



# North Queensland Zinc Strategy

**Resources Rising Stars – 1 October 2014**  
Joe Treacy, Chairman



**MUNGANA  
GOLDMINES**

ASX: MUX

# Disclaimer

**Competent Person's Statement:** The information in the report to which this statement is attached that relates to Exploration Results and 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. 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 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Beaton consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

**JORC – Resources & Reserves:** All Ore Reserve and Mineral Resource estimates were prepared and first disclosed under the JORC Code 2004. This information has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. For more details on the Mineral Resources first disclosed by Kagara Ltd refer to the Notes in Appendix 1.

**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.

**JORC – Production Targets:** Production targets for the projects referenced in this presentation are based on a combination of measured, 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.

**Forward-Looking Statements:** This presentation has been prepared by Mungana Goldmines Ltd. This document contains background information about Mungana Goldmines Ltd current at the date of this presentation. The presentation is in summary form and does not purport to be all inclusive or complete. Recipients should conduct their own investigations and perform their own analysis in order to satisfy themselves as to the accuracy and completeness of the information, statements and opinions contained in this presentation. This presentation is for information purposes only. Neither this presentation nor the information contained in it constitutes an offer, invitation, solicitation or recommendation in relation to the purchase or sale of Mungana Goldmines Ltd shares in any jurisdiction. This presentation may not be distributed in any jurisdiction except in accordance with the legal requirements applicable in such jurisdiction. Recipients should inform themselves of the restrictions that apply in their own jurisdiction. A failure to do so may result in a violation of securities laws in such jurisdiction. This presentation does not constitute investment advice and has been prepared without taking into account the recipient's investment objectives, financial circumstances or particular needs and the opinions and recommendations in this presentation are not intended to represent recommendations of particular investments to particular persons. Recipients should seek professional advice when deciding if an investment is appropriate. All securities transactions involve risks, which include (among others) the risk of adverse or unanticipated market, financial or political developments. To the fullest extent permitted by law, Mungana Goldmines Ltd, its officers, employees, agents and advisers do not make any representation or warranty, express or implied, as to the currency, accuracy, reliability or completeness of any information, statements, opinions, estimates, forecasts or other representations contained in this presentation. No responsibility for any errors or omissions from this presentation arising out of negligence or otherwise is accepted. This presentation may include forward looking statements. Forward looking statements are only predictions and are subject to risks, uncertainties and assumptions which are outside the control of Mungana Goldmines Ltd. Actual values, results or events may be materially different to those expressed or implied in this presentation. Given these uncertainties, recipients are cautioned not to place reliance on forward looking statements. Any forward looking statements in this presentation speak only at the date of issue of this presentation. Subject to any continuing obligations under applicable law and ASX Listing Rules, Mungana Goldmines Ltd does not undertake any obligation to update or revise any information or any of the forward looking statements in this presentation or any changes in events, conditions or circumstances on which any such forward looking

# Corporate Snapshot

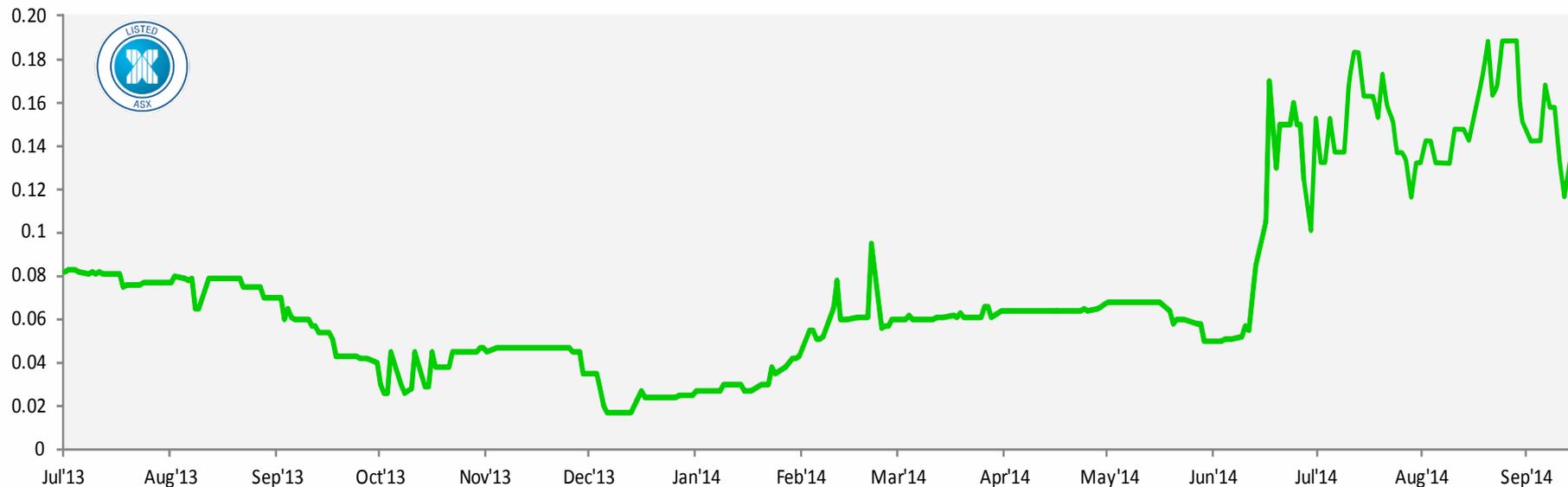


## Capital Structure

ASX Code	MUX
Shares on Issue	164.2 million
Share Price	13.5 cents
Market Capitalisation	~\$22 million
Cash	~\$4 million

## Board & Management

Joe Treacy	Non-Executive Chairman
John Fitzgerald	Non-Executive Director
Justin Jian Yi Wu	Non-Executive Director
Ben-Louis Ludik	CFO & Company Secretary



# Introduction: A New Chapter Begins



- Rejuvenated growth strategy as a Queensland-focused exploration and development company
- \$15M acquisition of Chillagoe base metal and gold assets from Kagara Ltd (in liquidation) recently completed via issue of two Secured Convertible Notes
- Cornerstone asset being acquired is the high-grade King Vol zinc deposit, located close to a partially-completed 600ktpa base metal treatment facility:
  - *Indicated Resource of 0.9Mt grading 16% Zn, 0.9% Cu, 0.9% Pb and 42g/t Ag<sup>^</sup>*
  - *Inferred Resource of 1.9Mt grading 9.9% Zn, 0.6% Cu, 0.4% Pb and 24g/t Ag<sup>^</sup>*
- Focused exploration and development strategy centred around King Vol which presents a rare medium-term development opportunity in the zinc sector:
  - *Potential to take advantage of looming supply shortfall in zinc*
- Significant potential to expand resource base and establish a central processing hub with a polymetallic production profile from nearby deposits (Zinc + Copper + Lead)
- Potentially world-class gold-copper asset at Red Dome (2.7Moz Au, 273kt Cu, 34Moz Ag)<sup>1</sup>
- Strong cash position of ~\$4M following sale of South Australian gold assets

**Mungana's vision is to become a significant Australian zinc producer.**

# Zinc: The Next Metal Boom?

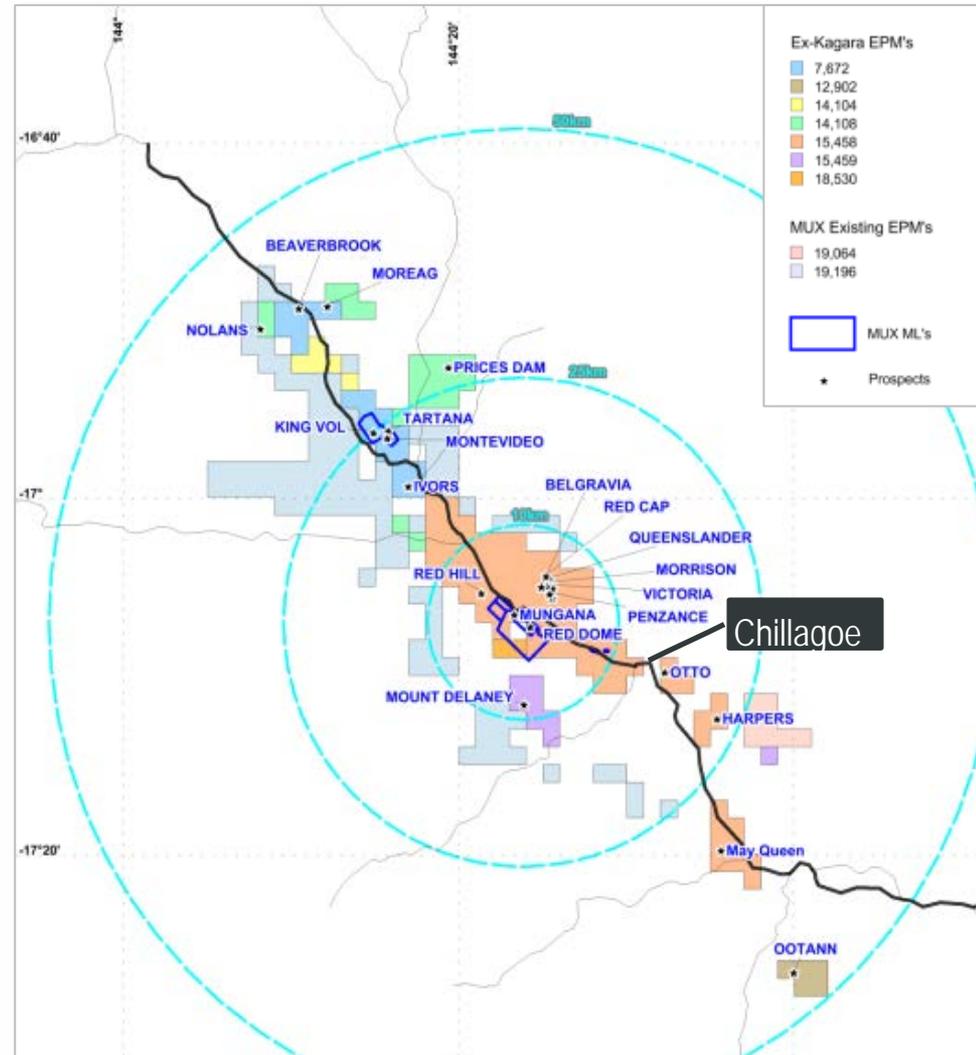
- Zinc market now in deficit – LME stocks down 40% in the past 18 months and prices up ~20% this year to ~US\$2,300/tonne
- Wood Mackenzie forecasting market deficits of 150-250ktpa for the 5 years to 2018
- Numerous mines – representing 11% of current global production – closed or closing due to completion of mining:
  - *Brunswick 175ktpa (closed 2013), Perseverance 145ktpa (closed 2013), Lisheen 170ktpa (closing 2014), Century 500ktpa (closing 2015), Paragashu 45ktpa (closing 2015) and Skorpion 160ktpa (closing 2016)*
- Scotiabank forecast zinc price could rise to US\$1.50/lb in 2016-17 from current prices of US\$1.03/lb
- Very few zinc-focused investments available on the ASX due to takeovers (PEM, CBH, HER, ZFX/OXR)



Source: Wood Mackenzie, CRU, Goldman Sachs Global Investment Research, Petra Capital.

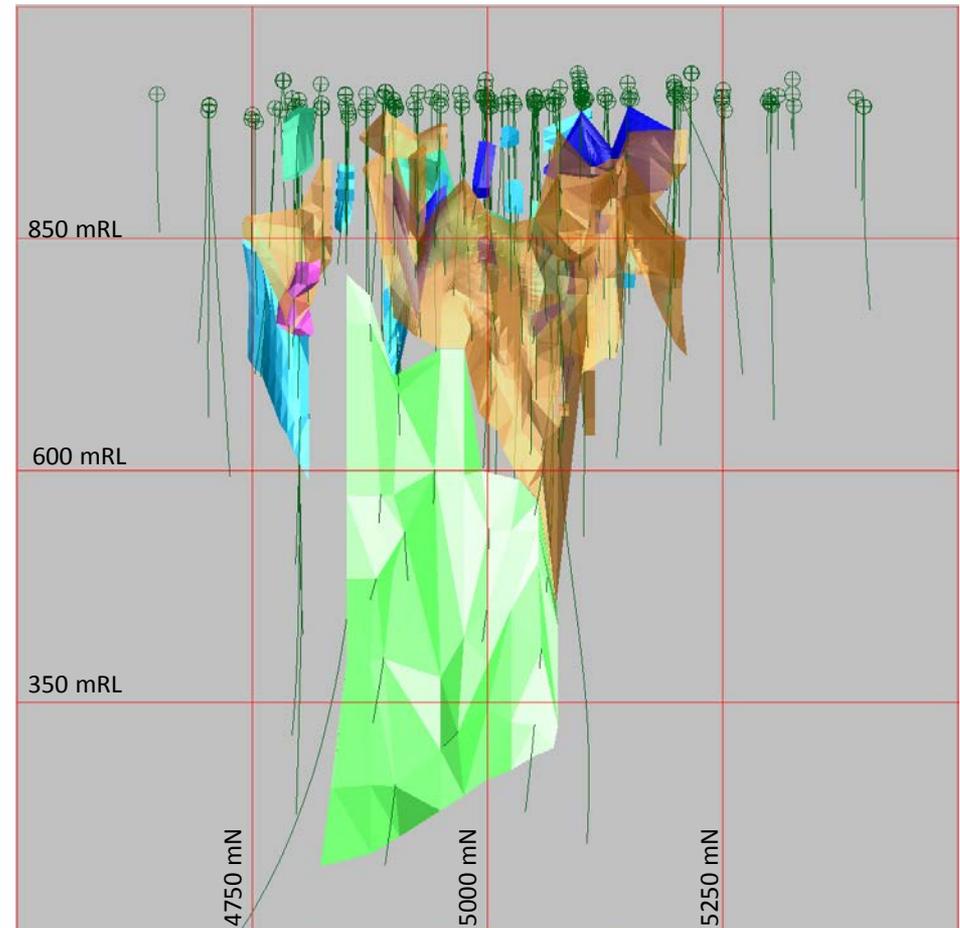
# The Chillagoe Assets

- Outstanding assets with potential to underpin a +10-year mine life with bottom quartile cash costs due to exceptional grade
- New discoveries that were explored but never developed by Kagara
- Chillagoe was a key driver of Kagara's plans to become a top-10 global zinc producer: never realised due to Kagara's collapse in 2012
- Acquisition includes a partially constructed 600ktpa base metal concentrator
- Mungana's Chairman, Joe Treacy, was a founding Director of Kagara and has an intimate knowledge of the Chillagoe assets
- Significant polymetallic potential with copper and base metal deposits which could be processed through central treatment plant



# King Vol – The Centrepiece in the Chillagoe Crown

- Existing JORC Mineral Resource:
  - *Indicated:*  
0.9Mt @ 16% Zn, 0.9% Cu,  
0.9%Pb, 42g/t Ag<sup>^</sup>
  - *Inferred:*  
1.9Mt @ 9.9% Zn, 0.6% Cu,  
0.4% Pb, 24g/t Ag<sup>^</sup>
- Located next to a partially-completed 600ktpa base metals concentrator developed by Kagara
- Initial focus to upgrade Mineral Resource to JORC 2012 compliance and target potential extensions down-plunge and along strike



<sup>^</sup>See Kagara Ltd ASX Announcement –  
December 2011 Quarterly Activity Report, 11/01/2012

**A high quality zinc asset, providing a rare exploration and medium-term development opportunity with the potential to meet the looming supply shortfall...**

# King Vol – Resource Growth

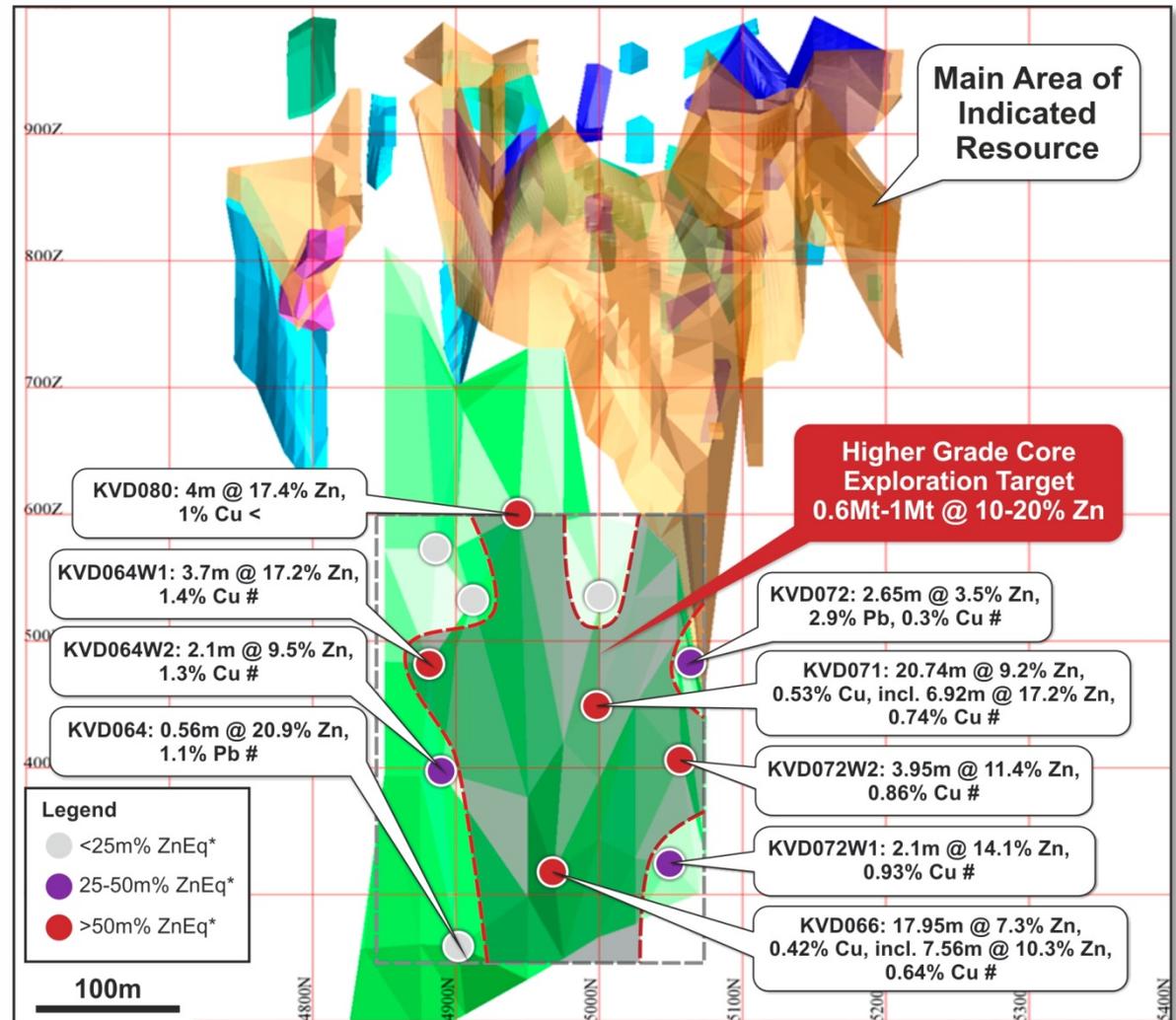
- Deposit is open along strike to the north and the prospective lithological contacts are open along strike in both directions and at depth
- Drilling program being planned targeting an increase in the Inferred Resource to 4Mt
- Potential to target and expand the higher grade core (10-20%)

ZnEq\* = Zn + (Cu x 3.43) + (Pb x 1.11) + (Ag x 0.034)

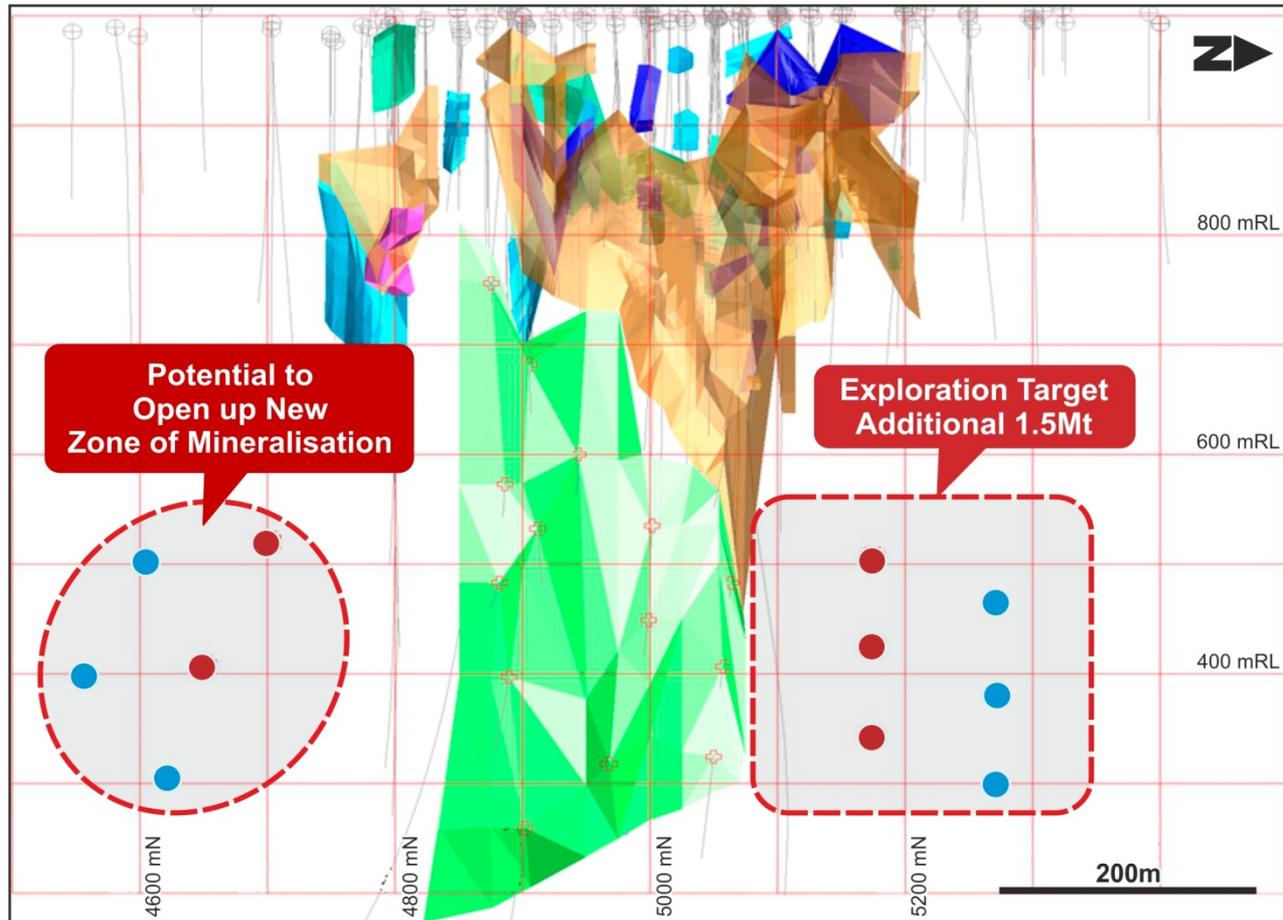
Metal prices in AUD at 18/02/14: Cu \$8,005, Zn \$2,333, Pb \$2587, Ag \$24.40

# See Kagara Ltd ASX Announcement – June 2011 Quarterly Activity Report, 13/07/2011

< See Kagara Ltd ASX Announcement – December 2011 Quarterly Activity Report, 11/01/2012



# King Vol – Stretch Targets



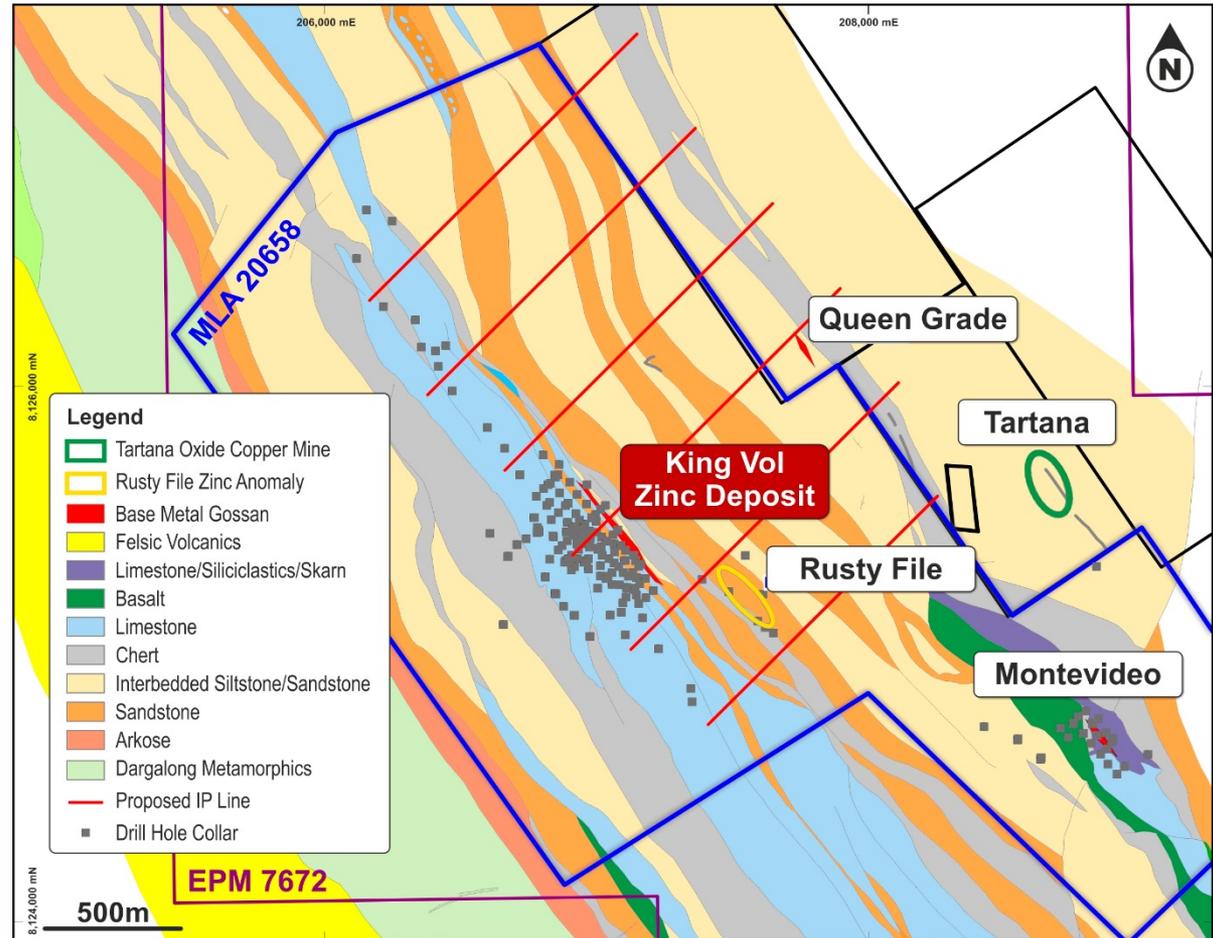
**Drilling to also investigate “stretch targets” with the potential to transform King Vol into a substantial zinc deposit in world terms**

# Chillagoe: Base Metals Concentrator



# King Vol: Potential Satellite Targets

- Potential along strike to the NW and SE of King Vol
- Previous drilling at Rusty File indicates potential for zinc skarn at depth (only 500m from King Vol)
- Previous exploration focused on drilling known mineralisation and geochemical anomalies – MUX to explore for blind targets within 1km of King Vol
- IP survey planned to investigate potential targets



# Chillagoe: Proven Polymetallic Potential

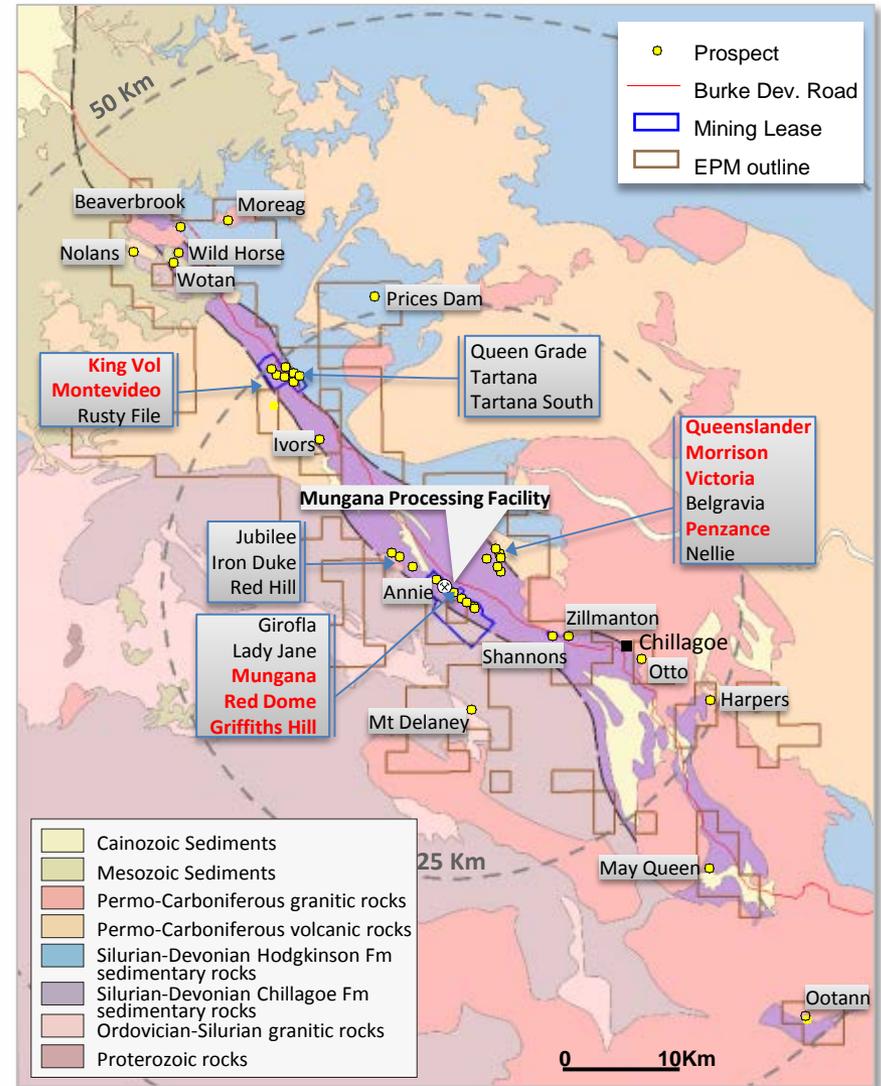
- Chillagoe acquisition includes numerous copper and gold deposits
- Existing base metals concentrator has flotation capacity to produce zinc, copper and lead concentrates
- Advanced satellite deposits offer near-term production potential:
  - *Griffiths Hill, Penzance, Red Cap*
- Longer term potential for a major gold-copper development at Red Dome porphyry deposit
- Strong growth platform as a diversified, multi-commodity producer – zinc, copper, gold, lead



# Copper Potential

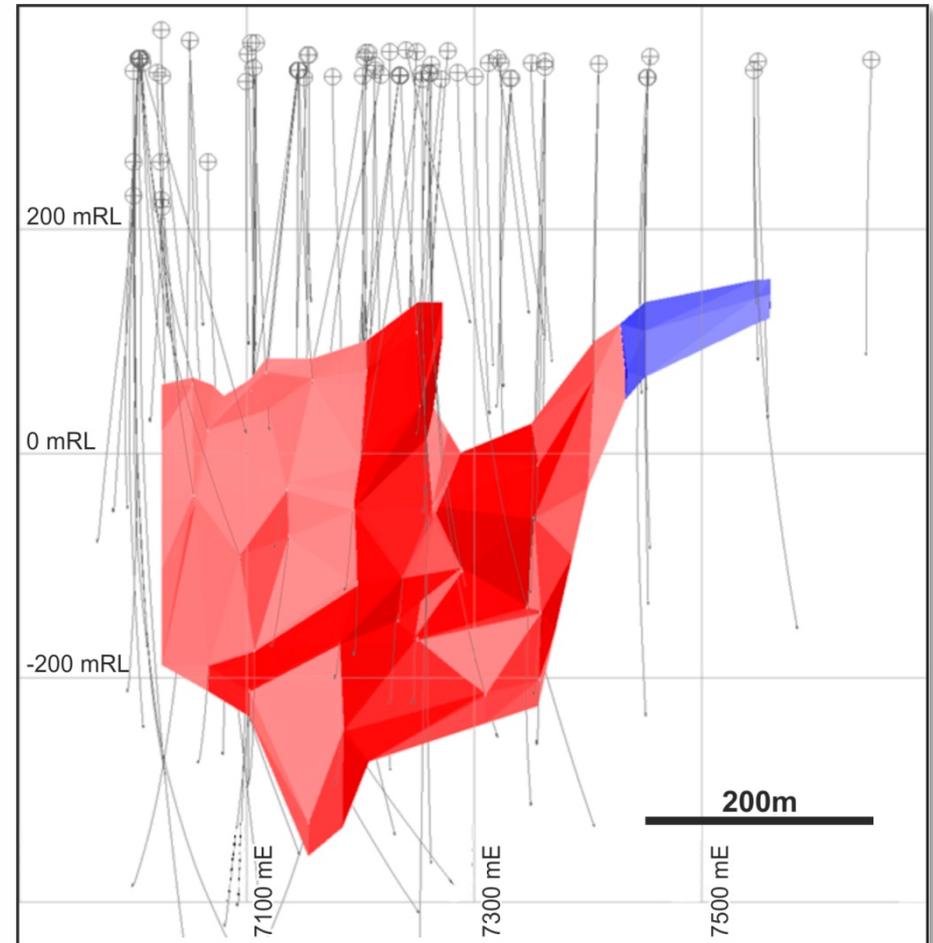
- Copper dominant mineralisation intersected at numerous localities within the Chillagoe tenements including:
  - *Griffiths Hill*<sup>1</sup>: 1.0Mt @ 3.1% Cu
  - *Penzance*<sup>2</sup>: 228,000t @ 3.2% Cu
  - *Harpers*<sup>3</sup>: HQ83-2 - 206.10m @ 0.5g/t Au, 0.3% Cu
- Historical production of high-grade copper ore from:
  - *Lady Jane* – historical production of 100,000t @ 5.8% Cu, 17% Pb, 250g/t Ag
  - *Girofla* – historical production of 224,000t @ 2.5% Cu, 13% Pb, 250g/t Ag

1. See Kagara Ltd ASX Announcement – September 2011 Quarterly Activity Report, 11/10/2011  
 2. See Kagara Ltd ASX Announcement – June 2012 Quarterly Activity Report, 31/07/2012  
 3. See Mungana Goldmines Ltd Prospectus, 29/04/2010



# Griffiths Hill Copper Deposit

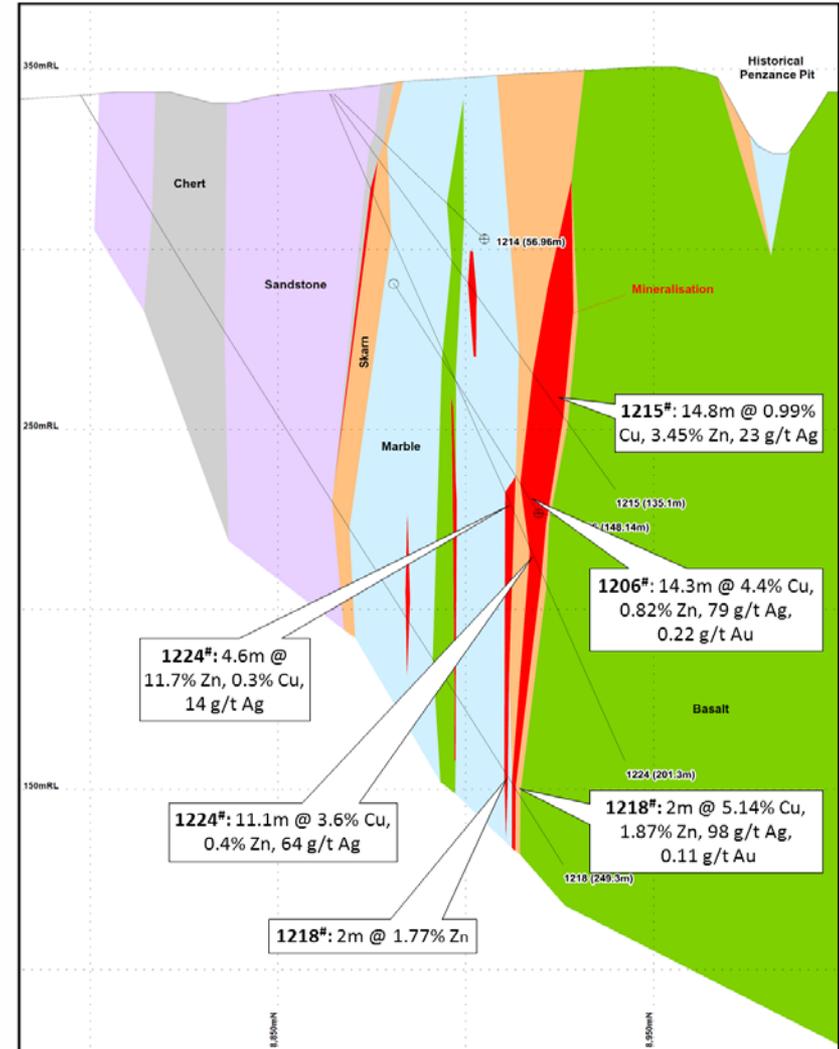
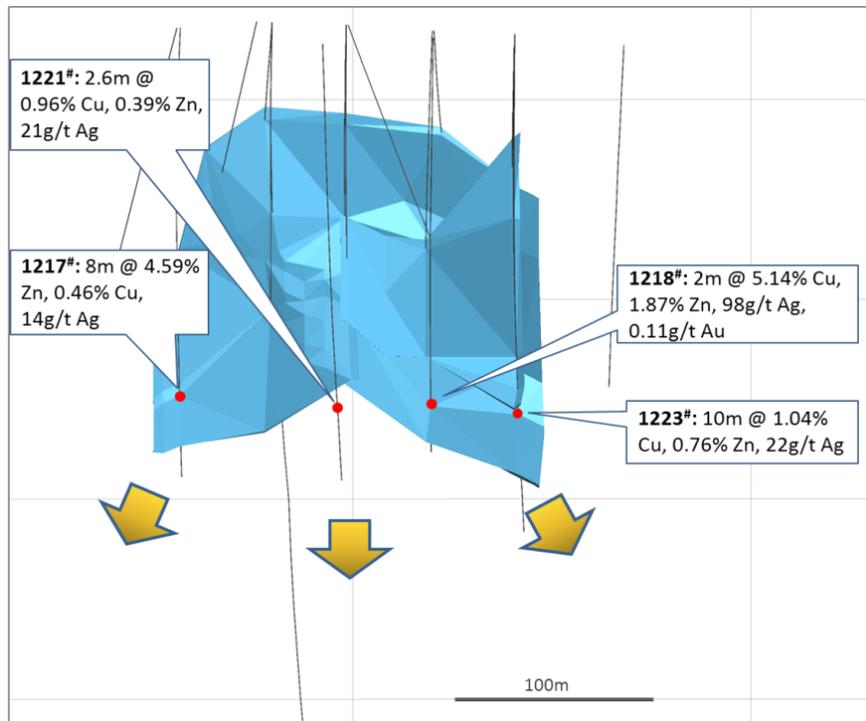
- Inferred Resource of 1.0Mt @ 3.1% Cu, 0.6g/t Au and 61g/t Ag<sup>1</sup>
- Potential for resource expansion with intersections including:
  - *8.70m @ 7.9% Cu and 191g/t Ag (hole 1001W1)<sup>2</sup>*
  - *2.1m @ 6.8% Cu and 177g/t Ag (hole 1040)<sup>2</sup>*situated in the sandstone hangingwall outside of the calculated resource
- Resource grades into a zinc-rich zone to the east (blue zone)
- Further drilling required to quantify the size and grade of Griffiths Hill and bring it to an Indicated Resource category
- Deposit has the potential to progress quickly to development stage



1. See Kagara Ltd ASX Announcement – September 2011 Quarterly Activity Report, 11/10/2011  
2. See Kagara Ltd ASX Announcement – Maiden 32,000 tonne Copper Resource for Griffiths Hill, 17/05/2011

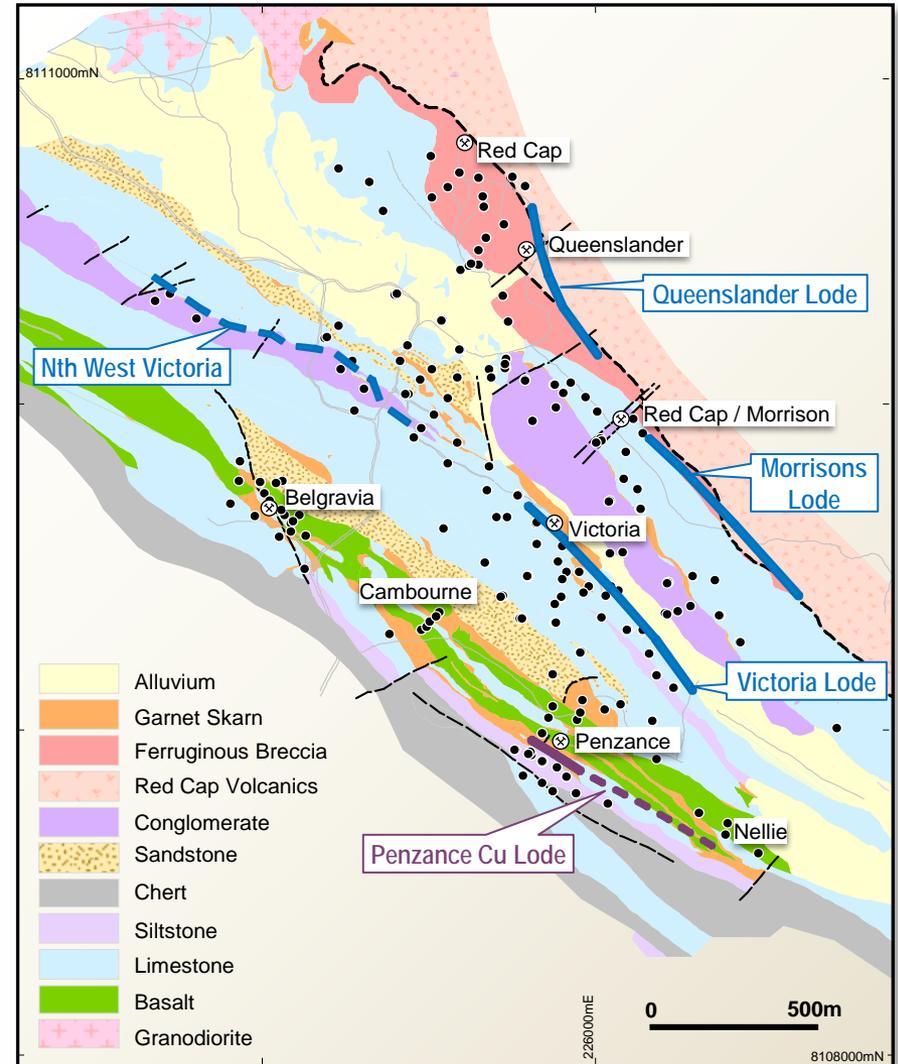
# Penzance Prospect

- Discovered by Kagara shortly before it went into administration
- Shallow Penzance lodes contain a total Inferred Resource of 228,000 @ 3.2% Cu, 0.2g/t Au, 58g/t Ag<sup>2</sup>
- Mineralisation remains open down dip



# Red Cap Area

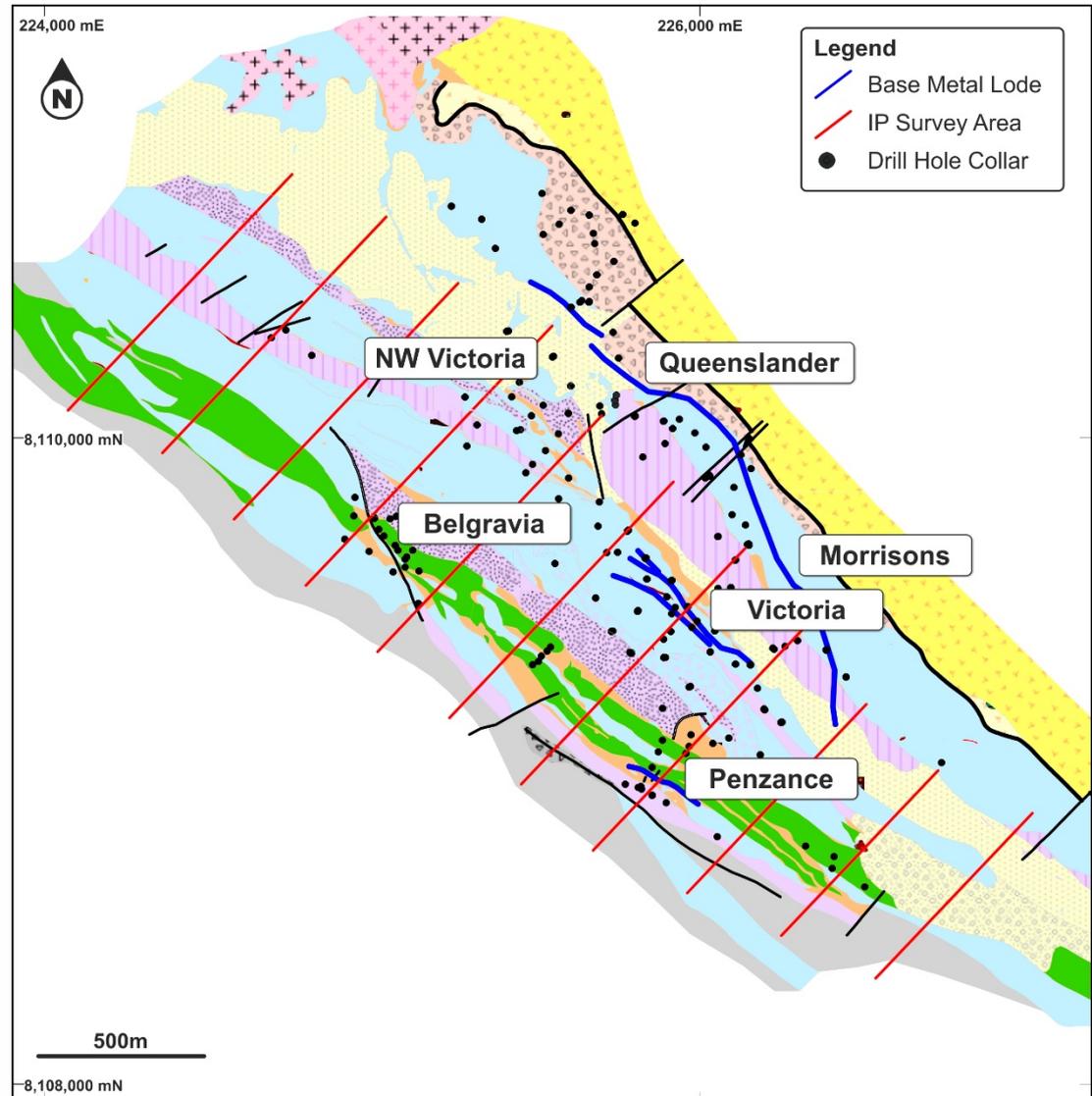
- Fault-related zinc-rich and copper-rich polymetallic skarn mineralisation:
- Victoria, Queenslander, Morrisons and Penzance deposits:
  - *Combined Resource base of +7Mt polymetallic mineralisation<sup>1</sup>*
- Anomalous drill intersections along Penzance trend and NW Victoria still to be followed up
- Highly anomalous zinc-in-soils open to NW and SE
- Highest concentration of zinc mineralisation in the Chillagoe area



1. See Kagara Ltd ASX Announcement – June 2012 Quarterly Activity Report, 31/07/2012

# Red Cap – Proposed Work Program

- Highly prospective for base metal skarn mineralisation
- IP geophysical survey planned to identify key targets, followed by drilling if warranted
- Drilling to target mineralisation below the existing Penzance copper resource



# Red Dome Gold Project

- Located in Far North Queensland
- Red Dome Open Pit produced 1Moz Au, 4.3Moz Ag, 35kt Cu from 1985 -1997
  - *Current Resource of 2.7Moz Au, 273kt Cu, 34Moz Ag<sup>1</sup>*
- Red Dome and Mungana deposits only 3km apart
- Both on granted Mining Leases
- 100% ownership

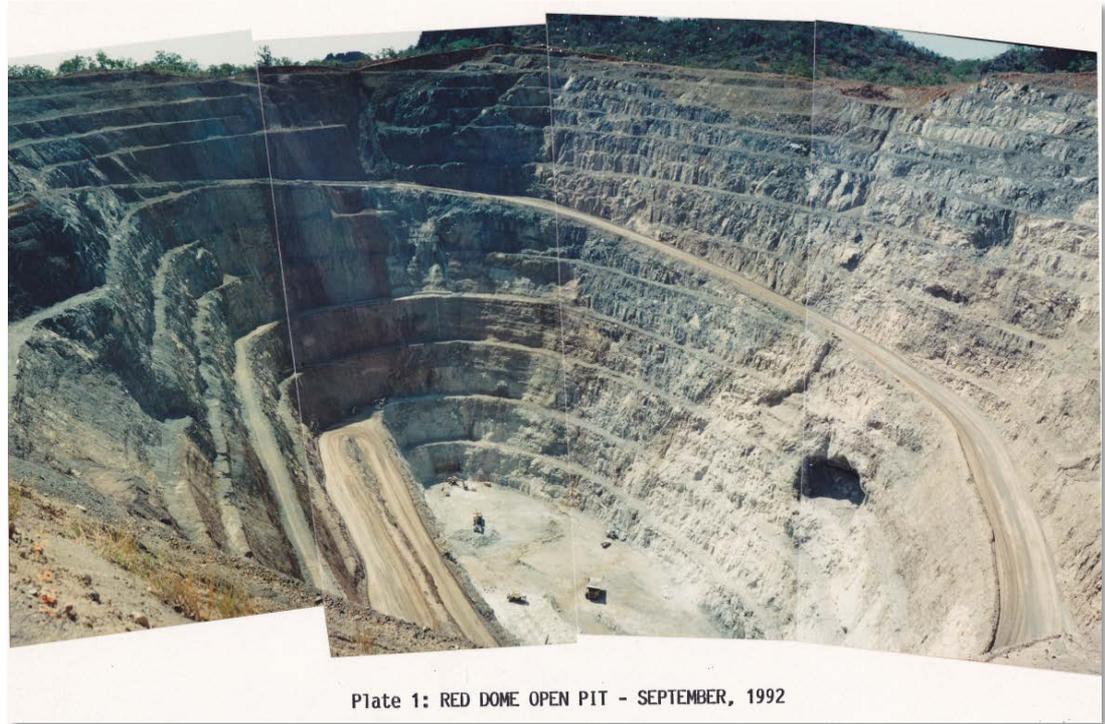
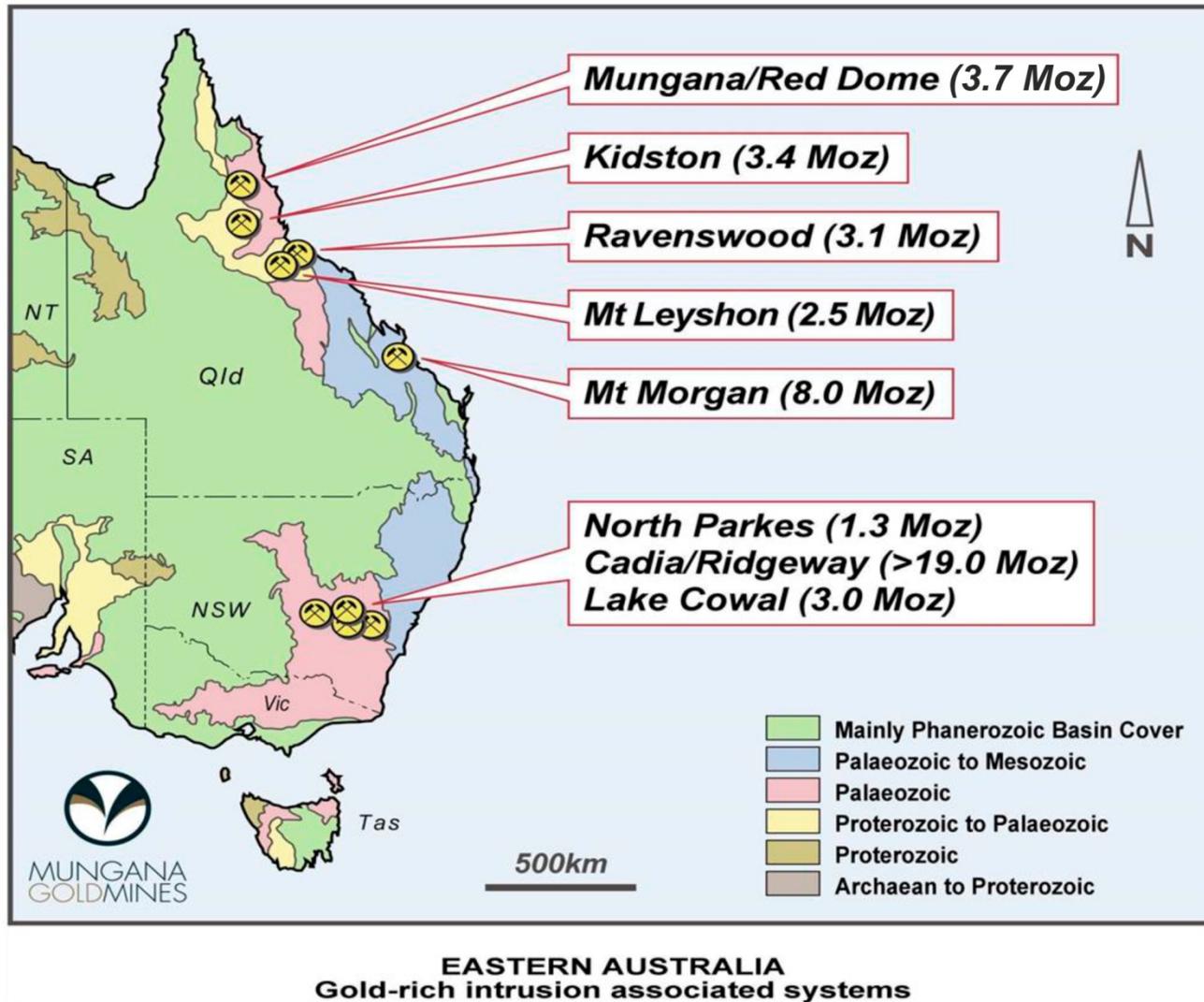


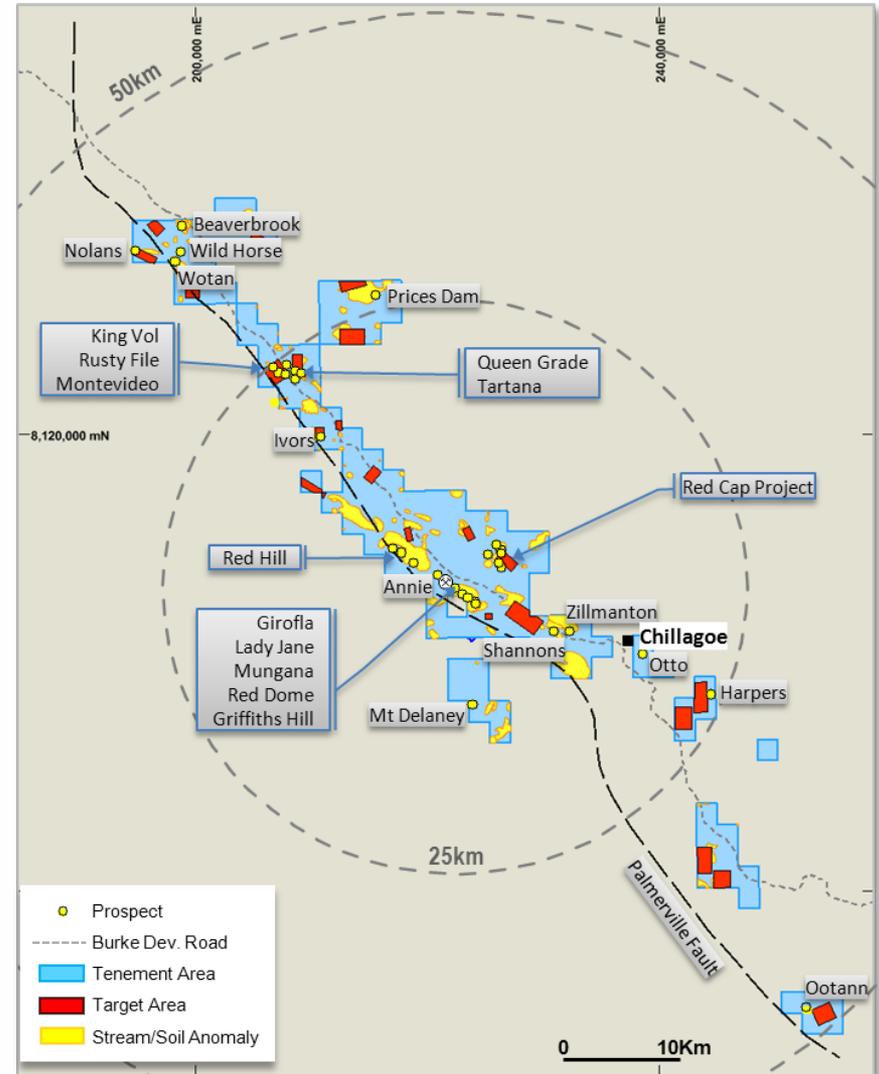
Plate 1: RED DOME OPEN PIT - SEPTEMBER, 1992

# Comparable Gold Deposits



# Gold Exploration – North Queensland

- 25 high priority targets identified via combination of geophysical techniques, structural interpretation and soil sampling
- Exploration focused on gold systems for first time in 20 years since Niugini Mining (Lihir)
- Excellent potential for further discovery with porphyry copper-gold systems believed to be present at Red Cap, Red Hill and Harpers



# Summary: An outstanding growth opportunity

- Acquisition of the Chillagoe assets represents an outstanding opportunity to capitalise on a looming deficit in the global zinc market
- King Vol is an advanced, high-grade zinc deposit with access to a partially-completed base metals concentrator
- Medium-term development horizon with a low-cost pathway to production
- Excellent regional exploration potential
- Growth pipeline – near-term polymetallic satellite deposits and longer term gold project
- Chairman Joe Treacy has a strong understanding of the assets, providing an ability to hit the ground running
- \$4 million in cash, a clean corporate slate and a clear strategy to create shareholder value



# Appendix: Notes

## Note 1:

The information pertaining to the King Vol, Queenslander, and Morrisons mineral resources was extracted from the report entitled “North Queensland Resource Update” dated 9 February 2012. The information pertaining to the Griffith Hill mineral resource was extracted from the report entitled “September 2011 Quarterly Activities Report” dated 11 October 2011. The information pertaining to the Penzance mineral resource was extracted from the report entitled “June 2012 Quarterly Activities Report” dated 31 July 2012. These three reports are available to view at [www.asx.com.au](http://www.asx.com.au). The information for all five resources was first disclosed by Kagara Ltd under the JORC code 2004. The estimates were conducted by Kagara and work is currently being undertaken by the Company to bring each of the mineral resources into line with the JORC code 2012.

## Note 2:

The information pertaining to the Red Dome and Mungana mineral resources was extracted from the report entitled “Annual Report to Shareholders” dated 29 October 2013. This report is available to view on the Company’s web site at [www.munganagoldmines.com.au](http://www.munganagoldmines.com.au) and at [www.asx.com.au](http://www.asx.com.au). It has not been updated since 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 the presentation to which this statement is attached that relates to Exploration Results and Mineral Resources is based on information compiled by Mr Andrew Beaton, a employee of Mungana Goldmines Ltd, who is a member of the Australian Institute of Mining and Metallurgy. 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 2004 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Mr Beaton consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



**Contact Details:**

**Level 12, 500 Queen Street, Brisbane QLD 4000**

**T: +61 7 3835 0800**

**E: [info@mungana.com.au](mailto:info@mungana.com.au)**

**[www.munganagoldmines.com.au](http://www.munganagoldmines.com.au)**



**MUNGANA  
GOLDMINES**