

BONANZA CREEK ENERGY OPERATING

Well Name: **Pronghorn 11-14-18HNB**

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

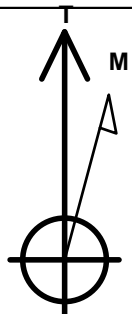
Ground Elevation: 4569.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1393885.47	3346083.48	40.407960	-104.257190	

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

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 200'FNL & 1311'FWL	1.0	0.0	0.0	Point
BHL 470'FSL & 659'FWL	6088.0	-4736.0	-621.1	Point
T1 531'FNL & 662'FWL	6088.0	-335.2	-646.1	Point



Azimuths to True North
Magnetic North: 8.27°

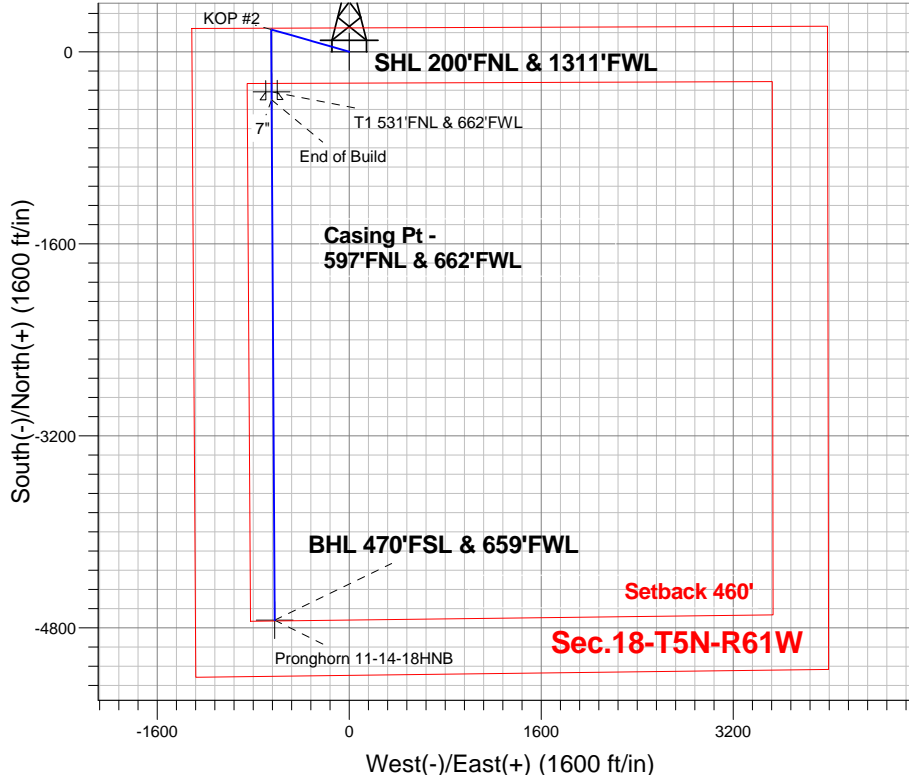
Magnetic Field
Strength: 52939.9nT
Dip Angle: 67.06°
Date: 10/30/2013
Model: IGRF2010

Pronghorn F-18 Pad Sec.18-T5N-R61W
Pronghorn 11-14-18HNB
Plan #1 (10-30-13)
12:26, October 30 2013

ANNOTATIONS

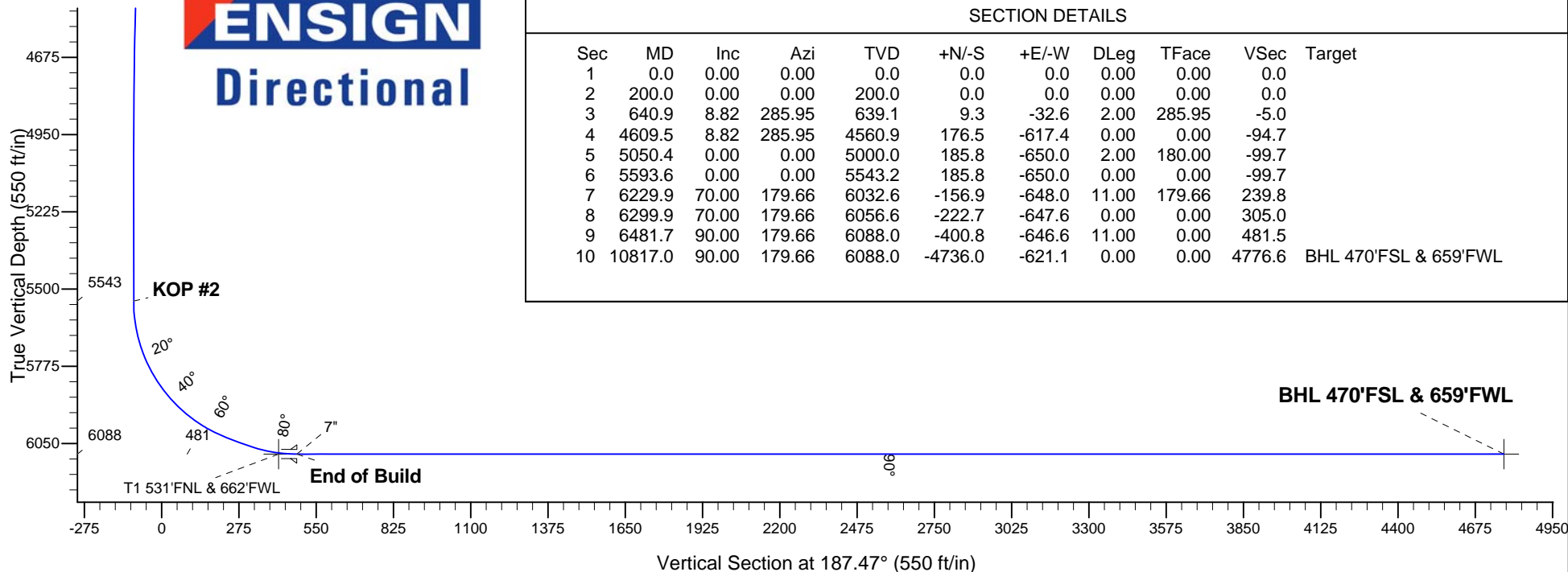
TVD	MD	Annotation
200.0	200.0	KOP #1
5543.2	5593.6	KOP #2
6088.0	6481.7	End of Build

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	640.9	8.82	285.95	639.1	9.3	-32.6	2.00	285.95	-5.0	
4	4609.5	8.82	285.95	4560.9	176.5	-617.4	0.00	0.00	-94.7	
5	5050.4	0.00	0.00	5000.0	185.8	-650.0	2.00	180.00	-99.7	
6	5593.6	0.00	0.00	5543.2	185.8	-650.0	0.00	0.00	-99.7	
7	6229.9	70.00	179.66	6032.6	-156.9	-648.0	11.00	179.66	239.8	
8	6299.9	70.00	179.66	6056.6	-222.7	-647.6	0.00	0.00	305.0	
9	6481.7	90.00	179.66	6088.0	-400.8	-646.6	11.00	0.00	481.5	
10	10817.0	90.00	179.66	6088.0	-4736.0	-621.1	0.00	0.00	4776.6	BHL 470'FSL & 659'FWL





BONANZA CREEK ENERGY OPERATING

SEC.18-T5N-R61W

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

Pronghorn 11-14-18HNB

Wellbore #1

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

Standard Planning Report

30 October, 2013

Database:	Landmark	Local Co-ordinate Reference:	Well Pronghorn 11-14-18HNB
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 11-14-18HNB	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (10-30-13)		

Project	SEC.18-T5N-R61W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site						Pronghorn F-18 Pad Sec.18-T5N-R61W							
Site Position:						Northing:		1,393,885.48 ft		Latitude:		40.407960	
From:			Lat/Long			Easting:		3,346,083.48 ft		Longitude:		-104.257190	
Position Uncertainty:			0.0 ft			Slot Radius:		"		Grid Convergence:		0.80 °	

Well	Pronghorn 11-14-18HNB					
Well Position	+N/-S	0.0 ft	Northing:	1,393,885.47 ft	Latitude:	40.407960
	+E/-W	0.0 ft	Easting:	3,346,083.48 ft	Longitude:	-104.257190
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,569.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/30/2013	8.27	67.06	52,940

Design	Plan #1 (10-30-13)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	187.47

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	
640.9	8.82	285.95	639.1	9.3	-32.6	2.00	2.00	0.00	285.95	
4,609.5	8.82	285.95	4,560.9	176.5	-617.4	0.00	0.00	0.00	0.00	
5,050.4	0.00	0.00	5,000.0	185.8	-650.0	2.00	-2.00	0.00	180.00	
5,593.6	0.00	0.00	5,543.2	185.8	-650.0	0.00	0.00	0.00	0.00	
6,229.9	70.00	179.66	6,032.6	-156.9	-648.0	11.00	11.00	0.00	179.66	
6,299.9	70.00	179.66	6,056.6	-222.7	-647.6	0.00	0.00	0.00	0.00	
6,481.7	90.00	179.66	6,088.0	-400.8	-646.6	11.00	11.00	0.00	0.00	
10,817.0	90.00	179.66	6,088.0	-4,736.0	-621.1	0.00	0.00	0.00	0.00	BHL 470'FSL & 65°

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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 11-14-18HNB	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 200'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
KOP #1									
300.0	2.00	285.95	300.0	0.5	-1.7	-0.3	2.00	2.00	0.00
400.0	4.00	285.95	399.8	1.9	-6.7	-1.0	2.00	2.00	0.00
500.0	6.00	285.95	499.5	4.3	-15.1	-2.3	2.00	2.00	0.00
600.0	8.00	285.95	598.7	7.7	-26.8	-4.1	2.00	2.00	0.00
640.9	8.82	285.95	639.1	9.3	-32.6	-5.0	2.00	2.00	0.00
700.0	8.82	285.95	697.6	11.8	-41.3	-6.3	0.00	0.00	0.00
800.0	8.82	285.95	796.4	16.0	-56.0	-8.6	0.00	0.00	0.00
900.0	8.82	285.95	895.2	20.2	-70.7	-10.9	0.00	0.00	0.00
1,000.0	8.82	285.95	994.0	24.4	-85.5	-13.1	0.00	0.00	0.00
1,100.0	8.82	285.95	1,092.8	28.6	-100.2	-15.4	0.00	0.00	0.00
1,200.0	8.82	285.95	1,191.7	32.9	-115.0	-17.6	0.00	0.00	0.00
1,300.0	8.82	285.95	1,290.5	37.1	-129.7	-19.9	0.00	0.00	0.00
1,400.0	8.82	285.95	1,389.3	41.3	-144.4	-22.2	0.00	0.00	0.00
1,500.0	8.82	285.95	1,488.1	45.5	-159.2	-24.4	0.00	0.00	0.00
1,600.0	8.82	285.95	1,586.9	49.7	-173.9	-26.7	0.00	0.00	0.00
1,700.0	8.82	285.95	1,685.7	53.9	-188.6	-28.9	0.00	0.00	0.00
1,800.0	8.82	285.95	1,784.6	58.1	-203.4	-31.2	0.00	0.00	0.00
1,900.0	8.82	285.95	1,883.4	62.3	-218.1	-33.5	0.00	0.00	0.00
2,000.0	8.82	285.95	1,982.2	66.6	-232.9	-35.7	0.00	0.00	0.00
2,100.0	8.82	285.95	2,081.0	70.8	-247.6	-38.0	0.00	0.00	0.00
2,200.0	8.82	285.95	2,179.8	75.0	-262.3	-40.2	0.00	0.00	0.00
2,300.0	8.82	285.95	2,278.7	79.2	-277.1	-42.5	0.00	0.00	0.00
2,400.0	8.82	285.95	2,377.5	83.4	-291.8	-44.8	0.00	0.00	0.00
2,500.0	8.82	285.95	2,476.3	87.6	-306.5	-47.0	0.00	0.00	0.00
2,600.0	8.82	285.95	2,575.1	91.8	-321.3	-49.3	0.00	0.00	0.00
2,700.0	8.82	285.95	2,673.9	96.1	-336.0	-51.5	0.00	0.00	0.00
2,800.0	8.82	285.95	2,772.7	100.3	-350.8	-53.8	0.00	0.00	0.00
2,900.0	8.82	285.95	2,871.6	104.5	-365.5	-56.1	0.00	0.00	0.00
3,000.0	8.82	285.95	2,970.4	108.7	-380.2	-58.3	0.00	0.00	0.00
3,100.0	8.82	285.95	3,069.2	112.9	-395.0	-60.6	0.00	0.00	0.00
3,200.0	8.82	285.95	3,168.0	117.1	-409.7	-62.8	0.00	0.00	0.00
3,300.0	8.82	285.95	3,266.8	121.3	-424.5	-65.1	0.00	0.00	0.00
3,400.0	8.82	285.95	3,365.7	125.5	-439.2	-67.4	0.00	0.00	0.00
3,500.0	8.82	285.95	3,464.5	129.8	-453.9	-69.6	0.00	0.00	0.00
3,600.0	8.82	285.95	3,563.3	134.0	-468.7	-71.9	0.00	0.00	0.00
3,700.0	8.82	285.95	3,662.1	138.2	-483.4	-74.1	0.00	0.00	0.00
3,800.0	8.82	285.95	3,760.9	142.4	-498.1	-76.4	0.00	0.00	0.00
3,900.0	8.82	285.95	3,859.7	146.6	-512.9	-78.7	0.00	0.00	0.00
4,000.0	8.82	285.95	3,958.6	150.8	-527.6	-80.9	0.00	0.00	0.00
4,100.0	8.82	285.95	4,057.4	155.0	-542.4	-83.2	0.00	0.00	0.00
4,200.0	8.82	285.95	4,156.2	159.2	-557.1	-85.4	0.00	0.00	0.00
4,300.0	8.82	285.95	4,255.0	163.5	-571.8	-87.7	0.00	0.00	0.00
4,400.0	8.82	285.95	4,353.8	167.7	-586.6	-90.0	0.00	0.00	0.00
4,500.0	8.82	285.95	4,452.7	171.9	-601.3	-92.2	0.00	0.00	0.00
4,600.0	8.82	285.95	4,551.5	176.1	-616.0	-94.5	0.00	0.00	0.00
4,609.5	8.82	285.95	4,560.9	176.5	-617.4	-94.7	0.00	0.00	0.00
4,700.0	7.01	285.95	4,650.5	179.9	-629.4	-96.5	2.00	-2.00	0.00
4,800.0	5.01	285.95	4,749.9	182.8	-639.5	-98.1	2.00	-2.00	0.00

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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 11-14-18HNB	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	3.01	285.95	4,849.7	184.7	-646.2	-99.1	2.00	-2.00	0.00
5,000.0	1.01	285.95	4,949.6	185.7	-649.6	-99.6	2.00	-2.00	0.00
5,050.4	0.00	0.00	5,000.0	185.8	-650.0	-99.7	2.00	-2.00	0.00
5,100.0	0.00	0.00	5,049.6	185.8	-650.0	-99.7	0.00	0.00	0.00
5,200.0	0.00	0.00	5,149.6	185.8	-650.0	-99.7	0.00	0.00	0.00
5,300.0	0.00	0.00	5,249.6	185.8	-650.0	-99.7	0.00	0.00	0.00
5,400.0	0.00	0.00	5,349.6	185.8	-650.0	-99.7	0.00	0.00	0.00
5,500.0	0.00	0.00	5,449.6	185.8	-650.0	-99.7	0.00	0.00	0.00
5,593.6	0.00	0.00	5,543.2	185.8	-650.0	-99.7	0.00	0.00	0.00
KOP #2									
5,600.0	0.71	179.66	5,549.6	185.8	-650.0	-99.7	11.06	11.06	0.00
5,700.0	11.71	179.66	5,648.9	175.0	-649.9	-89.0	11.00	11.00	0.00
5,800.0	22.71	179.66	5,744.3	145.4	-649.8	-59.7	11.00	11.00	0.00
5,900.0	33.71	179.66	5,832.3	98.2	-649.5	-12.9	11.00	11.00	0.00
6,000.0	44.71	179.66	5,909.6	35.1	-649.1	49.6	11.00	11.00	0.00
6,100.0	55.71	179.66	5,973.5	-41.6	-648.7	125.6	11.00	11.00	0.00
6,200.0	66.71	179.66	6,021.6	-129.1	-648.2	212.3	11.00	11.00	0.00
6,229.9	70.00	179.66	6,032.6	-156.9	-648.0	239.8	11.00	11.00	0.00
6,299.9	70.00	179.66	6,056.6	-222.7	-647.6	305.0	0.00	0.00	0.00
6,300.0	70.00	179.66	6,056.6	-222.8	-647.6	305.1	0.00	0.00	0.00
6,400.0	81.01	179.66	6,081.6	-319.4	-647.0	400.9	11.01	11.01	0.00
6,416.2	82.79	179.66	6,083.9	-335.5	-646.9	416.7	11.00	11.00	0.00
T1 531'FNL & 662'FWL									
6,481.7	89.99	179.66	6,088.0	-400.8	-646.6	481.5	11.00	11.00	0.00
End of Build - 7"									
6,500.0	90.00	179.66	6,088.0	-419.1	-646.5	499.6	0.03	0.03	0.00
6,600.0	90.00	179.66	6,088.0	-519.1	-645.9	598.7	0.00	0.00	0.00
6,700.0	90.00	179.66	6,088.0	-619.1	-645.3	697.7	0.00	0.00	0.00
6,800.0	90.00	179.66	6,088.0	-719.1	-644.7	796.8	0.00	0.00	0.00
6,900.0	90.00	179.66	6,088.0	-819.1	-644.1	895.9	0.00	0.00	0.00
7,000.0	90.00	179.66	6,088.0	-919.1	-643.5	995.0	0.00	0.00	0.00
7,100.0	90.00	179.66	6,088.0	-1,019.1	-642.9	1,094.0	0.00	0.00	0.00
7,200.0	90.00	179.66	6,088.0	-1,119.1	-642.4	1,193.1	0.00	0.00	0.00
7,300.0	90.00	179.66	6,088.0	-1,219.1	-641.8	1,292.2	0.00	0.00	0.00
7,400.0	90.00	179.66	6,088.0	-1,319.1	-641.2	1,391.3	0.00	0.00	0.00
7,500.0	90.00	179.66	6,088.0	-1,419.1	-640.6	1,490.3	0.00	0.00	0.00
7,600.0	90.00	179.66	6,088.0	-1,519.1	-640.0	1,589.4	0.00	0.00	0.00
7,700.0	90.00	179.66	6,088.0	-1,619.1	-639.4	1,688.5	0.00	0.00	0.00
7,800.0	90.00	179.66	6,088.0	-1,719.1	-638.8	1,787.5	0.00	0.00	0.00
7,900.0	90.00	179.66	6,088.0	-1,819.1	-638.2	1,886.6	0.00	0.00	0.00
8,000.0	90.00	179.66	6,088.0	-1,919.1	-637.7	1,985.7	0.00	0.00	0.00
8,100.0	90.00	179.66	6,088.0	-2,019.1	-637.1	2,084.8	0.00	0.00	0.00
8,200.0	90.00	179.66	6,088.0	-2,119.1	-636.5	2,183.8	0.00	0.00	0.00
8,300.0	90.00	179.66	6,088.0	-2,219.1	-635.9	2,282.9	0.00	0.00	0.00
8,400.0	90.00	179.66	6,088.0	-2,319.1	-635.3	2,382.0	0.00	0.00	0.00
8,500.0	90.00	179.66	6,088.0	-2,419.1	-634.7	2,481.1	0.00	0.00	0.00
8,600.0	90.00	179.66	6,088.0	-2,519.1	-634.1	2,580.1	0.00	0.00	0.00
8,700.0	90.00	179.66	6,088.0	-2,619.1	-633.6	2,679.2	0.00	0.00	0.00
8,800.0	90.00	179.66	6,088.0	-2,719.1	-633.0	2,778.3	0.00	0.00	0.00
8,900.0	90.00	179.66	6,088.0	-2,819.1	-632.4	2,877.4	0.00	0.00	0.00
9,000.0	90.00	179.66	6,088.0	-2,919.1	-631.8	2,976.4	0.00	0.00	0.00
9,100.0	90.00	179.66	6,088.0	-3,019.0	-631.2	3,075.5	0.00	0.00	0.00
9,200.0	90.00	179.66	6,088.0	-3,119.0	-630.6	3,174.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Pronghorn 11-14-18HNB
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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 11-14-18HNB	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	179.66	6,088.0	-3,219.0	-630.0	3,273.6	0.00	0.00	0.00	
9,400.0	90.00	179.66	6,088.0	-3,319.0	-629.5	3,372.7	0.00	0.00	0.00	
9,500.0	90.00	179.66	6,088.0	-3,419.0	-628.9	3,471.8	0.00	0.00	0.00	
9,600.0	90.00	179.66	6,088.0	-3,519.0	-628.3	3,570.9	0.00	0.00	0.00	
9,700.0	90.00	179.66	6,088.0	-3,619.0	-627.7	3,669.9	0.00	0.00	0.00	
9,800.0	90.00	179.66	6,088.0	-3,719.0	-627.1	3,769.0	0.00	0.00	0.00	
9,900.0	90.00	179.66	6,088.0	-3,819.0	-626.5	3,868.1	0.00	0.00	0.00	
10,000.0	90.00	179.66	6,088.0	-3,919.0	-625.9	3,967.2	0.00	0.00	0.00	
10,100.0	90.00	179.66	6,088.0	-4,019.0	-625.4	4,066.2	0.00	0.00	0.00	
10,200.0	90.00	179.66	6,088.0	-4,119.0	-624.8	4,165.3	0.00	0.00	0.00	
10,300.0	90.00	179.66	6,088.0	-4,219.0	-624.2	4,264.4	0.00	0.00	0.00	
10,400.0	90.00	179.66	6,088.0	-4,319.0	-623.6	4,363.4	0.00	0.00	0.00	
10,500.0	90.00	179.66	6,088.0	-4,419.0	-623.0	4,462.5	0.00	0.00	0.00	
10,600.0	90.00	179.66	6,088.0	-4,519.0	-622.4	4,561.6	0.00	0.00	0.00	
10,700.0	90.00	179.66	6,088.0	-4,619.0	-621.8	4,660.7	0.00	0.00	0.00	
10,800.0	90.00	179.66	6,088.0	-4,719.0	-621.2	4,759.7	0.00	0.00	0.00	
10,817.0	90.00	179.66	6,088.0	-4,736.0	-621.1	4,776.6	0.00	0.00	0.00	
BHL 470'FSL & 659'FWL										

Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
- hit/miss target										
- Shape										
T1 531'FNL & 662'FW	0.00	0.00	6,088.0	-335.2	-646.1	1,393,541.31	3,345,442.17	40.407040	-104.259510	
- plan misses target center by 4.2ft at 6416.2ft MD (6083.9 TVD, -335.5 N, -646.9 E)										
- Point										
BHL 470'FSL & 659'F	0.00	0.00	6,088.0	-4,736.0	-621.1	1,389,141.39	3,345,528.79	40.394960	-104.259420	
- plan hits target center										
- Point										
SHL 200'FNL & 1311'	0.00	0.00	1.0	0.0	0.0	1,393,885.48	3,346,083.48	40.407960	-104.257190	
- plan hits target center										
- Point										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
6,481.7	6,088.0	7"	7	7-1/2	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment	
200.0	200.0	0.0	0.0	KOP #1	
5,593.6	5,543.2	185.8	-650.0	KOP #2	
6,481.7	6,088.0	-400.8	-646.6	End of Build	



BONANZA CREEK ENERGY OPERATING

SEC.18-T5N-R61W

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

Pronghorn 11-14-18HNB

Wellbore #1

Plan #1 (10-30-13)

Anticollision Report

30 October, 2013

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Pronghorn 11-14-18HNB
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 11-14-18HNB	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	10,817.0	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 K-O-18HNB - Wellbore #1 - Plan #1 (10-30-13)	200.0	200.0	21.9	21.2	32.417	CC, ES
Pronghorn K-O-18HNB - Wellbore #1 - Plan #1 (10-30-13)	500.0	499.0	30.9	28.8	15.172	SF

Offset Design Pronghorn F-18 Pad Sec.18-T5N-R61W - Pronghorn K-O-18HNB - Wellbore #1 - Plan #1 (10-30-13)												
Survey Program: 0-MWD												
Offset Site Error: 0.0 ft												
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
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-21.9	0.0	21.9			
100.0	100.0	100.0	100.0	0.1	0.1	180.00	-21.9	0.0	21.9	21.6	0.22	97.251
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-21.9	0.0	21.9	21.2	0.67	32.417 CC, ES
300.0	300.0	300.0	300.0	0.6	0.6	-110.24	-21.9	0.0	22.4	21.3	1.12	20.039
400.0	399.8	399.8	399.8	0.8	0.8	-121.65	-21.9	0.0	24.7	23.1	1.57	15.724
500.0	499.5	499.0	499.0	1.0	1.0	-138.69	-21.6	1.7	30.9	28.8	2.03	15.172 SF
600.0	598.7	596.9	596.8	1.3	1.2	-155.29	-20.7	6.7	43.9	41.4	2.50	17.561
700.0	697.6	692.9	692.4	1.7	1.4	-166.55	-19.4	14.8	64.3	61.3	2.96	21.692
800.0	796.4	787.3	786.2	2.0	1.7	-173.48	-17.5	25.8	89.0	85.6	3.42	26.000
900.0	895.2	880.0	877.8	2.3	2.0	-178.09	-15.2	39.6	117.1	113.3	3.88	30.158
1,000.0	994.0	970.9	967.1	2.7	2.3	178.60	-12.4	55.9	148.6	144.2	4.35	34.140
1,100.0	1,092.8	1,059.7	1,053.9	3.1	2.7	176.11	-9.3	74.6	183.0	178.2	4.82	37.953
1,200.0	1,191.7	1,146.5	1,138.1	3.4	3.0	174.16	-5.8	95.4	220.4	215.1	5.30	41.614
1,300.0	1,290.5	1,231.1	1,219.5	3.8	3.5	172.59	-1.9	118.0	260.6	254.9	5.77	45.142
1,400.0	1,389.3	1,313.5	1,298.1	4.2	3.9	171.29	2.2	142.4	303.5	297.2	6.26	48.512
1,500.0	1,488.1	1,402.0	1,382.0	4.5	4.5	170.15	6.9	170.0	348.0	341.2	6.75	51.588
1,600.0	1,586.9	1,491.4	1,466.8	4.9	5.0	169.26	11.6	197.9	392.5	385.3	7.24	54.251
1,700.0	1,685.7	1,580.7	1,551.6	5.2	5.6	168.55	16.3	225.7	437.2	429.4	7.73	56.566
1,800.0	1,784.6	1,670.1	1,636.4	5.6	6.2	167.97	21.0	253.6	481.8	473.6	8.22	58.584
1,900.0	1,883.4	1,759.5	1,721.2	6.0	6.7	167.49	25.7	281.5	526.5	517.8	8.72	60.354
2,000.0	1,982.2	1,848.8	1,806.0	6.3	7.3	167.08	30.4	309.3	571.3	562.0	9.23	61.918
2,100.0	2,081.0	1,938.2	1,890.7	6.7	7.9	166.73	35.1	337.2	616.0	606.3	9.73	63.308
2,200.0	2,179.8	2,027.6	1,975.5	7.1	8.5	166.43	39.8	365.1	660.8	650.5	10.24	64.551
2,300.0	2,278.7	2,117.0	2,060.3	7.4	9.1	166.17	44.5	393.0	705.6	694.8	10.74	65.668
2,400.0	2,377.5	2,206.3	2,145.1	7.8	9.7	165.94	49.2	420.8	750.4	739.1	11.25	66.677

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

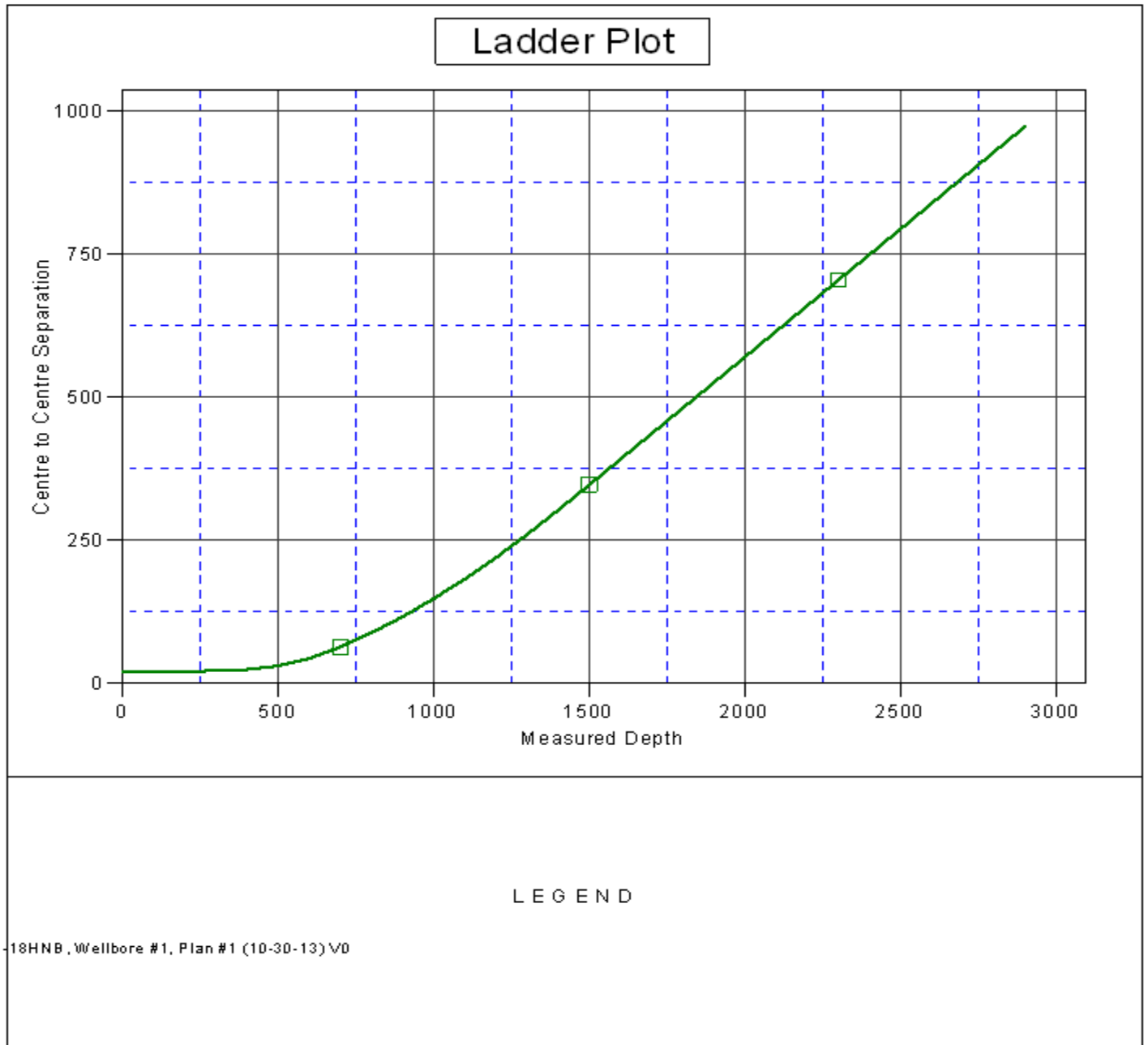
Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Pronghorn 11-14-18HNB
Project:	SEC.18-T5N-R61W	TVD Reference:	WELL @ 4584.0ft (RKB - 15')
Reference Site:	Pronghorn F-18 Pad Sec.18-T5N-R61W	MD Reference:	WELL @ 4584.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Pronghorn 11-14-18HNB	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 K-O-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									
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
2,500.0	2,476.3	2,295.7	2,229.9	8.2	10.3	165.73	53.9	448.7	795.1	783.4	11.76	67.591	
2,600.0	2,575.1	2,385.1	2,314.7	8.6	10.9	165.55	58.6	476.6	840.0	827.7	12.28	68.424	
2,700.0	2,673.9	2,474.4	2,399.4	8.9	11.5	165.39	63.3	504.4	884.8	872.0	12.79	69.185	
2,800.0	2,772.7	2,563.8	2,484.2	9.3	12.0	165.24	68.1	532.3	929.6	916.3	13.30	69.883	
2,900.0	2,871.6	2,653.2	2,569.0	9.7	12.6	165.10	72.8	560.2	974.4	960.6	13.82	70.526	

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Pronghorn 11-14-18HNB
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 11-14-18HNB	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 11-14-18HNB
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 11-14-18HNB
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 11-14-18HNB	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 11-14-18HNB
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.80°

