

# Geological Environment Survey of Fannouch area Chromites

Mojtaba Ansarifar<sup>1\*</sup>, Seyed Ahmad Motaalem<sup>1</sup> and Fatemeh Ostadmahmoodi-do<sup>2</sup>

1- Young Researchers and Elite Club, Zahedan Branch, Islamic Azad University, Zahedan, Iran

2- Department of Geology, Islamic Azad University, Zahedan Branch, Zahedan, Iran

*Corresponding author:* Mojtaba Ansarifar

**ABSTRACT:** Study area located in Sistan and Baluchestan province, south-east of Iran and located in the structural divisions of the sedimentary east flysch zone. Access to the study area through the Iranshahr-Chabahar old road is possible. Geological units consist of a series of sedimentary rocks, igneous and ultrabasic is. Ultrabasic rocks such as harzburgite, harzburgite and serpentinite. Microscopic examination was carried out on the rocks containing chromite lenses, various tissues in the show. The texture and fabrication of primary chromite Fannouch region can be disseminated types, mass and E veins and veinlets of secondary textures and types of stretching and cataclastic noted. Based on the results of the chemical analysis of the water samples, approximately 33% Mean perfect addition to the abundance of iron oxides, silicon and aluminum in the samples is evident.

**Keywords:** Chromite, Fannouch, ophiolite, flysch.

## INTRODUCTION

Mines and mining activities in the economic development of many countries is important and plays a vital role in economic independence. Chromite ore is one of the most important minerals in many countries such as America, South Africa, Turkey, Iran, Cyprus, Cuba, etc., mines and industries related to it are available (ask Zare, 2012). Chromite deposits are two types of alpine and layered. Alpine reserves, the type layer, with smaller and often irregularly shaped, sometimes with severe deformation of the rocks are mantle peridotites (Nicolas, 1989). While stocks layer with a larger volume of magma segregation and are often layers of gabbro are like Boshveld Context (Irvin). Iran chromite deposits in ophiolitic complexes are located in similar deposits in ophiolitic melange and ophiolite in Oman, Turkey and the Balkans generally irregularly shaped and has a layer of alpine type are (Yaghubpur, 2005). Alpine origin of chromitite (Podiform) and its tectonic setting is one of the most controversial topics in geology is remarkable. For the formation of these deposits, deposits in different environments such as arc, back-arc basins and the ocean ridges (Morb) suggested (Zhou ., 1998; Rollinson, 2008). Mineral chemistry of chromite and associated silicate and Tblvrshan degree, a valuable criterion to identify the formation and composition of their mother lava and magma genesis can be an index to identify and distinguish the different tectonic environments (Melcher ., 1997; Zhou ., 1996).

### *The geographical location of the region*

East of the study area (province) and the South East is the city of Fannouch. Access to the study area through the Chabahar-Fannouch road is possible (Fig. 1).

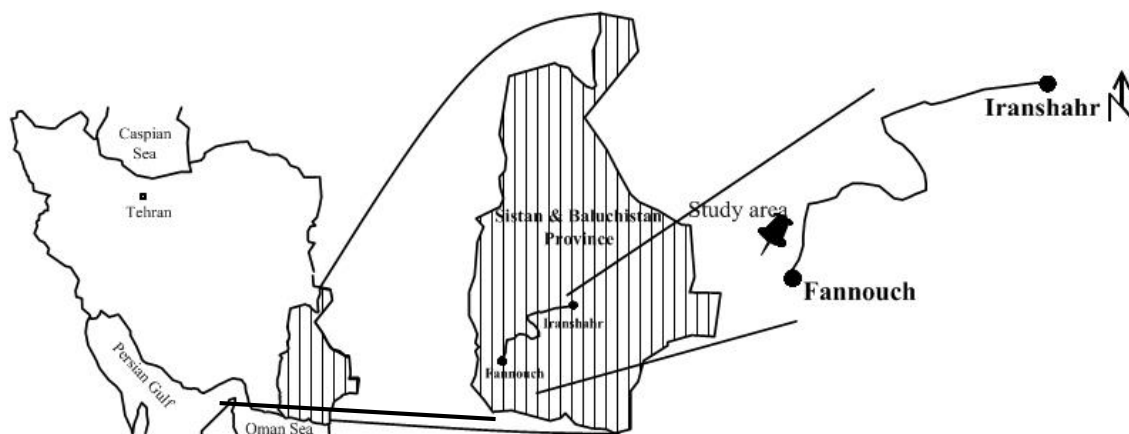


Figure 1. Geographical location and access to the study area

## MATERIALS AND METHODS

### Methods

In this study, the method of petrography (Petrography) to examine the texture and mineralogy of chromitite and host rocks are also used. The microscopic sections of the samples (n) were prepared and petrographic studies. The chemical composition of chromitite are based on XRF test results were evaluated.

### Geology of the area

The study area of sedimentary geology and structural segmentation of the Flysch Zone of the East (Aghanabati, 2004). In this area range from Psyn- Miocene rocks of Cretaceous to Quaternary deposits outcrop (Fig. 2). Geological units consist of a series of sedimentary rocks, igneous and ultrabasic is. Ultrabasic rocks such as harzburgite, harzburgite and serpentinite is Spranytyt listvenite. Additionally, the unit can be little lumps of stone to Mlanvgabrv Loco, small masses of diabase, basalt blocks of the Mtamvrf pillow with the structures, green and red radiolarites, which in a serpentinite matrix are located. Sedimentary rocks, mainly limestone, conglomerate, red, red to green radiolarites.

Of other structural units, flysch type sediments that have been extensively studied in the whole sheet. The mainly clastic sediments, including shale pale green to gray, altered gariwak, calcareous sandstone, and conglomerate is quartzarenite.

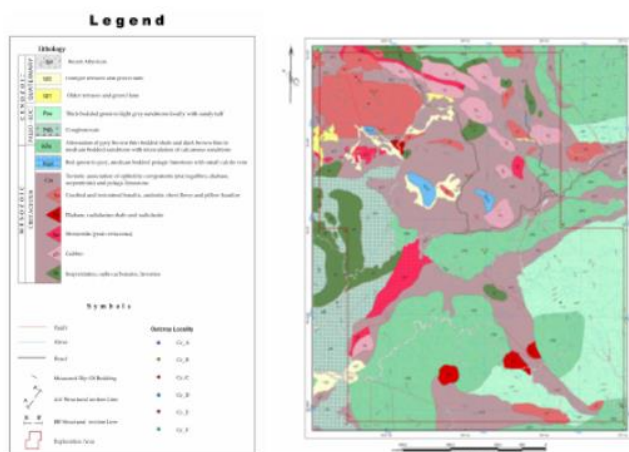


Figure 2. Geological map of the study area

## RESULTS AND DISCUSSION

### **Discussion and conclusions**

Chromite deposits of magmatic origin and further processes of magma crystallization and precipitation have a direct affiliation. Generally associated with the tissue and making deposits can be divided into two groups: primary and secondary. Microscopic examination was carried out on the rocks containing chromite lenses, various tissues in the show. The texture and fabrication of primary chromite Fannouch region can be disseminated types, mass and E veins and veinlets of secondary textures and types of stretching and cataclastic noted. Maadh studied chromite ore is moderate to low. The study area is widely available types of ultramafic minerals and secondary minerals such as serpentine, talc, magnesite and Hydromagnesite also well visible. Based on the results of the chemical analysis of the water samples, approximately 33% Mmtvst perfect addition to the abundance of iron oxides, silicon and aluminum in the samples is evident.

### CONCLUSION

Geological situation and identify the index of high-grade chromite in Sistan and Baluchistan region led to the exploration of the full-blown economic and considered. The study area has an average grade chromite, lenses with a general northwest-southeast trend of the host rock is harzburgite. Reserves of chromite in alpine regions are similar in terms of chemical composition. The main tissue types can be seen in the massive chromite, disseminated and vein-veinlet E noted.

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