

**Well:** State 7-62 36-1H  
**Zone of Interest:** Niobrara Shale

**1.0) Summary of Operations**

Re-enter well.

Set cast iron bridge plug below kick off point. Perform negative pressure test. Set 7" casing whipstock.

Mill a window above whipstock.

Drill 6" curve and lateral hole to TD per attached directional plan.

Set 4-1/2" casing to surface and cement as shown below.

Suspend well and move drilling rig out in preparation for well completion

**2.0 CASING AND CEMENTING PROGRAM**

The proposed casing program will be as follows:

<u>Purpose</u>	<u>Interval</u>		<u>Hole Size</u>	<u>Casing Size</u>	<u>Weight</u>	<u>Grade</u>	<u>Thread</u>	<u>Condition</u>
	<u>From</u>	<u>To</u>	(")	(")	Lbs/Ft			
Production	0	10086	6	4 1/2	11.6	P-110	LTC	New

Casing design subject to revision based on geologic conditions encountered.

**Casing Safety Factors:**

Interval	Casing	Burst	Collapse	Axial
Production	4 1/2	1.32	2.26	1.63

**Centralizer Program**

Casing	4 1/2	
# of Bow-type spring centralizer	63	

**Cement Program**

Production Casing Cement		Slurry Volume			Weight	Yield	Mix H2O	TOC
		% Excess	(BBLs)	(Sacks)	(PPG)	(cuft/sk)	(GPS)	
Tail Slurry		20%	93	356	14.60	1.46	6.10	5567
		Lead			Tail			
Production Casing Cement	Poz Type I-II 50/50	50/50 Poz Premium						
	1 % Bentonite (Light Weight Additive)	2 % Bentonite (Light Weight Additive)						
	3 lbm/sk Silicalite Compacted (Additive Material)	5 lbm/sk Silicalite Compacted (Light Weight Additive)						
	3 % Microbond HT (Additive Material)	0.5 % Versaset (Thixotropic Additive)						
	0.2 % Halad(R)-322 (Low Fluid Loss Control)	0.5 % Econolite (Cement Material)						
	0.4 % Halad(R)-344 (Low Fluid Loss Control)	0.6 % HR-7 (Retarder)						
	0.3 % HR-5 (Retarder)	0.5 % D-AIR 3000 (Defoamer)						
		0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)						
		0.25 lbm/sk Kwik Seal (Lost Circulation Additive)						

**MUD PROGRAM**

<u>Purpose</u>	<u>Interval</u>		<u>Hole Size</u>	<u>Mud Type</u>	<u>Mud Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>	<u>pH</u>
	<u>From</u>	<u>To</u>	(")	(")	<u>Lbs/Ft</u>			
Production	5767'	10086'	6	WBM	8.5 - 10.0	36 - 46	4 - 6	9

WBM = Water Based Mud