| O7-4 | THE INTEGRATED GEOPHYSICAL AND GEOLOGICAL EXPLORATION FOR SULPHIDE MINERALIZATIONS AT THE REHOVA DEPOSIT (SE ALBANIA) |
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The Rehova deposit is located at Korca district, SE Albania, hosted by Jurassic ophiolite volcanics, along a 5 km-long and 1.5 km-wide structure. Up to now, are discovered about 5 million tons of ore reserves, averaging 2.2% Cu; 19% S; 0.5% Zn; 0.5 to 0.78 g/t Au; 0.03% Co and Se and Te, as trace elements. From 1969 through 1985 year, the Spontan Polarization (SP) and Apparent Electric Resistivity (ER) were applied, whilst beginning 1986 year until now, deep geophysical survey with Induced Polarisation (IP) method has been utilised.

## Geological Setting

Geology- The Rehova area consists by ophiolite's sequence and sedimentary rocks.There exist two opinions about the lithological-stratigraphycal column of the deposit's area: According to Kalino (1995) the early and final volcanic stages, are separated by a break in volcanism, represented by " heterogeneous coloured melange ", whilst the other authors (Hoxha L., 1995) considers it overlaying the volcanic rocks.

Volcanic rocks consist by 1. *Middle-Upper Jurassic Lower basaltic succession* with basaltic pillow lavas, at upper parts (about 500 m), volcanic breccia at the middle parts (about 50 m) and massive flows at lower parts (about 200m).

2.*Middle-Upper Jurassic, Upper pyroclastic succession* with reddish agglomerates, due to the presence of haematite, about 50 m thick

The uppermost part of pyroclastic rocks, is overlain by Upper Jurassic *haematite radiolarian chert,* up to 10m thick, which in turn is overlain by " *heterogeneous coloured melange* "(a block-in-matrix-type), about 250m thick.

Volcanic rocks grade downwards, into a transition zone of gabbrodiabases, which in turn pass to gabbro and plagioclasic harzburgites.

All above section is overlain by unconformable, transgressive, *Lower Cretaceous conglomerate and limestone* depositions.

## Sulphide mineralizations

The massive and stockwork sulphides are found. There are distinguished three mineral assemblages: pyrite-chalcopyrite; pyrite-chalcopyrite-sphalerite and chalcopyrite-sphalerite magnetite. Most important sulphides occur, at the uppermost parts of the Lower basaltic succession (e.g. Bregui i Geshtenjes) up to the top parts, and along the contact with the reddish agglomerates (e.g. Ciflig).

The sulphides of Rehova deposit are concordant to sub-concordant to wallrocks. The most of the orebodies belongs to pseudo-layers, but from detailed exploration drillings as well as mining data, was contoured, a nearly vertical, subcylindrical (pipe-like) massive chalcopyrite-pyrite orebody, with a diameter

of about 40m, extending in vertical plane, up to now for 80m.The wallrocks of above ores, are affected in various degree by chloritization,epidotization and argilization, too.

## Geophysical Survey

From 1969 through 1985 year SP and ER were used. Beginning 1986 year to present, deep geophysical survey, with IP method was applied.For exploration in depth initially was used, a high power transmitter and a high sensitive receiver (IPC-7/15 kW, IPR-10), produced by Sintrex, Canada, whilst last five years, a mid-power transmitter and receiver (GEVI-6 000/7 kW, IPOR II), produced by Brno (Check), was used.

The geophysical survey, was carried out with Vertical Electrical Soundings (V.E.S)-IP schemes, with a length of transmitter lines ranging from AB/2 = 15m to AB /2 = 1 500 m, within a grid 200m by 100m.

At the northern and southern part of known deposit, about 20 distinct anomalies were delineated, with values of IP coefficient ($\eta a$) from 2.5 to 3.5 %.

At the northern part, three clusters of anomalies with $\eta a$, 2 to 2.5 % were obtained. The first one is closely related with the known orebodies. The second one, recently drilled, intersected a 2m thick , high grade orebody, within a mineralised zone.

In the southern part of deposit, exactly along its axis, two parallel anomalies, 700m and 500m long, respectively, are delineated, with $\eta a$ values, ranging from 2 % to 2.5%.

The anomaly was drilled, and about 40m thick of a mineralised zone was found, within which, there are found 5 orebodies, from 1m to 3m thick, each one , grading from 0.5% to 2.5% Cu.

At the northern part of deposit, against the known ones, the prospected area is enlarged about 100%,whilst at southernmost parts about 50%.