

STATUS OF GEOTHERMAL EXPLORATION PHASE IN THE REPUBLIC OF DJIBOUTI

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ABSTRACT

The geothermal exploration phase in the Republic of Djibouti is at different stages. One of the main fields studied is Asal area with six wells drilled. There is also some other major areas explored like Hanle and Gaggade plain.

Actually the Asal area is under development under the concession to Reykjavik Energy Invest from the government of Djibouti. The plan is to build up a 50 MWe geothermal power plant in 2012 with a probably extension to 100 – 150 MWe.

1. INTRODUCTION

The Republic of Djibouti (23,000 km²) is located in East Africa where three major extensional structures, the Red Sea, the East African rifts and the Gulf of Aden join to form the Afar Depression (Barberi and al. 1975). This particular area is characterized by the presence of geothermal resources revealed by numerous hot springs found in different parts of the country. The most active structure is the Asal Rift which is the westward prolongation of the Gulf of Aden-Gulf off the Tadjoura Ridge.

The current geothermal exploration phases in the Republic of Djibouti are summarized in Table 1.

TABLE 1: Surface exploration carried out in Djibouti

Area	Exploration stage				Surface manifestations	
	Geology	Geochemistry	Geophysics	Exploration drilling	Hot springs	Fumaroles
Lake Asal	+++	++	+++	++	++	+
North Goubbet	++	++	++		+	+
Gaggade	++	++			+	+++
Hanle	++	++	++	+		++
Lake Abbe	++	+			++	++
Arta	++	++	++			+
Obock		++			+	+
Alol	+	+			++	+

The locations of the above mentioned areas and some smaller geothermal field in Djibouti are presented in Figure 1.

2. CONCLUSION

The Asal area is under exploration for development of high enthalpy reservoirs by Reykjavik Energy Invest with plans to generate 50 MWe within the next few years.

Other prospects in Djibouti should be continued as following:

- Field geological reconnaissance
- Preparation and realization of surface studies programme
- Exploration wells location
- Exploration drilling
- Development programme

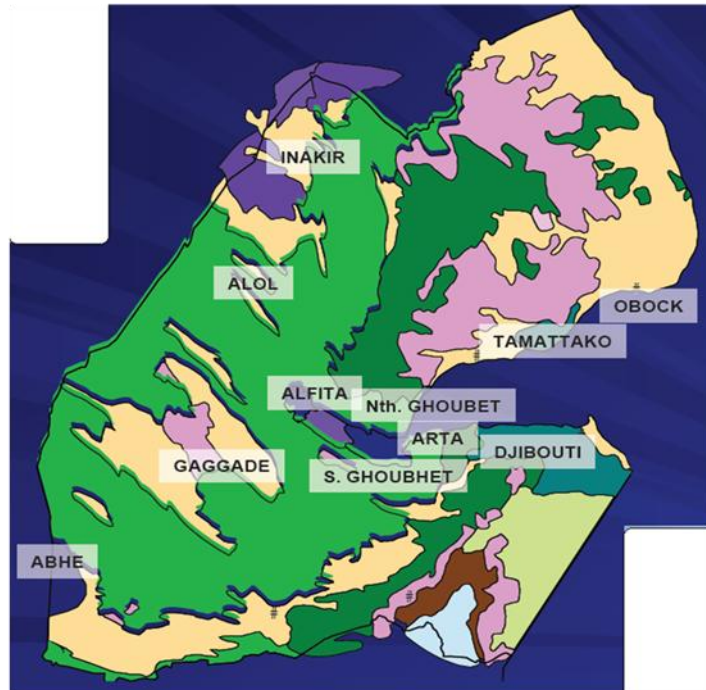


FIGURE 1: Location of geothermal areas in Djibouti