

April, 1942.

Phillips #1 Vernon,
C NE NE, 32-3S-28W,
Elevation 2746'

Rotary samples.

Pennsylvanian conglomerate 4220-4228'.
4220-4228 Sand, medium to coarse, rounded grains. Red coating on grains suggests clay matrix but there may be some clean sand. Scattered sand is present above 4220'.

Mississippian residuum 4228-4276'
4228-4265 Chert and red and green mottled clays. The chert is quartzose in tendency and contains abundant small sponge spicules. The clay appears residual at the top and lower down suggests bedded shales which were limy. Small glauconite pellets are present in the bedded clays. Silt and fine sand appear in the clays below 3245'.
4265-4276 Sand, fine, well-sorted, with small spots of earthy glauconite. Upper part is red and is interbedded with red shale. Lower five feet appears to have some porosity.

Arbuckle Top 4276' Penetration 108' Sub-sea, minus 1530'
4276-4294 Pre-Cotter, Pre-Weigel member, equivalent to "G" zone of Colorado outcrop. Dolomite, fine to medium, white to red. Traces of fine sand and partings of green shale.
4294-4365 Everleigh dolomite, pink, medium to coarsely crystalline, slightly sandy, with abundant glauconite pellets.
4365-4380 Everleigh sand, fine, red, with some glauconite.
4380-4384 Everleigh sand, coarse, glauconitic.
Pre-Cambrian Top 4384' Sub-sea, minus 1638'
4384-4400 Granite; pink feldspar, quartz, and biotite. Weathering at top is slight.

Remarks: The section from 4228-4276', described above as Mississippian residuum, was interpreted as Viola and Decorah by Phillips. The cherts have no Viola characteristics. The sand and shale could be Decorah but are not characteristic. Another possibility, that the interval 4228-4226' represented residuum of the Weigel member of the Pre-Cotter, was rejected for the reason that the cherts tend to be too quartzose and the clay content too high. The Weigel section of Colorado contains abundant chert with included sponge spicules. The possibility that the interval 4276-4294' may be Mississippian rather than Arbuckle was considered, for the reason that the basal Mississippian contains dolomites in some places. It appears probable that the interval 4228-4276' includes residuum of basal Osage, the Fern Glen equivalent, and a shaly, sandy member which has some of the characteristics of the Williams Canyon and of the red shale facies of the Kinderhook. The sand at the base, from 4265-4276', has enough porosity to suggest reservoir possibilities.

M.L.