

**ENERFIN RESOURCES NORTHWEST**

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"C.C." #32-27-65  
 API #36-009-XXXXX  
 DRILLING PROGRAM  
 Draft

June 7, 1996

**LOCATION:** ±1,472' South and ±2,422' West from the Northeast corner of Sec. 27, T6N-R5W, W.B. & M., Columbia County, OR. (preliminary - not yet surveyed)

**ELEVATIONS:** ±850' G.L.                      ±860' K.B.

<b>DEPTHS:</b>		<u>TMD</u>
	Clark & Wilson Sand (C&W)	1,600'
	C&W Gas Water Contact	1,680'
	Total Depth	2,010'

**DIRECTIONAL CONTROL:** Hole to be vertically drilled.

**PROGRAM:**

- Survey and build location. Cement 40' of 12" conductor. Move in and rig up drilling rig. Install mud cleaner and rig up mud loggers.
- Drill 9-7/8" hole to ±500' (to fit casing). Circulate clean and wipe hole to surface.
- Rig up casing tongs and run 7" 23# J-55 ST&C casing equipped with float shoe and 3 centralizers placed around collars of JTs #1, #3 & #5. Tack weld and Bakerlock bottom 4 collars and shoe.
- Rig up cementers and cement casing shoe with 70 sx "Premium" cement + 8% Gel + 10#/sk CalSeal + .25% Flocele + 3% CaCl<sub>2</sub> followed with a tail slurry of 75 sx "Premium" cement + .25% Flocele + 3% CaCl<sub>2</sub> (70% excess). Pump 50 ft<sup>3</sup> fresh water ahead of cement and displace top plug with drilling fluid. Bleed pressure off casing and observe backflow (WOC 4 hours).
- Weld on 7" SOW X 7-1/16" 3M casing head and test to 1500#. Install Class III-B BOPE. Test Hydril to 800# and all rams, lines, valves and chokes to 1000#. DOGAMI to witness test and log on tour sheet.
- Drill 6-1/4" hole to 2,010'. Wipe new hole drilled every 5-6 hours or sooner if tight hole becomes evident.
- Run Dual Induction and Sonic logs with SP & Rwa curves in tandem at total depth (minimum sonic).
- If casing is run, use 3-1/2" 9.3# J-55 EUE or 9.2# J-55 NU tubing to surface.
  - Install at least one ±5' flag joint near interval of interest.
  - Equip casing with guide shoe and differential fill-up collar. Place centralizers as directed.
  - Condition hole no less than twice hole volume.

9. Cement casing as follows:

	<u>Type</u>	<u>Density</u>	<u>Yield</u>
Lead	"Premium" cement + 6% Gel	13.6 PPG	1.71 ft <sup>3</sup> /sk
Tail	"Premium" cement + 2% KCL (w/w) + 2% Microbond + 1% Gasban	14.6 PPG	1.40 ft <sup>3</sup> /sk

- Precede cement slurry with 20 BBLs mud flush.
- Displace cement in turbulent flow with 3% KCL water.

Enerfin Resources Northwest  
 "C.C." #32-27-65  
 Drilling Program  
 Page #2

- Land casing as cemented, install tubing head and test to 3000#.
- Release drilling rig.

**SPECIAL INSTRUCTIONS:**

- Drill pipe measurements: Strap out of hole at total depth.
- Hole deviation: Inclination of hole not to exceed 3° and is not to vary more than 1.5°/100'. Surveys are to be taken at ±500' intervals to TD.
- Mud Program:

<u>Interval</u>	<u>Type</u>	<u>MW (PPG)</u>	<u>Viscosity</u>	<u>WL (cc)</u>
0'-500'	Gel/Water	Spud mud	±50	NC
500'-1,500'	Drispac/Polymer	9.2-9.3	36-40	12-6
1,500'-2,010'	Drispac/Polymer	9.3-9.5	36-40	<6

Mud weights specified are for guide purposes only. Use weights necessary to maintain approximately 20 units background gas or as otherwise required to control well.

Keep at least 300 sacks of weight material on location at all times after drilling out surface shoe.

Program by:  
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