



**Mega Georgetown Pty Ltd**

**EPM 18245 – WEST NEWCASTLE RANGE PROJECT**

**REPORT FOR THE AREAS RELINQUISHED ON 24 FEBRUARY 2013**

**Licensee: Mineral Development Australia Pty Ltd**

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**Mega Georgetown Pty Ltd**

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## SUMMARY

Exploration Permit for Minerals (EPM) 18245 is held by Mineral Development Australia Pty Ltd (MDA). MDA is a fully owned subsidiary of Mega Georgetown Pty Ltd (Mega). Mega in turn is a fully owned Australian subsidiary of Mega Uranium Ltd, a company listed on the Toronto Stock Exchange. EPM 18245 was granted to MDA on 13 September 2005. In 2005, Mega Georgetown and GML entered into a joint venture agreement that now covers EPM 18245. Within the area covered by the joint venture, GML acquired or retained the right to develop any gold or base metal deposit discovered while Mega acquired or retained the right to develop any deposit of uranium discovered. Exploration within EPM 18245 is still covered by this joint venture agreement. The GML rights were transferred to Deutsche Rohstoff Australia Pty Ltd (DRA) in May 2009.

This report provides details of all exploration conducted by Mega and GML/Plentex/DRA within the area of the 12 sub-blocks of EPM 18245 relinquished at the end of the second year of tenure, 24/02/2013. (See Fig 1). Regional exploration by Mega and GML of the relinquished area was conducted under EPMs 14190 and 14828 and is not discussed or reported here. This work was comprehensively reported in the annual and final reports for these EPMs.

Exploration by Mega and DRA/GML failed to detect indications of economic gold, base metal or uranium mineralisation within the areas of EPM 18245 relinquished on 24 February 2013. Based on all available data no further exploration is warranted within these areas.

### **Exploration in the relinquished portion of EPM 18245 comprised:**

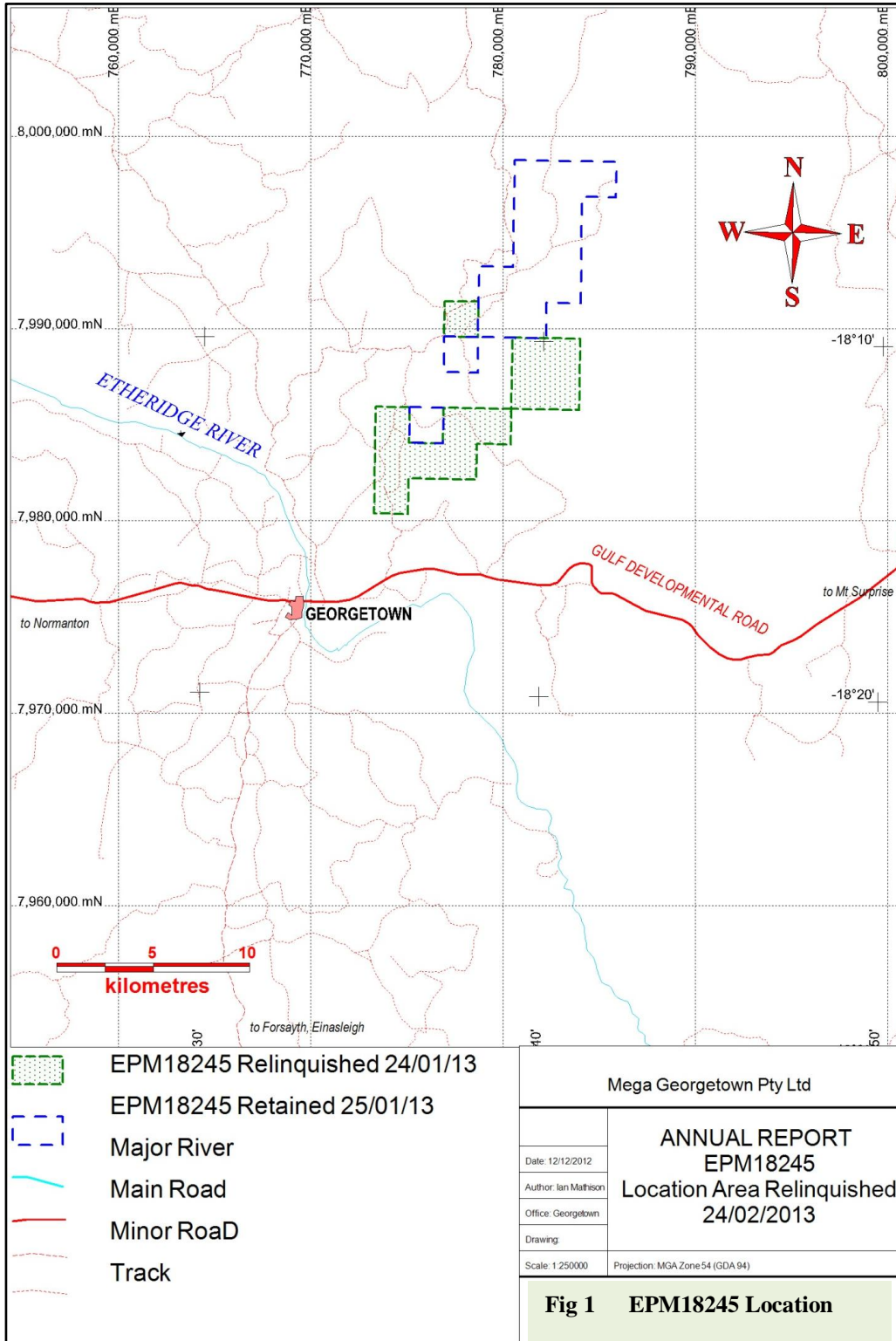
- Ground radiometric surveys over selected anomalies – the Fox prospect.

There was no ground exploration activity by DRA within the report area during the term of EPM 18245.0.

## 1.0 INTRODUCTION

This report provides details of all exploration conducted by Mega and DRA/GML within the report area, the 12 sub-blocks of EPM 18245 relinquished at the end of the second year of tenure, 24/02/2013. (See Fig 1).

EPM 18245 is located within the Georgetown Inlier, in central North Queensland. In summary, the Georgetown Inlier consists largely of variably metamorphosed and deformed sedimentary and volcanic rocks of Proterozoic age - the Etheridge and Langlovale Groups. These rocks are intruded by several Proterozoic, Silurian-Devonian and Carboniferous-Permian granitoids (Denaro et al 1997).



## 2.0 TENURE

EPM 18245 is held by Mineral Development Australia Pty Ltd (MDA). MDA is a fully owned subsidiary of Mega Georgetown Pty Ltd (Mega). Mega itself is a fully owned Australian subsidiary of Mega Uranium Ltd, a company listed on the Toronto Stock Exchange. The tenure was granted to MDA on 25 February 2011 for a term of five years.

Twelve sub-blocks were relinquished in February 2013. Retention of 14 sub-blocks was requested.

**Table 1 Relinquished area of EPM 18245**

Block Identification Map	Block	Sub-blocks	Number of sub-blocks
NORM	1868	X	1
NORM	1940	E K L N O Q R S V	9
NORM	1941	A F	2
Total number of sub-blocks relinquished			12

**Table 2 Retained area of EPM 18245**

Block Identification Map	Block	Sub-blocks	Number of sub-blocks
NORM	1868	E K P T U Y Z	7
NORM	1869	A B F L Q	5
NORM	1940	C M	2
Total number of sub-blocks retained			14

## 3.0 LOCATION AND ACCESS

EPM 18245 is located 10 to 30 km north-east of Georgetown in North Queensland. Access to EPM 18245 is via the Gulf Development Road and the formed but unsealed Dagworth Road. Within the EPM, vehicular access is restricted to unsealed station tracks and drill access tracks which provide good dry weather 4WD access to all parts of the EPM. (See Fig 1)

The EPM is situated on the Georgetown 250K map sheet SE 5412 and the Georgetown 100K map sheet 7661.

## 4.0 TOPOGRAPHY AND CLIMATE

Topography over the Georgetown area is generally subdued with low mesas and wide floodplains being the principal geomorphological features. Steep and rugged topography is developed over the volcanic rocks of the Newcastle Range Volcanics.

Vegetation generally consists of open eucalyptus forest and medium scrub with moderate to heavy stands of lancewood, typically occurring in areas of lateritic soil and on remnant mesas and ridges of Mesozoic sediments. The land is used predominantly for cattle grazing.

Climate is tropical with monsoonal rains occurring from November through to March. Winter is usually dry. Temperatures can exceed 40° in summer, whereas winter temperatures are mild.

## 5.0 REGIONAL GEOLOGY

### 5.1 Georgetown Inlier

The region is dominated by rocks of the Precambrian Georgetown Inlier, which consists largely of variably metamorphosed and deformed sedimentary and volcanic rocks of Palaeoproterozoic age - the Etheridge and Langlovale Groups and the Cobbold Metadolerite. These are intruded by Mesoproterozoic, Silurian-Devonian and Carboniferous-Permian granitoids. Fluvial siliciclastic and variably feldspathic and lithic sediments of the Gilberton Formation were deposited in isolated basins on the older rocks during the Late Devonian to Early Carboniferous. Centrally and along the north-western and western margin extensive Carboniferous-Permian felsic volcanics and related sub-volcanic intrusives of the Kennedy Province occupy a broad north-south subsidence zone and associated cauldron structures. The western and central parts are variably overlain by scattered remnants of Mesozoic sedimentary rocks.

Within the Inlier, metasedimentary rocks belonging to the Palaeoproterozoic Etheridge group are exposed in a broad discontinuous northerly trending belt, younging westwards in the central-eastern part of the Forsyth Sub-province of the Etheridge Province. The Forsyth Sub-province includes the Etheridge and Langlovale Groups, various mafic intrusive rocks and Mesoproterozoic granitoids of the Forsyth, Lighthouse, Sawpit and Forest Home Supersuites. The metasedimentary sequence was deposited in a uniformly subsiding continental setting between about 1700Ma, and at least as young as 1650Ma. The Etheridge Group underwent a major metamorphism and deformational event at about 1550Ma, at which stage multiple deformed, amphibolite-grade metasediments were intruded by composite syntectonic granitoid batholiths (mainly Forsyth Batholith). Metamorphic grade within the group decreases south-westwards.

### 5.2 Kennedy Province

The Kennedy Province is a major, late Palaeozoic, post orogenic igneous suite comprising a broad, diffuse zone of volcanic rocks and spatially associated granitoid and sub-volcanic intrusives. Several volcanic groups are recognised in the Province: Butlers, Cumberland Range, Maureen, Newcastle Range, Agate Creek and Mount Little Volcanic Groups.

The Newcastle Range Volcanic Group, consisting of the Namarrong, Kungaree, Eveleigh and Wirra Volcanic Subgroups, is a sequence of rhyolitic and dacitic ignimbrites, rhyolite, basaltic andesite to andesite, dacite, rhyolitic to dacitic volcanoclastic tuffite to rudite (including breccia and ground lag deposits), arenite to very coarse rudite and rare limestone. The rocks range in age from 329 to 290 Ma and are therefore Mid Carboniferous to Early Permian. They crop out to the north-east, east and south-east of Georgetown and form a marked geographic feature throughout the tenement group.

Each of the volcanic subgroups occupies individual cauldrons within an overall composite subsidence structure. The Namarrong Volcanic Subgroup forms the rounded northern lobe of the main structure while the Kungaree Volcanic Subgroup occupies the central-northern, elongated main portion of the subsidence structure. The Eveleigh Subgroup forms the eastern lobe and the Wirra Subgroup, the southern part of the main north-south elongated portion of the composite subsidence structure.

Virtually all the rocks of the Newcastle Range Group were erupted and emplaced in a sub-aerial environment. Volcanoclastic rocks at the base of the Wirra sequence contain lenses of arenaceous limestone while other sedimentary rocks intercalated within the volcanics are probably of fluvial, shallow lacustrine or mass-flow origin.

The Newcastle Range Volcanic Group unconformably overlies metamorphic rocks of the Etheridge Group. It also overlies lenses or wedges of Gilberton Formation terrestrial sedimentary rocks. Contact relations with Gilberton Formation range from concordant and gradational to discordant and abrupt. Numerous I-type bodies of comagmatic granitic to dioritic/andesitic rocks intrude the volcanics.



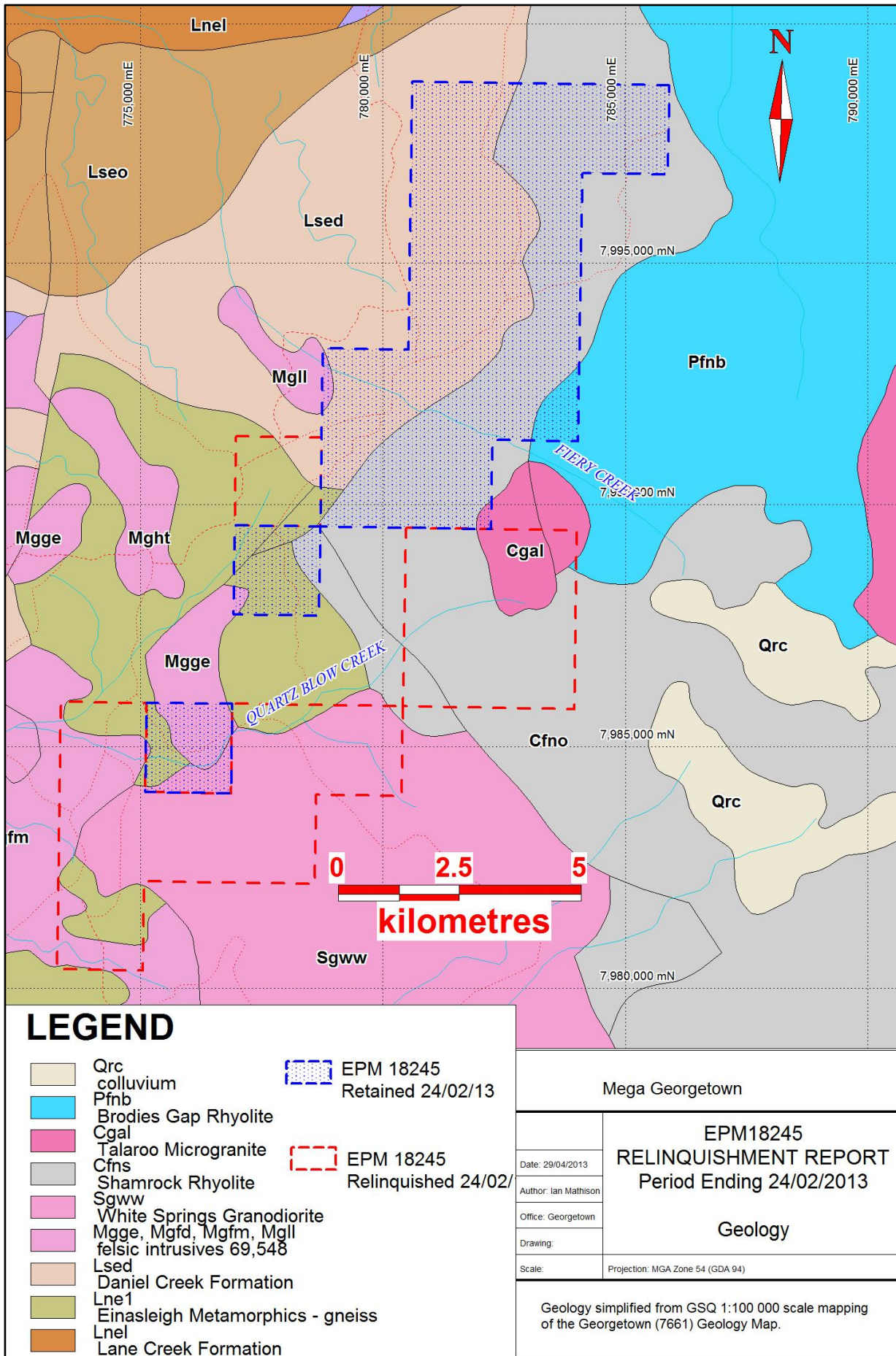


Fig 2 EPM18245 Simplified Geology

### 5.3 EPM18245 Geology

Fig 3 shows the simplified geology of EPM 18245. Map is modified from the GSQ 1:100 000 geology map Georgetown 7661.

The EPM covers part of the western part of the Newcastle Range Volcanics and their contact with the older Einasleigh Metamorphics, Proterozoic granites and Silurian granites. Most known uranium deposits are spatially related to the contact zone between the Newcastle Range Volcanics and the Einasleigh Metamorphics. (See Fig 4)

## 6.0 PREVIOUS EXPLORATION

Numerous companies and individuals have explored the Georgetown Inlier over the past five or six decades. Commodities and target models sought have included:

Gold in Proterozoic/Palaeozoic granitoids and metasediments,

- Base metals in Proterozoic metasediments and
- Uranium in Palaeozoic sediments underlying the Newcastle Range Volcanics.

The most important geological units in the Georgetown Inlier, in terms of uranium prospectivity, belong to the Gilberton Formation and to the Kennedy Province with most significant uranium occurrences, anomalies and anomaly groups in the region occurring near to the contact between the Proterozoic basement rocks and either the Gilberton Formation or Kennedy Province volcanic rocks and intrusive dykes related to the Kennedy Province volcanics.

Gold deposits of the Etheridge Goldfield occur typically as quartz veins or quartz-sulphide veins with associated carbonate and mica. Sulphide minerals include pyrite, arsenopyrite, galena, chalcopyrite and sphalerite. Gold mineralising events are related to periods of acid igneous intrusive activity ranging in age from Silurian to Permian.

Other exploration targets in the vicinity of EPM 18245 have included Mt Leyshon style gold deposits and porphyry copper-molybdenum deposits similar to Mount Turner.

## 7.0 Exploration Targets

Mega and DRA have very different target models for the Georgetown area. DRA is focussed on gold and associated base metal deposits while Mega is focussed on uranium with associated molybdenum.

### 7.1 Mega's Target Models

Mega's primary target models are Maureen style deposits hosted by sediments above the unconformity between the Gilberton Formation siliciclastic rocks or epiclastic rocks at the base of the Permo-Carboniferous volcanics and the crystalline basement rocks of the Georgetown Inlier. Secondary targets are structurally hosted uranium deposits similar to The Lineament Central 50 (LC50) deposit or the mineralisation hosted by the Apollo Structure at Twogee.

Mega's exploration techniques include processing of regional airborne geophysical data and geological mapping, acquisition of high resolution airborne radiometric and magnetic data, interpretation of radiometric anomalies, acquisition of SPOT and ALOS satellite imagery, interpretation of structural settings from airborne geophysical data and satellite imagery, ground geological and radiometric follow up of selected anomalies, detailed ground radiometric surveys with geological mapping, and RC and diamond drilling.



## 7.2 DRA's Target Models

DRA have concentrated on finding gold deposits similar to the Red Dam and Electric Light deposits where the gold is hosted by silicified rocks or quartz veins within fault or fracture systems close to Palaeozoic acidic intrusives. Other secondary targets are gold + base metal deposits in structural settings and porphyry hosted gold deposits ± copper.

DRA's exploration procedures included selective rock chip sampling of outcropping mineralisation, traditional soil sampling, recognition of positive and negative aeromagnetic anomalies possibly related to intrusive porphyries, reconnaissance geological follow up of aeromagnetic anomalies, MMi soil sampling and RC and diamond drilling. No DRA ground exploration has been carried out within the report area during the term of EPM 18245.

## 8.0 WORK COMPLETED IN THE RELINQUISHED AREA OF EPM 18245

Exploration within the report area is summarized as:

- Ground radiometric surveys over selected anomalies.

There was no ground exploration activity by DRA within the report area under EPM 18245.

### 8.1 Ground Radiometric Surveys – Fox

A survey grid was laid out over the Fox radiometric anomalies recognized by Donnes (2008) (Z168 and Z169) and previously explored and drilled by Minatome. Mega surveyed part of the area in 2009 with five short N-S lines. The 2013 survey was more detailed with six N-S lines and nine E-W lines. Lines at 50m spacing were read at paced intervals approximately 5m apart. Following Mega's normal procedures in the Georgetown area, GF Instruments Gamma Surveyor Gamma Ray Spectrometers were used in assay mode with a one minute read time. The instruments rested on a folding canvas camp stool 40cm above ground level while reading. Locational data were collected by a Garmin GPSmap 60Cx connected directly to the spectrometer. During the one minute reading interval, the field technicians compiled a soil log describing soil colour, soil type and commented on the outcrop, vegetation and float around the survey point.

In the office, survey data and soil logs were collated and eU values were thematically mapped using MapInfo. Maps of each grid area and preliminary interpretation of the survey results follow in Section 9.1.

Correlation between instruments was checked by surveying marked points along a pegged line near the FW5 prospect on EPM 8452. Correlation was good.

## 9.0 RESULTS

Results from the Fox Assay Mode geophysical surveys carried out during the reporting period are appended as text files.

## 9.1 Ground Radiometric Surveys

### Fox Grid

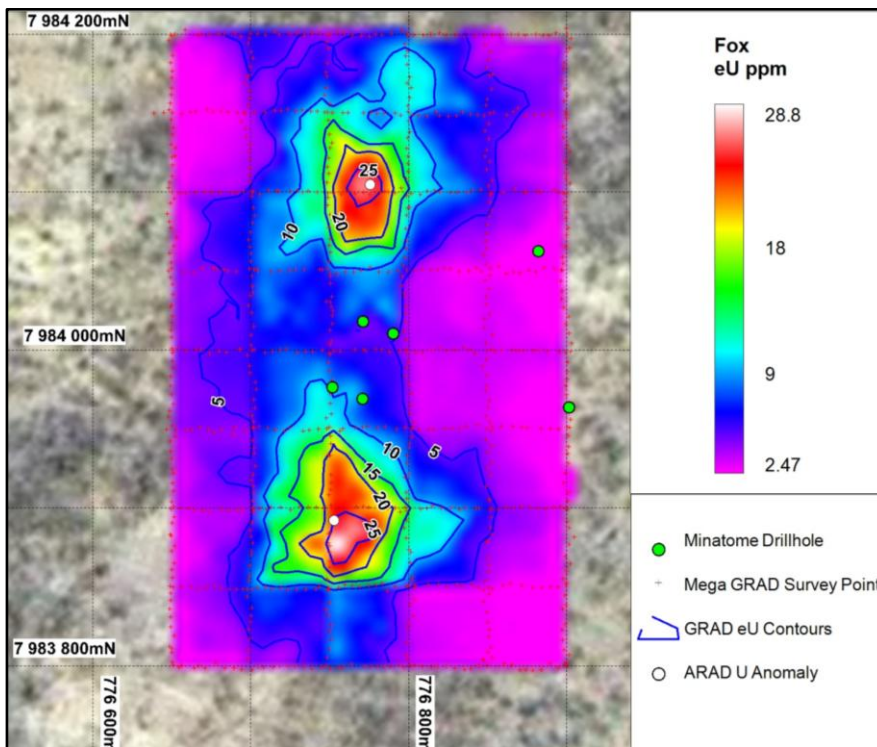


Fig 3 Fox GRAD – imaged eU under eU contours

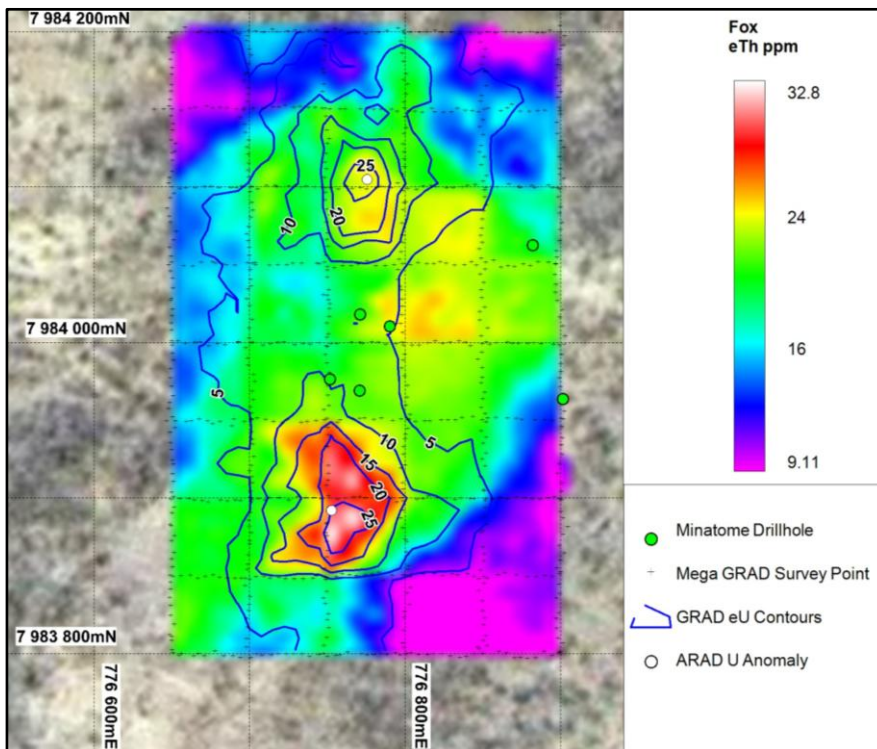
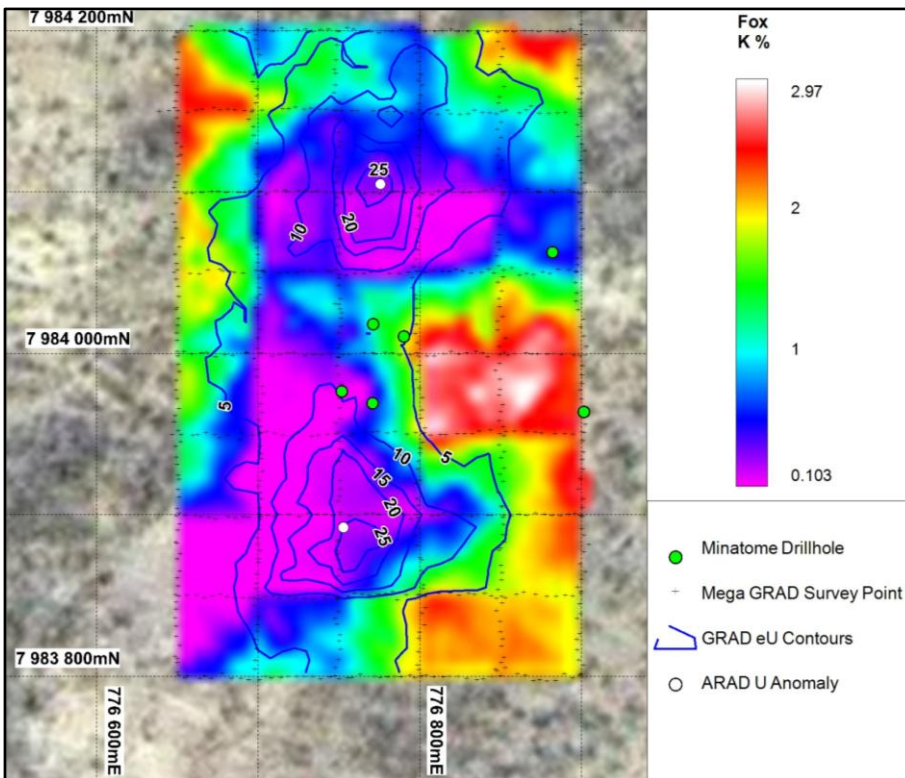


Fig 4 Fox GRAD – imaged eTh under eU contours

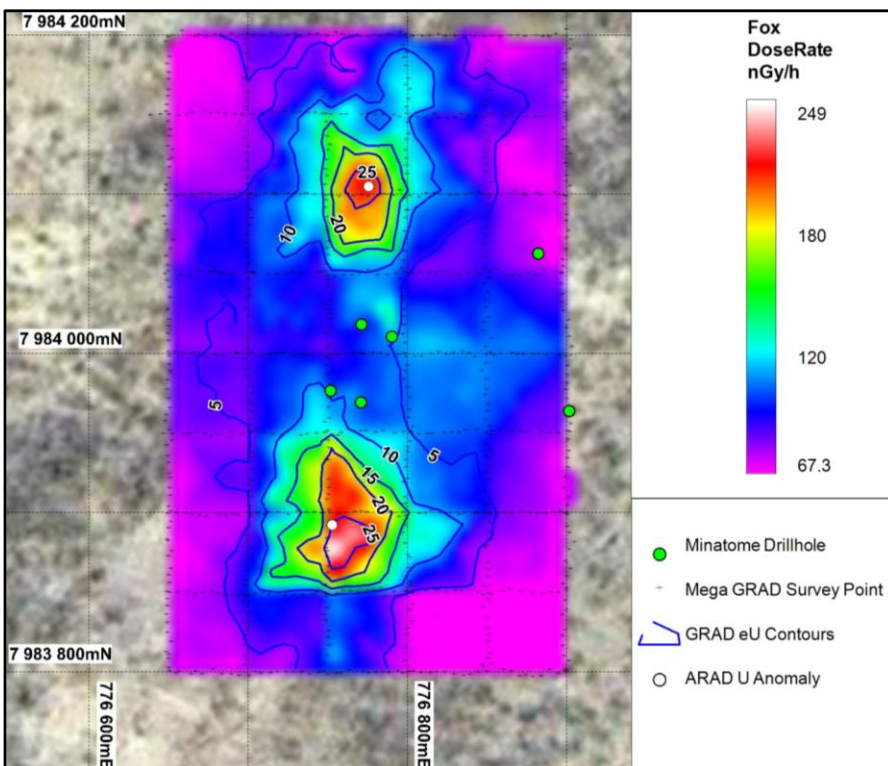
The Fox Grid lies over granitic rocks mapped as the Silurian White Springs Granodiorite.

The GRAD results delineate the ARAD anomalies well. Both eU and eTh values are relatively low. Minatome drillholes plot along an inferred north-south trending structure joining the two anomalies.



**Fig 5 Fox GRAD – imaged K under eU contours**

Potassium values along the zone of eU and eTh highs are very low.



**Fig 6 Fox GRAD – imaged DoseRate under eU contours**

Doserate highs correlate well with eU and eTh highs.



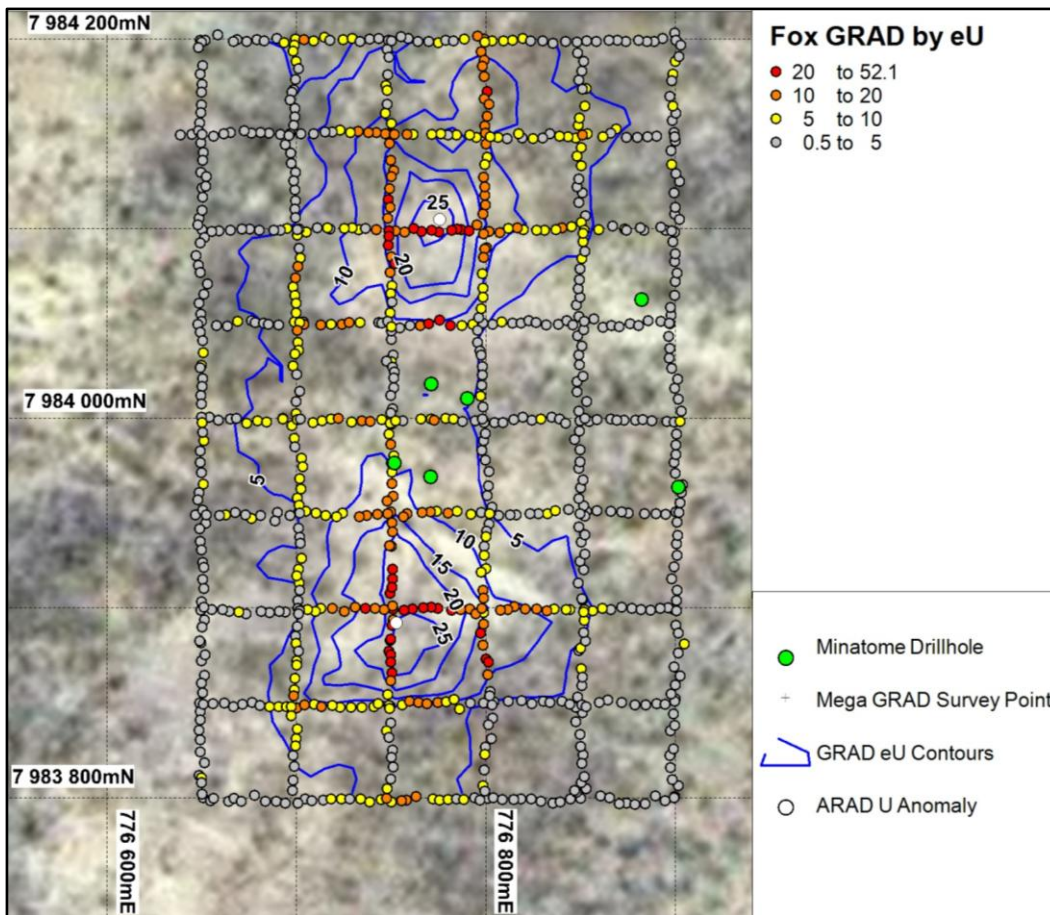


Fig 7 Fox GRAD – ALOS image under eU contours and thematic map of survey grid by eU

### Fox Comments

eU GRAD values are low and correlate well with eTh values.

- The eU highs correlate well with low ridges in the host granodiorite.
- Some distribution of transported alluvium across the zone tested by Minatome drilling is suggested by the topography and the K results.
- Good exposure of weakly uraniferous granite on low topographic highs is suggested.

## 10.0 CONCLUSIONS AND RECOMMENDATIONS

Mega and DRA/GML exploration within the relinquished area of EPM 18245 detected no indications of potentially economic uranium, gold or base metal mineralization. No further exploration of these areas appears warranted. Active exploration in the retained portions of EPM 18245 is continuing.

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