MBD 30

DEPTH	INTERVAL	DEPTH from-to : ROCK UNIT (capital letters, underlined) / Depth : Description and notes (indented about 10mm)	POINTER	GRAPHIC LOG	POINTER	MINERALISATION	ASSAYS AVAILABLE	BULKED ASSAYS

FOR ABBREVIATIONS SEE "FIELD GEOLOGIST'S MANUAL", D.A. BERKMAN & W.R. RYALL (ED), MONOGRAPH No.9 AUSTRALAS. INST. MIN. METALL. - 1976

028458

INTERVAL	DEPTH from-to : ROCK UNIT / Depth : Description and notes	MINERALISATION
0-3.0 (3.0)	TRILONE TO 3m - NO CORE.	
3-53.2 (50.2)	DOLOMITE WITH QUARTZ AND CALCITE.	3-9.5 Recovery < 1%, impossible to estimate
	3.0-9.5 Recovery < 1% - some fragments of creamy coloured dolomite, some grey shale and pinkish weathered porphyry (overburden?). Possible originally DSL? (at least in part)	
	9.5-53.2 Pale grey dolomite with bleached creamy coloured sections (weathered) to 1.5m. Minor recrystallisation - segregation of white carbonates and qtz in small ill defined grains to 2mm occurs in patches to 10 cm. Small zones are brecciated, angular fragments with dark grey margins cemented with carbonates and qtz. Later fracturing - broken core, locally reduced to rubble.	9.5-23.7 Finely disseminated py, trace po in brecciation fractures. Py, sp in blebs, mostly 2-3 mm, sometimes 3×2 cm, concentrated in breccia zones. Total 3-5%.
	23.7-49.0 FAULT ZONE - very broken and shattered core - dolomite fragments < 5 cm, porous and chalky with patches of soft white puggy matrix still intact. Recoveries poor - 20%	23.7-53.2 Weathered - weak trace py in some fragments.
	49-68.0 Pieces of core to 30-40 cm, separated by small faults/puggy zones - large core losses.	
	68.0-95.0 Broken core, but recoveries quite good.	
53.2-73.6 (14.8)	53.2-68.0 FAULTED DOLOMITE SULPHIDE LODE with some minor fine grained porphyry (70.5-71.0, 71.9-73.6m)	Py, trace po, weak trace arsco, sp. Pyrite is disseminated and intergrown with qtz-carbonate, pitted and porous. Po occurs intergrown with py. Sp as blebs 2-3 mm, rarely 20×10 mm. Arsco in well formed xtls 1-2 mm. Total 20-30%
	53.2-62 Core very weathered and broken - greyish weathered rock fragments and soft puggy material. Mostly recrystallised carbonates and qtz with minor greenish talcose alteration, some fragments relatively unaltered dolomite	
	62-68 Fragments soft grey talc, carbonates, qtz	
	68-70.5 Recrystallised creamy yellow carbonates + dolomite - calcite with some magnesite and qtz	68-70.5 Py etc TOTAL 5%.
	70.5-73.6 Mixture - f.gr porphyry as below, alternating with qtz-carbonate DSL - sad sepentinite rich (?)DSL.	70.5-73.6 Fluorite, py trace sp 3-5%.
73.6-82.9 (9.3)	73.6-82.9 MASSIVE SILTSTONES with minor SILTY SHALES.	Trace py, carbonate, qtz, fluorite in small veinlets, weathered < 1%.
	Siltstones, grey, hard and silicified, with fine contorted bedding laminations and brecciation. Shales are dark grey, thinly interbedded. Core is well fractured but recovery good. Rare inclusions of micro-porphyry as below, to 15 cm.	
82.9-93.3 (10.4)	82.9-93.3 'Aplitic looking' QUARTZ FELSPAR PORPHYRY. Broken contact 25° →	Fluorite, trace py. Fluorite as small dark purple and brown phenocrysts to 2 mm. Py as rare phenocrysts, and in thin veinlets. TOTAL 1-2%.
	Fine grained yellowish and greenish grey matrix, weakly banded. Phenocrysts - Qtz 3-5%, well formed to 2 mm. Felspar - variable 0-10%, 1-2 mm creamy white phenocrysts with poorly defined outlines. Some are brownish and altered.	
	Irregular contact, 75° →	
93.3-95.0 (1.7)	93.3-95.0 FINE GRAINED QUARTZITE Hard, dark grey, well bedded. Bedding 40° →	Py, qtz thin veinlets, finely disseminated py 3%.
	END OF HOLE 95.0m	

5 cm

ALTER TYPING THIS SIZED FROM WILL BE PHOTO-REDUCED TO A4 SIZE

FIELD COPY - COPY TO BE SENT TO MELBOURNE FOR TYPING

METALS EXPLORATION LTD.
EXPLORATION DEPARTMENT

SUMMARY DRILL LOG

Scale 1:1000, (1:500) 1:250 (Also reduced to A4)

Prepared by: G BROADBENT
Date: 4/3/80

HOLE No. MBD 30
Sheet of

SAMPLE NO. SPLIT CORE	SAMPLE NO GROUND CORE	FROM m	TO m	INTER-VAL m	Sn SPLIT	Sn GROUND	Cu	Pb	Zn	Ag	W	Au	Check Sn	Bulked Assays
97265		34.0	36.0	2.0	50									
66		36.0	38.0	"	60									
67		38.0	40.0	"	28									
68		40.0	42.0	"	24									
69		42.0	44.0	"	85									
270		44.0	46.0	"	75									
71		46.0	48.0	"	48									
72		48.0	50.0	"	240									
73		50.0	52.0	"	190									
74		52.0	54.0	"	110									
75		54.0	56.0	"	2150									
76		56.0	58.0	"	1200									
77		58.0	60.0	"	210									
78		60.0	62.0	"	14									
79		62.0	64.0	"	18									
280		64.0	66.0	"	46									
81		66.0	68.0	"	18								22	Re check of Check Asc.
82		68.0	70.0	"	46									
83		70.0	71.9	1.9	50									
84		71.9	73.9	2.0	85									
85		80.9	82.9	2.0	70									
86		82.9	84.9	"	110									
87		84.9	86.9	"	90									
88		86.9	88.9	"	100									
89		88.9	90.9	"	120									
90		90.9	93.5	2.6	100									
91		93.5	95.0	1.5	32									

028456

Notes:— Sn by XRF Bi Method.

METALS EXPLORATION LTD - MT BISCHOFF TIN PROSPECT

ASSAY SUMMARY SHEET HOLE NO. MBD 30A

SAMPLE TYPE: DRILL CORE FROM 34.0 TO 95.0

SAMPLE NO.	SAMPLE NO	FROM	TO	INTER-VAL	Sn	Sn	Cu	Pb	Zn	Ag	W	Au	Check Sn	Bulked Assays
SPLIT CORE	GROUND CORE	m	m	m	SPLIT	GROUND								
97725		3.5	5.0	1.5	400									
26		5.0	6.5	1.5	2350									
27		6.5	8.0	"	4050									
28		8.0	9.5	"	4550									

Notes :—

METALS EXPLORATION LTD - MT BISCHOFF TIN PROSPECT

ASSAY SUMMARY SHEET HOLE NO. MBD 30B

SAMPLE TYPE : DRILL CORE FROM 3.5 TO 9.5

SLUDGE

REPORT No. 028461

METALS EXPLORATION LTD.
& SUBSIDIARY COMPANIES

MINERAL EXPLORATION
DIAMOND DRILL LOG

MBD-30

Prospect, area, project or mine. MOUNT BISCHOFF

HOLE No. MBD 30

COLLAR LOCATION

Grid name	Rectangular space co-ordinates: Planar co-ordinates		Elevation
(1) MGJV	1859.96 N	1139.93 E	626.69
(2)	N	E	
(3) Aust. Map Grid (PRECISE / APPROX.)	mE	mN	m A.H.D.

W.C. Bearing from collar
- magnetic:
- grid (1): —
- grid (2):
- grid (3):
- true:

1:250 000 Sheet No. BURNIE SK 55-3

1:100 000 Sheet No. HELLYER 8015

State TASMANIA.

Mineral Tenement EL 13/79.

Holder METALS EXPLORATION LTD.

Inclination at collar 90°

Total length 95.0 m

Commenced: 1 / 2 / 80

Completed: 11 / 2 / 80

Cadastral location and details
CROWN LAND/ PRIVATE

Drilling contractor LONGYEAR AUST PTY. LTD.

Rig type LONGYEAR 38? 1

Details of down hole location-survey methods.
TROPARI every 30 m.

Purpose of drilling and anticipated lengths to targets.
To investigate nature of dolomite horizon and any possible tin mineralisation 0-70 m. Planned depth of hole 80 m.

Core size and non-coring (NC)

TRICONE	0	TO	3.0
NQ	3.0	TO	95.0 m
		TO	
		TO	
		TO	
		TO	

Results of down hole location-survey.

LENGTH FROM COLLAR	W.C. BEARING type:	DIP
32.5 m	111	90°
62.5 m	359°	90°
92.5 m	271° 30'	81°

Comments on drilling.

Legend for graphic log column (see drill log for Hole No. _____)

'DERWENT' PENCIL No. | FIELD ROCK NAME, ETC

Symbols and abbreviations for drilling notes column.

LOGGED BY	LOGGED BY	LOGGED BY
G. BROADBENT		
FROM 0 TO 95.0 m	FROM TO	FROM TO
DATE 19.3.80	DATE	DATE

Company managing exploration programme.
METALS EXPLORATION LTD.

HOLE No. MBD 30
Log sheet 1 of 3

028462

TRICONE TO 3.0m - NO CORE.

3.0 - 9.5 DOLOMITE ?

Recovery minimal - some fragments of creamy coloured dolomite and some pieces of pinkish cream weathered porphyry (probably mudlock).

9.5 - 53.2. DOLOMITE WITH QUARTZ AND CALCITE.

FAULTED

Pale grey dolomite where unweathered, with yellowish and brownish tints due to weathering. Highly fractured, crumbly intervals to 1.5 m, often with substantial core losses - faulting.

The rock has suffered minor recrystallisation (pre-faulting) - some segregation of qtz and calcite in small ill defined patches to 2mm, and remobilisation/recrystallisation of qtz and carbonates along an earlier generation of brecciation fractures; patches of grey quartz and white carbonates to 5x6 cm.

26 - 27.7 Lost core zone.

DRILL ADVANCE	% RECOVERY ESTIMATE OR CORE LENGTH RECOVERED	LOST CORE ZONE	DEPTH from-to : ROCK UNIT (capital letters, underlined) / Depth : Detailed rock description and notes (indented about 15 mm)	DRILL LOG DEPTH TAG	DEPTH POINTER	GRAPHIC LOG (SEE LEGEND ON SHEET 1)	DEPTH POINTER	STRUCTURAL AND VEIN INFORMATION (ATTITUDE = Angle between feature and LONG CORE AXIS)	MINERALISATION	PERCENT MINERALISATION Visual estimate	NOTES
5.0	4	0.2	TRICONE TO 3.0m - NO CORE.								
			3.0 - 9.5 DOLOMITE ? Recovery minimal - some fragments of creamy coloured dolomite and some pieces of pinkish cream weathered porphyry (probably mudlock).	4		2/3/F		9 - 9.5 Originally fault pug - shattered and bleached.	3.0 - 9.5 trace py, in sparse recryst dolomite fragments.	< 1%	
1.5	33	0.5		8							
1.5	100	1.5	9.5 - 53.2. DOLOMITE WITH QUARTZ AND CALCITE. FAULTED Pale grey dolomite where unweathered, with yellowish and brownish tints due to weathering. Highly fractured, crumbly intervals to 1.5 m, often with substantial core losses - faulting. The rock has suffered minor recrystallisation (pre-faulting) - some segregation of qtz and calcite in small ill defined patches to 2mm, and remobilisation/recrystallisation of qtz and carbonates along an earlier generation of brecciation fractures; patches of grey quartz and white carbonates to 5x6 cm.					9.5 - 18.5 Well fractured and sheared. core is well broken and sometimes soft and porous.	9.5 - 53.2 py, sp, rare grains po in remobilised carbonates, as blebs to 2x3mm and in thin veinlets. Original percentage difficult to estimate, probably between 1 and 3%. Concentration variable 0 - 10% over intervals 10m - 0.5 m. After 23.7 mineralisation estimation very difficult.	10%	
1.5	100	1.5		12							
1.1	100	1.1									
2.2	100	2.2		16							
1.2	92	1.1									
1.7	41	0.7		20				18.5 - 23.7 Very brecciated and broken, intervals of puggy material increase with depth.			
1.3	100	1.3									
2.2	95	2.1		24				23.7 - 49.0 Fault pug - recovery very poor, mainly washed dolomite fragments < 5 cm.			
0.8	38	0.3									
1.0	40	0.4									
1.0	40	0.4									
1.0	10	0.1									
				28							
1.7	0										
1.3	8	0.1									
0.5	100	0.5									
4.5	40	1.8		32							
1.0	20	0.2									
1.5	7	0.3		36							
1.5	27	0.4									
1.3	46	0.6									
0.7	43	0.3		40							
1.3	31	0.4									
1.7	0										
0.5	33	0.2									
1.2	33	0.4									
0.9	33	0.3		44							
1.1	100	1.1									
0.5	80	0.4									
0.9	11	0.1		48							

5 cm

METALS EXPLORATION LIMITED

MINERAL EXPLORATION
DRILL LOG
Scale 1:100

Prospect or project: MOUNT BISCHOFF

Logged by: G. BROADBENT date: 19/2/80

HOLE No. MBD 30

LOG SHEET 2 OF 3.

from 0 m. to 48.0 m.

028463

See Previous Page.

DRILL ADVANCE	% RECOVERY ESTIMATE OR CORE LENGTH RECOVERED	LOST CORE ZONE	DEPTH from-to : ROCK UNIT (capital letters, underlined) — Depth : Detailed rock description and notes (indented about 15mm)	DRILL LOG DEPTH TAG	DEPTH POINTER	GRAPHIC LOG (SEE LEGEND ON SHEET 1)	DEPTH POINTER	STRUCTURAL AND VEIN INFORMATION (ATTITUDE = Angle between feature and LONG CORE AXIS)	MINERALISATION	PERCENT MINERALISATION Visual estimate	NOTES
5.0	40			48							
2.1	50							49 - ?53.2 Recovery improves marginally; shattered and broken core with lesser puggy material.			
9.1	44										
1.7	59			52							
			?53.2 - 58.0 FAULTED DOLOMITE SULPHIDE LODE.			8/4		← Broken Contact.			
3.0	27		53.2 - 62? Fragments of granular qtz - carbonate; some are slightly greenish and talcose. Matrix of grey and white soft puggy material with a silty texture, friable. Quite pyrite rich in intervals to 3m. vuggy, cellular pieces of remnant py with qtz - carbonate - talc.			8/6/5/F		53.2 - 58 Fault pug - high core losses.	53.2 - 68.0 pitted py, trace remnant arsco, sp and rare po. Intergrown with qtz, carbonates, pitted, with soft black material in interstices. Sp occurs rarely as blebs to 2 x 1 cm, mostly small blebs intergrown with py. Trace clear fluorite, as rare interstitial grains. Po is pitted and generally surrounded by weathered py. Originally total mineralisation < 10%.	30%
0.8				56							
2.0	25										
0.5	60							58 - 63 Slightly better recovery, still puggy and shattered.			
0.6	100										
1.0	90			60							
1.0	90										
0.9	50										
0.9	57		62 - 68 Fragments soft grey talcose carbonates, intergrown with qtz								
0.3	33										
0.4	27			64							
0.2	46										
0.3	18							From 68m onwards, puggy material decreases - core is well fractured and broken, but not as shattered. ← Contact Broken.			
0.6	75			68							
0.4	75		68 - 68.4 SILTSTONES. fragments of greenish-grey silicified siltstones			10		← Contact Broken.	Non Mineralised		1
0.3	50		68.4 - 70.5 RECRYSTALLISED DOLOMITE			3			68.4 - 70.5 py, trace sp as blebs and thin veinlets.		5-10%
0.2	67		Recrystallised creamy yellow dolomite fragments with minor qtz - calcite and pure white ? magnesite					← Contact Broken.			
1.5	100										
0.3	100										
1.0	90										
0.9	71		70.5 - 71.0 QUARTZ FELSPAR PORPHYRY. Hard greenish matrix, felspar 7%			1		← Contact Broken.	70.5 - 71.0 Non Mineralised		—
1.7	75		71.0 - 71.9 DOLOMITE SULPHIDE LODE. Granular qtz - carbonate with minor py, fluorite	72		8		← Contact Broken.	71.0 - 71.9 py, trace sp, some fluorite as blebs and grains to 3mm		10%.
0.4	100		71.9 - 73.6? HYBRID PORPHYRY / DOLOMITE SULPHIDE LODE? Soft black sepentinous (?) matrix alternating with hard medium grey fine grained material. Small creamy white felspar and purplish brown fluorite to 2mm, 3-5%. Sepentinous material is weakly foliated			7/1.		← Contact Broker.	71.9 - ? 73.6 Strong trace fluorite		1%.
0.3	100		73.6 - 82.9 MASSIVE SILTSTONES, minor SHALES. Grey, hard and silicified. Some finely bedded shales, and intervals of siltstone have finely laminated bedding < 2mm alternating clay rich siltstones/silty shales. Some medium grey quartzose siltstones to 2cm, some of which are slightly sandy. Extensively disrupted and broken by later fracturing.	76		10/(9).		← 79.1 Bedding 150 ← 81.0 Bedding 20° ← 82.3 15cm greyish microporphyry, 30°	76.6 - 82.9 trace pitted py, sparse thin carbonate - qtz veinlets.		< 1%.
0.4	100										
0.3	100										
0.2	100										
0.3	100										
0.4	100										
0.6	100										
0.4	100										
0.5	100			80							
0.9	100		82.9 - 93.3 'Aplitic - looking' QUARTZ FELSPAR PORPHYRY.			1		← Contact broken, 25° from fragment	82.9 - 93.3 Fluorite as dark purple or brown phenocrysts to 1.5mm, weak trace py to 2mm. Minor thin stringers py, fluorite, rare sp.		1-2%
0.9	89		82.9 - 86.6 Pale yellowish / grey matrix with poorly defined colour banding - flow structure?	84							
0.8	100/100		82.9 - 93.3 Phenocrysts: Qtz - well formed, to 2mm, 3-5% Felspar - small creamy white phenocrysts to 2mm, usually with diffuse outlines. Concentration variable from 0 - 20% over tens of cm, average 5-7%.								
0.7	100		86.6 - 91.0 Matrix slightly greenish medium grey, mottled and weakly banded.								
0.7	100			88							
0.7	100										
0.5	100										
0.6	100										
0.8	88										
1.4	93		91.0 - 93.3 Pale yellowish / grey matrix as for 82.9 - 86.6.	92							
3.0	100							← Contact irregular ≒ 75°			
3.0	100		93.3 - 95.0 FINE GRAINED QUARTZITE. Hard dark grey well bedded quartzite, slightly micaceous. Scale of bedding 1-2cm, minor disruption and brecciation, well fractured.			11		← 93.8 Bedding 50° ← 94.7 Bedding 30°	93.3 - 95.0 py as thin veinlets and stringers with qtz, some finely dissem.		3%.
			END OF HOLE 95.0 m.	96							

5 cm

METALS EXPLORATION LIMITED

MINERAL EXPLORATION
DRILL LOG
Scale 1:100

Prospect or project: MOUNT BISCHOFF
Logged by: G. BROADBENT date 19/2/80

HOLE No. MBD 30
LOG SHEET 3 OF 3
from 48.0 m. to 95.0 m.