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No. 12,031

EL 3921

MOUNT JAMES

FIRST PARTIAL SURRENDER REPORT FOR THE PERIOD 3/9/2007 TO 2/9/2009

Submitted by
Minotaur Exploration Ltd
2010

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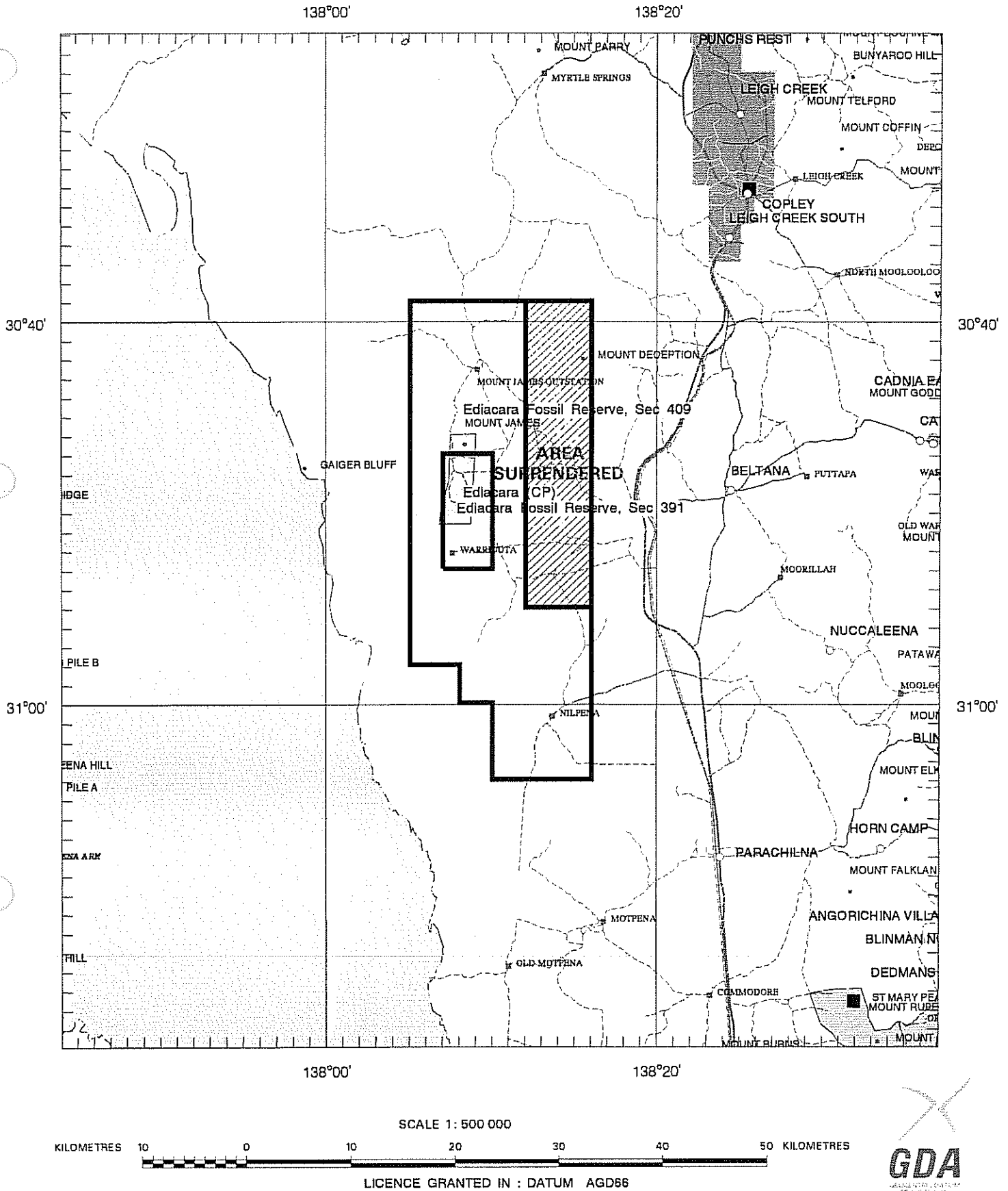
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Government of South Australia
Primary Industries and Resources SA

SCHEDULE A



APPLICANT : MINOTAUR OPERATIONS PTY LTD

FILE REF : 225/06

TYPE : MINERAL ONLY

AREA : 492 km² (approx.)

1:250000 MAPSHEETS : COPLEY PARACHILNA

LOCALITY : MOUNT JAMES AREA - Approximately 40 km southwest of Leigh Creek

DATE GRANTED : 03-Sep-2007

DATE EXPIRED : 02-Sep-2009

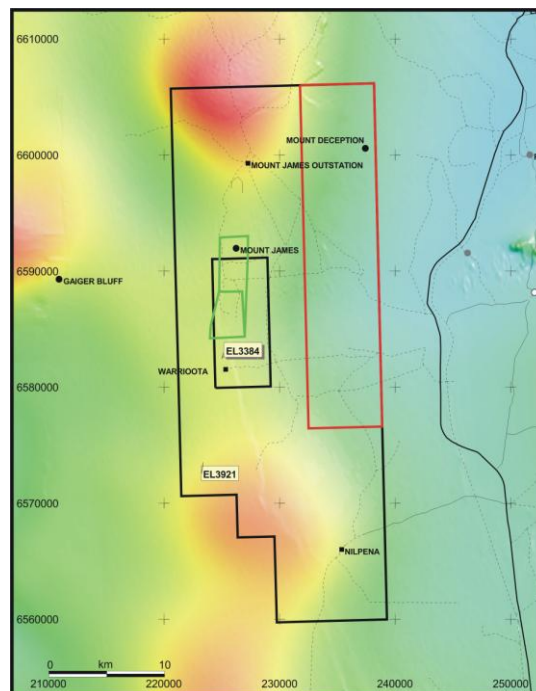
EL NO : 3921

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PARTIAL REDUCTION REPORT

**EL 3921 MT JAMES,
SOUTH AUSTRALIA**

FOR YEAR ENDING 2nd SEPTEMBER 2009



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PARTIAL REDUCTION REPORT

**EL 3921 MT JAMES,
SOUTH AUSTRALIA**

FOR YEAR ENDING 2nd SEPTEMBER 2009

R.B. Flint

May 2010

SUMMARY

A gravity survey was undertaken over the entire tenement during October–November 2007 by Haines Gravity Surveys and observations were collected at a station spacing of 1 km x 1 km and, in addition, at 500 m x 500 m in select areas. Closely spaced gravity data were also collected along two E–W traverses.

A total of 235 stations from this gravity survey are on the northeast portion of the tenement which was relinquished in September 2009. The surrendered portion represents a ~28% reduction for EL 3921.

No positive gravity anomalies exist in the surrendered portion of the tenement and the gravity data are consistent with an exceedingly thick sedimentary succession within the Neoproterozoic Adelaide Geosyncline.

MAP REFERENCE: 1:250 000 COPLEY (SH 54-9) and PARACHILNA (SH 54-13)

MAP REFERENCE: 1:100 000 Copley (6536) and Parachilna (6535)

DISTRIBUTION: PIRSA

MINOTAUR EXPLORATION LTD

CONTENTS

INTRODUCTION	Page 1
REGIONAL GEOLOGY	2
WORK COMPLETED	5
APPENDICES	7

FIGURES

1	Location plan for EL 3921 (Mt James)	Page 1
2	Outcrop geology for EL 3921 (Mt James)	3
3	Regional magnetic image for EL 3921 (Mt James)	4
4	Residual gravity image (inset) and Minotaur gravity stations superimposed on regional magnetic imagery	6

APPENDICES

A	Gravity data from 2007 ground gravity survey undertaken by Haines Survey for relinquished portion of EL 3921 (digital format only)	Page 7
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1. INTRODUCTION

EL 3921 (Mt James) is situated ~30 km SW of Leigh Creek on the very eastern margin of the Gawler Craton (Figures 1–2). The tenement covers 681 km² and was granted on 3rd September 2007 initially for 1 year and has subsequently been renewed annually. A partial tenement reduction was undertaken at 2nd September 2009 and this report incorporates technical work undertaken on the northeast portion of the tenement of 189 km² and representing a ~28% reduction in areal extent for EL 3921.

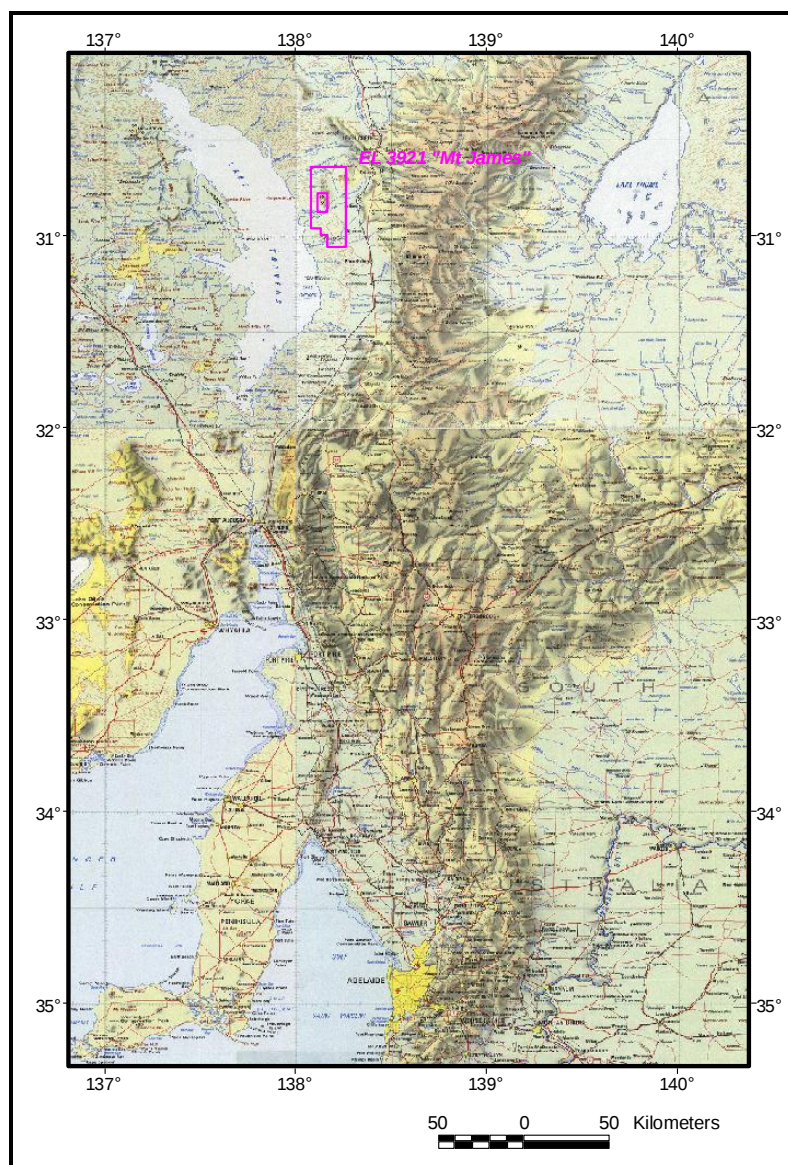


Figure 1: Location plan for EL 3921 (Mt James)

2. REGIONAL GEOLOGY

The Exploration Licence is located within the northern Flinders Ranges, South Australia. The northern Flinders Ranges comprises Neoproterozoic–Cambrian age sediments that accumulated in a continental rift basin (Adelaide Geosyncline) between the Archaean to Mesoproterozoic Gawler and Curnamona Cratons. Within EL 3921, exposed units of the Adelaide Geosyncline are predominantly calcareous sediments of the Wonoka Formation and quartzite of the Pound Quartzite (Figure 2).

Zinc, lead and copper mineralisation is found throughout the Adelaide Geosyncline generally associated with Cambrian marine shelf-carbonate sediments and environments. Deformation and folding during the Cambrian–Ordovician Delamerian Orogeny resulted in mineralizing fluids, rich in Zn, Pb and Cu, being focused along particular faults and within favourable stratigraphic formations.

Etiacara EL 3384 (Etiacara) covers a historic lead-silver-copper mineral field, located 25 km west of the Beltana. It is situated within a synclinal basin of Early Cambrian carbonate and siliclastic rocks. Base metal mineralisation is structurally controlled associated with brecciation along with limonite, manganese and silica alteration with minor hematite alteration. The Etiacara historical workings contain the largest known occurrence of Pb and Zn sulphides within the Flinders Ranges. Best intersections from historical drill holes include;

- 6.6 m @10.2% Pb from 27.4 m (Hole T48)
- 6.1 m @10.25% Pb from 7.6 m (Hole T31)

The mineralisation is interpreted to be Irish-type, consisting of structurally controlled strata-bound lodes in the lowermost units of the Woodendinna Dolomite adjacent to major structures. Numerous barite occurrences also occur within the region. Mineralisation is closely associated with the faulted boundary between the Gawler Craton and Adelaide Geosyncline (Figures 2–3).

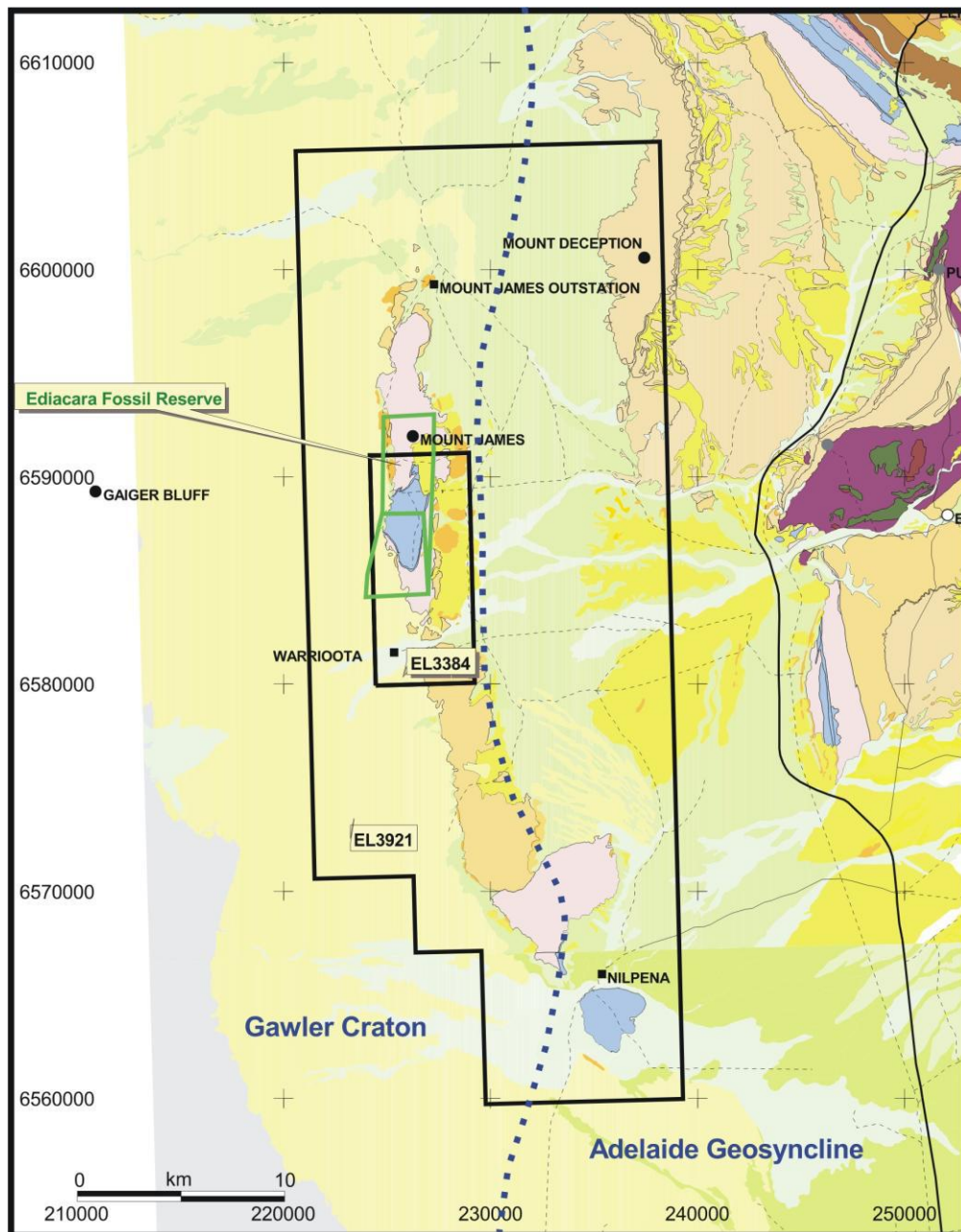


Figure 2: Outcrop geology for EL 3921 (Mt James)

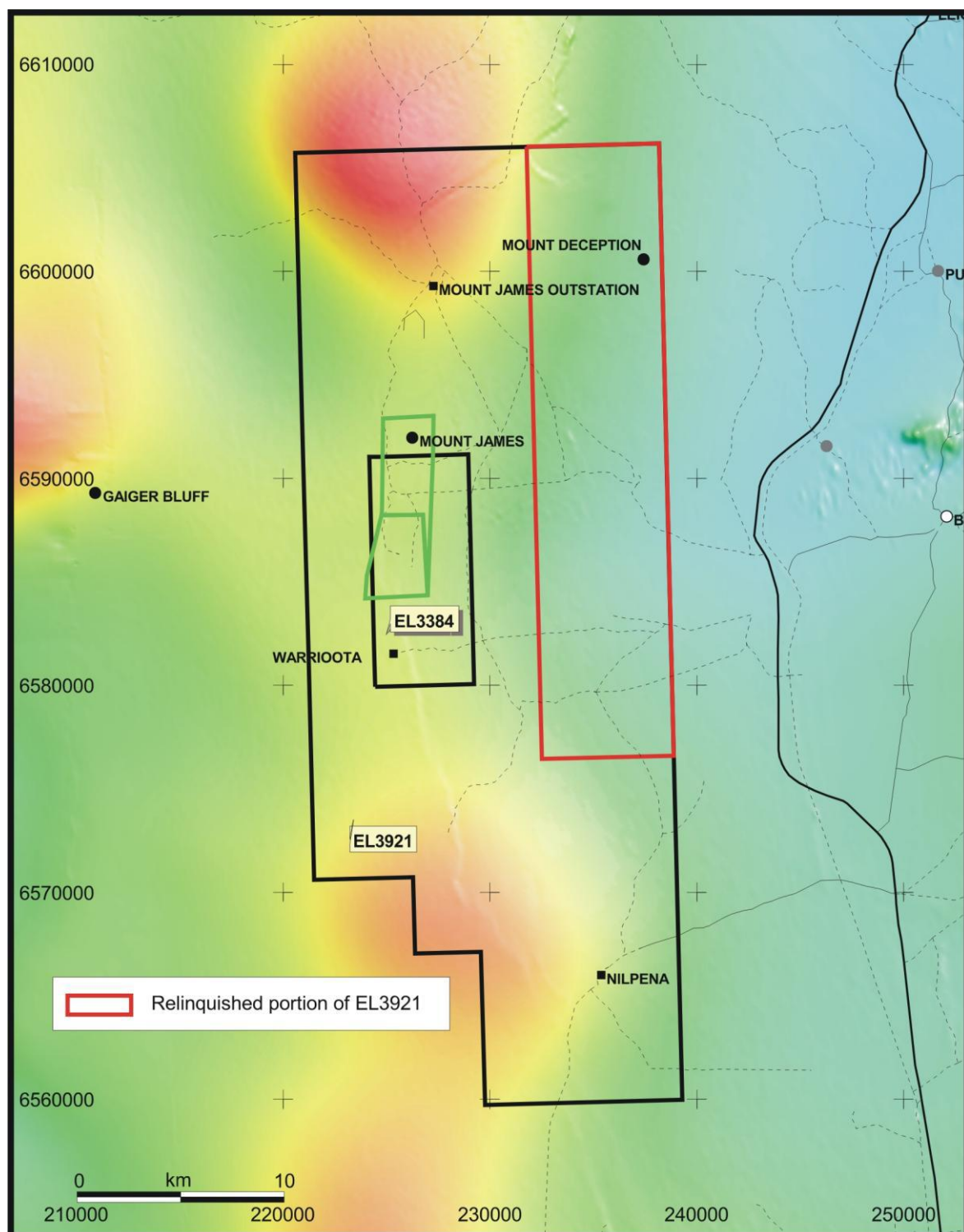


Figure 3: Regional magnetic image for EL 3921 (Mt James)

3. WORK COMPLETED

The historical gravity coverage for the tenement was exceedingly poor and restricted to a series of broadly E–W lines for a select portion of the tenement. The central and southern portions of the tenement had been very poorly covered.

Haines Surveys conducted a gravity survey, on behalf of Minotaur Exploration, in the Mt James tenement during October and November 2007. The regional survey was designed to cover the entire tenement and observations were collected at a station spacing of 1 km x 1 km over most of the tenement and 500 m x 500 m in the southern part of the tenement. Closely spaced gravity data were collected from two E–W traverses. A total of 1129 gravity stations were collected (Figure 4).

A total of 235 stations from this gravity survey are on the northeast portion of the tenement which was relinquished in September 2009 (Figure 4). This area has consistently low residual gravity values consistent with a very thick sedimentary succession in the westernmost portion of the Neoproterozoic Adelaide Geosyncline. Drill logs also indicate that locally Tertiary sediments up to ~100 m thick are also present within concealed Tertiary palaeochannels between exposures of Neoproterozoic sediments to the west near Mt James and to the east near Mt Deception.

As the surrendered portion of EL 3921 contains only Neoproterozoic or younger strata, then its potential to host IOCG-style mineralization is considered to be very low.

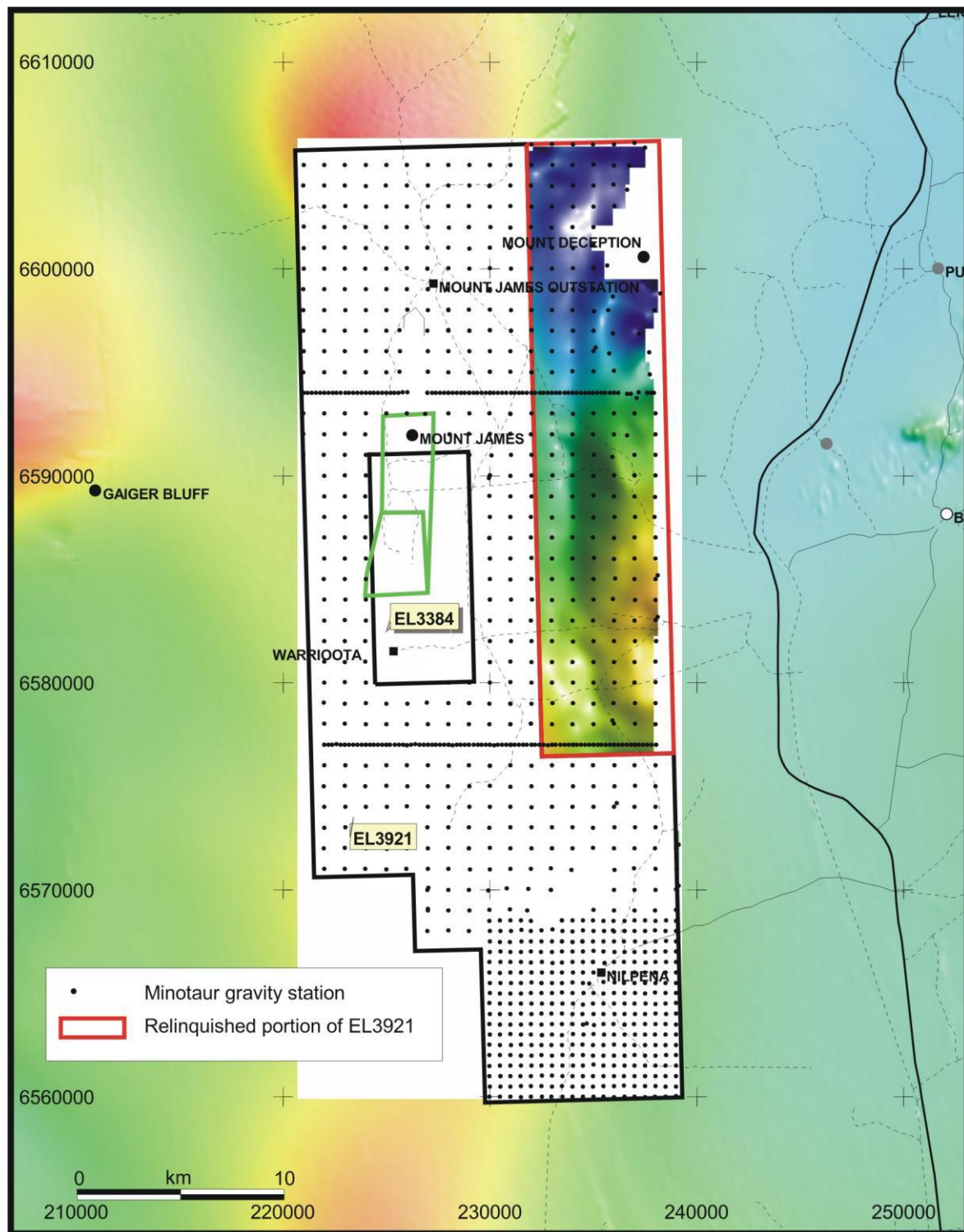


Figure 4: Residual gravity image (inset) and Minotaur gravity stations superimposed on regional magnetic imagery

APPENDIX A:

Gravity data from 2007 ground gravity survey undertaken by Haines Survey for relinquished portion of EL 3921 (digital format only) — Digital file EL3921_2009_P_02_Gravity.txt