

Focus on uranium research in Senegal

M. Kanoute

Ministry of Energy, Dakar, Senegal

E-mail address of main author: makanoute@hotmail.com

Two periods stand out in the history of mining exploration for uranium in Senegal:

- 1957 - 1965 in the context of a general inventory of the uranium potential of Africa, which is also the time that the large deposits of Niger and Gabon were discovered;
- 1973 to the present, is characterized by surveys more focused on specific topics such as Birrimian Superior Precambrian Sedimentary, Secondary and Tertiary Phosphates.

The collapse of uranium price that began since 1980 calls into question the validity of these surveys on areas away from the coast that lack infrastructure and forces the elimination of targets where there is little hope of finding high enough concentrations of uranium for possible mining.

The first work undertaken by the Office of Senegal the French Atomic Energy Commission from 1957 to 1961, was part of a systematic aerial survey of West Africa covering Senegal, Mali, Upper Volta and Niger. During these flights the aerial radiometric anomaly Saraya was found near Kédougou (South East Senegal). Gamma meters surveys, 14 trenches and geochemical samples were undertaken and two types of anomalies highlighted:

- One in a fracture N130 with yellow products (1700 c/s);
- Another in a white syenite calcite (8000 c/s).

At the same time, ground controlling of other airborne anomalies was undertaken, in particular through geochemical sampling and small wells research. Some geochemical anomalies were detected (Dalafinn site for example), usually associated with lateritic material. However, in 1961 the decision was taken to suspend the study of anomalies near Kédougou, until some more work from 1974.

In 1966, as part of a joint study Mauritania, Senegal teams also undertook systematic radiometric study of continental sedimentary basin of the Ferlo (Northern Senegal) and the bank of the Senegal River; however, this work furnished no interesting result.

On 1974, the Minister of Development of the Republic of Senegal contacted to the Administrator General of the CEA in a letter requesting the consideration of the resumption of uranium research. On an affirmative response, a research permit in East Senegal of 38,600 km² was awarded and further uranium research was conducted. These studies were devoted there the study of Precambrian and Cambrian age rocks.

The General Atomic Company Materials (COGEMA) extensively explored for uranium in eastern Senegal in the period 1975-1985. However, the drastic drop in the price of uranium in the context of rather mixed results (resources of the order of 2000 t of uranium) lead to the discontinuation of the exploration program.

Uranium exploration revived in 2007, thanks to the soaring price of uranium. The license of the junior South African Uranium, for Saraya East, was purchased the same year by AREVA.