028378

SUMMARY DRILL LOG MBD 15

FIELD ROCK NAME and general discription over interval marked	ADOPTED INTERVAL (m cm) & ADOPT LENGTH FROM COLLAR m. cm	GRAPHIC LOG	OBSERVATIONS: Veins over 50mm	MINERALIZATION: Mineralisation (excluding veins over 50 mm)
TRICONE TO 3m No Core	0-3m			
3-6.5 Very weathered and broken - dolomite and py in sticky black clay. GREY SILICEOUS DOLOMITE. Patches mottled grey white due to recrystallisation - some separation of calcite and qtz. More pure creamy coloured dolomite in patches up to 5×5cm. Highly brecciated, angular - subangular fragments separated by dark grey stained fractures	3-25.65 (22.65)	2	Poor recovery 3-10m ~ 35%. 12.8-14.6 Cavity.	Py, trace fluorite, siderite, arsenic in black clay / Py, trace marcasite, sp, weak trace fluorite as veins, blebs and stringers. Occasional clots qtz-carbonate-sp-py-fluorite to 5×5 cm.
DOLOMITE SULPHIDE LODE and unaltered dolomite. talc/serpentinite & qtz-carbonate	25.65-28.8 (3.15)	6/7/5		Py, marcasite, fluorite, sp, arseno; blebs, ...
GREY SILICEOUS DOLOMITE. Fractured and weakly altered to talc/serpentinite along fractures	28.8-35.33 (6.53)	2/3	10cm massive qtz, 25cm carbonate, py, sp surrounding vuggy fracture	SP, trace py as blebs in brecciated cavities
QUARTZ-FELSPAR PORPHYRY. Matrix pale creamy grey. Qtz as rounded to-bid grains to 3mm 10%. Felspar cream with yellowish alteration, indistinct outlines to 2-3mm, 3-10%. Well jointed and broken 10-40° LCA. Greenish upper and lower 1/2 m selvedges (1m)	35.33-55.82 (20.49)	1	Contact broken, 80°. Contact indistinct and ragged.	Py, marcasite (blebs and grains to 6mm) trace sp, fluorite. Weak trace arseno, cassiterite. / Py, marcasite, fluorite and trace arseno. / Py, marcasite, sp, fluorite, rare f., cassiterite. Some weak qtz-carbonate-py-arseno-fluorite vein
TRANSITION BETWEEN PORPHYRY AND DOLOMITE. F.gr. porphyritic texture - smoky grey and yellow	55.82-59.30 (3.48)		Undulose contact, 15°	FLUORITE phenocrysts up to 10%, py, sp, cassiterite / py, marcasite, trace arseno, sp, fluor...
59.3-60.96 Dolomite Sulphide lode. 60.9-65.2 GREY DOLOMITE with QTZ, CALCITE	59.3-65.2 (5.9)	2/8		SP, py as scarce blebs in brecciated cavities
Recrystallised DOLOMITE. Brecciated, with remnant pieces of grey siliceous dolomite surrounded by pure crystalline dolomite	65.2-72.6 (7.4)	3/2	20cm	Trace sp, py and purple and w. crystalline fluorite in cavities
INTERBEDDED MOTTLED GREEN SERPENTINITE (altered dolomite) and SILTSTONE	72.6-77.8 (5.2)	7/10	Brecciated - dolomite veins to 30mm in zones up to 0.5m.	Dolomite veining: sulphides scarce to absent - trace sp, flu...
77.80-80.0 MASSIVE SILTSTONES	77.8-80.0	10	Bedding 50°	

END OF HOLE 80.0 m.

SAMPLE NO.	SAMPLE NO	FROM	TO	INTER-VAL	Sn	Sn	Cu	Pb	Zn	Ag	W	As	Check Sn	Bulked Assays
SPLIT CORE	GROUND CORE	m	m	m	SPLIT	GROUND								
97700		3.0	5.0	2.0	1.46%		250	95	1000	2	35	85	1.64%	Re checks of check Assay
1		5.0	7.0	"	3000		130	170	2100	1	30	150		
2		7.0	9.0	"	800									
3		9.0	11.0	"	740									
4		11.0	12.8	1.8	340									
5		14.6	16.6	2.0	65									
6		16.6	18.6	"	140									
7		18.6	20.6	"	4									
97708		20.6	22.6	2.6	65									
09		22.6	23.9	1.3	10									
96441		24.0	26.0	2.0	150									
42		26.0	28.0	"	240									
43		28.0	30.0	"	42									
44		30.0	32.0	"	22									
45		32.0	34.0	"	230									
46		34.0	35.28	1.28	400									
47		35.28	37.28	2.0	640		140	28	810	1	15	75		
48		37.28	39.28	"	520		110	10	1300	1	15	10		
49		39.28	41.28	"	640		150	22	2800	1	30	55		
450		41.28	43.28	"	920		200	20	720	1	45	360		
51		43.28	45.28	"	5100		280	70	120	3	70	800		
52		45.28	47.28	"	1000		190	20	1600	2	25	620		
53		47.28	49.28	"	1750		240	46	100	2	30	230		
54		49.28	51.28	"	1950		200	10	110	2	40	580		
55		51.28	53.28	"	2550		130	95	120	3	35	460		
56		53.28	55.82	2.54	1700		140	75	180	1	15	95		
57		55.82	57.82	2.0	2750		16	X	240	1	25	170		

Notes :— Sn by XRF B1 Method

X means less than detection limit

Results above 1.00% B2 Method.

METALS EXPLORATION LTD - MT BISCHOFF TIN PROSPECT

ASSAY SUMMARY SHEET HOLE NO. MBD 15

SAMPLE TYPE : DRILL CORE FROM 3.0 TO 57.82

SAMPLE NO.	SAMPLE NO	FROM	TO	INTER-VAL	Sn	Sn	Cu	Pb	Zn	Ag	W	As	Check Sn	Bulked Assays
SPLIT CORE	GROUND CORE	m	m	m	SPLIT	GROUND								
96458		57.82	59.82	2.0	3750		110	10	470	1	<10	220		
59		59.82	61.82	"	760									
460		61.82	63.82	"	16									
61		63.82	65.82	"	16									
62		65.82	67.82	"	8									
63		67.82	69.82	"	4									
64		69.82	71.82	"	55									
65		71.82	72.92	1.10	500									
66		72.92	74.92	2.0	60									
67		74.92	76.92	"	60									

Notes:— Sn by XRF Bi Method.

METALS EXPLORATION LTD - MT BISCHOFF TIN PROSPECT

ASSAY SUMMARY SHEET HOLE NO. MBD 15

SAMPLE TYPE : DRILL CORE FROM 57.82 TO 76.92

02838

028381

REPORT No.

PAGE 1

METALS EXPLORATION LTD.
& SUBSIDIARY COMPANIES

MINERAL EXPLORATION
DIAMOND DRILL LOG

Prospect, area, project or mine. Mt BISCHOFF

HOLE No. MBD 15

COLLAR LOCATION

Grid name	Rectangular space co-ordinates PLANAR CO-ORDINATES			ELEVATION
(1) MBJV	1819·97	N	1019·99 E	624·31
(2)		N	E	
(3) Aust. Map Grid PRECISE / APPROX.		mE	mN	mA.H.D.

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.

Cadastral location and details
CROWN LAND / PRIVATE

W.C. Bearing from collar
_____ magnetic
_____ grid (1)
_____ grid (2)
_____ grid (3)
_____ true

Inclination at collar VERTICAL

Total length 80·0m

Commenced: 8· / 1 / 80

Completed: 15 / 1 / 80

Drilling contractor
LONGYEAR AUSTRALIA

Rig type
BBS 1

Details of down hole location-survey methods.
TROPARI.

Purpose of drilling and anticipated lengths to targets.
HQ to intersect tin mineralisation in 'White Face' porphyry dyke 32m-46m and to subsequently delineate the 'dolomite sulphide lode' horizon beneath. Original length of hole 60m, extended to 80m.

Core size and non-coring (NC)

TRONE	0	TO	3m
HQ	3	TO	80·0m
		TO	
		TO	
		TO	
		TO	

Results of down hole location-survey.

LENGTH FROM COLLAR	W.C. BEARING type AZIMUTH	DIP
41·0m	085	89°
80·0m	292	90°

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 G.C. BROADSENT
FROM 0 TO 80m
DATE 17·1·80

LOGGED BY _____
FROM _____ TO _____
DATE _____

LOGGED BY _____
FROM _____ TO _____
DATE _____

Company managing exploration programme.
METALS EXPLORATION LTD.

HOLE No. MBD 15.
Log sheet 1 of 1

Preliminary Design for Form Aug 78

028382

DEPTH from-to : ROCK UNIT (Depth : Detailed rock description and notes)	GRAPHIC LOG	STRUCTURAL AND VEIN INFORMATION (Veins etc, over 10 mm)	MINERALISATION (Mineralisation, excluding veins over 10 mm.)	PERCENT MINERALISATION (Visual estimate)
TRICONE TO 3 m - NO CORE				
3.00 - 7.15 RECRYSTALLISED DOLOMITE, faulted. Possibly some mullock 3.0 - 3.5 m. Grey, weakly mottled dolomite and creamy coloured recrystallised dolomite as rounded clasts surrounded by calcite, qtz and other carbonates with intervals of black raggy material (decomposed sulphides?). Faulted and shattered - soft chalky texture in places.	3	Gradual Change to	py, marcasite, fluorite, trace arseno; dissem as blebs and grains and in veinlets with carbonates and qtz. Weathered and decomposed - original percentage difficult to estimate	2-3%
7.15 - 35.33 DOLOMITE WITH CALCITE AND QUARTZ. Hard grey fine grained dolomite in a strongly brecciated fabric. Occasional patches dark grey, almost black, grading into bleached portions with a strong brecciation. Extensively fractured - fine grey fractures in dolomite have superimposed disruption due to later faulting. Well broken. Calcite and qtz occur interstitially between breccia clasts and along fractures; patches up to 5 × 6 cm. Fine yellowish clay films on fracture surfaces; after 20 m some talcose alteration (see below). Cavity 12.8 - 14.6 m.	2/3		7.15 - 25.6 py, trace marcasite, fluorite, sp in small veins, blebs and stringers. Occasional 5-6 cm patches of intergrown py, marcasite, fluorite, sp with qtz and carbonates.	2-3%
20.45 - 25.6 Minor greenish talcose and dark grey serpentinous alteration along fracture planes, otherwise as above.				
25.6 - 26.7 Increased talcose alteration with some sulphides etc.	3		25.6 - 26.7 py, fluorite, marcasite, qtz, serpentine, talc, sp, arseno and zeolite in breccia zone.	10%
26.7 - 27.8 Grey/cream unaltered dolomite, talc and serpentinite along fractures.	2/3		26.7 - 27.8 py, weak trace sp as veinlets & stringers.	1%
27.8 - 28.8 greyish green talc/dark grey serpentinite with minor unaltered dolomite.	6/7		27.8 - 28.8 py, fluorite, marcasite, trace sp, qtz	5%
28.8 - 35.33 Grey unaltered dolomite, thin films talc etc as for 20.4 - 25.6.	2/3	350 mm vuggy dolomite - qtz - calcite - py - sp - cassit (?)	28.8 - 35.33 py, marcasite, trace sp, fluorite, in veinlets and stringers with qtz and carbonates, 1-2%.	2-3%
		Contact undulose and broken ≑ 80°		
35.33 - 55.82 QUARTZ FELSPAR PORPHYRY. Matrix pale grey with a faint yellowish tinge near margins. Hard, finely crystalline and well jointed, minor qtz, fluorite deposition on some joint faces. Phenocrysts: qtz, rounded, turbid grains to 5 mm, 10% smaller near margins < 3 mm. Felspar - hard, (?altered) yellowish white to 3 mm, 3-10%. Some purple fluorite to 1%, 2 mm, occurs patchily throughout.	1		35.33 - 37.8 py, marcasite as rounded aggregates to 6 mm. Fluorite, sp to 1%, rare grains cassit. Some minor carbonate - qtz - sp - fluorite - py - arseno veining to 5 mm.	15%
			37.8 - 41.8 py, marcasite, trace sp, fluorite, arseno, rare cassit. Rounded grains to 3 mm. Some rare veining as above 35.3 - 37.8.	7-10%
			41.8 - 44.4 py, trace sp, arseno, rare cassit? Fluorite (deep purple) to 3 mm, finely dissem.	20-25%
		← 44.4 10 cm massive py/marcasite with fluorite, qtz, carbonate, serpentite, sp, arseno. Has qtz - carbonate selvedge - inclusion of dolomite?	44.4 - 47.3 py/marcasite as f.gr aggregates and clots to 15 mm. Dissem fluorite to 1%. Trace sp. Sparse thin py - marcasite - qtz - carbonate - fluorite - sp veins.	15%
			47.3 - 48.9 py/marcasite, trace arseno, sp and cassit as fine gr. aggregates.	30%
			48.9 - 50.0 py/marcasite, fluorite trace sp	11%
			50.0 - 54.40 py/marcasite variable 10-25%. Abundant purple brown and green fluorite (to 3%) trace sp. Some weak carbonate - fluorite veining, sections of groundmass are stained purple about these veins due to fine fluorite. Rare v fine cassit.	15%
54.4 - 55.82 Decrease in size of phenocrysts, matrix yellowish cream. Qtz 5%. Felspar 7-10%. 55.8 m Sample No 98087 taken for petrology		← 54.8 m 12 mm fluorite - qtz - carbonate vein, 15°. Contact undulose and indistinct, with abundant purple fluorite.	54.40 - 55.8 py/marcasite, fluorite 1%, trace sp, tourmaline, and sparse carbonate - qtz - fluorite veining	7-10%
55.82 - 57.28 'Aplitic looking' PORPHYRY. Matrix dark smoky grey, f.gr. with small phenocrysts of qtz and felspar to 3 mm. Felspar 3-5%, qtz 2-3%. Fluorite 3-5%.	1	56.9 m 100 m zone of carbonate - fluorite - qtz veins, 20°. Contact ragged and indistinct.	Fluorite, py, marcasite, weak trace sp and tourmaline	3%
57.28 - 58.34 DOLOMITE SULPHIDE LODE Soft dark bluish grey (fluorite rich) serpentinite (?) with some corroded recrystallised dolomite clasts. Some white phenocrysts to 3 mm. felspar?	7	← 58.4 Sample No 98088 taken for petrology. Contact ragged	Fluorite, distinct grains to 10%. py/marcasite + sp = 1%	10%
58.34 - 59.30 MIXED 'aplitic looking' PORPHYRY and DSL. Mixture of the above two rock types 55.82 - 58.34 on a 10 cm scale. Some greenish black serpentinite with a little talc	7/1	Contact uneven, 15°	py, marcasite, fluorite carbonate qtz trace arseno, sp filling fractures.	7%
59.30 - 60.90 DOLOMITE SULPHIDE LODE. Green talc, grey serpentinite and recrystallised carbonates/qtz surrounding clasts of grey dolomite. Alteration gradually diminishes to 60.90, after which it is confined to discrete fracture zones.	7/6/3/2	← 60.2 m sample No 98089 taken for petrology. Gradual Change.	py, marcasite fluorite, trace arseno, sp; intergrown and dissem., locally 20%	15%
60.9 - 65.2 DOLOMITE WITH QTZ AND CALCITE. As for 20.45 - 25.6, above	2/3	Gradual transition to	trace sp, py as blebs and grains in brecciation fractures. Some qtz - carbonate veining.	1%
65.2 - 72.6 RECRYSTALLISED DOLOMITE Grossly brecciated fabric - embayed, angular pieces of dark grey silicified dolomite encased in banded, creamy coloured almost pure recrystallised dolomite. Some weak alteration of remnant dolomite clasts to talc/serpentinite.	3	72.4 200 mm DSL, py, qtz, fluorite, talc/serpentinite, recryst dolomite. Gradual Change to	Trace sp, fluorite interstitially and in vugs in banded dolomite. rare grains py.	<1%
72.6 - 77.0 INTERBEDDED ALTERED DOLOMITE AND SILTSTONE. Brecciated, with clasts of bedded siltstone intercalated with an unusually textured altered dolomite. The matrix is soft greenish black talcy serpentinite with criss crossing pale grey non penetrative zones of carbonate enrichment to 2 mm thick. These carbonate veinlets transgress bedding in the siltstone and are closely spaced (< 10 mm separation). The siltstones are dark grey, clay rich, medium soft and thinly bedded/brecciated	7/10	Sample no. 98086 taken for petrology. ← 75.6 Bedding (siltstone) 80°. Gradual Change to	weak trace sp, fluorite and sparse dolomite veining.	
77.0 - 80.0 SILTSTONES, thinly bedded Dark grey clay rich siltstones, thinly bedded and weakly sericitic (?). Brecciated - soft sediment deformation and later fracturing/microfaulting. The later fracture planes have coatings of soft green talcose material.	10	77.3 Bedding 40°. 77.4 10 mm dolomite vein, 10°. ← 78.6 200 mm Breccia zone - pure creamy white dolomite veining. 79 - 79.5 50 cm Breccia zone as for 78.6	Dolomite veining with minor qtz, calcite and rare fluorite	2-3%
END OF HOLE 80.0 m.				

5 cm

DRILL ADVANCE | LOST CORE ZONE | CORE LENGTH RECOVERED | % RECOVERY ESTIMATE OR | 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

METALS EXPLORATION LIMITED

MINERAL EXPLORATION DRILL LOG Scale 1:100

Prospect or project: Mt Bischoff.

Logged by: G. BROADBENT date 17/1/80

HOLE No. MBD 15

LOG SHEET 2 OF 2

from 0.0 m. to 80.0 m.

Written up 13/5/80