



June 2017 Quarterly Report

KEY POINTS

- ◆ **Company receives approval for two of the three key regulatory approvals for the development of its Mount Morgan project in Queensland**
 - ◆ Final Heritage approval for the Mount Morgan Project granted by the Minister of Natural Resources and Mines (DNRM) (ASX: 29 May 2017)
 - ◆ Final Regional Interests Development Approval (RIDA) for the Mount Morgan mine received from the Queensland Department of Infrastructure, Local Government and Planning (DILGP) (ASX: 28 July 2017)
 - ◆ Progression of the remaining approval for the Mount Morgan Project being the Environmental Authority (EA) amendment
- ◆ **Commencement of Front End Engineering and Design (FEED) (ASX: 29 May 2017)**
 - ◆ Detailed geotechnical evaluation of the proposed plant location
 - ◆ Final stage metallurgical test work including a demonstration plant
- ◆ **Ongoing evaluation of the significance of the unroasted iron pyrite market in China to the Mount Morgan pyrite concentrate production**
- ◆ **Progression of submission for financial support from Queensland government \$130million Jobs and Regional Growth Fund**
- ◆ **Continuation of due diligence activities and ongoing discussions with potential project financiers**

Carbine Resources' Feasibility Study on the Mount Morgan Gold-Copper project in central Queensland demonstrated a strong base case for the development of a low cost, long-life project (ASX: 8 December 2016).

The Feasibility Study Base Case assumed a 1.1mtpa throughput rate achieving a 9.5 year mine life. The estimated Ore Reserve is associated with just four of the historical tailings dumps at Mount Morgan delivering gold, copper sulphate and premium unroasted iron pyrite concentrate to market. The estimated preproduction capital cost is A\$85 million and the all-in sustaining costs after by-product credits is estimated at A\$549/oz. The Project's economics enable a forecast payback period of just two years.

Following on from the Feasibility Study's strong technical and financial outcomes, Carbine continues to advance the required regulatory approvals, offtake arrangements for the premium unroasted iron pyrite market, and project funding.



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In parallel to this work, the company has also commenced Front End Engineering and Design (FEED) work, engaging GR Engineering Services, to enable continuity of the project into construction phase once all project approvals and financing has been finalised.

The company also continued its background work with the Queensland government in respect to the submission to the Queensland Government for financial support from the Jobs and Regional Growth Fund for the development of the Mount Morgan Project. The \$130 million Jobs and Regional Growth Fund is part of the government's broader \$200M Jobs and Regional Growth Package, targeted at growing regional economies and jobs for Queenslanders. The company's application is currently being assessed for consideration. Further detail about the Fund can be found on the website, www.statedevelopment.qld.gov.au/industry/industry-support/jobs-and-regional-growth-fund

Regulatory Approvals

The three significant approvals required for the development of the Mount Morgan Project are the Development by the State Application under section 71 of the Queensland Heritage Act 1992 (Heritage), the Regional Interests Development Approval (RIDA) and the Environmental Authority Amendment (EA).

The Minister of Natural Resources and Mines (DNRM) granted final Heritage approval during the quarter (Rockhampton Bulletin, Public Notice, Monday 29 May 2017). This approval is for "The application by the State under section 71 of the Queensland Heritage Act 1992 to make safe works associated with the Mount Morgan Project" and it paves the way for a Heritage Agreement to be established between the Company and the Department of Environment and Heritage Protection (DEHP) to build the Project. The application was previously endorsed by the Queensland Heritage Council (QHC) (ASX: 27 April 2017).

The Queensland Department of Infrastructure, Local Government and Planning (DILGP) has approved the Regional Interests Development Application (RIDA) that was made on 19 January, 2017 for the development of the Mount Morgan Mine. This approval was given under the Regional Planning Interest Act 2014 section 51. The approval followed on from the Rockhampton Regional Council endorsement at the full Rockhampton Council meeting on the 27 June 2017 (ASX:28 July 2017).

The Environmental Authority (EA) draft amendment was submitted to the Department of Environment and Heritage Protection (DEHP) by Carbine on 7 April 2017. Carbine is in ongoing discussions with the Department of DEHP and the DNRM to finalise this EA amendment application. Once the finalised EA is submitted, a revised Program of Works (PoW) will be established. The Environmental Authority was previously approved for the project in 2010.



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Unroasted iron pyrite

During the quarter Carbine continued its evaluation of the pyrite concentrate market in China. This resulted in a visit to various pyrite roasting facilities and companies in both Shandong and Hebei provinces. China is clearly the world's largest pyrite consumer with over 16mt of pyrite being consumed on an annual basis. The pyrite market in China is considerably closer to Australia compared to the European market for shipping and its pyrite consuming capacity easily accounts for the projected Mount Morgan production of 200,000tpa. The company is of the view that the pyrite market in China is a logical entry point for the commercial exporting of pyrite concentrate from Mount Morgan.

A significant factor in the pyrite market in China is the understanding that the Pyrite roasting plants exist as smaller subsidiary groups within large steel and petrochemical businesses. In many instances these company's gear their pricing and business models primarily on the price of iron fines generated as an iron residue from the sulphuric acid roaster. The iron residue is typically between 62-65% iron and the pyrite roasting companies are able to sell the fines to their parent company or close neighbors who are some of the largest steel manufacturers in the world. The iron residue is sold to the steel manufacturers at a discount to the spot iron fines price. They also utilise the heat generated from roasting the Sulphur for the production of sulphuric acid to drive steam generators for power credits for the surrounding petrochemical and steel plants. From Carbine's perspective this pricing model reduces the risk of being directly reliant on the Sulphuric Acid Market.

Commencement of Front End Engineering and Design (FEED)

Front End Engineering and Design (FEED) work has commenced. This work will enable continuity into project construction once all project approvals and financing has been finalised. GR Engineering Services and Carbine are undertaking this work which includes:

- Detailed geotechnical evaluation, engineering and survey control of the plant location in preparation for earthworks and civil construction.
- Completion of metallurgical test work using a demonstration plant. This will determine the detailed engineering design of the Copper Resin in Pulp (RIP) and Cyanide recovery circuits. This test work will also provide further validation of the process flow sheet design and the continuity between the copper, pyrite and gold leach circuits.
- Undertaking of engineering to progress procurement tenders including those required for any long-lead items.

Activities associated with this work commenced during the quarter includes:

- Geotechnical drilling for the planned plant location in preparation for earthworks and civil construction. Figure 1 below shows the geotechnical drilling occurring at the proposed processing plant location in Sandstone Gully. Geotechnical test pits were also excavated in order to evaluate





the foundation requirements for the plant infrastructure. The work is important due to the historical disturbance of the area as a result of previous mining and processing activities.



Figure 1 – Geotechnical drilling occurring at the proposed processing plant site at Mount Morgan

- Demonstration plant metallurgical test work has commenced at the ALS laboratory in Balcatta, Perth Western Australia. Initially composite ore feed samples were collected from Mount Morgan (500kg tailings sample) along with 2,000L of open pit water (intended process water) and transported to Perth to commence the work. The demonstration plant test work has been separated into 5 different work streams culminating in a semi-continuous demonstration of the flow sheet. Each work stream and progress is outlined as follows.
 - Stage 1 (complete) – Receive composite sample from site and prepare for test work and carry out baseline assays. Conduct initial batch CIP, RIP and Detox tests for the various minerals.
 - Stage 2 (complete) - Complete batch test work including, grinding, bulk flotation, thickening, open vat leaching, sealed bottle rolls and sealed reactor tests.
 - Stage 3 (in progress) - Batch testing associated with CIP, A500 & A100 resin RIP, Detox, multiple contact resin loading tests and resin strength and integrity tests.
 - Stage 4 (incomplete) – Ore feed test work including screening, grindability and mineralogy. Final establishment and set up of demonstration plant. Commence demonstration plant including copper RIP, pyrite flotation and gold CIL.
 - Stage 5 (incomplete) – Demonstration plant continuation for Cyanide RIP recovery and recycle analysis.





Figure 2 & 3. Sample preparation and open vat testwork at ALS Laboratories Perth in preparation for demonstration plant metallurgical test work

Water Treatment Plant

During the quarter, the Company continued to work with the DNRM on operational improvements to the Mount Morgan Water Treatment Plant.

Corporate Activities

Norton Goldfields and Carbine

The Company has continued discussions with Norton Goldfields in regards to the Mining Property Sale Agreement it has with Raging Bull Metals. Carbine will require title transfer to fund and develop the project.

Mount Morgan Project Financing

Discussions have continued with financiers who have expressed interest in providing finance for the project development. A successful financing outcome is dependent on obtaining all project approvals, moving to 100% project ownership and entering into a long term pyrite offtake agreement.

Performance Rights

As previously advised in the December 2016 Quarterly activities report, the successful completion of the FS signified the completion of Tranche 1 of the performance Rights approved by shareholders at the AGM on 31 May 2016 (Schedule 5). The Carbine Board of Directors resolved that the FS completion outlined in Tranche 1 milestone date of September 2016 was not achieved and cancelled the Tranche 1 rights payable to the non-



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Executive Directors and used Board discretion to partly pay the Tranche 1 rights of the Managing Director. The reasons for not achieving the milestone were detailed in the September Q report (ASX: 31 October 2016) and the Mount Morgan Feasibility Study Update (ASX: 26 September 2016).

At the time, the Board also resolved that as a consequence of the delay in the FS timing outlined in Tranche 1, all the remaining milestone dates will be effected. Each of the remaining milestone dates associated with Tranches 2, 3 and 4 were extended by 3 months (ASX: 31 January 2017). Based on the timing of this extension, the Tranche 2 (Project Funding) milestone date was changed to 30 June 2017.

Over the last 6 months it has become apparent that the project funding possibilities are directly related to the Company receiving the three key regulatory approvals, a detailed pyrite offtake agreement and completion of the demonstration plant test work being done as part of the FEED. The de-risking process associated with this work has become far greater and more complex than originally anticipated. Specifically, the key regulatory approvals and the work associated with obtaining those approvals has caused considerable delays to the project during 2017. These delays are considered to be outside the control of the Company.

Due to these delays and the ongoing challenges associated with methodically stepping through the approval processes and the inclusion of the demonstration plant work in the FEED, the Board has now resolved to use its discretion to further extend the timing of the milestones associated with Project Funding (Tranche 2) by an additional 6 months and the Construction and Production Milestones (Tranches 3 and 4) by an additional 9 months to 31 December 2017, 31 December 2018 and 30 June 2019 respectively.

For further information, please contact:

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Competent Person Statements

Ore Reserves

The information in this report that relates to Mineral 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'. The information is extracted from the ASX report entitled 'Feasibility Study Delivers 2 Year Payback – AISC \$549/oz' created on 8th 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 Mineral 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.

Exploration Targets, Exploration Results, Mineral Resources

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.



Appendix 1: Carbine's Tenement Interest

The following information is provided pursuant to Listing Rule 5.3.3 for the quarter ended 31 March 2017:

Mount Morgan, Queensland	Tenement Reference	Interest
	ML5628	Option to Acquire 100%
	ML5613	Option to Acquire 100%
	ML5616	Option to Acquire 100%
	ML5660	Option to Acquire 100%
	ML5608	Option to Acquire 100%
	ML5617	Option to Acquire 100%
	ML5609	Option to Acquire 100%
	ML5619	Option to Acquire 100%
	ML5602	Option to Acquire 100%
	ML5618	Option to Acquire 100%
	ML5658	Option to Acquire 100%
	ML5635	Option to Acquire 100%
	ML5622	Option to Acquire 100%
	ML5620	Option to Acquire 100%
	ML5623	Option to Acquire 100%
	ML5627	Option to Acquire 100%
	ML5615	Option to Acquire 100%
	ML5589	Option to Acquire 100%
	ML5659	Option to Acquire 100%
	ML5634	Option to Acquire 100%
	ML5626	Option to Acquire 100%
	ML5633	Option to Acquire 100%
	ML5621	Option to Acquire 100%
	ML5624	Option to Acquire 100%
	ML5625	Option to Acquire 100%
	ML6692	Option to Acquire 100%
	ML5612	Option to Acquire 100%
	ML5649	Option to Acquire 100%
	ML5614	Option to Acquire 100%
	ML5648	Option to Acquire 100%
Many Peaks, Queensland		
	ML3640	Option to Acquire 100%
	ML3641	Option to Acquire 100%
	MDL30	Option to Acquire 100%

No interests were acquired or disposed of during the quarter.