auzex EXPLORATION LIMITED ACN 153 608 596

# EPM 14797 Annual Report

## For the Year Ending

## 12 January 2013

Compiled by: Auzex Exploration Ltd

Tenement Holder: Auzex Exploration Limited (100%)

Report Date: 5 February 2013

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# Khartoum Tin Project

## 1 SUMMARY

Khartoum EPM 14797 is located in the northeast of the Georgetown Region, approximately 13 kilometres north of Mount Garnet Township in North-Queensland. The tenement was granted on the 13th January 2006 and expires on the 12th January 2017.

Exploration under this tenure has included prospectivity modelling, prospecting, mapping and sampling, RC and diamond drilling, metallurgical test work, petrology, regional geological and structural studies, geophysical interpretations and reviews, as well as grade tonnage investigations.

# 2 LOCATION AND TENURE INFORMATION

The Khartoum EPM 14797 tenement is located 13 km north of the Mount Garnet township in North Queensland (figure 1). Mount Garnet is about 105 kilometres south-west of Cairns and 350 kilometres north-west of Townsville (see Figure 1).

Access from Mt Garnet is via well maintained gravel roads and station tracks to the south eastern and western edges of the permit via the abandoned mining settlements of Brownsville and Gurrumba respectively; and then rough station and former mining access tracks to Auzex prospect areas. Alternative access to the north of the tenement is via the formed gravel Herberton-Petford road which passes through Irvinebank and Emuford or the sealed Mareeba-Dimbulah-Chillagoe road which passes Petford

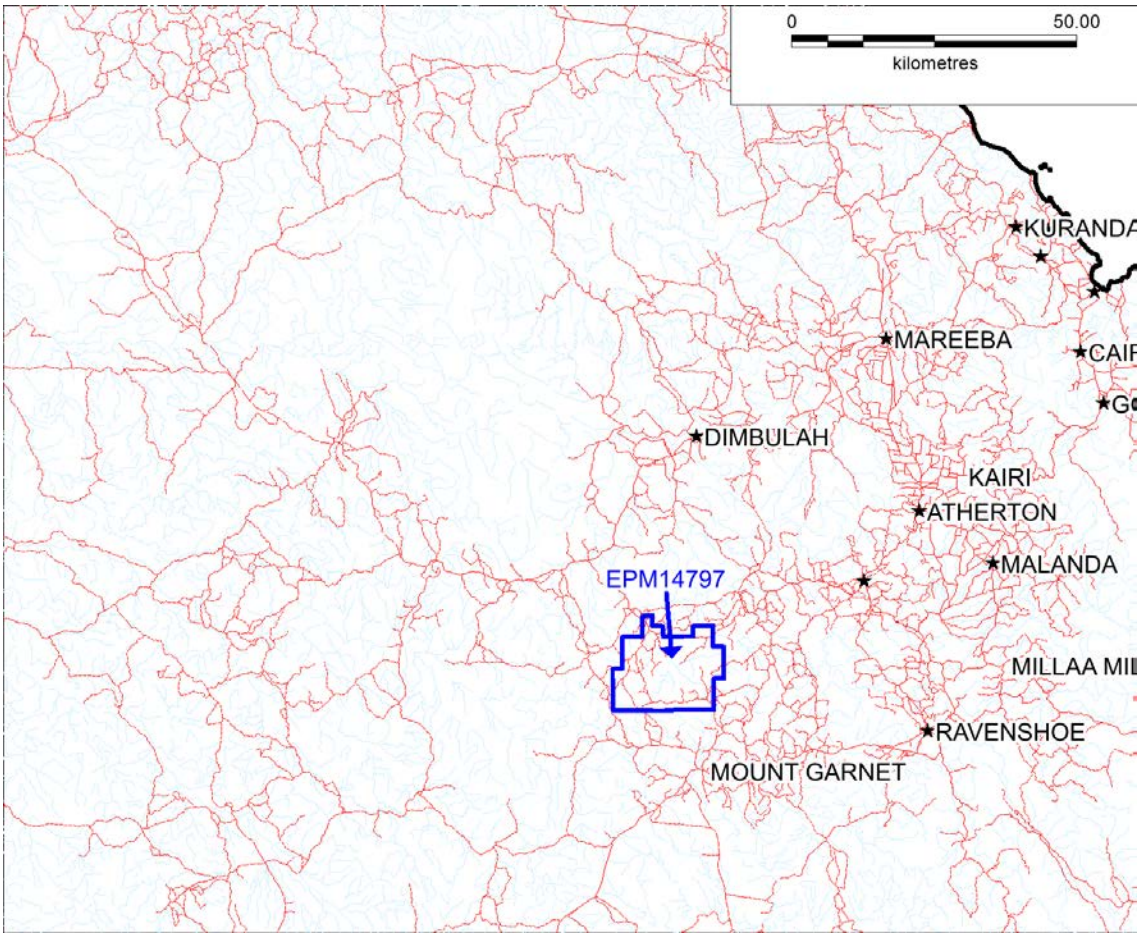


**FIGURE 1 LOCATION MAP**

The Khartoum EPM 14797 application was granted as Exploration Permit for Minerals on 13 January 2006 for a period of two years. Expenditure has exceeded total commitments and tenure has been extended and currently expires 12 January 2017.

| EPM | Date/Date Granted | Blocks | Term Years | Renewed until |
|---|---|---|---|---|
| 14797 | 13.01.2006 | 75 | 2 | 13.01.2008 |
| | 13.01.2008 | 75 | 2 | 13.01.2010 |
| | 13.01.2010 | 75 | 2 | 13.01.2012 |
| | 13.01.2012 | 75 - 10 | 5 | 13.01.2017 |
| | 26.10.2011 | | | Assignment documentation lodged for Auzex Exploration Ltd |

**TABLE 1 EPM 14797 HISTORY OF TENURE**

The Khartoum EPM 14797 consists of 75 sub-blocks within the Townsville 1:1,000,000 Block Identification Map as shown in Figure 1.

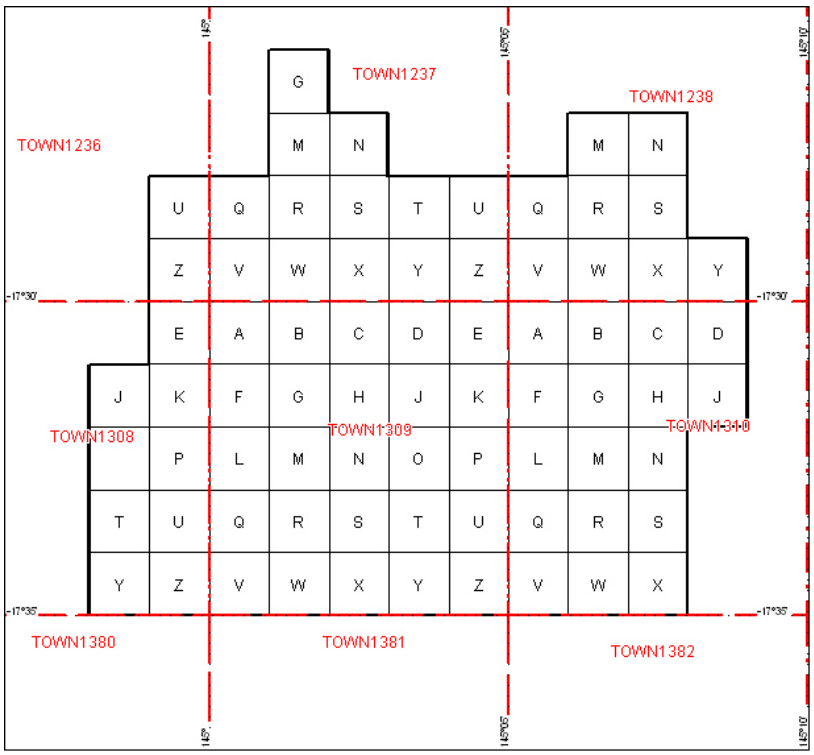


**FIGURE 2 BLOCK AND SUB-BLOCK IDENTIFICATION MAP**

# 3 EXPLORATION PHILOSOPHY AND OBJECTIVES

This permit covers part of one of the target areas in Queensland that has all the geological variables required for granite-metal systems, including known mineral occurrences in granite, evidence of granite fractionation, granite composition associated with granite gold systems and a geological association that is most conducive for producing granite-gold mineralisation. Mineral occurrences associated with these intrusions contain a wide range of metals that include Au, Mo, Sn, W, Cu and Bi. Tin has been mined in the Herberton-Mt Garnet district since the 1880s and has, in recent years with improvement in price, become more prospective. The area was selected on the basis of mineral prospectivity modelling and exploration in the area continues to encourage further work.

# 4 PREVIOUS EXPLORATION SUMMARY

## 4.1 HISTORICAL (1880-1960)

Alluvial cassiterite was first discovered in the Herbert River in 1879 and the tenement area was subject to historical mining for gold, tin and other metals until prices reduced after World War 1 when only intermittent mining continued in the Herberton Tinfield.

## 4.2 MODERN EXPLORATION (1960-2005)

The period from 1960 to 1983 was a period of active tin mining in the Herberton-Irvinebank area, with, in 1966, 3 batteries operating in the tin field at Herberton, Irvinebank and Emuford servicing the numerous small to medium scale mining operations. In the period 1976-1981 the Emuford district was a significant producer of alluvial cassiterite, peak production in the order of 600 tonnes of concentrates per annum.

Since the 1960s exploration was undertaken by individuals and small syndicates including Mareeba Mining and Exploration and Loloma. Larger explorers included North Broken Hill/Geopeko, Great Northern Mining, BHP, AOG and Comalco.

A full discussion of these exploration stages has been included in previous technical reports.

## 4.3 AUZEX RESOURCES EXPLORATION 2005-2012

Exploration from grant to the end of the previous reporting period has comprised:

- Data Compilation and Review,
- Prospectivity Modelling which identified fourteen prospective target areas including the Khartoum area.
- Prospecting, Mapping and sampling in 2006 including 360 rock samples with best results including 15.25% tungsten, 3.78% tin, 0.13% bismuth, 438 g/t silver and 3.39 g/t gold. 1,649 soil samples were collected and fifteen highly anomalous areas were identified that had values up to 1.8% tin in soils.
- In 2007 the program comprised mapping and rock-chip sampling, both grab and character composite channel. 6 of the 10 pipes sampled averaged over 1,000ppm Sn. Encouraging results lead to a drill program testing selected mineralized greisens at Boulder-Ahmets.

  Five RC holes and one diamond drill hole were drilled during December 2007 for a combined total of 528m, comprising 383.8m of RC and 144.2m of diamond core. All holes intersected the targeted greisen mineralisation. Mineralisation was intersected over wide intervals from the surface to a depth of 132m with significant intersections of mineralisation between 0.13% and 0.26% Sn intersected. Narrow zones of high grade tin were also intersected within the broader intersections.

  Initial metallurgical test work, performed on diamond drillcore comprising fresh greisen mineralisation, gave encouraging results.

  Samples were submitted for analysis for 12 elements often associated with this style of mineralisation (Ag, Ce, Ga, Th, W, Bi, Mo, In, Sb, Se, Te, and Ge). Results indicate that the greisen mineralisation is also anomalous in silver, indium and gallium associated with recoverable zinc and copper sulphides.

  Polished thin sections from Khartoum diamond core were studied to document the nature of the Khartoum tin mineralisation

- Ongoing exploration in 2008 used the proven methodology of prospecting for and mapping resistant exposures of silica-muscovite-sericite greisen which form prominent topographic features and then utilising composite channel sampling as a grade-estimation tool. A structural-alteration interpretation was undertaken to guide regional prospecting. Additional rock and channel sampling was undertaken. Grage tonnage investigations were undertaken and the area was investigated in detail and divided into potential resource areas.

- A Joint Venture was undertaken With Hillgrove Resources over EPM 14797 in 2010/11. Work under the JV included Literature search, Community liaison with local landholders, Soil sampling, Rock chip sampling and Geological mapping.
- A full review of holdings and a rationalisation of tenure was undertaken in 2011. RSCMME was commissioned to provide an evaluation of results and a proposed program of exploration. PGN completed a geophysical review and report.

# 5 RESULTS FROM EXPLORATION 2012-13 REPORTING PERIOD

In order to identify sufficient tonnage of economic mineralisation, additional target areas and resources need to be identified. A regional 3D geological model and prospectivity study is required and has been commissioned in the area.

In 2012, RSC Global Pty Ltd ("RSC") was engaged to undertake a multi-faceted geological data collection exercise, with the ultimate aim of the dataset being specifically usable in a 3D prospectivity modelling exercise.

The data compilation included assessments of historic company reports, literature and academic papers, data on published maps, and data collected by Auzex within the area of interest.

A geophysical study was commissioned that aimed to extract data relevant for the 3D modelling from existing geophysical coverage. In particular, an "auto-lithology map" forms a cornerstone of this project as it is the most cost-effective way to create high resolution "geological" map to use in the modelling. Part of this geophysical study included an investigation of specific rock properties that may be useful in future geophysical exploration programmes.

Field investigations by RSC focused on collecting data to support a 3D geological modelling exercise, providing ground truth to the interpretative maps acquired from geophysical consultants, and checking aspects of the geologic setting of the intrusive bodies and the known mineral deposits.

Digital data resulting from this study over EPM14797 is appended.

There are some aspects of the data collection for this project that merit special reference in terms of support for 3D modelling (and for future exploration activities). The flat lying altered structures are much more extensive than originally thought.

The draft report from RSC is appended and contains relevant discussions and appendices. The data over EPM14797 has been extracted and formatted for submission as digital appendices 2 to 7.

## 5.1 SOIL SAMPLE DATA COMPILATION

An updated Soil Sample location map is shown below and data included as Appendix 2.

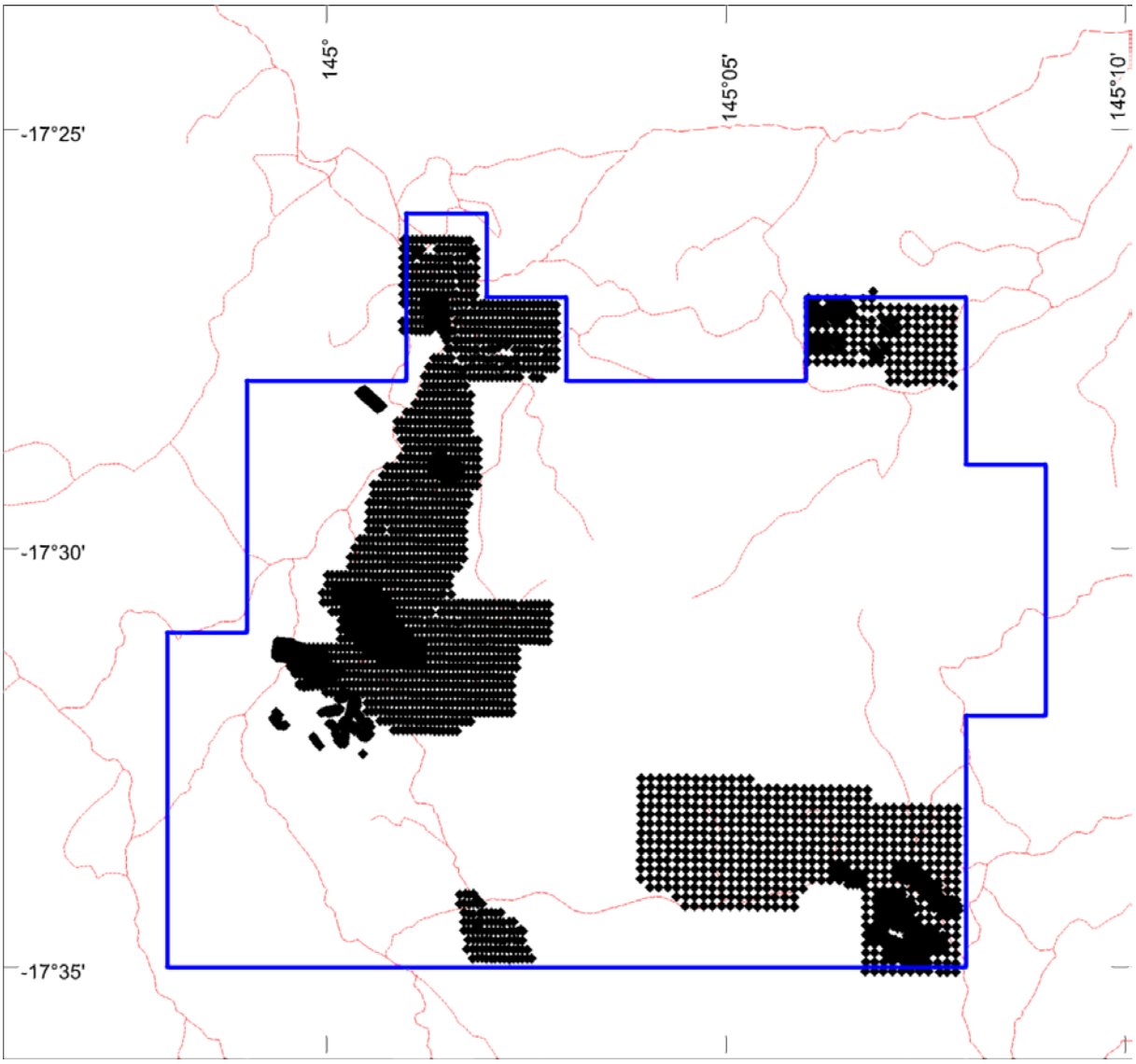


**FIGURE 3 SOIL SAMPLE LOCATION MAP**

## 5.2 STREAM SAMPLE DATA COMPILATION

An updated Stream sample location map is shown below and data is included as Appendix 3.

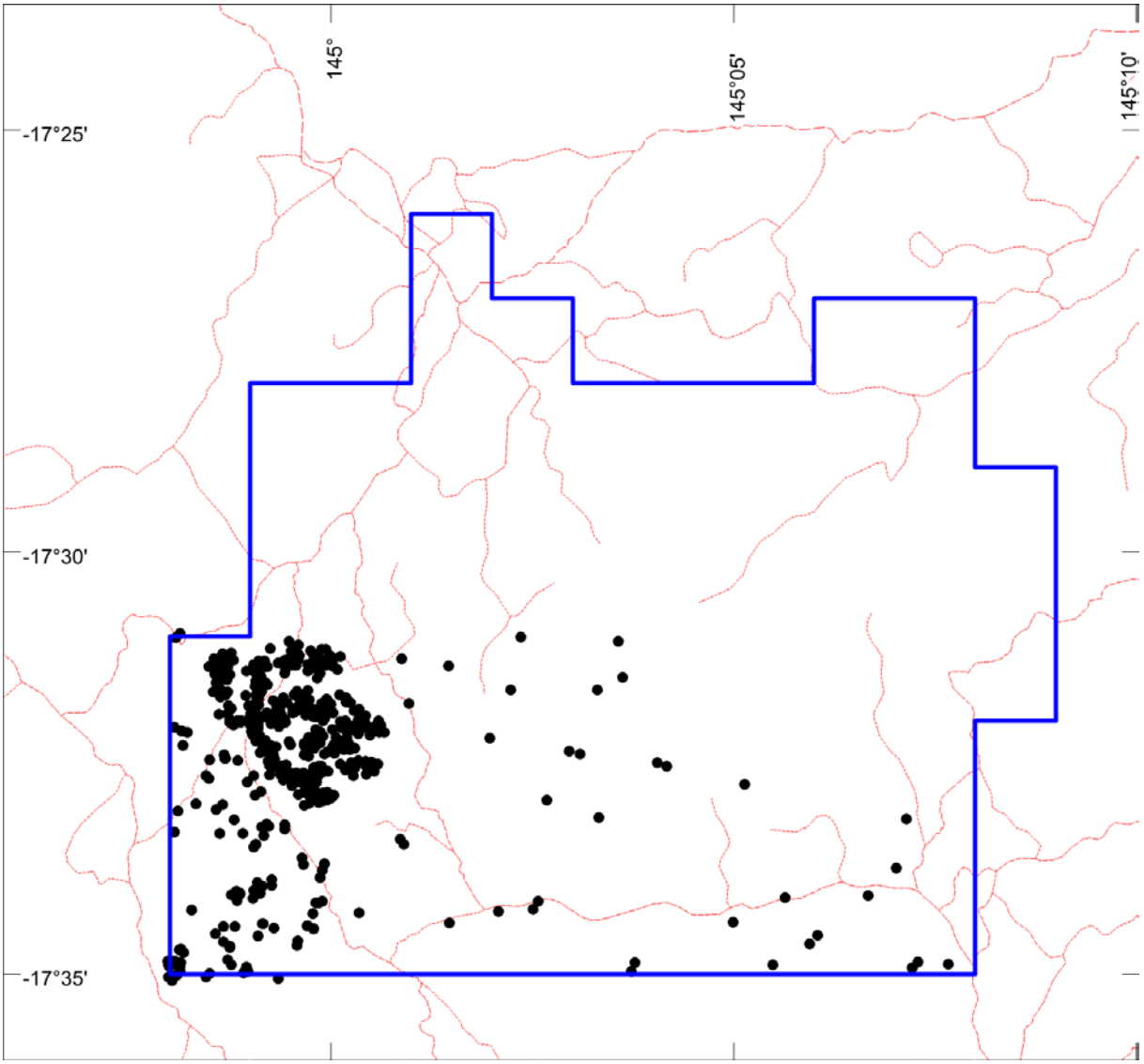


**FIGURE 4 STREAM SAMPLE LOCATION MAP**

## 5.3 ROCK SAMPLE DATA COMPILATION

An updated Rock sample location map is shown below and data included as Appendix 4.

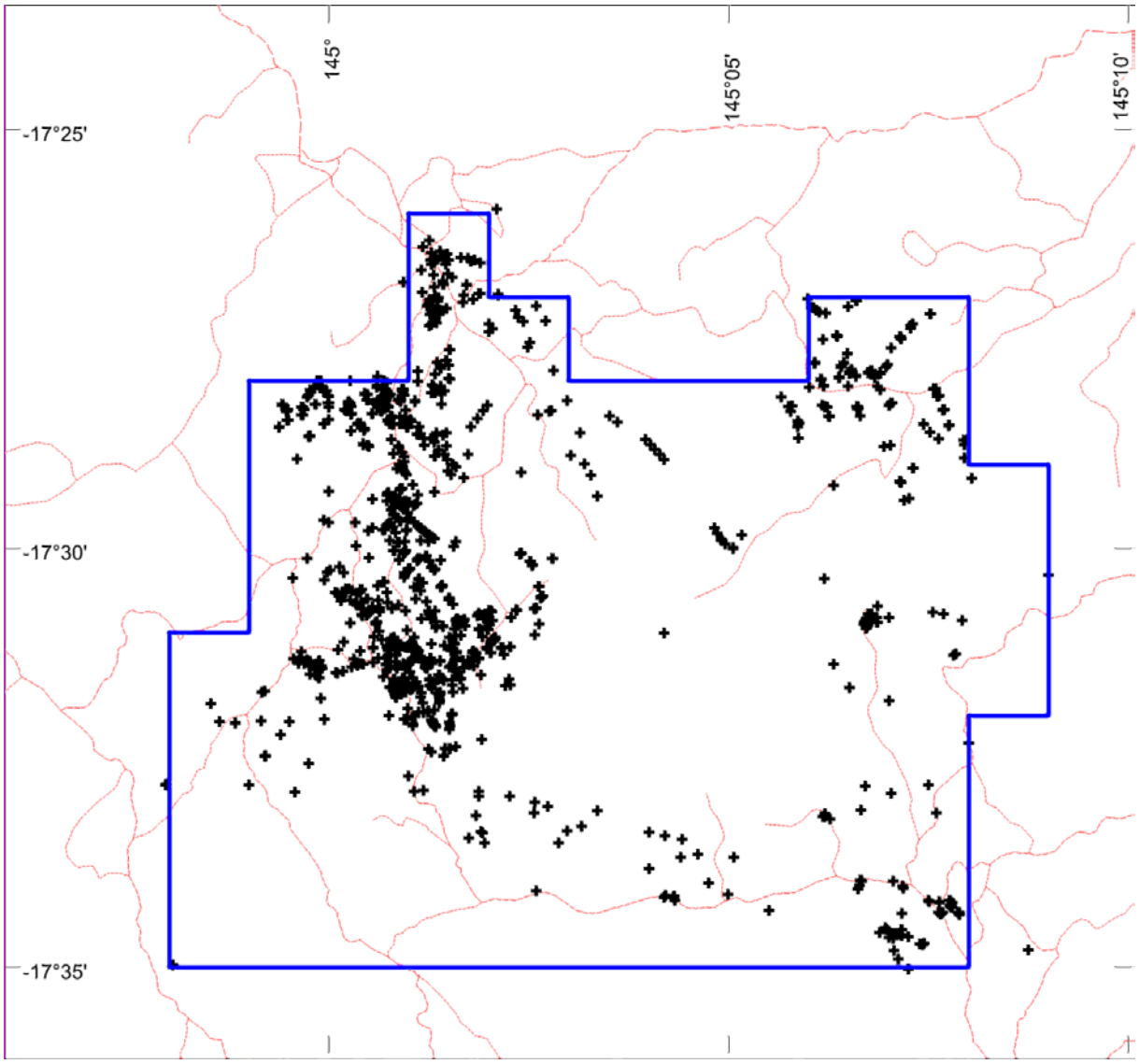


**FIGURE 5 ROCK SAMPLE LOCATION MAP**

## 5.4 NITON XRF SOIL TESTING

As part of the RSC field work in 2013, soil samples were tested by Niton hand held XRF. The map below shows the locations of these samples. Previous Niton sample sites are shown as open symbols and 2012 sites as filled symbols. Results are included as appendix 5.

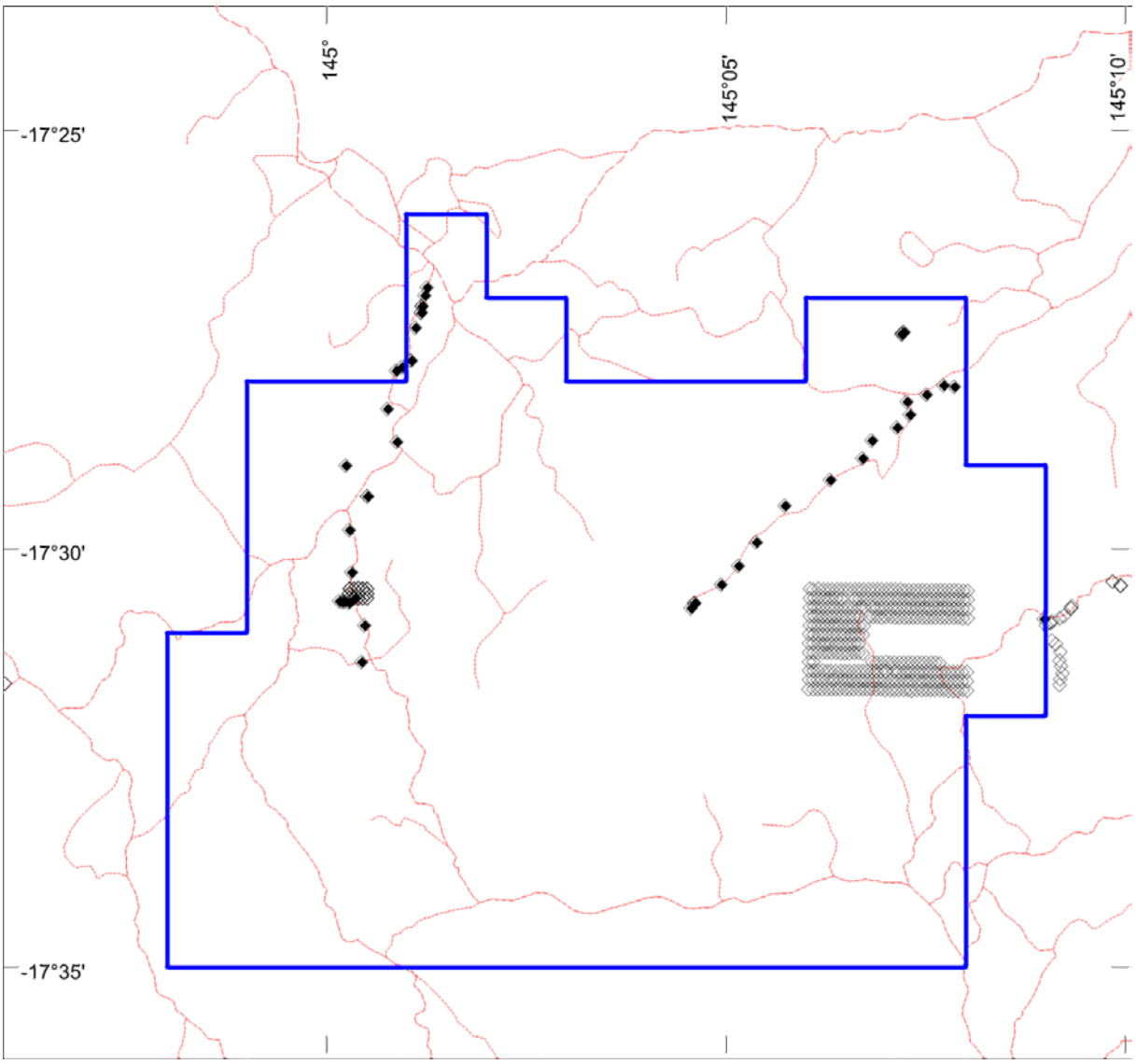


**FIGURE 6 NITON XRF SOIL SAMPLE LOCATIONS**

## 5.5 GEOLOGY MAPPING SITES

Mapped and collated geology and structure points were also compiled to aid the 3D interpretation. Locations of the geology sites are shown below and details included as Appendix 6.

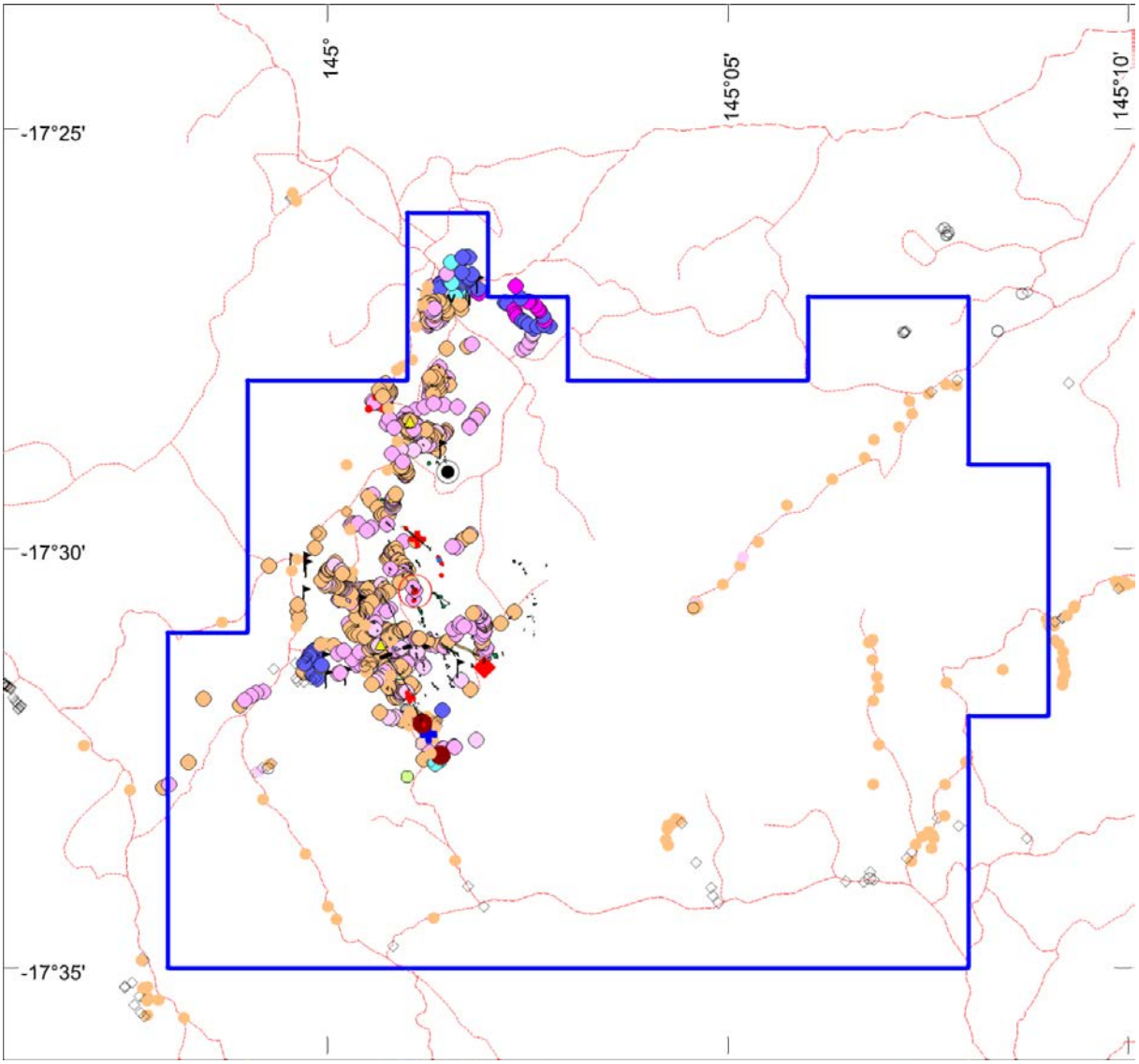


**FIGURE 7 MAPPED GEOLOGY SITES**

## 5.6 STRUCTURE DATA SITES

Locations of the structural data sites are shown below and details included as Appendix 7.

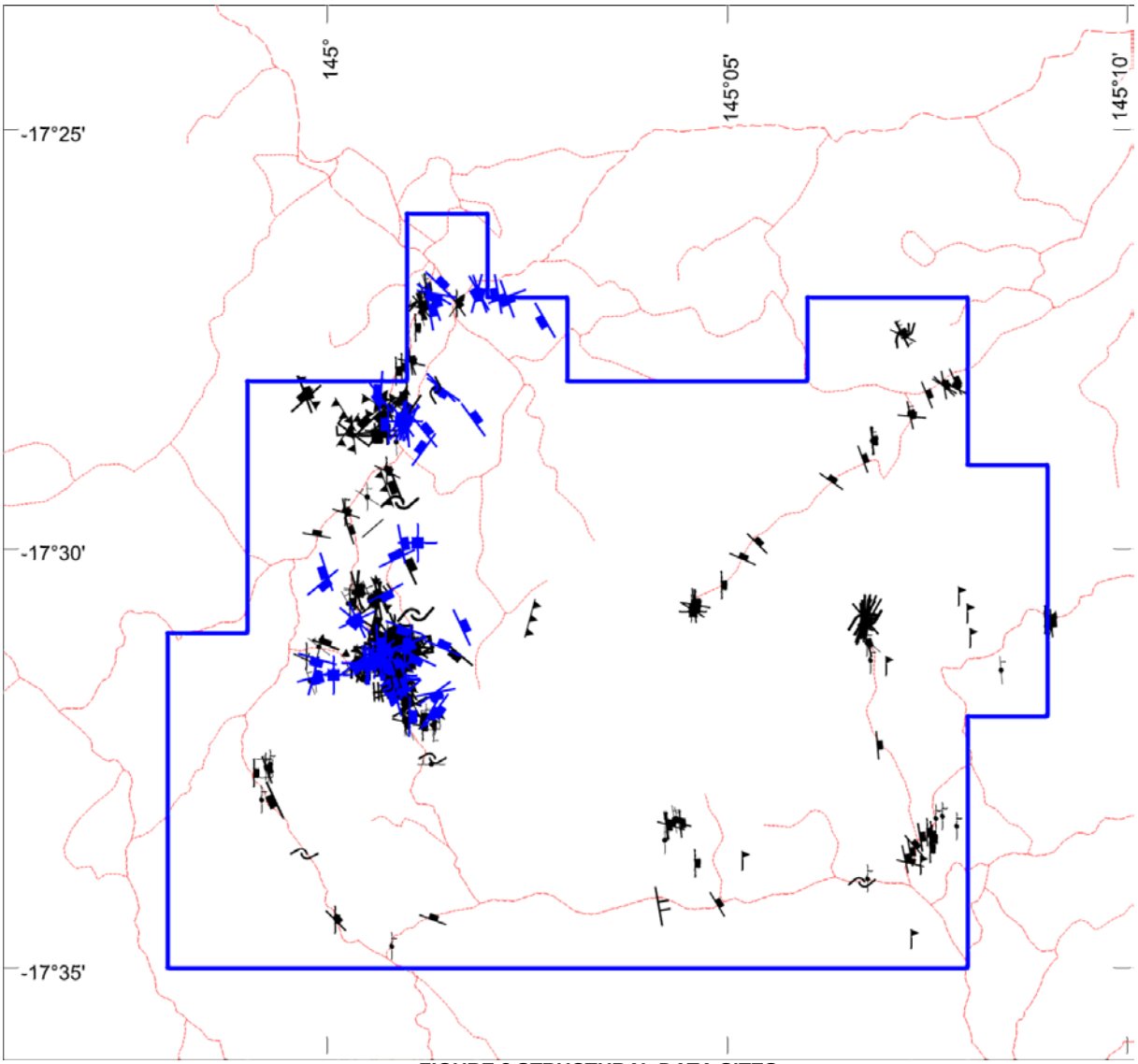


**FIGURE 8 STRUCTURAL DATA SITES**

## 5.7 GEOPHYSICAL MODELLING AND MAPPING

A comprehensive geophysical modelling and mapping exercise was completed by Fathom Geophysics in 2012. A full report of this is included as Appendix 1A. Petrophysical work by Systems Exploration was conducted to assist the geophysical interpretations. The results of this work are included as Appendix 1B

The auto lithology results of the tenement area are shown below.

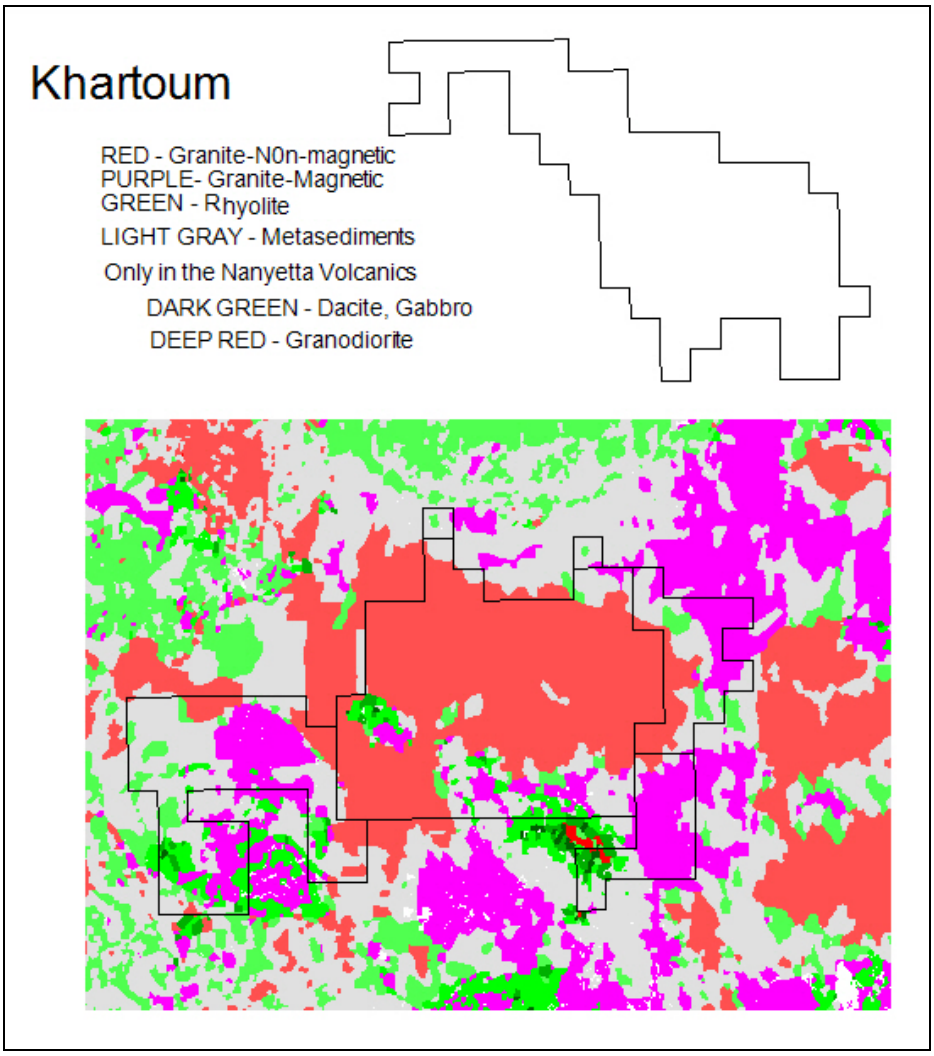


**FIGURE 9 AUTOLITHOLOGY MAP**

# 6 DISCUSSION

There are some aspects of the data collection for this project that RSC identified as meriting special reference in terms of support for 3D modelling (and for future exploration activities). The flat lying altered structures are much more extensive than originally thought. Unfortunately no striations or other movement indicators were found on these surfaces to indicate movement direction. Their significance is not clear nor is it understood at this time why there is a hard, almost polished, surface at the top with unaltered granite above and altered granite below.

# 7 PROGRAM COMPLIANCE

Auzex has complied with, and exceeded, the total expenditure commitment set by the department for EPM 14797 (Khartoum) in the past. A comprehensive desktop and field program was completed in 2012 but expenditure was not fully met due to inclement weather delaying the start and a change in focus of the exploration program.

# 8 PROPOSED PROGRAM

This area is a very high priority for continuing exploration.

In order to more fully understand the mineralisation relationships and control, and to allow additional targets to be developed, a 3D geological and targeting model has been commissioned. The initial data collations, geophysical interpretations and models have been completed and the modelling will commence in 2013.