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EL 29023

FIRST ANNUAL REPORT

FOR THE PERIOD

1 Aug 2012 to 31 Jul 2013

By Company Geologists

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Jul. 31 2013

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Title Page

Name of titleholder:	Darwin Mining & Exploration PTY LTD
Name of project operator:	Darwin Mining & Exploration PTY LTD
Report Title:	EL29023
Report Type:	First Annual Exploration Report
Reporting Period:	1 Aug. 2012 to 31 Jul. 2013
Author:	Dr Zhiyu Jiang and Dr Jianchun Lu
Date:	31 Jul. 2013
Target:	Sn, Ta, Nb and REE
Related NT 1:100 000	Bynoe, 5072
Related NT 1:250 000	Darwin, SD5204
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Abstract

Exploration title EL29023 was granted to DARWIN MINING & EXPLORATION PTY LTD on 1 August 2012. During this first year, a detailed review of the previous exploration work has been conducted, this has revealed that the title area has potential for tin, tantalum and niobium mineralisations associated with pegmatite in the area.

The title area is located within the well-known Bynoe Pegmatite Field with more than one hundred tin, tantalum and niobium mineralisation occurrences or old mines. Within the Bynoe pegmatite field, pegmatites typically occur in clusters or groups that presumably are associated with discrete shallow-level granite apophyses. Six pegmatite groups are recognised in the Bynoe field. From north to south, these are referred to as Kings Table, Observation Hill, Leviathan, River Annie, Walkers Creek and Labelle. The title area contains the Leviathan pegmatite group and its adjacent area. Most of the mineral occurrences in the title area are within several granted mining leases and applying mining lease area. Beyond the mining leases, there are five Sn-Ta-Nb mineral occurrences located in the northwest area of the EL29023 have been mentioned in the previous reports.

Sn-Ta-Nb mineralisation was discovered in 1886 at Leviathan area. Approximately 13 tonnes of tin concentration had been produced during 1886 and 1890. Total of 70 tonnes of SnO_2 and 19 tonnes of Ta_2O_5 had been recovered from Leviathan pegmatites in the historical mining activities. All of the old mining activities mainly followed the outcrops of the pegmatites with associated tin mineralisation. Previous exploration activities had only carried out at surface or in a limited depth, generally less than 50 meters in depth. There is no information discussing a possibility of planar greisen underneath with mineralisation. Aero-geophysical images have been used to understand substructures in the area. A series of aeromagnetic anomalies occur in the area in NE-SW direction.

Two reconnaissance trips have been undertaken to the area during the first year. Unfortunately, the first reconnaissance trip was unsuccessful due to heavy rains which did not allow access to the tin field. The second reconnaissance trip allowed access to the tin field, but we failed to find a track to the mineral occurrences in EL 29023. Samples have been taken from the tin field and analysis of the samples returned good results.

Introduction

EL29023 was granted to DARWIN MINING & EXPLORATION PTY LTD by the DEPARTMENT OF RESOURCES on 1 Aug. 2012 for a period of six years. This report summarises work carried out on EL29023 during the period 1 August 2012 to 31 July 2013.

Tenure details

EL29023, total of 38 blocks (Table 1), is located about 45km southwest of Darwin, accessing by Cox Peninsula Road and local 4WD tracks (Fig. 1).

DME Prospect area 1

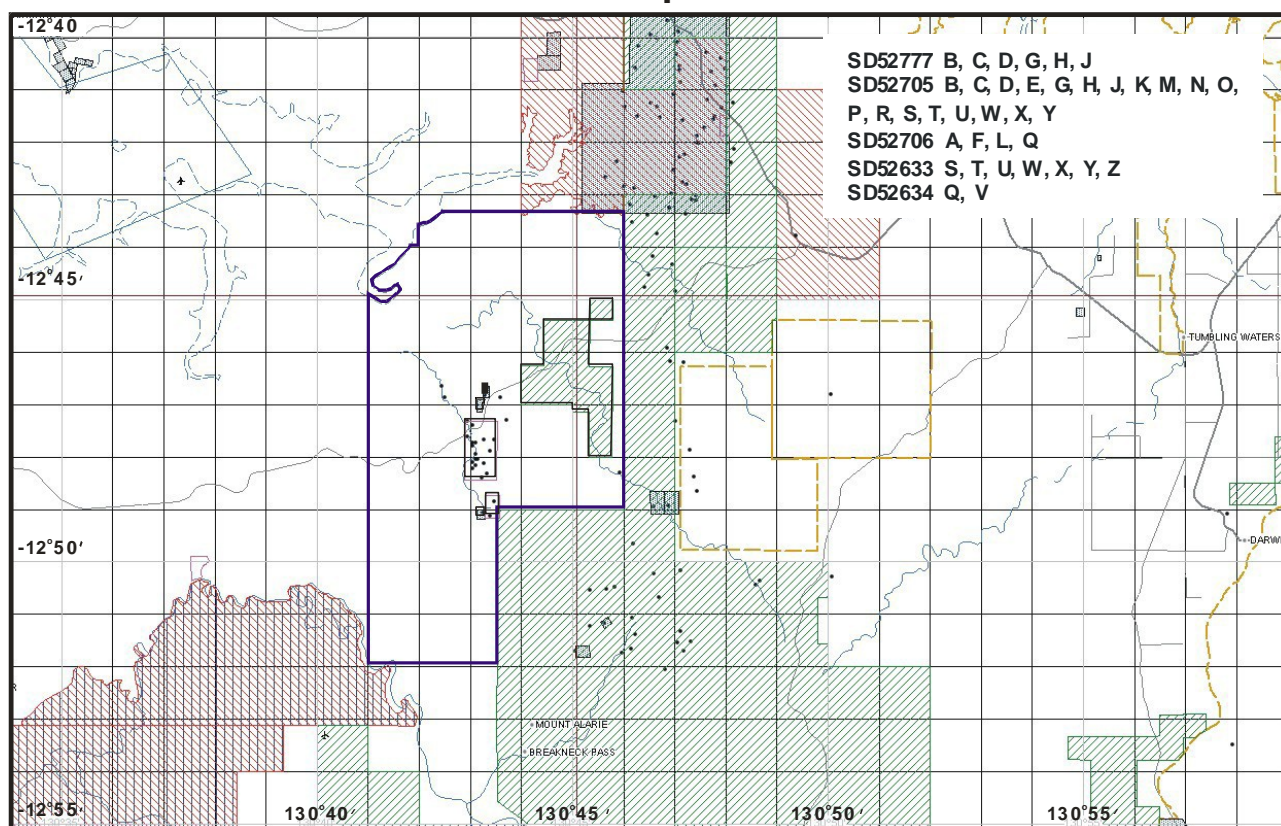


Figure 1 EL29023 Location Diagram

Table 1 EL29023 unite

BLOCK NO	UNITS
SD52777	B, C, D, G, H, J
SD52705	B, C, D, E, G, H, J, K, M, N, O, P, R, S, T, U, W, X, Y
SD52633	S, T, U, W, X, Y, Z
SD52634	Q, V

Geological Setting

Geologically the tin field, including the area of EL29023, is located in the Palaeoproterozoic Pine Creek Orogen. The Archaean basement is overlaid by the McArthur, Birrindudu, Daly, Arnhem and Money Shoal Basins. Outcrop rocks include metamorphosed Greywacke, shale, siltstone, sandstone, dolostone, tuff, granite, felsic volcanic rocks, dolerite, basalt, micaceous schist, metapelite, calc-silicate rock, quartzite and intrusive rocks. Tin, tantalum and niobium mineralisations are associated with the Pine Creek Pegmatite province which contains rare-element pegmatites in three areas, referred to herein as Bynoe pegmatite field and the Tipperary and Wingate Mountains pegmatite districts (Fig. 2).

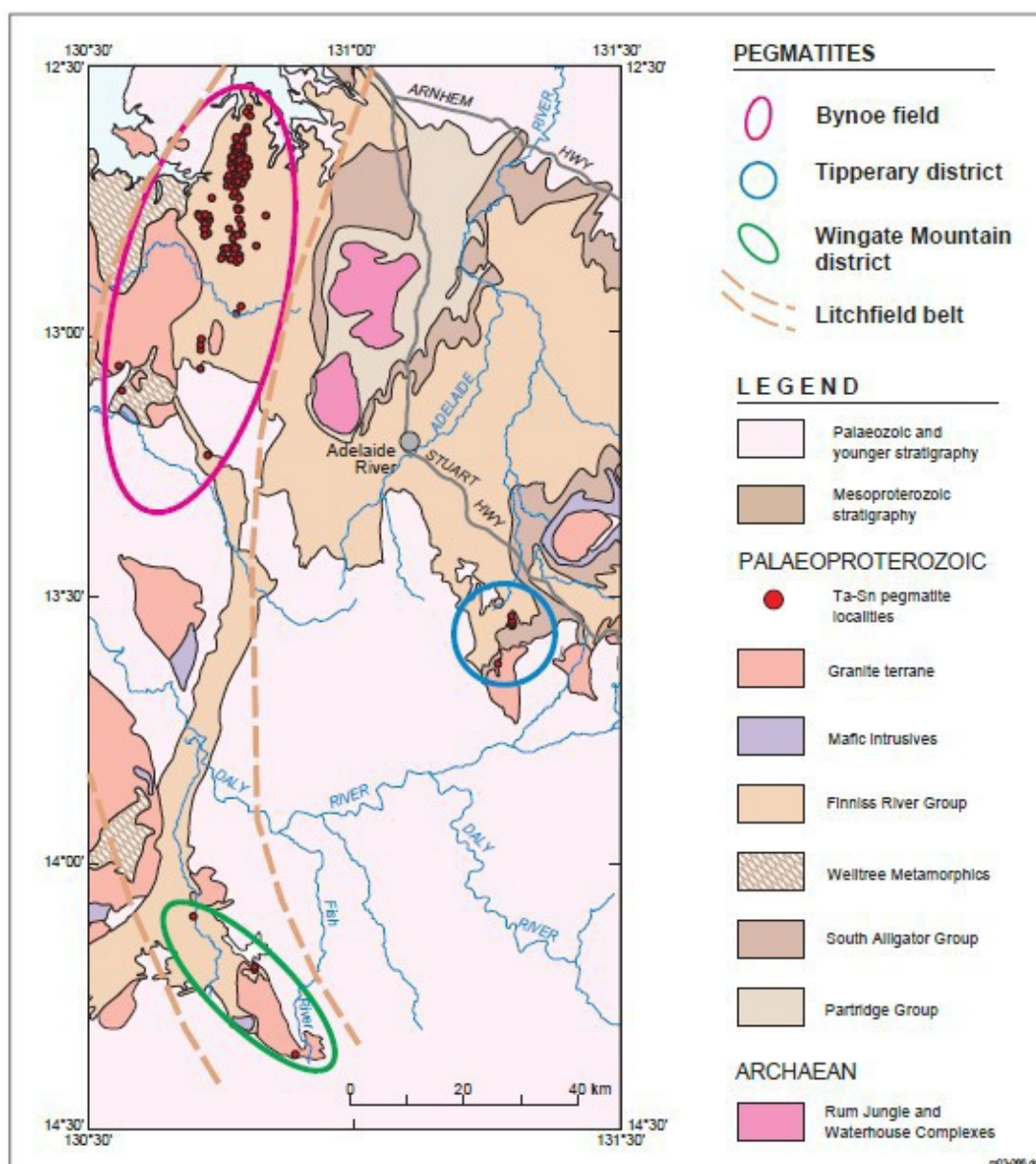


Fig. 2 Pine Creek Sn-Ta pegmatite province (Frater, 2005).

The Bynoe pegmatite field and Wingate Mountains pegmatite district occur in a 180 km-long belt (Litchfield pegmatite belt) that stretches along the eastern

contact aureole of the Two Sisters, Allia Creek and Soldiers Creek granites, from Darwin Harbour in the north to the Wingate Mountains in the south. These granites belong to the 'Allia Creek Suite', a late- to post-tectonic, felsic, fractionated S-type granite system, emplaced along the western margin of the PCO, and dated at 1845 Ma (Budd *et al* 2002). The Bynoe pegmatite field is approximately 70km in length and 15km in width. It is the largest and economically most important tin field in the NT.

Mineralisation

Mineralisation in the Pine Creek Orogen includes gold, uranium, base metals, PGE, iron ore, manganese, magnesite and phosphate. The major tin- tantalum pegmatite fields of the Northern Territory occur on the western and southwestern margins of the PCO and the northern margin of the Arunta Region. Their location on craton margins is typical of Proterozoic terranes, where parent granites are commonly late to post-tectonic bodies, confined to pre-existing granite contacts or deep regional faults (Černý 1989). Tin- and tantalum-bearing pegmatites in the Bynoe area are located in a north-trending, 10 km-wide belt extending from Kings Table to the Finnis River in the Bynoe 1:100k sheet. These occurrences were discovered at the turn of the last century and total recorded production is 533 t of cassiterite concentrate and 63 t of tantalite concentrate. In Bynoe area tin field, deposits accounts for 98% of past tin production and 97% of identified resources and 99% of past Ta production and 99% of identified resources in NT. There are over 150 mineralised pegmatite bodies concentrated in three fields in the Bynoe area. The northern group, centred on Observation Hill, contains the majority of mineralised pegmatites and was investigated by Greenbushes Tin Ltd. The second group is situated along the upper reaches of Leviathan Creek and contains about 30 closely spaced pegmatites. The third group is between Annie River and Gorge Creek and contains about 35 widely spaced pegmatites (Fig. 3). The area of EL29023 covers the Leviathan group pegmatites.

Sn-Ta-Nb mineralisation was discovered in 1886 at Leviathan area. Approximately 13 tonnes of tin concentration had been produced during 1886 and 1890. Total of 70 tonnes of SnO_2 and 19 tonnes of Ta_2O_5 had been recovered from Leviathan pegmatites in the historical mining activities. All of the old mining activities mainly followed the outcrops of the pegmatites with associated tin mineralisation. Previous explorations activities had only carried out at surface or in a limited depth, generally less than 50 meters in depth. There is no information discussing a possibility of planer gresien underneath with mineralisation. Most of the tin, tantalum and niobium mineral occurrences are located in the granted and applying mining leases within the area of EL29023. Only five occurrences are present outside of the mining leases and within the area of EL29023. They are Bundury, Centaur, Hackets and Parsons, Old Buck and Mellasas (Fig. 3).

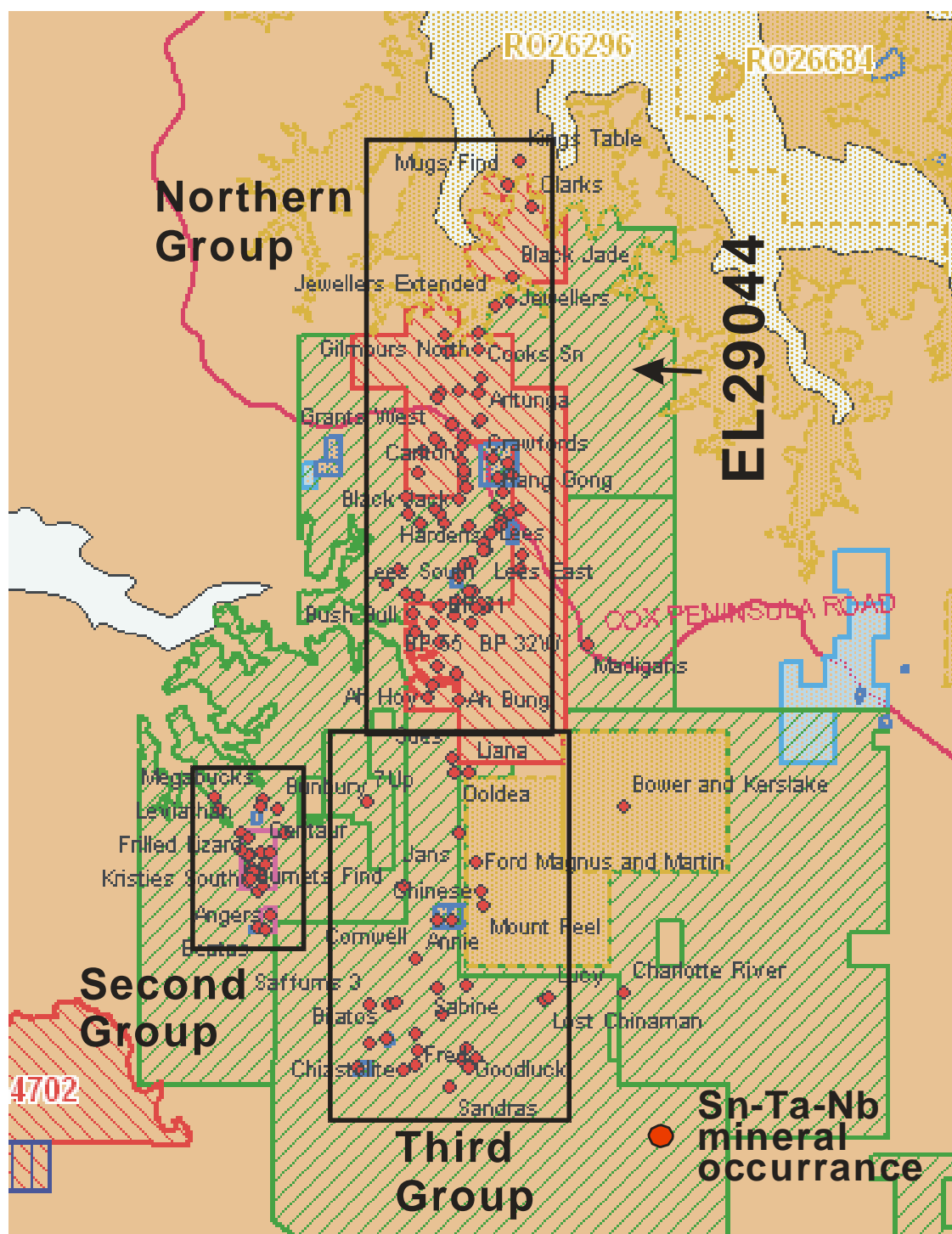


Fig. 2 Sn-Ta-Nb mineralisation in the Bynoe area.

Field Reconnaissance Works

Two field reconnaissance trips were carried out in September 2012 and March 2013, with chief and senior geologists from China. These geologists have decades of experience in exploration in tin mineralisation associated with granite. Along the Cox Peninsula Road and local unsealed roads, a number

of old pits, including Leviathan and its surrounded old mines, had been visited in the first trip to get an idea of the tin-Ta-Nb mineralisation in the area. Unfortunately, most of the old mines have been abandoned or back filled and covered by the luxuriant vegetation of tropical rain forests. At Leviathan, the old processing plant with steam power machines are also covered by grass and rainforest jungle. Outcrops of quartz veins and pegmatites have been seen, but no mineralisation. Only one old mine had been visited, where the open pit has been filled by water (Photo 1). Samples have been taken from the processing plant area. One of the samples has been crashed into powder under 200 mesh and analysed for tin, Ta and Nb using XRF. The results are shown in Table 1.



Photo 1. Old mining pit in the tin field (at 130.79548 and -12.677638)



Photo 2 . Hand specimen of Sn-Ta-Nb ore from the tin field (at 130.79383 and -12.671268).

Table 1 Hand specimen analyses results

Sample		Location			Sn	Sn+/-	Nb	Nb+/-	Ta	Ta+/-
Sample type	Sample ID	Zone	Easting	Northing	(%)	(%)	(%)	(%)	(%)	(%)
Whole rock	Sn-1	53	130.79383	-12.671268	19.78	0.05	0.24	0.02	0.42	0.02

Between later February and early March 2013, the company geologists undertook the second reconnaissance trip with experts from China again. Unfortunately, access was blocked by floods with heavy rains in the field and it was too difficult to cross the rainforest jungle. This field investigation was abandoned.

Geophysical Images

As all previous works are carried out near the surface, approximately less than 50 meters in depth associated with pegmatites in the tin field. Fluid inclusion study appears that the mineralisation temperature is about 300°C which indicates that the mineralisation forms in the last low temperature stage of hydrothermal fluid activities or near the surface associated with intrusion of granite. Under the pegmatites, there may be massive mineralisation associated with greisen at contact zone between the granite and country rocks, like the Limu Sn-Nb-Ta deposit in China (Fig. 4). There is a possibility to find massive mineralisation with greisen at contact zone between granite and the country rocks underneath the pegmatites at depth in this tin field. Therefore, geophysical images have been reviewed to identify subsurface structures.

Fig. 5 shows the magnetic images of the tin field and EL29023 area. A series small anomalies distributes in NE-SW direction. Generally, granite will has negative gravity anomaly and positive uranium anomaly comparing to country rocks. Unfortunately, the gravity images did not show significant sub- surface structures in the tin field and EL29023 area (Fig.6). Images of uranium and uranium/thorium ratio (Fig.7) shows that the tin field area are all in red, positive anomaly of uranium. However, it is not good to identify specific spots with relative high contents of uranium in the tin field and EL29023 prospect area. The data need to be retrieved to show whether there are some relative interesting area for target massive mineralisation associated with greisen at contact zone between the country rocks and unexposed small granite at depth.

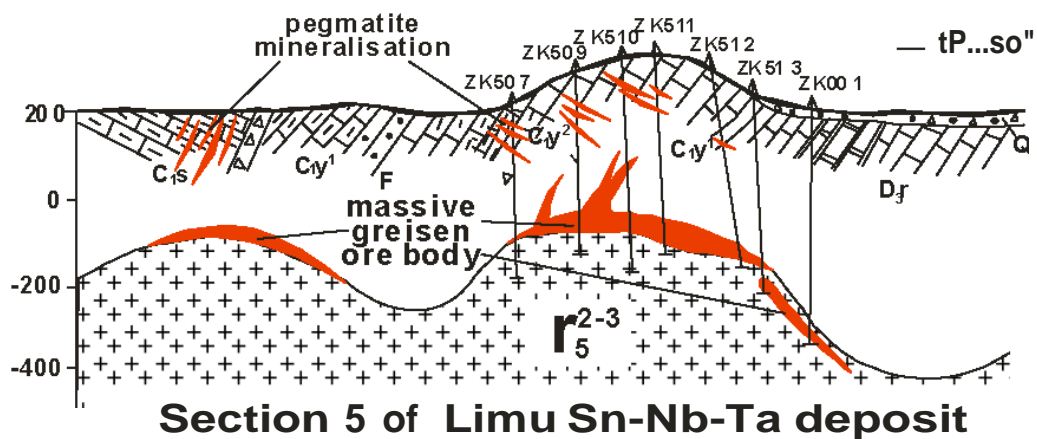
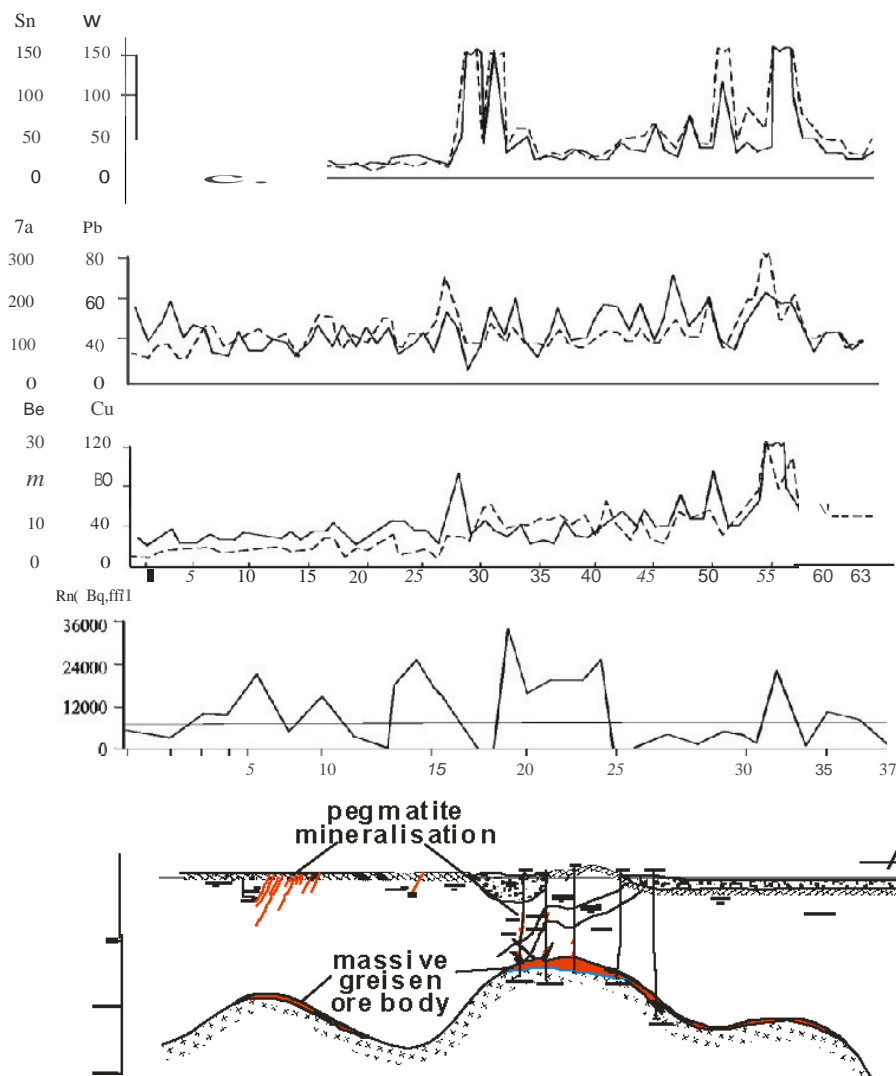


Fig. 4 Mineralisation associated with pegmatites and massive greisen at Limu Sn-Nb-Ta deposit in China

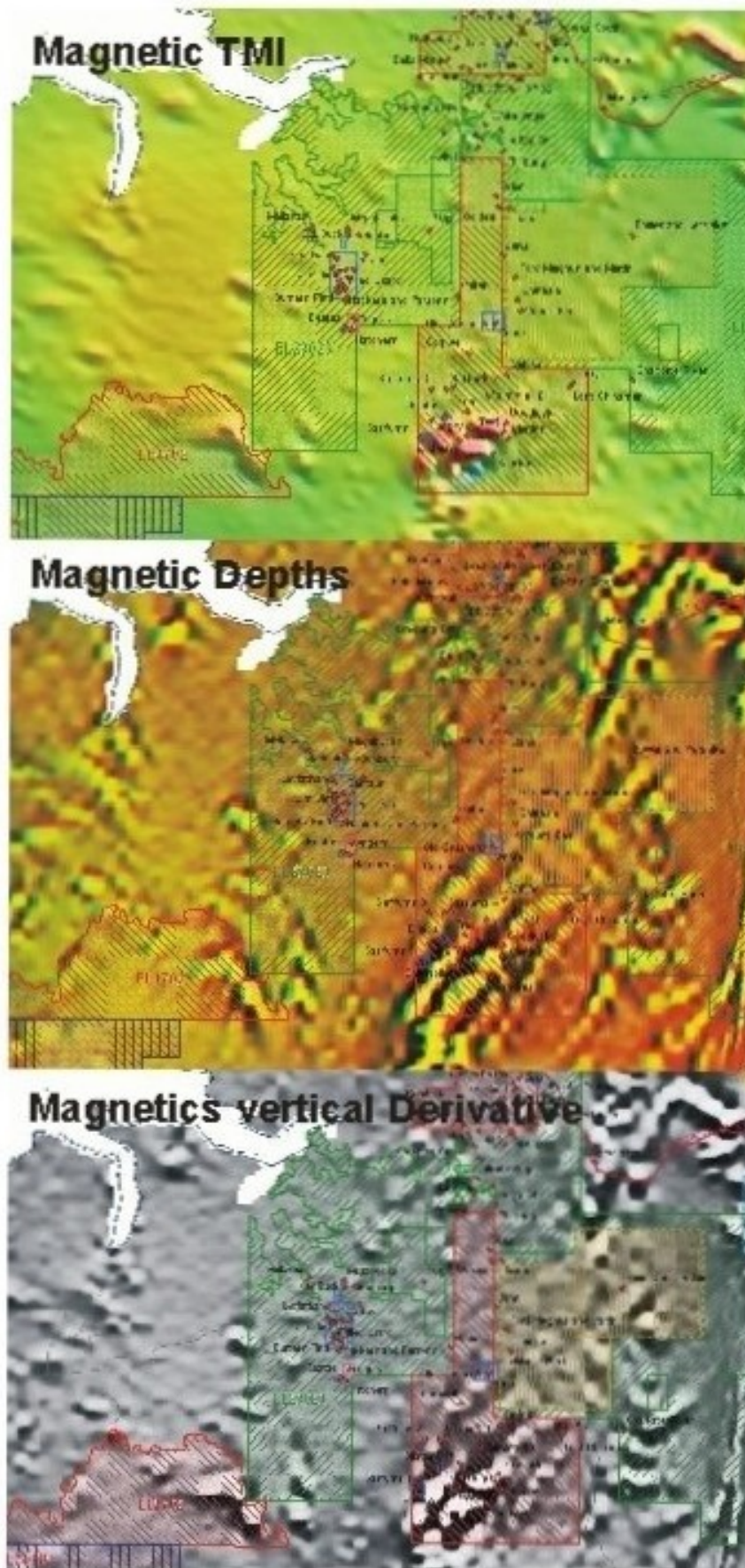
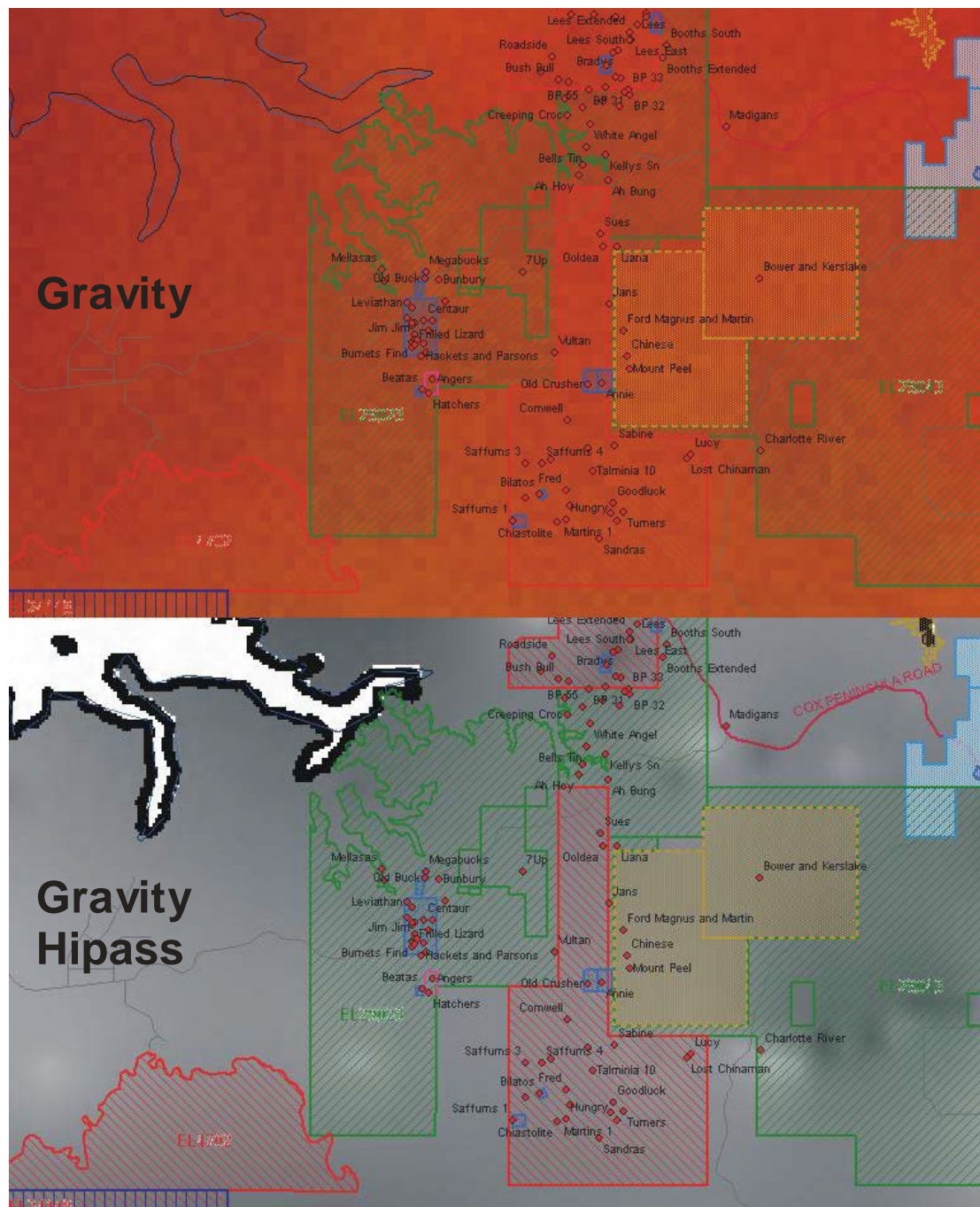


Fig.5 Aero-magnetic images of EL29023 area.



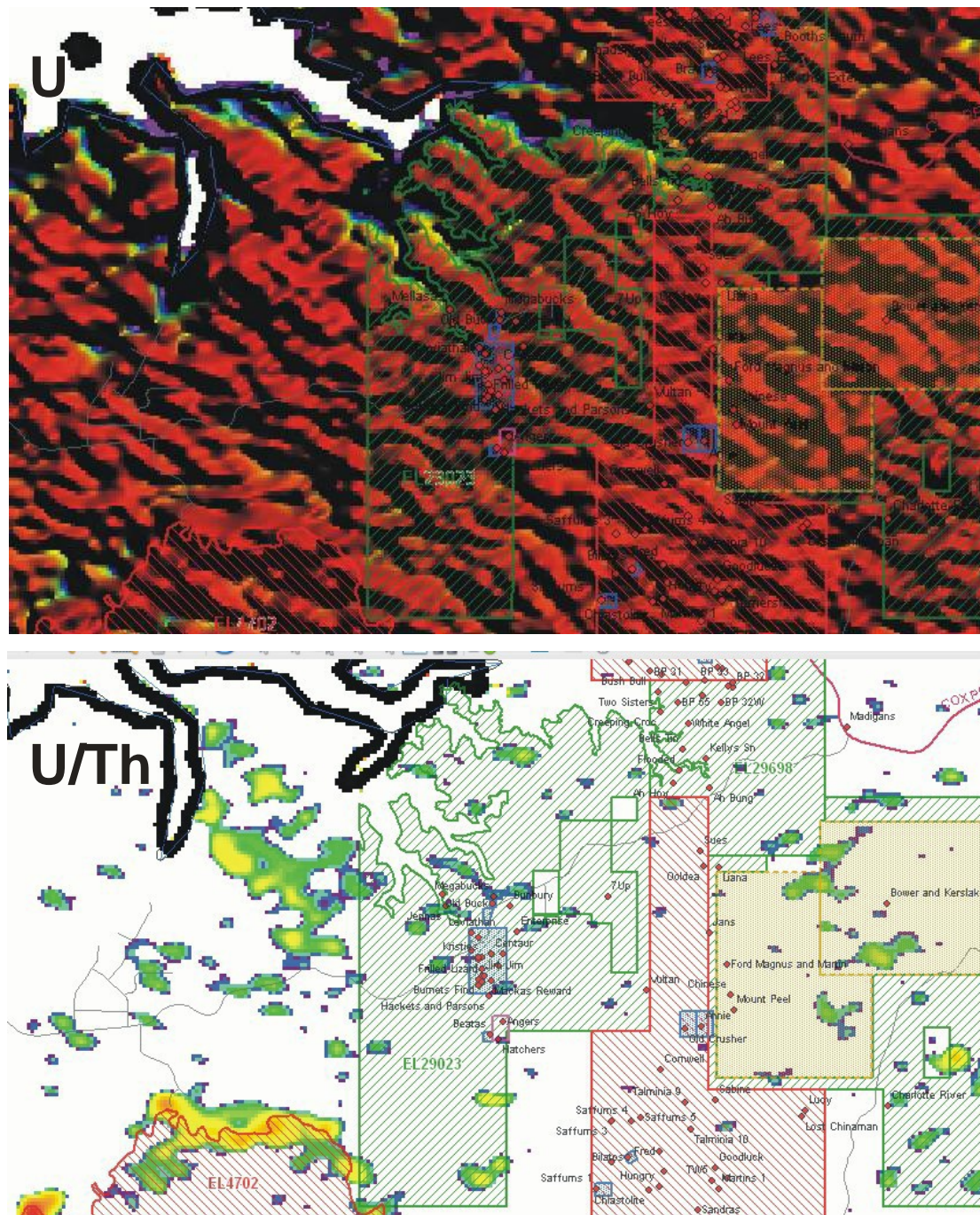


Fig. 7 Image of uranium at the tin field and EL29023 area.

Conclusion

There is a potential to explore for tin, tantalum and niobium in the area of EL29023. Although only five Sn-Ta-Nb mineral occurrences located in EL29023 are outside of the mining leases. There is a possibility of planer gresien with massive mineralisation under the sub-surface mineralisation associated with pegmatites. Aero-geophysical images have been used to understand substructures in the area. A series of aeromagnetic anomalies occur in the area in NNE direction with a small gentle positive aero-gravity anomaly at south.

Recommendation

Following works have been recommended for the next 12 months:

1. Finish remote sensing and retrieve aero-geophysical data in detail, especially for the area of EL29023 to find some interesting spots;
2. Find accessing tracks to inspect the outcrops of pegmatites and mineral occurrences which have not yet been mentioned before and check the areas identified by remote sensing and retrieving geophysical data;
3. Detail mapping and rock chip sampling at the identified spots;
4. Geochemical sampling at the interesting area.

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