Report on the

FINNISS RANGE TANTALITE PROJECT AREA

by

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5th March, 1990.
FERGUSSON RIVER EL 6037

Proposed Work Programme and Budget

1.0 INTRODUCTION

Exploration Licence 6037 initially comprising 58 blocks was granted on 29/8/88 for a period of 6 years. The licence forms part of the Mt Todd Joint Venture between Billiton Australia Gold Pty. Ltd., and Zapopan N.L., with Billiton as managers and operators.

This exploration licence underwent its first reduction in July 1990, when 50 blocks were surrendered. Work conducted in 1990/1991 indicated that mineralization located within the exploration licence located within the exploration licence may have been more widely distributed than initially thought. Hence, an exemption from reduction was sought from the NTDME. This exemption was granted on 22 July, 1991. Additional work conducted within the exploration licence indicates that the Anomaly 1 prospect has now been closed off, and it is intended that future work programmes will focus on this prospect.

2.0 PROPOSED PROGRAMME

During the forthcoming year of tenure it is proposed to conduct limited additional drilling at the Anomaly 1 prospect. Given favourable results, additional drilling and resource evaluation may be conducted.

3.0 PROPOSED BUDGET

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<tr>
<td>Staffing</td>
<td>4,750</td>
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<tr>
<td>Drilling</td>
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<td>TOTAL</td>
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1. **SUMMARY**

The Finnis Range Tantalite Project is located 65 kilometres south of Darwin in the Finnis Range area. During the last 10 years the area has been explored by a number of parties broadly as follows:

1. **1980 - 2 - Wigg & Benger - small eluvial sluicing operation at Saffums no. 1.**

2. **1983-5 - Talmina Trading Pty. Ltd. - constructed dams, camp and an 80 tph 'alluvial' treatment plant on MCN 1052 and conducted bulk testing operations at Saffums 1,2,3, Sandras, Martins.**

3. **1988-9 - Brevcorp Pty. Ltd. - constructed a hard rock treatment plant dams and a camp on MCN's 3216,3217 & 3218 and conducted further bulk testing operations on Saffums, Turners, Martins, Sandras etc.**

Corporate Developments Pty. Ltd. and associates of its Directors advanced over $1\frac{1}{2} m to Talmina Trading Pty. Ltd.; these funds were predominantly used on site for the construction of plant, extensive costeanning and bulk testing etc. In late 1985, due to the collapse of the tin and tantalite prices, Talmina Trading was placed in liquidation.

In 1986 Corporate Developments purchased the plant and tenements from the Liquidator of Talmina. In 1987, by an agreement with Monier, regional exploration was conducted on the tenements; however, Monier withdrew after defaulting on the agreement. In 1988, by agreement with Don Hoult, $\frac{1}{2} m was to be spent on the tenements. In 1989, this Agreement was assigned to Brevcorp Pty. Ltd. (a company associated with Don Hoult) and we are advised Brevcorp spent some $2\frac{1}{2} m on site. This expenditure comprised construction of tailings dams, main supply dams, substantial demountable accommocation, a processing plant incorporating crushing circuit vibrating screens, jigs etc. and earthworks and bulk testing and sampling of pegmatites, eluvials and alluvials.
In late 1989 Brevcorp defaulted on the Deed of Charge in favour of Corporate Developments and Brevcorp was placed in Receivership. Corporate advertised the plant and tenements for sale by tender in late 1989 but no suitable tenders were received.

Although a substantial amount of work has been done on the project, the information available is limited, and Corporate intends to compile a summary of reports and information in order to assess the best method of exploring the area.
2. Introduction
The Finniss Range Tantalite Project currently comprises the following Tenements:

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<th>Tenement</th>
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<td>Corporate Development P/L</td>
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<td>3</td>
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<td>EL 4906</td>
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<td>6/4/94</td>
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<td>EL 6217</td>
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<tr>
<td>EL(A) 4493</td>
<td>8</td>
<td>-</td>
<td>&quot;</td>
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<td></td>
<td>25/2/91</td>
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<tr>
<td>MCN 3216,7,8</td>
<td></td>
<td>8/7/91</td>
<td>Brevcorp Pty Ltd</td>
</tr>
<tr>
<td>MLN(A) 1089</td>
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The tenements currently have project-based reporting status; the project report was due 5/11/89, but an extension of time was given to Brevcorp until 5/3/89. This project report is incomplete due to the resusal of Don Hoult to provide results and records of work done during the period April 1988 to December 1989 to Corporate. As this information is not available, we have drawn on previous information and reports, and visited the project area a number of times to assess work done on site. It is apparent the accommodation facilities and plant constructed by Brevcorp have been predominantly removed from site, leaving offcut material, rubbish, concrete pads and the like on MCN's 3216,7,8. In addition, rehabilitation of areas disturbed for bulk testing, gravel winning and for use in the construction of the dams, and plant site may be necessary. In addition, rehabilitation of areas mined by Brevcorp at Saffums 1, Turners, Martins, Sandras and other pegmatites may be required.
3. Location & Access
The project area is located east of the Finniss Range on the Darwin 1:250,000 sheet approximately 65 kilometres south of Darwin. Access is gained via the Stuart Highway, Cox Peninsular road, Wangi Road and for 10 km along a gravel road into the project area. This gravel road was formerly an all weather road but recent transport of the Brevcorp plant and equipment has caused damage to the pavement itself and surrounds where machinery became bogged and gravel was won.

This location map (Figure 1) shown the location of the tenements and access. Access within the tenements comprises gravel tracks (some constructed by Brevcorp) connecting the various pegmatites and processing plant sites.

4. Geological Setting
The project area is located within a belt of sediments belonging to Burrell Creek Formation of lower Proterozoic Age which runs in a general north to north-north-east direction through the centre of the Bynoe 1:100,000 sheet.

The majority of sequence consists of finely laminated siltstone interbedded with more massive beds of sandy greywacke siltstone, graphitic shale and minor quartz pebble and lithic/conglomerate. West of the limestone area and the Finniss range the Burrell Creek sediments have been intruded by the Two Sisters Granite.

The siltstones which have been metamorphosed to muscovite phyllite and quartz mica schist have a well developed slaty cleavage where-as the more competent sandy units display a characteristic refracted sandstone cleavage. This majorfoliation is regional in extent and is related to the predominant NNE fold direction. In high strain zones a crenulation cleavage has developed as a result of granite intruion and/or introduction of pegmatite.
The pegmatites are present as discrete steeply dipping intrusives which strike generally in a NNE direction parallel to the regional foliation. An estimated 30 kilometer of strike length pegmatite has been identified by air photo interpretation and exploration to date. The pegmatites are suspected to be related to the nearby Two Sisters Granite but their origin and relationship to granitic rocks in the area has not been established. Some of the outcropping pegmatites show significant heavy mineral content at surface and visible tantalite mineralization, although patchy.

Host rock sediments crop out as persistent low undulating ridges with the pegmatites represented especially on the ridge tops as quartz mica aggregates or milky quartz rubble. Recrystallization of the contact rocks has made them more resistant to erosion and as a consequence pegmatite contact zones are readily indentifiable. Trenching has shown that pegmatite bodies are not limited to ridge tops but are also located under the alluvial flats. The pegmatites vary greatly in size but are mainly discrete tabular bodies up to about 10 metres thick which may swell and thin along strike or branch into thin apophyses less than a meter across. More lenticular or bulging types similar to the Saffums No.1 pegmatite thicken to 35 meters at surface. Mapping has shown that the surface representation of the various pegmatites may extend for more than 200 meters. In general, the steeply dipping contacts which strike NNE are semi-concordant with the bedding and the regional axial plane foliation. Mapped field relation suggests that the form of intrusion is controlled by the more competent arenite members of the Burrell Creek Formation and regional fold structures. The pegmatites everywhere associated with quartz mica chiastolite schist. The chiastolite is present as small knotted aggregates or as larger interlocking rods to 10cm in length especially in the contact zones. Other forms of wall rock alteration include development of tourmaline needles, aligned with the long axis parallel to the contact, in areas where pegmatite has intruded grey to black shales.
During emplacement of some pegmatites a secondary crenulation cleavage was developed which has deformed the pre-existing foliation in adjacent schist outward from the contact zone. The deformation appears to be more severe in the vicinity of the lenticular or bulging pegmatite bodies.

5. Work Done

Full details of work done during the period April 1988 to March 1990 are unknown due to the refusal of Don Hoult to provide the information and results to the writer. However, inspection of the site reveals a substantial amount of work was done on site, including (but probably not limited to);

1. Construction of large tailings and water supply dams on MCN 3216, including removal of fill material from MCN 1052
2. Partial removal of the existing plant on MCN 1052 & the construction of a new plant, earthworks, roads etc. on MCN 3216 (the plant now predominantly removed from site).
3. Construction of accommodation facilities, roads etc. on MCN 3216/7 (predominantly now removed from site)
4. Construction of access tracks for water supply, electricity supply and access to pegmatites, construction of an airstrip
5. Work on the main access road, including gravel mining adjacent thereto, rubbish dump, etc.
6. Mining of ore material from Saffums 1, Bilato's, Sandras, Martins, Turners, TW4, etc. and exploratory excavations at numerous locations within the tenements.
7. Processing of bulk samples on MCN 3216 and disposal of tailings in the tailings dam.

Although a substantial programme of exploration was proposed in the Wallen-Telek report of November 1988, I understand this programme was not carried out.
6. CONCLUSIONS

The project area contains an extensive suit of granitic pegmatites which intrude sediments of the Lower Proterozoic Burrell Creek Formation. Although an astounding amount has been spent on the project area to date, the results available are inconclusive, and a decision on the economic viability of mining cannot yet be made.

The project area required the collating and assessment of all available data and further on site testing to evaluate the commercial feasibility of a mining operation.