290001

STUDY & ESTIMATED COST & SCHEDULE OF PROPOSED DIAMOND DRILL PROGRAMME

of

MT LINDSAY TIN DEPOSIT

by

J L Morton

30 November 1962

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ABERFOYLE TIN DEVELOPMENT PARTNERSHIP

Extract from

REPORT NO. 13

FOR PERIOD DENDED 30TH NOVEMBER, 1962.

MOUNT LINDSAY:

Mr. J. L. Morton of Reg Hare and Associates has studied the proposal for a limited programme of drilling on the leases under option at Mount Lindsay and has prepared a report recommending 710 feet of diamond drilling comprised of 4 holes, the maximun depth of which would be 200 feet. It is proposed that this drilling be serviced by means of the helicopter being positioned at Zeehan by the State Helicopter Committee between January and March of 1963. The total cost of this work is estimated at about £4,500 and is the minimum possible to allow a test of the known mineralised formation below the influence of surface weathering.

Since the last report it has been ascertained that Conzinc Rio Aust., Ltd., have decided to withdraw from field activity in this area although their Exploration Licence was renewed in October last for a further period of 6 months expiring on 3rd April, 1963. It is proposed to make further representations to the Director of Mines, Tasmania, for several square miles of area surrounding the Mount Lindsay leases to protect our interests in the event that C.R.A. Ltd's licence is either surrendered or not renewed on or prior to the expiry date.

In satisfaction of a condition of a working arrangement, C.R.A. Ltd have provided us with the results of their magnetic and self-potential geophysical surveys. These surveys have revealed

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some attractive anomalies related to the Mount Lindsay mineral deposits and seem worthy of investigation by drilling. However, since these anomalous zones extend on to the leases under option to the Partnership, it would be a useful next stage to complete the small programme of proposed drilling and consider what larger scale attack might be warranted in light of the results obtained and whether the area surrounding the leases can be secured. This larger scale attack could be reserved until the summer of 1963-64.

MOUNT CLEVELAND:

Diamond drilling and geological mapping have been continued.

Thirty holes have been completed which together with Hole No.31 presently in progress, totals 6,050 feet of drilling.

Since the last report (No.12) three holes have been completed. Two of these made intersections of the various components of Hall's Lode and the other, which was aimed at Henry's Lode, failed to make an intersection. Hole No. 31 presently in progress has intersected lode material (Hall's) commencing at about 413'.

Results obtained since Report No.12 are summarised as follows:-

HOLE NO.	FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	CORE LENGTH	GRADE %Sn.
27	271'	301'	LODE Included in which were the two following lighter grade intersections.	30'	0.69
	274'	280'	LODE	6'	1.17
	289'	295'	"	6'	1.47
	377'	392'	LODE	15'	1.27
	392'	407'	LODE & interformational chert	15'	0.06
	407'	425½'	LODE	18½'	0.32
	453'	468'	LODE Included in which was a higher-grade intersection 459'-465'	15'	0.74
				6'	1.34
	468'	483'	LODE	15'	0.12
			All of the above intersections in Hole No.27 represent various components of Hall's Lode		
30	111'	150'	LODE Included in which were the two following higher grade intersections.	39'	0.80
	111'	120'	LODE	9'	1.22
	132'	150'	LODE The above intersection 111'-150' in Hole No.30 represents the main limb of Hall's Lode - est. true width 30'	18'	1.03

From the work performed to date at Mount Cleveland it can be demonstrated that the principal limb of the Hall's Lode complex entends over a strike length of 1,000 feet with an approximate true width of 18 feet for a depth of at least 400 feet. From these dimensions, and taking the density of the lode material at 11 cubic feet per ton, it can be shown that this principal portion of Hall's Lode alone contains at least 1,600 tons per vertical foot or 640,000 tons. The subsidiary limbs of the complex could be expected to amount to an appreciable additional tonnage. Not all of this lode

material contains 1.00% metallic tin or better, but it is presently believed that an attractive portion of it would. The interpretation of the results of intersections of Henry's Lode is more difficult but this may be aided by the additional intersections proposed in accordance with the drilling programme. However, there is just reason for the optimistic view that several hundred thousand tons of lode containing in the order of 1.00% metallic tin will be indicated in Henry's Lode following additional drilling. Because of the smaller quantity of drilling so far concentrated upon it, the probable size of the Battery Lode is less known although its surface outcrop is of a similar order of size to that of Hall's. In addition to these three principal lodes, there is the Luck's-Khaki Lode complex and the geophysical anomalies (both magnetic and self-potential) in the vicinity of co-ords 2300N and 3500E which all have an ore potential.

The remainder of the drilling programme, amounting to 2,550 feet, provides for further testing of Hall's and Henry's Lodes and a preliminary test of the two geophysical anomalies at shallow depth. It is expected that this drilling will be concluded about the end of February or early in March and will be completed within the estimated additional cost of £18,000 proposed in Report No.11, or at a total cost of about £31,000.

When this stage is reached an attempt will be made to firmly estimate the indicated ore reserves in Hall's, Henry's and portion of the Battery lodes, with the object of determining whether underground exploratory development is justified.

It is expected that three drills will be working during the remainder of the programme.

MOUNT BISCHOFF:

No field work has been conducted during the period.

A quantity of very useful data have been secured from Conzinc Rio Aust., Ltd. relating to the investigation by Enterprise Exploration Pty., Ltd., some years ago. These data are being analysed.

Arrangements have been made for an intensive field study of the Mount Bischoff deposits by two specially qualified structural geologists and a student, acting under the direction of Mr. K. R. Glasson, Senior Lecturer in Economic Geology at the Sydney University. This work will commence on 7th January and will proceed for 5 or 6 weeks after that date. It will be

aimed at endeavouring to more firmly establish the structural environment of the ore deposits at Mount Bischoff. The results, when considered in conjunction with the available records, may determine whether there remain any prospects worthy of testing.

The original project estimates provided for the expenditure of £1,500 to complete this stage. To date, approximately £300 has been expended on this project and it is expected that the balance of £1,200 will adequately cover the proposed further work.

BLUE TIER:

An Exploration Licence of 35 square miles covering what is known as the Blue Tier, has been granted to Aberfoyle Tin N.L. on behalf of the Tin Development Partnership.

This Licence has been granted for a period of 6 months and an undertaking has been given to the Tasmanian Director of Mines that the Partnership will expend up to £2,000 on preliminary investigation and if justified will undertake a limited programme of testing by drilling.

A considerable quantity of records and data relating to the Blue Tier deposits have been acquired from various sources and arrangements have been made with Reg Hare & Associates for Mr. John L. Morton to undertake their study as a preliminary to a possible field examination. This work has been commenced.

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STUDY AND ESTIMATED COST AND SCHEDULE OF PROPOSED DIAMOND DRILL PROGRAMME.

of

MT. LINDSAY TIN DEPOSIT

by

J. L. Morton

30th November, 1962

Accompanying Report:

Plan	-	Magnetic Contours	Scale 1" = 200'
Plan	-	S.P. Contours	Scale 1" = 200'
Section	3000E		Scale 1" = 20'
Section	3100E		Scale 1" = 20'
Section	3150E		Scale 1" = 20'
Section	3225E		Scale 1" = 20'

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SUMMARY:

A modest drilling programme is warranted at Mt. Lindsay, Zeehan, Tasmania.

The programme recommended would entail 710 feet of A drilling requiring a cost of about £4,500 and taking 65 working days or about 2½ months to complete.

INTRODUCTION:

Aberfoyle Tin Development Partnership carried out a geological examination of their two leases numbered 24/M43 and 25/M43 at Mt. Lindsay near Zeehan, Tasmania during January - February, 1962. Please refer Geological Report on Mt. Lindsay Tin Deposit, Zeehan, Tasmania by J.L. Morton, 20th March, 1962. Rio - EZ still hold the area surrounding the above leases and their tenure will be in force until 3rd April, 1963.

In order to maintain their position in the field it is proposed that Aberfoyle Tin Development Partnership carry out a field programme during the coming season. A suggestion was made, in the geological report, for testing the area as a whole by trenching based on geophysical data. Rio - EZ have carried out comprehensive geophysical surveys of the nature contemplated and have made these results available. Inasmuch as work will have to be confined to the two leases during the coming season the only work remaining to be done is to test the downward extension of known zones by diamond drilling. Geophysical results provided will assist in layout of drill holes.

Apart from the known ore zone on the above leases there are five additional magnetic and S.P. anomolies worthy of testing. It is not intended to discuss these at this time but it should be noted that these have been numbered in order of importance with regard to:-

1. Shape and size of S.P. anomoly
2. Intensity of magnetic anomoly, and
3. Structural relationships.

Please refer 200 scale Magnetic and S.P. plans.

GEOPHYSICAL - GEOLOGICAL RELATIONSHIPS:

Mining has been confined to the gossans, which have an indicated grade (from sampling remaining walls) of about 2.4% metallic tin. These gossans occur in the most highly disturbed section of the structure, which could be expected to be the most highly mineralised. This is confirmed by a -400 millivolt S.P. anomoly, indicating greater than 30% sulphides. -200 millivolt readings are shown over a width of 160 feet centred on the orebody, suggesting reasonable depth extension.

RECOMMENDATION:

It is recommended that diamond drilling be carried out for the purpose of testing the depth extension of the known high grade zone.

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Four holes have been laid out, please refer 20 scale plan and cross sections. Holes at sections 3100E and 3150E are designed to test the main zone 50 feet below bottom working levels. The hole at section 3225 is to test an ore zone to the east and a hole at section 3000 is to test the downward extension of the wide band of sulphide ore in this area.

At the completion of holes numbered 1 and 2 the programme would be reassessed and possibly modified.

ESTIMATED SCHEDULE:

		Time (days)	Cost (£)
Outfitting, assembling and weighing equipment and supplies. H. FRASER		2	25
TRANSPORT			
Initial in to Mt. Lindsay Heliport.			
F - 6 Drill outfit	740 lbs		
Pump	400 lbs		
A.X. Equipment	1870 lbs		
Bits and shells	44 lbs		
Fuel (initial supply)	1000 lbs		
Hose and fittings	100 lbs		
Timber	200 lbs		
Food, Tents, Bunks, cooking utensils			150
Instruments, miscellaneous tools	500 lbs		
Bedding and personal equipment	200 lbs		
Transceiver and batteries	120 lbs		
Personnel - 3 drill crew, 1 Geologist	750 lbs		
T o t a l	5924 lbs		
10 Helicopter trips @ 600 lbs			
Ferry time	30 mins		
10 Return trips @ 30 mins	300 mins		
T o t a l	330 mins	2	330
Marking out drill holes, supervision of initial stage - Geologist Travelling, accommodation, field work, field report. 10 days			210
1 Return Helicopter trip - Geologist out. Ferry time 30 mins 1 Return trip 30 mins 60 mins			60
Packing equipment to site, set-up camp, set-up drill		3	

	Time (days)	Cost (£)
The drilling programme would be split into two sections, bringing the men out for a spell at halfway point. Core would be logged at this time and if necessary modifications made to the drilling programme. This may require an additional trip in by the geologist and has been scheduled accordingly.		
Holes numbered 1 and 2		
360 feet AXT - AMS diamond drilling @ £2.17.6 = 1035		
180 feet casing @ 17/6d. = 158 = 1193		
Less 27 9 man/weeks living exes £3. 1166	18	1166
Delay Time - moving to hole no.2 15 man/hours	1	15
Helicopter supply run after 9 days		
Ferry time 30 mins		
1 Return trip 30 mins		
60 mins		60
Carrying fuel and food (cost is for food only)		15
Rest period after 18 days		
2 Helicopter trips men out and in, core out		
1 Supply run - fuel and food (cost for food only)	3	15
Ferry time 30 mins		
3 Return trips		
90 mins		
120 mins		120
Geologist: Travelling accommodation, core logging, field work, field report.		140
Helicopter trip - Geologist out. 30 mins		30
Holes numbered 3 and 4		
350 feet AXT - AMS diamond drilling @ £2.17.6 = 1006	18	
175 feet casing @ 17/6d. = 153 = 1159		
Less 27 9 man/weeks living exes £3. 1132		1132
Moving to holes 3 and 4 - 30 man/hours @ £1	1	30

		Time (days)	Cost (£)
Helicopter supply run after 9 days			
Ferry time 30 mins			
1 Return trip 30 mins			
Total 60 mins			60
Carrying fuel and food (Cost for food only) core out.			15
Packing equipment and breaking camp		2	
Transport Out			
F - 6 drill outfit	740 lbs		
Pump	400 lbs		
A.X. equipment	1870 lbs		
Bits	44 lbs		
Miscellaneous salvage	300 lbs		
Personnel and equipment	1000 lbs		
Core	250 lbs		
	4604 lbs		
Helicopter			
Ferry time 30 mins			
450 lb load out			
10 trips 300 mins			
Total 330 mins		2	330
Unpacking and storing, Logging core	H. Fraser	2	30
T o t a l		54	£3933
Contingencies and overhead (10%)		5	393
Total Field Work		59	£4326
Report, drafting and typing		6	130
Total Time and Cost		65 days	£4456

Helicopter Time	990 mins scheduled	
	90 mins contingencies	
T o t a l	1080 mins	or 18 hours.

Should the programme be carried out, close supervision of equipment and supplies are required to ensure that no unnecessary equipment is sent in, but that none is left out. This is due to inaccessibility of Mt. Lindsay and cost of helicopter service. To this end it is proposed Mr. Fraser supervise assembly of equipment and supplies. An appendix is attached which should

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be useful as a guide, it is based on last season's experience.

Some equipment may remain from last season, however it is not known what is now available and complete outfits have been included in cost estimates.

J. L. Morton

30th November, 1962.

JLM:JS

APPENDIX

Equipment and supplies required - Apart from drilling equipment. 3 man drill crew.

Equipment

2 Tents 10' x 12'
2 Tent Flys 12' x 14'
1 Tarpaulin 12' x 14'
3 Bunks
1 Plastic bucket
1 Tin boiler
2 Plastic wash-up dishes, 1 dish cloth, 1 pot-washer, 3 tea towels
2 Packets soap powder
4 each - plates, bowls, mugs, knives, forks, spoons, teaspoons.
1 large frying pan
3 Assorted billycans
2 Saucepans
1 Tin opener
1 large knife
1 Eggscoop
1 Meatsafe
1 Potato masher
100' ¼" hemp rope or two rolls sashcord.
1 Claw hammer
1 Bushman's saw, spare blade
2 Axes
2 Roundmouth shovels
1 Single ended pick
1 Double ended pick
2 lbs 4" nails
4 lbs 2" nails
50' wire
3 lamps with fuel
3 large cans Mortein
2 rolls toilet tissue
6 Corn sacks to pack above equipment
2 Pack sacks for packing equipment to camp site

Food - Initial Supply

10 lbs bacon
6 doz. eggs
25 lbs potatoes
25 lbs onions
5 lbs butter
10 cans mixed meats
10 cans mixed vegetables
10 cans mixed fruits
6 loaves bread
5 cans condensed milk
5 cans unsweetened milk
5 lbs sugar
2 large pkts cornflakes
1 carton table salt
1 carton pepper
2 lbs lard or dripping
7 lbs selfraising flour
3 lbs tea

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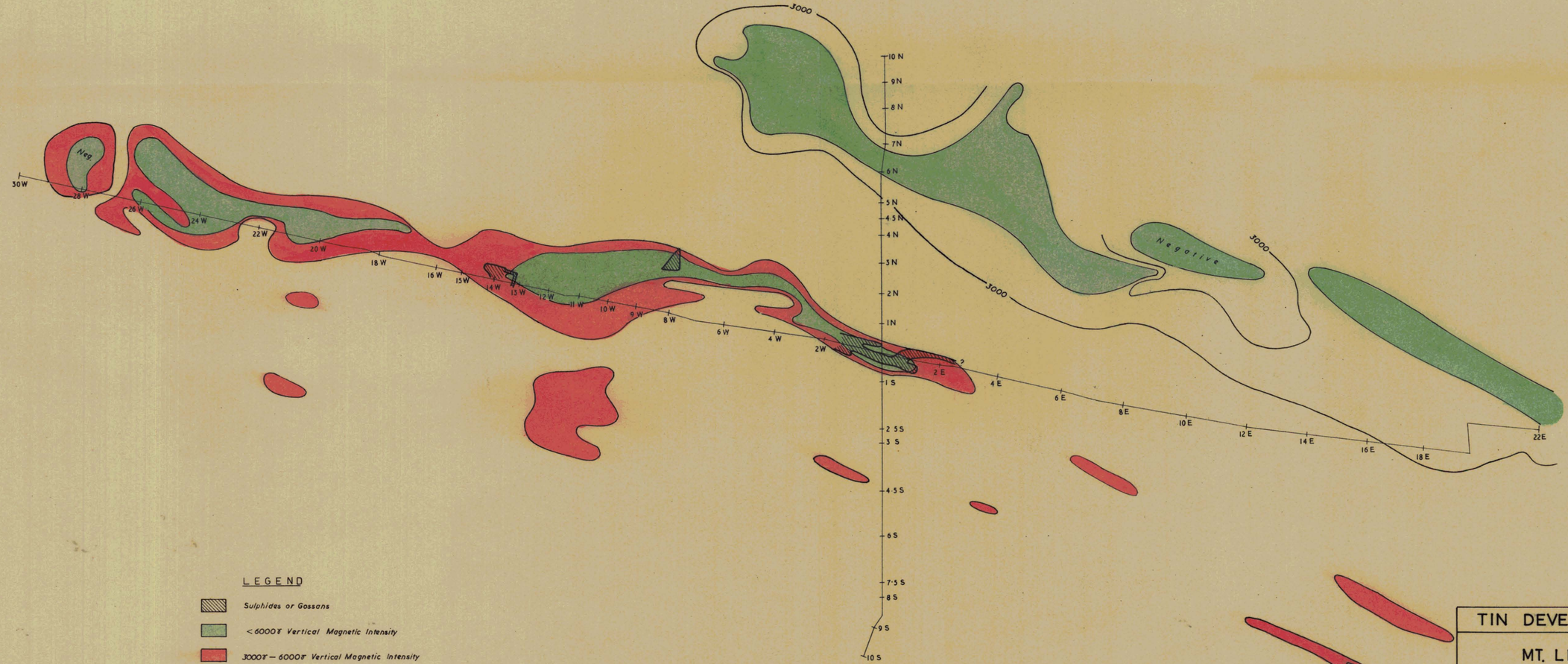
Appendix Continued

1 large jar instant coffee
1 doz. boxes matches
3 cakes soap
1 large bottle tomato sauce
1 jar chutney
6 packets cracker biscuits
2 lbs cheese
Fresh meat (3 lbs. sausages, 3 lbs steak, 3 lbs chops)

Personal:

The men should be warned to take the following:-

1. 2 complete changes of clothes
2. Raincoats
3. Bedroll including 4 warm blankets
4. Reading matter and radio



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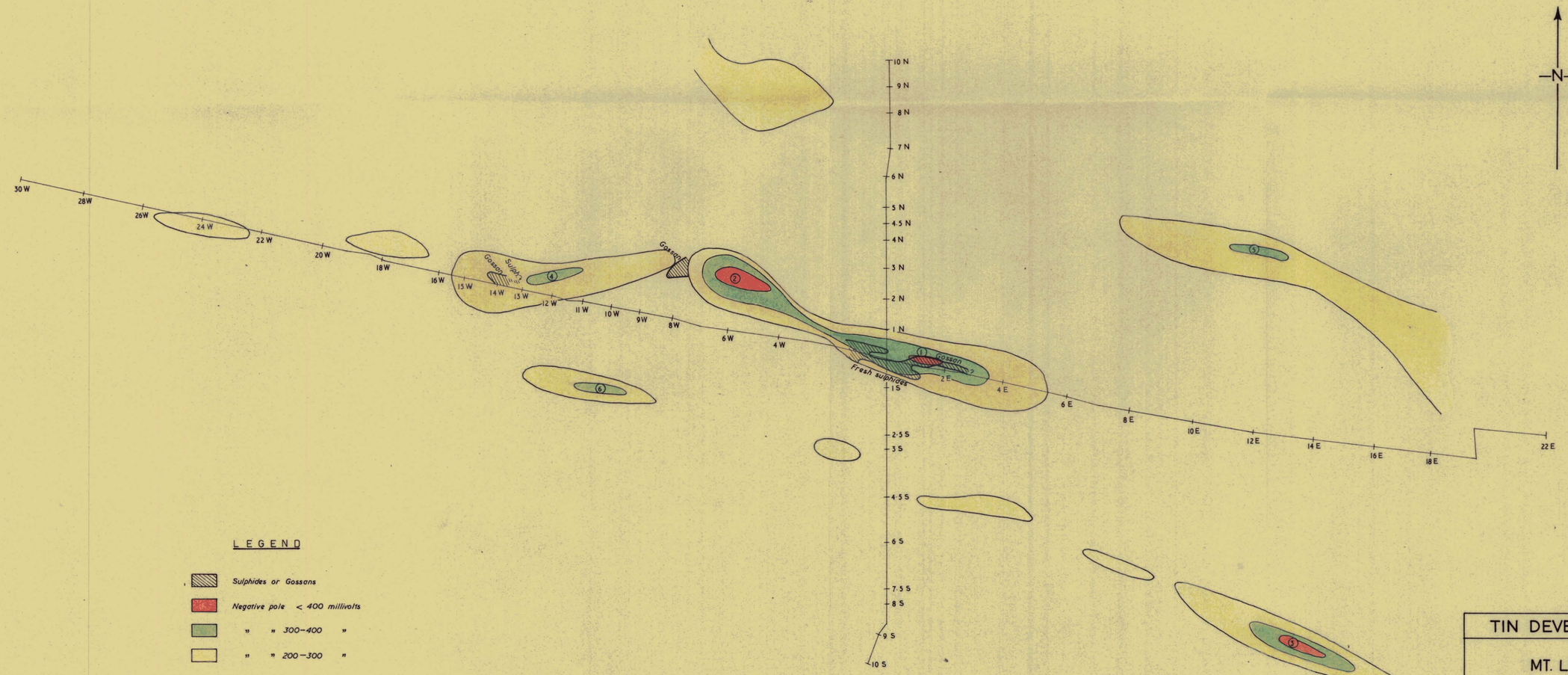
TIN DEVELOPMENT PARTNEPSHIP

MT. LINDSAY TIN DEPOSIT
MAGNETIC CONTOURS

R. HARE & ASSOCIATES		SCALE 1 inch = 200 feet
Prepared: J. L. Morton	REVISION	
Drawn: I. R.		5 cm
Date: 30. 11. 62.		



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TIN DEVELOPMENT PARTNERSHIP

MT. LINDSAY TIN DEPOSIT
S.P. CONTOURS

R HARE & ASSOCIATES

SCALE: 1 inch = 200 feet

Prepared: J.L. Morton

Drawn: I.R.

Date: 27. 11. 62.

REVISIO

5 cm

2000 N

1900 N

El. 1750

El. 1750

.586 % Sn

Stn. 1

Decomposed slates

Sulphides

Hornfels with sulphides and gossan

Sulphides

Hornfels

Sulphides

Hornfels

Sulphides

Hornfels & sulphides

PROPOSED D.D. HOLE No. 4

45°

Hornfels

El. 1650

El 1650

150'

4201

5 cm

ABERFOYLE TIN DEVELOPMENT PARTNERSHIP

MT. LINDSAY TIN DEPOSIT

SECTION 3000 E

Looking East

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20 0 20 40 60

Scale of feet

2000 N

1900 N

2000 N

1900 N

El. 1750

El. 1750

SHAFT
7' W. Section

PROPOSED D. D. HOLE No.1

45°

MAIN LODE

Banded limonitic gossan

?

Banded limonitic

Fresh sulphides

Gossan

15'

Bottom of workings

50'

Max. North footwall

160'

El. 1650

El. 1650

290019 4208

5 cm

ABERFOYLE TIN DEVELOPMENT PARTNERSHIP

MT. LINDSAY TIN DEPOSIT

SECTION 3100 E

Looking East

20 0 20 40 60

Scale of feet

2000 N

1900 N

2000 N

1900 N

El. 1750

El. 1750

PROPOSED D.D. HOLE No. 2

45°

Bottom of workings

50'

El. 1650

El. 1650

Max. North footwall

200'

290020 4209

5 cm

ABERFOYLE TIN DEVELOPMENT PARTNERSHIP

MT. LINDSAY TIN DEPOSIT

SECTION 3150 E

Looking East

20 0 20 40 60

Scale of feet

2000 N

1900 N

2000 N

1900 N

EI. 1750

EI. 1750

PROPOSED D.D. HOLE No. 3

45°

MAIN LODE

2.9% Sn

Fault

Bottom of workings

50'

EI. 1650

EI. 1650

200'

290021 4210

5 cm

ABERFOYLE TIN DEVELOPMENT PARTNERSHIP

MT. LINDSAY TIN DEPOSIT

SECTION 3225 E

Looking East

20 0 20 40 60

Scale of feet

2000 N

1900 N