

Summary of Potential Types of Uranium Deposits in Tanzania

POTENTIAL TYPES OF DEPOSITS	AVERAGE SIZE AND GRADE OF POTENTIALLY ECONOMIC DEPOSITS	GEOLOGICAL SETTING	1 ST ORDER TARGETS	2 ND ORDER TARGETS	ESTIMATED POTENTIAL	COMMENTS
1. Sandstone	Medium size – low grade	a. Karoo System b. Bukoban System	3 -	9 2	Good Poss.	- Large aerial extent - Associated with Cu mineralization
2. Unconformity “Vein” Type	Medium – Large size can be very high grade	Precambrian: a. Ubendian/Karagwe Ankolean or Ubendian/Bukoban unconformity b. Ubendian System c. Usagaran System	None * *	None * *	Poss. Poss. Poss.	The absence of airborne anomalies is not discouraging as it is unlikely that these deposits would occur at surface - -
3. Associated with Intra-intrusive rocks anam hydrothermal veins	Variable, ranging from small, high grade deposits in veins and pegmatites to large low grade disseminated deposits, e.g. Rossing	1. Migmatites, pegmatites and shear zones in the: a. Ubendian System b. Usagaran System c. Dodoman System d. Undifferentiated metamorphic rocks 2. Post orogenic intrusives of felsic or alkaline composition	- 1 - 1 1	- 5 2 9 10	Good Poss./ Poor	For small, possible high grade deposits in pegmatites and veins For large, low grade deposits
4. Carbonatites and related intrusive complexes		a. Carbonatites b. Tertiary volcanics	1	5 5	Good Poor	- Economic only as a by-product - Possible primary source of uranium for deposition in calcretes
5. Phosphates	Size variable Low grade	a. Guano and shoreline at Lake Manyara	1	2	Good	- Economic only as a by-product
6. Associated with superficial deposits and Quaternary sediments	Medium size Medium grade	a. Mbugas/Caleretes b. Raised Pleistocene reef limestones	15 3	22 27	Poss. Poor	- Require large tonnage but relatively easy to mine - If the uranium is held in heavy mineral sands it is unlikely to be economical

* All the anomalies detected over areas underlain by Ubendian and Usagaran rocks have been grouped in the category of 3rd priority. The average size and grade of economic deposits of each type found worldwide have been grouped accordingly.

SIZE:

Small - deposits containing 5,000 tonnes uranium
 Medium - deposits containing between 5,000 and 50,000 tonnes uranium
 Large - deposits containing 50,000 tonnes uranium

GRADE

Low - < 0.1%
 Medium - 0.1% - 0.3%
 High - > 0.3%

Potential for the existence of deposits of this type in Tanzania classified as: Good, Possible or Poor