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ENTERPRISE EXPLORATION COMPANY PROPRIETARY LIMITED

REPORT ON

MOUNT BISCHOFF

- by -

C.L. KNIGHT

14th. December, 1948

536E

Rep on Mt Bischoff
(Enterprise Ex Co P/L)
by
C.L. Knight
14/12/48

Note: - See also General Geological Plan of Open Cut Workings
Mt Bischoff Tin Mine - Southern Portion, C.L. Knight.
Mines Dept Drawing Office Plan 1057-36

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Brisbane
14th. December, 1948

536002

M.A. Mawby, Esq.,
Director of Exploration and Research,
The Zinc Corporation Limited,
360 Collins Street,
MELBOURNE

MICROFILMED

Dear Sir,

MOUNT BISCHOFF.

Introduction

I spent from November 17th. to 20th., and 23rd. to 27th at Mt. Bischoff - my second visit since the project started. This memorandum summarises the results obtained to the end of November and the future prospects.

Drill Programme Set Out.

In a memorandum to Mr. P.C. Benedict dated 22nd. May, I set out an initial programme comprising 8 vertical holes spaced at 200ft. centres, and set out a complete system of holes to cover the southern open-cut and the shale area adjacent to the south, should the results be encouraging. In the event that the 8 holes should detract from the prospect it was recommended that only a limited number of holes, after the first 8, should be drilled.

Copies of this memorandum were forwarded to Messrs. Mawby, Haddon King, Cottrell, and Donaldson. A generalised Geological Plan, showing all drill hole sites has been distributed.

Drilling Accomplished

- D. 4. At 1012N/1121W and R.L. 1211' to depth 231' commenced 14/7/48, completed 13/8/48.
- H. 1. At 1093N/939W and R.L. 1210' to depth 215'; commenced 13/8/48, completed 9/9/48.
- H. 2. At 890N/840W and R.L. 1187' to depth 60'; commenced 10/9/48, completed 17/9/48. Could not get down to solid rock and abandoned; no useful information.
- L. 1. At 973N/720W and R.L. 1154' to depth 80.5'; commenced 18/9/48, completed 28/9/48. Abandoned in Porphyry as possibility of obtaining useful information regarded as slight.
- D. 5. At 830N/1038W and R.L. 1173' to depth 240.2'; commenced 29/9/48; completed 2/11/48. Considered drilled close enough to footwall shale to test the possible ore zone.
- H. 3. Site moved 73' N.W. along tram track from plotted position. From 3/11/48 to 16/11/48 was spent trying to recover rods jammed in the hole. Drilling at H.3 commenced 17/11/48. By the end of the month progress was 70'.

Testing Accomplished

In previous report by Mr. P.C. Benedict and myself, the main

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bet is defined as an extension southward through the southern half of the open-cut, under an unmineralised dolomite cover of mineralisation of the section lying immediately above the footwall shales. Extension of the dolomite and associated mineralisation southward beyond the open-cut limits, under cover of shale, was regarded as a less tangible bet.

Only three of the five holes drilled have reached the objective - the footwall shale. Neither of the other two holes tested any part of the zone lying above the shales and must be regarded as wasted drilling. One pierced zone outcropping prophyry; the other could not be completed because of badly caving ground.

Drill Hole Logs and Assay Results.

I logged all core from the first five holes, descriptions are appended.

Definition of some of the terms used is necessary.

The dolomite is a very fine-grained rock composed almost entirely of calcium-magnesium carbonate. Chemical analyses of several typical samples agree very well with analyses of sedimentary dolomite. Manganese is present up to 0.4% and iron only in very small amounts. Bedding is seen in places but is generally only very poorly developed or absent. There is no hypogene silica or sulphides in much of the rock. There is no doubt that it is interbedded with the shales.

Coarsely crystalline carbonate is the main gangue mineral of the mineralisation intersected to date. It carries considerable iron and manganese. It replaces dolomite and is itself replaced by sulphides.

Talc is common gangue mineral, derived from the carbonate.

'Kernel' Ore is green in colour and has a characteristic agate-like patterning of alternating white and green bands. Composition is not known. Some specimens contained considerable topaz. Chief sulphides are pyrrhotite and pyrite.

A summary of Core Log and Assay Results is given below:-

- D.4. 0' - 6' - Not cored
- 6' -132.5'- Dolomite with approximately 10 - 15% carbonate-pyrrhotite-pyrite veins.
- 132.5'-153.3'- Shale band.
- 153.3'-195.2'- High sulphide mineralisation.
- 195.2'-231' - Footwall shale.

From 111.1' to 115.1' assayed 0.22% Sn; from 130.6' to 132.6' assayed 0.2% Sn. The remainder of the core, including the high-sulphide mineralisation, is essentially barren.

- H.1. 0' - 18.7'- Poor core recovery
- 18.7'-153' - High pyrrhotite mineralisation
- 153' -156.5'- Dolomite
- 156.5'-171' - Weak pyrrhotite
- 171' -214.6'- Footwall shale

The core was barren throughout

- D.5. 0' - 40' - Not cored
- 40' - 95' - Dolomite
- 95' -190' - Weakly pyritized dolomite
- 190' -220' - Strong pyrrhotite mineralisation
- 220' -226' - Shale
- 226' -240' - Porphyry

This porphyry is probably one of the sills commonly found close to the footwall.

From 187.3' to 217.2' averaged 0.51% Sn. The intersection of 29.9 feet is equivalent to a stratigraphic thickness of approximately 18 feet.

From 223.1' to 225.8' assayed 4.83% Sn.

Assays from 232.3' to 240' are not yet available.

L.1. 0' - 40.7' - Not cored

40.7' - 80.5' - Porphyry

From 40.7 to 80.5 averaged 0.21% Sn.

Geology.

The general geological features are shown on the 50 scale plan already distributed. A 300 ft. plan included in Mr. P.C. Benedict's report shows an asbestos bed horizon traversing generally east-west across the southern part of the open-cut.

The asbestos bed had possibilities as a marker horizon, and I spent some time on this inspection attempting to locate it elsewhere. I traced it to a point halfway across the White Face where it terminated against the footwall shale. Westward it had been traced almost to the footwall shale where it turned southward and again appears to terminate against the shale.

I have found remnants of it close to the footwall on the eastern side as far north as the Brown Face, where relationships suggest that the highly productive deposits lay stratigraphically beneath it. I have the impression that thinning out of the beds beneath the asbestos horizon going east, may be due to stratigraphic thinning.

Throughout the southern part of the cut observable strikes are east-west, except in the immediate vicinity of the west shale wall, and the south-western shale area. The west shale wall dips near vertical at surface and is the east limb of a major northerly trending anticline. There seems little doubt that the fold was too sharp for the already folded dolomite beds to accommodate themselves to the movement, and the shale-dolomite contact transgresses quite importantly the dolomite and the shale.

I have arrived at the conclusion that the breccias very probably represent one bed, and the massive dolomite in the south of the cut another overlying bed. If this is correct, the ore-bearing zone will be getting deeper as we go south.

The structural contour plan attached to this report gives an idea of the nature of the double folding.

The new information does not alter materially the prospect, except that the ore-horizon will be deeper than originally hoped for.

Assessment of Drilling Results.

Sections D.D. and H.H. are attached to this report.

Along D.D. three shoots of 0.8% Sn ore were located where the productive bed plunges below the surface. D.4 intersected a reduced thickness of the pyrrhotite mineralisation, which was barren. D.5 intersected a narrow width of 0.5% Sn: It may represent a small shoot.

On H.H. the previously drilled inclined hole intersected a wide, barren, pyrrhotite mass as did H.1. H.2 did not reach the zone. H.3 is now being drilled.

Results to date are discouraging. The possibility of a major

open-cutting orebody has, I think been eliminated. Any ore which may be found to the south of the present holes will have to be worked underground. On present price of tin, and allowing metallurgical recovery of 60%, ore would need to be of the order of 0.8% Sn to be worth considering.

The one hopeful sign is the finding of 0.5% ore in D.5. It at least indicates that tin mineralisation is continuing southward.

Further Drilling Proposed.

Should H.3 fail to locate payable ore I would regard the chances of finding a large body on the west of the White Face Dyke, within the open-cut limits, as reduced to a state not worth further investigation.

No holes have been drilled east of the dyke. I suggest that we drill the two holes M.1 and Q.2 set out on the east-westerly line through H.3. This will adequately cover the eastern side of the open-cut.

Regardless of whether the above holes find ore or not, I suggest we drill one hole in the southern shale area at a point 100ft. south of the shale-dolomite contact on line K or L. If it passes through shale only to a depth of 150 ft. it would seem that the productive beds do not continue southward under the shale cover, and the hole would be abandoned at 150 ft. depth. The exact position will be indicated when I receive a plan from Mineral Resources Survey.

Should we abandon the property before the above holes are drilled, I would feel we were leaving major possibilities untested.

Costs to 6/11/48.

<u>Drilling</u> 825'6	£969 19 3	
<u>to 2/11/48</u> Delays etc. including reaming	239 13 1	
Shifting	<u>89 3 2</u>	£1298 15 6
Salaries & Wages		860 16 5
Stores		181 8 1
Transport		42 1 1
Travelling		294 0 11
Sundries		66 1 2
General O/head including 10% surcharge from Enterprise Exploration Company		<u>274 8 0</u>
		<u>£3017 11 2</u>

Direct Contract Drillings Costs = £1/11/6 per foot

Present regular Costs are (estimated)

Salaries & Wages	£25	per week
Stores and Sundries	£ 5	" "
O/head & Supervision	£ 5	" "
Enterprise Surcharge	<u>£ 6</u>	" "
	£41	" " plus drilling

C.L. KNIGHT
Geologist.

004

PROPERTY MOUNT BISCHOFF TIN MINE

536006

Sheet

256

CORE DESCRIPTION

Drill Hole No. D. 4

Position 1012N/1121W

Reduced Level 1211 ft.

Azimuth -

Inclination Vertical

Depth 231 ft.

Date Commenced 14.7.48

Date Completed 13.8.48

Depth From	Depth To	Core Recovered	Description
ft.	ft.	ft.	
0	5.7	nil	Not cored
5.7	7.7	1.1	5.7 - 17.0 <u>Dolomite</u> brecciated with 20% white carbonate and 2% sulphide (pyrite-pyrrhotite)
	7.8	0.2	
	8.7	0.4	
	9.1	0.1	
	10.3	1.2	
	13.1	2.7	
	14.9	1.6	
	18.2	3.3	
	12.5	10.6	
18.2	22.2	3.3	17.0 - 21.0 <u>White carbonate (50%), dolomite (40%) pyrrhotite-pyrite 10%</u>
22.2	27.3	4.8	21.0 - 66.0 <u>Dolomite, 10% carbonate, 2% pyrrhotite-pyrite.</u>
	30.7	3.5	
	35.8	4.8	At 28.0', 0.3 ft. slightly cellular rock with little coarse cassiterite
	38.1	2.3	" 30.0', 0.5 ft. slightly cellular rock with some coarse cassiterite
	41.2	3.1	" 33', 0.8 ft. 50% pyrrhotite
	49.8	8.5	" 35', 0.8 ft. 50% pyrrhotite-pyrite-marcasite
	54.8	5.0	" 48' - 51' 30% carbonate, 15% pyrrhotite-pyrite
	59.8	4.8	" 59', 0.7 ft. pyrite-quartz-talc
	63.8	4.1	
63.8	73.6	9.4	66.0 - 72 Carbonate and Dolomite with 10% pyrite-pyrrhotite (trace chalcopryite)
73.6	78.8	5.6	72.0 - 76.9 <u>Dolomite</u>
78.8	80.0	1.2	76.9 - 84.1 9 inch band green " <u>kernel</u> " ore, then <u>talcose rock</u> with 5% pyrrhotite-pyrite. Last 2 feet has 60% sulphide
	80.9	0.8	
	84.7	4.0	
84.7	89.8	5.0	84.1 - 111.1 <u>Dolomite</u> ; 0.9' high pyrrhotite at 91.4; remainder carries less than 3% sulphide and small percentage of carbonate. From 94 to 100ft. good bedding at 30° to core axis. Bedding dips 60°.
	91.3	1.5	
	92.8	0.7	
	98.2	5.6	
	100.5	2.2	
	109.2	9.6	
	111.1	1.9	
111.1	111.6	0.4	111.1 - 115 <u>Dark talc bands</u> with 5% pyrrhotite-pyrite, in dolomite
	117.7	5.6	
117.7	119.1	1.4	115 - 130.7 <u>Dolomite</u> with less than 5% carbonate-pyrrhotite except for 6 inch high pyrrhotite band at 126.9'. Bedding dips 20 - 30° in three places.
	122.5	3.4	
	123.9	1.2	
	126.8	2.7	
	131.9	4.9	
131.9	136.1	4.6	130.7 - 132.5 <u>Talc-pyrrhotite-carbonate</u>
	141.2	1.0	
	142.3	3.7	132.5 - 153.3 Grey sandy shale, with few very small widely spaced areas and veins with pyrrhotite
	146.2	4.9	Bedding dips 50° to 30°
	151.2	5.0	
151.2	154.9	3.8	153.3 - 171 <u>Talc-pyrrhotite-carbonate-pyrite</u> ; sulphides 50%; bedding dips 45°
	158.0	2.9	

Signed C.L. KNIGHT.....

005

PROPERTY MOUNT BISCHOFF TIN MINE

536007

Sheet

287

CORE DESCRIPTION

Drill Hole No. D. 4 Contd.

Position 1012N/1121W

Reduced Level 1211ft.

Azimuth -

Inclination Vertical

Depth 231 ft.

Date Commenced 14.7.48

Date Completed 13.8.48

Depth From	Depth To	Core Recovered	Description
ft	ft	ft	
	158.4	0.4	
	158.8	0.5	
	160.9	2.1	
	171.2	10.0	
171.2	181.3	10.3	171 - 176 <u>Shaley band</u> - hard, dark grey, siliceous; some biotite; 10% pyrrhotite. Bedding dips 40°
181.3	183.8	2.2	176 - 195.2 <u>Pyrrhotite (60%) - carbonate - some talc</u> ; sharp contact at base; bedding appears to dip steeper than 45°
	187.3	3.8	
	195.6	8.3	
195.6	203.6	7.8	195.2 - 231 <u>Footwall Shale</u> : Light grey (to buff) poorly bedded, finely sandy, hard; 2% pyrrhotite; bedding appears to be steeper than 45° generally; crumbling and brecciated. Decipherable dips 50° and plus
	206.3	3.1	
	216.6	10.5	
	231	14	
			END OF HOLE 231 ft.

Signed C. L. KNIGHT

CORE DESCRIPTION

536008

006

Drill Hole No. H.1.

Position 1093N/939W.

Reduced Level 1210ft.

Azimuth -

Inclination Vertical

Depth 214.6 ft.

Date Commenced 13.8.48

Date Completed 9.9.48

Depth From	Depth To	Core Recovered	Description
0	14	0.2	0 - 18.7 Weathered mineralised material
	16	0.8	
	18.7	0.3	
18.7	19.9	1.1	
	21	2.0	18.7 - 45 <u>Very highly pyrrhotitic mineralisation</u> with talc or carbonate locally important; no pyrite no dip decipherable.
	24	3.0	
	27.3	3.2	
	36.6	9.0	
	40.5	7.7	
	41.8	1.3	
	51.8	10.0	
51.8	59.3	7.5	
	62.0	2.5	
	69.6	7.3	
	71.8	2.2	
	79.4	7.5	
	79.8	0.2	
	86.3	6.7	
	91.0	4.4	
	92.8	2.0	
	94.1	1.0	
	96.9	1.3	
	98.7	1.3	
	98.9	0.2	
	100.8	1.5	
	104.8	4.9	
	106.9	2.2	
	107.5	0.6	
	109.7	1.2	
	119.6	10.0	
	121	1.3	
	131	10.0	
	131.3	10.0	
	133.8	2.5	
	135.8	1.8	
	141.1	5.3	
	145.0	4.0	
	153.1	3.9	
153.1	153.8	0.8	153.1 - 156.6 <u>Dolomite</u>
	155.2	0.3	
	164.6	9.2	
164.6	170.9	4.9	166 - 171 Green rock, fine-grained, with patchy pyrrhotitic-carbonate.
170.9	174.3	2.4	170.9 - 214.6 <u>Footwall Shale</u> - massive, dark gray, hard, finely sandy. Dip at two points 60°.
	178.6	4.3	
	179.6	1.0	
	182	2.4	
	184.3	2.1	
	186.9	2.4	
	193.2	6.3	
	196.8	3.2	
	199.7	3.2	
	203.2	3.7	
	206.0	3.1	
	209.0	2.9	
	214.6	5.6	

END OF HOLE 214.6 ft.

Signed C.L. KNIGHT

007

PROPERTY MOUNT BISCHOFF TIN MINE

259

CORE DESCRIPTION

Sheet
536009

Drill Hole No. H. 2.

Position 89ON/84OW

Reduced Level 1187 ft.

Azimuth -

Inclination Vertical

Depth 60 ft.

Date Commenced 10.9.48

Date Completed 17.9.48

Depth From	Depth To	Core Recovered	Description
ft. 0	ft. 20.5	ft. 3.1	Places dolomite, some carbonate, one piece high pyrrhotite
	21.0	0.8	Dolomite
	21.7	0.4	Dolomite
	23.0	0	-
	28.3	0.7	Dolomite, little carbonate
	38.7	0.5	Oxidised, high sulphide ore
	49.0	0.2	Pieces of caved material
	56.0	0.3	" " " "
	60.0	0.2	" " " "
END OF HOLE 60 ft			

Signed.....C.L. KNIGHT.....

008

PROPERTY MOUNT BISCHOFF TIN MINE

Sheet

260

CORE DESCRIPTION

536010

Drill Hole No. L.1.

Position 973 N/720W

Reduced Level 1154 ft.

Azimuth -

Inclination Vertical

Depth 80.5

Date Commenced 18.9.48

Date Completed 28.9.48

Depth From ft.	Depth To ft.	Core Recovered ft.	Description
			0 - 40.7 Not Cored
0	40.7	0	40.7 - 72.6 <u>Porphyry</u> white with feldspars largely replaced by pyrite
	50.7	4.1	
	53.7	3.2	
	61.4	5.6	
	72.6	2.9	72.5 - 80.5 <u>Porphyry</u> grey, highly siliceous with pyrite
	80.5	4.3	
			END OF HOLE 80.5

SignedC.L. KNIGHT.....

009

PROPERTY MOUNT BISCHOFF TIN MINE

Sheet 261

CORE DESCRIPTION 536011

Drill Hole No. D. 5.

Position 830N/1038W

Reduced Level 1173 ft.

Azimuth -

Inclination Vertical

Depth 240.2 ft.

Date Commenced 29.9.48

Date Completed 2.11.48

Depth From	Depth To	Core Recovered	Description
ft.	ft.	ft.	
0	41.2	3.0	0 - 40 Not cored
	43.9	2.8	40 - 95 Light grey <u>dolomite</u> ; indistinct brecciated appearance; trace pyrite along fractures
	49.2	2.7	
	53.0	3.6	
	64.2	9.7	
	70.0	1.8	
	77.3	2.9	
	88.3	4.1	
	93.5	4.2	
93.5	103.5	3.7	95 - 130 <u>Weakly pyritized dolomite</u> , with carbonate
	113.0	1.4	
	122.0	1.3	
	115.2	1.9	
	130.0	1.4	
130.0	134.0	1.2	130 - 190 <u>Dolomite</u> , some weakly pyritized fragments
	135.7	0.1	
	137.3	0.3	
	149.0	0.3	
	152.3	0.4	
	158.4	3.0	
	162.6	0.8	
	164.5	0.6	
	174.2	2.5	
	180.0	0.4	
	185.5	0.2	
185.5	192.9	5.3	190 - 193 <u>"Kernel type pyrrhotitic mineralisation"</u>
	197.4	5.4	
	207.1	10.6	193 - 215 <u>High pyrrhotitic (60%) mineralisation</u> , fine-grained, hard.
	217.1	10.0	
			215 - 220 <u>Light pyrrhotitic mineralisation</u>
217.1	223.1	6.4	220 - 226 <u>Gray shale</u> , probably footwall shale, hard, sandy, massive: One dip at 60°. (Has tin)
	225.0	2.2	
225.0	232.2	7.1	226 - 240 Fine white <u>porphyry</u> , 5% disseminated pyrrhotite, little pyrite.
	232.3	0.5	
	240.0	7.2	
	240.2	0.5	
END OF HOLE 240.2 ft.			

Signed C.L. KNIGHT

010

ABERFONIA TUNNEL DEVELOPMENT BOARD 536012

file
Brock #8
Drilling

MOUNT BISCHOFF PROJECT
VALLEY

Date... 21-7-65

The Manager,
Aberfoyle Tin Development Partnership,
100 Collins Street,
MELBOURNE, VIC. 3000.

Dear Sir,

DESIGNED DRILL REPORT No. B27
20-7-65

Drill No.	Site	Depth	Remarks	Total Footage	Time Drilled	Remarks
B3		—	—	—	—	—

DDH. no. B3 — site outside portal of No 6 level adit, Bischoff Extended.

proposed coords of collar = 1225 N, 3379 E
bearing 148°, inclination - 60°

The drill arrived on site, and un-packing of the crates commenced on 20-7-65

R. Cox

c.c. K. R. Glaeson

Yours faithfully

Field Supervisor

536013

ABERFOYLE TIN DEVELOPMENT PARTNERSHIP

MOUNT BISCHOFF PROJECT

TASMANIA.

Date 5-8-65

Fate
No + Bischoff
Drilling
&
Testing

The Manager,
Aberfoyle Tin Development Partnership,
100 Collins Street,
MELBOURNE, CR. VIC.

Dear Sir,

DIAMOND DRILL REPORT B,28
For 2 weeks ended 3-8-65

SUMMARY

Hole No.	Site	Final Depth	Progress Footage	Total Footage	Feet Drilled for Period	% Complete
B3	see below	—	28'9"	28'9"	28'9"	$\frac{5'9"}{28'9"} = 20\%$

DDH, no, B3 — collar close to peg no, 28, at portal of
No 6 level adit, Bischoff Extended.
Approx words = 1225N, 3379W
Bearing 148°
Inclination -60°
Target Depth = 700ft

Zero - 13'0" = NX casing core size
13'0" - 28'9" = BX " " "

Zero - 21'0" = Qtzite + shale + porphyry filling
21'0" - 28'9" = white shale

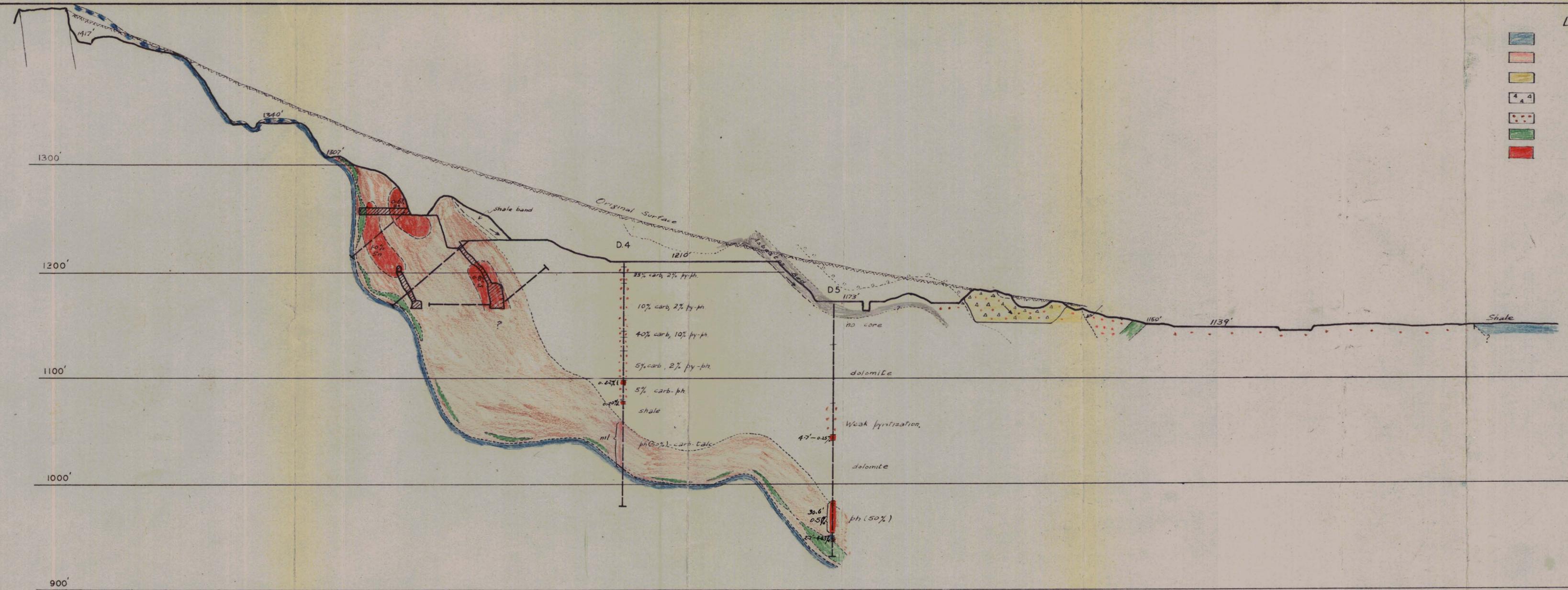
Drilling commenced on 29-7-65

R. Cox

Yours faithfully,

Field Supervisor

- Footwall Shale
- Pyrrhotite Mineralization (strong)
- Dolomite
- Breccia
- Weak Sulphide Mineralization
- Porphyry
- > 0.2% Sn.



013

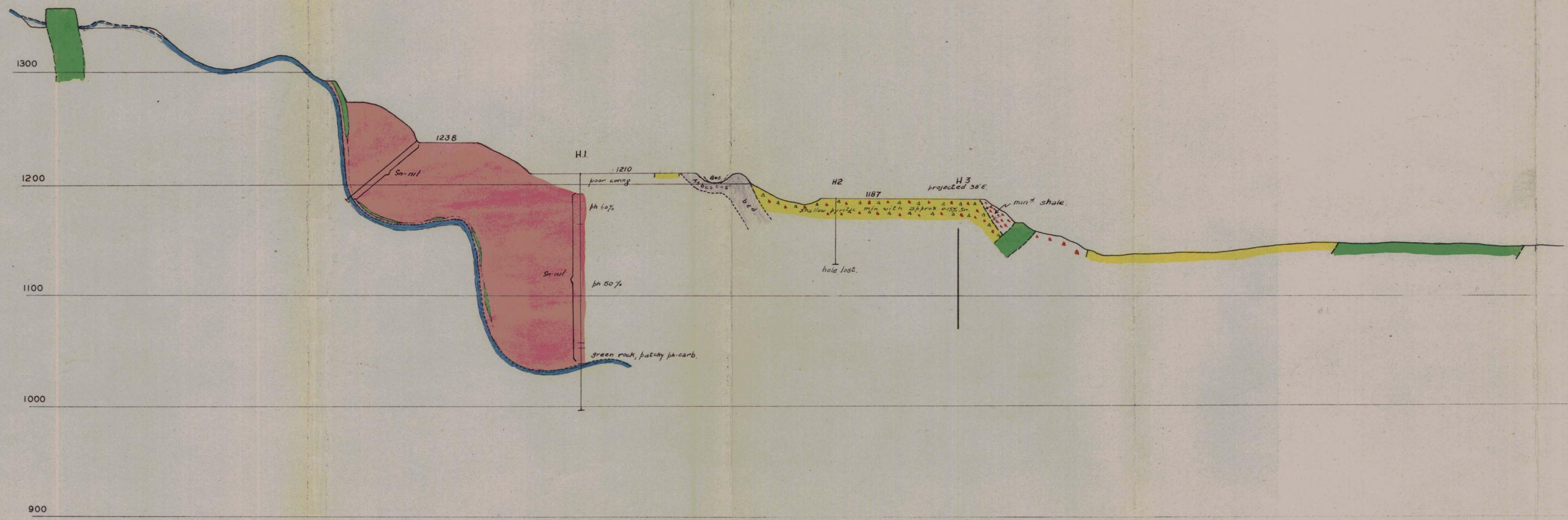
THE ZINC CORPORATION LTD

MOUNT BISCHOFF

SECTION D-D

1 INCH=50 FT NOV 1948

For LEGEND see Section D-D



536015



012

THE ZINC CORPORATION LTD

MOUNT BISCHOFF

SECTION H-H

1 INCH = 50 FT NOV 1948