

Experimental Leaching of Granites: Case Study from Andhra Pradesh, India

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Leaching of different elements from the geological substances takes place when come in contact with solvent water depending on chemical property of water associated state of the geological material and residence time and causes several types of water contaminations. The deteriorating groundwater condition has been expanding, in this concern the present work has been taken up to understand the rate of leaching for different chemicals in these granites. However the study deals with release of arsenic and its dependency on other elements viz., aluminum, arsenic, barium, calcium, cadmium, chromium, cobalt, copper, iron, lead, potassium, magnesium, sodium, nickel, vanadium and zinc from Maheshwaram granites.

Granitic samples were collected from close to Samsabad airport, 40 km SW of Hyderabad, a capital city of Andhra Pradesh, India. Rock type of area predominantly consists of granites with recent intrusions of quartz and dolerites at places. Rock samples were collected from different places and washed thorogly before conducting. The leaching experiments have been conducted for 48 hours at laboratory conditions. Results, shown that arsenic have good positive correlation with barium, calcium, sodium and negative with chromium, magnesium which provides the similar mineralogical source from these granites. The study will be helpful in understand the release of arsenic from the geological sources and its movement in groundwater system.

Keywords: Leaching, Maheshwaram granites, Andhra Pradesh.

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