

# Mount Morgan Gold - Copper Project



## Feasibility Study Results

9.5 year - "Base Case"  
20 year - "Expanded Case"

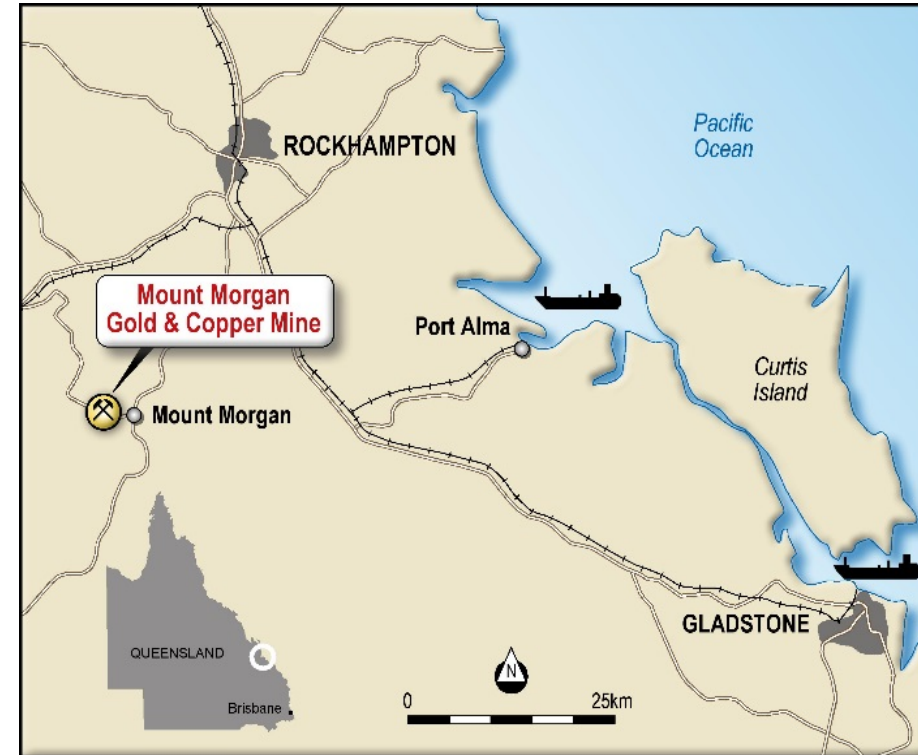


CARBINE RESOURCES  
LIMITED



# Mount Morgan – Feasibility Study Results Presentation

1. Important Information and Disclaimer
2. 9.5 Year Maiden Ore Reserve
3. Ore Reserve
4. AISC
5. 20 Year Expanded Case
6. Key Results
7. Capital and Operating Costs
8. Mining
9. Processing and Metallurgy
10. Pyrite Concentrate
11. Project Financing and Timeline
12. Project Approvals
13. Project Sensitivities
14. Appendices



# Important Information and Disclaimer

The presentation is to be read in conjunction with the ASX Announcement entitled “Mount Morgan Feasibility Study Delivers 2 Year Payback and AISC of A\$549/oz” released to the market on 8 December 2016 (ASX: CRB).

**Summary information and not an offer** - *The purpose of this presentation is to provide information about Carbine Resources Limited (“Carbine or the “Company”). It is not recommended that any person makes any investment decision in relation to the Company based on this presentation. This 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. Neither this presentation nor the information contained in it constitutes an offer, invitation, solicitation or recommendation in relation to the purchase or sale of Carbine shares in any jurisdiction. To the fullest extent permitted by law, Carbine, its officers, employees, agents and advisers do not (a) 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 or (b) accept any liability, including liability arising from fault or negligence on their part, for any loss arising from the use of this announcement or its contents or otherwise in connection with it. All securities transactions involve risks, which include (among other things) the risk of adverse or unanticipated market, financial or political developments.*

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**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.*

**Metal Equivalents** - *Both AuEq (g/t) and PyriteEq (wt%) have been used in this announcement. AuEq was calculated for each ore source based on the different metallurgical recoveries associated with those ore sources. A combined Total AuEq was also determined for representation of the combined effect of the four different ore sources. Please refer to Appendix F to see the detail formulas used for the determination of the metal equivalents.*

# 9.5 Year Base Case – Maiden Ore Reserve

- Feasibility Study completed delivering 9.5 year Base Case<sup>1</sup> (Ore Reserve) establishing foundation for long life project with a 2 year payback and AISC<sup>2</sup> of A\$549/Au oz
- Ore Reserve of 9.9Mt @ 1.8 g/t AuEq<sup>3</sup> (1.2g/t Au, 0.16% Cu, 21% Pyrite)
- Pre-production capital<sup>4</sup> of A\$85M, which includes
  - Processing Plant \$75.6M
  - First Fill & TSF - \$5.6M
  - Mining and Heritage - \$3.2M
  - Infrastructure - \$0.6M
- Board approved to progress finance options and optimise Pyrite concentrate production/market offtake and continual approval process



# Ore Reserve

**No 2 Mill**  
**2.8Mt @ 1.7g/t AuEq,**  
**1.1g/t Au, 0.11% Cu, 24% Py**

**Mount Morgan Open Pit**

**Sandstone Gully**

**Mundic Gully**  
**1.5Mt @ 2.6g/t AuEq,**  
**2.0g/t Au, 0.17% Cu, 19% Py**

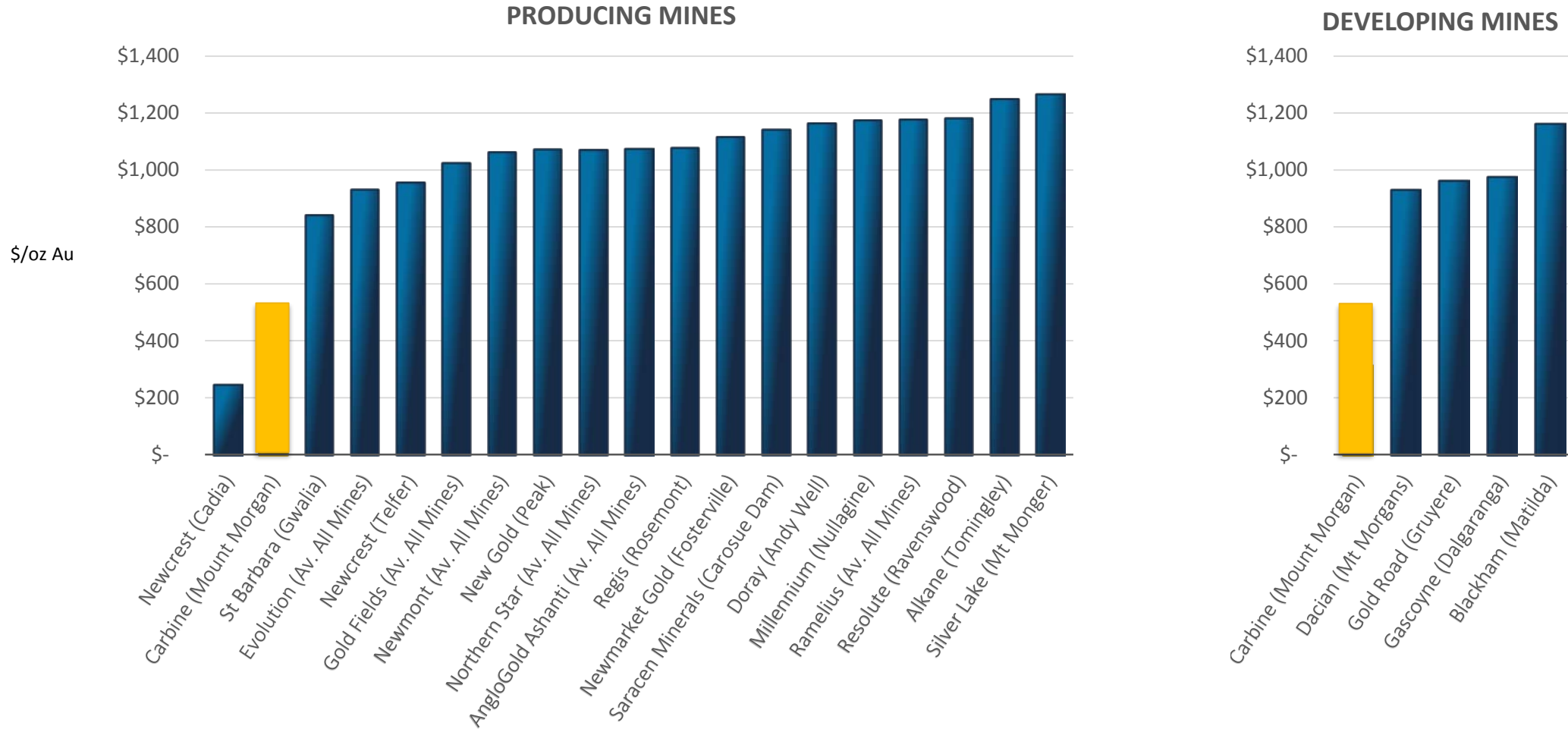
**Red Oxide**  
**0.7Mt @ 2.5g/t AuEq,**  
**2.11g/t Au, 0.3% Cu**

Shepherd's Gully

**Shepherds Gully**  
**4.8Mt @ 1.5g/t AuEq,**  
**0.84g/t Au, 0.17% Cu, 23%**  
**Py**

# FS - AISC

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



1 – PCF Capital (2015 Y Data)

# 20 Year Expanded Case

- 20 year project is an extension to Ore Reserve (“Base Case”)
- Expanded Case material processed is 22Mt @ 1.6g/t AuEq<sup>1</sup>, (0.9g/t Au, 0.12% Cu, 21% Pyrite)
  - First 9.5 years – “Base Case”, Ore Reserve
  - +9.5 years to achieve 20 years expansion (same throughput rate) includes;
    - 10.8Mt @ 0.63g/t Au(47% of total Inferred Mineral Resources)<sup>2</sup>
    - 1.9Mt @1.2g/t Au(Low range Exploration Target)<sup>2</sup>
- Exploration Target is combination of oxide and sulphide waste and tailings dumps. Exploration Target is conceptual in nature , there has been insufficient exploration to estimate Mineral Resources and it is uncertain further exploration will result in estimation of the Mineral Resources or that the production target will be realised.
- Historical Production data and detailed technical review support reasonable grounds for inclusion of a portion of Inferred Mineral Resources in the Expanded Case. 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 project is not dependant on the Expanded Case to be economic



# Key Results

Description	FS Base Case	Expanded Case
<b>Mining</b>		
Ore Reserve (Mt)	9.9	9.9
Additional Material – Expanded Case (Mt)	0	12.5
Ore Reserve + Additional Material (Mt)	9.9	22.4
Gold Grade (g/t)	1.19	0.9
Contained Gold (ozs)	380,000	660,000
Copper Grade (%)	0.16	0.12
Contained Copper (t)	16,000	27,000
Pyrite Grade (Wt %) <sup>4</sup>	21	21
Contained Pyrite (t)	2,300,000	5,100,000
<b>Processing</b>		
Ore Processed (Mt)	9.5	22
Polymetallic AuEq (g/t) <sup>1</sup>	1.8	1.6
Gold Grade (g/t)	1.23	0.9
Copper Grade (%)	0.17	0.12
Pyrite Grade (Wt %)	22	21
Average Annual Gold Production (ozpa)	30,000	23,000
Average Annual Copper Sulphate Production (tpa)	3,800	2,700
Average Annual Pyrite Concentrate Production (tpa)	214,000	200,000
<b>Project Economics<sup>2</sup></b>		
Mine life (years)	9.5	20
Payback (years) <sup>3</sup>	2	2
C1 (A\$/Au oz) <sup>4</sup>	395	384
AISC (A\$/Au oz) <sup>5</sup>	549	576
Pre-production Capital (A\$M)	85.1	85.1

## Expanded Case – Cautionary Statement

The expanded case referred to in this announcement has been undertaken to show the likely extension of the 9 year Mineral Reserve base case out to 20 years. It is a preliminary technical and economic study of the potential viability of the Mount Morgan project. It is based on low level technical and economic assessments that are not sufficient to support the estimation of ore reserves. Further exploration and evaluation work and appropriate studies are required before Carbine will be in a position to estimate any ore reserves.

The expanded case is based on the material assumptions outlined in Section 15 and Appendix 1 of the announcement (ASX: 8 December 2016). These include assumptions about the availability of funding. While Carbine considers all of the material assumptions are based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated in the expanded case will be achieved.

To achieve the range of outcomes indicated in the expanded case, funding of in the order of \$90-\$100M will likely be required. Investors should note that there is no certainty that Carbine will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may dilute to or otherwise affect the values of Carbine's existing shares.

It is also possible that Carbine could pursue other 'value realization' strategies such as a sale, partial sale or joint venture of the project. If it does, this could materially reduce Carbine's proportionate ownership of the project.

Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the expanded case.

## Table Notes (Ref announcement ASX: 8 December 2016):

1. AuEq ozs have been determined using the AuEq grade for each case as outlined in Table 2 above. The AuEq calculation has been done with respect to the commodity prices shown in point 3 below and suitable metal recovery factors. Please refer to Section 1.6 of announcement and Appendix F this presentation for detailed description of calculation of Metal Equivalents used in this presentation.
2. Project economics shown above includes the capital payment of A\$2 million to Norton Gold Fields Limited at the commencement of the project to obtain ownership rights and includes deferred payment of A\$13 million from future profits.
3. Payback was determined using a AUD/USD FX 0.75, and with commodity prices of US\$1,200/oz gold, US\$60/t unroasted iron pyrite for years 1 & 2 then US\$80/t for the remaining years, US\$5,800/t copper. Copper sulphate revenue is based on copper LME price for approximately 25% copper grade plus A\$500/t premium for copper sulphate.
4. C1 is defined as the direct cash operating costs produced, net of by-product credits, divided by the amount of payable gold produced. Direct cash costs include all mining and processing costs, general and administration costs, and transport and port costs net of revenue credits from the sale of by-products (pyrite and copper sulphate).
5. AISC is the "All in sustaining cost" includes C1 costs, plus royalties and sustaining capital and are presented net of by-product credits, divided by the amount of payable gold produced.



# Capital and Operating Costs

## Initial 9.5 year Base Case

### Capital Cost

Description	Pre-Production (A\$M)	Total Project (A\$M)
Processing Plant	75.6	75.6
Plant First Fill and Spares	3.2	3.2
Tailings Storage Facility	2.4	4.5
On-Site Infrastructure	0.6	1.7
Heritage	0.4	1.0
Pre-production Mining	2.8	
Mining and Rehabilitation		9.8
Sustaining Capital		3.5
Salvage		(5.0)
<b>Total</b>	<b>85.1</b>	<b>94.4</b>

### Operating Cost

Area	A\$/t Ore Mined
Mining	7.26
Processing	22.99
General and Administration	1.93
Concentrate Haulage and Port Charges	6.29
Royalties	2.95
<b>Total</b>	<b>41.42</b>

## 20 year Expanded Case

### Capital Cost

- Same preproduction capital as Base Case
- **Additional \$21.7M included in Total project capital**
- **+\$7.7M mining and rehabilitation**
- **+\$5M Sustaining capital**
- **+\$5M TSF**
- **+\$4M Infrastructure**
  - **+\$2M establish dredging operation in year 10**
  - **+\$2M establish alternative water source/system if required in year 10**

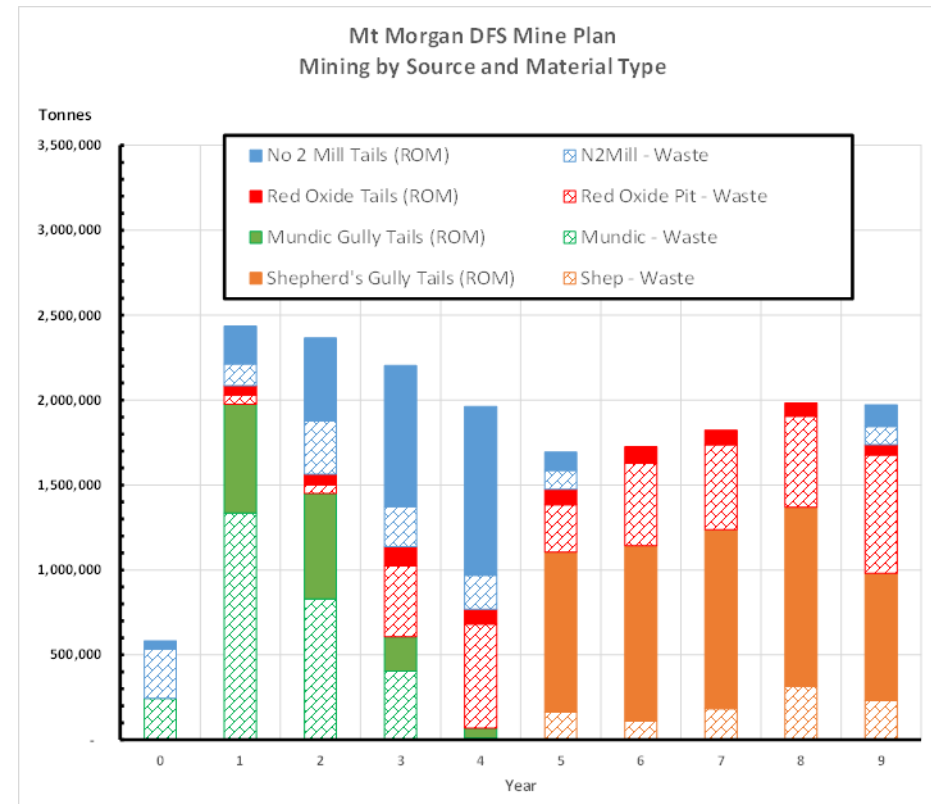
### Operating Cost

- **Variations to the operating cost from Base Case to Expanded Case include,**
  - **Mount Morgan Open Pit tailings included as a dredging operation (assumed operating cost to dredge \$2/t)**
  - **Reduction in processing costs when treatment of Mount Morgan pit tailings as front end of circuit bypassed due to the material being previously re processed of \$5/t**

# Mining - Ore Reserve (9.5Yrs.)

Mining Location	Units	Pre-production	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Total
<b>Total ALL</b>	Ore (kt)	47	919	1,172	1,146	1,140	1,140	1,131	1,140	1,132	937	9,904
	AuEq (g/t)	1.18	2.22	2.21	2.01	1.98	1.44	1.58	1.61	1.61	1.55	1.79
	Au (g/t)	0.76	1.75	1.75	1.32	1.27	0.91	0.96	0.94	0.93	0.96	1.19
	Cu (%)	0.09%	0.15%	0.16%	0.15%	0.13%	0.18%	0.19%	0.19%	0.16%	0.16%	0.16%
	PyriteEq (wt%)	17.36%	19.33%	17.91%	23.87%	25.00%	15.60%	20.46%	23.39%	25.36%	20.95%	21.34%
	Waste (kt)	536	1,517	1,194	1,058	823	554	596	683	852	1,035	8,847
	SR	11.3	1.7	1.0	0.9	0.7	0.5	0.5	0.6	0.8	1.1	0.9

- 4 separate mining locations in Ore Reserve includes Mundic, Red Oxide, No2 Mill and Shepherds
- Detailed split of mining schedule provided in Appendix G and Section 5 of full announcement (ASX: 8 December 2016)

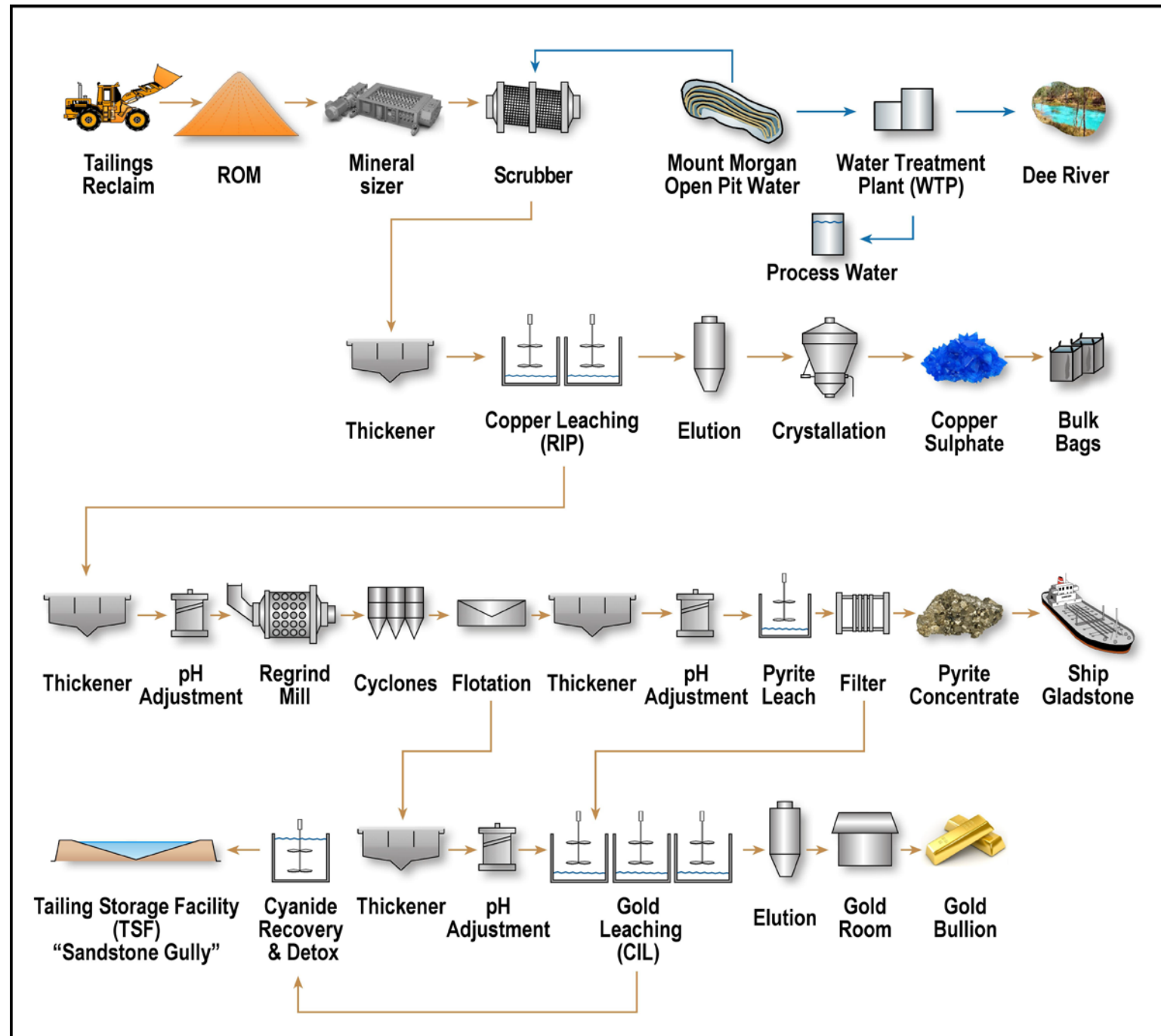


Notes – AuEq reference formula Appendix F

# Processing and Metallurgy

- 3 stream processing facility producing copper sulphate, unroasted iron pyrite and gold
  - Copper resin leaching (RIP)
  - Pyrite concentrate flotation
  - Gold carbon leaching (CIL)
  - Cyanide detox and recovery
- Water treatment plant utilisation and continued treated water discharge into Dee river

Metal Recovery	Mundic Gully	No 2 Mill	Red Oxide	Shepherds	Total
Gold	72%	71%	74%	70%	71%
Pyrite	95%	93%	0%	87%	90%
Copper	66%	65%	48%	51%	56%





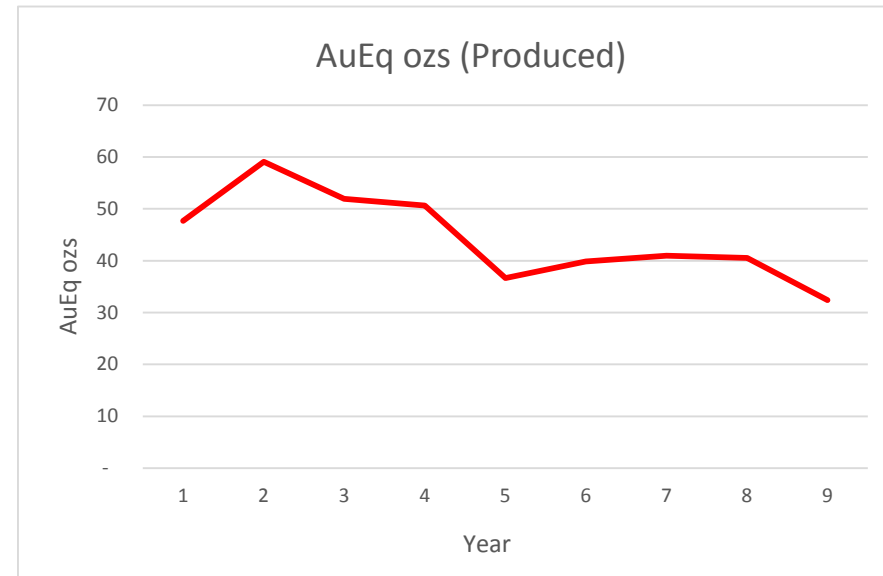
# New Processing Facility



# Processing Physicals – Base Case (9.5 Yrs.)

Processing	Units	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Total
<b>Total ALL</b>	Ore (kt)	894	1,098	1,094	1,095	1,108	1,101	1,110	1,101	914	9,515
	AuEq (g/t)	2.30	2.33	2.07	2.02	1.46	1.60	1.64	1.63	1.57	1.85
	Au (g/t)	1.81	1.84	1.37	1.30	0.93	0.98	0.95	0.95	0.97	1.23
	Cu (%)	0.15%	0.16%	0.15%	0.14%	0.18%	0.19%	0.19%	0.17%	0.16%	0.17%
	PyriteEq (wt%)	20.10%	18.77%	24.72%	25.82%	15.90%	20.83%	23.82%	25.83%	21.29%	21.94%
	Au Recovery (%)	72%	72%	71%	71%	70%	70%	70%	70%	70%	71%
	Au Produced (kcozs)	38	47	34	33	23	24	24	24	20	266
	Cu Recovery (%)	64%	64%	62%	62%	52%	51%	51%	51%	52%	56%
	Cu Sulphate (kt)	3	4	4	4	4	4	4	4	3	34
	PyriteEq Recovery (%)	92%	93%	93%	93%	88%	87%	87%	87%	87%	90%
	Pyrite concentrate (kt)	166	191	251	263	155	200	230	248	170	1,874

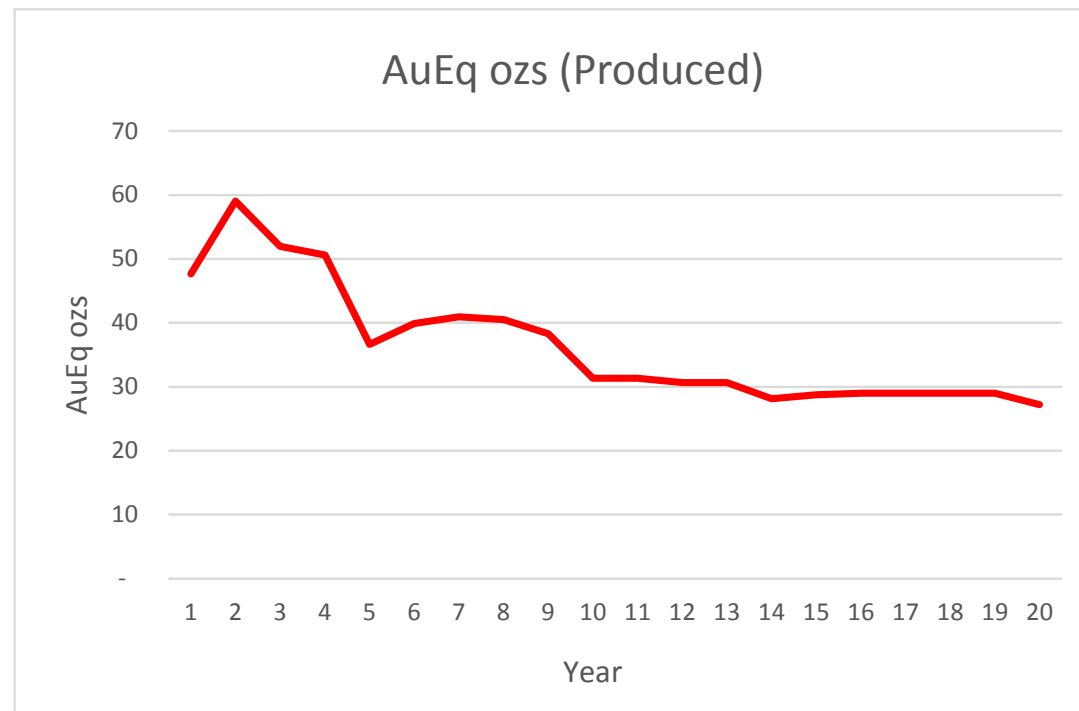
- 4 separate ore sources for processing from Mundic, Red Oxide, No2 Mill and Shepherds
- Detailed split of processing schedule provided in Appendix H and Section 6 of full announcement (ASX: 8 December 2016)



Note – AuEq reference formula Appendix F

# Processing Physicals - Expanded Case (20 Yrs.)

Description	Units	FS Totals	Year 9 Additional	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total
<b>Total ALL</b>	Ore (kt)	9,515	225	1,150	1,150	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,060	21,900
	AuEq(g/t)	1.85	1.21	1.22	1.22	1.25	1.25	1.14	1.17	1.18	1.18	1.18	1.18	1.15	1.57
	Au Produced (koz)	266	4	19	19	19	19	16	17	17	17	17	17	16	464
	Cu Sulphate (kt)	0	0	2	2	2	2	2	2	2	2	2	2	2	20
	Pyrite concentrate (kt)	1,874	45	199	199	205	205	201	196	193	193	193	193	191	4,084



- Detailed split of Expanded Case Processing Schedule provided in Appendix I and Section 15.1 of full announcement (ASX: 8 December 2016)

Note – AuEq reference formula Appendix F



# Pyrite Concentrate

- 3 specific markets for Pyrite Concentrate

- Sulphuric Acid – Bulk supply of premium concentrate to China,
- Sulphuric Acid – Bulk supply of premium product to Europe, and
- Industrial Components – Specific small volume distribution to specific customers primarily in Asia

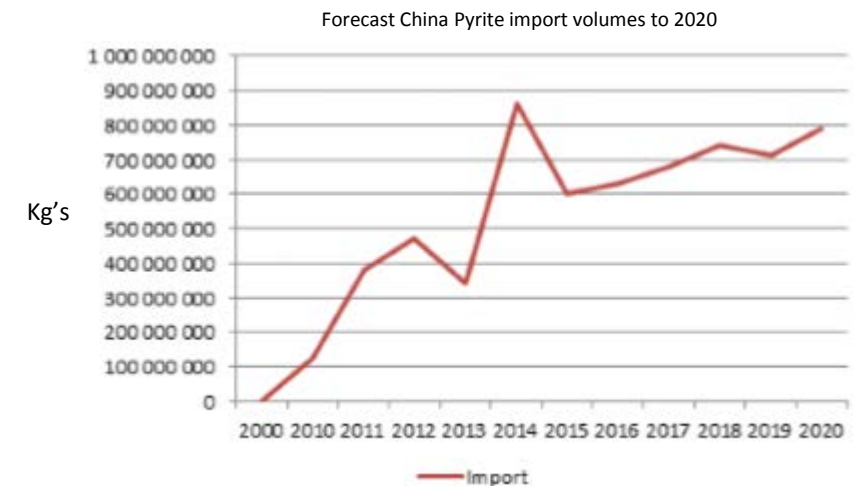
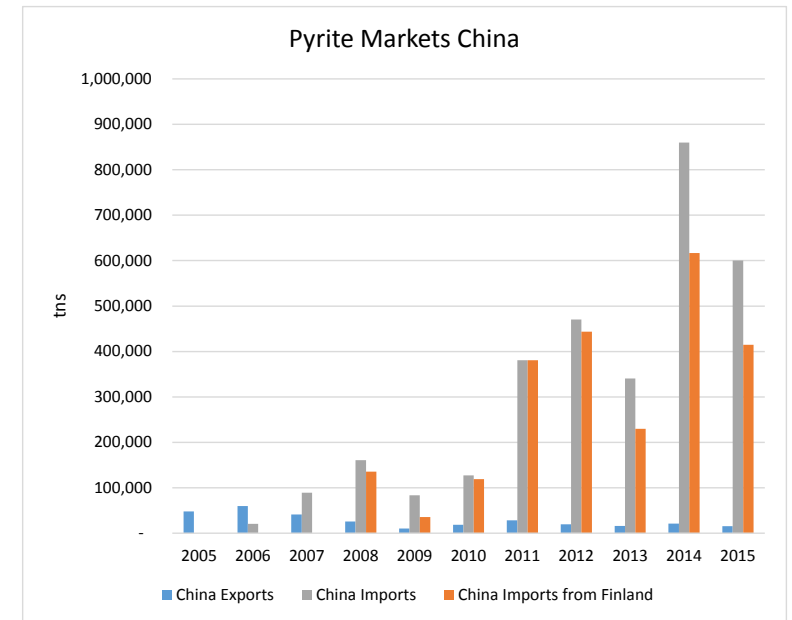
- Mount Morgan Pyrite concentrate is similar to the Pyhasalmi mine (Finland)

- Pyhasalmi running since 1962 producing Zinc, Copper and Pyrite Concentrate (~800ktpa pyrite concentrate),
- Mine is 1,450m deep and expecting closure in 2019 (based on current Ore Reserves)

- Pyhasalmi concentrate has dominated world export market and China imports 2010 -2016

- Opportunity exists for Mount Morgan concentrate to compete in China and enter Europe post Pyhasalmi

- Unroasted Iron Pyrite represents approximately 20% of the forecast Mount Morgan Project revenue as well as a significant environmental benefit. FS has used a price of \$60/t FOB Gladstone for first 2 years and then \$80/t FOB Gladstone thereafter.



# Project Financing and Timeline

## Project Finance

- Formal process with potential financiers to commence
- Short payback 2 years and long life will enhance funding process

## Estimated Project timeline

- Preliminary project engineering to commence in parallel with project approvals
- 12 month plant build from commencement of construction
- Mining to commence 3 months prior to plant commissioning

Timeline	Months															
Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Regulatory Approvals	█	█	█													
Plant Construction Award & Engineering	█	█	█													
Plant Access Establishment			█													
Commence Construction Sandstone Gully TSF										█	█	█				
Plant Construction				█	█	█	█	█	█	█	█	█	█	█	█	
Plant Commissioning															█	
First Ore Processed															█	█
Mining													█	█	█	
First Gold Production																█

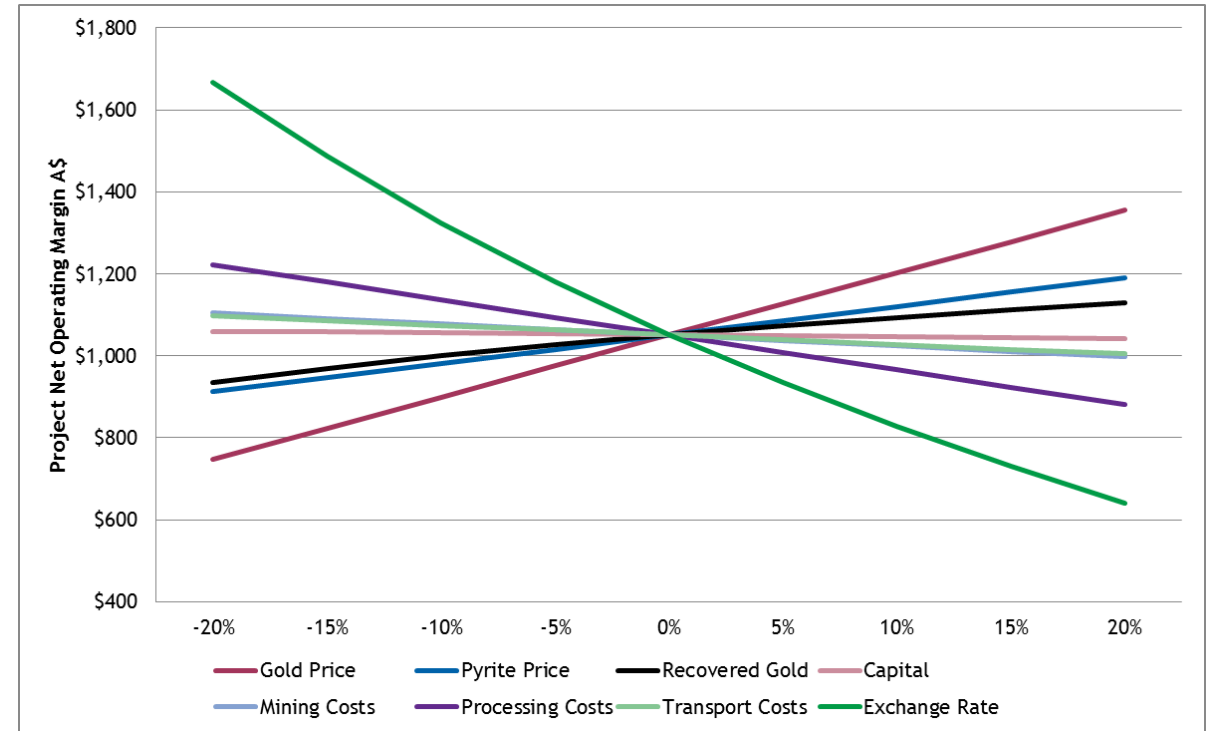
# Project Approvals

- Mining Lease and Environmental Authority in place.
- Three remaining approvals:
  1. **Environment** - Environmental Authority MIN100708908 was previously approved for the project in 2010. The Environmental Authority Amendment application is required due to variations in the plan including relocation of the processing facility.
  2. **Heritage** - Development by the State Application under section 71 of the Queensland Heritage Act 1992 has commenced and is being led by the Department of Natural Resources and Mines (DNRM). The outcome of the application is not expected to be known until early 2017. Carbine is of the current view that the Heritage application will be granted although certain conditions may apply. The granting of the application is subject to approval by the Minister of the Department of Environment and Heritage Protection (DEHP).
  3. **Regional Planning** - Resource Development Application in a Priority Living Area (PLA) approval under the Regional Planning Interests Act 2014 has commenced. When the Act was passed in 2014 the Mount Morgan Mine site was designated as a Priority Living Area in the 2013 Central Queensland Regional Plan. The application is subject to approval by the Department of Infrastructure and Local Government Planning (DILGP). Based on discussions with the Rockhampton Regional Council and DILGP, the Company is of the view that approval will be achieved.



# Project Sensitivities

- Project “operating margin” is sensitive to changes in commodity prices, exchange rates and operating costs.
- Financial sensitivity is dominated by USD:AUD exchange rate.
  - A change USD:AUD exchange has the largest impact on the operating margin. A +/- 10% movement will change the margin by approximately \$270/ gold oz.
  - Processing is the most sensitive of the costs. A +/- 10% movement in the unit cost will change the margin by approximately \$90/gold oz.
  - A +/- 10% movement in the gold price will change the operating margin by approximately \$150/gold oz.
  - A +/- 10% movement in the Pyrite concentrate price will change the operating margin by approximately \$70/gold oz.



FS Base Case Financial Sensitivity

Note – “Operating Margin” in the context of these sensitivity analysis is the difference between \$A/gold oz. revenue and the A\$/gold oz. AISC

# Thank You

For further information:

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# Appendix A (ASX:CRB)

## Capital Structure

ASX Code	CRB
Shares on issue	193 Million
Share Price	13 cents <sup>1</sup>
Unlisted Options (\$0.05 - \$0.10)	26.7 Million
Market Cap	\$25.09M
Cash & Deposits	\$7.4M <sup>2</sup>

1 – ASX 17 November 2016, 2 - As at 30 September 2016

## Major Shareholders

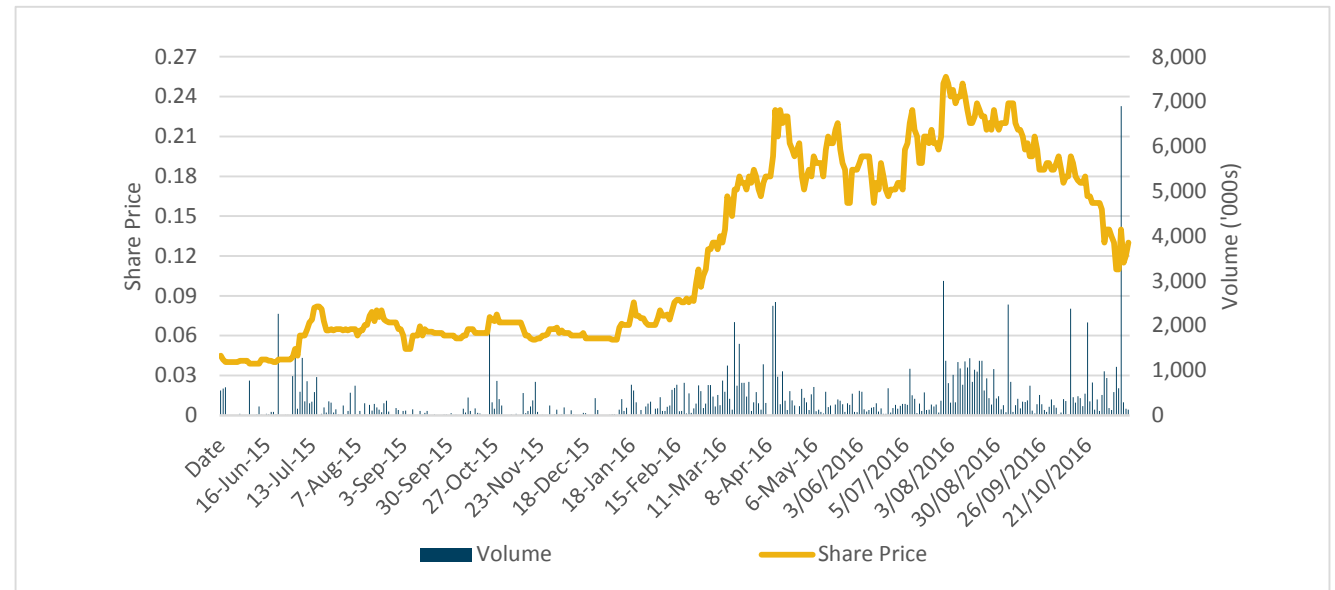
Board , management and related parties	8.0%
GR Engineering Services	7.9%

## 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)

## 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



# Appendix B – Competent Person Statement

**The information in this report that relates to Exploration Targets, Exploration Results and the Inferred Mineral Resources for Mount Morgan In-Pit and Sandstone Gully** is based on, and fairly represents, information and supporting documentation prepared by Mr. C Newman, who is a Competent Person according to the JORC 2012 Code. Mr. C Newman is a fulltime employee of Carbine Resources and a Fellow of the Australasian Institute of Mining and Metallurgy. He has sufficient experience that is relevant to the style of mineralization and the 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 Exploration Results, Mineral Resources and Ore Reserves’. The information in this report is extracted from previous company releases ‘ASX: 16 August 2016 and 30 August 2016’, and is available to view on the Carbine Resources website. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. 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.

**The information in this report that relates to the Mineral Resources for Mundic Gully, Shepherds Gully, No 2 Mill and Red Oxide** 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 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. The information in this report is extracted from previous company releases ‘ASX: 18 July 2016, 27 July 2016, 1 August 2016 and 9 August 2016, and is available to view on the Carbine Resources website. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. 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.

**The information in this report that relates to Ore Reserves for Mount Morgan** is based on, and fairly represents, information and supporting documentation prepared by Mr. A James, who is a Competent Person according to the JORC 2012 Code. Mr. A James is a fulltime employee of Carbine Resources as the Managing Director of the company and he holds shares in the company. He is a Fellow of the Australasian Institute of Mining and Metallurgy. He has sufficient experience that is relevant to the style of mineralization and the 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 Exploration Results, Mineral Resources and Ore Reserves’. Mr. A James consents to the inclusion in this report of the matters based on his information in the form and context in which it appears. The information in this report is extracted from previous company releases ‘ASX: 8 December 2016’, and is available to view on the Carbine Resources website. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. 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.



# Appendix C – Mineral Resources

JORC 2012 Mineral Resource Table reported at a 0.00g/t cut-off (refer ASX announcement dated 30 August 2016). Rounding Errors can occur.

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	3,184	1.14	3,078	13.7	25.6
	Oxide	Indicated	0.12	0.80	3	0.05	55	1.80	207	4.0	
Mundic Gully	Sulphide	Indicated	1.70	1.91	104	0.17	2,822	0.90	1,533	10.5	19.6
	Sulphide	Inferred	0.02	1.86	1	0.24	40	1.24	21	10.6	19.9
Shepherds	Sulphide	Indicated	4.83	0.84	131	0.17	8,195	1.42	6,889	12.4	23.2
Red Oxide	Oxide	Indicated	0.83	2.17	58	0.30	2,495	0.60	499	0.6	
	Oxide	Inferred	0.03	2.05	2	0.29	85	0.58	17	0.5	
Sandstone Gully	Sulphide	Inferred	0.25	0.85	7	0.07	175	1.20	301	12.0	22.4
	Oxide	Inferred	0.02	0.85	1	0.07	14	1.20	24	2.0	
In-Pit Tails	Sulphide	Inferred	26.67	0.52	446	0.07	18,672	1.38	36,884	11.3	21.1
<b>Total Indicated</b>	<b>Total Indicated</b>	<b>Indicated</b>	<b>10.19</b>	<b>1.20</b>	<b>394</b>	<b>0.16</b>	<b>16,750</b>	<b>1.20</b>	<b>12,207</b>	<b>11.4</b>	
	<i>Sulphide</i>	<i>Indicated</i>	<i>9.24</i>	<i>1.12</i>	<i>333</i>	<i>0.15</i>	<i>14,200</i>	<i>1.24</i>	<i>11,500</i>	<i>12.4</i>	<i>23.2</i>
	<i>Oxide</i>	<i>Indicated</i>	<i>0.95</i>	<i>2.00</i>	<i>61</i>	<i>0.27</i>	<i>2,550</i>	<i>0.74</i>	<i>706</i>	<i>1.0</i>	
<b>Total Inferred</b>	<b>Total Inferred</b>	<b>Inferred</b>	<b>26.99</b>	<b>0.53</b>	<b>456</b>	<b>0.07</b>	<b>18,986</b>	<b>1.38</b>	<b>37,246</b>	<b>11.3</b>	
	<i>Sulphide</i>	<i>Inferred</i>	<i>26.94</i>	<i>0.52</i>	<i>454</i>	<i>0.07</i>	<i>18,887</i>	<i>1.38</i>	<i>37,205</i>	<i>11.3</i>	<i>21.1</i>
	<i>Oxide</i>	<i>Inferred</i>	<i>0.05</i>	<i>1.56</i>	<i>2</i>	<i>0.2</i>	<i>99</i>	<i>0.84</i>	<i>41</i>	<i>1.1</i>	

# Appendix D – Exploration Target

## Exploration Target Table (ASX:30 August 2016).

The potential quality 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 the Mineral Resource. Rounding Errors will occur.

Category	Drillhole Number	Low Range					High Range				
		Tonnes (kt)	Au Grade (g/t)	Au (koz)	Copper %	Sulphur %	Tonnes (kt)	Au Grade (g/t)	Au (koz)	Copper %	Sulphur %
Oxide Waste Dumps	54	285	1.8	16	0.1	2	555	2.3	40	0.1	2
Oxide Slag Dumps	5	280	1.0	9	0.4	1	1,000	0.8	26	0.6	1
Oxide Tailings Dumps	34	215	1.0	7	0.1	3	715	0.9	22	0.1	3
<b>Total Oxide</b>	<b>93</b>	<b>780</b>	<b>1.3</b>	<b>32</b>	<b>0.2</b>	<b>2</b>	<b>2,270</b>	<b>1.2</b>	<b>88</b>	<b>0.3</b>	<b>2</b>
Sulphide Waste Dumps	34	430	1.2	17	0.1	12	635	1.4	30	0.1	13
Sulphide Tailings Dumps	12	660	1.0	22	0.1	9	2,000	1.2	77	0.1	12
<b>Total Sulphide</b>	<b>46</b>	<b>1,090</b>	<b>1.1</b>	<b>39</b>	<b>0.1</b>	<b>10</b>	<b>2,635</b>	<b>1.3</b>	<b>106</b>	<b>0.1</b>	<b>12</b>
<b>Total Sulphide and Oxide</b>	<b>139</b>	<b>1,870</b>	<b>1.2</b>	<b>71</b>	<b>0.2</b>	<b>6.7</b>	<b>4,905</b>	<b>1.2</b>	<b>194</b>	<b>0.2</b>	<b>7.5</b>

# Appendix E - Ore Reserve

**Mineral Reserve Table (ASX: 8 December 2016).** this estimate has been prepared in accordance with JORC Code (2012) guidelines. Further details for the estimate can be found in FS announcement and the JORC code table 1 located at the back of that announcement. Some discrepancies in total may occur due to the rounding of numbers:

2 – Au Eq(g/t) refers to the calculated Au equivalent grade formula for which is stated in Appendix F:

3 – PyriteEq(wt %) refers to the calculated Pyrite equivalent grade formula for which is stated in Appendix F

Location	Reserve Category	Quantity (Mt)	AuEq (g/t) <sup>2</sup>	AuEq (koz) <sup>2</sup>	Au (g/t)	Cu (%)	S (%)	Pyrite (wt%) <sup>3</sup>
Mundic	Proven							
	Probable	1.52	2.57	126	2.04	0.17	10.1	18.9
Red Oxide	Proven							
	Probable	0.73	2.48	58	2.11	0.30	0.4	-
No 2 Mill	Proven							
	Probable	2.82	1.73	156	1.10	0.11	13.1	24.4
Shepherds	Proven							
	Probable	4.83	1.49	232	0.84	0.17	12.4	23.1
<b>Total</b>	<b>Proven</b>							
	<b>Probable</b>	<b>9.90</b>	<b>1.80</b>	<b>573</b>	<b>1.19</b>	<b>0.16</b>	<b>11.3</b>	<b>21.1</b>

# Appendix F – Metal Equivalents

Both AuEq (g/t) and PyriteEq (wt%) have been used in this announcement.

AuEq was calculated for each ore source based on the different metallurgical recoveries associated with those ore sources. A combined Total AuEq was also determined for representation of the combined effect of the four different ore sources. The following formulas show the various calculations for the AuEq values seen in this announcement. The AuEq value is determined by multiplying the recovered metal by the metal prices and dividing by the gold price to determine the equivalent gold grade. Consideration is also given to the fact that the end product for Copper is Copper Sulphate and for Pyrite is Pyrite Concentrate. The total AuEq is determined by taking a weighted average of the four separate AuEq grades.

Mundic Gully AuEq = Au (g/t) + Cu(%)\*172.11 + PyriteEq (wt%)\*1.30

No2 Mill AuEq = Au (g/t) + Cu(%)\*172.76 + PyriteEq (wt%)\*1.73

Red Oxide AuEq = Au (g/t) + Cu(%)\*122.83

Shepherds AuEq = Au (g/t) + Cu(%)\*138.83 + PyriteEq (wt%)\*1.79

Metal prices used in this calculation are US\$ 1,200/oz gold, US\$ 60/t unroasted iron pyrite for years 1&2 and US\$ 80/t thereafter, \$5,800/t copper. Copper Sulphate revenue is based on copper LME price for approximately 25% Copper grade plus \$500/t premium for copper sulphate. Metal recoveries are provided in section 6, Processing Physicals. It is Carbine's view that all the metals included within this formula are expected to be recovered and sold.

Pyrite (wt%) – Sulphur (S,wt %) grade has been converted into “pyrite equivalent” (wt,%) using stoichiometry of the pyrite

Formula – FeS<sub>2</sub>

Chemical composition Fe – 46.6%, S – 53.4% (this corresponds to 100wt% of pyrite in a sample)



# Appendix G - FS Base Case Mining Schedule

Mining Location	Units	Pre-production	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Total
<b>Total ALL</b>	Ore (kt)	47	919	1,172	1,146	1,140	1,140	1,131	1,140	1,132	937	9,904
	AuEq (g/t)	1.18	2.22	2.21	2.01	1.98	1.44	1.58	1.61	1.61	1.55	1.79
	Au (g/t)	0.76	1.75	1.75	1.32	1.27	0.91	0.96	0.94	0.93	0.96	1.19
	Cu (%)	0.09%	0.15%	0.16%	0.15%	0.13%	0.18%	0.19%	0.19%	0.16%	0.16%	0.16%
	PyriteEq (wt%)	17.36%	19.33%	17.91%	23.87%	25.00%	15.60%	20.46%	23.39%	25.36%	20.95%	21.34%
	Waste (kt)	536	1,517	1,194	1,058	823	554	596	683	852	1,035	8,847
	SR	11.3	1.7	1.0	0.9	0.7	0.5	0.5	0.6	0.8	1.1	0.9
<b>Mundic</b>	Ore (kt)		640	622	202	58						1,523
	AuEq (g/t)		2.54	2.79	2.39	1.90						2.59
	Au (g/t)		1.97	2.25	1.80	1.45						2.04
	Cu (%)		0.17%	0.19%	0.16%	0.10%						0.17%
	PyriteEq (wt%)		20.97%	15.49%	23.84%	21.94%						19.15%
	Waste (kt)	245	1,336	829	404	8						2,822
	SR		2.1	1.3	2.0	0.1						1.9
<b>Red Oxide</b>	Ore (kt)		57	63	113	86	90	99	86	78	60	731
	AuEq (g/t)		2.62	2.62	2.36	2.20	2.45	2.39	2.45	2.78	2.38	2.46
	Au (g/t)		2.30	2.27	2.03	2.04	2.06	1.98	2.04	2.34	2.10	2.11
	Cu (%)		0.26%	0.28%	0.27%	0.13%	0.32%	0.33%	0.33%	0.35%	0.23%	0.28%
	PyriteEq (wt%)		1.09%	0.68%	0.60%	0.19%	0.43%	0.51%	0.63%	0.75%	1.17%	0.63%
	Waste (kt)		53	51	416	613	279	486	500	536	698	3,632
	SR		0.9	0.8	3.7	7.1	3.1	4.9	5.8	6.9	11.6	5.0
<b>No 2 Mill</b>	Ore (kt)	47	222	488	831	994	108				129	2,818
	AuEq (g/t)	1.18	1.50	1.68	2.08	2.18	1.99				1.15	1.94
	Au (g/t)	0.76	0.97	1.03	1.11	1.20	1.10				0.83	1.10
	Cu (%)	0.09%	0.07%	0.10%	0.13%	0.13%	0.12%				0.05%	0.11%
	PyriteEq (wt%)	17.36%	19.29%	23.21%	27.04%	27.33%	24.38%				8.56%	24.76%
	Waste (kt)	291	128	314	237	200	112				107	1,389
	SR	6.2	0.6	0.6	0.3	0.2	1.0				0.8	0.5
<b>Shepherds</b>	Ore (kt)				1	943	1,032	1,054	1,054	748		4,832
	AuEq (g/t)				1.51	1.31	1.51	1.55	1.52	1.57		1.49
	Au (g/t)				1.01	0.78	0.87	0.85	0.83	0.89		0.84
	Cu (%)				0.15%	0.17%	0.17%	0.18%	0.15%	0.17%		0.17%
	PyriteEq (wt%)				16.01%	16.03%	22.37%	25.25%	27.18%	24.67%		23.17%
	Waste (kt)				1	163	110	183	316	231		1,004
	SR				0.5	0.2	0.1	0.2	0.3	0.3		0.2

# Appendix H - FS Base Case Processing Schedule

Processing	Units	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Total
<b>Total ALL</b>	Ore (kt)	894	1,098	1,094	1,095	1,108	1,101	1,110	1,101	914	9,515
	AuEq (g/t)	2.30	2.33	2.07	2.02	1.46	1.60	1.64	1.63	1.57	1.85
	Au (g/t)	1.81	1.84	1.37	1.30	0.93	0.98	0.95	0.95	0.97	1.23
	Cu (%)	0.15%	0.16%	0.15%	0.14%	0.18%	0.19%	0.19%	0.17%	0.16%	0.17%
	PyriteEq (wt%)	20.10%	18.77%	24.72%	25.82%	15.90%	20.83%	23.82%	25.83%	21.29%	21.94%
	Au Recovery (%)	72%	72%	71%	71%	70%	70%	70%	70%	70%	71%
	Au Produced (kcozs)	38	47	34	33	23	24	24	24	20	266
	Cu Recovery (%)	64%	64%	62%	62%	52%	51%	51%	51%	52%	56%
	Cu Sulphate (kt)	3	4	4	4	4	4	4	4	3	34
	PyriteEq Recovery (%)	92%	93%	93%	93%	88%	87%	87%	87%	87%	90%
	Pyrite concentrate (kt)	166	191	251	263	155	200	230	248	170	1,874
<b>Mundic</b>	Ore (kt)	578	566	182	53						1,378
	AuEq (g/t)	2.90	3.11	2.94	2.39						2.97
	Au (g/t)	2.15	2.45	1.97	1.59						2.23
	Cu (%)	0.18%	0.20%	0.16%	0.10%						0.18%
	PyriteEq (wt%)	22.48%	16.47%	25.62%	23.58%						20.46%
	Au Recovery (%)	72%	72%	72%	72%						72%
	Cu Recovery (%)	66%	66%	66%	66%						66%
	PyriteEq Recovery (%)	95%	95%	95%	95%						95%
<b>Red Oxide</b>	Ore (kt)	57	63	113	86	90	99	86	78	60	731
	AuEq (g/t)	2.62	2.62	2.39	2.41	2.45	2.39	2.45	2.78	2.38	2.48
	Au (g/t)	2.30	2.27	2.03	2.04	2.06	1.98	2.04	2.34	2.10	2.11
	Cu (%)	0.26%	0.28%	0.29%	0.30%	0.32%	0.33%	0.33%	0.35%	0.23%	0.30%
	PyriteEq (wt%)	1.09%	0.68%	0.60%	0.48%	0.43%	0.51%	0.63%	0.75%	1.17%	0.66%
	Au Recovery (%)	74%	74%	74%	74%	74%	74%	74%	74%	74%	74%
	Cu Recovery (%)	48%	48%	48%	48%	48%	48%	48%	48%	48%	48%
	PyriteEq Recovery (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>No 2 Mill</b>	Ore (kt)	259	469	799	955	103				128	2,713
	AuEq (g/t)	1.47	1.71	2.12	2.23	2.03				1.16	1.98
	Au (g/t)	0.95	1.05	1.13	1.22	1.12				0.83	1.12
	Cu (%)	0.07%	0.10%	0.13%	0.13%	0.13%				0.05%	0.12%
	PyriteEq (wt%)	18.98%	23.98%	27.94%	28.24%	25.19%				8.60%	25.49%
	Au Recovery (%)	71%	71%	71%	71%	71%				71%	71%
	Cu Recovery (%)	65%	65%	65%	65%	65%				65%	65%
	PyriteEq Recovery (%)	93%	93%	93%	93%	93%				93%	93%
<b>Shepherds</b>	Ore (kt)				1	916	1,002	1,023	1,023	727	4,692
	AuEq (g/t)				1.53	1.33	1.53	1.57	1.55	1.59	1.51
	Au (g/t)				1.02	0.80	0.88	0.86	0.84	0.90	0.85
	Cu (%)				0.15%	0.17%	0.17%	0.18%	0.15%	0.17%	0.17%
	PyriteEq (wt%)				16.34%	16.36%	22.83%	25.77%	27.74%	25.17%	23.64%
	Au Recovery (%)				70%	70%	70%	70%	70%	70%	70%
	Cu Recovery (%)				51%	51%	51%	51%	51%	51%	51%
	PyriteEq Recovery (%)				87%	87%	87%	87%	87%	87%	87%

# Appendix I – FS Expanded Case Processing Schedule

Description	Units	FS Totals	Year 9 Additional	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total
<b>Total ALL</b>	Ore (kt)	9,515	225	1,150	1,150	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,060	21,900
	AuEq(g/t)	1.85	1.21	1.22	1.22	1.25	1.25	1.14	1.17	1.18	1.18	1.18	1.18	1.15	1.57
	Au Produced (koz)	266	4	19	19	19	19	16	17	17	17	17	17	16	464
	Cu Sulphate (kt)	0	0	2	2	2	2	2	2	2	2	2	2	2	20
	Pyrite concentrate (kt)	1,874	45	199	199	205	205	201	196	193	193	193	193	191	4,084
<b>FS Base Case Ore Reserve</b>	Ore (kt)	9,515													9,515
	AuEq(g/t)	1.85													1.85
	Au Produced (koz)	266													266
	Cu Sulphate (kt)	0													0
	Pyrite concentrate (kt)	1,874													1,874
<b>Inferred resources</b>	Ore (kt)		225	770	770	835	835	1,050	1,020	1,000	1,000	1,000	1,000	1,000	10,505
	AuEq(g/t)		1.21	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.97
	Au Produced (koz)		4	11	11	12	12	15	14	14	14	14	14	14	149
	Cu Sulphate (kt)		0	1	1	1	1	1	1	1	1	1	1	1	15
	Pyrite concentrate (kt)		45	146	146	159	159	199	194	190	190	190	190	190	1,998
<b>Exploration Target</b>	Ore (Mt)			380	380	265	265	50	80	100	100	100	100	60	1,880
	AuEq(g/t)			1.32	1.32	1.32	1.32	1.14	1.22	1.27	1.27	1.27	1.27	1.45	1.30
	Au Produced (koz)			8	8	7	7	2	3	3	3	3	3	2	49
	Cu Sulphate (kt)			1	1	1	1	0	0	0	0	0	0	0	5
	Pyrite concentrate (kt)			52	52	46	46	2	2	3	3	3	3	1	212
<b>Category % by Value</b>	Indicated	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	52%
	Inferred	0%	100%	61%	61%	68%	68%	93%	88%	86%	86%	86%	86%	92%	38%
	Exploration Target	0%	0%	39%	39%	32%	32%	7%	12%	14%	14%	14%	14%	8%	10%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%