



MUNGANA  
GOLDMINES

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Market Announcements Office  
ASX Ltd  
4<sup>th</sup> Floor, 20 Bridge Street, Sydney NSW  
ASX code: MUX

# Scoping Study indicates King Vol zinc project is economically robust and low technical risk

***Strong cash flow, low costs, short time frame to production***

Mungana Goldmines Ltd (ASX:MUX) (Mungana or Company) is pleased to advise that it has completed a scoping study for its King Vol zinc deposit (Scoping Study), located at its Chillagoe Project, which is 250km west of Cairns in North Queensland.

## 1. Scoping Study Highlights

The key results from the Scoping Study for the high-grade King Vol project in North Queensland are:

- Net operating pre-tax cash flow average of \$35m per annum (after royalties and sustaining capital) delivering a life of mine pre-tax net cash flow of \$98m.
- Estimated average annual production of 35,900 tonnes of zinc, 840 tonnes of copper, 910 tonnes of lead and 185,000 ounces of silver in concentrate after ramp-up.
- Indicative life of mine revenue of A\$349 million.
- Estimated pre-production capital of A\$37.4 million.
- Estimated C1 cash operating cost of A\$0.52/lb zinc in concentrate (after by-product credits).
- Project highly leveraged to the zinc price.
- First production scheduled for early 2017.
- Scoping study supports Mungana's current work plans and shows a strong base for the considerable potential to increase production and project life through exploration in the Chillagoe area, including extensions of known mineralisation and Mineral Resources.

**The Scoping Study results, production target and forecast financial information set out in this announcement should be read subject to the cautionary statements included below.**

**Mungana Goldmines Ltd**

ABN 15 136 606 338

Unit 5 Level 3 St James Place, 155 Denham St Townsville QLD 4810  
PO Box 499 Belgian Gardens QLD 4810

Page | 1

Unless otherwise stated, all amounts are in Australian dollars, and are not subject to inflation/escalation factors. Consensus metal prices have been used in the estimation of the financial outcomes. Zinc accounts for approximately 90% of the total estimated revenue.

## **2. Scoping Study Summary**

The Scoping Study is based on the production of separate zinc, copper, and lead concentrates, each with associated silver credits. The study includes Mineral Resources down to 410m depth with an initial projected mine life of 4.5 years. The total King Vol Mineral Resource currently extends to a depth of 800m and is considered open both along strike and at depth.

The results of the Scoping Study indicate that the King Vol zinc project has robust economics and is a technically low risk zinc development when considered against a strong zinc price outlook (subject to the cautionary statements below).

Key observations of the Scoping Study include:

- **Production:** Estimated average annual throughput after ramp up of 320,000 tonnes (range of 225,000 to 370,000 tonnes). Estimated average annual metal in concentrate production after ramp up of 35,900 tonnes of zinc in concentrate, 840 tonnes of copper in concentrate, 910 tonnes of lead in concentrate and 185,000 ounces of silver in concentrate. Initial mine life of 4.5 years.
- **Mining Inventory:** Estimated Mining Inventory is 1.33 million tonnes grading 11.9% zinc, 0.6% copper, 0.4% lead and 21.2g/t silver for a contained 158,000t zinc, 8,000t copper, 5,800 t lead and 0.9Moz of silver.
- **Operating costs:** C1 cash operating costs over the mine life are estimated to average A\$0.52/lb zinc, net of by-product credits. In terms of cost per tonne the operating costs are A\$120/t ore, comprising A\$79/t mining, A\$33/t processing and \$8/t general and administration.
- **Capital costs:** Up-front capital requirements to produce first concentrate are estimated to be A\$37.4 million, with an estimated A\$7 million of additional expenditure required prior to the King Vol zinc project generating positive cash flow. Total capital requirements for life of mine is estimated to be A\$71.6 million. The project takes full advantage of the well-established infrastructure and largely completed base metal concentrator at its Mungana site.
- **Cash flow:** The indicative life of mine revenue is A\$349 million. The life of mine average annual net cash flow (after royalties and sustaining capital) is estimated to be A\$35 million per annum (range of A\$14m to A\$47m) after ramp-up. The project is anticipated to generate a life of mine net cash flow of A\$98 million. Commodity prices and exchange rates used in the scoping study are based on June 2015 consensus pricing for the estimated project time-frame.
- **Sensitivity:** The project is most sensitive to movements in the zinc price and exchange rate. The NPV (with a 10% discount rate) of the project will change by approximately A\$26 million for every 10% movement in the zinc price.
- **Resources below 410m depth:** The results presented in the Scoping Study only consider Mineral Resources down to 410m depth. The King Vol Mineral Resources extend to a depth of 800m. Two additional mining cases were assessed by the company as part of this Scoping Study down to 650m and 770m depth. The results of these additional cases are not presented as they contain predominately Inferred Mineral Resources. Based on the geological continuity

and geometry of the mineralised shoots the company believes that production will continue at depth at similar rates for at least an additional 2 years. However, any forecast production below 410m depth is currently considered aspirational as there is insufficient certainty in relation to any Mineral Resources below the 410m depth.

- **Feasibility Study (FS):** The scoping study supports the work plan established by Mungana to complete a Feasibility Study (FS) on the King Vol zinc project by the end of March 2016.

Mungana Managing Director Tony James, said the Scoping Study showed King Vol was an exciting project which could generate strong returns for Mungana shareholders based on the consensus zinc price outlook.

“King Vol has the enviable combination of high grade resources, low operating and capital costs and is highly leveraged to the zinc price,” Mr James said. “It also has the capacity to deliver a very solid platform for the company from which to increase production rates and mine life”.

“Based on these positive results from the Scoping Study, we plan to complete the feasibility study and finalise project approvals at the same time with a view to commencing production by the beginning of 2017.”

### **3. Scoping Study Parameters – Cautionary Statements**

The Scoping Study referred to in this announcement is based on low-level technical and preliminary economic assessments, and is insufficient to support the estimation of Ore Reserves, provide assurance of an economic development case at this stage, or provide certainty that the results from the Scoping Study will be realised.

The Mining Inventory that forms the basis for the Scoping Study, the production target and forecast financial information set out in this announcement include Mineral Resources in the inferred category. Accordingly, Mungana advises that the Scoping Study results, the production target and forecast financial information set out in this announcement are preliminary in nature. Of the total Mining Inventory used (down to 410m depth), approximately 64% (by tonnes) and 68% (by zinc metal) is in the Indicated Mineral Resource category, while the remainder is classified as an Inferred Mineral Resource. In year 1 and 2 of the project (ref table 2), it is proposed that approximately only 20% of the Mining Inventory will be inferred Mineral Resources in the mine plan. The overall proportion of inferred Mineral Resources included in this forecast financial information is not the determining factor for the projects viability.

There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the conversion of Inferred Mineral Resources to Indicated Mineral Resources, or that the production targets in this announcement will be realised.

The Scoping Study inputs associated with the production targets contained in this announcement relate to the indicated and inferred Mineral Resources to a Mine RL of 590m, equating to a vertical depth of approximately 410m. The Scoping Study process also evaluated two additional cases as follows:

- Down to 350m RL (equating to a vertical depth of approximately 650m depth); and
- Down to 230m RL (equating to a vertical depth of approximately 770m depth).

In both of those cases, almost all of the additional Mineral Resources considered are classified as Inferred. The production target and forecast financial information set out in this announcement have therefore not been derived for Mineral Resources below a vertical depth of approximately 410m.

Mungana believes that the production target, forecast financial information derived from that target and other forward looking statements included in this announcement are based on reasonable grounds. The detailed reasons for this belief are outlined in Sections 4 to 16 below and the Annexure to this announcement. However, neither Mungana nor any other person makes or gives any representation, assurance or guarantee that the production target or expected outcomes reflected in this announcement will ultimately be achieved.

Investors should note that Mungana believes the consensus commodity prices, AUD:USD exchange rate and other variables that have been assumed in the Scoping Study to estimate potential revenues, cash flows and other financial information for the King Vol zinc project are based on reasonable grounds as at the date of this announcement. However, actual commodity prices, exchange rates and other variables may differ materially over the contemplated initial mine life and, accordingly, the potential revenue, cash flow figures and other financial information provided in the Scoping Study and set out in this announcement should be considered as an estimate only that may differ materially from actual results. Accordingly, Mungana cautions investors from relying on the forecast financial information in this announcement.

A number of key steps need to be completed in order to bring the King Vol zinc project into production. Many of those steps are referred to in this announcement (section 14 and 16). Investors should note that if there are any delays associated with completing those steps or the completion of the steps does not yield the expected results, the estimated revenue and cash flow figures in this announcement may differ materially from actual results.

#### **4. Mineral Resources and Mining Inventory**

The Scoping Study is based on the defined Mineral Resources for the King Vol deposit (ASX: 28 Jan 2015), which are summarised in the table below.

<b>King Vol Mineral Resource – January 2015</b>									
<b>Resource Category</b>	<b>Tonnes (Mt)</b>	<b>Grade</b>				<b>Contained Metal</b>			
		<b>Zn%</b>	<b>Cu%</b>	<b>Pb%</b>	<b>Ag g/t</b>	<b>Zn (kt)</b>	<b>Cu (kt)</b>	<b>Pb (kt)</b>	<b>Ag (Moz)</b>
Indicated	1.05	14.7	0.9	0.7	36.5	154	9	7	1.23
Inferred	1.94	10.4	0.7	0.5	26.4	202	13	10	1.65
<b>Total</b>	<b>2.99</b>	<b>11.9</b>	<b>0.8</b>	<b>0.6</b>	<b>29.9</b>	<b>356</b>	<b>22</b>	<b>17</b>	<b>2.88</b>

**Table 1 – King Vol Mineral Resource (Geologically constrained, not reported to cut-off).**

Approximately 43% (by contained zinc metal) of the King Vol mineral resource is in the Indicated Resource category, the remainder being classified as Inferred. These combined Mineral Resources extend to the 200m RL (approximate depth of 800m). The majority (>99%) of the Indicated Mineral Resources are located above the 590m RL (depth of 410m). Accordingly, only the higher confidence Mineral Resources above 590m RL were used in the estimation of the Mining Inventory associated with the Scoping Study.

The combined Indicated and Inferred Mineral Resources above the 590m RL is 1.7Mt at a grade of 12.7% zinc, 0.8% copper, 0.8% lead and 35.0g/t silver.

A detailed mine design, mining schedule and evaluation of suitable cut-off grade criteria was applied to the Mineral Resource to determine the Mining Inventory. The resulting estimated Mining Inventory above the 590m RL is 1.33Mt at a grade of 11.9% zinc, 0.6% copper, 0.4% lead and 21.1g/t silver. In the total Mining Inventory, 64% of the tonnes and 68% of contained zinc metal are associated with Indicated Mineral Resources.

The company also extended the scoping study evaluation to include two additional mining cases down to 350m RL (650m) and 210m RL (770m). These have been assessed due to the strong vertical shoot geometry of the mineralisation. However, as almost all of the Mineral Resources

below the 590mRL are in the Inferred category, the Company is not in a position to derive any production targets from that work.

## 5. Mining

The planned mining method and schedule is based on industry standard Australian mechanised underground mining techniques. The underground mine will be accessed via a decline (Figure 1).

Underground mining will be by narrow sub-level open stoping (commonly referred to as benching) in a top down sequence. Suitable pillars will be left behind to ensure stability of the mining process, and detailed planning and technical assessment will ensure maximum metal extraction.

A mechanised loading and trucking operation will transfer the ore to the surface for transport to the Mungana processing facility, which is located approximately 25km southeast of the King Vol deposit.

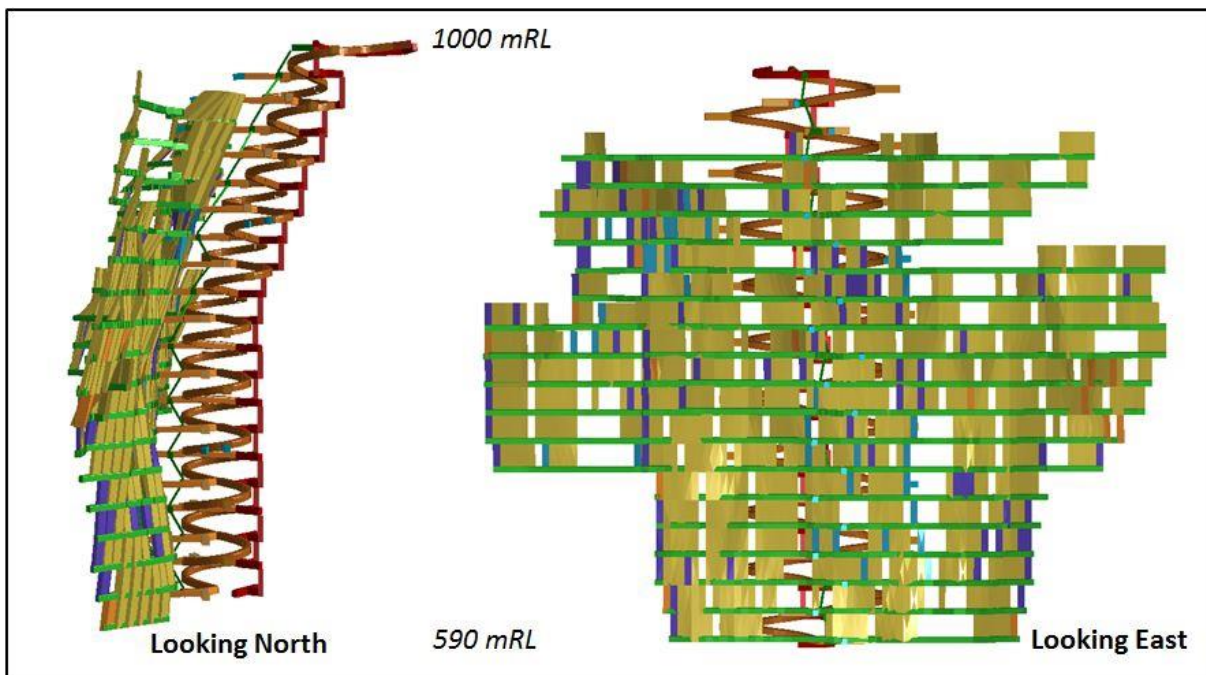


Figure 1 - Conceptual Mine Design showing decline layout and stopes to be mined down to the 590mRL.

The Table below summarises the mine schedule relative to Indicated and Inferred Mineral Resources comprising the estimated Mining Inventory.

	Units	Total	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Mining Inventory - Indicated	t	851,466	21,407	267,053	211,132	190,388	153,433	8,053
Zn Grade	%	12.6	6.3	9.6	12.0	13.8	18.0	16.1
Zn Mined	t	107,390	1,340	25,579	25,267	26,320	27,592	1,293
Mining Inventory - Inferred	t	477,925	852	61,982	162,131	159,449	69,835	23,676
Zn Grade	%	10.7	9.5	10.5	10.4	10.8	11.3	9.8
Zn Mined	t	50,922	81	6,496	16,914	17,205	7,899	2,328
<b>Mining Inventory - Total</b>	<b>t</b>	<b>1,329,390</b>	<b>22,258</b>	<b>329,035</b>	<b>373,263</b>	<b>349,837</b>	<b>223,268</b>	<b>31,729</b>
<b>Zn Grade</b>	<b>%</b>	<b>11.9</b>	<b>6.4</b>	<b>9.7</b>	<b>11.3</b>	<b>12.4</b>	<b>15.9</b>	<b>11.4</b>
<b>Zn Mined</b>	<b>t</b>	<b>158,312</b>	<b>1,421</b>	<b>32,075</b>	<b>42,180</b>	<b>43,525</b>	<b>35,491</b>	<b>3,621</b>
Mining Inventory - Indicated (% of total)	%	64%	96%	81%	57%	54%	69%	25%
Zn Mined - Indicated (% of total)	%	68%	94%	80%	60%	60%	78%	36%



Table 2 – Scheduled proportion of Indicated and Inferred Mineral Resources included in the mine schedule.

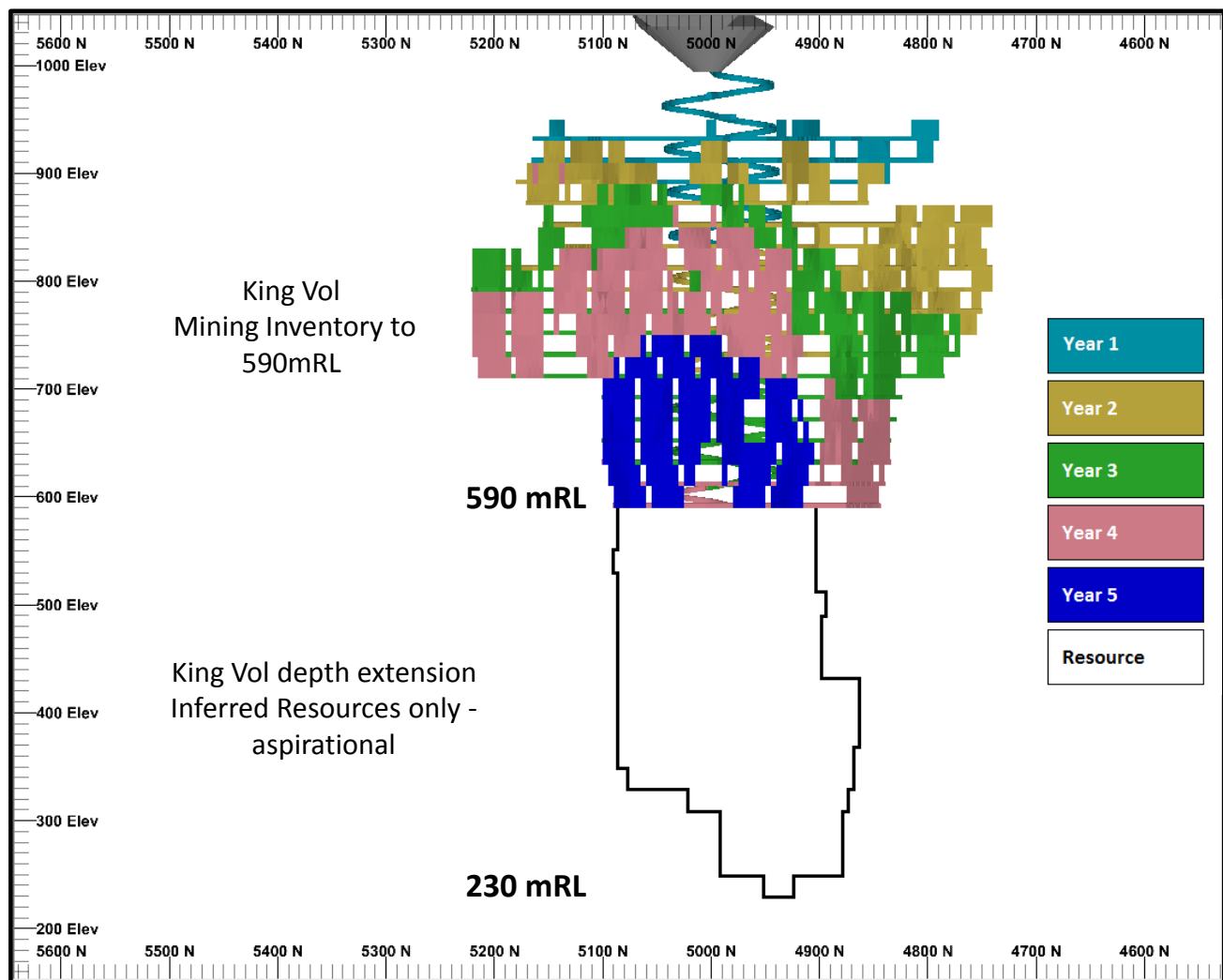


Figure 2 - Mining sequence associated with the King Vol production targets presented as a longitudinal section, showing the Inferred Resource extension at depth (31,729 tonnes of the material mined in Year 6 shown in table 2 above is included in Figure 2 as material mined in year 5).

## 6. Processing

The Scoping Study assumes that the existing partially built processing facility at Mungana, which is considered approximately 65% to 75% complete, will be re-configured and completed for the processing of the King Vol material. In terms of civil, structural and mechanical aspects, the plant is well advanced, with the majority of the remaining work required to complete the plant associated with piping and electrical works.

Processing will comprise conventional crushing, milling, classification, flotation, dewatering and filtration to produce separate zinc, copper and lead concentrates.

The total cost of re-configuring and completing the processing facility and associated infrastructure, including first fills and spares, has been estimated by GR Engineering Services as being approximately A\$19.1 million. Redesign work will commence in Q2 2016. As the processing facility is largely constructed, the Company anticipates significant time and cost savings in comparison to constructing a new plant.



Figure 3 – Photograph showing the 65-75% complete and fully permitted processing facility at Mungana

## 7. Metallurgy and Concentrate Production

Metallurgical test work completed to date has shown that the King Vol mineralisation is amenable to the production of separate zinc, copper and lead concentrates with the compositions, recoveries and grades as shown in Table 3 below.

Element	Recovery	Concentrate Grade		
		Zinc	Copper	Lead
Zinc	93.6%	52.1%	9.6%	5.0%
Copper	44.5%	1.3%	23.2%	7.9%
Lead	63.7%	1.0%	5.0%	57.1%
Silver	68.5%	120g/t	230g/t	318g/t

Table 3 – Metallurgical recoveries and concentrate grades

## 8. Infrastructure and Transport

The King Vol zinc project is in close proximity to the Company's 65-75% completed processing facility and associated infrastructure and the residential town of Chillagoe.

In Chillagoe, Mungana owns offices, core shed facilities and accommodation, including completed civil engineering for a 230 person village, motel and housing. Currently only 44 rooms exist in the village and the Company has made provision in the Scoping Study to re-instate the village to the required level.

The components of the Mungana processing facility have varying levels of completion, ranging from as high as 90% at the crushing circuit down to 30% for the concentrate filter and storage. In addition, main road access and office buildings, workshops, store facilities, and change room facilities are all established and considered fully functional. Tailings storage, raw water and process water dams have also already been constructed, and a 66KV overhead power line (grid power) exists, along with a transformer and switch-room. Certain infrastructure items located at the Mungana site such as workshops, offices and change rooms may need to be re-located to the King Vol mine site following further assessment.

Transportation of the ore from King Vol to the Mungana processing facility (25km) will be via the existing, Bourke Development Road which crosses the Walsh River between King Vol and Mungana. It is likely during the wet season, that transportation of ore from King Vol and access to the mine site will be temporarily impacted by high rainfall events. Whilst this will likely have a

seasonal effect on the production associated with the project, the Company considers that it is unlikely that any such disruption will have a material impact on average annual production.

It is proposed that the concentrate will be trucked from the Mungana processing facility to Townsville.

## 9. Capital Costs

The capital expenditure required to achieve first concentrate production is estimated to be approximately A\$37.4 million as shown in Table 4 below. It is estimated that an additional \$7 million of funding will be required for working capital purposes and other project related costs prior to the King Vol zinc project generating a positive cash flow. A further \$34.2 million of mining development capital is required for the remaining mine life following first concentrate production.

<b>Capital Cost to first concentrate production</b>	<b>A\$M</b>
Mining	16.2
Processing plant completion, critical spares, first fills and camp upgrade	19.1
Other	2.1
<b>Total</b>	<b>37.4</b>

Table 4 – Capital cost estimates

## 10. Operating Costs

The operating cost estimates are summarised in Table 5 below.

<b>Life of mine operating cost estimates</b>	<b>A\$/tonne</b>
Mining	\$79
Processing	\$33
General and Administration	\$8
<b>Total</b>	<b>\$120</b>

Table 5 – Operating cost estimates

## 11. C1 Cash Costs

The estimated C1 cash costs per pound of zinc over the life of mine are summarised in Table 6 below (including by-product credits).

<b>Item</b>	<b>A\$ per lb Zn</b>
Mining	0.35
Processing	0.15
General & Administration	0.04
By-Product Credits	(0.02)
<b>Total C1 Cash Cost/lb Zn</b>	<b>0.52</b>

Table 6 – C1 cash cost per lb Zn estimates



## 12. Consensus Commodity Prices and Exchange Rates

Projected consensus commodity prices and exchange rates applied in the Scoping Study are provided in Table 7 below.

Commodity	2016	2017	2018	2019	2020	2021	2022	2023	2024
Zinc (\$US/t)	2,476	2,649	2,707	2,727	2,624	2,624	2,624	2,624	2,624
Copper (\$US/t)	6,275	6,645	6,930	7,140	7,146	7,146	7,146	7,146	7,146
Lead (\$US/t)	2,109	2,177	2,225	2,257	2,299	2,299	2,299	2,299	2,299
Silver (\$US/oz)	17.93	18.96	19.97	20.39	19.94	19.94	19.94	19.94	19.94
Exchange rate (\$US:\$AUS)	0.75	0.75	0.74	0.75	0.75	0.75	0.75	0.75	0.75

Table 7 – Consensus pricing assumptions

## 13. Project Economic Sensitivity

The spider diagram in Figure 4 below illustrates that the King Vol project is most sensitive to the zinc price and the exchange rate. A discount rate of 10% was used in the NPV calculation.

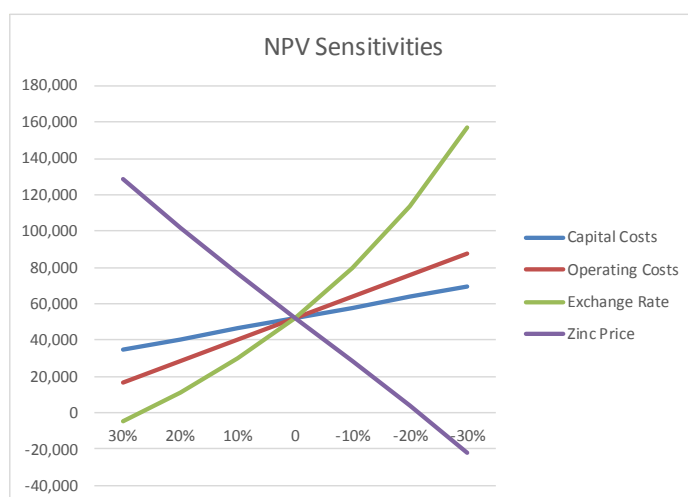


Figure 4 – NPV sensitivities for changes in costs, zinc price and exchange rate.

## 14. Timeline to Production

Mungana has commenced a drilling and sampling program intended to facilitate an updated Mineral Resource estimate that will underpin the Feasibility Study on the King Vol zinc project. It is proposed that whilst Mungana works on the Feasibility Study it will simultaneously obtain the remaining project approvals in order to develop the project as planned. The King Vol mining lease application is still to be granted and the Environmental Authority (EA) for the development of the King Vol mine is required before the mine development and production can commence.

Mungana expects that it will have appropriate financing in place shortly before or after it has obtained approval to commence the construction of the project. The financing work will continue in parallel with the completion of the Feasibility Study and subsequent approval.

The timing on completion of the Mungana concentrator and the mine development are based on the information provided by GR Engineering Services and Entech Pty Ltd.

Figure 5 below outlines the general timeline proposed as part of the Scoping Study.

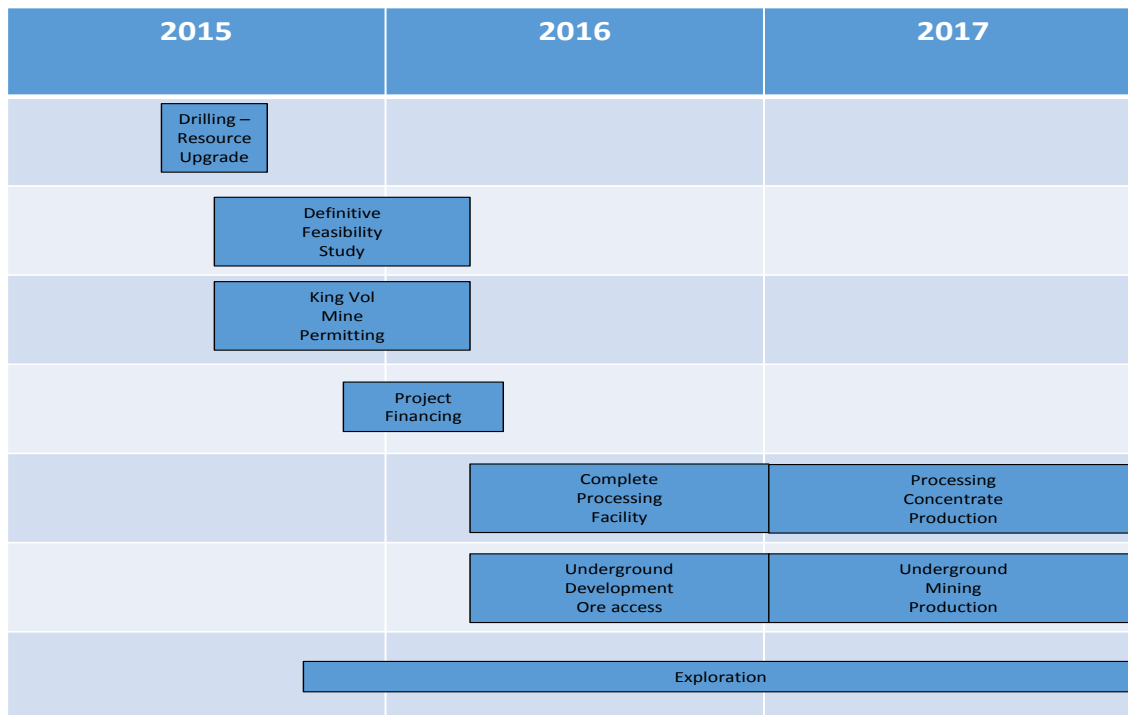


Figure 5 - Proposed King Vol development timetable

### 15. King Vol Depth Extension

Two additional mining scenarios were also assessed as part of the Scoping Study by continuing the mine down to the 350mRL (approximate depth 650m) and the 230mRL (approximate depth 770m). Detailed study results in relation to this work have not been disclosed in this announcement as the Mineral Resources applied in this extended evaluation are predominantly Inferred Mineral Resources and the level of confidence in respect of such resources is insufficient to be included as a production target.

However some key observations can be made from the work completed in relation to those cases:-

- Geologically the King Vol mineralisation has a vertical shoot orientation and the mineralisation continues with depth. There is limited drilling in place below the 590mRL case and the mineralisation remains open in all directions. At this stage, it is not considered practical from a depth and cost perspective to complete the drilling required from surface so that the Mineral Resources could be converted to the Indicated category. It is more logical that infill drilling of the lower parts of the deposit will more cost-effectively be undertaken from the upper levels of the mine as development progresses.
- There are no indications of any technical, economic or other issues that would suggest the mine could not extend beyond the limits of the current production target with a suitable confidence level and understanding of the Mineral Resources in deeper parts of the deposit.
- The mine infrastructure required for the 590mRL case will be utilised for any future mine extensions.
- The results of the additional cases validate the Company's strategy to complete additional drilling of the deposit to increase the confidence level of the resource. However, there is no guarantee that the drilling planned will sufficiently improve the confidence of these resources to enable them to be included as part of any revised production target issued by the Company in the future.

## **16. Next Steps**

The results of the Scoping Study confirm the Company's previously announced work plan and strategy moving forward.

The Company has commenced drilling at King Vol, with sampling designed to increase the knowledge and understanding of, and confidence in, the key geological, metallurgical and geotechnical parameters of the King Vol deposit. The program is intended to extend the Indicated Mineral Resources in the upper 410m of the deposit, whilst also improving confidence in the high-grade core of Inferred Mineral Resources below 410m depth.

Mungana expects that the results of this drilling will facilitate an updated Mineral Resource estimate that will underpin the Feasibility Study on the King Vol zinc project. The Company plans to complete the Feasibility Study and obtain approval from the Mungana board to commence the King Vol project by the end of Q1 2016.

Key areas of additional work will include the following:

1. Completion of the appropriate environmental surveys to obtain the Environmental Authority to mine at the King Vol mine site.
2. Completion of the appropriate hydrology surveys and infrastructure work to handle an expected positive water balance at the King Vol mine site.
3. Completion of the geotechnical assessment for the location of mine capital development.
4. Additional metallurgical testing.
5. Completion of the waste rock management plan to determine the final location of mine-generated waste rock.
6. Assessment of processing the stockpile currently located at the Mungana processing facility to produce a gold concentrate. The stockpile is estimated to comprise approximately 125,000t at 1.26g/t Au, 14g/t Ag, 1.04% Zn, 0.23% Pb and 0.2% Cu.
7. Entering into key off-take agreements.
8. Further consideration of the various financing options available to complete project construction.

It is planned that the Feasibility Study will be progressed in conjunction with ongoing exploration activities and the Company plans to accelerate these activities to deliver on its aspirational target of increasing the Chillagoe production levels to full plant processing capacity. In parallel with Mungana's base metal strategy, the Company will work with Newcrest to execute the exploration expenditure agreement by identifying significant gold-copper porphyry deposits on the Company's southern tenements.

### **Competent Person's Statement**

*The information in this announcement relating to Mineral Resources within the King Vol deposit is based on information prepared by Mr Brian Wolfe in compliance with the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) details of which were released on ASX by the Mungana on 28 January 2015.*

*Mr Wolfe is a member of the Australian Institute of Geoscientists and has sufficient experience 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 JORC Code.*

*Mungana confirms that it is not aware of any new information or data that materially affects the information relating to the King Vol deposit Mineral Resources included in the 28 January 2015 announcement referred to above. Mungana confirms that all material assumptions and technical parameters underpinning the Mineral Resource estimates in the 28 January 2015 announcement continue to apply and have not materially changed.*

## **ANNEXURE – (Material Assumptions)**

The inputs and assumptions set out in the table below apply to the production target for the King Vol project set out in this announcement. The commentary in the table below should be read in conjunction with the remainder of this announcement.

<b>Criteria</b>	<b>Commentary</b>
<b>Mineral Resource estimate used</b>	<p><b>Mineral Resource Estimate</b> - For the purposes of this Scoping Study the latest mineral resource for King Vol, published on the ASX (28 January 2015) has been used. King Vol has a combined resource of <b>2.99Mt grading 11.9% zinc, 0.8% copper, 0.6% lead and 29.9g/t silver</b> for 356,000t of contained zinc, 22,000t of contained copper, 17,000t of contained lead and 2.88Mozs of contained silver.</p> <p>The production target has included the King Vol Mineral Resources down to 590m level (approximately 410m depth). The Mineral Resources above the 590m level comprise approximately 68% Indicated Resources, with the balance Inferred, while those below the 590m level are almost all Inferred Resources.</p> <p>The work has also considered two additional cases as the mineralisation continues in the vertical shoot geometry and is open at depth. These cases deal with predominately Inferred Resources. The two cases were the 350m level and the 230m level cases and are included only for completeness in order to describe all of the work undertaken as part of the Scoping Study process. No production or financial outcomes have been provided in this announcement in relation to this work.</p>
<b>Site Visits, scoping study inputs and preparation</b>	<p>The following people have provided input into this Scoping Study.</p> <p><b>Mr Anthony (Tony) James</b> (Mungana Goldmines) – Mr James has visited the site and understands the detail associated with the site. Mr James is the Managing Director of Mungana Goldmines and is responsible for the final compilation of this Scoping Study.</p> <p><b>Mr Christopher Newman</b> (Mungana Goldmines) – Mr Newman has visited the site and understands the detail associated with the site. Mr Newman is the Geology Manager for Mungana Goldmines and is responsible for the geological review of the King Vol deposit including the resource estimation process.</p> <p><b>Mr Andrew Beaton</b> (Mungana Goldmines) – Mr Beaton has visited the site and understands the detail associated with the site. Mr Beaton is the Chillagoe site manager and has been heavily involved with the project for some time and facilitated access to the historical information associated with the King Vol zinc project. Mr Beaton also worked as the liaison between the company and the external environmental consultants in relation to the environmental requirements and approvals associated with the project.</p> <p><b>Mr Evan McKern (Entech Pty Ltd)</b> – Mr McKern is a Senior Mining Engineer who has completed the mining study work associated with the King Vol deposit scoping study and also compiled the overall economic model associated with the project. Entech was engaged as an independent consultant by Mungana to assist with the Scoping Study. Mr McKern has not visited site and he has done his work based on information provided to him by Mungana.</p> <p><b>Mr Peter Allen (GR Engineering Services Limited)</b> – Mr Allen is the Manager – Process &amp; Technical Services (Metallurgist) who has completed the metallurgical study work associated with the Scoping Study. Mr Allen has not visited site and has done his work based on information provided by Mungana and information received from his colleague Mr Mathew Wilson.</p> <p><b>Mr Matthew Wilson (GR Engineering Services Limited)</b> – Mr Wilson is the Manager – Business Operations (Engineer) who has completed the site review of the Mungana processing facility and, with assistance from Mr Peter Allen, was responsible for the capital cost estimate to complete the construction of the Mungana processing facility. Mr Wilson has visited site and is familiar with the project and its layout.</p>
<b>Study level</b>	<p><b>Scoping Study</b> - The work associated with this study is considered to be at scoping study level. A scoping study is an order of magnitude technical and economic study of the potential viability of developing Mineral Resources. It includes appropriate assessments of realistically assumed modifying factors along with any other relevant operational factors that are necessary to demonstrate that, at the time of reporting, progress to a prefeasibility study can be reasonably justified.</p> <p>A detailed mine design, schedule and cost analysis was provided by Entech Pty Ltd. Entech also completed the financial model associated with the project in consultation with GR Engineering Services Limited and Mungana.</p>
<b>Cut-off parameters</b>	<p>In order to determine the economically mineable part of the resource, cut-off grades have been applied on a zinc equivalent (ZnEq) basis, thus ensuring that the value of all four metals have been taken into account in the modelling process. Due to the number of elements associated with the modelling process, being able to apply one "equivalent" criteria is more practicable in the modelling process. The program used for this was Minable Shape Optimiser (MSO) software by CAE. These cut-off parameters were then applied to the different mining shapes in the software, being individual stopes and development portions, following the mine design process. The cut-off was not applied to the resource model.</p> <p>The ZnEq formula was estimated at being: <b>ZnEq = Zn + (Pb x 0.608) + (Cu x 1.951) + (Ag x 0.008)</b>  The ZnEq formula was based on metallurgical test work and the following key revenue assumptions were used, applying price inputs current on 20<sup>th</sup> May 2015.</p> <ul style="list-style-type: none"> <li>• Zn price US\$2,226/t</li> </ul>

	<ul style="list-style-type: none"> <li>• Cu price US\$6,217/t</li> <li>• Pb price US\$1,918/t</li> <li>• Ag price US\$17/oz</li> <li>• AUD:USD exchange rate 0.80</li> </ul> <p>Concentrate transport, treatment and refining charges were also included in the cut-off grade calculation which were considered suitable for the King Vol deposit.</p> <p>By applying estimated mining, processing and administration operating costs, the following cut-off grades (COG) were calculated:</p> <ul style="list-style-type: none"> <li>• <b>Economic stope COG: 9.7% ZnEq.</b> This COG carries the full operating costs. The mine design was based on stopes that meet this COG.</li> <li>• <b>Incremental stope COG: 6.3% ZnEq.</b> This COG applies to stopes that are not required to carry the cost associated with development mining.</li> <li>• <b>Incremental development COG: 3.2% ZnEq.</b> This COG applies to development material and is based on processing and administration costs only. Any development material below 3.2% ZnEq is considered to be waste material.</li> </ul>
<b>Mining</b>	<p><b><u>Mining Method and assumptions</u></b> – The underground mining method and process utilised is standard Australian underground mechanised mining.</p> <p>The mining method applied in the Scoping Study is conventional underhand benching based on long-hole drill and blast methods. The method is a top-down sub level open stoping method. The mine plan follows a top-down mining sequence with stope voids generally remaining open. Rib pillars will be distributed throughout the stoping areas in order to maintain long term mine stability based on initial geotechnical considerations. The selected mining method is considered to be well suited to the orebody geometry and ground conditions, based on the information currently available.</p> <p>Development mining will be undertaken using conventional drill &amp; blast methods. Access to the mine will be via a decline developed in the footwall of the orebody. The decline will be developed at a gradient of 1:7 and will be 5.2m wide x 5.5m high.</p> <p>The mining methods and design is based on the use of mobile mining equipment that is common to many underground mines throughout Australia including 50t capacity underground haul trucks, 5m<sup>3</sup> load-haul-dump units and twin-boom electric-hydraulic jumbo drills.</p> <p>Suitable mine infrastructure including surface facilities, mine ventilation, compressed air, mine dewatering and second egress have all been included and costed in the mine design.</p> <p><b><u>The geotechnical assumptions</u></b> – Based on the most recent geotechnical assessment by Kevin Rosengren &amp; Associates (Rosengren) in January 2008, the ground conditions in the fresh rock are generally considered to be good. Poorer ground conditions are likely in the oxidised and partially oxidised zones in the upper section of the mine.</p> <p>The Scoping Study mine design has been based on recommendations from the January 2008 Rosengren geotechnical assessment and feedback from a second geotechnical consultant (David Dickson, Ground Control Engineering) following his review of the Rosengren work and the proposed design during the Scoping Study.</p> <p>Standard industry ground support has been assumed (rockbolts and steel mesh support).</p> <p>Stope dimensions are based on a level spacing of 20m (floor to floor) and a maximum strike length of 30m. Adjacent stopes are separated by rib pillars that have been designed at a strike length of 5m.</p> <p>It has been assumed that the groundwater inflow will be high (assumption of 80 l/sec) and this flowrate has been taken into account in capital and operating cost estimates for the mine.</p> <p><b><u>The mining dilution factors used</u></b> – Stope dilution is based on the following (as per recommendations from the 2008 Rosengren geotechnical review):-</p> <ul style="list-style-type: none"> <li>• Stopes in fresh rock: Allowance of 0.5m dilution from both hangingwall and footwall (1.0m total dilution). This dilution allowance has been included in the designed stope shape.</li> <li>• Stopes in transitional rock: Allowance of 1.5m dilution from the hanging wall and 1.0m from the footwall (2.5m total dilution).</li> </ul> <p>A dilution allowance of 0.5m from each of the hanging wall and footwall (1.0m total) has been included in the designed stope shapes for all fresh and transitional stopes. An additional dilution allowance of 1.5m has been applied mathematically to the transitional stopes at zero metal grade.</p> <p>No dilution has been applied to development excavations.</p> <p><b><u>The mining recovery factors used</u></b> – A 5% ore loss factor has been applied to all stopes. 100% recovery has been assumed for all development excavations.</p> <p><b><u>The mining widths used</u></b> – A minimum designed mining width of 1.5m has been applied to stoping. With the addition of 0.5m dilution on each of the hanging wall and footwall, the minimum resulting void width is 2.5m.</p> <p><b><u>The manner in which the Inferred Mineral Resources are utilised in the mining study and the sensitivity of the outcome to their inclusion</u></b> – Both indicated and inferred Mineral Resources have been</p>



	<p>applied in the Scoping Study. Of the total Mining Inventory used, approximately 64% (by tonnes) and 68% (by zinc metal) is in the Indicated Mineral Resource category down to the 590 m RL (410m depth). The majority of the remainder is classified as an Inferred Mineral Resources. In year 1 and 2 of the project (ref table 2) approximately only 20% of the inferred Mineral Resources feature in the mine plan. An indicated only mine plan and associated financial model was also completed as part of the scoping starting evaluation down to the same 590m RL, and a revised Mining Inventory to 837,549t @ 12.6% zinc, 0.6% copper, 0.4% lead and 21.8g/t silver was determined. The financial modelling associated with this evaluation estimated a net pre-tax cash flow of A\$41.5 million. Accordingly, Mungana believes that, the overall proportion of Inferred Mineral Resources included in this forecast financial information is not the determining factor for the projects viability.</p> <p><b><u>The infrastructure requirements of the selected mining methods</u></b> - Key infrastructure requirements that have been factored into the Scoping Study include:</p> <ul style="list-style-type: none"> <li>• Decline access, including boxcut and portal development;</li> <li>• Return air system, including: return airway portal, primary ventilation fan, level-to-level return air raises and associated access development;</li> <li>• Escapeway system;</li> <li>• Surface and underground communications systems;</li> <li>• 2 x dewatering bores including bore pumps and associated infrastructure (to minimise groundwater during mining in the upper parts of the mine);</li> <li>• Underground dewatering systems based on a capacity of 80 litres per second ground water and 20 litres per second dirty water;</li> <li>• Surface water dams (clean &amp; dirty water) for storage of water from underground dewatering;</li> <li>• Power generation facility (diesel powered);</li> <li>• Diesel storage facility;</li> <li>• Electrical infrastructure for surface and underground;</li> <li>• Mine offices, change rooms, workshop;</li> <li>• ROM pad;</li> <li>• Waste rock dump.</li> </ul>
<b>Metallurgical factors and assumptions</b>	<p><b><u>The metallurgical process chosen and the appropriateness of that process to the style of mineralisation</u></b> – The metallurgical process chosen for the style of mineralisation seen at King Vol is considered appropriate. 25km to the southeast of King Vol is the partially complete Mungana concentrator facility. The plant comprises single stage crushing, a SAG and ball mill grinding circuit, and sequential copper, lead and zinc flotation using roughing and up to three stages of cleaning. A regrind circuit is included in the copper rougher concentrate.</p> <p>The Scoping Study utilises the available circuit and treatment of 350ktpa. The three mineralised zones identified in the King Vol deposit may require blending or separate processing in short campaigns as dictated by the mining schedule.</p> <p><b><u>Whether the metallurgical process is well-tested technology or novel in nature</u></b> – The metallurgical process is considered to be standard and conventional for this style of deposit with the production of three separate saleable concentrates - zinc, copper and lead. Kagara originally planned to process the Mungana mine ore and the King Vol material through the Mungana concentrator. However, no processing of Mungana or King Vol material was ever undertaken by the Mungana plant.</p> <p><b><u>The nature, amount and representativeness of the metallurgical test work undertaken</u></b> – Test work was conducted on three composite samples each representing the three mineralised zones identified in the King Vol deposit – referred to as EZMC, EZMR and WZMC. 34 drill core intercepts were used to generate the composite samples. At least 112 laboratory tests were completed by Optimet Laboratories in Adelaide for Kagara Pty Ltd prior to 2008 on the three King Vol composites including two locked cycle tests on each composite (total of six locked cycle tests).</p> <p>Comminution testing of three samples representing different mineral lithologies from the King Vol deposit using both drop weight testing and SMC testing have been completed and the comminution circuit was assessed by SMCC Pty Ltd.</p> <p>The 2008 metallurgical test work was done prior to the January 2015 mineral resource estimate. The suitability and representative nature of the samples used in the test work compared to the mineral resource will be re-evaluated as part of the feasibility study.</p> <p><b><u>Any recovery assumptions or allowances made for deleterious elements</u></b> – The recovery assumptions associated with the various other minerals associated with the King Vol deposit were also assessed from the 2008 Optimet test work program. The concentration of these minerals or elements will be further considered in the economic terms associated with any potential revenue.</p> <p>The test work included concentrate assays of all the other potential deleterious elements in the concentrate and it was identified that the only issue is the potential cadmium (Cd) grade in the copper concentrate. The study assumes that the copper concentrate can be blended with other concentrates to resolve this issue.</p>
<b>Environmental</b>	<p><b><u>King Vol mine site</u></b> - The King Vol mining lease application is currently pending and it is proposed that it will be finalised prior to any work commencing.</p> <p>The Department of Environmental and Heritage Protection's (DEHP) Environmental Authority (EA) to permit development and production, is expected to take between 8 to 12 months to secure. The timing</p>

	<p>assumption for the EA for King Vol is based on independent advice received from NRA Environmental Consultants.</p> <p>There is a risk that the feasibility study, the mining lease application and the EA may be delayed and not achieved in the timeframe presented in this announcement.</p> <p><b>Waste rock geochemistry</b> – Multi-element analysis as well as acid-base analysis, salinity and net acid generation analysis was completed on 36 rock samples representing 6 different lithologies for Kagara Pty Ltd in 2008 by Graeme Campbell and associates (GCA). Due to a decline position re-design, a further 52 waste rock samples were sent by Kagara Pty Ltd in 2011 to GCA for the same sets of analyses. The number of samples from each rock type was determined from Queensland Government guidelines. The static test work that has been completed should now be utilised to construct representative composites for kinetic test work which will be undertaken as part of the Mungana feasibility study.</p> <p><b>King Vol tailings geochemistry</b> –GCA completed a study for Kagara Pty Ltd in 2008 on the geochemical characteristics of the process-tailings-slurry samples from the King Vol deposit to assist with planning for process-tailings management. The study concluded that;</p> <ul style="list-style-type: none"> <li>• Acidification of the tailings-solids streams to be produced during the project should not be an issue due to “accessory-sulphides” being dispersed throughout a gangue that is strongly calcareous (carbonate-rich) and therefore alkaline.</li> <li>• The slurry-waters of the ex-mill streams of process-tailings should be characterised by low concentrations of minor-elements, although zinc concentrations may vary within the 1 – 10 mg/l range.</li> </ul> <p><b>Hydrogeological and dewatering assessment</b> –Rob Lait and Associates (RLA) conducted a hydrogeological assessment on the King Vol deposit for Kagara Pty Ltd In 2008. As part of that assessment a network of monitoring bores were installed and baseline monitoring of groundwater levels and groundwater quality commenced. RLA was commissioned by Kagara Pty Ltd in 2011 to update and re-assess the groundwater aspects of the King Vol development and to provide advice on dewatering strategies and water management. Recommendations from this report include the installation of three 200m deep test dewatering bores and will be part of the Mungana feasibility study. These bores will allow for long term, high yielding, pumping tests which will confirm the nature, characteristics and expected good water quality of the limestone aquifer at depths greater than 100m, determine the presence of any structural features or anisotropy in the aquifer units, confirm the conceptual nature of the current hydrogeological model and provide adequate data to enable the existing numeric model to be refined in the areas of transient calibration and geological representation.</p> <p><b>Mungana concentrator site</b> – The Mungana concentrator site mining lease is currently permitted and active. The EA to permit the plant to be completed and commence production is also complete. The Plan of Operations (PoO) will require amendment from the current care and maintenance status prior to production commencing.</p>
<b>Infrastructure</b>	<p><b>Location</b> - The King Vol project sits within Mungana’s 100% owned Chillagoe project. The Chillagoe project tenements cover an approximate 100km long stretch straddling the Palmerville fault near the Chillagoe township in far North Queensland. The Mungana processing facility/concentrator is located 15km northwest of Chillagoe adjacent to the Burke Development Road. The King Vol deposit is located a further 25km northwest, also adjacent to the Burke Development Road. Through the acquisition of the Kagara base metal assets, the Company has significant infrastructure in place both in Chillagoe and at Mungana. The King Vol site is considered a green-fields project and has only minor access at this stage. The key status of the infrastructure can be summarised as follows:</p> <p><b>Chillagoe</b> – The following infrastructure is in place at Chillagoe; offices, core yard, storage sheds, motel, housing, vehicles and camp site. The camp site has capacity for 230 rooms. Currently there are 44 existing rooms, with infrastructure in place to allow the remaining rooms to be easily re-instated.</p> <p><b>Mungana</b> – The following infrastructure is in place at the processing plant location.</p> <ul style="list-style-type: none"> <li>• Largely completed processing facility. The condition report of the plant has the level of completion listed from crushing circuit at 90% through to the concentrate filter and storage at 30%.</li> <li>• Main road access and office buildings, workshops, store facilities, and change room facilities are all established and considered fully functional.</li> <li>• Tailings storage, raw water and process water dams have been constructed.</li> <li>• A 66KV overhead power line (grid power) has been installed to the site, along with transformer and switch-room.</li> <li>• The site also has operational equipment like integrated tool carriers, survey equipment, mines rescue equipment and a 1.1km airstrip suitable for light aircraft.</li> </ul> <p><b>King Vol</b> – There is little existing infrastructure in place at the King Vol mine site. Minimal mine related infrastructure will be required at King Vol due to the close proximity to the Mungana processing facility and the Chillagoe township. The King Vol site will require independent power generation due to the separation distance from the Mungana site.</p>
<b>Costs</b>	<p><b>Capital cost estimates</b> – Capital costs associated with the King Vol project have been estimated by Entech (mining and associated infrastructure), GR Engineering Services (Plant and associated infrastructure, first fill and spares, and camp) and Mungana (other associated with project management). The pre-concentrate capital expenditure includes all the expenditure associated with the King Vol project for a 10 month period from April 2016 through to January 2017. The cost detail has been built up following detailed review of the existing site infrastructure and information provided by Mungana.</p>

	<p><b><u>Operating cost estimates</u></b> - Operating cost estimates have been derived from Entech (Mining), GR Engineering Services (Processing) and Mungana (Project management and overheads). The total operating cost estimate has been consolidated by Entech. The operating costs have been determined from first principles by Entech and GR Engineering Services based on the mining and processing plan determined as part of the Scoping Study. The cost detail associated with the Scoping Study is based on current industry experience.</p> <p><b><u>Allowances made for the content of deleterious elements</u></b> – Penalties have been calculated for deleterious elements based on concentrate analyses from the various ore types in metallurgical test work, along with standard penalty rates for each type of concentrate: zinc, copper and lead. Metal terms and penalty provisions have been provided by a reputable international metal trading company.</p> <p><b><u>The derivation of assumptions made of metal or commodity prices for the principal minerals and bi-products</u></b> – Forecast commodity prices are based on publicly available, consensus pricing.</p> <p><b><u>The source of exchange rates used for the study</u></b> – Forecast exchange rates are based on consensus exchange rate forecasts. AUD: USD of 2016 = 0.75, 2017=0.75, and 2018 = 0.74, 2019+ = 0.75</p> <p><b><u>Derivation of transport charges</u></b> – Transport costs have been derived from previous information associated with Kagara work and comparison with standard contemporary industry costs.</p> <p><b><u>The basis for treatment and refining charges, penalties and concentrate offtake terms</u></b> – The source of the treatment and refining charges, penalties and revenue expectation is a reputable international commodity trading house. The trading house has been historically involved with the project and has provided rates for the purpose of this Scoping Study.</p> <p><b><u>The allowances made for royalties payable, both government and private</u></b> – Allowances have been made for the following royalties:</p> <ul style="list-style-type: none"> <li>• Government of Queensland – Mineral royalties in Queensland vary according to the price received for the mineral. Royalties have been calculated for zinc, silver, copper and lead using the variable rates for the March 2015 quarter published by the Queensland Office of State Revenue.</li> <li>• Leoni-MacDonald Royalty – This royalty comprises a lump sum of A\$100,000 on commencement of commercial production and an additional A\$100,000 after 24 months of commercial production, as well as a fee of A\$1.50/t on 20% of ore tonnes after 666,666 ore tonnes have been produced.</li> <li>• Franco-Nevada Royalty – This royalty comprises a lump sum of A\$500,000 on commencement of production and also after 12 months of operations, as well as a fee of A\$1.50/t on 80% of ore tonnes.</li> </ul>
Revenue factors	<p><b><u>The assumptions made in regards to revenue factors including head grade, metal or commodity prices(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc</u></b> – As part of the Scoping Study an economic model has been constructed to take into account the various factors associated with the preliminary terms for sale of concentrate and the associated treatment and refinery charges. Metal terms and penalty provisions have been provided by a reputable international metal trading company for the purposes of calculating the appropriate revenues. The revenues are based on the production of a zinc, copper and lead concentrate, each with silver credits. The 2008 Optimet test work program provided the various inputs for the concentrate grades and the deleterious elements that may occur in those concentrates. This information was provided to the reputable international metal trading company in order to receive industry standard terms for the scoping study financial model.</p> <p>It should be noted that zinc accounts for 90% of the revenue as zinc is the dominant mineral associated with the King Vol project. After applying the various terms to the economic model the final approximate “payability” was achieved; Zinc – 74%, Copper – 47%, Lead – 66%.</p> <p><b><u>The assumptions made for metal or commodity prices, for the principal metals, minerals and co-products</u></b> – The economic model utilises June 2015 consensus pricing for zinc, copper, lead and silver. Zinc being the primary commodity at King Vol with copper, lead and silver considered as by-products. The consensus prices used have been summarised in table 7. In the economic modelling associated with the scoping study zinc accounts for approximately 90% of the revenue. The consensus pricing for zinc averages \$2,666/tonne for the period 2017 to 2021. This average consensus price is approximately 25% higher than the current spot price of \$2,014/t (14 July 2015).</p>
Market assessment	<p><b><u>The demand, supply and stock situation for a particular commodity, consumption trends, and factors likely to affect supply and demand in the future</u></b> – The scoping study associated with the King Vol project shows that approximately 90% of the value is derived from zinc. Zinc prices have declined after reaching \$2,400/t in May. The pre-May increase in zinc price partly reflected the decline in zinc inventories at the LME and tighter supply amid mine shutdowns. The Century mine in Queensland, which produces around 4% of the world’s zinc output, is slowing production and is preparing for closure towards the end of 2015. It is also expected that the Lisheen mine in Ireland will close later this year again putting pressure on global stockpiles. The overall view on the zinc price for the period considered in this Scoping Study are considered positive based on the supply and demand fundamentals. For this reason the economic modelling in this Scoping Study has used consensus pricing forecasts.</p> <p>The SUN metals zinc refinery located in Townsville also provides a strong strategic advantage as zinc concentrate transported from north Queensland by rail/road is likely to remain economically competitive compared to off-shore concentrate supply.</p>
Economics	<p><b><u>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rates, etc.</u></b> –</p>

	<p>The following input factors have been used in the economic assessment associated with the scoping study:</p> <p><b>Mine production</b> – The mine design, mine scheduling and production outputs have been completed by Entech and the work done has used standard mine design and scheduling parameters. Stopping and development shapes have been designed over the Mineral Resource model allowing for minimum mining widths and mining dilution. The resulting mined shapes present a delivered production scenario to the mine surface for potential processing. Standard industry mining assumptions, in terms of both method and productivity, have been used in scheduling the mine production levels.</p> <p><b>Ore processing (concentrator)</b> – It has been assumed that the ore mined is processing in the same year. Initial metallurgical test work results have been used to determine the relative concentrate grades and recoveries. These concentrate specifications have then been used to provide information on metal recovery and this information was provided to a reputable metal trading company to derive indicative off-take terms for use in the economic calculations. These inputs are considered to be standard industry inputs based on the experience and expertise of the people providing the information.</p> <p><b>Capital and operating costs estimates</b> – Suitable cost inputs have been included in the economic model based on estimates provided by Entech (Mining), GRES (Processing) and Mungana (Admin, management and control).</p> <p><b>NPV ranges and sensitivity to variations in the significant assumptions and inputs</b> – A series of sensitivities have been completed for the project looking at resulting NPV and cash flows over a -30% to +30% variance in zinc price, foreign exchange rate and total costs. In the determination of the NPV a discount rate of 10% was used.</p>
Social	<p><b><u>The status of agreements with key stakeholders and matters leading to social licence to operate</u></b> – The King Vol project is 25km northeast of the Mungana processing facility, which is in turn is 15km northeast of the township of Chillagoe. The community of Chillagoe can be described as a small residential town with a population of approximately 200 people. The region has work based on pastoral, tourism and mining industries and the town is supported by government services and small businesses. The workforce required for the King Vol project is likely to be residential at Chillagoe or drive in- drive out from other regional centres in Far North Queensland including Mereeba and Cairns. The community is a fairly typical Australian community with balanced age, gender, work and unemployment. Mungana has buildings, houses, core yard, storage facility and an old motel in the town. The company also has a village situated on the northeast edge of the town. The village is adequately close enough to the town that it can use the town's facilities. Any new project or industry in Chillagoe is considered highly advantageous to the community and has strong community support.</p> <p>The company has also completed a land access agreement with the pastoralist, on whose lease the King Vol project is situated.</p>
Other	<p><b><u>Understanding the relevant risks associated with the project and whether they could materially influence the project:</u></b></p> <p><b><u>Naturally occurring risks</u></b> – The climate in Chillagoe (Far North Queensland) is monsoonal with high rainfall in summer and early autumn, and relatively dry winters. The mean annual rainfall for Chillagoe is 864mm with the highest monthly rainfall occurring in January (223mm) and the lowest in July and August (4mm). The greatest rainfall occurs in the wet season months from November through to March. The region can be prone to cyclonic winds and rainfall in the wet season. The main access road between Mungana and King Vol crosses the Walsh River via a concrete causeway. In flood conditions access to and from King Vol will be temporarily cut. This will potentially affect the transport of personnel and equipment to and from the mine and concentrate haulage to the processing facility. It is considered likely that this will occur occasionally and it will effect production on a short-term basis, but it is unlikely to affect mine and processing production on an annualised basis.</p> <p><b><u>Material legal or marketing arrangements</u></b> – The company is not aware of any material legal risks associated with the King Vol project. The company does not yet have any material metal off-take or marketing agreements in place for the King Vol project.</p> <p><b><u>The status of government agreements or approvals critical to the viability of the project</u></b> – The current outstanding government approvals which are critical for the project to proceed is the granting of the mining lease at King Vol and the Environmental Authority (EA) which is effectively the operating licence for the King Vol mine to proceed. Applications for these permits have been submitted and approval is anticipated within the scheduled timeframe. All relevant approvals for the Mungana processing facility have been obtained.</p> <p><b><u>Project Finance</u></b> – Subject to the completion of a positive Feasibility Study and board approval, Project Finance will be required to fund the development of the King Vol project. It is expected that finance for the project development will comprise a mixture of debt, offtake finance and equity. Other financing structures will also be considered. In assessing whether debt finance may be available the company has considered standard project finance criteria. Based on the Scoping Study economics the company expects that at least 50% of the total funding will be raised by way of debt. Preliminary discussions with Metal Offtake companies indicate that prepayment and working capital facilities may also be available. The equity funding component of the funding package will be determined at the time of completing the feasibility study. Based on expected upfront capital and working capital costs and subject to a positive feasibility study outcome the company expects that it will be available to raise the necessary equity to complete the development funding package.</p>
Project Timeline	<p><b><u>Current Project Timeline associated with the study</u></b> - The Scoping Study contemplates project approval in March 2016 following successful completion of the Definitive Feasibility Study (FS) and board approval.</p>

	<p>Work will commence immediately after this. It is assumed that the completion of the FS is done in parallel with finalising project approvals and obtaining the appropriate financing, and that the financing will be in place at the same time as the approval to commence construction of the project. The King Vol mining lease is still to be granted and the Environmental Authority (EA) for the development of the King Vol mine is required before the mine development and production can commence.</p>
<b>Discussion of relative accuracy/ confidence</b>	<p>Mungana is of the view that a high level of accuracy has been applied to the King Vol project Scoping Study, aided by the "Brownfields" nature of the overall Chillagoe project, specifically the mature status of the processing facility and associated infrastructure and permitting.</p> <p>The King Vol deposit itself has a high level of resource confidence in the upper levels, supported by Indicated Mineral Resources. The Scoping Study considers a production target case where the Mineral Resources down to the 590RL which is approximately 410m below the surface. The mineralisation associated with the King Vol deposit is vertical in nature and it is expected to continue at depth.</p> <p>Mungana has commenced a drilling program at King Vol with the plan to increase the quantity of Indicated Resources prior to re estimating the Mineral Resources and commencing the feasibility study.</p> <p>Very competent and experienced professionals have completed the work associated with this scoping study. The mineral resource, mining and processing information has been completed by independent geological and engineering organisations.</p> <p>The accuracy level for this study is considered to be +/- 30%</p>

## **ENDS**

### ***For further information:***

#### **Investors**

Tony James – Mungana Goldmines  
Mobile: +61 8 9226 5550

#### **Media**

Read Corporate  
Paul Armstrong  
+61 8 9388 1474



