5. Rotary drilling equipment will be utilized to drill the well to TD 7850' and run casing. The equipment will then be rigged down and the well will be completed with a pulling unit.

6. Proposed total depth is 7850'.

7. Estimated tops of important geologic markers:

Glorieta	1570
Abo	3670
Wolfcamp	4470
Cisco	6120
Strawn	6720
Atoka	7190
Morrow	7430
"B" Zone	7510
Chester	7610
Mississippian Lime	7800
TD	7850

8. Estimated depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered:

A. Primary objective (top) Morrow "B" SS 7510

B. Secondary objective (top) Abo 3670
Cisco 6120
Strawn 6720

9. The proposed casing program is as follows:

Surface:	13-3/8" OD 48# H40 ST&C new casing
Intermediate:	8-5/8" OD 24# K55 ST&C new casing
Production:	5-1/2" OD 15.5 and 17# K55 and N80 ST&C and LT&C new casing

10. Casing setting depth and cementing program:

A. 13-3/8" OD surface pipe set at 265'. Circulate. Cement with 250 sacks Class "C" with 2% CaCl.

B. 8-5/8" OD intermediate casing set at 1550'. Circulate cement with 1000 sacks Halliburton Lite with 5# Gilsonite, 1/4# Flocele and 2%

CaCl followed by 300 sacks Class "C" with 2% CaCl. If cement does not circulate, run temperature survey then finish cementing to the surface through 1" in the annulus using Class "C" with 2-4% CaCl in stages.

C. 5-1/2" OD production casing set at 7850'. Cement with 500 sacks Class "H" with 3/4% CFR-2 and 3# KCL/sack. Anticipated top of cement 5000'.

11. Pressure Control Equipment

0-1550	12" 3000# BOP with blind and pipe rams.
1550-7850	10" 3000# BOP with blind and pipe rams, 10" 3000# annular type preventer, 3000# choke manifold, 80 gallon accumulator with floor and remote operating station and auxiliary power system, upper and lower kelly cocks, inside BOP's for all size equipment in drill string. The BOP and choke manifold will be tested to rated working pressure 3000# by an independent testing company prior to drilling out cement in the 8-5/8" casing.

The pipe rams and Hydril will be actuated at least once each 24 hours and the blind rams each time the drill pipe is out of the hole.

A drill string safety valve in the open position will be on the rig floor at all times while drilling operations are being conducted.

BOP drills will be conducted as necessary to insure that each drilling crew is properly trained to carry out emergency duties.

Accumulators shall maintain a pressure capacity reserve at all times to provide for repeated operation of hydraulic preventers.

A mud/gas separator will be installed after drilling out from under the 8-5/8" so it will be operable before drilling into the Wolfcamp zone.

12. Mud Program

0- 265	Spud mud. Gel floculated with Lime.
265-1550	Gel floculated with Lime. Treat with coarse fibrous LCM. If severe loss occurs, dry drill ahead to casing point.
1550-4500	Drill out with fresh water and circulate reserve pit.
4500-6100	To the existing system, add 10#/barrel KCL to stabilize the Shale. Maintain KCL content at 40,000 ppm.
6100-7850	Mud up at top of Canyon formation maintaining 8.8-9.0#/gallon weight and 32-33 viscosity with water loss 10 cc or less. Use Flosal to increase viscosity and KCL to maintain weight.

13. Testing, Logging and Coring Program

A. Three (3) drill stem tests Cisco, Strawn and Morrow.

B. Mud Logging Program - two man unit 3500'-TD.

C. Electric Logging Program - BHC-SON-GR, CNL-FDC-GR-CAL, DLL-RKO, HDT (Schlumberger).

D. Coring Program - 2 60' cores in the Morrow SS.

14. No abnormal temperatures or H_2S gas is anticipated. There is a possibility of overpressured zones in the Wolfcamp, Strawn and Atoka. Adequate flare lines will be installed off the mud/gas separator and testing equipment to insure that gas may be piped away a safe distance from the well where it may be ignited and burned.

In addition to the pressure control equipment noted in Item #11, the following equipment will be installed and in operation before drilling into the Wolfcamp zone:

A. A recording pit level indicator to determine pit volume gains and losses.

B. A mud volume measuring device for accurately determining mud volume necessary to fill the hole on trips.

C. A flow sensor on the flow line to warn of any abnormal mud returns from the well.

15. Anticipated starting date is one week after this Application for Permit to Drill is approved by the Geological Survey. It should take 28-30 days to drill the well and another 7-21 days to complete.

16. If the District Engineer needs additional information to support this application, please contact me at the above address.

17. The Multi-Point Surface Use and Operation Plan for submission to the Bureau of Land Management is attached.

Yours very truly,

E. Y. Wilder
Region Operations Manager
Southwest Region
E & P Division

EYW/ls

Attachment

3000 LB. W.P. BOP

10" HYDRAULIC BOP 3000 PSI. WITH BLIND & PIPE RAMS.
10" ANNULAR TYPE PREVENTER 3000 PSI.
80 GALLON ACCUMULATOR WITH FLOOR & REMOTE CONTROLS
CHOKE MANIFOLD 3000 PSI.