

## GEOAGIU BAI

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**Abstract:** *Geoagiu spa resort is located in a hilly region, at an altitude of 350 m. The thermal waters are used since the Romans' time, being known as Terme Germisare and had two stages of development: Germisare and Terme of Dodonei. Since the time of the Romans remained the water basins, statues, altars, coins and jewels. This paper identifies sources of pollution with ionizing and non-ionizing radiation in a mountainous tourist area.*

**Keywords:** *spa resort, tourism potential*



Old Roman Baths

The middle Ages passed over the baths without leaving any traces. They seem to have been left out. The baths are rebuilt by Izabela, wife of Sigismund Zapolya in the 16th century. The King of Hungary often came there. Major records are made by a German pastor, Conrad Iacob Hildebrandt, in 1656. History is again confused; the bath had a local importance. The interwar period begins as much as a development of the area. After the nationalization in 1947, they are built: the large basin, small cottages for accommodation and treatments. The resort was taken over by the trade unions and the construction of the first modern hotel began. True development is seen after 1990 when the resort is privatized.



Geoagiu Bai – 1970



Geoagiu Bai – modern

The main therapeutic factor is thermal mineral water. After a few boreholes, a flow of 2000 m<sup>3</sup> / 24 hours is achieved. Waters can be divided into:

- Chlorosodium, bicarbonate and weakly sulfurized NaCl, CaS, Ca<sub>2</sub>CO<sub>3</sub>, in max. 2000 mg / l.
- Chlorosodium, bicarbonate, calcium (chlorides, calcium sulphate, magnesium sulphate, calcium bicarbonate, magnesium bicarbonate) with max. 35,000 mg / l
- Chlorododic, bromiodurate, slightly sulphurous, with 4500 mg / l mineralization.



Geoagiu Bai – inside

The chlorosodic - bicarbonate - low sulphurous springs are also radioactive, reaching levels of 2500 - 5000pcs / l. I recall that in the US maximum values of 5 pct / l are acceptable. Waters are good for catalysis, metabolic, endocrine, digestive, antiallergic, antimicrobial, and antiparasitic treatments. Sulfur waters are also useful for rheumatism and gynecological disorders, hypertension, arthritis, eczema, antiseptic, diabetes, obesity.

At first glance, these waters are a miracle, but given the high radioactivity are contraindicated in acute febrile illness, heart failure, myocardial infarction and epilepsy. It is known that through direct irradiation or by the ingestion of water, the organism is subjected to external or internal irradiation. Reactions (headache, vomiting, and fatigue) will occur. For these reasons, pregnant women, girls, ill with malignant tumors, venereal diseases, hemorrhages, infectious - contagious diseases should be avoided by radioactive waters.

Problems are also practicing tourism upstream of the resort, in the valley of the Geoagiu River. In many areas of the Almasu Mare massif there are some short galleries where research has been carried out for uranium ores. The works were started by the Russians and completed by the Romans. Particularly, the Cibului Keys must be taken with great care, avoiding stationings, campsites and water consumption from the streams.

The resort is located at an altitude of 350 m above a major tectonic accident. The crystal and the sediment on the E-NE and V-SV axis (Geoagiu fault) are affected by the accident.

Until 1960, there were three natural springs: the Basin Mic, the Great Basin and the Treatment Base. After 1960 geological research began with drillings that revealed three aquifers horizons:

- F 6 probe in deep, crystalline creeping;

- F2, F3, F4, F5A in deep-crystal, medium-depth, with hypothermic water at 20-30 ° C
- F3, F5, F5B probe in calcareous and turbot, with hypothermic water, at 22-24 ° C.

Some details about drilling:

- The F1 probe, excavated in 1960 at a depth of 63 m, brings water at 33 ° C and has a flow rate of 22 mc / sec.
- The F2 probe, excavated in 1960 at 96 m depth brings water at 29 ° C and has a flow rate of 2.5 l / sec (now it is closed).
- The F3 probe, dug in 1965, at a depth of 150 m, brings water at 23 ° C, with a flow rate of 40 l / sec.
- The F4 probe, dug in 1966, at a depth of 150 m, brings water at 26 ° C, with a flow rate of 4 l / sec.
- The F5 probe, drilled in 1966, at a depth of 31 m, brings water at 26 ° C, with a flow rate of 20 l / sec but dropping to 2.5 l / sec.
- The F5A probe, drilled in 1973, at a depth of 76 m, brings water at 30 ° C, with a flow rate of 2.5 l / sec.
- The F5 B probe, drilled in 1973, at a depth of 42 m, brings water at 28 ° C, with a flow rate of 3.5 l / sec.
- The F6 probe, drilled in 1977, is a research probe, was drilled at 1207 m, brings water at 29 ° C, with a flow rate of 1.5 l / sec.

There are also natural springs: no. 1 with water at 28 ° C, flow rate 0.6l / sec, No. 2 with water at 23 ° C, flow rate 0,01l / sec and No. 3 with water at 26 ° C with flow rate of 10l / sec. In 1982 began the exploitation of peat deposits.



Geoagiu - panorama

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