

# Mount Morgan Gold - Copper Project





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**Mineral Resources** - The information in this report that relates to the JORC 2012 Mundic Gully, Shepherds Gully and No 2 Mill Mineral Resources is based on information compiled by Dr M. Abzalov, who is a Competent Person according to the JORC 2012 Code. Dr M. Abzalov is a Fellow of the Australasian Institute of Mining and Metallurgy. He has sufficient experience in estimation of resources of gold mineralisation, and has a strong expertise in the all aspects of the data collection, interpretation and geostatistical analysis to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves'. Dr M. Abzalov is an independent consultant, contracted to Carbine Resources for providing the technical guidelines for resource definition drilling at the Mount Morgan tailings project and in estimating the Mineral Resources. Dr M. Abzalov consents to the inclusion in the report of the matters based on the information in the form and context in which it appears. The information for No 2 Mill, Mundic Gully and Shepherds Gully was prepared and first disclosed under the JORC Code 2012 in the ASX announcements 18 July, 27 July and 1 August, 2016 and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed since they were last reported.

The information in this report that relates to the Red Oxide Mineral Resources of the Mount Morgan Mine project was prepared in accordance with the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' ("JORC Code") by Troy Lowien, Resource Geologist, of consultants Coffey Mining Pty Ltd, who is a Member of The Australasian Institute of Mining and Metallurgy ("AusIMM") and has a minimum of five years of experience in the estimation, assessment and evaluation of Mineral Resources of this style and is the Competent Person as defined in the JORC Code. Troy Lowien conducted the geological modelling, statistical analysis, variography, grade estimation, and report preparation. This report accurately summarises and fairly reports his estimations and he has consented to the resource report in the form and context in which it appears. This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed since it was last reported.

**Exploration Targets** - It is common practice for a company to comment on and discuss its exploration in terms of target size and type. Carbine has identified an Exploration Target at the site comprising low grade mullock dumps, slag dumps and retreated tailings from previous operations. In the Exploration Target table of this presentation 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 significant exploration activity on the Exploration Target. The potential quantity and grade of the Exploration Target 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 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 Target during the next year by drilling and possible bulk testing to provide material for additional metallurgical test work and to verify tonnage and grade.

# ASX:CRB

## Capital Structure

ASX Code	CRB
Shares on issue <i>(Includes raising<sup>2</sup>)</i>	192 Million <sup>2</sup>
Share Price	25.5 cents <sup>1</sup>
Unlisted Options (\$0.05 - \$0.10)	25 Million
Market Cap	\$49M <sup>2</sup>
Cash & Deposits <i>(Includes raising<sup>2</sup>)</i>	\$8.6M <sup>2</sup>

## Board & Management

Chairman	John Fitzgerald
Managing Director	Anthony (Tony) James
Director	Graham Brock
Director	Evan Cranston
Chief Operating Officer	Terry Moylan
Geology Manager	Chris Newman
Mount Morgan Project Specialist	Russell Dann
Principal Consultant	Patrick Walta

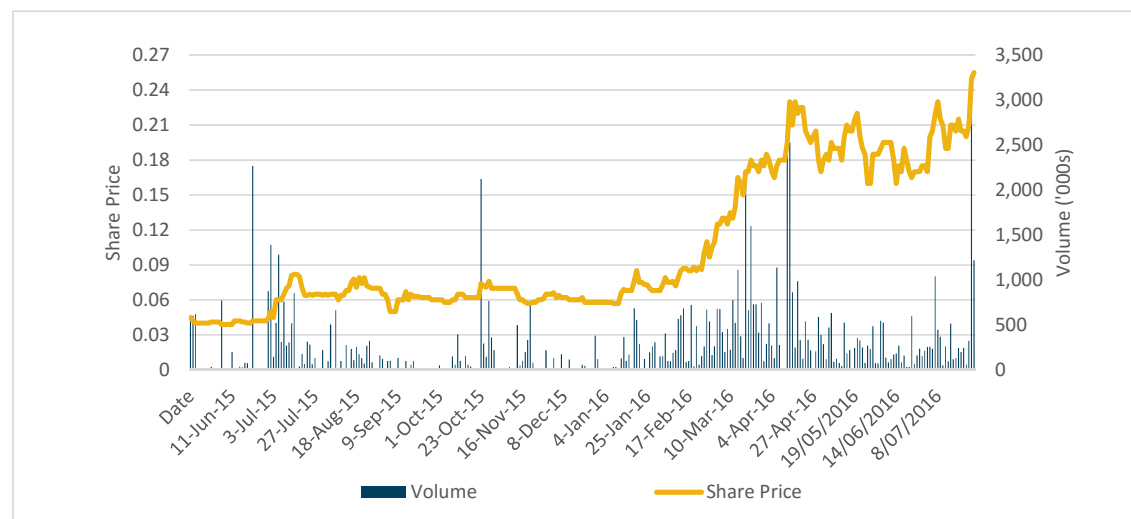
1 – ASX 2 August 2016, 2 – CRB raises \$7.0M, 35M shares @ 0.20/share (ASX: 1 Aug 2016)

## Major Shareholders

Board , management and related parties	8.0%
GR Engineering Services	7.9%

## Mount Morgan Project earn in agreements - concurrent

Carbine & Raging Bull Metals	CRB Acquire 75% on completion of BFS with 2 milestone payments being 25M CRB shares at 10,000 ozs Au production and 25M CRB shares at 5,000t Cu production. Option to acquire remaining 25% post BFS.
Raging Bull Metals & Norton Goldfields	100% interest transferred on decision to mine and payment \$2M Deferred payment \$13M (via 20% annual EBITDA)



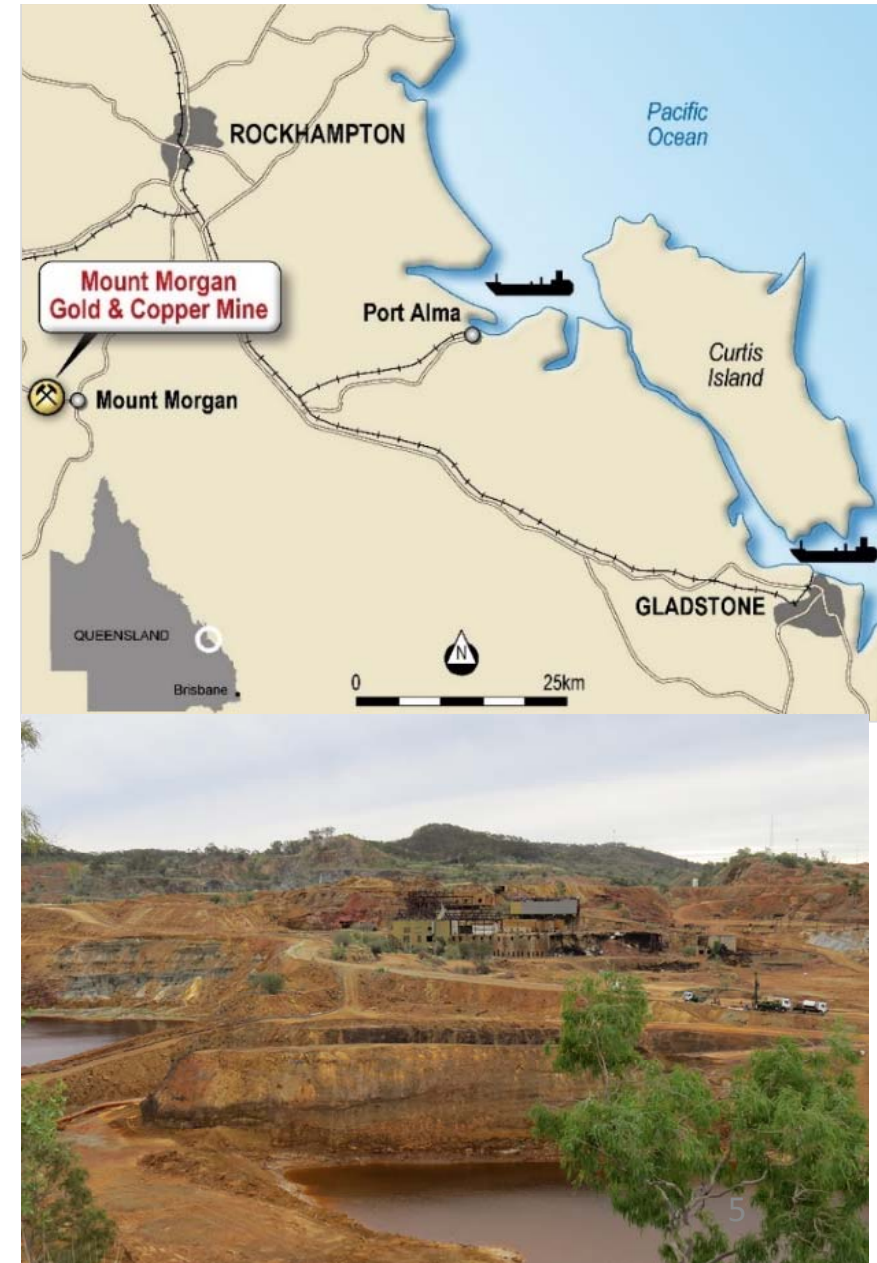
# Targeting to become one of Australia's highest margin Gold producers

- New board and management team set to finalise DFS and lead project into construction in 2017<sup>1</sup>
  - GR Engineering largest shareholder and strategic partner<sup>2</sup>
- Tailings retreatment and clean-up historical Mount Morgan mine, Central Queensland
- 3 out of 4 Mineral Resource Upgrades completed, underpinning the DFS<sup>3</sup>
  - Newly completed Indicated Mineral Resources 9.35Mt @ 1.12g/t Au, 0.15% Cu<sup>3</sup>
  - Red Oxide to complete, previous combined Inferred and Indicated Resource 0.84Mt @ 2.19g/t Au<sup>3</sup>
- Definitive Feasibility Study nearing completion (Q3 2016)
- Significant exploration target of 31.8Mt to 39.8Mt (0.67 – 0.97g/t Au; 0.11 – 0.19% Cu). This is based on historical tailings, mineralised waste dumps, metallurgical slag dumps and previously retreated tailings in the historical open pit<sup>4</sup>. This exploration target is conceptual in nature as there has been insufficient exploration to estimate the Mineral Resource and it is uncertain if a Mineral Resource will be estimated.

1 – Carbine appoints experienced board and management (ASX :16 April 2016); 2 – Carbine & GR Engineering enter strategic partnership(ASX:23 December 2015); 3 – First of 4 resource upgrades for Mount Morgan (ASX:18 July 2016), Indicated Resource at Mundic Gully doubles to 104,000oz (ASX:27 July 2016), Shepherds Gully delivers 3<sup>rd</sup> Resource Upgrade (ASX:1 August 2016); 4 - Mount Morgan PFS confirms potential for low cost operation (ASX:13 August 2015)

# The Golden Mount

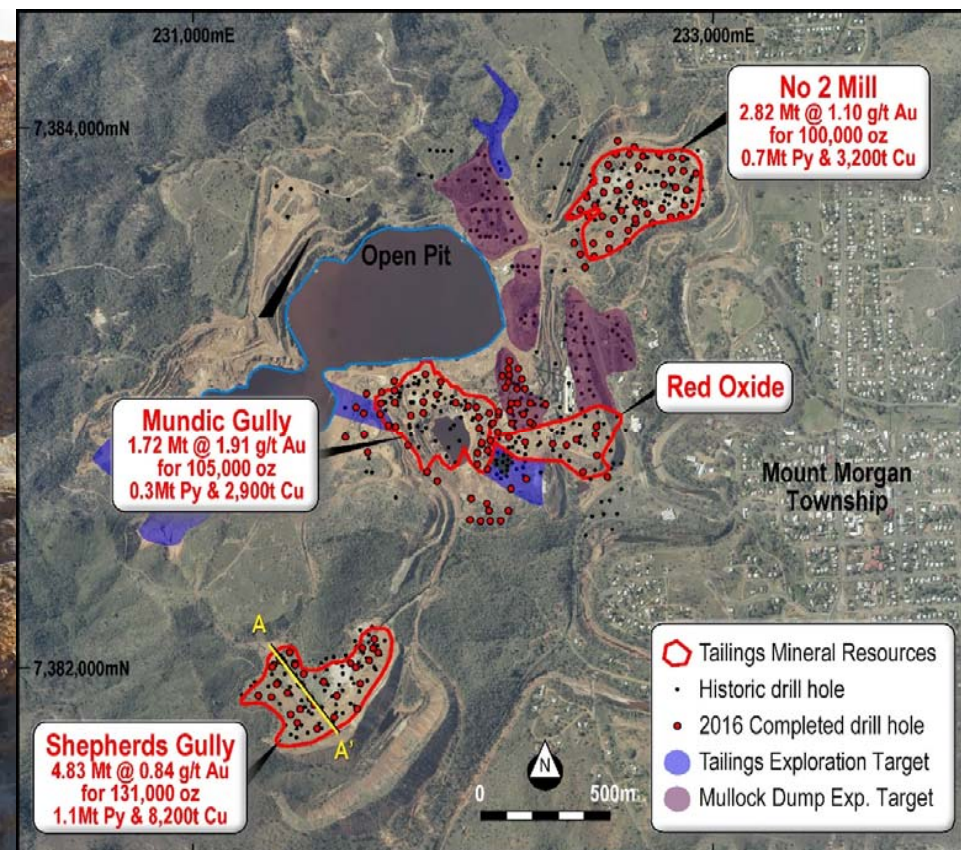
- Historical Mount Morgan mine operated from 1882 to 1980 producing 8.4Moz Rec Au, 400kt Cu and 1.2Moz Ag from 50Mt ore
- Reported ~40Mt of tailings produced up to 1980
- GeoPeko reprocessed ~25Mt tailings from 1981 to 1991 via a 3Mtpa CIL plant returning tailings to the original open pit. Low recovery and high costs due to cyanide consumption associated with soluble Cu. Reconciled head grade of 1.1g/t
- Queensland Government accepts environmental liability in 1993
- Norton DFS in 2010 showed viable project but company shifted corporate focus to Paddington gold mine acquisition in WA
- Con-current agreement between Norton, Raging Bull & Carbine in 2014 to develop Mount Morgan



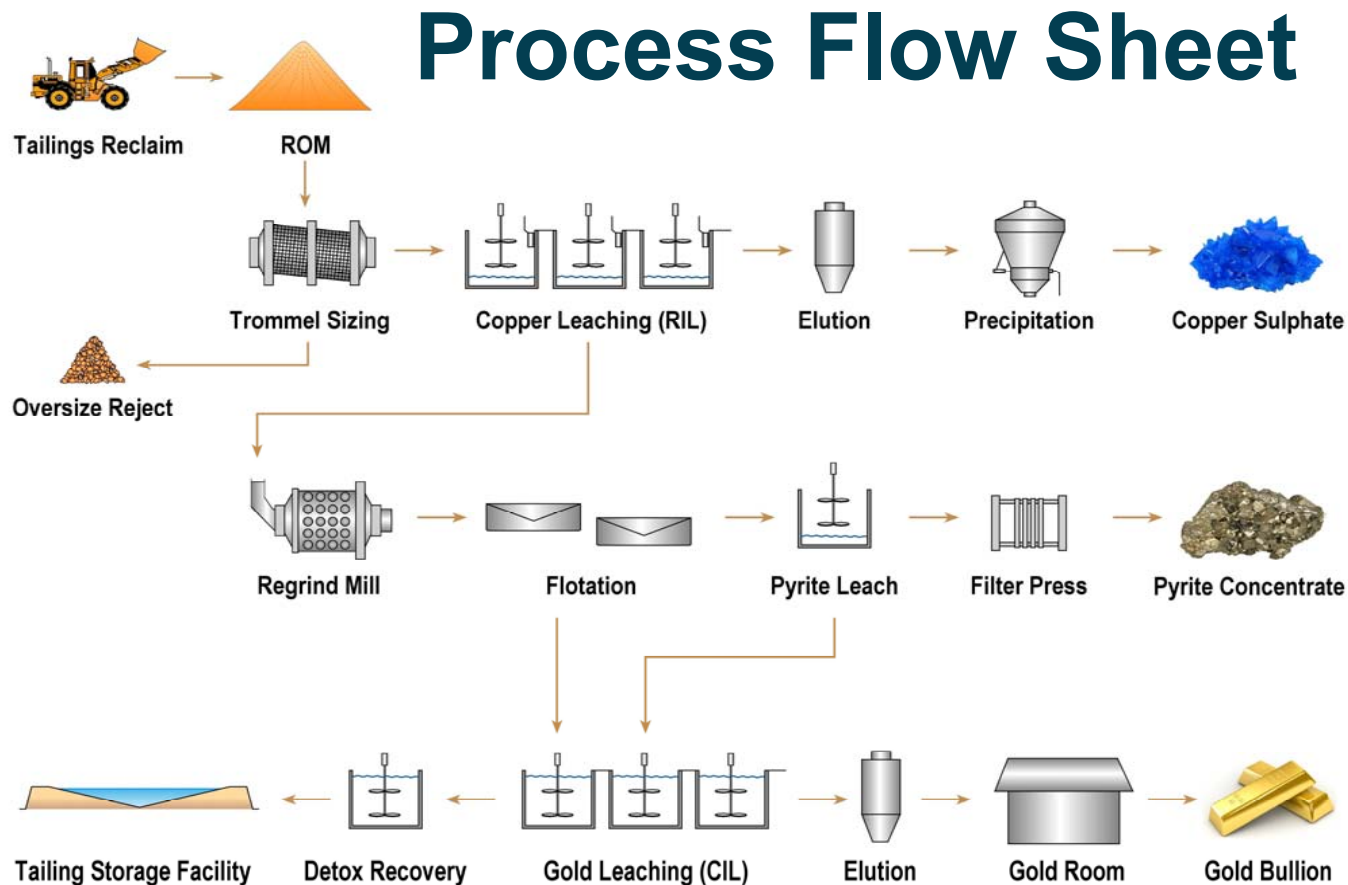




Mundic tailings on north side of Mundic Gully







Copper Circuit: Resin in pulp (RIP) allows Cu leaching in acidic environment. PH 2.5

Pyrite Circuit: Standard concentrate flotation after neutralisation and polishing grind to p80 75um. PH 5.5

Gold Circuit: Gold extraction from both pyrite leach and tail by standard carbon in leach (CIL). PH 9.5

Metal Recovery	Peko Historical Tailings Re- treatment	Norton Feasibility Study (2010)	Carbine
Gold	50 – 55%	65%	76%
Pyrite	Nil	86%	90%
Copper	Nil	Nil	68%

# Pyrite Concentrate

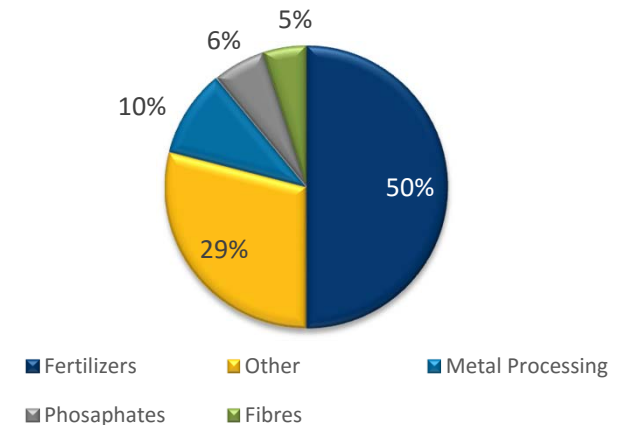
- Four year offtake agreement up to 225,000 tpa with Talana Limited<sup>1</sup>
  - US\$ 80/t FOB Port of Gladstone
- Pyrite concentrate is primarily used for roasting to make sulphuric acid, world consuming +260mtpa of sulphuric acid with a ~2%pa growth profile
- Premium grade concentrate(> 50% sulphur with negligible deleterious elements)
- Comparable concentrate to the Pyhasalmi mine in Finland (First Quantum Minerals). The Pyhasalmi underground mine produces copper, zinc and pyrite concentrate
  - Mine run since 1962 and produces ~800ktpa pyrite concentrate
  - Mine is 1,450m deep and current life to 2018/2019
- Over 20 Pyrite roasters in Europe and China
  - new emission guidelines are promoting increased use of premium concentrates

**TALANA**  
L I M I T E D

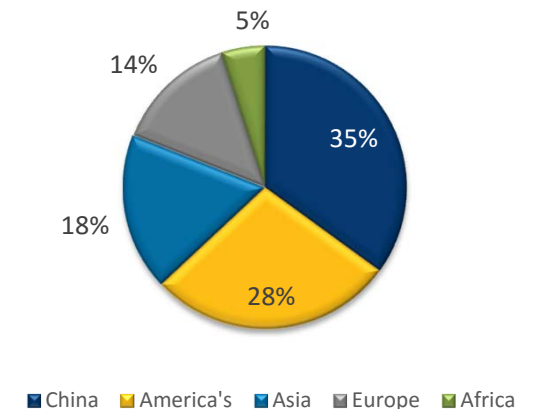
Table showing comparison in Pyrite Concentrate quality

Element	Pyhasalmi <sup>4</sup>	Mount Morgan
Sulphur (S)	51.7%	50 - 53%
Iron (Fe)	45.6%	44 - 46%

## Sulphuric Acid Use<sup>2</sup>



## Demand by Region<sup>3</sup>



<sup>1</sup> Carbine secures major binding offtake agreement for Mount Morgan; <sup>2</sup> – Uses of Sulphuric Acid, The essential Chemical Industry on line, The university of York 2013; <sup>3</sup> – HIS, Chemical Economics Handbook Oct 2014; <sup>4</sup> – CRU Global supply outlook 2012; 4 – CRU report for Carbine 2014, An overview of the market for Pyrite



# Copper Sulphate

- Three year offtake agreement up to 5,000tpa with Swancorp Pty Ltd<sup>1</sup>, 25% Cu at LME copper price plus \$500/t premium
- Swancorp is Queensland based supply specialists for stock feed additives, elemental sulphur, fertilizer products and horticulture
- Copper sulphate is sold by Swancorp in 25kg bags for agriculture fungicide, bactericide, algicide, herbicides, feed and fertilizer additives. Current product is made in China, Russia and Taiwan



*1 – Carbine signs letter of intent for copper offtake from Mount Morgan (ASX:14 May 2015)*



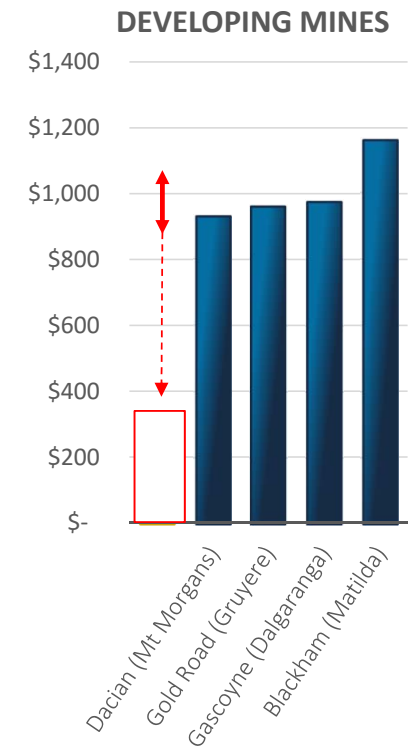
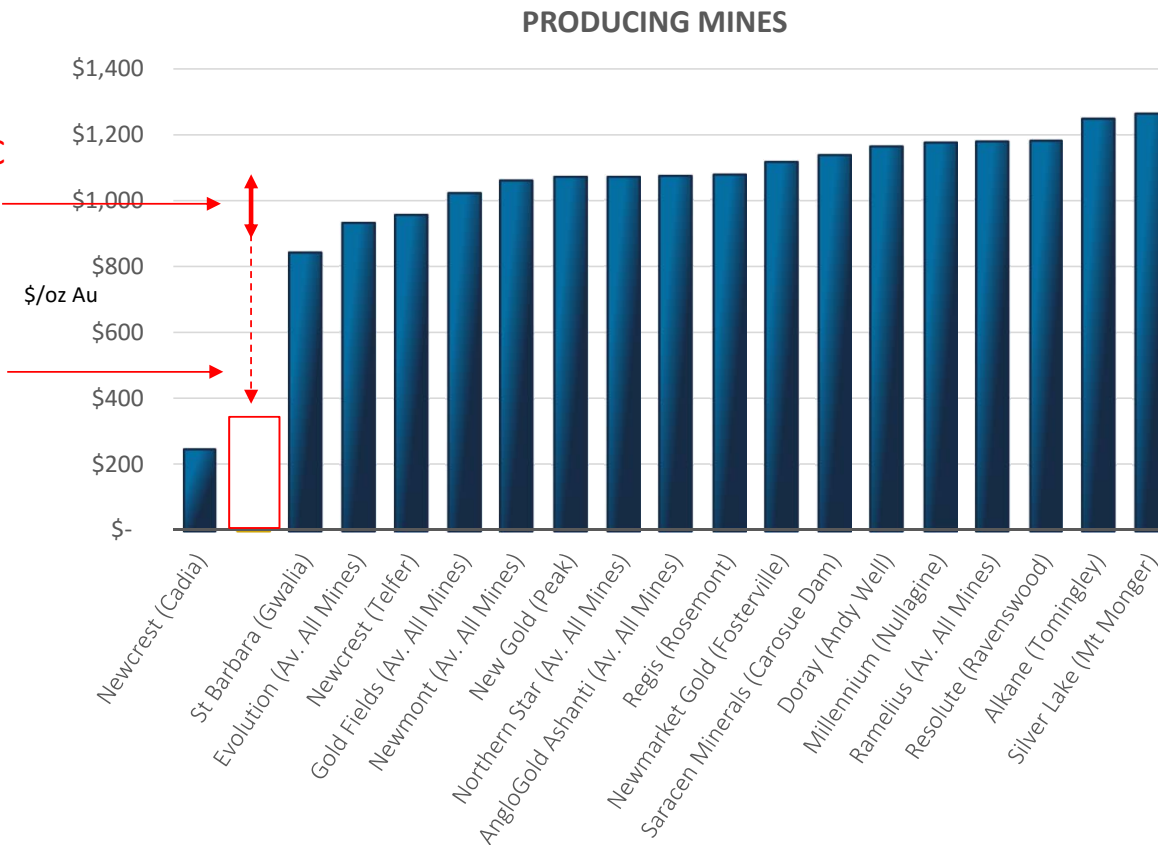
# Point of difference

All – In Sustaining Cost, Australian producing mines & developers<sup>1</sup>

## DFS Targeting

Low end peer competitive AISC  
\$/Au oz, no crushing, multiple  
leaching stages &  
cheap surface mining

Point of difference  
Pyrite and Cu credits  
~\$500/Au oz



<sup>1</sup> – PCF Capital (2015 Y Data)



# And...

- At Mount Morgan, Carbine and GR Engineering have entered into a strategic partnership including the awarding of the DFS and a MOU for development including direct investment<sup>1</sup>
- Carbine has signed a Letter of Intent with Port of Gladstone for export of pyrite concentrate<sup>2</sup>
- Carbine secured Government contract for the management of Mount Morgan Water Treatment Plant with contract term based on a 10 year period for \$2,500/ML up to 500MLpa<sup>3</sup>
- Carbine's earn in agreement with Raging Bull includes
  - Refurbished 1 Mtpa Kundana Mill located in Kalgoorlie (\$3.5M refurbishment completed by Norton as it was originally intended for Mount Morgan)
  - Many Peaks Copper deposit in central Queensland with historical mining production of 500kt @ approximately 2% Cu

Mount Morgan water Treatment Plant



*1 – Carbine and GRES enter strategic partnership for Mount Morgan (ASX:23 Dec 2015); 2 – Carbine signs letter of intent with port of Gladstone (ASX 14 Sep 2015); 3 – Carbine secures government contract for water treatment at Mount Morgan (ASX: 29 Oct 2015)*

# Summary



- ✓ New board and management team with extensive mine building experience
- ✓ Aiming to commence production of a long life and high margin project in 2017
- ✓ Significant project support & major investment from GR Engineering
- ✓ Strong Queensland government and community support
- ✓ Delivered 3/4 Mineral Resource upgrade to underpin DFS/Reserve work
- ✓ Definitive feasibility study to be completed this quarter
- ✓ Undervalued



*"It is impossible to produce a superior return unless you do something different to the majority"* 12



# Thank You

For further information:

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**CARBINE RESOURCES**  
LIMITED

# Appendix A – Mineral Resources

## JORC 2012 Mineral Resource Table (reported at a 0.00g/t cut-off)

Area	Type	Category	Tonnage (Mt)	Gold (g/t)	Gold (Koz)	Copper (%)	Copper Metal (t)	Silver (g/t)	Silver Metal (kg)	Sulphur (%)	Pyrite Equiv. (wt %)
No 2 Mill	Sulphide	Indicated	2.71	1.11	97	0.12	3,180	1.14	3,080	13.7	25.6
	Oxide	Indicated	0.12	0.80	3	0.05	60	1.80	210	4.0	
Mundic Gully	Sulphide	Indicated	1.70	1.91	104	0.17	2,820	0.90	1,530	10.5	19.6
	Sulphide	Inferred	0.02	1.86	1	0.24	40	1.24	20	10.6	19.9
Shepherds Gully	Sulphide	Indicated	4.83	0.84	131	0.17	8,190	1.42	6,890	12.4	23.2
<b>Total</b>		<b>Indicated</b>	<b>9.35</b>	<b>1.12</b>	<b>335</b>	<b>0.15</b>	<b>14,250</b>	<b>1.25</b>	<b>11,710</b>	<b>12.3</b>	
<b>Total</b>		<b>Inferred</b>	<b>0.02</b>	<b>1.86</b>	<b>1</b>	<b>0.24</b>	<b>40</b>	<b>1.21</b>	<b>20</b>	<b>10.6</b>	

## Mount Morgan Tailings JORC 2004 Resource Table

DEPOSIT	CATEGORY	TONNES (kt)	GRADE (g/t)	OUNCES (koz)
Red Oxide	Indicated	390	2.23	28
	Inferred	445	2.15	31

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## Appendix B – Exploration Target

EXPLORATION TARGET		TONNES (kt)	GOLD (g/t)	COPPER (%)	GOLD (koz)	COPPER (kt)
Tailings Dumps	(low range)	2,900	1.45	0.13	135	4
	(high range)	3,280	1.66	0.18	175	6
Mullock Dumps	(low range)	1,750	1.69	0.11	95	2
	(high range)	2,500	2.00	0.15	162	4
Metallurgical Slag	(low range)	1,850	0.60	0.43	36	8
	(high range)	6,000	1.00	0.69	193	41
Open Pit Tailings	(low range)	25,300	0.52	0.09	423	23
	(high range)	28,000	0.54	0.09	486	25
Total	(low range)	31,800	0.67	0.11	690	37
	(high range)	39,800	0.79	0.19	1,015	77

The information in this report that relates to the Exploration Target 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. This was initially release to the ASX on 13 November 2014 and has not materially changed since it was last reported.

The information in this report that relates to the Exploration Results is based upon information compiled by Mr Chris Newman, who is a fulltime employee of the Company and is a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Newman has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and the activity in which he is undertaking to qualify as a Competent Person under 2012 Edition of the Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Mr Newman consents to the inclusion in this report of the matters based on his information in the form and context in which it appears. Results initially reported to the ASX on 9 May 2016, 1 June 2016, 29 June 2016, 11 July 2016 and 25 July 2016 have not materially changed.