000

507001

ANNUAL REPORT

EXPLORATION LICENCE 16/78

MEREDITH

TASMANIA

For Year Ended October 20, 1983

1679
1787
1454
7390

Distribution:

Hawthorn (1)
Burnie (1)
Depart of Mines (1)

Copy No. 3.

Prepared By:

J. R. Sise,
Supervising Geologist

September 19, 1983

TABLE OF CONTENTS

	PAGE NO.
SUMMARY	1
INTRODUCTION	2
GEOLOGICAL SETTING	4
UPPER CASTRAY RIVER AREA	6
WEST BETT'S TRACK AREA	8
MT. YOUNGBUCK	9
CONCLUSIONS AND RECOMMENDATIONS	10
LICENCE REDUCTION	11
EXPENDITURE	11
REFERENCES	12

* * * * *

APPENDICES

APPENDIX 1	Correspondence
APPENDIX 2	Petrological Descriptions by H.W.Fander M.Sc
APPENDIX 3	Licence Reduction
APPENDIX 4	Summary of Expenditure

* * * * *

LIST OF PLATES

PLATE NO.	TITLE	SCALE
MER 12 (In Text)	Locality Map	1:100,000
MER 3	Geological Summary Map	1:50,000
MER 46 (In Text)	Stream Sampling Summary Plan Showing Ifield Creek and Upper Castray River Areas	1:50,000
MER 42 (In Text)	Ifield Creek Area : Summary Geochemistry	1:2,500 (approx)
MER 51	Ifield Creek : 1983 Follow-up Work	As shown
MER 53 (In Text)	West Bett's Track : Reconnaissance Geology - Rock Sample Locations	1:15,000
MER 52 (In Text)	West Bett's Track : Stream Sediment Sample Locations and Results	1:15,000

003

SUMMARY

Exploration activities on the Meredith Licence during the 1982-83 summer season involved target definition at Ifield Creek in the Upper Castray River area and regional reconnaissance in a potentially prospective region south of Cleveland.

At Ifield Creek, anomalous tin values are found to be associated with a skarn, formed by metasomatic replacement of carbonated ultramafics or carbonate sediments. Further basic exploration to define the scope of the skarn zone is planned.

In the West Bett's Track area, south of Cleveland, the theory that prospective stratigraphy may exist in the region is confirmed by the location of sulphide-bearing lithologies and anomalous geochemistry. Follow-up exploration is proposed.

Other activities under consideration for the 1983-84 season include an assessment of further exploration potential at Mt Youngbuck, a study of the silver-lead-zinc occurrences on the licence and the completion of DIGHEM coverage over the northern granite contact and prospective Palaeozoic sediments.

The Meredith Exploration Licence has been reduced to comply with the maximum permitted area for a licence which has been in existence for more than five years.

Annual expenditure has exceeded the required commitment each year since the granting of the licence.

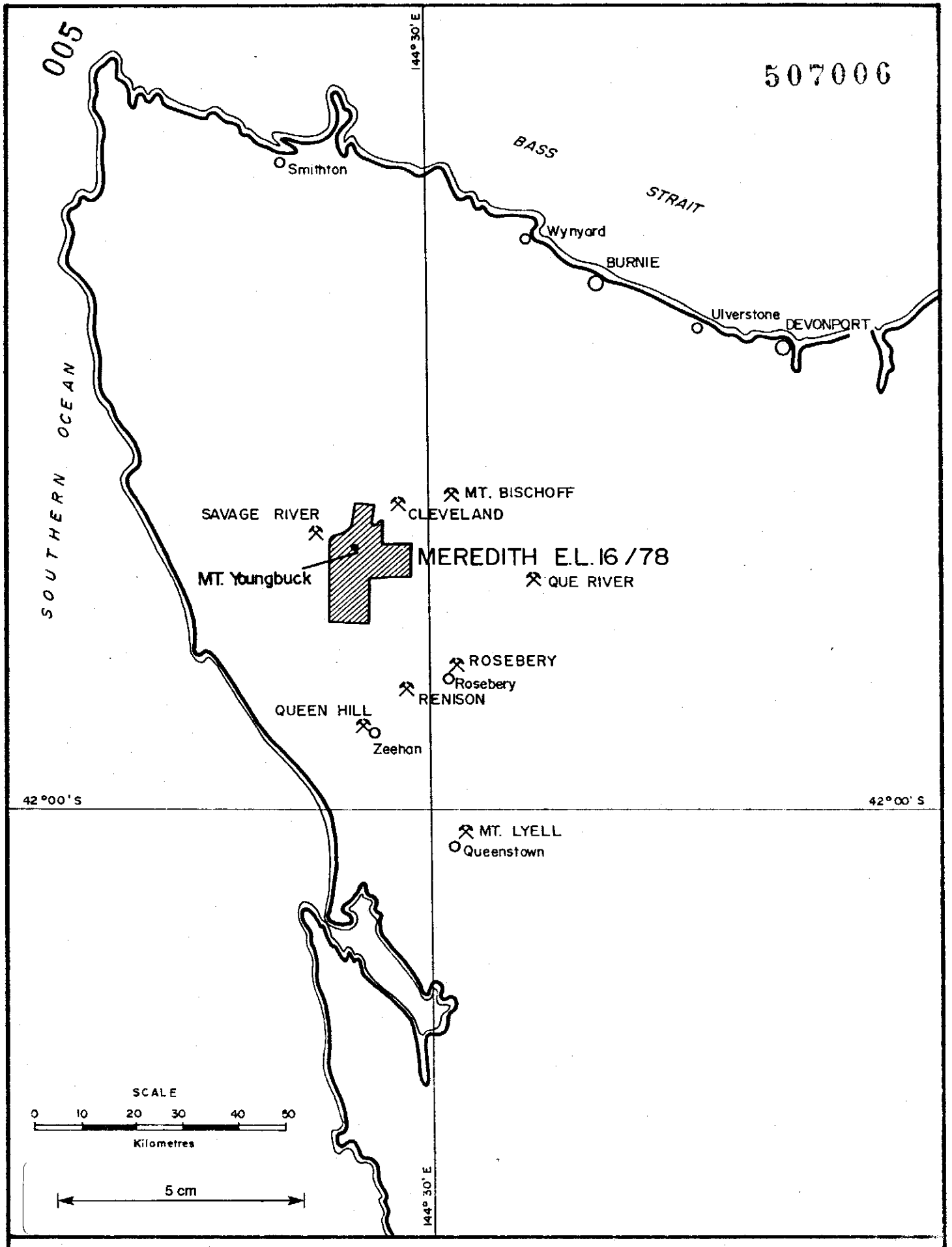
INTRODUCTION

The Meredith Granite Exploration Licence 16/78 of 255 square kilometres (Appendix 1) North-Western Tasmania (Plate MER 12) was acquired by Aberfoyle Exploration Pty. Ltd. in 1978 with the objective of discovering tin and tungsten mineralisation for treatment in the Cleveland Mill.

Previously, Comstaff Pty. Ltd., under Exploration Licence 1/68 were the first company to use modern exploration techniques in this area which had been prospected for hard rock and alluvial tin deposits since the turn of the century. Both Comstaff and ANZECO (Exploration Licence 11/75) undertook regional stream sediment sampling programmes covering both areas within the Meredith Granite, and the northern contact rocks.

Aberfoyle commenced work on the licence in the summer of 1978-79 with a literature review and previous exploration compilation, followed by a reconnaissance mapping and stream sediment sampling programme (Young, 1979), which continued in the 1979-80 season and resulted in the location of skarn mineralisation at Mt Youngbuck (Joyce, 1980a). A DIGHEM survey flown in January 1980 (Joyce, 1980b) provided many targets, with most of the summer of 1980-81 spent in assessment of these features (Joyce 1981).

During 1981-82 work focused on further grid coverage at Mt Youngbuck and the follow-up of two areas of high tin geochemistry in the Upper Castray River area. Activities for the year concluded with the



Aberfoyle Exploration Pty Ltd

Drawn: R.J.S	NORTH WEST TASMANIA	Location code:
Traced:	MEREDITH E.L. 16/78	Date: Septem...
Checked:	Locality ...	Scale: 1 : ...

Plate 12

completion of two diamond drill holes on the Mt Youngbuck grid (Joyce, 1982, Sise 1982). This drilling programme was successful in identifying scheelite-bearing skarn horizons up to 36 metres wide, and close to the granite contact, in both holes completed.

Exploration during the summer season of 1982-83 concentrated on target definition work at Ifield Creek in the Upper Castray River area and regional reconnaissance of the northern granite contact region south of Cleveland. Further drilling at Mt Youngbuck was deferred.

GEOLOGICAL SETTING

The licence includes most of the outcrop extent of the Upper Devonian Meredith Granite, and its northern contacts. (Plate MER 3).

The bulk of the Meredith Granite is composed of medium-coarse grained, equigranular biotite granite/adamellite. Marginal phases, and late stage intrusive bodies are generally finer grained and porphyritic. The margins of the granite are irregular and marked by great textural variations.

To the west, the granite intrudes quartzites, quartz-mica schists and carbonaceous black shales of the Pre-Cambrian Whyte Schist Complex.

To the north-east, pyroxenites, peridotites, serpentinites, altered basic volcanics and undifferentiated igneous rocks of the Cambrian Heazlewood River Complex and similar mafic-ultramafic suites outcrop.

In the north-east, sediments and tuffaceous rocks of probable Cambrian age (Crimson Creek Formation?) occur. In general these rocks appear to be a sequence of turbiditic volcolithic sandstones, siltstones and shales with significant tuffaceous component, with minor chert and carbonate horizons.

Ordovician-Silurian sediments also occur in contact with the granite to the north, and apparently unconformably overlie the Cambrian sequence. Silurian quartz sandstone (Crotty Quartzite) constitutes

the bulk of these younger sediments, but styolitic limestone, perhaps related to the Ordovician Gordon Limestone has been mapped in the Castray River, and mineralized limestones occur to the north-east (Godkin).

UPPER CASTRAY RIVER AREA

INTRODUCTION

Two areas of highly anomalous tin stream geochemistry in the upper reaches of the Castray River system were followed up by hand auger soil sampling during 1982 (for locations see Plate MER 46). One of these areas, Ifield Creek (Plate MER 42) returned soil values up to 1250 ppm tin and 5100 ppm zinc and indicated an anomalous zone of greater than 200 x 80 metres and open to the north, south and west (Joyce 1982). Further work was recommended.

IFIELD CREEK

During the 1983 summer season permission was obtained (Appendix 1) to construct a 3.8 kilometre access track into the Ifield Creek area to expose the source of the anomalous soil and stream values identified during previous seasons work. The access track was mapped at 1:2500 scale with detailed mapping at 1:200 scale in the shallow costean tracks over the anomalous zone (Plate MER 51).

The first 1.5 kilometres of track traverse gently dipping white quartz sandstone correlated with the Crotty Quartzite, before passing into serpentinized ultramafics of the Heazlewood River Complex (Costean 4) and finally into granite in the south of the prospect area. Contact relations are obscured by deep weathering and poor exposure. The area of anomalous stream and soil geochemical response is identified by a linear zone of manganiferous magnetite rock

5 cm

Aberfoyle Exploration Pty Ltd

NORTH WEST TASMANIA

MEREDITH E.L. 16/78

STREAM SAMPLING SUMMARY PLAN SHOWING

Date April, 1982

360 000 E

5400 000 N

Mount Wright

Heazlewood

Old Jasper

Boxing Day

New Jasper

Bells Reward

Discoverer

Godkin Extended

Washington

Confidence

GODKIN

010

River

Creek

Contact

Creek

Scheelite

Creek

MT YOUNGBUCK

Castray

IFIELD CREEK AREA

(Refer to Plate Mer. 42)

MT. STEWART

Mt. Stewart

Whyte

Laughman

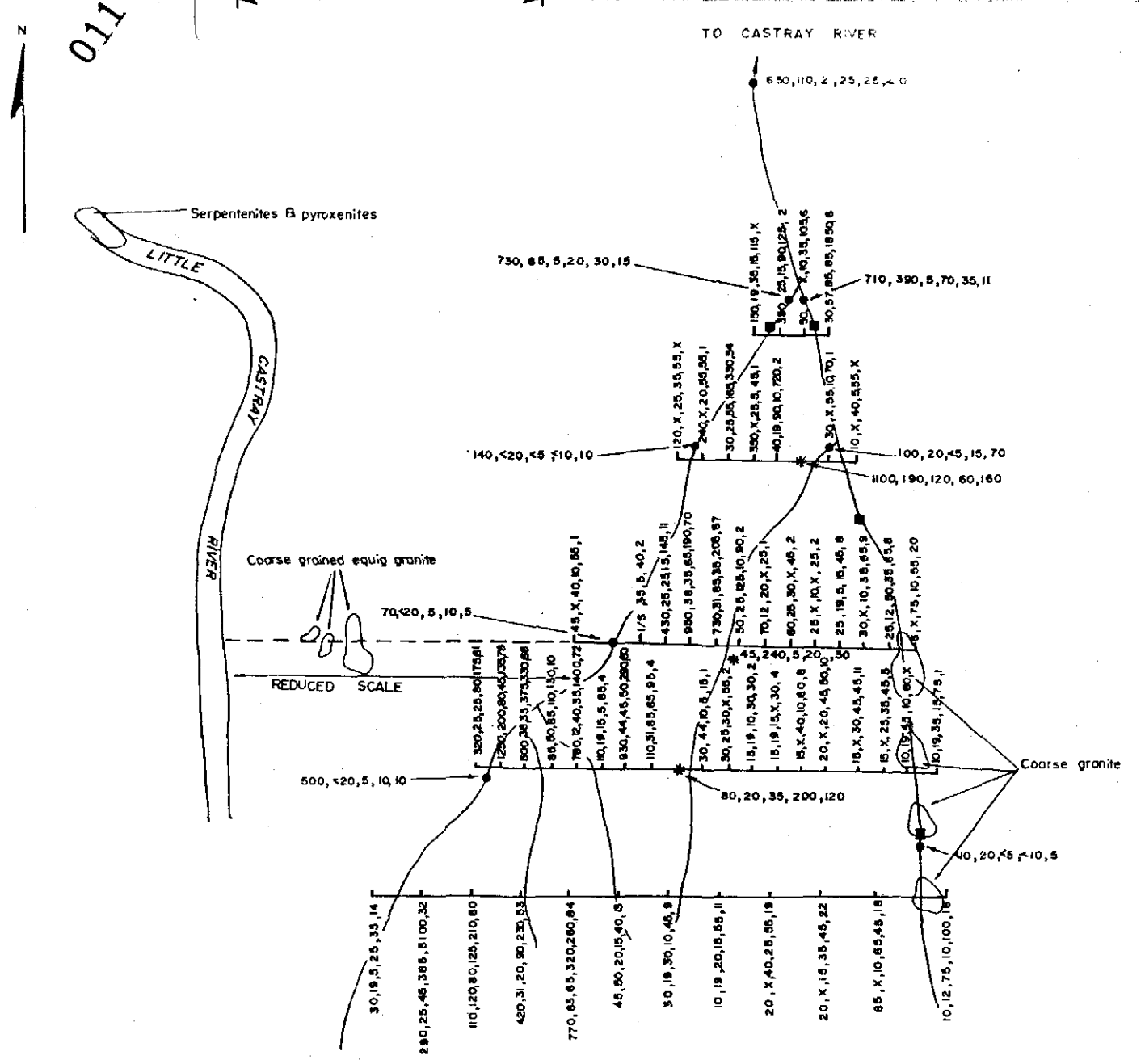
River

UPPER CASTRAY RIVER

FOLLOW-UP

(Refer to Plate Mer. 43)

5070111



Aberfoyle soil sample (1981-82) prefix 260
260707- 260760

Aberfoyle stream sample (1978-79, 1979-80)

ANZECO stream sample, Anom. Sn detected

Aberfoyle base of slope sample (1979-80)

Sn, WO_3, Cu, Pb, Zn, As in p.p.m.

Aberfoyle Exploration Pty Ltd

Geology:	NORTH WEST TASMANIA	Location code:
Drawn: R.M.J.	MEREDITH E.L. 16/78	Date: January, 1982
Traced: J.L.R.	IFIELD CREEK AREA	Scale: 1:2500 approx.
Checked:	SUMMARY GEOCHEMISTRY	Plate No: MER 42
Revised by: Date:		

adjacent to contaminated granite. Petrological reports (Appendix 2) on two mineralised samples indicate that both rocks are of skarn character and reflect high grade contact metamorphism, possibly of carbonated serpentinites. There is little evidence that the mineralisation represents a vein, shear-filling.

Detailed channel samples were collected from costeans and analysed for copper, lead, zinc, silver, manganese, tin, tungsten, molybdenum, arsenic, uranium and gold. The results confirm the association of high tin, lead and zinc values with the linear, manganiferous, magnetite-pyroxene skarn zone within the granite. High tin values extend into altered granite adjacent to this zone. Trench sampling gave an average of 3715 ppm tin over ten metres across the trend of the skarn. Picked skarn samples returned maximum values of 305 ppm copper, 810 ppm lead, 580 ppm zinc and 6550 ppm tin. Assays for tungsten, silver, molybdenum, arsenic, uranium and gold recorded background values only. The skarn mineralogy is considered as a probable locus for silicate (-borate) tin, since no cassiterite was detected.

Anomalous stream sediment values to the south of the area examined suggest that the skarn zone may extend at least two kilometres into the Meredith Granite.

013

WEST BETT'S TRACK AREA

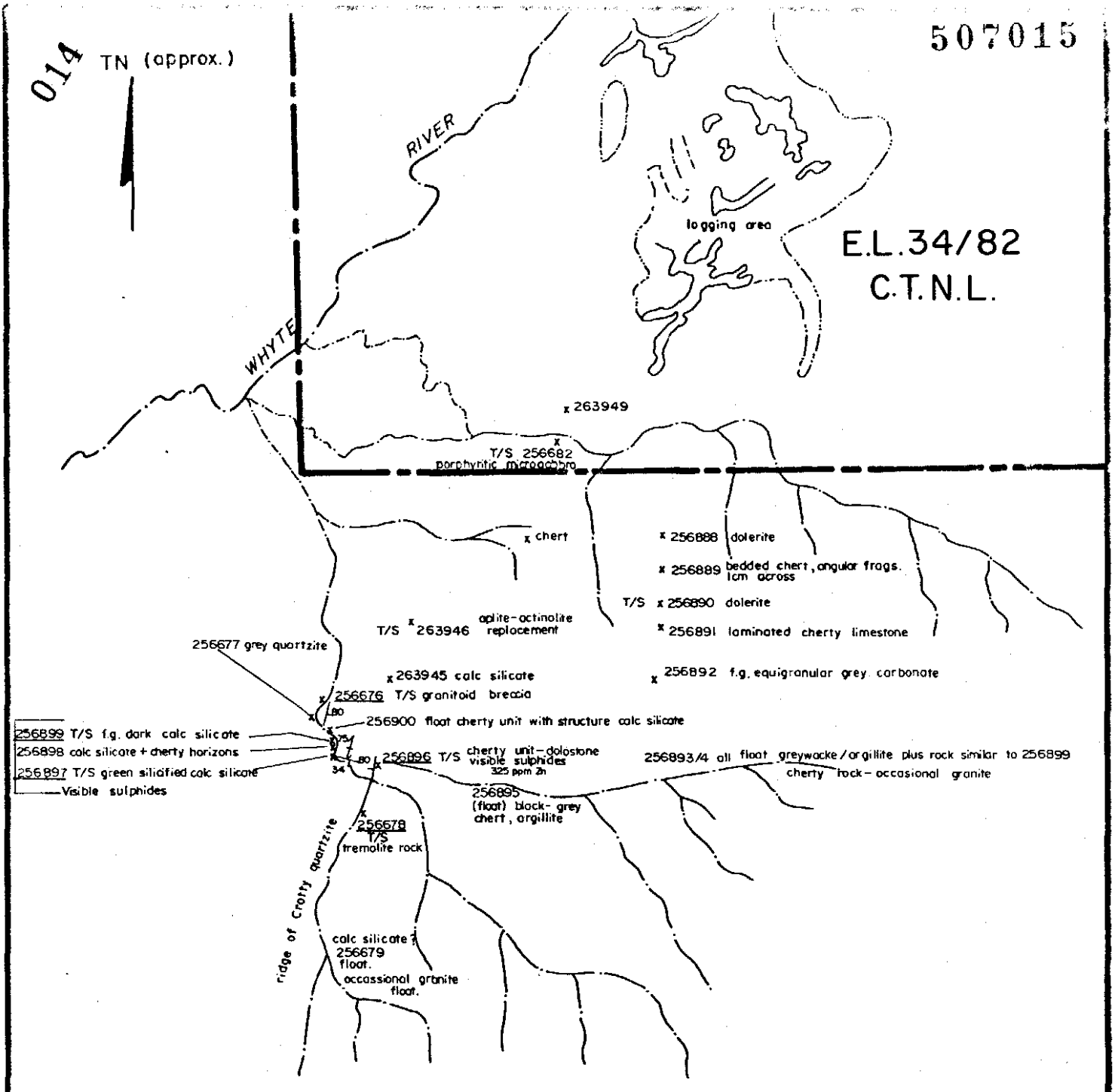
The West Bett's Track area situated 3 to 4 kilometres south-west of the Cleveland Mine (Plate MER 3) is a region of potentially prospective stratigraphy where repetitions of the Cleveland Mine sequence may exist, as well as exposures of Gordon Limestone in contact with the Meredith Granite.

Reconnaissance geological mapping, stream sediment and rock chip sampling in this previously unmapped and difficult to access area was undertaken during March 1983. Rock types mapped (Plate MER 53) and petrologically described (Appendix 2) are quite varied but predominantly of igneous origin. Three metasomatised and variably carbonated sedimentary rocks were encountered which are most likely to be derivatives of the Gordon Limestone. On such sample, a metasomatised dolostone, contains pyrrhotite and pyrite and assayed 325 ppm zinc.

Preliminary stream sediment sampling (Plate MER 52) in the region returned anomalous tin and base metal values.

Despite being of a strictly reconnaissance nature, mapping and geochemical sampling in the West Bett's Track area has confirmed that geologically prospective and geochemically anomalous units exist in the region.

507015



x 256900 Rock sample location & number (stored in Burnie)

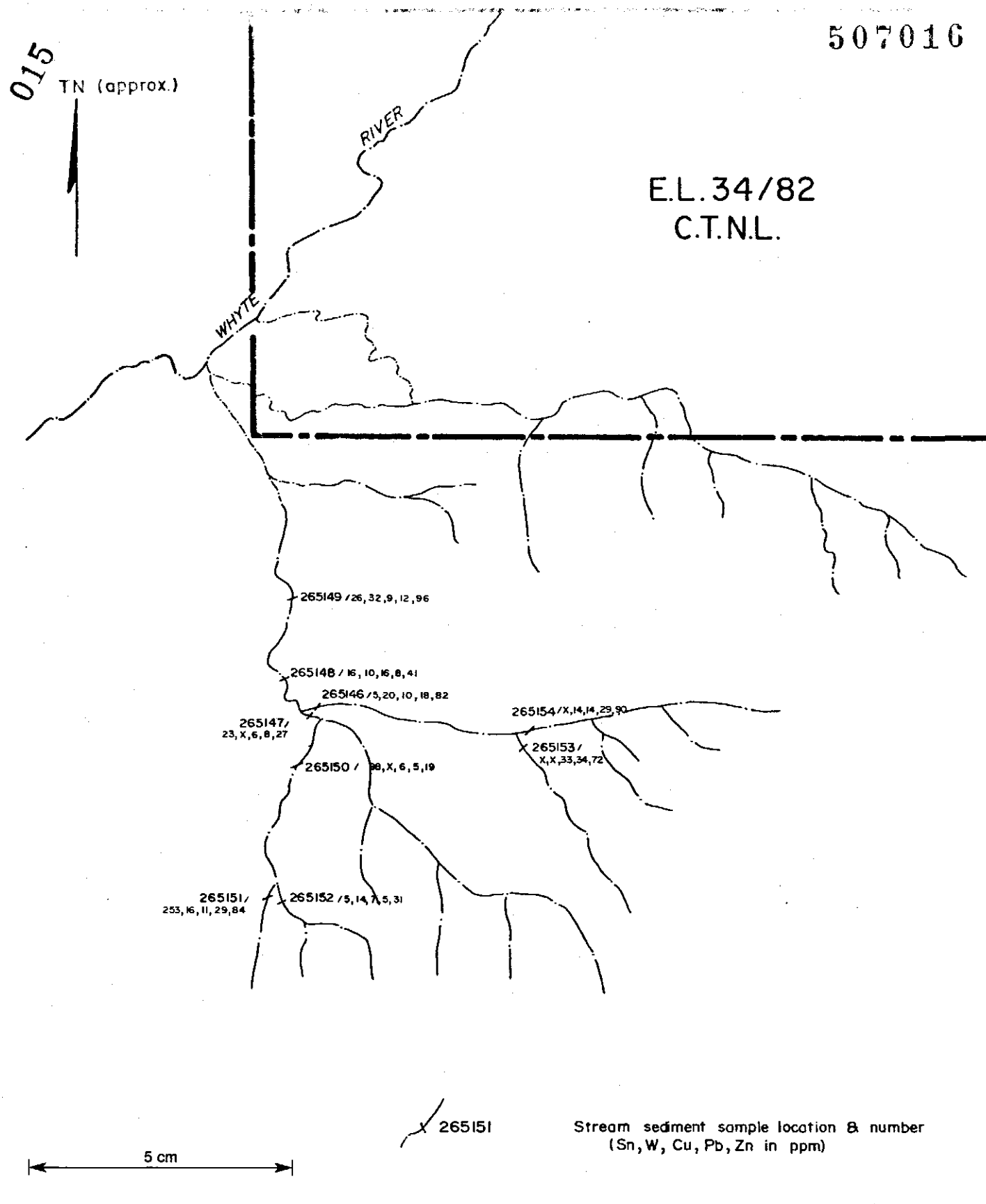
T/S Thin section

256899 Rock assayed for Sn, W, Cu, Pb, Zn, Mo, As in ppm

Aberfoyle Exploration Pty Ltd

Geology: D.J.J.	NORTH WEST TASMANIA	Location code: K55/3
Drawn: D.J.J.	MEREDITH E.L. 16/78	Date: April, 1983
Traced: R.J.E.	WEST BETT'S TRACK	Scale: 1:15,000
Checked:	Reconnaissance Geology – Rock sample locations	Plate No: MER. 53
Revised by: Date:		

507016



Aberfoyle Exploration Pty Ltd

Geology:	NORTH WEST TASMANIA	Location code: K55/3
Drawn: D.J.J.	MEREDITH E.L. 16/78	Date: April, 1983
Traced: R.J.E.	WEST BETT'S TRACK	Scale: 1: 15,000
Checked:	Stream Sediment Sample locations & results	Plate No: MER. 52
Revised by: Date:		

MT YOUNGBUCK

Two diamond drill holes completed at Mt Youngbuck during 1982 (Joyce 1982; Sise 1982) were successful in identifying scheelite-bearing skarn horizons up to 36 metres wide and close to the granite contact. However, assay results revealed negligible tin values and erratic tungsten distribution due to the coarse and patchy nature of the scheelite. The drill holes were sited to test the best combined geological, geochemical and geophysical responses. These features do not appear to persist near surface to any significant degree north of the area tested close to the granite contact.

No further drilling took place at Mt Youngbuck during 1983 pending the definition of further targets in the area.

During the year, Tuenis Kwak from La Trobe University collected drill core samples for petrographic examination and Peter Collins of the Tasmania Department of Mines visited Mt Youngbuck to review progress and collect samples. Some geological assistance was given to a Masters student from La Trobe University undertaking a study of the Meredith Granite.

CONCLUSIONS AND RECOMMENDATIONS

At Ifield Creek, the systematic follow-up of geochemical anomalies has exposed further skarn mineralisation as metasomatic replacement of carbonated ultramafics or carbonate sediments. The skarn is anomalous in tin and other base metals. Petrology has revealed that tin occurs as borates/silicates rather than cassiterite , and in common with other Tasmanian skarns (St Dizier) may be metallurgically complex. Further basic exploration to define the scope of the skarn zone is proposed.

In the West Bett's Track area, the theory that prospective stratigraphy may exist in this region is confirmed by the location of metasomatised sulphide-bearing limestone and anomalous geochemistry. Access track construction and the establishment of a reconnaissance grid as a basis for further mapping and sampling is proposed.

The assessment of the Mt Youngbuck area is in progress incorporating regional magnetics and the recent lineament based geological study undertaken for the Cleveland Tin Mine. A study of the silver-lead-zinc mines on the licence with specific attention to the Mt Stewart Mine is required.

A proposal to complete the 1980 DIGHEM coverage of the granite contact region south of Cleveland and over the Palaeozoic sediments, as an added means of target generation, is under consideration for 1984.

LICENCE REDUCTION

Department of Mines conditions require that the land area of the Meredith Exploration Licence, currently 255 square kilometres, be reduced to a maximum of 125 square kilometres by October 20, 1984. To meet these requirements, and since the bottom portion of the licence area underlain by Meredith Granite is currently considered to be unprospective as well as being remote and difficult to explore, an application will be made to the Director of Mines to relinquish 142 square kilometres of the current licence area. The northern portion of the licence containing 113 square kilometres will be retained. Full details of ground relinquished appear in Appendix 3.

EXPENDITURE

The Summary of Expenditure (Appendix 4) for Exploration Licence 16/78 pertains to the period commencing October 20, 1982, and ending September 19, 1983.

Since the granting of the licence, annual expenditure has been as follows:-

1979 - $89,944

1980 - $120,000

1981 - $95,524

1982 - $135,248

1983 - $31,674

The required expenditure commitment has been exceeded each year with the 1982 over expenditure being carried forward to 1983 to offset this years under expenditure.

REFERENCES

Young, C. H. (1979) — Meredith Granite Project. Report for the six months ending October 20, 1979.

Joyce, R. M. (1980a) — Meredith Granite Project. Progress Report for the six months ending April 20, 1980.

Joyce, R. M. (1980b) — Meredith Granite Project. Progress Report for the six months ending October 20, 1980.

Joyce, R. M. (1981) — Meredith Granite Project. Progress Report for the six months ending April 20, 1981.

Joyce, R. M. (1982) — Meredith Granite Project. Progress Report for the six months ending April 20, 1982.

Sise, J. R. (1982) — Progress Report Exploration Licence 16/78, Meredith. For six months ending October 19, 1982.

APPENDIX 1

Correspondence

- Licence boundary adjustments to conform to the Australian Metric Grid Pattern

- Permission to construct access track

NOTE: ALL CORRESPONDENCE TO BE ADDRESSED TO THE DIRECTOR OF MINES

021

J.R.S.

507022

DEPARTMENT OF MINES

TELEPHONE 30 8033
WHEN TELEPHONING OR
CALLING ASK FOR
P. Hopkins EXT No. 3257

GORDON'S HILL RD
P.O. BOX 56
ROSNY PARK
TASMANIA 7018

The Exploration Manager,
Aberfoyle Exploration Pty. Ltd.,
144 Camberwell Road,
HAWTHORN EAST
Victoria 3123

16 MAR 1983

Dear Sir,

RE: EXPLORATION LICENCE 16/78

I refer to recent correspondence between this department and your company regarding changing the boundaries of the above licence to conform to the Australian Metric Grid Pattern.

This has now been completed and I enclose your copy of the licence document. The total area of the licence is now 255 km^2 as described in the Schedule in the document.

Yours faithfully,

(H. Murchie)
DIRECTOR OF MINES

Encl.

RECEIVED
22 MAR 1983

022

507023

E.L. 16/78

REDUCTION IN AREA

In accordance with Section 15C(7) this licence shall now apply to a total area of 255 km^2 (more or less) as described hereunder:

SCHEDULE

Commencing at a point on the Corinna Road at its intersection with the western boundary of E.L. 34/82 whose grid co-ordinates are 363 000 metres E. 5 407 900 metres N. thence grid south to 5 404 000 metres N. grid east to 370 500 metres E. again grid south to 5 403 150 metres N. westerly to grid co-ordinates 370 425 metres E. 5 403 155 metres N. and being a north west corner of E.L. 5/63 (Part 2) again southerly along part of a western boundary of E.L. 5/63 aforesaid to 5 395 000 metres N. grid west to 360 000 metres E. grid south to 5 387 000 metres N. again grid west to grid co-ordinates 352 690 metres E. 5 387 000 metres N. northerly to grid co-ordinates 352 495 metres E. 5 404 250 metres N. and being a point on the Waratah-Corinna Road aforesaid thence in a general north easterly direction along that road to grid co-ordinates 357 410 metres E. 5 407 640 metres N. again northerly to grid co-ordinates 358 280 metres E. 5 412 320 metres N. again easterly to grid co-ordinates 361 450 metres E. 5 411 730 metres N. again southerly to grid co-ordinates 360 620 metres E. 5 407 350 metres N. and being a point on the Waratah-Corinna Road aforesaid thence again in a north easterly direction by that road to the point of commencement.

EXCLUSIONS

The area embraced by this licence includes State forests but does not include:

(a) All other public reserves or municipal reserves or roadways.

(b) All forms of mining tenements and water licences including leases, water licences, easement licences, special and exploration licences, prospectors licences, miners rights, permits to enter, owners consents and owners rights which were in lawful possession or marked out prior to the date of marking out of this licence.

(c) Land exempt from the provisions of the Mining Act, 1929.

(d) Land under the National Parks and Wildlife Act, 1970, not subject to the Mining Act, 1929.

(e) All Crown reservations or other land set apart or dedicated for any public purposes.

MINISTER FOR MINES
2 March 1983

on file

507024

023

Aberfoyle Exploration Pty Ltd

INCORPORATED IN VICTORIA

144 Camberwell Road, Hawthorn East, Victoria 3123 Australia
Telephone: (03) 82 2226 Telex: AA38646

Ref: KERD/WB

24th January, 1983.

The Director of Mines,
P.O. Box 56,
Rosny Park,
TASMANIA, 7018.

Dear Sir,

re: Exploration Licence 16/78

Reference is made to your letter dated 22nd December 1982 regarding the establishment of exploration licences on a metric grid.

We advise that Aberfoyle Exploration Pty Ltd has no objection to the alteration to EL 16/78 as shown on the plan accompanying your letter of 22.12.82 (copy attached).

Yours faithfully,
ABERFOYLE EXPLORATION PTY. LTD.

K.E.R. DYBALL
for the Exploration Manager

NOTE: ALL CORRESPONDENCE TO BE ADDRESSED TO THE DIRECTOR OF MINES

024

507025

DEPARTMENT OF MINES

PO BOX 56
ROSNY PARK
TASMANIA 7018

TELEPHONE: 30 8033
WHEN TELEPHONING OR
CALLING ASK FOR

EXT. No

22 [illegible]

The Secretary,
Aberfoyle Exploration Pty Ltd,
144 Camberwell Road,
HAWTHORN EAST,
Victoria 3123

Dear Sir,

EXPLORATION LICENCE 16/78

We are at present attempting to show all exploration licences on a 1000 metre grid. I enclose a piece of chart showing the adjustment necessary for your common boundary with E.L. 53/70 and application for E.L. 31/82, both in the name of CSR Ltd.

Would you please advise if you are agreeable to this alteration and, if so, forward your licence document for amendment.

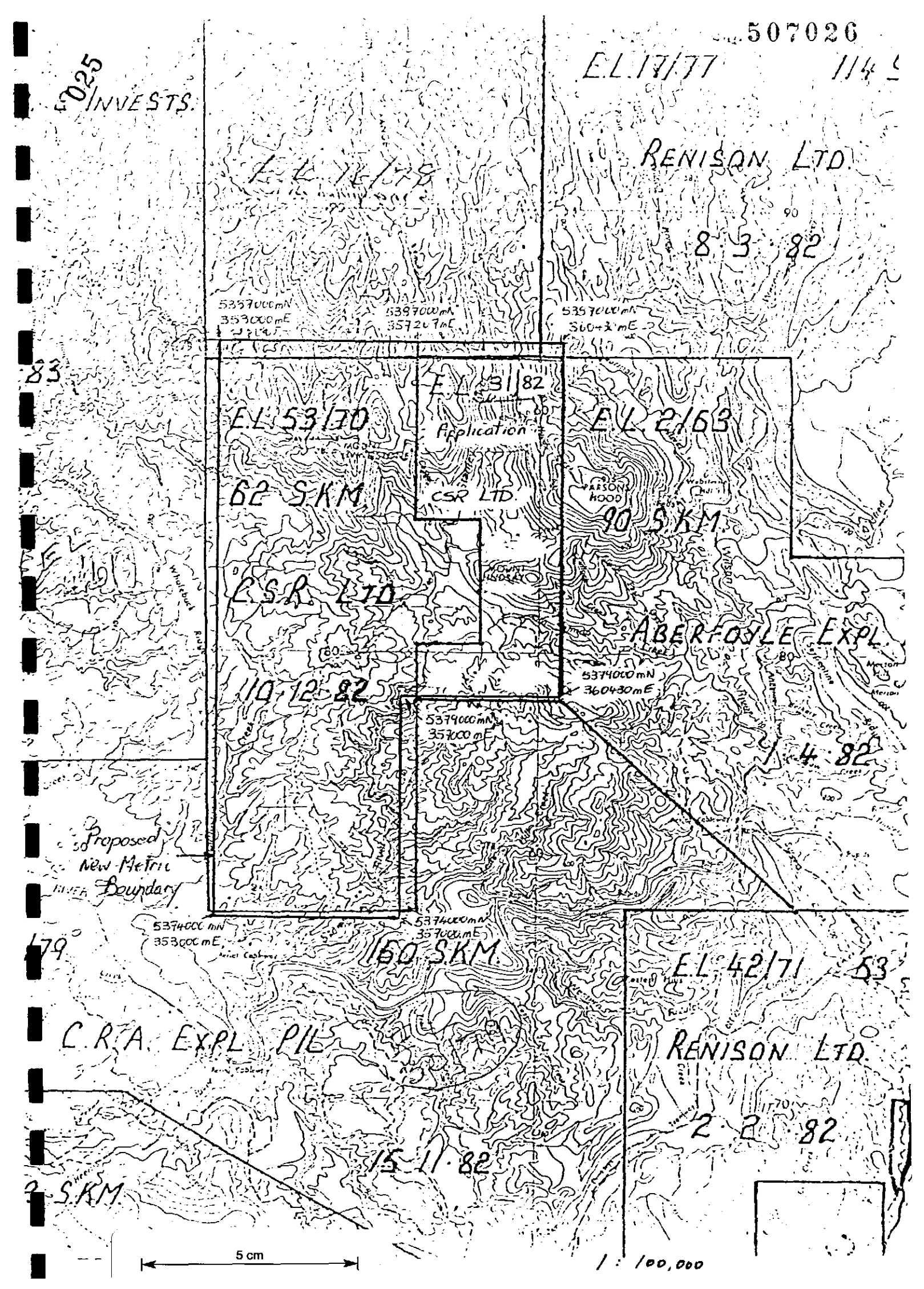
Yours faithfully,

(H. Murchie)
DIRECTOR OF MINES

Encl.

RECEIVED
4 JAN 1983

I gave approval for the alteration and informed Ken Dyball 20.1.83.


507026
E.L. 17/77
114
025
INVESTS.
RENISON LTD.
8 3 82
E.L. 53/80
62 SKM.
E.L. 31/82
Application
CSR LTD.
E.L. 2/63
90 SKM.
CSR LTD
ABERFOYLE EXPL.
10 12 82
1 4 82
Proposed New Metric Boundary
60 SKM.
E.L. 42/71
53
C.R.A. EXPL PTY LTD
RENISON LTD.
2 2 82
15 11 82
3 SKM
5 cm
1 : 100,000

026

Aberfoyle Exploration Pty Ltd

INCORPORATED IN VICTORIA

507027

144 Camberwell Road, Hawthorn East, Victoria 3123 Australia
Telephone: (03) 82 2226 Telex: AA38646

RAO:JAB MER 6100

9th November, 1982.

The Director of Mines,
Department of Mines,
P.O. Box 56,
ROSNY PARK, TAS., 7018.

Dear Sir,

RE: EXPLORATION LICENCE 16/78

We acknowledge recepit of your letter of 5th November, 1982 advising that under the new conditions for EL's the northern boundary with EL 1/63 (Cleveland Tin) is to be varied to conform to Australian metric grid co-ordinates.

The net effect of these variations is that there is an increase in the licence area of 3 sq.kms. to a total of 258 sq.kms.

Accordingly, we enclose our cheque for $37.50 for the balance of renewal fees payable.

Yours faithfully,
ABERFOYLE EXPLORATION PTY. LTD.

R. A. OXENFORD
EXPLORATION SERVICES SUPERINTENDENT.

encl.

027

NOTE - ALL CORRESPONDENCE TO BE ADDRESSED TO THE DIRECTOR OF MINES

507028

TASMANIA

DEPARTMENT OF MINES

TELEPHONE: 30 8033

P.O. Box 56,
ROSNY PARK.
Tasmania. 7018

Mr R.A. Oxenford,
Exploration Services Superintendent,
Aberfoyle Exploration Pty Ltd,
144 Camberwell Road,
HAWTHORN EAST.
Victoria. 3123

-5 NOV 1982

Dear Sir,

RE: EXPLORATION LICENCE 16/78

As you are aware new conditions for Exploration Licences came into effect on the 1st July, 1982. One of the new conditions was that licence boundaries, where possible, should conform to the Australian metric grid co-ordinates.

Cleveland Tin Limited who hold Exploration Licence 1/63 to the north of your licence (E.L. 16/78) had requested a reduction in area at their last renewal. This reduction brought their southern boundary in line to conform to the grid co-ordinates thus leaving an area between their new boundary and your licence (E.L. 16/78) of about 3 km^2.

It will be necessary to change a part of your northern boundary and this will increase your licence area 3 km^2 to a total area of 258 km^2. I have attached a piece of chart which shows the increase in area marked in red. It will also be necessary for an increase in fees, these are summarised below:

Renewal for 12 months

258 km^2 @ \$12.50/km^2 (fifth renewal)	=	\$3,225.00
less amount received for original area	=	\$3,187.50
extra fees		\$37.50

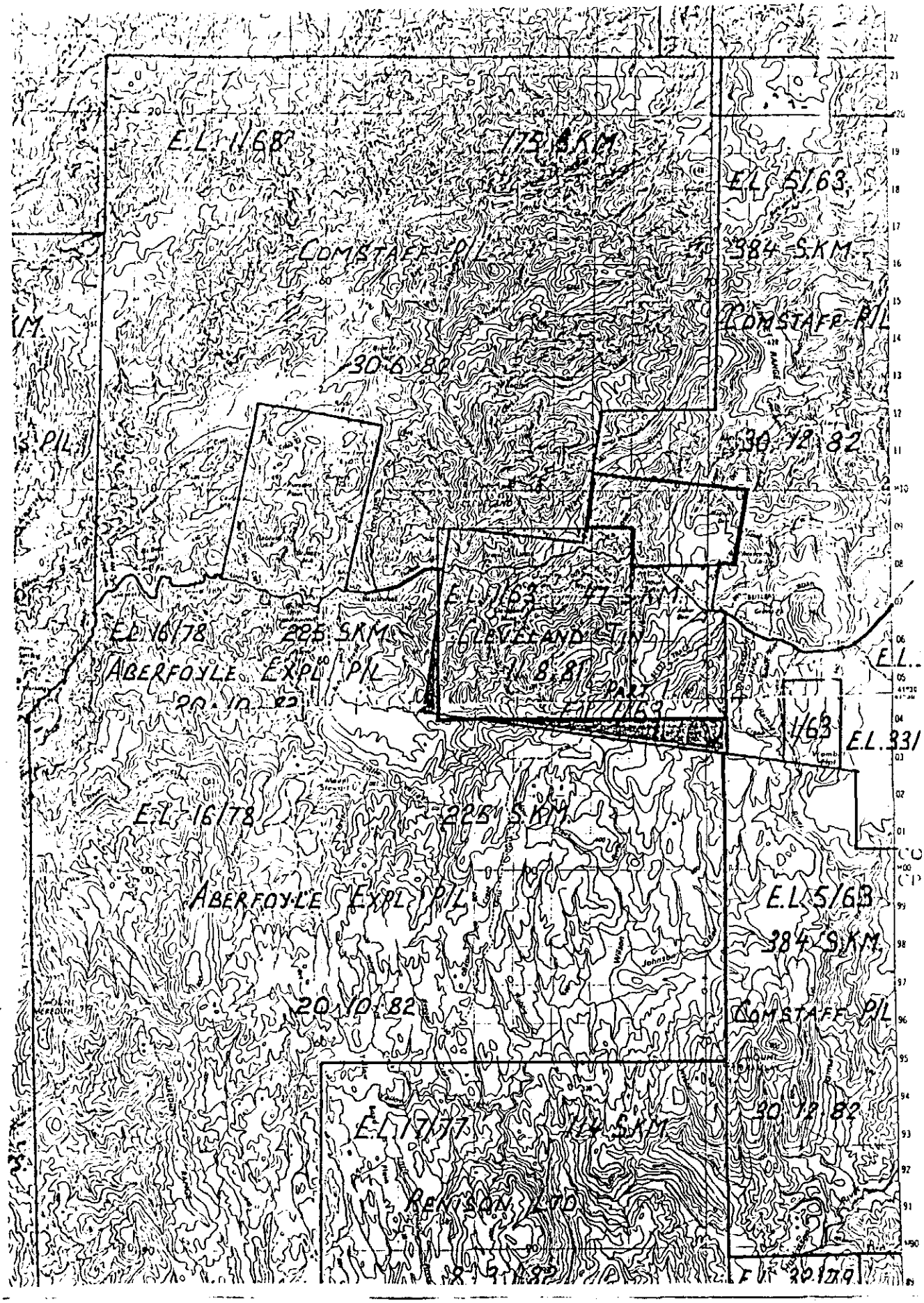
Upon receipt of a cheque for \$37.50 for the extra fees I will forward your copy of the licence document together with a receipt for the fees.

Yours faithfully,

(H. Murchie)
DIRECTOR OF MINES

028

507029



1:100,000 (reduction)

5 cm

DEPARTMENT OF MINES

TELEPHONE 308033
WHEN TELEPHONING OR
CALLING ASK FOR

V.M. Threader EXT No. 2648

GORDON'S HILL RD
P.O. BOX 56
ROSNY PARK
TASMANIA 7018

18 MAR 1983

Mr J.R. Sise,
Supervising Geologist,
Aberfoyle Exploration Pty Ltd,
P.O. Box 952,
BURNIE,
Tasmania. 7320

Dear Mr Sise,

EXPLORATION LICENCE 16/78 (MEREDITH)

Thank you for your letter of 14 March.

Permission is granted for cutting a track by bulldozer as requested.

From your description of the area, it does not appear to be a highly environmentally sensitive one, however care should be exercised to minimise erosion particularly on steep gradients.

Your concern 'to keep disturbance of the environment to a minimum' is noted.

Yours faithfully,

(H. Murchie)
DIRECTOR OF MINES

030

Aberfoyle Exploration Pty Ltd 507031

144 Camberwell Road, Hawthorn East, Victoria 3123 Australia
Telephone: (03) 82 2226 Telex: AA38646

Aberfoyle Exploration Pty. Ltd.
Lot 9, Cave Rd., Wivenhoe
(P.O. Box 532, Burnie)
Tasmania 7320
Phone 31 6333

14th March, 1983

Mr. H. Murchie,
Director of Mines,
Department of Mines,
P.O. Box 56,
ROSNY PARK. TAS. 7018

Dear Sir,

RE: E.L. 16/78 MEREDITH

We shall shortly commence a follow-up exploration programme in the Ifield Creek area of the Meredith Licence to investigate stream and soil samples anomalous in tin and tungsten.

Much of the proposed area of investigation is covered by dense bowra and horizontal scrub, but lacking substantial tall timber.

It is intended to use a bulldozer to construct a short access track into the area of sufficient standard to support work in future seasons, as shown on the attached plan.

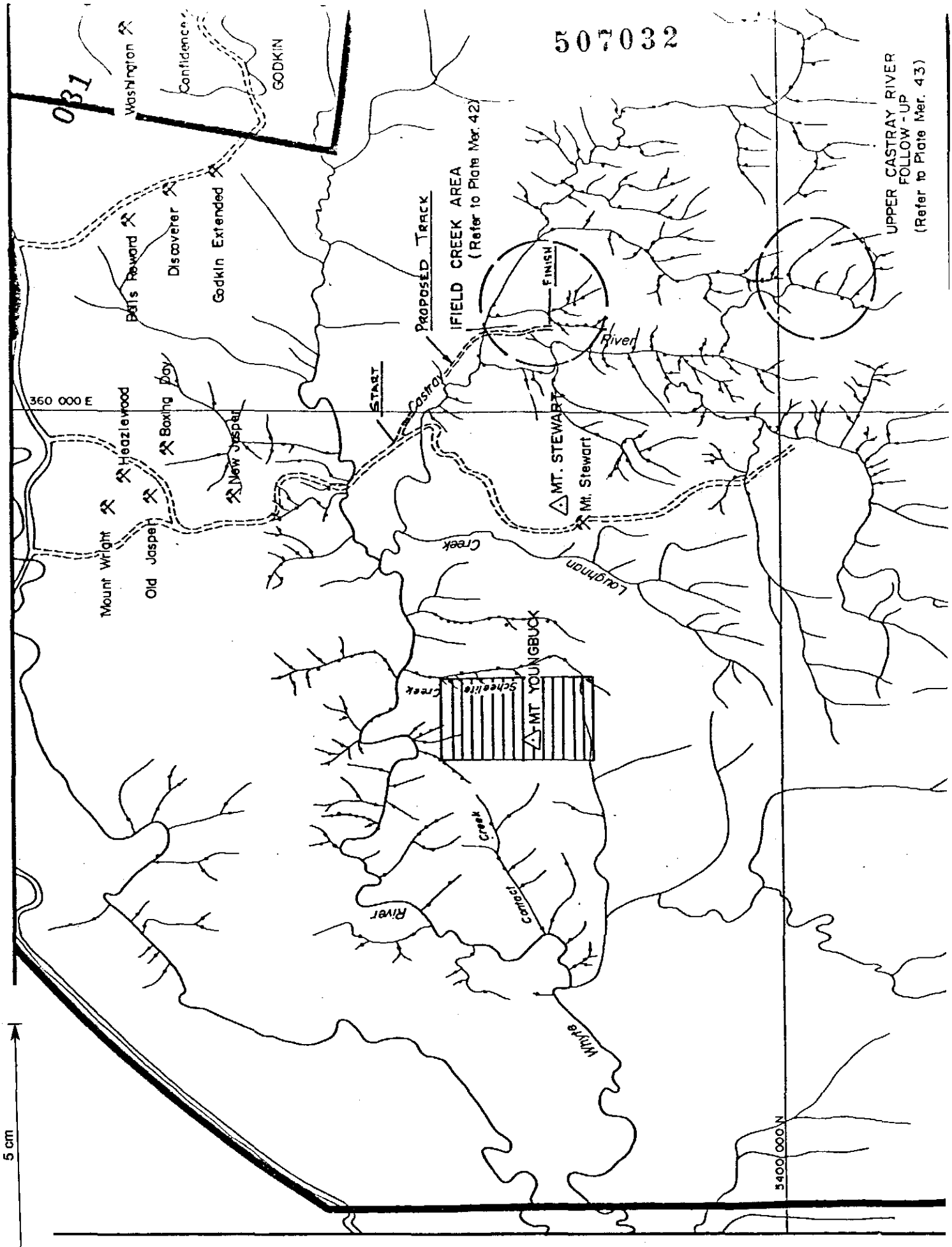
Recent contacts with Tony Brown have also indicated that such a track would be of value to the Departments next summer regional mapping programme which was cut short this year due to insufficient access and the impenetrable nature of the bush.

We request permission to construct the track being mindful of the requirement to keep disturbance of the environment to a minimum.

Yours faithfully,
ABERFOYLE EXPLORATION PTY. LTD.

J. R. SISE
SUPERVISING GEOLOGIST.

Encl.



Aberfoyle Exploration Pty Ltd

Drawn:	NORTH WEST TASMANIA	Location code:
Traced: J.L.R.	MEREDITH E.L. 16/78	Date: April, 1982
Checked:	STREAM SAMPLING SUMMARY PLAN SHOWING	Scale: 1:50,000
Revised by: Date	IFIELD CK. & UPPER CASTRAY RIVER AREAS	Plate No MER. 46

032

APPENDIX 2

Petrological Descriptions by H. W. Fander, M.Sc

- Samples from West Bett's Track (Plate MER 53) : 256896, 256678, 256676, 256897, 256682. 256899, 263946, 256888.

- Samples from Ifield Creek (Plate MER 51) 265126, 265127.

507034

033

Central Mineralogical Services

39 Beulah Road
Norwood, S.A. 5067
Telephone 42 5659

Mr. D.J. Jack
Geologist
Aberfoyle Exploration Pty. Ltd.
P.O. Box 952
BURNIE / TAS. 7320

27th April, 1983

REPORT CMS 83/4/18

YOUR REFERENCE:	Order No. 6304
DATE RECEIVED:	21st April, 1983
SAMPLE NOS.:	8 Samples
SUBMITTED BY;	D.J. Jack
WORK REQUESTED:	Petrology

H.W. Fander, M. Sc.

Copy to:
The Chief Geologist
Aberfoyle Exploration Pty. Ltd.
144, Camberwell Road
HAWTHORN EAST / VIC. 3123

REPORT CMS 83/4/18

Eight rock samples were received for petrological description; thin-sections were prepared and offcuts were subjected to stain tests where appropriate. The rocks are briefly described in the accompanying table.

Summary

Most of the rocks appear to be of igneous origin, with a range of rock types represented. Rocks of sedimentary origin are in the minority and, because of metasomatism, are not easily interpreted.

There are three basic igneous rocks, very probably genetically related, and showing normal uralitic alteration of pyroxene, but no evidence of contact-metamorphism/metasomatism; however, metasomatic effects may appear similar to uralitisation and thus the distinction could be difficult. Two of the rocks are metasomatised acid igneous rocks of similar composition (albite and quartz) and may be veins, apophyses or other minor bodies related to intrusives; if related to the Meredith Granite, then they indicate that some metasomatism postdated the intrusions.

If the basic igneous rocks are simply uralitised, they could be post-intrusive (?Jurassic), but if they are actually metasomatised, they must be older; perhaps field evidence can resolve this problem.

The tremolite rock is puzzling; the presence of chromite would suggest an (ultimate) ultramafic origin, but on the other hand some of the basal sections of the Gordon Limestone contain detrital chromite, and thus this rock may be tremolitised basal Gordon Limestone.

The diopside rock is so thoroughly altered that the nature of the original material can only be surmised as an impure carbonate, but other interpretations are possible.

H.W. Fander, M. SC.

Sample No.	Rock Type - Composition	Fabric	Minor Minerals	Comments
56896 T.S. 5693)	Metasomatised Dolostone. Mainly finely granular dolomite; pervasive fine chlorite and sulphides; calcite-tremolite-chlorite veins.	Uniform, fine-grained, structure-less, with networks of veins.	Some carbonate veinlets are diagenetic. Sulphides are pyrrhotite/pyrite.	Rock shows little evidence of metamorphism, but is mildly metasomatised. Pyrrhotite pre-dates veins. 035
56678	Tremolite Rock. Consists almost entirely of fine matted-fibrous tremolite, with a few small plagioclase lenses.	Preferred fabric and lensoid structures are inherited; pseudomorphous textures.	Scattered euhedral chromite crystals.	Presence of chromite suggests an ultramafic origin. Perhaps a tremolitised schistose serpentinite but see text.
56676	Metasomatised Granitoid Breccia. Irregular fragments of quartz-albite intergrowths, partly replaced and veined by matted actinolite and chlorite.	Breccia fabric and relict feldspar textures. Originally coarse-grained.	Prehnite veins.	Exact origin not known; could have been an igneous-related vein, or an altered intrusive apart from granite.
56897	Diopside Rock. Dominantly small granular to prismatic random diopside crystals, with small relict quartz, feldspar patches, intergrown siderite.	Weak banding is inherited. Fine- to medium-grained.	Goethite-lined cavities representing oxidised sulphides.	Nature of original rock not known, possibly a carbonate sediment with detrital feldspar and quartz.
56682	Porphyritic Microgabbro. Serpentinised olivine phenocrysts set in a mass of ophitic augite and small oligoclase laths, cloudy and poorly twinned.	Medium/coarse-grained, verging on gabbro. Ophitic textures.	Scattered leucoxenised primary magnetite. Feldspar veins. Epidote patches.	Orthodox rock, but distinguished by dark serpentine pseudomorphs after olivine. Not metamorphosed.
56899	Uralitised Dolerite. Fibrous actinolite pseudomorphs after pyroxene laths; small andesine crystals, interstitial variolitic patches.	Variable fabric, with quench textures in places. Rare altered phenocrysts.	Actinolite-quartz shear zones. Quartz in altered phenocrysts.	May be a chilled margin, possibly related to 256682. Alteration appears to be normal uralitisation.
63946	Metasomatised Aplite(?). Uniform interlocking quartz patches and small prismatic albite crystals. Tufts, patches of fibrous actinolite.	Medium-grained; replacive amphibole is finely fibrous.	Rare euhedral smoky apatite. Veins of altered feldspar.	Composition and fabric characteristic of aplites. Fibrous actinolite may be replacing biotite.
56888 T.S. 5700)	Uralitised Dolerite. Random laths and a few phenocrysts of oligoclase, intergrown with uralitised pyroxene crystals, interstitial magnetite.	Uniform, random fabric, verging on fine-grained. Intrusive.	A few unaltered augite crystals. Feldspar veins with ferrohastingsite.	Very probably related to 256682, 256899; all three have oligoclase-andesine instead of more usual labradorite.

507037

036

Central Mineralogical Services

CMS
39 Beulah Road
Norwood, S.A. 5067
Telephone 42 5659

Mr. D.J. Jack
Geologist
Aberfoyle Exploration Pty. Ltd.
P.O. Box 952
BURNIE / TAS. 7320

27th May, 1983

REPORT CMS 83/5/26

YOUR REFERENCE:	Order No. 6310
DATE RECEIVED:	18th May, 1983
SAMPLE NOS.:	265126, 265127
SUBMITTED BY:	D.J. Jack
WORK REQUESTED:	Petrology

for H.W. Fander, M. Sc.

copy to:
The Chief Geologist
Aberfoyle Exploration Pty. Ltd.
144, Camberwell Road
HAWTHORN EAST / VIC. 3123

037

REPORT CMS 83/5/26

Two samples were received for petrological examination, with particular emphasis on the nature of tin mineralisation. Both samples were understood to be representative of altered zones within the Meredith Granite and to have been collected from areas proximal to recognisable granite.

Both rocks are of skarn-type character and reflect high-grade contact effects. The fresh, magnetite-rich phase reflects a simple magnetite-pyroxene assemblage with partial retrogressive serpentinisation of the pyroxene. The weathered ferruginised rock is interpreted as primarily an amphibole-pyroxene skarn and carries patches of secondary magnetite pseudomorphing either ilvaite or the pageite-group of Fe-Mg(-Sn) borates, either of which is consistent with the inferred silicate assemblage. Problematically, "pageite" and ilvaite exhibit near-identical habits.

Both rock types are considered as probable loci of "silicate" tin. There is no detectable cassiterite nor optically specific secondary tin minerals within the thin-section. A limited programme of electron-probe work may be warranted to delineate the specific tin minerals. Alternately, determination of acid-soluble Sn in weathered materials should give a guide to non-cassiterite Sn mineralisation.

In the absence of altered granitic and specific vein-type characteristics, both rocks are tentatively interpreted as metasomatic.Serpentinites or carbonated serpentinites (in addition to primary impure carbonate sediments) represent possible primary rock types.

D. Cowan, B. Sc.

038

REPORT CMS 83/5/26

Petrological Descriptions

265126 (T.S. 45946)
This rock can be classified as a skarn and consists essentially entirely of magnetite with subordinate but variable proportions of diopside. The rock is medium- and even-grained (mean about 150-200 μ) and is banded on a millimetric scale. Diopside is partly replaced by serpentinous chlorite aggregates which are partly degraded and Fe-stained in response to weathering.

Close inspection of the area thin-sectioned reveals no detectable cassiterite. This is consistent with the relatively high contact-metamorphic/metasomatic grade reflected in the garnet-diopside assemblage which can be considered a contra-indication for the presence of cassiterite tin mineralisation. By analogy with other skarn-related tin situations, the Sn may be present as "solid solution" within either diopside or magnetite. Verification could require electron-probe microanalysis on confirmed Sn-anomalous material.

The primary lithology is obscure. There is little evidence that the rock represents a shear-filling (or vein). It may represent a metasomatised carbonate rock (either primary sedimentary or a carbonated ultramafic) or, alternately, a metasomatised serpentinite.

265127 (T.S. 45947)
This rock consists essentially of silicate-derived limonite with patchy corroded relics of fine-grained serpentinous material (?antigorite) and of fibrous magnetite. The sporadic green stainings are patches of clay (montmorillonitic) and the reddish zones are magnetite-derived limonite (goethite).

Relict textural features indicate the rock consisted primarily of a bladed prismatic phase in coarse subradiating clusters interspersed with a relatively fine-grained granular silicate. In the absence of relics, the probable primary silicate assemblage is amphibole-pyroxene (e.g. actinolite/diopside-hedenbergite).

The fibrous magnetite is similarly secondary and probably developed contemporaneously with serpentinisation of the pyroxene. Again by analogy with similarly altered calc-silicate skarns, notably from N.W. Tasmania, secondary magnetite of this type typically develops from ilvaite and the "pageite" group of Fe-Mg borates, both of which represent potential loci of non-cassiterite Sn.

In the absence of optically detectable cassiterite, the Sn is possibly present as stanniferous limonite.

D. Cowan, B. Sc.

APPENDIX 3

Licence Reduction

- Current Department of Mines schedule for EL 16/78

- Area to be retained

- Area to be relinquished

- Location Plan 1:100,000 scale (reduction)

ATTACHMENT 1. 507041

040

E.L. 10/76

REDUCTION IN AREA

In accordance with Section 150(7) this licence shall now apply to a total area of 255 km² (more or less) as described hereunder:

SCHEDULE

Commencing at a point on the Corinna Road at its intersection with the western boundary of E.L. 34/82 whose grid co-ordinates are 363 000 metres E. 5 407 900 metres N. thence grid south to 5 404 000 metres N. grid east to 370 500 metres E. again grid south to 5 403 150 metres N. westerly to grid co-ordinates 370 425 metres E. 5 403 155 metres N. and being a north west corner of E.L. 5/63 (Part 2) again southerly along part of a western boundary of E.L. 5/63 aforesaid to 5 395 000 metres N. grid west to 360 000 metres E. grid south to 5 387 000 metres N. again grid west to grid co-ordinates 352 690 metres E. 5 387 000 metres N. northerly to grid co-ordinates 352 495 metres E. 5 404 250 metres N. and being a point on the Waratah-Corinna Road aforesaid thence in a general north easterly direction along that road to grid co-ordinates 357 410 metres E. 5 407 640 metres N. again northerly to grid co-ordinates 358 280 metres E. 5 412 320 metres N. again easterly to grid co-ordinates 361 450 metres E. 5 411 730 metres N. again southerly to grid co-ordinates 360 620 metres E. 5 407 350 metres N. and being a point on the Waratah-Corinna Road aforesaid thence again in a north easterly direction by that road to the point of commencement.

EXCLUSIONS

The area embraced by this licence includes State forests but does not include:

(a) All other public reserves or municipal reserves or roadways.

(b) All forms of mining tenements and water licences including leases, water licences, easement licences, special and exploration licences, prospectors licences, miners rights, permits to enter, owners consents and owners rights which were in lawful possession or marked out prior to the date of marking out of this licence.

(c) Land exempt from the provisions of the Mining Act, 1929.

(d) Land under the National Parks and Wildlife Act, 1970, not subject to the Mining Act, 1929.

(e) All Crown reservations or other land set apart or dedicated for any public purposes.

MINISTER FOR MINES
2 March 1983

041

ATTACHMENT 2

AREA OF EXISTING E.L. 16/78 TO BE RETAINED

Being a total area of 113 square kilometres as described hereunder:

SCHEDULE 2

Commencing at a point on the Corinna Road at its intersection with the western boundary of E.L. 34/82 whose grid co-ordinates are 363 000 m E. 5 407 900 m N. thence grid south to 5 404 000m N. grid east to 370 500 m E. again grid south to 5 403 150 m N. westerley to grid co-ordinates 370 425 m E. 5 403 155 m N. and being a north west corner of E.L. 5/63 (Part 2) again southerly along part of a western boundary of E.L. 5/63 aforesaid to 5 400 000 m N. grid west to 362 000 m E. grid south to 5 399 000 m N. again grid west to 360 000 m E. grid south to 5 398 000 m N. again grid west to 358 000 m E. thence grid north to 5 400 000 m N. grid west to 352 500 m E. northerly to grid co-ordinates 352 495 m E 5 404 250 m N. and being a point on the Waratah-Corinna Road aforesaid thence in a general north easterly direction along that road to grid co-ordinates 357 410 m E. 5 407 640 m N. again northerly to grid co-ordinates 358 280 m E. 5 412 320 m N. again easterly to grid co-ordinates 361 450 m E. 5 411 730 m N. again southerly to grid co-ordinates 360 620 m E. 5 407 350 m N. and being a point on the Waratah-Corinna Road aforesaid thence again in a north easterly direction by that road to the point of commencement.

042

507043

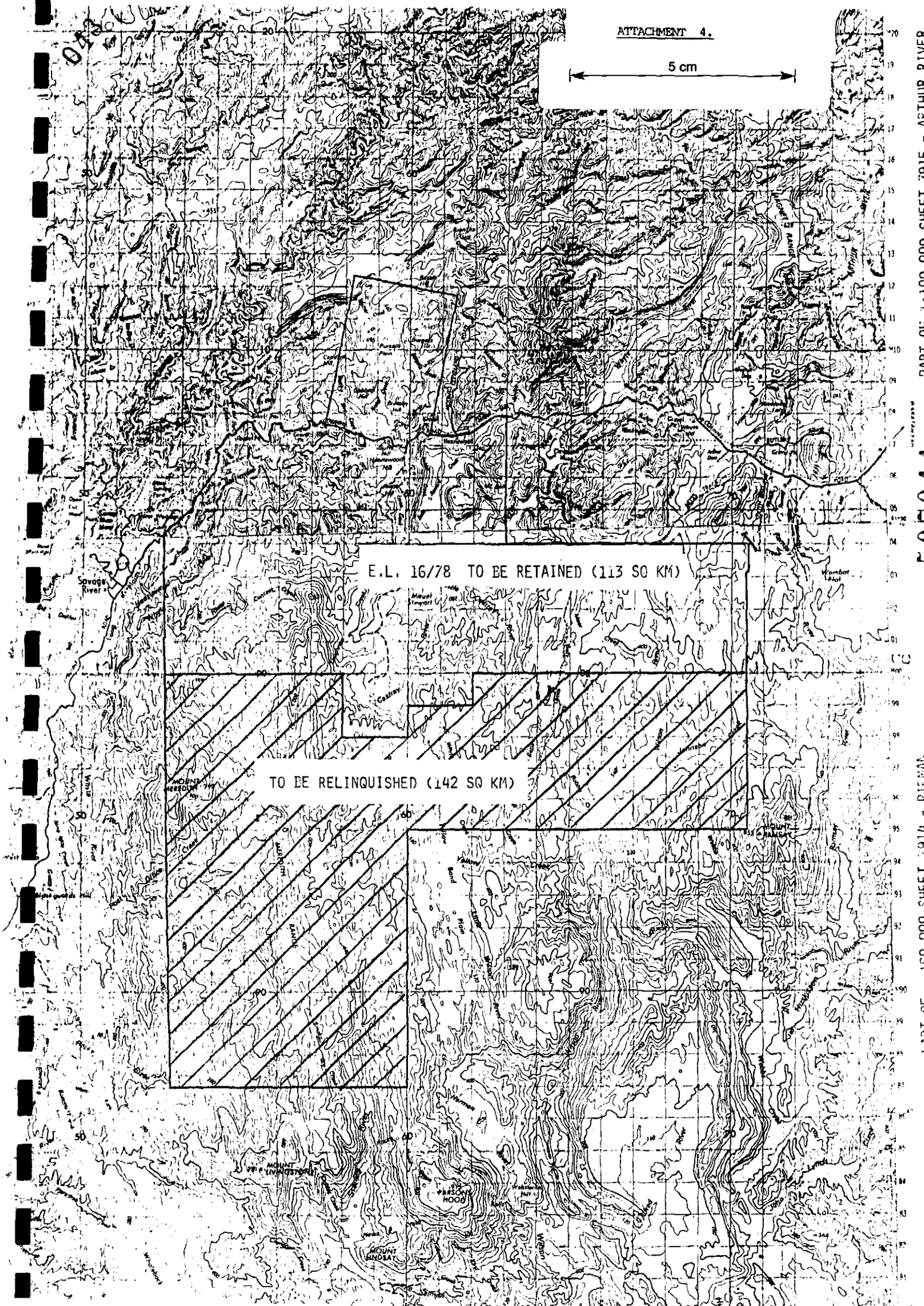
ATTACHMENT 3

AREA OF EXISTING E.L. 16/78 TO BE RELINQUISHED

Being a total area of 142 square kilometres as described hereunder:

SCHEDULE 3

Commencing at a point on a western boundary of E.L. 5/63 (Part 2) whose grid co-ordinates are 370 425 m E. 5 400 000 m N. thence southerly along part of a western boundary of E.L. 5/63 aforesaid to 5 395 000 m N. grid west to 360 000 m E. grid south to 5 387 000 m N. again grid west to grid co-ordinates 352 690 m E. 5 387 000 m N. northerly to grid co-ordinates 352 500 m E. 5 400 000 m N. thence grid east to 358 000 m E. grid south to 5 398 000 m N. grid east again to 360 000 m E. grid north to 5 399 000 m N. grid east again to 362 000 m E. grid north to 5 400 000 m N. thence grid east to the point of commencement.


ATTACHMENT 4.
5 cm
E.L. 16/78 TO BE RETAINED (113 SQ KM)
TO BE RELINQUISHED (142 SQ KM)
PART OF 1:100,000 SHEET 7915 - ARTHUR RIVER
PART OF 1:100,000 SHEET 7914 - PIEMAN

APPENDIX 4

Summary of Expenditure

045

ABERFOYLE EXPLORATION PTY. LTD.

SUMMARY OF EXPENDITURE

MEREDITH EL 16/78

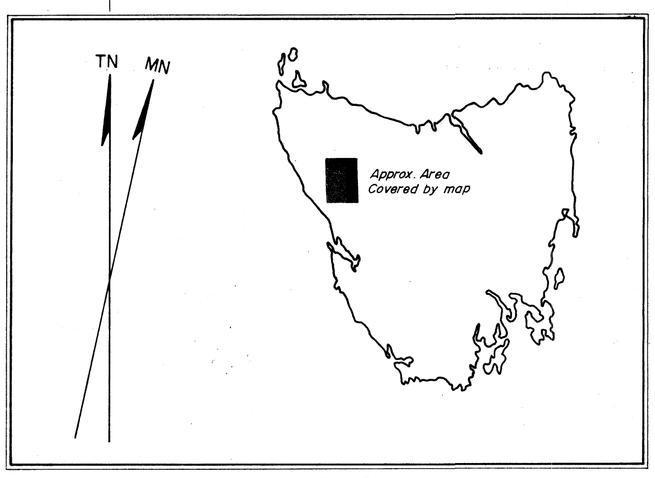
Expenditure for year ended 19 September 1983 -

GEOLOGY		
... Salaries	7960.00	
... Wages	21.00	
... Contractors	362.25	
... Materials	665.68	
... Fuel	1400.30	
... Communications	172.53	
... Hiring Costs	1317.84	
... District Accommodation	2366.59	
... Freight	43.84	
... Vehicle Costs	493.50	
... Equipment Costs	182.50	14986.03
GEOCHEMISTRY		
... Salaries	444.00	
... Wages	398.00	
... Materials	14.35	856.35
ASSAYS		
... Contractors	1161.15	1161.15
ACCESS		
... Salaries	1496.00	
... Wages	1153.00	
... Contractors	3592.50	
... Materials	54.50	
... Travelling	282.90	
... Fuel	369.93	
... Communications	1.80	
... Hiring Costs	528.00	
... District Accommodation	291.20	
... Vehicle Costs	588.00	8357.83
TENURE		
... Salaries	374.00	
... Tenement Costs	1732.50	2106.50
OTHER SERVICES		
... District Accommodation	18.60	
... Equipment Costs	56.70	75.30
DIRECT COSTS		27543.16
INDIRECT COSTS		
... Administration		4131.42
TOTAL		$31674.58

350 000mE

360 000mE

370 000mE



LOCALITY PLAN

5410 000mN

5400 000mN

5390 000mN

MT. CLEVELAND

MAGNET

CLEVELAND

Mount Wright

Heazlewood

Old Jasper

Boxing Day

New Jasper

Bells Reward

Washington

Washington Hay

Discoverer

Confidence

Godkin Extended

GODKIN

Heazlewood River

Local €d

Scheelite Ck

Laughram Creek

Castray River

MT. STEWART

Mt. Stewart

BETTS TRACK

To Waratah

Qra(Sn)

WOMBAT FLAT

South Bischoff

Wilson River

Johnson Ck

Floodplain Tb with sporadic exposures of €am along the granite contact.

MT. MEREDITH

Whyte River

Office Creek

Post

Rocky River

Qra(Sn)

Yellowband Ck

Wilson River

Little Harman River

Cu, Zn

MT. RAMSAY SCHEELITE MINE

MT. RAMSAY
△ Trig 455

Stanley River

PARSONS HOOD

△ MT. LIVINGSTON

Mt. Lindsay Mine

Tertiary	Tb	Porphyritic Alkali Olivine Basalt
Quarternary	Qra	Alluvium and swamp deposits, (Sn) Tin bearing
Silurian	Sc	Crotty Quartzite
Ordovician	Og	Gordon Limestone
Cambrian	€am	Turbidites and lithic sandstones and pelites
Precambriam	P€o	Oonah Quartzite and slate
	P€w	Whyte Schist

Igneous Rocks

Jurassic	Jd	Dolerite
Devonian	Dp	Quartz porphyry
		Microgranite dyke
	Dg	Meredith granite
Cambrian	€i	Intermediate igneous (€d : dolerite, €a : amphibolites
	€b	Basic igneous suite (€bs, Spillite)
	€u	Ultrabasic igneous suite (€d : dunite, €h : harzburgite, €p : pyroxenite)
	€s	Serpentinite
	€	Undifferentiated, predominantly igneous rocks

507047

5 cm

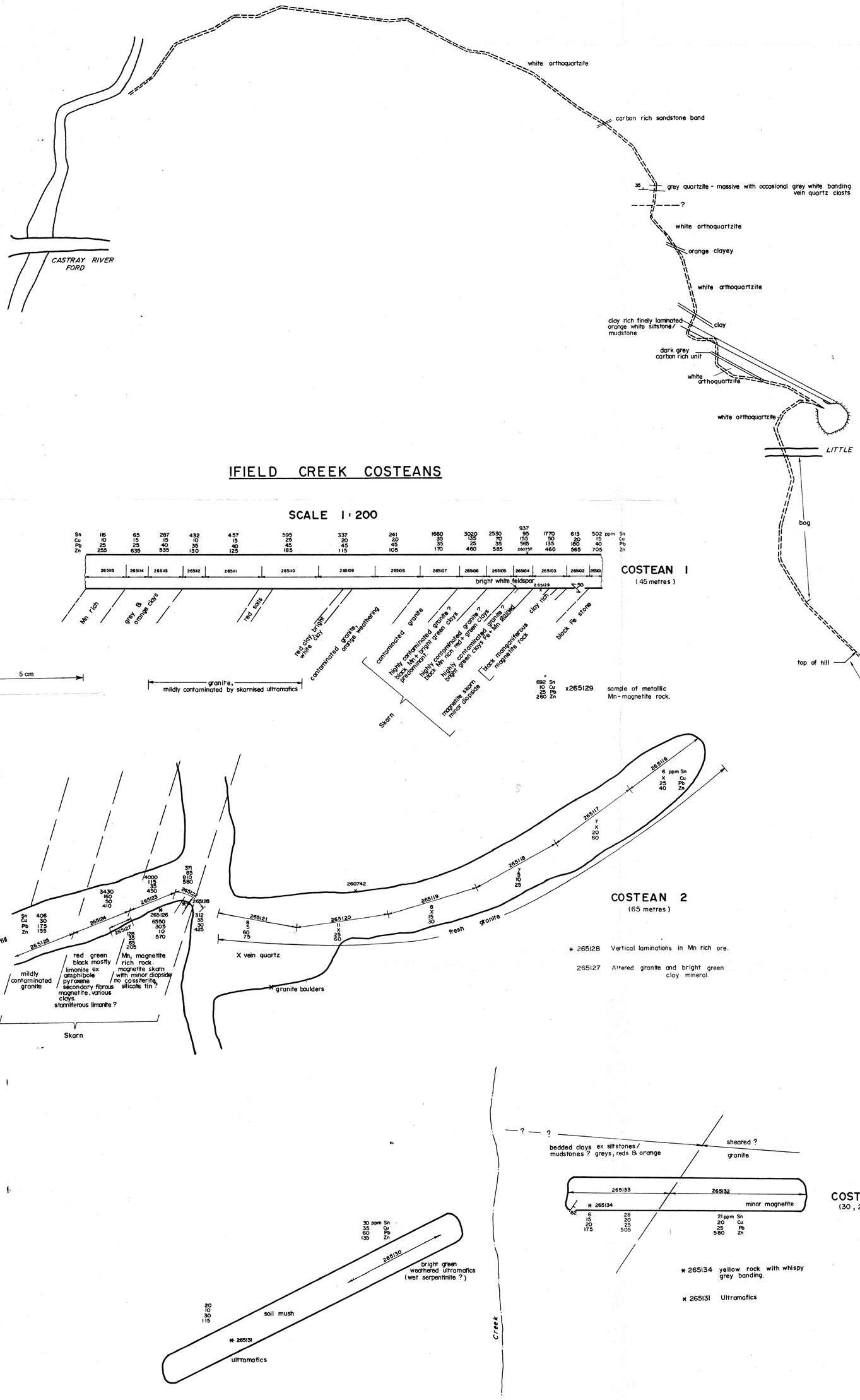
1 0 1 2 3 4 5 Kilometres

3252

Aberfoyle Exploration

83-2047

Geology:	N.W. TASMANIA	Location code:
Drawn:	MEREDITH E.L. 16/78	Date: October, 1978
Traced: R.J.E.	Geological Summary Map	Scale: 1:50, 000
Checked:	(after D.I.Groves 1962-67)	Plate No MER 3
Revised by: JRT Date: 1/6/79		



MN

Complete Assay results for Costean samples
(in ppm)

	Sample No.	Sn	W	Cu	Pb	Zn	Ag	Mn	Mo	As	U	Au
COSTEAN 1	265101	502	59	15	40	705	X	6000	X	10	X	X
	265102	613	52	20	180	565	0·5	13000	X	17	X	X
	265103	1770	43	50	135	460	X	5200	X	35	X	X
	265104	937	14	95	155	565	X	5650	X	210	13	X
	265105	2530	20	70	35	585	0·5	13500	X	80	X	0·02
	265106	3020	54	135	25	460	X	6700	X	190	3	0·01
	265107	1660	11	35	35	170	X	695	X	67	X	X
	265108	241	12	20	45	105	0·5	220	4·5	48	6	X
	265109	337	22	20	45	115	X	385	X	33	5	X
	265110	595	34	25	45	185	X	635	1·0	78	7	X
	265111	457	18	15	40	125	X	170	5·0	43	5	X
	265112	432	17	10	35	130	X	60	X	9	X	X
	265113	287	22	15	40	535	0·5	100	1·0	4	X	X
	265114	65	35	15	25	635	0·5	95	X	2	4	X
	265115	116	X	10	25	255	0·5	215	1·5	3	4	X
COSTEAN 2	265116	6	X	X	25	40	0·5	170	6·5	4	X	X
	265117	7	X	X	20	60	X	75	X	1	X	X
	265118	7	X	5	10	25	X	45	X	4	3	X
	265119	8	15	X	15	30	X	85	3·5	2	X	X
	265120	11	16	X	25	60	X	70	X	2	X	X
	265121	8	27	5	60	75	X	130	2·5	4	X	X
	265122	371	42	85	810	580	4·0	15500	1·0	84	5	X
	265123	4000	108	115	35	450	0·5	8900	X	19	X	X
	265124	3430	38	160	50	410	0·5	4550	X	28	8	0·01
	265125	406	50	30	175	155	X	1550	X	33	5	X
	265126	6550	126	305	10	570	X	5700	X	1	X	X
	265127	128	X	35	65	205	X	285	X	16	18	X
	265128	312	38	35	30	425	X	5450	4·0	19	X	X
COSTEAN 1	265129	692	62	10	25	260	X	6200	X	17	12	X
COSTEAN 3	265130	30	27	35	60	135	0·5	310	X	3	3	X
	265131	20	26	10	30	115	X	180	X	1	X	X
	265132	21	X	20	25	580	X	160	2·0	11	5	X
	265133	28	13	20	25	505	X	225	X	12	4	X
	265134	6	X	15	20	175	X	110	X	2	5	X
COSTEAN 4	265135	14	X	X	20	35	X	250	X	X	X	X
	265136	X	X	X	15	60	X	2600	X	1	X	X
	265137	9	33	20	35	125	0·5	735	X	X	4	X
	265138	16	13	5	35	910	1·5	735	X	5	X	X

IFIELD CREEK COSTEANS

SCALE 1:200

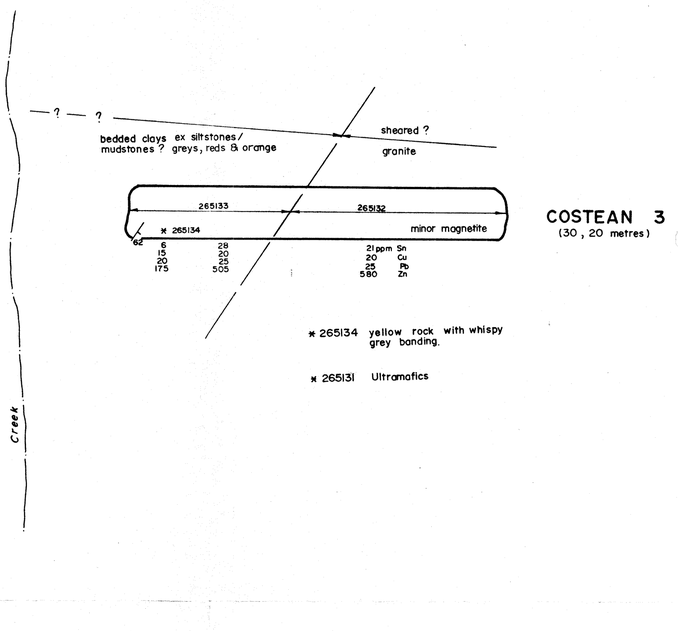
NEW TRACK INTO IFIELD CREEK, COSTEANS & RECONNAISSANCE GEOLOGY

SCALE 1:2500

5 cm

* 265128 Vertical laminations in Mn rich ore.

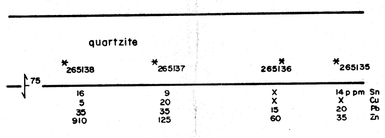
265127 Altered granite and bright green clay mineral.



COSTEAN 3
(30, 20 metres)

* 265134 yellow rock with whispy grey banding.

* 265131 Ultramafics



COSTEAN 4
(20 metres)

* 265135 green quartzite

* 265136 sheared green clayey rock

* 265137 deep green weathered ultramafic

* 265138 pink & white quartz vein breccia some green serpentinite ? some grey fragments.

IFIELD CREEK AREA - COSTEAN LOCATIONS

FOR DETAILS OF PREVIOUS WORK REFER PLATE MER. 42

Aberfoyle Exploration Pty Ltd

NORTH WEST TASMANIA

MEREDITH E.L. 16/78

IFIELD CREEK

1983 FOLLOW-UP WORK

Geology:	D.J.J.
Drawn:	D.J.J., E.F.S.
Traced:	R.J.E.
Checked:	
Revised by:	Date:
Location code:	K55/3
Date:	April, 1983
Scale:	As shown
Plate No	MER. 51

50048

83-2047

3253