MBD-26

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

028430

DEPTH	INTERVAL	DEPTH from-to : ROCK UNIT / Depth : Description and notes	MINERALISATION
0	0-3.5 (3.5)	TRICONE TO 3.5 m - NO CORE	
	3.5-10.6 (7.1)	3.5-10.6 DOLOMITE SULPHIDE LODE. Carbonate - qtz with minor talcose alteration and serpentinite	Py, marcasite, minor po trace sp, cp, arseno fluorite. TOTAL 30-40%
20	10.6-30.4 (19.8)	10.6-30.4 SILICIFIED SILTSTONE AND SILTY SHALE 30° Hard, silicified and greenish grey, brecciated and contorted. Thinly bedded with occasional thin intercalations of talc/serpentinite and grey dolomite. Sparse thin quartzite beds near bottom of interval.	Py, sp, po in thin carbonate veinlets up to 3mm. TOTAL: 2-3%. Occasional blebs py, po to 10x6 mm
	30.4-33.4 (3.0)	30.4-35.4 DOLOMITE SULPHIDE LODE 40°	po >> py, fluorite, trace sp, ga TOTAL 40-50%
40	33.4-45.9 (12.5)	33.4-45.9 SILICIFIED SERICITIC SILTSTONE AND SILTY SHALE 35° As for 10.6-30.4, but dolomite/DSL intercalations and quartzites scarce to absent. 60°	po >> py, blebs to 40x10mm, dissem. Carbonate - fluorite - po - fg - qtz veinlets } 3-5%
	45.9-47.0 (1.1)	45.9-47.0 DOLOMITE SULPHIDE LODE	Py, fluorite trace po, sp 15-20%
60	47.0-80.4 (33.4)	47.0-80.4 SILICIFIED SERICITIC SILTSTONE AND SILTY SHALE. As for 33.4-45.9. Finely fractured - yellow clay filled anastomosing fine fractures every few cm. 65.0 → 80.4 Decreased proportion of shaley beds - more massive hard greenish grey siltstones. Gradual Change	Py, po, dissem. and as blebs, some minor carbonate - fluorite - qtz - py veining 1-2%
80	80.4-120.4 (40.0)	80.4-86.8 MASSIVE SILSTONES AND QUARTZITES Hard silicified quartzose sandstones and siltstones, grey to bluish grey. 86.8-106.6 GREY SILTSTONES, SILTY SHALES AND QUARTZITES. Medium grey quartzose and clay rich siltstones, shales faintly greenish with bluish grey quartzite bands to 0.5m. Brecciated - some thinly bedded with minor disruption. 106.6-120.4 Some siltstone beds are a pinkish brown (tourmalinised?) interbedded with soft greenish siltstones. Some thin dark grey shale laminae near base of interval. Gradual Change	po > py, dissem in more qtzose siltstone and sandstone beds. Some py - qtz - fluorite - carbonate VEINING TOTAL 3-5%.
120	120.4-146.6 (26.2)	120.4-146.6 MASSIVE QUARTZOSE SANDSTONES AND SILTSTONES Very hard, pale grey and silicified fine grained quartzite with some thinly bedded siltstone or massive brecciated quartzose siltstone with quartzite bands to 0.75m. Gradual Change	py, po, dissem and in thin stringers } 1-2% Some weak qtz - py - carbonate veining
140	146.6-160.0 (13.4)	146.6-160.0 INTERBEDDED SILTY SHALES, SILTSTONES and minor PYRITIC BLACK SHALES. Medium grey silty shales, with thin pyritic black shale laminae separated by lighter grey siltstones. Well bedded. Gradual Change	py, as thin bedded laminae, dissem in siltstones and thin veinlets and stringers 3-5%
160	160.0-178.8 (18.8)	160.0-178.8 SILTSTONES, SILTY SHALES AND QUARTZITES. As for 86.8-106.6.	py > po thin bedded laminae, veinlets and stringers with qtz - carbonate, fluorite - sp - ga Some blebs po to 30x10mm. TOTAL 5%. 176.6-178.8 py, po, dissem, veinlets 15%
180	178.8-196.18 (17.38)	178.8-196.2 QUARTZ FELSPAR PORPHYRY 75° White f.gr. matrix near margins, faintly greyish in centre Phenocrysts: qtz - rounded grains to 2mm, 10-15% Felspar - creamy white with some weak brownish alteration 7%, variable 2-10%.	py, po, irregular grains and f.gr aggregates 15-20%. Trace sp, weak trace cassiterite, fluorite, tourmaline.
200	196.2-208.1 (11.9)	196.2-208.1 INTERBEDDED SILTY SHALES, QUARTZOSE SILTSTONES and minor BLACK SHALES WITH PYRITE. As for 146.6-160.0	py, trace po near contact, thinly bedded, dissem. and thin stringers 3-5%.
		END OF HOLE 208.1 m.	
220			

5 cm

AFTER TYPING THIS SIZED FORM 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 (when reduced to A4)

Prepared by: G. BROADBENT
Date: 5.3.80

HOLE No. MBD 26
Sheet of

AMPLE 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								
97364		4.5	6.5	2.0	120									
65		6.5	8.5	"	20									
66		8.5	10.5	"	660									
67		10.5	12.5	"	220									
68		12.5	14.5	"	160									
69		16.6	17.0	0.4	600									
70		28.6	30.6	2.0	1200									
71		30.6	31.6	1.0	1600									
72		31.6	33.5	1.9	1100									
73		33.5	35.5	2.0	370									
74		45.8	47.1	1.3	240									
97375		176.8	178.8	2.0	5800									
76		178.8	180.8	"	1950		400	20	85	1	35	820		
77		180.8	182.8	"	2150		450	15	100	<1	65	760		
78		182.8	184.8	"	980		400	24	74	1	60	3100		
79		184.8	186.8	"	440		480	28	34	1	25	2600		
380		186.8	188.8	"	1450		510	30	32	2	110	3450	900	Re check of whole assays.
81		188.8	190.8	"	2500		470	26	28	1	35	2750		
82		190.8	192.8	"	1850		530	34	32	1	350	3500		
83		192.8	194.8	"	4200		430	110	32	2	250	1200		
84		194.8	196.2	1.4	720		420	55	36	2	40	1900		
85		196.2	198.2	2.0	85									
SLUDGE														
97729		0.0	1.5	1.5	720									

Notes:— Sn by XRF Bi Method.

METALS EXPLORATION LTD - MT BISCHOFF TIN PROSPECT

ASSAY SUMMARY SHEET. HOLE NO. MBD 26

SAMPLE TYPE : DRILL CORE FROM 4.5 TO 198.2

0284

REPORT No. 028432

METALS EXPLORATION LTD.
& SUBSIDIARY COMPANIES

MINERAL EXPLORATION
DIAMOND DRILL LOG

MBD-26

Prospect, area, project or mine: MOUNT BISCHOFF

HOLE No. MBD26

COLLAR LOCATION

Grid name	Rectangular space co-ordinates PLANAR CO-ORDINATES		ELEVATION
(1) MBJV	1983.14 N	922.53 E	655.55m.
(2)	N	E	
(3) Aust. Map Grid PRECISE / APPROX.	mE	mN	m A.H.D.

1:250 000 Sheet No. BURNIE SK55-3 | 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
- 180° grid (1)
- ____ grid (2)
- ____ grid (3)
- ____ true

Inclination at collar: 60°

Total length: 208.1m

Commenced: 4 / 2 / 80

Completed: 10 / 2 / 80

Drilling contractor: LONGYEAR AUST PTY LTD

Rig type: LONGYEAR 38

Core size and non-coring (NC)

TRIONE	0	TO 3.5m.
NQ	3.5	TO 60.0
BQ	60.0	TO 208.1
		TO
		TO
		TO

Details of down hole location-survey methods.

TROPARI every 40m. Readings at 162m and 201m were taken inside barrel - piece of core had jammed in bit.

Purpose of drilling and anticipated lengths to targets.

To investigate any possible westwards extension of the main dolomite horizon, and to determine the extent of mineralisation in White Face porphyry dyke. 71-99m. Planned depth of hole 110m.

Results of down hole location-survey.

LENGTH FROM COLLAR	W.C. BEARING type MAGNETIC (degrees)	DIP
39.0	146°	58°
80.0	156°	58°
121.0	157°	61°
162.0	153°30'	63°
201.0	110°	64°

Comments on drilling. NQ casing lost - originally 51.0m, cut measured - split 30m + 30m-51m still in hole.

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
FROM 0 TO 208.1m	FROM ____ TO ____	FROM ____ TO ____
DATE 14.2.80	DATE	DATE

Company managing exploration programme.

METALS EXPLORATION LTD

HOLE No. MBD 26

Log sheet 1 of 3

TRICONE TO 33.2 - NO CORE

35-10-58 DOLOMITE SULPHIDE LODE

12-9-8 Very broken + leaky core. Vugs + cavities + fragments of recrystallised dolomite and badly broken recrystallised carbonaceous shale.
8-8-10-58 Recrystallised carbonaceous and gritty seams in a somewhat homogeneous weakly banded (grey + white) dolomite. Dolomite is coarsely recrystallised dolomite. Tube recovers as small irregularly polished bits + sand; some carbonates are soft, (pale greenish cream) due to hydrolytic alteration.
Mild fracturing + veinlets, with some brown Fe oxides deposited on fracture planes.

Some minor inclusions of black + cream laminated silt stones

10-58-30-12 SILTSTONES AND SHALES

Hard, weakly silicified greenish grey siltstones and thin shale beds. The more clay rich beds are almost black + fissile. Mostly weakly recrystallised with minor carbonates and fine pyrite (sometimes) Near the upper contact there are some small pockets of impure black shaly coal which is recrystallised. Siltstone typically unevenly laminated, beds decrease in size and abundance near 283 m.
Some small slickensided ? or deformation ? pale grey fine grained material up to 50 x 60 mm occur throughout generally ⊥ 30° LCA.

214-227.2 minor thinly grey speckled and fine grained. Silicified quartzose siltstones.

227.2-230.42 Altered dolomitic to 30 cm interbedded with siltstones and shales. Mostly recrystallised, some minor veining and replacement dolomites

230.42-234 DOLOMITE SULPHIDE LODE

Mottled brownish white + pale and carbonaceous. Recrystallised white dolomite with minor limonite and sulphides (mostly pyrite) (10-15%) as disseminated irregularly shaped brownish grey to black. Fe dolomite as blebs and grains locally massive

234-263.51 SILTSTONES AND SILTY SHALES

Hard + silicified with greenish grey + laminated and brecciated. See 10-58-31 m above, interbedded dolomitic material similar to above.

263.51-267.05 DOLOMITE SULPHIDE LODE

Cream + brown dense dolomite variously recrystallised and impregnated by minor granular irregularly shaped carbonates and greenish grey minerals with pale fine pyrite.

267.05-280.4 SILTSTONES MINOR SILTY SHALES

267.05 As for 234-263.51, shales gradually decrease 80-85 m. Much fractured + two contrasting textures both with yellow clay permeating the rock, 30° to CA.

280.4-285.6 SILTSTONES AND SILTY SHALES

Hard + silicified with greenish grey + laminated and brecciated. See 10-58-31 m above, interbedded dolomitic material similar to above.

65-80% Shales decrease gradually - thinly bedded, siltstones finely greenish grey silty shales

770-800 patches of brownish alteration in siltstones, spruce sandy beds.

800-861.5 SILTSTONES AND QUARTZITES

50% rock thinly and horizontally grey quartzites and finely greenish quartzose and clay rich siltstones. Quartzites in beds to 0.75 m with thinly interbedded siltstones to 1 m.
Strongly + well ordered deformation and weekly fractured.

861.5-1086 SILTSTONES AND SILTY SHALES

Medium grey siltstones thinly interbedded with lesser finely greenish grey silty siltstones + 2 cm rock.
Relatively unaltered + clasts of hard black grey pyrite siltstone in indistinct finely greenish grey siltstone matrix + interbedding with less disrupted (bedding not recognisable) siltstones + shales.
Shales + beds laminated to 1-2 cm.
Some more hard black grey quartzose beds to 20 cm, horizontal.
Fairly fractured - thin clay filled fractures ⊥ 30° LCA.

1086-1120.37 SILTSTONES AND QUARTZITES minor clayey sections

1086-1120.37 Very hard pinkish brown (porcellanitic?) siltstones interbedded 1-2 cm with pale green siltstone + clay rich siltstones and some thin shale laminae. The quartzites occur as massive beds to 30 cm very hard + blackish grey.
Quite well bedded + minor disruption, faulting and deformation.

1120.37 As above, but quartzites + siltstones do not have the pinkish brown hue - pale grey and not as hard.

1120.37 Bottom of hole

DEPTH from-to : ROCK UNIT (capital letters, underlined) Depth : Detailed rock description and notes (ruled at about 75 mm)	GRAPHIC LOG (1"=100')	STRUCTURAL AND VEIN INFORMATION (all angles from bottom hole core axis)	MINERALISATION	NOTES

METALS EXPLORATION LIMITED

MINERAL EXPLORATION
DRILL LOG
Scale 1:100

Prospect or project: Mount Bisset
Logged by: C.GREENSHIELDS date 14/1/86

HOLE No. MBD 26
LOG SHEET 2 OF 3
from 0 m to 120.0 m

SEE PREVIOUS PAGE

120.37 – 128.1 QUARTZITE, minor SILTSTONES

Very hard, pale grey quartzite, massive beds 40 cm-1m+ with thin (5-10cm) beds < 10 cm. Some thinly bedded siltstone / mudstone intervals to 1.5 m.

Diagnostic and brecciated, otherwise quite massive and featureless.

Contact Change, Bedding 60°

120-37-128-1 PQ using Body Diamond in quartzite beds.

128.1 – 146.6 MASSIVE SILTSTONES with QUARTZITES

Medium grey siltstone / siltstone with laminae of pale grey extremely hard quartzite to 1 cm thick. Some v. thin silt/clay and grey silty shale beds, not readily identified in the quartzite/siltstone. Bedding is quite well defined with occasional sandy or clay rich beds to 1 cm. Some disruption and later fracturing.

Contact Change

128.1-146.6 PQ3 PQ drilled along bedding and broken laminae and in thin stronger clayey beds/seams. Lower 1.5 m PQ recovered unstable to 3 mm.

128.2 Bedding 25°

132.8 Bedding 45°

136.6 Bedding 60°

139.5 Bedding 30°

141.6 Bedding 25°

142.1 Bedding 20°

146.6 – 160.0 SILTSTONES AND SHALES, INTERBEDDED

Medium grey, clayey silt/siltstone / silty shales to clay shale separated by thin beds of shale and silt/clay with bedded pyrite laminae) and light grey quartzose siltstones up to 1 m. Some quartz sand bands (grey quartzite) 10 cm to 0.5 m.

Very well bedded for laminae up to 3 cm / distinctly fissile and closely spaced fractures to 1 cm.

Minor fracturing at low angles to core, often coinciding with clayey shale / platy clayey bedding, reduces the core to rubble mostly.

Contact Change, Bedding 35°

146.6 – 160.0 PQ3 – no bedded laminae to 1 mm, distinct in clayey siltstone beds, and in quartz fine sandstone and stringers. Base of recovered PQ3 running in small fractures zones.

146.6 Bedding 30°

150.1 Bedding 30°

156.5 Bedding 30°

157.3 Small fold, axis 0°

158.6 Bedding 35°

160.0 – 178.8 SILTSTONES AND SHALES with QUARTZITES

As for 146.6-160.0 with the addition of brownish grey very hard quartzites to about 40% of the interval, up to 1.5 m.

Bedded and indistinctly jointed siltstone are badly broken due to fracturing and coring on low angles here.

Contact Change

160 – 178.8 PQ3 PQ3 on bedded laminae and in variable clayey and stronger silts and quartzites. Fractures < 5° PQ3 cm. Some body breaks PQ on joints. Fair returns mostly as blocks to 20-30 mm

160 Bedding 65°

165.4 Bedding 25°

166.2 30 cm carbonate - pg of thinly - PQ3 pg vein 25°.

169.6 Bedding 70°

171.5 Bedding 65°

173.3 20 mm pg - quartzite - carbonate - pg vein 30°

174.5 Bedding 70°

175.8 – 178.36 Increased brecciation and fracturing/jointing, core is hard and shattered.

176.6-178.86 pg, PQ3 shaken, disrupted and in variable strength with pg carbonate / thinly bedded pg.

178.36 – 191.8 QUARTZ FELDSPAR PORPHYRY

178.36-180.44 White finely crystalline matrix with phenocrysts to 5 mm (<10%) 'felsic' plagioclase and indistinct patches to 15 mm (3%).

180.44-180.3 Creamy altered very fine grained almost translucent rock with some pale yellow rock patches to 10 cm.

Phenocrysts: Qtz - rounded grains to 5 mm, 10%

Matrix - creamy white irregular fine aggregates, some brownish alteration, 90%

178.86-180.44 PQ3 PQ3 with minimal and 10 mm - 1.5 cm ultra fine dry pieces of sub-parallel veins / joints - mostly healed fractures.

7-10%

180.44-184.3 pg as bedded blocks and grains / to 2 mm, or as thin grained dark grey aggregates - base of unit based PQ.

5-10%

184.3 – 192.4 Pale grey, almost translucent massive - very siliceous

Phenocrysts - Qtz as rounded to sub-rounded grains to 5 mm, 15%

Matrix - fine grained, creamy altered and weakly silicified 75-80%

184.3-192.4 PQ3 PQ3 as irregular grains and fine grained bedded pg, < 2 cm and within base of, rarer and more green unstable. Fracs subparallel 10-15° to CA

15-20%

180.0 20 mm pg - qtz - carbonate - pg vein 15°

181.4 10 mm pg - qtz - carbonate - pg - veinlet 60/15°

192.4 – 196.18 As for 180.44 – 184.3, and qtz 15°/0.

Patches of grey translucent groundmass material as for 184.3-192.4 persist until 194.55 m.

192.4-196.18 As above, with grey base - sericite matrix fluorite / pg throughout to base

5-10%

196.18-196.38 Qtz breccia, green base - sericite matrix fluorite / pg throughout, very broken contact

7-10%

196.18 – 205.1 SILTSTONES AND SHALES

Finely bedded, dark grey siltstone / silty shales and thin black/grey shales with pyritic laminae as for 146.6-160.0m. The upper 2m is hard and relatively unbroken.

196.6 Bedding 15°

197.4 Bedding 20°

200.2 Bedding 70°

201.3 Small fold, axis 85°/240-45°

201.0 Bedding 35°

204.1 Bedding 40°

204.3 Fold, axis 35°, axis 5°

205.0 Bedding 5°

196.18-205.1 PQ3 PQ3 as bedded laminae to 1 mm, distinct in some siltstone beds and in quite thin veinlets with qtz, carbonate.

3-5%

END OF HOLE 205.1 m

5 cm

DEPTH from-to : ROCK UNIT capital letters, underlined
Depth : Detailed rock description and notes
Indented about 15 mm

GRAPHIC LOG PLOTTED

STRUCTURAL AND VEIN INFORMATION
BOTTOM HOLE ANGLE MEASURED TO CORE AXIS AND CORE AXIS

MINERALISATION

NOTES

METALS EXPLORATION LIMITED

MINERAL EXPLORATION
DRILL LOG
Scale 1:100

Prospect or project: Mount Bischoff

Logged by: G.HANCHENT date: 4/2/80

HOLE No. MBD 26
LOG SHEET 3 OF 3
from 120.0 m to 205.1 m

Collar: 0.115°