

BONANZA CREEK ENERGY OPERATING

Well Name: **State Antelope 41-44-30HNB**

Surface Location: State Antelope 41-44-30HNB Pad Sec.30-T5N-R62W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

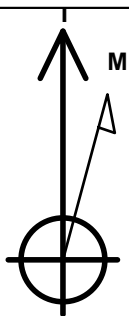
Ground Elevation: 4662.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1382012.83	3317678.71	40.376420	-104.359730	

RKB - 15' WELL @ 4677.0ft (RKB - 15')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BHL 470'FSL, 631'FEL	6414.0	-4269.7	158.8	Point
LANDING PT. 531'FNL & 637'FEL	6414.0	-43.7	200.6	Point



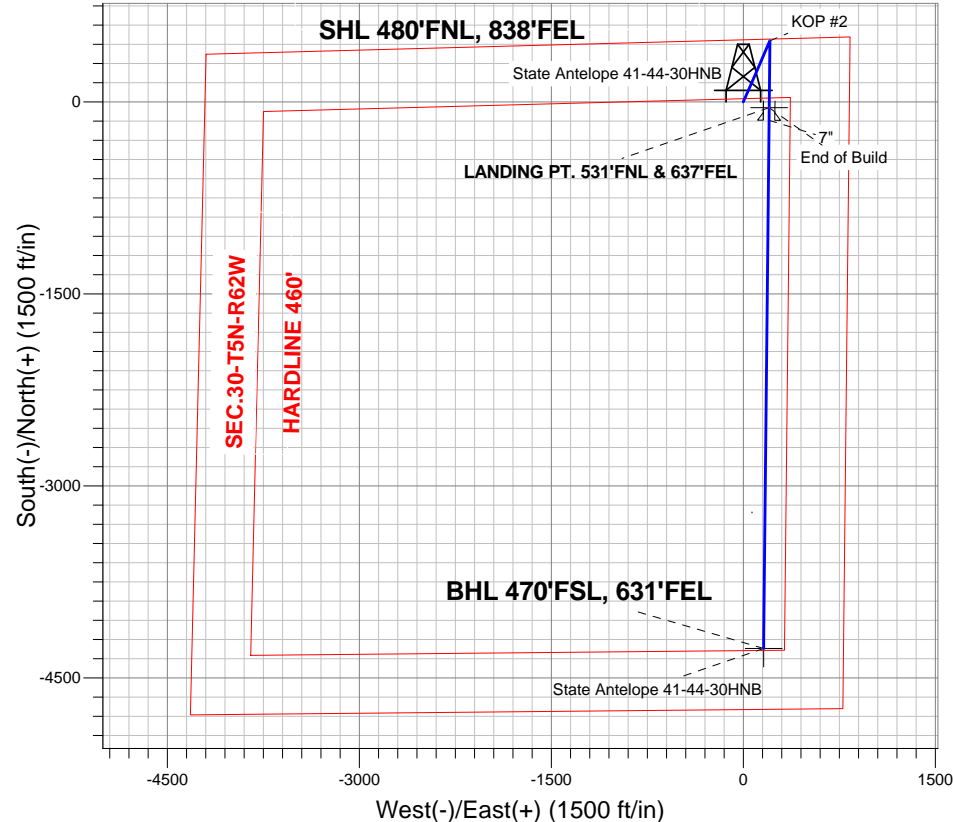
Azimuths to True North
Magnetic North: 8.40°

Magnetic Field
Strength: 52973.1nT
Dip Angle: 67.04°
Date: 4/3/2013
Model: IGRF2010

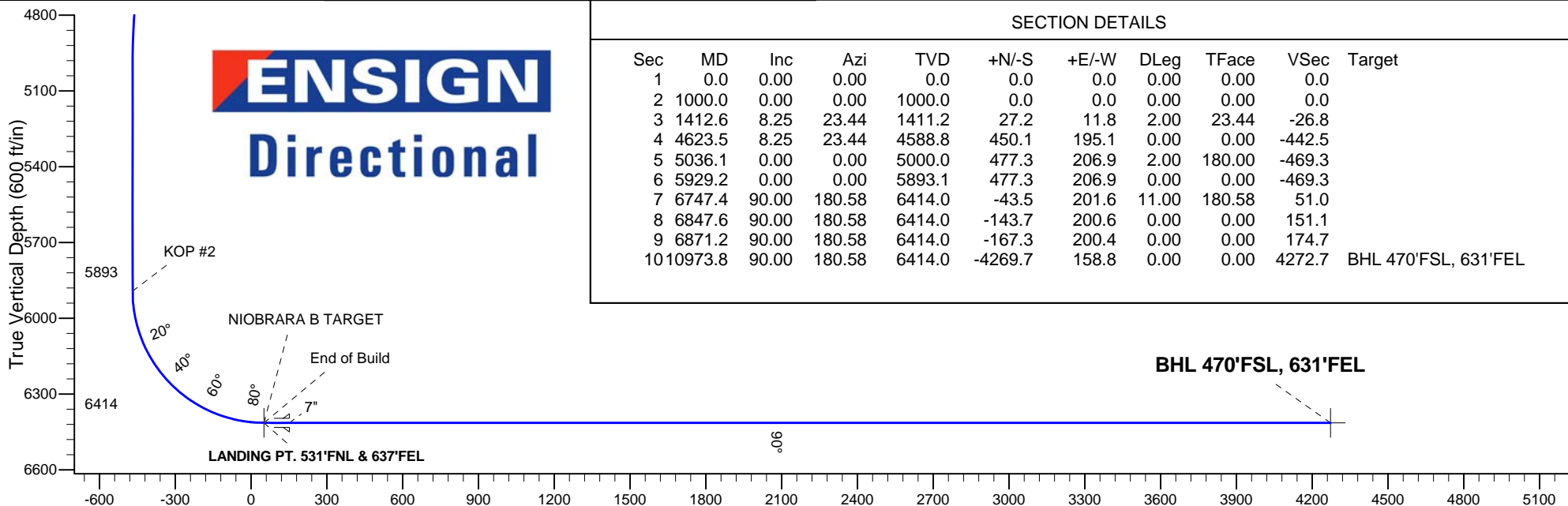
ANNOTATIONS

TVD	MD	Annotation
1000.0	1000.0	KOP #1
5893.1	5929.2	KOP #2
6414.0	6747.6	End of Build

State Antelope 41-44-30HNB Pad Sec.30-T5N-R62W
State Antelope 41-44-30HNB
Plan #1 (4-03-13)



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	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1412.6	8.25	23.44	1411.2	27.2	11.8	2.00	23.44	-26.8	
4	4623.5	8.25	23.44	4588.8	450.1	195.1	0.00	0.00	-442.5	
5	5036.1	0.00	0.00	5000.0	477.3	206.9	2.00	180.00	-469.3	
6	5929.2	0.00	0.00	5893.1	477.3	206.9	0.00	0.00	-469.3	
7	6747.4	90.00	180.58	6414.0	-43.5	201.6	11.00	180.58	51.0	
8	6847.6	90.00	180.58	6414.0	-143.7	200.6	0.00	0.00	151.1	
9	6871.2	90.00	180.58	6414.0	-167.3	200.4	0.00	0.00	174.7	
10	10973.8	90.00	180.58	6414.0	-4269.7	158.8	0.00	0.00	4272.7	BHL 470'FSL, 631'FEL

Vertical Section at 177.87° (600 ft/in)



Directional

BONANZA CREEK ENERGY OPERATING

SEC.30-T5N-R62W

State Antelope 41-44-30HNB Pad Sec.30-T5N-R62W

State Antelope 41-44-30HNB

Wellbore #1

Plan: Plan #1 (4-03-13)

Standard Planning Report

03 April, 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	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,412.6	8.25	23.44	1,411.2	27.2	11.8	2.00	2.00	0.00	23.44	
4,623.5	8.25	23.44	4,588.8	450.1	195.1	0.00	0.00	0.00	0.00	
5,036.1	0.00	0.00	5,000.0	477.3	206.9	2.00	-2.00	0.00	180.00	
5,929.2	0.00	0.00	5,893.1	477.3	206.9	0.00	0.00	0.00	0.00	
6,747.4	90.00	180.58	6,414.0	-43.5	201.6	11.00	11.00	0.00	180.58	
6,847.6	90.00	180.58	6,414.0	-143.7	200.6	0.00	0.00	0.00	0.00	
6,871.2	90.00	180.58	6,414.0	-167.3	200.4	0.00	0.00	0.00	0.00	
10,973.8	90.00	180.58	6,414.0	-4,269.7	158.8	0.00	0.00	0.00	0.00	BHL 470'FSL, 631'F

Database:	Landmark	Local Co-ordinate Reference:	Well State Antelope 41-44-30HNB
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	WELL @ 4677.0ft (RKB - 15')
Project:	SEC.30-T5N-R62W	MD Reference:	WELL @ 4677.0ft (RKB - 15')
Site:	State Antelope 41-44-30HNB Pad	North Reference:	True
	Sec.30-T5N-R62W		
Well:	State Antelope 41-44-30HNB	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (4-03-13)		

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
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
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
KOP #1									
1,040.0	0.80	23.44	1,040.0	0.3	0.1	-0.3	2.00	2.00	0.00
1,080.0	1.60	23.44	1,080.0	1.0	0.4	-1.0	2.00	2.00	0.00
1,120.0	2.40	23.44	1,120.0	2.3	1.0	-2.3	2.00	2.00	0.00
1,160.0	3.20	23.44	1,159.9	4.1	1.8	-4.0	2.00	2.00	0.00
1,200.0	4.00	23.44	1,199.8	6.4	2.8	-6.3	2.00	2.00	0.00
1,240.0	4.80	23.44	1,239.7	9.2	4.0	-9.1	2.00	2.00	0.00
1,280.0	5.60	23.44	1,279.6	12.5	5.4	-12.3	2.00	2.00	0.00
1,320.0	6.40	23.44	1,319.3	16.4	7.1	-16.1	2.00	2.00	0.00
1,360.0	7.20	23.44	1,359.1	20.7	9.0	-20.4	2.00	2.00	0.00
1,400.0	8.00	23.44	1,398.7	25.6	11.1	-25.2	2.00	2.00	0.00
1,412.6	8.25	23.44	1,411.2	27.2	11.8	-26.8	2.00	2.00	0.00
1,440.0	8.25	23.44	1,438.3	30.8	13.4	-30.3	0.00	0.00	0.00
1,480.0	8.25	23.44	1,477.9	36.1	15.6	-35.5	0.00	0.00	0.00
1,520.0	8.25	23.44	1,517.5	41.4	17.9	-40.7	0.00	0.00	0.00
1,560.0	8.25	23.44	1,557.0	46.6	20.2	-45.8	0.00	0.00	0.00
1,600.0	8.25	23.44	1,596.6	51.9	22.5	-51.0	0.00	0.00	0.00
1,640.0	8.25	23.44	1,636.2	57.2	24.8	-56.2	0.00	0.00	0.00
1,680.0	8.25	23.44	1,675.8	62.4	27.1	-61.4	0.00	0.00	0.00
1,720.0	8.25	23.44	1,715.4	67.7	29.3	-66.6	0.00	0.00	0.00
1,760.0	8.25	23.44	1,755.0	73.0	31.6	-71.7	0.00	0.00	0.00
1,800.0	8.25	23.44	1,794.6	78.2	33.9	-76.9	0.00	0.00	0.00
1,840.0	8.25	23.44	1,834.1	83.5	36.2	-82.1	0.00	0.00	0.00
1,880.0	8.25	23.44	1,873.7	88.8	38.5	-87.3	0.00	0.00	0.00
1,920.0	8.25	23.44	1,913.3	94.0	40.8	-92.5	0.00	0.00	0.00
1,960.0	8.25	23.44	1,952.9	99.3	43.0	-97.6	0.00	0.00	0.00
2,000.0	8.25	23.44	1,992.5	104.6	45.3	-102.8	0.00	0.00	0.00

Planning Report

Database:	Landmark	Local Co-ordinate Reference:	Well State Antelope 41-44-30HNB
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	WELL @ 4677.0ft (RKB - 15')
Project:	SEC.30-T5N-R62W	MD Reference:	WELL @ 4677.0ft (RKB - 15')
Site:	State Antelope 41-44-30HNB Pad Sec.30-T5N-R62W	North Reference:	True
Well:	State Antelope 41-44-30HNB	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (4-03-13)		

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)
2,040.0	8.25	23.44	2,032.1	109.8	47.6	-108.0	0.00	0.00	0.00
2,080.0	8.25	23.44	2,071.7	115.1	49.9	-113.2	0.00	0.00	0.00
2,120.0	8.25	23.44	2,111.2	120.4	52.2	-118.4	0.00	0.00	0.00
2,160.0	8.25	23.44	2,150.8	125.6	54.5	-123.5	0.00	0.00	0.00
2,200.0	8.25	23.44	2,190.4	130.9	56.7	-128.7	0.00	0.00	0.00
2,240.0	8.25	23.44	2,230.0	136.2	59.0	-133.9	0.00	0.00	0.00
2,280.0	8.25	23.44	2,269.6	141.4	61.3	-139.1	0.00	0.00	0.00
2,320.0	8.25	23.44	2,309.2	146.7	63.6	-144.3	0.00	0.00	0.00
2,360.0	8.25	23.44	2,348.8	152.0	65.9	-149.4	0.00	0.00	0.00
2,400.0	8.25	23.44	2,388.4	157.3	68.2	-154.6	0.00	0.00	0.00
2,440.0	8.25	23.44	2,427.9	162.5	70.4	-159.8	0.00	0.00	0.00
2,480.0	8.25	23.44	2,467.5	167.8	72.7	-165.0	0.00	0.00	0.00
2,520.0	8.25	23.44	2,507.1	173.1	75.0	-170.1	0.00	0.00	0.00
2,560.0	8.25	23.44	2,546.7	178.3	77.3	-175.3	0.00	0.00	0.00
2,600.0	8.25	23.44	2,586.3	183.6	79.6	-180.5	0.00	0.00	0.00
2,640.0	8.25	23.44	2,625.9	188.9	81.9	-185.7	0.00	0.00	0.00
2,680.0	8.25	23.44	2,665.5	194.1	84.2	-190.9	0.00	0.00	0.00
2,720.0	8.25	23.44	2,705.0	199.4	86.4	-196.0	0.00	0.00	0.00
2,760.0	8.25	23.44	2,744.6	204.7	88.7	-201.2	0.00	0.00	0.00
2,800.0	8.25	23.44	2,784.2	209.9	91.0	-206.4	0.00	0.00	0.00
2,840.0	8.25	23.44	2,823.8	215.2	93.3	-211.6	0.00	0.00	0.00
2,880.0	8.25	23.44	2,863.4	220.5	95.6	-216.8	0.00	0.00	0.00
2,920.0	8.25	23.44	2,903.0	225.7	97.9	-221.9	0.00	0.00	0.00
2,960.0	8.25	23.44	2,942.6	231.0	100.1	-227.1	0.00	0.00	0.00
3,000.0	8.25	23.44	2,982.1	236.3	102.4	-232.3	0.00	0.00	0.00
3,040.0	8.25	23.44	3,021.7	241.5	104.7	-237.5	0.00	0.00	0.00
3,080.0	8.25	23.44	3,061.3	246.8	107.0	-242.7	0.00	0.00	0.00
3,120.0	8.25	23.44	3,100.9	252.1	109.3	-247.8	0.00	0.00	0.00
3,160.0	8.25	23.44	3,140.5	257.3	111.6	-253.0	0.00	0.00	0.00
3,200.0	8.25	23.44	3,180.1	262.6	113.8	-258.2	0.00	0.00	0.00
3,240.0	8.25	23.44	3,219.7	267.9	116.1	-263.4	0.00	0.00	0.00
3,280.0	8.25	23.44	3,259.2	273.1	118.4	-268.6	0.00	0.00	0.00
3,320.0	8.25	23.44	3,298.8	278.4	120.7	-273.7	0.00	0.00	0.00
3,360.0	8.25	23.44	3,338.4	283.7	123.0	-278.9	0.00	0.00	0.00
3,400.0	8.25	23.44	3,378.0	289.0	125.3	-284.1	0.00	0.00	0.00
3,440.0	8.25	23.44	3,417.6	294.2	127.5	-289.3	0.00	0.00	0.00
3,480.0	8.25	23.44	3,457.2	299.5	129.8	-294.5	0.00	0.00	0.00
3,520.0	8.25	23.44	3,496.8	304.8	132.1	-299.6	0.00	0.00	0.00
3,560.0	8.25	23.44	3,536.3	310.0	134.4	-304.8	0.00	0.00	0.00
3,600.0	8.25	23.44	3,575.9	315.3	136.7	-310.0	0.00	0.00	0.00
3,640.0	8.25	23.44	3,615.5	320.6	139.0	-315.2	0.00	0.00	0.00
3,680.0	8.25	23.44	3,655.1	325.8	141.2	-320.4	0.00	0.00	0.00
3,720.0	8.25	23.44	3,694.7	331.1	143.5	-325.5	0.00	0.00	0.00
3,760.0	8.25	23.44	3,734.3	336.4	145.8	-330.7	0.00	0.00	0.00
3,800.0	8.25	23.44	3,773.9	341.6	148.1	-335.9	0.00	0.00	0.00
3,840.0	8.25	23.44	3,813.4	346.9	150.4	-341.1	0.00	0.00	0.00
3,880.0	8.25	23.44	3,853.0	352.2	152.7	-346.2	0.00	0.00	0.00
3,920.0	8.25	23.44	3,892.6	357.4	154.9	-351.4	0.00	0.00	0.00
3,960.0	8.25	23.44	3,932.2	362.7	157.2	-356.6	0.00	0.00	0.00
4,000.0	8.25	23.44	3,971.8	368.0	159.5	-361.8	0.00	0.00	0.00
4,040.0	8.25	23.44	4,011.4	373.2	161.8	-367.0	0.00	0.00	0.00
4,080.0	8.25	23.44	4,051.0	378.5	164.1	-372.1	0.00	0.00	0.00
4,120.0	8.25	23.44	4,090.5	383.8	166.4	-377.3	0.00	0.00	0.00

Planning Report

Database:	Landmark	Local Co-ordinate Reference:	Well State Antelope 41-44-30HNB
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	WELL @ 4677.0ft (RKB - 15')
Project:	SEC.30-T5N-R62W	MD Reference:	WELL @ 4677.0ft (RKB - 15')
Site:	State Antelope 41-44-30HNB Pad	North Reference:	True
	Sec.30-T5N-R62W		
Well:	State Antelope 41-44-30HNB	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (4-03-13)		

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)	
4,160.0	8.25	23.44	4,130.1	389.0	168.6	-382.5	0.00	0.00	0.00	
4,200.0	8.25	23.44	4,169.7	394.3	170.9	-387.7	0.00	0.00	0.00	
4,240.0	8.25	23.44	4,209.3	399.6	173.2	-392.9	0.00	0.00	0.00	
4,280.0	8.25	23.44	4,248.9	404.8	175.5	-398.0	0.00	0.00	0.00	
4,320.0	8.25	23.44	4,288.5	410.1	177.8	-403.2	0.00	0.00	0.00	
4,360.0	8.25	23.44	4,328.1	415.4	180.1	-408.4	0.00	0.00	0.00	
4,400.0	8.25	23.44	4,367.6	420.7	182.3	-413.6	0.00	0.00	0.00	
4,440.0	8.25	23.44	4,407.2	425.9	184.6	-418.8	0.00	0.00	0.00	
4,480.0	8.25	23.44	4,446.8	431.2	186.9	-423.9	0.00	0.00	0.00	
4,520.0	8.25	23.44	4,486.4	436.5	189.2	-429.1	0.00	0.00	0.00	
4,560.0	8.25	23.44	4,526.0	441.7	191.5	-434.3	0.00	0.00	0.00	
4,600.0	8.25	23.44	4,565.6	447.0	193.8	-439.5	0.00	0.00	0.00	
4,623.5	8.25	23.44	4,588.8	450.1	195.1	-442.5	0.00	0.00	0.00	
4,640.0	7.92	23.44	4,605.2	452.2	196.0	-444.6	2.00	-2.00	0.00	
4,680.0	7.12	23.44	4,644.8	457.0	198.1	-449.3	2.00	-2.00	0.00	
4,720.0	6.32	23.44	4,684.5	461.3	200.0	-453.6	2.00	-2.00	0.00	
4,760.0	5.52	23.44	4,724.3	465.1	201.6	-457.3	2.00	-2.00	0.00	
4,800.0	4.72	23.44	4,764.2	468.4	203.0	-460.5	2.00	-2.00	0.00	
4,840.0	3.92	23.44	4,804.1	471.1	204.2	-463.2	2.00	-2.00	0.00	
4,880.0	3.12	23.44	4,844.0	473.4	205.2	-465.4	2.00	-2.00	0.00	
4,920.0	2.32	23.44	4,883.9	475.1	206.0	-467.2	2.00	-2.00	0.00	
4,960.0	1.52	23.44	4,923.9	476.4	206.5	-468.4	2.00	-2.00	0.00	
5,000.0	0.72	23.44	4,963.9	477.1	206.8	-469.1	2.00	-2.00	0.00	
5,036.1	0.00	0.00	5,000.0	477.3	206.9	-469.3	2.00	-2.00	0.00	
5,040.0	0.00	0.00	5,003.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,080.0	0.00	0.00	5,043.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,120.0	0.00	0.00	5,083.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,160.0	0.00	0.00	5,123.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,200.0	0.00	0.00	5,163.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,240.0	0.00	0.00	5,203.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,280.0	0.00	0.00	5,243.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,320.0	0.00	0.00	5,283.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,360.0	0.00	0.00	5,323.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,363.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,440.0	0.00	0.00	5,403.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,480.0	0.00	0.00	5,443.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,520.0	0.00	0.00	5,483.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,560.0	0.00	0.00	5,523.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,563.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,640.0	0.00	0.00	5,603.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,680.0	0.00	0.00	5,643.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,720.0	0.00	0.00	5,683.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,760.0	0.00	0.00	5,723.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,763.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,840.0	0.00	0.00	5,803.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,880.0	0.00	0.00	5,843.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,920.0	0.00	0.00	5,883.9	477.3	206.9	-469.3	0.00	0.00	0.00	
5,929.2	0.00	0.00	5,893.1	477.3	206.9	-469.3	0.00	0.00	0.00	
KOP #2										
5,960.0	3.38	180.58	5,923.9	476.4	206.9	-468.4	10.99	10.99	0.00	
6,000.0	7.78	180.58	5,963.7	472.5	206.9	-464.5	11.00	11.00	0.00	
6,040.0	12.18	180.58	6,003.1	465.6	206.8	-457.6	11.00	11.00	0.00	
6,080.0	16.58	180.58	6,041.8	455.6	206.7	-447.6	11.00	11.00	0.00	

Planning Report

Database:	Landmark	Local Co-ordinate Reference:	Well State Antelope 41-44-30HNB
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	WELL @ 4677.0ft (RKB - 15')
Project:	SEC.30-T5N-R62W	MD Reference:	WELL @ 4677.0ft (RKB - 15')
Site:	State Antelope 41-44-30HNB Pad Sec.30-T5N-R62W	North Reference:	True
Well:	State Antelope 41-44-30HNB	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (4-03-13)		

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)
6,120.0	20.98	180.58	6,079.7	442.8	206.5	-434.8	11.00	11.00	0.00
6,160.0	25.38	180.58	6,116.4	427.0	206.4	-419.0	11.00	11.00	0.00
6,200.0	29.78	180.58	6,151.9	408.5	206.2	-400.5	11.00	11.00	0.00
6,240.0	34.18	180.58	6,185.8	387.3	206.0	-379.4	11.00	11.00	0.00
6,280.0	38.58	180.58	6,218.0	363.6	205.7	-355.7	11.00	11.00	0.00
6,320.0	42.98	180.58	6,248.3	337.5	205.5	-329.6	11.00	11.00	0.00
6,360.0	47.38	180.58	6,276.4	309.1	205.2	-301.3	11.00	11.00	0.00
6,400.0	51.78	180.58	6,302.4	278.7	204.9	-270.8	11.00	11.00	0.00
6,440.0	56.18	180.58	6,325.9	246.3	204.6	-238.5	11.00	11.00	0.00
6,480.0	60.58	180.58	6,346.9	212.3	204.2	-204.5	11.00	11.00	0.00
6,520.0	64.98	180.58	6,365.1	176.7	203.9	-169.0	11.00	11.00	0.00
6,560.0	69.38	180.58	6,380.6	139.8	203.5	-132.2	11.00	11.00	0.00
6,600.0	73.78	180.58	6,393.3	101.9	203.1	-94.3	11.00	11.00	0.00
6,640.0	78.18	180.58	6,403.0	63.1	202.7	-55.5	11.00	11.00	0.00
6,680.0	82.58	180.58	6,409.6	23.7	202.3	-16.1	11.00	11.00	0.00
6,720.0	86.98	180.58	6,413.3	-16.1	201.9	23.6	11.00	11.00	0.00
6,747.4	90.00	180.58	6,414.0	-43.5	201.6	51.0	11.00	11.00	0.00
NIORARA B TARGET									
6,747.6	90.00	180.58	6,414.0	-43.7	201.6	51.2	0.00	0.00	0.00
End of Build									
6,760.0	90.00	180.58	6,414.0	-56.1	201.5	63.6	0.00	0.00	0.00
6,800.0	90.00	180.58	6,414.0	-96.1	201.1	103.5	0.00	0.00	0.00
6,840.0	90.00	180.58	6,414.0	-136.1	200.7	143.5	0.00	0.00	0.00
6,847.6	90.00	180.58	6,414.0	-143.7	200.6	151.1	0.00	0.00	0.00
7"									
6,871.2	90.00	180.58	6,414.0	-167.3	200.4	174.7	0.00	0.00	0.00
6,880.0	90.00	180.58	6,414.0	-176.1	200.3	183.4	0.00	0.00	0.00
6,920.0	90.00	180.58	6,414.0	-216.1	199.9	223.4	0.00	0.00	0.00
6,960.0	90.00	180.58	6,414.0	-256.1	199.5	263.4	0.00	0.00	0.00
7,000.0	90.00	180.58	6,414.0	-296.1	199.1	303.3	0.00	0.00	0.00
7,040.0	90.00	180.58	6,414.0	-336.1	198.6	343.3	0.00	0.00	0.00
7,080.0	90.00	180.58	6,414.0	-376.1	198.2	383.2	0.00	0.00	0.00
7,120.0	90.00	180.58	6,414.0	-416.1	197.8	423.2	0.00	0.00	0.00
7,160.0	90.00	180.58	6,414.0	-456.1	197.4	463.1	0.00	0.00	0.00
7,200.0	90.00	180.58	6,414.0	-496.1	197.0	503.1	0.00	0.00	0.00
7,240.0	90.00	180.58	6,414.0	-536.1	196.6	543.0	0.00	0.00	0.00
7,280.0	90.00	180.58	6,414.0	-576.1	196.2	583.0	0.00	0.00	0.00
7,320.0	90.00	180.58	6,414.0	-616.1	195.8	623.0	0.00	0.00	0.00
7,360.0	90.00	180.58	6,414.0	-656.1	195.4	662.9	0.00	0.00	0.00
7,400.0	90.00	180.58	6,414.0	-696.1	195.0	702.9	0.00	0.00	0.00
7,440.0	90.00	180.58	6,414.0	-736.1	194.6	742.8	0.00	0.00	0.00
7,480.0	90.00	180.58	6,414.0	-776.1	194.2	782.8	0.00	0.00	0.00
7,520.0	90.00	180.58	6,414.0	-816.1	193.8	822.7	0.00	0.00	0.00
7,560.0	90.00	180.58	6,414.0	-856.1	193.4	862.7	0.00	0.00	0.00
7,600.0	90.00	180.58	6,414.0	-896.1	193.0	902.6	0.00	0.00	0.00
7,640.0	90.00	180.58	6,414.0	-936.1	192.6	942.6	0.00	0.00	0.00
7,680.0	90.00	180.58	6,414.0	-976.1	192.2	982.6	0.00	0.00	0.00
7,720.0	90.00	180.58	6,414.0	-1,016.1	191.8	1,022.5	0.00	0.00	0.00
7,760.0	90.00	180.58	6,414.0	-1,056.1	191.3	1,062.5	0.00	0.00	0.00
7,800.0	90.00	180.58	6,414.0	-1,096.1	190.9	1,102.4	0.00	0.00	0.00
7,840.0	90.00	180.58	6,414.0	-1,136.1	190.5	1,142.4	0.00	0.00	0.00
7,880.0	90.00	180.58	6,414.0	-1,176.1	190.1	1,182.3	0.00	0.00	0.00
7,920.0	90.00	180.58	6,414.0	-1,216.1	189.7	1,222.3	0.00	0.00	0.00

Planning Report

Database:	Landmark	Local Co-ordinate Reference:	Well State Antelope 41-44-30HNB
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	WELL @ 4677.0ft (RKB - 15')
Project:	SEC.30-T5N-R62W	MD Reference:	WELL @ 4677.0ft (RKB - 15')
Site:	State Antelope 41-44-30HNB Pad Sec.30-T5N-R62W	North Reference:	True
Well:	State Antelope 41-44-30HNB	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (4-03-13)		

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)
7,960.0	90.00	180.58	6,414.0	-1,256.1	189.3	1,262.2	0.00	0.00	0.00
8,000.0	90.00	180.58	6,414.0	-1,296.1	188.9	1,302.2	0.00	0.00	0.00
8,040.0	90.00	180.58	6,414.0	-1,336.1	188.5	1,342.2	0.00	0.00	0.00
8,080.0	90.00	180.58	6,414.0	-1,376.1	188.1	1,382.1	0.00	0.00	0.00
8,120.0	90.00	180.58	6,414.0	-1,416.1	187.7	1,422.1	0.00	0.00	0.00
8,160.0	90.00	180.58	6,414.0	-1,456.1	187.3	1,462.0	0.00	0.00	0.00
8,200.0	90.00	180.58	6,414.0	-1,496.1	186.9	1,502.0	0.00	0.00	0.00
8,240.0	90.00	180.58	6,414.0	-1,536.1	186.5	1,541.9	0.00	0.00	0.00
8,280.0	90.00	180.58	6,414.0	-1,576.1	186.1	1,581.9	0.00	0.00	0.00
8,320.0	90.00	180.58	6,414.0	-1,616.1	185.7	1,621.8	0.00	0.00	0.00
8,360.0	90.00	180.58	6,414.0	-1,656.0	185.3	1,661.8	0.00	0.00	0.00
8,400.0	90.00	180.58	6,414.0	-1,696.0	184.9	1,701.7	0.00	0.00	0.00
8,440.0	90.00	180.58	6,414.0	-1,736.0	184.4	1,741.7	0.00	0.00	0.00
8,480.0	90.00	180.58	6,414.0	-1,776.0	184.0	1,781.7	0.00	0.00	0.00
8,520.0	90.00	180.58	6,414.0	-1,816.0	183.6	1,821.6	0.00	0.00	0.00
8,560.0	90.00	180.58	6,414.0	-1,856.0	183.2	1,861.6	0.00	0.00	0.00
8,600.0	90.00	180.58	6,414.0	-1,896.0	182.8	1,901.5	0.00	0.00	0.00
8,640.0	90.00	180.58	6,414.0	-1,936.0	182.4	1,941.5	0.00	0.00	0.00
8,680.0	90.00	180.58	6,414.0	-1,976.0	182.0	1,981.4	0.00	0.00	0.00
8,720.0	90.00	180.58	6,414.0	-2,016.0	181.6	2,021.4	0.00	0.00	0.00
8,760.0	90.00	180.58	6,414.0	-2,056.0	181.2	2,061.3	0.00	0.00	0.00
8,800.0	90.00	180.58	6,414.0	-2,096.0	180.8	2,101.3	0.00	0.00	0.00
8,840.0	90.00	180.58	6,414.0	-2,136.0	180.4	2,141.3	0.00	0.00	0.00
8,880.0	90.00	180.58	6,414.0	-2,176.0	180.0	2,181.2	0.00	0.00	0.00
8,920.0	90.00	180.58	6,414.0	-2,216.0	179.6	2,221.2	0.00	0.00	0.00
8,960.0	90.00	180.58	6,414.0	-2,256.0	179.2	2,261.1	0.00	0.00	0.00
9,000.0	90.00	180.58	6,414.0	-2,296.0	178.8	2,301.1	0.00	0.00	0.00
9,040.0	90.00	180.58	6,414.0	-2,336.0	178.4	2,341.0	0.00	0.00	0.00
9,080.0	90.00	180.58	6,414.0	-2,376.0	178.0	2,381.0	0.00	0.00	0.00
9,120.0	90.00	180.58	6,414.0	-2,416.0	177.5	2,420.9	0.00	0.00	0.00
9,160.0	90.00	180.58	6,414.0	-2,456.0	177.1	2,460.9	0.00	0.00	0.00
9,200.0	90.00	180.58	6,414.0	-2,496.0	176.7	2,500.9	0.00	0.00	0.00
9,240.0	90.00	180.58	6,414.0	-2,536.0	176.3	2,540.8	0.00	0.00	0.00
9,280.0	90.00	180.58	6,414.0	-2,576.0	175.9	2,580.8	0.00	0.00	0.00
9,320.0	90.00	180.58	6,414.0	-2,616.0	175.5	2,620.7	0.00	0.00	0.00
9,360.0	90.00	180.58	6,414.0	-2,656.0	175.1	2,660.7	0.00	0.00	0.00
9,400.0	90.00	180.58	6,414.0	-2,696.0	174.7	2,700.6	0.00	0.00	0.00
9,440.0	90.00	180.58	6,414.0	-2,736.0	174.3	2,740.6	0.00	0.00	0.00
9,480.0	90.00	180.58	6,414.0	-2,776.0	173.9	2,780.5	0.00	0.00	0.00
9,520.0	90.00	180.58	6,414.0	-2,816.0	173.5	2,820.5	0.00	0.00	0.00
9,560.0	90.00	180.58	6,414.0	-2,856.0	173.1	2,860.4	0.00	0.00	0.00
9,600.0	90.00	180.58	6,414.0	-2,896.0	172.7	2,900.4	0.00	0.00	0.00
9,640.0	90.00	180.58	6,414.0	-2,936.0	172.3	2,940.4	0.00	0.00	0.00
9,680.0	90.00	180.58	6,414.0	-2,976.0	171.9	2,980.3	0.00	0.00	0.00
9,720.0	90.00	180.58	6,414.0	-3,016.0	171.5	3,020.3	0.00	0.00	0.00
9,760.0	90.00	180.58	6,414.0	-3,056.0	171.1	3,060.2	0.00	0.00	0.00
9,800.0	90.00	180.58	6,414.0	-3,096.0	170.6	3,100.2	0.00	0.00	0.00
9,840.0	90.00	180.58	6,414.0	-3,136.0	170.2	3,140.1	0.00	0.00	0.00
9,880.0	90.00	180.58	6,414.0	-3,176.0	169.8	3,180.1	0.00	0.00	0.00
9,920.0	90.00	180.58	6,414.0	-3,216.0	169.4	3,220.0	0.00	0.00	0.00
9,960.0	90.00	180.58	6,414.0	-3,256.0	169.0	3,260.0	0.00	0.00	0.00
10,000.0	90.00	180.58	6,414.0	-3,296.0	168.6	3,300.0	0.00	0.00	0.00
10,040.0	90.00	180.58	6,414.0	-3,336.0	168.2	3,339.9	0.00	0.00	0.00

Planning Report

Database:	Landmark	Local Co-ordinate Reference:	Well State Antelope 41-44-30HNB
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	WELL @ 4677.0ft (RKB - 15')
Project:	SEC.30-T5N-R62W	MD Reference:	WELL @ 4677.0ft (RKB - 15')
Site:	State Antelope 41-44-30HNB Pad Sec.30-T5N-R62W	North Reference:	True
Well:	State Antelope 41-44-30HNB	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (4-03-13)		

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)
10,080.0	90.00	180.58	6,414.0	-3,376.0	167.8	3,379.9	0.00	0.00	0.00
10,120.0	90.00	180.58	6,414.0	-3,416.0	167.4	3,419.8	0.00	0.00	0.00
10,160.0	90.00	180.58	6,414.0	-3,456.0	167.0	3,459.8	0.00	0.00	0.00
10,200.0	90.00	180.58	6,414.0	-3,496.0	166.6	3,499.7	0.00	0.00	0.00
10,240.0	90.00	180.58	6,414.0	-3,536.0	166.2	3,539.7	0.00	0.00	0.00
10,280.0	90.00	180.58	6,414.0	-3,576.0	165.8	3,579.6	0.00	0.00	0.00
10,320.0	90.00	180.58	6,414.0	-3,615.9	165.4	3,619.6	0.00	0.00	0.00
10,360.0	90.00	180.58	6,414.0	-3,655.9	165.0	3,659.6	0.00	0.00	0.00
10,400.0	90.00	180.58	6,414.0	-3,695.9	164.6	3,699.5	0.00	0.00	0.00
10,440.0	90.00	180.58	6,414.0	-3,735.9	164.2	3,739.5	0.00	0.00	0.00
10,480.0	90.00	180.58	6,414.0	-3,775.9	163.8	3,779.4	0.00	0.00	0.00
10,520.0	90.00	180.58	6,414.0	-3,815.9	163.3	3,819.4	0.00	0.00	0.00
10,560.0	90.00	180.58	6,414.0	-3,855.9	162.9	3,859.3	0.00	0.00	0.00
10,600.0	90.00	180.58	6,414.0	-3,895.9	162.5	3,899.3	0.00	0.00	0.00
10,640.0	90.00	180.58	6,414.0	-3,935.9	162.1	3,939.2	0.00	0.00	0.00
10,680.0	90.00	180.58	6,414.0	-3,975.9	161.7	3,979.2	0.00	0.00	0.00
10,720.0	90.00	180.58	6,414.0	-4,015.9	161.3	4,019.1	0.00	0.00	0.00
10,760.0	90.00	180.58	6,414.0	-4,055.9	160.9	4,059.1	0.00	0.00	0.00
10,800.0	90.00	180.58	6,414.0	-4,095.9	160.5	4,099.1	0.00	0.00	0.00
10,840.0	90.00	180.58	6,414.0	-4,135.9	160.1	4,139.0	0.00	0.00	0.00
10,880.0	90.00	180.58	6,414.0	-4,175.9	159.7	4,179.0	0.00	0.00	0.00
10,920.0	90.00	180.58	6,414.0	-4,215.9	159.3	4,218.9	0.00	0.00	0.00
10,960.0	90.00	180.58	6,414.0	-4,255.9	158.9	4,258.9	0.00	0.00	0.00
10,973.8	90.00	180.58	6,414.0	-4,269.7	158.8	4,272.7	0.00	0.00	0.00

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
6,847.6	6,414.0	7"	7	8-3/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,747.4	6,414.0	NIOBRARA B TARGET		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,000.0	1,000.0	0.0	0.0	KOP #1
5,929.2	5,893.1	477.3	206.9	KOP #2
6,747.6	6,414.0	-43.7	201.6	End of Build