

Dakota Exploration

Well Name: **Smock 1-2-11-59H**

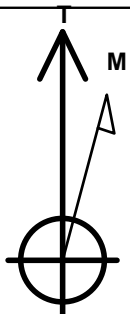
Surface Location: Smock 1-2-11-59H Pad Sec.2-T11N-R59W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 5372.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1591594.93	3427950.84	40.947030	-103.950850	

RKB - 15' WELL @ 5387.0ft (RKB - 15')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
Setback 600'	1.0	4343.0	-400.0	Polygon
BHL 625'FWL, 600'FNL	6411.0	4343.0	-52.5	Point



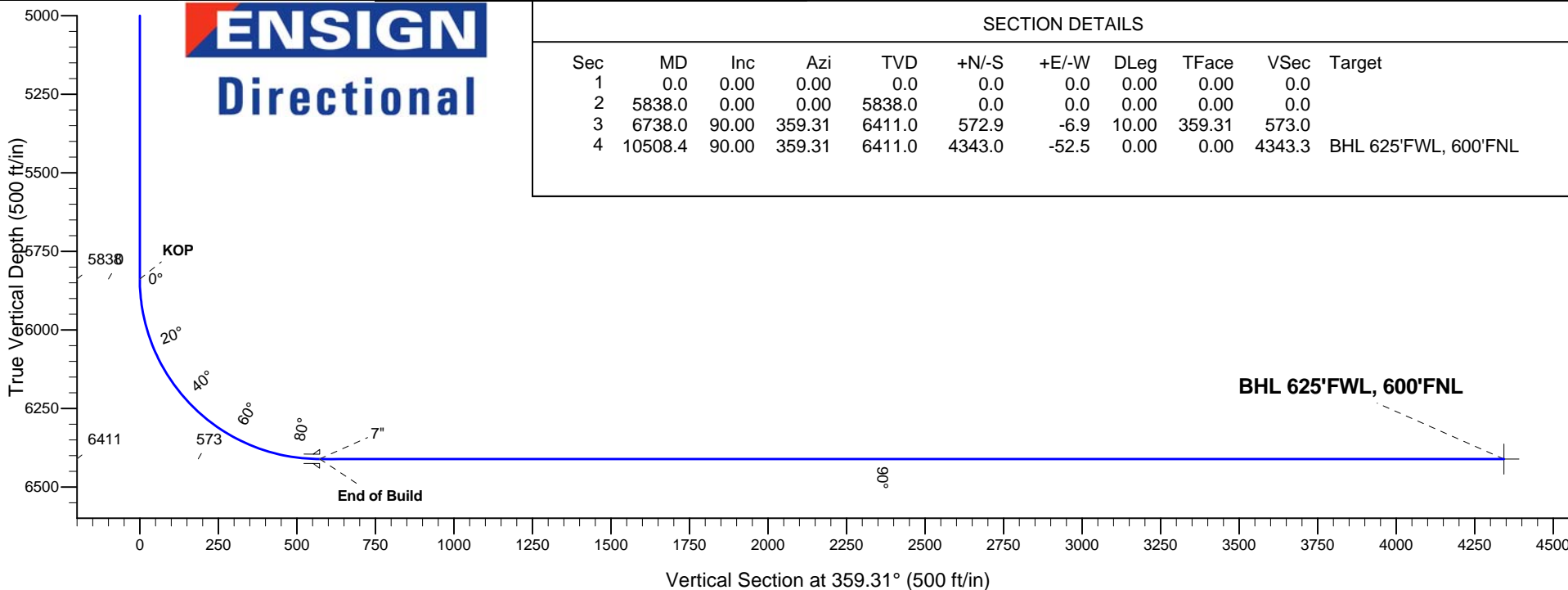
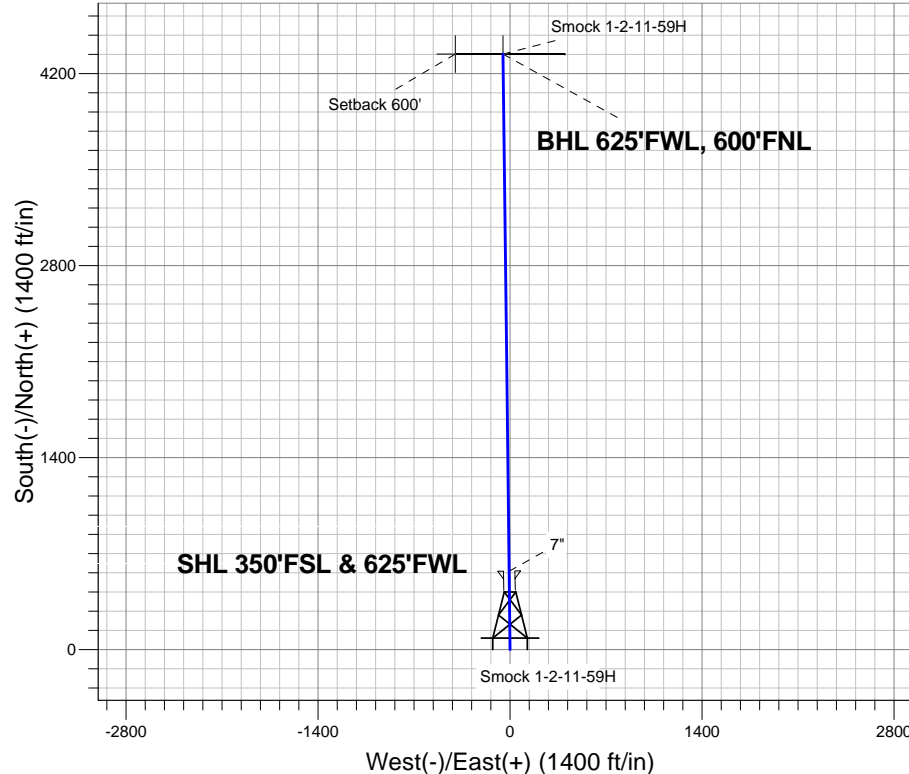
Azimuths to True North
Magnetic North: 8.19°

Magnetic Field
Strength: 53287.2srT
Dip Angle: 67.55°
Date: 5/31/2013
Model: IGRF2010

Smock 1-2-11-59H Pad Sec.2-T11N-R59W
Smock 1-2-11-59H
Plan #1 (5-31-13)
12:14, May 31 2013

ANNOTATIONS

TVD	MD	Annotation
5838.0	5838.0	KOP
6411.0	6738.0	End of Build



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	5838.0	0.00	0.00	5838.0	0.0	0.0	0.00	0.00	0.0	
3	6738.0	90.00	359.31	6411.0	572.9	-6.9	10.00	359.31	573.0	
4	10508.4	90.00	359.31	6411.0	4343.0	-52.5	0.00	0.00	4343.3	BHL 625'FWL, 600'FNL



Directional

Dakota Exploration

SEC.2-T11N-R59W

Smock 1-2-11-59H Pad Sec.2-T11N-R59W

Smock 1-2-11-59H

Wellbore #1

Plan: Plan #1 (5-31-13)

Standard Planning Report

31 May, 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	
5,838.0	0.00	0.00	5,838.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,738.0	90.00	359.31	6,411.0	572.9	-6.9	10.00	10.00	0.00	359.31	
10,508.4	90.00	359.31	6,411.0	4,343.0	-52.5	0.00	0.00	0.00	0.00	BHL 625'FWL, 600'

Database:	Landmark	Local Co-ordinate Reference:	Well Smock 1-2-11-59H
Company:	Dakota Exploration	TVD Reference:	WELL @ 5387.0ft (RKB - 15')
Project:	SEC.2-T11N-R59W	MD Reference:	WELL @ 5387.0ft (RKB - 15')
Site:	Smock 1-2-11-59H Pad Sec.2-T11N-R59W	North Reference:	True
Well:	Smock 1-2-11-59H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (5-31-13)		

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
Setback 600'									
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
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Smock 1-2-11-59H
Company:	Dakota Exploration	TVD Reference:	WELL @ 5387.0ft (RKB - 15')
Project:	SEC.2-T11N-R59W	MD Reference:	WELL @ 5387.0ft (RKB - 15')
Site:	Smock 1-2-11-59H Pad Sec.2-T11N-R59W	North Reference:	True
Well:	Smock 1-2-11-59H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (5-31-13)		

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)
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,838.0	0.00	0.00	5,838.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP									
5,900.0	6.20	359.31	5,899.9	3.3	0.0	3.3	9.99	9.99	0.00
6,000.0	16.20	359.31	5,997.9	22.7	-0.3	22.7	10.00	10.00	0.00
6,100.0	26.20	359.31	6,091.0	58.8	-0.7	58.8	10.00	10.00	0.00
6,200.0	36.20	359.31	6,176.4	110.6	-1.3	110.6	10.00	10.00	0.00
6,300.0	46.20	359.31	6,251.6	176.3	-2.1	176.4	10.00	10.00	0.00
6,400.0	56.20	359.31	6,314.1	254.2	-3.1	254.2	10.00	10.00	0.00
6,500.0	66.20	359.31	6,362.3	341.7	-4.1	341.7	10.00	10.00	0.00
6,600.0	76.20	359.31	6,394.5	436.2	-5.3	436.2	10.00	10.00	0.00
6,700.0	86.20	359.31	6,409.7	534.9	-6.5	534.9	10.00	10.00	0.00
6,738.0	90.00	359.31	6,411.0	572.9	-6.9	572.9	10.00	10.00	0.00
End of Build - 7"									
6,800.0	90.00	359.31	6,411.0	634.9	-7.7	634.9	0.01	0.01	0.00
6,900.0	90.00	359.31	6,411.0	734.9	-8.9	734.9	0.00	0.00	0.00
7,000.0	90.00	359.31	6,411.0	834.9	-10.1	834.9	0.00	0.00	0.00
7,100.0	90.00	359.31	6,411.0	934.8	-11.3	934.9	0.00	0.00	0.00
7,200.0	90.00	359.31	6,411.0	1,034.8	-12.5	1,034.9	0.00	0.00	0.00
7,300.0	90.00	359.31	6,411.0	1,134.8	-13.7	1,134.9	0.00	0.00	0.00
7,400.0	90.00	359.31	6,411.0	1,234.8	-14.9	1,234.9	0.00	0.00	0.00
7,500.0	90.00	359.31	6,411.0	1,334.8	-16.1	1,334.9	0.00	0.00	0.00
7,600.0	90.00	359.31	6,411.0	1,434.8	-17.3	1,434.9	0.00	0.00	0.00
7,700.0	90.00	359.31	6,411.0	1,534.8	-18.5	1,534.9	0.00	0.00	0.00
7,800.0	90.00	359.31	6,411.0	1,634.8	-19.8	1,634.9	0.00	0.00	0.00
7,900.0	90.00	359.31	6,411.0	1,734.8	-21.0	1,734.9	0.00	0.00	0.00
8,000.0	90.00	359.31	6,411.0	1,834.8	-22.2	1,834.9	0.00	0.00	0.00
8,100.0	90.00	359.31	6,411.0	1,934.8	-23.4	1,934.9	0.00	0.00	0.00
8,200.0	90.00	359.31	6,411.0	2,034.8	-24.6	2,034.9	0.00	0.00	0.00
8,300.0	90.00	359.31	6,411.0	2,134.8	-25.8	2,134.9	0.00	0.00	0.00
8,400.0	90.00	359.31	6,411.0	2,234.8	-27.0	2,234.9	0.00	0.00	0.00
8,500.0	90.00	359.31	6,411.0	2,334.7	-28.2	2,334.9	0.00	0.00	0.00
8,600.0	90.00	359.31	6,411.0	2,434.7	-29.4	2,434.9	0.00	0.00	0.00
8,700.0	90.00	359.31	6,411.0	2,534.7	-30.6	2,534.9	0.00	0.00	0.00
8,800.0	90.00	359.31	6,411.0	2,634.7	-31.8	2,634.9	0.00	0.00	0.00
8,900.0	90.00	359.31	6,411.0	2,734.7	-33.0	2,734.9	0.00	0.00	0.00
9,000.0	90.00	359.31	6,411.0	2,834.7	-34.3	2,834.9	0.00	0.00	0.00
9,100.0	90.00	359.31	6,411.0	2,934.7	-35.5	2,934.9	0.00	0.00	0.00
9,200.0	90.00	359.31	6,411.0	3,034.7	-36.7	3,034.9	0.00	0.00	0.00
9,300.0	90.00	359.31	6,411.0	3,134.7	-37.9	3,134.9	0.00	0.00	0.00
9,400.0	90.00	359.31	6,411.0	3,234.7	-39.1	3,234.9	0.00	0.00	0.00
9,500.0	90.00	359.31	6,411.0	3,334.7	-40.3	3,334.9	0.00	0.00	0.00
9,600.0	90.00	359.31	6,411.0	3,434.7	-41.5	3,434.9	0.00	0.00	0.00
9,700.0	90.00	359.31	6,411.0	3,534.7	-42.7	3,534.9	0.00	0.00	0.00
9,800.0	90.00	359.31	6,411.0	3,634.7	-43.9	3,634.9	0.00	0.00	0.00
9,900.0	90.00	359.31	6,411.0	3,734.6	-45.1	3,734.9	0.00	0.00	0.00
10,000.0	90.00	359.31	6,411.0	3,834.6	-46.3	3,834.9	0.00	0.00	0.00
10,100.0	90.00	359.31	6,411.0	3,934.6	-47.5	3,934.9	0.00	0.00	0.00

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Well:	Smock 1-2-11-59H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (5-31-13)		

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)
10,200.0	90.00	359.31	6,411.0	4,034.6	-48.8	4,034.9	0.00	0.00	0.00
10,300.0	90.00	359.31	6,411.0	4,134.6	-50.0	4,134.9	0.00	0.00	0.00
10,400.0	90.00	359.31	6,411.0	4,234.6	-51.2	4,234.9	0.00	0.00	0.00
10,500.0	90.00	359.31	6,411.0	4,334.6	-52.4	4,334.9	0.00	0.00	0.00
10,508.4	90.00	359.31	6,411.0	4,343.0	-52.5	4,343.3	0.00	0.00	0.00
BHL 625'FWL, 600'FNL									

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									
BHL 625'FWL, 600'FNL	0.00	0.00	6,411.0	4,343.0	-52.5	1,595,936.50	3,427,822.50	40.958950	-103.951040
- plan hits target center									
- Point									
Setback 600'	0.00	0.00	1.0	4,343.0	-400.0	1,595,930.40	3,427,475.02	40.958950	-103.952298
- plan misses target center by 4361.4ft at 1.0ft MD (1.0 TVD, 0.0 N, 0.0 E)									
- Polygon									
Point 1			1.0	0.0	0.0	1,595,930.40	3,427,475.02		
Point 2			1.0	0.0	800.0	1,595,944.38	3,428,274.92		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
6,738.0	6,411.0	7"	7	7-1/2	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
5,838.0	5,838.0	0.0	0.0	KOP
6,738.0	6,411.0	572.9	-6.9	End of Build