

BONANZA CREEK ENERGY OPERATING

Well Name: **PRONGHORN 41-44-18HZ**

Surface Location: PRONGHORN 41-44-18HZ PAD 18-5N-61W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4587.0

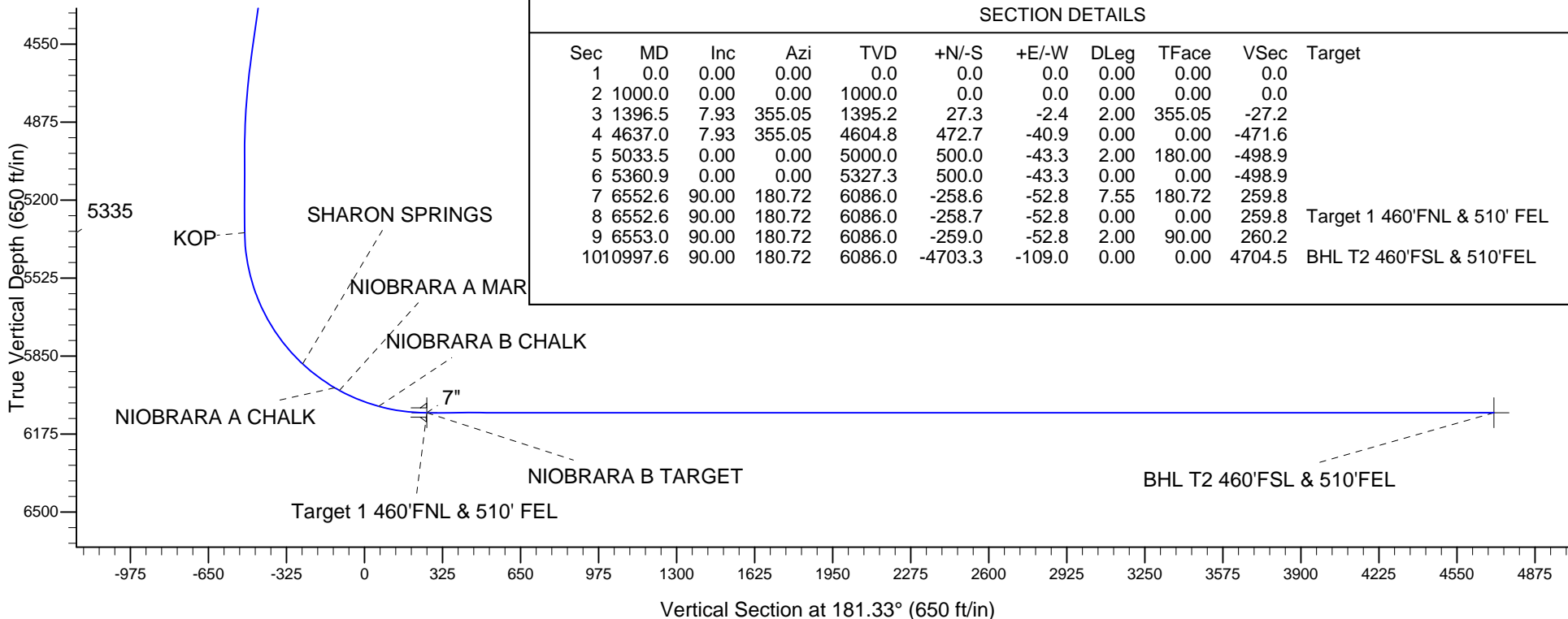
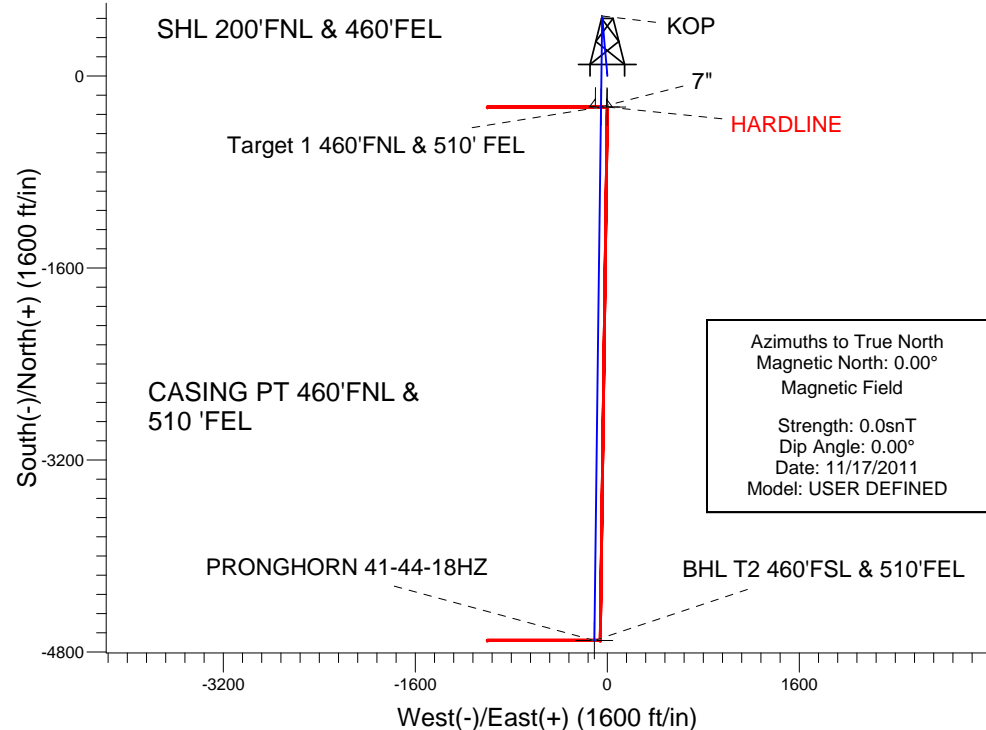
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1393949.67	3349605.67	40.408000	-104.244540	

ENSIGN 14 RKB @ 4602.0ft (ENSIGN 14)

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
HARDLINE	1.0	-260.0	0.0	40.407286	-104.244540	Polygon
BHL T2 460'FSL & 510'FEL	6086.0	-4703.3	-109.0	40.395090	-104.244931	Point
Target 1 460'FNL & 510' FEL	6086.0	-258.7	-52.8	40.407290	-104.244730	Point

PRONGHORN 41-44-18HZ PAD 18-5N-61W
PRONGHORN 41-44-18HZ
PLAN 2 (DEC 16,2011)
14:33, December 16 2011





Directional

BONANZA CREEK ENERGY OPERATING

SEC.18-T5N-R61W

PRONGHORN 41-44-18HZ PAD 18-5N-61W

PRONGHORN 41-44-18HZ

Wellbore #1

Plan: PLAN 2 (DEC 16,2011)

Standard Planning Report

16 December, 2011

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	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,437.4	8.75	355.05	1,435.7	33.2	-2.9	2.00	2.00	0.00	355.05	
4,299.3	8.75	355.05	4,264.3	466.8	-40.4	0.00	0.00	0.00	0.00	
4,736.7	0.00	0.00	4,700.0	500.0	-43.3	2.00	-2.00	0.00	180.00	
5,364.0	0.00	0.00	5,327.3	500.0	-43.3	0.00	0.00	0.00	0.00	
6,555.7	90.00	180.72	6,086.0	-258.6	-52.8	7.55	7.55	0.00	180.72	
6,555.8	90.00	180.72	6,086.0	-258.7	-52.8	0.00	0.00	0.00	0.00	Target 1 460'FNL &
6,556.1	90.00	180.72	6,086.0	-259.0	-52.8	2.00	0.00	2.00	90.00	
11,000.7	90.00	180.72	6,086.0	-4,703.3	-109.0	0.00	0.00	0.00	0.00	BHL T2 460'FSL &

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
HARDLINE									
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
KOP 1									
1,100.0	2.00	355.05	1,100.0	1.7	-0.2	-1.7	2.00	2.00	0.00
1,200.0	4.00	355.05	1,199.8	7.0	-0.6	-6.9	2.00	2.00	0.00
1,300.0	6.00	355.05	1,299.5	15.6	-1.4	-15.6	2.00	2.00	0.00
1,400.0	8.00	355.05	1,398.7	27.8	-2.4	-27.7	2.00	2.00	0.00
1,437.4	8.75	355.05	1,435.7	33.2	-2.9	-33.1	2.00	2.00	0.00
1,500.0	8.75	355.05	1,497.6	42.7	-3.7	-42.6	0.00	0.00	0.00
1,600.0	8.75	355.05	1,596.4	57.8	-5.0	-57.7	0.00	0.00	0.00
1,700.0	8.75	355.05	1,695.2	73.0	-6.3	-72.8	0.00	0.00	0.00
1,800.0	8.75	355.05	1,794.1	88.1	-7.6	-87.9	0.00	0.00	0.00
1,900.0	8.75	355.05	1,892.9	103.3	-8.9	-103.1	0.00	0.00	0.00
2,000.0	8.75	355.05	1,991.8	118.4	-10.3	-118.2	0.00	0.00	0.00
2,100.0	8.75	355.05	2,090.6	133.6	-11.6	-133.3	0.00	0.00	0.00
2,200.0	8.75	355.05	2,189.4	148.7	-12.9	-148.4	0.00	0.00	0.00
2,300.0	8.75	355.05	2,288.3	163.9	-14.2	-163.5	0.00	0.00	0.00
2,400.0	8.75	355.05	2,387.1	179.0	-15.5	-178.6	0.00	0.00	0.00
2,500.0	8.75	355.05	2,485.9	194.2	-16.8	-193.8	0.00	0.00	0.00
2,600.0	8.75	355.05	2,584.8	209.3	-18.1	-208.9	0.00	0.00	0.00
2,700.0	8.75	355.05	2,683.6	224.5	-19.4	-224.0	0.00	0.00	0.00
2,800.0	8.75	355.05	2,782.5	239.6	-20.8	-239.1	0.00	0.00	0.00
2,900.0	8.75	355.05	2,881.3	254.8	-22.1	-254.2	0.00	0.00	0.00
3,000.0	8.75	355.05	2,980.1	269.9	-23.4	-269.3	0.00	0.00	0.00
3,100.0	8.75	355.05	3,079.0	285.1	-24.7	-284.4	0.00	0.00	0.00
3,200.0	8.75	355.05	3,177.8	300.2	-26.0	-299.6	0.00	0.00	0.00
3,219.4	8.75	355.05	3,197.0	303.2	-26.3	-302.5	0.00	0.00	0.00
PARKMAN									
3,300.0	8.75	355.05	3,276.6	315.4	-27.3	-314.7	0.00	0.00	0.00
3,400.0	8.75	355.05	3,375.5	330.6	-28.6	-329.8	0.00	0.00	0.00
3,500.0	8.75	355.05	3,474.3	345.7	-29.9	-344.9	0.00	0.00	0.00
3,600.0	8.75	355.05	3,573.1	360.9	-31.2	-360.0	0.00	0.00	0.00
3,700.0	8.75	355.05	3,672.0	376.0	-32.6	-375.1	0.00	0.00	0.00
3,800.0	8.75	355.05	3,770.8	391.2	-33.9	-390.3	0.00	0.00	0.00
3,900.0	8.75	355.05	3,869.7	406.3	-35.2	-405.4	0.00	0.00	0.00
4,000.0	8.75	355.05	3,968.5	421.5	-36.5	-420.5	0.00	0.00	0.00
4,100.0	8.75	355.05	4,067.3	436.6	-37.8	-435.6	0.00	0.00	0.00
4,200.0	8.75	355.05	4,166.2	451.8	-39.1	-450.7	0.00	0.00	0.00
4,299.3	8.75	355.05	4,264.3	466.8	-40.4	-465.7	0.00	0.00	0.00
4,300.0	8.73	355.05	4,265.0	466.9	-40.4	-465.8	2.00	-2.00	0.00
4,400.0	6.73	355.05	4,364.1	480.3	-41.6	-479.2	2.00	-2.00	0.00
4,500.0	4.73	355.05	4,463.6	490.3	-42.5	-489.1	2.00	-2.00	0.00

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)	
4,600.0	2.73	355.05	4,563.4	496.8	-43.0	-495.6	2.00	-2.00	0.00	
4,700.0	0.73	355.05	4,663.3	499.8	-43.3	-498.6	2.00	-2.00	0.00	
4,736.7	0.00	0.00	4,700.0	500.0	-43.3	-498.9	2.00	-2.00	0.00	
4,800.0	0.00	0.00	4,763.3	500.0	-43.3	-498.9	0.00	0.00	0.00	
4,900.0	0.00	0.00	4,863.3	500.0	-43.3	-498.9	0.00	0.00	0.00	
5,000.0	0.00	0.00	4,963.3	500.0	-43.3	-498.9	0.00	0.00	0.00	
5,100.0	0.00	0.00	5,063.3	500.0	-43.3	-498.9	0.00	0.00	0.00	
5,200.0	0.00	0.00	5,163.3	500.0	-43.3	-498.9	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,263.3	500.0	-43.3	-498.9	0.00	0.00	0.00	
5,364.0	0.00	0.00	5,327.3	500.0	-43.3	-498.9	0.00	0.00	0.00	
KOP 2										
5,400.0	2.72	180.72	5,363.3	499.1	-43.3	-498.0	7.55	7.55	0.00	
5,500.0	10.27	180.72	5,462.6	487.8	-43.5	-486.7	7.55	7.55	0.00	
5,600.0	17.82	180.72	5,559.5	463.6	-43.8	-462.5	7.55	7.55	0.00	
5,700.0	25.37	180.72	5,652.4	426.8	-44.2	-425.7	7.55	7.55	0.00	
5,800.0	32.93	180.72	5,739.7	378.1	-44.8	-377.0	7.55	7.55	0.00	
5,900.0	40.48	180.72	5,819.8	318.4	-45.6	-317.3	7.55	7.55	0.00	
5,986.1	46.98	180.72	5,882.0	259.0	-46.3	-257.8	7.55	7.55	0.00	
SHARON SPRINGS										
6,000.0	48.03	180.72	5,891.4	248.7	-46.4	-247.6	7.55	7.55	0.00	
6,100.0	55.58	180.72	5,953.2	170.2	-47.4	-169.0	7.55	7.55	0.00	
6,153.8	59.65	180.72	5,982.0	124.8	-48.0	-123.6	7.55	7.55	0.00	
NIOBRARA A CHALK										
6,176.1	61.33	180.72	5,993.0	105.3	-48.2	-104.2	7.55	7.55	0.00	
NIOBRARA A MARL										
6,200.0	63.14	180.72	6,004.1	84.2	-48.5	-83.1	7.55	7.55	0.00	
6,300.0	70.69	180.72	6,043.3	-7.7	-49.7	8.9	7.55	7.55	0.00	
6,352.7	74.67	180.72	6,059.0	-58.0	-50.3	59.2	7.55	7.55	0.00	
NIOBRARA B CHALK										
6,400.0	78.24	180.72	6,070.1	-104.0	-50.9	105.1	7.55	7.55	0.00	
6,500.0	85.79	180.72	6,084.0	-202.9	-52.1	204.1	7.55	7.55	0.00	
6,552.0	89.72	180.72	6,086.0	-254.9	-52.8	256.0	7.55	7.55	0.00	
7"										
6,552.9	89.57	180.72	6,086.0	-255.7	-52.8	256.9	17.51	-17.51	0.00	
NIOBRARA B TARGET										
6,555.7	90.00	180.72	6,086.0	-258.6	-52.8	259.8	15.10	15.10	0.00	
6,555.8	90.00	180.72	6,086.0	-258.7	-52.8	259.8	0.00	0.00	0.00	
Target 1 460'FNL & 510' FEL										
6,556.1	90.00	180.72	6,086.0	-259.0	-52.8	260.2	2.00	0.00	2.00	
6,600.0	90.00	180.72	6,086.0	-302.9	-53.4	304.0	0.00	0.00	0.00	
6,700.0	90.00	180.72	6,086.0	-402.9	-54.6	404.0	0.00	0.00	0.00	
6,800.0	90.00	180.72	6,086.0	-502.9	-55.9	504.0	0.00	0.00	0.00	
6,900.0	90.00	180.72	6,086.0	-602.9	-57.2	604.0	0.00	0.00	0.00	
7,000.0	90.00	180.72	6,086.0	-702.8	-58.4	704.0	0.00	0.00	0.00	
7,100.0	90.00	180.72	6,086.0	-802.8	-59.7	804.0	0.00	0.00	0.00	
7,200.0	90.00	180.72	6,086.0	-902.8	-60.9	904.0	0.00	0.00	0.00	
7,300.0	90.00	180.72	6,086.0	-1,002.8	-62.2	1,004.0	0.00	0.00	0.00	
7,400.0	90.00	180.72	6,086.0	-1,102.8	-63.5	1,104.0	0.00	0.00	0.00	
7,500.0	90.00	180.72	6,086.0	-1,202.8	-64.7	1,204.0	0.00	0.00	0.00	
7,600.0	90.00	180.72	6,086.0	-1,302.8	-66.0	1,304.0	0.00	0.00	0.00	
7,700.0	90.00	180.72	6,086.0	-1,402.8	-67.3	1,404.0	0.00	0.00	0.00	
7,800.0	90.00	180.72	6,086.0	-1,502.8	-68.5	1,504.0	0.00	0.00	0.00	
7,900.0	90.00	180.72	6,086.0	-1,602.8	-69.8	1,604.0	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well PRONGHORN 41-44-18HZ
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	RKB @ 4602.0ft (ENSIGN 14)
Project:	SEC.18-T5N-R61W	MD Reference:	RKB @ 4602.0ft (ENSIGN 14)
Site:	PRONGHORN 41-44-18HZ PAD 18-5N-61W	North Reference:	True
Well:	PRONGHORN 41-44-18HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN 2 (DEC 16,2011)		

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)
8,000.0	90.00	180.72	6,086.0	-1,702.8	-71.1	1,704.0	0.00	0.00	0.00
8,100.0	90.00	180.72	6,086.0	-1,802.8	-72.3	1,804.0	0.00	0.00	0.00
8,200.0	90.00	180.72	6,086.0	-1,902.8	-73.6	1,903.9	0.00	0.00	0.00
8,300.0	90.00	180.72	6,086.0	-2,002.7	-74.9	2,003.9	0.00	0.00	0.00
8,400.0	90.00	180.72	6,086.0	-2,102.7	-76.1	2,103.9	0.00	0.00	0.00
8,500.0	90.00	180.72	6,086.0	-2,202.7	-77.4	2,203.9	0.00	0.00	0.00
8,600.0	90.00	180.72	6,086.0	-2,302.7	-78.6	2,303.9	0.00	0.00	0.00
8,700.0	90.00	180.72	6,086.0	-2,402.7	-79.9	2,403.9	0.00	0.00	0.00
8,800.0	90.00	180.72	6,086.0	-2,502.7	-81.2	2,503.9	0.00	0.00	0.00
8,900.0	90.00	180.72	6,086.0	-2,602.7	-82.4	2,603.9	0.00	0.00	0.00
9,000.0	90.00	180.72	6,086.0	-2,702.7	-83.7	2,703.9	0.00	0.00	0.00
9,100.0	90.00	180.72	6,086.0	-2,802.7	-85.0	2,803.9	0.00	0.00	0.00
9,200.0	90.00	180.72	6,086.0	-2,902.7	-86.2	2,903.9	0.00	0.00	0.00
9,300.0	90.00	180.72	6,086.0	-3,002.7	-87.5	3,003.9	0.00	0.00	0.00
9,400.0	90.00	180.72	6,086.0	-3,102.7	-88.8	3,103.9	0.00	0.00	0.00
9,500.0	90.00	180.72	6,086.0	-3,202.6	-90.0	3,203.9	0.00	0.00	0.00
9,600.0	90.00	180.72	6,086.0	-3,302.6	-91.3	3,303.9	0.00	0.00	0.00
9,700.0	90.00	180.72	6,086.0	-3,402.6	-92.6	3,403.9	0.00	0.00	0.00
9,800.0	90.00	180.72	6,086.0	-3,502.6	-93.8	3,503.9	0.00	0.00	0.00
9,900.0	90.00	180.72	6,086.0	-3,602.6	-95.1	3,603.9	0.00	0.00	0.00
10,000.0	90.00	180.72	6,086.0	-3,702.6	-96.3	3,703.8	0.00	0.00	0.00
10,100.0	90.00	180.72	6,086.0	-3,802.6	-97.6	3,803.8	0.00	0.00	0.00
10,200.0	90.00	180.72	6,086.0	-3,902.6	-98.9	3,903.8	0.00	0.00	0.00
10,300.0	90.00	180.72	6,086.0	-4,002.6	-100.1	4,003.8	0.00	0.00	0.00
10,400.0	90.00	180.72	6,086.0	-4,102.6	-101.4	4,103.8	0.00	0.00	0.00
10,500.0	90.00	180.72	6,086.0	-4,202.6	-102.7	4,203.8	0.00	0.00	0.00
10,600.0	90.00	180.72	6,086.0	-4,302.6	-103.9	4,303.8	0.00	0.00	0.00
10,700.0	90.00	180.72	6,086.0	-4,402.6	-105.2	4,403.8	0.00	0.00	0.00
10,800.0	90.00	180.72	6,086.0	-4,502.5	-106.5	4,503.8	0.00	0.00	0.00
10,900.0	90.00	180.72	6,086.0	-4,602.5	-107.7	4,603.8	0.00	0.00	0.00
11,000.0	90.00	180.72	6,086.0	-4,702.5	-109.0	4,703.8	0.00	0.00	0.00
11,000.7	90.00	180.72	6,086.0	-4,703.3	-109.0	4,704.5	0.00	0.00	0.00
BHL T2 460'FSL & 510'FEL									

Database:	Landmark	Local Co-ordinate Reference:	Well PRONGHORN 41-44-18HZ
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	RKB @ 4602.0ft (ENSIGN 14)
Project:	SEC.18-T5N-R61W	MD Reference:	RKB @ 4602.0ft (ENSIGN 14)
Site:	PRONGHORN 41-44-18HZ PAD 18-5N-61W	North Reference:	True
Well:	PRONGHORN 41-44-18HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN 2 (DEC 16,2011)		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
BHL T2 460'FSL & 51	0.00	0.00	6,086.0	-4,703.3	-109.0	1,389,245.53	3,349,563.27	40.395090	-104.244931
- plan hits target center									
- Point									
HARDLINE	0.00	0.00	1.0	-260.0	0.0	1,393,689.71	3,349,609.35	40.407286	-104.244540
- plan misses target center by 260.0ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E)									
- Polygon									
Point 1			1.0	0.0	0.0	1,393,689.71	3,349,609.35		
Point 2			1.0	0.0	-1,000.0	1,393,675.55	3,348,609.49		
Point 3			1.0	0.0	0.0	1,393,689.71	3,349,609.35		
Point 4			1.0	-4,443.0	-59.0	1,389,246.50	3,349,613.26		
Point 5			1.0	-4,443.0	-1,000.0	1,389,233.18	3,348,672.39		
Point 6			1.0	-4,443.0	-59.0	1,389,246.50	3,349,613.26		
Point 7			1.0	0.0	0.0	1,393,689.71	3,349,609.35		
Target 1 460'FNL & 5'	0.00	0.00	6,086.0	-258.7	-52.8	1,393,690.30	3,349,556.54	40.407290	-104.244730
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth		Name	Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
6,552.0	6,086.0	7"		7	8-3/4

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
3,219.4	3,197.0	PARKMAN		0.00		
5,986.1	5,882.0	SHARON SPRINGS		0.00		
6,153.8	5,982.0	NIOBRARA A CHALK		0.00		
6,176.1	5,993.0	NIOBRARA A MARL		0.00		
6,352.7	6,059.0	NIOBRARA B CHALK		0.00		
6,552.9	6,086.0	NIOBRARA B TARGET		0.00		
	6,088.0	NIOBRARA B MARL		0.00		
	6,135.0	NIOBRARA C CHALK		0.00		

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
1,000.0	1,000.0	0.0	0.0	KOP 1	
5,364.0	5,327.3	500.0	-43.3	KOP 2	