.53	1.851	
10,955.8	6,307.0	10,973.5	6,307.0	89.8	90.3	-90.00	-4,514.4	660.1	328.7	149.0	179.66	1.830	SF

Company:	BONANZA CREEK ENERGY OPERATING	**Local Co-ordinate Reference:**	Well Antelope K31-O34-15HNB
Project:	SEC.15-T5N-R62W	**TVD Reference:**	WELL @ 4693.0ft (RKB - 13')
Reference Site:	Antelope K-15 Pad Sec.15-T5N-R62W	**MD Reference:**	WELL @ 4693.0ft (RKB - 13')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope K31-O34-15HNB	**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 (10-28-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope K-15 Pad Sec.15-T5N-R62W - Antelope K21-O24-15HNB - Wellbore #1 - Plan #1 (10-28-13) **Offset Site Error:** 0.0 ft

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

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-40.1	0.0	40.1				
100.0	100.0	100.0	100.0	0.1	0.1	-180.00	-40.1	0.0	40.1	39.9	0.22	178.312	
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-40.1	0.0	40.1	39.4	0.67	59.437	
300.0	300.0	300.0	300.0	0.6	0.6	-180.00	-40.1	0.0	40.1	39.0	1.12	35.662	
400.0	400.0	400.0	400.0	0.8	0.8	-180.00	-40.1	0.0	40.1	38.5	1.57	25.473	
500.0	500.0	500.0	500.0	1.0	1.0	-180.00	-40.1	0.0	40.1	38.1	2.02	19.812	
600.0	600.0	600.0	600.0	1.2	1.2	-180.00	-40.1	0.0	40.1	37.6	2.47	16.210	
700.0	700.0	700.0	700.0	1.5	1.5	-180.00	-40.1	0.0	40.1	37.2	2.92	13.716	
800.0	800.0	800.0	800.0	1.7	1.7	-180.00	-40.1	0.0	40.1	36.7	3.37	11.887	
900.0	900.0	900.0	900.0	1.9	1.9	-180.00	-40.1	0.0	40.1	36.3	3.82	10.489	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-180.00	-40.1	0.0	40.1	35.8	4.27	9.385	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	-180.00	-40.1	0.0	40.1	35.4	4.72	8.491	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-180.00	-40.1	0.0	40.1	34.9	5.17	7.753	CC
1,227.7	1,227.7	1,227.7	1,227.7	2.6	2.6	-179.81	-40.1	-0.1	40.1	34.8	5.29	7.575	
1,300.0	1,300.0	1,300.0	1,299.9	2.8	2.8	-177.51	-40.1	-1.7	40.1	34.5	5.61	7.156	ES
1,400.0	1,400.0	1,399.7	1,399.5	3.0	3.0	-170.15	-40.1	-7.0	40.7	34.6	6.03	6.741	
1,500.0	1,500.0	1,499.8	1,499.3	3.3	3.2	-158.84	-39.7	-15.3	42.5	36.1	6.48	6.563	
1,600.0	1,600.0	1,600.3	1,599.3	3.5	3.5	-179.36	-36.3	-25.0	45.8	38.9	6.94	6.602	
1,700.0	1,699.8	1,700.4	1,698.5	3.7	3.7	-165.75	-29.5	-35.4	52.9	45.5	7.38	7.157	
1,800.0	1,799.5	1,799.4	1,796.5	3.9	4.0	-154.55	-20.0	-46.5	64.4	56.6	7.83	8.224	
1,900.0	1,898.7	1,897.8	1,893.8	4.2	4.3	-147.98	-10.3	-57.5	80.5	72.2	8.29	9.702	
2,000.0	1,997.8	1,996.0	1,990.9	4.4	4.6	-144.10	-0.6	-68.6	98.1	89.3	8.78	11.170	
2,100.0	2,096.9	2,094.3	2,088.1	4.7	4.8	-141.40	9.1	-79.6	116.0	106.7	9.28	12.502	
2,200.0	2,196.1	2,192.5	2,185.2	4.9	5.2	-139.43	18.9	-90.6	134.1	124.3	9.78	13.703	
2,300.0	2,295.2	2,290.8	2,282.4	5.2	5.5	-137.92	28.6	-101.7	152.3	142.0	10.30	14.784	
2,400.0	2,394.3	2,389.1	2,379.5	5.5	5.8	-136.74	38.3	-112.7	170.5	159.7	10.82	15.758	
2,500.0	2,493.4	2,487.3	2,476.7	5.8	6.1	-135.79	48.0	-123.7	188.9	177.5	11.35	16.637	
2,600.0	2,592.5	2,585.6	2,573.8	6.1	6.4	-135.00	57.7	-134.8	207.3	195.4	11.89	17.431	
2,700.0	2,691.7	2,683.8	2,671.0	6.4	6.7	-134.35	67.4	-145.8	225.7	213.3	12.43	18.151	
2,800.0	2,790.8	2,782.1	2,768.1	6.7	7.1	-133.79	77.2	-156.8	244.1	231.1	12.98	18.807	
2,900.0	2,889.9	2,880.4	2,865.3	7.0	7.4	-133.31	86.9	-167.9	262.6	249.1	13.53	19.404	
3,000.0	2,989.0	2,978.6	2,962.4	7.3	7.7	-132.89	96.6	-178.9	281.1	267.0	14.09	19.951	
3,100.0	3,088.1	3,076.9	3,059.6	7.6	8.1	-132.53	106.3	-189.9	299.5	284.9	14.65	20.452	
3,200.0	3,187.2	3,175.1	3,156.7	7.9	8.4	-132.20	116.0	-201.0	318.0	302.8	15.21	20.914	
3,300.0	3,286.4	3,273.4	3,253.9	8.2	8.7	-131.92	125.7	-212.0	336.5	320.8	15.77	21.339	
3,400.0	3,385.5	3,371.7	3,351.1	8.5	9.1	-131.66	135.5	-223.0	355.1	338.7	16.34	21.733	
3,500.0	3,484.6	3,469.9	3,448.2	8.8	9.4	-131.43	145.2	-234.1	373.6	356.7	16.91	22.097	
3,600.0	3,583.7	3,568.2	3,545.4	9.1	9.8	-131.22	154.9	-245.1	392.1	374.6	17.48	22.436	
3,700.0	3,682.8	3,666.4	3,642.5	9.5	10.1	-131.03	164.6	-256.1	410.6	392.6	18.05	22.751	
3,800.0	3,781.9	3,764.7	3,739.7	9.8	10.4	-130.85	174.3	-267.2	429.2	410.5	18.62	23.045	
3,900.0	3,881.1	3,863.0	3,836.8	10.1	10.8	-130.69	184.0	-278.2	447.7	428.5	19.20	23.321	
4,000.0	3,980.2	3,961.2	3,934.0	10.4	11.1	-130.55	193.8	-289.3	466.2	446.5	19.77	23.578	
4,100.0	4,079.3	4,059.5	4,031.1	10.7	11.5	-130.41	203.5	-300.3	484.8	464.4	20.35	23.820	
4,200.0	4,178.4	4,157.7	4,128.3	11.1	11.8	-130.28	213.2	-311.3	503.3	482.4	20.93	24.047	
4,300.0	4,277.5	4,256.0	4,225.4	11.4	12.2	-130.17	222.9	-322.4	521.9	500.4	21.51	24.261	
4,400.0	4,376.7	4,354.3	4,322.6	11.7	12.5	-130.06	232.6	-333.4	540.4	518.3	22.09	24.463	
4,500.0	4,475.8	4,452.5	4,419.7	12.0	12.9	-129.96	242.3	-344.4	559.0	536.3	22.67	24.653	
4,600.0	4,574.9	4,550.8	4,516.9	12.3	13.2	-129.86	252.1	-355.5	577.5	554.3	23.26	24.834	
4,700.0	4,674.1	4,649.1	4,614.1	12.6	13.6	-129.89	261.8	-366.5	595.8	571.9	23.85	24.984	
4,800.0	4,773.6	4,747.7	4,711.6	12.9	13.9	-129.79	271.5	-377.6	612.0	587.7	24.39	25.095	
4,900.0	4,873.4	4,846.5	4,809.3	13.1	14.3	-129.43	281.3	-388.7	626.1	601.2	24.90	25.149	
5,000.0	4,973.4	4,945.4	4,907.0	13.2	14.6	-128.82	291.1	-399.8	638.1	612.8	25.37	25.156	

Company:	BONANZA CREEK ENERGY OPERATING	**Local Co-ordinate Reference:**	Well Antelope K31-O34-15HNB
Project:	SEC.15-T5N-R62W	**TVD Reference:**	WELL @ 4693.0ft (RKB - 13')
Reference Site:	Antelope K-15 Pad Sec.15-T5N-R62W	**MD Reference:**	WELL @ 4693.0ft (RKB - 13')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope K31-O34-15HNB	**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 (10-28-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope K-15 Pad Sec.15-T5N-R62W - Antelope K21-O24-15HNB - Wellbore #1 - Plan #1 (10-28-13)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,073.4	5,044.2	5,004.8	13.4	15.0	-94.02	300.9	-410.9	648.7	622.9	25.79	25.156	
5,200.0	5,173.4	5,143.1	5,102.6	13.6	15.3	-93.10	310.6	-422.0	659.4	633.1	26.25	25.120	
5,300.0	5,273.4	5,248.0	5,206.3	13.8	15.7	-92.17	320.9	-433.6	670.0	643.3	26.71	25.086	
5,400.0	5,373.4	5,368.0	5,325.5	13.9	16.0	-91.35	330.1	-444.1	678.6	651.4	27.16	24.989	
5,500.0	5,473.4	5,489.0	5,446.1	14.1	16.2	-90.84	336.1	-450.9	684.1	656.5	27.57	24.813	
5,600.0	5,573.4	5,610.5	5,567.6	14.3	16.4	-90.62	338.7	-453.9	686.5	658.6	27.97	24.549	
5,700.0	5,673.4	5,716.3	5,673.4	14.5	16.6	-90.61	338.8	-454.0	686.6	658.3	28.34	24.230	
5,800.0	5,773.4	5,816.7	5,773.7	14.7	16.7	90.56	338.6	-454.0	686.6	657.9	28.75	23.886	
5,900.0	5,872.5	5,919.5	5,875.6	14.8	16.8	90.54	325.9	-453.6	686.5	657.6	28.89	23.761	
6,000.0	5,967.5	6,022.2	5,972.8	14.7	16.7	90.51	293.5	-452.6	686.1	657.3	28.79	23.836	
6,100.0	6,054.8	6,124.6	6,061.7	14.6	16.6	90.45	242.8	-451.0	685.6	657.0	28.53	24.034	
6,200.0	6,131.4	6,226.7	6,138.6	14.5	16.4	90.38	176.0	-448.9	684.8	656.6	28.24	24.247	
6,300.0	6,194.3	6,328.4	6,200.9	14.4	16.2	90.30	95.8	-446.3	683.9	655.8	28.10	24.339	
6,400.0	6,241.3	6,429.7	6,246.2	14.3	16.0	90.20	5.5	-443.5	682.9	654.7	28.25	24.177	
6,500.0	6,271.5	6,530.2	6,275.1	14.3	15.9	90.15	-90.6	-440.5	681.8	653.0	28.80	23.674	
6,600.0	6,296.4	6,630.4	6,299.1	14.9	16.0	90.10	-187.9	-437.4	680.7	651.0	29.79	22.854	
6,700.0	6,307.0	6,730.6	6,307.0	15.6	16.4	90.00	-287.6	-434.3	679.6	648.4	31.19	21.791	
6,800.0	6,307.0	6,830.6	6,307.0	16.6	17.2	90.00	-387.5	-431.1	678.5	645.5	32.97	20.578	
6,900.0	6,307.0	6,930.6	6,307.0	17.7	18.3	90.00	-487.5	-428.0	677.4	642.3	35.08	19.311	
7,000.0	6,307.0	7,030.6	6,307.0	18.9	19.4	90.00	-587.4	-424.8	676.3	638.8	37.47	18.051	
7,100.0	6,307.0	7,130.6	6,307.0	20.2	20.7	90.00	-687.4	-421.7	675.2	635.1	40.08	16.844	
7,200.0	6,307.0	7,230.6	6,307.0	21.6	22.1	90.00	-787.3	-418.5	674.0	631.1	42.89	15.716	
7,300.0	6,307.0	7,330.6	6,307.0	23.1	23.5	90.00	-887.3	-415.4	672.9	627.1	45.85	14.677	
7,400.0	6,307.0	7,430.6	6,307.0	24.7	25.0	90.00	-987.2	-412.2	671.8	622.9	48.94	13.728	
7,500.0	6,307.0	7,530.6	6,307.0	26.3	26.6	90.00	-1,087.1	-409.1	670.7	618.6	52.13	12.867	
7,600.0	6,307.0	7,630.6	6,307.0	27.9	28.2	90.00	-1,187.1	-405.9	669.6	614.2	55.40	12.086	
7,700.0	6,307.0	7,730.6	6,307.0	29.6	29.8	90.00	-1,287.0	-402.8	668.4	609.7	58.75	11.378	
7,800.0	6,307.0	7,830.6	6,307.0	31.3	31.5	90.00	-1,387.0	-399.6	667.3	605.2	62.15	10.737	
7,900.0	6,307.0	7,930.6	6,307.0	33.0	33.2	90.00	-1,486.9	-396.5	666.2	600.6	65.61	10.154	
8,000.0	6,307.0	8,030.5	6,307.0	34.8	34.9	90.00	-1,586.9	-393.3	665.1	596.0	69.11	9.623	
8,100.0	6,307.0	8,130.5	6,307.0	36.5	36.7	90.00	-1,686.8	-390.2	664.0	591.3	72.65	9.139	
8,200.0	6,307.0	8,230.5	6,307.0	38.3	38.5	90.00	-1,786.7	-387.0	662.8	586.6	76.22	8.697	
8,300.0	6,307.0	8,330.5	6,307.0	40.1	40.2	90.00	-1,886.7	-383.9	661.7	581.9	79.81	8.291	
8,400.0	6,307.0	8,430.5	6,307.0	41.9	42.0	90.00	-1,986.6	-380.7	660.6	577.2	83.43	7.918	
8,500.0	6,307.0	8,530.5	6,307.0	43.7	43.8	90.00	-2,086.6	-377.6	659.5	572.4	87.07	7.574	
8,600.0	6,307.0	8,630.5	6,307.0	45.5	45.6	90.00	-2,186.5	-374.4	658.4	567.6	90.73	7.256	
8,700.0	6,307.0	8,730.5	6,307.0	47.4	47.5	90.00	-2,286.5	-371.3	657.2	562.8	94.40	6.962	
8,800.0	6,307.0	8,830.5	6,307.0	49.2	49.3	90.00	-2,386.4	-368.1	656.1	558.0	98.09	6.689	
8,900.0	6,307.0	8,930.5	6,307.0	51.1	51.1	90.00	-2,486.4	-365.0	655.0	553.2	101.80	6.434	
9,000.0	6,307.0	9,030.5	6,307.0	52.9	53.0	90.00	-2,586.3	-361.8	653.9	548.4	105.51	6.197	
9,100.0	6,307.0	9,130.5	6,307.0	54.8	54.8	90.00	-2,686.2	-358.7	652.8	543.5	109.23	5.976	
9,200.0	6,307.0	9,230.5	6,307.0	56.6	56.7	90.00	-2,786.2	-355.5	651.6	538.7	112.97	5.768	
9,300.0	6,307.0	9,330.5	6,307.0	58.5	58.5	90.00	-2,886.1	-352.4	650.5	533.8	116.71	5.574	
9,400.0	6,307.0	9,430.5	6,307.0	60.4	60.4	90.00	-2,986.1	-349.2	649.4	528.9	120.46	5.391	
9,500.0	6,307.0	9,530.5	6,307.0	62.3	62.3	90.00	-3,086.0	-346.1	648.3	524.1	124.21	5.219	
9,600.0	6,307.0	9,630.4	6,307.0	64.1	64.2	90.00	-3,186.0	-342.9	647.2	519.2	127.98	5.057	
9,700.0	6,307.0	9,730.4	6,307.0	66.0	66.0	90.00	-3,285.9	-339.8	646.0	514.3	131.74	4.904	
9,800.0	6,307.0	9,830.4	6,307.0	67.9	67.9	90.00	-3,385.9	-336.6	644.9	509.4	135.52	4.759	
9,900.0	6,307.0	9,930.4	6,307.0	69.8	69.8	90.00	-3,485.8	-333.5	643.8	504.5	139.30	4.622	
10,000.0	6,307.0	10,030.4	6,307.0	71.7	71.7	90.00	-3,585.7	-330.3	642.7	499.6	143.08	4.492	
10,100.0	6,307.0	10,130.4	6,307.0	73.6	73.6	90.00	-3,685.7	-327.2	641.6	494.7	146.86	4.368	
10,200.0	6,307.0	10,230.4	6,307.0	75.5	75.5	90.00	-3,785.6	-324.0	640.4	489.8	150.66	4.251	

Company:	BONANZA CREEK ENERGY OPERATING	**Local Co-ordinate Reference:**	Well Antelope K31-O34-15HNB
Project:	SEC.15-T5N-R62W	**TVD Reference:**	WELL @ 4693.0ft (RKB - 13')
Reference Site:	Antelope K-15 Pad Sec.15-T5N-R62W	**MD Reference:**	WELL @ 4693.0ft (RKB - 13')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope K31-O34-15HNB	**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 (10-28-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope K-15 Pad Sec.15-T5N-R62W - Antelope K21-O24-15HNB - Wellbore #1 - Plan #1 (10-28-13)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,300.0	6,307.0	10,330.4	6,307.0	77.4	77.4	90.00	-3,885.6	-320.9	639.3	484.9	154.45	4.139	
10,400.0	6,307.0	10,430.4	6,307.0	79.3	79.2	90.00	-3,985.5	-317.7	638.2	480.0	158.25	4.033	
10,500.0	6,307.0	10,530.4	6,307.0	81.2	81.1	90.00	-4,085.5	-314.6	637.1	475.0	162.05	3.932	
10,600.0	6,307.0	10,630.4	6,307.0	83.0	83.0	90.00	-4,185.4	-311.4	636.0	470.1	165.85	3.835	
10,700.0	6,307.0	10,730.4	6,307.0	85.0	84.9	90.00	-4,285.3	-308.3	634.9	465.2	169.66	3.742	
10,800.0	6,307.0	10,830.4	6,307.0	86.9	86.8	90.00	-4,385.3	-305.1	633.7	460.3	173.47	3.653	
10,900.0	6,307.0	10,930.4	6,307.0	88.8	88.6	90.00	-4,485.2	-302.0	632.6	455.5	177.16	3.571	
10,943.0	6,307.0	10,966.2	6,307.0	89.6	89.2	90.00	-4,521.1	-300.8	632.2	453.6	178.53	3.541	
10,955.8	6,307.0	10,966.2	6,307.0	89.8	89.2	90.00	-4,521.1	-300.8	632.3	453.5	178.77	3.537 SF	

Company:	BONANZA CREEK ENERGY OPERATING	**Local Co-ordinate Reference:**	Well Antelope K31-O34-15HNB
Project:	SEC.15-T5N-R62W	**TVD Reference:**	WELL @ 4693.0ft (RKB - 13')
Reference Site:	Antelope K-15 Pad Sec.15-T5N-R62W	**MD Reference:**	WELL @ 4693.0ft (RKB - 13')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope K31-O34-15HNB	**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 (10-28-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope K-15 Pad Sec.15-T5N-R62W - Antelope K-O-15HNB - Wellbore #1 - Plan #1 (10-28-13) — **Offset Site Error:** 0.0 ft

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

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-18.2	0.0	18.2	18.2	0.00	N/A	
100.0	100.0	99.0	99.0	0.1	0.1	-180.00	-18.2	0.0	18.2	18.0	0.22	81.449	
200.0	200.0	199.0	199.0	0.3	0.3	-180.00	-18.2	0.0	18.2	17.5	0.67	27.105	
300.0	300.0	299.0	299.0	0.6	0.6	-180.00	-18.2	0.0	18.2	17.1	1.12	16.241	
400.0	400.0	399.0	399.0	0.8	0.8	-180.00	-18.2	0.0	18.2	16.6	1.57	11.594	
500.0	500.0	499.0	499.0	1.0	1.0	-180.00	-18.2	0.0	18.2	16.2	2.02	9.015	
600.0	600.0	599.0	599.0	1.2	1.2	-180.00	-18.2	0.0	18.2	15.7	2.47	7.374	
700.0	700.0	699.0	699.0	1.5	1.5	-180.00	-18.2	0.0	18.2	15.3	2.92	6.239	
800.0	800.0	799.0	799.0	1.7	1.7	-180.00	-18.2	0.0	18.2	14.8	3.37	5.406	
900.0	900.0	899.0	899.0	1.9	1.9	-180.00	-18.2	0.0	18.2	14.4	3.82	4.770	
1,000.0	1,000.0	999.0	999.0	2.1	2.1	-180.00	-18.2	0.0	18.2	13.9	4.27	4.268	
1,100.0	1,100.0	1,099.0	1,099.0	2.4	2.4	-180.00	-18.2	0.0	18.2	13.5	4.72	3.861	
1,200.0	1,200.0	1,199.0	1,199.0	2.6	2.6	-180.00	-18.2	0.0	18.2	13.0	5.17	3.525	
1,300.0	1,300.0	1,299.0	1,299.0	2.8	2.8	-180.00	-18.2	0.0	18.2	12.6	5.62	3.243	
1,400.0	1,400.0	1,399.0	1,399.0	3.0	3.0	-180.00	-18.2	0.0	18.2	12.1	6.07	3.003	
1,500.0	1,500.0	1,499.0	1,499.0	3.3	3.3	-180.00	-18.2	0.0	18.2	11.7	6.52	2.796	CC, ES
1,600.0	1,600.0	1,599.0	1,599.0	3.5	3.5	148.92	-18.2	0.0	19.7	12.7	6.96	2.828	
1,700.0	1,699.8	1,698.8	1,698.8	3.7	3.7	155.25	-18.2	0.0	24.3	16.9	7.40	3.287	
1,800.0	1,799.5	1,798.5	1,798.5	3.9	3.9	161.66	-18.2	0.0	32.4	24.6	7.83	4.144	
1,900.0	1,898.7	1,897.7	1,897.7	4.2	4.2	166.57	-18.2	0.0	44.1	35.9	8.26	5.344	
2,000.0	1,997.8	1,996.8	1,996.8	4.4	4.4	169.66	-18.2	0.0	57.1	48.4	8.70	6.562	
2,100.0	2,096.9	2,097.7	2,097.7	4.7	4.6	172.54	-16.6	-0.4	68.9	59.8	9.15	7.535	
2,200.0	2,196.1	2,199.1	2,198.9	4.9	4.8	176.36	-11.5	-1.8	78.4	68.8	9.60	8.168	
2,300.0	2,295.2	2,300.5	2,300.0	5.2	5.1	-178.86	-3.0	-4.1	85.8	75.7	10.05	8.536	
2,400.0	2,394.3	2,401.9	2,400.5	5.5	5.3	-173.08	9.0	-7.3	91.6	81.1	10.52	8.714	
2,500.0	2,493.4	2,501.4	2,499.0	5.8	5.5	-167.07	22.7	-10.9	97.3	86.3	11.00	8.847	
2,600.0	2,592.5	2,600.7	2,597.4	6.1	5.8	-161.78	36.4	-14.6	103.9	92.4	11.50	9.034	
2,700.0	2,691.7	2,700.1	2,695.7	6.4	6.1	-157.15	50.1	-18.3	111.3	99.2	12.02	9.256	
2,800.0	2,790.8	2,799.4	2,794.0	6.7	6.3	-153.11	63.8	-21.9	119.3	106.7	12.56	9.497	
2,900.0	2,889.9	2,898.8	2,892.4	7.0	6.6	-149.59	77.5	-25.6	127.8	114.7	13.11	9.747	
3,000.0	2,989.0	2,998.1	2,990.7	7.3	6.9	-146.52	91.2	-29.2	136.7	123.1	13.68	9.999	
3,100.0	3,088.1	3,097.5	3,089.0	7.6	7.2	-143.83	104.9	-32.9	146.0	131.8	14.25	10.247	
3,200.0	3,187.2	3,196.8	3,187.3	7.9	7.5	-141.47	118.6	-36.6	155.6	140.8	14.84	10.489	
3,300.0	3,286.4	3,296.1	3,285.7	8.2	7.8	-139.38	132.3	-40.2	165.4	150.0	15.43	10.724	
3,400.0	3,385.5	3,395.5	3,384.0	8.5	8.1	-137.53	146.0	-43.9	175.4	159.4	16.02	10.949	
3,500.0	3,484.6	3,494.8	3,482.3	8.8	8.4	-135.88	159.7	-47.5	185.6	169.0	16.62	11.164	
3,600.0	3,583.7	3,594.2	3,580.7	9.1	8.7	-134.40	173.4	-51.2	195.9	178.6	17.23	11.370	
3,700.0	3,682.8	3,693.5	3,679.0	9.5	9.0	-133.06	187.1	-54.9	206.3	188.5	17.84	11.567	
3,800.0	3,781.9	3,792.9	3,777.3	9.8	9.3	-131.86	200.8	-58.5	216.8	198.4	18.45	11.753	
3,900.0	3,881.1	3,892.2	3,875.7	10.1	9.6	-130.77	214.5	-62.2	227.4	208.3	19.06	11.931	
4,000.0	3,980.2	3,991.6	3,974.0	10.4	9.9	-129.78	228.2	-65.8	238.1	218.4	19.68	12.100	
4,100.0	4,079.3	4,090.9	4,072.3	10.7	10.2	-128.87	241.9	-69.5	248.8	228.5	20.29	12.261	
4,200.0	4,178.4	4,190.3	4,170.6	11.1	10.6	-128.03	255.6	-73.2	259.6	238.7	20.91	12.414	
4,300.0	4,277.5	4,289.6	4,269.0	11.4	10.9	-127.27	269.3	-76.8	270.5	248.9	21.53	12.560	
4,400.0	4,376.7	4,389.0	4,367.3	11.7	11.2	-126.56	283.0	-80.5	281.4	259.2	22.16	12.699	
4,500.0	4,475.8	4,488.3	4,465.6	12.0	11.5	-125.90	296.7	-84.2	292.3	269.5	22.78	12.831	
4,600.0	4,574.9	4,587.7	4,564.0	12.3	11.9	-125.30	310.4	-87.8	303.3	279.8	23.40	12.957	
4,700.0	4,674.1	4,689.0	4,664.3	12.6	12.2	-124.90	323.4	-91.3	313.7	289.7	23.99	13.075	
4,800.0	4,773.6	4,791.4	4,766.2	12.9	12.4	-124.71	333.3	-93.9	321.6	297.2	24.47	13.146	
4,900.0	4,873.4	4,894.1	4,868.7	13.1	12.6	-124.59	339.6	-95.6	326.7	301.8	24.88	13.132	
5,000.0	4,973.4	4,996.9	4,971.6	13.2	12.8	-124.54	342.3	-96.4	328.9	303.7	25.23	13.036	
5,100.0	5,073.4	5,097.7	5,072.4	13.4	12.9	-90.63	342.5	-96.4	329.0	303.4	25.59	12.858	

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

Company:	BONANZA CREEK ENERGY OPERATING	**Local Co-ordinate Reference:**	Well Antelope K31-O34-15HNB
Project:	SEC.15-T5N-R62W	**TVD Reference:**	WELL @ 4693.0ft (RKB - 13')
Reference Site:	Antelope K-15 Pad Sec.15-T5N-R62W	**MD Reference:**	WELL @ 4693.0ft (RKB - 13')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope K31-O34-15HNB	**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 (10-28-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope K-15 Pad Sec.15-T5N-R62W - Antelope K-O-15HNB - Wellbore #1 - Plan #1 (10-28-13)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.0	5,173.4	5,197.7	5,172.4	13.6	13.1	-90.63	342.5	-96.4	329.0	303.1	25.97	12.670	
5,300.0	5,273.4	5,297.7	5,272.4	13.8	13.3	-90.63	342.5	-96.4	329.0	302.7	26.35	12.487	
5,400.0	5,373.4	5,397.7	5,372.4	13.9	13.5	-90.63	342.5	-96.4	329.0	302.3	26.73	12.308	
5,500.0	5,473.4	5,497.7	5,472.4	14.1	13.7	-90.63	342.5	-96.4	329.0	301.9	27.12	12.133	
5,600.0	5,573.4	5,597.7	5,572.4	14.3	13.9	-90.63	342.5	-96.4	329.0	301.5	27.51	11.962	
5,700.0	5,673.4	5,697.7	5,672.4	14.5	14.1	-90.63	342.5	-96.4	329.0	301.1	27.90	11.795	
5,800.0	5,773.4	5,797.8	5,772.4	14.7	14.3	90.53	342.3	-96.4	329.0	300.8	28.26	11.642	
5,900.0	5,872.5	5,898.5	5,872.2	14.8	14.4	90.52	330.1	-96.1	329.0	300.6	28.41	11.581	
6,000.0	5,967.5	5,999.1	5,967.7	14.7	14.3	90.49	299.0	-95.5	329.0	300.7	28.32	11.618	
6,100.0	6,054.8	6,099.6	6,055.4	14.6	14.2	90.44	250.1	-94.5	329.0	300.9	28.08	11.715	
6,200.0	6,131.4	6,200.1	6,132.0	14.5	14.1	90.37	185.4	-93.1	328.9	301.1	27.82	11.822	
6,300.0	6,194.3	6,300.5	6,194.8	14.4	14.0	90.29	107.3	-91.5	328.9	301.2	27.70	11.870	
6,400.0	6,241.3	6,400.8	6,241.4	14.3	14.0	90.20	18.7	-89.6	328.8	300.9	27.88	11.793	
6,500.0	6,271.5	6,500.9	6,271.3	14.3	14.2	90.14	-76.8	-87.6	328.7	300.3	28.46	11.552	
6,600.0	6,296.4	6,601.0	6,296.1	14.9	14.7	90.11	-173.7	-85.6	328.7	299.2	29.49	11.147	
6,700.0	6,307.0	6,701.0	6,306.0	15.6	15.5	90.00	-273.1	-83.5	328.6	297.7	30.92	10.626	
6,800.0	6,307.0	6,801.0	6,306.0	16.6	16.4	90.00	-373.0	-81.4	328.5	295.8	32.73	10.038	
6,900.0	6,307.0	6,901.0	6,306.0	17.7	17.4	90.00	-473.0	-79.3	328.5	293.6	34.87	9.419	
7,000.0	6,307.0	7,001.0	6,306.0	18.9	18.6	90.00	-573.0	-77.2	328.4	291.1	37.29	8.807	
7,100.0	6,307.0	7,101.0	6,306.0	20.2	19.9	90.00	-673.0	-75.1	328.3	288.4	39.94	8.222	
7,200.0	6,307.0	7,201.0	6,306.0	21.6	21.4	90.00	-773.0	-73.0	328.3	285.5	42.77	7.676	
7,300.0	6,307.0	7,301.0	6,306.0	23.1	22.8	90.00	-872.9	-70.9	328.2	282.5	45.75	7.174	
7,400.0	6,307.0	7,401.0	6,306.0	24.7	24.4	90.00	-972.9	-68.8	328.1	279.3	48.85	6.717	
7,500.0	6,307.0	7,501.0	6,306.0	26.3	26.0	90.00	-1,072.9	-66.7	328.1	276.0	52.06	6.302	
7,600.0	6,307.0	7,601.0	6,306.0	27.9	27.6	90.00	-1,172.9	-64.6	328.0	272.7	55.34	5.927	
7,700.0	6,307.0	7,701.0	6,306.0	29.6	29.3	90.00	-1,272.8	-62.5	328.0	269.2	58.70	5.587	
7,800.0	6,307.0	7,801.0	6,306.0	31.3	31.0	90.00	-1,372.8	-60.4	327.9	265.8	62.12	5.278	
7,900.0	6,307.0	7,901.0	6,306.0	33.0	32.8	90.00	-1,472.8	-58.3	327.8	262.2	65.58	4.999	
8,000.0	6,307.0	8,001.0	6,306.0	34.8	34.5	90.00	-1,572.8	-56.2	327.8	258.7	69.09	4.744	
8,100.0	6,307.0	8,101.0	6,306.0	36.5	36.3	90.00	-1,672.8	-54.1	327.7	255.1	72.63	4.512	
8,200.0	6,307.0	8,201.0	6,306.0	38.3	38.1	90.00	-1,772.7	-52.1	327.6	251.4	76.20	4.299	
8,300.0	6,307.0	8,301.0	6,306.0	40.1	39.9	90.00	-1,872.7	-50.0	327.6	247.8	79.80	4.105	
8,400.0	6,307.0	8,401.0	6,306.0	41.9	41.7	90.00	-1,972.7	-47.9	327.5	244.1	83.43	3.926	
8,500.0	6,307.0	8,501.0	6,306.0	43.7	43.5	90.00	-2,072.7	-45.8	327.4	240.4	87.07	3.761	
8,600.0	6,307.0	8,601.0	6,306.0	45.5	45.3	90.00	-2,172.6	-43.7	327.4	236.6	90.73	3.608	
8,700.0	6,307.0	8,701.0	6,306.0	47.4	47.2	90.00	-2,272.6	-41.6	327.3	232.9	94.41	3.467	
8,800.0	6,307.0	8,801.0	6,306.0	49.2	49.0	90.00	-2,372.6	-39.5	327.2	229.1	98.10	3.336	
8,900.0	6,307.0	8,901.0	6,306.0	51.1	50.8	90.00	-2,472.6	-37.4	327.2	225.4	101.80	3.214	
9,000.0	6,307.0	9,001.0	6,306.0	52.9	52.7	90.00	-2,572.6	-35.3	327.1	221.6	105.51	3.100	
9,100.0	6,307.0	9,101.0	6,306.0	54.8	54.6	90.00	-2,672.5	-33.2	327.0	217.8	109.24	2.994	
9,200.0	6,307.0	9,201.0	6,306.0	56.6	56.4	90.00	-2,772.5	-31.1	327.0	214.0	112.97	2.894	
9,300.0	6,307.0	9,301.0	6,306.0	58.5	58.3	90.00	-2,872.5	-29.0	326.9	210.2	116.71	2.801	
9,400.0	6,307.0	9,401.0	6,306.0	60.4	60.2	90.00	-2,972.5	-26.9	326.8	206.4	120.46	2.713	
9,500.0	6,307.0	9,501.0	6,306.0	62.3	62.1	90.00	-3,072.4	-24.8	326.8	202.6	124.21	2.631	
9,600.0	6,307.0	9,601.0	6,306.0	64.1	63.9	90.00	-3,172.4	-22.7	326.7	198.7	127.97	2.553	
9,700.0	6,307.0	9,701.0	6,306.0	66.0	65.8	90.00	-3,272.4	-20.6	326.6	194.9	131.74	2.479	
9,800.0	6,307.0	9,801.0	6,306.0	67.9	67.7	90.00	-3,372.4	-18.5	326.6	191.1	135.51	2.410	
9,900.0	6,307.0	9,901.0	6,306.0	69.8	69.6	90.00	-3,472.4	-16.4	326.5	187.2	139.29	2.344	
10,000.0	6,307.0	10,001.0	6,306.0	71.7	71.5	90.00	-3,572.3	-14.3	326.5	183.4	143.07	2.282	
10,100.0	6,307.0	10,101.0	6,306.0	73.6	73.4	90.00	-3,672.3	-12.2	326.4	179.5	146.85	2.223	
10,200.0	6,307.0	10,201.0	6,306.0	75.5	75.3	90.00	-3,772.3	-10.1	326.3	175.7	150.64	2.166	
10,300.0	6,307.0	10,301.0	6,306.0	77.4	77.2	90.00	-3,872.3	-8.0	326.3	171.8	154.44	2.113	

Company:	BONANZA CREEK ENERGY OPERATING	**Local Co-ordinate Reference:**	Well Antelope K31-O34-15HNB
Project:	SEC.15-T5N-R62W	**TVD Reference:**	WELL @ 4693.0ft (RKB - 13')
Reference Site:	Antelope K-15 Pad Sec.15-T5N-R62W	**MD Reference:**	WELL @ 4693.0ft (RKB - 13')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope K31-O34-15HNB	**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 (10-28-13)	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope K-15 Pad Sec.15-T5N-R62W - Antelope K-O-15HNB - Wellbore #1 - Plan #1 (10-28-13)

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,400.0	6,307.0	10,401.0	6,306.0	79.3	79.1	90.00	-3,972.3	-5.9	326.2	168.0	158.23	2.061	
10,500.0	6,307.0	10,501.0	6,306.0	81.2	81.0	90.00	-4,072.2	-3.8	326.1	164.1	162.03	2.013	
10,600.0	6,307.0	10,601.0	6,306.0	83.0	82.9	90.00	-4,172.2	-1.7	326.1	160.2	165.83	1.966	
10,700.0	6,307.0	10,701.0	6,306.0	85.0	84.8	90.00	-4,272.2	0.4	326.0	156.4	169.63	1.922	
10,800.0	6,307.0	10,801.0	6,306.0	86.9	86.7	90.00	-4,372.2	2.4	325.9	152.5	173.44	1.879	
10,900.0	6,307.0	10,901.0	6,306.0	88.8	88.6	90.00	-4,472.1	4.5	325.9	148.6	177.25	1.838	
10,940.6	6,307.0	10,941.7	6,306.0	89.5	89.3	90.00	-4,512.8	5.4	325.8	147.0	178.80	1.822	
10,955.8	6,307.0	10,950.0	6,306.0	89.8	89.5	90.00	-4,521.1	5.6	325.9	146.7	179.24	1.818	SF

Company:	BONANZA CREEK ENERGY OPERATING	**Local Co-ordinate Reference:**	Well Antelope K31-O34-15HNB
Project:	SEC.15-T5N-R62W	**TVD Reference:**	WELL @ 4693.0ft (RKB - 13')
Reference Site:	Antelope K-15 Pad Sec.15-T5N-R62W	**MD Reference:**	WELL @ 4693.0ft (RKB - 13')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope K31-O34-15HNB	**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 (10-28-13)	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 4693.0ft (RKB - 13')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Antelope K31-O34-15HNB
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.77°

Company:	BONANZA CREEK ENERGY OPERATING	**Local Co-ordinate Reference:**	Well Antelope K31-O34-15HNB
Project:	SEC.15-T5N-R62W	**TVD Reference:**	WELL @ 4693.0ft (RKB - 13')
Reference Site:	Antelope K-15 Pad Sec.15-T5N-R62W	**MD Reference:**	WELL @ 4693.0ft (RKB - 13')
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope K31-O34-15HNB	**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 (10-28-13)	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 4693.0ft (RKB - 13')	Coordinates are relative to: Antelope K31-O34-15HNB
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: 0.77°