

**EL 27267**

**ANNUAL & FINAL REPORT**

for period ending

**March 18, 2017**

**1:250,000 map sheets:** SF53-15 Illogwa Creek

**Licensee:** Red Metal Limited

G. McKay

Red Metal Limited

18 April 2017

## TENEMENT REPORT INDEX

HOLDER / OPERATOR:	Red Metal Limited
TENEMENT:	EL 27267
PROJECT:	North Illogwa Creek
REPORTING PERIOD:	March 19, 2016 to March 18, 2017
AUTHOR:	G. McKay
LATITUDE:	135° 50' to 136° 20'
LONGITUDE:	-23° 24' to -23° 47'
1:250,000 SHEET:	SF53-15 Illogwa Creek
1:100,000 SHEET:	Illogwa 6050, Jarvis 6150
MINERAL PROVINCE:	Eastern Arunta Province (Irindina Province)
COMMODITIES:	Base metals
KEYWORDS:	RAB & RC drilling

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### List of Digital Files

EL27267\_2017\_A\_01 Annual Report.pdf (This report)  
EL27267\_2017\_A\_02 Drillhole collars.txt  
EL27267\_2017\_A\_03 Drillhole assays.txt  
EL27267\_2017\_A\_04 Drillhole lithology logs.txt  
EL27267\_2017\_A\_05 Drill Log Dictionaries  
EL27267\_2017\_A\_05 FileVerificationList.txt

## **SUMMARY**

EL 27267 was acquired by Red Metal Limited to investigate airborne magnetic anomalies within the Neo-Proterozoic Eastern Arunta Province (Irindina Province), considered to have potential for copper-nickel mineralisation in a continuation of the new style of pyrrhotite copper-cobalt mineralisation discovered in the region by Mithril Resources.

The work carried out on EL 27265 during the second year of tenure included a RAB and RC drilling program of 14 holes to test the soil geochemistry and electromagnetic survey results conducted in 2015.

Assay results from the drilling program were disappointing. It was decided to surrender the tenement.

## 1.0 INTRODUCTION

This report summarises exploration activities undertaken on Exploration Licence 27267 for the first year of tenure.

## 2.0 LOCATION AND LAND USE

EL 27267 is located 230 km east of Alice Springs, east of the Harts Ranges, 60km south of the Plenty Highway (Figure 1). Access is via unsealed roads and tracks. The tenement area has low relief and sand dunes with sparse vegetation. The land is Aboriginal Freehold, owned by the Atnetye Aboriginal Land Trust.

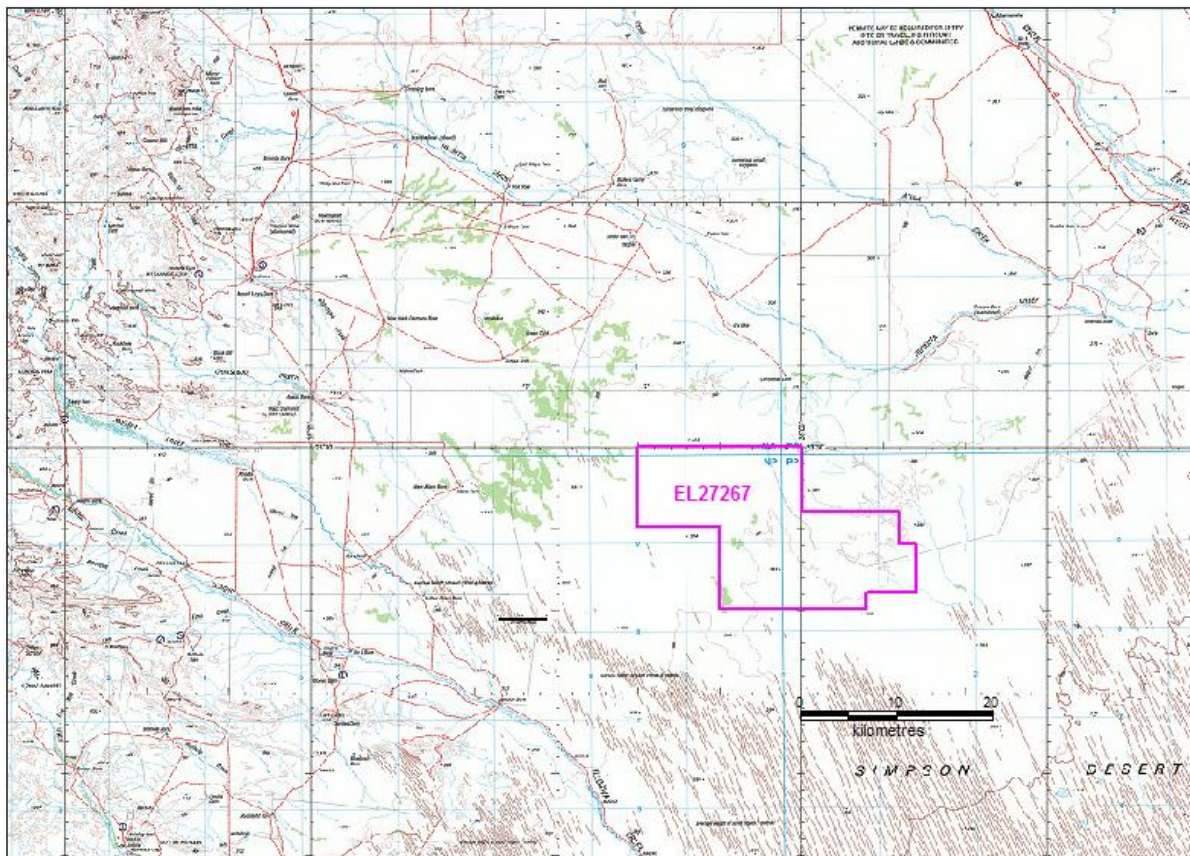


Figure 1: Tenement location on topographic sheet SF53-15

## 3.0 TENEMENT STATUS

EL 27267 was granted to Red Metal Limited over 239 blocks on March 19, 2015 for a period of six years. The tenement area was reduced to 112 blocks in March 2016.

Details of EL 27267 are shown in Table 1.

**Table 1 - Tenement Details**

TENEMENT	HOLDER	GRANTED	SURRENDERED	Blocks
EL 27267	Red Metal Limited	Mar 19, 2015	Mar 18, 2017	112

#### 4.0 GEOLOGY

The tenement is located within the Neo-Proterozoic to Cambrian rift sequence referred to as the Irindina Province and the Paleo-Proterozoic Aileron Province which underlies. Shallow Quaternary sediments cover most of the area (see Figure 4).

The area was considered by Red Metal to have potential to host intrusive-style copper-nickel mineralisation.

The Aileron Province is a 1740-1860Ma high-metamorphic grade meta-sedimentary dominant terrain. Garnet pelites, psammites and quartzites, interbedded mafic granulites and calcsilicate-rich rocks, quartz-magnetite horizons, rare marbles and deformed igneous rocks including mafic amphibolite, meta-gabbro and granitoids occur throughout the province. A less common felsic volcanoclastic horizon was dated at 1771Ma. The Aileron Province is considered prospective for stratabound and strataform massive base metal deposits comparable with the Jervois, Home of Bullion, Utnalanama, Oonagalabi types as well as gold-tungsten skarns.

The Irindina Province is a highly metamorphosed deep water clastic metasedimentary terrain dominated by garnet- and biotite-rich  $\pm$  sillimanite psammo-pelitic schists with localised marbles, calcsilicate rocks and quartzite. Large volumes of mafic amphibolite are intercalated with the metasediments. The Irindina Province is in fault contact with the underlying Aileron province. Along Geoscience Australia seismic traverse 09GA-GA1, across the eastern Arunta terrain, the Irindina Province is shown to be approximately 10km thick and underlain by large detachment faults that extend to the mantle. The detachments express themselves at surface as the Basil Shear Zone (BaF) and Bruna Detachment (BrD). A geological section along the seismic line is shown in Figure 3.

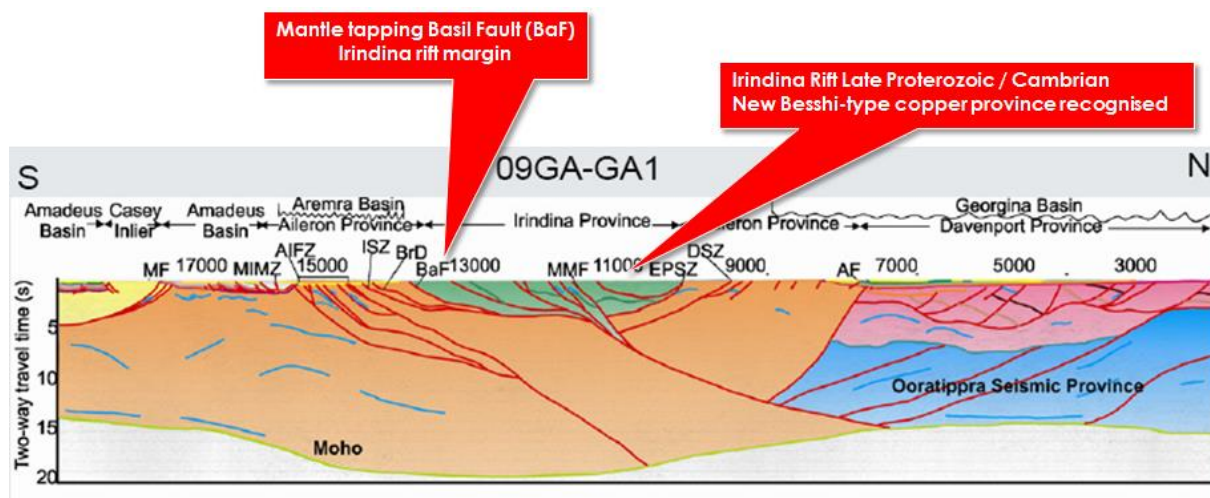


Figure 2: Seismic section interpreted by Geoscience Australia for the Eastern Arunta deep seismic transect. Interpretation highlights the Basil Fault (BaF), which hosts the Basil copper-cobalt-silver mineralisation, is located within a deep mantle tapping structure.



Later magmatic intrusions include a 525-515Ma suite which comprises felsic and mafic rocks and the 460-400Ma Lloyd Gabbro which consists of olivine bearing-gabbro and gabbro-norite. The Lloyd Gabbro bodies have a distinctive remnant magnetic signature and host Cu-Ni sulphides at the Baldrick and Blackadder prospects.

Recent age dating has produced a significant revision of the tectonothermal history of the region. U-Pb and Sm-Nd geochronological studies suggest that sediments and igneous rocks of the Irindina Province represent a rift sequence that was ‘deposited’ during the late Neoproterozoic to Cambrian and was metamorphosed to granulite facies in an extensional setting during the early Ordovician Larapinta Event (480–460 Ma). The Larapinta Event is divided into an early peak metamorphic event at 475 Ma, and a subsequent retrograde event at 460 Ma that was associated with the formation of a near-pervasive flat-lying fabric. Pressure - temperature conditions for peak metamorphism during the Larapinta Event have been estimated at around 800°C and 8 to 12 kbar from several locations. These peak metamorphic pressures suggest burial depths of 30 to 35 kilometres.

The Irindina Province was subsequently exhumed during the Alice Spring Orogeny between 450 and 300Ma.

Prospective, crystalline basement rocks of the Irindina Province are overlain by Late Jurassic to Cretaceous sedimentary rocks particularly towards the southeast. Remnants of Cainozoic sedimentary strata can overlay the basement or Cretaceous sequences but are poorly preserved. Unconsolidated Quaternary fluvial sediments and aeolian dune sands of the Simpson Desert cover a large portion of the terrain.

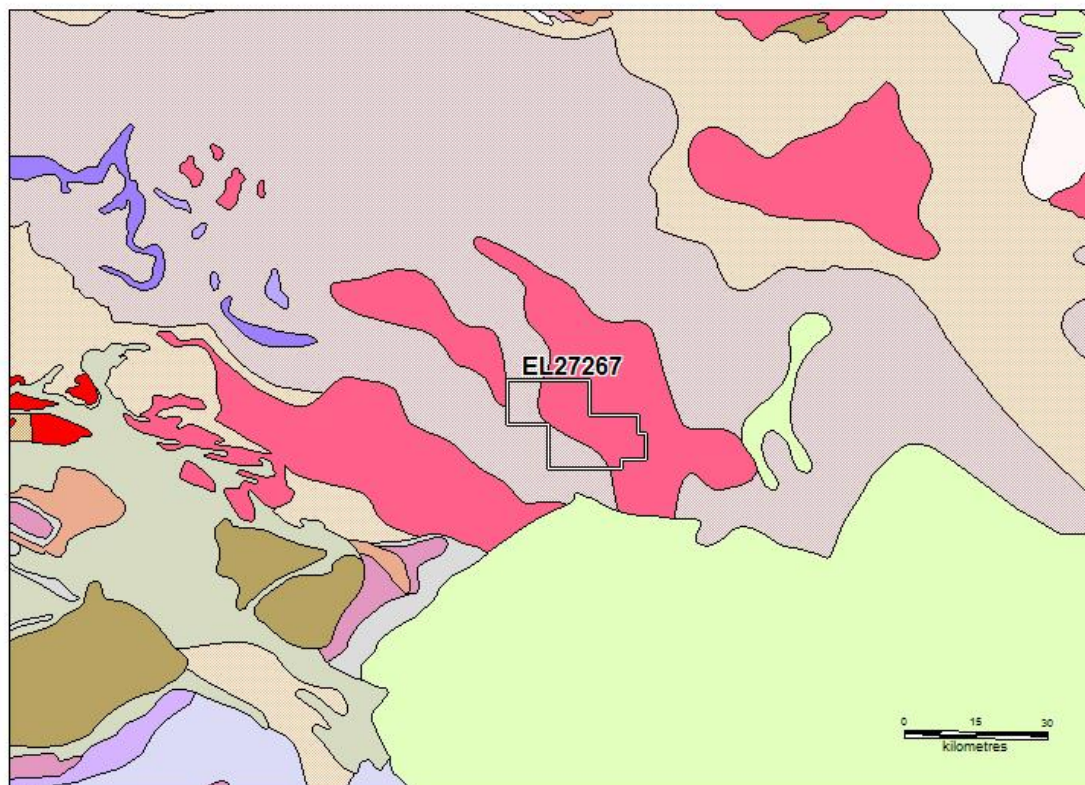


Figure 3: regional geology

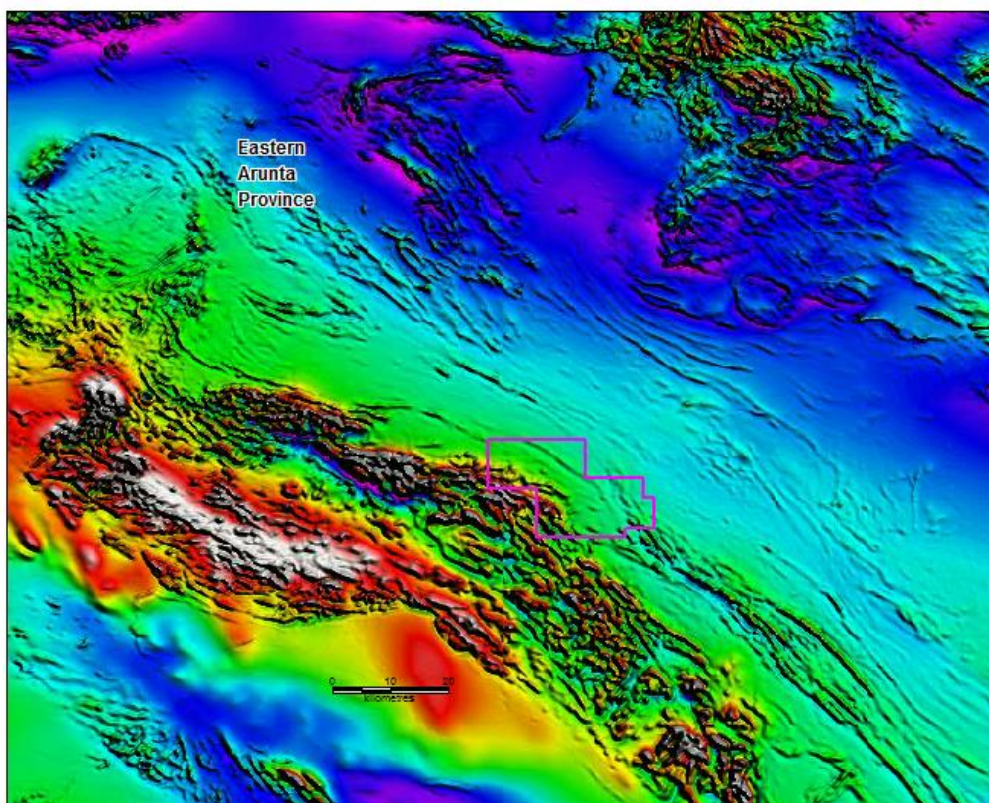


Figure 4: regional magnetic image

## 5.0 HISTORICAL EXPLORATION

Previous companies which conducted exploration in the vicinity of EL 27267 are shown below.

**Table 2 – Previous Exploration Companies**

<b>Licence</b>	<b>Years</b>	<b>Company</b>	<b>Target</b>	<b>Summary</b>
7179	Dec90-Jan02	BHP Minerals	Base metals	Soil & stream sed sampling, SIROTEM on mag anomalies, RC drilling mag anomalies.
8861	Nov94-Dec95	Poseidon Gold	Ultramafic PGM & gold	RAB drilling on previous BHP anomalies
8093	1994-1996	Roebuck Resources	Base metals	Soil & rock sampling, percussion drilling. Anomalous Cu & Ni.
23901, 23902	2005	Mithril Resources	Nickel	Historical review. Modelling magnetics. No targets defined.
23996, 23997, 24000	2006-2007	BHP Billiton	IOCG copper-gold	Airborne gravity survey, ground gravity follow-up, diamond drilling of six targets. No significant results.



## 6.0 EXPLORATION PROGRAM

Drilling was conducted by DRC Drilling Pty Ltd in August 2016 across the soil sampling and EM lines from 2015 programs. Twelve RAB and two RC holes were completed (Table 3 and Figure 5). Depths to bedrock were between 10 and 74 metres. Metasediment lithologies intersected included graphitic black shale. Assay results from 227 samples submitted to Genalysis Laboratories were disappointing and it was decided to discontinue exploration.

**Table 3 – Drillhole Summary**

hole_ID	hole_depth	E_MGA53	N_MGA53	collar_rl	azim_collar	dip_collar
IRRAB01	48	595399	7389302	325	0	-90
IRRAB02	48	595401	7389198	326	0	-90
IRRAB03	23	595401	7389101	326	0	-90
IRRAB04	30	595400	7389001	327	0	-90
IRRAB05	36	595421	7388902	327	0	-90
IRRAB06	24	595418	7388799	327	0	-90
IRRAB07	36	595395	7388694	327	0	-90
IRRAB08	35	595400	7388601	327	0	-90
IRRAB09	39	595402	7388497	328	0	-90
IRRAB10	42	595404	7389493	325	0	-90
IRRAB11	56	595417	7389698	324	0	-90
IRRAB12	78	595391	7389893	324	0	-90
IRRC01	246	595401	7391957	326	0	-90
IRRC02	150	595399	7391294	325	0	-90

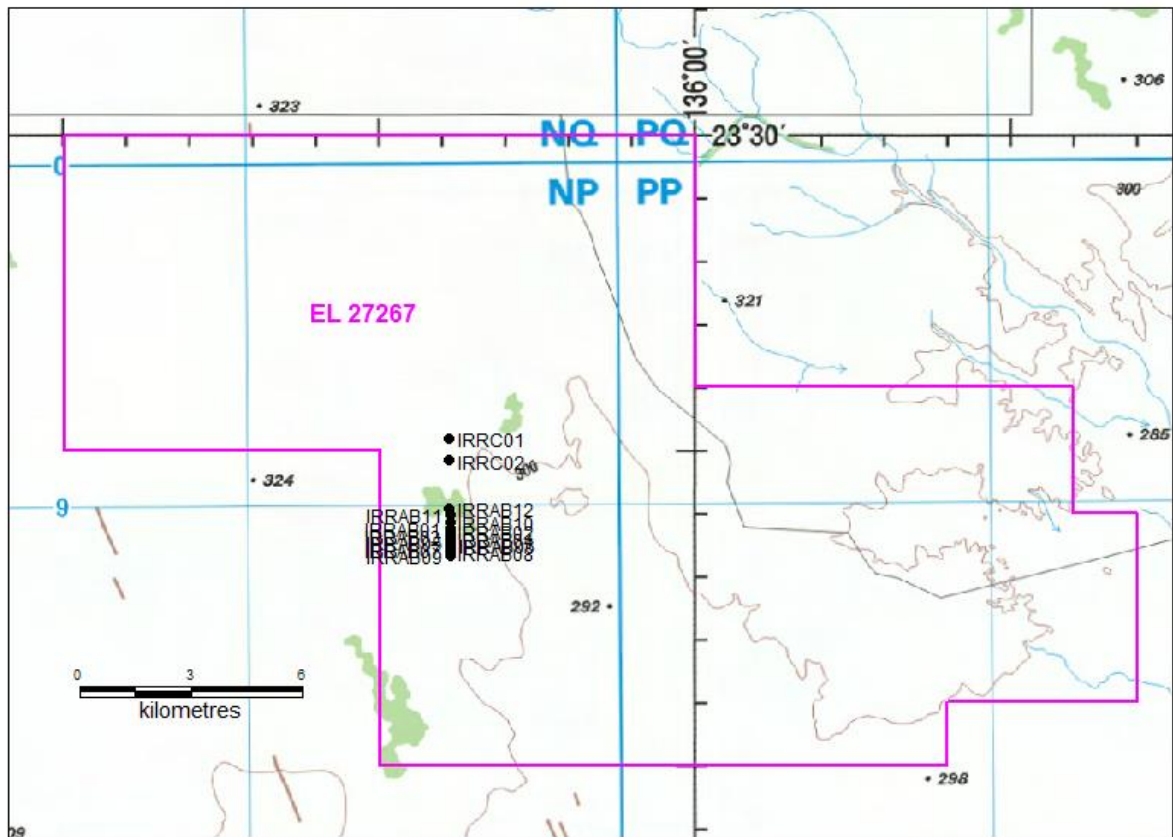


Figure 5: Drillhole locations

## 7.0 CONCLUSIONS

EL 27267 was acquired to investigate the potential for intrusive-related copper-nickel mineralisation in a continuation of the new style of pyrrhotite copper-cobalt mineralisation discovered in the region by Mithril Resources.

Assay results from the RAB drilling program over previous soil geochemistry and EM anomalies were disappointing. It was decided to surrender the tenement.

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