ONHYM

المكتب الوطني للهيدروكاربورات و المعادن

OFFICE NATIONAL DES HYDROCARBURES ET DES MINES

GLIBAT LAFHOUDA, DRAG AND AL FARNAN CARBONATITES (Nb, Ta, REE, U, Fe) (SOUTH PROVINCES, MOROCCO)

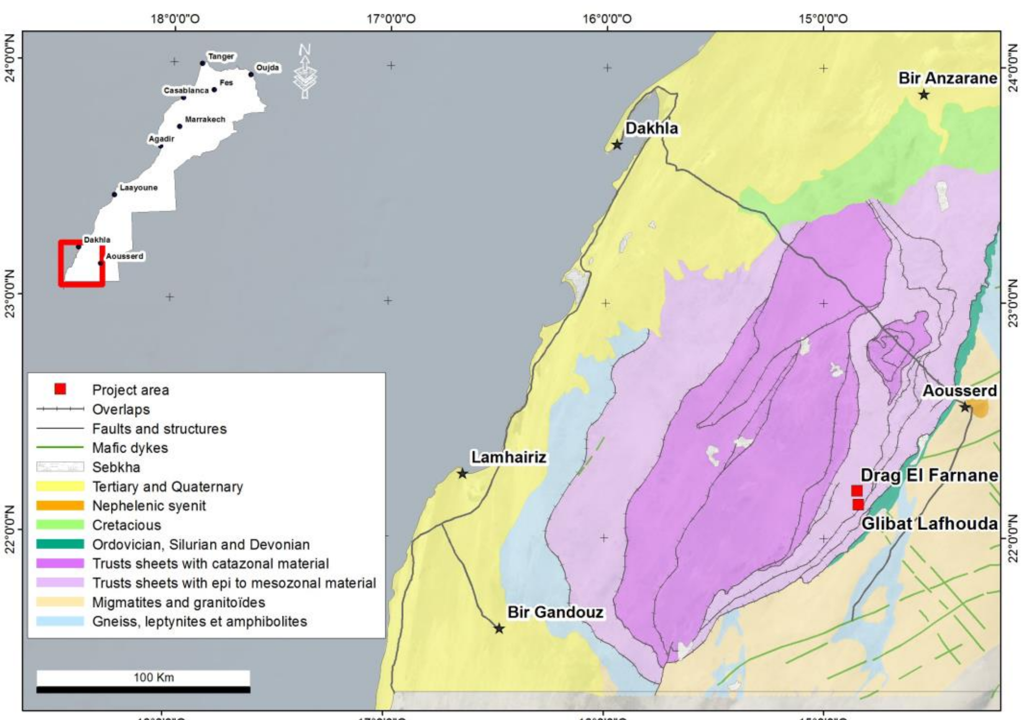
Overview :

Glibat Lafhouda, Drag and Al Farnan are a circular structures of iron oxides associated with dolomitic carbonatites surimposed on an airborne magnetic and radiometric (Uranium) anomaly, it is miniralized in high grades of Niobium, Tantalum, Uranium and light rare earth elements (LREE). The ore body have a kilometric extension. The prospect could be a world- class deposit for the Niobium, the Tantalum, the light rare earth elements and iron.

Target name	Glibat Lafhouda	Drag and Al Farnan
Type of mineralization	Nb, Ta, REE, U, Fe	
Licence coverage	Area reserved to ONHYM by the Ministry of Mines	
	Geological data (1/2000 scale covering an area of 5 km²)	
	Geophysical data (gravimetric and magnetic) over an area of about 10 km² for each target	
	Geochemical data	
Available data	Drilling data (21 drill holes totalizing 2560 m length)	Drilling data (15 Drill holes totalizing 1229 m length)
Grades	0.3% Nb_2O_5, 272 ppm Ta_2O_5, 400 ppm U_3O_8 and 0.2 ppm in light REE	0,2% Nb_2O_5, 280 ppm Ta_2O_5, 240 ppm U_3O_8 and 0,23% of LREE
Dimensions	Extension : kilometric/ Thickness : 10 to 75 m	Extension : kilometric/ Thickness : 10 to 106 m
Resources	67 million tons	47 million tons

Geological setting and location:

Glibat Lafhouda, Drag and Al Farnan carbonatites are located 70 km South West of Aousserd city. In 2002, ONHYM has carried out an airborne geophysical survey covering an area of 20,852 km² in the southern part of Morocco. A geochemical and geological controls of radiometric anomalies led to the discovery of theses carbonatites.

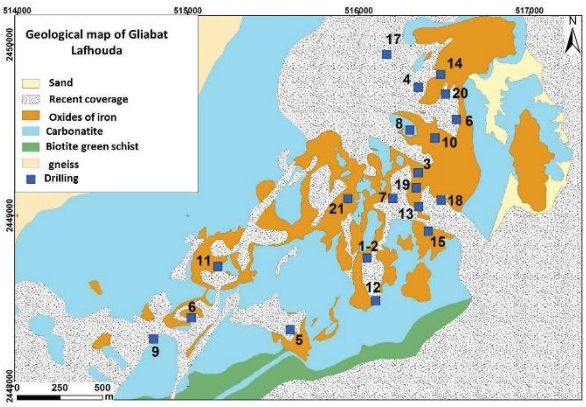


Location and general geological setting of Glibat Lafhouda, Drag and Al Farnan

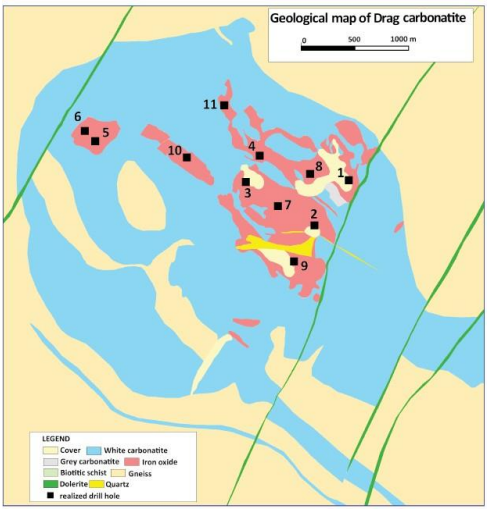
The ore bodies are hosted by the Proterozoic gneiss. The Landsat image shows the high contrast between the carbonatites and the gneiss that is also crossed by basic dykes oriented NE-SW. Iron oxides breccia are included within the carbonatites which is overlapped by a large uranium anomaly. The surface sampling results, related to iron oxides, showed grades with values reaching 1% Nb_2O_5, 1 380 ppm Ta_2O_5 and 1 660 ppm U_3O_8. Based on these results, ONHYM conducted an exploration program that consisted of a geological survey with collection and analysis of surface samples, a topographic survey, combined with geophysical and drilling campaigns.

Achieved Works and results :

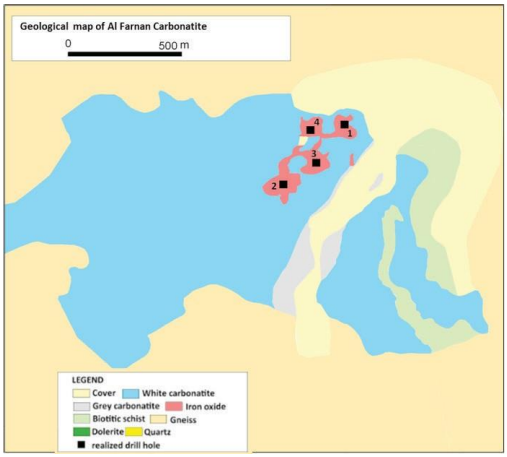
At Glibat Lafhouda, geological survey at different scale, sampling, ground geophysics and drilling surveys were conducted to evaluate the district. Resources estimate of Glibat Lafhouda are estimated to 67 million tons at 0.4% Nb_2O_5, 265 ppm Ta_2O_5, 508 ppm U_3O_8, 0.2% REE and 35% Fe_2O_3. These resources are relatives to iron oxides only, mineralization exist also in carbonatites. This estimate is based on 21 drill holes totaling 2 558 m.



Geological map and location of drill holes in Glibat Lafhouda



Geological map and location of drill holes in Drag carbonatites



Geological map and location of drill holes in Al Farnan

In Drag and Al Farnan, 15 drill holes totaling 1 229 m length were conducted. An evaluation of the mineral resources in Glibat Drag carbonatite and Gleyb Al Farnan carbonatite has given a tonnage of about 47 million tons at 0.2% Nb_2O_5, 280 ppm Ta_2O_5, 240 ppm U_3O_8 and 0,23% of LREE (Ce+Eu+La+Nd+Pr+Sm).

Outlook :

The proximity of Glibat Lafhouda , Drag and Al Farnan make them an interesting area to perform a more detailed resource assessment work. Besides that, the obtained grades and the available mineralizations open up interesting perspectives for the project , depending on the worldwide demands on REE , Nb, Ta and U mineralizations.

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