



## December 2014 Quarterly Report

### HIGHLIGHTS

- ◆ Mount Morgan scoping study completed
- ◆ Projected All-in Sustaining Costs of US\$393/oz for life of mine
- ◆ Minimum 8 year mine life based on current JORC resources only
- ◆ Opportunity to exploit high grade resources for initial operations
- ◆ Drilling program underway on site & exploration target upgraded
- ◆ Pre-feasibility study planning underway
- ◆ Formal acquisition agreement for Mount Morgan executed
- ◆ MOU signed with Clean TeQ for copper extraction at Mount Morgan
- ◆ Conditional principal offtake agreement for pyrite by-product sales

Carbine Resources Limited (ASX: CRB) is pleased to provide an update on activities for the quarter ending 31 December 2014.

### Mount Morgan Gold & Copper Project, Queensland

#### Scoping Study Completion

During the quarter, the Company announced the completion of a Scoping Study on the Mount Morgan Gold & Copper Project. The Study parameters, developed by Ausenco Services Pty Ltd in addition to other specialist engineering firms, have provided suitable inputs to define the potential for a long life, low cost operation.

The Scoping Study has provided independent preliminary verification of the potential viability of the proposed operations, indicating robust economics for the Project. Further feasibility development is now required in order to confirm and refine the estimates generated from this Study.

Parameter	Units	Value
<b>PRODUCTION PARAMETERS</b>		
Throughput	tonnes/yr	1,000,000
<b>FINANCIAL PARAMETERS</b>		
Capital Costs	A\$M	\$81.9M
Operating Costs	A\$/t	\$32.7
All-in Sustaining Costs	US\$/oz	\$393

#### Fast Facts

##### Ordinary Shares

Shares on Issue 140M

##### Market Cap. & Cash

Mkt Cap. (at \$0.035)  
\$4.9 million

Cash at 31 Dec 2014  
\$4.2 million

##### Board of Directors

- Mr Patrick Walta  
(Executive Director)
- Mr Evan Cranston  
(Non-Executive Director)
- Mr Tom Bahen  
(Non-Executive Director)

##### Company Highlights

- Developing the Mount Morgan Au/Cu Project
- Successful scoping study confirms flowsheet potential
- Rights to the 1Mtpa Kundana CIP Plant
- Developing the Many Peaks Copper Project
- Access to a pipeline of future projects
- \$4.2M cash at bank



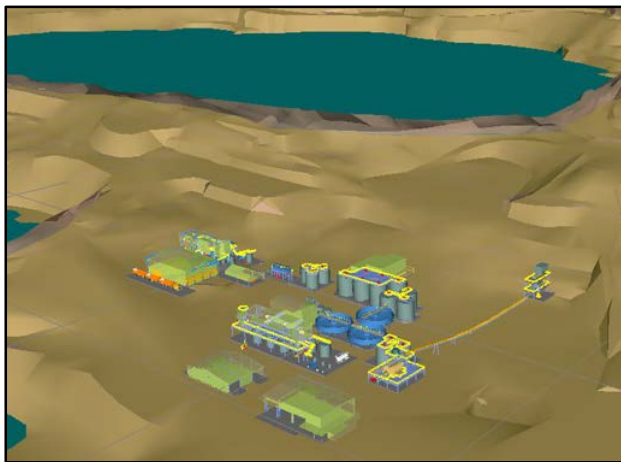
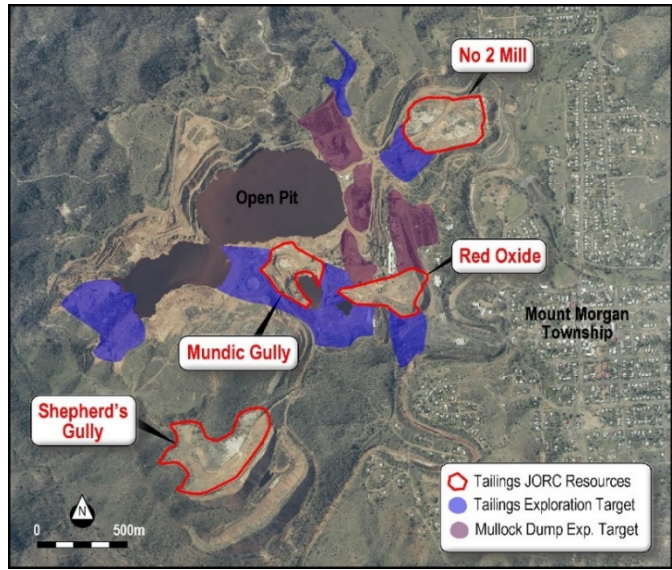
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The Scoping Study defines a 1,000,000tpa operation over a minimum 8 year mine life.

The nominated mine life only includes the processing of all JORC Resources at the site and does not include any of the current Exploration Target (stated at 32 – 40Mt grading 0.67 – 0.79 g/t Au and 0.11 – 0.19% Cu, see Appendix 1). This Exploration Target is not a mineral resource and is 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.

The proposed operation produces three separate salable products, namely gold, copper and pyrite. Average annual production is estimated at 36,000oz gold doré bullion, 850t copper cathode and 230,000t of pyrite concentrate.

Capital costs for mine development have been estimated at \$81.9M based on construction utilising all new equipment and includes allowances for all Engineering, Procurement, Construction & Management (EPCM) costs and excludes owner’s costs and contingencies.



Significant upside exists to reduce capital costs via the use of the Kundana CIP Plant, which is being progressively acquired by Carbine from Norton Gold Fields Limited (see Carbine’s ASX release 03 April 2014).

Operating costs for the mine have been estimated at \$32.7/t, of which reagents and consumables represent nearly 47% and labour 25%. Carbine considers these costs to be highly conservative and has already identified a number of cost saving initiatives which are likely improve the overall value proposition of the Project.

All-in Sustaining Costs for the operations are estimated to average US\$393/oz for the life of mine. The low All-in Sustaining Costs are facilitated by the fact that the operation requires minimal mining activity (reclamation of unconsolidated surface tailings only) and also produces two by-product streams, which provide additional revenue and offset operating costs.

Realistic assumptions of long term metal pricing forecasts over the life of the mine (gold US\$1,250/oz, copper US\$7,000/t, pyrite US\$86/t) and an A\$/US\$ average exchange rate of 0.85 were used throughout the Study.





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Mining

The Scoping Study proposes the use of dry mining via a loader and truck operation, providing a simple and cost effective method for extracting and delivering feed material to the plant.

A small amount of overburden is located in the Mundic Gully and Red Oxide areas, which will be progressively removed during mining operations. Other tailings require no overburden stripping.

The use of Exploration Target Tailings, Mullock Dumps, Metallurgical Slag and Open Pit Tails (see Appendix 1) has not been included in the Scoping Study analysis. Significant upside therefore remains to the extension of mine life and/or increase of plant throughput should these materials be included in the mining schedule.

Due to the nature of tailings deposits and the availability of production history and tailings deposition history, the Company has a high degree of confidence that the existing JORC resources and the Exploration Target will be upgraded with further exploration work.

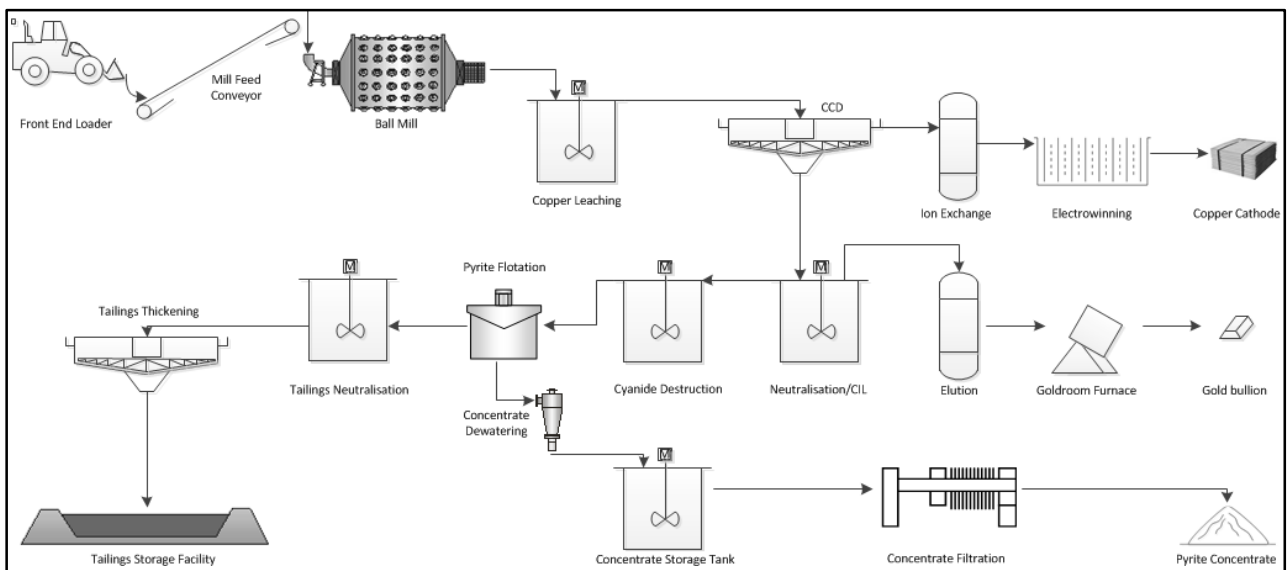
Processing

Processing will comprise a polishing grind (no crushing required) and classification from ~150 micron to 75 micron, followed by a three stage process to extract copper, gold and pyrite resources.

Copper will be initially recovered via simple Ion Exchange and Electrowinning (IX-EW) of a leached liquor from the tailings slurry, producing on average 850tpa of copper cathode.

Gold will then be extracted from the copper-free slurry via a conventional Carbon-in-Leach (CIL) circuit, producing an average of 36,000/oz per annum.

Pyrite concentrate (average 230,000tpa) can then be recovered from the barren tailings using a conventional flotation circuit.





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The upfront removal of copper via dilute acid leaching (utilising the acidic water located in the historical open cut of the mine) and IX-EW has provided a simple mechanism to remove cyanide soluble copper from the tailings.

In doing this, consumption of cyanide in the CIL circuit has shown to decrease by ~80%. The additional benefit of copper removal (beyond a reduction in operating costs) is the production of a by-product stream to further offset the costs of gold production.

Metallurgical testwork to date on a composite of the Mundic tailings has shown the flowsheet is amenable to producing recoveries of 78% of gold, 56% of copper and 91% of pyrite from the tailings.

### ***Drilling Program Underway at Mount Morgan***

Subsequent to the quarter's end, Carbine announced the commencement of a drilling program at the Mount Morgan Gold & Copper Project.

The program will be used to improve the JORC definition of existing resources and the Exploration Target in addition to collecting metallurgical samples for Phase 3 testwork and the upcoming pre-feasibility study.

### ***Principal Offtake Agreement for Pyrite from Mount Morgan***

Subsequent to the end of the quarter, Carbine announced the execution of a conditional Principal Offtake Agreement (POA) with global industrial mineral distributor Talana Limited for the sales of pyrite produced at the Mount Morgan Gold & Copper Project.

The POA, which followed extensive negotiations, due diligence and a site visit by Talana, represents a significant milestone in the redevelopment of the historic Mount Morgan Mine.

The agreement allows for the sales of a third product from the proposed operations (in addition to gold and copper), which further improves the project value proposition and also facilitates the removal of the source of acid mine drainage from the site.

Under the terms of the POA, Carbine and Talana have agreed:

- Talana will pre-market pyrite and metallurgical slag products from Mount Morgan to existing and potential customers in its network
- Talana will act as principal for pyrite and metallurgical slag sales from at Mount Morgan
- Non-exclusive arrangement (Carbine free to engage other offtake partners)

The terms still to be finalised include, amongst other things, pricing, product and quantity. These terms are to be based on the following:

- Mine gate sales with open book to end user prices and logistics costs
- Pyrite: 200,000 - 300,000tpa, +/- 50% S concentrate, +/- US\$100/t CFR price
- Metallurgical Slag: Tonnage and prices to be confirmed following pre-marketing exercise





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The offtake obligations will become binding after the following conditions have been satisfied:

- Talana completes a logistics and marketing study, and Talana and Carbine are both satisfied with the results of that study;
- Carbine completes a pre-feasibility study, and Talana and Carbine are both satisfied with the results of that study; and
- Talana and Carbine agree the definitive terms of the POA.

In parallel with the POA negotiations, the parties are also advancing negotiations for the:

- inclusion of copper products produced from the site into the POA;
- potential for Talana to supply discounted raw materials for the proposed operations; and
- development for a closer commercial relationship, including project financing options.

Talana Limited is a significant diversified global distributor, marketer and stockist of bulk industrial minerals, chemicals and raw materials. The company physically sources, finances, transports, stocks and distributes essential commodities to a range of industrial consumers globally.

### ***MOU for Copper Extraction at Mount Morgan***

On 19 November 2014, Carbine announced the execution of a memorandum of understanding with Clean TeQ Holdings Limited (ASX: CLQ) relating to the extraction of copper resources at the Mount Morgan Project.

Clean TeQ is a global market leader in ion exchange technology and backed by one of its substantial shareholders, mining entrepreneur Robert Friedland. Clean TeQ specialises in the extraction of metals from mineralised ores and mine waters.

The MOU provides a mechanism for Carbine and Clean TeQ to develop a formal agreement for the provision of copper recovery facilities with the agreement able to take the form of a profit sharing joint venture, equipment sales agreement and/or project equity participation.

The MOU also allows for the assessment of Clean TeQ's technology to further improve cyanide recovery processes at Mount Morgan.

### **Other Carbine Projects**

#### ***Many Peaks Copper Project, Queensland***

The Many Peaks Copper deposit is located approximately 125km south of Gladstone. The deposit previously produced over 500,000t of copper ore grading ~2% Cu.

Carbine is currently assessing historical drilling information for this project for completion of a desktop study.





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### ***Ouahigouya Gold Project, Burkina Faso***

Carbine's Ouahigouya Gold Project is located in an outlier of the Hounde Greenstone Belt in northwest Burkina Faso (West Africa) and consists of a contiguous land holding of 1,264km<sup>2</sup> comprising five granted exploration permits and two permit applications.

The permits are located on a major northeast trending crustal scale shear zone, the Ouahigouya Deformation Corridor. Numerous gold occurrences are located along this deformation corridor with a large number of major and minor artisanal fields currently being mined.

No field activities were carried out during the quarter. The Company continues to assess options for future development of these assets, including joint venture or divestment.

### **Corporate Activities**

On 7 November 2014, the Company announced the execution of a formal agreement with Norton Gold Fields Limited (ASX: NGF) and Raging Bull Mining Pty Ltd in relation to the progressive acquisition of the Mount Morgan Gold & Copper Project. The formal agreement represents a significant milestone for the Company, resulting from the successful due diligence, metallurgical testwork and scoping level analysis of the Project. See Appendix 3 for the tenement schedule.

During the quarter, the Company received a minor statement of claim from former director and company secretary, Mr. Grant Mooney. The claim is for approximately \$140,000 in fees that Mr. Mooney has alleged are payable in addition to the regular monthly fees he received during his four years with the Company.

Carbine intends to defend this claim vigorously.

### **For further information, please contact:**

**Patrick Walta** (Executive Director): +61 8 6142 0986

#### **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. These results were previously reported to the ASX on 03 April 2014 and have not materially changed.*







## Appendix 1: JORC Resources & Exploration Target for the Mount Morgan Project

<i>JORC Resources</i> <sup>[1]</sup> (Tailings)	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
<b>TOTAL JORC</b>	<b>8,348</b>	<b>1.23</b>	<b>0.15%</b>	<b>329,000</b>	<b>12,300</b>
<i>Exploration Target</i> <sup>[2]</sup> (Exclusive of JORC Resources)	Tonnes (000s)	Au (g/t)	Cu (%)	Au (oz)	Cu (t)
Tailings					
<i>(low range)</i>	2,900	1.45	0.13%	135,000	4,000
<i>(high range)</i>	3,280	1.66	0.18%	175,000	6,000
Mullock Dumps					
<i>(low range)</i>	1,750	1.69	0.11%	95,000	2,000
<i>(high range)</i>	2,500	2.00	0.15%	162,000	4,000
Metallurgical Slag					
<i>(low range)</i>	1,850	0.60	0.43%	36,000	8,000
<i>(high range)</i>	6,000	1.00	0.69%	193,000	41,000
Open Pit Tails					
<i>(low range)</i>	25,300	0.52	0.09%	423,000	23,000
<i>(high range)</i>	28,000	0.54	0.09%	486,000	25,000
<b>TOTAL EXPLORATION TARGET</b>					
<i>(low range)</i>	<b>31,800</b>	<b>0.67</b>	<b>0.11%</b>	<b>690,000</b>	<b>36,500</b>
<i>(high range)</i>	<b>39,800</b>	<b>0.79</b>	<b>0.19%</b>	<b>1,015,000</b>	<b>76,500</b>

Note: Rounding errors occur

### <sup>[1]</sup> Mineral Resources

The Indicated and Inferred Resources referred to above 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](http://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. A competent person statement in relation to these Indicated and Inferred resources is included on the final page of this Announcement.

### <sup>[2]</sup> Exploration Target

Carbine has identified an Exploration Target at the site comprising low grade mullock dumps, slag dumps and retreated tailings from previous operations. In the Table above 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 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. A competent person statement in relation to this Exploration Target is included on the final page of this Announcement.



## **Appendix 2: Cautionary Statement – Scoping Study Results**

The Scoping Study referred to in this announcement is based on lower-level technical and economic assessments, and are insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage or to provide certainty that the conclusions of the Scoping Study will be realised.

The Scoping Study is preliminary in nature as its conclusions are drawn on Inferred (70%) and Indicated mineral resources (30%). The relative sequence of mining targets the use of Indicated resources for the initial years of operations until they are exhausted (estimated to be up to three years based on current Indicated resources). The nature of the tailings deposits (unconsolidated material at surface) makes selective targeting of Indicated resources possible. The Indicated and Inferred resources and Exploration Target outlined in this announcement have been prepared by a competent person in accordance with the JORC Code.

The Company believes it has a reasonable basis for reporting the results of the Scoping Study based partially on Inferred resources due to the nature of tailings deposits and the availability of historical production history and tailings deposition history. The Company has a high degree of confidence that the Inferred resources will be upgraded with further exploration work. There is however currently a low level of geological confidence associated with current 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 stated production target is based on the Company's current expectations of future results or events and should not be solely relied upon by investors when making investment decisions. Further evaluation work and appropriate studies are required to establish sufficient confidence that this target will be met.

If the Inferred resources are removed, the overall mine life would reduce to approximately three years, i.e. by processing of the current JORC Indicated resources only. Carbine notes that even under this scenario the Project forecasts a positive financial performance. The Company is therefore satisfied that the use of Inferred resources in production target reporting and forecast financial information is not the determining factor in overall Project viability and that it is reasonable to report the Scoping Study including the Inferred resources.

The Scoping Study outputs contained in this report relate to 100% of the Project. Unless otherwise stated all cashflows are in Australian dollars, are not subject to inflation/escalation factors and all years are calendar years. The Company cautions that there is no certainty that the forecast financial information derived from production targets will be realised. Material assumptions underpinning the production targets and financial forecasts derived from the production targets are set out in this announcement and, in particular, the Forward Looking Statements section.

The Company has concluded it has a reasonable basis for providing the forward looking statements included in this announcement. The detailed reasons for that conclusion are outlined throughout this announcement and, in particular, in the Forward Looking Statements & Modifying Factors section of this announcement.







### Appendix 3: Carbine's Tenement Interest

The following information is provided pursuant to Listing Rule 5.3.3 for the quarter ended 31 December 2014:

Burkina Faso Permit	License Number	Interest
Nongodoum	11-213	100% Carbine
Magel	11-214	100% Carbine
Madougou	09-156	Option to Acquire 80%
Kandy	10-100	Option to Acquire 80%
Madougou 2	11-052	Option to Acquire 100%
Ingara	Application	100% Carbine
Siliga	Application	Option to Acquire 100%
Mount Morgan Tenements Queensland		
	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%





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ML5612	Option to Acquire 100%
ML5649	Option to Acquire 100%
ML5614	Option to Acquire 100%
ML5648	Option to Acquire 100%
<b>Many Peaks Tenements Queensland</b>	
ML3640	Option to Acquire 100%
ML3641	Option to Acquire 100%
MDL30	Option to Acquire 100%
EPM14918	Option to Acquire 100%

During the quarter, the Company obtained the option to acquire the above noted tenements in Queensland as part of the formal acquisition of a controlling interest in Raging Bull Metals Pty Ltd.

There were no mining tenements or interests in farm-in/farm-out agreements disposed of during the quarter.





## **Appendix 4: Forward Looking Statements & Modifying Factors**

This announcement contains certain forward looking statements. The words “expect”, “forecast”, “should”, “projected”, “potential”, “could”, “may”, “will”, “predict”, “plan” and other similar expressions are intended to identify forward looking statements. Indications of, and guidance on, future earnings, cash flow forecasts, and financial position and performance are also forward looking statements. Forward looking statements, opinions and estimates included in this announcement are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. Forward looking statements may be affected by a range of variables that could cause actual results or trends to differ materially. These variations, if materially adverse, may affect the timing or the feasibility of the development of the Project.

The announcement also contains forward looking statements in relation to future mining activity, however Carbine will require additional funding to bring the Project into production and there is no certainty of this funding being available. The Directors’ strategy during this study phase of the Project is to raise funds periodically when they are needed in the least dilutionary manner to shareholders. The Company intends to evaluate a range of funding alternatives for Project development once an Ore Reserve has been estimated.

The Company believes it has a reasonable basis for making the forward looking statements in this announcement, including with respect to the inclusion of Inferred resources in any production targets, based on the information contained within this announcement.

In particular:

- The current JORC resources are based on independent verification by Coffey Mining Pty Ltd and the current Exploration Target was compiled by an independent consulting geologist who conducted an extension review of the substantial historical drilling and tailings production database (see Competent Persons Statements).
- All metallurgical testwork was carried out by an independent metallurgical consultant and ALS Laboratories, in conjunction with assistance from specific technology companies, namely Clean TeQ Holdings Limited for IX-EW development.
- Ausenco Services Pty Ltd was the independent lead consulting engineering firm who derived the all major capital and operating cost inputs for the Study, as well as the completion plant/mine design, trade-off studies, assessment of infrastructure requirements, mass balance, equipment lists, process design criteria, process flow diagrams and flowsheet development.
- Ausenco’s work was also independently audited by Sedgman Limited.
- The tailings storage facility was specifically designed and estimated by specialist tailings consultants Golders Pty Ltd.





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- All mining and overburden estimated were acquired from Charlton Earthmoving and Civil Pty Ltd, who are familiar with the site having had direct experience with the Project through previous owners of the mining leases.

The Scoping Study also utilised information derived from previous detailed feasibility studies completed by previous owners Norton Gold Fields Limited and Moonraker Pty Ltd. This included water management reports, environmental impact assessments, social impact analysis and pyrite logistics analysis.

