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**ASX RELEASE**

## **Bullabulling Gold Project Scoping Study**

### **Highlights**

- **The Bullabulling Scoping Study has examined the economic and technical potential of a high tonnage low grade open-pit mining and CIL process operation based on the current inferred and indicated resource.**
- **The scenario that has been used as the base case is a 7.5 million tonne per annum (Mtpa) throughput rate operating over an initial 10 year mine life target with total production estimate of 2.1 Moz gold.**
- **Average grade of resource of 1.04g/t Au has been used over the mine life with a metallurgical recovery rate of 92.5%.**

### **Outcomes**

- **A NPV of \$389M and IRR of 29% have been estimated using a A\$1,500oz gold price with a cash cost of \$968oz.**
- **There is significant scope to reduce the capital and operating costs during the pre-feasibility study**
- **The joint venture has committed to pre-feasibility which has commenced and due for completion in Q3, 2012.**

## **Overview**

The Bullabulling Joint Venture is pleased to announce the completion of an initial Scoping Study at the Bullabulling Gold Project which has delivered positive and encouraging results. The aim of the Scoping Study was to examine the potential economic and technical viability of a large tonnage – low grade open cut mining operation at Bullabulling. The 6.0km long Bullabulling Trend (between Bacchus and Bonecrusher pits) has been the focus of the study where resource drilling and assessment programs to date have been concentrated.

The Scoping Study base case indicates that a large scale open pit mining and carbon-in-leach (CIL) operation producing 7.5 million tonnes per year of ore with a run of mine (ROM) grade of 1.04 g/t Au could potentially generate approximately 2.1 million ounces (Moz) gold at a cash cost of A\$968oz and deliver a before tax NPV of A\$389M and IRR of 29% using a gold price of A\$1,500oz.

Commenting on the Scoping Study Results, John Lawton, Auzex's Managing Director said: "The results of the Scoping Study are exciting and positive for the Bullabulling gold project. As would be expected from a high tonnage - low grade project, the economics are particularly sensitive to recovered grade and operating costs, and we are of the view that with further studies the project will see improvements in these areas from the current estimates which will impact positively on the overall economics and cash costs in particular. The pre-feasibility study is now well in hand and will be based on an upgraded resource, which will form the basis of the maiden reserve, due to be finalised during Q1, 2012".

The main results from the study indicate that:

- The project has sufficient resources to establish an operation with a minimum 10 year mine life target.
- The metallurgy has no issues and recoveries for the operation should range from 92.5% to 94.0%.
- Annual production should average around 230,000 ounces over the 10 year period with a life of mine production of 2.1 million ounces.
- Operating costs of approximately \$30 per tonne of ore treated, with potential for significant improvements.
- Capital costs of approximately \$366 million, again with potential for improvement.
- Using a 6% discount rate and gold price of A\$1,500oz, the NPV is \$389M with an IRR of 29% (at A\$1,700oz the NPV is A\$703M with an IRR of 42%).
- There are no apparent environmental or social issues to developing the project.

- Current infrastructure including water bores, haul roads and pit voids are in good condition and can be used for the proposed operation.

The Joint Venture is progressing with the pre-feasibility study, which it expects to complete by the third quarter of 2012, based on a new resource model that will be upgraded to include the current infill drilling results from the current program of approximately 70,000m. This will allow the establishment of a maiden reserve for the project.

## Scoping Study Details

### Mineral Resources and mining inventory

The Bullabulling Mineral Resources as previously released to the ASX in September 2011 was used as the basis for the scoping study and included both Indicated and Inferred resources. The Bullabulling estimate was compiled by Snowden in 2011, the Gibraltar estimate was compiled by CSA in 2010 while the Laterite dump estimate was compiled by Auzex from data taken from previous company reports dated 1998.

#### Bullabulling Mineral Resource (3<sup>rd</sup> August 2011) at a 0.5 g/t cutoff (JORC, 2004)

Mineralisation Type	Cut off (g/t Au)	Class	Tonnes (Mt)	Gold grade g/t	Contained Ounces
Bullabulling Laterite	0.5	Inferred	1.6	0.89	45,700
Bullabulling Fresh	0.5	Indicated	21.0	1.01	691,000
	0.5	Inferred	50.9	1.03	1,683,900
<b>*Bullabulling Trend Total</b>			<b>73.8</b>	<b>1.02</b>	<b>2,420,600</b>
Gibraltar	0.5	Inferred	4.5	1.12	161,900
Laterite Dumps	0.5	Indicated	0.5	1.20	20,700
<b>Grand Total</b>			<b>78.8</b>	<b>1.03</b>	<b>2,603,100</b>

*\*Note: The Bullabulling Trend resource is quoted for blocks with a grade of greater than 0.5 g/t and the tonnage figures for the fresh mineralisation have been discounted by 7% to allow for the impact of barren pegmatite dykes.*

The Gibraltar and Laterite dump resources have been excluded from the resource inventory for this study.

#### Bullabulling grade-tonnage table for the current resource

Cut Off	Tonnes	Au g/t	Ounces Gold
1.5	10,788,169	2.36	819,500
1	23,053,536	1.74	1,292,600
0.9	28,301,988	1.60	1,453,300
0.8	35,647,859	1.44	1,653,400
0.7	44,424,667	1.30	1,863,100
0.6	56,511,541	1.16	2,112,700
0.5	73,875,494	1.02	2,417,500
0.4	102,359,462	0.86	2,826,500
0.3	145,928,029	0.71	3,310,300

The current planned infill drilling program has been designed to convert the predominantly Inferred resource at Bullabulling to Indicated resource category and this new resource estimate will be used in the pre-feasibility study. The infill resource drilling will be completed by the end of Q4, 2011 and the updated resource estimate will be completed in Q1, 2012.

## **Mining**

This Scoping Study is based on the development of a large scale open pit mining operation using bulk mining methods and assuming mining cost inputs sourced from equivalent large scale Eastern Goldfields operations. The bulk mining approach also strongly influenced the parent block size utilised in the resource estimate. Significant historical open pit voids already exist and these provide early access to ore production, and some ability to blend fresh and oxide ore early in the mine schedule. Excavation, load and haul costs are based on dry hire rates. It is assumed that stockpiling of marginal low grade ore will be adopted and that backfilling of pit voids with waste rock will be conducted wherever possible. The study also assumes that RC drilling will be utilised for grade control.

Mining costs of \$3.41/tonne of material mined were developed by consultants using databases from large scale operations in the Eastern Goldfields. The Joint Venture believes this estimate is conservative and can be improved during the pre-feasibility study.

Whittle optimisations were conducted at various gold price and throughput scenarios. A waste to ore strip ratio of 3.7:1 has been used in this study. A very high percentage of the current resource is included in all the pit shells, which results in all scenarios having a long mine life. The large quantity of mineralisation captured in the pit shells and long mine life will provide the opportunity for the future implementation of stockpiling and cut-off grade management strategies to increase project value.

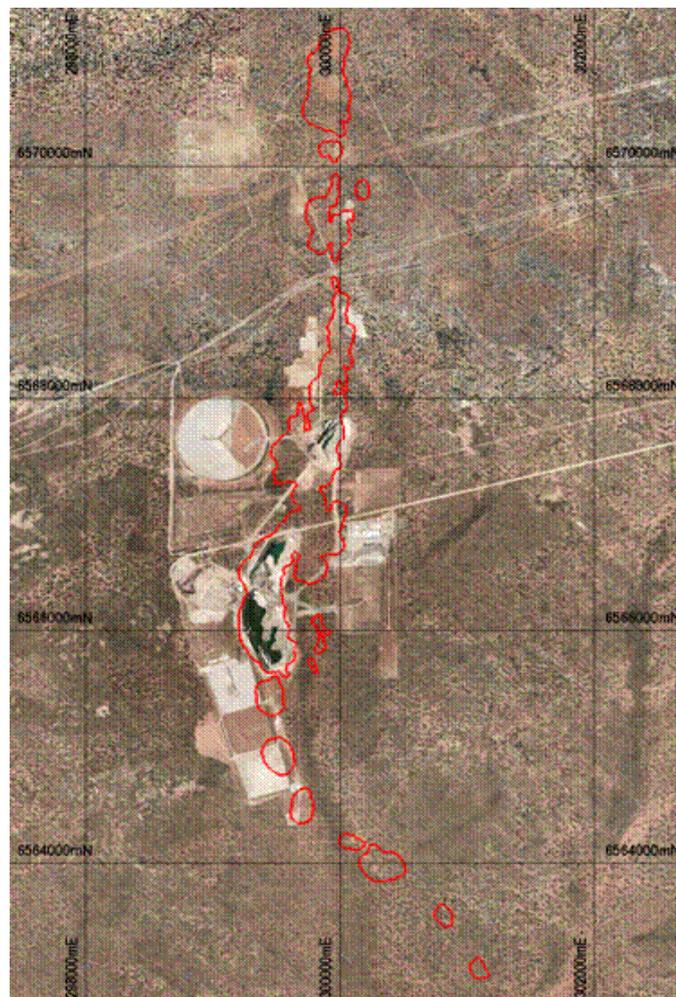
Two waste dumps have been planned to be centrally located to minimise waste haulage costs, assuming that waste dumps can be constructed to 30m height. Once the pit void waste disposal program has been defined with greater confidence, final dump designs can be finalised.

Proprietary consultant software was utilised to develop a mining sequence and stockpiling and backfilling schedule. This assessment identified that mining should commence at the

Phoenix and Bacchus areas, and confirmed that stockpiling marginal ore and backfilling pit voids will materially increase project value.

The open pit areas defined by the scoping study extend over a 7km strike and reach 160m to 180m final depth. Importantly the bulk of the material will come from two large pits, which will reduce the project strip ratio. The main pit that contains 70% of the material to be mined stretches four kilometres from Bacchus South to Hobbit and the second pit that contains 15% of the material to be mined covers a one kilometre strike of the Bullabulling trend at Bonecrusher.

The scoping study did not include detailed pit designs and this work and a more detailed study using variable mining costs related to distance from the plant and ore stockpiles will be included in the pre-feasibility study.



Bullabulling Gold Deposits with Whittle Pit Shell Outlines

## **Processing**

Historical processing of predominantly oxide and transitional ore indicates that the ore is free milling with the gold readily recoverable using conventional cyanidation technologies. As the resource estimate for this study contains a high percentage of fresh mineralisation, the recently released (14 November 2011) metallurgical testwork program specifically focused on fresh rock mineralisation with the results being used as the basis for the scoping study. The following conclusions were drawn from the scoping study recovery testwork and historical data:

- No significant deleterious elements identified.
- The base case grind size selected is a P<sub>80</sub> of 75 microns.
- Gold recovery of 92.5% to 94.0%.
- No Gravity circuit.
- CIL residence time of 24 hours.
- Oxygen and lead nitrate addition to leach.
- 0.4 kg/t cyanide consumption.
- 4.0 kg/t lime consumption.
- Carbon loading 2,500 g Au/t.

The main findings of the comminution testwork indicated that:

- The samples are reasonably competent with (A \* b) values between 32 – 47
- Ball work indices are low to moderate at 10 – 15 kWh/t
- Variability between samples was quite low
- The Abrasion index was low to moderate

## **Capital, Infrastructure and Operating Costs**

The Bullabulling project has excellent road access with the Great Eastern Highway bisecting the project and the large population centres of Coolgardie (25km) and Kalgoorlie-Boulder (60km) in close proximity. The Western Power grid power line passes the site and the Perth to Kalgoorlie water pipeline is situated alongside the highway. There is an existing small site camp supporting the current resource drilling program. Services to support the operation will be provided from Kalgoorlie and Perth. However, infrastructure will have to be installed to provide facilities for plant and infrastructure maintenance and provision of power and water supplies.

The cost estimation for the CIL process plant and associated services are based on a typical gold plant flow sheet. Two grinding circuit alternatives have been considered:

- 1) single stage crushing and a SABC comminution circuit; and
- 2) three stage crushing followed by ball milling.

The remainder of the circuit in each case comprises CIL, thickening, AARL desorption, gold room, reagents and air and water services. The plant infrastructure also includes site roads and buildings and tailings storage facility. Assumptions include:

- water will be sourced from the known bore field located 2 km from the proposed plant site
- an EPCM contract approach will be adopted for CIL plant construction
- the construction workforce will be accommodated in Kalgoorlie and travel by bus to the site
- power will be sourced from the grid (a specific power supply study has yet to be conducted)
- a conceptual TSF design has been used for the purposes of preliminary capital cost estimation and site layout planning

Capital and operating cost estimates have an accuracy of  $\pm 30\%$ , with a number of conceptual sources of costs adopted from current similar operations and from advice from the consultancy groups involved in the study. The most important assumptions are that grid power will supply 100% of the power supply required and that the required water supply will be acquired or found locally. The study also does not include gold sale costs, funding costs or tax.

Capital and operating cost estimates for process and administration were generated for 3.5, 5.0, 7.5 and 10.0Mtpa processing scenarios. For each of the four process rate scenarios, alternative comminution circuit arrangements, namely single stage crush SAG and ball mill (SABC circuit) and three stage crush and ball mill were assessed.

The process operating cost estimate of \$13.65/t ore treated has been compiled from a variety of sources including consultant price databases, modelling testwork undertaken, and employment levels and conditions from current operations.

### **Financial Outcomes**

The financial model developed for the Study assumed a production rate of 7.5Mtpa, and a base case gold price of A\$1,500oz. The financial model indicates that the project will produce 2.1Moz over a 10 year mine life, averaging gold production of 230koz per year

with cash costs of gold production averaging \$968 per ounce over the mine life. Project start-up capital costs total approximately \$366M. The pre-tax NPV of the project at 6% discount rate is \$389M with an IRR of 29%.

<b>Financial Model Summary</b>			
<b>Bullabulling Gold Project, December 2011</b>			
<b>Scenario: CIL 7.5Mtpa, 0.4 g/t Au cut-off</b>			
		<b>Gold A\$1,500oz</b>	<b>Gold A\$1,700oz</b>
<i>Mining Physicals</i>			
Total material movement	Mbcm	148.4	
Waste tonnes mined	Mt	260.1	
Ore mined	Mt	69.4	
Ore grade mined	g/t	1.04	
Waste:ore strip ratio	t:t	3.7	
Mine life	years	10	
Maximum marginal ore in stockpile	kt	1,750	
Waste backfilled to pit void	Mlcm	114.9	
<i>Processing Physicals</i>			
Total CIL ore processed	Mt	69.4	
Annual process rate	Mt	7.5	
CIL grade	g/t	1.04	
CIL Au recovery	%	92.5	
Plant availability	%	95.0	
Total recovered gold	koz	2,149	
Ave. recovered gold per annum	koz	233.6	
<i>Operating Costs</i>			
Average mining unit cost	\$/t material	3.41	
Average CIL process & admin unit cost	\$/t ore	13.65	
Total operating unit cost	\$/t ore	29.98	
<i>Capital Costs</i>			
Preproduction & working capital	\$M	22.5	
Start-up capital	\$M	366.5	
<b>Cash operating cost per ounce produced</b>	<b>A\$oz</b>	<b>968</b>	<b>968</b>
<b>Pre-tax NPV (6% discount rate)</b>	<b>\$M</b>	<b>389</b>	<b>704</b>
<b>Pre-tax IRR</b>	<b>%</b>	<b>29</b>	<b>42</b>

### **Feasibility Studies and Improving Project Economics**

As a low grade high tonnage project, Bullabulling requires further investigation of opportunities where project performance can be improved. The pre-feasibility study due in Q3 2012, will be based on an upgraded resource and maiden reserve due for completion in Q1, 2012 and Q2, 2012 respectively. There is the potential to reduce power consumption, and thus operating costs, by installing HGPR comminution technology. The exploitation of potential additional resources at Gibraltar, CKGM and Jervois heaps needs to be included in the mine scheduling. Grind optimisation testwork may indicate that a

coarser grind may be able to be utilised with a net economic benefit. Investigation of alternative CIL process plant design options will be carried out in the pre-feasibility study that may reduce capital or operating costs. It is possible that the project can move towards more project specific design and cost estimation in high cost areas such as mining costs, TSF design, and plant design. The project economics are highly sensitive to metallurgical recovery, therefore further PFS CIL testwork on representative samples consistent with the average grade of ore mined over the mine life should be prioritised to determine if higher recoveries than the 92.5% recovery assumed are possible, and to determine if a coarser grind size can be utilised.

The mining excavate load and haul cost input to this study was very simplistic with only one unit cost estimate utilised irrespective of mining depth, haulage distance and material being mined. Whilst this conceptual approach is broadly adequate for a scoping study, it is inadequate for detailed scheduling. There is strong scope for a large variation in mining costs once more detailed mining cost models are developed. Sourcing or developing a more detailed cost model and re-running the Whittle optimisations and Evaluator results should be a high priority in the pre-feasibility study.

Studies relating to power supply are a high priority and additional CIL variability testwork is required on samples with head grades of less than 1.00g/t Au. Additional sources of process water need to be acquired or found to meet the required base case requirement. The mining schedule has utilised the Whittle pit shells rather than pit designs and the conversion of pit shells to pit designs, which include pit haul ramps, typically results in some loss of mineralisation and some gain of additional waste. Additional follow-up mining studies looking at using strategic cut-off grade is also justified.

The scoping study has provided confidence in moving to the next stage of project assessment and the JV management board has agreed to commence a detailed pre-feasibility study that addresses the issues highlighted by the scoping study. Some of the pre-feasibility work has already commenced with both water and ore samples collected for the recommended metallurgical testwork. These results should be available in Quarter 2 of 2012, with the pre-feasibility study due for completion during the September quarter 2012.

For further information please check our website ([www.auzex.com](http://www.auzex.com)) or contact:

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**Competent Person Statement**

*The information in this report that relates to the Exploration results and Mineral Resources is based upon information compiled by John Lawton. John Lawton is a member of the Australasian Institute of Mining and Metallurgy (MAusIMM) and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity to 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". John Lawton is a full-time employee of Auzex Resources Limited and consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.*