

13 October 2010

## Operations Update and New Production Growth Initiative

### Highlights

- Mine development and Mill refurbishment on track for first concentrate sales in January 2011.
- 25% increase in forecast earnings before interest and tax (EBIT) for Fossey Mine from \$55M to \$69M by incorporating current metal prices.
- Increased production by mining of lower grade disseminated mineralisation, possibly with a pre-concentration circuit is being investigated to increase mill utilisation, lower unit costs and increase cash flow.

Australian polymetallic miner, Bass Metals Ltd (**ASX:BSM**) is pleased to provide the following update on the mine development and mill refurbishment activities associated with its company transforming Hellyer Mine Project, as well as a new production growth initiative underway.

### HELLYER MINE PROJECT (HMP)

#### *Mining*

The Fossey decline is at approximately 850 metres. Current mine development activity is focussed on connecting the decline to the pilot drill hole for the first of two vertical ventilation shafts to enable the commencement of 212 metres of raise boring of the shaft (Refer Figure 1). Drilling of the pilot hole for the second ventilation shaft is planned to commence shortly. Water ingress into the decline remains high but is being managed by the recently upgraded mine dewatering system and connection to grid power.

In the second half of October the mine development activity will widen to include development of the first ore extraction level (465mRL) as well as continuation of the decline. Bass expects first ore to be intersected by the development drives on the 465 level in mid November and stoping production to commence in late December.

#### *Mill Refurbishment*

The refurbishment of the Hellyer Mill is progressing well and is approximately 85% complete. Commissioning of some components of the Mill circuit has already commenced. Commissioning the entire circuit will commence in November; initially with waste rock and then approximately 20,000 tonnes of Que River mineralised waste. The processing of Fossey ore and concentrate sales are scheduled to commence in January 2011.

#### *Financial Performance*

Bass has revised its estimates of the Fossey component of the HMP to incorporate current metal prices and exchange rates, resulting in a 25% increase in forecast earnings before interest and tax (EBIT), as summarised in Table 1.

Bass Metals' Managing Director, Mike Rosenstreich said, "This is a very positive outcome which further strengthens the robust project financials, particularly given that the underlying technical plan was updated for both adverse and beneficial changes since the Hellyer Operating Plan (HOP) was completed in March 2010."

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The base case prices are the metal prices and exchange rates assumed in the Definitive Feasibility Study (DFS) and current prices reflect prices as at 30 September 2010 as summarised in Table 2.

The HMP is forecast to generate EBIT of \$25 to \$35 million per year based on current metal prices and exchange rates. In the first two years alone, when Fossey is mined, the forecast EBIT is approximately \$69 million.

“The strong earnings and cash generating potential of the HMP will provide the capital that Bass plans to employ to grow its business” Rosenstreich commented.

A further positive aspect is that the rise in co-product commodity prices has further reduced the benchmark C1 cost of production to US\$0.12/lb payable zinc after credits; placing the HMP well into the lowest quartile of world production costs.

**Table 1: Financial Forecast for current and base case price scenarios.**

Financial Outcomes	Base case prices		Current Prices	
	A\$M	A\$/t ore	A\$M	A\$/t ore
Gross Revenue	235	268	246	280
Net Smelter Return	171	195	185	211
Site Operating costs	65	74	65	74
Royalties	16	19	17	20
EBITDA	90	102	103	117
Start-up Capital Costs	25	29	25	29
Ongoing Capital Expenditure	9	10	9	10
EBIT	55	63	69	78
EBIT Margin	32%		37%	
C1 Cost-US\$/lb Payable Zn after credits	US\$0.16		US\$0.12	

**Table 2: Metal Price and exchange rate assumptions**

	UoM	Base Case (DFS)	Current (30/9/10)	% Change
Copper	US\$/t	6000	8064	34
Lead	US\$/t	2100	2300	10
Zinc	US\$/t	1950	2225	14
Silver	US\$/oz	17	22	29
Gold	US\$/oz	1000	1310	31
AUD	USD	0.87	0.97	11

## GROWTH PROJECTS

The production profile of the Hellyer operations is not “Mill” constrained. Bass has substantial growth potential through its existing infrastructure and resources, namely, an underutilised mill and extensive low-grade as well as high-grade Mineral Resources.

Bass has commenced work with Como Engineering to assess an exciting opportunity to increase metal production and cash-flow. The large 1.5 mtpa capacity of the Hellyer Mill provides Bass with the operational flexibility to process any additional amenable ore delivered to the Run of Mine (ROM) stockpile. It is therefore possible to achieve additional production

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growth from existing hard-rock resources by lowering the mine cut-off grade to include disseminated/lower grade ore types, either on a “stand-alone” or an incremental ore basis. This scenario could be further optimised with the inclusion of a pre-concentration module such as a Heavy Media Separation (HMS) plant which would up-grade the metal content of the feed grade into the flotation circuit of the plant, reducing processing costs (Refer Figure 2).

This growth opportunity has potential near term application at Fossey where the total mineralised zone comprises 2.3 million tonnes at approximately 5% Pb + Zn of which 0.8 million tonnes is the high grade massive base metal sulphide lens (15% Pb + Zn) comprising the Ore Reserve. The Hellyer Mineral Resource also has a significant stringer zone style mineralisation with typical grades of 0.3% Cu, 3% Pb, 5% Zn, 52 g/t Ag and 0.9 g/t Au, which could be viable without pre-concentration. This material is could be amenable to pre-concentration and has significant potential for major resource upgrades as it has not been targeted specifically for resource drilling.

Inclusion of lower grade material on either a “stand-alone” or incremental cost basis has the potential to add ore tonnes to the processing schedule resulting in better mill utilisation and an increase in metal production. Inclusion of a pre-concentration module could improve metal recoveries, lower costs and reduce utilisation of the tailings dam.

## **Commentary**

“Bass Metals is clearly on the cusp of a major growth phase based on existing resources and proven technologies,” Bass Managing Director, Mike Rosenstreich said.

“Our next mine - Fossey - is poised to commence production, with mine development and Mill refurbishment activities on track to start processing Fossey ore and achieve first concentrate sales in January 2011. Furthermore, we are assessing several exciting opportunities with strong potential to more fully utilise the large Hellyer Mill and increase metal output and cash flow,” Mr Rosenstreich added.

## **Contact**

Mike Rosenstreich  
Managing Director – Bass Metals Ltd  
Tel: (+61-8) 6315 1300

## **Media**

David Brook  
Professional Public Relations  
Mob: (+61) (0) 415 096 804

## **About Bass Metals Ltd (ASX: BSM)**

Bass Metals Ltd is a growth focussed and profitable Australian base and precious metal producer with a portfolio of high quality zinc, lead, copper and gold assets in the rich Mount Read Volcanic mineral belt in northwest Tasmania.

Listing in 2005, Bass delivered its maiden profit in 2008 from its profitable base metals production hub at Que River in Tasmania, which has generated \$25 million in cash flow over the last two years.

The Company's larger transformational Hellyer Mine Project is on track to commence production toward the end of 2010. With an initial through-put rate of 400,000 tonnes per annum (tpa), the 1.5 million tpa capacity Hellyer Mill will produce 53,000 tpa of zinc concentrate, 27,000 tpa of lead concentrates and 4,500 tpa of copper—silver-gold concentrates.

The Company also has an active and successful exploration programme and is currently following up on recent discoveries at Switchback and Fossey East which are high-grade and located in close proximity to existing mine and milling infrastructure.

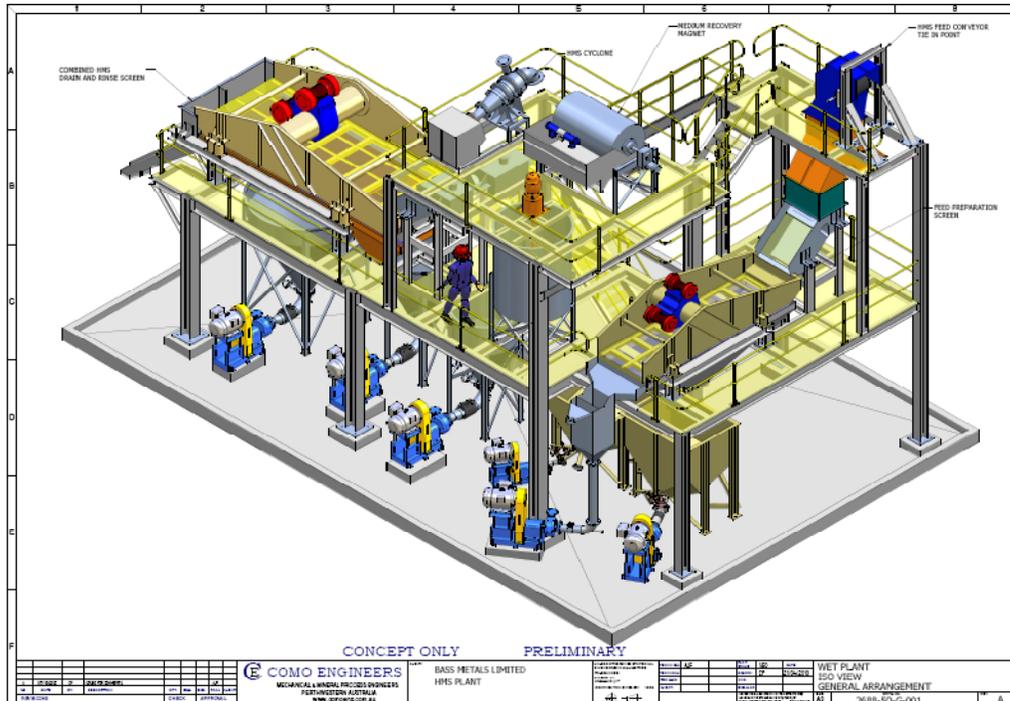
Bass has an experienced Board and operating team who have a strong track record of delivering profitable production underpinned by exploration success and are highly motivated to improve on that record.

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Figure 1: Mancala's raise bore rig drilling the pilot hole for Return-airway Rise.



Figure 2: Conceptual design by Como Engineers for Bass HMS Plant.



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## Attachment 1: Bass Metals Ore Reserves and Mineral Resources (as at 30 June 2010)

Bass has a large and diversified Mineral Resource Inventory comprising high grade massive sulphide base and precious metal mineralisation, tailings from the former Hellyer Mine operations containing gold and base metal sulphides and a shallow, hard-rock gold-silver resource.

### a. Ore Reserves

The Fossey deposit is the initial Ore Reserve for the HMP; a detailed summary is provided below in Table 1. This also includes a Inferred Mineral Resource component that occurs within the planned stoping shapes and is reported separately below as Mining Inventory (Table 1a). At Que River a minor Ore Reserve position remains as summarised in Table 1, based on the ore sales arrangement with MMG Rosebery. The PQ North mine is due for completion in September 2010 and there is no plan to mine and sell S-Lens ore under this sales arrangement. The previously reported S-lens Ore Reserve was based on these ore sales terms and has now been removed from the summary as Bass is assessing the S-Lens Resources for processing at Hellyer.

The Ore Reserves in Table 1 are a sub-set of the Mineral Resources presented in Table 2 below.

**Table 1: Tasmanian Ore Reserves as at 30 June 2010 – 5% Pb+Zn cut-off**

Location	JORC Classification	Tonnes kt	Copper (%)	Lead (%)	Zinc (%)	Silver (g/t)	Gold (g/t)
Fossey <sup>1</sup>	Total Probable	824	0.3	5.3	8.9	126	2.4
	Total Proved	-					
PQ <sup>2</sup> (Que River)	Total Probable	12	0.2	7.4	13.2	209	2.6
	Total Proved	1	0.3	6.4	10.4	232	4.2
	Total Reserves	13	0.2	7.3	12.9	212	2.8
<b>Total<sup>3</sup></b>		<b>837</b>	<b>0.3</b>	<b>5.3</b>	<b>9.0</b>	<b>127</b>	<b>2.4</b>

1. Fossey Ore Reserve – Refer Competent Person statement Attachment 2 and Technical Checklist in Attachment 3 (A1).

2. Que River Ore Reserve - Refer Competent Person statement Attachment 2 and Technical Checklist in Attachment 3 (A2).

3. Rounding errors may occur.

**Table 1a: Tasmanian Mining Inventory as at 30 June 2010 – 5% Pb+Zn cut-off**

Location		Tonnes kt	Copper (%)	Lead (%)	Zinc (%)	Silver (g/t)	Gold (g/t)
Fossey <sup>1</sup>	Mining Inventory	62	0.2	3.8	6.2	84	1.9

1. Fossey Ore Reserve – Refer Competent Person statement Attachment 2 and Technical Checklist in Attachment 3, (A1).

### b. Massive Sulphide Resources

The Fossey, Hellyer and Que River deposits comprise the Company's massive base metal sulphide Mineral Resources. These estimates are reported at a (Pb+Zn)>5% cut off in Table 2 below in accordance with the JORC Code.

**Table 2: Combined Polymetallic Massive Sulphide Mineral Resources as at 30 June 2010 – 5% Pb+Zn cut-off**

Location	JORC Classification	Tonnes kt	Copper (%)	Lead (%)	Zinc (%)	Silver (g/t)	Gold (g/t)
Fossey <sup>1</sup>	Indicated	690	0.4	6.1	10.4	143	2.5
	Inferred	110	0.3	4.3	7.4	106	2.1
	<b>Total</b>	<b>800</b>	<b>0.4</b>	<b>5.8</b>	<b>9.9</b>	<b>137</b>	<b>2.5</b>
Hellyer Remnants <sup>2</sup>	Indicated	640	0.4	4	6.8	83	1.3
	Inferred	110	0.2	4.9	8.1	107	1.5
	<b>Total</b>	<b>750</b>	<b>0.3</b>	<b>4.1</b>	<b>7</b>	<b>87</b>	<b>1.3</b>
Que River Pb-Zn <sup>3</sup>	Indicated	160	0.2	3.8	6.5	96	1.2
	Inferred	140	0.3	4.2	7.4	104	1.2
	<b>Total</b>	<b>300</b>	<b>0.2</b>	<b>4</b>	<b>6.9</b>	<b>100</b>	<b>1.2</b>
Que River Cu <sup>3</sup>	Measured	60	1.7	0.7	2.1	69	0.3
	Indicated	260	1.9	1.6	4.3	68	0.3
	Inferred	60	2.5	0.2	0.6	33	0.2
	<b>Total</b>	<b>380</b>	<b>2</b>	<b>1.3</b>	<b>3.4</b>	<b>63</b>	<b>0.3</b>
<b>Total<sup>4</sup></b>	Measured	60	1.7	0.7	2.1	69	0.3
	Indicated	1,750	0.6	4.5	7.8	106	1.6
	Inferred	420	0.6	3.8	6.6	95	1.4
	<b>Total</b>	<b>2,230</b>	<b>0.6</b>	<b>4.2</b>	<b>7.4</b>	<b>103</b>	<b>1.5</b>

1. Fossey Resource – Refer Competent Person statement Attachment 2 and Technical Checklist in Attachment 3 (A1).

2. Hellyer Remnant Resource- Refer Competent Person statement Attachment 2 and Technical Checklist in Attachment 3 (A3).

3. Que River Resource is estimated from 4 separate bodies, PQ, QR32, Nico and S Lens. Refer Competent Person statement Attachment 2 and Technical Checklist in Attachment 3 (A2 & A4).

4. Rounding errors may occur.

## **Attachment 2: COMPETENT PERSONS STATEMENTS**

### **2.1 EXPLORATION RESULTS**

The information within this report that relates to exploration results is based on information compiled by Mr Kim Denwer and Mr Michael Rosenstreich who are both full time employees of the Company. Mr Rosenstreich is a Member of The Australasian Institute of Mining and Metallurgy and Mr Denwer is a Member of the Australian Institute of Geoscientists. They both, individually have sufficient experience relevant to the styles of mineralisation and types of deposits under consideration and to the activities currently being undertaken to qualify as a Competent Person(s) as defined in the 2004 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code)" and they consent to the inclusion of this information in the form and context in which it appears in this report.

### **2.2 MINERAL RESOURCES AND ORE RESERVES**

The information in this report that relates to the Nico, S lens, QR 32 lenses at Que River and Fossey Mineral Resource estimates is based on information compiled by Mr Steve Richardson who is a fulltime employee of the company and a Member of the Australasian Institute of Mining and Metallurgy. Mr Richardson has sufficient experience which is relevant to the style of mineralisation and type of deposit and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code)". Mr Richardson consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

The information in this report that relates to the PQ resource estimate at Que River and the Fossey and Que River Reserve estimates is based on information compiled by Mr Tim Akerman who is a full time employee of Mancala and a Member of the Australasian Institute of Mining and Metallurgy. Mr Akerman has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they have undertaken to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Mineral Resources and Reserves (the JORC Code)". Mr Akerman consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

The information in this report that relates to Hellyer Remnant Ore Resource estimate is based on information compiled by Mr Neil Inwood who is a full time employee of Coffey Mining and a Member of the Australasian Institute of Mining and Metallurgy. Mr Inwood has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they have undertaken to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Mineral Resources and Reserves (the JORC Code)". Mr Inwood consents to the inclusion in this report of the matters based on the work performed by Coffey Mining in the form and context in which it appears.

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### Attachment 3: APPENDICES: ORE RESERVE AND MINERAL RESOURCE ESTIMATE CHECKLISTS

#### Appendix 1: Checklist of Assessment and Reporting Criteria- Fossey Mineral Resource and Ore Reserve Estimate

Criteria	Comments
Geological setting	Fossey is a Volcanic Hosted Massive Sulphide deposit comprising a stratiform zone of dominantly baritic mineralisation, associated with areas of high-grade Base Metal Sulphide (BMS) and underlain by minor stringer and disseminated mineralisation.
Tenement and land status	Fossey occurs within Hellyer Mining Lease CML103M/87 and is wholly owned by Bass Metals Ltd.
Drilling	All Bass Metals Ltd holes (27 holes in mineralisation) were diamond-drilled and NTW or NQ-sized core recovered (diameters of 56mm or 47.6mm respectively). Historic holes (14 holes) were also diamond-drilled and are of NQ or BQ core size (47.6mm or 36.4mm diameter respectively). >90% core recovery, averaged over the entire hole, was achieved during Bass Metals Ltd drilling with close to 100% recovery in the ore zones. Similar high recoveries were achieved by historic drilling. The Fossey resource has been drilled on 25m spaced sections oriented mine grid E-W. Drill-hole spacing is approximately 20-25m along these section lines.
Logging	All drill holes have been geologically logged using standard Que-Hellyer logging codes. Wet and dry digital photographs of all Bass Metals Ltd core were taken and RQD measurements were recorded at per drill-run intervals (average of 3.0m). For historic holes RQD was also measured and core photographs on slide film were taken.
Sampling	For both Bass Metals Ltd and historic drilling half-core samples were collected at nominal 1.0m intervals or at lithological boundaries. Sampling extended into barren host rocks or sub-grade mineralisation in both the hanging wall and footwall.
Assaying	For Bass Metals Ltd drilling half core samples were submitted to Ammtec Laboratories in Burnie, Tasmania. Samples were analysed for Cu, Pb, Zn, Ag, As, Fe (triple acid digest and AAS), Au (fire assay) and Ba (pressed powder XRF). SG determination was conducted by the laboratory on each assay sample. QA-QC involved standards, blanks and duplicates (one of each every 25 samples). Identification of problems with some Ammtec data led to re-submission of all assay pulp samples, within mineralised zones planned for mining, to Amdel Laboratories in Adelaide, South Australia. At Amdel, modified aqua regia digest was followed by Cu, Pb, Zn, Ag, As, Fe assay by ICP and Au by fire assay. Review by independent experts recommended use of Amdel Cu, Pb, Zn, Ag, As and Fe values and Ammtec Au and Ba assays for resource estimation. Historic assays were carried out on half core at Aberfoyle's company laboratory (now the Ammtec Burnie lab) using pressed powder XRF for Cu, Pb, Zn; AAS for Ag and As and Au by fire assay. Internal laboratory blanks and standards were the only QA-QC for historic holes.
Surveying	All Bass Metals Ltd drill-hole collar locations have been measured by a contract surveyor and historic holes by Hellyer Mine surveyor.
Database integrity	The drill-hole database used comprises Bass Metals Ltd drilling data recorded on Excel spreadsheet and historical data in ASCII format, both imported into Datamine software. New assay results together with standard and blank results were checked to ensure these were within acceptable limits.
Geological interpretation	The Fossey deposit strikes grid NNW and has the broad cross sectional form of a downward tapering wedge. The deposit comprises three major zones: <ul style="list-style-type: none"> <li>• <i>Massive Barite Zone</i> - The bulk of the deposit comprises massive barite, which is dominant in the stratigraphically upper areas but also occurs locally in the underlying BMS zone;</li> <li>• <i>BMS Zone</i> - Underlying the massive barite zone is banded to massive BMS. Whilst the boundary of the footwall of the BMS is a sharp contact, the internal boundary between the BMS and Barite zones is a gradational grade boundary; and</li> <li>• <i>Footwall Zone</i> - Commonly underlying the BMS is low to moderate grade base metal mineralisation as disseminations to stringer veins up to several 10's of centimetres thick.</li> </ul>
Estimation and modelling techniques	Within the Barite and BMS zones elements were estimated using Ordinary Kriging, restricted to mineralisation domain boundaries. Variography of all elements was studied and grade continuity modelled. Due to the lower number of samples grade was interpolated into the footwall zone and the minor lenses using 3D inverse distance interpolation (power 2).
Cut-off parameters	The outer boundary of the Fossey barite and BMS zones is based on sharp geological contacts. The internal boundary between the two zones is gradational and a boundary of 4% (Pb+Zn) was chosen as the highest possible grade which provided good continuity between holes and from section to section. Immediately underlying the BMS zone several holes contain stringer vein and / or disseminated to semi-massive mineralisation. This domain was wireframed at a cutoff of 5%(Pb+Zn), although at the northern end and on 10,000N gold rich and base metal poor material was included at a 2 g/t Au cut-off.
Previous mining	No mining has yet taken place at Fossey.
Mining / metallurgical assumptions	No assumptions were made about mining factors for the resource estimation. For the reserve estimation some dilution (<4.0% Pb+Zn) is internal to the ore body and falls within the coherent stope shapes; this is classified as planned dilution. Planned dilution amounts to some 17k tonnes, or some 2% of the total reserve tonnage. In general, the unplanned dilution has been estimated as a 1.0 to 1.5 metre failure envelope, some of which is mineralised. The average grade and waste of this envelope has been calculated by digitising the void surrounding the planned stope into the geological block model. For the primary stopes unplanned dilution is estimated to average 10%. Where dilution is defined as: Dilution (%) = (volume of unplanned dilution) x 100/(volume of resource tonnage in stope envelope). For the pillars the failure envelope surrounding the ore is assumed to be a little more adverse as the mining of the adjacent stope has already had an impact on the rock mass thus the unplanned dilution is estimated to be 15%. In addition, an allowance has been made for dilution from the cemented aggregate fill (CAF) which forms the northern and southern walls of the stopes. This is estimated as a 0.5 metre failure/overbreak of the CAF walls. In total unplanned dilution for the pillars is estimated to 15%. Dilution grade has been determined by averaging the block model grade within the dilution envelope. Where CAF is the diluents, a zero grade has been applied. <p>The total unplanned waste rock dilution which is contained within the stope reserve amounts to: 55k tonnes at 0.1% Cu, 0.4% Pb, 0.8% Zn, 33 g/t Ag and 0.9 g/t Au at an average density of 3.62. In addition to dilution from stoping activities, development within the resource model has been estimated to attract 5% dilution and a recovery of 95% of the diluted resource volumes. Estimated dilution parameters at Fossey are consistent with the long term averages from Hellyer, where similar stope geometries were adopted and where similar CAF strength was used.</p> <p>Ore body recovery is estimated to be 95% of the diluted resource volumes as both the stopes and pillars are expected to be stable. The net result is an overall dilution (stope, pillars and development) of approximately 12% waste for an estimated recovery of 95%. The resource base underpinning the reserve estimate contains some 8% by mass (60k tonnes), material categorised as Inferred. This material is largely constrained to the periphery of the resource limits. This material has been included in the mine production schedule as a Mining Inventory, but is excluded from the Mineral Reserve Estimate.</p>
Bulk density	Where no bulk density measurement was available (only 34 of 1297 assay samples in the mineralised zones) regression equations were developed to estimate bulk density from assay values. Bulk density was interpolated for each block.
Classification	Classification of resources was undertaken by taking into account data integrity, grade continuity, geological confidence and drill hole spacing.
Audits or reviews	Resource estimate was reviewed by resource consultant specialists during Hellyer Feasibility Study.

#### Appendix 2: Checklist of Assessment and Reporting Criteria - Que River Pb-Zn Mineral Resource and PQ Ore Reserve Estimate

Criteria	Comments
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Geological setting	Three base metal resources occur in separate lenses at Que River; these are PQ, Nico, and QR 32 Lenses. The lenses are examples of Volcanic Hosted Massive Sulphide deposits. Mineralisation style is diverse and includes footwall stringer veins, disseminations, local replacement, epiplastic breccia hosted to massive high-grade base metal sulphide mineralisation.
Tenement and land status	All lenses occur within Que River Mining Lease 68M/84 which is wholly owned by Bass Metals Ltd.
Drilling	The resource estimate at Nico is based on 15 historic diamond drill holes of NQ or BQ core size (47.6mm or 36.4mm diameter respectively). Core recoveries are not available but expected to range from poor in weathered near surface rocks to almost 100% in fresh material. The Nico Lens resource has been drilled on 25m spaced sections oriented mine grid E-W. Drill-hole spacing is generally 25m along these section lines. At QR32 all Bass Metals Ltd holes (7 holes within the lens) were diamond-drilled and NTW-sized core recovered (diameter of 56mm). Historic drilling (70 holes) was also diamond-drilled and is of NQ or BQ core size. Core recoveries range from poor in weathered near surface rocks to almost 100% in fresh material. The QR32 Lens resource has been drilled on 12.5m to 25m spaced sections oriented mine grid E-W. Drill-hole spacing generally 10-20m along these section lines. At PQ lens drilling comprises Bass Metals Ltd NTW and historic NQ and BQ diamond drilling on a 12.5m by 12.5m spaced pattern. Core recoveries again range from poor in weathered near surface rocks to almost 100% in fresh material.
Logging	All drill holes have been geologically logged using standard Que-Hellyer Mine logging codes. Wet and dry digital photographs of all Bass Metals Ltd core were taken and RQD measurements were recorded at per drill-run intervals (average of 3.0m). For historic holes RQD was also measured but core photographs on slide film were taken only for some holes.
Sampling	Half-core samples were collected at nominal 1.0m intervals or at lithological boundaries. Sampling extends into barren or sub-grade mineralisation in both the hanging wall and footwall.
Assaying	For Bass Metals Ltd drilling half core samples were submitted to Ammtec Laboratories located in Burnie, Tasmania. Samples were analysed for; Cu, Pb, Zn, Ag, As, Fe (triple acid digest and AAS); Au (fire assay) and Ba (pressed powder XRF). SG determination was conducted by the laboratory on each assay sample. QA-QC involved standards (every 25 samples) and blanks (every 25 samples). Historic assays were carried out at Aberfoyle's company laboratory (now the Ammtec Burnie lab) using pressed powder XRF for Cu, Pb, Zn; AAS for Ag and As and Au by fire assay. Internal laboratory blanks and standards were the only QA-QC for historic holes.
Surveying	All Bass Metals Ltd drill-hole collar locations have been measured by a contract surveyor and historic holes by Que River Mine surveyor.
Database integrity	The drill hole database used comprises historical data in ASCII format and Bass Metals Ltd drill data recorded on Excel spreadsheet, with both imported into Datamine software. In addition, original 1:500 scale mine geology cross-sections, long projections and level plans were available. New assay results together with standard and blank results were checked to ensure these were within acceptable limits (required before the laboratory job was accepted).
Geological interpretation	All Que River lenses (except S Lens) are stratiform lenses of stringer, disseminated, semi-massive to massive sulphide that lie at the same stratigraphic horizon, with their present geometric position attributed to folding and faulting. PQ Lens is the main ore lens and is sub-vertical but locally folded, with a strike length around 800m, down-dip extent of 225m, maximum thickness of 34m and average thickness of 8m. Nico Lens is a sub-cropping, sub-vertical lens, with a strike length of 175m and down-dip extent of around 140m. Thickness ranges from less than one metre to around 10m. QR32 Lens is a sub-cropping, sub-vertical lens, with a strike length and down-dip extent of around 225m. Thickness ranges from less than one metre to around 15m.
Estimation and modelling techniques	At Nico elements were estimated using 2D inverse distance interpolation (power 2) and an anisotropic search radius was used for each block. At QR32 single structure spherical variograms were prepared and modelled. Continuity axes were inferred from the orientation of the lens and high grade pods. 3D Ordinary Kriging was undertaken, constrained by the interpreted ore zone wire frames. At PQ Lens tonnage and grade estimation has been undertaken using a simple polygonal model with length weighted averages to estimate grades.
Cut-off parameters	A 5% (Pb+Zn) outline has been used historically at Que River to correlate mineralised intercepts, as this was seen as a natural cut-off that provided good continuity, closely following geological boundaries. This cut-off was used to define Nico Lens and PQ Lens Resources. For QR32 Lens assays were converted to an A\$ dollar value based on long term average metal prices. Log probability plots of dollar-value suggested a natural boundary at A\$70, separating background mineralisation from the ore system and this was used to define the shape of the mineralized zone. Internal geologically logged high grade Base Metal Sulphide pods were also wire framed. Resources were tallied using a block cut-off grade of 5% (Pb+Zn).
Previous mine production	Mining of PQ Lens was carried out from 1980 to 1990. No mining has occurred at Nico Lens, whilst some mining of high grade pods within QR32 Lens was carried out from underground during the 1980's. Details on mined out areas were sourced from an end of mine life report and mine long projections.
Mining factors or assumptions	No assumptions were made about mining for resource calculations. For PQ reserve estimate resources have been modified to obtain the reserves by: <ul style="list-style-type: none"> <li>• Inclusion of dilution at zero grade at a rate of 10% of the resource tonnage;</li> <li>• Application of a 90% recovery factor to the diluted resource;</li> </ul> Having been subject to mine design procedures.
Metallurgical factors	No assumptions have been made about metallurgical treatment.
Bulk density	At Nico and QR32 Lenses some assays from early holes do not have density data. Using the available measured density data, a multiple linear regression was developed to estimate density for these samples from Cu, Pb and Zn grades.
Classification	Classification of resources was undertaken by taking into account data integrity, grade continuity, geological confidence and drill hole spacing.
Audits or reviews	No audits or reviews have been completed.

### Appendix 3: Checklist of Assessment and Reporting Criteria - Hellyer Remnant Mineral Resource Estimate

Criteria	Comments
Geological setting	Hellyer is a VMS style deposit, occurring as polymetallic massive sulphide mineralisation within a mafic – felsic volcano-sedimentary sequence.
Tenement and land status	Hellyer occurs within CML 103M and is 100% owned by Hellyer Mill Operations a wholly owned subsidiary of Bass Metals Ltd.
Drilling	Historic drilling through the Hellyer deposit is predominantly on a 20 metre by 20 metre spacing with some 10 metre by 10 metre infill. The local mine grid is orientated approximately 022° AMG. A total of 957 diamond drill holes and 1,548 channel samples are present in the Hellyer database and define the Hellyer mineralisation. Diamond drilling took place over the deposit from 1983 to 2000. Of these, 453 diamond drill holes and 251 channel samples were used in this resource estimate.
Logging	All drill holes have been geologically logged using standard Que-Hellyer Mine logging codes.
Sampling	Half-core samples were collected at nominal 1.0m intervals or at lithological boundaries. Sampling extends into barren or sub-grade mineralisation in both the hanging wall and footwall.
Assaying	No QAQC data was available, and sources suggest that no QAQC work was done apart from internal laboratory checks.
Surveying	All holes were measured by a Hellyer Mine surveyor.
Database integrity	The supplied database contained some inconsistencies: <ul style="list-style-type: none"> <li>• Duplicated collar entries with different co-ordinates;</li> <li>• Duplicated surveys with different measurements;</li> <li>• Inconsistencies with depths (assay/collar/survey);</li> <li>• Duplicated samples and grades assigned to different holes; and</li> <li>• Overlapping intervals.</li> </ul> Most, though not all, of the inconsistencies fell within the mined-out void. Comments, changes and deletions were entered

	into a spreadsheet that was passed to the client for comment before the resource estimation was made.
Geological interpretation	Confidence in the geological interpretation at Hellyer is high. Three geological domains were distinguished: <ul style="list-style-type: none"> <li>• Stringer;</li> <li>• BMS; and</li> <li>• Remnant pillars and surrounds.</li> </ul> These were further subdivided based on position west or east of the Jack Fault, and on higher or lower grade within those zones. In all 36 separate wireframe solids were produced.
Estimation and modelling techniques	Statistical analyses on 1 metre composites were completed. Variography and search neighbourhood analysis were also conducted as input into grade estimation. The method used to obtain grade estimates for Pb, Zn and Cu was Ordinary Kriging on accumulated grade times density, with grade back-calculated following estimation. Density, Au and Ag was estimated using Ordinary Kriging.
Cut-off parameters	No cut-off grade was applied to the base metal sulphide zones as this mineralisation was defined geologically. The other mineralised zones ('Stringer' and 'Remnant Pillar and Surrounds') were modelled based upon a combination of a nominal 1% combined Pb + Zn grade and logged geology.
Mining / metallurgical assumptions	No assumptions were made about mining or metallurgical factors.
Previous mine production	Underground mining commenced on the Hellyer deposit in 1986 and stopped in 2000. 16.9 Mt @ 0.4% Cu, 7.2% Pb, 13.8% Zn, 167 g/t Ag and 2.5 g/t Au. There is a good model of the voids, which generally ties in well with the working plans generated at the time of mining. However, no allowance has been made for possible fracturing and spoiling at open faces. The wireframes were modelled to the outer limit of the void model, but it is quite possible that this face has migrated outwards, and that the modelled wireframe volume is over-estimated.
Bulk density	Specific gravity (air pycnometer) measurements were made for the bulk of the samples. The relative bulk density (specific gravity) which is assumed to be equivalent to dry insitu bulk density has been estimated by Ordinary Kriging based upon the air pycnometer measurements reported from the samples. The density used for reporting has been multiplied by a factor of 0.95 to take into account the effect of pore spaces.
Classification	Resource classification was developed from the confidence levels of key criteria including drilling methods, geological understanding and interpretation, sampling, data density and location, grade estimation and quality. Historic mining (voids and drives) have been depleted from the resource model. The availability of good quality working plans dating back to the time of the Hellyer mine operations and discussions with several former senior technical employees at that time also contributed significantly to this process.

#### Appendix 4: Checklist of Assessment and Reporting Criteria - S lens, Que River Mineral Resource Estimate

Criteria	Comments
Geological setting	S Lens is a Volcanic Hosted Massive Sulphide deposit. Mineralisation comprises massive to stringer base metal sulphides.
Tenement and land status	S Lens occurs within Que River Mining Lease 68M/84 and is wholly owned by Bass Metals Ltd.
Drilling	All Bass Metals Ltd holes (22 holes) were diamond-drilled and NTW-sized core recovered (diameter of 56mm). Historic drilling (92 holes) was also diamond-drilled and is of NQ or BQ core size (47.6mm or 36.4mm diameter respectively). An average 94% core recovery was achieved during Bass Metals Ltd drilling. Similar high recoveries were achieved by historic drilling. The S Lens resource has been drilled on 12.5m to 25m spaced sections oriented mine grid E-W. Drill-hole spacing is approximately 10-20m along these section lines.
Logging	All drill holes have been geologically logged using standard Que-Hellyer mine logging codes. Wet and dry digital photographs of all Bass Metals Ltd core were taken and RQD measurements were recorded at per drill-run intervals (average of 3.0m). For historic holes RQD was also measured and core photographs on slide film were taken for all holes except the most recent 34 holes.
Sampling	For Bass Metals Ltd and historic drilling half-core samples were collected at nominal 1.0m intervals or at lithological boundaries. Sampling extended into barren or sub-grade mineralisation in both the hanging wall and footwall.
Assaying	For Bass Metals Ltd drilling half core samples were submitted to Amtec Laboratories located in Burnie, Tasmania. Samples were analysed for; Cu, Pb, Zn, Ag, As, Fe (triple acid digest and AAS); Au (fire assay) and Ba (pressed powder XRF). SG determination was conducted by the laboratory on each assay sample. QA-QC involved standards (every 25 samples) and blanks (every 25 samples). Historic assays were carried out at Aberfoyle's company laboratory (now the Amtec Burnie lab) using pressed powder XRF for Cu, Pb, Zn; AAS for Ag and As and Au by fire assay. Internal laboratory blanks and standards were the only QA-QC for historic holes.
Surveying	All Bass Metals Ltd drill-hole collar locations have been measured by a contract surveyor and historic holes by Que River Mine surveyor.
Database integrity	The drill hole database used comprises historical data in ASCII format and Bass Metals Ltd drill data recorded on Excel spreadsheet, with both imported into Datamine software. In addition, original 1:500 scale mine geology cross-sections and long projection were available. New assay results together with standard and blank results were checked to ensure these were within acceptable limits (required before the laboratory job was accepted).
Geological interpretation	S Lens is an outcropping, sub-vertical lens of stringer, disseminated, semi-massive to locally massive sulphide, with a strike length 300m and down-dip extent of around 200m. Thickness ranges from less than one metre to over 12m and averages 4.5m. Ore contacts are occasionally sharp but more often are diffuse and grade controlled. The lens is strongly zoned, from dominantly copper rich in the south (Copper Zone) to relatively Zn-Pb rich in the north (Zinc Zone). S Lens sulphide mineralogy is relatively simple, comprising sphalerite - galena ± chalcopyrite (Zinc Zone) and chalcopyrite (Copper Zone).
Estimation and modelling techniques	Multiple elements were estimated using 2D inverse distance interpolation (power 2). An anisotropic search radius was used for each block.
Cut-off parameters	Historically a 5% (Pb+Zn) outline has been used at Que River to correlate mineralised intercepts. This was seen as a natural cut-off that provided good continuity, closely following geological boundaries. However, S Lens mineralisation is more variable in style. Although the 5% (Pb+Zn) outline was generally successful in the northern, Zn rich, part of S Lens, it was often necessary elsewhere to use geology, principally the logged massive pyrite boundary, or the 1% Cu contour where stringer and disseminated Cu mineralisation extends into altered volcanics.
Previous mine production	Some underground mining of the Zinc Zone was carried out during the late 1980's. Details on mined out areas were sourced from an end of mine life report and discussions with the ex-Que River Mine Captain, who supervised the mining of S Lens.
Mining / metallurgical assumptions	No assumptions were made about mining or metallurgical factors
Bulk density	Some assays from early holes do not have density data (88 of 983 samples within the ore lens). Using the available air pycnometer density data, a multiple linear regression was developed to estimate density for these samples from Cu, Pb and Zn grades.
Classification	Classification of resources was undertaken by taking into account data integrity, grade continuity, geological confidence and drill hole spacing.
Audits / reviews	No audits or reviews have been completed.