

## عنوان مقاله:

Groundwater pollution assessment in urban areas of Qom City

## محل انتشار:

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## خلاصه مقاله:

Nowadays, it is vital to pay attention more seriously to the urban environmental risks because of its effects on citizens lives. One of these problems is groundwater pollution which threatens much valuable water resources. Drinking water in Qom City is provided from different resources, such as watersheds and water wells which are located within the city. Although there is a shortage of water supply, according to the extreme water demand, these wells are used to provide city drinking water. Unfortunately, Sewage collection network in this city has not been completed yet and only a small amount of municipal wastewater is collected by the sewer network. As a result the city aquifer has been contaminated by the wastewater infiltration through the septic tanks scattered across the city. In order to assess the amount of contamination in water wells in urban areas of Qom City, sampling and testing of 24 deep wells which are scattered in the city was performed on December 2013. The measured qualitative parameters consist of color, T, TU, TSS, pH, EC, TDS, DO, BOD5, COD, Total Alkalinity, CO<sub>3</sub>, HCO<sub>3</sub>, Total Hardness, Ca, Mg, SO<sub>4</sub>, Cl, Na, K, NH<sub>4</sub>, NO<sub>2</sub>, NO<sub>3</sub>, PO<sub>4</sub>, Br, I, TC, FC, FS, HPC, Fe, Hg, Pb, Co, Cd, Ni, As, Zn, B, Cu, Mn, Sn, Ba, and Sr. In this study, the drinking water physical, chemical and microbiological specifications guidelines of Iranian Standards and Industrial Research and the World Health Organization standards were used to evaluate the amount of the aquifer pollution.

The results indicate that the aquifer in Qom is polluted widely by B, NO<sub>3</sub>, TC, FC and HPC

## کلمات کلیدی:

Aquifer pollution, Groundwater, Qom City, Water wells, WHO standard

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