

January, 1940.

Cities Service #1 Roberts,
C SE $\frac{1}{4}$, 31-21S-15W,
Elevation 1986'.

- Pennsylvanian conglomerate 3830-3840'
3830-3840 Chert and clay shale. Contact of Penn.
conglomerate on Viola is arbitrary.
- Viola residuum 3840-3865'
3840-3865 White cherts and rare clays. The base of
the Viola may be placed too high.
- Decorah 3865-3924' 59'
3865-3878 Clays, red; with rare green and purple. This
is questionable Decorah and might be residuum
of the Viola.
3878-3895 Clays, red; with abundant bryozoa which shell
out as limy fragments. The shale is so badly
weathered that it slakes in drilling and washing
and little is left except the bryozoa.
3895-3924 Shale, red and green. Rare consolidated sand,
probably present as partings. Considerable
limy fine sand is present toward the base.
This is a transition phase to the limier phases
of the Simpson to the southwest.
- Arbuckle Top 3924' Penetration 21' Sub-sea, minus 1938'
3924-3945 Miller dolomite. Criteria check closely with
the Miller in Township 20S-16W.

Restored top of Arbuckle same as actual top.