



## Thermomineral water of Gornji Šeher (Banja Luka Municipality)

On the territory of the city of Banja Luka, there are springs and wells of thermomineral waters at the location Gornji Šeher (Srpske Toplice) with a total yield of about 100 l/s and temperature of 30 - 34 ° C.

Aquifers of thermomineral water are Triassic limestone and dolomite (T<sub>3</sub>). Waters are HCO<sub>3</sub>-SO<sub>4</sub>-Ca-Mg type, with total mineralisation 1200-1300 mg/l and with CO<sub>2</sub>- N<sub>2</sub> gas composition (Miošić and Samardžić, 2016).

### See also

Geomanifestations on the territory of Banja Luka region ([Slatina](#) and [Laktaši](#)).

### Generalities

About 10 natural springs of thermomineral waters was registered on location of Gornji Šeher Spa; springs are appeared on the right side of the Vrbas River in the length of about 100 m, while two springs were registered in the Vrbas riverbed (Slišković et al., 1984).

Thermomineral springs outflow along a large fault that stretches along the valley of the Vrbas River.

Several wells have been constructed in the area of the thermomineral springs. All the wells were drilled in the Upper Triassic carbonates along the entire depth (see subtitle "Data"). For this accumulation is a characteristic that the temperature decreases with depth. Thus, natural springs have the highest temperature (up to 34 °C), while the lowest temperature was obtained at the deepest well BU - 1 (total deep is about 155 m); and found thermomineral water with temperature of 24 ° C (Slišković et al., 1984).

### Anomalies

Temperature inversion (the water temperature decreases with depth) - convective heat flow. In addition, the area of Banja Luka is very seismically active. The Banja Luka earthquake of 1969 with a magnitude of 6.4 on the Richter scale is well known.

### Data

The data given in the table below are taken from Slišković et al. (1984).

FZZG_factsheetLjenobud	Well depth (m)	Temperature of water (°C)	Q <sub>pump.</sub> (l/s)	Ec (μS/cm)	Specific component	Aquifer
Well GŠ-1	47	31	30	1000		Limestones and dolomites (T <sub>3</sub> )
Well B-1	74	30	12			Limestones and dolomites (T <sub>3</sub> )
Well BU-1	ca 155	24				Limestones and dolomites (T <sub>3</sub> )
Spring "Gušića Haus"*		30,5		1280	Ra=0,25 Bq/l	Limestones and dolomites (T <sub>3</sub> )

\*The age of the water at spring "Gušića Haus" determined by <sup>14</sup>C method is 15500 ± 400 years.



## References

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Contact e-mail: [natalija.samardzic@fzzg.gov.ba](mailto:natalija.samardzic@fzzg.gov.ba)

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