

## ***The factors influencing the creation of Shurab spring and distribution of microbial travertine and tufa deposits in Gadook Gorge -Firuzkuh, Iran***

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### ***Abstract***

*Shurab travertine spring is located 140 km the east of Tehran and at the beginning of the Gadook Gorge on the border of Tehran and Mazandaran provinces. This spring originates from the fractures and drainage of the Barut Formation in the train tunnel. The carbonate deposits are divided into two main categories: the first group of deposits that are forming at present time (active): and mostly of different colors such as red, yellow and orange, the second group of old (fossilized) deposits mainly adjacent to the railway line and are mostly cream-colored. The age of these deposits is less than 100 years old. The morphology of the carbonate deposits are layeres and Cascade form. Types of travertines and tufas based on morphology and environment in the stack include 1- waterfall travertine 2- travertine with layered morphology and 3- calcareous tufa or framestone phytoherm. Also, according to the petrographic results of four types of lithofacies, according to the characteristic morphologies on the ground scale and hand specimens in the travertine deposits of the saltwater travertine were identified which include: 1- lithofacies raft boundstone; 2- lithofacies algae; 3- lithofacies crystalline crusts and 4- lithofacies Bandstone shrubs. Dissolution and cementation are the most important diagenetic processes of tufa and travertine in the carbonate fascia of the region. Hydrochemical data the water in Shurab spring is near neutral to slightly alkaline and of sodium chloride type.*

***Keywords:*** lithotype, Gadook Gorge, Shurab spring, travertine, tufa, Alborz