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THE MOUNT LINDSAY AREA

TASMANIA

A SUMMARY OF EXPLORATION ACTIVITIES
UNDERTAKEN BY THE ABERFOYLE GROUP
FROM 1962 UNTIL 1970

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September, 1970.

INTRODUCTION

Since 1962, the Aberfoyle Group has conducted exploration programmes in the Mount Lindsay area located north of the Pieman River in the West Coast District of Tasmania, approximately 9 miles NW of Renison Bell. The major part of those activities has been directed towards the investigation of the possible occurrence of a cassiterite-chalcopyrite-stannite deposit of a type similar to other such major occurrences in the district, such as Renison, Cleveland and Mt. Bischoff. This has been done by using geological mapping, aerial and ground geophysics, geochemistry and diamond drilling.

In this summary, the history of this exploration will be traced year by year, and the future exploration potential of the area will be assessed. Copies of all relevant reports are held in the exploration files of Aberfoyle Management Pty. Ltd.

1962

In March, 1962, J. L. Morton (1) submitted a geological report on the Mount Lindsay deposit in which he indicated an average grade for the deposit of 0.58% Sn, with no mention of tonnage. In this report, he recommended exploration by ground magnetic surveys, followed by trenching.

Subsequently, 4 diamond drill holes were proposed to test the downward extension of the tin ore exposed at the surface and in shallow workings. These were laid out on the basis of geophysical results supplied to Aberfoyle from a magnetic survey completed by Rio Tinto (Southern) Exploration Pty. Ltd. in joint venture with E.Z. Company.

1963

The above 4 holes were drilled during the summer of 1962-63 and Morton reported (2) -

"4 holes completed ... have shown the mineralisation to be of remarkable grade, strength, persistency and proportion."

His ore reserve estimate was 72,000 tons assaying 0.875% Sn.

Individual ore widths ranged up to 36 feet (true width) and he projected ore to a depth of 50 feet below the old workings.

Limited ground magnetic surveys indicated a "potential of 3,600 tons per vertical foot". (This has been proved a dangerous presumption by later drilling.) This report recommended further drilling.

In August, 1963, Morton reported on the difficult access to the Mount Lindsay area. This still remains as one of the greatest problems associated with this area.

In October, 1963, a schedule for further exploratory diamond drilling was submitted. It called for 8 holes to be completed during the coming summer (1963-64) and listed an additional 15 holes. Drilling commenced in November, 1963.

1964

In addition to the diamond drilling of the main ore zone at Mount Lindsay, a limited programme of ground magnetic surveying was undertaken around the Stanley Reward workings. The conclusion drawn was that the potential of the area is very low.

In July, Morton and Couper (3) presented a report on the completion of the second stage of exploration by diamond drilling. In all, 10 holes were completed but 6 of these intersected barren lode material. From the results of this drilling, a revised ore reserve estimate was presented as follows:-

	<u>Tonnage</u>	<u>Grade</u>
Total Indicated Ore	170,792	0.827%
Total Inferred Ore	<u>191,400</u>	<u>0.888%</u>
Grand Total	<u>362,000</u>	<u>0.855%</u>
	say,	<u>0.86%</u>

1964 (cont.)

The inferred ore reserve calculation appears to be optimistic since many of the projected ore boundaries used in the calculations have been projected beyond the limits commonly acceptable in such calculations.

1965-66

The exploration in the field season 1965-66 comprised further diamond drilling in the Mount Lindsay area and some "regional" geological mapping. The results of the drilling were presented in a report by J. Couper (4). 9 holes were completed but none of these intersected any ore. Thus, the concept of continuation of ore in depth was disproved. Couper presented a third ore reserve estimate, based on the results of the 23 holes completed, and it is as follows:-

		<u>Tonnage</u>	<u>Grade</u>
Indicated Ore	Zone 1	71,927	0.875%
	Zone 2	75,736	0.912%
	Zone 3	<u>28,438</u>	<u>0.414%</u>
		<u>176,101</u>	<u>0.816%</u>
Inferred Ore		<u>32,698</u>	<u>0.875%</u>
Total		<u>208,799</u>	<u>0.832%</u>

In his conclusions, Couper states -

" a major development of ore along the main ore zone seems unlikely. It is therefore necessary to re-assess all available data relating to Mount Lindsay-Stanley Reward and decide whether exploration should be continued."

Amongst the other conclusions was the suggestion to test other anomalous zones by further diamond drilling.

1966-67

No field work was undertaken.

1967-68

Having shown by extensive diamond drilling that the possibility of a commercial deposit existing in the main ore zone was remote, attention was diverted to a more generalised approach to the area surrounding the small known deposit. Investigations had shown that the deposit at Mount Lindsay had some degree of stratigraphic control, analogous to both Cleveland and Renison deposits. An integrated programme of geology, ground magnetic surveys, S.P. surveys and geochemical soil sampling, outlined four anomalous zones parallel to the main ore zone (Eshuys and Etheridge (5)). In the conclusions of the report, similarity is noted between the geological sequence of the Mount Lindsay area and the Renison Bell sequence.

Also, Eshuys and Etheridge (5) recommend investigation of the areas along the Pieman River, east of the Wilson River, suggesting the possibility of some link between the Mount Lindsay occurrence and the deposit at Renison.

1967-68 (cont.)

In the same year, an integrated programme of geology, geochemistry and geophysics was conducted over an area called Camp 30. This area was chosen in view of a prominent aeromagnetic anomaly occurring in the ultrabasic belt. In the final report on this deposit, Jessup (6) states -

"For the time being, further work in the Camp 30 area is not recommended. Although some prominent geochemical anomalies have been outlined, the large number of these anomalies and the complete absence of any signs of mineralisation does not warrant the drilling of these targets. However, further geological investigations should be undertaken over the serpentine belt. This should be conducted especially to the north, across the Wilson River."

Neither of these recommendations was adopted.

In his report on field activities for 1967-68, Glasson (8) reviewed the reports by Eshuys and Etheridge (5), and Jessup and Chenhall (6). In his conclusions, he states -

" work confirmed the stratigraphic interpretation and the fact that the rocks were equivalent to those at Renison Bell."

In addition, he considered that further work was justified at the Mount Lindsay deposit and other areas within the licence area.

1968-69

Following the recommendations by Glasson (8), diamond drilling was implemented on the area designated as Anomaly 2 and at Camp 30. In his final report on the drilling at Anomaly 2, Jessup (9) concludes that "drilling established the existence of a wide lode formation strongly mineralised with magnetite, actinolite and pyrrhotite, but carrying only very low tin values". There was no change to the ore reserves.

However, he did point out that other areas had been defined by geology and geophysics that did warrant further investigation for Mount Lindsay type mineralisation, such as Anomaly 4, the northern section of the Harman River and the eastern end of Anomaly 1. In addition, he noted the presence of scheelite in some of the holes drilled in the Anomaly 2 area and recommended the evaluation of all prior information to assess the potential of the area for its scheelite content. Having reviewed and summarised all previous activity, Jessup (9) concluded that "The main ore zone has been adequately tested and the chances of increasing the known ore reserves are not good".

In his review of field exploration activity for the same year (other than diamond drilling) Jessup (9) points out that -

"A large portion of the Wilson River ultra-mafic belt has not been examined. Further work is warranted in the Harman River area especially along the western contact."

In his report for the same year, Glasson (10) states that no further work is justified in the Camp 30 area, but he makes no mention of the potential of the ultra-basic belt as a whole. He points out that the Camp 30 nickel occurrence is in a laterised serpentinite - the full outcrop area of which has not been established. Nickel values in the laterised material are about 1%. Even in the underlying weathered serpentinite, values of greater than 0.5% Ni are common. No nickel mineral was positively identified and no sulphides were recorded in any of the 5 diamond drill holes, each of which was drilled vertically to depth 30 feet and "bottomed" in relatively unweathered material.

1969-70

Activity was confined to geological mapping, ground magnetic surveys and geochemical soil sampling in those areas recommended by Jessup (9) following the field season of 1968-69. In addition, similar work was carried out in the Stanley River area. The results of this field season's work are contained in a report by Jordan (11).

The Anomaly 4 area was investigated fully with some positive magnetic results but negative geochemical results. No further exploration is recommended for this area. Similar results were obtained in the Stanley River area. Detailed geological examination showed that the rocks belong to the Oonah Slates and Quartzite formation and hence they do not attract as host rocks for possible replacement type deposits of the Mount Lindsay type.

CONCLUSIONS

1. The full potential of the ultrabasic belt in the eastern portion of the exploration licence area has not been fully assessed.
2. The southern and eastern portions of the licence area still require regional examination, particularly south of the Pieman River and east of the Wilson River.
3. The possibility of an economic deposit of cassiterite-sulphide mineralisation in the immediate vicinity of the Mount Lindsay deposit must be considered as very remote.
4. Similarly, the chance of a major scheelite deposit occurring in the area must be considered as slight.
5. Areas known to be in Oonah Quartzite and Meredith Granite Formations have little economic attraction and should be relinquished from the Exploration Licence.

RECOMMENDATIONS

1. Undertake further regional and semi-regional investigations comprising mapping, geophysics and geochemistry (as applicable), in the following areas:-
 - (a) South of the Pieman River and east of the Wilson River.
 - (b) The ultrabasic belt, east of the Wilson River with particular emphasis on the Western contact zone.

2. Relinquish those portions of the exploration licence in which Oonah Slates and Quartzite and Meredith Granites are known to occur.

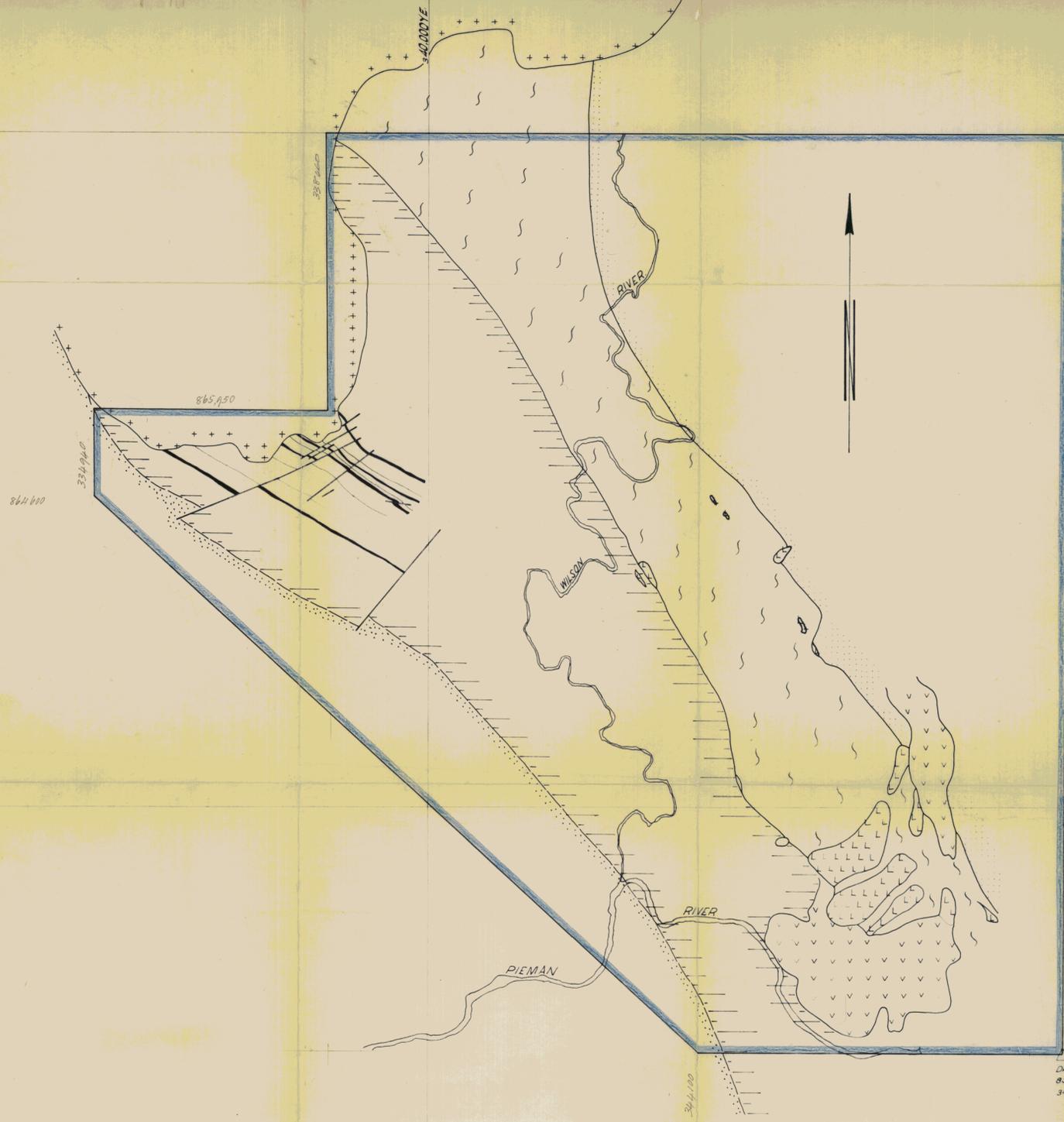
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R. Hare and Associates report.
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A.T.D.P. report.
5. Eshuys, E. and Etheridge, M. 1968 Report on the Mount Lindsay Area, Summer Programme 1967-68.
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6. Jessup, A. M. L. and Chenhall, B. 1968 Interim Report on the Camp 30 - Merton Area, Tasmania.
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9. Jessup, A. M. L. 1969 Report on the Summer Exploration Programme undertaken at Mount Lindsay, Tasmania, 1968-69.
A.T.D.P. report.
10. Glasson, K. R. 1969 Report on the Trinder-Camp 30 Area, Exploration Licence 2/63.
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11. Jordan, M. 1970 Report on the Summer Exploration Programme undertaken at Mount Lindsay and in the Stanley River Area, 1969-70.
Paringa Mining and Exploration Company Limited report.

Note: A.T.D.P. = Aberfoyle Tin Development Partnership.

Map:

1. AMPL EL 2/63 Mt Lindsay area.



870,000 YN
860,000 YN

DATUM PEG
856,000 YN 854,400
849,000 YE 846,400

AMENDED AREA SHOWN THUS: [Blue outline symbol]

- LEGEND**
- PLEISTOCENE: [Symbol] GLACIAL MORaine
 - MIOCENE: [Symbol] LATERITE
 - DEVONIAN & SILURIAN: [Symbol] SANDSTONE - SHALE - LIMESTONE
 - CAMBRIAN: [Symbol] O'BRIENS FORMATION - MT LINDSAY AREA
 - PRE-CAMBRIAN: [Symbol] UNDIFFERENTIATED SEDIMENTS
 - PRE-CAMBRIAN: [Symbol] OONAH QUARTZITE
- IGNEOUS ROCKS**
- DEVONIAN & CARBONIFEROUS: [Symbol] MEREDITH GRANITE
 - CAMBRIAN: [Symbol] BASIC & ULTRABASIC ROCKS

964010

ITEM	DESCRIPTION	LENGTH	MATL	REQ'D
ABERFOYLE MANAGEMENT PTY. LTD.				

AMPL
EL 2/63
MT LINDSAY AREA 009

DRAWN	W. G. G.	DRAWING No.	BRE. SIZE
CHECKED			
APPROVED			B
DATE	29/9/70		
SCALE	2 INCHES TO 1 MILE	ISSUE	A

ISSUE	CHANGE RECORD	DATE	INIT