



## Mutiny makes substantial metallurgical performance gains

- Forecast copper recoveries increased from 58.5% to 64% in the oxide zone and copper concentrate grade increased from 21.5% Cu to 35% Cu
- Forecast gold recoveries increased from 77.9% to 81% (gravity plus flotation concentrate) for the oxide ore
- Forecast copper recoveries increased from 46.5% to 84% in the transition zone and copper concentrate grade increased from 16.1% Cu to 20% Cu
- Forecast gold recoveries increased from 82.5% to 92% (gravity plus flotation concentrate) from the transition zone
- Test work on the primary ore confirms high (+90%) recoveries of copper and gold achieved in earlier test programs
- Gravity recoverable gold (GRG) test work on all 3 ore types confirms that 40% to 55% will be recovered in a gravity concentrate from the grinding circuit ahead of the balance being recovered by floatation, maximising early gold payment
- Oxide ore responds well to the controlled potential sulphidisation (CPS) flotation technique. This is a standard and proven technique and will lower the reagent cost by approximately \$10 per tonne which corresponds to a 25% plant operating cost saving
- Transition ore responds well to standard xanthate flotation followed by a CPS scavenging stage
- Primary ore flotation will use standard sulphide flotation reagents. It is anticipated that the cleaner tailings and scavenger concentrate will be leached with cyanide to recover the remaining gold, thus maximising the gold recovery



Australian Gold-Copper resources company, Mutiny Gold Limited (ASX: MYG "Mutiny" or "the Company"), is pleased to announce significant improvements have been achieved in metallurgical performance following test work undertaken on ore from the Company's flagship Deflector Gold-Copper Project in Western Australia.

Improving metallurgical performance is considered one of the keys to Mutiny's development of the Deflector Project. The Company has made tremendous strides over the past 12 months in increasing the resource at Deflector and securing financing to take the project to a commercial proposition. The significant lift in gold and copper recoveries, achieved through refinements to the project's flowsheet, is another important step for the Deflector Project.

#### **Flowsheet Development**

The Deflector resource is a gold-copper-quartz-sulphide system which has a weathering profile of oxide, transitional and primary mineralogy. The copper mineralogy of the oxide and transition zones makes Deflector ore unsuitable for treatment in a conventional carbon in pulp (CIP) or carbon in leach (CIL) cyanide leach gold processing plant. This is because there is too much cyanide soluble copper present which dissolves in the cyanide leach circuit and loads onto the carbon, thus reducing the ability of the gold to be recovered onto the carbon.

The previous operator of the Gullewa Project attempted the processing of Deflector oxide ore through the existing conventional CIL gold circuit with disappointing consequences.

It is standard metallurgical practice for these ore types to be processed via a floatation technique which involves:

- Using a gravity gold recovery stage to remove as much free gold as possible;
- A differential floatation process to recover additional gold and the copper in a gold/copper concentrate; and
- 40% 55% of the gold is recovered into doré (gold/silver) bullion from the gravity concentrate, with the balance of the gold going into the gold/copper concentrate.

Cyanide leaching of the main copper bearing material does not usually take place. The copper concentrate is sold into copper smelter/refinery businesses, with payment being received for the contained copper and precious metals, less smelting treatment costs and refining charges

Mutiny has selected a gravity/flotation process flowsheet for the development of the Deflector Project using a Controlled Potential Sulphidisation (CPS) flotation technique for the flotation of oxide and carbonate copper minerals present in the oxide and transition ore types.

A further increase in the overall gold recovery will be achieved through the utilisation of the existing CIL circuit in the final stages of the treatment of pyrite concentrates from primary ore flotation. This will benefit from the treatment of cleaner tailings where cyanide soluble copper is sufficiently low.

While the final process flowsheet has yet to be finalised, a simplified schematic of a possible flowsheet is shown in Figure 1.



#### Gravity Recoverable Gold (GRG)

Duplicate 20kg stage grind GRG tests were conducted for each ore type. The laboratory recovery data was subsequently modelled by ConSep Pty Ltd to estimate the full scale plant performance. ConSep Pty Ltd makes and supplies the gravity separation process equipment selected for the flowsheet. Results are presented in Table 1.

#### Table 1 Gravity Recoverable Gold

	Laboratory	Plant Gravity
	GRG Recovery	Recovery
Ore Type	%	%
Oxide	53.5	39
Transitional	62.6	45

#### **Oxide Flotation**

The recent testwork supports a concentrate grade of 35% Cu at 64% recovery with a gold recovery of 67% with respect to flotation feed after gravity gold recovery. This is achieved in a simple, rougher flotation stage without cleaning. The reagent scheme consists of NaSH at approximately 1,000g/t, PAX at 400g/t and frother at 60g/t. This scheme is some A\$10/t cheaper than the AM2 reagent scheme proposed previously, equivalent to a 25% reduction in operating costs.

This Oxide metallurgical recovery estimate is compared with previous estimates in Table 2.

#### Table 2. Oxide Recovery Comparison Mutiny vs Batavia

Developer	Gravity Gold		Overall Gold		
	Recovery %	Grade %Cu	Cu Recovery %	Au Recovery %	Recovery %
Mutiny	39	35	64	69	81
Batavia	40	21.4	58.5	63	77.9

\* The mineral chrysocolla, (copper silicate) is not activated by CPS flotation and reports mainly to the tailings stream. However, it is soluble in mineral acids and work will be undertaken to determine whether it is economical to include a final acid leach step of the oxide flotation tailings to increase the copper recovery.

#### **Transition Flotation**

The recent testwork supports a concentrate grade of 20% Cu at a recovery of 84% Cu and 85% Au. This is achieved in a rougher, scavenger and single stage cleaning circuit, with CPS used to float oxide copper minerals in the feed. The reagent scheme consists of PAX 85g/t, NaSH 1500g/t, frother 40g/t and lime 300g/t. This reagent scheme is approximately A\$10/t cheaper than the AM2 scheme proposed previously.

The Transition metallurgy recovery estimate is compared with previous estimates in Table 3.

Mutiny Gold Ltd ABN: 72 101 224 999

29 Charles Street, South Perth WA 6151 Tel: +61 8 9368 2722 PO Box 284, South Perth WA 6951



#### **Overall Gold Gravity Gold** Developer **Copper Concentrate** Grade %Cu **Recovery %** Cu Recovery % Au Recovery % **Recovery %** 45 20 84 85 92 Mutiny 50.9 16.1 46.5 64.4 82.5 Batavia

#### Table 3. Transition Recovery Comparison Mutiny vs Batavia

**Previous testwork on the primary ore indicates a total gold recovery of 91.6% (65.5% by gravity and 26.1% into the copper/gold concentrate) and an overall copper recovery of 93.7% at a concentrate grade of 22.7%**. Testwork has confirmed the recoveries of copper and gold. Further work is being undertaken to improve the copper concentrate grade from the primary zone.

Commenting on the metallurgical results, Mutiny's Managing Director, John Greeve said "Mutiny and its contractors have put a great deal of effort into refining the metallurgical flowsheets to successfully process Deflector ore in the most cost effective manner. We have learned from the lessons of previous operators and have brought in state-of-the-art technology and techniques to develop a modern option which we have great confidence in. The uplift in recoveries in the oxide and transition zone is an important milestone for the Company which is expected to have a positive impact on the Definitive Feasibility Study being completed by the Company"

#### About Deflector

The Deflector Gold Copper Project is located 450 km north of Perth, in Western Australia, 160 km east of the Port of Geraldton, within the Greenstone Belt, in the Murchison Province of the Archean Yilgarn Block.

Deflector is on target for commencement of production in late 2012.

It contains identified mineral resources total 530,000oz of gold and 29,000t of Copper (refer to Table 3)

The company has entered into a Project Finance Facility with Credit Suisse to fund Deflector into production. The first phase of the facility was a drawdown of \$11m. Use of funds includes completion of reviewing studies and further drilling.

A Scoping Study was completed in February 2011 (ASX announcement dated 14 February 2011) and the Company is now completing a Definitive Feasibility Study, targeted for completion in late February 2012 prior to activation of the mining phase.

The Scoping Study anticipates two and a half years of open pit mining followed by six and a half years of overlapping underground mining over a total project mine life of approximately ten years with gold recovery of 216,000 ounces of gold. The Scoping Study also recognised the high likelihood of expanding the production levels and extending the mine life.

The Company currently plans to commence production with an open pit mining operation at the Deflector Gold Copper Project in Quarter 4, 2012, followed by underground mining after two years.

The currently known Deflector Gold Copper Project contains Mineral Resources of 3.4Mt @ 4.9g/t gold, 5.7g/t silver and 0.85% copper for **530,000oz gold**, 620,000oz silver and 29,000t copper, of which Measured and



Indicated Resources total 2.1Mt @ 5.2g/t gold, 7.3g/t silver and 1.1% copper for 350,000oz of gold, 490,000oz of silver and 22,000t of copper.

		Au	Au	Cu	Cu	Ag	Ag
Classification	Tonnes	(g/t)	(oz)	(%)	(t)	(g/t)	(oz)
Measured	1,040,000	4.6	150,000	1.34	14,000	8.7	290,000
Indicated	1,060,000	5.7	190,000	0.79	8,400	5.9	200,000
Measured +							
Indicated*	2,100,000	5.2	350,000	1.1	22,000	7.3	490,000
Inferred	1,300,000	4.5	180,000	0.5	6,000	3.2	130,000
Totals	3,400,000	4.9	530,000	0.85	29,000	5.7	620,000

#### **Table 3 Deflector Deposit Mineral Resources**

\* Note: Totals may appear incorrect due to appropriate rounding

### Figure 1 Process Flowsheet



Mutiny Gold Limited Deflector Project Processing Plant Schematic

# ASX Announcement

13 December 2011







#### **Competent Persons Statement:**

The metallurgical information in this report is based upon information compiled by Mr K Reynolds, B.Sc (1<sup>st</sup> Cl. Hons), Extractive Metallurgy, Project Manager for Mutiny Gold Ltd. Mr Reynolds is a Member of the Australian Institute of Mining and Metallurgy. Mr Reynolds has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person. This report is issued with Mr Reynolds' consent as to the form and context in which the information appears.

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#### Forward Looking Statements

All statements other than statements of historical fact included in this announcement including, without limitation, statements regarding future plans and objectives of Mutiny Gold Limited (Mutiny) are forward-looking statements. When used in this announcement, forward-looking statements can be identified by words such as 'may', 'could', 'believes', 'estimates', 'targets', 'expects' or 'intends' and other similar words that involve risks and uncertainties. These statements are based on an assessment of present economic and operating conditions, and on a number of assumptions regarding future events and actions that, as at the date of this announcement, are expected to take place. Such forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the company, its directors and management of Mutiny, that could cause Mutiny's actual results to differ materially from the results expressed or anticipated in these statements. The company cannot and does not give any assurance that the results, performance or achievements expressed or implied by the forward-looking statements contained in this announcement will actually occur and investors are cautioned not to place undue reliance on these forward-looking statements. Mutiny does not undertake to update or revise forward-looking statements, or to publish prospective financial information in the future, regardless of whether new information, future events or any other factors affect the information contained in this announcement, except where required by applicable law and stock exchange listing requirements.

For further information, please contact:

John Greeve Managing Director Mutiny Gold Limited Tel: +61 (0) 8 9368 2722 Em: mgl@mutinygold.com.au David Brook Professional Public Relations Tel: +61 (0) 8 9388 0944 Mob: 0415 096 804 Em: <u>david.brook@ppr.com.au</u>

29 Charles Street, South Perth WA 6151 PO Box 284, South Perth WA 6951 Tel: +61 8 9368 2722 Fax: +61 8 9474 3011 Email: mgl@mutinygold.com.au Web: www.mutinygold.com.au