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Data Article

Data on groundwater quality, scaling potential and corrosiveness of water samples in Torbat-e-Heydariyeh rural drinking water resources, Khorasan-e-Razavi province, Iran

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ABSTRACT

According to World Health Organization guidelines, corrosion control is an important aspect of safe drinking-water supplies. The data presented is physical and chemical parameters of drinking water in the rural areas of Torbat-e-Heydariyeh city, also to determine corrosion indices. This cross-sectional study has carried out with 188 taken samples during 2014 with 13 parameters, which has been analyzed based on standard method. Also with regard to standard conditions, result of this paper is compared with Environmental Protection Agency and Iran national standards. Five indices, Langlier Saturation Index (LSI), Ryznar Stability Index (RSI), Puckorius Scaling Index (PSI), Larson-Skold Index (LS) and Aggressive Index (AI), programmed by using Microsoft Excel software. Owing to its simplicity, the program can easily be used by researchers and operators. Parameters included Sulfate, Sodium, Chloride, and Electrical Conductivity respectively was 13.5%, 28%, 10.5%, and 15% more than standard level. The amounts of Nitrate, in 98% of cases were in permissible limits and about 2%

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were more than standard level. Result of presented research indicate that water is corrosive at 10.6%, 89.4%, 87.2%, 59.6% and 14.9% of drinking water supply reservoirs, according to LSI, RSI, PSI, LS and AI, respectively.

Specifications Table

Subject area	Chemistry
More specific subject area	Chemistry of groundwater
Type of data	Table and figure
How data was acquired	Experiments conducted in two general categories of device experiments and Titration. Titration Experiment includes temporary and permanent hardness, magnesium, calcium and chloride, Device Experiment consist of pH (model wtw, Esimmetrwb), Electrical conductivity, Turbidity (model Hach50161/ co150model P2100Hach, USA), Fluorine, nitrate, sulfate
Data format	Raw, Analyzed
Experimental factors	188 samples from 47 water sources were taken, 18 parameters were evaluated according to the standard method, and compared with Iran and EPA water standards. Experiments conducted in two general categories of device experiments and Titration.
Experimental features	Titration Experiment includes temporary and permanent hardness, magnesium, calcium and chlorides, Device Experiment consist of pH, Electrical conductivity, Turbidity, Fluorine, nitrate, sulfate.
Data source location	Torbat-e-Heydariyeh, Razavi Khorasan Province, Iran
Data accessibility	Data are included in this article

Value of the data

- Determination of the physical and chemical parameter including EC, TDS, TH, CaH, pH, Turbidity, Cl^-, NO_3^-, SO_4^{2-}, F, Na^+ TDS, Ca^{2+}, Mg^{2+}, in ground water was investigated in rural area, Khorasan-e-Razavi province, Iran.
- Water distribution networks of many rural areas, requires attention to achieve the Iran quality standards of drinking water.
- Take the necessary actions in cases where water tends to be corrosive in the distribution network is necessary.

1. Data

Data presented here deal with monitoring of physical and chemical including EC, TDS, TH, CaH, pH, Turbidity, Cl, NO_3^-, SO_4^{2-}, F, Na^+ TDS, Ca and Mg As in Khorasan-e-Razavi province, Iran. Fig. 1 shows location of water sampling sites in Torbat-e-Heydariyeh. Table 2 shows average of physical and chemical parameters of drinking water, water resources in the rural area of Torbat-e-Heydarie in 2014, Table 3 shows comparison drinking water resources in the rural area of Torbat-e-Heydarie in 2014, Table 4 shows calculation of water stability indices at sampling temperature.

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