ASX RELEASE 30 October 2014

# **QUARTERLY ACTIVITIES REPORT END 30 SEPTEMBER 2014**

PRODUCTION H	IGHLIGHTS
Copper Produced	
30 Sept 2014	709 t
30 Jun 2014	1,111 t
31 Mar 2014	570 t
Gold Produced	
30 Sept 2014	768 oz
30 Jun 2014	1,410 oz
31 Mar 2014	966 oz
Silver Produced	
30 Sept 2014	24,822 oz
30 Jun 2014	48,716 oz
31 Mar 2014	18,480 oz
Lead Produced	
30 Sept 2014	326 t
30 Jun 2014	729 t
31 Mar 2014	216 t
Total C1 Cash Costs	(After metal credits)
30 Sept 2014	\$2.60/lb
30 Jun 2014	\$1.65/lb
31 Mar 2014	\$2.73/lb

#### **LISTED SECURITIES**

As at 30 Sept 2014

Ordinary Shares 393,535,629 Convertible Notes 28,954,516



#### **KEY POINTS**

- Mineral Hill continues to generate positive operating cash flows for the quarter
- Sustainable SOZ quarterly production performance results in revenues exceeding budget
- Increased metal recoveries for all four products as plant optimisation works pay off
- Continued low site costs, with C1 costs of \$2.60/lb Cu after metal credits
- Strong exploration results and potential from the A
   Lode drilling (as per market releases)
- Appointment of Brian Wesson as Managing Director of the Company

# **Capital**

- Tailings dam capacity expanded
- Exploration drilling on surface and underground of
   1,305 metres for Q3 (6,894 metres year to date)
- The lead circuit installed March 2014, now producing well with good recoveries
- The process design for the gold circuit is well advanced

#### **OVERVIEW**

KBL Mining Limited ('KBL" or "the Company") has moved into a new era with the appointment of Brian Wesson as Managing Director of the Company. A new strategy and timeline has been finalised and was released to the market during August 2014. We are focused on realising the significant value from the Mineral Hill project.

The team at Mineral Hill was also strengthened during the quarter, with the engagement of a Metallurgist, Steven Pickford and a Environmental Coordinator, Greg Ritchie. The new employees are suitably qualified and have over 10 years of industry experience. Site has already realised positive effects from the roles being filled.

### **Mineral Hill Mine Operations, NSW**

#### **PRODUCTION**

#### Positive Operating cash flows continue

Consistent operational performance and continued low costs has delivered positive operating cash for the quarter.

#### Sustainable SOZ quarterly production performance

The September 2014 quarter totals reflect a solid and sustainable quarter, where outcomes exceeded the Budget. The operations at SOZ in conjunction with the flexibility of the sequential flotation process, continues to produce consistent production results for all contained metals.

#### Increased Metal recoveries for all products

Metal recoveries across all four products have increased from the June quarter. Copper up to 85%, lead up to 53%, gold up to 59% and silver up to 69%.

- Copper (Cu) production, 9% above Budget
   709 tonnes (t) of Cu in concentrate produced
- Silver (Ag) production, 74% above Budget
   24,822 ounces (oz) of Ag in concentrate produced

#### Continued low Site costs:

C1 Copper production cost of \$2.60/lb after metal credits.

# **EXPLORATION**

 Southern Ore Zone (SOZ) Resource Upgrade replenishes reserves depleted by mining during the first half of 2014

- Upgraded and expanded resource estimate comprises:
  - 1,985Kt at 1.2% Cu, 1.4% Pb, 1.1% Zn, 19g/t Ag & 1.8g/t Au (at a 1.5% copper equivalent cut-off)<sup>1</sup>
- High grade polymetallic (Cu-Pb-Zn-Au-Ag) A Lode emerging as major new ore source for Mineral Hill
  - Significant drilling results include:
    - o 5.9m at 1.3% Cu, 6.7% Pb, 0.6% Zn, 37g/t Ag, & 0.5g/t Au (KUSOZ065) and
    - o 17.25m at 0.4% Cu, 5.3% Pb, 4.8% Zn, 51g/t Ag, & 0.4g/t Au including
    - o 4.1m at 0.2% Cu, 6% Pb, 8.3% Zn, 85g/t Ag, & 0.6g/t Au and
    - o 6.15m at 0.5% Cu, 7.7% Pb, 4.7% Zn, 42g/t Ag, & 0.5g/t Au

<sup>&</sup>lt;sup>1</sup> As released 19 August 2014 with copper equivalent calculations detailed at the end of the report

#### **SALES**

- Two shipments totalling 2,230 dry metric tonnes (DMT) of copper concentrates averaging 27.5% Cu,
   6.5g/t Au and 235 g/t Ag
- One shipment totalling 719 dry metric tonnes (DMT) of lead concentrates averaging 49.8% Pb, 3.5g/t Au, 377 g/t Ag and 5.6% Cu

# Sorby Hills Silver-Lead Project, WA

The company is focused on the Mineral Hill mine in the short to medium term. Once Mineral Hill mine is producing consistent profits our attention will be focused on the Sorby Hills project as a recent gap analysis indicated that there is not a significant amount of work required to progress the feasibility study.

Given the WA Minister for Environment issued environmental approval for the Project in April 2014, this has opened the way for the completion of licensing and an accelerated development program.

### MINERAL HILL MINE, NEW SOUTH WALES (KBL 100%)

#### Mill and Mine Performance

Mineral Hill Performance						
	Quarter	Sep-14	Jun-14	Mar-14	Dec-13	Sep-13
Ore Mined	t	56,550	54,415	64,501	52,614	66,379
Development metres	m	301	332	238	236	79
Ore Treated	t	55,346	66,526	51,382	59,449	62,596
Cu Grade	%	1.51	1.99	1.40	1.47	1.61
Recovery	%	85.0	83.2	80.9	87.9	94.4
Au Grade	g/t	0.7	1.2	0.9	0.6	1.1
Recovery (by weight)	%	58.9	54.5	56.5	67.6	73.5
Ag Grade	g/t	20.0	35.0	22.3	10.9	3.2
Recovery (by weight)	%	68.5	65.0	51.8	68.0	67.0
Pb Grade	%	1.1	2.2	3.0	-	-
Recovery	%	52.8	50.9	41.0	-	-
Cu Concentrate Production	DMT	2,559	3,957	2,176	3,082	4,091
Cu Grade	%	27.72	28.09	26.19	24.82	23.17
Au Grade	g/t	8.13	9.71	13.81	8.35	12.70
Ag Grade	g/t	201	230	264	140	30
Pb Concentrate Production	DMT	773	1,498	473	-	-
Pb Grade	%	42.06	43.52	45.60	-	-
Au Grade	g/t	4.00	3.35	2.20	-	-
Ag Grade	g/t	332	358	382	-	-
Contained Metal						
Cu	t	709	1,111	570	765	948
Pb	t	326	729	216	-	-
Au	Oz	768	1,410	966	827	1,671
Ag	Oz	24,822	48,716	18,480	13,878	3,959

**Table 1:** Mineral Hill – Detailed Mine and Mill Performance

During the quarter mining operations maintained production levels in line with budget expectations. The ore was extracted from both the polymetallic (Cu-Pb-Zn-Ag-Au) and copper-gold (Cu-Au) zones within the SOZ Lodes. Mining operations specifically accessed ore from the B, C and D Lodes. All production ore was consistently sourced from the 60 and 40 levels within the SOZ B and D Lodes, with a little from C Lode on the 40 level. Ore grades were generally in line with expectations for copper and gold.

Stope ore was further supplemented with development ore produced to access stoping areas in line with budget plans and costs. Development ore sourced from Parker's Hill North-East and the extensions along B Lode provided higher than expected grades.

Concentrate production for both copper and lead continued without issue from the sequential flotation process implemented in early 2014. This process has continued to give the site great flexibility to process both the copper-gold and polymetallic zones within the SOZ and Mineral Hill deposits. Further to this and in light of the recent A lode drilling results and known Pearse deposit, works are well advanced on the installation of CIL plant and a potential third circuit to allow gold/silver dore and a zinc concentrate to be produced.

Although the record June quarter was not matched, the production achieved reflected a solid and sustainable level, in line with the particular zone of the ore body being mined. Copper concentrate production was some 2,559DMT, while a further 768DMT of lead concentrate was realised. Adding to this was significant gold and silver credits.

Process plant throughputs have been maximised up to 44tph, while for the quarter, recoveries for copper increased to average 85%. Lead recoveries were maintained at 53% while gold and silver recoveries also increased to 59% and 69% respectively. Expectations are that the recoveries levels will be maintained, and in certain areas increased due to further process optimisation. In line with increased throughputs, the tailings facility was expanded during the quarter, to allow for an additional 8-10 months of storage.

Metal outputs for the quarter were above budget for copper and silver (Copper +9%, Silver +74%), while lead and gold were down. (Lead -6%, Gold -14%). This resulted in the overall notional net revenues exceeding budget expectations.

The Mineral Hill operation has continued to maintain a strong focus on improving profitability. Operating costs were \$2.60/lb Cu after gold, silver and lead credits.

For the remainder of 2014, the current mine schedule continues to extract stopes from the SOZ B, D and C South Lodes between 80 and 40RL, along with ore from the Parkers Hill North East lodes. The mine plan for SOZ is expected to supply 18kt to 20kt of ore feed to the processing plant on a monthly basis.

Works on the Pearse CIL design and implementation program were ongoing during the quarter. Construction is planned to commence in the later part of 2014.

#### **Mineral Hill Exploration**

#### Southern Ore Zone (SOZ) Resource Upgrade

The conclusion of a successful infill and extensional drilling program at SOZ culminated in the completion of an upgraded Resource Estimate during the quarter. Comprising six mineralised breccia zones, or 'lodes', within a 200 metre wide steeply west dipping corridor, this high grade polymetallic system is less than 300m from surface and remains open along strike and down dip.

A breakdown of the Resource into separate lode domains (presented below) provides a better understanding of the distribution of ore types and illustrates the varying metal content across the system.

Lode	Class	Tonnes	Cu	Pb	Zn	Au	Ag
Loue	Class	Kt	%	%	%	g/t	g/t
Α	measured	10	0.9	2.9	2.5	8.0	27
	indicated	213	1.0	3.9	3.2	0.9	40
	inferred	300	0.9	3.4	2.9	1.6	35
	TOTAL	523	0.9	3.6	3.0	1.3	37
В	measured	228	1.2	0.6	0.6	2.1	13
	indicated	208	1.2	1.1	0.9	1.9	20
	inferred	124	1.2	0.8	0.7	2.6	16
	TOTAL	560	1.2	0.8	0.7	2.1	16
С	measured	91	1.4	0.3	0.3	1.3	8
	indicated	52	1.2	0.6	0.6	1.9	14
	inferred	51	1.1	0.8	0.7	2.5	12
	TOTAL	194	1.3	0.5	0.5	1.8	11
D	measured	143	1.2	0.9	0.4	1.9	18
	indicated	64	1.3	1.0	0.5	1.5	22
	inferred	58	1.5	1.1	0.6	1.4	26
	TOTAL	265	1.3	0.9	0.5	1.7	20
G	measured	78	0.9	0.03	0.04	2.9	4
	indicated	99	0.8	0.03	0.04	2.4	4
	inferred	161	1.8	0.01	0.02	1.5	4
	TOTAL	339	1.3	0.02	0.03	2.1	4
н	measured	3	1.2	0.04	0.03	2.2	6
	indicated	68	1.0	0.02	0.02	1.9	4
	inferred	33	1.0	0.01	0.01	1.7	3
	TOTAL	104	1.0	0.02	0.01	1.8	4
GRANI	D TOTAL	1,985	1.2	1.4	1.1	1.8	19

**Table 2:** Estimated resources broken up by Lode at a Copper Equivalent cut-off of 1.5%. (Small rounding errors may have occurred in the compilation of this table).

#### Southern Ore Zone (SOZ) Drilling

The June quarter marked the discovery of A Lode, a high grade polymetallic (Cu-Pb-Zn-Au-Ag) breccia zone in the footwall of the SOZ system. Staged drilling has continued to infill and extend this expansive mineralised corridor, highlighting opportunity for the A Lode to underpin long term polymetallic production from SOZ.

Recent drilling has provided increased confidence in grade continuity along the breccia zone which demonstrates a strike length of 350 metres, a vertical depth of 200 metres and a thickness of 10 to 40 metres.

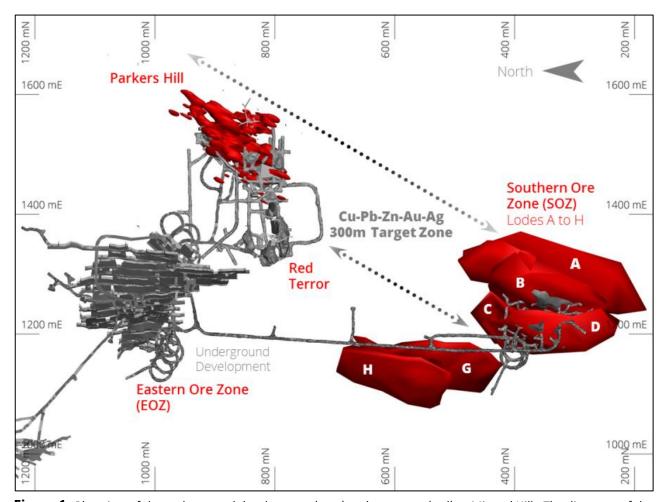
#### Results of the drilling include:

Hole	Interval (m)	Cu %	Pb %	Zn %	Au g/t	Ag g/t	From (m)	Estimated True Thickness (m)	Lode
KUSOZ65	8.7	2.3	0.7	0.5	0.3	22.5	20.3	5.73	B Lode
	8.3	2.1	0.6	1.3	1	25.3	34.7	5.45	B Lode
	5.15	1.8	3.2	1.2	0.4	36.9	51.85	3.37	A Lode
	5.9	1.3	6.7	0.6	0.5	36.7	67.1	3.85	A Lode
	17.25	0.4	5.3	4.8	0.4	51	77.9	11.27	A Lode
including	4.1	0.2	6	<i>8.3</i>	0.6	84.7	77.9	2.68	A Lode
and	6.15	0.5	7.7	4.7	0.5	41.5	89	4.02	A Lode

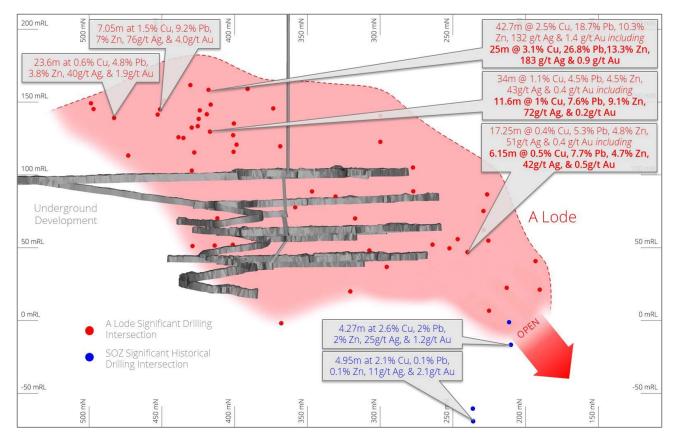
**Table 3:** Significant intercepts from recent underground drilling targeting the lower extent of A Lode.

KBL Mining has upgraded the Mineral Hill processing plant and now produces both copper-gold and lead-silver concentrates for sale. Test work is advanced on adding a zinc recovery circuit that will maximise the metal recovery of the polymetallic lodes and add a separate zinc concentrate to the Mineral Hill output. Finalisation of this work will allow incorporation of zinc into the reported copper equivalency formula for an updated resource estimate on completion of drilling.

The continuing drilling program will target resource expansion at SOZ, with the identified structural corridor toward Parkers Hill and down plunge extensions to the system considered a high priority.



**Figure 1:** Plan view of the underground development (grey) and resources (red) at Mineral Hill. The discovery of the high grade polymetallic A Lode confirms a target zone of 300<sup>+</sup>m between the SOZ and Parkers Hill deposits. This target zone is now the focus of exploration activities.



**Figure 2:** Long section (looking east) illustrating drilling results from the recently discovered A Lode at SOZ. All significant intersections within the currently defined A Lode are illustrated in red, with notable historical intersections outside the A Lode mineralisation illustrated in blue.

### **SORBY HILLS, WESTERN AUSTRALIA (KBL 75%)**

#### **Project and Approvals**

The Sorby Hills Project, located in the East Kimberley Region of Western Australia, is a joint venture between KBL 75% (Manager) and Henan Yuguang Gold & Lead Co., Limited 25% (Yuguang). Yuguang was established in 1957 and is the biggest electrolysed lead and silver producer in China and was listed on the Shanghai Stock Exchange (exchange code: 600531) in 2002.

The Project consists of nine shallow high grade deposits within a linear north-south mineralised trend extending over a 10 kilometre strike length. To date, the total Resource of the trend as defined by KBL stands at 16.7 Mt at 4.7% Pb, 0.7% Zn and 53 g/t Ag<sup>2</sup>, which is sufficient to support a multi decade operation.

In late 2013, KBL announced a maiden Ore Reserve estimate for the Sorby Hills DE deposit, one of several deposits contained within the 10km long trend. The Probable Ore Reserve of **2.4 Mt @ 5% lead and 54g/t silver**<sup>3</sup> (applying a cut off of 2% lead), underpins the plan for an initial 10 year open cut operation, processing over 400ktpa. In conjunction with the Reserve, a new Mineral Resource estimate for DE Deposit totalled **5.8 Mt @ 3.5% lead, 0.4% zinc and 41g/t silver**<sup>4</sup> (applying a cut off of 1% lead). The Mineral Resource is inclusive of the Ore Reserve and consists of both Indicated and Inferred Mineral Resources.

During 2014, the Joint Venturers are progressing the Bankable Feasibility Study and applying for mining permits and operational licences in preparation for financing, construction and operations.

KBL expects a range of funding options will be available for its share of the development costs due to the robust project economics, the low risk of development and operating parameters, well developed infrastructure, proximity to port, and strong international demand for the off take. The development task will be assisted by the Company's operating experience and expertise already in place with the Mineral Hill operation and the support of its 25% Joint Venture partner, Yuguang with its large lead, zinc and copper smelting facilities in China.

#### For further information, please contact:

#### **Brian Wesson**

Managing Director KBL Mining Limited Ph: +61 2 9927 2000

#### **About KBL Mining**

KBL Mining is an Australian resource company listed on the ASX (KBL and KBLGA) with a focus on producing precious and base metals. KBL's main assets include the Mineral Hill copper-gold-silver-lead-zinc mine near Condobolin in New South Wales and Sorby Hills lead-silver-zinc project in Western Australia. The Company has been operating the refurbished processing plant at Mineral Hill since October 2011 to produce copper concentrates. Sorby Hills (KBL holds 75% with Henan Yuguang Gold & Lead Co. Ltd (HYG&L) holding 25%) is one of the world's largest near surface undeveloped silver-lead deposits, close to port infrastructure and a short distance from Asian markets. The project received environmental approval on 2 April 2014 and the Joint Venturers are now progressing the Project to development

More information can be found on KBL's website at www.kblmining.com.au.

<sup>&</sup>lt;sup>2</sup> Updated to incorporate 29 November 2013 DE Resource Estimate

<sup>&</sup>lt;sup>3</sup> Reserve estimate released 29 November 2013

<sup>&</sup>lt;sup>4</sup> Updated Resource estimate released 29 November 2013

#### **Competent Persons Statement**

The information in this report that relates to Exploration Results and Exploration Targets, Mineral Resources and Ore Reserves based on information compiled by Robert Besley, BSc (Hons), who is a Member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of the Company. Robert Besley has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.' Mr Besley consents to the inclusion in the announcement of the matters based on his information in the form and context that the information appears.

#### **Copper Equivalent Calculation**

This release makes a number of references to metal equivalents. It is the Company's opinion that all elements included in the metal equivalent calculation have a reasonable potential to be recovered based on metallurgical testwork and operational experience from the Southern Ore Zone (SOZ).

$$CuEq = Cu (\%) + 0.136 \times Pb (\%) + 0.008 \times Ag (g/t) + 0.467 \times Au (g/t)$$

The copper equivalency formula accounts for actual treatment charges, refining costs, transport costs and incorporates individual metal factors (reflecting metal prices at the time of estimation) and recoveries from the sequential flotation pathway at Mineral Hill. The following assumptions were used to derive the equivalency formula.

Commodity	Price	Recovered in Copper Flotation	Recovered in Lead Flotation	Payability (Cu concentrate   Pb concentrate)
Copper	\$US6600/tonne	79%	No credits	95.5%  NA
Gold	\$US1300/oz	43.90%	11.60%	93% 50%
Lead	\$US2000/tonne	No credits	50.1	NA  95%
Silver	\$US20/oz	36.10%	29%	90% 80%

**Table 4:** Copper Equivalent Calculation Inputs

# **JORC Code, 2012 Edition – Table 1 report**

# **Southern Ore Zone Diamond Drilling**

# **Section 1 Sampling Techniques and Data**

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity</li> </ul>	Diamond Drilling  Diamond drilling from surface and underground is used to obtain core from which intervals ranging from approx. 0.2-1.5m in length are submitted for base metals analysis using nitric aqua regia digestion and a conventional ICP—AES methodology. A 50g charge is produced for fire
	<ul> <li>and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required,</li> </ul>	assay and AAS analysis for gold.  All diamond drill core drilled by KBL is sampled in intervals based on geological logging. All core is cut, with half core typically sent as the geochemical sample to ALS, Orange The remaining core is stored at the Mineral Hill core yard.
		An exception is in the case of metallurgical testing where half core is typically sent to the testing laboratory, quarter core to ALS for assay and quarter core retained at site.
	such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg	Reverse Circulation Drilling
	submarine nodules) may warrant disclosure of detailed information.	Historically (Triako era), rock chip samples from RC drilling were first collected and assayed as four metre composites. Composite samples returning significant assay results were then resampled in1m intervals using a riffle splitter and re-assayed.
		Subsequently (CBH and KBL era), samples were either submitted in one metre intervals, split off the cyclone; or a portable XRF analyser was used to determine the sampling intervals. In the latter case, samples with XRF readings regarded as anomalous were submitted for assay as one metre intervals with at least two metres either side also collected as one metre samples. The remainder of samples were submitted for assay in 4m composites collected by spearing or riffle splitting. Any four metre composites returning anomalous laboratory assays were re-

Criteria	JORC Code explanation	Commentary
		submitted for assay as one metre samples.
		Representative chip samples for each metre of RC drilling at Mineral Hill are collected in trays and stored at site.
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Drilling carried out at Mineral Hill has been predominantly reverse-circulation percussion (RC) and diamond core (typically with RC precollars of varying lengths). Core diameters are mostly standard diameter HQ and NQ, with HQ3 and NQ3 (triple-tube) used during recent surface drilling.
		The Southern Ore Zone (SOZ) dataset contains drill holes collared between 800mE and 1400mE, and south of 775mN (local mine grid), that intersect the Mineral Hill Volcanics host rocks. Numerous holes have failed in overlying unmineralised Devonian sedimentary rocks and are not included.
		Historical drilling at the SOZ has seen a higher proportion of diamond core holes than is typical at Mineral Hill with 139 diamond holes, 17 RC holes, and three percussion holes in the pre-2013 historical dataset.
		In addition, 67 underground diamond holes and four surface diamond holes have been drilled by KBL from 2013 onwards. Diamond drilling using HQ (61.1-63.5mm) core diameter and a standard barrel configuration is most common.
		Core from underground drilling is not routinely orientated. Orientation has been attempted on numerous surface drill holes with mostly good results. Methods used over time have included traditional spear and marker, and modern orientation tools attached to the core barrel.
		The SOZ sampling dataset also includes assays from over 5800 metres of underground sampling performed by Triako from faces and walls, as well as sludge sampling from underground probe and blast percussion holes.
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure</li> </ul>	Triple-tube core barrels are used where possible in diamond drilling to maximise sample recovery and quality.

Criteria	JORC Code explanation	Commentary
	representative nature of the samples.  • Whether a relationship exists between sample recovery and grade	Core recovery is measured for the complete hole based on the driller's mark-up, checked during core mark-up in 1m intervals by the geologist.
	and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Drill core is measured (actual measured core recovered vs. drilled intervals) to accurately quantify sample recovery.
		Good core recovery is typically achieved during drilling at Mineral Hill. Where recovery is insufficient to produce a meaningful sample the interval is assigned a zero grade when reporting drilling results. Average HQ core recovery to date for the current drilling program is 98%.
		There is no known relationship between sample recovery and grade. The lowest recoveries are typically associated with fault and shear zones which may or may not be mineralised.
		When RC drilling, intervals of poor recovery are noted on geologists' logs but RC sample bags are not routinely weighed for quantification of sample recovery.
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	A qualified geoscientist logs the geology of all holes in their entirety including geotechnical features. Drill core is geologically and routinely geotechnically logged to a level of detail considered to accurately support Mineral Resource estimation. The parameters logged include lithology with particular reference to veining, mineralogy, alteration, and grain size. Magnetic susceptibility measurements are available for some recent drill holes.
		Some core holes have down-hole core orientation and these holes are subject to detailed structural logging. Routine structural logging is carried out on all core holes recording bedding, schistosity and fault angles to core.
		All core and RC chip trays are photographed in both wet and dry states. Recent digital photos and scans of film photography are stored electronically.
		All of the holes with results mentioned in the release have been logged in their entirety. Out of the total of 44,652 metres of drilling at SOZ, lithological logs for 38,770 m (87%) are available.
Sub-sampling	If core, whether cut or sawn and whether quarter, half or all core	The SOZ core sampling of Triako (2001–2005) was based on the

Criteria	JORC Code explanation	Commentary
techniques and sample preparation	<ul> <li>taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> </ul>	geological logging, such that only core regarded as significantly mineralised was cut in half for subsequent assay. This approach has the potential to miss finely disseminated gold mineralisation, and in some cases low grade Cu, high Pb–Zn mineralisation was regarded as uneconomic and ignored.
	<ul> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	Underground core drilled by KBL is fully sampled (sawn half core) and submitted for assay. All cored sections of KBL surface drill holes are assayed unless the volume of rock is deemed to have been effectively sampled by a pre-existing drill hole, for example in the case of wedging where the wedge hole trajectory is close (typically <5m) from the parent hole.
		There is no standard procedure regarding the line of cutting with any veins and structural fabrics. However, an attempt is made to obtain an equivalent sample of mineralised material in both halves of the core. Poorly mineralised core is typically cut perpendicular to any dominant fabric.
		Water used in the core cutting is unprocessed and hence unlikely to introduce contamination to the core samples.
		When sub sampling RC chips a riffle splitter or conical splitter is typically employed directly off the cyclone. In cases when sampling low grade or background intervals after determination with portable XRF, 4m composite intervals are assembled by spearing. If anomalous results are received from the Lab, the composite intervals are resubmitted from the remaining bulk sample as 1m intervals by riffle splitting.
		Dry sampling is ensured by use of a booster air compressor when significant groundwater is encountered in RC drilling.
		Field duplicates were periodically assayed by Triako and CBH, but KBL has not routinely submitted duplicates for analysis.
		The HQ and HQ3 diameter core is deemed by KBL to provide a representative sample of the SOZ sulphide mineralisation which generally comprises a fine- to medium-grained (1–5mm) intergrowth of crystalline sulphide phases such as chalcopyrite, pyrite, galena and sphalerite; with quartz–mica–carbonate gangue. A typical 1m half core

Criteria	JORC Code explanation	Commentary
		sample weighs approximately 3.5-4.5 kg.
		The 4 ½ " diameter bit, used as standard in RC drilling, collects a typical bulk sample weighing up to 30kg per metre drilled, from which a split 1/10 sub-sample typically weighing between 1.5 and 2.5 kg is submitted for assay. The split sub-sample is deemed representative of the entire metre sampled.
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and</li> </ul>	All drilling samples are currently assayed at Australian Laboratory Services (ALS) in Orange, NSW. ALS is a NATA Accredited Laboratory and qualifies for JAS/ANZ ISO 9001:2008 quality systems. ALS maintains robust internal QA/QC procedures (including the analysis of standards, repeats and blanks) which are monitored with the analytical data by KBL geologists through the Webtrieve™ online system.
	<ul> <li>their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	During the Triako era drilling at SOZ (2001–2005), samples were analysed for copper, lead, zinc, silver and gold using ALS Method IC581. All gold values >5 g/t were then repeated with method AA26. All pulps returning >1%Cu, >1%Pb, >1% Zn, and/or >25g/t Ag were repeated with method OG46/AA46 (mixed acid digest, flame AAS).
		KBL have routinely assayed for copper, lead, zinc, silver, arsenic, antimony, and bismuth using ALS Method ME-ICP41, with pulps returning over 10000ppm for Cu, Pb, Zn or 100ppm for Ag, reanalysed with the ore-grade method ME-OG46. The aqua regia ME-ICP41 and ME-OG46 methods are regarded as a total digestion technique for the ore minerals present at SOZ. Gold is analysed with the 50g fire-assay—AAS finish method Au-AA26.
		In the current KBL drilling program two standards are inserted every 30 samples in the sample stream. The standards comprise Certified Ore Grade base and precious metal Reference Material provided by Geostats Pty Ltd. The analysis of standards is checked upon receipt of batch results—all base metal standards analysed with samples during the previous 5780m underground drilling campaign at SOZ had ore elements within two standard deviations (SD) of the provided mean standard grade with 53% of these having all ore element concentrations within one SD. 95% of gold standards analysed during the current drilling program were within two SD of the standard mean with 67%

Criteria	JORC Code explanation	Commentary
		within one SD. Similar analysis of standards is continuing in the current drilling program.
		Based on the results of standard analysis, in addition to the internal QA/QC standards, repeats and blanks run by the laboratory, the laboratory is deemed to provide an acceptable level of accuracy and precision.
		For historical drilling from 2001–2005, standards were inserted at the start and end of each batch of samples sent to ALS. The laboratory was requested to repeat any high grade standards which returned values > 10% from the quoted mean, and >20% for the low grade standards.
Verification of sampling	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> </ul>	Significant intersections are checked by the Senior Mine Geologist, Senior Exploration Geologist, and Chief Geologist.
and assaying	<ul><li>The use of twinned holes.</li><li>Documentation of primary data, data entry procedures, data</li></ul>	No holes have been deliberately twinned during SOZ drilling.
	verification, data storage (physical and electronic) protocols.  • Discuss any adjustment to assay data.	Original laboratory documents exist of primary data, along with laboratory verification procedures.
		The Mineral Hill drilling database exists in electronic form as a Microsoft Access database. The assay data are imported directly into the database from digital results tables sent by the laboratory. The Senior Mine Geologist and Chief Geologist manage the drill hole assay database.
		3D validation of drilling data occurs whenever new data is imported for visualisation and modelling by KBL geologists in Micromine $^{\text{TM}}$ software.
		No adjustment has been made to assay data received from the laboratory.
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	The collar positions of holes drilled by Triako have been surveyed by mine surveyors and are consistent with surveyed underground workings. The holes were surveyed in Mineral Hill mine grid and also the national grid. The CBH drill hole collars have been established by GPS using the national grid and converted to mine grid using the conversion established by Triako.
		KBL Mining Ltd holes were either surveyed by qualified mine surveyors or by real-time differential GPS (DGPS) in areas at surface distant from

Criteria	JORC Code explanation	Commentary
		reliable survey stations.
		Coordinates are recorded in a local Mine Grid (MHG) established by Triako in which Grid North has a bearing of 315 relative to True North (MGA Zone 55). The local grid origin has MGA55 coordinates of 498581.680 mE, 6394154.095 mN.
		Topographic control is good with elevation surveyed in detail over the mine site area and numerous survey control points recorded.
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> </ul>	Historical surface drilling at SOZ, like most of the Mineral Hill field, was mainly designed on an east-west grid (relative to Mine Grid). Surface holes were drilled from drill pads arranged on a grid of approximately 50 × 50m, typically with two to five separate holes drilled from each pad.
	Whether sample compositing has been applied.	Underground drilling at SOZ has also occurred from numerous sites, most commonly in the hanging wall of the mineralisation, and drill holes have a greater range of orientations.
		As a whole, the drilling has typically intersected the A, B, C, & D lodes at a spacing $25m \times 25m$ between 160RL and 0RL (between 147m and 307 metres depth from surface) with closer drill spacing in many areas. Drilling has intersected the mineralisation at an average spacing of approximately $50 \times 50m$ between 0RL and -100RL (307m to 407m depth from surface). Below -100RL, only sporadic drilling has been carried out.
		Historical drilling into the G & H lodes was mostly from underground sites at the northern and southern ends of the deposit. Drilling has intersected the mineralised envelope with a spacing of approximately 25–30 m at G Lode and 30–50m at H Lode.
		The majority of drill holes have been selectively sampled. Only intervals that showed signs of mineralisation have been assayed.
		No sample compositing has been applied to the drill holes reported in the release.
Orientation of data in relation to	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> </ul>	Mineralisation at Mineral Hill occurs around discrete structures in a series of en echelon dilational zones within a NNW/SSE <sup>1</sup> trending corridor up to 1.5km wide. There is a variety of mineralisation styles

Criteria	JORC Code explanation	Commentary		
geological structure	<ul> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if</li> </ul>	present within this zone, reflecting multiple phases of mineralisation element. Most drilling occurs with an east-dipping orientation and -60 to -80 degrees dip to best intersect the mineralisation.		
	material.	Surface drill hole designs at SOZ mostly dip between 60 and 75 degrees to the to the east, intersecting the interpreted steeply west-dipping lodes at a favourable angle. Estimated true thicknesses of reported intersections are presented in the table below.		
		<sup>1</sup> Bearings in this document are given relative to the Mineral Hill Mine Grid (MHG) in which north is oriented towards a bearing of 315 degrees (NW) relative to MGA Grid north.		
Sample security	The measures taken to ensure sample security.	For diamond drilling, half core is collected in calico sample bags marked with a unique sample number which are tied at the top. Samples are couriered by independent contractors from the mine site to the ALS Laboratory, Orange, NSW.		
		Specific records of historical sample security measures are not recorded, however the methods were regarded as normal industry practice during an external audit of Triako's historical data base, quality control procedures, survey, sampling and logging methods in 2005.		
		For RC drilling, representative samples from the rig are deposited into individually numbered calico bags which are then tied at the top Samples are couriered by independent contractors from the mine site to the ALS Laboratory.		
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	The historical data base, quality control procedures, survey, sampling and logging methods were reviewed by Barret, Fuller and Partners (BFP) in June 2005 on behalf of Triako Resources Ltd. The BFP report was authored by C.E. Gee and T.G. Summons and concluded that the Triako database and procedures were of "normal industry practice".		
		CBH Resources, and subsequently KBL Mining Ltd have maintained the Triako drilling and sampling procedures, with numerous improvements such as those outlined in this document.		

# **Section 2 Reporting of Exploration Results**

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	The resource estimates and drilling results are from drilling within Mining Leases ML337, ML5499 and ML6365 located in central NSW and which are due to expire on 14 March 2033.
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	The SOZ deposit was discovered by Triako Resources Ltd. The majority of drilling at SOZ to date was carried out by Triako between 2001 and 2005.
Geology	Deposit type, geological setting and style of mineralisation.	The SOZ at Mineral Hill is an epithermal polymetallic (Cu–Au to Cu–Pb–Zn–Ag–Au) vein and breccia system hosted by the Late Silurian to Early Devonian Mineral Hill Volcanics, a pile of proximal rhyolitic volcaniclastic rocks with minor reworked volcaniclastic sedimentary rocks. The mineralisation is structurally controlled and comprises lodes centred on hydrothermal breccia zones within and adjacent to numerous faults, surrounded by a halo of quartz–sulphide vein stockwork mineralisation.
		Mineralisation at A Lode is mostly in the form of breccia, composed of volcanic wall rock and older quartz-sulphide vein fragments set in a silica and sulphide matrix and locally comprising massive sulphide. This Lode is the easternmost of the parallel to en-echelon west-dipping breccia zones which make up the SOZ.

#### Criteria

### **JORC Code explanation**

### Commentary

# Drill hole Information

- A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:
  - o easting and northing of the drill hole collar
  - elevation or RL (Reduced Level elevation above sea level in metres) of the drill hole collar
  - o dip and azimuth of the hole
  - o down hole length and interception depth
  - o hole length.
- If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.

Locations and orientations of the reported drill holes and nearby holes supporting the interpreted south plunging extension of the SOZ mineralisation are tabulated below. Significant intercepts for historical drill holes are also reported in a table below.

Hole	Tuna	Max	Co	llar Coordinat	tes	Hole Orientation		
поте	Hole Type		East	North	RL	Azimuth	Dip	
USOZ036	DDH	297.50	1214.000	294.500	99.000	160	-53	
TMH243	RCDD	431.30	1115.513	224.483	312.288	96	-65	
TMH237	RCDD	464.90	1118.620	223.129	312.299	76	-68	
TMH272	RCDD	441.90	1115.000	220.000	312.000	102	-69	

Hole	Interval (m)	Cu %	Pb %	Zn %	Ag g/t	Au g/t	From (m)	Estimated True Thickness (m)
USOZ036	3.80	0.3	6.8	4.5	126	0.4	116.00	1.47
	1.65	1.4	0.8	0.6	8	10.9	162.00	0.64
TMH237	2.15	1.8	0.1	0.1	16	2.1	391.55	1.17
	4.95	2.1	0.1	0.1	11	2.1	399.25	2.70
TMH243	8.6	0.1	2.2	2.0	67	0.1	312.3	5.30
	5.4	0.3	2.6	1.6	15	0.2	339.7	3.39
	4.27	2.6	2.0	2.0	25	1.2	357.33	2.70
TMH272	2	2.3	4.8	2.3	67	4.8	295.6	1.25
	9.4	0.1	2.1	3.0	28	1.0	313.6	5.91
	1.9	0.4	0.6	0.4	5	2.4	347.8	1.22
	1.05	0.7	0.5	0.5	6	2.2	352.6	0.68

## Data aggregation methods

- In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.
- Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown

Drill hole intercept grades are reported as down-hole length-weighted averages with any non-recovered core within the reported intervals treated as no grade. The cut-off used for selecting significant intersections is typically 1% copper or equivalent (see text in release) for copper-rich mineralisation and  $2 \times Cu\% + Pb\% + Zn\% \ge 2$  for polymetallic mineralisation . No top cuts have been applied when calculating average grades.

The copper equivalent equation was derived by applying measured and assumed copper, lead, silver, and gold metal recoveries through flotation using the current Mineral Hill plant configuration. These data were combined with known transport costs, smelter charges, and payability for these commodities in concentrate form.

When aggregating assay intervals the incorporation of more than two consecutive metres

Criteria	JORC Code explanation	Commentary
	<ul><li>in detail.</li><li>The assumptions used for any reporting of metal</li></ul>	of low grade material or internal waste is avoided. High grade intersections within the main aggregated intervals are also reported in the results table in the body of the release.
	equivalent values should be clearly stated.	Although used for intercept aggregation, no metal equivalent values are reported in the release.
Relationship between	• These relationships are particularly important in the reporting of Exploration Results.	The context of the reported intercepts relative to the interpretation of the mineralisation is presented in a figure wthin the release.
mineralisatio n widths and intercept lengths	<ul> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	Down-hole widths and estimated true widths of mineralisation are reported. True widths for intercepts of breccia-style mineralisation are estimated by assigning a general Lode orientation with a dip of 45 degrees (for the upper portion of the SOZ Lodes above approximately 100RL) and 75 degrees (for the lower portion of A & B Lodes below approximately 100RL) towards a bearing of 270 (mine grid) and applying a standard trigonometric equation determine the true thickness.
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	An appropriate section view is presented in the release.
Balanced reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable,</li> </ul>	Only mineralised intersections regarded as highly anomalous, and therefore of economic interest, have been included in the results tables.
	representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Low grade mineralisation at SOZ is characterised by intervals containing only thin intercepts of economic grades. Such intervals (down to 0.4m thickness) are reported in the results table.
		The proportion of each hole represented by the reported intervals can be ascertained from the sum of the reported intervals divided by the hole depth.
Other substantive exploration data	<ul> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density,</li> </ul>	Historical production records at SOZ indicate that 215,548 tonnes of ore (predominantly from the upper B and D Lodes) was treated between 2003 and 2005 — average recoveries were 86.6% for copper by flotation and 81.9% for gold using a combination of flotation and CIL, producing an average 22.8% copper grade in concentrate.

Criteria	JORC Code explanation	Commentary
	groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	The scope of planned future drilling is described in the release.  The areas of possible extensions which are to be tested are depicted by a figure in the release.