

July, 1938.

Stanolind #1 Dunovan,
SE SE SE, 14-26S-18W,
Elevation 2167'

Pennsylvanian conglomerate 4540-4573'

- 4540-4552 Chert, white, of Mississippian type. No distinct evidence of reworking but is probably a conglom.
- 4552-4565 Clay shale, red and green; with interbedded fine consolidated sand, some of which has asphaltic material in the porosity.
- 4565--4573 Clay shale, green; with quartzitic fine sand.

The criteria for the base of the Pennsylvanian ~~unit~~ are meager, mainly the base of shales.

Mississippian 4573-4655'

Sub-sea, minus 2406'

- 4573-4625 Sand, fine, consolidated; in part slightly quartzitic.
- 4625-4655 Chert, gray, white, and pink. Residuum.

The sand is Kinderhook, similar to that found in other tests in the general area. The chert below is probably Mississippian, but might be Viola. To the west the sand is replaced, or lies on, dolomites, which thin to the south. There is considerable difficulty in picking the Miss.-Viola contact over a wide area to the west.

Viola 4655-4825'

- 4655-4700 Dolomite, light brown to white, fine; highly cherty.
- 4700-4754 Limes, dense to coarsely cryst.; non-cherty.
- 4754-4825 Limes, dolomites, and thin shales; with thin layers of sandy lime and fine sand.

A part of this series from 4785-4825' is undoubtedly Simpson. To the southeast is predominantly a shale series and is called Decorah. To the northwest the shales thin between limes and dolomites. Hence the Decorah top in this test and in the test in 30-24S-18W is not stratigraphically the same as in tests in R. 17W. There is a choice of following age lines or lithology, the age lines being delineated by cherts. I prefer to follow lithology in the case of a shale, which might conceivably be a trap seal.

Decorah 4825-4872'

- 4825-4872 Green shales and interbedded sands. The sand does not appear thick enough or porous enough for a trap.

Arbuckle Top 4872' Penetration 108' Sub-sea, minus 2705'

- 4872-4980 Probably all Miller-Purcell. More chert comes in at 4953' and this might be the top of Cotter.