Wm. R. ATKINSON

Geologist

P. O. BOX 1142 PH. 316-624-1673

RES. PH. 316-624-2257
LIBERAL, KANSAS 67901

Section 8, Adams Ranch Prospect

Because of complexity of predicting successful drilling locations in this general area, I have enclosed a series of map displays of my interpretation of the geological structual and stratigraphic situation of the southwesterly most 36 sections of land in Meade County, Kansas, 12 sections in the southeastern Seward County, Kansas and 24 offsetting sections in Beaver County, Oklahoma. The displays shown in this proposal will remain the same, except for new data gained from any "new" holes drilled in the area, for the forthcoming development of the area shown on the map. There are two areas of interest displayed on the acreage map. The present one of interest is outlined by red colored lines. The next proposal is outlined in green. This is done because of the fact that wells currently producing in this general area are often similar in their indications on logs, etc., but significantly different when a detailed study of the area is made. It is interesting to note that in the area covered by the map there have been 152 holes drilled. Eighty of these have been productive. This is an encouraging ratio.

Because of the relatively low amount of structural relief and the apparent rapid, concentrated structural and stratigraphic changes in this area, the prediction of successful drilling sites has been attractive to some successful operators. This interpretation can be heard in an entirely different way. Some geologists are not enthusiastic about the potential of this area. The lack of enthusiasm is sometimes helpful to those of us attracted to the area. An example of this situation is our next proposal, the exploratory well to be drilled in the SW/4 of Section 8, Township 35 South, Range 30 West, Meade County, Kansas.

The proposed location in Section 8 is based not on its proximity to our Adams 1-17 producer, but on my interpretation of the probable existence of additional and different productive intervals in the proposed well.

The original discovery, the Adams #1-17 located in the NW/4 Section 17, Township 35 South, Range 30 West, has produced a surprising and successful amount of oil. I originally proposed this prospect as being gas bearing because the only other known occurrence of production from this interval in this general area produces only gas.

Because of the obvious thinness of the Marmaton porosity in the Adams 1-17 our proposed location in SE/4 SW/4 Section 8 is not based upon discovering additional production from this formation interval. The zone could be productive, however, in the event that there is porous rock of the type found in the #1-17 developed in the proposed Adams #1-8. This possibility is substantiated by the fact that there are some four feet of porous material indicated by the Lane Wells log run on the well drilled in 1957, by Pan American Petroleum Corporation, on the SW/4 SW/4 SW/4 of Sec. 8. Although this log interpretation indicates that this zone is approximately 5 ft. structurally lower than our well in Section 17, I am encouraged by the possibility of this zone extending some 1/4 of a mile north of the producing well in Section 17 to include our proposed location. Additionally, the top Marmaton productive zone is present in Section 8, Township 6 North, Range 23 ECM, Beaver County, Oklahoma. This is encouragment that the reservoir being drained by the #1-17 well is of a significant size. The calculation of the electric log of the well in Section 8 in Oklahoma suggests top Marmaton productivity similar to that of our Adams #1-17.

The Oklahoma well is 70' structurally lower than our producing well in Sec. 17. The only explanation of the presence of oil to exist at this lower structural level is that the "openess" and permeability of the productive formation is limited to this specific area. Oil will always travel upward, above the heavier salt water, to shallower depths until it reaches a trap, or lack of permeability.

Evidence that the productive ability of the Marmaton "topmost" interval results from stratigraphic effects, rather than structural positioning is supported by the fact that if the Adams 1-17 were higher structurally there would have been shows in many other intervals known to be productive in this general area. This was not the case.

Due to this analysis I am predicting that there is a structurally higher position existing at our proposed location in Section 8, in Meade County. The possibility that a structural high at the proposed drillsite exists is apparent on the enclosed structural maps. In the event a significant amount of structurally higher porosity is discovered, production could be developed in several different intervals.

The shows in the Council Grove and the St. Louis formations in the two abandoned holes in the NE 1/4 of Sec. 8 are encouraging even though the wells were not economically successful. Without stratigraphic effect these shows might have not been present at all because of their relatively low structural positioning. If my structural interpretation of the area proves to be correct, production can be developed in the same intervals at the structurally higher levels at our proposed drilling location.

Approximately 1.5 billion cubic feet of natural gas was produced from the old Pan American Petroleum Corporation well in the SW corner of Sec. 8. This probably represents most of the recoverable gas from the Morrow and Chester formations in this specific area. However, because these intervals are extremely unpredictable and the apparent partial development of porosity in these intervals in nearby wells, there is a chance that the proposed exploratory well might find production in the Morrow and Chester formations which have different productive intervals than were developed in the old gas well mentioned above. The old well has always been different than the majority of other Morrow and Chester producing wells in this general area.

Both the Underwood Oil Company, Jessie Adams No. 1-4 in NE/4 Sec. 8 and our Marmaton zone oil producing well in NW/4 Sec. 17, have present in their electric logs displays of additional potential producing zones in the Morrow and Chester intervals which are different than the older depleted zones in the referred to abandoned producer in SW corner of Section 8. As is often the case, offsetting abandoned potential producing interval wells, like we will be doing by drilling in SE/4 SW/4 Section 8, is much better and more productive than trying to drill offsets to existing producing wells.

The enclosed structure contour map designated as being drawn on the "Top of St. Genevieve Formation", has been drawn because of the small number of wells in this general area which are drilled deep enough to give the actual or reasonable estimated depth of the deeper St. Louis formation. In the eastern portion of Township 35 South, Range 30 West, where a greater number of holes drilled in the area are drilled to the St. Louis formation, the similarity of the structure shape of the St. Louis and shallower St. Genevieve is similar.

The abandoned oil producing well in NE/4, Section 8, was originally an oil and water producing well completed in the St. Louis zone "E" shown to be at the very same depth as in our well in Sec. 4, 6400'. Because the subject producing well in Sec. 8 was some 100' structurally lower than our well in Sec. 4, the Sec. 8 well is assumed to be related to the different structural feature as shown under the proposed drilling location in SE SW Sec. 8.

The structure map of the uppermost porous "Lansing Formation" producing interval is also herein enclosed. The structural position as well as the thickness of the porous material in this interval is shown at each well location. The oil producing wells shown to be located in Sections 25 and 36 of Twp. 34S, R31W, and Sections 30 and 31 of Twp. 34S, R30W are and/or were productive from this upper Lansing interval. The lack of porosity in the subject interval in the northern most wells and dry holes are obviously notable.

The former discussion of the presence of oil from the subject Lansing upper porous interval in the old well in NE NE Sec. 32, T34S, R30W, and the shows of oil and gas with recovered gas cut salt water on a drillstem test of the subject porous interval in Sec. 4, T35S, R30W, are related to and good examples of my thought that oil and gas production is possible anywhere in this general area where the porous material is present and the structural relief is great. A porosity zone elevation of -1900' or higher, should be productive in our proposed location.

Numerous other zones of interest, which have not been mentioned herein, are readily available to become productive in the proposed well location in the event enough structural position is gained in drilling this desired spot. Also available are numerous potential zones of interest which can become unexpectedly productive in the event of proper stratigraphic changes. The knowledge gained by drilling this location will also be used in increasing the possibility of locating additional producing well locations in this general area.

Wm. L. Atkinson