

# BONANZA CREEK ENERGY OPERATING

Well Name: **PRONGHORN 11-14-12HZ**

Surface Location: PRONGHORN 11-14-12HZ PAD

North American Datum 1983, US State Plane 1983, Colorado Northern Zone

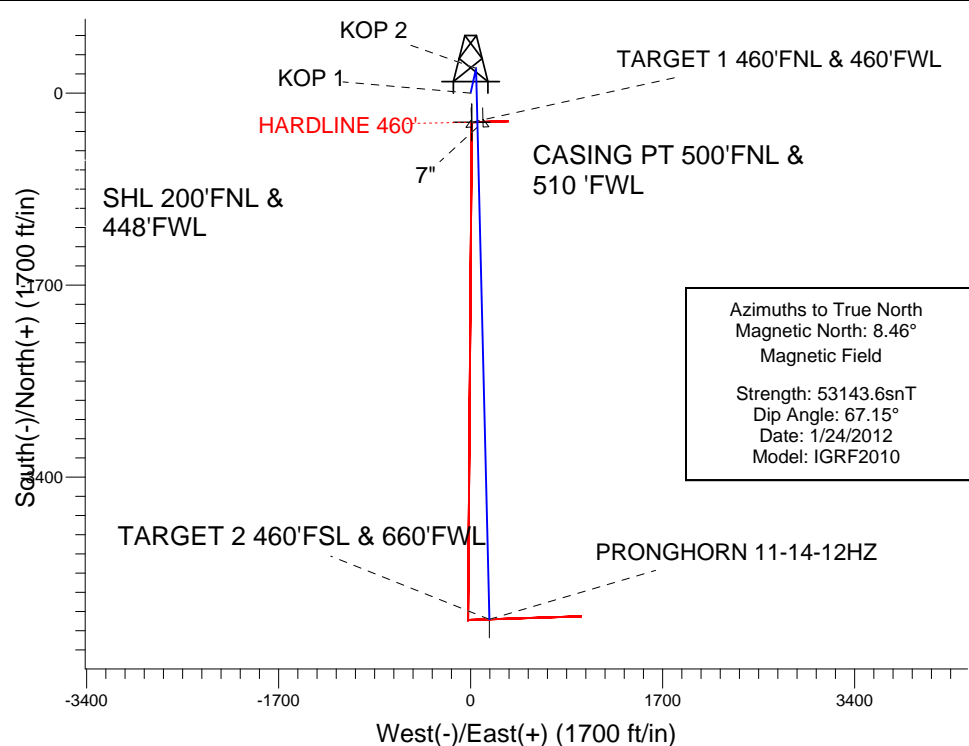
Ground Elevation: 4649.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1399627.44	3371892.77	40.422690	-104.164210	
KB 15' RKB @ 4664.0ft (KB 15')						

## WELLBORE TARGET DETAILS (LAT/LONG)

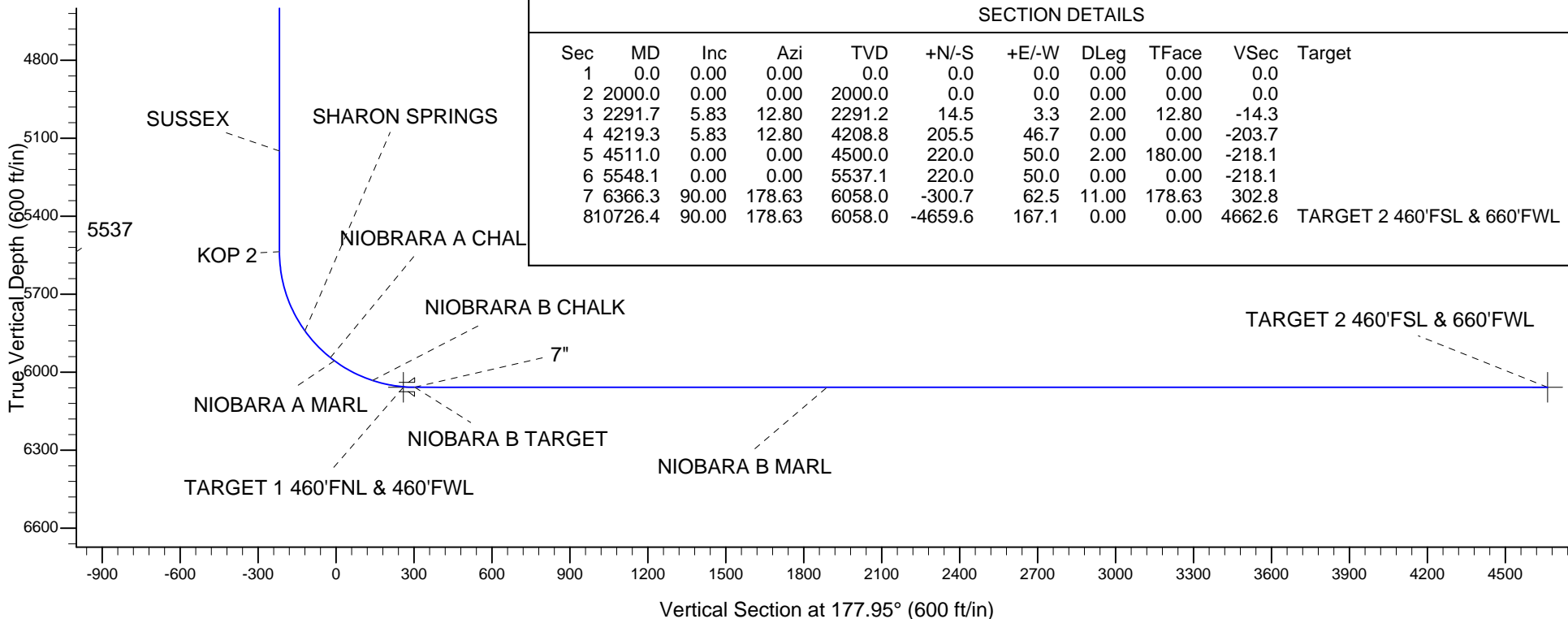
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
HARDLINE 460'	1.0	-258.7	11.0	40.421980	-104.164170	Polygon
TARGET 1 460'FNL & 460'FWL	6058.0	-258.7	11.1	40.421980	-104.164170	Point
TARGET 2 460'FSL & 660'FWL	6058.0	-4659.6	167.1	40.409900	-104.163610	Point

PRONGHORN 11-14-12HZ PAD  
PRONGHORN 11-14-12HZ  
PLAN 1 (JAN 24, 2012)  
15:35, January 24 2012



Azimuths to True North  
Magnetic North: 8.46°  
Magnetic Field

Strength: 53143.6snT  
Dip Angle: 67.15°  
Date: 1/24/2012  
Model: IGRF2010



## 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	2000.0	0.00	0.00	2000.0	0.0	0.0	0.00	0.00	0.0	
3	2291.7	5.83	12.80	2291.2	14.5	3.3	2.00	12.80	-14.3	
4	4219.3	5.83	12.80	4208.8	205.5	46.7	0.00	0.00	-203.7	
5	4511.0	0.00	0.00	4500.0	220.0	50.0	2.00	180.00	-218.1	
6	5548.1	0.00	0.00	5537.1	220.0	50.0	0.00	0.00	-218.1	
7	6366.3	90.00	178.63	6058.0	-300.7	62.5	11.00	178.63	302.8	
8	10726.4	90.00	178.63	6058.0	-4659.6	167.1	0.00	0.00	4662.6	TARGET 2 460'FSL & 660'FWL



**Directional**

## **BONANZA CREEK ENERGY OPERATING**

**SEC.12-T5N-R61W**

**PRONGHORN 11-14-12HZ PAD**

**PRONGHORN 11-14-12HZ**

**Wellbore #1**

**Plan: PLAN 1 (JAN 24, 2012)**

## **Standard Planning Report**

**24 January, 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	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,291.7	5.83	12.80	2,291.2	14.5	3.3	2.00	2.00	0.00	12.80	
4,219.3	5.83	12.80	4,208.8	205.5	46.7	0.00	0.00	0.00	0.00	
4,511.0	0.00	0.00	4,500.0	220.0	50.0	2.00	-2.00	0.00	180.00	
5,548.1	0.00	0.00	5,537.1	220.0	50.0	0.00	0.00	0.00	0.00	
6,366.3	90.00	178.63	6,058.0	-300.7	62.5	11.00	11.00	0.00	178.63	
10,726.4	90.00	178.63	6,058.0	-4,659.6	167.1	0.00	0.00	0.00	0.00	TARGET 2 460'FSL

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well PRONGHORN 11-14-12HZ
<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>TVD Reference:</b>	RKB @ 4664.0ft (KB 15')
<b>Project:</b>	SEC.12-T5N-R61W	<b>MD Reference:</b>	RKB @ 4664.0ft (KB 15')
<b>Site:</b>	PRONGHORN 11-14-12HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	PRONGHORN 11-14-12HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PLAN 1 (JAN 24, 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
<b>HARDLINE 460'</b>									
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
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP 1</b>									
2,100.0	2.00	12.80	2,100.0	1.7	0.4	-1.7	2.00	2.00	0.00
2,200.0	4.00	12.80	2,199.8	6.8	1.5	-6.7	2.00	2.00	0.00
2,291.7	5.83	12.80	2,291.2	14.5	3.3	-14.3	2.00	2.00	0.00
2,300.0	5.83	12.80	2,299.5	15.3	3.5	-15.2	0.00	0.00	0.00
2,400.0	5.83	12.80	2,398.9	25.2	5.7	-25.0	0.00	0.00	0.00
2,500.0	5.83	12.80	2,498.4	35.1	8.0	-34.8	0.00	0.00	0.00
2,600.0	5.83	12.80	2,597.9	45.0	10.2	-44.6	0.00	0.00	0.00
2,700.0	5.83	12.80	2,697.4	54.9	12.5	-54.5	0.00	0.00	0.00
2,800.0	5.83	12.80	2,796.9	64.9	14.7	-64.3	0.00	0.00	0.00
2,900.0	5.83	12.80	2,896.3	74.8	17.0	-74.1	0.00	0.00	0.00
3,000.0	5.83	12.80	2,995.8	84.7	19.2	-83.9	0.00	0.00	0.00
3,100.0	5.83	12.80	3,095.3	94.6	21.5	-93.8	0.00	0.00	0.00
3,200.0	5.83	12.80	3,194.8	104.5	23.7	-103.6	0.00	0.00	0.00
3,224.3	5.83	12.80	3,219.0	106.9	24.3	-106.0	0.00	0.00	0.00
<b>PARKMAN</b>									
3,300.0	5.83	12.80	3,294.3	114.4	26.0	-113.4	0.00	0.00	0.00
3,400.0	5.83	12.80	3,393.8	124.3	28.3	-123.2	0.00	0.00	0.00
3,500.0	5.83	12.80	3,493.2	134.2	30.5	-133.1	0.00	0.00	0.00
3,600.0	5.83	12.80	3,592.7	144.1	32.8	-142.9	0.00	0.00	0.00
3,700.0	5.83	12.80	3,692.2	154.1	35.0	-152.7	0.00	0.00	0.00
3,800.0	5.83	12.80	3,791.7	164.0	37.3	-162.5	0.00	0.00	0.00
3,900.0	5.83	12.80	3,891.2	173.9	39.5	-172.4	0.00	0.00	0.00
4,000.0	5.83	12.80	3,990.6	183.8	41.8	-182.2	0.00	0.00	0.00
4,100.0	5.83	12.80	4,090.1	193.7	44.0	-192.0	0.00	0.00	0.00
4,200.0	5.83	12.80	4,189.6	203.6	46.3	-201.8	0.00	0.00	0.00
4,219.3	5.83	12.80	4,208.8	205.5	46.7	-203.7	0.00	0.00	0.00
4,300.0	4.22	12.80	4,289.2	212.4	48.3	-210.6	2.00	-2.00	0.00
4,400.0	2.22	12.80	4,389.0	217.9	49.5	-216.0	2.00	-2.00	0.00
4,500.0	0.22	12.80	4,489.0	220.0	50.0	-218.0	2.00	-2.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well PRONGHORN 11-14-12HZ
<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>TVD Reference:</b>	RKB @ 4664.0ft (KB 15')
<b>Project:</b>	SEC.12-T5N-R61W	<b>MD Reference:</b>	RKB @ 4664.0ft (KB 15')
<b>Site:</b>	PRONGHORN 11-14-12HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	PRONGHORN 11-14-12HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PLAN 1 (JAN 24, 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)
4,511.0	0.00	0.00	4,500.0	220.0	50.0	-218.1	2.00	-2.00	0.00
4,600.0	0.00	0.00	4,589.0	220.0	50.0	-218.1	0.00	0.00	0.00
4,700.0	0.00	0.00	4,689.0	220.0	50.0	-218.1	0.00	0.00	0.00
4,800.0	0.00	0.00	4,789.0	220.0	50.0	-218.1	0.00	0.00	0.00
4,900.0	0.00	0.00	4,889.0	220.0	50.0	-218.1	0.00	0.00	0.00
5,000.0	0.00	0.00	4,989.0	220.0	50.0	-218.1	0.00	0.00	0.00
5,100.0	0.00	0.00	5,089.0	220.0	50.0	-218.1	0.00	0.00	0.00
5,160.0	0.00	0.00	5,149.0	220.0	50.0	-218.1	0.00	0.00	0.00
<b>SUSSEX</b>									
5,200.0	0.00	0.00	5,189.0	220.0	50.0	-218.1	0.00	0.00	0.00
5,300.0	0.00	0.00	5,289.0	220.0	50.0	-218.1	0.00	0.00	0.00
5,400.0	0.00	0.00	5,389.0	220.0	50.0	-218.1	0.00	0.00	0.00
5,500.0	0.00	0.00	5,489.0	220.0	50.0	-218.1	0.00	0.00	0.00
5,548.0	0.00	0.00	5,537.0	220.0	50.0	-218.1	0.00	0.00	0.00
<b>KOP 2</b>									
5,548.1	0.00	0.00	5,537.1	220.0	50.0	-218.1	0.00	0.00	0.00
5,600.0	5.71	178.63	5,588.9	217.4	50.1	-215.5	11.00	11.00	0.00
5,700.0	16.71	178.63	5,686.9	198.0	50.5	-196.1	11.00	11.00	0.00
5,800.0	27.71	178.63	5,779.3	160.3	51.4	-158.3	11.00	11.00	0.00
5,872.6	35.69	178.63	5,841.0	122.2	52.3	-120.2	11.00	11.00	0.00
<b>SHARON SPRINGS</b>									
5,900.0	38.71	178.63	5,862.8	105.6	52.7	-103.7	11.00	11.00	0.00
6,000.0	49.71	178.63	5,934.4	36.0	54.4	-34.1	11.00	11.00	0.00
6,015.1	51.36	178.63	5,944.0	24.4	54.7	-22.4	11.00	11.00	0.00
<b>NIOBRARA A CHALK</b>									
6,034.8	53.53	178.63	5,956.0	8.8	55.1	-6.8	11.00	11.00	0.00
<b>NIOBARA A MARL</b>									
6,100.0	60.71	178.63	5,991.4	-45.9	56.4	47.9	11.00	11.00	0.00
6,200.0	71.71	178.63	6,031.7	-137.3	58.6	139.3	11.00	11.00	0.00
6,201.0	71.82	178.63	6,032.0	-138.3	58.6	140.3	11.00	11.00	0.00
<b>NIOBRARA B CHALK</b>									
6,300.0	82.71	178.63	6,053.8	-234.6	60.9	236.6	11.00	11.00	0.00
6,323.1	85.25	178.63	6,056.2	-257.6	61.5	259.6	11.00	11.00	0.00
<b>TARGET 1 460'FNL &amp; 460'FWL</b>									
6,366.0	89.97	178.63	6,058.0	-300.4	62.5	302.5	11.00	11.00	0.00
<b>7"</b>									
6,366.3	90.00	178.63	6,058.0	-300.7	62.5	302.8	11.00	11.00	0.00
<b>NIOBARA B TARGET</b>									
6,400.0	90.00	178.63	6,058.0	-334.4	63.3	336.5	0.00	0.00	0.00
6,500.0	90.00	178.63	6,058.0	-434.4	65.7	436.5	0.00	0.00	0.00
6,600.0	90.00	178.63	6,058.0	-534.4	68.1	536.4	0.00	0.00	0.00
6,700.0	90.00	178.63	6,058.0	-634.3	70.5	636.4	0.00	0.00	0.00
6,800.0	90.00	178.63	6,058.0	-734.3	72.9	736.4	0.00	0.00	0.00
6,900.0	90.00	178.63	6,058.0	-834.3	75.3	836.4	0.00	0.00	0.00
7,000.0	90.00	178.63	6,058.0	-934.2	77.7	936.4	0.00	0.00	0.00
7,100.0	90.00	178.63	6,058.0	-1,034.2	80.1	1,036.4	0.00	0.00	0.00
7,200.0	90.00	178.63	6,058.0	-1,134.2	82.5	1,136.4	0.00	0.00	0.00
7,300.0	90.00	178.63	6,058.0	-1,234.1	84.9	1,236.4	0.00	0.00	0.00
7,400.0	90.00	178.63	6,058.0	-1,334.1	87.3	1,336.4	0.00	0.00	0.00
7,500.0	90.00	178.63	6,058.0	-1,434.1	89.7	1,436.4	0.00	0.00	0.00
7,600.0	90.00	178.63	6,058.0	-1,534.1	92.1	1,536.4	0.00	0.00	0.00
7,700.0	90.00	178.63	6,058.0	-1,634.0	94.5	1,636.4	0.00	0.00	0.00
7,800.0	90.00	178.63	6,058.0	-1,734.0	96.9	1,736.4	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well PRONGHORN 11-14-12HZ
<b>Company:</b>	BONANZA CREEK ENERGY OPERATING	<b>TVD Reference:</b>	RKB @ 4664.0ft (KB 15')
<b>Project:</b>	SEC.12-T5N-R61W	<b>MD Reference:</b>	RKB @ 4664.0ft (KB 15')
<b>Site:</b>	PRONGHORN 11-14-12HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	PRONGHORN 11-14-12HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PLAN 1 (JAN 24, 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)
7,900.0	90.00	178.63	6,058.0	-1,834.0	99.3	1,836.4	0.00	0.00	0.00
8,000.0	90.00	178.63	6,058.0	-1,933.9	101.7	1,936.4	0.00	0.00	0.00
8,100.0	90.00	178.63	6,058.0	-2,033.9	104.1	2,036.3	0.00	0.00	0.00
8,200.0	90.00	178.63	6,058.0	-2,133.9	106.5	2,136.3	0.00	0.00	0.00
8,300.0	90.00	178.63	6,058.0	-2,233.9	108.9	2,236.3	0.00	0.00	0.00
8,400.0	90.00	178.63	6,058.0	-2,333.8	111.3	2,336.3	0.00	0.00	0.00
8,500.0	90.00	178.63	6,058.0	-2,433.8	113.7	2,436.3	0.00	0.00	0.00
8,600.0	90.00	178.63	6,058.0	-2,533.8	116.1	2,536.3	0.00	0.00	0.00
8,700.0	90.00	178.63	6,058.0	-2,633.7	118.5	2,636.3	0.00	0.00	0.00
8,800.0	90.00	178.63	6,058.0	-2,733.7	120.9	2,736.3	0.00	0.00	0.00
8,900.0	90.00	178.63	6,058.0	-2,833.7	123.3	2,836.3	0.00	0.00	0.00
9,000.0	90.00	178.63	6,058.0	-2,933.7	125.7	2,936.3	0.00	0.00	0.00
9,100.0	90.00	178.63	6,058.0	-3,033.6	128.1	3,036.3	0.00	0.00	0.00
9,200.0	90.00	178.63	6,058.0	-3,133.6	130.5	3,136.3	0.00	0.00	0.00
9,300.0	90.00	178.63	6,058.0	-3,233.6	132.9	3,236.3	0.00	0.00	0.00
9,400.0	90.00	178.63	6,058.0	-3,333.5	135.3	3,336.3	0.00	0.00	0.00
9,500.0	90.00	178.63	6,058.0	-3,433.5	137.7	3,436.2	0.00	0.00	0.00
9,600.0	90.00	178.63	6,058.0	-3,533.5	140.1	3,536.2	0.00	0.00	0.00
9,700.0	90.00	178.63	6,058.0	-3,633.5	142.5	3,636.2	0.00	0.00	0.00
9,800.0	90.00	178.63	6,058.0	-3,733.4	144.9	3,736.2	0.00	0.00	0.00
9,900.0	90.00	178.63	6,058.0	-3,833.4	147.3	3,836.2	0.00	0.00	0.00
10,000.0	90.00	178.63	6,058.0	-3,933.4	149.7	3,936.2	0.00	0.00	0.00
10,100.0	90.00	178.63	6,058.0	-4,033.3	152.1	4,036.2	0.00	0.00	0.00
10,200.0	90.00	178.63	6,058.0	-4,133.3	154.5	4,136.2	0.00	0.00	0.00
10,300.0	90.00	178.63	6,058.0	-4,233.3	156.9	4,236.2	0.00	0.00	0.00
10,400.0	90.00	178.63	6,058.0	-4,333.3	159.3	4,336.2	0.00	0.00	0.00
10,500.0	90.00	178.63	6,058.0	-4,433.2	161.7	4,436.2	0.00	0.00	0.00
10,600.0	90.00	178.63	6,058.0	-4,533.2	164.1	4,536.2	0.00	0.00	0.00
10,700.0	90.00	178.63	6,058.0	-4,633.2	166.5	4,636.2	0.00	0.00	0.00
10,726.4	90.00	178.63	6,058.0	-4,659.6	167.1	4,662.6	0.00	0.00	0.00
TARGET 2 460'FSL & 660'FWL									

Plan Annotations					
	Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
			+N/-S (ft)	+E/-W (ft)	
	2,000.0	2,000.0	0.0	0.0	KOP 1
	5,548.0	5,537.0	220.0	50.0	KOP 2