



**MITHRIL**  
**RESOURCES LTD**

**EL 28336 – INKAMULLA**

**YEAR 1 ANNUAL REPORT**

**For the Period**  
**4 July 2011 to 3 July 2012**

**Compiled By**  
**Amy Lockheed (Project Geologist)**

MAP REFERENCE: Illogwa Creek 250K - Sheet SF53/15

Report submitted on: 3 August 2012  
All data provided is of GDA94 Datum, Zone 53.

All enquiries to Amy Lockheed  
Phone: 08 8378 8200  
[alockheed@mithrilresources.com.au](mailto:alockheed@mithrilresources.com.au)

---

58 King William Road, Goodwood, South Australia 5034  
Telephone: (61 8) 8378 8200 Fax: (61 8) 8378 8299  
Web: [www.mithrilresources.com.au](http://www.mithrilresources.com.au) Email: [admin@mithrilresources.com.au](mailto:admin@mithrilresources.com.au)  
ABN: 30 099 883 922

## **SUMMARY**

This report presents work completed during the first year of tenure on the Inkamulla Tenement (EL 28336), granted to Mithril Resources Ltd (Mithril) on 4 July 2011.

EL 28336 is centred approximately 150 km northeast of Alice Springs. The tenement area has been held by numerous other companies who have explored for gold, base metals, industrial minerals and Uranium.

Mithril first applied for the ground with a view to explore for Nickel sulphide deposits whilst remaining open minded to opportunities provided by other commodities.

Work completed during the reporting period included:

- Historical data compilation
- 53 rock chip samples collected
- VTEM Survey: 130 line kilometres of data collected
- IP/Resistivity Survey: 1.05 km line of data collected

There were a number of geophysical anomalies detected on the EL and these will be followed up in the next reporting period.

## CONTENTS

1.0	INTRODUCTION .....	1
2.0	TENURE .....	1
3.0	GEOLOGY .....	2
3.1	Regional Geology .....	2
3.2	Project Geology .....	2
4.0	HISTORICAL EXPLORATION WORK COMPLETED .....	3
5.0	WORK COMPLETED DURING THE REPORTING PERIOD .....	3
5.1	Surface Sampling.....	3
5.2	Geophysics - VTEM.....	5
5.3	Geophysics – Induced Polarisation.....	8
6.0	CONCLUSIONS AND PLANNED WORK 2012-13 .....	8

## FIGURES

Figure 1: Location of EL 28336 (Inkamulla). ....	1
Figure 2: Geology of EL 27662 (from published geology map sheet – Illogwa Creek 250K). ...	3
Figure 3: Surface sample locations.....	4
Figure 4: VTEM flight lines. ....	6
Figure 5: VTEM image.....	7
Figure 6: IP line and stations. ....	8

## TABLES

Table 1: EL 28336 (Inkamulla) tenure. ....	1
--	---

## APPENDICES

- Appendix 1:** Surface sample locations  
Digital file: EL28336\_2012\_A\_02\_SurfaceLocations.txt
- Appendix 2:** Surface sample geochemical data  
Digital file: EL28336\_2012\_A\_03\_SurfaceGeochem.txt
- Appendix 3:** Surface sample logging codes data  
Digital file: EL28336\_2012\_A\_04\_LoggingCodes.txt
- Appendix 4:** Airborne VTEM report by Geotech Airborne Pty Ltd  
Digital file: EL28336\_2012\_A\_05\_VTEMReport.pdf
- Appendix 5:** VTEM data  
Folder file: EL28336\_2012\_A\_06\_VTEMData
- Appendix 6:** IP/Resistivity report by Mithril Resources Ltd  
Digital file: EL28336\_2012\_A\_07\_IPSurveyReport.pdf
- Appendix 7:** IP/Resistivity data  
Folder file: EL28336\_2012\_A\_08\_IPSurveyData
- Appendix 8:** File listing information  
Digital file: EL28336\_2012\_A\_09\_FileListing.txt

## 1.0 INTRODUCTION

This report presents work completed on the Inkamulla Tenement (EL 28336) by Mithril for the first reporting year, ending 3 July 2012.

EL 28336 is located approximately 150 km northeast of Alice Springs (Figure 1). The tenement can be accessed from the north via the Plenty Highway and station tracks or the east via the Ross Highway and station tracks. Station tracks provide for reasonable access to much of the tenement area.

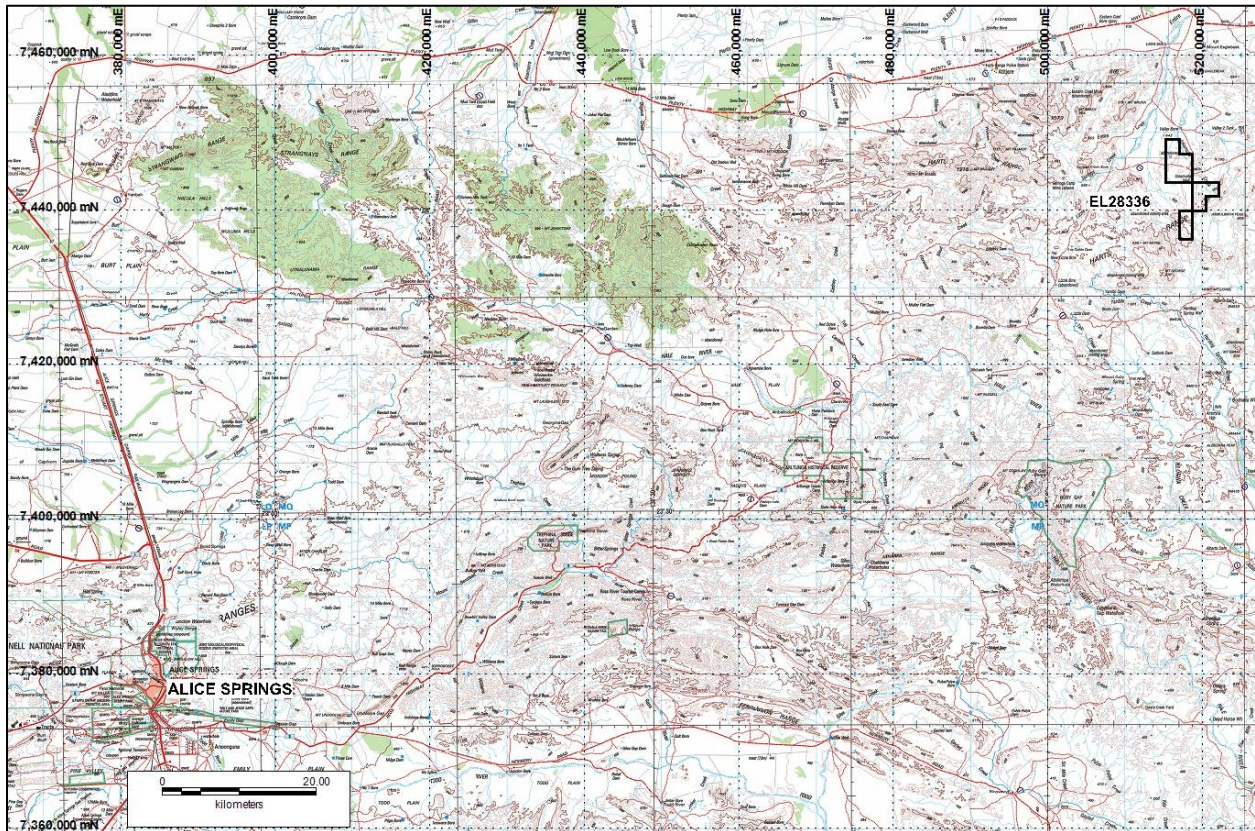


Figure 1: Location of EL 28336 (Inkamulla).

Mithril initially targeted the area for Ni-Cu-PGE sulphide deposits associated with mafic and ultramafic magmatic rocks. This style of mineralisation has been identified on adjacent tenements. However, recent exploration on the close licence (EL 26942) has identified significant sulphide hosted Cu-Co mineralisation at the Basil Prospect.

## 2.0 TENURE

Mithril Resources Limited (ACN 099 883 922) was granted exploration license EL 28336 for a six year period due to expire 3 July 2017.

Table 1: EL 28336 (Inkamulla) tenure.

Project	Tenement Name	Tenement No	Application Date	Grant Blocks	Area (km <sup>2</sup> )	Grant Date	Grant Period
Huckitta	Inkamulla	28336	12/10/2010	9	28	4/07/2011	6 years

### **3.0 GEOLOGY**

#### **3.1 Regional Geology**

EL 28336 lies within the Proterozoic Aileron Province of the south-eastern Arunta Inlier.

The Aileron Province comprises the Strangways Metamorphic Complex, a mix of felsic and mafic gneiss, metavolcanics and metapelite.

#### **3.2 Project Geology**

EL 28336 contains approximately 50% outcrop/subcrop with recent cover from colluvial sand and gravel (Figure 2).

Where outcrop is available the dominant stratigraphic units is the Inkamulla Granodiorite and metahornblendite/meta-ultramafic rocks.

The area has been subjected to intense deformation and metamorphism (as outlined in regional geology above).

The area is considered prospective for;

- Ni-Cu-PGE mineralisation associated with mafic and ultramafic intrusions
- “Basil type” Cu-Co semi-massive sulphides
- Vein-style REE-Th mineralisation
- Uranium mineralisation

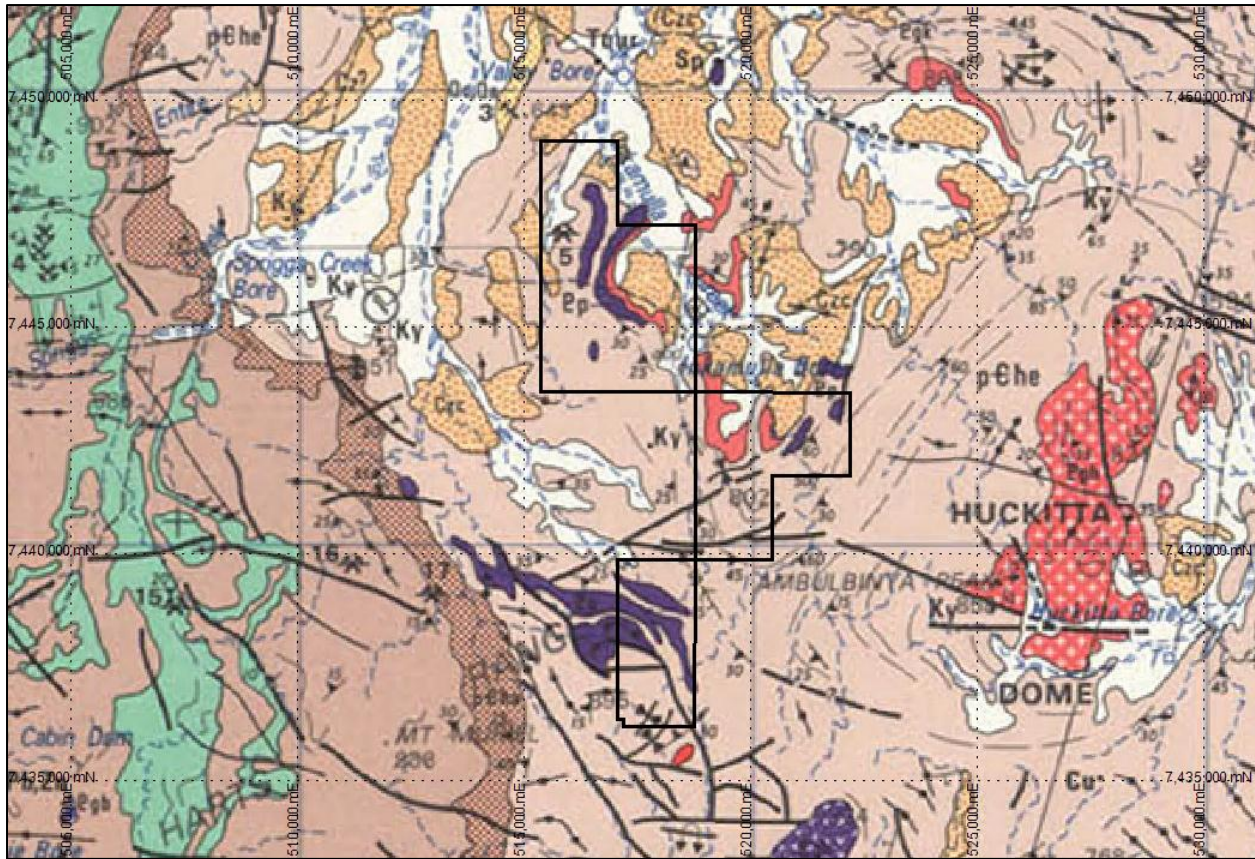


Figure 2: Geology of EL 28336 (from published geology map sheet – Illogwa Creek 250K).

#### 4.0 HISTORICAL EXPLORATION WORK COMPLETED

Few companies and individuals have explored in the general area covered by EL 28336.

#### 5.0 WORK COMPLETED DURING THE REPORTING PERIOD

##### 5.1 Surface Sampling

During mapping and sampling campaigns conducted in mid-late 2011, 53 surface samples (rock chips) were collected (Figure 3). All location and assay data are included in Appendices 1 and 2. Significant gold values (to 22g/t Au) were returned from grab samples from a sporadically outcropping quartz vein over a distance of several hundred meters on the eastern margin of the dominant amphibolite outcrop.

Samples were analysed using ALS's method ME-ICP61. Where reported, Au, Pt, and Pd were analysed using ALS's method PGM-ICP23.

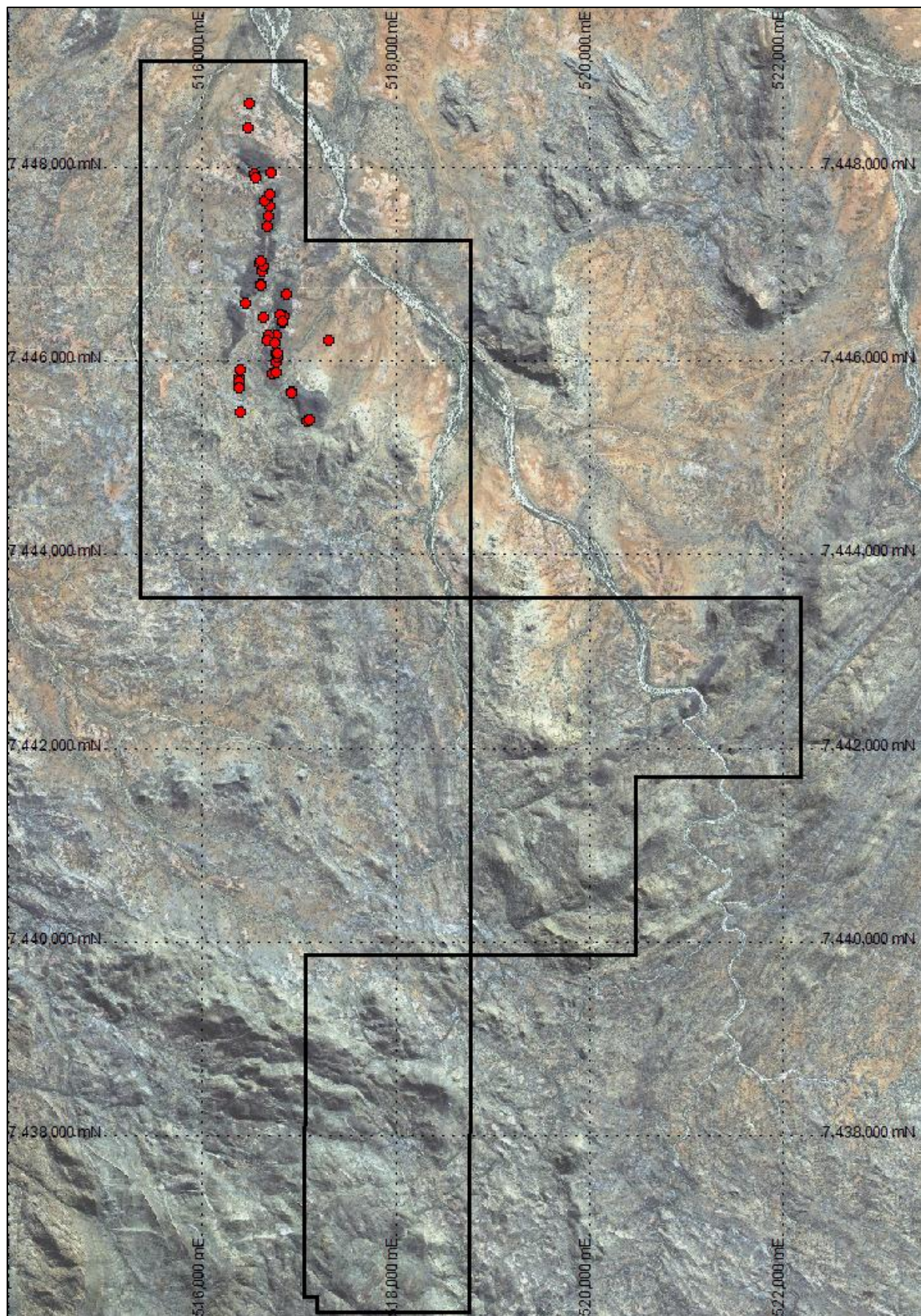


Figure 3: Surface sample locations.

## **5.2 Geophysics - VTEM**

An airborne electromagnetic (VTEM) survey was undertaken during the reporting period. The survey was conducted from 5 to 22 May 2011.

Approximately 130 line-kilometres of data were acquired from flight lines spaced 200 m (Figure 4).

The survey identified numerous weakly conductive and magnetic bodies, especially a significant north-south striking anomaly within the northern section of the tenement (Figure 5). A report and data from the VTEM survey are included in Appendices 4 and 5.

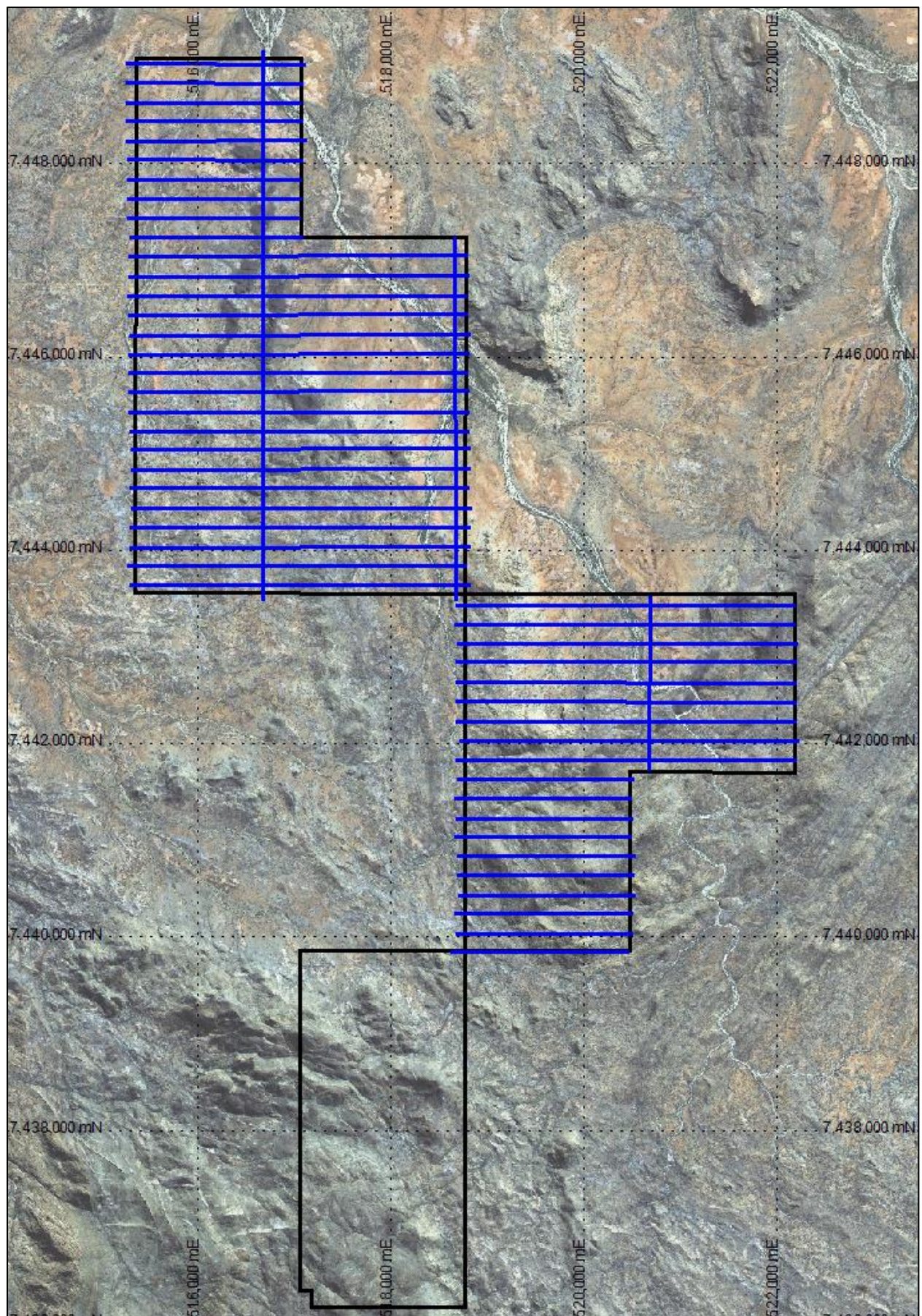


Figure 4: VTEM flight lines.

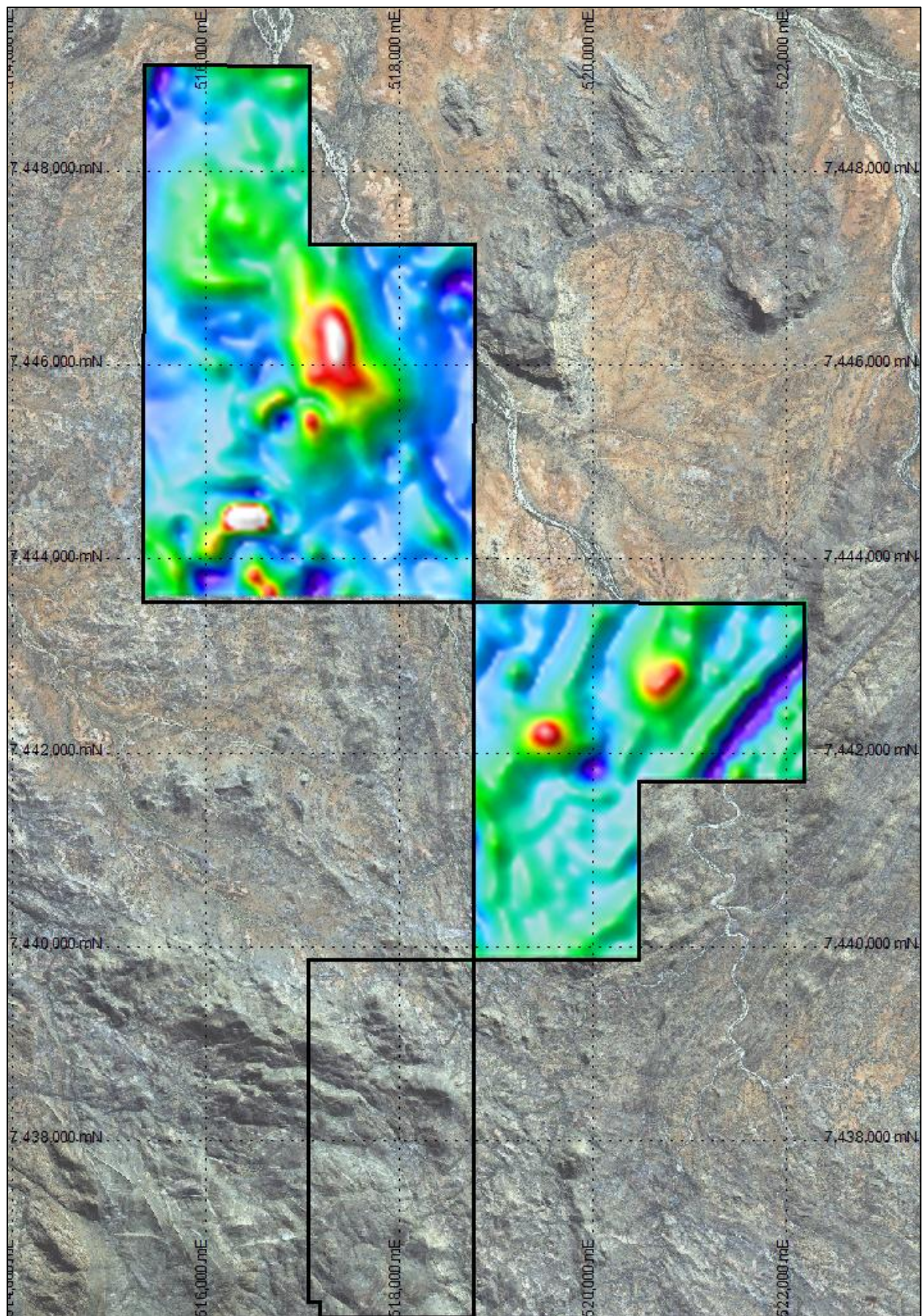


Figure 5: Magnetic image (RTP).

### 5.3 Geophysics – IP/Resistivity

An induced polarisation (IP) and resistivity survey was undertaken during the reporting period. The survey was conducted during October 2011 by Zonge Engineering.

One 1.05 km line was completed to test for chargeability anomalies associated with outcropping auriferous quartz veins and a magnetic high that is under cover. The location of the line and stations of the survey is shown in Figure 6

A detailed report of survey specifications and outcomes is included in Appendix 6 and data in Appendix 7.



Figure 6: IP line and stations.

### 6.0 CONCLUSIONS AND PLANNED WORK 2012-13

Work completed during the reporting period has identified a number of VTEM anomalies requiring ground follow-up. These will be the focus of further work during the next reporting year.

Three anomalies have been delineated from the IP survey coincident with elevated gold in grab samples at surface. These anomalies are planned to be drill tested following the receipt of the heritage clearance report.