



Oxygen isotopes in authigenic quartz from massive salt deposits

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We describe a new geochemical tool that could provide temperatures of ancient basins in which massive evaporites were deposited: the oxygen isotope composition of fine crystalline quartz found in large halite bodies. Such quartz is well preserved from post-depositional alterations and it can be relatively easily separated. For the purpose of this study, five halite samples were selected from four various evaporite basins, spanning in age from the Early Cambrian to the Late Jurassic. The obtained isotope temperatures refer to locations where evaporites were deposited, i.e. in subtropical zones of the Earth, as it may be estimated from continental distribution during Phanerozoic times.

Reasonable temperatures are obtained, with an assumption for the $\delta^{18}\text{O}$ of brines ranging from $-1\text{\textperthousand}$ to 0\textperthousand during halite deposition. The assumption of higher $\delta^{18}\text{O}$ values leads to unrealistic temperatures. Thus our isotope data confirm high uniformity of oxygen isotopic composition of oceanic water over whole Phanerozoic.