Mali Lopes-10 Korriku-Theken-Ternove chromite deposits are located in the Bulqiza ophiolite massif. According to the recent data, it is concluded that this area is a new very prospective target.

KEY WORDS: Chromite, Bulqiza, ophiolite complex, Albania.

I. GEOLOGICAL SETTING

Mali Lopes-10 Korriku-Theken-Ternove constitutes an ore field of about 24 km². It is situated in the southeastern part of the Bulqiza ophiolite massif (figure 1). It belongs to the southeastern and eastern part of the Bulqiza-Bater-Ternova axial sector. Different scale mappings (1:50,000, 1:25,000, 1:10,000 and 1:2,000) and several studies have been carried out in this region (Alliu, 1991; Dobi et al., 1981; Gjoni, 1995; Gjoni et al. 1994; Hallani et al. 1989; Premti et al. 1996, Hina, 1987) The generalized section of this ore field is shown in figure 2.

A. Mantle tectonite sequence.

The lowermost part of this sequence is characterized by harzburgites with rare dunite intercalations (5-7%). The dunites are of the lens-shaped morphology and lightly serpentinized. Harzburgites are generally fresh and characterized by cataclastic, porphyroclastic, and mosaic textures. Upward, the section consists of harzburgite-dunite intercalations. The dunites display a lens shape, and are tens to hundreds of meters in length. The number of dunite lenses and their size increase from bottom to top. The dunites occupy 7-25% of the rock volume. This lithologic unit is followed by dunite-harzburgite intercalations where the dunites are evidently increasing. Their amount is over 25% of the rock volume.

B. Cumulate sequence.

From bottom to top, the cumulate sequence of this area is composed of dunites, herzolites, websterites, and gabbronorite. The last ones are located in its uppermost part of the section.

II. ORE GEOLOGY

The Mali i Lopes-10 Korriku-Theken-Ternova ore field consists of a folded structure with NW-SE strike (320°-330° strike azimuth, 270°-280° for Thekna deposit), SSW dipping with moderate to high angles. The folding intensity decreases towards the southeastern part of the area.
### Generalized Column of Mali i Lopes - Ternoive Region

<table>
<thead>
<tr>
<th>Thickness (m)</th>
<th>Sequence</th>
<th>Rock Type</th>
<th>Lithological Column</th>
<th>Geologic Features</th>
<th>Ore Bodies</th>
</tr>
</thead>
<tbody>
<tr>
<td>~ 30</td>
<td></td>
<td>Gabbro</td>
<td>G</td>
<td></td>
<td></td>
</tr>
<tr>
<td>~ 200</td>
<td></td>
<td>Pyroxenite</td>
<td>P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>~ 50</td>
<td></td>
<td>Lherzolite</td>
<td>L-W</td>
<td>Dunite with intercalated chrome and Ni-Sulphide</td>
<td>Guri i Mekes, Kodra e Menes, Fushe Kisha, Kopshti i Kalit, Livadhi i Dasshit et al.</td>
</tr>
<tr>
<td>400 - 500</td>
<td>CUMULATE</td>
<td></td>
<td>D</td>
<td>Harzburgite - dunite with some levels of chrome</td>
<td>Maja e Theknes, North Thekni, East Liq. Sopave, Sud dep. Ternove, Sud dep. Theken, Ligan i Sopave, Tri Gjeprati et al.</td>
</tr>
</tbody>
</table>
| 300           |          | Harzburgite| H                   | Harzburgite - dunite with some levels of chrome | "Korriku 10" Body 1: "Fushe Lope", Body 2: "Fushe Lope"
|               |          | 25% loose | H                   | Harzburgite with dunite lenses (7-25%) and with two levels of mineralisation | Body 4: "Fushe Lope", Body 5: "Fushe Lope", Body 6: "Fushe Lope", Body 9: "Fushe Lope"
| 300 - 400     | TECTONITE|          | H                   | Harzburgite with rare dunite and concentration of podiform chrome | Body n° 3 dep. "Fushe Lope" |
| > 1000        |          | Harzburgite| H                   | Harzburgite with rare dunite and concentration of podiform chrome | Body n° 3 dep. "Fushe Lope" |

**Fig.2 - Generalized stratigraphical column of Mali i Lopes - Ternoive Region. H=Harzburgite, D=Dunite, L-W=Lherzolite and Wehrlite, Px=Pyroxenite, G=Gabbro; black lines = Chromitite ore body.**

These data show that the chromite mineralization is located not only in the well-known Bulqiza-Bater area, but in the southeastern and eastern sectors of mantle sequence.

### III. CHROMITE ORE BODIES

The main chromite ore bodies occurs in the tectonite and cumulate sections of the Bulqiza ophiolite massif. Based on their morphological, mineralogical and petrological features, the following principal mineralization levels are distinguished:

1. The mineralization related to the harzburgite-dunite sequence is the most important one. It is distinguished from the high-grade ores and the large reserves. Some parts of the Lugu i Gjate, 10 Korriku, Thekna, Ternova and Fushe Lopa ore deposits correspond to this level (figure 4,5).
2. The mineralization related to the dunite-harzburgite association is characterized by limited size, low grade and reduced reserves. The Thekna Veriore, Ternoive (southern part), Tri Gjeprat, Liqeni i Sopave, Lindja e Liqenit te Sopave and other ore bodies belong to this sequence.
3. The mineralization related to the dunite cumulate sequence is represented of Guri i Mekes, Livadhi i Dasshit, Kopshti i Kalit and Kaptina ore deposits.

According to the ongoing studies, the perspective for the chromite prospecting in this ore field is open. These chromite concentrations are less important with respect to Bulqize-Bater ore deposit, but in anyway they merit a particular attention. The ore bodies show a sub tabular and lens morphology. The ore bodies must be prospected in the longitudinal and cross direction. They indicate a southern to southeastern plunging. It is necessary to apply the rare drillings, but taking into the consideration always the fault tectonics.
Fig. 3 Geological cross-section Mali i Lopes - Vervjak area. 1 = Quaternary deposits, 2 = Dunite, 3 = Harzburgite, 4 = Geological boundaries, 5 = Faults, 6 = Drillings

Fig. 4 - Geological cross-section of the 10 Korriku deposit. 1 = Dunite, 2 = Harzburgite, 3 = Chromite body, 4 = Drillings, 5 = Faults

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CONCLUSIONS

1. Mali Lopes – 10 Korriku– Thekna – Ternova chromite ore field is part of the Bulqiza ophiolite massif.
2. Chromite ore bodies are situated in the tectonite and cumulate sections. The most important high-grade metallurgic type ore bodies with large reserves are located in the tectonite sequence, but not less interest represent the ore concentrations found within ultrabasic cumulates.
3. This area is a new prospecting target. The large chromite concentrations are located not only in Bulqize-Bater-Ternova axial sector, usually considered of the first hand importance, but also in the lateral areas developed in the southeast and east.

REFERENCES


Fig 5. Geological cross-sections of Mali i Lopes (a) and Ternove (b) deposits

Fig 5a. 1 = Quaternary deposits, 2 = Dunite, 3 = Harzburgite, 4 = Faults, 5 = Drillings, (solid black indicate the chromite bodies)
Fig 5b. 1 = Chromite ore bodies, 2 = Gallery, 3 = Faults, 4 = Drillings.