

# NORTHERN MINING LIMITED

ACN 113 654 229

<b>Titleholder</b>	Northern Mining Limited
<b>Operator (if different from above)</b>	as above
<b>Titles/tenements</b>	EL 24961
<b>Tenement Manager</b>	Austwide Mining Title Management Pty Ltd
<b>Mine/Project Name</b>	Napplebar Yard
<b>Report title including type of report and reporting period including date</b>	Partial relinquishment report for Napplebar Yard EL 24961 for the period 05/10/2009 to 04/10/2010
<b>Personal author(s)</b>	Dr Michael Green Remote Area GeoScience
<b>Corporate author(s)</b>	Northern Mining Limited
<b>Target commodities</b>	manganese, uranium, copper, cobalt, lead, zinc, silver
<b>Date of report</b>	3 December 2010
<b>Datum/zone</b>	GDA94/Zone 53
<b>250 000 K mapsheet(s)</b>	Henbury (SG53-01)
<b>100 000 K mapsheet (s)</b>	Seymour (5448) Henbury (5548)
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## 1.0 Summary

EL 24961 is part of Northern Mining Limited's Central Australia project and is considered prospective for numerous styles of mineralisation:

- stratabound copper-cobalt (Zambian-style),
- stratiform lead-zinc, manganese, phosphate and potash,
- unconformity uranium, and
- sandstone-hosted uranium (Angela-style).

Reconnaissance rockchip sampling and mapping during the fourth year of tenure showed that sandstone-hosted uranium (Angela-style) is unlikely in the southern part of the tenement. Given the lack of outcrop in this area it was also considered too difficult to explore for the other target commodities. As such, this part of EL 24961 was relinquished at the end of the 4<sup>th</sup> year of tenure.

## 2.0 Introduction

EL 24961 'Napplebar Yard' (formerly 'Camel') is located 120 km southwest of Alice Springs along the Stuart Highway (Figure 1). Access is excellent with many station tracks and fence-lines crossing the tenement. The tenement is cut by the Finke and Palmer Rivers. This report covers the work completed on the 46 sub-blocks of EL 24961 relinquished at the end of the fourth year of tenure.

## 3.0 Tenure

EL 24961 was granted to Imperial Granite & Minerals Pty Ltd (100 %) on 5 October 2006, and was immediately transferred to Northern Mining Limited as part of an existing agreement. Originally, the tenement comprised 488 sub-blocks overlying NT Portions 1991, 2958 and 657, which are part of the Palmer Valley, Idracowra and Henbury perpetual pastoral leases, respectively.

A waiver to reduce the tenement was approved at the end of the second year of tenure. At the end of the third year of tenure, the easternmost 244 sub-blocks were relinquished leaving the westernmost 244 sub-blocks. At the end of the fourth year of tenure, 46 were recommended to be dropped leaving 198 blocks. The relinquished sub-blocks are within the Palmer Valley and Henbury perpetual pastoral leases.

Tenement	Ten no.	Blocks Granted	Blocks Relinq.	Blocks Retain	Grant Date	Expiry Date
Napplebar Yard	24961	488	290	198	5 Oct 2006	4 Oct 2012

**Table 1:** Tenement details



## 4.0 Geology/Prospectivity

EL 24961 is located in the middle of the Amadeus Basin where many stratigraphic units are juxtaposed in a fold-fault setting. As such, the tenement is prospective for many of the styles of sediment-hosted mineralisation known in the Amadeus Basin (Figure 2), including:

- stratabound copper-cobalt (Zambian-style),
- stratiform lead-zinc, manganese, phosphate and potash,
- unconformity uranium, and
- sandstone-hosted uranium (Angela-style).

Historic exploration on EL 24961 has been limited to stream sediment and rock-chip sampling in the Seymour Ranges by *Le Nickel* in 1971 (CR1971-0132). This exploration tested for stratigraphic Cu-Pb-Zn; stream sediments only tested for these elements whereas rock-chips also tested for Fe-Mn-Co. The results are not encouraging, though the lack of elements tested still leaves scope for other commodities. A review of sampling procedures also highlights that many samples had large amounts of contamination, especially aeolian sand. Importantly, seams and nodules of phosphorite were noted in the Stairway Sandstone. Some of this work is within the relinquished portion of the tenement.

## 5.0 Northern Mining Limited Work

### 5.1 Year 1

In the first year of tenure, work on EL 24961 was limited to desk-top reviews and reconnaissance field trips. These field trips included discussions with local pastoralists and assessment of vehicle access. No sampling was undertaken. The Aboriginal Areas Protection Authority sacred site register has been assessed for the area and is relatively clear.

### 5.2 Year 2 & 3

No significant field work was completed in the second or third year of tenure. The proposed field programmes were not undertaken due to the difficulty of obtaining geological staff and contractors during the boom and then the uncertainty of corporate financing during the global recession.

### 5.3 Year 4

In the fourth year of tenure, reconnaissance field work identified two areas with exposed manganese mineralisation. These areas and their predicted strike continuations are outside the relinquished portion of the tenement.

Work in the Seymour Range failed to provide any further encouragement to the previous *Le Nickel* results. The valleys are filled with unconsolidated Tertiary alluvial exotic gravels and pebbles, such that any stream sediment samples are



unlikely to reflect the immediate bedrock composition. The reported phosphorites were poor, whereas the basal conglomerate at the base of the Stairway Sandstone does not appear to be enriched in uranium.

Reconnaissance work in the Palmer River valley failed to identify any suitable sandstone host for Angela-style uranium mineralisation.

As such, 46 sub-blocks were relinquished. No samples have been collected by Northern Mining in the relinquished area.

## **6.0 Environmental**

No ground disturbing work has been undertaken on EL 24961.

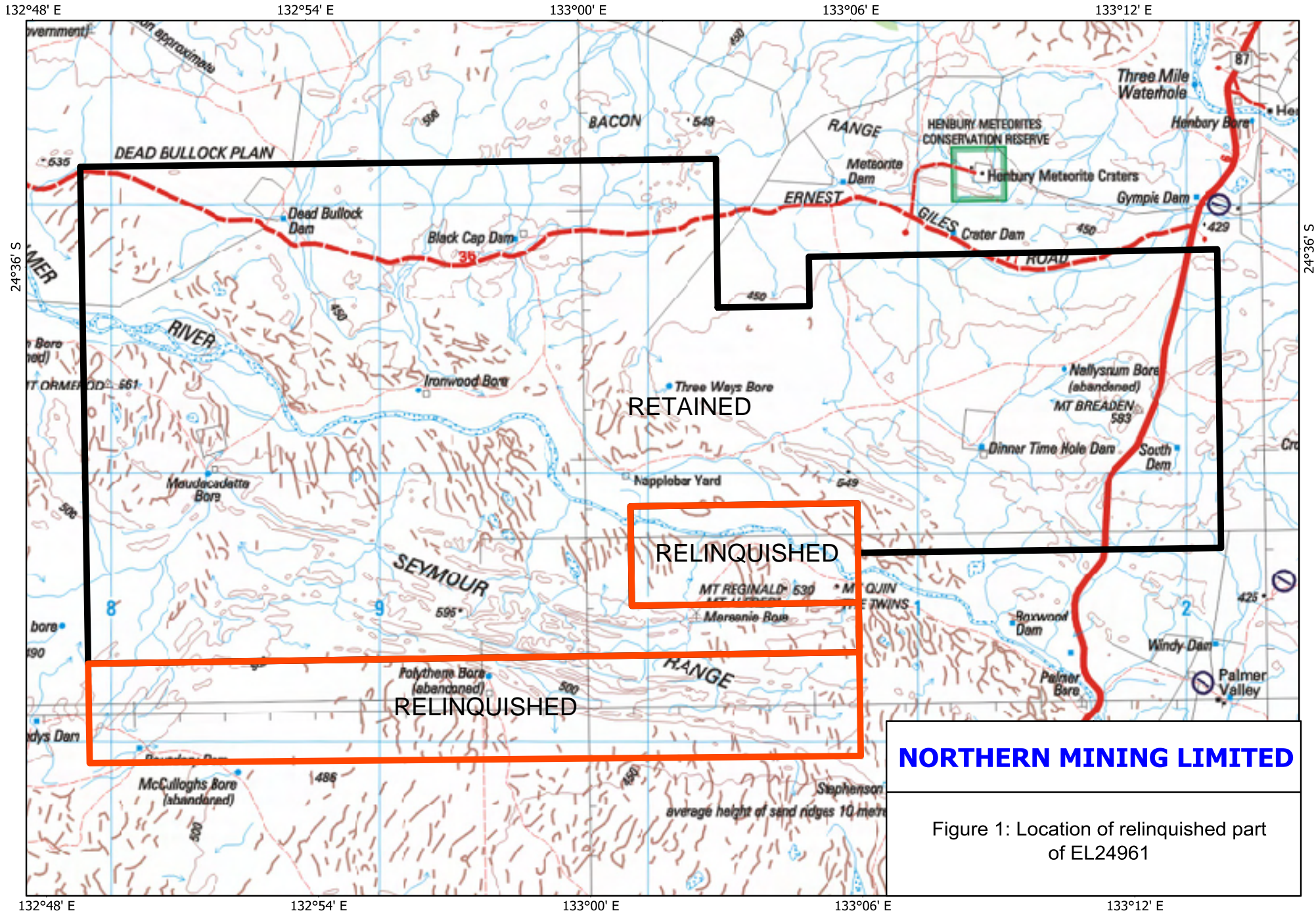
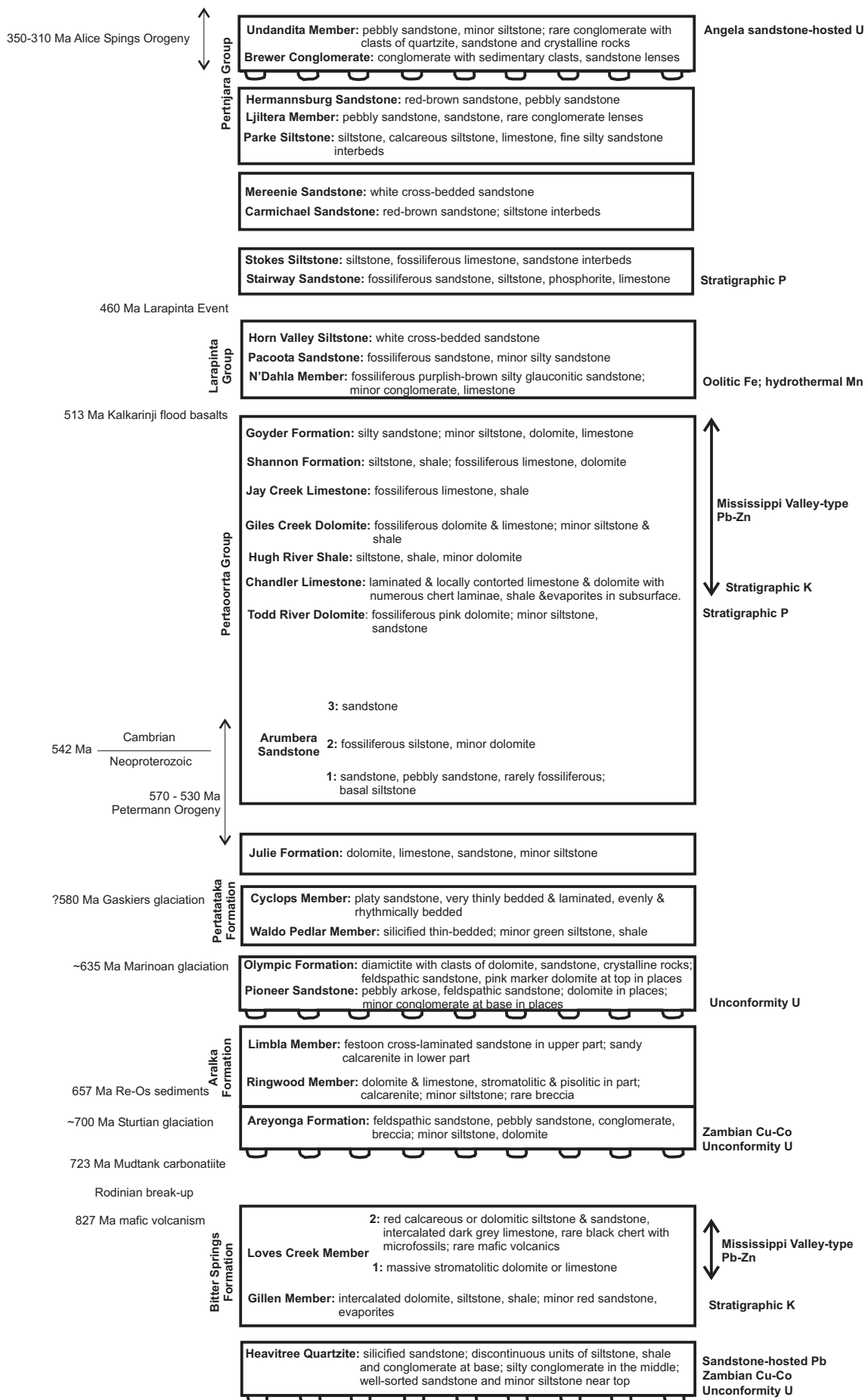


Figure 1: Location of relinquished part of EL24961



**Figure2:** Amadeus Basin stratigraphic column. Unit names from northern part of basins. Regional and global events on left side. Known and possible mineralisation on right side.