

BONANZA CREEK ENERGY OPERATING

Well Name: **Pronghorn K-O-18HNB**

Surface Location: Pronghorn F-18 Pad Sec.18-T5N-R61W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4569.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1393863.62	3346083.79	40.407900	-104.257190	

RKB - 15' WELL @ 4584.0ft (RKB - 15')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 220'FNL & 1311'FWL	1.0	0.0	0.0	Point
BHL 470'FSL & 2637'FWL	6088.0	-4688.7	1353.7	Point
T1 531'FNL & 2649'FWL	6088.0	-295.0	1339.6	Point



Azimuths to True North
Magnetic North: 8.27°

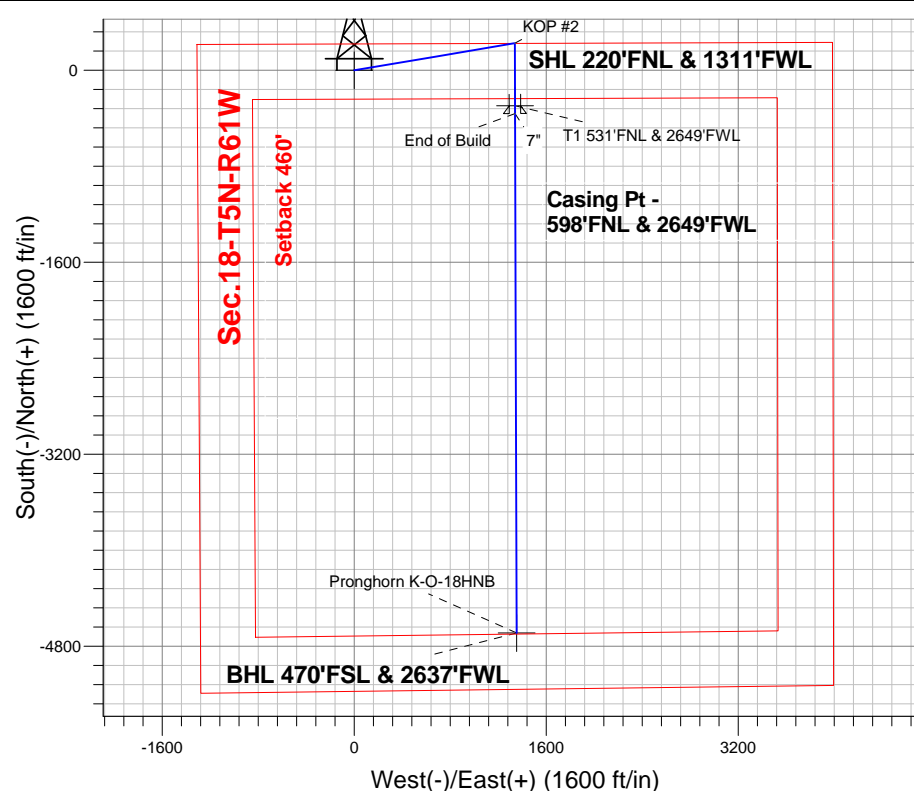
Magnetic Field
Strength: 52939.9nT
Dip Angle: 67.06°
Date: 10/30/2013
Model: IGRF2010

Pronghorn F-18 Pad Sec.18-T5N-R61W
Pronghorn K-O-18HNB
Plan #1 (10-30-13)
12:10, October 30 2013

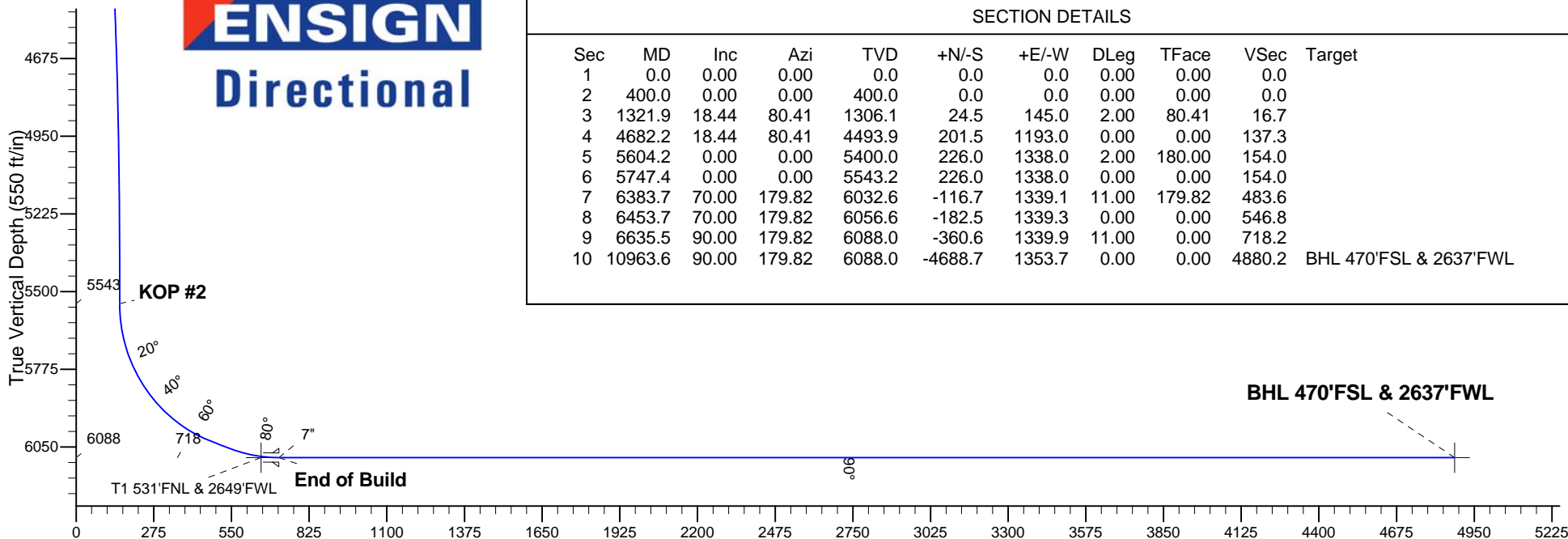
ANNOTATIONS

TVD	MD	Annotation
400.0	400.0	KOP #1
5543.2	5747.4	KOP #2
6088.0	6635.5	End of Build

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



ENSIGN
Directional



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1321.9	18.44	80.41	1306.1	24.5	145.0	2.00	80.41	16.7	
4	4682.2	18.44	80.41	4493.9	201.5	1193.0	0.00	0.00	137.3	
5	5604.2	0.00	0.00	5400.0	226.0	1338.0	2.00	180.00	154.0	
6	5747.4	0.00	0.00	5543.2	226.0	1338.0	0.00	0.00	154.0	
7	6383.7	70.00	179.82	6032.6	-116.7	1339.1	11.00	179.82	483.6	
8	6453.7	70.00	179.82	6056.6	-182.5	1339.3	0.00	0.00	546.8	
9	6635.5	90.00	179.82	6088.0	-360.6	1339.9	11.00	0.00	718.2	
10	10963.6	90.00	179.82	6088.0	-4688.7	1353.7	0.00	0.00	4880.2	BHL 470'FSL & 2637'FWL

Vertical Section at 163.90° (550 ft/in)



BONANZA CREEK ENERGY OPERATING

SEC.18-T5N-R61W

Pronghorn F-18 Pad Sec.18-T5N-R61W

Pronghorn K-O-18HNB

Wellbore #1

Plan: Plan #1 (10-30-13)

Standard Planning Report

30 October, 2013

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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,321.9	18.44	80.41	1,306.1	24.5	145.0	2.00	2.00	0.00	80.41	
4,682.2	18.44	80.41	4,493.9	201.5	1,193.0	0.00	0.00	0.00	0.00	
5,604.2	0.00	0.00	5,400.0	226.0	1,338.0	2.00	-2.00	0.00	180.00	
5,747.4	0.00	0.00	5,543.2	226.0	1,338.0	0.00	0.00	0.00	0.00	
6,383.7	70.00	179.82	6,032.6	-116.7	1,339.1	11.00	11.00	0.00	179.82	
6,453.7	70.00	179.82	6,056.6	-182.5	1,339.3	0.00	0.00	0.00	0.00	
6,635.5	90.00	179.82	6,088.0	-360.6	1,339.9	11.00	11.00	0.00	0.00	
10,963.6	90.00	179.82	6,088.0	-4,688.7	1,353.7	0.00	0.00	0.00	0.00	BHL 470'FSL & 263

Database:	Landmark	Local Co-ordinate Reference:	Well Pronghorn K-O-18HNB
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	WELL @ 4584.0ft (RKB - 15')
Project:	SEC.18-T5N-R61W	MD Reference:	WELL @ 4584.0ft (RKB - 15')
Site:	Pronghorn F-18 Pad Sec.18-T5N-R61W	North Reference:	True
Well:	Pronghorn K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (10-30-13)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL 220'FNL & 1311'FWL									
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
KOP #1									
500.0	2.00	80.41	500.0	0.3	1.7	0.2	2.00	2.00	0.00
600.0	4.00	80.41	599.8	1.2	6.9	0.8	2.00	2.00	0.00
700.0	6.00	80.41	699.5	2.6	15.5	1.8	2.00	2.00	0.00
800.0	8.00	80.41	798.7	4.6	27.5	3.2	2.00	2.00	0.00
900.0	10.00	80.41	897.5	7.2	42.9	4.9	2.00	2.00	0.00
1,000.0	12.00	80.41	995.6	10.4	61.7	7.1	2.00	2.00	0.00
1,100.0	14.00	80.41	1,093.1	14.2	83.9	9.7	2.00	2.00	0.00
1,200.0	16.00	80.41	1,189.6	18.5	109.4	12.6	2.00	2.00	0.00
1,300.0	18.00	80.41	1,285.3	23.4	138.3	15.9	2.00	2.00	0.00
1,321.9	18.44	80.41	1,306.1	24.5	145.0	16.7	2.00	2.00	0.00
1,400.0	18.44	80.41	1,380.2	28.6	169.4	19.5	0.00	0.00	0.00
1,500.0	18.44	80.41	1,475.0	33.9	200.5	23.1	0.00	0.00	0.00
1,600.0	18.44	80.41	1,569.9	39.1	231.7	26.7	0.00	0.00	0.00
1,700.0	18.44	80.41	1,664.8	44.4	262.9	30.3	0.00	0.00	0.00
1,800.0	18.44	80.41	1,759.6	49.7	294.1	33.9	0.00	0.00	0.00
1,900.0	18.44	80.41	1,854.5	54.9	325.3	37.4	0.00	0.00	0.00
2,000.0	18.44	80.41	1,949.4	60.2	356.5	41.0	0.00	0.00	0.00
2,100.0	18.44	80.41	2,044.2	65.5	387.7	44.6	0.00	0.00	0.00
2,200.0	18.44	80.41	2,139.1	70.7	418.9	48.2	0.00	0.00	0.00
2,300.0	18.44	80.41	2,234.0	76.0	450.0	51.8	0.00	0.00	0.00
2,400.0	18.44	80.41	2,328.8	81.3	481.2	55.4	0.00	0.00	0.00
2,500.0	18.44	80.41	2,423.7	86.6	512.4	59.0	0.00	0.00	0.00
2,600.0	18.44	80.41	2,518.6	91.8	543.6	62.6	0.00	0.00	0.00
2,700.0	18.44	80.41	2,613.4	97.1	574.8	66.2	0.00	0.00	0.00
2,800.0	18.44	80.41	2,708.3	102.4	606.0	69.8	0.00	0.00	0.00
2,900.0	18.44	80.41	2,803.2	107.6	637.2	73.3	0.00	0.00	0.00
3,000.0	18.44	80.41	2,898.0	112.9	668.4	76.9	0.00	0.00	0.00
3,100.0	18.44	80.41	2,992.9	118.2	699.5	80.5	0.00	0.00	0.00
3,200.0	18.44	80.41	3,087.8	123.4	730.7	84.1	0.00	0.00	0.00
3,300.0	18.44	80.41	3,182.6	128.7	761.9	87.7	0.00	0.00	0.00
3,400.0	18.44	80.41	3,277.5	134.0	793.1	91.3	0.00	0.00	0.00
3,500.0	18.44	80.41	3,372.4	139.2	824.3	94.9	0.00	0.00	0.00
3,600.0	18.44	80.41	3,467.2	144.5	855.5	98.5	0.00	0.00	0.00
3,700.0	18.44	80.41	3,562.1	149.8	886.7	102.1	0.00	0.00	0.00
3,800.0	18.44	80.41	3,657.0	155.0	917.8	105.7	0.00	0.00	0.00
3,900.0	18.44	80.41	3,751.8	160.3	949.0	109.2	0.00	0.00	0.00
4,000.0	18.44	80.41	3,846.7	165.6	980.2	112.8	0.00	0.00	0.00
4,100.0	18.44	80.41	3,941.6	170.8	1,011.4	116.4	0.00	0.00	0.00
4,200.0	18.44	80.41	4,036.4	176.1	1,042.6	120.0	0.00	0.00	0.00
4,300.0	18.44	80.41	4,131.3	181.4	1,073.8	123.6	0.00	0.00	0.00
4,400.0	18.44	80.41	4,226.2	186.6	1,105.0	127.2	0.00	0.00	0.00
4,500.0	18.44	80.41	4,321.0	191.9	1,136.2	130.8	0.00	0.00	0.00
4,600.0	18.44	80.41	4,415.9	197.2	1,167.3	134.4	0.00	0.00	0.00
4,682.2	18.44	80.41	4,493.9	201.5	1,193.0	137.3	0.00	0.00	0.00
4,700.0	18.08	80.41	4,510.8	202.4	1,198.5	138.0	2.00	-2.00	0.00
4,800.0	16.08	80.41	4,606.4	207.3	1,227.4	141.3	2.00	-2.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Pronghorn K-O-18HNB
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Project:	SEC.18-T5N-R61W	MD Reference:	WELL @ 4584.0ft (RKB - 15')
Site:	Pronghorn F-18 Pad Sec.18-T5N-R61W	North Reference:	True
Well:	Pronghorn K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (10-30-13)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,900.0	14.08	80.41	4,702.9	211.7	1,253.1	144.2	2.00	-2.00	0.00
5,000.0	12.08	80.41	4,800.3	215.4	1,275.4	146.8	2.00	-2.00	0.00
5,100.0	10.08	80.41	4,898.4	218.6	1,294.4	149.0	2.00	-2.00	0.00
5,200.0	8.08	80.41	4,997.2	221.3	1,309.9	150.8	2.00	-2.00	0.00
5,300.0	6.08	80.41	5,096.4	223.3	1,322.1	152.2	2.00	-2.00	0.00
5,400.0	4.08	80.41	5,196.0	224.8	1,330.8	153.2	2.00	-2.00	0.00
5,500.0	2.08	80.41	5,295.9	225.7	1,336.1	153.8	2.00	-2.00	0.00
5,600.0	0.08	80.41	5,395.8	226.0	1,338.0	154.0	2.00	-2.00	0.00
5,604.2	0.00	0.00	5,400.0	226.0	1,338.0	154.0	2.00	-2.00	0.00
5,700.0	0.00	0.00	5,495.8	226.0	1,338.0	154.0	0.00	0.00	0.00
5,747.4	0.00	0.00	5,543.2	226.0	1,338.0	154.0	0.00	0.00	0.00
KOP #2									
5,800.0	5.79	179.82	5,595.7	223.3	1,338.0	156.6	11.01	11.01	0.00
5,900.0	16.79	179.82	5,693.7	203.8	1,338.1	175.4	11.00	11.00	0.00
6,000.0	27.79	179.82	5,786.0	165.9	1,338.2	211.8	11.00	11.00	0.00
6,100.0	38.79	179.82	5,869.5	111.1	1,338.4	264.5	11.00	11.00	0.00
6,200.0	49.79	179.82	5,941.0	41.4	1,338.6	331.5	11.00	11.00	0.00
6,300.0	60.79	179.82	5,997.8	-40.7	1,338.9	410.5	11.00	11.00	0.00
6,383.7	70.00	179.82	6,032.6	-116.7	1,339.1	483.6	11.00	11.00	0.00
6,400.0	70.00	179.82	6,038.2	-132.0	1,339.1	498.3	0.00	0.00	0.00
6,453.7	70.00	179.82	6,056.6	-182.5	1,339.3	546.8	0.00	0.00	0.00
6,500.0	75.09	179.82	6,070.5	-226.6	1,339.4	589.3	11.00	11.00	0.00
6,570.5	82.84	179.82	6,083.9	-295.7	1,339.7	655.8	11.00	11.00	0.00
T1 531'FNL & 2649'FWL									
6,600.0	86.09	179.82	6,086.8	-325.1	1,339.8	684.0	11.00	11.00	0.00
6,635.5	90.00	179.82	6,088.0	-360.6	1,339.9	718.1	11.00	11.00	0.00
End of Build - 7"									
6,700.0	90.00	179.82	6,088.0	-425.1	1,340.1	780.2	0.01	0.01	0.00
6,800.0	90.00	179.82	6,088.0	-525.1	1,340.4	876.3	0.00	0.00	0.00
6,900.0	90.00	179.82	6,088.0	-625.1	1,340.7	972.5	0.00	0.00	0.00
7,000.0	90.00	179.82	6,088.0	-725.1	1,341.0	1,068.6	0.00	0.00	0.00
7,100.0	90.00	179.82	6,088.0	-825.1	1,341.4	1,164.8	0.00	0.00	0.00
7,200.0	90.00	179.82	6,088.0	-925.1	1,341.7	1,261.0	0.00	0.00	0.00
7,300.0	90.00	179.82	6,088.0	-1,025.1	1,342.0	1,357.1	0.00	0.00	0.00
7,400.0	90.00	179.82	6,088.0	-1,125.1	1,342.3	1,453.3	0.00	0.00	0.00
7,500.0	90.00	179.82	6,088.0	-1,225.1	1,342.6	1,549.5	0.00	0.00	0.00
7,600.0	90.00	179.82	6,088.0	-1,325.1	1,343.0	1,645.6	0.00	0.00	0.00
7,700.0	90.00	179.82	6,088.0	-1,425.1	1,343.3	1,741.8	0.00	0.00	0.00
7,800.0	90.00	179.82	6,088.0	-1,525.1	1,343.6	1,838.0	0.00	0.00	0.00
7,900.0	90.00	179.82	6,088.0	-1,625.1	1,343.9	1,934.1	0.00	0.00	0.00
8,000.0	90.00	179.82	6,088.0	-1,725.1	1,344.2	2,030.3	0.00	0.00	0.00
8,100.0	90.00	179.82	6,088.0	-1,825.1	1,344.6	2,126.5	0.00	0.00	0.00
8,200.0	90.00	179.82	6,088.0	-1,925.1	1,344.9	2,222.6	0.00	0.00	0.00
8,300.0	90.00	179.82	6,088.0	-2,025.1	1,345.2	2,318.8	0.00	0.00	0.00
8,400.0	90.00	179.82	6,088.0	-2,125.1	1,345.5	2,414.9	0.00	0.00	0.00
8,500.0	90.00	179.82	6,088.0	-2,225.1	1,345.8	2,511.1	0.00	0.00	0.00
8,600.0	90.00	179.82	6,088.0	-2,325.1	1,346.2	2,607.3	0.00	0.00	0.00
8,700.0	90.00	179.82	6,088.0	-2,425.1	1,346.5	2,703.4	0.00	0.00	0.00
8,800.0	90.00	179.82	6,088.0	-2,525.1	1,346.8	2,799.6	0.00	0.00	0.00
8,900.0	90.00	179.82	6,088.0	-2,625.1	1,347.1	2,895.8	0.00	0.00	0.00
9,000.0	90.00	179.82	6,088.0	-2,725.1	1,347.4	2,991.9	0.00	0.00	0.00
9,100.0	90.00	179.82	6,088.0	-2,825.1	1,347.8	3,088.1	0.00	0.00	0.00
9,200.0	90.00	179.82	6,088.0	-2,925.1	1,348.1	3,184.3	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Pronghorn K-O-18HNB
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	WELL @ 4584.0ft (RKB - 15')
Project:	SEC.18-T5N-R61W	MD Reference:	WELL @ 4584.0ft (RKB - 15')
Site:	Pronghorn F-18 Pad Sec.18-T5N-R61W	North Reference:	True
Well:	Pronghorn K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (10-30-13)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,300.0	90.00	179.82	6,088.0	-3,025.1	1,348.4	3,280.4	0.00	0.00	0.00	
9,400.0	90.00	179.82	6,088.0	-3,125.1	1,348.7	3,376.6	0.00	0.00	0.00	
9,500.0	90.00	179.82	6,088.0	-3,225.1	1,349.0	3,472.7	0.00	0.00	0.00	
9,600.0	90.00	179.82	6,088.0	-3,325.1	1,349.4	3,568.9	0.00	0.00	0.00	
9,700.0	90.00	179.82	6,088.0	-3,425.1	1,349.7	3,665.1	0.00	0.00	0.00	
9,800.0	90.00	179.82	6,088.0	-3,525.1	1,350.0	3,761.2	0.00	0.00	0.00	
9,900.0	90.00	179.82	6,088.0	-3,625.1	1,350.3	3,857.4	0.00	0.00	0.00	
10,000.0	90.00	179.82	6,088.0	-3,725.1	1,350.6	3,953.6	0.00	0.00	0.00	
10,100.0	90.00	179.82	6,088.0	-3,825.1	1,351.0	4,049.7	0.00	0.00	0.00	
10,200.0	90.00	179.82	6,088.0	-3,925.1	1,351.3	4,145.9	0.00	0.00	0.00	
10,300.0	90.00	179.82	6,088.0	-4,025.1	1,351.6	4,242.1	0.00	0.00	0.00	
10,400.0	90.00	179.82	6,088.0	-4,125.1	1,351.9	4,338.2	0.00	0.00	0.00	
10,500.0	90.00	179.82	6,088.0	-4,225.1	1,352.2	4,434.4	0.00	0.00	0.00	
10,600.0	90.00	179.82	6,088.0	-4,325.1	1,352.6	4,530.5	0.00	0.00	0.00	
10,700.0	90.00	179.82	6,088.0	-4,425.1	1,352.9	4,626.7	0.00	0.00	0.00	
10,800.0	90.00	179.82	6,088.0	-4,525.1	1,353.2	4,722.9	0.00	0.00	0.00	
10,900.0	90.00	179.82	6,088.0	-4,625.1	1,353.5	4,819.0	0.00	0.00	0.00	
10,963.6	90.00	179.82	6,088.0	-4,688.7	1,353.7	4,880.2	0.00	0.00	0.00	
BHL 470'FSL & 2637'FWL										

Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
BHL 470'FSL & 2637'I - hit/miss target - Shape - Point	0.00	0.00	6,088.0	-4,688.7	1,353.7	1,389,194.59	3,347,503.03	40.395030	-104.252330	
T1 531'FNL & 2649'F - plan misses target center by 4.1ft at 6570.5ft MD (6083.9 TVD, -295.7 N, 1339.7 E) - Point	0.00	0.00	6,088.0	-295.0	1,339.6	1,393,587.38	3,347,427.29	40.407090	-104.252380	
SHL 220'FNL & 1311' - plan hits target center - Point	0.00	0.00	1.0	0.0	0.0	1,393,863.62	3,346,083.79	40.407900	-104.257190	

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
6,635.5	6,088.0	7"	7	7-1/2	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment	
400.0	400.0	0.0	0.0	KOP #1	
5,747.4	5,543.2	226.0	1,338.0	KOP #2	
6,635.5	6,088.0	-360.6	1,339.9	End of Build	



BONANZA CREEK ENERGY OPERATING

SEC.18-T5N-R61W

Pronghorn F-18 Pad Sec.18-T5N-R61W

Pronghorn K-O-18HNB

Wellbore #1

Plan #1 (10-30-13)

Anticollision Report

30 October, 2013

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Pronghorn K-O-18HNB
Project:	SEC.18-T5N-R61W	TVD Reference:	WELL @ 4584.0ft (RKB - 15')
Reference Site:	Pronghorn F-18 Pad Sec.18-T5N-R61W	MD Reference:	WELL @ 4584.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Pronghorn K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (10-30-13)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (10-30-13)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 10/30/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	10,963.6	Plan #1 (10-30-13) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Pronghorn F-18 Pad Sec.18-T5N-R61W						
Pronghorn 11-14-18HNB - Wellbore #1 - Plan #1 (10-30-	200.0	200.0	21.9	21.2	32.417	CC, ES
Pronghorn 11-14-18HNB - Wellbore #1 - Plan #1 (10-30-	500.0	498.1	30.8	28.8	15.170	SF

Offset Design Pronghorn F-18 Pad Sec.18-T5N-R61W - Pronghorn 11-14-18HNB - Wellbore #1 - Plan #1 (10-30-13)											
Survey Program: 0-MWD											
Reference											
Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)
											Separation Factor
											Warning
0.0	0.0	0.0	0.0	0.0	0.0	0.00	21.9	0.0	21.9		
100.0	100.0	100.0	100.0	0.1	0.1	0.00	21.9	0.0	21.9	21.6	0.22
200.0	200.0	200.0	200.0	0.3	0.3	0.00	21.9	0.0	21.9	21.2	0.67
300.0	300.0	299.8	299.7	0.6	0.6	-4.27	22.3	-1.7	22.4	21.3	1.12
400.0	400.0	399.3	399.1	0.8	0.8	-15.66	23.8	-6.7	24.7	23.1	1.57
500.0	500.0	498.1	497.6	1.0	1.0	-113.02	26.1	-14.9	30.8	28.8	2.03
600.0	599.8	595.6	594.3	1.2	1.3	-129.53	29.4	-26.2	43.8	41.3	2.50
700.0	699.5	692.2	689.9	1.5	1.6	-140.77	33.3	-40.1	64.2	61.3	2.98
800.0	798.7	788.6	785.1	1.7	2.0	-147.69	37.4	-54.3	89.2	85.7	3.43
900.0	897.5	884.0	879.4	2.0	2.3	-152.27	41.4	-68.4	117.8	113.9	3.88
1,000.0	995.6	978.4	972.7	2.4	2.6	-155.53	45.4	-82.3	150.0	145.6	4.34
1,100.0	1,093.1	1,071.5	1,064.7	2.8	3.0	-157.96	49.3	-96.0	185.5	180.7	4.80
1,200.0	1,189.6	1,163.4	1,155.5	3.3	3.3	-159.85	53.2	-109.6	224.3	219.1	5.26
1,300.0	1,285.3	1,253.9	1,244.9	3.9	3.6	-161.35	57.0	-122.9	266.4	260.7	5.73
1,400.0	1,380.2	1,343.3	1,333.2	4.5	3.9	-162.74	60.8	-136.1	310.7	304.5	6.21
1,500.0	1,475.0	1,432.6	1,421.6	5.1	4.3	-163.85	64.5	-149.2	355.2	348.5	6.71
1,600.0	1,569.9	1,522.0	1,509.9	5.7	4.6	-164.70	68.3	-162.4	399.8	392.5	7.21
1,700.0	1,664.8	1,611.4	1,598.2	6.4	4.9	-165.39	72.0	-175.6	444.4	436.7	7.72
1,800.0	1,759.6	1,700.8	1,686.5	7.0	5.2	-165.95	75.8	-188.8	489.1	480.8	8.23
1,900.0	1,854.5	1,790.1	1,774.8	7.7	5.6	-166.42	79.6	-201.9	533.8	525.0	8.75
2,000.0	1,949.4	1,879.5	1,863.1	8.3	5.9	-166.82	83.3	-215.1	578.5	569.3	9.26
2,100.0	2,044.2	1,968.9	1,951.4	9.0	6.2	-167.15	87.1	-228.3	623.3	613.5	9.78
2,200.0	2,139.1	2,058.2	2,039.8	9.6	6.6	-167.45	90.9	-241.4	668.0	657.7	10.30
2,300.0	2,234.0	2,147.6	2,128.1	10.3	6.9	-167.70	94.6	-254.6	712.8	702.0	10.83
2,400.0	2,328.8	2,237.0	2,216.4	11.0	7.2	-167.93	98.4	-267.8	757.6	746.3	11.35

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

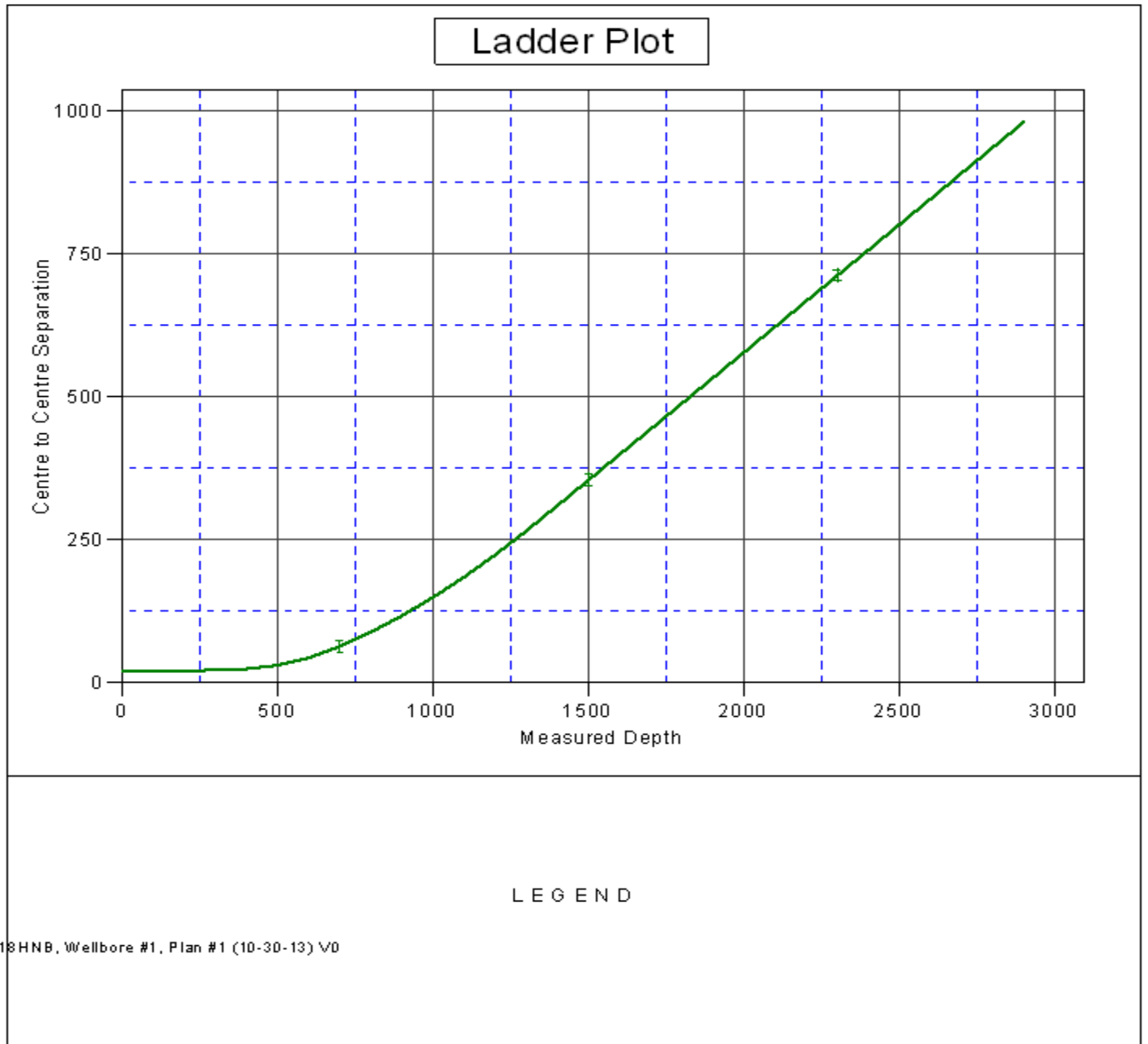
Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Pronghorn K-O-18HNB
Project:	SEC.18-T5N-R61W	TVD Reference:	WELL @ 4584.0ft (RKB - 15')
Reference Site:	Pronghorn F-18 Pad Sec.18-T5N-R61W	MD Reference:	WELL @ 4584.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Pronghorn K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (10-30-13)	Offset TVD Reference:	Offset Datum

Offset Design Pronghorn F-18 Pad Sec.18-T5N-R61W - Pronghorn 11-14-18HNB - Wellbore #1 - Plan #1 (10-30-13)												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	
2,500.0	2,423.7	2,326.4	2,304.7	11.6	7.5	-168.13	102.2	-281.0	802.4	790.5	11.87	67.574	
2,600.0	2,518.6	2,415.7	2,393.0	12.3	7.9	-168.31	105.9	-294.1	847.2	834.8	12.40	68.320	
2,700.0	2,613.4	2,505.1	2,481.3	12.9	8.2	-168.47	109.7	-307.3	892.0	879.1	12.93	69.001	
2,800.0	2,708.3	2,594.5	2,569.6	13.6	8.5	-168.62	113.5	-320.5	936.8	923.4	13.46	69.624	
2,900.0	2,803.2	2,683.8	2,658.0	14.3	8.9	-168.75	117.2	-333.6	981.7	967.7	13.98	70.197	

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Pronghorn K-O-18HNB
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Reference Site:	Pronghorn F-18 Pad Sec.18-T5N-R61W	MD Reference:	WELL @ 4584.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Pronghorn K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (10-30-13)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4584.0ft (RKB - 15')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Pronghorn K-O-18HNB
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.80°



Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Pronghorn K-O-18HNB
Project:	SEC.18-T5N-R61W	TVD Reference:	WELL @ 4584.0ft (RKB - 15')
Reference Site:	Pronghorn F-18 Pad Sec.18-T5N-R61W	MD Reference:	WELL @ 4584.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Pronghorn K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #1 (10-30-13)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4584.0ft (RKB - 15')
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Pronghorn K-O-18HNB
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.80°

