Geophysical Research Abstracts
Vol. 15, EGU2013-257, 2013
EGU General Assembly 2013

Drinking water salt sediment (scale) of the southern Siberia and their geochemical features

Bulat Soktoev (1), Leonid Rikhvanov (1), Tatiana Mongolina (1), Natalia Baranovskaya (1), Egor Yazikov (1), Shinar Usenova (1), Trofim Taisaev (2), and Irina Matveenko (1)

(1) Tomsk Polytechnic University, Tomsk, Russian Federation (bulatsoktoev@gmail.com), (2) Buryat State University, Ulan-Ude, Russian Federation

Researches of salt sediment (scale), formed in heat-exchanging equipment during the process of boiling and cooling of water, as poorly studied deposit material shows that it comes out to be an indicator of the water quality, used for drinking water-supply, and also current geochemical environment. Element composition of salt sediment forms under the influence of natural (deposits, ore occurrences, specific rock units etc.) and technogenic (urbanized terrotiries, industrial plants, waste products etc.) factors. Every examined/investigated area is characterized by typomorphic chemical elements and their assemblages. Geochemical specialization of Baikal region turns up in higher concentrations of these elements: U, Zn, REE, rare elements. We have marked possible indicative markers of ground nuclear explosion “Rift-3” in salt sediment of drinking water: scale from settlements around the place of explosion staging is observed to be enriched with several REE and Th. Geochemical features of Tomsk region turn up in higher content of such elements as Fe, Co, Ag, Sb, Au, Th. It should be noted that some cases are observed to have a correlation between element composition of scale and travertines – natural carbonate depositions – which were taken in one area.