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EL 4246

COPLEY

FIRST PARTIAL SURRENDER REPORT, FOR THE PERIOD 8/4/2009 TO 7/4/2012

Submitted by
Panda Mining Pty Ltd
2012

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Government of South Australia
Department for Manufacturing, Innovation, Trade, Resources and Energy

PARTIAL SURRENDER REPORT

EXPLORATION LICENCE 4246

07-04-12

PANDA MINING PTY LTD

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EXPLORATION PROGRAMME UNDERTAKEN IN EL 4246

Introduction

EL4246 is situated to the east of the Leigh Creek Coalfields; access is via the main Adelaide – Copley tar road and within the tenement along fairly eroded station tracks. The geology is dominantly the Tapley Hill sediments which have been faulted and folded with local diapiric activity responsible for the mainly copper mineralisation.

This exploration programme was designed to follow-up aeromagnetic and satellite image features that could assist in targeting mineralisation and to asses the viability of historical workings under present day economic factors.

The Southern Geoscience interpretation and proposed targets are appended.
The XRF survey contours are appended.

No work was completed in the surrendered portions.

Previous work in the area

The Leigh Creek Coalfields have been operational since 1948 and continue to supply the energy for the Port Pirie electricity generators.

The Mount of Light copper mine adjacent to Copley has had a fairly chequered history but is currently producing a reported 2t of copper a week by heap leach and electrolysis.

Rare random workings are visible along the chert/quartzite horizons but these do not show any economic potential.

Work undertaken for Panda Mining Pty Ltd

(no work was completed in the surrendered portions)

1. Cutaway Prospect – EL 4246

The Cutaway prospect is situated on the flanks of a steep hill immediately opposite the Mount of Light copper mine.

The geology consists of shales and siltstones separated by very thin dolomite beds which increase in volume up-stratigraphy. The dolomite is probably chemogenic as there is no obvious growth layering associated with stromatalite development.

Mapping identified a copper rich horizon associated with strongly kaolinised shale, adjacent to a weathered tillite which may be a handy marker horizon, similar to the Mount of Light and its satellite deposits (fig.2).
The surface copper minerals are malachite with minor azurite which has been deposited on the fracture faces and joint surfaces of the shale.

Regional mapping indicates that the primary sulphide source may be stratabound and the secondary copper (and concurrent kaolinisation) is a function of deposition by a fluctuating water table along jointing and fractures.

A farm out agreement with the owner/operators of the Mount of Light should be considered.

1. **Mount Coffin – EL 4246**

The western closure of the Mount Coffin antiform was identified by Southern Geoscience as an area of potential from the aeromagnetic survey and the satellite interpretation (**target 4/4246).**

Two 1km long, north - south XRF geochemical traverses with coincident mapping were completed at 200m line spacing and 50m sample spacing (fig 3).

There is 90% outcrop which is dominated by unaltered grey/green shale with very thin dolomite horizons. A10m thick, silicified, unmineralised black shale was identified and underlies a thin tillite and an overlying quartzite which occurs as fresh, angular float.

There is no sign of any historical working within the area examined.

No further work is required in this area.

2. **Anomaly 1 – EL 4246**

Anomaly 1 is immediately north of the Leigh Creek airstrip and was identified from the recent aeromagnetics and radiometrics and occurs as a north – west trending lobate magnetic – uranium feature.

A ground XRF survey at 100m x 25m spacing returned low ppm uranium together with high vanadium values which could be breaking down to carnotite.

Mapping at the same scale did not identify any uranium mineralisation although there is evidence of a thin east – west diaper whose margins may be slightly radioactive (fig 4).

The uranium trend follows the local drainage direction which probably is the cause of its orientation.

A number of gossan samples were collected in this area, further work will be dependant on these results.

3. **Anomaly 3 – EL 4246**

Anomaly 3 was examined using 200 x 25m sample spaced XRF sample survey and coincident mapping (fig 5).
Geologically the area consists of flat lying sediments; shales, siltstones together with minor interbedded dolomites and dark grey shales which are overlain by a quartzite or

highly silicified sandstone. North east faulting has resulted in minor drag folding while quartz filled brecciation has occurred in the brittle upper sandstones.
The rock units display minor alteration and no apparent mineralisation.

The soil cover towards to southern area along the road has a significant mica, iron and quartz/ gossan content, as this is not coming down-slope from the unaltered outcrop it could reflect buried mineralisation.

The XRF plots will assist in making a decision on whether this area warrants further examination.

4. Anomaly 5 – EL 4246

Grey unaltered, partly oxidised, well bedded siltstones

Access and permitting

Leigh Creek station has recently been divided into two:

- There is a new traditional owner at the Leigh Creek South station: Mr Robert Winton ph 048 897 6436, who allowed access to the station.
- Leigh Creek North station is being resettled by the Coulthards who were originally at Leigh Creek station.

Results and Recommendations

Results from the work carried out on the southern portion of the tenement were disappointing and it was recommended that the southern half be relinquished.

No work was completed in the surrendered portions.

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ADELAIDE GEOSYNCLINE PROJECT, SA

Leigh Creek District EL 4246,

Airborne Magnetic and Radiometric Survey:

Interpretation and Targeting Memorandum

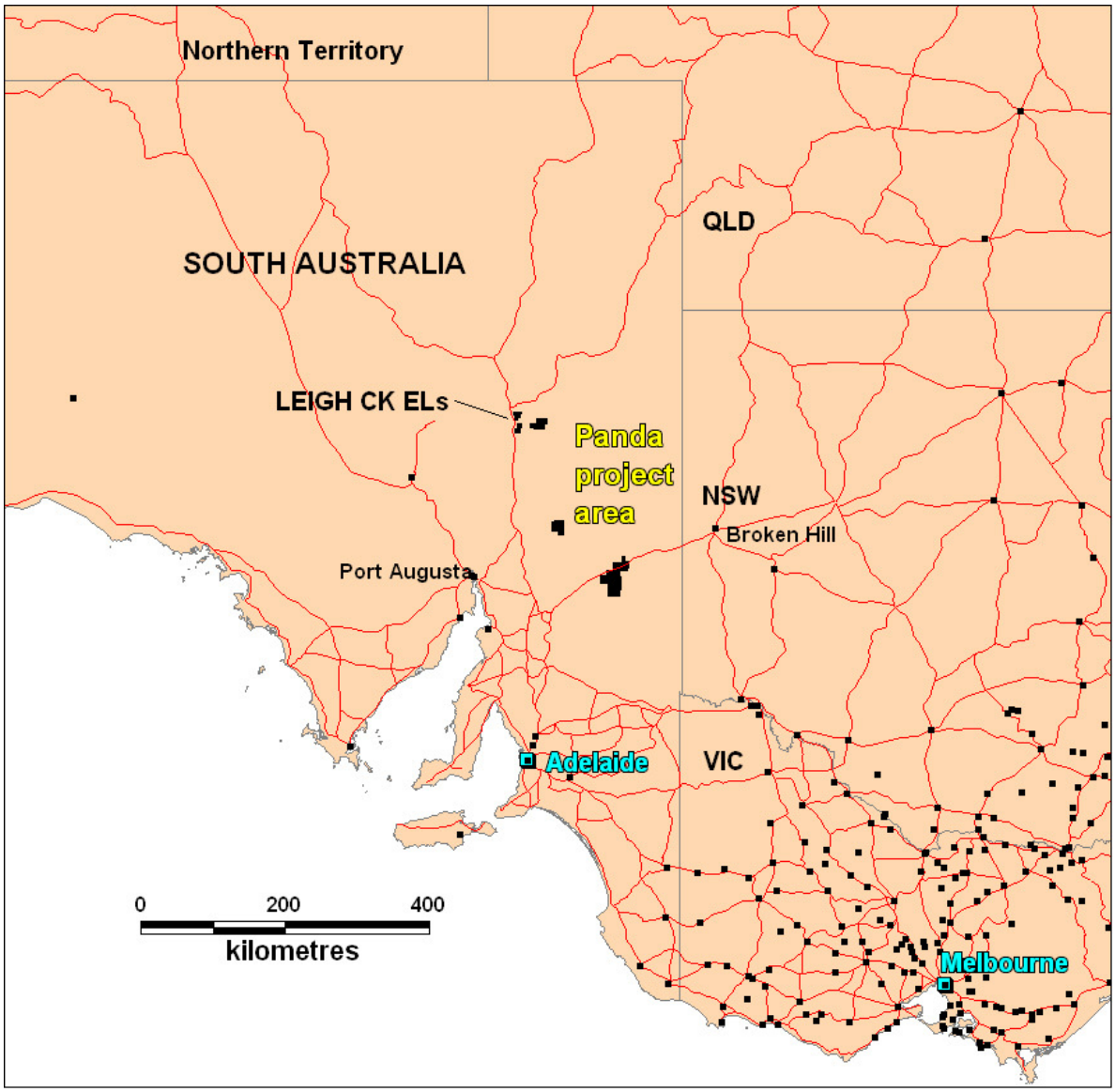
August 2010

David Isles

SOUTHERN GEOSCIENCE CONSULTANTS

SUMMARY

A high-resolution magnetic and radiometric survey was flown over Panda Mining's Adelaide Geosyncline project areas in May 2010, targeting principally basemetal and gold mineralisation. Survey details, data processing and imaging methods and interpretation approach are described in a consolidated report covering the five separate survey blocks which in turn covered nine Panda tenement areas. This memorandum outlines the areas of exploration interest resulting from processing and interpretation of the Leigh Creek district survey blocks which covered ELs 4215 and 4246 (see location diagrams below).

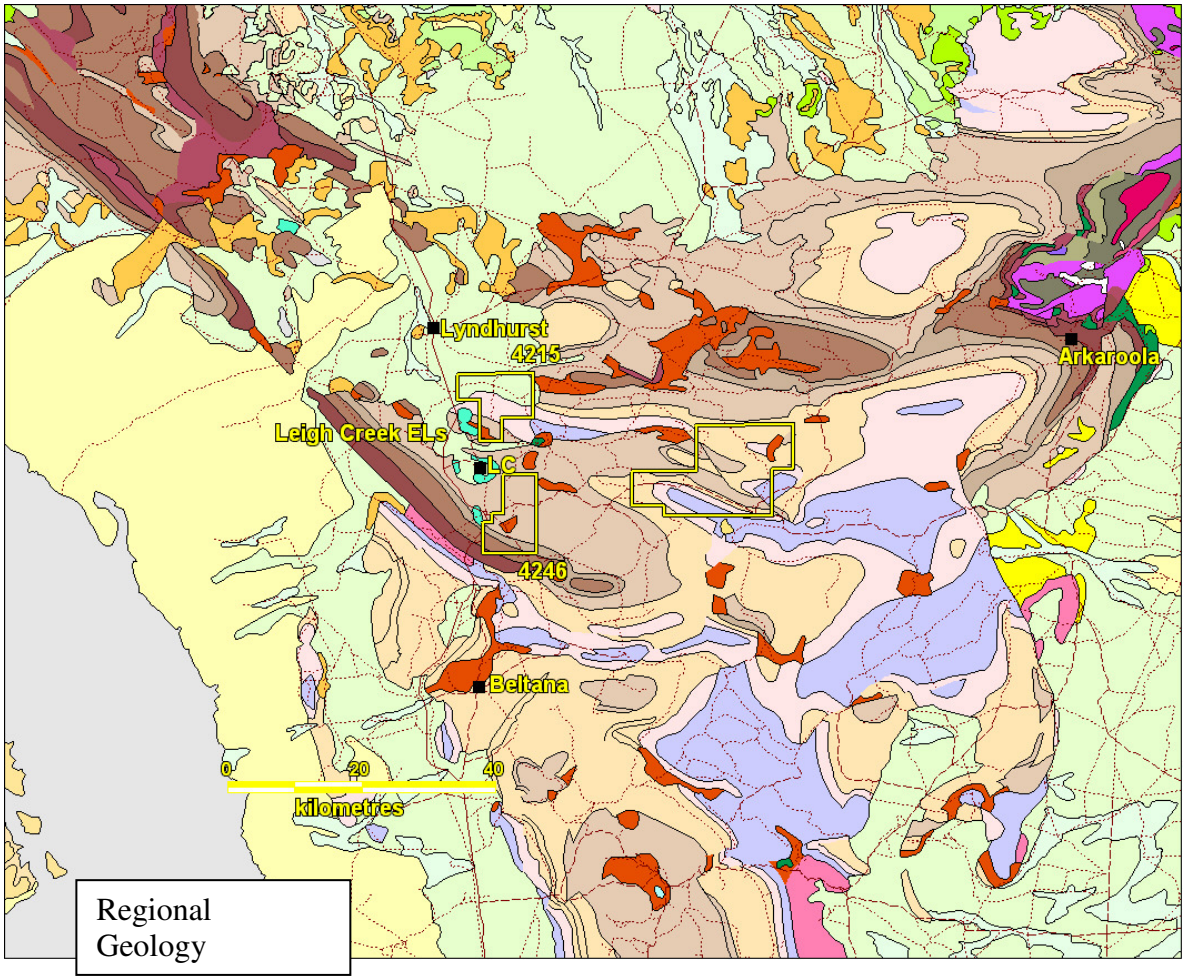


GEOLOGY

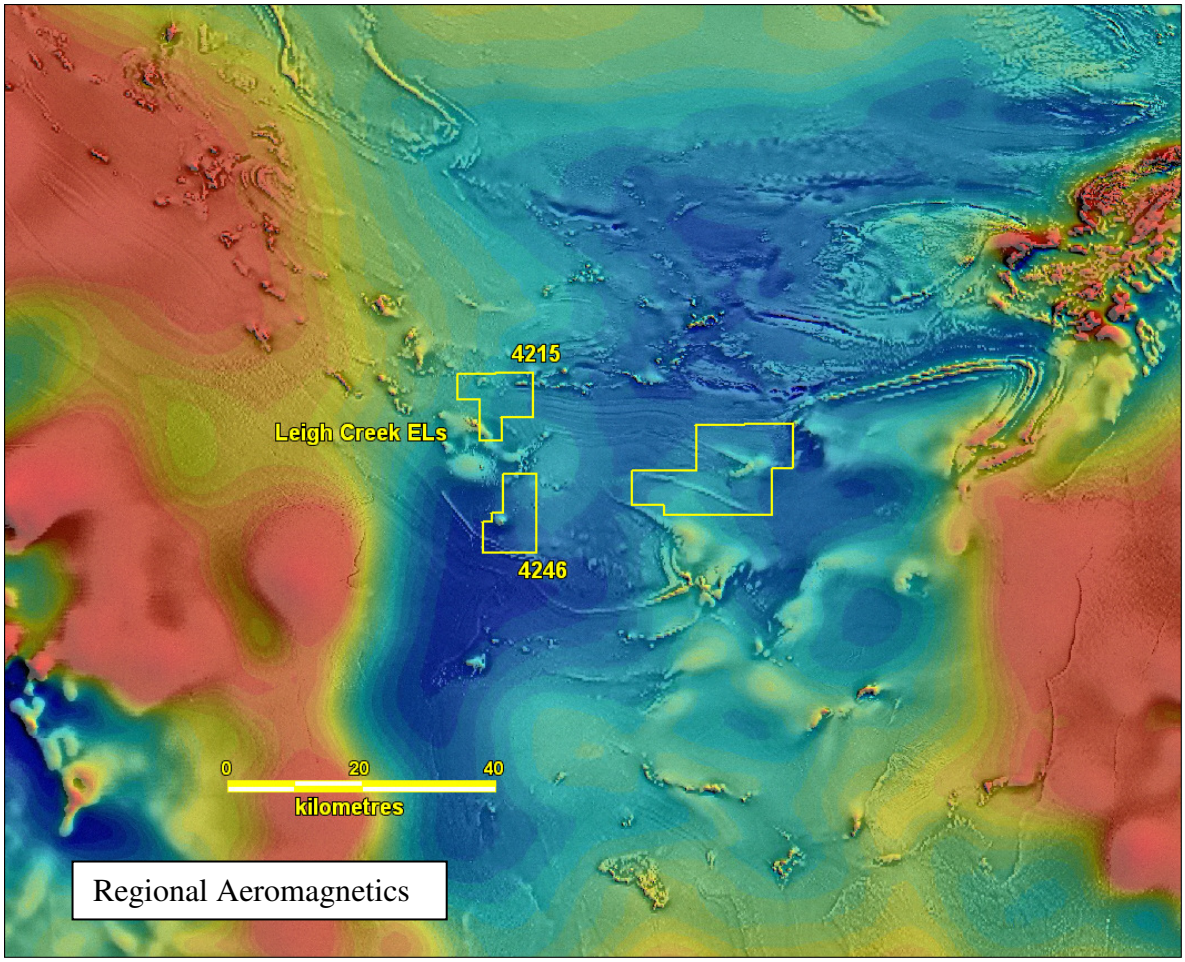
The geology of the survey area is well exposed apart from the northern section EL 4215. It covers parts of the Copley, Coffin, Booloroo and Burr Diapirs which largely intrude mid Adelaidean, Sturtian interval, predominantly the Tapley Hill Formation. Tight open folding and strong faulting is present in the Adelaidean with dominant (basement) structural controls oriented WNW and NNE. Published 1:100,000 scale mapping (mainly the Leigh Creek sheet) covers the area and this has been accessed in both map and digital form.

The area lies immediately east of the Leigh Creek coalfield and contains numerous small copper occurrences most of which are associated with diapiric activity and most being hosted in exotic, tectonised Callanna Group material. Barite and manganese occurrences are also found in the study area.

The regional geology and aeromagnetic images below illustrate the broadscale structure with the Willyama (Olary) basement to the east and the Stuart Shelf (Gawler) basement to the west.



Regional Geology



TARGETS

Targeting criteria in this area have included magnetic and radiometric anomalism, structural setting, local presence of mineralisation and evidence of alteration from the Earthscan satellite image study. The broad thrust in exploring the region has been based on the extensive distribution of mineral occurrences, particularly base metals and precious metals, and the relatively cursory nature of previous exploration. .

The target table below summarises the targets worthy of field follow up. The targets are illustrated in high resolution registered raster images (MapInfo jpegs), and are shown against the Satellite, magnetic, radiometric, and geological data. These are included at full resolution on the data disk accompanying this report and are appended to this document as lower resolution pdf graphics. The relevant MapInfo tables for the targets and a global, packaged workspace are also included on the data disk.

Summary diagrams showing the target locations follow the table below.

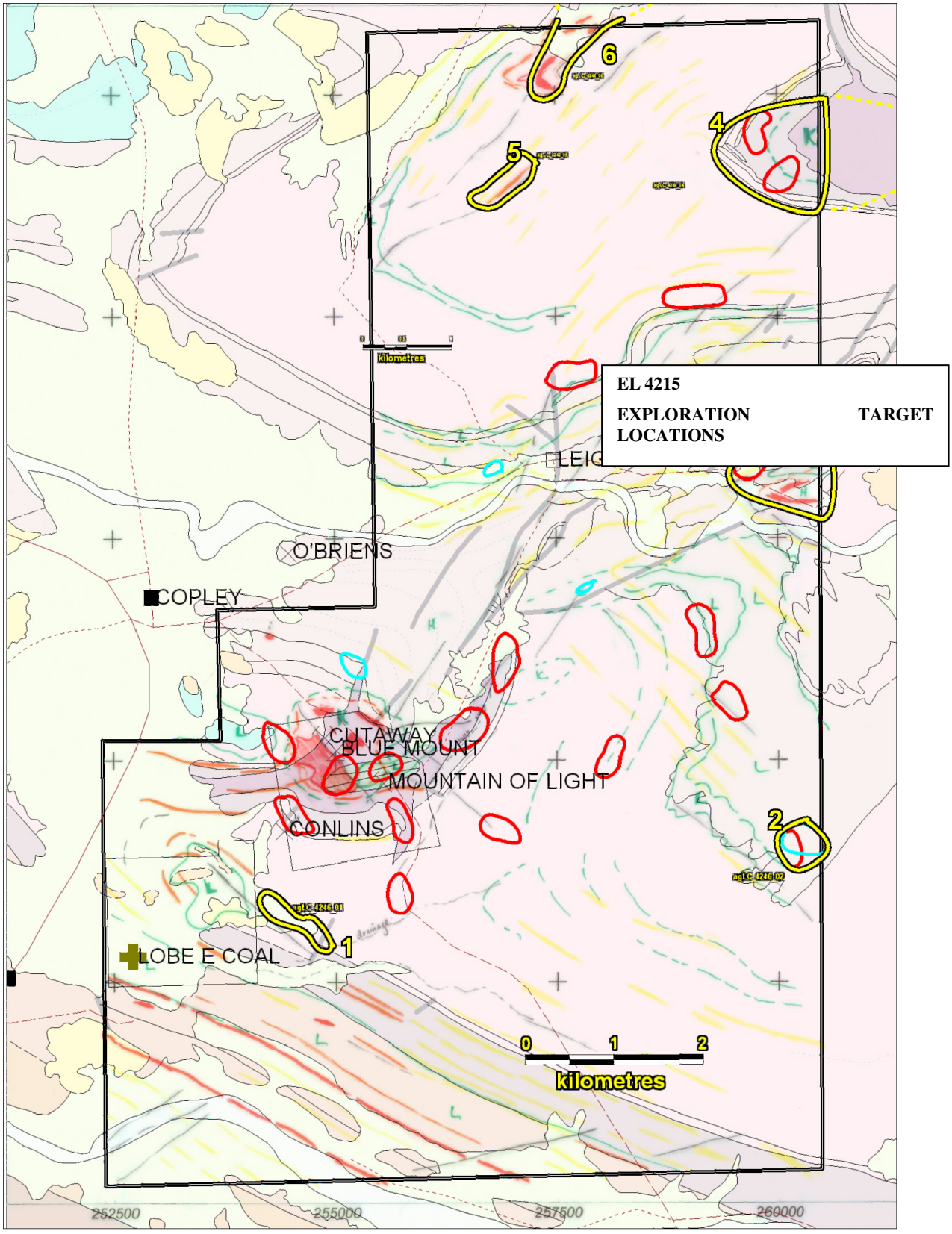
Panda EL 4246, Leigh Creek Area, SA

Mag/Spec Exploration Areas of Interest /Targets

Name	Location	Features	Priority
agLC_4246 01	SW EL, south of copper mine ML5467	Enhanced (x2) ***uranium*** at base of Tapley Hill Fm. Local NNE fault. Strike parallel but doesn't look stratigraphic.	High Unusual feature in mineralised and tectonised area
agLC_4246 02	SE EL, near boundary	Weakly elevated U in part coincident with Eartchscan alteration target	Low. Host Balcanoona fm is u-enhanced.
agLC_4246 03	Eastern EL boundary 2km E of Leigh Creek	Mag anomaly and Earthscan alteration target at fold closure, under influence of NNE fault. Chopped up section of Tapley Hill and Balcanoona Fm.	Moderate. Intriguing mix of features. Mag source may be Callannna
agLC_4246 04	NE EL, on boundary	Elevated K, Earthscan targets and weak mag feature at anticlinal closure, under influence of NNE fault. Basal Tapley Hill, Merinjina Tillite and Callana at anticlinal closure.	Moderate. Structurally interesting, mag/rad not outstanding
agLC_4246 05	North EL	Weak mag high in NNE structural corridor. In Tapley Hill fm but quite discordant	Low. Target 6 is bigger and stronger
agLC_4246 06	Northern boundary of EL, continues to NNE	Strong mag feature in NNE fault corridor Callanna mag source likely, although Tapley Hill mapped.	High. Copper mineralisation in Calanna and Tapley Hill in continuation of this zone to the NNE.

EL 4246 EXPLORATION TARGET LOCATIONS

(see appendix I for detailed images)



RECOMMENDATIONS

1 Field Follow up of target areas

All of the targets in exposed areas are worthy of field reconnaissance, including geological mapping and geochemical sampling. Most of the high priority targets are diapiric areas and many of these include exotic blocks containing copper mineralisation. While general mapping and sampling is an appropriate initial appraisal of these targets, testing for bulk tonnage mineralisation will require some form of electrical geophysics, probably IP. The judgement on follow -up style should be made after initial field reconnaissance and general consideration of the expected mineralisation style including mineralogy.

2 Further analysis of airborne geophysical data

No additional work on the aeromagnetic or radiometric work is warranted until such time as the above field investigation has been completed. More formal cartographic presentation of the interpretation products for reporting may be warranted at some later stage.

Dave Isles 21 August 2011