

## Depth, density, and the mobility of salt

Salt is noteworthy among sedimentary materials for its propensity to deform and move upward through overlying strata, making diapirs and salt domes. The diagram at right explains why it can do so. Salt's greater density in near-surface conditions means that it sits stably in a sequence of recently-deposited sediments. However, as those sediments are buried and compacted, the other sediments become more dense, whereas the already non-porous salt has no porosity to surrender and thus becomes no more dense. Thus, at depths of more than 500 m to 1 km, salt is less dense than the strata that lie over it. That density inversion, combined with salt's ductility, cause salt to flow and move upward, leading to the development of diapirs and salt domes.

The diagram at right is only a re-arrangement of Figure 7.23 of Selley's *Elements of Petroleum Geology* (second edition, 1998).

