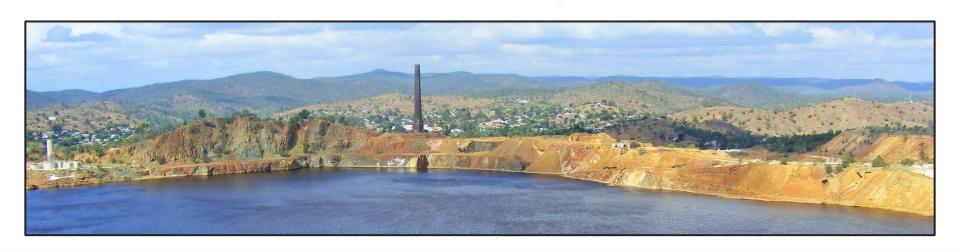


## **CARBINE RESOURCES**

LIMITED

# Mount Morgan Gold & Copper Mine



Investor Update
July 2014

## Disclaimer



#### **Mineral Resources**

The Indicated and Inferred Resources referred to in this presentation were presented by Norton Gold Fields Limited at the Mining 2009 Resource Convention (Brisbane). The presentation was released to the ASX on 28 October 2009 and is available for viewing on the Norton Gold Fields website (www.nortongoldfields.com.au). The resources were stated to have been prepared in accordance with the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' ("JORC Code") by Competent Person Troy Lowien, Resource Geologist, of consultants Coffey Mining Pty Ltd.

Carbine is not aware of any new information or data that materially affects the information included in the Norton market release of 28 October 2009, and confirms that material assumptions and technical parameters underpinning the resource estimates in the relevant market announcement continue to apply and have not materially changed. Current gold prices are well above those prevailing in 2008-2009. The Company 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.

#### **Exploration Targets**

Carbine has identified a number of Exploration Targets at the site comprising low grade mullock dumps, slag dumps and retreated tailings from previous operations. A range of approximate tonnage and grade has been compiled from extensive review of historic reports and studies by previous owners. Carbine has not yet completed any exploration activity on the Exploration Targets. The potential quantity and grade of the Exploration Targets is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource, and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

The basis for the approximate estimates of tonnage and grade include historic production records, various topographic and volume surveys, drilling by various methods, grab and channel sampling and small scale bulk sampling.

Carbine proposes to further evaluate the Exploration Targets during the next year by drilling and possible bulk testing to provide material for additional metallurgical test work and to verify tonnage and grade.

#### **Competent Person Statement**

The information in this report that relates to Exploration Targets is based on information compiled by Lance Govey, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Lance Govey is an independent geological consultant and has no association with Carbine Resources Limited other than being engaged for services in relation to the preparation of parts of this report. Lance Govey has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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'. Lance Govey consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. Information in this report was originally released to the ASX on 3 April 2014 and 18 June 2014.

# **Acquisition Value Proposition**



## **Company Strategy**

Development of near term production, geologically de-risked assets requiring metallurgical de-risking

## Mount Morgan Gold & Copper Tailings Project:

- Up to +1Moz Au & 80,000t Cu in tailings resources
- Low upfront acquisition cost payment through profit sharing
- Low cost to confirm value proposition minimal shareholder risk
- 1Mtpa CIP plant included in acquisition potential low capex development
- Successful historical tailings reprocessing at site
- Predicted robust project economics multiple revenue sources (Au, Cu, Pyrite)
- Government R&D Tax Rebate applies (45% of project expenditure)
- Carbine fully funded to complete BFS and beyond

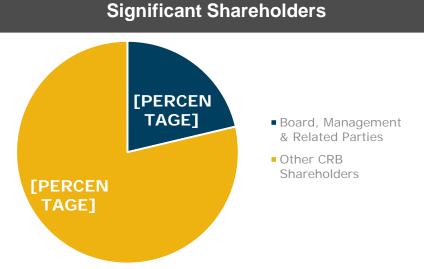
# Company Snapshot



Capital Structure		
Shares (ASX: CRB)	140 million	
Unlisted Options (\$0.075 to \$0.20, exp. June 2015)	6 million	
Market Capitalisation (@ \$0.031/share)	\$4.3M	
Cash & Deposits (30 June 2014)	\$5.0M	
Enterprise Value	-\$0.7M	

Board & Management		
Patrick Walta	Executive Director	
Rod Smith	Principal Consultant	
Evan Cranston	Non-Exec Director	
Tom Bahen	Non-Exec Director	
Grant Mooney	Non-Exec Director & CoSec	

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## **Share Price History**



# Mount Morgan Overview



## **Historical Operations**

- Au/Cu/Ag deposit 40km from Rockhampton, QLD
- 100+ years of mining (shutdown 1980)
- Historic mine processed 50Mt ore @ 5.9g/t Au
- 8.4Moz Au, 400kt Cu & 1.2Moz Ag produced

## **Present Situation**

- Large defined tailings resource
- Flooded open pit, ~11,000ML water (containing dissolved copper)
- Significant environmental legacy: liability owned by QLD Government

## **Development Status**

- Resource definition & feasibility studies completed (Norton Gold Fields et al)
- New flowsheet required to unlock remaining mineral value
- Carbine Phase 1 Testwork completed technical viability confirmed
- Scoping study underway, bankable feasibility study planned to follow



# 1Moz+ Au Remaining in Tails



JORC RESOURCES	Tonnes (000s)	Au (g/t)	Cu (%)	Au (oz)	Cu (t)
Indicated	2,487	1.59	0.16	127,000	3,900
Inferred	5,861	1.07	0.14	202,000	8,400
TOTAL JORC	8,348	1.23	0.15	329,000	12,300
EVELODATION TARGETO:					
EXPLORATION TARGETS*	Tonnes (000s)	Au (g/t)	Cu (%)	Au (oz)	Cu (t)
Dumps & Slags (low range) (high range)	3,600 8,500	Au (g/t) 1.13 1.30	0.28 0.52	Au (oz) 131,000 355,000	Cu (t) 10,000 44,000

- Independent resource verification (Coffey & SMG)
- Drilling planned for Q4 2014 –
   JORC definition of Exp. Targets
- Mine planning studies completed
- Strong local community support for mine redevelopment



<sup>\*</sup> The potential quantity and quality in these exploration targets are conceptual in nature, there has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource

# Tailings Dumps & Open Pit







# Building on Past Success...



## Mount Morgan Historical Tailings Operations (1981-1991)

- 1980: Shutdown of primary ore mining operations
- 1981 1991: 28Mt tailings processed via 3Mtpa Carbon-in-Pulp (CIP) plant
- Average gold price during operations: US\$392/oz
- Excess cyanide consumption caused by soluble copper
- Operations ceased due to increased copper and falling gold price

## Norton Gold Fields Feasibility Study (2010)

- Gold CIP flowsheet with pyrite recovery circuit (secondary revenue stream)
- Excellent recoveries of pyrite to a high grade concentrate
- Pyrite sales risk factors (reliant on sales to counter excess cyanide costs)
- Soluble copper remained a central issue to operating costs
- Recognised need for a more robust process solution...

## Carbine's Process Solution



## Reverse Leach Ion Exchange (IX) with CIP

- Selective removal of copper prior to gold CIP extraction
- Upfront copper extraction provides:
  - Decreased cyanide consumption during gold extraction
  - ✓ Additional revenue stream
  - ✓ Increased gold recovery (no competition with copper)
- Simple copper IX process allows economic gold extraction via traditional CIP
- Pyrite flotation to also produce saleable/containable concentrate
- Creation of benign tailings to mitigate future Acid Mine Drainage issues

Process provides a credible mechanism for economic mineral extraction and environmental site remediation

## **Current Testwork Results**



## **Phase 1 Tailings Testwork**

80% reduction in cyanide consumption via upfront copper removal

Phase 1 Testing	Leach Mechanism	Cyanide Consumption (kg/t)
As Received	Cyanide CIP	5.54
45um Grind	Cyanide CIP	5.25
45um Grind Acid IX & Cyanide CIP		1.00

- 91% recovery of pyrite to a saleable high grade concentrate
- Significant increase in gold extraction compared with previous operations
- Successful copper recovery for additional by-product revenue

## **Pit Water Testwork**

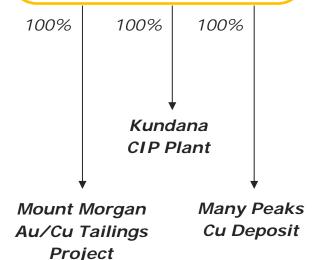
- Low pH: Sufficient acid resource for IX process on tailings
- Contains elevated levels of dissolved copper in solution
- Pit water treatment: 99.9% copper extraction via single pass IX
- Potential to economically treat pit water and mitigate untreated spillage

# Low Risk Acquisition Structure



Carbine is acquiring Norton's QLD asset portfolio via acquisition of Raging Bull Metals (RBM)

# Norton Gold Fields' QLD Asset Portfolio



## **RBM Earn-in Agreement Terms With Norton**

- 1) \$100k option for exclusive scoping testwork
- 2) \$400k for exclusive Right-to-Mine, allowing:
  - a) Completion of BFS
  - b) Capex capital raising & Decision-to-Mine (DTM)
- 3) 100% interest transfer on DTM & \$2M payment
- 4) \$13M royalty pmt (via 20% of annual EBITDA)

## Carbine Earn-in Agreement Terms With RBM

Carbine acquiring 100% of RBM via:

- 75% on completion of Mount Morgan BFS
- 25% on independent valuation post BFS

## Additional NGF Assets Acquired



### Kundana CIP Plant

- 1Mtpa gold CIP plant
- Originally intended for use at Mount Morgan
- Plant refurbishment (\$3.5M spent by NGF)
- Plant remains packed at Paddington Mine, WA
- Potential for:
  - full or partial reuse at Mount Morgan
  - domestic or international sale



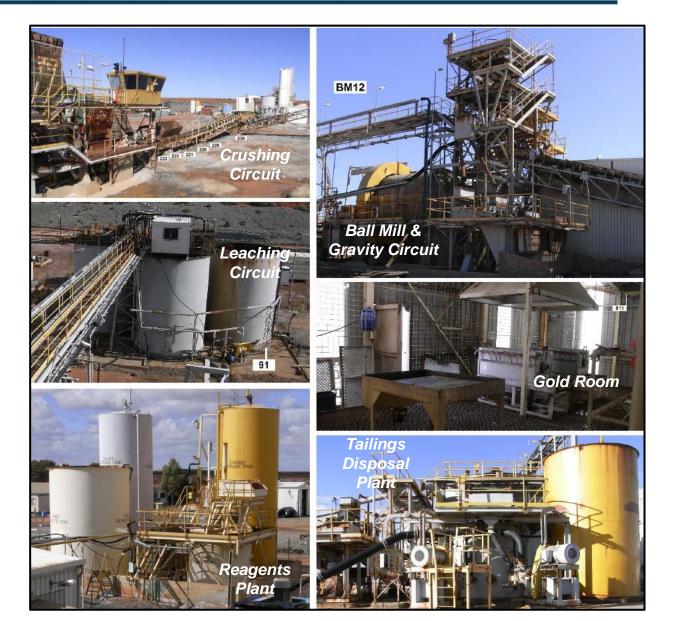
Kundana CIP Plant pre-decommissioning & refurbishment

## Many Peaks Copper Deposit

- QLD prospective Cu/Au exploration ground with historical operations
- Historical mining of 500,000 @ ~2% Cu
- Significant resource definition potential
- Mining leases in place

# Kundana CIP (Pre-Refurb.)





# Why Invest in Carbine?



## Cash flow strategy targeting near term production

- Large resource of up to +1Moz gold with significant copper & pyrite credits
- Simple flowsheet combination required to unlock potential
- Predicted robust project economics with by-product sales
- Government R&D Rebate provides 45% refund on project expenditure

## Carbine's planned course of action

•	Completion of earn-in to Raging Bull Metals	(COMPLETED	)
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Phase 1 testwork (technical viability confirmation) (COMPLETED)

Scoping study and Phase 2 testwork (Q3 2014)

Drilling & JORC definition of exploration targets (Q4 2014)

BFS & detailed design (2015)

Carbine remains fully funded to complete the BFS & beyond (\$5M cash & deposits)

# Appendices: Technology Usage



Mine	Company	Location	Operating	Mine/Process Type
Goldstrike	Barrick Gold	Nevada	Due 2015	RIP / IX
Palabora	Rio Tinto	South Africa	2011	RIP / IX
Budenovskoye, Site 3&4	Akbastau JSC	Kazakhstan	2010	ISR / IX
Southern Zarechnoye	Zarechnoye JV	Kazakhstan	2010	ISR / IX
Semizbai	Semizbai-U LLP	Kazakhstan	2009	ISR / IX
Gedabek Mine	Anglo Asian Mining	Azerbaijan	2009	RIP / IX
Kanzhugan	Mining Company LLP	Kazakhstan	2008	ISR / IX
Irkol	Semizbai-U LLP	Kazakhstan	2008	ISR / IX
Inkai	Betpak Dala JV	Kazakhstan	2007	ISR / IX
Budenovskoye, Site 2	Karatau LLP	Kazakhstan	2007	ISR / IX
Eastern Moinkum	Mining Company LLP	Kazakhstan	2006	ISR / IX
Zarechnoye	Zarechnoye JV	Kazakhstan	2006	ISR / IX
Penjom	Avocet	Malaysia	2000	RIP / IX
Barbrook	Caledonia Mining	South Africa	1995	RIP / IX
Golden Jubilee	Golden Jubilee Mining	South Africa	1988	RIP / IX
Krasnokamensk	ARMZ	Russia	1975	RIP / IX
Stepnogorsk	Kazatomprom	Kazakhstan	1970	ISR / IX
Kara Balta	Renova	Kirgizstan	1965	RIP / IX
Dolni Rozinka	Diamo	Czech Republic	1964	RIP / IX
Navoi	NGMK	Uzbekistan	1963	RIP / IX
Zheltiye Vody	VostGOK	Ukraine	1960	RIP / IX

IX technology originated in the Soviet Union (50+ yrs op. history)
Growing use in the western world (Rio Tinto, Barrick Gold, etc)
20+ full scale mines in operation

# Appendices: Technology Usage









Operating 4,500m<sup>3</sup>/hr IX facility in Kazakhstan (Kazatomprom JSC)

# Appendices: Board & Mgmt Bios



Patrick Walta Executive Director	<ul> <li>Metallurgist &amp; mineral economist, commercial &amp; tech. mining experience</li> <li>MD of Raging Bull Mining &amp; Former CEO of Cradle Resources Limited</li> <li>Experience in mineral resource dev, M&amp;A, project management</li> </ul>
Rod Smith Principal Consultant	<ul> <li>Extractive metallurgist with 40 years' experience in metallurgical R&amp;D</li> <li>Former Managing Director of Ammtec Laboratories Limited</li> <li>Vast experience in gold, base metals, rare earths &amp; uranium extraction</li> </ul>
Evan Cranston Non-Exec Director	<ul> <li>Lawyer specialising in corporate and mining law</li> <li>Former Executive Director of gold explorer Ampella Mining</li> <li>Current Director of Attila Resources, Boss Resources &amp; Cradle Resources</li> </ul>
Tom Bahen Non-Exec Director	<ul> <li>Current Director of Private Clients &amp; Inst. Sales at Paterson Securities</li> <li>Significant experience in capital raisings &amp; corporate advisory</li> <li>Previous experience in assurance and advisory with Deloitte</li> </ul>
Grant Mooney Non-Exec Director & CoSec	<ul> <li>Principal of Perth based corporate advisory firm Mooney &amp; Partners</li> <li>Experience in mergers &amp; acquisitions and corporate governance</li> <li>Director &amp; CoSec to several ASX listed resource &amp; tech. companies</li> </ul>

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