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**EL 3592** 

## TIN HUT

## ANNUAL REPORTS TO LICENCE EXPIRY/SURRENDER, FOR THE PERIOD 5/7/2006 TO 4/7/2011

Submitted by
Minotaur Operations Pty Ltd and Trafford Resources Ltd
2011

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Enquiries: Customer Services

Resources and Energy Group

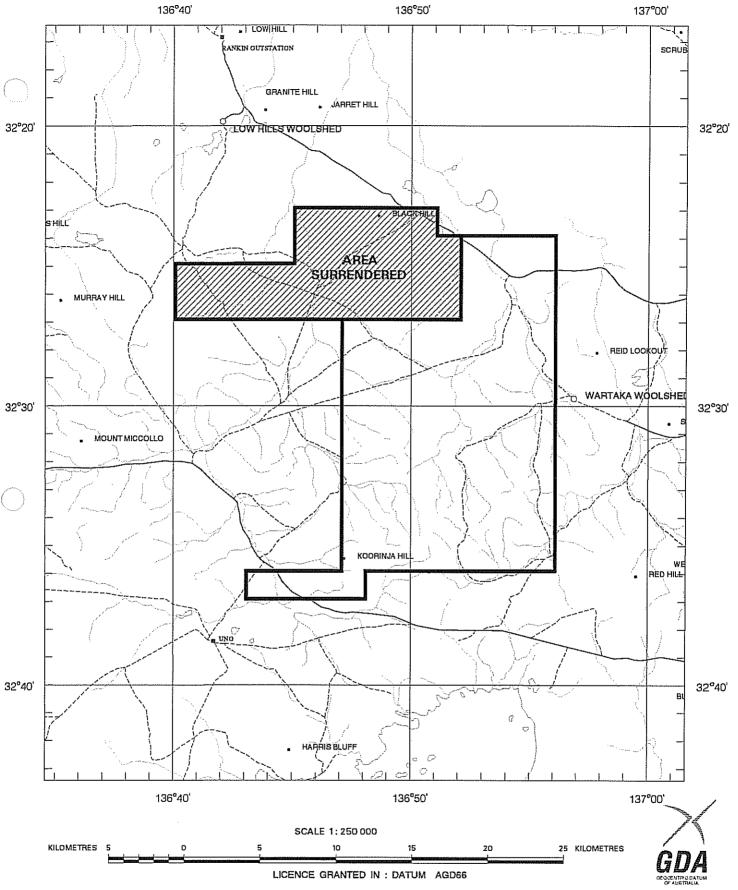
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101 Grenfell Street, Adelaide 5000

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## SCHEDULE A



APPLICANT: MINOTAUR OPERATIONS PTY LTD

FILE REF: 765/05 TYPE: MINERAL ONLY

AREA: 284 km² (approx.)

1:250000 MAPSHEETS: PORT AUGUSTA

LOCALITY: TIN HUT AREA - Approximately 80 km west of Port Augusta

DATE GRANTED: 05-Jul-2006 DATE EXPIRED: 04-Jul-2007 EL NO: 3592



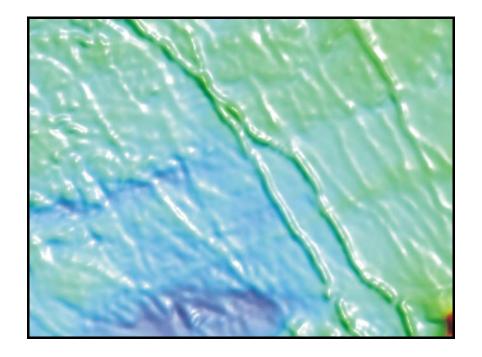
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#### **ANNUAL TECHNICAL REPORT**

## EL 3592 TIN HUT SOUTH AUSTRALIA

## FOR YEAR ENDING 4th JULY 2007



R.B. Flint J.M. Godsmark P.M. Coleman



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## **ANNUAL TECHNICAL REPORT**

## EL 3592 TIN HUT SOUTH AUSTRALIA

## FOR YEAR ENDING 4th JULY 2007

R.B. Flint J.M. Godsmark P.M. Coleman

#### November 2007

#### **SUMMARY**

Exploration activities undertaken during the past 12 months included;

- · Merging, processing, evaluating PIRSA regional gravity data,
- Assessment of tenement for potential to host IOCG mineralisation,
- Joint Venture negotiations.

MAP REFERENCE: 1:250 000 PORT AUGUSTA (SI 53-4)

MAP REFERENCE: 1:100 000 Horseshoe (6233) and Uno (6232)

DISTRIBUTION: PIRSA

MINOTAUR EXPLORATION LTD

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#### 1.0 INTRODUCTION

The eastern margin of the Gawler Craton is widely recognised as containing pervasive regional alteration systems and a high potential for iron-oxide Cu–Au (IOCG) mineralisation. Minotaur Operations targeted the area west and northwest of Port Augusta, where the existing gravity coverage is less than desirable, to adequately appraise the region's potential for IOCG-style deposits.

Minotaur is currently operator and manager for a number of exploration licences in this area, including EL 3592 (Tin Hut). This report represents the first annual technical report for EL 3592 which is situated on the eastern margin of the Gawler Ranges Volcanic Province on the central portion of the Gawler Craton, central South Australia. The 391 km<sup>2</sup> area of tenure was granted to Minotaur Operations on the 5<sup>th</sup> July 2006 for an initial period of 12 months.

EL 3592 is located ~85 km due west of Port Augusta between the Stuart and Eyre Highways, northwest of Iron Knob and 35 km west of Carriewerloo Homestead (Figure 1). The tenement area is evenly divided by the Siam and Wartaka pastoral properties used primarily for sheep grazing.

Mesoproterozoic Gawler Range Volcanics outcrop within the tenement boundary and are covered, in part, by Pleistocene and Quaternary alluvial sediments.

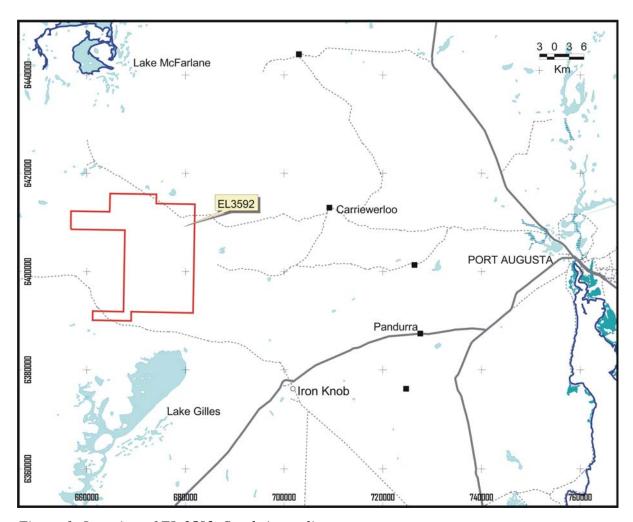


Figure 1: Location of EL 3592, South Australia

#### 2.0 REGIONAL GEOLOGY

During the Mesoproterozoic, widespread anorogenic magmatism across the central and eastern portions of the Gawler Craton resulted in voluminous outpourings of the Gawler Range Volcanics, intrusion of Hiltaba Suite granite, emplacement of minor gabbroic plugs and development of Cu-Au +/- U mineralisation at Olympic Dam and Prominent Hill and Au-only mineralisation at Tunkillia and Tarcoola (Blissett *et al*, 1993; Flint, 1993; Fairclough *et al.*, 2003).

Dacites and rhyodacites of the Gawler Range Volcanics (GRV), including the Nonning Rhyodacite and Eucarro Dacite of the Lower GRV and the Yardea Dacite of the Upper GRV, dominate EL 3592 (Figure 2). These dacite-rhyodacite units are characterised by phenocrysts of plagioclase  $\pm$  K-feldspar  $\pm$  clinopyroxene  $\pm$  hornblende. The tenement is partially covered

by Pleistocene sediments, including the clay, sands and carbonate earth with gravel lenses of the Pooraka Formation.

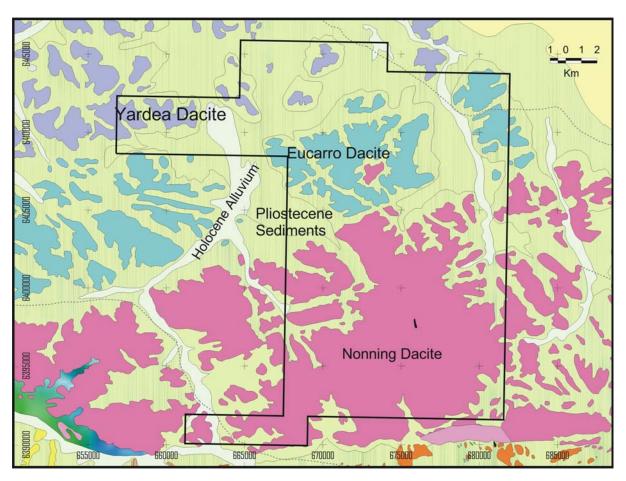


Figure 2: Regional geology for EL 3592 with exposures of Gawler Range Volcanics (PIRSA data)

Intruding the Gawler Range Volcanics is a series of thin NW-trending dolerite dykes (Figure 3) of the Neoproterozoic Gairdner Dyke Swarm emplaced during a major phase of crustal extension and initiation of rifts within the Adelaide Geosyncline (Cowley and Flint, 1993). Two major dykes can be seen as linear magnetic features within the regional aeromagnetic data (Figure 4).

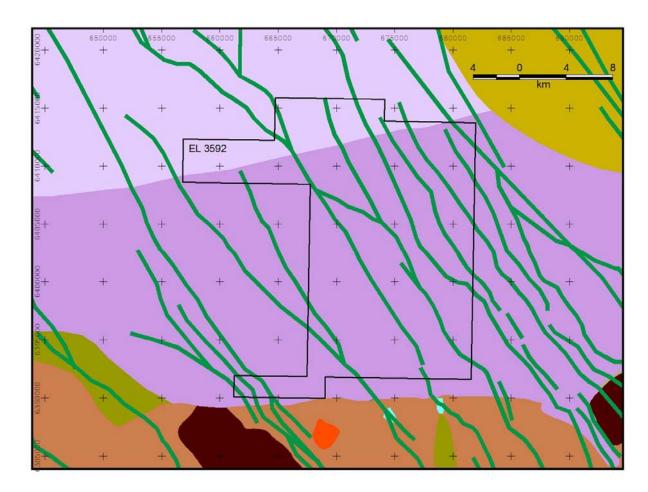


Figure 3: Interpreted basement geology for EL 3592 showing the Upper and Lower Gawler Range Volcanics (pale purple and purple respectively) and Gairdner Dyke Swarm (green) (Cowley, 2006)

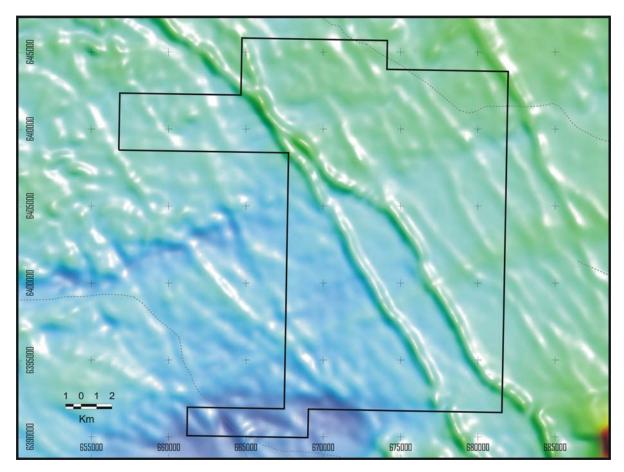


Figure 4: Reduced to pole TMI image for EL 3592 (PIRSA data)

## 3.0 PREVIOUS EXPLORATION HISTORY

PIRSA Env No.	Company	EL number	Period Licence Held	Exploration Targets	Work Completed/Results
4215	BHP Minerals, Dampier Mining	EL 790	12/02/80- 12/02/83	Cu, Pb, Zn, Ni, Co, Nb	<ul> <li>Stream gravels were sampled through the centre of the EL 3592 area and examined for kimberlite indicator minerals. No anomalous results.</li> <li>An aeromagnetic survey was flown in July 1981with 300m spacings in an E-W direction (80m high). Primary aim was to test the potential for kimberlites potential for base metals as a subsidiary interest.</li> <li>27 anomalies were selected from the aeromagnetic data for drill testing for kimberlites. Ground magnetics and geological reconnaissance further delineated 11 sites. The remaining 16 anomalies were drilled with 37 hammer/rotary holes, one of which was in the far NW of EL 3592. The results of all drill holes were negative for kimberlites.</li> </ul>
8287	Pondray, Perilya Mines, Noranda, Placer Exploration	EL 1532	26/10/88 – 25/10/91	Cu, Pb, Zn, Au	<ul> <li>Placer Exploration undertook a ground magnetic survey and shallow auger sampling to evaluate the potential for base metal (Broken Hill style) mineralisation north of Lake Gilles (far south margin of EL 3592)</li> <li>A total of 5 ground lines for ground magnetic surveying were pegged to cover major magnetic trends in the existing aeromagnetic data: Line 5 bordered the south of EL 3592.</li> <li>Ground magnetic data and total magnetic intensity profiles were gathered</li> <li>Line 5 ground magnetic results revealed high magnetic spikes from a shallow source. Geochemical analysis showed the magnetic and iron-rich zones to be Pb and Cu-Zn anomalies</li> <li>Soil sampling along the line gave better results than auger drilling with broader zones and some evidence of dispersion of anomalism detected.</li> </ul>

8818	Aberfoyle Resources	EL 1855	09/08/93 – 08/08/95	Au, Ag, Zn, Cu, Pb	<ul> <li>Interpretation of aeromagnetic and gravity data over EL 3592 were undertaken revealing NW striking dykes of the Gairdner Dyke Swarm, many structural features and NE trending linear magnetic trends</li> <li>Airphoto analysis of the TMI data revealed a circular anomaly with a radial fracture set in the SE of EL 3592, interpreted to be a Gawler Range Volcanic vent</li> <li>Ground checking of this anomaly was completed in early 1994 and revealed a homogenous brick-red porphyritic Gawler Range Volcanics rhyolite outcropping extensively on the margins of the anomaly. The centre of this anomaly was covered in colluvium and the margins also had concentric joint/fracture sets present. This ground checking justified the volcanic vent but drilling would be required to geochemically sample the contents of the core.</li> </ul>
9398	Acacia Resources	EL 2321	28/4/98 – 29/4/99	Cu, Au, Pb, Zn	<ul> <li>An interpretation of the underlying geology using aeromagnetics and gravity geophysical data was undertaken</li> <li>Geological reconnaissance to ground check several areas of interest delineated in the geological interpretation and to assess the suitability of the area for calcrete sampling</li> <li>Rockchip sampling was conducted in east of EL 3592, but returned poor results, generally all below 0.05ppm Au. Base metal results were also quite low except where there was quartz veining at major fault intersections</li> </ul>

#### 4.0 EXPLORATION COMPLETED IN THE CURRENT PERIOD

The eastern margin of the Gawler Craton is widely recognised as containing pervasive regional alteration systems and Minotaur Operations is involved in exploring a substantial area of tenure west and northwest of Port Augusta where a high potential exists for IOCG mineralisation. EL 3592 (Tin Hut) was acquired in 2006 by Minotaur Operations in order to assess the potential of the licence area this style of mineralisation.

#### 4.1 Gravity

Exploration work on EL 3592 commenced with merging the PIRSA gravity data over the tenement area with proximal Minotaur gravity data sets. Processing of the merged gravity data further facilitated assessment of the area for IOCG targets.

No gravity features of sufficient tenor were highlighted by processing the gravity data (Figures 5–6) and as a result no field work was undertaken on EL 3592 in the twelve months ending 4<sup>th</sup> July 2007.

The absence of any significant positive gravity anomalies has downgraded the perceived potential for iron oxide hosted mineralised bodies within the tenement area.

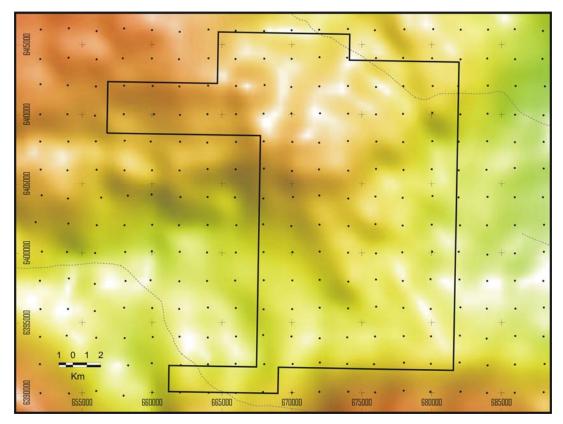


Figure 5: Bouguer gravity image and gravity stations for EL 3292 (PIRSA data)

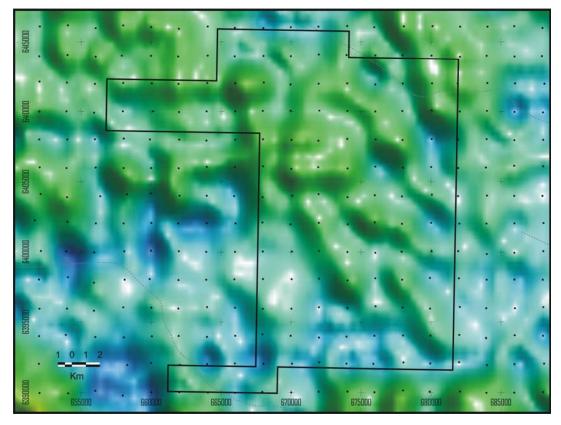


Figure 6: 1VD gravity image and gravity stations for EL 3592 (PIRSA data)

## 4.2 JV negotiations

The lack of perceived potential for IOCG deposits on EL 3592 lead to a decision to farm-out mineral exploration on the tenement. Joint venture negotiations have been undertaken with interested parties during the current reporting period, though to date, a joint venture agreement has not yet been finalised.

#### 5.0 EXPENDITURE

Total expenditure for activities on EL 3592 (Tin Hut) for the period ending 4th July 2007 was \$6,321.15 with details outlined below. This being the first year of the tenement, then actual expenditure also represents the accumulated total expenditure for the tenement.

Expenditure item	Period ending 4 <sup>th</sup> Jan 2007 A\$	Period ending 4 <sup>th</sup> July 2007 A\$	Annual total A\$
Application/ fees/ rental	0.00	76.50	76.50
Computing/ maps/ data	100.00	0.00	100.00
Salaries	4,250.00	1,320.00	5,570.00
Admin overheads (10%)	435.00	139.65	574.65
TOTAL	\$4,785.00	\$1,536.15	\$6,321.15

*Table 1: Expenditure summary for EL 3592 for the period ending 4<sup>th</sup> July 2007* 

#### 6.0 REFERENCES

- Blissett, A.H., Creaser, R.A., Daly, S.J., Flint, R.B. and Parker, A.J., 1993. Gawler Range Volcanics. *In:* Drexel, J.F., Preiss, W.V. and Parker, A.J. (Eds), The geology of South Australia. Vol. 1, The Precambrian. *South Australia. Geological Survey. Bulletin*, 54:107–124.
- Cowley, W.M., 2006. Solid geology of South Australia. South Australia. Department of Primary Industries and Resources. Mineral Exploration Data Package, 15, version 1.1.
- Cowley, W.M. and Flint, R.B., 1993. Epicratonic igneous rocks and sediments. *In:* Drexel, J.F., Preiss, W.V. and Parker, A.J. (Eds), The geology of South Australia. Vol. 1, The Precambrian. *South Australia. Geological Survey. Bulletin*, 54:142–147.
- Fairclough, M.C., Schwarz, M.P. and Ferris, G.M., 2003. Interpreted crystalline basement geology of the Gawler Craton. *South Australia. Geological Survey. Special Map*, 1:100 000.
- Flint, R.B., 1993. Mesoproterozoic. *In:* Drexel, J.F., Preiss, W.V. and Parker, A.J. (Eds), The geology of South Australia. Vol. 1, The Precambrian. *South Australia. Geological Survey. Bulletin*, 54:107–169.



## **Trafford Resources Limited**

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13<sup>th</sup> September 2008

Records Officer Mineral Tenements PIRSA GPO Box 1671 ADELAIDE SA 5001

Dear Sir/Madam

#### EL 3592 – Annual Technical Report for the period ending 4<sup>th</sup> July 2008

A limited field orientation visit to look at access routes and the general geological setting was undertaken during the twelve months to 4<sup>th</sup> July 2008.

As there is no new technical data to report, an Annual Technical Report will not be submitted.

Expenditure for the reporting period was as follows:

Applications & Rentals	\$ 1,838.30
Computer Expenses	\$ 109.00
Tenement Management	\$ 328.77
Fees	\$ 80.20
Field Expenses	\$ 1,104.87
Legal Fees	\$ 211.26
Salaries	\$ 17,177.00
Admin 10%	\$ 2,084.94
TOTAL	\$ 22,934.34

Should you require any further information please do not hesitate to call me.

Yours sincerely

Warrick Clent Chief Geologist



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15<sup>th</sup> August 2009

Records Officer Mineral Tenements PIRSA GPO Box 1671 ADELAIDE SA 5001

Dear Sir/Madam

#### EL 3592 – Annual Technical Report for the period ending 4<sup>th</sup> July 2009

A limited field orientation visit to look at access routes and the general geological setting was undertaken during the twelve months from the 5<sup>th</sup> of July 2008 to 4<sup>th</sup> July 2009.

As there is no new technical data to report, an Annual Technical Report will not be submitted.

Expenditure for the reporting period was as follows:

Applications & Rentals	\$ 1,093.98
Computer Expenses	\$ 112.00
Tenement Management	\$ 344.88
Field Expenses	\$ 1,530.00
Salaries	\$ 13,930.00
Admin 10%	\$ 1,701.08
TOTAL	\$ 18,711.94

Should you require any further information please do not hesitate to call me.

Yours sincerely

M Le Grange Chief Geologist

#### **Trafford Resources Limited**



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1 September 2010

Records Officer Mineral Tenements PIRSA GPO Box 1671 ADELAIDE SA 5001

Dear Sir/Madam,

#### EL 3592 – Annual Technical Report for the period ending 4 July 2010

The Tin Hut tenement sits north-east of the Wilcherry Hill Project area. During the reporting period, a short field visit took place in order to find access routes and rock outcrop.

As there are no new technical data to report, an Annual Technical Report will not be submitted.

Total expenditure for the reporting period 5 July 2009 to 4 July 2010 was \$13,475. Details have been provided in the relevant summary reports.

Should you require any further information please do not hesitate to call me.

Yours sincerely

Kylie Matonia Geologist

### MINOTAUR OPERATIONS PTY LTD

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29 August 2011

Executive Director PIRSA - Mineral Resources GPO Box 1671 ADELAIDE, SA 5001

Attention: Rob Shaw

Dear Rob,

RE: Annual Technical Report for EL 3592 - Tin Hut

I refer to the Annual Technical Report for Exploration Licence 3592 (Tin Hut) for the year ending 4<sup>th</sup> July 2011.

No field exploration activities were conducted by Minotaur Operations Pty Ltd (Minotaur) on this tenement during the reporting period; hence this letter represents the Annual Technical Report for EL 3592.

Should you require any further information please contact me on 8366 6000.

Yours sincerely

**Phil Cronin** 

Tenement Administrator Minotaur Operations Pty Ltd