

# ENSIGN

## Directional

### Well Name: SEVENTY HOLES 41-18

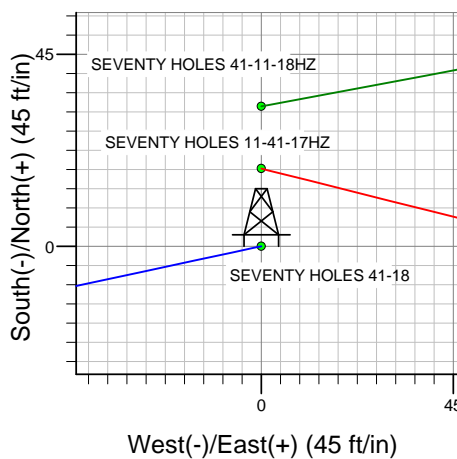
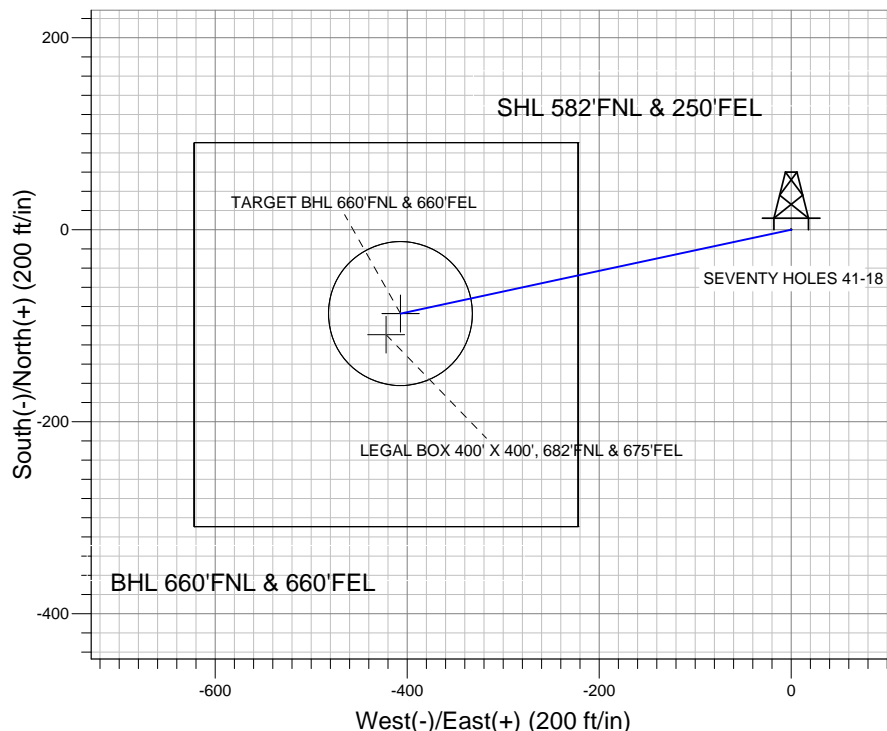
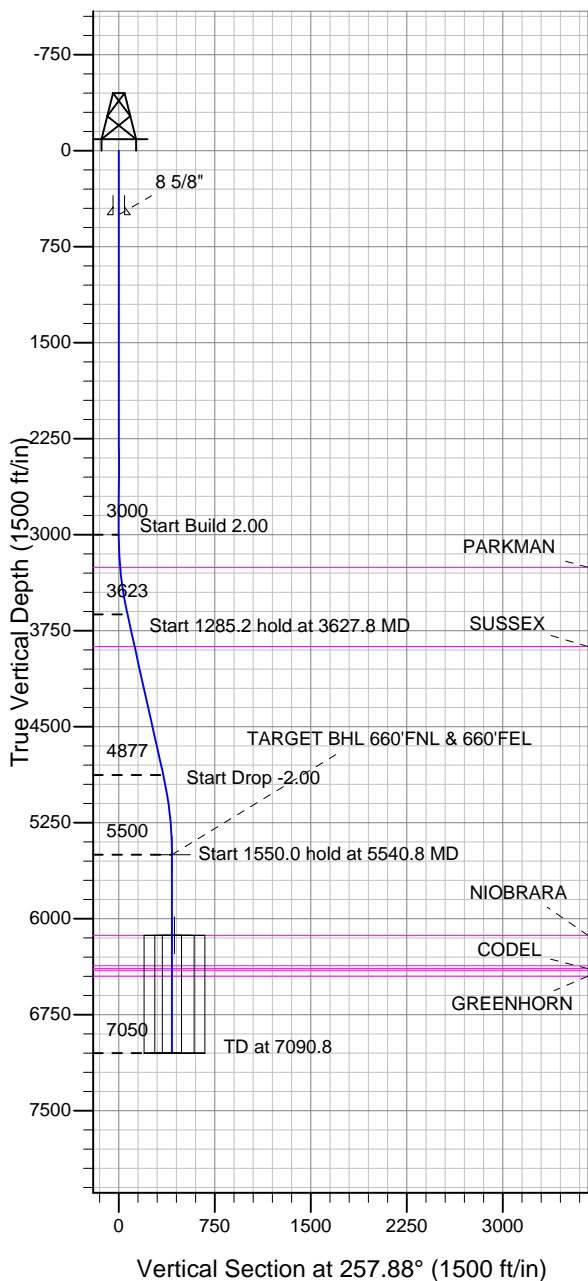
Surface Location: SEVENTY HOLES PAD SEC.18-T4N-R62W  
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4509.0

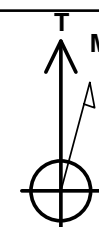
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1360907.42	3318231.78	40.318470	-104.358720	

Original Well Elev WELL @ 4524.0ft (Original Well Elev)

## BONANZA CREEK ENERGY OPERATING



SEVENTY HOLES PAD SEC.18-T4N-R62W  
 SEVENTY HOLES 41-18  
 PLAN #2 (JUNE 04, 2012)  
 14:27, June 04 2012



Azimuths to True North  
 Magnetic North: 8.51°

Magnetic Field  
 Strength: 53031.8snT  
 Dip Angle: 67.02°  
 Date: 6/4/2012  
 Model: IGRF2010

### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 660'FNL & 660'FEL	5500.0	-87.4	-407.1	40.318230	-104.360180	Point
LEGAL BOX 400' X 400', 682'FNL & 675'FEL	6130.0	-109.4	-422.1	40.318170	-104.360234	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 660'FNL & 660'FEL	6130.0	-87.4	-407.1	40.318230	-104.360180	Circle (Radius: 75.0)

### 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	3000.0	0.00	0.00	3000.0	0.0	0.0	0.00	0.00	0.0	
3	3627.8	12.56	257.88	3622.8	-14.4	-67.0	2.00	257.88	68.5	
4	4913.0	12.56	257.88	4877.2	-73.0	-340.1	0.00	0.00	347.9	
5	5540.8	0.00	0.00	5500.0	-87.4	-407.1	2.00	180.00	416.4	TARGET BHL 660'FNL & 660'FEL
6	7090.8	0.00	0.00	7050.0	-87.4	-407.1	0.00	0.00	416.4	



## **Directional**

# **BONANZA CREEK ENERGY OPERATING**

**SEC.18-T4N-R62W**

**SEVENTY HOLES PAD SEC.18-T4N-R62W**

**SEVENTY HOLES 41-18**

**Wellbore #1**

**Plan: PLAN #2 (JUNE 04, 2012)**

## **Standard Planning Report**

**04 June, 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	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,627.8	12.56	257.88	3,622.8	-14.4	-67.0	2.00	2.00	0.00	257.88	
4,913.0	12.56	257.88	4,877.2	-73.0	-340.1	0.00	0.00	0.00	0.00	
5,540.8	0.00	0.00	5,500.0	-87.4	-407.1	2.00	-2.00	0.00	180.00	TARGET BHL 660°
7,090.8	0.00	0.00	7,050.0	-87.4	-407.1	0.00	0.00	0.00	0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well SEVENTY HOLES 41-18
<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>TVD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Project:</b>	SEC.18-T4N-R62W	<b>MD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Site:</b>	SEVENTY HOLES PAD SEC.18-T4N-R62W	<b>North Reference:</b>	True
<b>Well:</b>	SEVENTY HOLES 41-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PLAN #2 (JUNE 04, 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
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.00	0.00	760.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
840.0	0.00	0.00	840.0	0.0	0.0	0.0	0.00	0.00	0.00
880.0	0.00	0.00	880.0	0.0	0.0	0.0	0.00	0.00	0.00
920.0	0.00	0.00	920.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.00	0.00	960.0	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
1,040.0	0.00	0.00	1,040.0	0.0	0.0	0.0	0.00	0.00	0.00
1,080.0	0.00	0.00	1,080.0	0.0	0.0	0.0	0.00	0.00	0.00
1,120.0	0.00	0.00	1,120.0	0.0	0.0	0.0	0.00	0.00	0.00
1,160.0	0.00	0.00	1,160.0	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
1,240.0	0.00	0.00	1,240.0	0.0	0.0	0.0	0.00	0.00	0.00
1,280.0	0.00	0.00	1,280.0	0.0	0.0	0.0	0.00	0.00	0.00
1,320.0	0.00	0.00	1,320.0	0.0	0.0	0.0	0.00	0.00	0.00
1,360.0	0.00	0.00	1,360.0	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
1,440.0	0.00	0.00	1,440.0	0.0	0.0	0.0	0.00	0.00	0.00
1,480.0	0.00	0.00	1,480.0	0.0	0.0	0.0	0.00	0.00	0.00
1,520.0	0.00	0.00	1,520.0	0.0	0.0	0.0	0.00	0.00	0.00
1,560.0	0.00	0.00	1,560.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,640.0	0.00	0.00	1,640.0	0.0	0.0	0.0	0.00	0.00	0.00
1,680.0	0.00	0.00	1,680.0	0.0	0.0	0.0	0.00	0.00	0.00
1,720.0	0.00	0.00	1,720.0	0.0	0.0	0.0	0.00	0.00	0.00
1,760.0	0.00	0.00	1,760.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,840.0	0.00	0.00	1,840.0	0.0	0.0	0.0	0.00	0.00	0.00
1,880.0	0.00	0.00	1,880.0	0.0	0.0	0.0	0.00	0.00	0.00
1,920.0	0.00	0.00	1,920.0	0.0	0.0	0.0	0.00	0.00	0.00
1,960.0	0.00	0.00	1,960.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,040.0	0.00	0.00	2,040.0	0.0	0.0	0.0	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well SEVENTY HOLES 41-18
<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>TVD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Project:</b>	SEC.18-T4N-R62W	<b>MD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Site:</b>	SEVENTY HOLES PAD SEC.18-T4N-R62W	<b>North Reference:</b>	True
<b>Well:</b>	SEVENTY HOLES 41-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PLAN #2 (JUNE 04, 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)
2,080.0	0.00	0.00	2,080.0	0.0	0.0	0.0	0.00	0.00	0.00
2,120.0	0.00	0.00	2,120.0	0.0	0.0	0.0	0.00	0.00	0.00
2,160.0	0.00	0.00	2,160.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,240.0	0.00	0.00	2,240.0	0.0	0.0	0.0	0.00	0.00	0.00
2,280.0	0.00	0.00	2,280.0	0.0	0.0	0.0	0.00	0.00	0.00
2,320.0	0.00	0.00	2,320.0	0.0	0.0	0.0	0.00	0.00	0.00
2,360.0	0.00	0.00	2,360.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,440.0	0.00	0.00	2,440.0	0.0	0.0	0.0	0.00	0.00	0.00
2,480.0	0.00	0.00	2,480.0	0.0	0.0	0.0	0.00	0.00	0.00
2,520.0	0.00	0.00	2,520.0	0.0	0.0	0.0	0.00	0.00	0.00
2,560.0	0.00	0.00	2,560.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,640.0	0.00	0.00	2,640.0	0.0	0.0	0.0	0.00	0.00	0.00
2,680.0	0.00	0.00	2,680.0	0.0	0.0	0.0	0.00	0.00	0.00
2,720.0	0.00	0.00	2,720.0	0.0	0.0	0.0	0.00	0.00	0.00
2,760.0	0.00	0.00	2,760.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,840.0	0.00	0.00	2,840.0	0.0	0.0	0.0	0.00	0.00	0.00
2,880.0	0.00	0.00	2,880.0	0.0	0.0	0.0	0.00	0.00	0.00
2,920.0	0.00	0.00	2,920.0	0.0	0.0	0.0	0.00	0.00	0.00
2,960.0	0.00	0.00	2,960.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,040.0	0.80	257.88	3,040.0	-0.1	-0.3	0.3	2.00	2.00	0.00
3,080.0	1.60	257.88	3,080.0	-0.2	-1.1	1.1	2.00	2.00	0.00
3,120.0	2.40	257.88	3,120.0	-0.5	-2.5	2.5	2.00	2.00	0.00
3,160.0	3.20	257.88	3,159.9	-0.9	-4.4	4.5	2.00	2.00	0.00
3,200.0	4.00	257.88	3,199.8	-1.5	-6.8	7.0	2.00	2.00	0.00
3,240.0	4.80	257.88	3,239.7	-2.1	-9.8	10.0	2.00	2.00	0.00
3,255.3	5.11	257.88	3,255.0	-2.4	-11.1	11.4	2.00	2.00	0.00
<b>PARKMAN</b>									
3,280.0	5.60	257.88	3,279.6	-2.9	-13.4	13.7	2.00	2.00	0.00
3,320.0	6.40	257.88	3,319.3	-3.8	-17.5	17.9	2.00	2.00	0.00
3,360.0	7.20	257.88	3,359.1	-4.7	-22.1	22.6	2.00	2.00	0.00
3,400.0	8.00	257.88	3,398.7	-5.9	-27.3	27.9	2.00	2.00	0.00
3,440.0	8.80	257.88	3,438.3	-7.1	-33.0	33.7	2.00	2.00	0.00
3,480.0	9.60	257.88	3,477.8	-8.4	-39.2	40.1	2.00	2.00	0.00
3,520.0	10.40	257.88	3,517.1	-9.9	-46.0	47.1	2.00	2.00	0.00
3,560.0	11.20	257.88	3,556.4	-11.5	-53.3	54.6	2.00	2.00	0.00
3,600.0	12.00	257.88	3,595.6	-13.1	-61.2	62.6	2.00	2.00	0.00
3,627.8	12.56	257.88	3,622.8	-14.4	-67.0	68.5	2.00	2.00	0.00
3,640.0	12.56	257.88	3,634.7	-14.9	-69.6	71.2	0.00	0.00	0.00
3,680.0	12.56	257.88	3,673.7	-16.8	-78.1	79.9	0.00	0.00	0.00
3,720.0	12.56	257.88	3,712.8	-18.6	-86.6	88.6	0.00	0.00	0.00
3,760.0	12.56	257.88	3,751.8	-20.4	-95.1	97.3	0.00	0.00	0.00
3,800.0	12.56	257.88	3,790.9	-22.2	-103.6	105.9	0.00	0.00	0.00
3,840.0	12.56	257.88	3,829.9	-24.1	-112.1	114.6	0.00	0.00	0.00
3,880.0	12.56	257.88	3,869.0	-25.9	-120.6	123.3	0.00	0.00	0.00
3,885.2	12.56	257.88	3,874.0	-26.1	-121.7	124.5	0.00	0.00	0.00
<b>SUSSEX</b>									
3,920.0	12.56	257.88	3,908.0	-27.7	-129.1	132.0	0.00	0.00	0.00
3,960.0	12.56	257.88	3,947.0	-29.5	-137.6	140.7	0.00	0.00	0.00
4,000.0	12.56	257.88	3,986.1	-31.4	-146.1	149.4	0.00	0.00	0.00

**Database:** Landmark  
**Company:** BONANZA CREEK ENERGY OPERATING  
**Project:** SEC.18-T4N-R62W  
**Site:** SEVENTY HOLES PAD SEC.18-T4N-R62W  
**Well:** SEVENTY HOLES 41-18  
**Wellbore:** Wellbore #1  
**Design:** PLAN #2 (JUNE 04, 2012)

**Local Co-ordinate Reference:**  
**TVD Reference:**  
**MD Reference:**  
**North Reference:**  
**Survey Calculation Method:**

Well SEVENTY HOLES 41-18  
 WELL @ 4524.0ft (Original Well Elev)  
 WELL @ 4524.0ft (Original Well Elev)  
 True  
 Minimum Curvature

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)
4,040.0	12.56	257.88	4,025.1	-33.2	-154.6	158.1	0.00	0.00	0.00
4,080.0	12.56	257.88	4,064.2	-35.0	-163.1	166.8	0.00	0.00	0.00
4,120.0	12.56	257.88	4,103.2	-36.8	-171.6	175.5	0.00	0.00	0.00
4,160.0	12.56	257.88	4,142.3	-38.7	-180.1	184.2	0.00	0.00	0.00
4,200.0	12.56	257.88	4,181.3	-40.5	-188.6	192.9	0.00	0.00	0.00
4,240.0	12.56	257.88	4,220.3	-42.3	-197.1	201.6	0.00	0.00	0.00
4,280.0	12.56	257.88	4,259.4	-44.2	-205.6	210.3	0.00	0.00	0.00
4,320.0	12.56	257.88	4,298.4	-46.0	-214.1	219.0	0.00	0.00	0.00
4,360.0	12.56	257.88	4,337.5	-47.8	-222.6	227.7	0.00	0.00	0.00
4,400.0	12.56	257.88	4,376.5	-49.6	-231.1	236.4	0.00	0.00	0.00
4,440.0	12.56	257.88	4,415.6	-51.5	-239.6	245.1	0.00	0.00	0.00
4,480.0	12.56	257.88	4,454.6	-53.3	-248.1	253.8	0.00	0.00	0.00
4,520.0	12.56	257.88	4,493.6	-55.1	-256.6	262.5	0.00	0.00	0.00
4,560.0	12.56	257.88	4,532.7	-56.9	-265.1	271.2	0.00	0.00	0.00
4,600.0	12.56	257.88	4,571.7	-58.8	-273.6	279.9	0.00	0.00	0.00
4,640.0	12.56	257.88	4,610.8	-60.6	-282.1	288.6	0.00	0.00	0.00
4,680.0	12.56	257.88	4,649.8	-62.4	-290.6	297.3	0.00	0.00	0.00
4,720.0	12.56	257.88	4,688.9	-64.2	-299.1	305.9	0.00	0.00	0.00
4,760.0	12.56	257.88	4,727.9	-66.1	-307.6	314.6	0.00	0.00	0.00
4,800.0	12.56	257.88	4,767.0	-67.9	-316.1	323.3	0.00	0.00	0.00
4,840.0	12.56	257.88	4,806.0	-69.7	-324.6	332.0	0.00	0.00	0.00
4,880.0	12.56	257.88	4,845.0	-71.5	-333.1	340.7	0.00	0.00	0.00
4,913.0	12.56	257.88	4,877.2	-73.0	-340.1	347.9	0.00	0.00	0.00
4,920.0	12.42	257.88	4,884.1	-73.4	-341.6	349.4	2.00	-2.00	0.00
4,960.0	11.62	257.88	4,923.2	-75.1	-349.8	357.7	2.00	-2.00	0.00
5,000.0	10.82	257.88	4,962.4	-76.7	-357.4	365.5	2.00	-2.00	0.00
5,040.0	10.02	257.88	5,001.8	-78.3	-364.5	372.8	2.00	-2.00	0.00
5,080.0	9.22	257.88	5,041.2	-79.7	-371.0	379.4	2.00	-2.00	0.00
5,120.0	8.42	257.88	5,080.8	-80.9	-377.0	385.6	2.00	-2.00	0.00
5,160.0	7.62	257.88	5,120.4	-82.1	-382.4	391.1	2.00	-2.00	0.00
5,200.0	6.82	257.88	5,160.0	-83.2	-387.3	396.2	2.00	-2.00	0.00
5,240.0	6.02	257.88	5,199.8	-84.1	-391.7	400.6	2.00	-2.00	0.00
5,280.0	5.22	257.88	5,239.6	-84.9	-395.5	404.6	2.00	-2.00	0.00
5,320.0	4.42	257.88	5,279.5	-85.6	-398.8	407.9	2.00	-2.00	0.00
5,360.0	3.62	257.88	5,319.4	-86.2	-401.6	410.7	2.00	-2.00	0.00
5,400.0	2.82	257.88	5,359.3	-86.7	-403.8	413.0	2.00	-2.00	0.00
5,440.0	2.02	257.88	5,399.3	-87.0	-405.4	414.6	2.00	-2.00	0.00
5,480.0	1.22	257.88	5,439.2	-87.3	-406.5	415.8	2.00	-2.00	0.00
5,520.0	0.42	257.88	5,479.2	-87.4	-407.1	416.3	2.00	-2.00	0.00
5,540.8	0.00	0.00	5,500.0	-87.4	-407.1	416.4	2.00	-2.00	0.00
TARGET BHL 660°FNL & 660°FEL									
5,560.0	0.00	0.00	5,519.2	-87.4	-407.1	416.4	0.00	0.00	0.00
5,600.0	0.00	0.00	5,559.2	-87.4	-407.1	416.4	0.00	0.00	0.00
5,640.0	0.00	0.00	5,599.2	-87.4	-407.1	416.4	0.00	0.00	0.00
5,680.0	0.00	0.00	5,639.2	-87.4	-407.1	416.4	0.00	0.00	0.00
5,720.0	0.00	0.00	5,679.2	-87.4	-407.1	416.4	0.00	0.00	0.00
5,760.0	0.00	0.00	5,719.2	-87.4	-407.1	416.4	0.00	0.00	0.00
5,800.0	0.00	0.00	5,759.2	-87.4	-407.1	416.4	0.00	0.00	0.00
5,840.0	0.00	0.00	5,799.2	-87.4	-407.1	416.4	0.00	0.00	0.00
5,880.0	0.00	0.00	5,839.2	-87.4	-407.1	416.4	0.00	0.00	0.00
5,920.0	0.00	0.00	5,879.2	-87.4	-407.1	416.4	0.00	0.00	0.00
5,960.0	0.00	0.00	5,919.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,000.0	0.00	0.00	5,959.2	-87.4	-407.1	416.4	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well SEVENTY HOLES 41-18
<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>TVD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Project:</b>	SEC.18-T4N-R62W	<b>MD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Site:</b>	SEVENTY HOLES PAD SEC.18-T4N-R62W	<b>North Reference:</b>	True
<b>Well:</b>	SEVENTY HOLES 41-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PLAN #2 (JUNE 04, 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)
6,040.0	0.00	0.00	5,999.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,080.0	0.00	0.00	6,039.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,120.0	0.00	0.00	6,079.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,160.0	0.00	0.00	6,119.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,170.8	0.00	0.00	6,130.0	-87.4	-407.1	416.4	0.00	0.00	0.00
<b>NIOBARRA - TARGET CIRCLE 660'FNL &amp; 660'FEL - LEGAL BOX 400' X 400', 682'FNL &amp; 675'FEL</b>									
6,200.0	0.00	0.00	6,159.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,240.0	0.00	0.00	6,199.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,280.0	0.00	0.00	6,239.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,320.0	0.00	0.00	6,279.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,360.0	0.00	0.00	6,319.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,400.0	0.00	0.00	6,359.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,408.8	0.00	0.00	6,368.0	-87.4	-407.1	416.4	0.00	0.00	0.00
<b>FT HAYS</b>									
6,430.8	0.00	0.00	6,390.0	-87.4	-407.1	416.4	0.00	0.00	0.00
<b>CODEL</b>									
6,440.0	0.00	0.00	6,399.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,442.8	0.00	0.00	6,402.0	-87.4	-407.1	416.4	0.00	0.00	0.00
<b>CARLILE</b>									
6,480.0	0.00	0.00	6,439.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,489.8	0.00	0.00	6,449.0	-87.4	-407.1	416.4	0.00	0.00	0.00
<b>GREENHORN</b>									
6,520.0	0.00	0.00	6,479.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,560.0	0.00	0.00	6,519.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,600.0	0.00	0.00	6,559.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,640.0	0.00	0.00	6,599.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,680.0	0.00	0.00	6,639.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,720.0	0.00	0.00	6,679.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,760.0	0.00	0.00	6,719.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,800.0	0.00	0.00	6,759.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,840.0	0.00	0.00	6,799.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,880.0	0.00	0.00	6,839.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,920.0	0.00	0.00	6,879.2	-87.4	-407.1	416.4	0.00	0.00	0.00
6,960.0	0.00	0.00	6,919.2	-87.4	-407.1	416.4	0.00	0.00	0.00
7,000.0	0.00	0.00	6,959.2	-87.4	-407.1	416.4	0.00	0.00	0.00
7,040.0	0.00	0.00	6,999.2	-87.4	-407.1	416.4	0.00	0.00	0.00
7,080.0	0.00	0.00	7,039.2	-87.4	-407.1	416.4	0.00	0.00	0.00
7,090.8	0.00	0.00	7,050.0	-87.4	-407.1	416.4	0.00	0.00	0.00

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
500.0	500.0	8 5/8"	8-5/8	12-1/4	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well SEVENTY HOLES 41-18
<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>TVD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Project:</b>	SEC.18-T4N-R62W	<b>MD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Site:</b>	SEVENTY HOLES PAD SEC.18-T4N-R62W	<b>North Reference:</b>	True
<b>Well:</b>	SEVENTY HOLES 41-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PLAN #2 (JUNE 04, 2012)		

Formations						
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	3,255.3	3,255.0	PARKMAN		0.00	
	3,885.2	3,874.0	SUSSEX		0.00	
	6,170.8	6,130.0	NIOBRARA		0.00	
	6,408.8	6,368.0	FT HAYS		0.00	
	6,430.8	6,390.0	CODEL		0.00	
	6,442.8	6,402.0	CARLILE		0.00	
	6,489.8	6,449.0	GREENHORN		0.00	





## **Directional**

# **BONANZA CREEK ENERGY OPERATING**

**SEC.18-T4N-R62W**

**SEVENTY HOLES PAD SEC.18-T4N-R62W**

**SEVENTY HOLES 41-18**

**Wellbore #1**

**PLAN #2 (JUNE 04, 2012)**

## **Anticollision Report**

**04 June, 2012**

<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well SEVENTY HOLES 41-18
<b>Project:</b>	SEC.18-T4N-R62W	<b>TVD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Reference Site:</b>	SEVENTY HOLES PAD SEC.18-T4N-R62W	<b>MD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	SEVENTY HOLES 41-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	PLAN #2 (JUNE 04, 2012)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PLAN #2 (JUNE 04, 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 10,000.0ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 6/4/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	7,090.8	PLAN #2 (JUNE 04, 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>						
SEVENTY HOLES PAD SEC.18-T4N-R62W						
SEVENTY HOLES 11-41-17HZ - Wellbore #1 - PLAN 1 (	959.3	959.4	17.7	13.6	4.357	CC, ES
SEVENTY HOLES 11-41-17HZ - Wellbore #1 - PLAN 1 (	1,000.0	1,000.0	17.9	13.6	4.223	SF
SEVENTY HOLES 41-11-18HZ - Wellbore #1 - PLAN 1 (	1,500.0	1,500.0	32.8	26.3	5.031	CC
SEVENTY HOLES 41-11-18HZ - Wellbore #1 - PLAN 1 (	1,600.0	1,599.8	33.2	26.2	4.767	ES
SEVENTY HOLES 41-11-18HZ - Wellbore #1 - PLAN 1 (	6,256.8	6,674.7	150.0	114.3	4.200	SF

<b>Offset Design</b> SEVENTY HOLES PAD SEC.18-T4N-R62W - SEVENTY HOLES 11-41-17HZ - Wellbore #1 - PLAN 1 (													<b>Offset Site Error:</b>	0.0ft
<b>Survey Program:</b> 0-MWD													<b>Offset Well Error:</b>	0.0ft
<b>Reference Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Offset Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Semi Major Axis Reference (ft)</b>	<b>Semi Major Axis Offset (ft)</b>	<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre +N/-S (ft)</b>	<b>Offset Wellbore Centre +E/-W (ft)</b>	<b>Distance Between Centres (ft)</b>	<b>Distance Between Ellipses (ft)</b>	<b>Minimum Separation (ft)</b>	<b>Separation Factor</b>	<b>Warning</b>	
0.0	0.0	0.0	0.0	0.0	0.0	0.00	18.2	0.0	18.2	18.2	0.00	N/A		
100.0	100.0	100.0	100.0	0.1	0.1	0.00	18.2	0.0	18.2	18.0	0.22	81.078		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	18.2	0.0	18.2	17.5	0.67	27.026		
300.0	300.0	300.0	300.0	0.6	0.6	0.00	18.2	0.0	18.2	17.1	1.12	16.216		
400.0	400.0	400.0	400.0	0.8	0.8	0.00	18.2	0.0	18.2	16.7	1.57	11.583		
500.0	500.0	500.0	500.0	1.0	1.0	0.00	18.2	0.0	18.2	16.2	2.02	9.009		
600.0	600.0	600.0	600.0	1.2	1.2	0.00	18.2	0.0	18.2	15.8	2.47	7.371		
700.0	700.0	700.0	700.0	1.5	1.5	0.00	18.2	0.0	18.2	15.3	2.92	6.237		
800.0	800.0	800.0	800.0	1.7	1.7	0.00	18.2	0.0	18.2	14.9	3.37	5.405		
900.0	900.0	900.1	900.1	1.9	1.9	5.45	17.8	1.7	17.9	14.1	3.80	4.699		
959.3	959.3	959.4	959.3	2.0	2.0	14.08	17.1	4.3	17.7	13.6	4.06	4.357	CC, ES	
1,000.0	1,000.0	1,000.0	999.8	2.1	2.1	22.27	16.5	6.8	17.9	13.6	4.23	4.223	SF	
1,100.0	1,100.0	1,099.4	1,098.8	2.4	2.3	46.43	14.4	15.2	21.0	16.3	4.67	4.490		
1,200.0	1,200.0	1,198.2	1,196.9	2.6	2.6	66.70	11.5	26.7	29.3	24.1	5.13	5.704		
1,300.0	1,300.0	1,297.3	1,295.2	2.8	2.8	78.07	8.3	39.4	40.6	35.0	5.62	7.220		
1,400.0	1,400.0	1,396.4	1,393.4	3.0	3.1	84.36	5.1	52.1	52.8	46.7	6.13	8.616		
1,500.0	1,500.0	1,495.6	1,491.7	3.3	3.4	88.27	2.0	64.8	65.4	58.8	6.64	9.844		
1,600.0	1,600.0	1,594.7	1,589.9	3.5	3.7	90.91	-1.2	77.5	78.2	71.0	7.17	10.913		
1,700.0	1,700.0	1,693.8	1,688.2	3.7	4.0	92.80	-4.4	90.2	91.1	83.4	7.69	11.843		
1,800.0	1,800.0	1,792.9	1,786.5	3.9	4.3	94.22	-7.6	102.9	104.1	95.9	8.23	12.655		
1,900.0	1,900.0	1,892.1	1,884.7	4.2	4.6	95.33	-10.8	115.6	117.1	108.4	8.76	13.369		
2,000.0	2,000.0	1,991.2	1,983.0	4.4	4.9	96.21	-14.0	128.3	130.2	120.9	9.30	14.001		

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 SEVENTY HOLES 41-18
<b>Project:</b>	SEC.18-T4N-R62W	<b>TVD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Reference Site:</b>	SEVENTY HOLES PAD SEC.18-T4N-R62W	<b>MD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	SEVENTY HOLES 41-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	PLAN #2 (JUNE 04, 2012)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SEVENTY HOLES PAD SEC.18-T4N-R62W - SEVENTY HOLES 11-41-17HZ - Wellbore #1 - PLAN 1 (													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
2,100.0	2,100.0	2,090.3	2,081.2	4.6	5.2	96.93	-17.2	141.0	143.3	133.5	9.84	14.562		
2,200.0	2,200.0	2,189.4	2,179.5	4.8	5.6	97.54	-20.3	153.7	156.4	146.0	10.38	15.064		
2,300.0	2,300.0	2,288.6	2,277.7	5.1	5.9	98.05	-23.5	166.4	169.5	158.6	10.93	15.514		
2,400.0	2,400.0	2,387.7	2,376.0	5.3	6.2	98.48	-26.7	179.1	182.7	171.2	11.47	15.922		
2,500.0	2,500.0	2,486.8	2,474.2	5.5	6.5	98.86	-29.9	191.8	195.8	183.8	12.02	16.291		
2,600.0	2,600.0	2,585.9	2,572.5	5.7	6.8	99.19	-33.1	204.5	209.0	196.4	12.57	16.627		
2,700.0	2,700.0	2,689.2	2,674.9	6.0	7.2	99.48	-36.3	217.3	221.7	208.6	13.11	16.915		
2,800.0	2,800.0	2,797.3	2,782.5	6.2	7.4	99.68	-38.8	227.2	231.1	217.6	13.58	17.025		
2,900.0	2,900.0	2,906.0	2,891.0	6.4	7.6	99.80	-40.3	233.2	236.8	222.8	14.01	16.899		
3,000.0	3,000.0	3,015.0	3,000.0	6.6	7.8	99.84	-40.8	235.2	238.7	224.3	14.42	16.552		
3,100.0	3,100.0	3,115.0	3,100.0	6.8	8.0	-158.19	-40.8	235.2	240.3	226.8	13.55	17.739		
3,200.0	3,199.8	3,214.8	3,199.8	7.0	8.2	-158.61	-40.8	235.2	245.2	231.3	13.91	17.630		
3,300.0	3,299.5	3,314.4	3,299.5	7.2	8.3	-159.27	-40.8	235.2	253.3	239.1	14.26	17.766		
3,400.0	3,398.7	3,413.7	3,398.7	7.4	8.5	-160.12	-40.8	235.2	264.8	250.2	14.60	18.136		
3,500.0	3,497.5	3,512.4	3,497.5	7.7	8.7	-161.12	-40.8	235.2	279.5	264.6	14.93	18.726		
3,600.0	3,595.6	3,610.6	3,595.6	7.9	8.9	-162.19	-40.8	235.2	297.7	282.4	15.25	19.527		
3,627.8	3,622.8	3,637.8	3,622.8	8.0	8.9	-162.50	-40.8	235.2	303.3	288.0	15.33	19.786		
3,700.0	3,693.3	3,708.2	3,693.3	8.2	9.1	-163.34	-40.8	235.2	318.4	302.7	15.63	20.370		
3,800.0	3,790.9	3,805.8	3,790.9	8.5	9.2	-164.40	-40.8	235.2	339.3	323.2	16.05	21.142		
3,900.0	3,888.5	3,903.4	3,888.5	8.8	9.4	-165.32	-40.8	235.2	360.3	343.8	16.47	21.876		
4,000.0	3,986.1	4,001.1	3,986.1	9.1	9.6	-166.15	-40.8	235.2	381.4	364.5	16.90	22.573		
4,100.0	4,083.7	4,098.7	4,083.7	9.5	9.8	-166.89	-40.8	235.2	402.6	385.3	17.33	23.234		
4,200.0	4,181.3	4,196.3	4,181.3	9.8	10.0	-167.56	-40.8	235.2	423.8	406.0	17.76	23.863		
4,300.0	4,278.9	4,293.9	4,278.9	10.2	10.2	-168.16	-40.8	235.2	445.1	426.9	18.20	24.461		
4,400.0	4,376.5	4,391.5	4,376.5	10.6	10.4	-168.71	-40.8	235.2	466.4	447.8	18.63	25.030		
4,500.0	4,474.1	4,489.1	4,474.1	11.0	10.6	-169.21	-40.8	235.2	487.8	468.7	19.07	25.571		
4,600.0	4,571.7	4,586.7	4,571.7	11.3	10.8	-169.66	-40.8	235.2	509.1	489.6	19.52	26.087		
4,700.0	4,669.3	4,684.3	4,669.3	11.7	10.9	-170.08	-40.8	235.2	530.6	510.6	19.96	26.579		
4,800.0	4,767.0	4,781.9	4,767.0	12.1	11.1	-170.47	-40.8	235.2	552.0	531.6	20.41	27.048		
4,900.0	4,864.6	4,879.5	4,864.6	12.5	11.3	-170.83	-40.8	235.2	573.5	552.6	20.86	27.495		
4,913.0	4,877.2	4,892.2	4,877.2	12.6	11.4	-170.88	-40.8	235.2	576.3	555.3	20.92	27.552		
5,000.0	4,962.4	4,977.4	4,962.4	12.9	11.5	-171.20	-40.8	235.2	593.7	572.3	21.40	27.744		
5,100.0	5,061.0	5,075.9	5,061.0	13.2	11.7	-171.50	-40.8	235.2	610.5	588.6	21.92	27.848		
5,200.0	5,160.0	5,175.0	5,160.0	13.5	11.9	-171.72	-40.8	235.2	624.0	601.6	22.43	27.823		
5,300.0	5,259.5	5,274.5	5,259.5	13.7	12.1	-171.88	-40.8	235.2	634.0	611.1	22.90	27.680		
5,400.0	5,359.3	5,374.3	5,359.3	13.9	12.3	-171.98	-40.8	235.2	640.6	617.2	23.36	27.427		
5,500.0	5,459.2	5,474.2	5,459.2	14.1	12.6	-172.03	-40.8	235.2	643.7	620.0	23.78	27.069		
5,540.8	5,500.0	5,515.0	5,500.0	14.2	12.6	85.85	-40.8	235.2	644.0	620.1	23.94	26.897		
5,600.0	5,559.2	5,574.2	5,559.2	14.3	12.8	85.85	-40.8	235.2	644.0	619.8	24.19	26.625		
5,700.0	5,659.2	5,674.2	5,659.2	14.5	13.0	85.85	-40.8	235.2	644.0	619.4	24.62	26.161		
5,800.0	5,759.2	5,733.8	5,718.8	14.7	13.1	85.86	-40.8	236.2	646.3	621.4	24.96	25.894		
5,900.0	5,859.2	5,778.1	5,762.9	14.8	13.2	85.89	-40.9	240.9	656.8	631.5	25.27	25.987		
6,000.0	5,959.2	5,821.3	5,805.3	15.0	13.4	85.96	-41.0	249.0	675.6	650.0	25.59	26.398		
6,100.0	6,059.2	5,850.0	5,833.0	15.2	13.5	86.01	-41.2	256.3	702.5	676.6	25.88	27.149		
6,200.0	6,159.2	5,900.0	5,880.2	15.4	13.7	86.14	-41.5	272.7	736.3	710.1	26.22	28.086		
6,300.0	6,259.2	5,950.0	5,925.7	15.6	13.9	86.28	-41.9	293.5	777.4	750.8	26.56	29.269		
6,400.0	6,359.2	5,974.5	5,947.2	15.8	14.1	86.36	-42.1	305.3	824.3	797.4	26.84	30.715		
6,500.0	6,459.2	6,000.0	5,968.9	16.0	14.3	86.45	-42.4	318.6	877.0	849.9	27.12	32.343		
6,600.0	6,559.2	6,050.0	6,009.5	16.2	14.6	86.63	-42.9	347.7	934.9	907.4	27.46	34.048		
6,700.0	6,659.2	6,050.0	6,009.5	16.4	14.6	86.63	-42.9	347.7	997.0	969.3	27.67	36.026		
6,800.0	6,759.2	6,100.0	6,047.2	16.6	15.0	86.81	-43.6	380.6	1,062.8	1,034.8	28.01	37.943		
6,900.0	6,859.2	6,100.0	6,047.2	16.8	15.0	86.81	-43.6	380.6	1,132.2	1,104.0	28.23	40.112		

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 SEVENTY HOLES 41-18
<b>Project:</b>	SEC.18-T4N-R62W	<b>TVD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Reference Site:</b>	SEVENTY HOLES PAD SEC.18-T4N-R62W	<b>MD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	SEVENTY HOLES 41-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	PLAN #2 (JUNE 04, 2012)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Offset Design</b> SEVENTY HOLES PAD SEC.18-T4N-R62W - SEVENTY HOLES 11-41-17HZ - Wellbore #1 - PLAN 1 (												<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									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)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
7,000.0	6,959.2	6,150.0	6,081.5	17.0	15.5	87.00	-44.3	416.9	1,204.7	1,176.2	28.56	42.188	
7,090.8	7,050.0	6,150.0	6,081.5	17.1	15.5	87.00	-44.3	416.9	1,272.4	1,243.6	28.75	44.252	

<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well SEVENTY HOLES 41-18
<b>Project:</b>	SEC.18-T4N-R62W	<b>TVD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Reference Site:</b>	SEVENTY HOLES PAD SEC.18-T4N-R62W	<b>MD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	SEVENTY HOLES 41-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	PLAN #2 (JUNE 04, 2012)	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design SEVENTY HOLES PAD SEC.18-T4N-R62W - SEVENTY HOLES 41-11-18HZ - Wellbore #1 - PLAN 1 (													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	0.00	32.8	0.0	32.8					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	32.8	0.0	32.8	32.6	0.22	145.911		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	32.8	0.0	32.8	32.1	0.67	48.637		
300.0	300.0	300.0	300.0	0.6	0.6	0.00	32.8	0.0	32.8	31.7	1.12	29.182		
400.0	400.0	400.0	400.0	0.8	0.8	0.00	32.8	0.0	32.8	31.2	1.57	20.844		
500.0	500.0	500.0	500.0	1.0	1.0	0.00	32.8	0.0	32.8	30.8	2.02	16.212		
600.0	600.0	600.0	600.0	1.2	1.2	0.00	32.8	0.0	32.8	30.3	2.47	13.265		
700.0	700.0	700.0	700.0	1.5	1.5	0.00	32.8	0.0	32.8	29.9	2.92	11.224		
800.0	800.0	800.0	800.0	1.7	1.7	0.00	32.8	0.0	32.8	29.4	3.37	9.727		
900.0	900.0	900.0	900.0	1.9	1.9	0.00	32.8	0.0	32.8	29.0	3.82	8.583		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	0.00	32.8	0.0	32.8	28.5	4.27	7.680		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	0.00	32.8	0.0	32.8	28.1	4.72	6.948		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	0.00	32.8	0.0	32.8	27.6	5.17	6.344		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	0.00	32.8	0.0	32.8	27.2	5.62	5.836		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	0.00	32.8	0.0	32.8	26.7	6.07	5.404		
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	0.00	32.8	0.0	32.8	26.3	6.52	5.031 CC		
1,600.0	1,600.0	1,599.8	1,599.7	3.5	3.5	2.95	33.1	1.7	33.2	26.2	6.96	4.767 ES		
1,700.0	1,700.0	1,699.3	1,699.1	3.7	3.7	11.30	34.1	6.8	34.8	27.4	7.39	4.705		
1,800.0	1,800.0	1,798.3	1,797.8	3.9	3.9	23.17	35.6	15.3	38.8	31.0	7.82	4.965		
1,900.0	1,900.0	1,897.2	1,896.0	4.2	4.1	35.13	37.7	26.6	46.3	38.1	8.27	5.601		
2,000.0	2,000.0	1,996.5	1,994.6	4.4	4.4	43.78	39.9	38.3	55.6	46.8	8.73	6.362		
2,100.0	2,100.0	2,095.8	2,093.1	4.6	4.6	49.88	42.1	50.0	65.7	56.5	9.21	7.134		
2,200.0	2,200.0	2,195.1	2,191.7	4.8	4.9	54.32	44.3	61.7	76.4	66.7	9.70	7.878		
2,300.0	2,300.0	2,294.3	2,290.3	5.1	5.1	57.66	46.5	73.4	87.4	77.2	10.19	8.580		
2,400.0	2,400.0	2,393.6	2,388.8	5.3	5.4	60.24	48.6	85.1	98.7	88.0	10.69	9.233		
2,500.0	2,500.0	2,492.9	2,487.4	5.5	5.7	62.30	50.8	96.8	110.1	98.9	11.19	9.839		
2,600.0	2,600.0	2,592.2	2,585.9	5.7	6.0	63.96	53.0	108.5	121.6	109.9	11.69	10.398		
2,700.0	2,700.0	2,691.4	2,684.5	6.0	6.2	65.34	55.2	120.2	133.2	121.0	12.20	10.915		
2,800.0	2,800.0	2,790.7	2,783.1	6.2	6.5	66.49	57.4	131.9	144.9	132.1	12.71	11.394		
2,900.0	2,900.0	2,890.0	2,881.6	6.4	6.8	67.48	59.6	143.6	156.6	143.3	13.23	11.837		
3,000.0	3,000.0	2,989.3	2,980.2	6.6	7.1	68.32	61.7	155.3	168.3	154.6	13.74	12.247		
3,100.0	3,100.0	3,088.3	3,078.5	6.8	7.4	171.22	63.9	167.0	181.8	168.2	13.59	13.382		
3,200.0	3,199.8	3,186.8	3,176.3	7.0	7.7	172.02	66.1	178.6	198.8	184.8	13.97	14.227		
3,300.0	3,299.5	3,284.7	3,273.5	7.2	8.0	172.80	68.2	190.2	219.2	204.8	14.34	15.285		
3,400.0	3,398.7	3,381.8	3,369.8	7.4	8.3	173.53	70.4	201.6	243.0	228.3	14.69	16.542		
3,500.0	3,497.5	3,477.9	3,465.3	7.7	8.6	174.20	72.5	213.0	270.2	255.1	15.02	17.987		
3,600.0	3,595.6	3,573.1	3,559.8	7.9	8.9	174.79	74.6	224.2	300.7	285.4	15.33	19.612		
3,627.8	3,622.8	3,599.3	3,585.8	8.0	8.9	174.94	75.1	227.3	309.8	294.4	15.42	20.095		
3,700.0	3,693.3	3,667.4	3,653.4	8.2	9.1	175.35	76.6	235.3	333.7	318.0	15.71	21.238		
3,800.0	3,790.9	3,775.0	3,760.5	8.5	9.4	175.85	78.7	246.1	365.3	349.1	16.12	22.659		
3,900.0	3,888.5	3,885.6	3,870.8	8.8	9.6	176.22	80.0	253.1	393.2	376.6	16.53	23.790		
4,000.0	3,986.1	3,998.6	3,983.7	9.1	9.8	176.48	80.5	256.0	417.3	400.4	16.94	24.637		
4,100.0	4,083.7	4,098.5	4,083.7	9.5	10.0	176.66	80.5	256.0	439.1	421.7	17.35	25.312		
4,200.0	4,181.3	4,196.1	4,181.3	9.8	10.2	176.82	80.5	256.0	460.8	443.0	17.77	25.928		
4,300.0	4,278.9	4,293.8	4,278.9	10.2	10.4	176.96	80.5	256.0	482.5	464.3	18.20	26.511		
4,400.0	4,376.5	4,391.4	4,376.5	10.6	10.6	177.09	80.5	256.0	504.2	485.6	18.63	27.062		
4,500.0	4,474.1	4,489.0	4,474.1	11.0	10.8	177.21	80.5	256.0	525.9	506.8	19.07	27.584		
4,600.0	4,571.7	4,586.6	4,571.7	11.3	11.0	177.32	80.5	256.0	547.6	528.1	19.50	28.079		
4,700.0	4,669.3	4,684.2	4,669.3	11.7	11.2	177.43	80.5	256.0	569.3	549.4	19.94	28.548		
4,800.0	4,767.0	4,781.8	4,767.0	12.1	11.3	177.52	80.5	256.0	591.1	570.7	20.39	28.994		
4,900.0	4,864.6	4,879.4	4,864.6	12.5	11.5	177.61	80.5	256.0	612.8	592.0	20.83	29.418		
4,913.0	4,877.2	4,892.1	4,877.2	12.6	11.6	177.62	80.5	256.0	615.6	594.7	20.89	29.472		

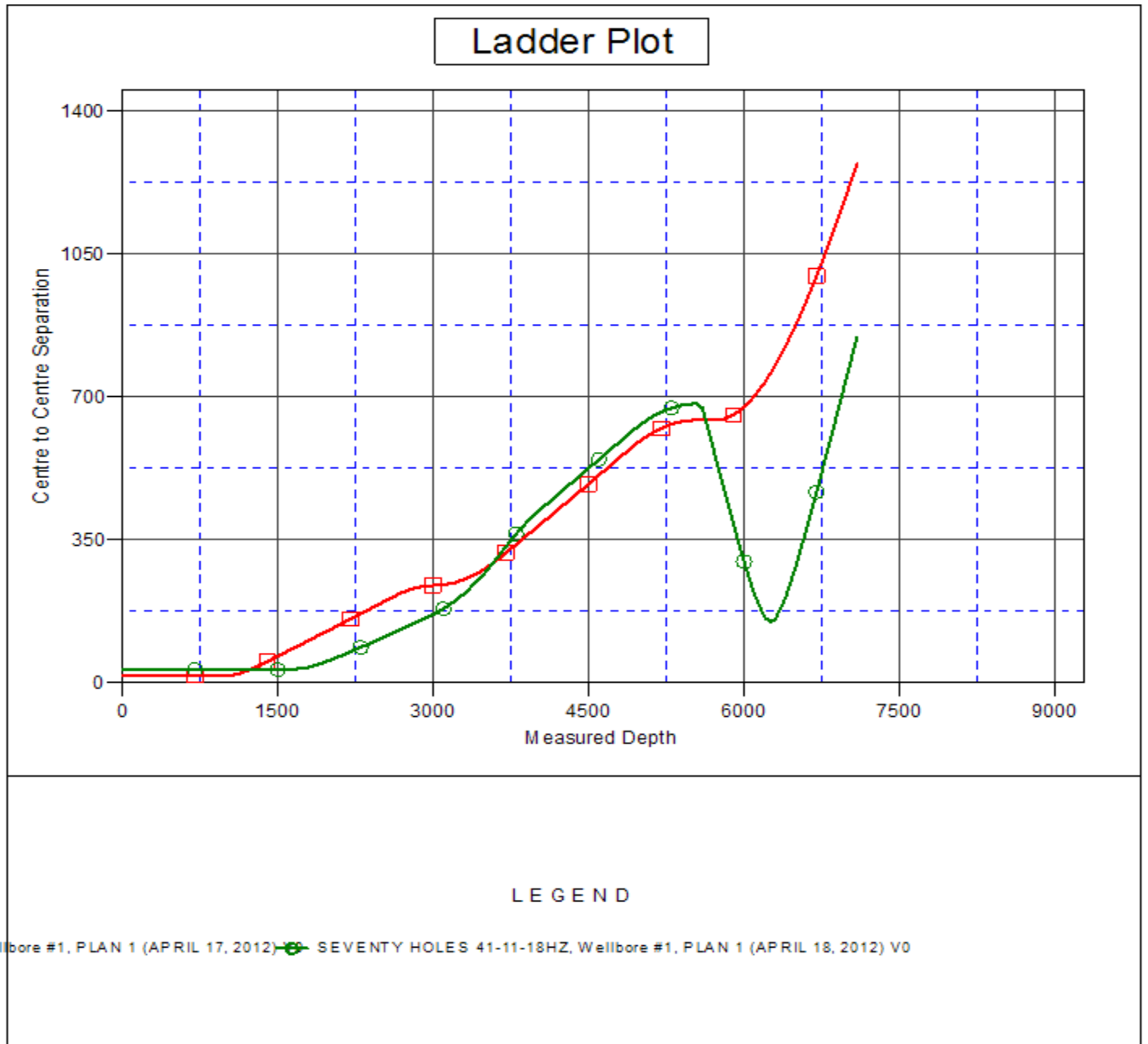
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

SEVENTY HOLES PAD SEC.18-T4N-R62W - SEVENTY HOLES 41-11-18HZ - Wellbore #1 - PLAN 1 (													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			
5,000.0	4,962.4	4,977.3	4,962.4	12.9	11.7	177.70	80.5	256.0	633.2	611.8	21.37	29.626			
5,100.0	5,061.0	5,075.8	5,061.0	13.2	11.9	177.77	80.5	256.0	650.2	628.3	21.90	29.686			
5,200.0	5,160.0	5,174.9	5,160.0	13.5	12.1	177.83	80.5	256.0	663.8	641.4	22.41	29.620			
5,300.0	5,259.5	5,274.4	5,259.5	13.7	12.3	177.87	80.5	256.0	674.0	651.1	22.89	29.438			
5,400.0	5,359.3	5,374.1	5,359.3	13.9	12.5	177.90	80.5	256.0	680.6	657.3	23.35	29.147			
5,500.0	5,459.2	5,474.1	5,459.2	14.1	12.7	177.91	80.5	256.0	683.8	660.0	23.78	28.755			
5,540.8	5,500.0	5,514.8	5,500.0	14.2	12.8	75.79	80.5	256.0	684.1	660.1	23.94	28.570			
5,600.0	5,559.2	6,674.7	6,216.0	14.3	20.3	-1.54	62.5	-411.2	673.7	639.2	34.47	19.546			
5,700.0	5,659.2	6,674.7	6,216.0	14.5	20.3	-1.54	62.5	-411.2	576.6	542.0	34.65	16.640			
5,800.0	5,759.2	6,674.7	6,216.0	14.7	20.3	-1.54	62.5	-411.2	480.8	445.9	34.84	13.799			
5,900.0	5,859.2	6,674.7	6,216.0	14.8	20.3	-1.54	62.5	-411.2	387.0	352.0	35.03	11.048			
6,000.0	5,959.2	6,674.7	6,216.0	15.0	20.3	-1.54	62.5	-411.2	297.4	262.1	35.22	8.443			
6,100.0	6,059.2	6,674.7	6,216.0	15.2	20.3	-1.54	62.5	-411.2	217.0	181.5	35.41	6.127			
6,200.0	6,159.2	6,674.7	6,216.0	15.4	20.3	-1.54	62.5	-411.2	160.4	124.8	35.60	4.505			
6,256.8	6,216.0	6,674.7	6,216.0	15.5	20.3	-1.54	62.5	-411.2	150.0	114.3	35.71	4.200 SF			
6,300.0	6,259.2	6,674.7	6,216.0	15.6	20.3	-1.54	62.5	-411.2	156.1	120.3	35.79	4.361			
6,400.0	6,359.2	6,674.7	6,216.0	15.8	20.3	-1.54	62.5	-411.2	207.4	171.4	35.98	5.763			
6,500.0	6,459.2	6,674.7	6,216.0	16.0	20.3	-1.54	62.5	-411.2	285.8	249.6	36.18	7.899			
6,600.0	6,559.2	6,674.7	6,216.0	16.2	20.3	-1.54	62.5	-411.2	374.6	338.2	36.37	10.298			
6,700.0	6,659.2	6,674.7	6,216.0	16.4	20.3	-1.54	62.5	-411.2	467.9	431.4	36.57	12.796			
6,800.0	6,759.2	6,674.7	6,216.0	16.6	20.3	-1.54	62.5	-411.2	563.6	526.8	36.76	15.329			
6,900.0	6,859.2	6,674.7	6,216.0	16.8	20.3	-1.54	62.5	-411.2	660.5	623.5	36.96	17.870			
7,000.0	6,959.2	6,674.7	6,216.0	17.0	20.3	-1.54	62.5	-411.2	758.2	721.1	37.16	20.405			
7,090.8	7,050.0	6,674.7	6,216.0	17.1	20.3	-1.54	62.5	-411.2	847.4	810.0	37.34	22.695			

**Company:** BONANZA CREEK ENERGY OPERATING  
**Project:** SEC.18-T4N-R62W  
**Reference Site:** SEVENTY HOLES PAD SEC.18-T4N-R62W  
**Site Error:** 0.0ft  
**Reference Well:** SEVENTY HOLES 41-18  
**Well Error:** 0.0ft  
**Reference Wellbore:** Wellbore #1  
**Reference Design:** PLAN #2 (JUNE 04, 2012)

**Local Co-ordinate Reference:** Well SEVENTY HOLES 41-18  
**TVD Reference:** WELL @ 4524.0ft (Original Well Elev)  
**MD Reference:** WELL @ 4524.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Output errors are at** 2.00 sigma  
**Database:** Landmark  
**Offset TVD Reference:** Offset Datum

Reference Depths are relative to WELL @ 4524.0ft (Original Well Elev) Coordinates are relative to: SEVENTY HOLES 41-18  
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: 0.74°



<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>Local Co-ordinate Reference:</b>	Well SEVENTY HOLES 41-18
<b>Project:</b>	SEC.18-T4N-R62W	<b>TVD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Reference Site:</b>	SEVENTY HOLES PAD SEC.18-T4N-R62W	<b>MD Reference:</b>	WELL @ 4524.0ft (Original Well Elev)
<b>Site Error:</b>	0.0ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	SEVENTY HOLES 41-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wellbore #1	<b>Database:</b>	Landmark
<b>Reference Design:</b>	PLAN #2 (JUNE 04, 2012)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 4524.0ft (Original Well Elev) Coordinates are relative to: SEVENTY HOLES 41-18  
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone  
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