



# Chillagoe Zinc Project



MUNGANA  
GOLDMINES

## Investor Update

25 May 2015

(Updating and superseding the investor update issued 11 May 2015)

ASX: MUX

# Important information and Disclaimer

*This investor presentation updates the presentation issued on 11 May 2015, which is withdrawn and replaced by this presentation.*

## **Summary information and not an offer**

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## **Disclaimer regarding forward looking statements**

*This presentation may include forward looking statements. Forward looking statements are only predictions and the assumptions on which they are based are subject to risk factors related to the conduct of mineral exploration, mining and production activities. Whilst Mungana Goldmines Ltd believes that the expectations as to future matters reflected in these forward looking statements are based on reasonable grounds, they may be affected by changes to underlying assumptions which could cause material change to actual values, results or events, such as price and currency fluctuation, drilling results, environmental and physical risk, financial market conditions, approvals, legislative and regulatory changes, and cost estimates. Given these uncertainties, recipients are cautioned not to place reliance on forward looking statements. Subject to any continuing obligations under applicable law and ASX Listing Rules, Mungana Goldmines Ltd will not update or revise any information or any of the forward looking statements in this presentation.*

## **Competent Persons' Statement**

*The information in this presentation that relates to Mineral Resources is based on information compiled by Mr Andrew Beaton, an employee of Mungana Goldmines Ltd, who is a member of the Australian Institute of Mining and Metallurgy (AusIMM). Mr Beaton 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 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Beaton consents to the inclusion in this presentation of the matters based on this information in the form and context in which it appears.*

*The information in this presentation that relates to Exploration Targets and Exploration Results is based on information compiled by Mr Chris Newman, a full-time employee of Mungana Goldmines Ltd, who is a member of the Australian Institute of Mining and Metallurgy (AusIMM) and the Australian Institute of Geoscientists (AIG) 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 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Newman consents to the inclusion in this presentation of the matters based on this information in the form and context in which it appears.*

**JORC – Exploration Targets:** *It is common practice for a company to comment on and discuss its exploration in terms of target size and type. The information in this presentation relating to exploration targets should not be misunderstood or misconstrued as an estimate of Mineral Resources or Ore Reserves. Hence the terms Resource(s) or Reserve(s) have not been used in this context. The potential quantity and grade is conceptual in nature, since there has been insufficient work completed to define them beyond exploration targets and that it is uncertain if further exploration will result in the determination of a Mineral Resource.*

**Production Targets:** *Production targets in this presentation are based on a combination of indicated and inferred resources, which have not yet been classified as reserves. 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 determination of indicated mineral resources or that the production target itself will be realised. The key assumptions and associated risks for the production targets used and are set out in slides 25-27.*

# A Ground-Floor Investment Opportunity



- Market cap: \$36M at 15C (ASX close 22 May 2015)
- Flagship King Vol zinc project located near Cairns, North Queensland
- King Vol JORC resource<sup>1</sup> 2.99Mt @ 11.9% zinc, 0.8% copper, 29.9g/t silver
- Key drilling for resource upgrade to commence
- Aiming to complete feasibility study by March 2016, with approvals to be completed in parallel – See Appendix B for further details.
- Aiming for first production by the end of 2016 at an annualised throughput rate of 350,000tpa for 35,000-40,000tpa zinc in concentrate and additional bi-product credits – See Appendix B for cautionary statement and material assumptions.
- Aiming for estimated pre-production capex of less than \$40M due to key infrastructure and plant components already in place<sup>2</sup> (subject to ongoing assessment)
- Extensive exploration upside: Red Cap combined JORC resource<sup>3</sup> 3.8Mt @ 4.8% zinc, 0.7% copper plus additional potential at King Vol, Red Cap, Mungana area and Griffiths Hill, high grade review underway of existing resources
- New management team in place led by highly experienced mining executive Tony James
- Significant exploration agreement signed with Newcrest to unlock Porphyry Gold Copper potential at Chillagoe<sup>4</sup>

1 - King Vol Resource (ASX:28 Jan 2015); 2 - Refer to Appendix B slides 25-27; 3 - Red Cap Resource (ASX: 27 April 2015); 4 - Mungana signs exploration agreement with Newcrest to unlock Porphyry Gold-Copper potential at Chillagoe (ASX: 25 May 2015)

# Exploration Agreement with Newcrest

- Mungana and Newcrest sign exploration agreement for Newcrest to explore for large gold-copper deposits at Chillagoe Project
- The agreement provides for Newcrest to spend up to \$20m on exploration over a period of up to 8 years by way of:
  - an initial \$3m commitment to be spent within the first 18 months; and
  - an option to sign a farm-in agreement and spend up to an additional \$17m over a further 78 months.
- Newcrest will earn a 70% interest in an unincorporated joint venture with Mungana (30%) if the above expenditure requirements are satisfied and a minimum of 1Moz of gold or gold equivalent Mineral Resource is discovered.
- The arrangements with Newcrest exclude King Vol and associated northern tenements, existing Red Cap and Mungana/Red Dome mineral resources, and Mungana's processing facility and associated infrastructure.
- Further details in relation to the agreement with Newcrest are set out in Mungana's separate ASX announcement 25 May 2015

# Corporate Snapshot



## Capital Structure

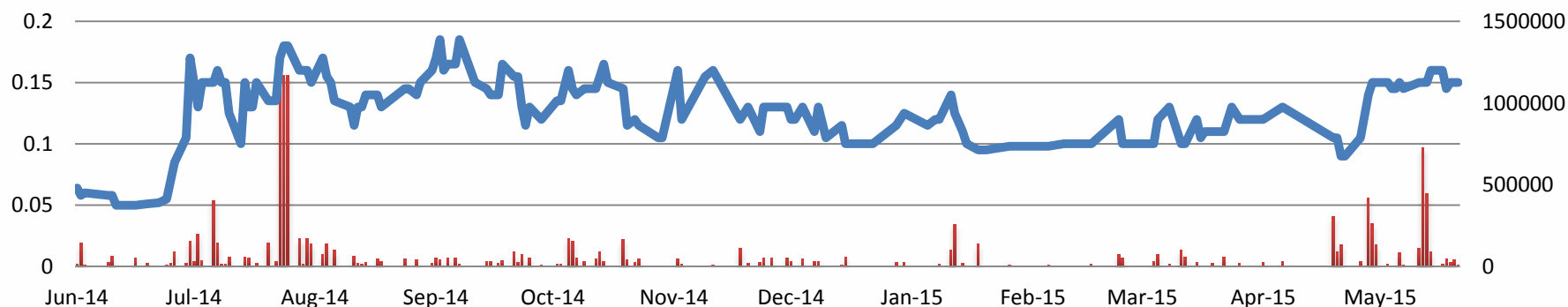
|   |                             |
|---|-----------------------------|
| ASX Code  | MUX                         |
| Shares on Issue   | 240.9 million               |
| Share Price   | 14.5 cents <sup>1</sup>     |
| Market Cap  | ~\$35 million               |
| Cash  | ~\$2.4 million <sup>2</sup> |
| Options on issue<br>(\$2.00 exercise price)   | 250,000                     |
| Convertible Note<br>(Issued 31 July 2014, 5 year term, unsecured,<br>convertible at \$0.20 per share, coupon 7.5% payable<br>in cash or shares at Mungana's election) | \$7.5 million               |

## Major Shareholders

|                          |     |
|--------------------------|-----|
| Kagara ( In Liquidation) | 72% |
| GHG                      | 10% |
| Prosperity Steel         | 6%  |

## Board

|                   |                      |
|-------------------|----------------------|
| Chairman          | John Fitzgerald      |
| Director          | Rick Yeates          |
| Director          | Justin Jian Yi Wu    |
| Managing Director | Anthony (Tony) James |





# Background

- Mungana Goldmines Ltd listed on the ASX in June 2010, spin-off of Kagara Ltd gold assets in North Queensland
  - Kagara became a primary shareholder as a result of the transaction
- Kagara entered into voluntary administration in April 2012
- In December 2013, Mungana announced HOA to acquire Chillagoe assets from Kagara (in Liquidation) for \$15M, payment by way of two equal convertible notes.
  - Tranche A Note has been converted, taking Kagara's interest to 72% (November 2014)
  - Unsecured Tranche B Note with a face value of \$7.5m convertible at 20 cents a share and expires in July 2019. Interest of 7.5% per annum (compounded quarterly), which is payable in either cash or shares (at Mungana's election). Mungana has the option to prepay the note.
- Company announces North Queensland Zinc strategy July 2014
- New management team appointed in February 2015
  - Revised strategy for the exploration and development of Chillagoe Zinc Project
- Auctus' unsolicited, highly conditional takeover bid for Mungana at 13.5cents per share (ASX: 29 April 2015)
- Mungana Board unanimously recommends that shareholders REJECT Auctus' bid (ASX: 11 May 2015)
- Mungana signs agreement with Newcrest to unlock Porphyry Gold Copper potential at Chillagoe (ASX:25 May 2015)

# Corporate Strategy

1. Establish a new board and management team built on industry experience, reputation and performance.
2. Launch a new Australian Resources company based on Chillagoe assets, specifically the high grade King Vol zinc resource and the well established infrastructure
3. Optimise assets and develop a detailed working plan for next 12 months (April 2015 to March 2016)
  - a) Aim to bring King Vol into production as base case
  - b) Aim to consolidate the production base case with additional resource conversion including known deposits in the Red Cap and Mungana areas
  - c) Aim to achieve growth beyond the base case and consolidation phases through ongoing exploration and corporate opportunities

# 1. New Board and Management Team

## Board of Directors

### John Fitzgerald – Chairman

- 20 years resource and project finance, commodity risk management and advisory
- Previous non executive chairman of Integra Mining
- Current non executive director Northern Star Resources and South Boulder Mines
- Senior positions with HSBC, Commonwealth Bank, Investec, NM Rothchilds
- ACA, Fellow FINSIA, GAICD



### Tony James – Managing Director

- 25 years mining operations and project experience
- Managing Director Mutiny Gold -value merger with Doray Minerals
- Senior positions with Alacer Gold Corp & Avoca Resources
- Mine Management Black Swan, Kanowna Belle, Lennard Shelf, Telfer
- WASM Graduate, Mining Engineer, Fellow AUSIMM



### Rick Yeates – Non Executive Director

- 30 years mining, geology and management experience
- Previous co founder Resource Service Group (RSG Global) and work with BHP, Amax and Newmont.
- Current MD of Middle Island Resources and Non Executive of Western Areas NL.
- UNE Graduate, Geology, Member AUSIMM, GAICD



### Justin Jian Yi Wu – Non Executive Director

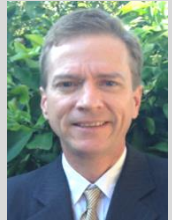
- 15 years investment, marketing and international trade experience
- Senior position Shengtuo Metals Pty Ltd
- MBA in International Trade



## Management Team

### Chris Newman – Geology Manager

- 25 years mining operations and exploration experience
- Senior positions Alacer Gold Corp and Avoca Resources
- Higginsville Operations 1 Moz gold discovery
- Senior geology and management BHP Billiton, WMC
- ANU Graduate, Geology, Fellow AUSIMM



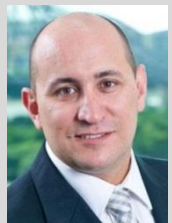
### Andrew Beaton – Project Manager, North Queensland

- 20 Years mining operations, geology and resource estimation experience
- Senior roles Thalanga Copper Mines, MMG Ltd and Kagara Ltd
- Chillagoe Project experience and management
- La Trobe graduate, geology, Member AUSIMM



### Ben-Louis Ludik – Company Secretary

- 20 Years finance and auditing experience including 12 years in resources
- Senior positions with BAT, Magellan and STAXS
- Graduate Diploma of Applied Corporate Governance
- CA, FGIA, MComm (Audit) HPhill (Logistics)





## 2. New Resources Company



Mungana Goldmines Ltd

ASX: MUX

w: [munganagoldmines.com.au](http://munganagoldmines.com.au)

Atherton Resources Ltd (reserved)

ASX: ATE (reserved)

w: [athertonresources.com.au](http://athertonresources.com.au) (reserved)

*Mungana board has approved name change and finalisation remains subject to shareholder approval*

### 3. Working Plan – 12 months

- a) Achieve base case start up for King Vol to ~350ktpa zinc mine King Vol resource GAP analysis & resource conversion drilling (See Appendix B for cautionary statement and material assumptions)

- i. King Vol Feasibility study and development approvals to progress in parallel

| Description                     | Mar-15 | Apr-15 | May-15   | Jun-15   | Jul-15   | Aug-15 | Sep-15 | Oct-15 | Nov-15 | Dec-15 | Jan-16 | Feb-16 | Mar-16 |
|---------------------------------|--------|--------|----------|----------|----------|--------|--------|--------|--------|--------|--------|--------|--------|
| Step 1 - King Vol               |        |        |          |          |          |        |        |        |        |        |        |        |        |
| King Vol resource GAP & upgrade |        |        | Drilling | Drilling | Drilling |        |        |        |        |        |        |        |        |
| King Vol FS & Approvals         |        |        |          |          |          |        |        |        |        |        |        |        |        |

- b) Aim to consolidate production base to increase throughput and achieve nominated plant capacity of ~600ktpa (See Appendix B for cautionary statement and material assumptions)

- i. King Vol, Red Cap and Mungana existing resources and extensions

- ii. King Vol and Red Cap IP survey completed

| Description            | Mar-15 | Apr-15 | May-15 | Jun-15 | Jul-15 | Aug-15   | Sep-15   | Oct-15 | Nov-15 | Dec-15 | Jan-16 | Feb-16 | Mar-16 |
|------------------------|--------|--------|--------|--------|--------|----------|----------|--------|--------|--------|--------|--------|--------|
| Step 2 - Consolidation |        |        |        |        |        |          |          |        |        |        |        |        |        |
| King Vol IP targets    |        |        |        |        |        | Drilling | Drilling |        |        |        |        |        |        |
| Red Cap resources      |        |        |        |        |        |          |          |        |        |        |        |        |        |
| Red Cap IP targets     |        |        |        |        |        | Drilling | Drilling |        |        |        |        |        |        |

- c) Aim to achieve growth beyond nominated plant capacity and/or value accretion alternatives

- i. Exploration zinc and base metal high grade skarns 40+ known targets

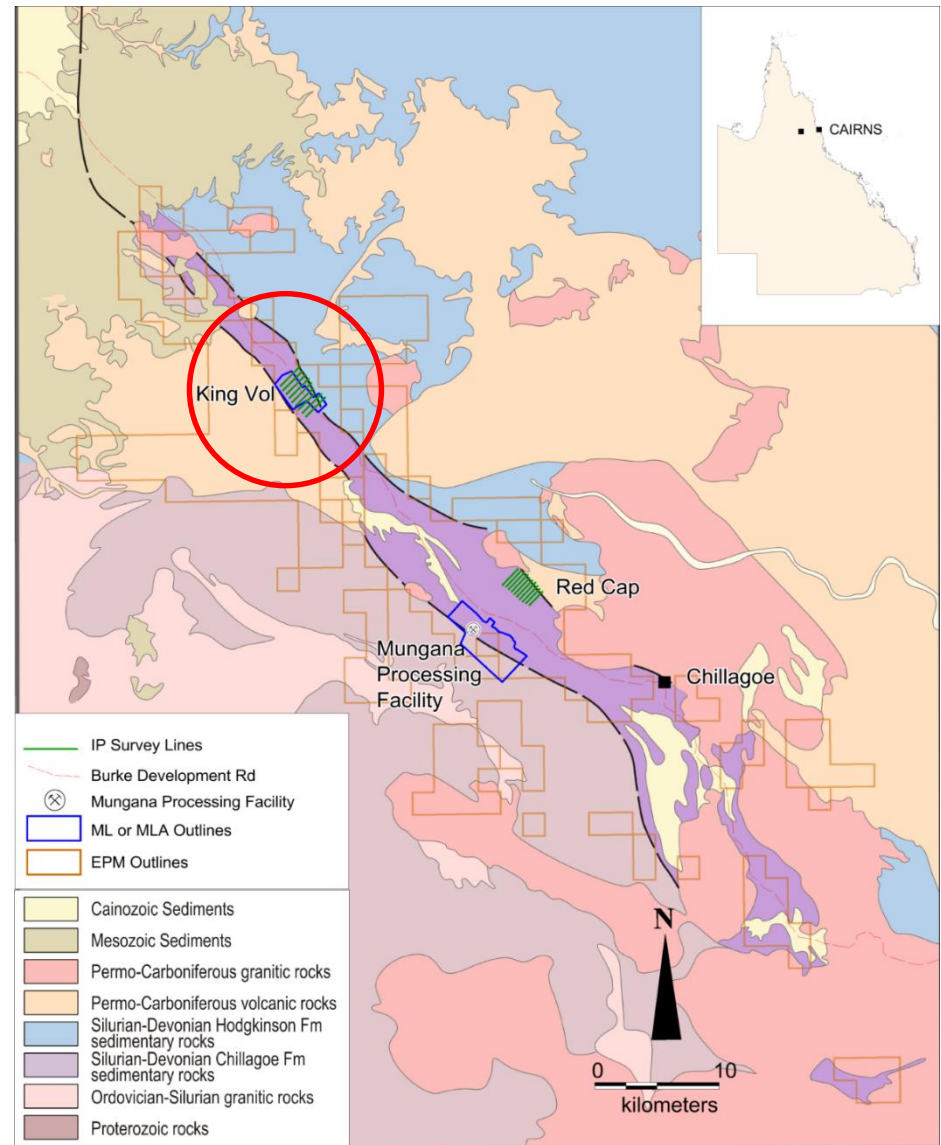
- ii. Significant exploration agreement with Newcrest in relation to the large copper-gold porphyry systems

| Description     | Mar-15 | Apr-15 | May-15 | Jun-15 | Jul-15 | Aug-15 | Sep-15 | Oct-15   | Nov-15 | Dec-15 | Jan-16 | Feb-16 | Mar-16 |
|-----------------|--------|--------|--------|--------|--------|--------|--------|----------|--------|--------|--------|--------|--------|
| Step 3 - Growth |        |        |        |        |        |        |        | Drilling |        |        |        |        |        |

# 3(a) Base case start up King Vol zinc mine

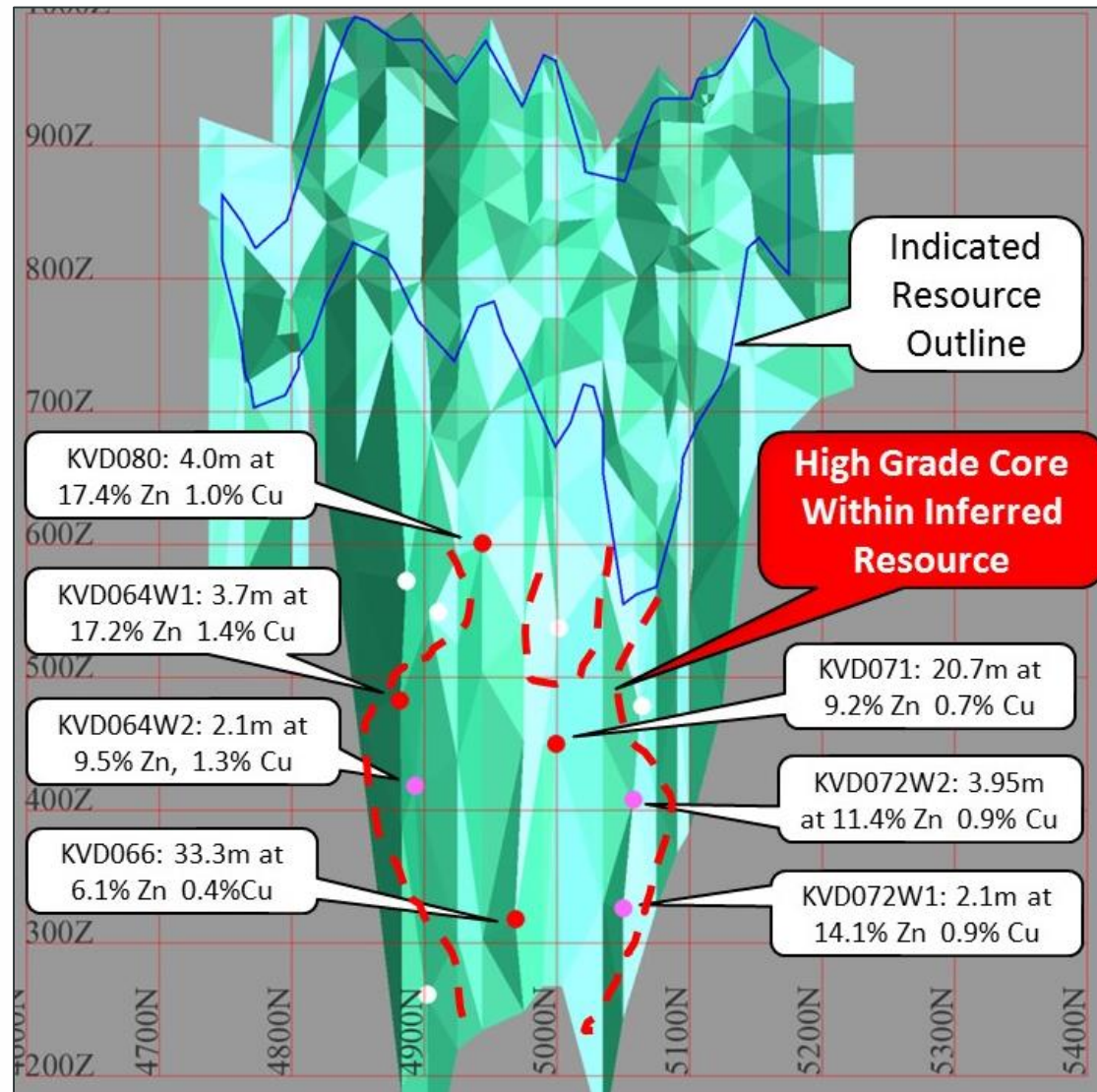
## King Vol

- King Vol located 25km north of the Mungana Processing Facility
- Combined resource of 2.99Mt @ 11.9% Zn, 0.8% Cu, 0.6% Pb, 29.9g/t Ag (ASX: 28 Jan 2015)
- Partially built processing facility (zinc, copper, lead concentrator) -15km from Chillagoe at the Mungana site. Established access, power and tailings storage.



# King Vol Resource

- Structurally controlled zinc-rich skarn mineralisation
- King Vol high grade resource (ASX: 28 Jan 2015)
  - Indicated 1.05Mt @ 14.7% Zn, 0.9% Cu, 0.7% Pb, 36.5g/t Ag
  - Inferred 1.94Mt @ 10.4% Zn, 0.7% Cu, 0.5% Pb, 26.4g/t Ag
- Diamond drilling to commence shortly:
  - Extend indicated resource boundary to 400m depth
  - Improve confidence in the high grade core below 400m depth





# Mungana Base Metals Concentrator

- Partially built base metals concentrator  
~ \$40M spent to date
- Nominated target throughput rate up  
to 600ktpa<sup>1</sup> (subject to review)
- The processing plant presents low  
capital cost and quick start up to zinc  
production relative to a new build  
scenario
- Key plant components purchased,  
installed or in storage, subject to  
review
- Low cost grid power and water  
available at this location
- Existing TSF and RWS dams on site
- Significant infrastructure in place at  
Mungana site and nearby Chillagoe  
township





# 3(b) Chillagoe project consolidation

## King Vol

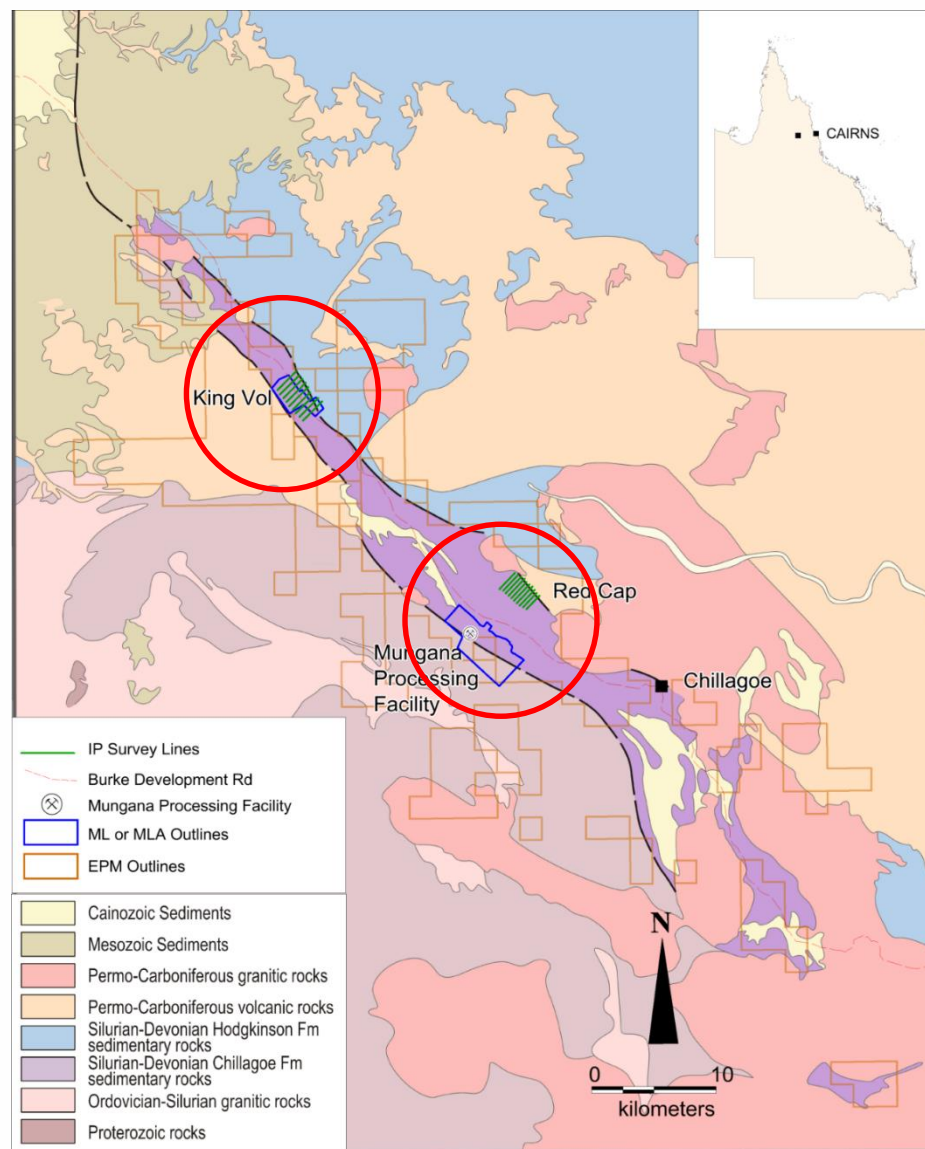
- Resource extension with adjacent IP targets to the south (including the Rusty File prospect).

## Red Cap

- Red Cap high-grade (>8% Zn or >3% Cu) resource investigation and extension
  - Penzance, Queenslander and Morrisons resources open in all directions – 4km from the Mungana Processing Facility.
  - Victoria resource to be estimated
  - Historic production (pre 1930) 300t Cu, 525t Pb, 24koz Ag

## Mungana/Red Dome

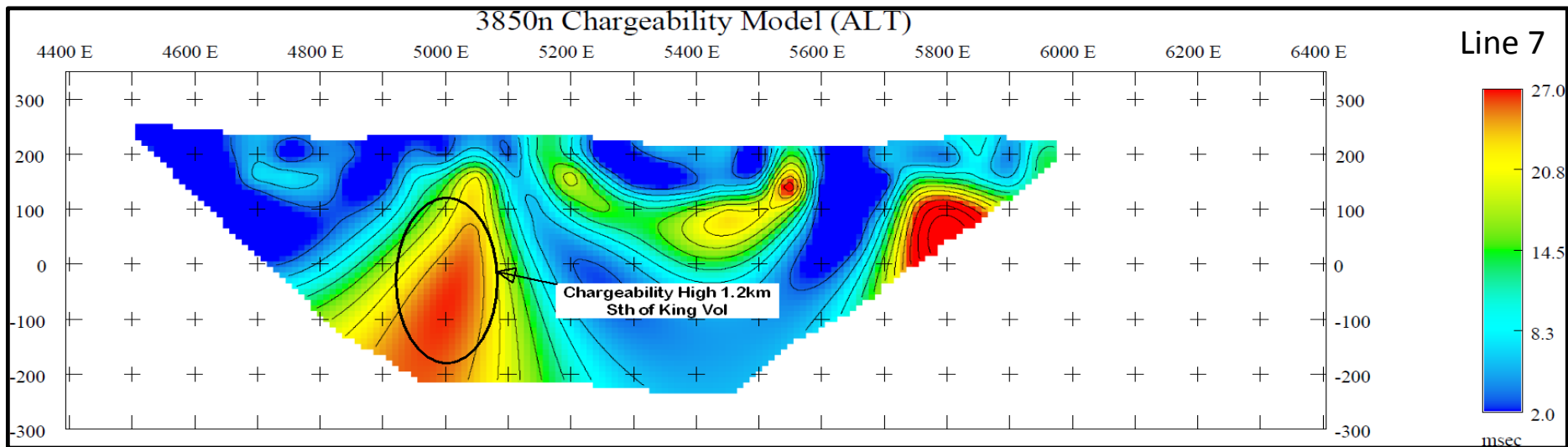
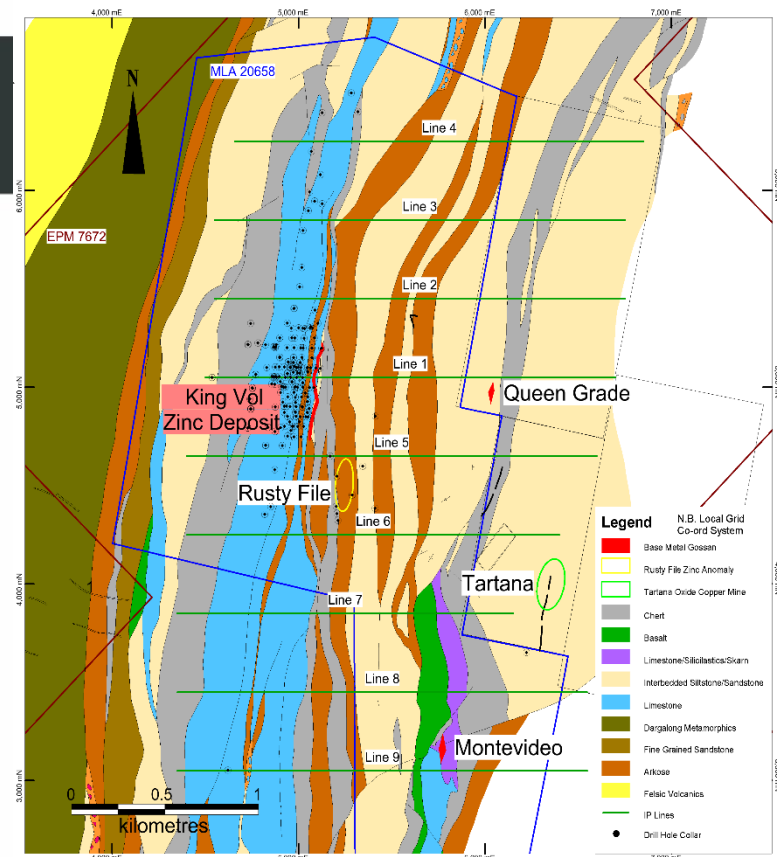
- Mungana base metal mine depth extensions
  - Past production (2008 – 2012) - 0.7Mt @ 11.1%Zn, 1.8% Cu, 1.0% Pb, 1.0g/t Au, 80g/t Ag
- Griffiths Hill copper skarn resource to be estimated
- Mungana and Red Dome high-grade (>3g/t) gold investigation
- Historic Base Metals Production
  - Lady Jane & Girofla (1896 – 1926) - 0.3Mt @ 3.5% Cu, 14% Pb, 250g/t Ag



# King Vol IP survey

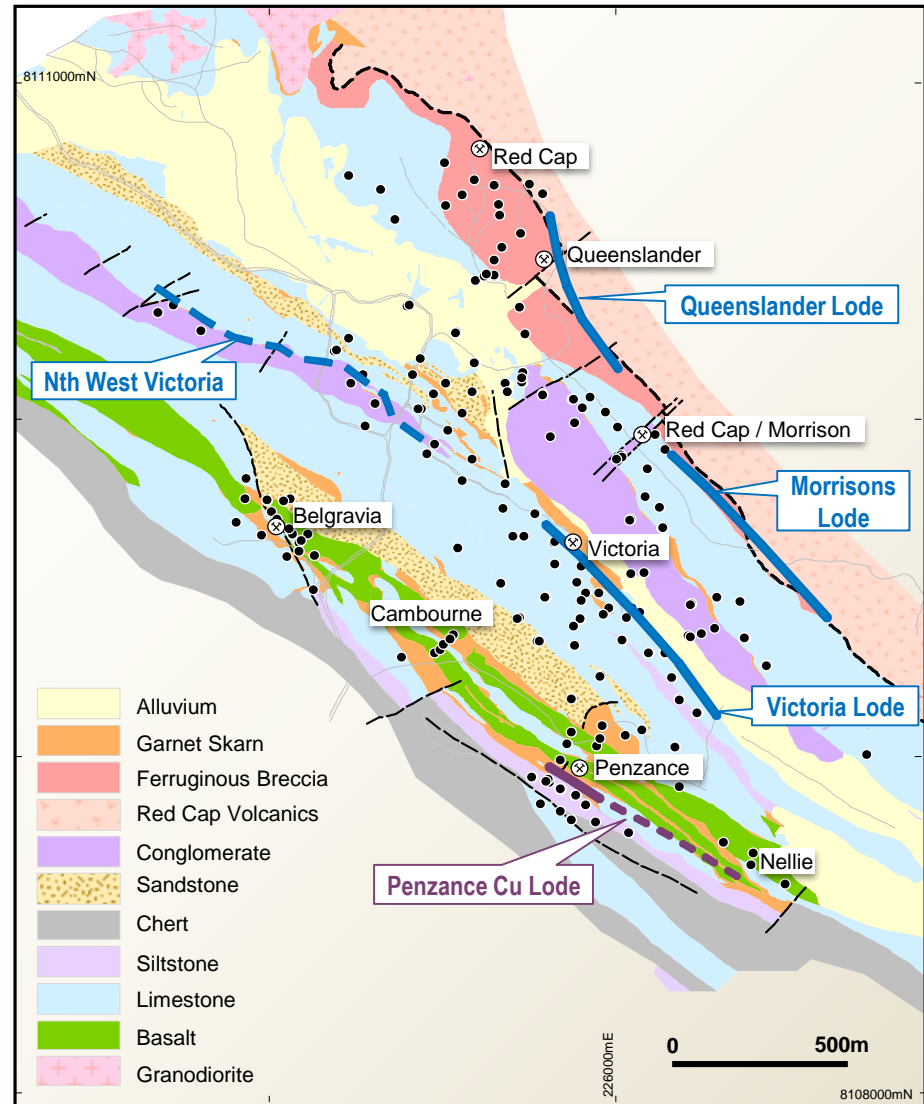
- King Vol high grade zinc dominant skarn seen as low chargeability and high resistivity
- Anomalies have been identified 1.2km south of King Vol and adjacent to Rusty File
- Southern anomaly is located on limestone –chert contact seen at King Vol

(ASX: 20 April 2015, Quarterly activities report)



# Red Cap Area

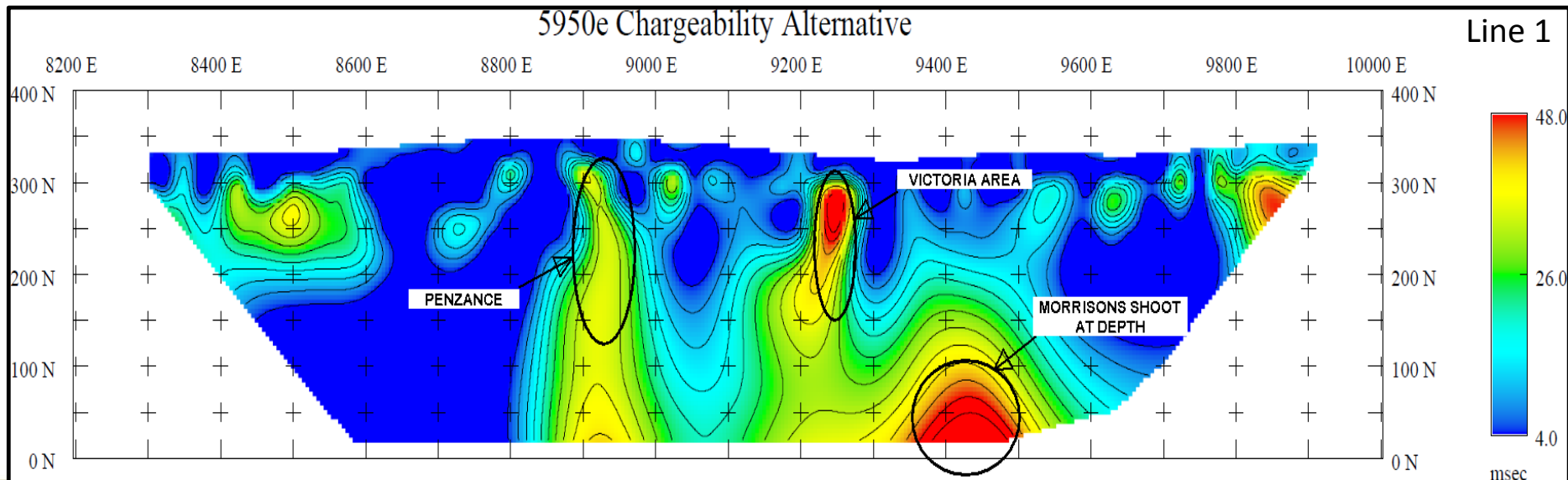
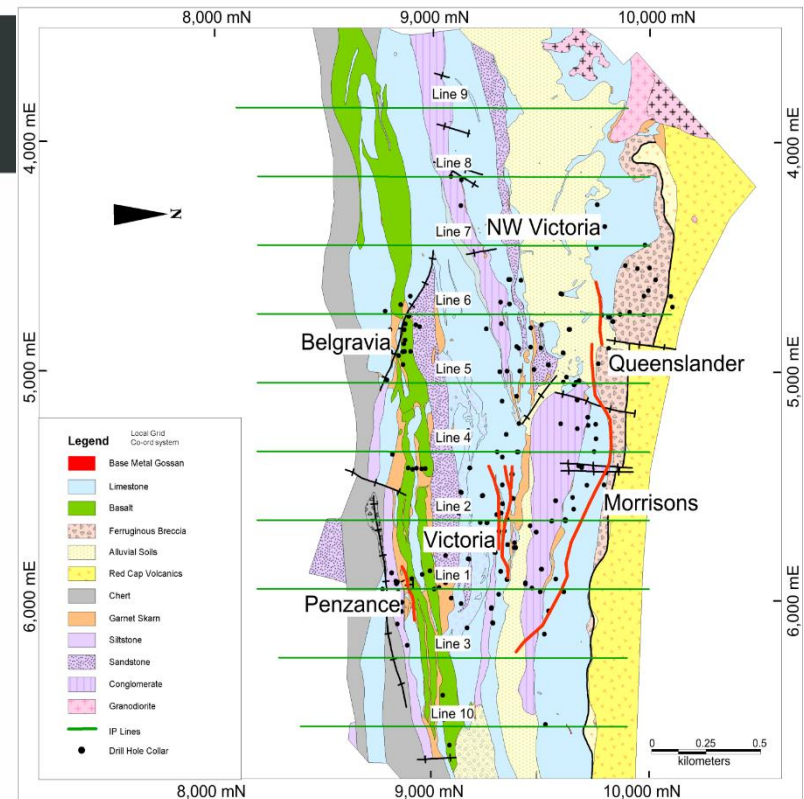
- Structure controlled zinc-rich and copper-rich polymetallic skarn mineralisation
- Red Cap high-grade (>8% Zn or >3% Cu) resource investigation
  - Penzance, Queenslander, and Morrisons resources combined total 3.8Mt @ 4.8%Zn, 0.7% Cu, 0.2% Pb, 0.1g/t Au and 19g/t Ag (ASX: 27 April 2015) Victoria resource to be completed
- Red Cap resource extension
  - Existing Resources open in all directions
  - Anomalous drill intersections along Penzance trend and North West Victoria
  - IP surveys completed confirming deposit characteristics and identifying numerous targets (ASX: 27 April 2015)
  - Highly anomalous zinc-in-soils open to the northwest and southeast



# Red Cap IP survey

- Victoria, Queenslander/Morrison's iron-zinc skarns high chargeability and low resistivity characteristics
- Penzance copper rich skarn shows moderate chargeability
- Multiple anomalies identified requiring follow up drill testing in Red Cap area

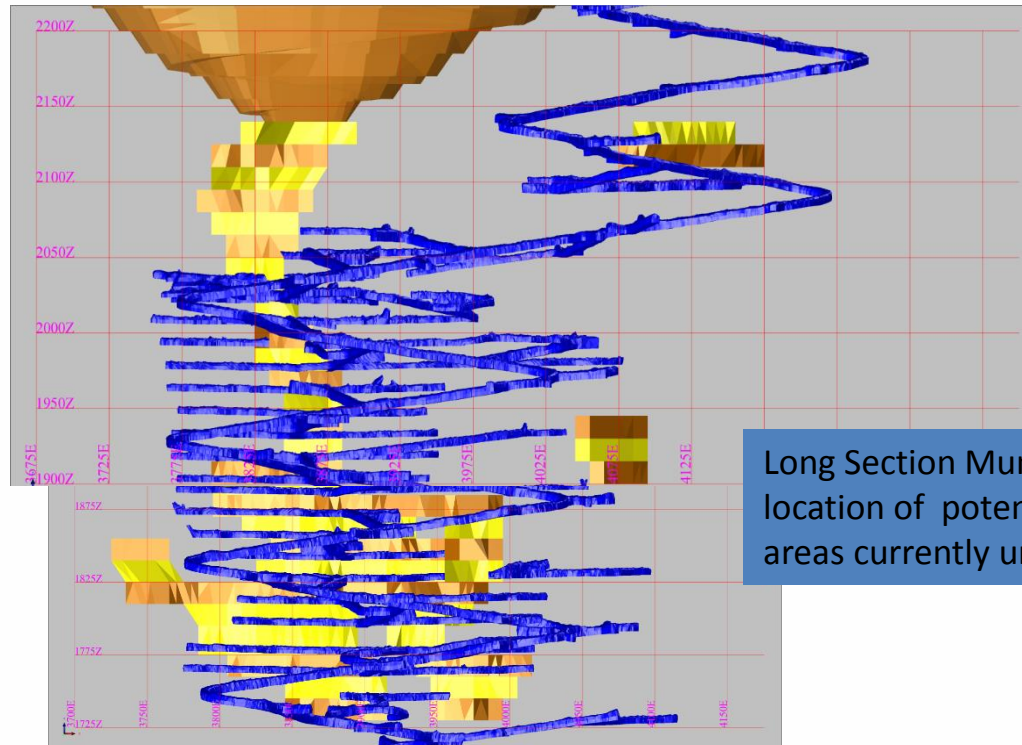
(ASX: 20 April 2015, Quarterly activities report )





# Mungana/ Red Dome investigation

- Global Combined low grade gold resource at Red Dome / Mungana of 131Mt @ 0.21% Cu, 0.64g/t Au, 8.09g/t Ag (ASX: Annual Report 29 Oct 2013). This resource was estimated from a geological interpretation using a 0.1g/t Au grade boundary. Potential high grade gold strategy within low grade resource to be investigated
- Low capital entry into higher grade Mungana gold resource from existing Mungana Base Metal mine development.



Long Section Mungana mine showing location of potential higher grade gold areas currently under investigation.



# 3(c) Company Growth

## Highly prospective district

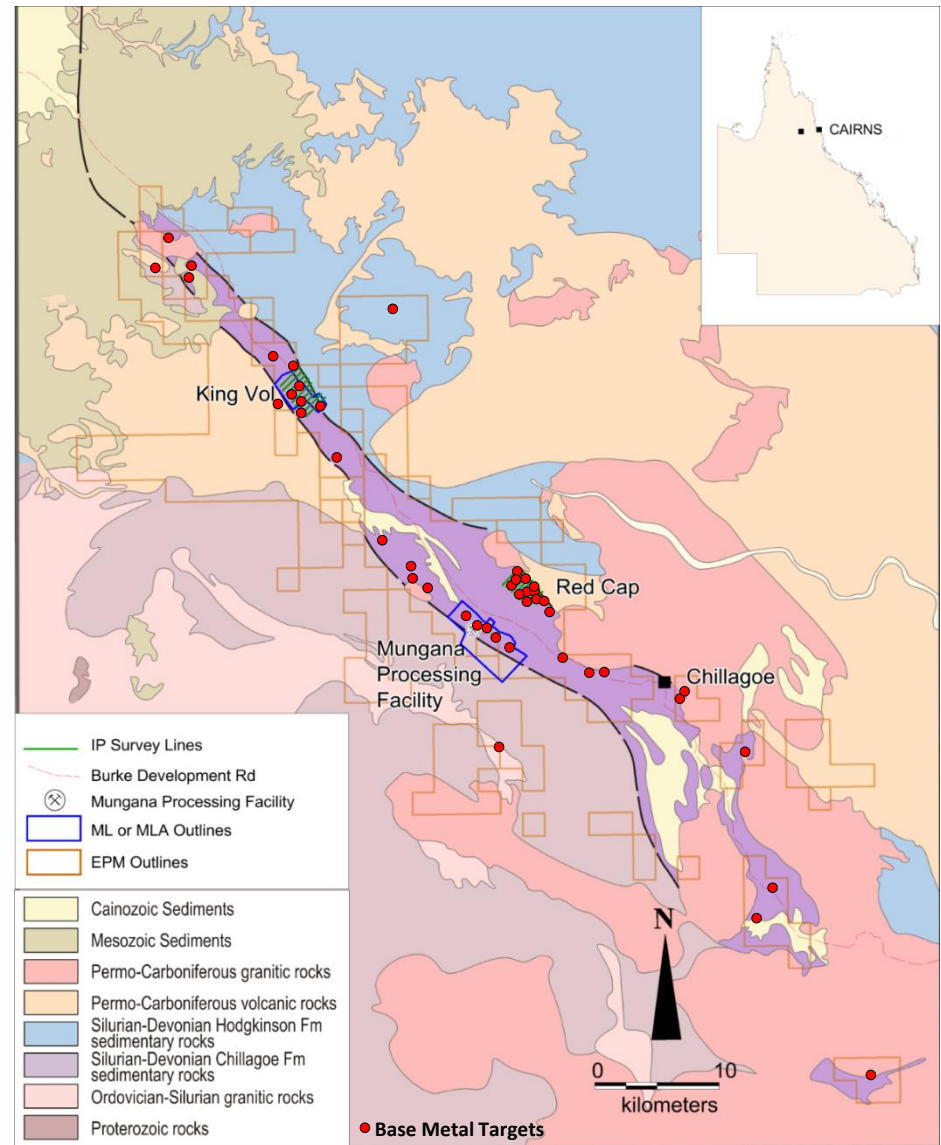
- > 100km of strike length of the highly prospective Chillagoe Formation
- Multiple high grade base metal potential
- Large low grade gold porphyry potential

## Base Metals

- 40+ prospects and exploration targets requiring follow up
- Strong soil anomalism and IP surveys results

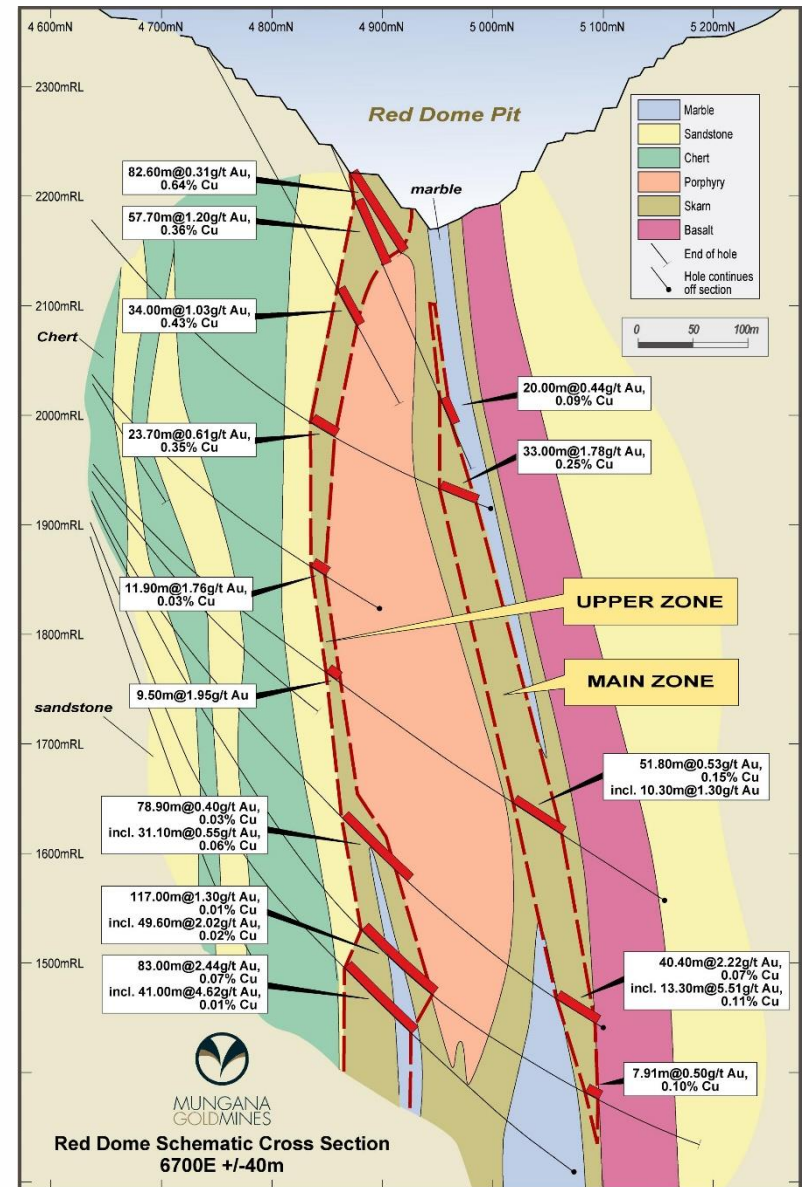
## Gold

- Combined copper- gold Porphyry resource of 131Mt @ 0.21% Cu, 0.65 g/t Au, 8.1g/t Ag (ASX: Annual report 29 Oct 2013) at Mungana and Red Dome
- Multiple additional copper-gold Porphyry targets



# Growth, Large Gold Porphyry Potential

- Red Dome and Mungana deposits only 3km apart, granted mining leases
- Further copper-gold potential along Red Dome-Mungana trend at Red Hill
- Historic production Red Dome (1986 – 1996) approx 15Mt @ 2.0g/t Au, 0.5% Cu, 15g/t Ag
- Newcrest exploration agreement put in place that is complementary to the Mungana growth strategy. Newcrest has the financial capacity and technical knowledge to undertake deep and large scale exploration



# Summary

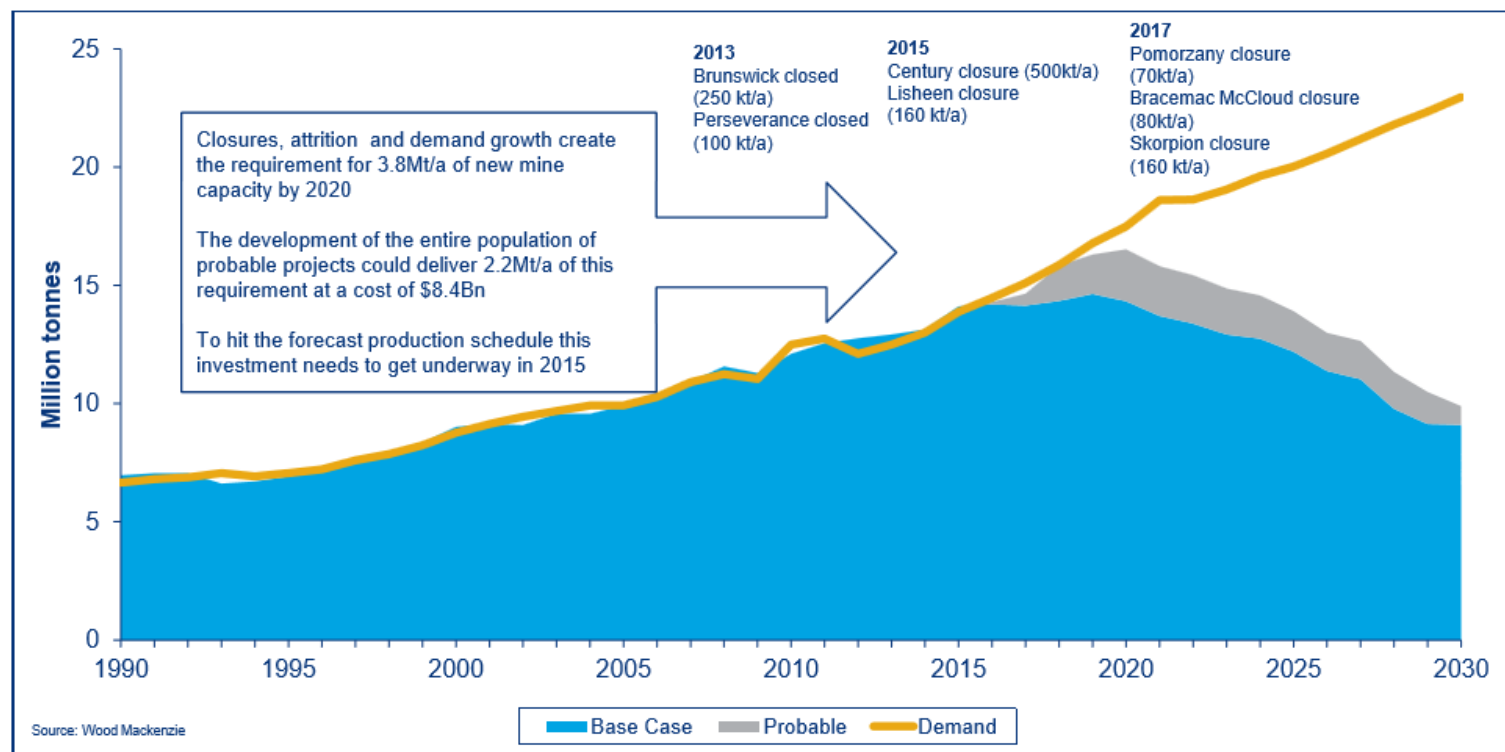
- Acquisition of the Chillagoe assets represents an outstanding opportunity for development of new Australian resource company with fast track to high grade zinc production
- Exploration agreement signed with Newcrest to unlock Porphyry Gold-Copper potential
- 3 step plan consolidates current assets with exceptional growth opportunities to follow
  - King Vol high grade zinc resource and well advanced processing and civil infrastructure
  - Red Cap resources and lead indicators requiring follow up
  - Regional tenure covering multi metal geological field
- New Management team established covering geological, project and mining expertise
- An Australian zinc mining project ready to progress with a back drop of exciting exploration potential .....

# Zinc outlook

( Ref: Wood Mackenzie Jonathon Leng PDAC 1<sup>st</sup> March 2015)

## Closures, attrition and demand growth create requirement for 3.8Mt/a of new mine capacity by 2020

### Refined zinc supply and demand



6

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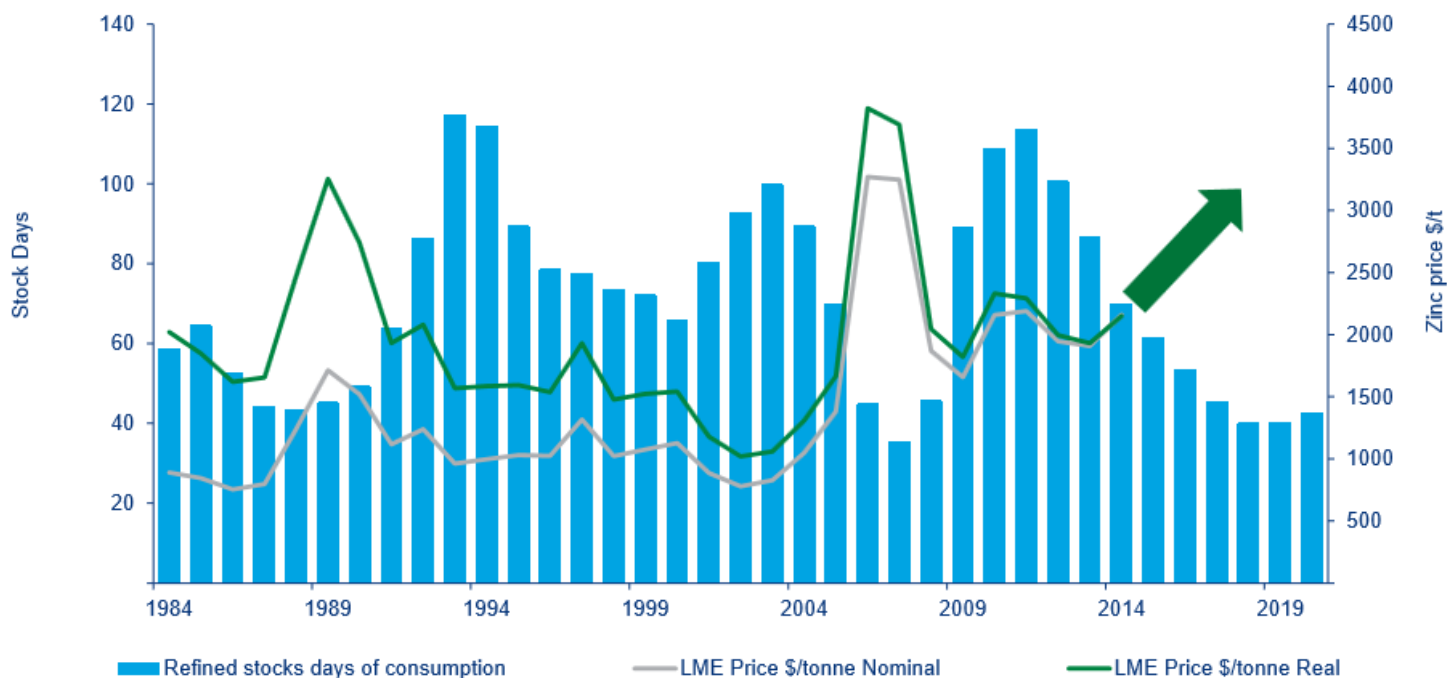
 Wood Mackenzie



# Zinc outlook

( Ref: Wood Mackenzie Jonathon Leng PDAC 1<sup>st</sup> March 2015)

**Strong demand growth, restricted supply, falling stocks point to bright outlook for the zinc price**



Source: Wood Mackenzie

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# Appendix A - Resources

## Zinc Resources

| Deposit              | Category  | Tonnes           | Zn%         | Cu%        | Pb%        | Au g/t     | Ag g/t      |
|----------------------|---|------------------|-------------|------------|------------|------------|-------------|
| <b>King Vol Area</b> |   |                  |             |            |            |            |             |
| King Vol             | Indicated   | 1,045,000        | 14.7        | 0.9        | 0.7        | 0.0        | 36.5        |
| King Vol             | Inferred  | 1,943,000        | 10.4        | 0.7        | 0.5        | 0.0        | 26.4        |
| Montevideo           | Resource requires upgrade to 2012 JORC compliance |                  |             |            |            |            |             |
| <b>Total</b>         |   | <b>2,988,000</b> | <b>11.9</b> | <b>0.8</b> | <b>0.6</b> | <b>0.0</b> | <b>29.9</b> |
| <b>Red Cap Area</b>  |   |                  |             |            |            |            |             |
| Penzance             | Inferred  | 85,000           | 6.2         | 0.7        | 0.2        | 0.1        | 19.1        |
| Queenslander         | Inferred  | 1,570,000        | 4.4         | 0.5        | 0.2        | 0.0        | 11.6        |
| Morrison's           | Inferred  | 1,930,000        | 5.4         | 0.6        | 0.3        | 0.1        | 21.3        |
| Victoria             | Resource requires upgrade to 2012 JORC compliance |                  |             |            |            |            |             |
| <b>Total</b>         |   | <b>3,585,000</b> | <b>5.0</b>  | <b>0.6</b> | <b>0.3</b> | <b>0.1</b> | <b>17.0</b> |
| <b>TOTAL</b>         |   | <b>6,573,000</b> | <b>8.1</b>  | <b>0.7</b> | <b>0.4</b> | <b>0.0</b> | <b>22.9</b> |

## Copper Resources

| Deposit             | Category  | Tonnes         | Zn%        | Cu%        | Pb%        | Au g/t     | Ag g/t    |
|---------------------|---|----------------|------------|------------|------------|------------|-----------|
| <b>Red Cap Area</b> |   |                |            |            |            |            |           |
| Penzance            | Inferred  | 228,000        | 1.3        | 3.2        | 0.0        | 0.2        | 58        |
| <b>Mungana Area</b> |   |                |            |            |            |            |           |
| Griffiths Hill      | Resource requires upgrade to 2012 JORC compliance |                |            |            |            |            |           |
| <b>Total</b>        |   | <b>228,000</b> | <b>1.3</b> | <b>3.2</b> | <b>0.0</b> | <b>0.2</b> | <b>58</b> |

## Gold Copper Resources

| Deposit             | Category  | Tonnes             | Zn%       | Cu%         | Pb%       | Au g/t      | Ag g/t     |
|---------------------|-----------|--------------------|-----------|-------------|-----------|-------------|------------|
| <b>Mungana Area</b> |           |                    |           |             |           |             |            |
| Red Dome/Mungana    | Measured  | 41,000,000         |           | 0.29        |           | 0.79        | 11.6       |
|                     | Indicated | 49,800,000         |           | 0.18        |           | 0.58        | 6.7        |
|                     | Inferred  | 40,200,000         |           | 0.15        |           | 0.58        | 6.2        |
| <b>TOTAL</b>        |           | <b>131,000,000</b> | <b>0%</b> | <b>0.21</b> | <b>0%</b> | <b>0.65</b> | <b>8.1</b> |

The information in this presentation that relates to mineral resources is a compilation of previously published data for which Competent Persons consents were obtained. The consents remain in place for subsequent releases by Mungana Goldmines Ltd of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.

The information in this announcement regarding Mungana Goldmines Copper and Zinc Resources has been extracted from the Mungana Goldmines ASX announcements dated 27 April 2015 and 28 January 2015. Kagara estimated Resources associated with Montevideo, Victoria and Griffiths Hill are not included as these resources require upgrading to 2012 JORC compliance. The information in this announcement regarding Mungana Goldmines Gold Copper Resources has been extracted from Mungana Goldmines ASX announcement dated 29 October 2013 (Annual Report). The Gold Copper Resources have not been updated to comply with the JORC code 2012 on the basis that the information has not materially changed since it was last reported. The information in this announcement regarding Mungana Goldmines exploration targets and exploration results has been extracted from the Mungana Goldmines ASX announcement dated 20 April 2015 (Quarterly Activities report)

All previous ASX announcements are available on the Mungana Goldmines web site at [www.munganagoldmines.com.au](http://www.munganagoldmines.com.au) or through the ASX website at [www.asx.com.au](http://www.asx.com.au) (using ticker code "MUX"). Mungana confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in that market announcement continue to apply and have not materially changed. Mungana confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Note: Figures are nearest to 1,000 tonnes, 0.1% Zn, Cu, Pb and 0.1g/t Au, Ag. Rounding errors may occur.

Cautionary statement: 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 determination of indicated mineral resources or that any production targets will be realised.



### **CAUTIONARY STATEMENT – PRODUCTION TARGETS**

The production targets on slides 3, 10 and 13 are based initially on a combination of indicated and inferred mineral resources, which have not yet been classified as ore reserves.

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 determination of indicated mineral resources or that the production target itself will be realised.

# Appendix B – Production Target Assumptions and Other Key Details



The material assumptions in relation to the production targets in this presentation are set out below. These assumptions are made in the absence of a detailed scoping, pre feasibility or feasibility study. There are a number of steps that will need to be completed before a feasibility study is finalised, which include obtaining a number of development approvals, some of which are detailed below. Key details in relation to the nominated plant capacity and estimated capital expenditure are also set out below.

| Production Target or Capital Estimate   | Assumptions  |
|---|--|
| King Vol annualised mining and processing rate of 350,000 tonnes per annum              | <p>The King Vol resource is 2.99mt and sits in the ground approximately from 70m to 700m depth which equates approximately to 4,750 tonnes per vertical metre. It is assumed that the mine can be developed and produce ore in a steady state scenario by mining 75 vertical metres per annum. This equates to 356,000 tpa rounding down to 350,000tpa.</p> <p>It is assumed that all the ore mined on an annualised rate of 350,000tpa is processed at the same annualised rate.</p> <p>The above assumption is considered reasonable based on the historical Mungana underground mine which was mined by Kagara from 2008 to 2012 produced 700,000t @ 11.1% Zn at a mine production rate equivalent to approximately 90 vertical metres per annum. It is assumed the mining methods and development logic used at the Mungana mine will be similar to those used at the King Vol mine.</p> <p>There is a risk that following the detailed technical evaluation of the King Vol deposit that this production target may not be able to reach the assumed level as a result of technical issues arising from that work.</p>  |
| Annual metal production of approximately 35,000 to 40,000 tonnes of zinc in concentrate | <p>This assumption is based on the above annualised production rate 350,000 tones per annum processed at a mined grade range of 11% to 12% Zinc. It is also assumed that the zinc recovery to zinc in concentrate is 93.6% which was taken from Kagara King Vol composite met test work completed in 2008 (Optimet Laboratory, Adelaide). Using these parameters the calculated range is 36,036 to 39,312 tonnes of zinc in concentrate which has been rounded in this presentation as a production target to 35,000 to 40,000 tonnes of zinc in concentrate.</p> <p>The King Vol production target listed only includes zinc in concentrate. At this stage bi-products which will be produced as copper in concentrate, lead in concentrate and silver in concentrate have not been included as part of the production target. For the purposes of the production target assumption it is assumed that the majority of the revenue will be derived from zinc in concentrate production.</p> <p>It is assumed that the current partially completed Mungana concentrator is in good condition and it can be re configured to process ore at a throughput rate of 350,000 tpa.</p> <p>There is a risk that following a detailed review of the current partially built processing facility that additional modifications to the original design criteria may be required to achieve the nominated production target. These changes may result in additional costs and longer time to completion than currently estimated.</p> |

# Production Target Assumptions and Other Key Details cont.



| Production Target or Capital Estimate  | Assumptions   |
|--|---|
| Nominated plant capacity of 600,000 tpa  | <p>It is assumed that in part 3(b), slide 7,10 and 13 in relation to the corporate strategy and working plan that the Mungana processing facility can be built/configured to a throughput rate of 600,000tpa. It is noted that several different throughput rates ranging from 450,000tpa (Kagara ASX: 30 Nov 2007) to 700,00tpa (Kagara ASX: 21 Sep 2011) have been previously provided as public information.</p> <p>There is a risk that following a detailed review of the partially built processing plant that for various technical reasons the existing plant may not be built or re configured to achieve 600,000tpa.</p>  |
| Consolidate production base to achieve ore feed for the nominated plant capacity of 600,000tpa | <p>It is assumed that the existing resources at King Vol, Red Cap and Mungana areas will initially achieve the increased production target of 600ktpa. Consolidation of this throughput rate will be achieved through extensions of these known resources.</p> <p>There is a risk that following the ongoing exploration work and feasibility assessments of these resources and extensions that they may not achieve reserve status and subsequently the consolidation of the production up to the nominated 600,000tpa may not be achieved.</p>   |
| The estimated pre-production capital of less than \$40m  | <p>This estimated pre-production capital of less than \$40M is based on an initial high-level review by Entech Pty Ltd for the mine establishment and development, and GR Engineering Services Limited for the processing requirements and the company's own knowledge and understanding of the project.</p> <p>There is a risk associated with this pre-production capital estimate in that following detailed review at the appropriate study levels this estimate may be incorrect.</p>  |
| Completion of King Vol feasibility study and project approvals to be done in parallel          | <p>It assumed that following the drilling program increasing both inferred and indicated resources and re estimating the King Vol resource that the King Vol feasibility study can be completed by March 2016.</p> <p>The necessary approval process will occur in parallel. The King Vol mining lease application is currently pending and it is assumed it will be finalised prior to any work commencing. The Department of Environmental and Heritage Protection (DEHP), Environmental Authority (EA) to permit development and production, is expected to take between 8 to 12 months. The timing 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 time frame presented in this presentation</p> |

# Appendix C – Key Risks

**OVERVIEW** - There are a number of risks, both specific to Mungana and of a general nature, which may either, individually or in combination, affect the future operational and financial performance of Mungana and the mining industry in which it operates, and the value of Mungana shares. This section describes some, but not all, of the risks associated with an investment in Mungana which prospective investors should consider together with the publicly available information (including this presentation) before making an investment decision.

**COMPANY SPECIFIC RISKS** – These risks are those that are specific to an investment in Mungana which may affect Mungana’s financial position, prospects, and the price of Mungana shares.

|  |   |
|--|---|
| Development of the King Vol project and other projects | <p>The development of the King Vol zinc project will require a detailed feasibility study, substantial capital expenditure, experienced personnel and a number of regulatory approvals. There are a number of uncertainties inherent in the feasibility stage and the subsequent development stages of the project. These include:</p> <ul style="list-style-type: none"> <li>• the outcome of the initial drill program and subsequent resource estimation update to provide basis for a successful feasibility study to be completed;</li> <li>• availability of adequate funding to complete the work programs associated with the various stages of the project feasibility and development;</li> <li>• obtaining the necessary environmental and other government approvals and the timing of the permits;</li> <li>• addressing any outstanding landholder, native title, cultural heritage and community issues;</li> <li>• unexpected technical, geographical or geological issues not currently apparent;</li> </ul> <p>These risks and uncertainties could result in Mungana not realising its feasibility and development plans or the King Vol mine generating less revenue than expected, costing more than expected or taking longer than expected.</p> |
| Security of tenure and necessary approvals             | <p>There is a risk that the necessary mining tenements and environmental permits may not be obtained, granted or renewed within the timeframes anticipated by Mungana. Mungana believes that the mining lease associated with the King Vol tenement is in the final stages of approval and that the final environmental work and approvals required for an environmental operating licence can be achieved in 8 to 12 months. Although the company is confident in finalising these approvals in the specified timeframe, there is a risk that these may be delayed.</p>  |
| Operating history                                      | <p>Mungana does not currently conduct mining production operations. There is a risk that the company may not be able to bring the King Vol zinc project or any of its other future projects into production or operate the project profitably.</p>  |
| Future capital requirements                            | <p>The development of the King Vol project including the completion of resource drilling, suitable feasibility studies and the building of the project will require further capital raising activities. The building of the King Vol project following the completion of a positive feasibility study and approval from the Mungana Board will require debt and equity financing in the future, in addition to its current funds.</p> <p>There is no assurance that the company will be able to obtain the additional funding required to complete the current work plan or develop the project in the future.</p>  |
| Offtake agreements                                     | <p>There are no agreement in place for the sale of products from the King Vol project. There are no guarantees that the company will be able to reach agreement on terms satisfactory to it. If the company is not able to enter into offtake agreements on satisfactory terms, this may have an adverse effect on the viability of the King Vol project and in turn Mungana’s financial position.</p>  |
| Reliance on key personnel and employees                | <p>Retaining and recruiting personnel is critical to the Company’s success and growth prospects. If Mungana cannot retain and attract qualified personnel it could adversely affect Mungana’s current exploration and development programmes and its future growth plans, as well as development and operation of the King Vol project.</p>   |



# Key Risks cont.

**INDUSTRY RISKS**—The following risks are broader industry specific risks that could potentially impact Mungana’s current work plan and development proposals as well as any future production activities

|   |  |
|---|--|
| Operating risks   | <p>The current and future operations of the Company, including exploration, appraisal, development and possible production activities may be affected by a range of factors, many of which cannot be foreseen or are beyond Mungana’s control, including:</p> <ul style="list-style-type: none"> <li>• adverse weather conditions;</li> <li>• unanticipated operational and technical difficulties;</li> <li>• unexpected maintenance or mechanical failure;</li> <li>• inaccurate mineral reserve or resource estimates;</li> <li>• industrial and environmental accidents or disputes; and</li> <li>• unexpected shortages or increases in the costs of labour.</li> </ul> <p>The above operating risks could result in increased costs and, should Mungana commence production activities, decreased production and reduced revenues.</p>                   |
| Exploration risks   | <p>Exploration is a high risk activity that requires sustained and substantial expenditure. Exploration activities are speculative by nature and there can be no assurance that future commercial quantities of ore will be discovered. There can be no assurance that exploration of the Company’s current mineral projects and any other mineral projects acquired in the future will result in the discovery of an economic ore deposit. Even if an apparently viable deposit is identified, there is no guarantee that it can be economically exploited. If Mungana’s exploration activities do not result in additional reserves, this may have an adverse effect on its ability to maintain or increase production into the future.</p>  |
| Mineral reserves and resource estimates                     | <p>Estimating ore reserves and mineral resources is a subjective process. The accuracy of any reserve or resource estimate is a function of the interpretation and extrapolation of a limited amount of geological data and, as such, is dependent on the quantity and quality of available data.</p>  |
| Environmental impact  | <p>Mungana’s exploration activities and, in the future, proposed production activities may substantially impact the environment or cause exposure to hazardous materials. Mineral exploration and production can affect the environment and result in substantial costs being incurred for environmental risk management, rehabilitation and damage control. Further, environmental conditions may be attached to mining tenements, and a failure to comply with these conditions may lead to forfeiture of the relevant tenements.</p> <p>There is also a risk that environmental issues already exist in the areas where Mungana is exploring or proposes to operate due to former activities at the relevant sites that could give rise to liability for Mungana. This could have an adverse effect on Mungana’s financial and operational performance.</p> |
| Government regulations and policies and legislative changes | <p>Mungana’s mining operations are exclusively in Queensland and are subject to extensive government regulations and policies with respect to matters such as land use, employee health and safety, rehabilitation of mining properties, and environmental damage and pollution. Any failure to comply with regulations or policies may result in penalties for non-compliance, which could have an adverse effect on Mungana’s financial and operational performance.</p> <p>These regulations and policies regularly change and may become more restrictive, impose stricter standards and increase penalties for non-compliance. Any future changes in these regulations or policies may increase Mungana’s costs of production or adversely affect its ability to produce and sell its products.</p>   |

# Key Risks cont.

**GENERAL RISKS** – In addition to the above risks , the business activities of Mungana are also subject to general economic and investment risks

|   |   |
|---|---|
| General economic and equity market conditions | <p>Economic conditions in both Australia and internationally may affect the performance of Mungana and the trading price of Mungana shares. This may result in the market price for Mungana shares being less or more than their offer price.</p> <p>Generally applicable factors which may affect the market price of shares include: general movements in Australian and international stock markets; investor sentiment; Australian and international economic conditions and outlook; changes in interest rates and rate of inflation; changes in government regulation and policies; variations in commodity prices and currency fluctuations; and geo-political instability, including international hostilities and acts of terrorism.</p> |
| Commodity price fluctuations                  | <p>In the event that production commences at the King Vol project, any revenue derived from any future sales of product exposes Mungana to commodity price risk, subject to any commodity price hedging Mungana decides to undertake.</p> <p>Mungana's revenues will be primarily dependent on the price of zinc and copper. Zinc and copper prices are volatile and subject to a variety of factors which are beyond Mungana's control. Depending on hedging practices, future price declines in the market value of zinc and copper may adversely impact on Mungana's profit margins, future development and planned future production, which may in turn adversely impact the price of Mungana's shares.</p>                                   |
| Exchange rate fluctuation                     | <p>Exchange rate fluctuations may affect Mungana's profitability. Should Mungana successfully bring the King Vol project in to production, revenues from product sales will likely be received in US dollars, while the majority of its expenses are currently incurred in Australian dollars. Foreign exchange rates are impacted by a number of factors beyond Mungana's control. Depending on hedging practices, if the Australian dollar appreciates in value against the US dollar then Mungana's financial results may be adversely affected due to the potential low Australian dollar receipts available to cover costs.</p>  |
| Changes to taxation                           | <p>Changes to income tax, GST, duty, environment-related taxes, mining royalties or any other applicable taxation legislation or policies in Queensland and Australia may adversely affect Mungana's financial profitability, net assets and cashflow.</p>  |



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