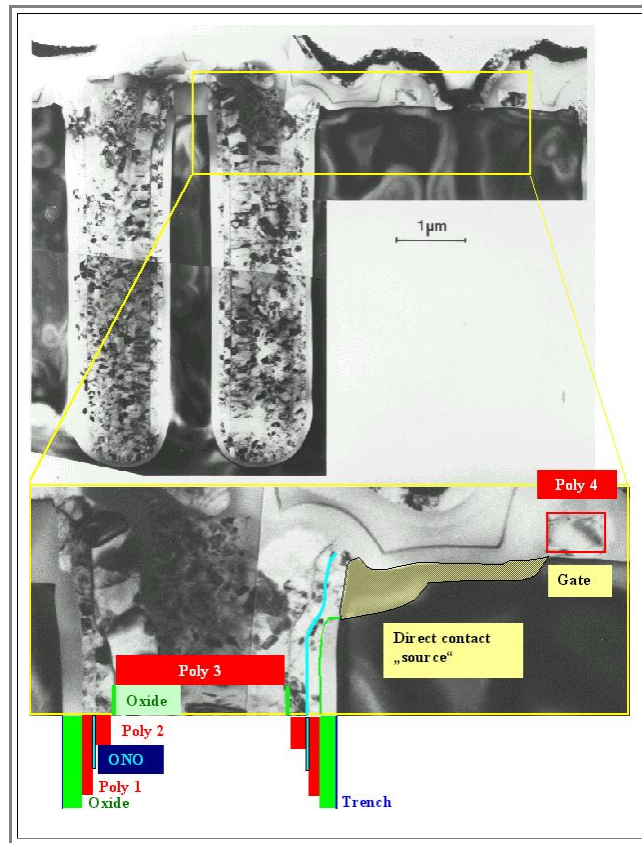


Poly-Silicon

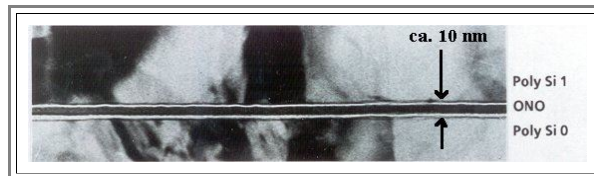
Illustration

Here is a large size rendering of the **TEM** picture of a **16 Mbit DRAM** memory cell. A [drawing of this cross section](#) can be found in the link.



.Many details are not visible in this low magnification picture. Below we see the ONO layer between the two poly Si layers at high magnification

- The two oxide layers appear white; the nitride layer dark



Next, we look at a trench capacitor "*from above*" and not in *cross section*.

- Shown is the "simple" capacitor from the **4 Mbit DRAM** generation. **ONO** is used as dielectric; and the substrate **Si** served as one electrode.
- Again the poly electrode was oxidized for insulation and the trench filled with poly. The smaller (and dendritic) grain structure indicates that a large deposition rate (at somewhat higher pressure) was used; and a little hole remained unfilled in this case.

