

O17-4**APPLICATION OF THE GEOPHYSICAL METHODS IN THE SEARCH OF PROSPHORITES IN ALBANIA****ILIR CIKO, FERDINANT DAFA and AGIM MINXHOZI**

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In Albania there are discovered deposits of phosphate mineralization of Upper Cretaceous and Middle Jurassic Phosphorogenic Epochs in Ionian zone. During Cretaceous (Coniacian) was sedimentated Phosphate-Carbonate-Chert Horizon almost all over the Ionian zone. Although the content of phosphatic beds of the horizon is up to 30% P₂₀₅ (Gusmari Deposit) but the content of Uranium is very low. During Middle Jurassic period were formed in Ionian zone of Albania and Greece uraniumbearing phosphorites ores. These ores are linked with a gap in sedimentation. Some deposits and many outcrops of uraniumbearing phosphorite mineralizations are discovered and prospected in Kurveleshi and Cika anticline belts. There are formed two genetically-morphological types of ores:

- a. Bedded ore (content varies 20-25% P₂₀₅) encountered only in some deposits and outcrops.
- b. B. Infiltration type of mineralization with different shapes as veins, dissemination etc. in massive limestone of the Lower-Middle Liassic age. The content of P₂₀₅ and U₂₀₅ in this type is higher than in bedded type of mineralization.

In this paper are presented just the results of the Geophysical Methods applicated during prospecting of above mentioned uraniumbearing phosphorite ores. There were realized theoretical studies in many outcrops and were carried out many important consultations in theoretical and practical aspects such as following:

c.1. Applications of radiometric methods has led in fixing of there lithostratigraphical marks in Mesozoic formations of the Ionian zone.

- Bituminous schist in contact between dolomites of Upper Triassic and massive dolomite limestone of Lower Jurassic.
- Uranbearing Phosphatic Mineralizations of the Middle Jurassic.
- Upper Cretaceous Phosphatic Horizon (Coniacian).

2. Radiometric anomalies helped to explore uraniumbearing mineralization of Middle Jurassic age in two types:

- Bedded mineralization
- Infiltration type of mineralization which is widespread in Ionian zone.

3. Radiometrically there is a simple mineralization: Uranium is in equilibrium with absolute absence of Thorium and Potassium.

4. The study of roses of gamma-natural radiation and roses of fissures within massive limestone of Lower-Middle Liassic defined the existence of two main systems of cracks according to which the uraniumbearing phosphate mineralization is placed:

The first system is parallel to the plane of the gap in sedimentation and it is more important.

5. Theoretical solutions and mathematical models for uraniumbearing mineralizations with very irregular distribution convinced us to applicate Radiometry for quantitative evaluation and to do physical geological models.

6. According to the studies if different physical-geological models there were determined coefficient of necessary calculations for evaluation of content mineralization and reserves of ores as following:

- $K=52 \text{ Mk/h}$ which represent the intensity of gamma-natural radiation for content of 0.01% U in equilibrium with Ra.

- $F= 37 \text{ MK/h}$ which represents the intensity of gamma-natural radiation, corresponding to the content of 4% P₂₀₅;

7. The combination of scales and grids in prospecting and follow up survey of anomalies and solutions of physical-geological model increase the efficiency of prospecting of radioactive ores.

8. Up to now in Albanian there are prospected two deposits and many outcrops of uraniumbearing phosphorite ores. Geological and geophysical studies bear witness about good perspective of this mineralization in Central Part of Kurveleshi anticline Belt and in Southern part of Cika anticline Belt.