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REP. No. 2893/82				

PROJECT NAME:

AUSTRALIAN ANGLO AMERICAN PROSPECTING
PROPRIETARY LIMITED - AMDEX
RINGAROOMA JOINT VENTURE

TITLE:

EL28/76 DERBY, TASMANIA
Report for the period 22nd December, 1981
to 7th March, 1982

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AUTHOR/S:

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DATE:

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Incorporated in the State of Victoria

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AMDEX MINING LIMITED

PIONEER, TASMANIA. 7254

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8th April, 1982.

22 APR 1982

Director of Mines,
Department of Mines,
G.P.O. Box 124B,
Hobart, Tasmania 7001

Attention: Mr H. Murchie.

Re: E.L. 28/76 - Derby.

Director of Mines	RECEIVED	22 APR 1982	E & R
Received Answered	DEPT. OF MINES		155
REP. No.	2893/82		

Dear Sir,

On behalf of Moruka Tin Pty Ltd., I submit the attached report containing exploration results for the period 22nd December 1981, to 7th March 1982.

This work was performed as part of the Australian Anglo American Prospecting Pty Ltd - Amdex Mining Limited, Joint Venture exploration programme.

Yours faithfully,

S. C. Everett,
Manager.

82-1723.

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1. INTRODUCTION

1.1. Tenement Details

The Triako Mines N.L. Group and Australian Anglo American Prospecting Pty Ltd (AAA), have signed a Joint Venture Agreement to explore the Ringarooma Valley and the Great Northern Plain Tin Placers. Moruka Tin Pty Ltd and Kibuka Mines Pty Ltd are members of the Triako Group of companies. Amdex Mining Limited is Triako's operating company based at Pioneer, Tasmania.

During the past year the Triako Group alluvial tin tenements in north east Tasmania have been rationalized. In October 1981, E.L. 6/78 - Winnaleah, was incorporated into an enlarged E.L. 2/77. All reporting dates have been adjusted to the renewal date of E.L. 2/77. The tenements involved are:-

Tenement	Company
E.L. 2/77	Kibuka Mines Pty Ltd
E.L. 28/76	Moruka Tin Pty Ltd
A.P. 1/80	Kibuka Mines Pty Ltd

The locations of these tenements is shown on Figure 1. Licences E.L. 2/77 and E.L. 28/76 are being explored as a single prospecting entity.

1.2. Scope of Report

This report is of an interim nature (a short report between active prospecting periods). The former programme, the Spring 1981 exploration investigations, has recently been reported (2nd February 1982). Supplementary work to the last drilling campaign and an outline of forthcoming exploration within E.L. 28/76 are detailed in this report.

2. WORK PERFORMED

2.1. Branxholm Creek Lead

2.1.1. Petrological Examination of Core and Clasts from Reverse Circulation Drilling

In the course of monitoring drilling and on-site logging of general sediment type during the recent 60mm Reverse Circulation drilling programme, any unusual sediment or clast was collected and saved from the normal sample treatment process. From the thirteen holes in the A.R.C. bore series, the following samples are held at the South Mount Cameron office of Amdex Mining Limited.

Seven samples of cored pebbles or fragments atypical of the normal range of clasts derived from eroded and transported Mathinna Group sediments and quartz vein material associated with regional dynamic metamorphism.

One sample of brown clay containing abundant organic material (stored in a sealed bag). Possibly suitable for palynological work.

Four samples of Mathinna Group basement core.

From these twelve samples, five were selected for petrological examination by Central Mineralogical Services. Thin-sections have been prepared and briefly described in Table 1.

The first two samples described in Table 1 are typical of pebbles comprising some 20% of the clast population of a shingle layer 1 to 2.5 metres thick, extending throughout the Ringarooma River floodplain, upstream of Long Bridge and north of Arba Hill, at a depth of 5 to 10 metres. This horizon has been found to be

partially stanniferous by recent drilling. The age relationship of this strata is of importance in assessing the geological history and the economic potential of cassiterite north of Arba Hill.

It is possible that this layer located by drilling on the floodplain continues horizontally under the adjoining basalt capped dissected plateaus. This would imply that the layer is a perched placer of the Eocene? to Lower Miocene deep lead systems, in this case the Branxholm Creek Lead. Supporting evidence for this possibility includes the location of this sub-surface strata, at least to the projected foot of Late Cainozoic plateau scarp/cliff, and the failure to observe any associated alluvial gold in the heavy mineral concentrates.

A more likely alternative age for this shingle horizon is Quaternary or possibly Pliocene. It unconformably overlies the Middle Tertiary sediments and is associated with the present drainage system. It represents the first depositional event in the area following a considerable period of erosion initiated by valley-fill vulcanism. An analysis of the cassiterite areal distribution pattern in relation to present geomorphology suggest the present Branxholm Creek as the source of shingle and cassiterite.

Recent work by Yim et. al. (unpublished) documents evidence for two ages for Tertiary vulcanism, separated by a prolonged period of quiescence. This hinders determination of temporal relations in alluvials by the simple presence of basalt fragments. Although the older (Early Eocene - Weldborough basalt) basalt dated by Yim et. al. (unpublished) is distant from the Arba area, a correlate, the Mt Paris - Grays Hill cappings, McClenaghan et. al. (in press) occurs in the upper parts of the Branxholm Creek watershed. The Middle Miocene Winnaleah - Ringarooma

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basalt has a widespread occurrence in this area. It is thus conceivable that the basalt samples could be derived from either or both of these outpourings.

In Table 1 both specimens are nepheline basalts. Such descriptions are in accordance with the suite of basaltic rocks described in McClenaghan et. al. (in press) as belonging to the younger Winnaleah - Ringarooma basalt. The freshness of specimens also suggests a Recent age and a proximal source.

Samples three and four were also collected as possible basic rocks of Early Eocene age. Depth and sediments types clearly imply an Early to Middle Tertiary age for the sediments. The identification of these quartz - tourmaline rocks remain uncertain as very few features of the original rocks remain. Although rocks of this type are most commonly tourmalinised sediments, there is some evidence that these particular specimens are metasomatised fine-grained igneous types. The regular distribution of relatively conspicuous leucoxene grains support such an origin.

Sample five is the typical basement rock for drill holes A.R.C. 7 through to A.R.C. 13.

2.1.2. Arba Tin Pty Ltd - Correspondence

In the previous E.L. 28/76 report, the list of future investigations included acquiring information from United Petroleum Reserves in relation to Arba Tin Pty Ltd. A letter was written to Arba Tin Pty Ltd on 14th January 1982, concerning this matter but no correspondence has been received.

3. FUTURE EXPLORATION PROPOSALS

Exploration within E.L. 28/76 will continue to concentrate on the Arba Hill area. Many possibilities seeking economic mineralization have been eliminated by recent drilling, however further work is warranted to test the grade and extent of perched mineralization indicated by the Spring 1981 drilling, and to further define the basement structure. In detail, the programme proposes:-

a) To test the mineralized shingle layer.

Nine holes at 50 metre intervals on the line between the Roma (E563550, N5443700) and Groper (E563000, N5443750) mine ponds. The central hole may be extended to basement.

b) To further define the basement structure and test for mineralization. Holes to basement at two of the four locations listed below:-

(E563300, N5443950) - Lowest point in the system.

(E563590, N5443580) - A redrill of No. 4 1937 Mines Department hole.

(E562880, N5443560) and (E562880, N5443400) - Holes to close off the possibility of a north westerly outlet to the Branxholm Creek Lead from under Arba Hill and also verify auger drilling to the north by Utah Development Company.

4. REFERENCES

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Yim, W. W. -S., Gleadow, A., van Moort, J. C. Fission Track Dating of Alluvial Zircons from North East Tasmania. Unpublished manuscript.

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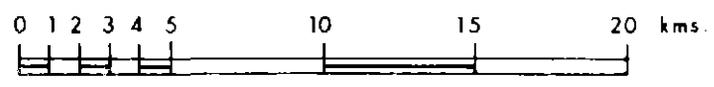
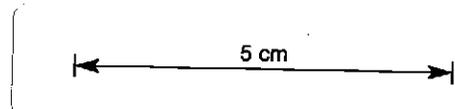
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TABULATED PETROLOGICAL EXAMINATION RESULTS

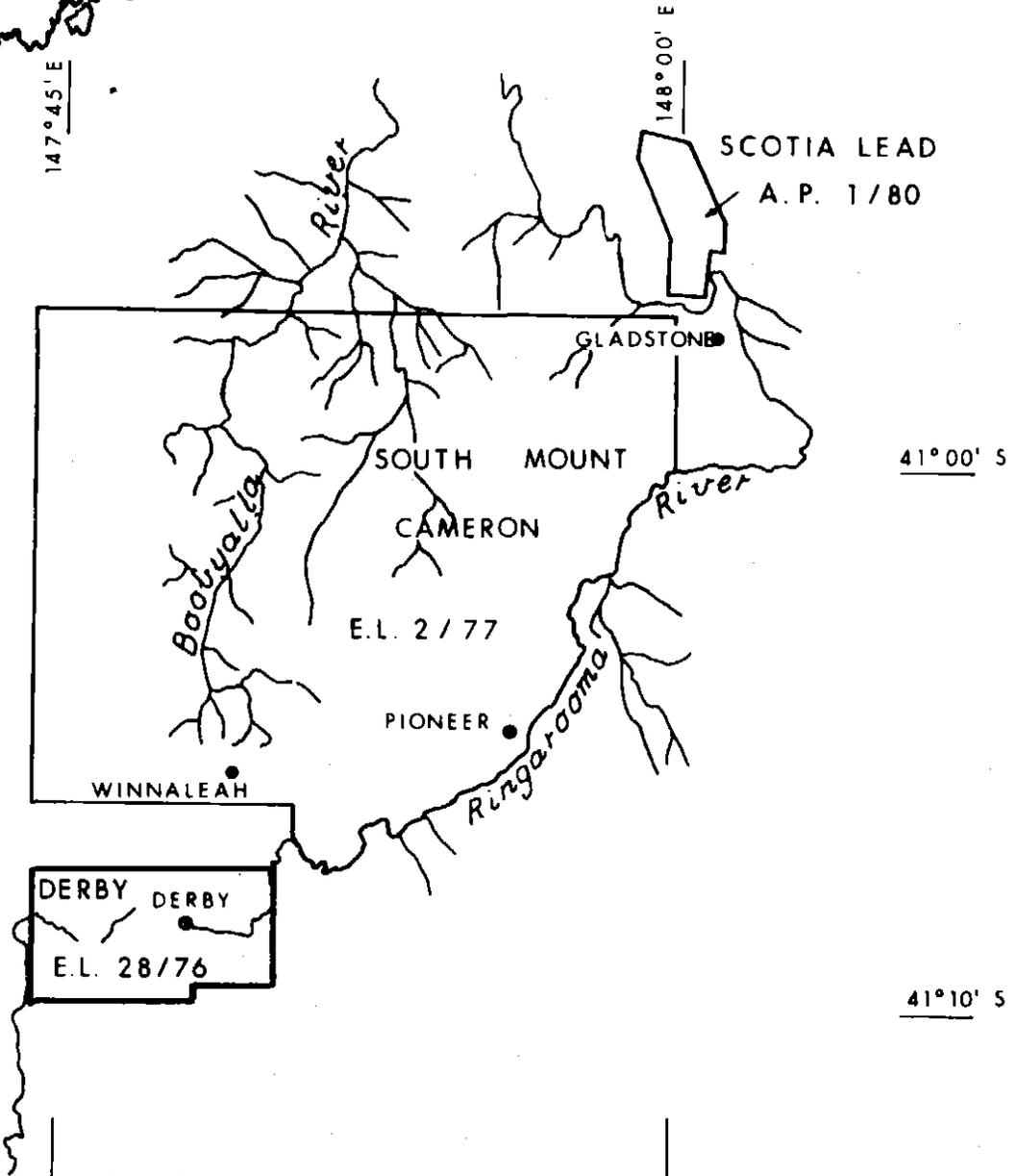
TABLE 1.

Sample No.	Rock Type - Composition	Fabric	Minor Minerals	Comments	Hole
1.	<u>Nepheline Basalt.</u> Small, fresh olivine phenocrysts in random fine groundmass of augite needles, magnetite, and interstitial fresh nepheline.	Fine-grained, holocrystalline, random fabric, with a few amygdales	Accessory apatite. Traces of secondary chlorite. Zeolites in amygdales.	A fresh extrusive/minor intrusive in which nepheline proxies for plagioclase. Regarded as Tertiary.	A.R.C. 4 5-7m
2.	<u>Nepheline Basalt.</u> Incipiently chloritised olivine phenocrysts in fine groundmass of augite needles, with interstitial nepheline and magnetite crystals	Random, fine-grained, with small, spherical amygdales.	Fine chlorite throughout. Zeolites in amygdales	Closely resembles No. 1, but with more augite and less nepheline, hence melanocratic.	A.R.C. 13 8-10m
3.	<u>Tourmaline-Quartz Rock.</u> Composed mainly of small irregular interlocking tourmaline patches, with interstitial microgranular quartz.	Faint, but definite preferred orientation (? inherited). Fine grained.	Scattered small leucoxene grains (?altered magnetite).	Nature of original rock unknown because of thorough tourmalinisation, but probably a sediment.	A.R.C. 4 34-36m
4.	<u>Tourmaline Quartz Rock.</u> Predominantly composed of interlocking irregular tourmaline patches, with ?pseudomorphous quartz aggregates.	Poorly defined prophyritic/porphyroblastic fabric; fine-grained.	Small Leucoxene pseudomorphs after ?magnetite.	Very similar to No. 3, but various features suggest possible igneous origin, thoroughly metasomatised.	A.R.C. 10 44-46m
5.	<u>Sericitised Siltstone.</u> Silt- and fine-sand-sized quartz grains, with abundant interstitial hydromuscovite, sporadic chlorite patches.	Faintly bedded. Relict Clastic textures. Randomly orientated sericite.	Detritally rounded zircon. Authigenic tourmaline.	Appears to be a clastic quartzose sediments subjected to low-temperature greisenning.	A.R.C. 13 52-52m

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Scale 1 : 250 000



Amdex Mining Limited

NORTH - EASTERN TASMANIA LOCATION MAP

Author:	Date:	Dwg. No.:	Figure 1.
Drafting:	Report No.:	Base Plan:	