

BONANZA CREEK ENERGY OPERATING

Well Name: **Antelope F-J-31HZ**

Surface Location: Antelope F-J-31HZ Pad Sec.31-T5N-R62W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

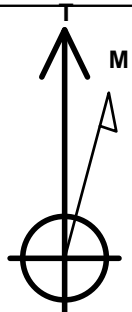
Ground Elevation: 4608.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1376790.23	3314688.66	40.362190	-104.370700	

Original Well Elev WELL @ 4623.0ft (Original Well Elev)

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
HARDLINE BH 460'FSL	1.0	-4317.1	200.0	Polygon
HARDLINE SH 460'FNL	1.0	-51.0	300.0	Polygon
BHL 460'FSL & 1358'FWL	6340.0	-4317.1	-11.1	Point
T1 460'FNL & 1358'FWL	6340.0	-51.0	92.0	Point



Azimuths to True North
Magnetic North: 8.51°

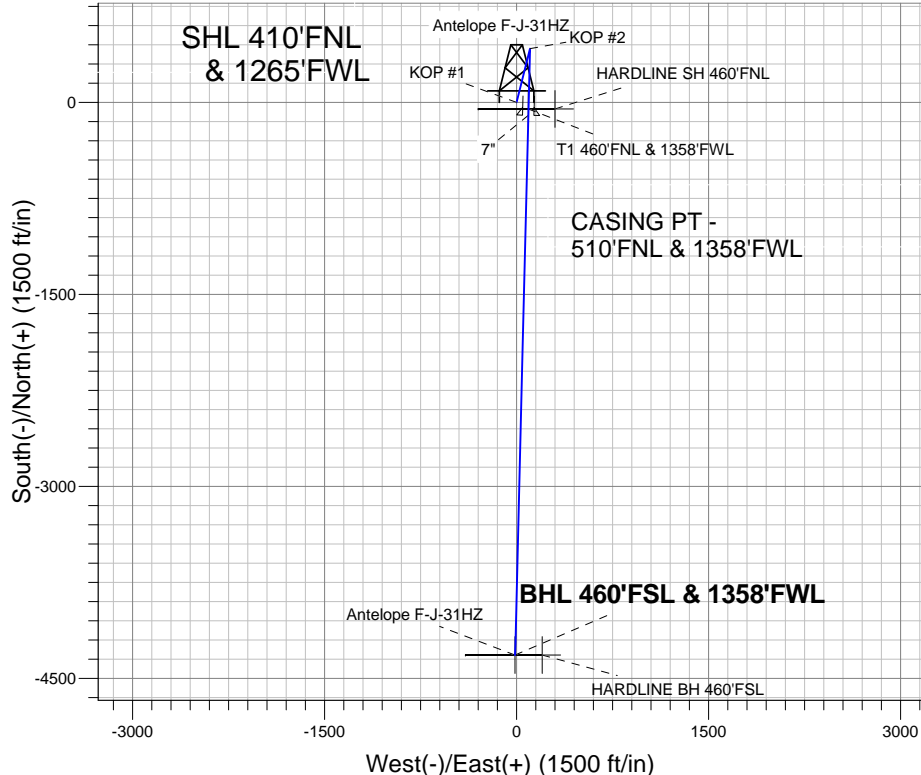
Magnetic Field
Strength: 53043.7sT
Dip Angle: 67.05°
Date: 7/5/2012
Model: IGRF2010

Antelope F-J-31HZ Pad Sec.31-T5N-R62W
Antelope F-J-31HZ
Plan #2 (JULY 11, 2012)
8:36, July 11 2012

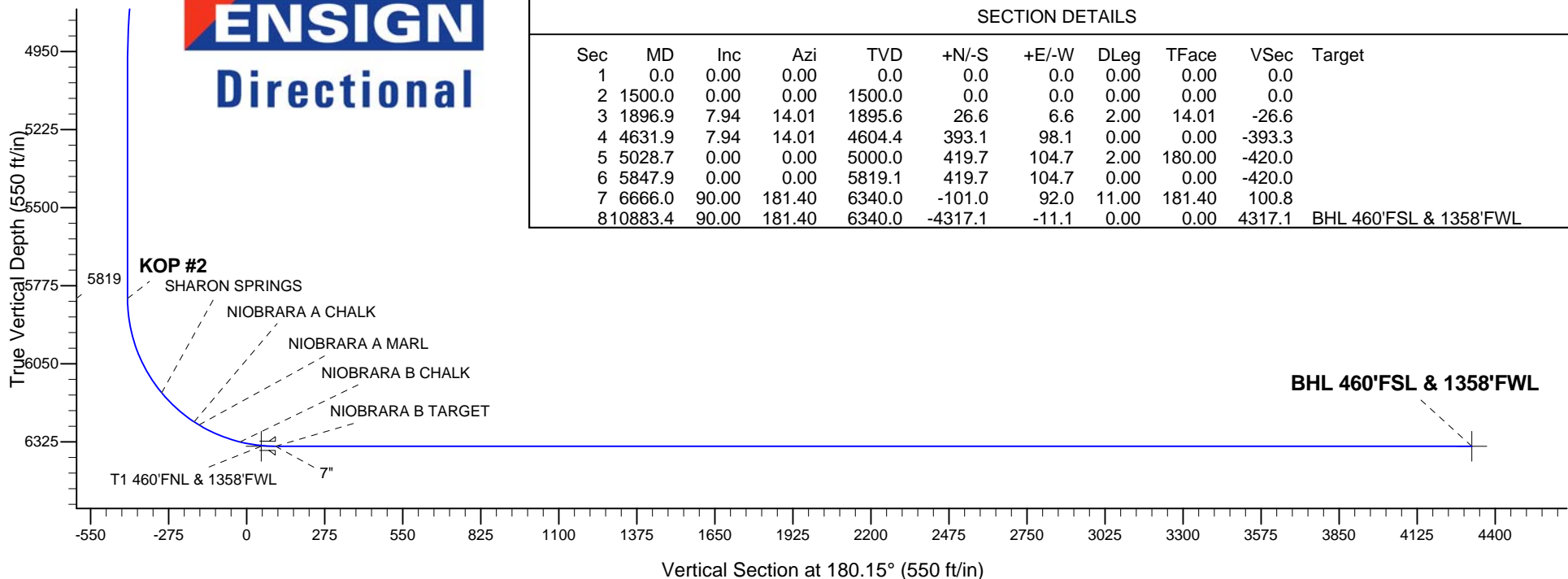
ANNOTATIONS

TVD	MD	Annotation
1500.0	1500.0	KOP #1
5819.2	5847.9	KOP #2

South(-)/North(+) (1500 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	1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	
3	1896.9	7.94	14.01	1895.6	26.6	6.6	2.00	14.01	-26.6	
4	4631.9	7.94	14.01	4604.4	393.1	98.1	0.00	0.00	-393.3	
5	5028.7	0.00	0.00	5000.0	419.7	104.7	2.00	180.00	-420.0	
6	5847.9	0.00	0.00	5819.1	419.7	104.7	0.00	0.00	-420.0	
7	6666.0	90.00	181.40	6340.0	-101.0	92.0	11.00	181.40	100.8	
8	10883.4	90.00	181.40	6340.0	-4317.1	-11.1	0.00	0.00	4317.1	BHL 460'FSL & 1358'FWL



BONANZA CREEK ENERGY OPERATING

SEC.31-T5N-R62W

Antelope F-J-31HZ Pad Sec.31-T5N-R62W

Antelope F-J-31HZ

Wellbore #1

Plan: Plan #2 (JULY 11, 2012)

Standard Planning Report

11 July, 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	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,896.9	7.94	14.01	1,895.6	26.6	6.6	2.00	2.00	0.00	14.01	
4,631.9	7.94	14.01	4,604.4	393.1	98.1	0.00	0.00	0.00	0.00	
5,028.7	0.00	0.00	5,000.0	419.7	104.7	2.00	-2.00	0.00	180.00	
5,847.9	0.00	0.00	5,819.1	419.7	104.7	0.00	0.00	0.00	0.00	
6,666.0	90.00	181.40	6,340.0	-101.0	92.0	11.00	11.00	0.00	181.40	
10,883.4	90.00	181.40	6,340.0	-4,317.1	-11.1	0.00	0.00	0.00	0.00	BHL 460'FSL & 135°

Database:	Landmark	Local Co-ordinate Reference:	Well Antelope F-J-31HZ
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	WELL @ 4623.0ft (Original Well Elev)
Project:	SEC.31-T5N-R62W	MD Reference:	WELL @ 4623.0ft (Original Well Elev)
Site:	Antelope F-J-31HZ Pad Sec.31-T5N-R62W	North Reference:	True
Well:	Antelope F-J-31HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (JULY 11, 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
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
HARDLINE BH 460'FSL - HARDLINE SH 460'FNL									
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
1,100.0	0.00	0.00	1,100.0	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
1,300.0	0.00	0.00	1,300.0	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
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP #1									
1,600.0	2.00	14.01	1,600.0	1.7	0.4	-1.7	2.00	2.00	0.00
1,700.0	4.00	14.01	1,699.8	6.8	1.7	-6.8	2.00	2.00	0.00
1,800.0	6.00	14.01	1,799.5	15.2	3.8	-15.2	2.00	2.00	0.00
1,896.9	7.94	14.01	1,895.6	26.6	6.6	-26.6	2.00	2.00	0.00
1,900.0	7.94	14.01	1,898.7	27.0	6.7	-27.1	0.00	0.00	0.00
2,000.0	7.94	14.01	1,997.7	40.4	10.1	-40.5	0.00	0.00	0.00
2,100.0	7.94	14.01	2,096.8	53.8	13.4	-53.9	0.00	0.00	0.00
2,200.0	7.94	14.01	2,195.8	67.2	16.8	-67.3	0.00	0.00	0.00
2,300.0	7.94	14.01	2,294.9	80.6	20.1	-80.7	0.00	0.00	0.00
2,400.0	7.94	14.01	2,393.9	94.0	23.5	-94.1	0.00	0.00	0.00
2,500.0	7.94	14.01	2,493.0	107.4	26.8	-107.5	0.00	0.00	0.00
2,600.0	7.94	14.01	2,592.0	120.8	30.1	-120.9	0.00	0.00	0.00
2,700.0	7.94	14.01	2,691.0	134.2	33.5	-134.3	0.00	0.00	0.00
2,800.0	7.94	14.01	2,790.1	147.6	36.8	-147.7	0.00	0.00	0.00
2,900.0	7.94	14.01	2,889.1	161.0	40.2	-161.1	0.00	0.00	0.00
3,000.0	7.94	14.01	2,988.2	174.4	43.5	-174.5	0.00	0.00	0.00
3,100.0	7.94	14.01	3,087.2	187.8	46.9	-187.9	0.00	0.00	0.00
3,200.0	7.94	14.01	3,186.2	201.2	50.2	-201.4	0.00	0.00	0.00
3,300.0	7.94	14.01	3,285.3	214.6	53.5	-214.8	0.00	0.00	0.00
3,350.2	7.94	14.01	3,335.0	221.3	55.2	-221.5	0.00	0.00	0.00
PARKMAN									
3,400.0	7.94	14.01	3,384.3	228.0	56.9	-228.2	0.00	0.00	0.00
3,500.0	7.94	14.01	3,483.4	241.4	60.2	-241.6	0.00	0.00	0.00
3,600.0	7.94	14.01	3,582.4	254.8	63.6	-255.0	0.00	0.00	0.00
3,700.0	7.94	14.01	3,681.5	268.2	66.9	-268.4	0.00	0.00	0.00
3,800.0	7.94	14.01	3,780.5	281.6	70.3	-281.8	0.00	0.00	0.00
3,900.0	7.94	14.01	3,879.5	295.0	73.6	-295.2	0.00	0.00	0.00
4,000.0	7.94	14.01	3,978.6	308.4	76.9	-308.6	0.00	0.00	0.00
4,090.3	7.94	14.01	4,068.0	320.5	80.0	-320.7	0.00	0.00	0.00
SUSSEX									
4,100.0	7.94	14.01	4,077.6	321.8	80.3	-322.0	0.00	0.00	0.00
4,200.0	7.94	14.01	4,176.7	335.2	83.6	-335.4	0.00	0.00	0.00
4,300.0	7.94	14.01	4,275.7	348.6	87.0	-348.8	0.00	0.00	0.00
4,400.0	7.94	14.01	4,374.8	362.0	90.3	-362.2	0.00	0.00	0.00
4,500.0	7.94	14.01	4,473.8	375.4	93.6	-375.6	0.00	0.00	0.00

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Well:	Antelope F-J-31HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (JULY 11, 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)
4,600.0	7.94	14.01	4,572.8	388.8	97.0	-389.0	0.00	0.00	0.00
4,631.9	7.94	14.01	4,604.4	393.1	98.1	-393.3	0.00	0.00	0.00
4,700.0	6.57	14.01	4,672.0	401.4	100.1	-401.7	2.00	-2.00	0.00
4,800.0	4.57	14.01	4,771.5	410.8	102.5	-411.1	2.00	-2.00	0.00
4,900.0	2.57	14.01	4,871.3	416.9	104.0	-417.2	2.00	-2.00	0.00
5,000.0	0.57	14.01	4,971.3	419.6	104.7	-419.8	2.00	-2.00	0.00
5,028.7	0.00	0.00	5,000.0	419.7	104.7	-420.0	2.00	-2.00	0.00
5,100.0	0.00	0.00	5,071.3	419.7	104.7	-420.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,171.3	419.7	104.7	-420.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,271.3	419.7	104.7	-420.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,371.3	419.7	104.7	-420.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,471.3	419.7	104.7	-420.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,571.3	419.7	104.7	-420.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,671.3	419.7	104.7	-420.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,771.3	419.7	104.7	-420.0	0.00	0.00	0.00
5,847.9	0.00	0.00	5,819.2	419.7	104.7	-420.0	0.00	0.00	0.00
KOP #2									
5,900.0	5.73	181.40	5,871.2	417.1	104.6	-417.4	11.01	11.01	0.00
6,000.0	16.73	181.40	5,969.1	397.6	104.2	-397.9	11.00	11.00	0.00
6,100.0	27.73	181.40	6,061.5	359.9	103.2	-360.1	11.00	11.00	0.00
6,200.0	38.73	181.40	6,145.0	305.2	101.9	-305.4	11.00	11.00	0.00
6,209.0	39.72	181.40	6,152.0	299.5	101.8	-299.8	11.00	11.00	0.00
SHARON SPRINGS									
6,300.0	49.73	181.40	6,216.6	235.5	100.2	-235.8	11.00	11.00	0.00
6,362.5	56.60	181.40	6,254.0	185.6	99.0	-185.8	11.00	11.00	0.00
NIORARA A CHALK									
6,383.1	58.87	181.40	6,265.0	168.2	98.5	-168.4	11.00	11.00	0.00
NIORARA A MARL									
6,400.0	60.73	181.40	6,273.5	153.5	98.2	-153.8	11.00	11.00	0.00
6,500.0	71.73	181.40	6,313.8	62.2	96.0	-62.4	11.00	11.00	0.00
6,540.7	76.22	181.40	6,325.0	23.0	95.0	-23.3	11.00	11.00	0.00
NIORARA B CHALK									
6,600.0	82.73	181.40	6,335.8	-35.2	93.6	34.9	11.00	11.00	0.00
6,616.1	84.51	181.40	6,337.6	-51.2	93.2	50.9	11.00	11.00	0.00
T1 460'FNL & 1358'FWL									
6,666.0	89.99	181.40	6,340.0	-101.0	92.0	100.7	11.00	11.00	0.00
NIORARA B TARGET - 7"									
6,700.0	90.00	181.40	6,340.0	-135.0	91.1	134.7	0.02	0.02	0.00
6,800.0	90.00	181.40	6,340.0	-234.9	88.7	234.7	0.00	0.00	0.00
6,900.0	90.00	181.40	6,340.0	-334.9	86.2	334.7	0.00	0.00	0.00
7,000.0	90.00	181.40	6,340.0	-434.9	83.8	434.6	0.00	0.00	0.00
7,100.0	90.00	181.40	6,340.0	-534.8	81.4	534.6	0.00	0.00	0.00
7,200.0	90.00	181.40	6,340.0	-634.8	78.9	634.6	0.00	0.00	0.00
7,300.0	90.00	181.40	6,340.0	-734.8	76.5	734.6	0.00	0.00	0.00
7,400.0	90.00	181.40	6,340.0	-834.7	74.0	834.6	0.00	0.00	0.00
7,500.0	90.00	181.40	6,340.0	-934.7	71.6	934.5	0.00	0.00	0.00
7,600.0	90.00	181.40	6,340.0	-1,034.7	69.1	1,034.5	0.00	0.00	0.00
7,700.0	90.00	181.40	6,340.0	-1,134.7	66.7	1,134.5	0.00	0.00	0.00
7,800.0	90.00	181.40	6,340.0	-1,234.6	64.2	1,234.5	0.00	0.00	0.00
7,900.0	90.00	181.40	6,340.0	-1,334.6	61.8	1,334.4	0.00	0.00	0.00
8,000.0	90.00	181.40	6,340.0	-1,434.6	59.3	1,434.4	0.00	0.00	0.00
8,100.0	90.00	181.40	6,340.0	-1,534.5	56.9	1,534.4	0.00	0.00	0.00
8,200.0	90.00	181.40	6,340.0	-1,634.5	54.5	1,634.4	0.00	0.00	0.00

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Site:	Antelope F-J-31HZ Pad Sec.31-T5N-R62W	North Reference:	True
Well:	Antelope F-J-31HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (JULY 11, 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)
8,300.0	90.00	181.40	6,340.0	-1,734.5	52.0	1,734.3	0.00	0.00	0.00
8,400.0	90.00	181.40	6,340.0	-1,834.4	49.6	1,834.3	0.00	0.00	0.00
8,500.0	90.00	181.40	6,340.0	-1,934.4	47.1	1,934.3	0.00	0.00	0.00
8,600.0	90.00	181.40	6,340.0	-2,034.4	44.7	2,034.3	0.00	0.00	0.00
8,700.0	90.00	181.40	6,340.0	-2,134.4	42.2	2,134.2	0.00	0.00	0.00
8,800.0	90.00	181.40	6,340.0	-2,234.3	39.8	2,234.2	0.00	0.00	0.00
8,900.0	90.00	181.40	6,340.0	-2,334.3	37.3	2,334.2	0.00	0.00	0.00
9,000.0	90.00	181.40	6,340.0	-2,434.3	34.9	2,434.2	0.00	0.00	0.00
9,100.0	90.00	181.40	6,340.0	-2,534.2	32.5	2,534.1	0.00	0.00	0.00
9,200.0	90.00	181.40	6,340.0	-2,634.2	30.0	2,634.1	0.00	0.00	0.00
9,300.0	90.00	181.40	6,340.0	-2,734.2	27.6	2,734.1	0.00	0.00	0.00
9,400.0	90.00	181.40	6,340.0	-2,834.1	25.1	2,834.1	0.00	0.00	0.00
9,500.0	90.00	181.40	6,340.0	-2,934.1	22.7	2,934.1	0.00	0.00	0.00
9,600.0	90.00	181.40	6,340.0	-3,034.1	20.2	3,034.0	0.00	0.00	0.00
9,700.0	90.00	181.40	6,340.0	-3,134.1	17.8	3,134.0	0.00	0.00	0.00
9,800.0	90.00	181.40	6,340.0	-3,234.0	15.3	3,234.0	0.00	0.00	0.00
9,900.0	90.00	181.40	6,340.0	-3,334.0	12.9	3,334.0	0.00	0.00	0.00
10,000.0	90.00	181.40	6,340.0	-3,434.0	10.4	3,433.9	0.00	0.00	0.00
10,100.0	90.00	181.40	6,340.0	-3,533.9	8.0	3,533.9	0.00	0.00	0.00
10,200.0	90.00	181.40	6,340.0	-3,633.9	5.6	3,633.9	0.00	0.00	0.00
10,300.0	90.00	181.40	6,340.0	-3,733.9	3.1	3,733.9	0.00	0.00	0.00
10,400.0	90.00	181.40	6,340.0	-3,833.9	0.7	3,833.8	0.00	0.00	0.00
10,500.0	90.00	181.40	6,340.0	-3,933.8	-1.8	3,933.8	0.00	0.00	0.00
10,600.0	90.00	181.40	6,340.0	-4,033.8	-4.2	4,033.8	0.00	0.00	0.00
10,700.0	90.00	181.40	6,340.0	-4,133.8	-6.7	4,133.8	0.00	0.00	0.00
10,800.0	90.00	181.40	6,340.0	-4,233.7	-9.1	4,233.7	0.00	0.00	0.00
10,883.4	90.00	181.40	6,340.0	-4,317.1	-11.1	4,317.1	0.00	0.00	0.00
BHL 460'FSL & 1358'FWL									

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
BHL 460'FSL & 1358'I - hit/miss target - Shape - Point	0.00	0.00	6,340.0	-4,317.1	-11.1	1,372,473.57	3,314,732.48	40.350340	-104.370740
HARDLINE BH 460'F' - plan misses target center by 4321.7ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E) - Polygon Point 1 Point 2	0.00	0.00	1.0	-4,317.1	200.0	1,372,476.21	3,314,943.61	40.350340	-104.369982
			1.0	0.0	0.0	1,372,476.21	3,314,943.61		
			1.0	0.0	-600.0	1,372,468.57	3,314,343.68		
HARDLINE SH 460'F' - plan misses target center by 304.3ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E) - Polygon Point 1 Point 2	0.00	0.00	1.0	-51.0	300.0	1,376,743.05	3,314,989.27	40.362050	-104.369623
			1.0	0.0	0.0	1,376,743.05	3,314,989.27		
			1.0	0.0	-600.0	1,376,735.41	3,314,389.34		
T1 460'FNL & 1358'F' - plan misses target center by 2.7ft at 6616.1ft MD (6337.6 TVD, -51.2 N, 93.2 E) - Point	0.00	0.00	6,340.0	-51.0	92.0	1,376,740.41	3,314,781.26	40.362050	-104.370370

Database:	Landmark	Local Co-ordinate Reference:	Well Antelope F-J-31HZ
Company:	BONANZA CREEK ENERGY OPERATING	TVD Reference:	WELL @ 4623.0ft (Original Well Elev)
Project:	SEC.31-T5N-R62W	MD Reference:	WELL @ 4623.0ft (Original Well Elev)
Site:	Antelope F-J-31HZ Pad Sec.31-T5N-R62W	North Reference:	True
Well:	Antelope F-J-31HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (JULY 11, 2012)		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
6,666.0	6,340.0	7"	7	7-1/2	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,350.2	3,335.0	PARKMAN		0.00		
4,090.3	4,068.0	SUSSEX		0.00		
6,209.0	6,152.0	SHARON SPRINGS		0.00		
6,362.5	6,254.0	NIOBRARA A CHALK		0.00		
6,383.1	6,265.0	NIOBRARA A MARL		0.00		
6,540.7	6,325.0	NIOBRARA B CHALK		0.00		
6,666.0	6,340.0	NIOBRARA B TARGET		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,500.0	1,500.0	0.0	0.0	KOP #1	
5,847.9	5,819.2	419.7	104.7	KOP #2	