

Arch Petroleum Inc  
Lamunyon Fed # 2  
(proposed Jalmat Completion)

May 25, 2004

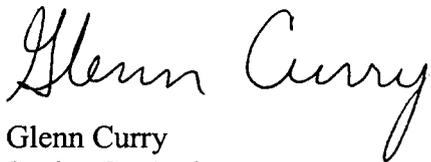
Arch Petroleum Inc. proposes to re-complete the Lamunyon Fed # 2 in the Jalmat(Tansill-Yates-Seven Rivers) Field. The proposed perforation interval is from 2558'-3091' as indicated on Cross section B-B'. This perforation interval is within the vertical boundaries of the Jalmat Pool. The Lamunyon Fed # 2 was drilled to a total depth of 3618'. The well was completed in the Langlie Mattix Pool in April 1959. The proposed completion is located 1980' FNL and 660' FWL, section 21, T23S R37E, Lea, New Mexico. This location is 660' from offset lease lines. The proposed dedicated proration unit is 160 acres consisting of the NW/4 of section 21.

**Geologic setting**

The Lamunyon Federal Lease lies in the eastern portion of the Jalmat Field. The environment of deposition is inner shelf grading to back reef as exhibited by the alternating beds of dolomite and anhydrite. The Yates and Seven Rivers formations lose porosity on the cross section from west to east. The stratigraphic field is trapped by the facies change to evaporates along the updip eastern edge of the field. Dolomite pay in the Lamunyon Federal lease ranges from 6 to 12 percent porosity. Most Jalmat pay is more sand rich and has much higher porosity from 12 to 20 percent. To the west the dominant lithology changes to alternating beds of sand and dolomite with minor amounts of anhydrite indicating a shelf to outer shelf environment of deposition.

Please find enclosed the following displays:

Yates structure map  
Well crossection B-B'  
Well crossection C-C'



Glenn Curry  
Senior Geologist

WATER CONSERVATION DIVISION  
CASE NUMBER  
EXHIBIT NUMBER 3