COLLINS & WARE, INC.
DRILLING PROGRAM

Attachment to Form 3160-3
Collins & Ware, Inc.
Starburst Federal "31" #1
Surface Location: 1980' FSL & 660' FWL, Unit Letter L, Section 31, T-20S, R-39E
Bottom Hole Location: Same
Lea County, New Mexico

1. **Geologic Name and Estimated Tops:**

Rustler	1635'	Blinebry	6075'
Yates	2900'	Tubb	6615'
Seven Rivers	3010'	Drinkard	6875'
Queen	3525'	Abo	7125'
San Andres	4325'		

2. **Estimated Depth to Fresh Water:**

Possible fresh water from surface to 400'

Anticipated Possible Hydrocarbon Bearing Zones: Abo (Below 7125')
No other formations are anticipated to give up commercial quantities of hydrocarbons.

The fresh water sands will be protected by setting 8 5/8" casing at 1650' and circulating cement back to surface. The 5 1/2" production string will be set at 8000' TD and cement back to 8 5/8 casing shoe.

3 **Proposed Casing Program:**

Hole Size	Interval	OD Casing	Weight, Grade, Jt Cond
11"	0-1650'	8 5/8"	24#, K55, ST&C, New
7 7/8"	0-6000'	5 1/2"	15.5#, K55, ST&C, New
7 7/8"	6000-8000'	5 1/2"	17#, K55, ST&C, New

4 **Proposed Cementing Program:**

8 5/8" Surface Csg: Lead - Cement w/ 650 sx of Class "C" w/ 2% CaCl, 4% Gel.
Tail - Cement w/ 210 sx of Class "C" w/ 2% CaCl.
Circulate cmt to surface.

5 1/2" Prod Csg: Lead - Cement w/ 595 sx of Class "C" w/ 6% Gel, 5 lb/sx Salt.
Tail - Cement w/ 520 sx Class "H" w/ 5 lb/sx Salt, 9.6 lb/sx Silicalite
TOC @ 8 5/8 casing shoe.

5. **Minimum Specifications for Pressure Control:**

The blowout preventer equipment (BOP) shown in attachments will consist of a double ram-type (3000 psi WP) preventer. It will be hydraulically operated and will be equipped with pipe rams on top and blind rams on bottom. The BOP will be nippled up on the 8 5/8" casing and used continuously until TD is reached. Ram-type BOP and accessory equipment will be tested to 1000 psi. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. A 2" kill line and 3" choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a rotating head, kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 3000 psi WP rating. Exhibit 1.

6. **Types and Characteristics of the Proposed Mud System:**

The well will be drilled to TD with:

Depth	Type	Weight (ppg)	Viscosity (sec)
Surface to 1650'	Fresh Water Spud Mud	8.5- 8.8	30-33
1650' to 8000' TD	Brine Water w/ Loss Circ Additvs (Saltgel and Starch)	9.8-10.2	28-30

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the wellsite at all times.

7 **Auxiliary Well Control and Monitoring Equipment:**

(A) A kelly cock will be kept in the drill string at all times.

(B) A full opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.

(C) The drilling fluids system will be visually monitored at all times.

(D) A mud-logging unit will monitor drilling penetration rate and hydrocarbon shots from somewhere below the surface casing.

8 **Logging, Testing and Coring Program:**

(A) No drill stem tests are planned.

(B) Compensated Neutron/LDT Log - GR and Dual Laterolog w/ MSFL. The Gamma Ray Log will be continued back to surface.

(C) Mud-logging unit will be used below 2000'.

(D) No cores are anticipated.

(E) Other testing procedures may be used after the production casing has been set depending on shows and other testing indicators.

9 **Abnormal Conditions, Pressures, Temperatures, & Potential Hazards:**

No abnormal pressures or temperatures are anticipated. The estimated bottom-hole temperature at TD is 110°F and the estimated maximum bottom hole pressure is about 2900 psi. No hydrogen sulfide or other hazardous gases or fluids are anticipated. A copy of a gas analysis taken from the Payday #1, Abo Formation, located approximately 2 miles to the north west is attached. It indicated no H_2S in this formation.

10. **Anticipated Starting Date and Duration of Operations:**

It is planned that operations will commence shortly after approval of this application, around April 28, 1997. A company representative will inform BLM of our intentions prior to spudding. It is anticipated that once drilling operations commence, they will last approximately 20 days, with completion operations lasting approximately 10 days. A decision as to the design and installation of permanent facilities will be made after adequate testing.