



KRUCIBLE METALS LTD

Mineral Discovery Company

A.B.N. 12 118 788 846

EPM 15815 'Toko Range'

Annual Report and Relinquishment Report For period ending 31st December 2008

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Date: 3rd February 2009

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SUMMARY

The Toko Range EPM 15815 is located about 280km SSW of Mount Isa and was acquired to explore for Uranium mineralisation and Iron Oxide Copper Gold (IOCG) mineralisation.

The tenement is located close to the intersection of major NE and E-W structures and on the northern margin of the Palaeozoic Toko Syncline.

There is no documented Proterozoic basement outcrop within the tenement area.

There has been very little previous mineral exploration undertaken in the tenement area. However regional geophysical surveys carried out by the Queensland Government in 2006 and 2007 outlined a number of radiometric and magnetic anomalies that Krucible considered warranted exploration.

After processing and interpretation of geophysical information from radiometric, magnetic and gravity data Krucible carried out a reconnaissance program to investigate some of the anomalies generated. Four rock chip samples were collected and the maximum values (ppm) were 187 Yttrium, 1240 Cobalt, 364 Copper and 35 Uranium. These results are not considered to be significant and the EPM was subsequently relinquished 100%.



1. INTRODUCTION

The Toko Range EPM is located about 280km SSW of Mount Isa in NW Queensland (see Figure 1) and occurs mainly in low hilly country on the edge of the Simpson Desert. The tenement was acquired principally to explore for Uranium mineralisation associated with Cretaceous sediments of the Palaeozoic Georgina Basin.

Iron Oxide Copper Gold ± Uranium (IOCG) Targets were also outlined for exploration on the EPM associated with magnetic Proterozoic intrusive under deep cover.

The Toko area is interpreted to be at the intersection of major NE and E-W structures (see Figure 1). This intersection was considered to be a likely area for hydrothermal alteration and possible mineralisation.

1.1 TENEMENT DETAILS

Exploration Permit for Minerals (EPM) 15815 was granted to Krucible Metals Ltd on the 15th January 2008, comprising 201 sub blocks (approximately 647sq.km) (see Figure 2 for location) for a period of 5 years. The EPA (Environmental Protection Agency) accepted Krucible Metals Ltd bid to relinquish all sub-blocks on the 21st of January 2009.

A full list of the sub blocks is tabulated in Table 1 and shown on Figure 2

2. PREVIOUS WORK

The only previous recorded work on this EPM was by CRA Exploration Ltd, who carried out a small stream sediment sampling program on EPM's 4206 and 4207 in 1985. Samples were analysed for gold only and the maximum value was only 0.05 parts per billion Au.

Geological mapping was carried out by the Bureau of Mineral Resources (BMR) in 1984 and 1985. This survey defined the approximate boundaries of the Palaeozoic Georgina Basin as well as mapping some outcropping Proterozoic granites located about 40km south of Toko Range (Shergold, 1985). Proterozoic outcrop was also noted by BHP Exploration Ltd in 1996, located about 85km SSE of Toko Range (Berents and Rutley, 1996).

3. GEOLOGY AND MINERALISATION

The Toko EPM is located within the Diamantina Province close to the Northern Territory / Queensland border.

Most of the EPM area is covered by the sediments of the Eromanga Basin, mainly the Cretaceous Toolebuc Formation. In places these are known to be uranium bearing especially where close to Proterozoic basement. The Eromanga Basin overlies the older Georgina Basin of Neoproterozoic to Cambro-Ordovician age which crops out in the Toko Syncline. The Georgina Basin formed on a basement comprising three major Proterozoic blocks, the Arunta Complex, the Mount Isa Inlier and the Aljawarra Craton.



The Arunta Complex is the most western block in Queensland and is represented by minor granite outcrops along the Toomba Fault (see Figures 3 and 4).

Little previous mineral exploration has been relatively poor access and the perception of deep cover by younger sediments over the prospective Proterozoic basement.

In the last three to four years some exploration companies have outlined areas of outcropping or shallow buried Proterozoic basement in the Simpson Desert, to the south of Toko Range.

Large-scale government regional geophysical surveys (airborne magnetic/radiometric and gravity surveys) over the Diamantina within the last two years has made available valuable new databases which will assist in defining prospective target areas in zones of relatively shallow cover.

The surge in exploration for uranium over the last two years has provided models for the deposition of uranium that are applicable to the Diamantina Region – uranium enrichment at the unconformity margin of younger sediments and the basement rocks.

Recent aerial radiometric surveys have delineated several uranium-rich features in younger cover rocks that have not yet been investigated. These cover rocks contain graphitic, calcareous and pyritic layers that are receptive lithology for uranium concentration.

Structurally, the Diamantina Region is considered to be prospective because of the presence of a major thrust zone known as the Toomba Fault (see Figure 4).

Major structural zones at craton boundaries and are considered to be important in enabling the emplacement of large complexes of igneous rocks into the crust. The development of large mineral deposits (such as the IOCG Olympic Dam) is associated with high level magmatic activity and brecciation.

The Toomba Fault has a long and complicated geological history and because of complexity and poor surface exposure, the structural history of the Toomba Fault is difficult to determine. It is reverse fault, trending north-north-west and dipping west-south-west, extending for over 150km close to the interpreted Proterozoic craton boundary of the Mount Isa Block and the Arunta Block. The movement juxtaposes Proterozoic crystalline basement of the Arunta Block with Palaeozoic sedimentary units of the Toko Syncline.

The Toko Syncline axis is parallel the Toomba Fault and the younger (Neoproterozoic to Palaeozoic) Sediments are interpreted to have formed in a half-graben to the east of the fault, while the older Proterozoic in the east, was a structural 'high'. In this tectonic event the system would be dominated by normal faulting – an extensional regime. Magmatic activity might be expected within a deep seated extensional fault system.

Re-activation of the Toomba Fault in a compressional environment has produced the reverse faulting (thrust) seen today. The Toomba Fault has an interpreted throw of 7km which seems in accord with the estimated 5km of sediment in the Toko Syncline. The Toomba Fault has been active from the Proterozoic



to the Cretaceous and this would have provided the channel way for large scale fluid movement.

Work by government and industry interprets the presence of deep seated radioactive granites which are likely to be drivers for hydrothermal fluids especially those containing uranium. Outcropping radioactive alkali granites have been mapped by the government geological surveys (see Figure 4).

Dating of granites along the Toomba Fault in Queensland shows a felsic crustal event in 1795 ± 17 Ma and a magmatic event at 1744 ± 7 Ma (Berents & Rutley, 1996). Other basement granitoids in the Northern Territory return ages between 1750 and 1850 Ma. Late to post-tectonic granitoids are defined by gravity 'lows' in conjunction with a lack of magnetic trends.

Some previous explorers have likened the Toomba Fault structure to the tectonic setting in South Australia that hosts the Olympic Dam mineralisation but these explorers have not tested the theories with drilling.

The prime exploration target at Toko Range is uranium mineralisation associated with unconformities, major faults and/or graphitic zones in the Eromanga and Georgina Basins.

The second order exploration target at the Toko Range is Iron Oxide related, Olympic Dam style IOCG mineralisation associated with demonstrated strong magnetic and gravity anomalies close to the Toomba Fault.

4. KRUCIBLE WORK PROGRAM

Krucible carried out extensive processing and interpretation of government mapping and geophysical surveys; the results of which are mainly outlined in the previous Section 3 as well as shown on Figures 3 and 4.

A helicopter supported field trip was carried out to investigate uranium and uranium/thorium anomalies outlined from processing of the government surveys. A total of 4 samples (10477 – 10480) were collected from this program, utilising. The details of the sample locations, descriptions and results are given in Appendix 1. Locations are shown on Figure 5.

Only minor geochemical anomalies were encountered in the sampling and these are outlines below:

- 🔥 Sample 1079 (211757E, 7450342N) returned 187 ppm Yttrium and 0.96% phosphate (P_2O_5) from iron rich Cretaceous sediments

- 🔥 Sample 10480 (215140E, 7449450N) returned 1240ppm Cobalt, 364ppm Copper and 35ppm Uranium from iron rich Cretaceous sediments

The proposed program of activities was not complied with due to initial field samples returning low values, and follow up work was not considered a priority to Krucible Metals.



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5. CONCLUSIONS AND RECOMMENDATIONS

It is concluded from the work carried out to date (and in light of the current low commodity prices) that the Toko Range tenement offers little opportunity for short term discovery of significant Uranium or Copper/ Gold mineralisation.

It is therefore recommended that the entire tenement be relinquished forthwith.

6. BIBLIOGRAPHY

Berents & Rutley 1996 '*Annual Report for EPM's 9338 and 9340*' BHP Minerals Company Report Number 27578

Shergold, J.H. 1985 '*Notes to accompany the Hay River – Mount Whelan Special 1:250,000 Geological Sheet, Southern Georgina Basin*' Bureau of Mineral Resources Report 251, Canberra



TABLE 1 LIST OF SUB BLOCKS FOR EPM 15815

BIM	Block	Sub blocks																															
CLON	2451					E							J	K					N	O	P				R	S	T	U	V	W	X	Y	Z
CLON	2452	A					F						L	M	N							Q	R	S	T	U	V	W	X	Y	Z		
CLON	2523	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z							
CLON	2524	A	B	C	D	E	F	G	H	J	K	L	M	N	O		Q	R	S	T	U	V	W	X	Y	Z							
CLON	2525																	Q								V	W	X	Y	Z			
CLON	2526																	Q	R	S	T	U	V	W	X	Y	Z						
CLON	2594										J	K					O	P															
CLON	2595	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U												
CLON	2596	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U												
CLON	2597	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z							
CLON	2598	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z							
CLON	2668				D	E																											
CLON	2669	A	B	C	D	E	F	G	H	J	K																						

TOTAL SUB BLOCKS: 201