Open File Envelope No. 11,397

EL 3077

UMBUM CREEK

FIRST PARTIAL SURRENDER REPORT FOR THE PERIOD 16/4/2003 TO 15/4/2005

Submitted by
Red Metal Ltd
2006

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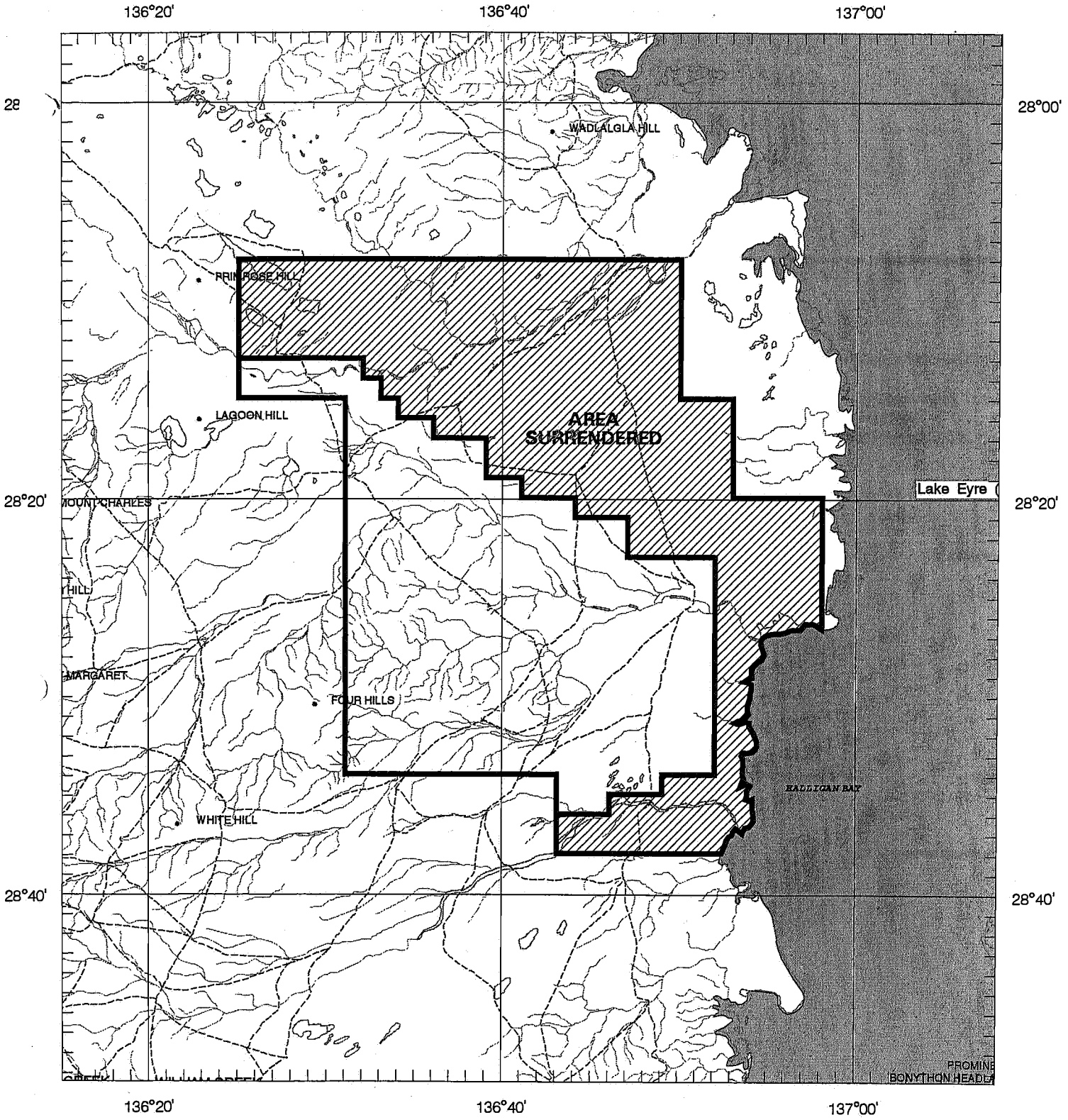
Government of South Australia
Primary Industries and Resources SA

SCHEDULE A



SCALE 1: 500 000

KILOMETRES 10 0 10 20 30 40 50 KILOMETRES

LICENCE GRANTED IN : DATUM AGD66

GDA GEOCENTRIC DATUM OF AUSTRALIA

APPLICANT : **RIO TINTO EXPLORATION PTY LTD, BHP BILLITON MINERALS PTY LTD**

FILE REF : **163/02** TYPE : **MINERAL ONLY** AREA : **1007** km² (approx.)

1:250000 MAPSHEETS : **WARRINA LAKE EYRE**

LOCALITY : **UMBUM CREEK AREA - Approximately 160 km southeast of Oodnadatta**

DATE GRANTED : **16-Apr-2003** DATE EXPIRED : **15-Apr-2005** 2006 EL NO : **3077**

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EL 3077 Partial Surrender Report for the Period Ending 15 April 2005

Peake and Denison Joint Venture

Warrina SH54-03, Lake Eyre SH53-04 South Australia

Tenement Holder:	Rio Tinto Exploration Pty Limited (RTE) BHP Billiton Minerals Pty Ltd (BHPB)
Date:	March 2006
Author:	G McKay, Red Metal Limited
Distribution:	PIRSA Minerals & Energy Resources BHP Billiton - Perth RTE - Perth Phelps Dodge Australasia, Inc. - Brisbane

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For Surrendered Gravity Data please see Envelope 11253

1 INTRODUCTION

This report summarises work conducted on the surrendered portion of EL 3077 from grant as EL 2509 on 16/4/1998 until the partial surrender of EL 3077 on 15/4/2005. EL 3077 replaced EL 2509 on 16/4/2003. The tenement area of 2,048 sq km was reduced to 1,007 sq km on 15/4/2005.

EL 3077 is located on the western margin of Lake Eyre in northern South Australia, midway between the townships of Oodnadatta and William Creek, on the Warrina SH53-03 and partly on the Lake Eyre SH53-04 1:250000 map sheets. Access is via station tracks north from William Creek and east from the Peake homestead via the Oodnadatta Track. The tenement area is the subject of a Native Title claim by the Arabunna People (Claim SC98/002).

2 TENURE

Originally granted to BHP Minerals Pty Ltd as EL 2509 on 16/4/1998, Rio Tinto Exploration Pty Ltd joint ventured into the licence in 1999 along with other tenements in the Peake-Denison area. BHP Billiton Minerals (BHPB) and Rio Tinto Exploration (RTE) are the current title holders. In November 2003 a joint venture was signed between the current holders and Phelps Dodge Australasia Inc, with Red Metal Limited acting as operator on behalf of Phelps Dodge.

Native title cultural heritage clearances were carried out before field work commenced.

3 TARGET

The exploration target is Proterozoic copper-gold ironstone-hosted deposits on the north-east margin of the Peake and Denison Inliers. The highly magnetic terrain of the Peake and Denison area is of similar size and intensity to the Olympic Dam magnetic terrain on the Sturat Shelf. The principal target is Olympic Dam style iron-oxide copper-gold ore systems.

4 HISTORY

Historical mining in the area is confined to the Peake and Denison Inliers where outcropping Palaeoproterozoic through Neoproterozoic metamorphic sediments, volcanics and intrusives host copper oxide mineralisation in structurally controlled quartz-haematite veins and haematite breccia pipes. Dozens of small pits and shafts have been mined through the late 1800's and early 1900's with grades averaging 4% Cu reported from the Copper Top Mine near the Peake Station.

During 1974 Chevron Exploration Corporation held much of the present day Peake & Denison project area under Exploration Licence 22 (Lagoon Hill). Activities were focused on uranium exploration and concluded with an 18-hole mud rotary drilling programme, which was abandoned with little success.

Over the period 1978 to 1980, Dampier Mining conducted ground magnetic and mapping traverses over key magnetic complexes within the area, concluding in two holes (WLE 1 & WLE 2) being drilled. No significant mineralisation was encountered.

BHP Minerals Pty Ltd held tenements in the area in 1978-80 and completed ground magnetic and gravity traverses over selected magnetic complexes. Their work resulted in the drilling

of one hole (WLE1a) into a large gravity/magnetic anomaly which intersected an altered unmineralised calc-silicate rock at 295.4 metres.

CRA Exploration Pty Ltd held tenements around Spring Hill and Mt Charles in the early 1990's. Work activities included stream sediment and gravel sampling, airborne geophysical surveying and gravity surveying.

5 GEOLOGY

The project area is located on the rifted northeast margin of the Gawler Craton within the northwest extension of the Adelaide Orogenic Belt, midway between the Musgrave Block and Curnamona Craton.

The project area incorporates and surrounds a series of Proterozoic inliers correlated with formations on the eastern Eyre Peninsula of the Gawler Craton, though similarities also exist with the geological, structural, and metallogenic evolution of the Mt Isa Inlier in Queensland and the Olary Domain of the Curnamona Craton.

Palaeoproterozoic (1800-1780 Ma) basement lithologies are exposed within the inliers as large enclaves surrounded by Neoproterozoic "diapiric" breccias and further to the east as isolated exposures at Spring Hill, Mt Charles, Lagoon Hill and Milne Springs. These basement rocks are dominated by interlayered metabasalt and quartzite with subordinate porphyritic rhyolite, granite, phyllite, schist and calcsilicate.

A second volcano-sedimentary cycle is recognised at 1750-1740 Ma equated with the Wallaroo Group of the Northern Yorke Peninsula. These rocks comprise felsic metavolcanics, quartz-feldspar schist, gneiss, calcsilicate and quartzite.

Anorogenic felsic plutonism around 1530 Ma is evident within the inliers but is restricted to an occurrence of massive to coarse-grained granite and aplite dykes at Lagoon Hill. The age of these intrusives is important and provides evidence for potential fluid/metal sources with a spatial and temporal relationship to known IOCG mineralising events.

Metamorphic grade varies across the project area from lower greenschist to upper amphibolite facies, the timing of which is poorly constrained due to overprinting by Musgravian (1100 Ma) and Delamerian (500 Ma) Orogenies. The preferred age however is probably around 1690 Ma.

Mesozoic sediment cover of the Eromanga Basin largely conceals metamorphic basement to the east and west of the inliers. The Late Jurassic–Early Cretaceous marginal basin sequence exposed in the area comprises a fining up sequence including the basal Algebuckina Sandstone, Cadna-Owie Formation and Bulldog Shale.

Tertiary gibber lag, gypsiferous clays, alluvial gravels, silts/clays, aeolian dune sands, lacustrine and mound spring deposits overlie the Mesozoic sediments and dominate the surficial cover away from the inliers.

6 EXPLORATION SUMMARY 1998-2003

During the first year of tenure of EL 2509, BHP Minerals conducted a regional gravity survey within the relinquished area (Figure 3).

The gravity survey was carried out over the Peake and Denison area during July/August 1998 by Haines Surveys in order to help generate targets for drilling. Stations were surveyed at 1km spacing. A large part of EL 3077 was covered by this survey.

The resultant bouguer gravity data shows a strong correlation between magnetic and gravity anomalies reflecting the nature of the dense and magnetic Proterozoic basement.

During 1999-2003, work concentrated on the eastern tenements of the Peake-Denison joint venture and no field work was conducted on EL 2509. A farm-in partner was sought and Phelps Dodge Exploration Australia Pty Ltd joined in late 2003.

7 CURRENT EXPLORATION

EL 2509 expired on 15/4/2003 and was replaced by subsequent EL 3077 over the same area. EL 3077 was reduced to 1,007 sq km on 15/4/2005. No field work was conducted in the surrendered area.

8 CONCLUSIONS

The surrendered area of EL 3077 is of no further interest to the licence holders.

9 BIBLIOGRAPHY

- EL 2509 Umbum Creek, Annual Report for period ended 15th April 1999 – White, M; Loftus, K; BHP Minerals Pty Ltd.
- Annual Report for period 1 January 2000 to 31 December 2001 Peake and Denison Joint Venture, EL's 2509, 2549, 2557, 2596, 2620 – Palmer, DC; Grant, TW; Chapman, RN; Rio Tinto Exploration Pty Ltd.
- Final Report for the Period Ending 15th April 2003, EL 2509 Umbum Creek, Peake and Denison Farm-In and Joint Venture Copper-Gold Programme, South Australia – Bishop, SR; Rio Tinto Exploration Pty Ltd.

DESCRIPTOR

This is the Partial Surrender Report for the period ending 15 April 2005 for EL 3077 granted 16 April 2003 and its predecessor EL 2509 granted 16/4/1998.

KEYWORDS

EM Survey, Copper, Gawler Craton, Gold, Gravity Survey, Ground Magnetic Survey, Hematite, Iron oxide, IP Survey, Magnetite, Peake and Denison Inliers, Proterozoic.

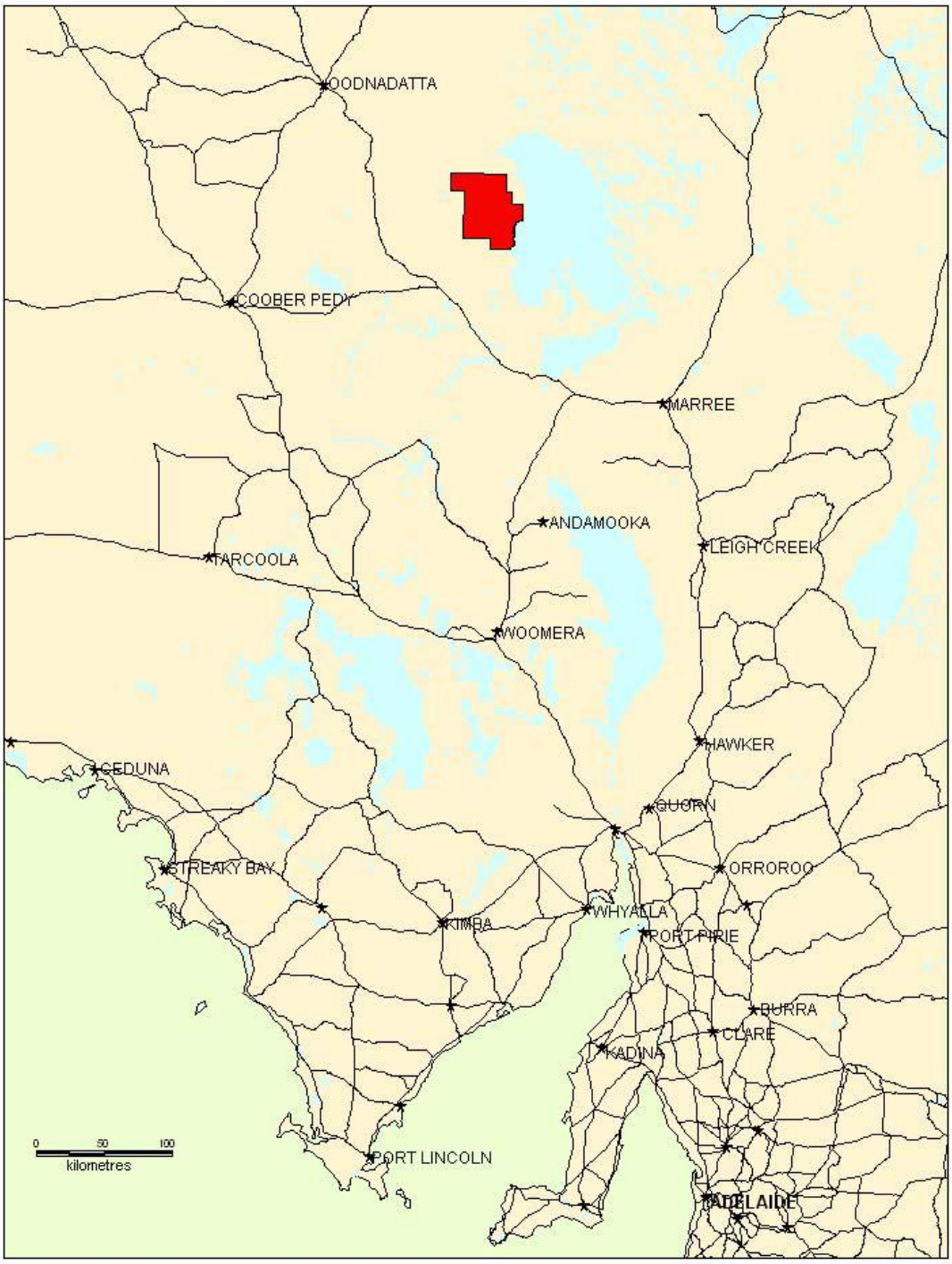

Figure 1: EL 3077

Regional location

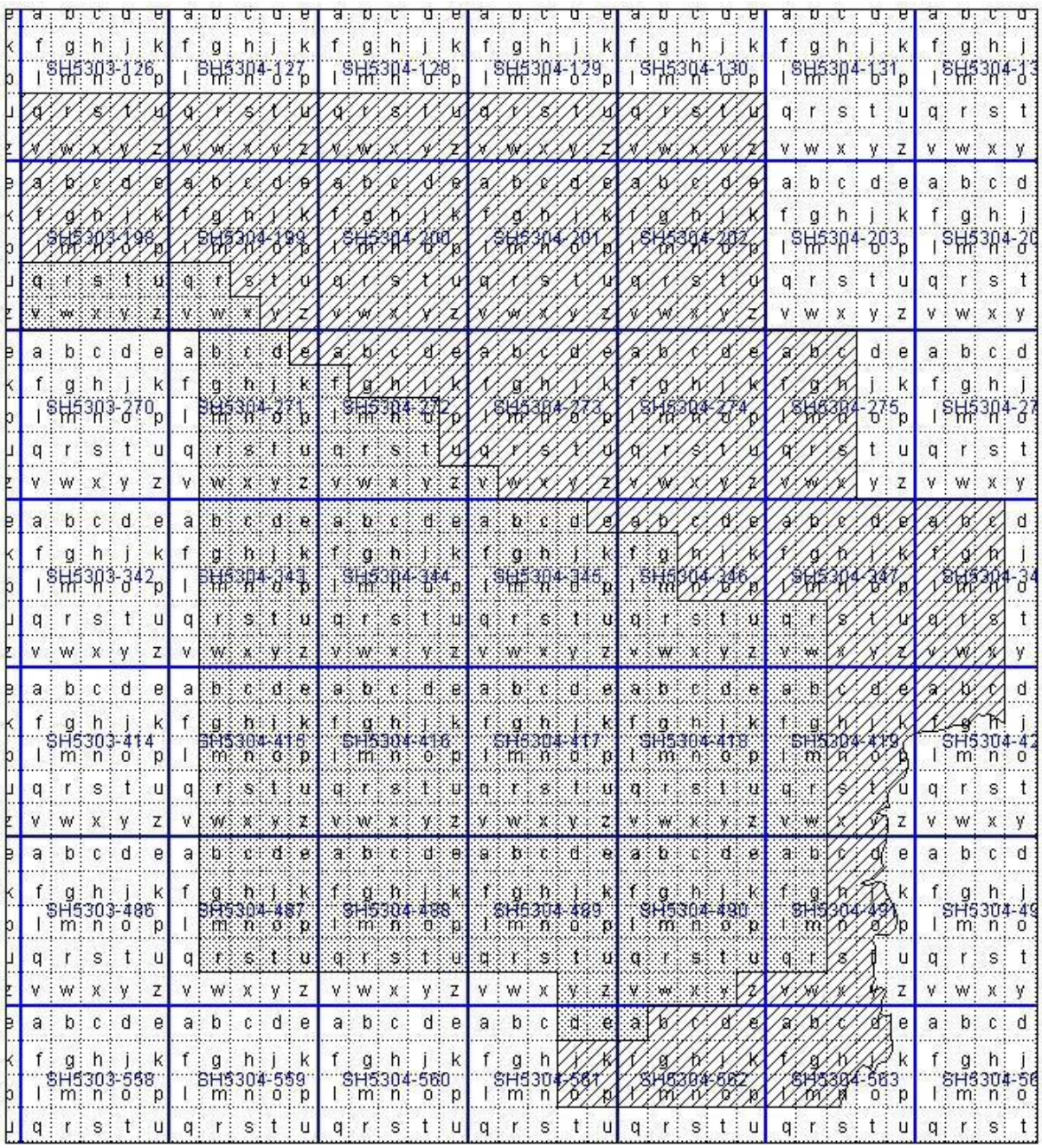

Figure 2: EL 3077

Retained area stipled
Surrendered area hatched

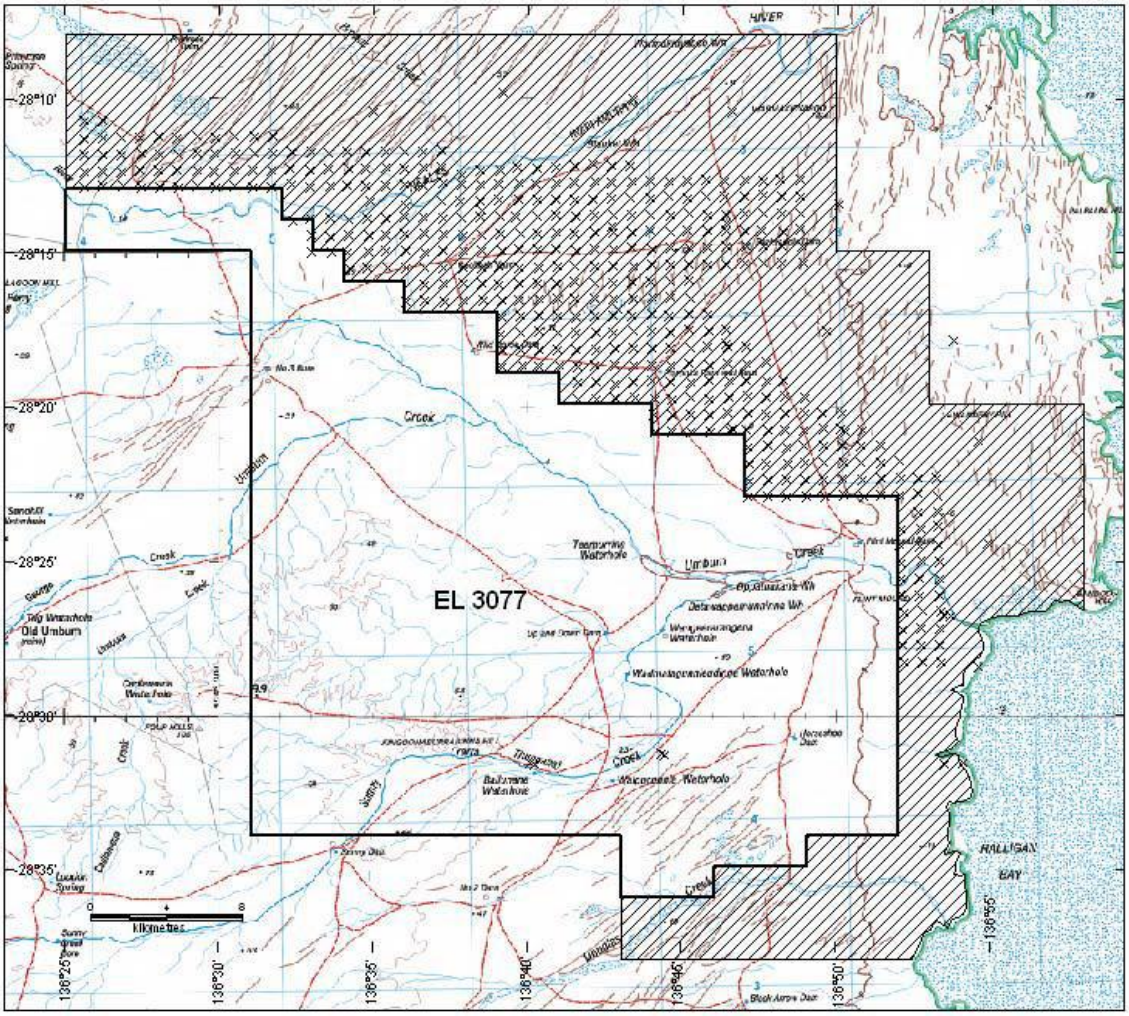

Figure 3: EL 3077

Surrendered area with gravity stations