

**JACARANDA MINERALS PTY LTD
&
MINERALS AUSTRALIA PTY LTD**

**EPM15236, Kio
BOULIA QLD**

RELINQUISHMENT REPORT

FOR THE PERIOD

2nd August 2007 to 7th August 2009

October 2009

Prepared for Jacaranda Minerals Pty Ltd & Minerals Australia Pty Ltd

By

Peter Collings

FAusIMM

**Chief Geologist Jacaranda Alliance JV
Hancock Exploration Management Services Pty Ltd, Perth WA**

TABLE of CONTENTS

1. INTRODUCTION	3
2. GEOLOGY	7
3. EXPLORATION IN EPM15236 AUGUST 2007 – AUGUST 2009	9
3.1 Geological mapping	9
3.2 Aerial geophysical survey	9
4. CONCLUSIONS	11

LIST OF FIGURES

Figure 1: Location map of EPM15236 prior to relinquishment.....	4
Figure 2: EPM 15236 sub blocks as granted.....	5
Figure 3: EPM 15236 blocks relinquished and retained	6
Figure 4: Uranium channel from DME regional survey 2007	7
Figure 5: Geological map of the area of EPM15236.....	8
Figure 6: Aerial radiometric survey lines over relinquished blocks EPM15236	10

MAP SHEETS

1: 250 000 scale

Boulia SF5410
Springvale SF5414

1: 100 000 scale

Goodwood 6952
Lucknow 7052
Marion Downs 6851
Canary 6951
Elizabeth Springs 7051
Springvale 7050

KEY WORDS

EPM15236, Toolebuc Formation, Wallumbilla Formation, Allaru Mudstone, molybdenum, vanadium, uranium ,radiometric survey,

1. INTRODUCTION

EPM15236 is located approximately 50 km south east of Boulia in the Channel Country of south western Queensland (Figure 1). The EPM as granted consists of 100 sub-blocks covering an area of 315.7 sq. km. The tenement was granted to Conarco Minerals Pty Ltd (Conarco) on 2nd August 2007 for a term of five years.

In March 2008 Conarco entered into a joint venture, the Jacaranda Alliance JV, with Hancock Prospecting Pty Ltd (HPPL). The joint venture parties are Jacaranda Minerals Pty Ltd (JML) owned by the principals of Conarco, and Minerals Australia Pty Ltd (MAPL) and subsidiary of HPPL. The joint venture is managed by Hancock Exploration Management Services Pty Ltd (HEMS) also a subsidiary of HPPL. Under the terms of the Jacaranda JV, ownership of the EPM was transferred to Jacaranda Minerals Pty Ltd on 23 April 2008 and transfer of 50% ownership to Minerals Australia Pty Ltd was completed on 8th September 2008.

The partial relinquishment of EPM15236 was lodged in August 2009 and includes the 30 blocks in EPM15236 listed below. The blocks relinquished and those retained are shown in Figures 2 and 3.

BIM	Block	Sub-blocks
CLON	2694	FGHJKLMNQPQRSTUVWXYZ
CLON	2766	ABCDEFGHIJK

EPM15236 is one of a group of thirteen EPMs held in the Boulia area by Jacaranda Minerals Pty Ltd and Minerals Australia Pty Ltd wherein the exploration target is roll front type molybdenum-vanadium-uranium mineralisation in the Cretaceous Toolebuc Formation.

EPM15236 is located predominantly over the target Cretaceous Toolebuc Formation southeast of Boulia (Figure 5). Lithologies in the area consist mainly of thinly bedded, fissile calcareous units, usually fossiliferous. There are also prominent outcrops of locally termed "moonstone" limestones which in sub-crop consist of very large (up to 1m diameter) spherical concretions. The Toolebuc is underlain by the Wallumbilla Formation consisting of mudstones and siltstones. Dips in the area are 0-5° to the east and south east.

Investigations carried out by HEMS on behalf of the Jacaranda Alliance JV in 2007-09 involved:

- research of historical records
- research of previous Open File company exploration
- interpretation of GSQ/Geoscience Australia regional aerial radiometric survey data
- completion of a detailed low-level aerial radiometric and magnetic survey over outcropping Toolebuc Formation in the thirteen EPMs held by the Jacaranda Alliance JV in the Boulia area. The survey covered approximately 16 sq km of the area of the blocks relinquished AND entirely over recent river sediments of the Hamilton River and mudstones of the underlying Wallumbilla Formation (Figure 6).

Figure 1: Location map of EPM15236 prior to relinquishment
Datum is GDA95 Zone 54

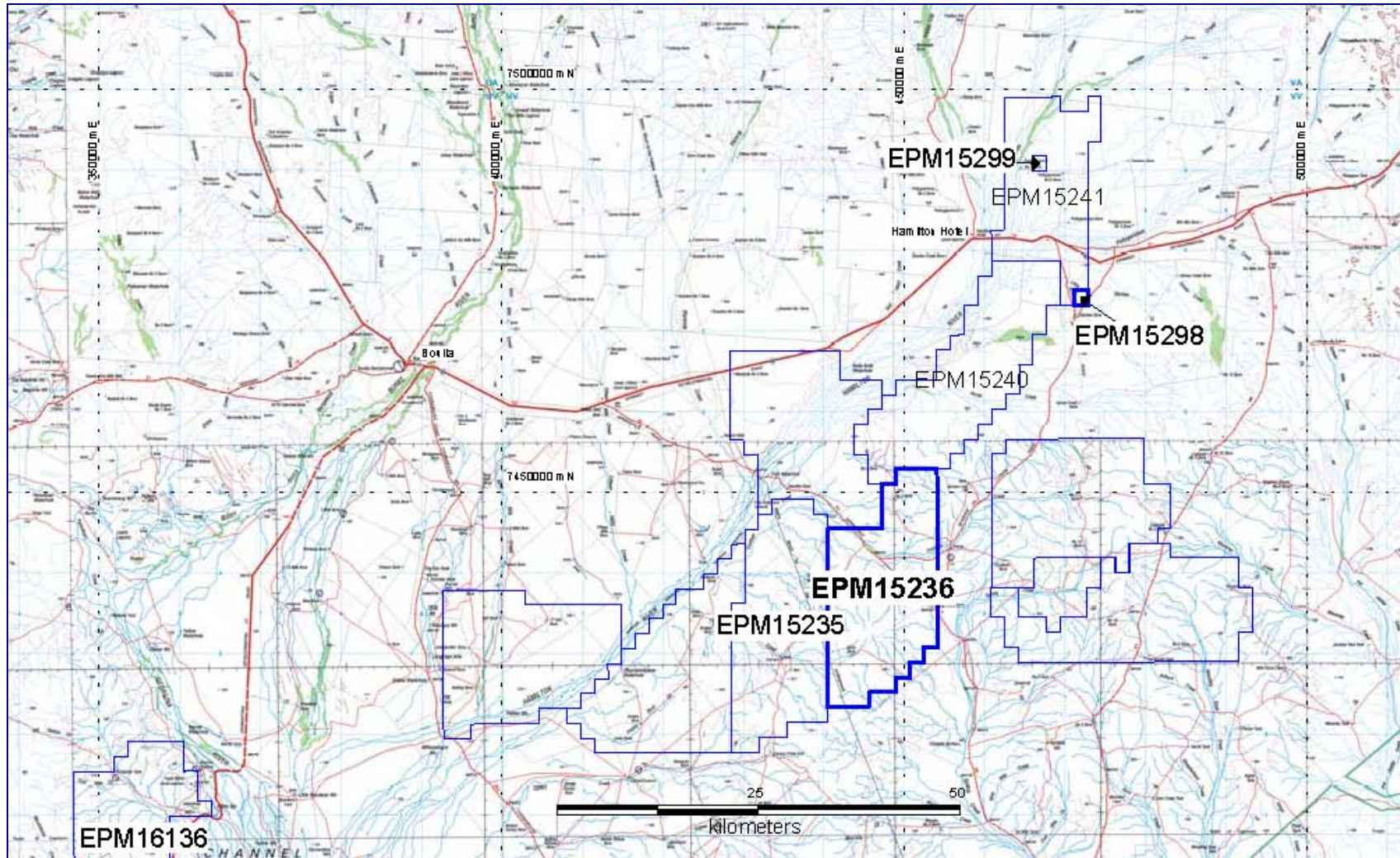


Figure 2: EPM 15236 sub blocks as granted

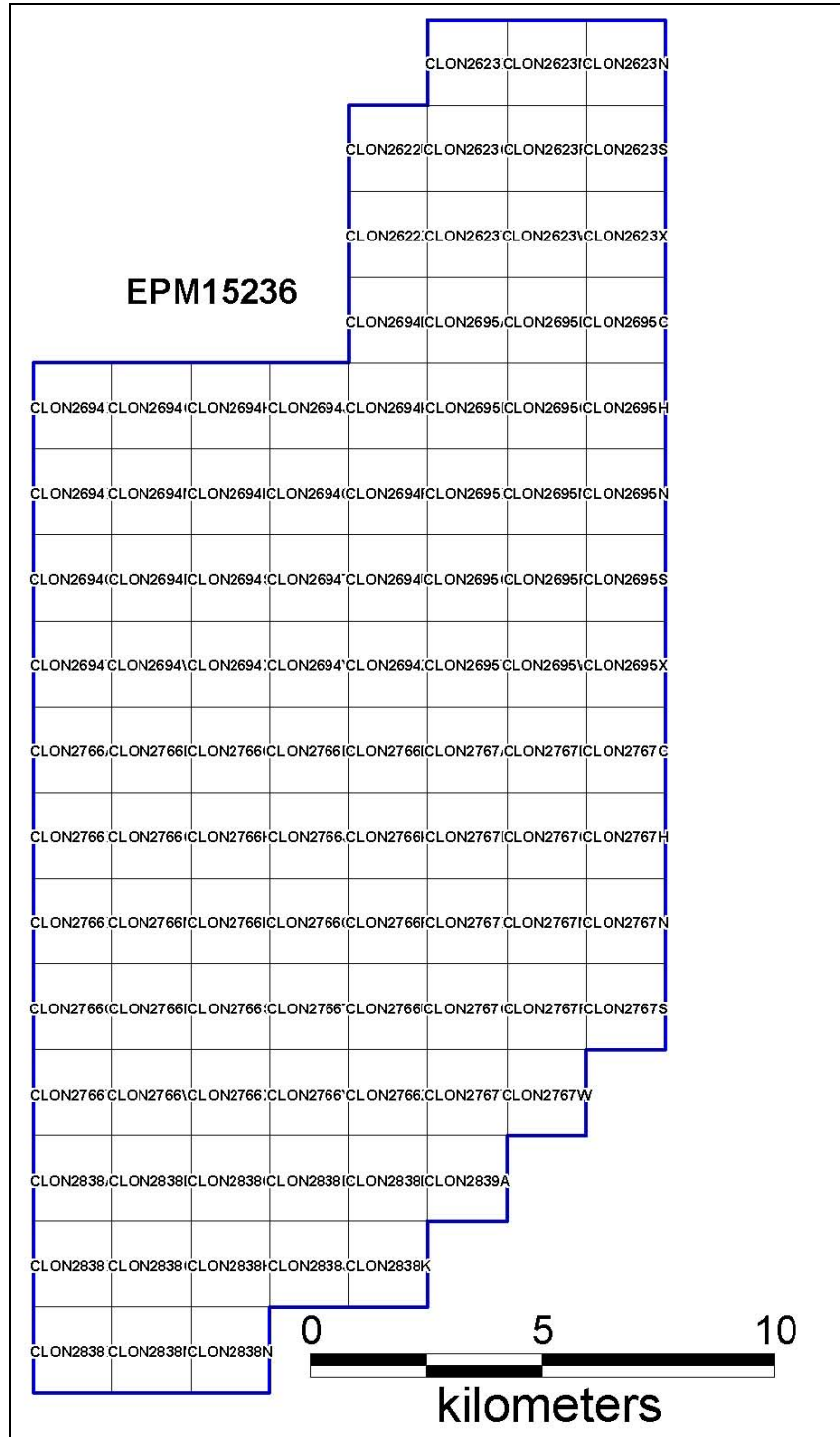
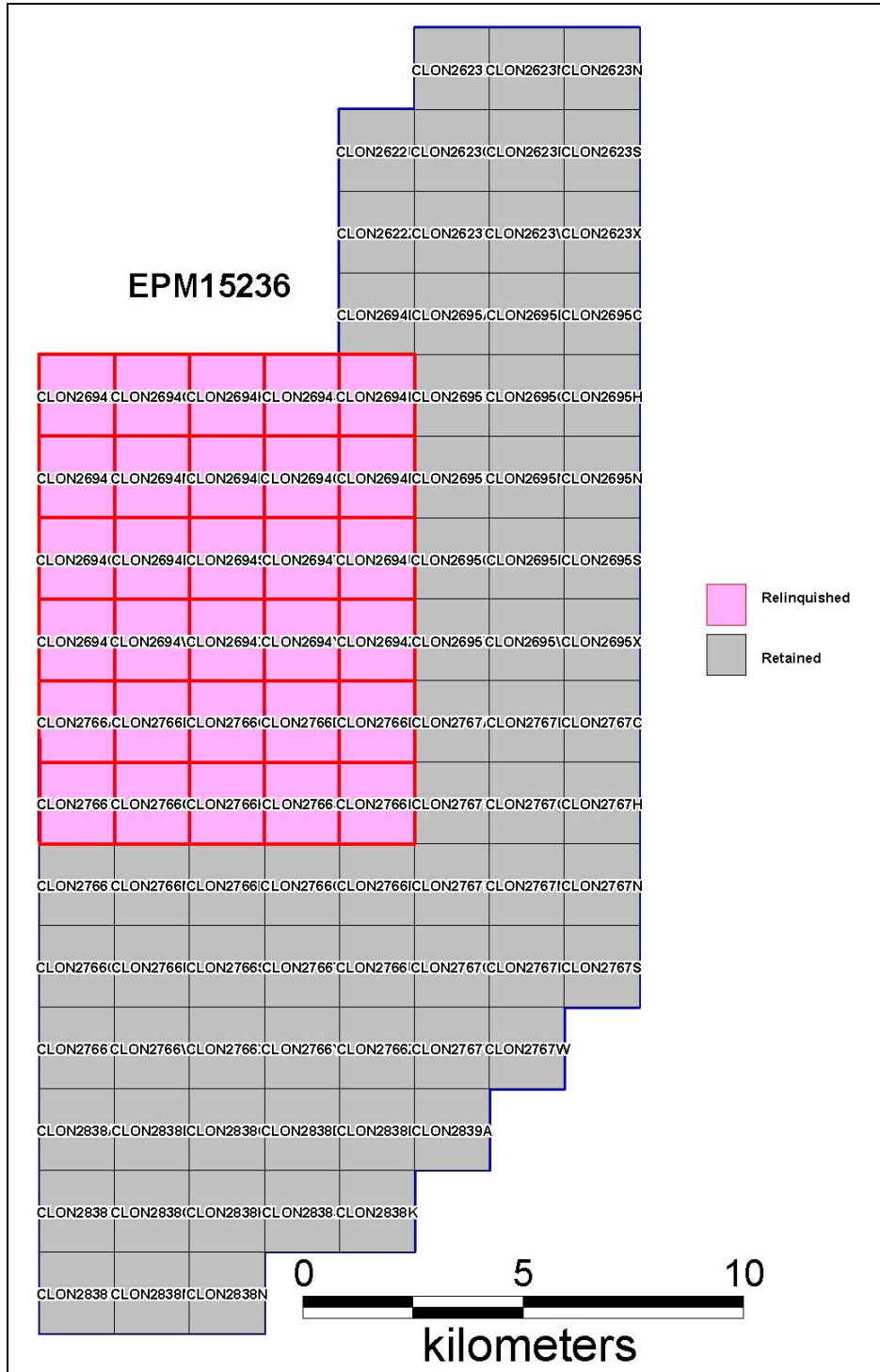


Figure 3: EPM 15236 blocks relinquished and retained

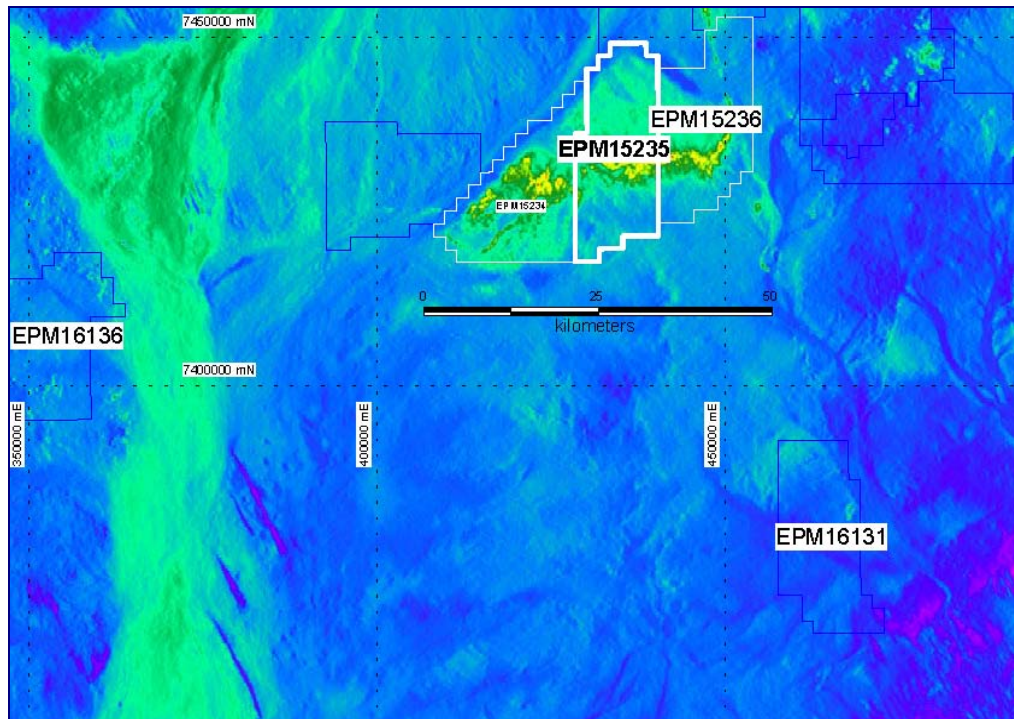


2. GEOLOGY

The Jacaranda Alliance JV believes that the Cretaceous Toolebuc Formation in the Eromanga Basin has the potential to host very large size, low to medium grade molybdenum-vanadium-uranium deposits. This concept is supported by the occurrence of zones of significantly anomalous airborne total count and uranium channel gamma-ray radioactivity over exposures of the Toolebuc Formation throughout the Eromanga Basin. The exploration model speculates that local foreland delta areas of paleo-drainages which sourced material from the uranium and molybdenum rich Mount Isa-Cloncurry and Georgetown Orogens might contain large resources of low to medium grade molybdenum, vanadium and uranium mineralisation.

Regional radiometric data for the Boulia area released by the Queensland Government Department of Mines and Energy shows that the Toolebuc Formation is radiometrically anomalous in all its exposures in Jacaranda Alliance JV EPMs in the Boulia area (Figure 4). The JV participants believe that concentrations of molybdenum-vanadium-uranium mineralisation may potentially occur a considerable distance down-dip from the outcrop of the Toolebuc Formation in structures and/or redox fronts favourable for the precipitation of “roll front” type molybdenum-vanadium-uranium deposits.

Figure 4: Uranium channel from DME regional survey 2007



(From Department of Minerals and Energy GDA94 Zone 54))

EPM15236 lies partly over poorly exposed Toolebuc Formation striking northeast-southwest adjacent to the Hamilton River and covers probable down-dip extensions of the Toolebuc in the southeasterly direction (Figure 5). The Allaru Mudstone which occurs stratigraphically directly above the Toolebuc Formation has no surface outcrop in EPM15236. The blocks relinquished mainly overlie recent stream sediments of the Hamilton River and poorly exposed Wallumbilla Formation directly underlying the Toolebuc Formation along the northwest boundary of EPM15236.

3. EXPLORATION IN EPM15236 AUGUST 2007 – AUGUST 2009

3.1 Geological mapping

Geological reconnaissance mapping was carried out over selected parts of Jacaranda Minerals' EPMs in the Boulia area. Outcropping lithologies observed during reconnaissance were limited to a variety of limestones and shales / mudstones described below using Jacaranda JV terminology;

- ▶ Flaggy Limestone
 - Grey-brown limestone, bedded and weathering to a flaggy habit, 5 – 20% red-brown fossil fragments, commonly with fossilised wood, usually coarsely to moderately crystalline, often with fibrous crystal growth perpendicular to bedding.
- ▶ Shelly Limestone
 - Grey limestone, poorly bedded, commonly showing dissolution weathering, 10 – 60% pale grey fossil shell fragments with occasional whole shells, rare fossilised wood, usually finely to moderately crystalline, occasionally with a powdery texture.
- ▶ Moonstone Limestone
 - Pale cream limestone, sometimes with pale pink, bedded, weathers to rounded, slightly squashed spheres known locally as “moonstones”, occasional beds of shell fragments to whole shells, finely crystalline to powdery.
- ▶ Blocky Limestone
 - Pale cream to brown limestone, blocky with some evidence of weathering similarly to the moonstone limestone, however with no bedding or fossils evident, finely crystalline to powdery.
- ▶ Shale / Mudstone
 - Chocolate to dark brown shale / mudstone, subcrops very poorly, micaceous in some areas
- ▶ Gypsiferous Shale / Mudstone
 - Chocolate to dark brown shale / mudstone, subcrops very poorly, micaceous in some areas, abundant coarse gypsum crystals occur.

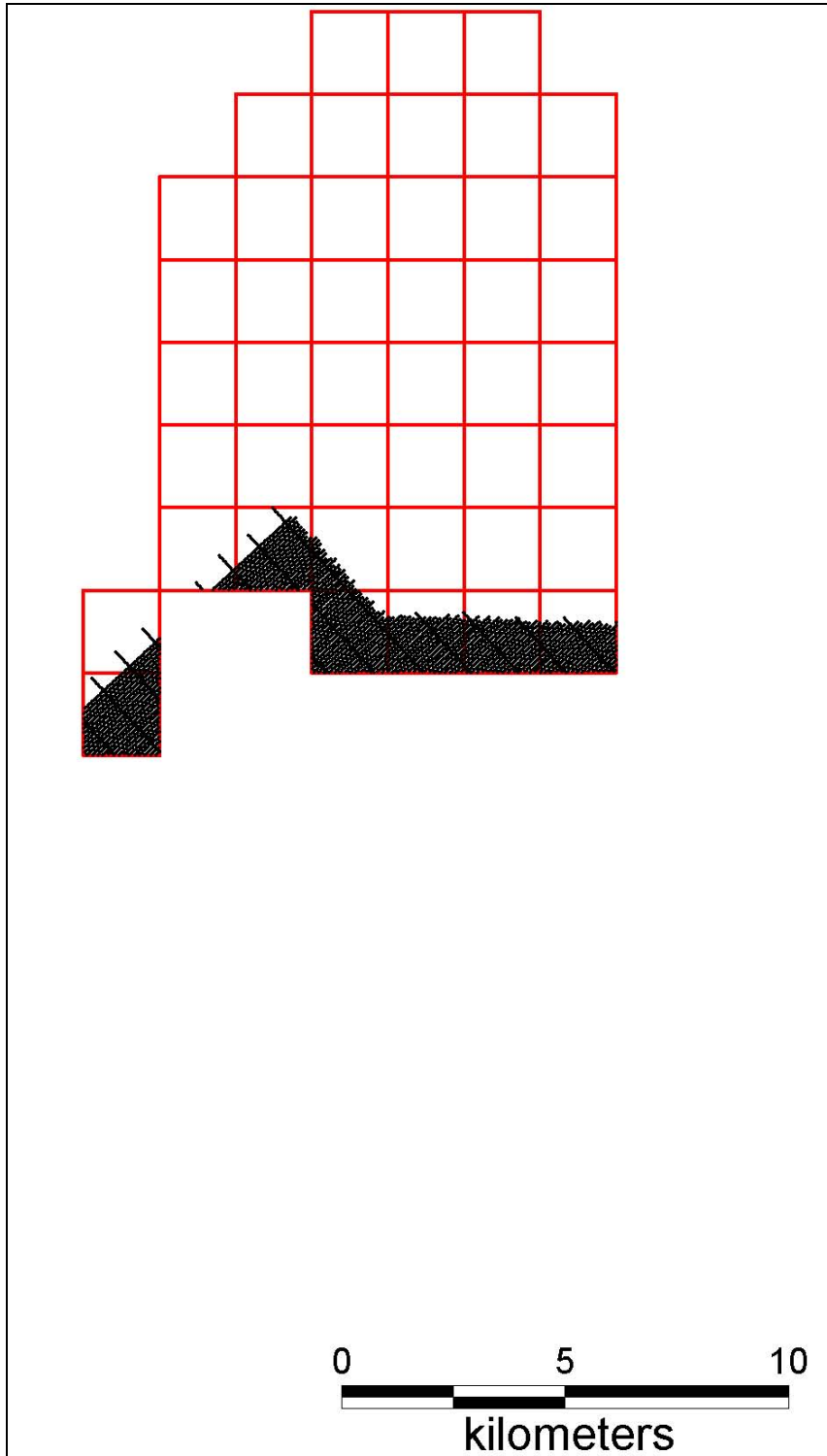
Geological mapping in part of EPM 15236 identified three distinct calcareous units, Moonstone Limestone, Shelley Limestone and Flaggy Limestone in the area with some subcrop of shale/mudstone units which do not form coherent outcrops for mapping purposes. No detailed geological mapping has been done in the blocks relinquished from EPM15236.

3.2 Aerial geophysical survey

During July-August 2008 HEMS conducted a detailed aerial radiometric and magnetic survey of the outcropping Toolebuc Formation in the combined Jacaranda JV tenements in the Boulia area. The location of the Toolebuc Formation outcrop was interpreted using the existing DME regional radiometric survey data.

The survey flight lines were oriented parallel to the general strike of the Toolebuc Formation, with lines spaced at 80m intervals across strike and with a mean ground clearance of 40 meters. A total of approximately 9000 line km was surveyed. The layout of flight lines in the relinquished blocks EPM15236 is shown in Figure 6 and the area surveyed is approximately 16 km².

Figure 6: Aerial radiometric survey lines over relinquished blocks EPM15236



No other exploration has been carried out in the area of the relinquished blocks which cover only recent stream sediments in the Hamilton River and some poorly exposed Wallumbilla Formation mudstones underlying the Toolebuc Formation.

4. CONCLUSIONS

The relinquished blocks cover only recent river sediments and minor occurrences of Wallumbilla Formation north of and stratigraphically beneath the exposed southeasterly dipping Toolebuc Formation. The Jacaranda Alliance JV considers that the relinquished blocks in EPM15236 offer little, if any prospectivity for the discovery of roll front type uranium-molybdenum-vanadium mineralisation