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EL 2627 / 3273 / 4478 / 5723

WILKAWILLINA

FOURTH PARTIAL SURRENDER REPORT, FOR THE PERIOD 5/8/1999 TO 27/4/2017

Submitted by
Perilya Limited
2017

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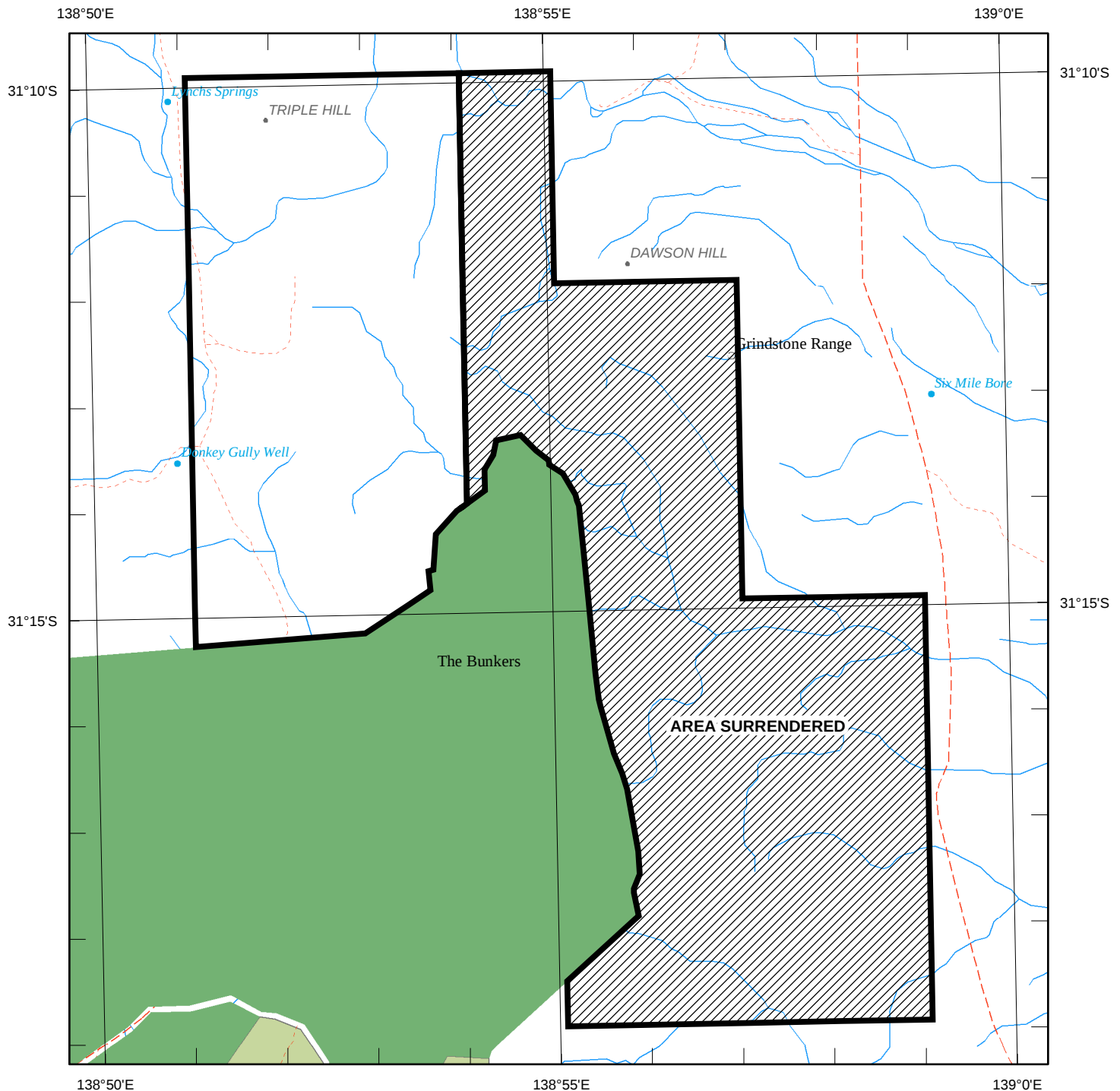
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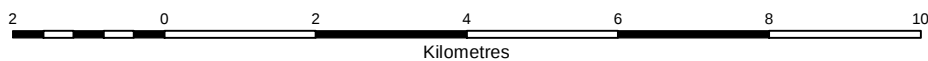
Government of South Australia

Department of the Premier
and Cabinet

SCHEDULE A



SCALE 1 : 100 000



LICENCE BOUNDARIES IN : DATUM AGD66

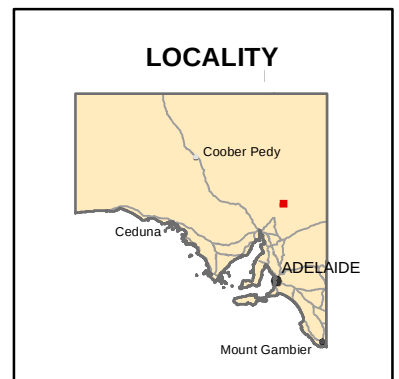
PERILYA LIMITED,
APPLICANT : MINOTAUR OPERATIONS PTY LTD

FILE REF : 2015/00019 TYPE : MINERAL ONLY

AREA : 45 sq km (approx)

1 : 250 000 MAPSHEETS : PARACHILNA

LOCALITY : ANGORIGINA AREA -
Approximately 45 km east of Parachilna



DATE GRANTED: 28-Apr-2015 DATE EXPIRED: 27-Apr-2017

EL NO: 5723



Partial Surrender Report

for

EL5723 “Wilkawillina”

Flinders Ranges Project, South Australia

DETAILS OF LICENSES

Licence No's:	EL5723 (formerly EL4478, EL3273, EL2627)
Location:	Flinders Ranges
Licence Holder:	Perilya Limited (90%), Minotaur Operations Pty Ltd (10%)
Operator/Manager:	Perilya Limited
Reporting Period:	05 August 1999 to 27 April 2017

Author: Dean Rogers

Date: 22 June 2017



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Appendices

EL5723 2017 Partial Surrender_Report_01.pdf
EL5723 2017 Partial Surrender_XRFsoils_02.txt
EL5723 2017 Partial Surrender_RockChip_03.txt
EL5723 2017 Partial Surrender_FileList_04.txt

Keywords

Zinc Silicate Mineralization, North Flinders Ranges, Beltana Style Zinc, Wilkawillina, Arrowie Basin, XRF Soil Surveying, Rock Chip Sampling, Bendieuta 1:50K, Wirrealpa 1:50K, The Bunkers 1:50K, Artipena 1:50K, Blinman 1:100K, Reaphook 1:100K; Parachilna 1:250k.

1. INTRODUCTION

This report is the final technical report for portions of EL5723 recently surrendered as per the terms of the Flinders Amalgamated Expenditure Agreement renewal for the 2015-2016 period. The licence area is located approximately 500km north of Adelaide near the town of Leigh Creek in the North Flinders Ranges, South Australia (Fig. 1). The tenement is part of a much larger tenement package currently being explored by Perilya primarily for zinc silicate mineralization similar to the Beltana Deposit although the area is also prospective for lead-zinc sulphide and copper mineralization.

2. TENURE

The Wilkawillina licence originally covered an area of 738 km² and was initially granted to Minotaur Gold NL as EL2627 on 5 August 1999. A JV agreement was signed between Minotaur Gold NL and Perilya Limited on 7 September 2000, with Perilya Limited assuming management of the licence. Several replacements have been granted over the original tenement including EL3273 on 02 Nov 2004 and EL4478 on 28 Apr 2010. The current tenement, EL5723 was granted on 28 Apr 2015 and has an expiry date of 27 Apr 2020.

Prior to the current partial surrender, which was actioned by way of the 2017 reduced area renewal application, the Wilkawillina licence covered an area of approximately 113.7km². The current surrendered portions of the tenement cover approximately 68.6km² representing approximately 60% of the tenement area (Fig. 2). The tenement is currently subject to the Flinders Amalgamated Expenditure Agreement as renewed for a two (2) year period ending 31 December 2018.

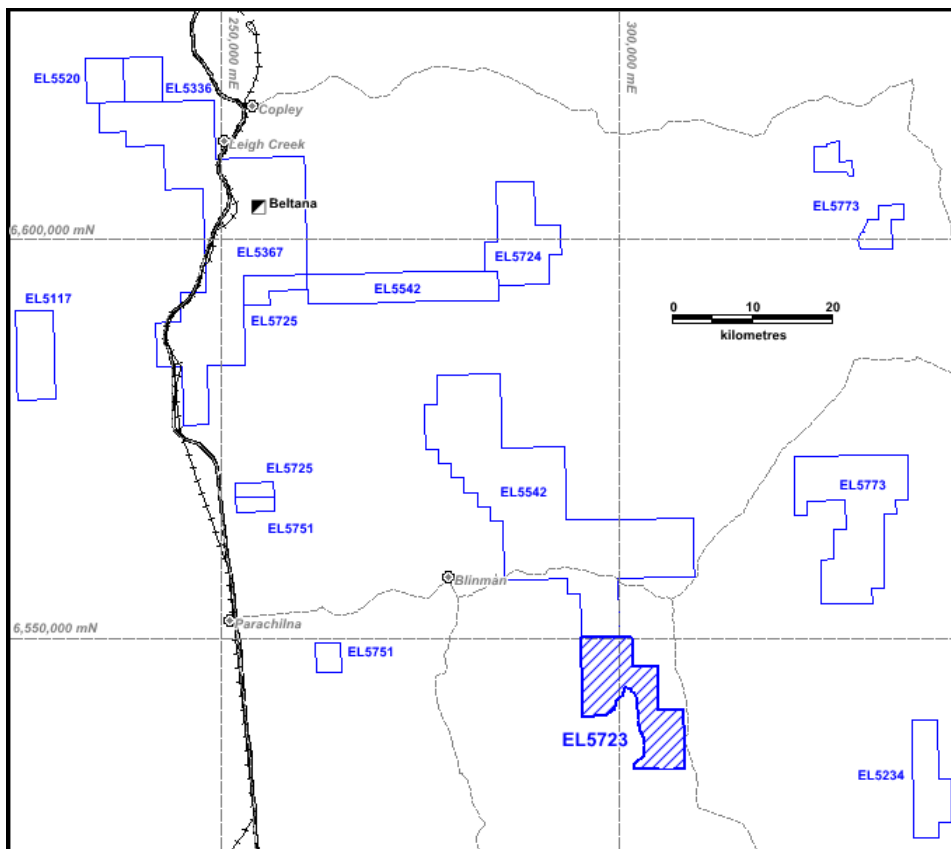


Fig. 1 : Perilya Flinders Tenement Package & EL5723 Location (MGA94)

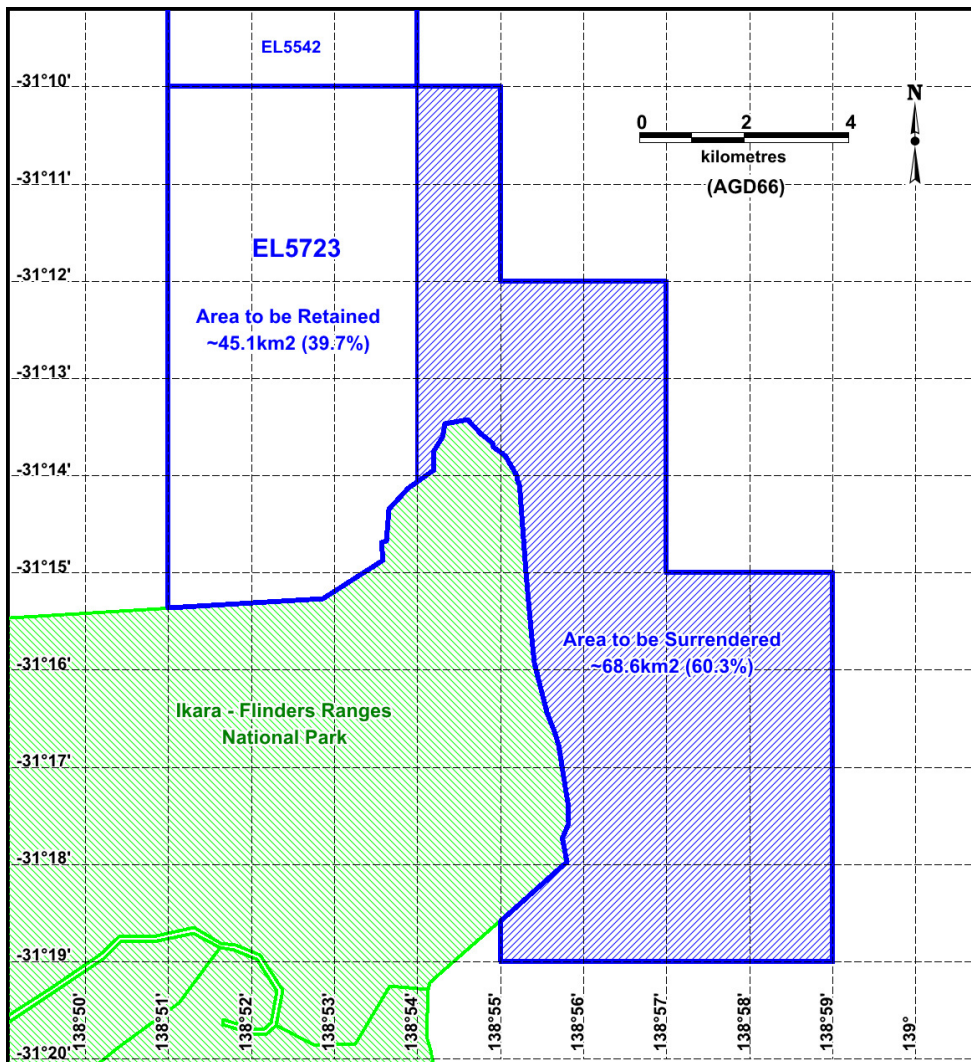


Fig. 2 : EL5723 Surrendered Area Details

3. GEOLOGY AND MINERALISATION

The tenement package is located within the Arrowie Basin, Flinders Ranges. The Arrowie Basin consists of an Early to Middle Cambrian succession overlying Neoproterozoic rocks of the northern Adelaide Geosyncline. The sequence of the Adelaide Geosyncline is exposed in the Adelaide Fold Thrust Belt, is bound to the west by the Torrens Hinge Zone, and extending north-south for 600 km to the Fleurieu Peninsula south of Adelaide.

The Arrowie Basin margins are defined by regional northwest and northeast basement structures. These structures were present at the onset of Neoproterozoic sedimentation and controlled the sedimentation thickness distribution within the basin. During the Delamerian Orogeny (~500 ma) these northwest and northeast structures were reactivated as thrust faults during regional north-south shortening. The shortening caused zones of extension along existing north-south structures close to the basin margin providing a locus for mineralisation.

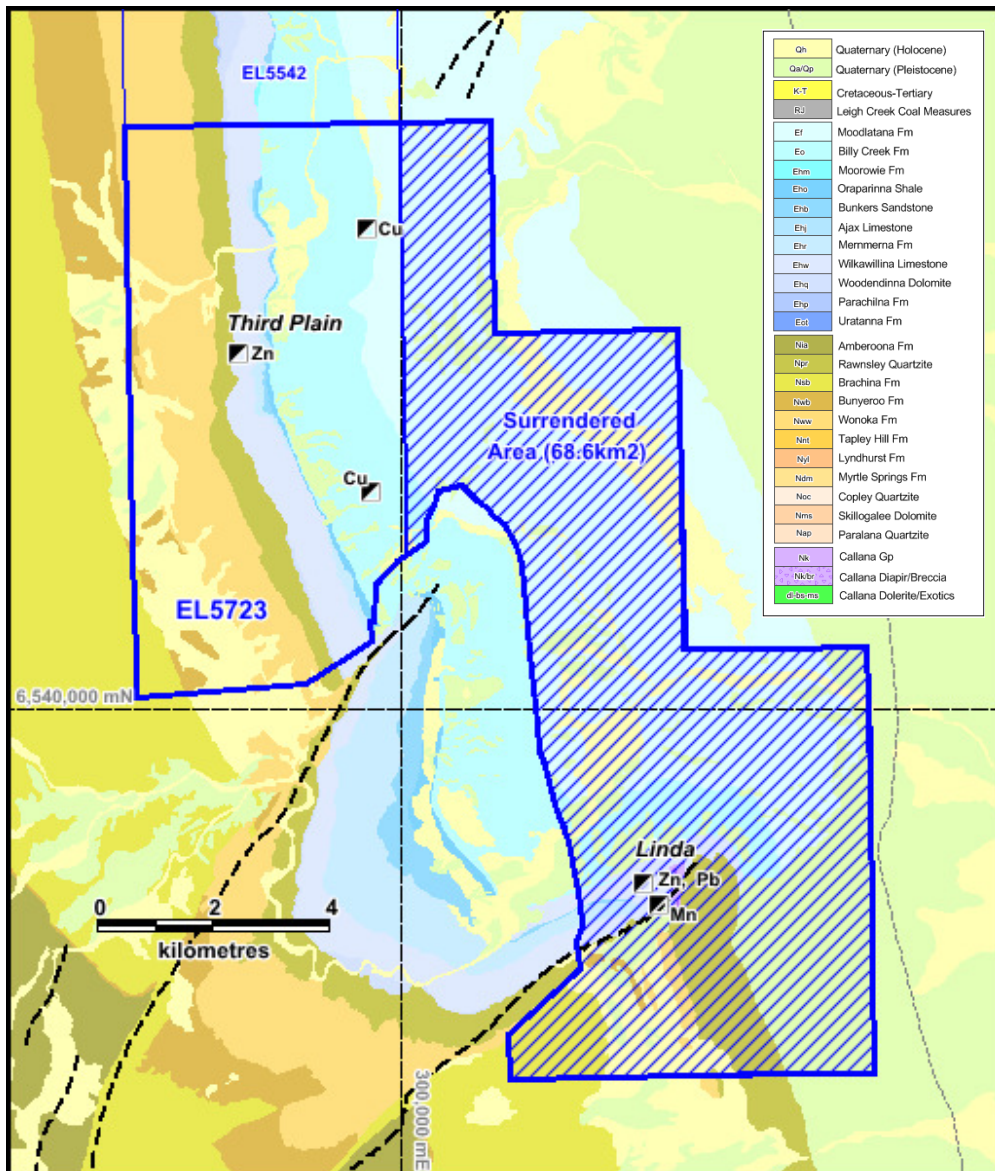


Fig. 3 : EL5723 Geology and Mineral Occurrences (MGA94)

Significant zinc mineralisation exists within the carbonate sequences of the Early Cambrian Hawker Group, most notably the fossil-rich Wilkawillina Limestone. Mineralisation is most pronounced on the margins of the basin where the stratigraphy thins near major regional structures (i.e. the Norwest Fault). The Beltana–Aroona trend is located in such a setting and is characterised by complexly deformed carbonate sequences hosting zinc silicate mineralisation.

The majority of the portion of EL5723 subject to this relinquishment report is interpreted to be underlain by Middle Cambrian units of the Billy Creek Fm and Lake Frome Gp (Figure 3). Minor outcroppings of the Lower Cambrian Hawker Gp and Callana Gp breccias occur in a likely fault emplaced wedge in the far southern part of the tenement. This stratigraphy is host to the Linda (Pb-Zn) prospect, a zone of poddy, fracture controlled sulphide mineralization previously explored by BHP in mid-1984.

4. WORK COMPLETED

The only field work completed by Perilya Limited over the surrendered area concentrated on the Linda prospect at the south end of the tenement. Work included tightly spaced XRF soil surveying and rock chip sampling over the immediate prospect area as well as broader spaced XRF surveying in areas peripheral to the prospect (Fig. 4). A total of 1,005 pXRF soil readings were taken and 27 rock chip samples collected and submitted for major and trace element analysis. Digital data for the XRF soil surveying and rock chip sampling is included as appendices to this report.

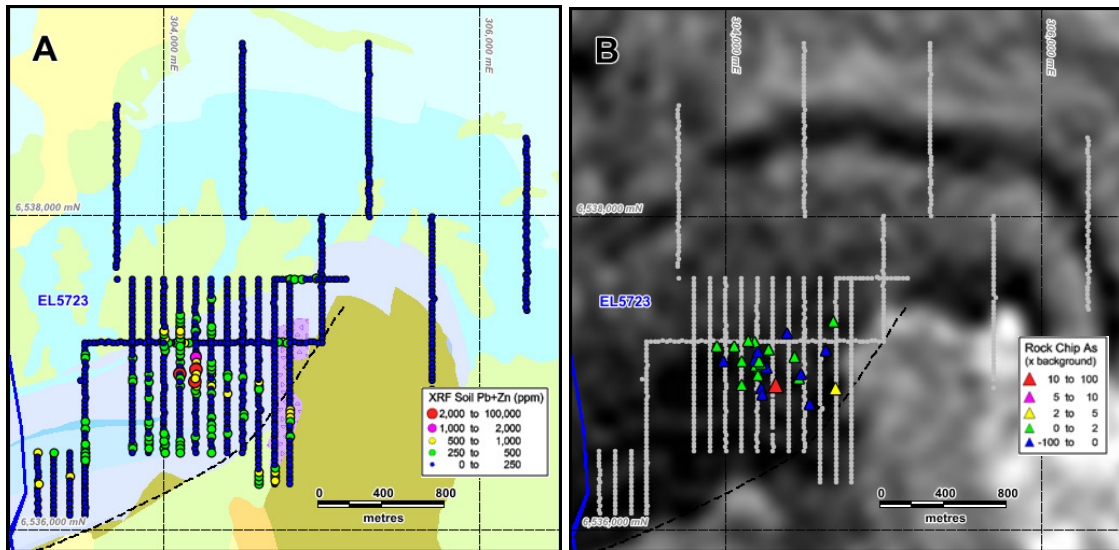


Fig. 4 : EL5723 Linda Prospect XRF Soil Surveying & Rock Chip Sampling

A) XRF Soil Pb+Zn w/ Regional Geology & B) Rock Chip Arsenic w/ Aster Quartz Index

Detailed XRF soil surveying over the Linda prospect on 100m spaced survey lines defined a strong but isolated response coincident with the immediate showing area. The anomaly ranges up to 9,449ppm Zn & 5,582ppm Pb however its extent shows a maximum dimension of approximately 150x150m (Fig. 4A). Rock chip sampling completed over the XRF anomaly returned no significant pathfinder element anomalism for Beltana-style zinc mineralization with only one sample on the margin of the anomaly returning anomalous results in As & Se (Fig. 4B).

Broader spaced, regional XRF surveying was also completed over Cambrian stratigraphy in the surrounding area with broader spaced, 600-800m spaced survey lines to the north and east of the prospect. No significant base metal results were returned from the work with maximum values of 423ppm Zn, 285ppm Pb & 83ppm Cu returned.

The only other exploration data collected over the tenement area was the purchase of Aster multispectral data in late 2011 which covered the entirety of Perilya's tenement holdings in the region. As indicated above the data has been primarily used to identify potential carbonate stratigraphy using quartz index ratios and potential hematite alteration using iron index ratios. Fig. 4B above provides an excellent illustration of the application of the data where more prospective, massive limestones and dolomites near the Proterozoic contact are clearly visible from the quartz index images juxtaposed to the surrounding limey siltstones and clay rich units. Digital data for the Aster multispectral data has been previously forwarded to the Department its entirety and has not been included with this report.

5. CONCLUSIONS AND RECOMMENDATIONS

Field work completed in the vicinity of the Linda prospect has adequately defined the limits for potential of near surface base-metal mineralization. The anomaly defined is of relatively restricted extent of less than approximately 150x150m. Furthermore, this area has previously been well tested by RC and diamond drilling by BHP in 1984 with up to 20 reportedly being completed in the area. Only 11 holes totalling 594m of drilling are available through SARIG although 2 diamond holes are reported to have reached depths of 102m & 201m respectively suggesting the drilling has adequately tested down-dip potential of the surface showing.

Other portions of the tenement to the north are underlain primarily by Middle Cambrian carbonate rocks of the Billy Creek Fm and Lake Frome Group which are so far not known to host Beltana-style mineralization in the region. The areas are far removed from the fault-bounded contact with Proterozoic-aged rocks which is the primary host and target area for zinc silicate mineralization.

Only low-impact XRF and rock chip sampling were completed within the surrendered area of EL5723 (including predecessor tenements) and therefore no environmental liabilities are known to exist as a result of Perilya's operations. It is therefore recommended that the remaining portions of the tenement be relinquished.