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Geological Report
Proposed Washdown, Adams 1-17

The Adams 1-17 was originally drilled to a total depth of 6520' and abandoned by Northern Natural Gas Company. Only one drillstem test was run during drilling. The test was run from 6068' to 6214', covering the entire lower portion of the Chester interval and the upper portion of the St. Genevieve formation. Recovery on the 90 minute open flow test was 120 feet of mud. Both the initial and final shut in pressures were 137#. No open hole tests were run after logging of the 7 7/8" hole from total depth of 6520' to the 8 5/8" surface casing depth of 1440'. The open hole logging done by Go International included Detailed Dual Induction - Laterlog, Compensated Density - Compensated Neutron Logs, Gamma Ray, and Caliper Curves.

Examination of the first two pages of log sections of the Columbian Fuel Corporation AW Adams M-2 located in the NE NE SW of Sec 33, T34S, R30W (slightly over 2½ mi. north, northeast of the Adams 1-17) reveals perforations from 5176' to 5182' in the upper Marmaton. Approximately 950 MMCF of gas has been produced from this well as well as an unknown amount of condensate. The well is still producing. Examination of the second two pages of log sections of the Adams 1-17 well reveal the occurrence of the same interval of developed porosity found in the top 6 feet of the Marmaton formation in the Columbian Fuel Adams M-2. The development of this interval in the Adams 1-17 is the only apparent like development other than in the producing Adams M-2 within the area of interest.

Calculations of the electric logs of the Adams 1-17 in the top six feet of the Marmaton formation indicate the zone to have 14% porosity and a water saturation of 29%. These values are indicative of hydrocarbon presence in productive amounts. The Caliper Curves on the log from 5162' to 5166' are encouraging because of the capability of the formation to allow the flow of the drilling fluid into the formation.

Study of the gas detector log report on the Adams 1-17 revealed a gas kick at 5161' to 5164'. The interpretation by the technician involved with the gas detection for Northern of the gas kick being originated from the black shale at the top of the Marmaton zone is, in my opinion, erroneous. From my experience in supervising several wells in the area, I have never witnessed such a gas kick from this shale. The gas kick at 5161' to 5164' confirms the presence of natural gas in the proposed interval.

The presence of the porosity and permeability in the interval described above along with the confirming gas kick from that interval compells my recommendation to wash down, install casing, and attempt a productive completion of the upper Marmaton in the Adams 1-17 well.

The third two pages of log sections of the Adams 1-17 well shows a second potential zone of interest, the Kansas City Drum, at 4708'. Log calculations show this zone to have 22% porosity and 32% water saturation. These calculations encourage perforation and testing of this zone after depletion of the Marmaton zone.

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