A B E R F O Y L E M I N E S

O R E R E S E R V E A S S E S M E N T

A S A T

F E B R U A R Y 28, 1979.

INDICATED MINEABLE ORE RESERVES

112,150 TONNES 0.5% Sn 0.4% WO_3

PRODUCTION ENGINEER .....

MANAGER .....

SUMMARY

Mineable ore reserves at 28 February, 1979.

	Tonnes	% Sn	% WO_3	MTU Sn	MTU WO_3
Aberfoyle	85,150	0.6	0.2	51,100	17,000
Storeys Creek	3,750	-	0.95	-	3,600
Lutwyche	23,250	0.3	0.9	7,000	20,900
Total	112,150	0.5	0.4	58,100	41,500

A detailed tabulation of ore reserves at each property, level-by-level, category-by-category, is attached.

Mineralisation through out occurs as cassiterite and wolframite in quartz veins ranging in width from a few cm. up to 2 metres. Both vein width and grade of mineralisation can very widely over short distances along the strike and dip.

Ore reserve tonnages and average grades are those resulting from the aggregation of individual ore reserve blocks, defined for each vein by lateral development and regular intervals along strike.

All tonnages are calculated using a density of 2.65 tonnes/m^3 for both quartz vein and waste dilution.

All grades are derived from visual estimates, along all development openings, of the proportion of mineralisation in the quartz. These estimates are reconciled with actual production grades achieved and after the appropriate factoring, applied to the ore reserve.

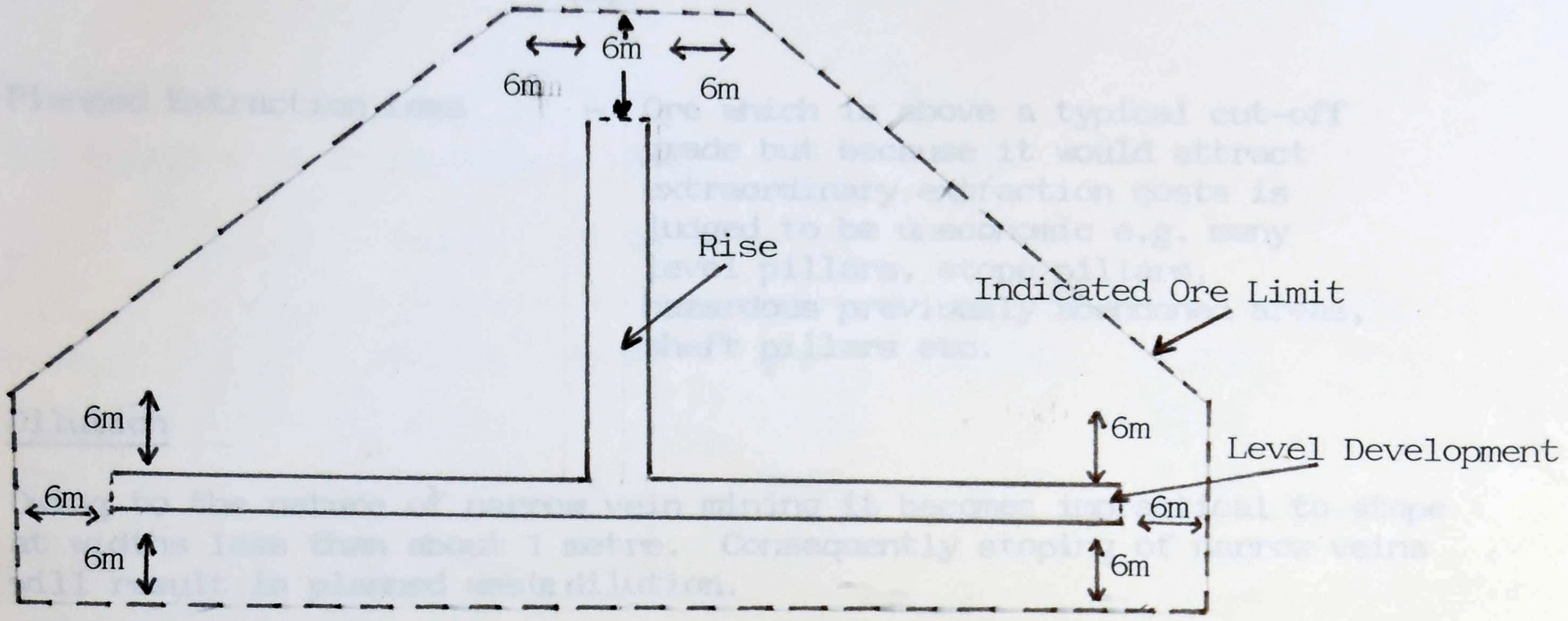
Sampling and assaying cannot be successfully applied to the sporadic (nuggety) mineralisation.

In decreasing order of confidence, reserves are classified as - Measured, Indicated or Inferred.

MEASURED RESERVES - Those whose tonnage and grade can be estimated with a high level of confidence.

Variability of grade and vein width precludes this level of confidence, and hence no reserves are reported to this classification.

INDICATED RESERVES - Those defined at least in part, by development in quartz veining. Quartz tonnages are calculated from observed vein widths and distances along strike and dip exposed by level and rise development. Indicated ore extends to 6 metres beyond such development for blocks developed on one side only (except that no strike or dip extensions are made to blind level or rise development respectively), and as shown in the diagram for blocks developed on two or more sides.



Where circumstances indicate an appropriate level of confidence, data from diamond drill holes, adjacent stoping, crosscutting etc., may be used to extend Indicated ore limits, but only in conjunction with development on at least one side of the block.

INFERRED RESERVES - Those which extend 6 metres beyond Indicated Ore limits unless development information suggests otherwise. Where extensive development and/or diamond drilling information is available, inferred ore may be judged to extend beyond the 6 metre limit.

Indicated Geological Reserve Categories A, B, C, D.

The Indicated geological reserve is divided into a diluted mineable (at a profit) ore reserve (categories A and B) and a non-mineable geological reserve (categories C and D).

Diluted Mineable Ore Reserve - Ore (diluted) above an appropriate cut-off grade which can be mined at a profit.

Category A - Ore which is developed to either the stope development or production stage.

Category B - Ore which requires significant additional pre-production expenditure.

Non-Mineable Geological Reserve (Cats. C & D.)

Sub Ore - Ore which is below typical cut-off grades and which after taking due account of its predicted direct mining costs cannot be mined at a profit.

Planned Extraction Loss - Ore which is above a typical cut-off grade but because it would attract extraordinary extraction costs is judged to be uneconomic e.g. many level pillars, stope pillars, hazardous previously abandoned areas, shaft pillars etc.

Dilution

Owing to the nature of narrow vein mining it becomes impractical to stope at widths less than about 1 metre. Consequently stoping of narrow veins will result in planned waste dilution.

Planned dilution for Aberfoyle mine and the Lutwyche project is estimated as the difference between the average vein width and a 1.2 metre stoping width. No account is taken of waste sorting from the ore stream.

At Storeys Creek where vein widths more nearly approximate the stoping width an historical dilution estimate can be made from production records of vein and stope width, and this estimate is considered to be more accurate than that for Aberfoyle mine. For vein widths in excess of 1.2 metres no dilution is assumed.

Cut-Off Grades

The typical cut-off grade is that grade at which the value of production is equal to the cost of production.

The mine costs, mill recoveries, and metal prices as follows were used as the basis for determining cut-off grades:

Total production cost per tonne ore milled $80

Mill recoveries Sn 80%
WO_3 80%

Metal prices Sn $117/M.T.U.
WO_3 $124/M.T.U.

Waste sorted from ore stream- 7% of ore hoisted, equivalent to a 7% upgrading in head grade.

Thus, the cut-off grade for Sn only becomes

$$\frac{80}{117 \times 0.80 \times 1.07} = 0.80 \text{ Sn}$$

Ore	Cut-Off Grade
Sn	0.80
$Sn:WO_3 = 5:1$	0.79
$Sn:WO_3 = 2:1$	0.78
WO_3	0.75

For fully developed ore, only requiring extraction, the cut-off grade for that particular block of ore may be lowered to reflect the lesser direct production costs. This has been done for selected blocks at both the Aberfoyle and Storeys Creek mines.

Reconciliation

a) Ore reserves at 30 September, 1978.

	Tonnes	% Sn	% WO_3	MTU Sn	MTU WO_3
Aberfoyle	90,150	0.6	0.2	54,100	18,000
Storeys Creek	6,750	-	0.75	-	5,060
Lutwyche	17,900	0.2	0.7	3,600	12,500
Total	114,800	0.5	0.3	57,700	35,560

b) Ore reserves at 28 February, 1979.

Aberfoyle	85,150	0.6	0.2	51,100	17,000
Storeys Creek	3,750	-	0.95	-	3,600
Lutwyche	23,250	0.3	0.9	7,000	20,900
Total	112,150	0.5	0.4	58,100	41,500

c) Mined from reserves 30th September,1978 to 28 February, 1979.

Aberfoyle	7,880				
Storeys Creek	5,900	not measured			
Lutwyche	2,450				
Total	16,230	0.38	0.48	6,200	7,800
Net difference (a-b+c)	+18,880	0.40	0.10	5,800	1,860

Of this difference, 17,580 tonnes is accounted for as a net increase in ore reserves, brought about by development on the level and as rises into and beyond indicated category A and B blocks. The increases represent upgrading of E and C category blocks to A and B, and discovery of new reserves beyond E blocks.

Complete reconciliation is difficult, because underground ore sorting is not taken into account. Some 1,200 tonnes of mullock was sorted from ore and hauled as waste during the period 30 September, 1978 to February 28, 1979.

Reduction of reserves at Aberfoyle and Storeys Creek resulted from depletion of known reserves by production.

The increase in Lutwyche reserves is due to development on Footwall and Battery Veins. A 3 metre high horizontal pillar above the level has been declared a non-recoverable reserve for all Lutwyche veins.

All shaft pillars at Storeys Creek are now included as planned extraction loss as the Tasmanian Department of Mines has requested that the Storeys Creek shaft be left in a stable condition when the mine closes.

Ore Potential

It is significant that 23,250 tonnes of ore from Lutwyche is now included in reserves. Exploration development above 13 L is in progress. Diamond drilling is in progress above and below 13 L to improve definition on all main veins. Once additional ventilation is installed, exploration activity will be increased.

Exploration at Storeys Creek is almost complete with all known target areas having been investigated. The potential for additional ore reserves is low.

ABERFOYLE TIN LTD. - ABERFOYLE

DILUTED MINEABLE ORE RESERVE STATEMENT. — 28TH FEBRUARY, 1979

LEVELS	INDICATED GEOLOGICAL RESERVES (CATEGORIES A.B.C.D.)			INFERED GEOLOGICAL RESERVES (CATEGORY "E")		NON MINEABLE GEOLOGICAL INDICATED RESERVES (QUARTZ TONNES)			UNDILUTED MINEABLE INDICATED RESERVE			PLANNED WASTE DILUTION	INDICATED MINEABLE		DILUTED RESERVES	
	QUARTZ TONNES	QUARTZ. GRADE SN	WO3	ORE TONNES	ORE GRADE.	SUB. ORE	PLANNED Loss EXTR.	SUB TOTAL	QUARTZ TONNES	QUATZ GRADE SN	WO3	TONNES	ORE TONNES		ORE GRADE SN	WO3.
1	3230	2.4 +	0.6	2250	0.5	1520	550	2070	1160	2.5	1.0	3640	4800		0.6	0.2
2	5900	2.4 +	0.7	4350	0.7	1290	300	1590	4310	2.4	0.9	15040	19350		0.5	0.2
3	3270	2.8 +	0.8	4750	0.7	1110	350	1460	1810	3.1	1.2	7840	9650		0.6	0.2
4	6320	3.2 +	0.7	1100	1.0	1190	1390	2580	3740	3.4	1.1	15360	19100		0.7	0.2
5	8740	2.3	0.5	7700	0.6	5200	1250	6450	2290	2.5	0.6	7460	9750		0.6	0.1
6	7310	2.4	0.9	14000	0.5	3410	790	4200	3110	2.4	1.4	10790	13900		0.5	0.3
7	6670	1.9	0.5	1150	0.4	3080	3590	6670	-	-	-	-	-		-	-
8	8350	1.5	0.9	6400	0.6	5210	3030	8240	110	2.4	1.2	540	650		0.4	0.2
9	5800	1.4	0.9	6000	0.7	1010	3910	4920	880	1.6	1.5	2070	2950		0.5	0.4
10	1480	1.6	1.1	300	0.7	60	70	130	1350	1.5	1.1	3650	5000		0.4	0.3
11	600	1.1	0.8	-	-	110	490	600	-	-	-	-	-		-	-
12	1150	2.0	0.6	-	-	-	1150	1150	-	-	-	-	-		-	-
TOTAL	58820	2.2	0.7	48000	0.6	23190	16870	40060	18760	2.6	1.1	66390	85150		0.6	0.2

INDICATED GEOLOGICAL RESERVE (QUARTZ) — NON MINEABLE RESERVE (QTZ) = UNDILUTED MINEABLE RESERVE (QTZ) + DILUTION = INDICATED DILUTED MINEABLE RES.

58820 - 40060 = 18760 + 66390 = 85150

ABERFOYLE TIN LTD. - LUTWYCHE

DILUTED MINEABLE ORE RESERVE STATEMENT. — 28TH FEBRUARY, 1979

LEVELS	INDICATED GEOLOGICAL RESERVES (CATEGORIES A.B.C.D.)		INFERED GEOLOGICAL RESERVES (CATEGORY "E")		NON MINEABLE GEOLOGICAL INDICATED RESERVES (QUARTZ TONNES)			UNDILUTED MINEABLE INDICATED RESERVE		PLANNED WASTE DILUTION	INDICATED MINEABLE DILUTED RESERVES	
	QUARTZ TONNES	QUARTZ. GRADE SN WO3	ORE TONNES	ORE GRADE.	SUB. ORE	LOSS PLANNED EXTR.	SUB TOTAL	QUARTZTONNES	QUATZ GRADE SN WO3	TONNES	ORE TONNES	ORE GRADE SN WO3.
13	6210	1.0 2.9	4650	1.2	-	900	900	5310	1.0 2.9	11640	16950	0.3 0.9
14	1990	1.1 2.9	6300	1.2	-	-	-	1990	1.1 2.9	4310	6300	0.3 0.9
TOTAL	8200	1.0 2.9	10950	1.2	-	900	900	7300	1.0 2.9	15950	23250	0.3 0.9

INDICATED GEOLOGICAL RESERVE (QUARTZ) — NON MINEABLE RESERVE (QTZ) = UNDILUTED MINEABLE RESERVE (QTZ) + DILUTION = INDICATED DILUTED MINEABLE RES.

8200 - 900 = 7300 + 15950 = 23250

ABERFOYLE TIN LTD. - STOREYS CREEK

DILUTED MINEABLE ORE RESERVE STATEMENT. — 28TH FEBRUARY, 1979

LEVELS	INDICATED GEOLOGICAL RESERVES (CATEGORIES A.B.C.D.)		INFERED GEOLOGICAL RESERVES (CATEGORY "E")		NON MINEABLE GEOLOGICAL INDICATED RESERVES (QUARTZ TONNES)			UNDILUTED MINEABLE INDICATED RESERVE		PLANNED WASTE DILUTION	INDICATED MINEABLE DILUTED RESERVES	
	QUARTZ TONNES	QUARTZ GRADE SN WO3	ORE TONNES	ORE GRADE.	SUB. ORE	PLANNED LOSS EXTR.	SUB TOTAL	QUARTZTONNES	QUATZ GRADE SN WO3	TONNES	ORE TONNES	ORE GRADE SN WO3.
1	1400	0.2 0.4	Nil	-	Nil	1400	1400	-	- -	-	-	- -
2	10750	0.1 0.5	350	-	800	9750	10550	200	- 1.3	50	250	- 1.0
3	6400	0.2 0.5	450	-	250	6150	6400	-	- -	-	-	- -
4	3150	0.1 0.4	Nil	-	Nil	3150	3150	-	- -	-	-	- -
5	-	- -	-	-	-	-	-	-	- -	-	-	- -
6	4900	- 0.5	650	-	500	4400	4900	-	- -	-	-	- -
7	6200	- 0.5	600	-	2100	3800	5900	300	- 1.2	100	400	- 0.9
8	10900	- 0.5	1750	-	1650	9000	10650	250	- 1.4	100	350	- 1.0
9	9750	- 0.6	800	-	2050	7050	9100	650	- 1.2	250	900	- 0.9
10												
11	11200	- 0.6	4150	-	5300	5000	10300	900	- 1.4	350	1250	- 1.0
12	10750	- 0.6	4250	-	10150	Nil	10150	600	- 1.0	Nil	600	- 1.0
ADITS	3650	0.1 0.5	250	-	Nil	3650	3650	-	- -	-	-	- -
TOTAL	79050	0.04 0.53	13250	-	22800	53350	76150	2900	- 1.24	850	3750	- 0.96

INDICATED GEOLOGICAL RESERVE (QUARTZ) — NON MINEABLE RESERVE (QTZ) = UNDILUTED MINEABLE RESERVE (QTZ) + DILUTION = INDICATED DILUTED MINEABLE RES.

79050 - 76150 = 2900 + 850 = 3750