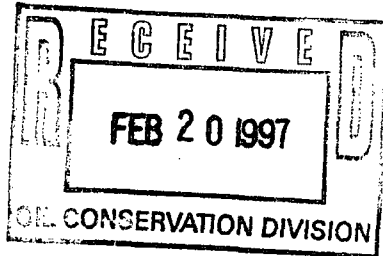




## Arch Petroleum Inc.



February 20, 1997

Application for Administrative Approval of  
Two Unorthodox Well Locations  
C. D. Woolworth Lease,  
Sec. 30, T24S, R37E,  
Lea County, New Mexico

William J. LeMay, Director  
Oil Conservation Division  
New Mexico Department Of Energy,  
Minerals and Natural Resources  
2040 South Pacheco Street  
Santa Fe, New Mexico 87505

Dear Mr. LeMay:

Arch Petroleum Inc. hereby seeks administrative approval pursuant to the provisions of Division Rule 104 F(2) adopted on January 18, 1996, for two unorthodox well locations as indicated on the attached C-102 for each well.

Exhibit No. 1 is a lease Base Map showing the proposed locations. These locations do encroach on immediately adjacent existing spacing units in the same pool. These adjacent spacing units are operated by Texaco Exploration and Production, Inc., Burlington Resources Oil and Gas Company, Louis B. Burleson, G P Energy, Inc., and Scope Industries. Exhibit No. 2 shows the locations of the offset operators. All companies have been notified by certified mail pursuant to the NMOCD rules. Copies of the notification are attached as Exhibit No 3.

The unorthodox locations in the Langlie Mattix formation are necessary for geological reasons. The Langlie Mattix consists of multiple sand stringers in a dense dolomite. The formation traps stratigraphically along the western edge of the central basin platform. Production is controlled by porosity & permeability development. Exhibit No. 4 is the Spectral Density-Compensated Neutron with Gamma Ray log from the C. D. Woolworth No. 9 well that was completed in the Langlie Mattix formation on 6-22-95. The log indicates that the pay is made up of thin porosity stringers of an average porosity of 12 to 16 percent. The average permeability is estimated to be 4.3 md. A low bottom hole pressure was recorded in the C. D. Woolworth No. 7 well of 380 psi at 3530 feet. These above conditions result in the inadequate drainage of the current 40 acre spacing.

Exhibit No. 5 is a listing of the parameters derived from log analysis along with fluid factor derived from Standing's correlation and projected ultimate recovery from decline curve analysis for wells currently producing from the Langlie Mattix formation. This Exhibit indicates that based on the above geological factors effecting the wells, projected ultimate recovery results in the largest drainage area to be 18.73 acres.

William J. LeMay, Director

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Exhibit No. 6 is a map indicating the projected drainage area calculated in the above mentioned Exhibit. This map graphically demonstrates the need for the proposed wells to avoid waste and efficiently recover the available reserves. On this date a copy of this application has been sent to affected parties by Certified Mail, Return Receipt Requested in accordance with Division Rule 1207(6)(a) advising them that if they have an objection, it must be filed in writing within twenty (20) days from the date notice was sent.

Sincerely,

A handwritten signature in cursive script that reads "Bobbie Brooks".

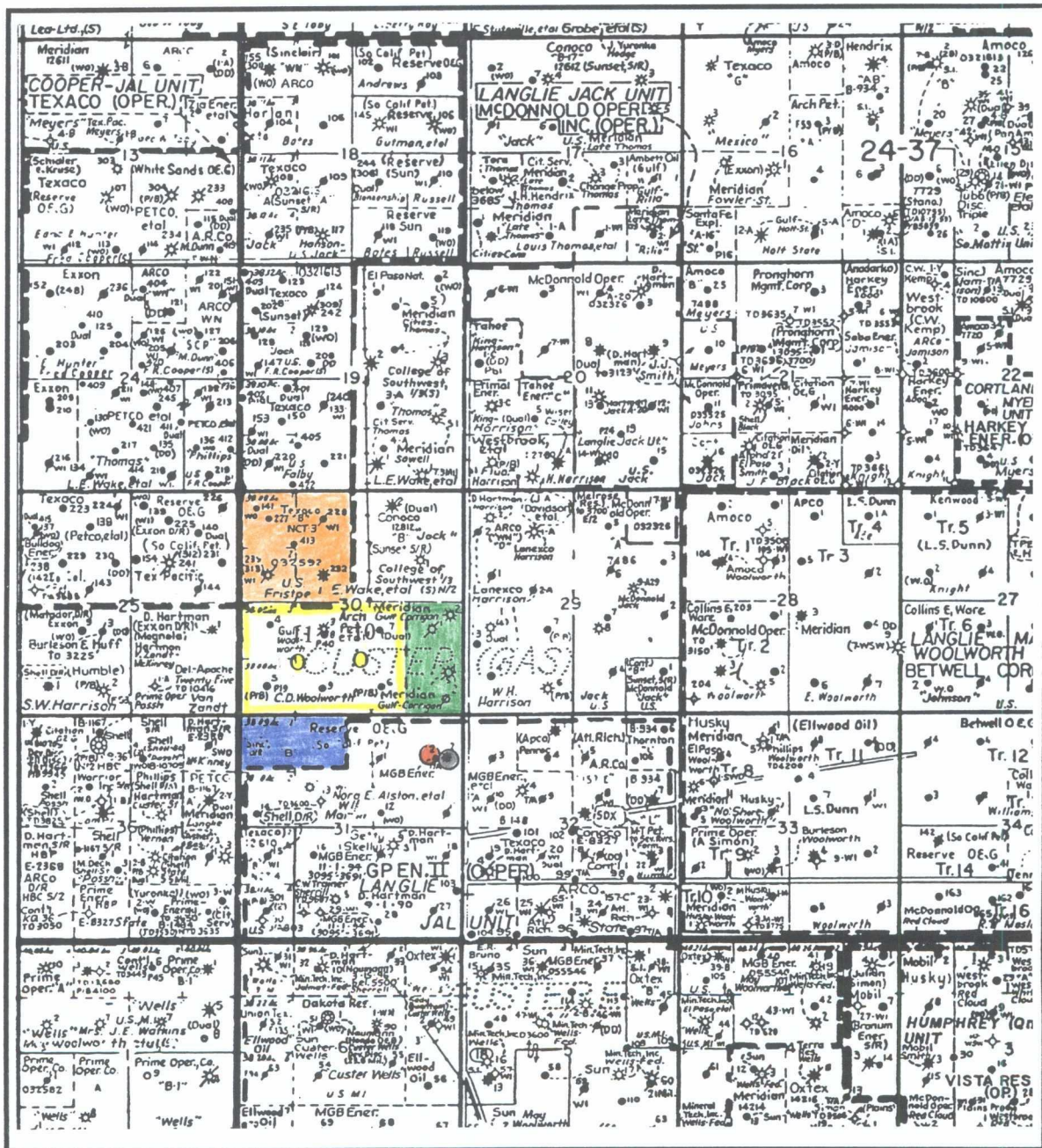
Bobbie Brooks  
Production Analyst

Attachments

cc: NMOCD - Hobbs

# Exhibit No. 2

## OFFSET OPERATORS





## Arch Petroleum Inc.

Certified Mail - Return Receipt Requested

Louis B. Burleson  
P. O. Box 2479  
Midland TX 79702

G P Energy, Inc.  
P. O. Box 385  
Artesia NM 88111

Burlington Resources Oil and Gas Company  
801 Cherry Street, Ste. 200  
Fort Worth TX 76102-6842

Scope Industries  
Suite 790  
233 Wilshire Blvd.  
Santa Monica CA 90401-1212

Texaco Exploration and Production, Inc.  
205 East Bender  
Hobbs NM 88240

Re: C. D. Woolworth Lease  
Section 30, T24S, R37E  
Lea County, New Mexico

Gentlemen:

We are enclosing copies of our application for New Mexico Oil Conservation Division's administrative approval of two unorthodox well locations on our C. D. Woolworth lease. If you have an objection to this application it must be filed in writing at the Division's Santa Fe office within twenty (20) days from the date of this letter.

If you have any questions, please call me at 915-685-1961.

Sincerely,

Bobbie Brooks  
Production Analyst

Attachments

### Exhibit No. 3