

# BONANZA CREEK ENERGY OPERATING

Well Name: **Pronghorn 21-24-17HZ**

Surface Location: Pronghorn F-17 Pad Sec.17-T5N-R61W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

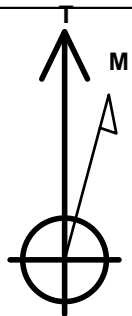
Ground Elevation: 4591.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1393790.93	3351256.68	40.407500	-104.238620	

Original Well Elev WELL @ 4606.0ft (Original Well Elev)

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BHL 460'FSL & 1980'FWL	6077.0	-4513.8	799.4	Point
T1 460'FNL & 1980'FWL	6077.0	-94.7	793.7	Point



Azimuths to True North  
Magnetic North: 8.41°

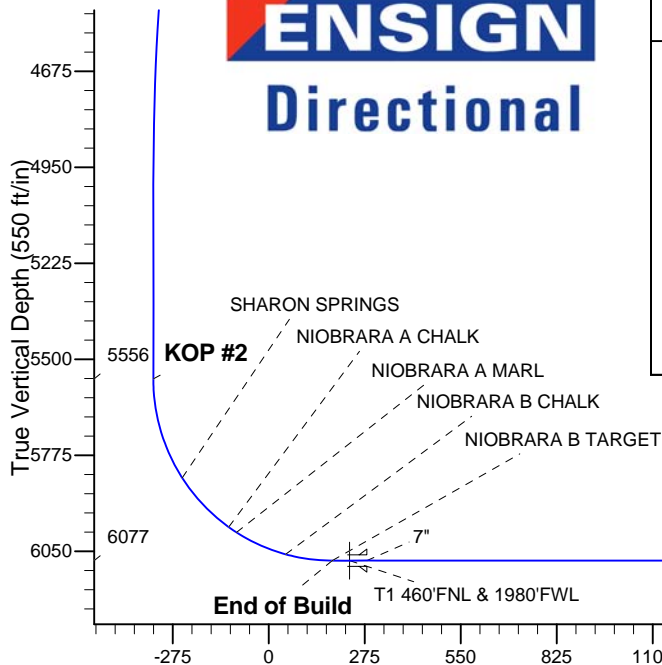
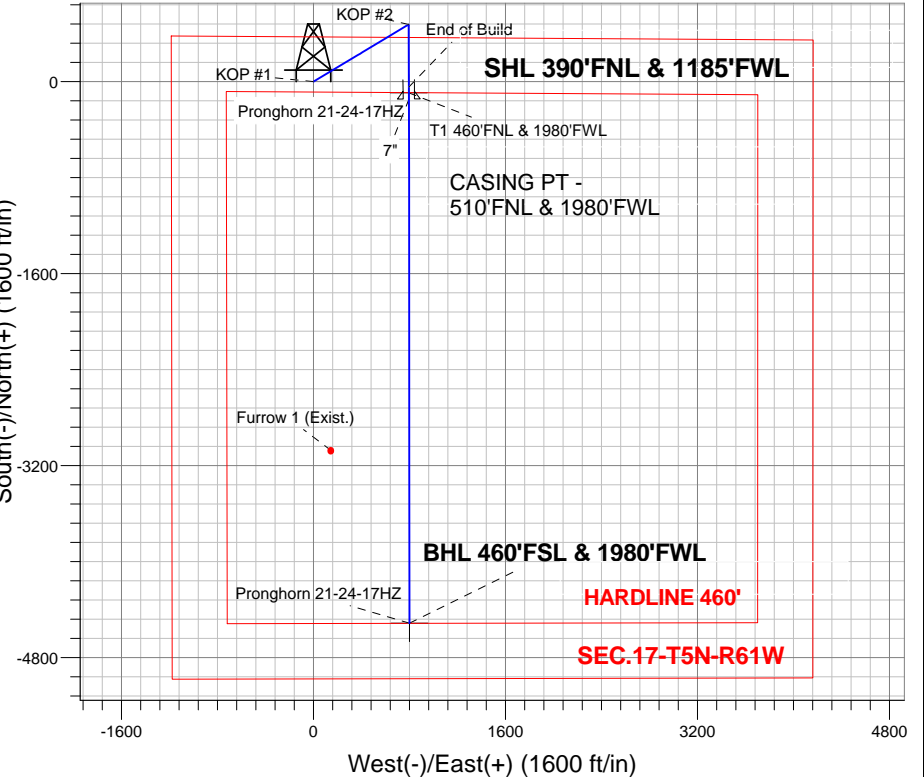
Magnetic Field  
Strength: 53059.5srT  
Dip Angle: 67.10°  
Date: 9/18/2012  
Model: IGRF2010

Pronghorn F-17 Pad Sec.17-T5N-R61W  
Pronghorn 21-24-17HZ  
Plan #1 (SEPT 18, 2012)  
14:10, September 20 2012

## ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	KOP #1
5556.2	5652.6	KOP #2
6077.0	6470.8	End of Build

South(-)/North(+) (1600 ft/in)



## 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	825.4	12.51	59.04	820.5	35.0	58.3	2.00	59.04	-24.3	
4	4471.0	12.51	59.04	4379.5	441.2	735.4	0.00	0.00	-306.2	
5	5096.4	0.00	0.00	5000.0	476.2	793.7	2.00	180.00	-330.5	
6	5652.6	0.00	0.00	5556.1	476.2	793.7	0.00	0.00	-330.5	
7	6470.8	90.00	179.93	6077.0	-44.7	794.3	11.00	179.93	182.5	
8	6470.8	90.00	179.93	6077.0	-44.7	794.3	0.00	0.00	182.5	
9	6570.8	90.00	179.93	6077.0	-144.7	794.4	0.00	0.00	281.0	
10	10939.9	90.00	179.93	6077.0	-4513.8	799.4	0.00	0.00	4584.0	BHL 460'FSL & 1980'FWL

BHL 460'FSL & 1980'FWL

Vertical Section at 169.96° (550 ft/in)



# **BONANZA CREEK ENERGY OPERATING**

**SEC.17-T5N-R61W**

**Pronghorn F-17 Pad Sec.17-T5N-R61W**

**Pronghorn 21-24-17HZ**

**Wellbore #1**

**Plan: Plan #1 (SEPT 18, 2012)**

## **Standard Planning Report**

**20 September, 2012**

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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
825.4	12.51	59.04	820.5	35.0	58.3	2.00	2.00	0.00	59.04	
4,471.0	12.51	59.04	4,379.5	441.2	735.4	0.00	0.00	0.00	0.00	
5,096.4	0.00	0.00	5,000.0	476.2	793.7	2.00	-2.00	0.00	180.00	
5,652.6	0.00	0.00	5,556.1	476.2	793.7	0.00	0.00	0.00	0.00	
6,470.8	90.00	179.93	6,077.0	-44.7	794.3	11.00	11.00	0.00	179.93	
6,470.8	90.00	179.93	6,077.0	-44.7	794.3	0.00	0.00	0.00	0.00	
6,570.8	90.00	179.93	6,077.0	-144.7	794.4	0.00	0.00	0.00	0.00	
10,939.9	90.00	179.93	6,077.0	-4,513.8	799.4	0.00	0.00	0.00	0.00	BHL 460'FSL & 195

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Pronghorn 21-24-17HZ
<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>TVD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Project:</b>	SEC.17-T5N-R61W	<b>MD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Site:</b>	Pronghorn F-17 Pad Sec.17-T5N-R61W	<b>North Reference:</b>	True
<b>Well:</b>	Pronghorn 21-24-17HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (SEPT 18, 2012)		

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	59.04	300.0	0.9	1.5	-0.6	2.00	2.00	0.00
400.0	4.00	59.04	399.8	3.6	6.0	-2.5	2.00	2.00	0.00
500.0	6.00	59.04	499.5	8.1	13.5	-5.6	2.00	2.00	0.00
600.0	8.00	59.04	598.7	14.3	23.9	-10.0	2.00	2.00	0.00
700.0	10.00	59.04	697.5	22.4	37.3	-15.5	2.00	2.00	0.00
800.0	12.00	59.04	795.6	32.2	53.7	-22.4	2.00	2.00	0.00
825.4	12.51	59.04	820.5	35.0	58.3	-24.3	2.00	2.00	0.00
900.0	12.51	59.04	893.3	43.3	72.2	-30.0	0.00	0.00	0.00
1,000.0	12.51	59.04	990.9	54.4	90.7	-37.8	0.00	0.00	0.00
1,100.0	12.51	59.04	1,088.5	65.6	109.3	-45.5	0.00	0.00	0.00
1,200.0	12.51	59.04	1,186.2	76.7	127.9	-53.2	0.00	0.00	0.00
1,300.0	12.51	59.04	1,283.8	87.9	146.4	-61.0	0.00	0.00	0.00
1,400.0	12.51	59.04	1,381.4	99.0	165.0	-68.7	0.00	0.00	0.00
1,500.0	12.51	59.04	1,479.0	110.2	183.6	-76.4	0.00	0.00	0.00
1,600.0	12.51	59.04	1,576.7	121.3	202.2	-84.2	0.00	0.00	0.00
1,700.0	12.51	59.04	1,674.3	132.4	220.7	-91.9	0.00	0.00	0.00
1,800.0	12.51	59.04	1,771.9	143.6	239.3	-99.6	0.00	0.00	0.00
1,900.0	12.51	59.04	1,869.5	154.7	257.9	-107.4	0.00	0.00	0.00
2,000.0	12.51	59.04	1,967.2	165.9	276.5	-115.1	0.00	0.00	0.00
2,100.0	12.51	59.04	2,064.8	177.0	295.0	-122.8	0.00	0.00	0.00
2,200.0	12.51	59.04	2,162.4	188.2	313.6	-130.6	0.00	0.00	0.00
2,300.0	12.51	59.04	2,260.0	199.3	332.2	-138.3	0.00	0.00	0.00
2,400.0	12.51	59.04	2,357.7	210.4	350.7	-146.0	0.00	0.00	0.00
2,500.0	12.51	59.04	2,455.3	221.6	369.3	-153.8	0.00	0.00	0.00
2,600.0	12.51	59.04	2,552.9	232.7	387.9	-161.5	0.00	0.00	0.00
2,700.0	12.51	59.04	2,650.5	243.9	406.5	-169.2	0.00	0.00	0.00
2,800.0	12.51	59.04	2,748.2	255.0	425.0	-177.0	0.00	0.00	0.00
2,900.0	12.51	59.04	2,845.8	266.2	443.6	-184.7	0.00	0.00	0.00
3,000.0	12.51	59.04	2,943.4	277.3	462.2	-192.4	0.00	0.00	0.00
3,100.0	12.51	59.04	3,041.1	288.4	480.8	-200.2	0.00	0.00	0.00
3,200.0	12.51	59.04	3,138.7	299.6	499.3	-207.9	0.00	0.00	0.00
3,221.8	12.51	59.04	3,160.0	302.0	503.4	-209.6	0.00	0.00	0.00
<b>PARKMAN</b>									
3,300.0	12.51	59.04	3,236.3	310.7	517.9	-215.6	0.00	0.00	0.00
3,400.0	12.51	59.04	3,333.9	321.9	536.5	-223.4	0.00	0.00	0.00
3,500.0	12.51	59.04	3,431.6	333.0	555.0	-231.1	0.00	0.00	0.00
3,600.0	12.51	59.04	3,529.2	344.2	573.6	-238.8	0.00	0.00	0.00
3,700.0	12.51	59.04	3,626.8	355.3	592.2	-246.6	0.00	0.00	0.00
3,800.0	12.51	59.04	3,724.4	366.4	610.8	-254.3	0.00	0.00	0.00
3,900.0	12.51	59.04	3,822.1	377.6	629.3	-262.0	0.00	0.00	0.00
4,000.0	12.51	59.04	3,919.7	388.7	647.9	-269.8	0.00	0.00	0.00
4,100.0	12.51	59.04	4,017.3	399.9	666.5	-277.5	0.00	0.00	0.00
4,200.0	12.51	59.04	4,114.9	411.0	685.1	-285.2	0.00	0.00	0.00
4,300.0	12.51	59.04	4,212.6	422.2	703.6	-293.0	0.00	0.00	0.00
4,400.0	12.51	59.04	4,310.2	433.3	722.2	-300.7	0.00	0.00	0.00
4,471.0	12.51	59.04	4,379.5	441.2	735.4	-306.2	0.00	0.00	0.00
4,500.0	11.93	59.04	4,407.9	444.4	740.6	-308.4	2.00	-2.00	0.00
4,600.0	9.93	59.04	4,506.0	454.1	756.9	-315.2	2.00	-2.00	0.00
4,700.0	7.93	59.04	4,604.8	462.1	770.2	-320.7	2.00	-2.00	0.00
4,800.0	5.93	59.04	4,704.1	468.3	780.6	-325.0	2.00	-2.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Pronghorn 21-24-17HZ
<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>TVD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Project:</b>	SEC.17-T5N-R61W	<b>MD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Site:</b>	Pronghorn F-17 Pad Sec.17-T5N-R61W	<b>North Reference:</b>	True
<b>Well:</b>	Pronghorn 21-24-17HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (SEPT 18, 2012)		

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	3.93	59.04	4,803.7	472.7	787.9	-328.1	2.00	-2.00	0.00
5,000.0	1.93	59.04	4,903.6	475.4	792.3	-329.9	2.00	-2.00	0.00
5,096.4	0.00	0.00	5,000.0	476.2	793.7	-330.5	2.00	-2.00	0.00
5,100.0	0.00	0.00	5,003.6	476.2	793.7	-330.5	0.00	0.00	0.00
5,200.0	0.00	0.00	5,103.6	476.2	793.7	-330.5	0.00	0.00	0.00
5,300.0	0.00	0.00	5,203.6	476.2	793.7	-330.5	0.00	0.00	0.00
5,400.0	0.00	0.00	5,303.6	476.2	793.7	-330.5	0.00	0.00	0.00
5,500.0	0.00	0.00	5,403.6	476.2	793.7	-330.5	0.00	0.00	0.00
5,600.0	0.00	0.00	5,503.6	476.2	793.7	-330.5	0.00	0.00	0.00
5,652.6	0.00	0.00	5,556.2	476.2	793.7	-330.5	0.00	0.00	0.00
<b>KOP #2</b>									
5,700.0	5.22	179.93	5,603.5	474.0	793.7	-328.4	11.01	11.01	0.00
5,800.0	16.22	179.93	5,701.6	455.5	793.7	-310.1	11.00	11.00	0.00
5,900.0	27.22	179.93	5,794.4	418.5	793.8	-273.7	11.00	11.00	0.00
5,952.8	33.02	179.93	5,840.0	392.0	793.8	-247.6	11.00	11.00	0.00
<b>SHARON SPRINGS</b>									
6,000.0	38.22	179.93	5,878.4	364.6	793.8	-220.5	11.00	11.00	0.00
6,100.0	49.22	179.93	5,950.5	295.6	793.9	-152.6	11.00	11.00	0.00
6,149.5	54.66	179.93	5,981.0	256.6	794.0	-114.2	11.00	11.00	0.00
<b>NIOBRARA A CHALK</b>									
6,176.4	57.62	179.93	5,996.0	234.3	794.0	-92.2	11.00	11.00	0.00
<b>NIOBRARA A MARL</b>									
6,200.0	60.22	179.93	6,008.2	214.1	794.0	-72.3	11.00	11.00	0.00
6,300.0	71.22	179.93	6,049.3	123.0	794.1	17.3	11.00	11.00	0.00
6,333.4	74.89	179.93	6,059.0	91.1	794.1	48.8	11.00	11.00	0.00
<b>NIOBRARA B CHALK</b>									
6,400.0	82.22	179.93	6,072.2	25.9	794.2	113.0	11.00	11.00	0.00
6,470.8	90.00	179.93	6,077.0	-44.7	794.3	182.5	11.00	11.00	0.00
<b>End of Build - NIOBRARA B TARGET</b>									
6,500.0	90.00	179.93	6,077.0	-73.9	794.3	211.3	0.00	0.00	0.00
6,520.8	90.00	179.93	6,077.0	-94.7	794.4	231.8	0.00	0.00	0.00
<b>T1 460'FNL &amp; 1980'FWL</b>									
6,570.8	90.00	179.93	6,077.0	-144.7	794.4	281.0	0.00	0.00	0.00
<b>7"</b>									
6,600.0	90.00	179.93	6,077.0	-173.9	794.4	309.8	0.00	0.00	0.00
6,700.0	90.00	179.93	6,077.0	-273.9	794.6	408.3	0.00	0.00	0.00
6,800.0	90.00	179.93	6,077.0	-373.9	794.7	506.8	0.00	0.00	0.00
6,900.0	90.00	179.93	6,077.0	-473.9	794.8	605.3	0.00	0.00	0.00
7,000.0	90.00	179.93	6,077.0	-573.9	794.9	703.7	0.00	0.00	0.00
7,100.0	90.00	179.93	6,077.0	-673.9	795.0	802.2	0.00	0.00	0.00
7,200.0	90.00	179.93	6,077.0	-773.9	795.1	900.7	0.00	0.00	0.00
7,300.0	90.00	179.93	6,077.0	-873.9	795.3	999.2	0.00	0.00	0.00
7,400.0	90.00	179.93	6,077.0	-973.9	795.4	1,097.7	0.00	0.00	0.00
7,500.0	90.00	179.93	6,077.0	-1,073.9	795.5	1,196.2	0.00	0.00	0.00
7,600.0	90.00	179.93	6,077.0	-1,173.9	795.6	1,294.7	0.00	0.00	0.00
7,700.0	90.00	179.93	6,077.0	-1,273.9	795.7	1,393.2	0.00	0.00	0.00
7,800.0	90.00	179.93	6,077.0	-1,373.9	795.8	1,491.6	0.00	0.00	0.00
7,900.0	90.00	179.93	6,077.0	-1,473.9	795.9	1,590.1	0.00	0.00	0.00
8,000.0	90.00	179.93	6,077.0	-1,573.9	796.1	1,688.6	0.00	0.00	0.00
8,100.0	90.00	179.93	6,077.0	-1,673.9	796.2	1,787.1	0.00	0.00	0.00
8,200.0	90.00	179.93	6,077.0	-1,773.9	796.3	1,885.6	0.00	0.00	0.00
8,300.0	90.00	179.93	6,077.0	-1,873.9	796.4	1,984.1	0.00	0.00	0.00
8,400.0	90.00	179.93	6,077.0	-1,973.9	796.5	2,082.6	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Pronghorn 21-24-17HZ
<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>TVD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Project:</b>	SEC.17-T5N-R61W	<b>MD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Site:</b>	Pronghorn F-17 Pad Sec.17-T5N-R61W	<b>North Reference:</b>	True
<b>Well:</b>	Pronghorn 21-24-17HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (SEPT 18, 2012)		

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)	
8,500.0	90.00	179.93	6,077.0	-2,073.9	796.6	2,181.1	0.00	0.00	0.00	
8,600.0	90.00	179.93	6,077.0	-2,173.9	796.8	2,279.5	0.00	0.00	0.00	
8,700.0	90.00	179.93	6,077.0	-2,273.9	796.9	2,378.0	0.00	0.00	0.00	
8,800.0	90.00	179.93	6,077.0	-2,373.9	797.0	2,476.5	0.00	0.00	0.00	
8,900.0	90.00	179.93	6,077.0	-2,473.9	797.1	2,575.0	0.00	0.00	0.00	
9,000.0	90.00	179.93	6,077.0	-2,573.9	797.2	2,673.5	0.00	0.00	0.00	
9,100.0	90.00	179.93	6,077.0	-2,673.9	797.3	2,772.0	0.00	0.00	0.00	
9,200.0	90.00	179.93	6,077.0	-2,773.9	797.4	2,870.5	0.00	0.00	0.00	
9,300.0	90.00	179.93	6,077.0	-2,873.9	797.6	2,969.0	0.00	0.00	0.00	
9,400.0	90.00	179.93	6,077.0	-2,973.9	797.7	3,067.4	0.00	0.00	0.00	
9,500.0	90.00	179.93	6,077.0	-3,073.9	797.8	3,165.9	0.00	0.00	0.00	
9,600.0	90.00	179.93	6,077.0	-3,173.9	797.9	3,264.4	0.00	0.00	0.00	
9,700.0	90.00	179.93	6,077.0	-3,273.9	798.0	3,362.9	0.00	0.00	0.00	
9,800.0	90.00	179.93	6,077.0	-3,373.9	798.1	3,461.4	0.00	0.00	0.00	
9,900.0	90.00	179.93	6,077.0	-3,473.9	798.2	3,559.9	0.00	0.00	0.00	
10,000.0	90.00	179.93	6,077.0	-3,573.9	798.4	3,658.4	0.00	0.00	0.00	
10,100.0	90.00	179.93	6,077.0	-3,673.9	798.5	3,756.9	0.00	0.00	0.00	
10,200.0	90.00	179.93	6,077.0	-3,773.9	798.6	3,855.3	0.00	0.00	0.00	
10,300.0	90.00	179.93	6,077.0	-3,873.9	798.7	3,953.8	0.00	0.00	0.00	
10,400.0	90.00	179.93	6,077.0	-3,973.9	798.8	4,052.3	0.00	0.00	0.00	
10,500.0	90.00	179.93	6,077.0	-4,073.9	798.9	4,150.8	0.00	0.00	0.00	
10,600.0	90.00	179.93	6,077.0	-4,173.9	799.1	4,249.3	0.00	0.00	0.00	
10,700.0	90.00	179.93	6,077.0	-4,273.9	799.2	4,347.8	0.00	0.00	0.00	
10,800.0	90.00	179.93	6,077.0	-4,373.9	799.3	4,446.3	0.00	0.00	0.00	
10,900.0	90.00	179.93	6,077.0	-4,473.9	799.4	4,544.8	0.00	0.00	0.00	
10,939.9	90.00	179.93	6,077.0	-4,513.8	799.4	4,584.0	0.00	0.00	0.00	
BHL 460'FSL & 1980'FWL										

Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
T1 460'FNL & 1980'F	0.00	0.00	6,077.0	-94.7	793.7	1,393,707.53	3,352,051.62	40.407240	-104.235770	
- hit/miss target										
- Shape										
- plan misses target center by 0.7ft at 6520.8ft MD (6077.0 TVD, -94.7 N, 794.4 E)										
- Point										
BHL 460'FSL & 1980'I	0.00	0.00	6,077.0	-4,513.8	799.4	1,389,289.14	3,352,120.19	40.395110	-104.235750	
- plan hits target center										
- Point										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
6,570.8	6,077.0	7"	7	7-1/2	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well Pronghorn 21-24-17HZ
<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>TVD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Project:</b>	SEC.17-T5N-R61W	<b>MD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Site:</b>	Pronghorn F-17 Pad Sec.17-T5N-R61W	<b>North Reference:</b>	True
<b>Well:</b>	Pronghorn 21-24-17HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 (SEPT 18, 2012)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,221.8	3,160.0	PARKMAN		0.00		
5,952.8	5,840.0	SHARON SPRINGS		0.00		
6,149.5	5,981.0	NIOBRARA A CHALK		0.00		
6,176.4	5,996.0	NIOBRARA A MARL		0.00		
6,333.4	6,059.0	NIOBRARA B CHALK		0.00		
6,470.8	6,077.0	NIOBRARA B TARGET		0.00		
	6,087.0	NIOBRARA B MARL		0.00		
	6,138.0	NIOBRARA C CHALK		0.00		

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	
5,652.6	5,556.2	476.2	793.7	KOP #2	
6,470.8	6,077.0	-44.7	793.7	End of Build	



# **BONANZA CREEK ENERGY OPERATING**

**SEC.17-T5N-R61W**

**Pronghorn F-17 Pad Sec.17-T5N-R61W**

**Pronghorn 21-24-17HZ**

**Wellbore #1**

**Plan #1 (SEPT 18, 2012)**

## **Anticollision Report**

**20 September, 2012**



<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well Pronghorn 21-24-17HZ
<b>Project:</b>	SEC.17-T5N-R61W	<b>TVD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Reference Site:</b>	Pronghorn F-17 Pad Sec.17-T5N-R61W	<b>MD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Pronghorn 21-24-17HZ	<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 (SEPT 18, 2012)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #1 (SEPT 18, 2012)		
<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> 9/20/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	10,939.9	Plan #1 (SEPT 18, 2012) (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>						
Pronghorn F-17 Pad Sec.17-T5N-R61W						
Furrow 1 (Exist.) - Wellbore #1 - Wellbore #1	9,497.6	6,077.0	654.3	470.3	3.555	CC
Furrow 1 (Exist.) - Wellbore #1 - Wellbore #1	9,500.0	6,077.0	654.4	470.3	3.555	ES, SF
Pronghorn 11-14-17HZ - Wellbore #1 - Plan #1 (SEPT 18,	200.0	200.0	40.1	39.4	59.431	CC, ES
Pronghorn 11-14-17HZ - Wellbore #1 - Plan #1 (SEPT 18,	600.0	599.3	58.2	55.7	23.172	SF
Pronghorn A-E-17HZ - Wellbore #1 - Plan #1 (SEPT 18,	200.0	200.0	18.2	17.5	27.014	CC
Pronghorn A-E-17HZ - Wellbore #1 - Plan #1 (SEPT 18,	300.0	300.2	18.6	17.5	16.645	ES
Pronghorn A-E-17HZ - Wellbore #1 - Plan #1 (SEPT 18,	400.0	399.8	22.4	20.8	14.155	SF
Pronghorn F-J-17HZ - Wellbore #1 - Plan #1 (SEPT 18, 2	200.0	199.0	58.3	57.6	86.735	CC, ES
Pronghorn F-J-17HZ - Wellbore #1 - Plan #1 (SEPT 18, 2	10,939.9	10,955.1	810.6	631.8	4.534	SF

<b>Offset Design</b>												
Pronghorn F-17 Pad Sec.17-T5N-R61W - Furrow 1 (Exist.) - Wellbore #1 - Wellbore #1												
Survey Program: 6092-UNKNOWN												
Reference												
Offset												
Semi Major Axis												
Distance												
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
8,800.0	6,077.0	6,077.0	6,077.0	51.0	121.5	90.00	-3,072.2	143.4	956.4	785.3	171.12	5.589
8,900.0	6,077.0	6,077.0	6,077.0	52.7	121.5	90.00	-3,072.2	143.4	886.2	713.2	172.95	5.124
9,000.0	6,077.0	6,077.0	6,077.0	54.5	121.5	90.00	-3,072.2	143.4	822.0	647.2	174.80	4.703
9,100.0	6,077.0	6,077.0	6,077.0	56.4	121.5	90.00	-3,072.2	143.4	765.7	589.0	176.65	4.334
9,200.0	6,077.0	6,077.0	6,077.0	58.2	121.5	90.00	-3,072.2	143.4	718.8	540.3	178.50	4.027
9,300.0	6,077.0	6,077.0	6,077.0	60.0	121.5	90.00	-3,072.2	143.4	683.5	503.2	180.36	3.790
9,400.0	6,077.0	6,077.0	6,077.0	61.8	121.5	90.00	-3,072.2	143.4	661.6	479.4	182.22	3.631
9,497.6	6,077.0	6,077.0	6,077.0	63.6	121.5	90.00	-3,072.2	143.4	654.3	470.3	184.04	3.555
9,500.0	6,077.0	6,077.0	6,077.0	63.7	121.5	90.00	-3,072.2	143.4	654.4	470.3	184.09	3.555
9,600.0	6,077.0	6,077.0	6,077.0	65.5	121.5	90.00	-3,072.2	143.4	662.3	476.4	185.96	3.562
9,700.0	6,077.0	6,077.0	6,077.0	67.3	121.5	90.00	-3,072.2	143.4	684.9	497.1	187.83	3.647
9,800.0	6,077.0	6,077.0	6,077.0	69.2	121.5	90.00	-3,072.2	143.4	720.9	531.1	189.70	3.800
9,900.0	6,077.0	6,077.0	6,077.0	71.0	121.5	90.00	-3,072.2	143.4	768.2	576.6	191.58	4.010
10,000.0	6,077.0	6,077.0	6,077.0	72.9	121.5	90.00	-3,072.2	143.4	825.0	631.5	193.46	4.264
10,100.0	6,077.0	6,077.0	6,077.0	74.8	121.5	90.00	-3,072.2	143.4	889.4	694.1	195.34	4.553
10,200.0	6,077.0	6,077.0	6,077.0	76.6	121.5	90.00	-3,072.2	143.4	960.0	762.8	197.23	4.867

Offset Design		Pronghorn F-17 Pad Sec.17-T5N-R61W - Pronghorn 11-14-17HZ - Wellbore #1 - Plan #1 (SEPT 18, 20											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		
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	39.8	0.22	178.294		
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-40.1	0.0	40.1	39.4	0.67	59.431 CC, ES		
300.0	300.0	300.0	300.0	0.6	0.6	123.04	-40.1	0.0	41.0	39.9	1.12	36.551		
400.0	399.8	399.8	399.8	0.8	0.8	128.70	-40.1	0.0	44.1	42.5	1.58	27.942		
500.0	499.5	500.0	500.0	1.0	1.0	138.36	-39.0	-1.4	49.4	47.3	2.04	24.181		
600.0	598.7	599.3	599.2	1.3	1.2	151.13	-35.9	-5.5	58.2	55.7	2.51	23.172 SF		
700.0	697.5	697.2	696.7	1.7	1.5	163.71	-30.8	-12.3	72.7	69.8	2.99	24.308		
800.0	795.6	793.2	792.0	2.0	1.7	174.08	-23.9	-21.5	93.9	90.4	3.49	26.926		
825.4	820.5	817.3	815.8	2.1	1.8	176.31	-21.8	-24.2	100.3	96.7	3.62	27.740		
900.0	893.3	887.2	884.9	2.5	2.0	-178.04	-15.2	-33.0	120.6	116.6	4.00	30.166		
1,000.0	990.9	979.7	975.7	2.9	2.3	-172.03	-4.9	-46.7	150.4	145.9	4.54	33.105		
1,100.0	1,088.5	1,072.2	1,066.1	3.3	2.7	-167.28	6.9	-62.3	182.7	177.6	5.12	35.671		
1,200.0	1,186.2	1,165.8	1,157.5	3.8	3.1	-163.84	19.0	-78.4	216.1	210.4	5.72	37.801		
1,300.0	1,283.8	1,259.4	1,248.9	4.3	3.5	-161.31	31.2	-94.5	249.9	243.6	6.32	39.548		
1,400.0	1,381.4	1,353.0	1,340.4	4.7	3.9	-159.38	43.3	-110.5	284.1	277.2	6.93	40.996		
1,500.0	1,479.0	1,446.6	1,431.8	5.2	4.3	-157.87	55.4	-126.6	318.5	311.0	7.55	42.176		
1,600.0	1,576.7	1,540.2	1,523.2	5.6	4.7	-156.65	67.5	-142.7	353.1	344.9	8.17	43.209		
1,700.0	1,674.3	1,633.8	1,614.6	6.1	5.2	-155.65	79.6	-158.7	387.8	379.0	8.80	44.079		
1,800.0	1,771.9	1,727.4	1,706.0	6.6	5.6	-154.81	91.7	-174.8	422.5	413.1	9.43	44.828		
1,900.0	1,869.5	1,821.0	1,797.4	7.0	6.0	-154.10	103.9	-190.9	457.4	447.3	10.06	45.480		
2,000.0	1,967.2	1,914.5	1,888.8	7.5	6.5	-153.49	116.0	-206.9	492.2	481.6	10.69	46.052		
2,100.0	2,064.8	2,008.1	1,980.2	8.0	6.9	-152.96	128.1	-223.0	527.2	515.9	11.32	46.557		
2,200.0	2,162.4	2,101.7	2,071.6	8.4	7.3	-152.49	140.2	-239.1	562.1	550.2	11.96	47.006		
2,300.0	2,260.0	2,195.3	2,163.0	8.9	7.8	-152.08	152.3	-255.1	597.1	584.5	12.60	47.408		
2,400.0	2,357.7	2,288.9	2,254.4	9.4	8.2	-151.72	164.5	-271.2	632.2	618.9	13.23	47.769		
2,500.0	2,455.3	2,382.5	2,345.8	9.8	8.6	-151.39	176.6	-287.3	667.2	653.3	13.87	48.096		
2,600.0	2,552.9	2,476.1	2,437.2	10.3	9.1	-151.10	188.7	-303.4	702.2	687.7	14.51	48.392		
2,700.0	2,650.5	2,569.7	2,528.6	10.8	9.5	-150.83	200.8	-319.4	737.3	722.2	15.15	48.662		
2,800.0	2,748.2	2,663.3	2,620.1	11.2	9.9	-150.59	212.9	-335.5	772.4	756.6	15.79	48.910		
2,900.0	2,845.8	2,756.9	2,711.5	11.7	10.4	-150.37	225.0	-351.6	807.5	791.1	16.43	49.137		
3,000.0	2,943.4	2,850.5	2,802.9	12.2	10.8	-150.17	237.2	-367.6	842.6	825.5	17.08	49.347		
3,100.0	3,041.1	2,944.1	2,894.3	12.6	11.2	-149.98	249.3	-383.7	877.7	860.0	17.72	49.540		
3,200.0	3,138.7	3,037.7	2,985.7	13.1	11.7	-149.81	261.4	-399.8	912.8	894.5	18.36	49.720		
3,300.0	3,236.3	3,131.3	3,077.1	13.6	12.1	-149.65	273.5	-415.8	948.0	928.9	19.00	49.886		
3,400.0	3,333.9	3,224.9	3,168.5	14.0	12.5	-149.50	285.6	-431.9	983.1	963.4	19.65	50.041		

<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well Pronghorn 21-24-17HZ
<b>Project:</b>	SEC.17-T5N-R61W	<b>TVD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Reference Site:</b>	Pronghorn F-17 Pad Sec.17-T5N-R61W	<b>MD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Pronghorn 21-24-17HZ	<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 (SEPT 18, 2012)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													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		
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	100.0	100.0	0.1	0.1	-180.00	-18.2	0.0	18.2	18.0	0.22	81.043		
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-18.2	0.0	18.2	17.5	0.67	27.014 CC		
210.1	210.1	210.1	210.1	0.4	0.4	121.06	-18.2	0.0	18.2	17.5	0.72	25.345		
300.0	300.0	300.2	300.2	0.6	0.6	130.46	-17.4	-1.6	18.6	17.5	1.12	16.645 ES		
400.0	399.8	399.8	399.6	0.8	0.8	154.04	-15.1	-6.3	22.4	20.8	1.58	14.155 SF		
500.0	499.5	498.3	497.8	1.0	1.0	175.53	-11.4	-13.9	33.6	31.6	2.08	16.210		
600.0	598.7	595.2	593.9	1.3	1.3	-171.92	-6.2	-24.4	52.8	50.2	2.58	20.455		
700.0	697.5	689.9	687.5	1.7	1.6	-165.02	0.2	-37.5	78.7	75.6	3.09	25.434		
800.0	795.6	782.1	778.1	2.0	2.0	-160.96	7.7	-52.9	110.8	107.1	3.63	30.549		
825.4	820.5	805.1	800.6	2.1	2.1	-160.19	9.8	-57.2	119.8	116.1	3.76	31.849		
900.0	893.3	871.7	865.5	2.5	2.4	-158.42	16.3	-70.4	147.7	143.5	4.17	35.414		
1,000.0	990.9	961.4	952.5	2.9	2.8	-156.45	25.9	-90.0	187.0	182.2	4.74	39.464		
1,100.0	1,088.5	1,053.0	1,041.3	3.3	3.2	-155.07	36.0	-110.5	226.7	221.4	5.31	42.720		
1,200.0	1,186.2	1,144.6	1,130.1	3.8	3.7	-154.10	46.0	-130.9	266.6	260.7	5.89	45.284		
1,300.0	1,283.8	1,236.3	1,218.8	4.3	4.2	-153.39	56.0	-151.3	306.4	300.0	6.47	47.351		
1,400.0	1,381.4	1,327.9	1,307.6	4.7	4.7	-152.83	66.0	-171.8	346.4	339.3	7.07	48.987		
1,500.0	1,479.0	1,419.6	1,396.4	5.2	5.1	-152.40	76.0	-192.2	386.3	378.6	7.67	50.372		
1,600.0	1,576.7	1,511.2	1,485.2	5.6	5.6	-152.04	86.1	-212.6	426.2	418.0	8.27	51.531		
1,700.0	1,674.3	1,602.9	1,573.9	6.1	6.1	-151.75	96.1	-233.1	466.2	457.3	8.88	52.515		
1,800.0	1,771.9	1,694.5	1,662.7	6.6	6.6	-151.50	106.1	-253.5	506.2	496.7	9.49	53.359		
1,900.0	1,869.5	1,786.2	1,751.5	7.0	7.1	-151.28	116.1	-273.9	546.1	536.0	10.10	54.090		
2,000.0	1,967.2	1,877.8	1,840.2	7.5	7.5	-151.10	126.1	-294.4	586.1	575.4	10.71	54.730		
2,100.0	2,064.8	1,969.5	1,929.0	8.0	8.0	-150.94	136.2	-314.8	626.1	614.8	11.32	55.293		
2,200.0	2,162.4	2,061.1	2,017.8	8.4	8.5	-150.80	146.2	-335.2	666.1	654.2	11.94	55.793		
2,300.0	2,260.0	2,152.7	2,106.6	8.9	9.0	-150.68	156.2	-355.7	706.1	693.5	12.55	56.240		
2,400.0	2,357.7	2,244.4	2,195.3	9.4	9.5	-150.57	166.2	-376.1	746.1	732.9	13.17	56.641		
2,500.0	2,455.3	2,336.0	2,284.1	9.8	10.0	-150.47	176.3	-396.6	786.1	772.3	13.79	57.002		
2,600.0	2,552.9	2,427.7	2,372.9	10.3	10.5	-150.37	186.3	-417.0	826.1	811.7	14.41	57.330		
2,700.0	2,650.5	2,519.3	2,461.7	10.8	10.9	-150.29	196.3	-437.4	866.1	851.0	15.03	57.629		
2,800.0	2,748.2	2,611.0	2,550.4	11.2	11.4	-150.22	206.3	-457.9	906.1	890.4	15.65	57.901		
2,900.0	2,845.8	2,702.6	2,639.2	11.7	11.9	-150.15	216.3	-478.3	946.1	929.8	16.27	58.152		
3,000.0	2,943.4	2,794.3	2,728.0	12.2	12.4	-150.09	226.4	-498.7	986.1	969.2	16.89	58.382		

<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well Pronghorn 21-24-17HZ
<b>Project:</b>	SEC.17-T5N-R61W	<b>TVD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Reference Site:</b>	Pronghorn F-17 Pad Sec.17-T5N-R61W	<b>MD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Pronghorn 21-24-17HZ	<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 (SEPT 18, 2012)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													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		
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-58.3	0.0	58.3					
100.0	100.0	99.0	99.0	0.1	0.1	-180.00	-58.3	0.0	58.3	58.1	0.22	260.637		
200.0	200.0	199.0	199.0	0.3	0.3	-180.00	-58.3	0.0	58.3	57.6	0.67	86.735 CC, ES		
300.0	300.0	299.0	299.0	0.6	0.6	122.40	-58.3	0.0	59.2	58.1	1.12	52.892		
400.0	399.8	398.8	398.8	0.8	0.8	126.42	-58.3	0.0	62.2	60.6	1.57	39.482		
500.0	499.5	498.5	498.5	1.0	1.0	132.27	-58.3	0.0	67.7	65.7	2.05	33.100		
600.0	598.7	597.7	597.7	1.3	1.2	138.90	-58.3	0.0	76.5	73.9	2.53	30.229		
700.0	697.5	696.5	696.5	1.7	1.5	145.38	-58.3	0.0	88.9	85.9	3.02	29.447		
800.0	795.6	794.6	794.6	2.0	1.7	151.11	-58.3	0.0	105.2	101.7	3.51	30.004		
825.4	820.5	819.5	819.5	2.1	1.7	152.41	-58.3	0.0	110.0	106.4	3.63	30.300		
900.0	893.3	892.3	892.3	2.5	1.9	155.84	-58.3	0.0	124.6	120.6	3.99	31.251		
1,000.0	990.9	989.9	989.9	2.9	2.1	159.34	-58.3	0.0	144.7	140.2	4.46	32.427		
1,100.0	1,088.5	1,087.5	1,087.5	3.3	2.3	161.99	-58.3	0.0	165.2	160.3	4.94	33.465		
1,200.0	1,186.2	1,185.2	1,185.2	3.8	2.6	164.05	-58.3	0.0	186.0	180.5	5.41	34.369		
1,300.0	1,283.8	1,282.8	1,282.8	4.3	2.8	165.69	-58.3	0.0	206.9	201.0	5.89	35.155		
1,400.0	1,381.4	1,380.4	1,380.4	4.7	3.0	167.04	-58.3	0.0	228.0	221.6	6.36	35.839		
1,500.0	1,479.0	1,478.0	1,478.0	5.2	3.2	168.15	-58.3	0.0	249.2	242.3	6.84	36.438		
1,600.0	1,576.7	1,575.7	1,575.7	5.6	3.4	169.10	-58.3	0.0	270.4	263.1	7.32	36.965		
1,700.0	1,674.3	1,673.3	1,673.3	6.1	3.6	169.90	-58.3	0.0	291.7	283.9	7.79	37.431		
1,800.0	1,771.9	1,770.9	1,770.9	6.6	3.9	170.59	-58.3	0.0	313.1	304.8	8.27	37.845		
1,900.0	1,869.5	1,868.5	1,868.5	7.0	4.1	171.20	-58.3	0.0	334.5	325.7	8.75	38.215		
2,000.0	1,967.2	1,966.2	1,966.2	7.5	4.3	171.73	-58.3	0.0	355.9	346.7	9.23	38.547		
2,100.0	2,064.8	2,063.3	2,063.3	8.0	4.5	172.33	-57.5	0.0	376.9	367.2	9.72	38.766		
2,200.0	2,162.4	2,176.0	2,175.9	8.4	4.8	173.32	-52.9	-0.1	395.9	385.7	10.21	38.779		
2,300.0	2,260.0	2,283.0	2,282.6	8.9	5.0	174.67	-44.3	-0.3	412.8	402.1	10.69	38.611		
2,400.0	2,357.7	2,390.1	2,388.9	9.4	5.3	176.35	-31.8	-0.5	427.9	416.7	11.18	38.274		
2,500.0	2,455.3	2,497.1	2,494.6	9.8	5.5	178.34	-15.3	-0.8	441.3	429.6	11.68	37.775		
2,600.0	2,552.9	2,603.5	2,599.0	10.3	5.8	-179.37	5.0	-1.2	453.3	441.1	12.21	37.114		
2,700.0	2,650.5	2,709.1	2,701.9	10.8	6.1	-176.81	29.0	-1.7	464.2	451.4	12.79	36.295		
2,800.0	2,748.2	2,806.6	2,796.4	11.2	6.5	-174.34	53.0	-2.1	475.1	461.7	13.40	35.463		
2,900.0	2,845.8	2,903.9	2,890.7	11.7	6.8	-171.99	77.0	-2.6	486.8	472.8	14.05	34.661		
3,000.0	2,943.4	3,001.2	2,985.0	12.2	7.2	-169.75	100.9	-3.0	499.4	484.6	14.73	33.892		
3,100.0	3,041.1	3,098.5	3,079.2	12.6	7.5	-167.62	124.8	-3.5	512.6	497.2	15.46	33.162		
3,200.0	3,138.7	3,195.7	3,173.5	13.1	7.9	-165.60	148.8	-4.0	526.6	510.4	16.22	32.474		
3,300.0	3,236.3	3,293.0	3,267.8	13.6	8.3	-163.68	172.7	-4.4	541.2	524.2	17.00	31.833		
3,400.0	3,333.9	3,390.3	3,362.1	14.0	8.7	-161.86	196.7	-4.9	556.4	538.6	17.81	31.238		
3,500.0	3,431.6	3,487.6	3,456.4	14.5	9.2	-160.13	220.6	-5.3	572.1	553.5	18.64	30.690		
3,600.0	3,529.2	3,584.8	3,550.7	15.0	9.6	-158.50	244.6	-5.8	588.3	568.8	19.49	30.186		
3,700.0	3,626.8	3,682.1	3,644.9	15.5	10.0	-156.95	268.5	-6.3	605.0	584.7	20.35	29.726		
3,800.0	3,724.4	3,779.4	3,739.2	15.9	10.4	-155.48	292.5	-6.7	622.1	600.9	21.23	29.306		
3,900.0	3,822.1	3,876.7	3,833.5	16.4	10.9	-154.10	316.4	-7.2	639.6	617.5	22.11	28.924		
4,000.0	3,919.7	3,973.9	3,927.8	16.9	11.3	-152.78	340.4	-7.6	657.4	634.4	23.00	28.577		
4,100.0	4,017.3	4,071.2	4,022.1	17.3	11.8	-151.53	364.3	-8.1	675.5	651.6	23.90	28.261		
4,200.0	4,114.9	4,168.5	4,116.4	17.8	12.2	-150.35	388.3	-8.5	694.0	669.2	24.81	27.975		
4,300.0	4,212.6	4,265.8	4,210.6	18.3	12.7	-149.23	412.2	-9.0	712.7	687.0	25.72	27.715		
4,400.0	4,310.2	4,363.1	4,305.0	18.7	13.2	-148.16	436.1	-9.5	731.7	705.1	26.62	27.485		
4,471.0	4,379.5	4,432.9	4,372.8	19.1	13.4	-147.52	452.2	-9.8	745.3	718.1	27.20	27.398		
4,500.0	4,407.9	4,461.5	4,400.8	19.2	13.5	-147.35	458.4	-9.9	750.7	723.3	27.43	27.370		
4,600.0	4,506.0	4,560.8	4,498.3	19.5	13.8	-146.85	477.4	-10.3	767.5	739.4	28.13	27.282		
4,700.0	4,604.8	4,661.1	4,597.3	19.8	14.1	-146.46	493.3	-10.6	781.4	752.7	28.76	27.172		
4,800.0	4,704.1	4,762.1	4,697.5	20.1	14.4	-146.17	505.7	-10.8	792.3	763.0	29.30	27.042		
4,900.0	4,803.7	4,863.6	4,798.7	20.3	14.6	-145.96	514.6	-11.0	800.0	770.3	29.75	26.893		

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 Pronghorn 21-24-17HZ
<b>Project:</b>	SEC.17-T5N-R61W	<b>TVD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Reference Site:</b>	Pronghorn F-17 Pad Sec.17-T5N-R61W	<b>MD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Pronghorn 21-24-17HZ	<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 (SEPT 18, 2012)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
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	Warning
5,000.0	4,903.6	4,965.6	4,900.5	20.4	14.8	-145.84	520.0	-11.1	804.6	774.5	30.11	26.726	
5,096.4	5,000.0	5,064.1	4,999.0	20.5	15.0	-86.76	521.7	-11.1	806.1	775.7	30.38	26.532	
5,100.0	5,003.6	5,067.7	5,002.6	20.5	15.0	-86.76	521.7	-11.1	806.1	775.7	30.39	26.523	
5,200.0	5,103.6	5,167.7	5,102.6	20.6	15.1	-86.76	521.7	-11.1	806.1	775.4	30.69	26.264	
5,300.0	5,203.6	5,267.7	5,202.6	20.8	15.3	-86.76	521.7	-11.1	806.1	775.1	31.00	26.004	
5,400.0	5,303.6	5,367.7	5,302.6	20.9	15.5	-86.76	521.7	-11.1	806.1	774.8	31.31	25.746	
5,500.0	5,403.6	5,467.7	5,402.6	21.0	15.6	-86.76	521.7	-11.1	806.1	774.5	31.62	25.491	
5,600.0	5,503.6	5,567.7	5,502.6	21.1	15.8	-86.76	521.7	-11.1	806.1	774.1	31.94	25.238	
5,652.6	5,556.1	5,620.3	5,555.1	21.2	15.9	-86.76	521.7	-11.1	806.1	774.0	32.11	25.106	
5,700.0	5,603.5	5,672.0	5,606.8	21.2	15.9	93.30	519.3	-11.1	806.1	773.9	32.20	25.034	
5,750.0	5,653.0	5,726.8	5,661.0	21.2	15.9	93.27	511.3	-11.1	806.1	773.9	32.20	25.035	
5,800.0	5,701.6	5,781.5	5,713.9	21.2	15.9	93.20	497.6	-11.1	806.0	773.9	32.09	25.116	
5,850.0	5,748.9	5,836.0	5,764.9	21.2	15.7	93.10	478.5	-11.1	806.0	774.1	31.89	25.271	
5,900.0	5,794.4	5,890.3	5,813.5	21.1	15.6	92.97	454.2	-11.1	805.9	774.3	31.62	25.491	
5,950.0	5,837.7	5,944.4	5,859.1	21.0	15.4	92.81	425.2	-11.1	805.8	774.6	31.28	25.764	
6,000.0	5,878.4	5,998.2	5,901.3	20.9	15.2	92.63	391.8	-11.1	805.8	774.9	30.90	26.076	
6,050.0	5,916.1	6,051.7	5,939.6	20.8	15.0	92.42	354.5	-11.1	805.7	775.2	30.50	26.412	
6,100.0	5,950.5	6,104.8	5,973.6	20.7	14.8	92.18	313.7	-11.1	805.6	775.5	30.12	26.748	
6,150.0	5,981.3	6,157.6	6,003.1	20.5	14.6	91.93	270.0	-11.1	805.5	775.7	29.76	27.064	
6,200.0	6,008.2	6,209.9	6,027.8	20.4	14.5	91.65	223.9	-11.1	805.4	776.0	29.47	27.336	
6,250.0	6,030.9	6,261.9	6,047.7	20.3	14.3	91.37	175.9	-11.1	805.4	776.2	29.24	27.542	
6,300.0	6,049.3	6,313.4	6,062.6	20.2	14.3	91.07	126.7	-11.1	805.4	776.3	29.11	27.664	
6,341.9	6,061.2	6,356.2	6,071.2	20.1	14.2	90.81	84.7	-11.1	805.4	776.3	29.08	27.691	
6,350.0	6,063.1	6,364.4	6,072.5	20.1	14.2	90.76	76.6	-11.1	805.4	776.3	29.09	27.688	
6,400.0	6,072.2	6,415.0	6,077.4	20.0	14.3	90.45	26.2	-11.1	805.4	776.2	29.17	27.611	
6,450.0	6,076.6	6,465.1	6,078.0	20.0	14.4	90.17	-23.9	-11.1	805.4	776.1	29.36	27.429	
6,470.8	6,077.0	6,485.9	6,078.0	20.0	14.4	90.14	-44.6	-11.1	805.4	776.0	29.48	27.322	
6,470.8	6,077.0	6,485.9	6,078.0	20.0	14.4	90.14	-44.6	-11.1	805.4	776.0	29.48	27.322	
6,500.0	6,077.0	6,515.1	6,078.0	20.0	14.5	90.14	-73.9	-11.1	805.5	775.8	29.69	27.126	
6,570.8	6,077.0	6,585.9	6,078.0	20.0	14.8	90.14	-144.6	-11.1	805.6	775.2	30.34	26.556	
6,600.0	6,077.0	6,615.2	6,078.0	20.1	15.0	90.14	-173.9	-11.2	805.6	775.0	30.62	26.311	
6,700.0	6,077.0	6,715.2	6,078.0	20.4	15.5	90.14	-273.9	-11.2	805.7	773.8	31.88	25.270	
6,800.0	6,077.0	6,815.2	6,078.0	21.0	16.4	90.14	-373.9	-11.2	805.8	772.2	33.68	23.926	
6,900.0	6,077.0	6,915.2	6,078.0	21.7	17.5	90.14	-473.9	-11.2	805.9	770.1	35.80	22.512	
7,000.0	6,077.0	7,015.2	6,078.0	22.7	18.7	90.14	-573.9	-11.2	806.1	767.9	38.19	21.105	
7,100.0	6,077.0	7,115.2	6,078.0	23.8	20.0	90.14	-673.9	-11.2	806.2	765.4	40.81	19.756	
7,200.0	6,077.0	7,215.2	6,078.0	25.0	21.4	90.14	-773.9	-11.2	806.3	762.7	43.60	18.492	
7,300.0	6,077.0	7,315.2	6,078.0	26.3	22.9	90.14	-873.9	-11.2	806.4	759.9	46.55	17.324	
7,400.0	6,077.0	7,415.2	6,078.0	27.7	24.4	90.14	-973.9	-11.2	806.5	756.9	49.62	16.254	
7,500.0	6,077.0	7,515.2	6,078.0	29.1	26.0	90.14	-1,073.9	-11.1	806.6	753.8	52.79	15.280	
7,600.0	6,077.0	7,615.2	6,078.0	30.6	27.6	90.14	-1,173.9	-11.1	806.8	750.7	56.05	14.394	
7,700.0	6,077.0	7,715.2	6,078.0	32.2	29.3	90.14	-1,273.9	-11.1	806.9	747.5	59.37	13.590	
7,800.0	6,077.0	7,815.2	6,078.0	33.8	31.0	90.14	-1,373.9	-11.1	807.0	744.2	62.76	12.859	
7,900.0	6,077.0	7,915.2	6,078.0	35.4	32.7	90.14	-1,473.9	-11.1	807.1	740.9	66.19	12.193	
8,000.0	6,077.0	8,015.2	6,078.0	37.1	34.5	90.14	-1,573.9	-11.1	807.2	737.5	69.67	11.586	
8,100.0	6,077.0	8,115.2	6,078.0	38.7	36.2	90.14	-1,673.9	-11.1	807.3	734.1	73.19	11.031	
8,200.0	6,077.0	8,215.2	6,078.0	40.4	38.0	90.14	-1,773.9	-11.1	807.4	730.7	76.73	10.523	
8,300.0	6,077.0	8,315.2	6,078.0	42.2	39.8	90.14	-1,873.9	-11.1	807.6	727.2	80.31	10.056	
8,400.0	6,077.0	8,415.2	6,078.0	43.9	41.6	90.14	-1,973.9	-11.1	807.7	723.8	83.91	9.626	
8,500.0	6,077.0	8,515.2	6,078.0	45.6	43.4	90.14	-2,073.9	-11.1	807.8	720.3	87.52	9.229	
8,600.0	6,077.0	8,615.2	6,078.0	47.4	45.2	90.14	-2,173.9	-11.1	807.9	716.7	91.16	8.862	
8,700.0	6,077.0	8,715.2	6,078.0	49.2	47.1	90.14	-2,273.9	-11.1	808.0	713.2	94.82	8.522	

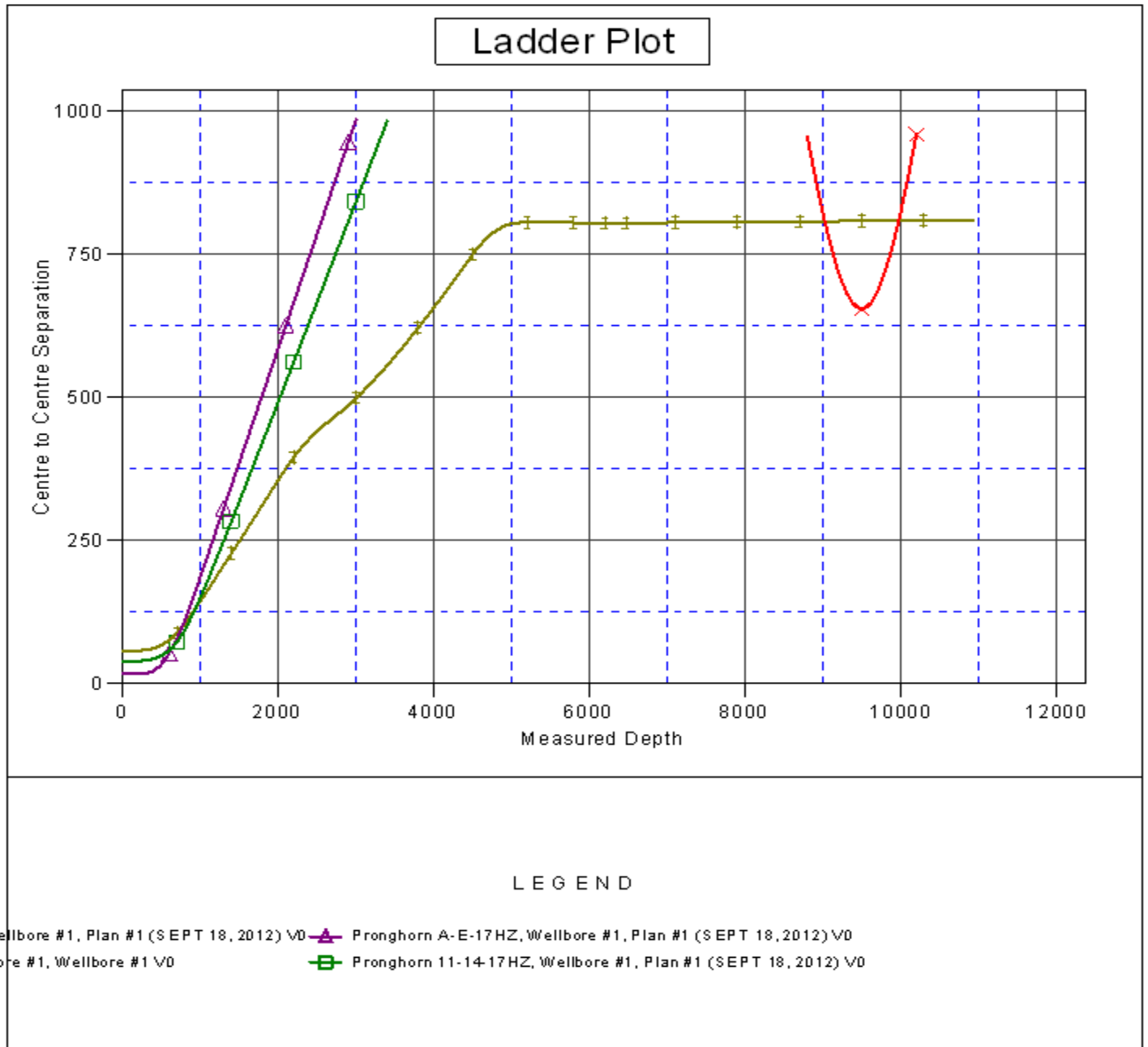
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well Pronghorn 21-24-17HZ
<b>Project:</b>	SEC.17-T5N-R61W	<b>TVD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Reference Site:</b>	Pronghorn F-17 Pad Sec.17-T5N-R61W	<b>MD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Pronghorn 21-24-17HZ	<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 (SEPT 18, 2012)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> Pronghorn F-17 Pad Sec.17-T5N-R61W - Pronghorn F-J-17HZ - Wellbore #1 - Plan #1 (SEPT 18, 2012)												<b>Offset Site Error:</b>	0.0 ft
Survey Program: 0-MWD												<b>Offset Well Error:</b>	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
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	Warning
8,800.0	6,077.0	8,815.2	6,078.0	51.0	48.9	90.14	-2,373.9	-11.1	808.1	709.6	98.48	8.206	
8,900.0	6,077.0	8,915.2	6,078.0	52.7	50.7	90.14	-2,473.9	-11.1	808.2	706.1	102.16	7.911	
9,000.0	6,077.0	9,015.2	6,078.0	54.5	52.6	90.14	-2,573.9	-11.1	808.4	702.5	105.86	7.636	
9,100.0	6,077.0	9,115.2	6,078.0	56.4	54.4	90.14	-2,673.9	-11.1	808.5	698.9	109.56	7.379	
9,200.0	6,077.0	9,215.2	6,078.0	58.2	56.3	90.14	-2,773.9	-11.1	808.6	695.3	113.27	7.138	
9,300.0	6,077.0	9,315.2	6,078.0	60.0	58.2	90.14	-2,873.9	-11.1	808.7	691.7	116.99	6.912	
9,400.0	6,077.0	9,415.2	6,078.0	61.8	60.0	90.14	-2,973.9	-11.1	808.8	688.1	120.72	6.700	
9,500.0	6,077.0	9,515.2	6,078.0	63.7	61.9	90.14	-3,073.9	-11.1	808.9	684.5	124.46	6.500	
9,600.0	6,077.0	9,615.2	6,078.0	65.5	63.8	90.14	-3,173.9	-11.1	809.1	680.9	128.20	6.311	
9,700.0	6,077.0	9,715.2	6,078.0	67.3	65.7	90.14	-3,273.9	-11.1	809.2	677.2	131.95	6.132	
9,800.0	6,077.0	9,815.2	6,078.0	69.2	67.5	90.14	-3,373.9	-11.1	809.3	673.6	135.70	5.964	
9,900.0	6,077.0	9,915.2	6,078.0	71.0	69.4	90.14	-3,473.9	-11.1	809.4	669.9	139.46	5.804	
10,000.0	6,077.0	10,015.2	6,078.0	72.9	71.3	90.14	-3,573.9	-11.1	809.5	666.3	143.23	5.652	
10,100.0	6,077.0	10,115.2	6,078.0	74.8	73.2	90.14	-3,673.9	-11.1	809.6	662.6	146.99	5.508	
10,200.0	6,077.0	10,215.2	6,078.0	76.6	75.1	90.14	-3,773.9	-11.1	809.7	659.0	150.76	5.371	
10,300.0	6,077.0	10,315.2	6,078.0	78.5	77.0	90.14	-3,873.9	-11.1	809.9	655.3	154.54	5.240	
10,400.0	6,077.0	10,415.2	6,078.0	80.4	78.8	90.14	-3,973.9	-11.1	810.0	651.7	158.32	5.116	
10,500.0	6,077.0	10,515.2	6,078.0	82.2	80.7	90.14	-4,073.9	-11.1	810.1	648.0	162.10	4.998	
10,600.0	6,077.0	10,615.2	6,078.0	84.1	82.6	90.14	-4,173.9	-11.1	810.2	644.3	165.88	4.884	
10,700.0	6,077.0	10,715.2	6,078.0	86.0	84.5	90.14	-4,273.9	-11.1	810.3	640.6	169.67	4.776	
10,800.0	6,077.0	10,815.2	6,078.0	87.9	86.4	90.14	-4,373.9	-11.1	810.4	637.0	173.46	4.672	
10,900.0	6,077.0	10,915.2	6,078.0	89.7	88.3	90.14	-4,473.9	-11.1	810.5	633.3	177.25	4.573	
10,939.9	6,077.0	10,955.1	6,078.0	90.5	89.1	90.14	-4,513.8	-11.1	810.6	631.8	178.76	4.534 SF	

<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well Pronghorn 21-24-17HZ
<b>Project:</b>	SEC.17-T5N-R61W	<b>TVD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Reference Site:</b>	Pronghorn F-17 Pad Sec.17-T5N-R61W	<b>MD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Pronghorn 21-24-17HZ	<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 (SEPT 18, 2012)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4606.0ft (Original Well Elev) Coordinates are relative to: Pronghorn 21-24-17HZ  
 Offset Depths are relative to Offset Datum  
 Central Meridian is -105.500000 °  
 Coordinate System is US State Plane 1983, Colorado Northern Zone  
 Grid Convergence at Surface is: 0.82°





<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well Pronghorn 21-24-17HZ
<b>Project:</b>	SEC.17-T5N-R61W	<b>TVD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Reference Site:</b>	Pronghorn F-17 Pad Sec.17-T5N-R61W	<b>MD Reference:</b>	WELL @ 4606.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Pronghorn 21-24-17HZ	<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 (SEPT 18, 2012)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4606.0ft (Original Well Elev) Coordinates are relative to: Pronghorn 21-24-17HZ  
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: 0.82°

