

P10-8**DETAILED MAGNETIC INVESTIGATION FOR
PROSPECTING OF SHALLOW CHROME DEPOSITS IN
KALT REGION OF BULQIZA ULTRABASIC MASSIF
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Kalt-Bulqiza Region is located in the southern part of Bulqiza Ultrabasic Massif, one of the Iherzolitic type of the Mediterranean Alpine Ophiolites in Albania. This region, with an old quarry and some important chrome deposits in the neighbor areas, is identified in the geological survey as having geological conditions favorable of chrome deposits.

The surface geology is dominated by serpentized harzburgite host rocks. The serpentized dunite lenses interbedded into harzburgites are of the limited extend. Pyroxenite veins of small dimensions occurring throughout this region. The overburden of 1-2 m delluvial thickness is well developed. Many chromite occurrences on outcrops are found in this region. They are of podiform, pencil-like types. The tectonic shear regime has played a major role in the present settlement of chromite deposits. It is expected other shallow orebodies hidden under the overburden.

Detailed ground magnetic survey was conducted as a part of the geological-geophysical study for searching, in shallow depth, of the chrome orebodies. A total field magnetic anomaly map was compiled using data of proton Scintrex magnetometer of 1 nT accuracy. Lines were laid out every 40 m traverse to the geological structure and the survey stations in the profile were every 5 m. The data were smoothed, resampled and gridded at a 10 m interval for the entire map.

In general, there is not a good agreement in between the surface geology and the magnetic anomaly map. The major anomalies of the low wavelength are striking oblique to the main geological structure. The narrow anomalies of the high wavelength, any probably corresponding with the orebodies, are obscured in the general complicated magnetic anomaly pattern. This makes more difficult picking up the anomalies of interest.

An approach was made for a simpler interpretation of the magnetic data. The total field magnetic anomaly map was transformed into the magnetization anomaly map through three steps:

- 1- Reduction to the pole and upward continuation.
- 2- Reduction to the pole by terrain model.
- 3- Magnetization anomaly map by correlation of the step 1 and 2.

A strike filtering preserving the anomaly linear characteristics in the main geological striking has improved the results in this map. Some clues of the anomal magnetization (transitory from the negative to the positive magnetization intensity) are revealed in this map of the region.

Such anomalies are now a near surface exploration target. Up today an isolated magnetization anomaly in the northern part has indicated a shallow chrome deposits under the overburden, about 350 m in length and 300 m in depth after the drilling. Laboratory measurements of the chromite samples from the deposit show an inverse upward remanent magnetization of high intensity.

In contrary the values from harzburgite and dunite host rocks show moderate magnetization intensities and different directions which scatter broadly.

It was felt that the shallow hidden orebodies and occurrences on outcrops which should influence the magnetic data could be more apparently and simply defined in this magnetization anomaly map.