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Uranium deposit types, exploration methods and Corporate Social Responsibility (CSR) Programs: Case of LERE (Chad)

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INTRODUCTION

The Lere Uranium deposit was one of numerous uranium showings in Chad. It was highlighted in the Mayo-Kebbi West, close to the border with Cameroon. This deposit is best known because it has been the subject of previous studies by UNDP (United Nations Development Program) and the IAEA (International Atomic Energy Agency) between 1970 and 1980. Recently, these studies were supplemented by exploration Signet Mining Services Ltd (SMS), a European-based mining company called in Chad by Chad Mining Service (CMS). Furthermore, SRK was requested by Signet to generate a mineral resource estimate of the lere deposit as part of the initial exploration program.

DESCRIPTION: METHODS AND RESULTS

Located in southwestern of Chad, the Lere deposit has uranium hosted near vertical shear zones and secondary foliation in albitised and silicified granite in a mixed terrain of Precambrian units.

It occurs within the Zabili granitoids, proximal to the contact with the schist and amphibolites of the Mayo kebbi series. The ore-body is a weathered, iron-stained (hematised), fractured and sheared, feldspar-rich (albite), low-quartz granite. Within the orebody; de-silicified as well as silica impregnated zones, are recognized.

Signet Mining Services Ltd had (6) concessions comprising (841 kilometer-square km2) that include the Lere Project in south-western Chad near the towns of Lere and Pala.

Exploration activities have included an airborne geophysical survey, a geological survey and a surface radiometric survey. Uranium anomalies and potentially significant structures have been identified. Anomaly A and B have been drilled by percussion drilling (18 541 meter) and core drilling (2 676 meter), enabling the development of a geological model and providing sufficient data for resource estimation.

Chad Mining Services Company has completed over 170 vertical wells, 22 trenches and a dozen drilling inclined concentrations vary from one well to another the greatest value is in the order of (4000 ppm) in wells and is (50 to 100 ppm) in surface during the mapping. The deposit is estimated at (8,000,000 t) [2].

Resources compliant with the South African code for the reporting of exploration results, mineral resources and minerals reserves (The South African Mineral Resource Committee [SAMREC] Code) have been evaluated to amount to (3 190 tU), at an average grade of (200 ppm U) or (0.020% U). At a uranium price of less than USD 50/lb U3O8, the identified deposit is considered uneconomic. Further structures will need to be identified to increase the resources in order to move the project to a development stage [1].

CSR initiatives of CMS included various aspects namely: Employment, Infrastructure, Supplies, Compensation, Transfer of competences, Safety, Environmental protection, Information and communication, other community programs.

DISCUSSION AND CONCLUSION

In general, the subsoil of Chad has an abundance of important mining resource particularly an important potential in uranium's ore that it exploitation will contribute to the national economy. It is important to note that Chad is still very under explored compared with other African countries. For that reason, as prospecting or mining research is the first step in the development of the mining sector, Chad Mining Services (CMS) made uranium exploration in the Mayo Kebbi Province (LERE). Studies conducted by CMS have outlined several areas that are highly prospective for uranium.

However, exploration, mining and/or processing operations can have both positive and negative environmental, economic and social impacts on communities. They can provide employment and business opportunities to local communities such as exploration activities of CMS. In addition, a rational exploitation coupled with the modernization of techniques for extracting and processing minerals will increase employment nationally and regionally.

REFERENCES

[1] CHAD MINING SERVICE, report (2011).
[2] NAYGOTIMTI BAMBE, Exploration of Uranium in Chad, State of places, (2010).

Country or International Organization

Chad

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