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EL 3689

SAUNDERS CREEK

THIRD PARTIAL SURRENDER REPORT FOR THE PERIOD 16/1/2007 TO 15/1/2010

Submitted by Red Metal Ltd 2010

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Government of South Australia

Department for Manufacturing, Innovation, Trade, Resources and Energy

SCHEDULE A



DATE GRANTED : 16-Jan-2007 DATE EXPIRED : 15-Jan-2010

EL NO : 3689



EL 3689 Saunders Creek

PARTIAL SURRENDER REPORT

for Period Ended

January 15, 2010

G. McKay

May 24, 2010

TENEMENT REPORT INDEX

TENEMENT:	EL 3689
LICENSEE:	Red Metal Limited
OPERATOR:	Red Metal Limited
AUTHOR:	G. McKay
REPORTING PERIOD:	January 16, 2007 to January 15, 2010
LATITUDE:	-34°41' to -34°57'
LONGITUDE:	139°19' to 139°39'
1:250,000 SHEET:	Adelaide SI54-09 / Renmark SI54-10
1:100,000 SHEET:	Mannum 6728 / Swan Reach 6828
MINERAL PROVINCE:	Kanmantoo Trough
COMMODITIES:	Cu Au Pb Zn Ag Co Ni
KEYWORDS:	Literature review, geophysical interpretation

Table of Contents

SUMN	ИАRY	1
1.0	INTRODUCTION	1
2.0	LOCATION AND TENEMENT STATUS	1
3.0	TENEMENT GEOLOGY	1
4.0	HISTORICAL EXPLORATION	2
5.0	CURRENT EXPLORATION PROGRAM	2
6.0	CONCLUSIONS	2

LIST OF FIGURES

FIGURE 1:	KANMANTOO TROUGH GEOLOGY WITH BASE METAL OCCURRRENCES	3
FIGURE 2:	EL 3689 LOCATION FIGURE	4
FIGURE 3:	EL 3689 TMI IMAGE	5

Report Digital File List

EL3689_2010_01 Partial Surrender Report.pdf

SUMMARY

EL 3689 is located in the Cambrian Kanmantoo Trough 80 km east of Adelaide. The district contains several stratabound base metal occurrences and is considered to have the potential to host stratabound Sedex, skarn or sandstone-hosted style silver-lead-zinc-copper deposits.

The project aim was to discover a giant Sedex, skarn or sandstone-hosted style silver-leadzinc deposit. Drilling will target previously untested stratabound and reverse polarized magnetic anomalies interpreted as possible pyrrhotite-rich sedimentary lithologies or skarns associated with silver-lead-zinc mineralisation.

1.0 INTRODUCTION

EL 3689 is considered to be prospective for silver-lead-zinc mineralisation on the basis of reverse polarised magnetic anomalies.

Red Metal have re-interpreted the magnetic data for the Kanmantoo Trough targeting low or reverse polarised magnetic stratabound anomalies indicative of high pyrrhotite or pyrite contents and potentially associated with Sedex or sandstone-hosted base metal mineralisation.

2.0 LOCATION and TENEMENT STATUS

EL 3689 is located about 80 km east of Adelaide, 40 km north-east of Murray Bride (Figure 2). There is excellent infrastructure servicing the district with an extensive network of roads and a regional rail line.

Exploration License 3689 was granted to Red Metal Limited on January 16, 2007 over 600 sq km. The licence area is being progressively reduced. Access permission with relevant landowners is being obtained as required.

3.0 TENEMENT GEOLOGY

The tenement occurs within the Cambrian Kanmantoo Trough southeast of Adelaide (Figure 1).

The Kanmantoo Trough comprises a thick and distinctive sequence of extensional siliclastic rift facies sediments deposited about from 526Ma to 510Ma. The basin is characterised by repetitive sandstone and shale sequences and flooding surfaces marked by the deposition of fine grained sediments in anoxic and sulfidic facies and exhalites. The onset of deformation and metamorphism (up to amphibolite facies) during orogenesis at 510 Ma appears to have remobilised and recrystallised many of the stratabound base metal occurrences in places forming gahnite and reducing the diagenetic pyrite to pyrrhotite. Syn-tectonic I-type and S-type granitoid were emplacement from 519-500Ma and with its relaxation, post-tectonic A-type magmas and mantle derived mafics were intruded at about 480-490Ma. Several stratabound base metal occurrences associated with pyrrhotite and pyrite rich shales are known in the belt. Copper mineralisation is both pre-metamorphic where it occurs infilling

shears and stringers immediately below the stratabound horizons (eg. Kanmantoo copper deposit) or syn to late metamorphic in small epigenetic veins with gold, arsenic and quartz which overprint the early base metal mineralisation (Belperio et. al. 1998).

The known stratabound base metal mineralisation and presence of rift-related sulphide facies sediments and exhalites indicate processes were active between 500 and 526Ma conducive for the deposition of a large stratabound silver-lead-zinc deposit. It is inferred that metamorphic overprint of a large stratabound sulphide body would convert the diagenetic pyrite to pyrrhotite. In addition, syn-tectonic I-type and S-type granitoids which intrude this metal rich trough have the potential to deposit significant base metal and copper skarns associated with pyrrhotite or magnetite. Metamorphosed stratabound pyrrhotite or pyrrhotite skarn formed during the orogenic event is expected to be remanently magnetised, reverse polarised and mappable as stratabound low or negative magnetic anomalies.

4.0 HISTORICAL EXPLORATION

A range of companies have carried out base metal exploration in the district including:

CRA Exploration Pty Ltd (EL's 657, 1034) in 1980-85 CSR Ltd / Thiess Bros Pty Ltd (EL 998) in 1982-87 Aberfoyle Resources Ltd (EL 1399) in 1987 BHP Minerals Ltd (EL 1732) in 1991-94 Mount Isa Mines Ltd (EL 2114) in 1995-98 Redfire Resources Ltd (EL's 2537, 2559) in 1998-2001 Yardinaro Ltd (EL 2539) in 1998-2003 BHP Billiton Pty Ltd (EL 2824) in 2001-03 Minex Australia Pty Ltd (EL 3082) in 2003-05

5.0 CURRENT EXPLORATION PROGRAM

Red Metal have reviewed the magnetic data for the Kanmantoo Trough targeting:

- 1) Low or reverse polarised magnetic stratabound anomalies indicative of very high pyrrhotite or pyrite contents and potentially associated with Sedex or sandstone-hosted base metal mineralisation;
- 2) Highs magnetic and low or reverse polarised magnetic anomalies proximal to zoned granite bodies intruding the Kanmantoo Trough with potential for basemetal-pyrrhotite skarns or copper-magnetite-pyrrhotite skarns.

6.0 CONCLUSIONS

Blocks surrendered from EL 3689 were considered to be less prospective for base metal mineralisation.



Figure 1: Kanmantoo Trough geology with base metal occurrrences



Figure 2: EL 3689 Location figure with surrendered blocks hatched



Figure 3: EL 3689 TMI image