Gulf Energy and Minerals Company-U.S.
PRODUCTION DEPARTMENT
HOBBS AREA

C D Borland
AREA PRODUCTION MANAGER

P. O. Box 670
Hobbs, New Mexico 88240

March 4, 1977

Re: Application for Permit to Drill
Proposed West Brunson Fed. Well No. 1,
Lea County, New Mexico

U. S. Geological Survey
P. O. Box 1157
Hobbs, NM 88240

Gentlemen:

We are submitting the information requested in NTL-6 which should accompany application for permit to drill.

Well: West Brunson Unit Well No. 1

1. Location: 660' FSL and 1980' FEL Section 19, T-21-S, R-37-E, Lea County, N.M.

2. Elevation of Unprepared Ground: 3507' GL.

3. Geologic Name of Surface Formation: Quarternary alluvium.

4. Type Drilling Tools: Rotary.

5. Proposed Drilling Depth: 9000'.

6. Estimated Top of Geologic Markers: Anhydrite 1220'; Salt 1320', Salt Base 2670', Glorieta 5110', Abo 6750', Devonian 7500', Simpson 8300', Ellenburger 8900'.

7. Estimated Depths at which Anticipated Gas or Oil-Bearing Formations Expected:

| | | |
|---|---|---|
| a. | Glorieta | 5100' - 5200' |
| b. | Abo | 6750' - 6850' |
| c. | Simpson | 8300' - 8375' |
| d. | Ellenburger | 8900' - 9000' |

8. Casing Program and Setting Depths:

| | Size | Weight | Grade | Setting Depth |
|---|---|---|---|---|
| Surface | 13-3/8" | 48.00# | H-40 | 400' |
| Intermediate | 9-5/8" | 36.00# | K-55 | 2800' |
| Production | 5-1/2" | 15.50# | K-55 | 9000' |

9. Casing Setting Depth and Cementing Program:

a. Surface casing will be 13-3/8" set at 400' and cemented with 350 sacks Class "C" with 6% gel, 2% $CaCl_2$ and 200 sacks Class "C" with 2% $CaCl_2$.

b. Intermediate casing will be 9-5/8" set at 2800' and cemented with 250 sacks Class "A" with 16% gel, 3% salt and 200 sacks Class "C" with 2% $CaCl_2$.

c. Production casing will be 5-1/2" set approximately 9000' and cemented with Class "H" with 4% gel and Class "H" neat with sufficient volumes to bring cement top to 5000'. Volumes to be determined by caliper log.

10. Pressure Control Equipment: The minimum specifications for pressure control equipment can be seen on the attached Drawing No. 3 of Gulf's blowout preventer hook-up for 3000 psi working pressure.

11. Circulating Media: 0-400' fresh water spud mud; 400-2800' saturated salt water; 2800-6500' brackish water; 6500-9000' salt water polymer with the following properties: viscosity 32-37 sec.; water loss 20 cc or less, weight 9.0 to 9.5 and 4% KCL. Heavier weight mud will be used if required by well conditions.

12. Testing Logging and Coring Programs:

a. Formation testing may be done at any depth where samples, drilling rate, or log information indicate a possible show of oil or gas.

b. A mud logging unit will be used from 6800' to total depth. Open hole logs will be run at total depth.

c. Core will be taken in the Ellenburger formation 8900-9000' (100').

13. Abnormal Pressure or Temperature and Hydrogen Sulfide Gas: We do not anticipate any abnormal pressure or temperature; however, BOP's with remote control and choke manifold as shown on Drawing No. 3 prior to drilling below intermediate casing.

The presence of hydrogen sulfide gas is not anticipated.

14. Anticipated Starting Date: Drilling operations should start between March 15 and April 1, 1977.

15. Other Facets of the Proposed Operation: None.

C. D. BORLAND
Area Production Manager

Attachments
RLV/dch