EL 26434

YEAR 2 ANNUAL REPORT
Period Ending 10th January 2010

Acacia Gap Project
Northern Territory

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# TABLE OF CONTENTS

## SUMMARY

1. INTRODUCTION

2. TENEMENT AND CORPORATE STATUS

3. LOCATION

4. GEOLOGY

5. PREVIOUS EXPLORATION

6. EXPLORATION PROGRAM AND TARGETS

7. METHODS
   7.1 *Geoscience Australia* Airborne EM Data Acquisition
   7.2 Airborne EM Interpretation
   7.3 Ground Radiometric Surveying
   7.4 Rehabilitation

8. WORK DONE AND RESULTS
   8.1 Airborne EM Results
   8.2 Ground Radiometrics: Total Count Scintillometry Results
   8.3 Ground Radiometrics: Spectrometry Results
   8.4 Rehabilitation

9. CONCLUSIONS

10. RECOMMENDATIONS

11. EXPENDITURE STATEMENT

12. YEAR 3 PROGRAM AND BUDGET
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Location of EL 26434 on Regional Cadastral Base</td>
</tr>
<tr>
<td>2</td>
<td>Location of EL 26434 on Local Cadastral Base</td>
</tr>
<tr>
<td>3</td>
<td>EL 26434: Geology Base with regional prospects</td>
</tr>
<tr>
<td>4</td>
<td>EL 26434: AEM Flight Lines on Geology Base</td>
</tr>
<tr>
<td>5</td>
<td>EL 26434: Airborne Magnetic Anomaly</td>
</tr>
<tr>
<td>6</td>
<td>EL 26434: Airborne Radiometric Anomaly</td>
</tr>
<tr>
<td>7</td>
<td>Frazer North Ground Radiometrics: Total Counts</td>
</tr>
<tr>
<td>8</td>
<td>Frazer North Ground Radiometrics: Uranium</td>
</tr>
<tr>
<td>9</td>
<td>Frazer North Ground Radiometrics: Potassium</td>
</tr>
<tr>
<td>10</td>
<td>Frazer North Ground Radiometrics: Thorium</td>
</tr>
<tr>
<td>11</td>
<td>AEM: Section 1100302: EmaxAIR CDI</td>
</tr>
</tbody>
</table>

# APPENDICES

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ground Radiometrics: RS 125 “track” data</td>
</tr>
<tr>
<td>2</td>
<td>Ground Radiometrics: RS 125 “survey” data</td>
</tr>
<tr>
<td>3</td>
<td>Ground Radiometrics: RS 125 “assay” data</td>
</tr>
</tbody>
</table>
SUMMARY

In Year 2, tenure work included the acquisition and interpretation of the publically available airborne EM data from Geoscience Australia which was flown in 2008/2009.

In addition, the company has completed a detailed ground radiometric survey over the portion of the recognised Frazer North airborne radiometric anomaly that is within EL 26434.

Near coincident magnetic, radiometric and AEM anomalies within the target lithologies has enhanced considerably the prospectivity of this tenement.

1 INTRODUCTION

This document is the second annual report for Exploration Licence 26434 and covers the period up to 10 January 2010.

2 TENEMENT AND CORPORATE STATUS

Exploration Licence 26434 was granted to Acacia Minerals Pty. Ltd on the 11th January 2008 for a period of 6 years. Its area is 2 sub-blocks with the expenditure covenant for the second year set at $34,100.

Acacia Minerals is a wholly owned subsidiary of NT Resources Limited, a public company which listed on the ASX on 1 February 2010, thereby raising $3M for exploration and related expenditure.

3 LOCATION

EL 26434 is located in the Top End of the Northern Territory 3 kms east of the Stuart Highway at the small community of Acacia Gap. It is easily accessible along all weather gravel roads from that highway and is bounded by Mocatto Road on the west and Whitstone Road on the north. Fig 1 shows the regional location of the tenement on a cadastral base.

The tenement is on occupied freehold land (Sec 275) and is used for hobby farming. Most of the land is semi cleared and has improved pasture. Fig 2 shows the detailed cadastral location of the EL.

More specifically the tenements centroid is at approximately 12° 46.5" South and 131 degrees 09.5 minutes East (GDA94).
4 GEOLOGY

EL 26434 falls within the geologically designated Rum Jungle Mineral Field (RJMF)/Rum Jungle Uranium Field (RJUF) and is situated 9 kms northeast of the Archaean Rum Jungle Complex and 7 kms west of the Giants Reef Fault.

On the most recent NTGS geological map of the RJMF (Lally 2003), as shown on Fig 3., the tenement plots straddling the north-east displaced, north plunging Woodcutters Anticline. According to that map EL 26434 is underlain by the Early Proterozoic, Mt Partridge Group, Coomalie Dolostone and the Whites Formation.

The contact between the Coomalie carbonates and the Whites formation graphitic shales is the stratigraphic position hosting most of the significant uranium and base metal mineralisation of the RJMF.

Of possible other significance is the mapped presence of a faulted, north trending “late” dolerite dyke, traced from magnetics that is mapped within the anticlinal axis within EL 26434 (Lally 2003). In addition, Zamu Dolerite dykes are shown within the Whites Formation to the east of EL 26434.

Reported known gold, uranium and base metal prospects in the vicinity of EL 26434 are shown on Fig 2.

Airborne magnetics over EL 26434 is shown on Fig 5 with a well defined bulls eye anomaly along the northern boundary 310m long.

Similarly airborne radiometrics showing the Frazer North anomaly, is plotted on Fig 6 with the anomaly straddling the western boundary of the tenement.

5 PREVIOUS EXPLORATION

Several exploration companies have been active in the regional area around EL 26434 in the last thirty years. Most of this work has been targeting the stratigraphy extrapolating to the north of the discovered Woodcutters Pb-Zn-Ag mine and Woodcutters U prospect.

In 1977/78 Geopeko on E/L 384 discovered the L4 Manton prospect (CRs 1977/126, 1978/64) far to the southwest.

In 1982/83, Mineral Reserves Group Inc carried out exploration over their EL’s 2262, 2265, 2266, 2267 and 2280. This included some airborne INPUT survey but not over EL 26434. Their work is reported in CRs 1982/210 and 1983/264.

Northern Gold in 1989 explored their EL’s 5854 and 5647 both to the north near Noonamah. Both were dropped after one year.
In 1989/1990, Newmont Australia worked on their EL 6074, far to the north of EL 26434.

During 1992 and 1993 Nicron/Aztec held EL’s 6919, 7064 and 7522 in the general area. EL 6919 covered the ground to the west of EL 26434 and their sampling defined several anomalies within the Whites Formation with elevated Cu, Zn and Pb, one of them coinciding with the Frazer Uranium prospect.

More recently, in the 2007/2008 field season, Glengarry Resources Ltd. completed their follow-up drilling on the Au prospect to the east of EL 26434. Earlier drilling had reported 6 metres @ 11.3 g/t gold on a dolerite / shale contact. Glengarry tested this contact over a 1.6 km strike length with 8 RC holes totaling 728 m. Their best intersection was reported at 5 metres @ 1.22 g/t. (Glengarry Resources Ltd. - December 2008 Quarterly Report to the ASX)

6 EXPLORATION PROGRAM AND TARGETS

Acacia Minerals is targeting base metals, gold and uranium mineralisation primarily associated with the Whites Formation and Coomalie Dolostone. Although the company recognises that to be the well documented stratigraphic position of known uranium mineralisation, other loci of mineralisation in cross-cutting structures for vein-type uranium mineralisation will not be overlooked.

The company also recognises the significant presence on EL 26434 of the “narrow, magnetically defined dolerite dykes” shown on the NTGS map. These may have potential for platinum group metals and gold mineralisation.

7 METHODS

7.1 Geoscience Australia AEM Data Acquisition

Acacia Minerals was fortunate in that one of the flight lines of the publically funded AEM survey passed over EL 26434. Consultant geophysicist Frank Lindeman acquired and interpreted the data from the GA source and has plotted the flight lines as shown in Fig 4. Line “L 1100302” can be seen to plot over the northern section of EL 26434 and was flown approximately along 8587200N.

7.2 Airborne EM Interpretation

Interpretation of the AEM of Flight Line 1100302 is shown in Fig 11. This figure is of the entire line from 729000E to 736000E. The part over EL 26434 extends from 734000E to 734800E.

The interpreted data on the section is vertically exaggerated 5X and shows EmaxAIR CDI parameters as millisieverts/metre with low values around 10mS/m up to high values of over 250mS/m.
Good conductivity is expected over graphitic black shales and sulphide mineralisation, and poor conductivity over nonsulphide-mineralised carbonates and sandstones.

### 7.3 Ground Radiometric Surveying

A detailed ground radiometric survey has been completed over the Frazer North airborne radiometric anomaly as shown in Fig 6.

A state-of the art *Radiation Solutions Inc* RS-125 Super-Spec combined scintillometre/spectrometer was used in the field. This instrument has a 6.3 cubic inch Sodium iodide detector. The RS-125 instrument is coupled to a Bluetooth GPS allowing continuous readings of Total Count gamma radiation with TC readings at 1 second intervals and GPS readings a 30 second intervals. At the same time spectrometry is recorded with K%, Uppm and Thppm recorded at 1 minute intervals.

In the field, foot traversing was done with a second GPS giving east-west line control at 20m intervals, increased to 40m and 80m at the northern and southern extremities of the anomaly.

The resulting data has been plotted as contoured IDW2 images: Fig 7 of TC, Fig 8 of Uranium, Fig 9 of Potassium and Fig 10 of Thorium.

### 7.4 Rehabilitation

All field substantial disturbance is rehabilitated by Acacia Minerals before the following wet season.

### 8 WORK DONE AND RESULTS

#### 8.1 Airborne EM Results

Fig 11 is the section of the interpreted AEM along Flight Line 1100302. The portion of this section across EL 26434 extends from 73400E, the western boundary to 734800E, the eastern boundary. This Flight Line just crosses the southern extremity of the airborne radiometric anomaly which is the Frazer North Uranium Prospect as shown on Fig 6.

On the interpreted section in that vicinity there is a sharp contact between very low conductivity (around 40mS/m) from the east to much higher conductivity (around 100mS/m) towards the west and increasing in a westerly direction to over 250mS/m, on the adjoining tenement also held by Acacia Minerals. This interface is undoubtedly a reflection of a geological contact; probably graphitic rich shales with carbonates perhaps with or without sulphides in the former.
8.2 Ground Radiometrics: Total Count Scintillometry Results

Fig 7 is a contour map of the RS-125 Total Count gamma radiation results. The values are the average of the 30 readings taken over a 30 second period plotted at the site of the 30 second GPS location. The spread of the readings has defined well, the airborne radiometric anomaly as shown in Fig 6. Appendix 2 shows results.

The TC ground readings show the anomaly to be approximately 400m long and 200m wide as defined by the 500c/s contour. The axis is north-west and continues to the west on to the neighbouring tenement. The anomaly has a relatively steep drop-off to the north-east into background values of mid 200c/s. The drop-off to the south is more gradual but to values in the low 200c/s.

8.3 Ground Radiometrics: Spectrometry Results

Figs 8, 9 and 10 are plots of uranium, potassium and thorium as “assayed” by the spectrometer. Values were produced by the RS-125 instrument at one minute intervals. Appendix 3 shows results.

A comparison of Fig 8 with Fig 7 indicates clearly that the dominant contributor to the TC gamma radiation is the uranium component. The shape and size of the uranium distribution as defined by the 120c/s contour is almost identical to the TC plot.

Fig 9, showing the potassium produced gamma radiation, shows much less similarity. It is suggested the values are related to pockets of K-rich clay minerals in the pallid zone of the laterite profile known to be present.

Fig 10, showing the thorium distribution, is not at all similar to the TC contour map. It is postulated the few thorium highs may be a reflection of detrital thorium minerals in the soil profile.

8.4 Rehabilitation

No substantial disturbance took place during Year 2 field activities. Rehabilitation of Year 1 work, the auger drilling, was seen to be entirely effective.


9 Conclusions

The work carried out by Acacia Minerals during Year 2 has resulted in defining on the ground, the airborne radiometric anomaly known as the Frazer North Anomaly. Ground radiometric results have shown that the anomaly is due to uranium.

The interpretation of the Geoscience Australia AEM data has shown that a definite high conductivity zone is present on the western boundary of the tenement adjacent to the radiometric anomaly. These coinciding radiometric and EM anomalies along with the airborne magnetic anomaly to the north considerably increases the prospectivity of the tenement for base metals and uranium associated with the Early Proterozoic Whites Formation and Coomalie Dolostone known to be present.

The relationship, if any, between the Tertiary (?) laterite present in the area and the uranium-based radiometric anomaly remains to be tested.

10 Recommendations

A priority is to determine the source of the uranium mineralisation beneath the laterite. The detailed ground radiometrics has shown a NW trend to the main anomaly with both TC and U values showing this trend.

First-pass drilling is planned to be three 200m long lines, 100m apart, of vertical RAB holes, in a NE direction with holes initially at 20m centres over the main U high centred at 8587500N, 734100E. Drill holes are to go into hard Early Proterozoic rock, well below the laterite pallid zone. This may require RAB hammer drilling. One metre samples to be collected and scintillometre tested prior to analysis.

If the RAB drilling shows up any radiometric anomalism anywhere in the profile, RC drilling to produce higher quality samples will be used for follow-up work.

In addition to this drilling, a ground magnetic survey is planned to be conducted over the northern third of the tenement in order to define in more detail, the airborne magnetic anomaly in that area. This will probably be done in conjunction with a magnetic survey over the tenement to the north that Acacia Minerals also holds.
11 Expenditure

The expenditure covenant for EL 26434 for the second year of tenure was $34,100.

Actual expenditure for the first year was as follows:

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<td>Geophysical interpretation</td>
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<td>Map making</td>
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12 YEAR 3 PROGRAM AND BUDGET

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<td><strong>Total</strong></td>
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</table>
Figure 1  Location of EL 26434 on Regional Cadastral Base
Figure 2  Location of EL 26434 on Local Cadastral Base
Figure 3  EL 26434: Geology Base with regional prospects
Figure 4   EL 26434: AEM Flight Lines on Geology Base
Figure 5  EL 26434: Airborne Magnetic Anomaly

"Bull's Eye" Magnetic Zone
0.31 km in length by
0.60 km in width
Figure 6   EL 26434: Airborne Radiometric Anomaly

Frazer North Uranium Prospect
Strong Radiometric Anomaly associated with the Coonamine Dolomite & White Formation
1.30km in length by
1.25km in width
Figure 7  
Frazer North Ground Radiometrics: Total Counts
Figure 8  Frazer North Ground Radiometrics: Uranium

[Image: Frazer North Ground Radiometrics Map]
Figure 9  Frazer North Ground Radiometrics: Potassium
Figure 10  Frazer North Ground Radiometrics: Thorium
Figure 11   AEM: Section 1100302: EmaxAIR CDI