ANNUAL REPORT FOR EL7834 (TANAMI EAST) FOR THE YEAR TO 21 MARCH 1997

1:250 000 Sheet Reference: The Granites SF52-03
Tanami SE52-15

1:100 000 Sheet Reference: Frankenlia 4857
Tanami 4858

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NORTH FLINDERS MINES LIMITED

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AARON SYSTEMS PTY. LTD.

DAC Archibald, April 1997

DARWIN

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SUMMARY

EL7834 was part of a tenement package purchased by North Flinders Mines Ltd from Pegasus Gold Australia Pty Ltd in June 1996. Clearance procedures by traditional owners were still outstanding at that time and were not completed until October 1996. As this was at the very end of the field season, work on the ground was held over to 1997 and an application was made for a waiver of statutory reduction.

This report describes the exploration activity at EL7834 (Tanami East) for the twelve month period to March 21, 1997. Work undertaken has comprised:

- Literature research and redrafting of existing plans
- Interpretation of existing airborne magnetic data
- Interpretation of existing airborne radiometric data
- Interpretation of Spot satellite imagery
- Preparation of an exploration work programme for 1997

Field exploration has since started on EL7834 (in the third year of tenure) and will be reported in April 1998.
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1. INTRODUCTION

EL7834 was acquired from Pegasus Gold Australia Limited on June 21, 1996 as part of a package of Tanami exploration properties sold to North Flinders Mines Limited. Prior to this it formed a portion of the ground explored by Otter Exploration and later, under the terms of the Central Desert Joint Venture, with Billiton.

Much of the licence area is believed to be underlain by prospective Early Proterozoic lithologies, though these are partially obscured by Gardiner Sandstone, Antrim Plateau Basalts, Tertiary laterite and Quaternary surficial deposits. Otter and Billiton did not target this part of their tenement holding for exhaustive investigation. It was relinquished after negative initial sampling results.

Difficulty in gaining access to the ground has prevented both Pegasus and North Flinders Mines from following up directly on the perceived exploration potential of the EL. Nevertheless available airborne magnetic and radiometric data has been reprocessed and reinterpreted with the additional benefit of Spot satellite imagery. Necessary clearance procedures have recently been completed, and since this reporting period closed, a comprehensive lag sampling programme has been initiated with a subsequent programme of RAB drilling planned.

2. TENEMENT DETAILS

EL7834 comprises 30 graticular blocks over an area of 97 sq km straddling the boundary between the Tanami and Frankenia 1:100,000 map sheets. The licence covers approximately 124 square kilometres.

Ground covered by the EL was formerly held by Otter Exploration and Billiton under the Central Desert Joint Venture. The first statutory relinquishment at the end of the second year of tenure yielded the ground currently held as EL7834. It was applied for by Pegasus in May 1992 and was granted on March 22, 1995. Ownership was purchased by North Flinders Mines Ltd in June 1996.

A 50% relinquishment was due in March 1997, however a waiver of this obligation was requested on February 4, 1997 as access to the ground only became available after clearance by traditional owners in October 1996 (at the very end of the field season) and insufficient information existed on which to base such a decision. The waiver was granted by the Mining Registrar on March 19, 1997.

<table>
<thead>
<tr>
<th>Title</th>
<th>Name</th>
<th>Blocks</th>
<th>Grant Date</th>
<th>Expiry Date</th>
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<tbody>
<tr>
<td>EL7834</td>
<td>Tanami East</td>
<td>30</td>
<td>22/3/95</td>
<td>21/3/01</td>
<td>$18,000</td>
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3. LOCATION, ACCESS AND PHYSIOGRAPHY

EL7834 lies approximately 75km northwest of The Granites Gold Mine and 5km southeast of the Tanami Gold Mine (see Fig 1). The tenement lies over both the Tanami and Frankenia 1:100,000 map sheets.

Access to the licence area is via the Tanami Road which runs through EL7834.

The land surface is generally flat with a covering of aeolian sand over variable thicknesses of transported Quaternary sediments. Lateritic exposures form low rises. There are minor outcrops of underlying lithologies.
4. EXPLORATION OBJECTIVES

The objective of the work carried out to date by North Flinders Mines has been to:

- assess the nature, results and integrity of previous exploration over the area of the licence
- decide on the most appropriate method of evaluating the mineral potential of the licence
- obtain the necessary Central Land Council access approvals
- reprocess available airborne geophysical data and interpret the results with reference to Spot satellite imagery.

5. WORK UNDERTAKEN

5.1 Evaluation of Previous Work

Like NFM, BHP's initial evaluation was based on an interpretive assessment of existing airborne magnetic and radiometric data, supported by Thematic Mapper imagery and aerial photography. Target areas were generated and investigated during reconnaissance field visits. Soil and rock chip samples were collected for geochemical investigation. Areas thought to be underlain by platform cover sequences and granite were ignored.

EL7834 was tested by 3 rock chip samples (SN241203 to 241205) and 48 soil samples collected over three traverses (SN176001 to 176048). The soil samples tested magnetic targets and appear to be sieved -10mm +1mm fraction material, probably lateritic, taken below aeolian sand cover from auger holes. The approximate locations of the three traverses are marked on Figure 5. Individual soil samples were collected every 20m along each line, then composited into a single 2kg sample representative of 100m intervals. Assays were performed for gold (detection limit 1ppb), and by ICP AAS for copper, lead, zinc, arsenic, bismuth and mercury. Bismuth and mercury were dropped from this group later in the programme. Rock chip assays were performed for gold (detection limit 10ppb). Negative assay results and the difficulties caused by the total concealment of target lithologies led to the relinquishment of this ground.

Whilst the two sites chosen for investigation are prospective, it is believed the testing of the magnetic anomalies could have been more comprehensive.

5.2 Reinterpretation of Airborne Magnetic Radiometric and Spot Data

5.2.1 Magnetic Data Presentation

All aeromagnetic data was processed by ORE Research and Exploration Pty Ltd using proprietary gridding and image processing systems. Data was gridded using the minimum curvature method with a 100 metre grid cell size. This gridded data set was subsequently resampled to 25 metres to improve image clarity using inhouse GIS software, TNT Mips.

Figures 2a and 2b show the imaged Total Magnetic Intensity (TMI) and First Vertical Derivative data sets at 1:75 000 scale.
Discussion

Interpretation was carried out by NFM geophysicists. Figure 5 shows a simplified aeromagnetic interpretation of EL7834 and the surrounding area. The total magnetic intensity images were used to plan future ground magnetic traverses over prospective features requiring further detail.

Aeromagnetic contours and enhanced imaging show two distinct magnetic domains, within EL7834:-

- A medium amplitude domain (greater than 100 nT less than 400 nT) with minor magnetic anomalies but with major NW trending structural lineaments, and a mottled magnetic texture (Magnetic Domain 1),

- A high amplitude (greater than 400 nT) domain comprising highly magnetic features, with a major NW trending structural lineament (Magnetic Domain 2).

5.2.2 Radiometric and Spot Data Presentation

All radiometric data was processed by ORE Research Research and Exploration Pty Ltd using proprietary gridding and image processing systems. Data was gridded using the minimum curvature method with a 100 metre grid cell size. This gridded data set was subsequently resampled to 25 metres to improve image clarity using inhouse GIS software, TNT Mips.

Airborne radiometric images of the total count, potassium, uranium and thorium channels were produced by NFM at 1:75 000 scale. These images are presented as Figures 3a to 3d and were used to determine if any significant uranium and/or thorium anomalies could be related to interpreted geological features.

Spot satellite images of the Tanami East area were also produced inhouse by NFM at 1:75 000 scale. Both the Spot and Radiometric images were used to map surficial geology to determine the significance of any uranium, thorium and potassium anomalies. Figure 4 shows a corresponding Spot image of the same area.

Discussion

No significant uranium and/or thorium anomalies were indicated within EL 7834, though some radiometric features within EL7834 reflect surficial Quaternary and Tertiary cover sediments and could be used to map landform geology.
6. WORK PROGRAMME FOR THE TWELVE MONTH PERIOD TO MARCH 1998

Work on EL7834 for the twelve month period to March 1998 is anticipated to include:

- rock chip sampling of available outcrop
- regional lag sampling (already completed)
- pegging of GPS surveyed traverses for control of ground magnetic surveys, MMI sampling and RAB drilling
- ground magnetic surveys over pegged traverses to detail airborne magnetic anomalies
- MMI geochemical sampling over pegged traverses
- RAB drilling of selected geochemical and magnetic targets.

It is planned to expend a minimum of $30,000 on EL7834 during this period.

7. EXPENDITURE INCURRED FOR THE TWELVE MONTH PERIOD TO MARCH 1997

<table>
<thead>
<tr>
<th>ACTIVITY</th>
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<tbody>
<tr>
<td>Geologist (9 days @ $350/day)</td>
<td>3150</td>
</tr>
<tr>
<td>Geophysicist (8 days @ $350/day)</td>
<td>2800</td>
</tr>
<tr>
<td>Base Support Costs (drafting, computing etc.)</td>
<td>595</td>
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<tr>
<td>Administration (office overhead costs)</td>
<td>980</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$7,525</strong></td>
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Covenanted expenditure for the second year of tenure was $16,000. NFM failed to reach this total as ground access to to the tenement was not possible (see Section 2).

8. REFERENCES

