

**BLUESTONE**  
MINES TASMANIA PTY LTD

ACN 108 492 628



Mt Bischoff Resource  
Mining Viability

August 2005

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## Executive Summary

The Mt Bischoff mineral resource is currently estimated at **4,652kt t at 0.59% Sn for 27.6kt tin metal**. Open pit mining of the Mt Bischoff resource is considered viable yielding **742kt @ 1.23% Sn for 9.1kt of tin metal** under the following assumptions:

- The resource is mined in conjunction with the Renison underground operation and is treated as incremental concentrator feed.
- The realised price of tin metal is above A\$10,500/t
- Environmental requirements can be satisfied without extraordinary mitigation costs (environmental issues are currently being studied).
- Approvals can be gained from local and state authorities.

The introduction of a tin fuming process at the Renison site will increase overall metal recovery and enhance viability.

## Introduction

Bluestone acquired control of RL 7/1988 early in 2005 with the intention of developing the tin resources as part of the Company's overall Tasmanian Tin Strategy. The first resources to be examined were the most advanced on the south eastern side of Mt Bischoff.

Pit optimization work, design and costing as well as geotechnical assessment of the pit area have been conducted.

A mining lease application has been lodged.

## Resources

TABLE 1 MT BISCHOFF MINING RESERVES AND IDENTIFIED MINERAL RESOURCE STATEMENT							
As at April 2005							
MINING RESERVES							
CATEGORY	LOW GRADE			ROM GRADE			
	TONNES	GRADE	CONTAINED	TONNES	GRADE	CONTAINED	
	Tonnes	%Sn	Tonnes Sn	Tonnes	%Sn	Tonnes Sn	
Proved Mining Reserves							
Probable Reserves				742,033	1.23	9,133	
<b>Total Proved &amp; Probable Reserves</b>				<b>742,033</b>	<b>1.23</b>	<b>9,133</b>	
IDENTIFIED MINERAL RESOURCES (including Reserves)							
CATEGORY	LOW GRADE (0.2%Sn)			ROM GRADE (>0.5%Sn)			
	TONNES	GRADE	CONTAINED	TONNES	GRADE	CONTAINED	
	Tonnes	%Sn	Tonnes Sn	Tonnes	%Sn	Tonnes Sn	
Measured Resources	445,000	0.39	1736	537,000	0.79	4,242	

<b>Indicated Resources</b>	1,527,000	0.33	5039	1,139,000	1.056	12,073
<b>Inferred Resources</b>	777,000	0.33	2564	227,000	0.86	1,952
<b>Total Identified Mineral Resources</b>	<b>2,749,000</b>	<b>0.34</b>	<b>9,339</b>	<b>1,903,000</b>	<b>0.96</b>	<b>18,267</b>
<b>Total Identified Mineral Resources</b>	<b>4,652,000 tonnes at 0.59 %Sn for 27,606 tonnes tin metal</b>					

### **Geological interpretation**

The geological in was guided by the drilling, the surface open pit lode positions and the underground openings. The geological interpretation used data primarily from diamond drilling and pit and drive mapping. The resource interpretation was plotted onto North – South cross sections. The resource and the surrounding geology were made into a computer solids model that constrained the resource block model. For computer generated solids modelled resources the computer solid was made of the resource interpretation projected halfway to the next cross section. The resource was constrained into domains at 0.2%, 0.5% and 1% Sn lower cut off grades.

### **Mineralisation interpretation**

The original mineralisation strings were snapped to the drill holes, where appropriate, and then projected 10m (½ dist to the neighbouring section) in either direction orthogonal to the section direction to create solids representing the mineralisation. This was carried out on the section by section basis. In addition where close spaced drilling existed on 5m spaced sections a separate set of mineralisation solids was create by projecting the strings 2.5m orthogonally either side of the section.

The greisen mineralisation strings were interpreted on both the 20m and close spaced section sets.

The surface mineralisation strings were modelled on the majority of the 20m spaced sections and solids were made using the same methodology as described in for the major mineralisation strings.

### **Data Density and Reserve / Resource classification –**

**Measured Resource** At Mt Bischoff, a Measured Resource has typically been drilled on a 5 - 20 metre pattern. Mine openings (in the form of cross-cuts, drives and stopes) exist to test drill hole projections and sufficient metallurgical and mineralogical studies have been undertaken to ensure the ore is treatable by existing or planned plant.

**Indicated Resource** At Mt Bischoff, an Indicated Resource has normally been drilled on approximately 20 - 40 metre pattern. In geologically complex areas the drill spacing has been reduced to better define the resource.

**Inferred Resource** For the term Inferred Resource to be used, some measurement and sampling must have been completed but the geology cannot be confidently interpreted. It is not assumed that all or part of an Inferred Resource will be upgraded to Measured or Indicated status. At Mt Bischoff, an Inferred Resource is usually adjacent to either a known resource or reserve but there is insufficient drilling or geological data to allow a higher classification.

**Proved Reserve** At Mt Bischoff, Measured Resource is upgraded to Proved Reserve status when sufficient mining, metallurgical and mineralogical studies have been undertaken to ensure the measured resource is profitable to mine,

with provision for mining loss and dilution, and is treatable by the existing or planned plant.

**Probable Reserve** At Mt Bischoff, Indicated Resource is upgraded to Probable Reserve status when sufficient mining, metallurgical and mineralogical studies have been undertaken to ensure the measured resource, with provision for mining loss and dilution, is profitable to mine and is treatable by the existing or planned plant.

### Topography

Two surfaces were created from the digitised data: -

Topo\_from\_sections – created from the 20m sections

Topo\_surface\_contours – created from plan digitised strings.

These were then amalgamated to produce a more detailed topographical plan.

### Underground workings

The underground workings were digitised off the old underground working plans.

### Open Pit Optimisation

The resource block model was used to generate pit shells with Whittle optimization software. As previous metallurgical testwork indicated that the Bischoff ore was similar in performance to the sulphidic ores through the concentrator the average grade/recovery relationship was used. The following input parameters were applied.

#### Metal Prices

A\$12,000/t Sn

A\$10,000/t Sn

#### Mining Costs (\$/bcm)

##### Excavation

RL

610 & Above

590 - 610

570 - 590

550 - 570

530 - 550

##### Excavate Ore

2.40

2.60

2.80

3.20

3.60

##### Excavate Waste

2.40

2.60

2.80

3.20

3.60

##### Drill & Blast

Above 630

1.90

1.80

Below 630

2.90

2.60

#### Mine Admin

\$1.50 /bcm moved

#### Grade Control (\$/tonne)

\$3/t ore

#### Cartage Costs

\$10/t ore

#### Processing Costs

\$25/t ore

#### Cost of Sales

\$1000/t of contained tin

#### Royalty

5% metal

#### In Situ bulk densities

Ore

as in model

Waste 2.75

**Pit wall average slopes**

RL	angle - degrees
610 & Above	55
590 - 610	45
570 - 590	40
550 - 570	40
530 - 550	40

**Mining Recovery** 95%

**Dilution** 15%

**Metallurgical Recoveries**

Grade Sn %	Met Recovery %	Grade Sn %	Met Recovery %
0.30	40.0	2.20	80.4
0.40	45.0	2.30	80.9
0.50	50.0	2.40	81.5
0.60	57.0	2.50	82.0
0.70	63.0	2.60	82.5
0.80	67.6	2.70	82.9
0.90	68.8	2.80	83.3
1.00	69.9	2.90	83.7
1.10	71.0	3.00	84.0
1.20	72.1	3.10	84.2
1.30	73.1	3.20	84.5
1.40	74.1	3.30	84.7
1.50	75.0	3.40	84.8
1.60	75.9	3.50	85.0
1.70	76.8	3.60	85.0
1.80	77.6	3.70	85.0
1.90	78.3	3.80	85.0
2.00	79.0	3.90	85.0
2.10	79.7	4.00	85.0

Outputs from the optimisations are given in Appendix 1.

A summary of the best pit shells from each tin price is given in the table below.

	Ore processed (includes dilution)			Waste tonnes (millions)	Cost of mining (millions)	Cost of processing (millions)	Revenue from Sn Rec (millions)	Cashflow Not Discounted (millions)
	tonnes	Sn %	Sn Rec %					
A\$ 10,000/t	328,874	1.445	1.116	1.93	4.72	12.60	31.20	13.88
A\$ 12,000/t	723,807	1.252	0.944	7.88	19.38	27.72	71.05	23.95

**Open Pit Design and generation of the Reserves**

A pit was designed around the A\$12,000 shell with a resultant yield of 742kt of ore grading 1.23% Sn for a strip ratio of 12:1.

A plan of the proposed pit and waste dump is given in Appendix 2

A detailed load and haul costing was then conducted by Mining and Civil Australia on the design and the Happy Valley waste dump position.

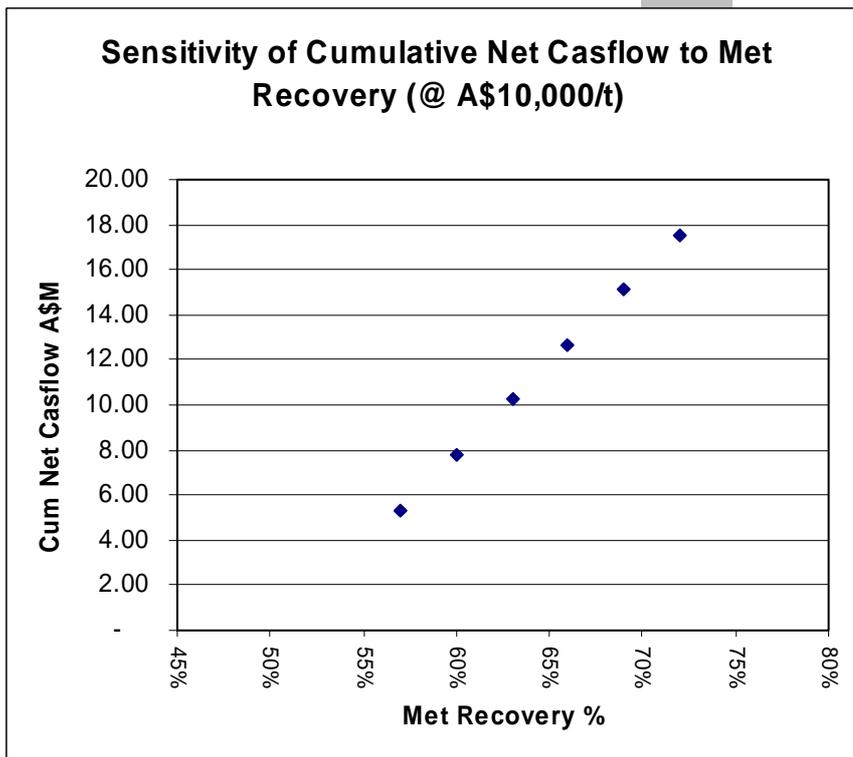
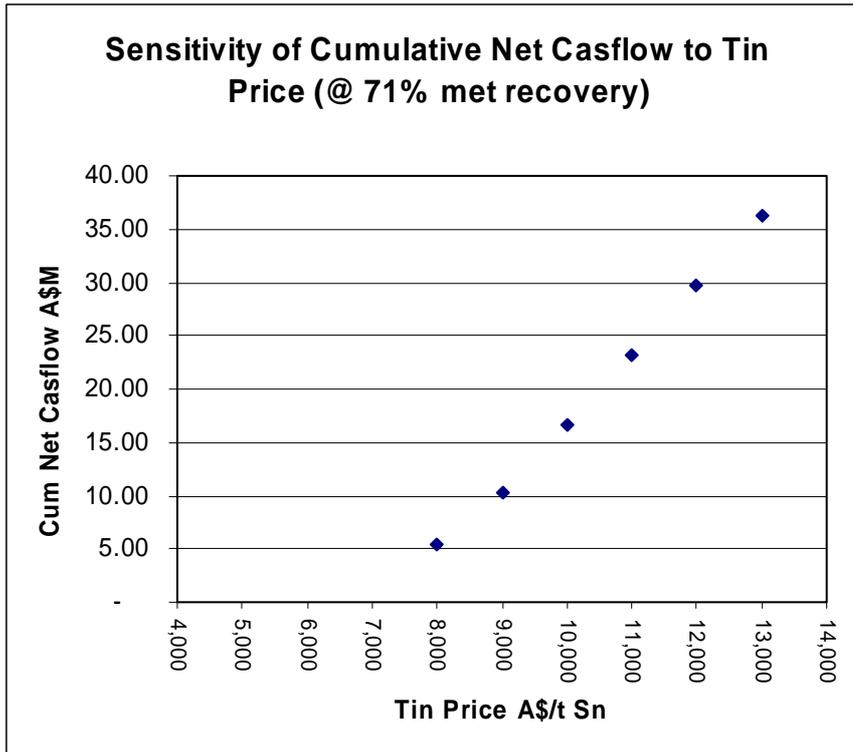
The new load and haul costs as well as some other cost revisions and capital costs were compiled to produce a working financial model. The detail of the model is given in Appendix 3.

A summary of this design is shown in the table below with processing cost applied on the basis that this is an incremental feed to the concentrator with the ore from the existing Renison underground mine.

			Pit Total
Total Mined		m <sup>3</sup>	3,121,250
Waste Mined		m <sup>3</sup>	2,903,556
Ore Mined		m <sup>3</sup>	217,694
			742,033
			1.23%
			9,133
Excavation Cost	Waste	\$	10,864,291
	Ore	\$	878,529
Blast Cost	Waste	\$	5,728,669
	Ore	\$	488,032
Mining Cost Total		\$	17,954,985
		\$/BCM	5.75
		\$/ore t	24.20
Grade Control Costs		\$	1,484,066
		0.48	0.45
		2.00	2.00
Services Costs		\$	2,898,033
		0.93	0.93
		3.91	4.12
Crushing & Cartage Costs		\$	8,904,394
		12.00	12.00
Total Mine Opex		\$	31,246,014
		10.01	9.83
		42.11	43.66
Capex		\$	1,575,000
Processing Cost		\$	8,162,362
		\$/ore t	11
Met rec ave	71%		
Sn Recovered			6,484
Cost Of Sales		\$1,100/tSn	7,132,774
Sn Price (less royalty 5%)		A\$10,000	
Notional Cashflow			16,727,250

### Sensitivities

Plots of Net Cumulative Cashflows to varying tin price and metallurgical recoveries are shown in the figures below.



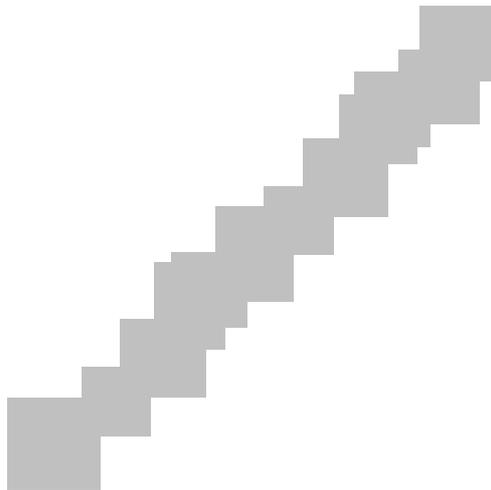
**Geotechnical Risk**

Barry McDowell from Coffey Geoscience visited site and observed current exposed slopes and examined drill core. A copy of his report is given in Appendix 4. No significant issues were raised in the geotechnical assessment and recommended slope angles are overall similar to those used in initial planning.

### **Further Work**

Ongoing work at this point in time is:

- Geochemical analysis and waste rock management plan.
- Environmental approvals,
- Waste dump engineering,
- Detailed site planning for infrastructure, access ramps and drainage.
- Finessing of pit design

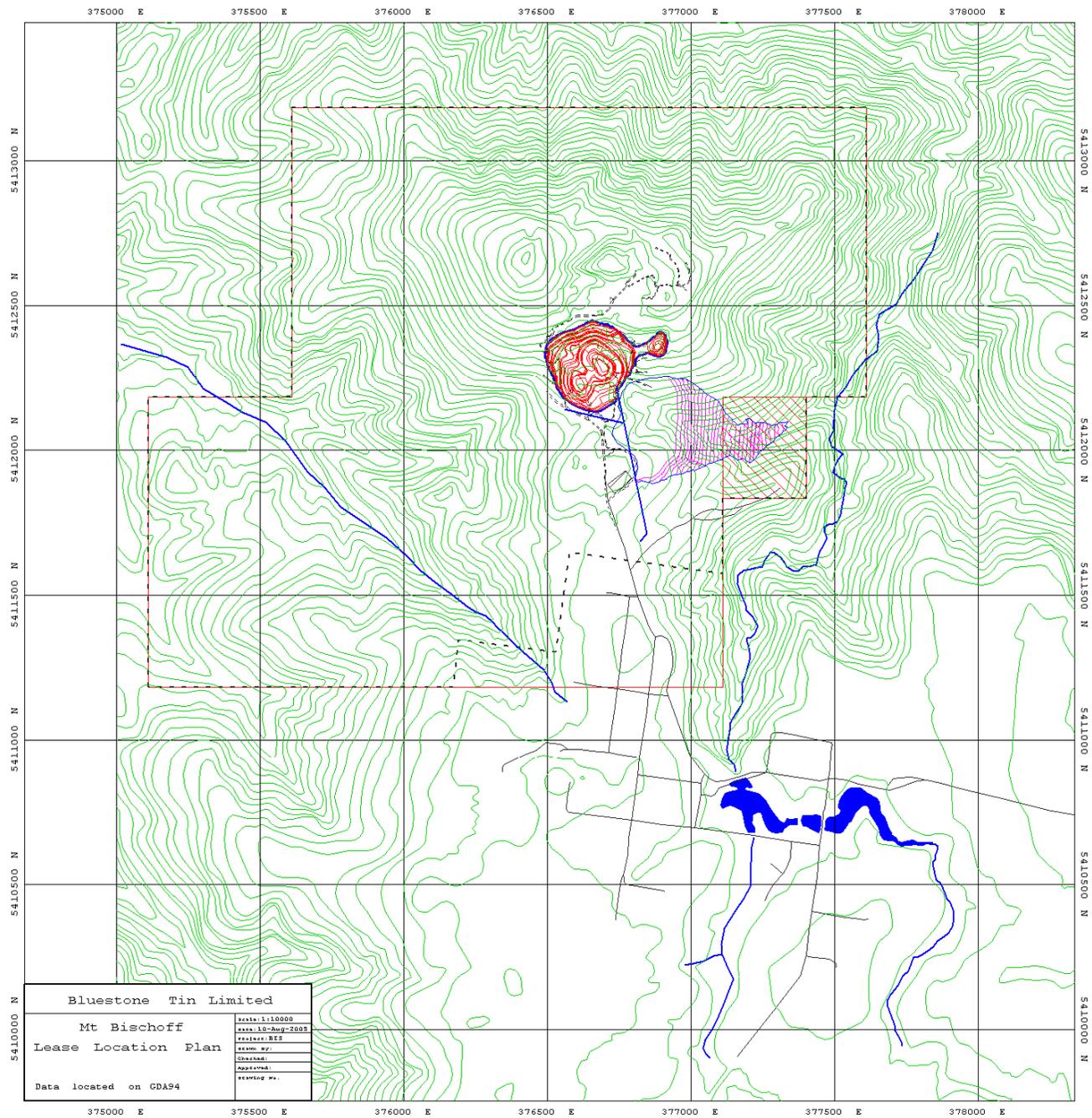


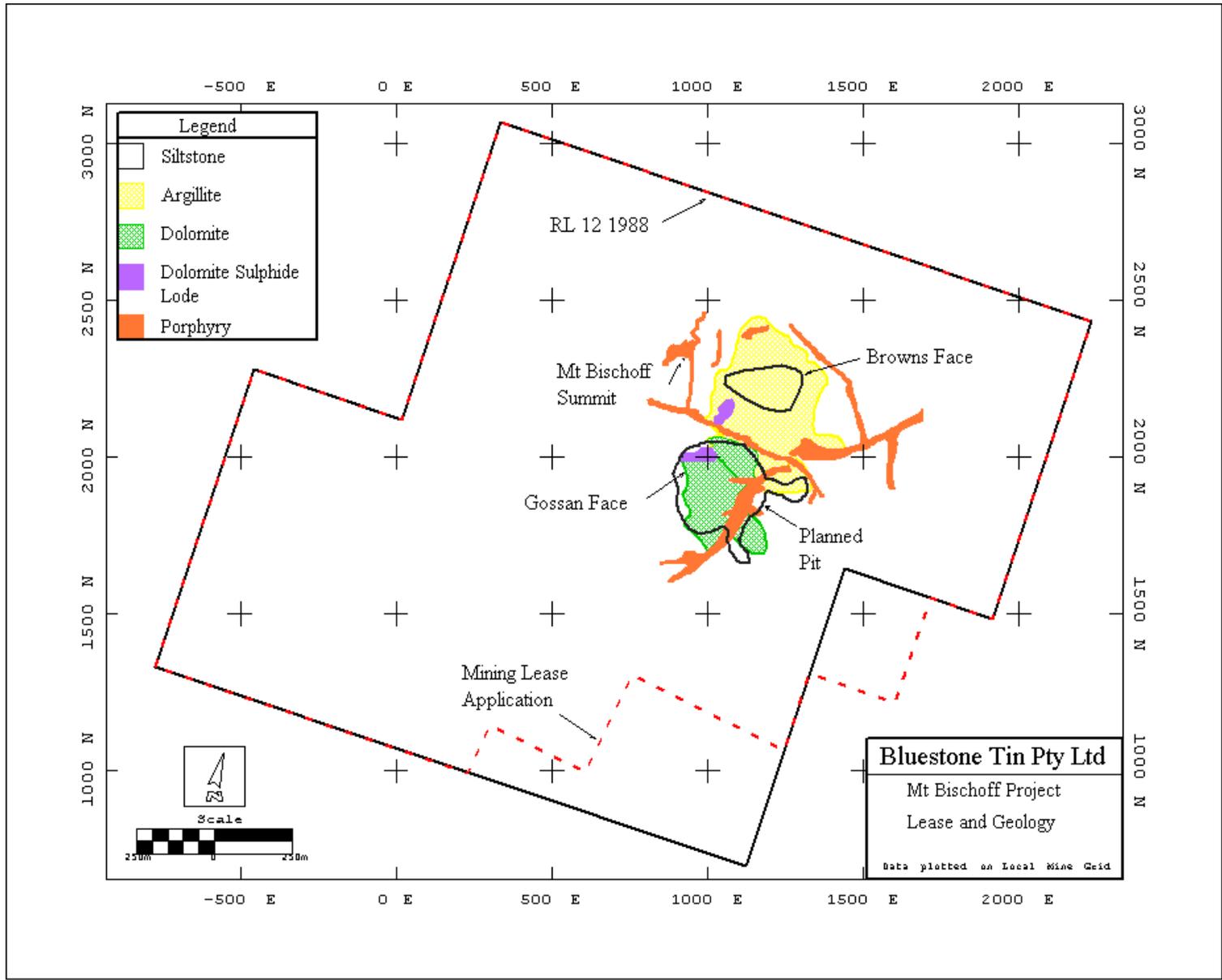
Appendix 1 – Whittle Optimisation Results

Mt Bischoff Project											
Pit Optimisation Results - Run 1 - Tin price \$12,000/t, incl \$10/t cartage costs, measured and indicated only											
Pit shell #	Ore in the ground			Ore processed (includes dilution)			Waste tonnes	Cost of mining	Cost of processing	Revenue from Sn Rec	Cashflow Undiscounted
	tonnes	Sn %	Sn Rec %	tonnes	Sn %	Sn Rec %					
1	54,651	2.293	1.850	56,564	1.994	1.609	150,336	411,772	2,166,392	9,463,905	6,885,741
2	137,265	1.810	1.422	142,069	1.574	1.236	450,340	1,199,714	5,441,258	18,266,875	11,625,903
3	166,563	1.767	1.382	172,392	1.537	1.201	567,675	1,484,327	6,602,620	21,539,366	13,452,419
4	186,691	1.731	1.349	193,225	1.505	1.173	642,506	1,678,245	7,400,525	23,568,075	14,489,306
5	221,298	1.684	1.306	229,043	1.465	1.136	837,172	2,143,594	8,772,362	27,048,407	16,132,451
6	264,858	1.646	1.271	274,128	1.431	1.105	1,122,559	2,848,625	10,499,103	31,496,695	18,148,966
7	281,452	1.624	1.250	291,303	1.412	1.087	1,198,521	3,045,415	11,156,897	32,930,488	18,728,177
8	322,509	1.601	1.230	333,797	1.393	1.069	1,642,669	4,114,485	12,784,421	37,121,085	20,222,179
9	335,356	1.588	1.218	347,094	1.381	1.059	1,743,917	4,362,017	13,293,685	38,227,183	20,571,481
10	346,450	1.572	1.204	358,576	1.367	1.047	1,804,117	4,516,063	13,733,456	39,034,058	20,784,538
11	361,294	1.546	1.181	373,939	1.344	1.027	1,838,718	4,617,148	14,321,879	39,921,674	20,982,646
12	467,937	1.556	1.190	484,315	1.353	1.035	4,336,350	10,668,254	18,549,245	52,107,691	22,890,192
13	497,672	1.521	1.159	515,090	1.322	1.008	4,526,011	11,140,287	19,727,956	53,978,854	23,110,611
14	680,059	1.447	1.092	703,861	1.258	0.949	7,545,357	18,609,484	26,957,868	69,489,060	23,921,708
15	699,331	1.440	1.086	723,807	1.252	0.944	7,875,380	19,383,802	27,721,820	71,052,051	23,946,429
16	705,206	1.438	1.084	729,888	1.250	0.942	7,981,569	19,644,011	27,954,711	71,536,503	23,937,781
17	709,915	1.437	1.083	734,762	1.249	0.941	8,085,223	19,882,490	28,141,394	71,931,442	23,907,559
18	713,225	1.436	1.082	738,188	1.249	0.941	8,177,149	20,098,345	28,272,581	72,231,857	23,860,931
19	720,853	1.436	1.082	746,083	1.249	0.941	8,444,647	20,732,345	28,574,969	73,024,529	23,717,214
20	722,344	1.436	1.082	747,626	1.249	0.941	8,488,326	20,834,924	28,634,061	73,140,775	23,671,791
21	724,587	1.436	1.082	749,948	1.249	0.941	8,593,045	21,084,810	28,723,006	73,393,501	23,585,684
22	725,669	1.436	1.082	751,067	1.249	0.941	8,634,858	21,181,085	28,765,870	73,487,175	23,540,220
23	725,841	1.436	1.082	751,245	1.249	0.941	8,646,537	21,205,733	28,772,683	73,500,759	23,522,343
24	731,428	1.437	1.083	757,028	1.249	0.941	8,938,811	21,906,738	28,994,180	74,119,604	23,218,686
25	752,704	1.433	1.079	779,048	1.246	0.939	9,762,772	23,929,060	29,837,549	76,041,544	22,274,936

Mt Bischoff Project												
Pit Optimisation Results - Run 2 - Tin price \$10,000/t, incl \$10/t cartage costs, measured and indicated only												
Pit shell #	Ore in the ground			Ore processed (includes dilution)			Waste tonnes	Cost of mining	Cost of processing	Revenue from Sn Rec	Cashflow Undiscounted	
	tonnes	Sn %	Sn Rec %	tonnes	Sn %	Sn Rec %						
1	13,019	3.604	3.020	13,475	3.134	2.626	37,015	103,064	516,080	3,007,909	2,388,766	
2	49,051	2.414	1.958	50,768	2.099	1.703	148,865	397,341	1,944,402	7,348,194	5,006,451	
3	53,754	2.382	1.929	55,635	2.072	1.678	165,351	439,854	2,130,839	7,933,728	5,363,036	
4	108,949	2.107	1.687	112,762	1.832	1.467	490,071	1,220,613	4,318,791	14,058,476	8,519,072	
5	135,568	2.008	1.596	140,313	1.746	1.388	605,276	1,495,845	5,373,988	16,554,166	9,684,333	
6	152,553	1.951	1.545	157,892	1.697	1.344	677,541	1,677,675	6,047,270	18,031,552	10,306,608	
7	180,819	1.892	1.491	187,148	1.645	1.296	877,613	2,140,864	7,167,756	20,622,156	11,313,536	
8	208,160	1.855	1.457	215,446	1.613	1.267	1,118,304	2,720,074	8,251,568	23,204,358	12,232,715	
9	229,023	1.806	1.412	237,039	1.571	1.228	1,202,028	2,935,872	9,078,579	24,745,320	12,730,868	
10	242,020	1.779	1.388	250,491	1.547	1.207	1,277,253	3,125,204	9,593,790	25,699,703	12,980,709	
11	274,711	1.751	1.363	284,326	1.523	1.185	1,695,301	4,120,916	10,889,689	28,635,943	13,625,338	
12	284,961	1.737	1.350	294,935	1.510	1.174	1,795,411	4,360,913	11,296,010	29,421,665	13,764,742	
13	292,452	1.720	1.335	302,688	1.496	1.161	1,831,977	4,453,622	11,592,949	29,863,321	13,816,750	
14	303,546	1.694	1.312	314,170	1.473	1.141	1,877,666	4,576,074	12,032,716	30,471,914	13,863,123	
15	317,753	1.662	1.283	328,874	1.445	1.116	1,934,122	4,721,272	12,595,867	31,196,786	13,879,647	
16	408,011	1.676	1.297	422,291	1.458	1.128	4,428,611	10,731,517	16,173,745	40,488,693	13,583,431	
17	425,336	1.652	1.276	440,223	1.436	1.109	4,600,857	11,140,246	16,860,529	41,502,147	13,501,372	
18	430,789	1.644	1.268	445,867	1.429	1.103	4,652,776	11,263,485	17,076,696	41,800,744	13,460,563	
19	590,313	1.560	1.192	610,974	1.356	1.037	7,808,757	18,979,884	23,400,314	53,840,633	11,460,435	
20	600,545	1.557	1.190	621,564	1.354	1.035	8,059,162	19,574,869	23,805,889	54,653,498	11,272,741	
21	601,957	1.557	1.189	623,026	1.353	1.034	8,090,933	19,649,186	23,861,881	54,754,107	11,243,040	
22	605,932	1.555	1.188	627,140	1.352	1.033	8,199,392	19,896,149	24,019,453	55,055,992	11,140,390	
23	607,910	1.555	1.188	629,187	1.352	1.033	8,283,123	20,091,945	24,097,868	55,243,487	11,053,674	
24	614,698	1.555	1.188	636,212	1.353	1.033	8,551,991	20,727,810	24,366,932	55,861,139	10,766,397	
25	614,739	1.555	1.188	636,254	1.353	1.033	8,558,403	20,739,795	24,368,543	55,862,935	10,754,597	

# Appendix 2 – Feasibility Pit Design





### Appendix 3 – Detail of Pit Schedule and Costings

	LOM Total	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Q3 06	Q4 06	Q1 07	Q2 07	Q3 07	Q4 07	Q1 08	Q2 08								
Total Mined	m <sup>3</sup>	3,121,250	-	-	-	-	-	79,450	119,025	117,699	118,357	119,000	116,575	419,319	423,000	458,950	378,994	389,594	328,238	53,050	-								
Waste Mined	m <sup>3</sup>	2,903,556	-	-	-	-	-	76,357	112,597	110,000	110,857	110,000	102,779	392,785	400,000	432,516	362,418	369,870	297,381	25,997	-								
Ore Mined	m <sup>3</sup>	217,694	-	-	-	-	-	3,093	6,428	7,699	7,500	9,000	13,796	26,534	23,000	26,434	16,576	19,724	30,856	27,053	-								
	t	742,033	-	-	-	-	-	10,785	22,450	26,845	25,998	31,198	47,832	92,001	78,850	90,509	56,353	65,514	99,892	93,805	-								
	%Sn	1.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.83%	1.27%	1.23%	1.13%	1.13%	1.12%	1.11%	1.25%	1.27%	1.38%	1.16%	1.17%	1.48%	0.00%								
	Sn Metal	9,133	-	-	-	-	-	89.10	284.23	329.25	292.78	351.34	534.60	1,023.92	987.55	1,148.50	779.08	758.38	1,164.30	1,389.84	-								
Excavation Cost																													
Waste	\$	10,864,291	-	-	-	-	-	335,594	452,294	416,872	416,740	412,499	384,772	1,458,934	1,399,288	1,593,297	1,357,713	1,387,007	1,135,154	114,130	-								
Ore	\$	878,529	-	-	-	-	-	13,228	25,816	30,870	29,453	35,344	50,788	94,047	80,173	103,072	64,966	78,276	141,704	130,789	-								
Blast Cost																													
Waste	\$	5,728,669	-	-	-	-	-	68,721	101,337	99,000	176,271	198,000	185,001	707,013	720,000	778,529	892,352	961,661	773,191	67,592	-								
Ore	\$	488,032	-	-	-	-	-	2,784	5,785	6,929	14,250	17,100	26,213	50,415	43,700	50,224	45,494	57,200	89,483	78,454	-								
Mining Cost Total	\$	17,959,521	-	-	-	-	-	420,327	585,233	553,671	636,715	662,943	646,775	2,310,408	2,243,161	2,525,123	2,360,525	2,484,144	2,139,533	390,965	-								
	\$/BCM	5.75	-	-	-	-	-	5.29	4.92	4.70	5.38	5.57	5.55	5.51	5.30	5.50	6.23	6.38	6.52	7.37	-								
	\$/ore t	24.20	-	-	-	-	-	38.97	26.07	20.62	24.49	21.25	13.52	25.11	28.45	27.90	41.89	37.92	21.42	4.17	-								
Grade Control Costs	\$	1,484,066	-	-	-	-	-	21,570	44,901	53,690	51,996	62,395	95,664	184,003	157,701	181,018	112,705	131,029	199,784	187,610	-								
	\$/BCM	0.48	-	-	-	-	-	0.27	0.38	0.46	0.44	0.52	0.82	0.44	0.37	0.39	0.30	0.34	0.61	3.54	-								
	\$/ore t	2.00	-	-	-	-	-	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	-								
Services Costs	\$	2,898,033	-	-	-	20,550	20,550	56,933	93,333	93,333	93,333	93,333	93,333	280,000	280,000	280,000	280,000	280,000	280,000	280,000	280,000								
	\$/BCM	0.93	-	-	-	-	-	1.17	0.78	0.79	0.79	0.78	0.80	0.67	0.66	0.61	0.74	0.72	0.85	5.28	-								
	\$/ore t	3.91	-	-	-	-	-	8.65	4.16	3.48	3.59	2.99	1.95	3.04	3.55	3.09	4.97	4.27	2.80	2.98	-								
Cartage Costs	\$	8,904,394	-	-	-	-	-	129,420	269,406	322,142	311,975	374,370	573,985	1,104,017	946,205	1,086,107	676,232	786,173	1,198,705	1,125,657	-								
	\$/ore t	12.00	-	-	-	-	-	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	-								
Total Mine Opex	\$	31,246,014	-	-	-	20,550	20,550	56,933	664,651	992,873	1,022,837	1,094,019	1,193,041	1,409,757	3,878,428	3,627,066	4,072,247	3,429,463	3,681,346	3,818,021	1,984,232	280,000							
	\$/BCM	10.01	-	-	-	-	-	8.37	8.34	8.69	9.24	10.03	12.09	9.25	8.57	8.87	9.05	9.45	11.63	37.40	-								
	\$/ore t	42.11	-	-	-	-	-	61.63	44.23	38.10	42.08	38.24	29.47	42.16	46.00	44.99	60.86	56.19	38.22	21.15	-								
Capex	\$	1,575,000	10,000	10,000	20,000	30,000	30,000	330,000	445,000	200,000	-	-	-	-	-	-	-	-	-	-	-	500,000							
Processing Cost	\$	8,162,362	-	-	-	-	-	118,635	246,955	295,297	285,977	343,173	526,153	1,012,016	867,354	995,598	619,880	720,658	1,098,813	1,031,853	-								
	\$/ore t	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
Met rec	71%																												
Sn Recovered		6,484	-	-	-	-	-	63.26	201.81	233.77	207.88	249.45	379.57	726.98	701.16	815.43	553.15	538.45	826.65	986.79	-								
Cost Of Sales	\$1100/tSn	7,132,774	-	-	-	-	-	69,585	221,987	257,145	228,663	274,395	417,526	799,680	771,273	896,978	608,463	592,292	909,318	1,085,469	-								
Notional Cashflow		16,727,250	-10,000	-10,000	-	20,000	-	50,550	-	50,550	-	386,933	-	665,279	356,246	762,401	470,093	683,894	1,442,257	1,579,693	1,745,879	2,189,526	873,676	390,178	2,440,376	5,766,344	-	780,000	
Sn Price (less royalty 5%)	\$10000																												
Cumulative Notional Cashflow			-10,000	-20,000	-	40,000	-	90,550	-	141,100	-	528,033	-	1,193,312	-	837,066	-	74,665	395,428	1,079,322	2,521,580	4,101,272	5,847,151	8,036,676	8,910,352	9,300,531	11,740,907	17,507,250	16,727,250

## Capex Schedule

	Totals	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Q3 06	Q4 06	Q1 07	Q2 07	Q3 07	Q4 07	Q1 08	Q2 08
Office & Ablutions	50,000							50,000													
PC's and Software	40,000							40,000													
Furniture and Fittings	5,000							5,000													
Contractor Mob/Demob	500,000							200,000	200,000												100,000
Pre Mining Costs (Approvals etc)	130,000	10,000	10,000	20,000	30,000	30,000	30,000														
Rehab	400,000																				400,000
Establishment Cost	450,000						300,000	150,000													
<b>Total Capex</b>		10,000	10,000	20,000	30,000	30,000	330,000	445,000	200,000	-	-	-	-	-	-	-	-	-	-	-	500,000

## Services Cost Schedule

	Month Cost	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Q3 06	Q4 06	Q1 07	Q2 07	Q3 07	Q4 07	Q1 08	Q2 08
<b>Staff</b>																					
Pit Supervisor	18,050				1	1	1	1	1	1	1	1	1	3	3	3	3	3	3	3	3
Geologist	15,883						1	1	1	1	1	1	1	3	3	3	3	3	3	3	3
Surveyor	14,800						1	1	1	1	1	1	1	3	3	3	3	3	3	3	3
Pit Tech	8,300							2	2	2	2	2	2	6	6	6	6	6	6	6	6
<b>Fixed Consumables</b>																					
Survey	1,000						1	1	1	1	1	1	1	3	3	3	3	3	3	3	3
Geology	2,000						1	1	1	1	1	1	1	3	3	3	3	3	3	3	3
General	5,000						1	1	1	1	1	1	1	3	3	3	3	3	3	3	3
Environmental Monitoring	10,000						1	1	1	1	1	1	1	3	3	3	3	3	3	3	3
<b>Vehicles</b>	2,500				1	1	2	4	4	4	4	4	4	12	12	12	12	12	12	12	12
<b>Sub Total Costs</b>		-	-	-	20,550	20,550	56,933	93,333	93,333	93,333	93,333	93,333	93,333	280,000	280,000	280,000	280,000	280,000	280,000	280,000	280,000
<b>Grade Control</b>	\$2.00/t	-	-	-	-	-	-	21,570	44,901	53,690	51,996	62,395	95,664	184,003	157,701	181,018	112,705	131,029	199,784	187,610	-
<b>Crushing &amp; Cartage</b>	\$12.00/t	-	-	-	-	-	-	129,420	269,406	322,142	311,975	374,370	573,985	1,104,017	946,205	1,086,107	676,232	786,173	1,198,705	1,125,657	-

Mining Costs by Bench - \$/bcm

Bench	Waste V	Ore Vol	Ore SG	Ore Grade	Excavate Costs		Blast Costs	
					Waste	Ore	Waste	Ore
690	88	-	0.00	0.00%	4.55	4.70	0.90	0.90
680	2,629	27	3.50	1.14%	4.42	4.77	0.90	0.90
670	42,131	894	3.45	0.89%	4.45	4.46	0.90	0.90
660	31,510	2,171	3.50	0.80%	4.32	4.20	0.90	0.90
650	83,191	2,834	3.50	1.32%	4.10	4.02	0.90	0.90
640	165,263	11,294	3.49	1.23%	3.79	4.01	0.90	0.90
630	279,642	21,433	3.47	1.13%	3.75	3.93	1.80	1.90
620	410,922	35,397	3.47	1.11%	3.71	3.54	1.80	1.90
610	483,770	28,180	3.43	1.25%	3.50	3.49	1.80	1.90
600	411,164	23,830	3.42	1.27%	3.73	4.00	1.80	1.90
590	378,389	17,623	3.40	1.40%	3.75	3.90	2.60	2.90
580	291,481	16,101	3.30	1.10%	3.75	3.98	2.60	2.90
570	208,635	20,402	3.27	1.03%	3.77	4.53	2.60	2.90
560	88,746	10,454	3.18	1.43%	3.94	4.71	2.60	2.90
550	22,664	19,986	3.46	1.52%	4.38	4.72	2.60	2.90
540	3,333	7,067	3.49	1.37%	4.46	5.15	2.60	2.90
	2,903,556	217,694						



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Subject:	MT BISCHOFF PROJECT: RECOMENDED PIT SLOPE DESIGN PARAMETERS		

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Coffey Geosciences Pty Ltd (Coffey) is undertaking a geotechnical assessment of proposed open pit operations at Mt Bischoff for Bluestone Tin (Bluestone).

A site visit was conducted between 23 and 25 May 2005 with the objectives of observing selected drill core and carrying out a walkover of the site to note geotechnical conditions in exposed faces.

Drill core observed was selected on the basis of representative boreholes that lie around the perimeter of the proposed pit. The boreholes are B2, B12, MBD24, MBD28, MBD67, MBD70, MBD71, MBD73, MBD82, MBD97, MBD115.

The walkover observations were undertaken at Happy Valley, White Face, Pig Flat/Allens Workings, Gossan Face, Greisen Face, Brown Face.

The existing surface mapping and defect data summations provided in the Mines Department Bulletin on 100 Years Of Mining at Mt Bischoff are considered to be relevant to the current study based on the concurrence of our walkover observations. It is understood that the major N-S cross section interpretation of the flat dipping porphyry bodies has been reworked by Bluestone compared to the Mine Department version. These geological interpretations are important to considerations of the pit slope design angles.

Based on the core and exposure observations made by Coffey, information provided by Bluestone and published information there are several major assumptions that impact on the recommended pit slope design parameters as follows:

- No significant faulting, shearing or clay layers exist parallel to bedding and dyke contacts in the proposed pit south and southeast walls, where the bedding and contacts are inferred to dip at 45 to 10° out of the proposed pit walls.
- The bedding and cleavage in the country rocks are undulose to contorted and continuous for less than 30m due to tight isoclinal folding occurring in limbs of the broad fold structures.
- There will be no regular wedges formed by bedding/cleavage and joint intersections in any of the pit walls. Isolated wedges could form with plunges of intersections as flat as 30° on bench faces of 15 to 20m height, resulting in isolated bench scale failures.



- No significant Extremely Weathered to Highly Weathered rock mass is remaining in proposed pit walls, i.e. they do not require a significant flattened bench face angle around the pit crest.
- No continuous faults cutting across the pit area. None are mapped in previous work. Also assumed that there are no medium to large scale folded contacts similar to that which caused the historic large scale wedge failure in Brown Face.
- Voids (existing adits and stopes) intercepted in pit walls will not affect stability beyond individual bench faces.
- Voids within the pit area will be approximately located from old plans and managed by a program of probe drilling in the pit floor. The known voids extend to RL 630m, i.e. within the upper 15 to 20m of the proposed pit.
- Groundwater conditions are drained due to the presence of existing workings to approximately RL630m. Horizontal drainage drilling will be employed to depressurise slopes as required below this depth.

The proposed pit is approximately 250m N-S by 250m E-W, with some grade controlled mining flats in the NW corner and 2 'bullseye' bases aligned E-W. A switchback ramp on the south wall wraps around the east wall to the base of the pit. The maximum wall heights are approximately:

- North wall 85m;
- South west wall 70m;
- West wall 55m.

Slope design parameters are recommended as follows:

Sector	Interramp	Bench Face	Berms
North, East and West	47.7°	15m high, 60°	5m wide
South and South West	47.7°	15m high, 60°	5m wide
Slopes below/between ramps	47.7° or maximum of 50° for a single bench.	Single bench faces between ramps and ramp and pit floor can be up to 20m high, and 50° maximum.	5m wide

Notes: Subject to adequate void management procedures in upper approximately 20m of the pit development

Pit wall depressurisation below the drained depth of existing workings is subject to mapping and assessment of the upper pit. If required, it is more likely to be on the ramp slopes (South and SW).

General bench face heights can be extended to 20m to locally account for grade controlled variations in the pit outline. The general 15m high face recommendation is made to improve the control of possible bench scale wedge and planar failures on undulating and composite cleavage/bedding surfaces.



For and on behalf of

**COFFEY GEOSCIENCES PTY LTD**

**BARRY MCDOWELL**

**ASSOCIATE ENGINEERING GEOLOGIST**

Attachments: Important Information About Your Coffey Report

