

Summary:

In this bachelor thesis there are summarized reasons of occurrence of too high As concentration in groundwater abroad and possibilities of the water treatment. There are mentioned mainly the Asian countries, where there were proved the cases of serious diseases of inhabitants in connection with long-term consumption of the water from the shallow groundwater in the area of big river deltas. Arsenic is released to the groundwater from the iron oxides by natural process in reductive environment (due to the oxidation of organic matter). In the arid climate areas in Asia or South America, there are also localities of high As groundwater. The groundwater in these arid areas is more saline and the reason of high As concentration there is the oxidation of sulphide minerals.

Then there are given the other examples of arsenic release by the oxidation of pyrite in the gold (or tin) mining areas etc. Another source of arsenic in water is a geothermal system. A suitable method for the arsenic removal from water is a coprecipitation of iron and As (V).