Dated: 17<sup>th</sup> October 2012



### CONCEPTUAL MINING STUDY DEMONSTRATES STRONG RETURNS

### HIGHLIGHTS

Completion of a Five Year Mine Plan and Conceptual Mining Study (CMS)<sup>1</sup> demonstrates a robust and highly profitable project Five Year Mining Plan delivers the following metrics

Maximum annual gold production (yr 4)	135, 000 ounces
Capital Cost	\$A131 million
Cash Operating Cost (5 years, pre-royalties)	A\$840 per ounce
Revenue over 5 years (A\$1,600/ounce)	A\$915,900,000
Net Cash Flow (before Capex, royalties & tax)	A\$435,800,000

- Study centred on Castle Hill and Broads Dam only, with upside existing in other Resources outside a 15km radius of Castle Hill
- Castle Hill potential Resource increases below the present 85m depth not included
- Board Approval granted to move to Definitive Feasibility Study (DFS)
- DFS completion expected in the December Quarter 2013
- Project development and construction estimated at 16 18 months
- Further Resource upgrades and optimisation studies to be included in next 9 months



Figure 1: Castle Hill and CMS Project Locations

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#### Overview

17<sup>th</sup> October 2012

Phoenix Gold Limited (ASX: PXG, "Phoenix") is pleased to advise that it has completed a Conceptual Mining Study ("CMS") into the development of the Company's 100% owned Castle Hill and Broads Dam Projects (Figure 5).

The CMS consist of a five (5) year mining schedule primarily focussed on Stage One and Stage Two of Castle Hill (Figure 1). Several projects, Red Dam, Emu and Picante, located adjacent to Castle Hill, were included to enable efficient scheduling of the proposed mining fleet, however the remaining resources located outside the study's 15km radius were not included and remain as upside.

The CMS does not include the Catherwood Project, recently the subject of a right to mine agreement with Norton Gold Fields. None of Phoenix's other projects on the Kunanalling and Zuleika shears, the recently discovered Telegraph project, the Carbine North project or any projects in the Ora Banda or Grants Patch areas form part of the initial study.

The mine optimisations, designs and schedules were completed by Kalgoorlie Mining Services. The processing study including capital and operating cost estimates and review of test work and recoveries was completed by International Metallurgy Operations ("IMO") of Perth.

### **Operating Costs**

The plant design is based on a nominal 1.65mtpa throughput utilising a three stage crushing circuit, a single stage grinding circuit (ball mill) followed by gravity and carbon in leach circuits. In parallel with the mill a heap leach facility with a nominal 1.2mtpa capacity is planned to treat the low grade material mined from the broad halo of lower grade mineralisation within the Castle Hill mine designs.

The crushing circuit has a nominal design throughput of 4mtpa to cater for both the CIL circuit and heap leach. The process flow sheet is attached as Appendix 1 of this announcement. This configuration is a flexible, easily expanded and well proven configuration, which in management's prior operating experience, has the capacity to exceed the nominal throughput rating.

Based on the extensive metallurgical and heap leach test work, including column, slumpage and crushability and IMO recommendations the CMS assumed metallurgical recoveries of 94% and 75% respectively for the milling and heap leach circuits.

Operating Costs									
Mining*	\$/bcm	6.9							
Milling	\$/ore tonne	16.25 7.25 1.5 3,600,000							
Heap Leach	\$/tonne placed								
Contingency	\$/ore tonne								
General and Administration	\$/annum								

\*Note: Mining Costs include surface ore haulage to mill

It was assumed that mining would be conducted by two fleets of conventional truck and shovel mining equipment. The nominal fleets assumed were a Komastu PC1800 matched with Caterpillar 785 (150 tonne) trucks and a Komatsu PC1250 matched with Caterpillar 777 (100 tonne) trucks. Mining dilution was assumed at 10% with mining ore losses of 5%.

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The mine schedule assumed a consistent movement of 600,000 bcm's per month over the 5 year schedule which delivered an average of approximately 2.8mtpa of ore and 1mtpa of Mineralised Waste ("MW"). 

Mining								
Total Material mined	bcm	34,720,000						
Ore mined	bcm	4,960,000						
Combined Strip ratio	w/o	6.0						
Mineralised Waste Mined	bcm	1,720,000						
Strip Ratio (with MW*)		4.2						
Milling								
High Grade tonnes milled	tonnes	7,430,000						
Grade	g/t	1.9						
Low Grade tonnes milled	tonnes	413,000						
Grade		0.86						
Recovery	%	94						
Recovered gold	Ounces	438,000						
Annual throughput	Tonnes	1,670,000						
Неар	) Leach							
Heap Leach Feed	tonnes	8,320,000						
Grade	g/t	0.67						
Recovery	%	75						
Recovered gold	Ounces	135,000						
Annual throughput	Tonnes	1,850,000						
Project Schedule								
Mine Schedule years 5								
Max annual production	ounces	(yr 4) 135,000						

\*Note: Mineralised Waste defined as material above 0.5g/t and below the existing Castle Hill Resource cut-off grade.

### **Capital Costs**

The estimated capital costs (+-25%) totalled A\$131m. These costs include first fill and processing start up, but exclude working capital.

Capital Costs								
ltem	A\$ 000's							
Combined crushing plant (4mtpa)	7,930							
Heap Leach plant	24,470							
Milling and CIL circuit	93,270							
Sub Total	125,700							
Tailings storage facility	5,000							
Total Capital Cost	130,700							

The operating and capital costs for processing were compiled by IMO. The mining costs and surface haulage costs were derived from similar open cut operations in the Goldfields of Western Australia.

### **Further Work**

The CMS was completed using the Mineral Resources as announced on 22 August, 2012. Therefore, the recent deeper diamond drilling at Castle Hill, reported in September, was not included in the CMS and represent upside to this study.

**Picante** 6610000mt **Castle Hill Stage 1** Latest Drilling Location Resource Extension Targets 6608000mN Max Au > 10 2.5 - 101.3 - 2.5 0.5 - 1.3 0.2 - 0.5Tonalite / Kintore Tonalite Dolerite / Hampton Feldspar Porphyry / Porphyry Ultramafic Rocks (undiff) /Hampton Magnesian Basalt / Hampton Basalt / Burbanks Ortho Hornfels / Hampton 1 km Granite



Figure 3 shows the cross section through E-E', indicated in Figure 2. As can be seen on the cross section the pit design bottoms out at approximately 85 metres below surface. This is the depth of the existing Resource boundary for Castle Hill. As can be seen in Figures 3 and 4 the results of the recent drilling have extended the depth of the mineralisation and it is expected the Resource boundary will be significantly deepened in the next round of Resource estimation. This may also lead to a deepening of the optimised pit shells and design which has the potential to significantly increase tonnages in subsequent mining studies. As such, this CMS should be viewed as the base case.







#### Figure 3: Cross Section E E'– Showing Pit design, limit of existing Resource and recent drilling



Figure 4: Long Section through Castle Hill Stage One – Showing Pit design, limit of existing Resource and recent drilling

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"It is very pleasing to see the Study demonstrating such strong economics given it does not include the recent deeper drilling results or several advanced projects that sit outside our 15km development radius." Managing Director Jon Price said. "The CMS has identified the work we need to do to progress to a Definitive Feasibility Study in the next 12 months and make a decision to move ahead with construction" he said.

"We will continue to grow our resources as fast as possible while we continue studies to determine optimal mining and processing routes for our core projects" he said.



Figure 5: Phoenix Tenements, project location and 15km development centre

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### **About Phoenix**

Phoenix Gold Ltd is an emerging Australian exploration and development company with an extensive land holding on the Zuleika and Kunanalling shear zones northwest of Kalgoorlie in Western Australia, home to some of Australia's richest gold deposits.

Kalgoorlie-based Phoenix is aiming to significantly grow its JORC-classified resources and to self- fund aggressive exploration through the development of advanced mining projects that can deliver cash flow in the short term.

The 100% owned Castle Hill gold project is emerging as a flagship asset with the potential to become a multi-million ounce gold mine4<sup>4</sup> with excellent metallurgy and close to all major infrastructure. Castle Hill is one of many well-endowed gold systems within Phoenix's portfolio.

With a balanced mix of exploration (new discoveries and extensions) and development of a sustainable production profile, Phoenix aims to grow a significant gold company for the benefit of all stakeholders.

Table 1: Phoenix Gold – Summary of Mineral Resources

6	Project	Measured Mineral Resource		Indicated Mineral Resource		Inferred Mineral Resource			Total Mineral Resource				
G	rroject	Mt	Au (g/t)	Au Oz	Mł	Au(g/t)	Au oz	Mt	Au (g/t)	Au Oz	Mt	Au (g/t)	Au Oz
Ē	Castle Hill	0.18	3.4	20,000	7.28	1.5	356,000	14.25	1.5	684,000	21.71	1.5	1,059,000
77	Broads Dam				2.37	2.2	168,000	2.95	2.2	210,000	5.32	2.2	377,000
2	Kunanalling	0.49	2.4	38,000	0.78	1.6	40,000	2.91	1.8	166,000	4.18	1.8	245,000
$( \subset$	Ora Banda/												
6	Grants Patch				1.52	2.0	97,000	5.12	1.8	300,000	6.64	1.9	397,000
0	Carbine							1.40	1.7	78,000	1.40	1.7	78,000
$(\cup$	Zuleika North				0.51	2.5	41,000	0.27	2.5	22,000	0.78	2.5	63,000
T)	Stockpiles				0.50	1.2	19,000				0.50	1.2	19,000
	Total	0.67	2.7	58,000	12.96	1.7	721,000	26.89	1.7	1,460,000	40.52	1.7	2,239,000

Notes:

1. Stockpiles report material mined from historical mining operations at Lady Jane, Broads Dam, Premier, Catherwood, Bluebell, Mick Adam and Shamrock.

2. The information in this report that relates to Exploration results and Mineral Resources is based on information compiled by Mr Ian Copeland. Mr Copeland, who is a member of the Australasian Institute of Mining and Metallurgy and a member of the Australian Institute of Geoscientists, is a full time employee of Phoenix Gold. Mr Copeland has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which he is undertaking to qualify as a competent person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Copeland has given his consent to the inclusion in the report of matters based on the information in the form and context in which it appears.

3. Information that relates to exploration and production targets refers to targets that are conceptual in nature, where 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.

4. The information on exploration targets is based on a conceptual range of targets as follows: Tonnage range: 2 million to 20 million tonnes, grade range: 1.5 g/t Au to 5 g/t Au 5. The Conceptual Mining Study is based on information provided by Independent Metallurgical Operations Pty Ltd and Goldfields Mining Services. Pit optimisations are based on A\$1500/oz gold price, contract mining fleet and a conceptual stand alone processing plant. Pit shells do contain inferred material and the study should not be read as a prefeasibility study. Operating costs are indicative and at a +/- 25% accuracy level

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## **Appendix One**



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