

Alara Resources Limited A.B.N. 27 122 892 719

Level 14, The Forrest Centre 221 St Georges Terrace Perth Western Australia 6000 Telephone | +61 8 9214 9787 Facsimile | +61 8 9322 1515

> Web | www.alararesources.com Email | info@alararesources.com

# ASX/MEDIA RELEASE

Thursday, 18 April 2013

# Maiden JORC Ore Reserves - Khnaiguiyah Zinc-Copper Project

**Perth:** Australian-based minerals exploration and development company Alara Resources Limited (ASX: AUQ) (**Alara**) is pleased to provide maiden JORC Ore Reserves for the Khnaiguiyah Zinc-Copper Project (the **Project**) located in Saudi Arabia of:

> Proven Ore Reserves of 17.7 Mt at 3.4% Zinc and 0.29% Copper

# > Probable Ore Reserves 8.4 Mt at 3.1% Zn and 0.13% Copper

The Khnaiguiyah Project entails the development and excavation of three open pit mines within a radius of 2 km and a central 2 Mtpa processing facility to produce both zinc and copper concentrates for export to overseas smelters and ultimately for Saudi domestic smelters.

The project schedule contemplates mining the entire orebody over 9.5 years with a further 4 years processing of residual long-term stockpiles.

The average grade of the feed to the process plant for the first 7 years is expected to be 4.36% Zinc and in the first 9.5 years approximately 3.95% Zinc. Low grade stockpiles are proposed to be processed thereafter.

Commenting on the maiden Reserve Statement, Managing Director, Shanker Madan said:

"We now have confirmed JORC Ore Reserves for the Khnaiguiyah Zinc – Copper Project. These Reserves underpin a 13 year Life of Mine. The Khnaiguiyah Project area has considerable upside and with a completed DFS which justify the economics of this Project, the results of which will follow shortly, future generations will see this as a historic moment in the life of the Khnaiguiyah Project".

# Introduction

The Khnaiguiyah Zinc-Copper Project is located approximately 170 km south-west of the capital city Riyadh and just north of the village of Al-Khnaiguiyah in the Kingdom of Saudi Arabia (*refer Figure 1*). The nearest regional centre is Al-Quwayiyah, located on the Riyadh to Jeddah Expressway some 35 km from the site.

The Project will be operated by the Khnaiguiyah Mining Company LLC (**KMC**) which is a 50/50 joint venture between Alara Resources Limited and United Arabian Mining Company LLC (**Manajem**), a privately owned Saudi Arabian mining company. The joint venture was formed in October 2010<sup>1</sup> for the purpose of exploring and developing the Khnaiguiyah mineral zones within the mining licence area and a number of surrounding mineral licences.

Refer Alara market announcements dated 5 October 2010 : "Project Acquisition - Khnaiguiyah Zinc Copper Project in Saudi Arabia" and dated 25 October 2010: "Execution of Joint Venture Agreement - Khnaiguiyah Zinc Copper Project in Saudi Arabia"



Figure 1 Project Location

# **Project Layout**

The Project will entail the development and excavation of three open pit mines and a 2 Mtpa processing facility to produce both zinc and copper concentrates for export to overseas smelters.

Support infrastructure for the project will include a power station; a bore field and an 18 km process water pipeline, administration offices and mine workshops, a 475 person accommodation village and various mine infrastructure to support the day to day operations.



#### Figure 2 Mining Licence (approved) and Exploration Licences (pending)



# Figure 3 Project Layout<sup>2</sup>

<sup>&</sup>lt;sup>2</sup> The mining license area indicated by the red polygon will be expanded to encompass the entire project area. Application for the Exploration Licenses, which carry exclusive rights to the area on which the project is located, have been lodged by Manajem with Ministry of Petroleum & Mineral Resources. Subsequent to this the Mining License area will be expanded. There are no known impediments to these applications and therefore there are reasonable expectations that these licenses will be granted.

#### JORC Mineral Resource Statement

The Khnaiguiyah Project comprises four ore bodies/mineralised zones located within 1 to 2 km from a central area and approximately 3 km from each other (*refer Figures 3 and 4*).

In October 2012<sup>3</sup>, Alara updated the maiden<sup>4</sup> Mineral Resource Statement for the Khnaiguiyah Project.

The Mineral Resource Statement was reported in terms of mineralogical domains that reflect different metallurgical regime requirements:

- "Domain 1" has Zinc but no Copper;
- "Domain 2" has Zinc and Copper; and
- "Domain 3" has Copper but no Zinc.

The upgraded October 2012 Mineral Resource Statement formed the basis for this Ore Reserve Statement and is summarised in Tables 1, 2 and 3.

 Table 1: JORC Measured and Indicated Zinc (Domain 1) and Zinc/Copper (Domain 2)

 Resource

JORC Resource	Domain	Mineralised Zone (K)	Tonnes (Mt)	Zinc %	Copper %	Zn Cut-off (%)
		1, 2	9.65	3.37	0.16	1.50
Measured		3	6.37	5.28	0.25	1.50
	1 and 2	1, 2	3.12	4.45	0.30	1.50
Indicated		3	6.18	3.55	0.05	1.50
Total Measured and Indicated		1, 2 and 3	25.32	4.03	0.17	1.50

# Table 2: JORC Measured and Indicated Copper (Domain 3) Resource

JORC Resource	Domain	Mineralised Zone (K)	Tonnes (Mt)	Copper %	Cu Cut-off (%)
		1, 2	4.70	0.72	0.00
Measured		3	1.07	0.63	0.00
Indicated	3	1, 2	1.59	0.54	0.00
		3	1.16	0.43	0.00
Total Measured and Indicated		1, 2 and 3	8.53	0.64	0.00

# Table 3: JORC Inferred Zinc (Doman 1) and Zinc/Copper (Domain 2) Resource

JORC Resource	Domain	Mineralised Zone (K)	Tonnes (Mt)	Zinc %	Copper %	Zn Cut-off (%)
Inferred	1 and 2	4	4.32	2.90	0.03	1.50

<sup>&</sup>lt;sup>3</sup> Refer ASX market announcements dated 12 October 2012: <u>JORC Resource Upgrade for Khnaiguiyah Zinc-Copper Project</u> and 30 October 2012: <u>JORC Resource Upgrade and Update for Khnaiguiyah Zinc-Copper Project</u>

<sup>&</sup>lt;sup>4</sup> Refer ASX market announcement dated 21 February 2012: <u>Maiden JORC Resource – Khnaiguiyah Zinc-Copper Project.</u>

#### **JORC Ore Reserve Statement**

The Ore Reserves were determined using the Net Smelter Return (**NSR**) method to generate an economic cut-off. This method was considered to provide the best representation of value contained within the Mineral Resources. The NSR cut-off was estimated on a mine gate sale basis and accounts for pricing assumptions, process plant recovery, transport costs, TC/RC and smelter deductions.

The Ore Reserves were estimated from within practical mining shapes designed from economic mining envelopes produced from Whittle pit optimisation software. Only regions within the Mineral Resource that were classified as Measured or Indicated and were above the NSR cut-off were included.

From the mine plan estimated an Ore Reserve of 26 Mt of Proved and Probable ore was estimated at an average grade of 3.3% Zn and 0.24 % Cu. No downgrading of classification was applied. The Ore Reserve estimate is summarised in Table 4 and the Ore Reserve parameters are outlined in Table 5.

Mineralised Zone	Proved			Probable			Proved + Probable		
	Mt	Zn%	Cu%	Mt	Zn%	Cu%	Mt	Zn%	Cu%
K1	0.78	4.2	0.23	1.07	4.3	0.25	1.85	4.3	0.24
K2	8.75	2.6	0.32	1.20	3.8	0.44	9.95	2.7	0.34
K3	8.21	4.1	0.27	6.08	2.7	0.05	14.28	3.5	0.17
Total (All Pits)	17.73	3.4	0.29	8.35	3.1	0.13	26.08	3.3	0.24

#### **Table 4: JORC Ore Reserves**

#### Mining Method

This Ore Reserve Statement contemplates conventional open pit mining methods. The pits will be mined using drill, blast, load and haul techniques. Rock will be mined from the pit using a combination of 5 and 10 m high benches. Backhoe style excavators will be used to load blasted rock onto off-highway dump trucks. The ore will then be trucked to surface stockpiles for processing. The host rock will be stockpiled on surface, together with filtered tailings in a co-disposal facility. Both the K2 and K3 pits will be mined using multiple stages to maximise early cash flow for the Project.

The project schedule contemplates mining over 9.5 years with a further 4 years processing of residual long term stockpiles. The ore mining and processing schedule is given in Figure 5.



#### Figure 5 Ore mining and processing schedule

# Processing

The crushing and grinding circuit was based on comminution data from metallurgical testing comminution parameters derived from master and variability composites. The process plant flow sheet was developed from metallurgical test work and validated through locked cycle flotation testing.

The plant will have a name plate capacity of 2 Mtpa and comprise of single stage primary jaw crusher feeding a coarse ore stockpile. The stockpile will feed a comminution circuit comprising a SAG and ball mill and pebble crusher.

A two stage differential float circuit, equipped with regrind mills, will recover copper then zinc concentrates from the process streams. Thickeners will be used to dewater all products, including tailings with further dewatering occurring during the dewatering stage. The copper and zinc concentrates will pass through respective plate filters before being discharged into the concentrate storage shed. Tailings will be passed over a belt filter then conveyed to a stockpile for transport to the co-disposal facility landform.

The concentrates will be loaded into covered half-height-containers before being transported to the port of Dammam. At the port, the concentrate will be unloaded inside the hold of bulk carrier ships for transport to various overseas smelters. Annual concentrate production is estimated to be around 180,000 wmt (wet metric tonnes) per year for the first five years.

#### **Pre-production Capital Costs**

Total preproduction capital is estimated to be US\$257 million including all mining, processing and surface infrastructure and working capital. The project capital development cost to the commencement of production assuming a plus or minus 15% order of accuracy variation is given below in Table .

Cost Centre		US\$ Millions
Process Plant	158	
Infrastructure		66
Services		
<ul> <li>Bore field</li> </ul>	6	
CDF	4	12
<ul> <li>Fuel Farm</li> </ul>	1	
<ul> <li>Mob / Demob</li> </ul>	1	
Owners Team / Contir	21	
Total		257

#### Table 5: Preproduction capital

# **Operating Costs**

Project operating costs were derived from detailed bottom up estimates based on mining and processing being carried out by KMC. Operating cost estimates were compiled using vendor quotations for key cost items. Labour costs were based on rates determined by market research of local, expat and third country nationals. Mining costs were compiled by IQE Pty Ltd and processing and administration costs were compiled by Ausenco Services Pty Ltd during the 1.5mtpa ECS and upgraded by Megabest Pty Ltd and IQE Pty Ltd to represent the revised 2.0mtpa throughput.

The average unit operating costs for life of mine are given below in Table 6.

# Table 6: Unit operating cost<sup>5</sup>

Cost Centre	US\$/t.ore
Mining – Waste	7.92
Mining - Ore	4.26
Processing and Administration	12.89
Transport and TC/RC	18.52
Total	43.59

#### **Permits and Licences**

Approvals currently granted to Manajem include the Mining Licence (ML), Environmental Licence, Water Pipeline Route, Quantities (undefined) of Water for the Mining Village, Industrial Investment Licence and Commercial Registration (in the process of annual renewal).

The transfer of licences for exploration or exploitation of the same are covered by a Shareholders Agreement between Alara and Manajem and a Mining Rights Agreement between Alara, KMC and Manajem. The latter, among other things, contemplates KMC's rights to exploit the ML and its extensions or the Environmental Approval as if these were held by KMC.

The Environmental Licence will be amended to include the construction of the co-disposal facility (**CDF**) in lieu of the approved waste dumps and tailings storage facility and the inclusion of the K1 pit.

Approvals that are currently pending include the Exploration Licence Applications (the area of which cover parts of the proposed pit for Orebodies K1, K2 and K3), Expansion of ML and Industrial Water Extraction Rights. There are no known impediments to these applications and therefore there are reasonable expectations that these license will be granted. Approvals still to be applied for include the Environmental Certificate (Ports), Export Licence and Explosives Permits. There are no known impediments to these applications and therefore there are reasonable expectations that these license will be granted.

# – ENDS –

# For further information, please contact:

Shanker Madan Managing Director T | +61 8 9214 9787 E | <u>smadan@alararesources.com</u>

#### ABOUT ALARA RESOURCES

Alara Resources Limited (ASX: AUQ) is an Australian-based minerals exploration and development company with a diverse portfolio of projects in Saudi Arabia and Oman.

With a strong pipeline of advanced and early stage projects, Alara is moving towards establishing itself as an emerging base and precious metals development company.

For more information, please visit: www.alararesources.com

# JORC Code Competent Person Statements

<sup>&</sup>lt;sup>5</sup> Approximately US\$3.00 per tonne of ore will be required in addition for sustaining capital and equipment leasing.

- (1) The information in this announcement that relates to Zinc and Copper Mineral Resources within Mineralised Zones 1 and 2 (referred to in Tables 1 and 2 of this announcement) of the Khnaiguiyah Project is based on information compiled by Mr Ravindra Sharma, who is a Chartered Professional Member of The Australasian Institute of Mining and Metallurgy and Registered Member of The Society for Mining, Metallurgy and Exploration. Mr Sharma is a principal consultant to Alara Resources Limited. Mr Sharma has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking to qualify as a Competent Person in terms of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2004 edition). Mr Sharma consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.
- (2) The information in this announcement that relates to Zinc and Copper Mineral Resources within Mineralised Zone 3 (referred to in Tables 1 and 2 of this announcement) of the Khnaiguiyah Project is based on information compiled by Mr Daniel Guibal, an employee of SRK Consulting (Australasia) Pty Ltd, who is a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Guibal has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking to qualify as a Competent Person in terms of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2004 edition). Mr Guibal consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.
- (3) The information in this announcement that relates to Ore Reserves (referred to in Table 4 of this announcement) of the Khnaiguiyah Project was compiled by Mr Geoff Davidson, who is a member of the Australian Institute of Mining and Metallurgy and a consultant to Khnaiguiyah Mining Company LLC (KMC). Mr Davidson has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.'

In assessing the appropriateness of the Ore Reserve estimate, Mr Davidson has relied on various reports, from both internal and external sources, in either draft or final version, which form part of or contribute to the Khnaiguiyah Project Detailed Feasibility Study. These reports are understood to be compiled by persons considered by KMC to be competent in the field on which they have reported.

*Mr* Davidson consents to the inclusion in the report of the information in the form and context in which it appears.

Criteria	Explanation
Mineral Resource estimate for conversion to Ore	• Mineral Resource estimates were created using Ordinary Kriging for K1 and K2 mineral deposits and Uniform Conditioning was conducted on K3. Variography was completed on Cu and Zn. Density was estimated by wet methods at ALS Laboratory in Jeddah.
Reserves	The Mineral Resource reported is inclusive of the Ore Reserves.
	• The Mineral Resource estimate was completed in October 2012 for K1 and K2 and July 2012 for K3.
Study status	• This Ore Reserve was based on designs and estimates consistent with a detailed feasibility study. The capital and operating costs were largely based on Vendor estimates specific to the project and are considered to be within +/- 15% order of accuracy. Where costs were not available costs were taken for recent pricing from within the consultants cost data sources.
	• A detailed mine plan was developed from which a practical mining schedule was determined. Standard modifying factors associated with the selected mining method have been applied. The mining method will use conventional open pit mining techniques to recover detailed economic mineralisation. A variety of studies were undertaken consistent with a detailed feasibility. Some of the key studies included geotechnical analysis, mine design and scheduling ore and waste removal, metallurgical testing, process design and transportation.
Cut-off parameters	• The Net Smelter Return (NSR) method was used to determine the economic cut-off for the mineralisation. The NSR values were estimated on a 'mine gate' sale basis and incorporated real metal price forecast estimates for year 2015 and onwards by market analysis firm CRU. The NSR value was adjusted for transport costs, port handling charges and TC/RC on all payable metals. Payable metals include copper and zinc.
	• The incremental cut off was determined from the site operating costs including extra cost of ore mining, processing cost and site administration and overhead costs. The cut-off was estimated for three mineralogical domains being; D1 producing zinc concentrate only, D2 producing both zinc and copper concentrate and D3 producing copper concentrate only. The cut-off values were estimated to be to be US\$17.24 per tonne for D1, US\$17.87 per tonne for D2 and US\$16.29 per tonne for D3.

# Table 5: Estimation and Reporting of Khnaiguiyah JORC Ore Reserve Statement

Mining factors or assumptions	•	The Ore Reserve was determined by reporting diluted economic zone within the mining envelope of each pit. Dilution for K1 and K2 was estimated through reblocking the mineral resource model to a regular SMU size of 3.75 m x 3.75 m x 2.5 m. Dilution for K3 was determined during the resource estimation process owing to the use of uniform conditioning approach adopted. These methods considered both dilution of adjacent mineralisation and ore loss through dilution below the incremental cut off value. In addition a 2% ore loss was applied to account for operational losses.
	•	The mining method used to determine the Ore Reserve was conventional open pit mining using 90t backhoe style excavator for ore mining and 160t backhoe style excavator for waste mining. All rock (ore and waste) will be drilled and blasted then removed to surface using 90t off-highway dump trucks. Ore will be tipped at the run-of-mine stockpile or low grade long term stockpile. Waste will be tipped into a co-disposal facility where it will be combined with thickened tailings from the process plant.
	•	The mining schedule was designed to supply the process plant with a minimum of 2 Mtpa of ore. Higher rates of ore mining were targeted early in the project life to access high value ore as soon as possible. The mining schedule includes a pre strip of approximately 8 Mt.
	•	Geotechnical analysis was conducted by George Orr and Associates Pty Ltd. This analysis was considered appropriate for a detailed feasibility study and included data collection from borehole logging and orientation measurements, unconfined compressive strength and elastic modulus testing, mapping of proximal rock outcrops and road cuttings and interpretation of earlier geological, geotechnical and hydro geological reports. Interpretation of geological structures and failure mechanisms were made and stability analysis conducted leading to recommendations of pit slope design parameters. These parameters were used for Whittle pit optimisation and subsequent detailed mine design.
	•	The economic mining envelope was determined using Whittle pit optimisation software and an average cost of mining \$1.51 per tonne of rock plus \$0.01 per tonne per 10 m of depth below a nominal surface reduced level. Commercial parameters are discussed under market assessment below.
	•	A minimum mining width of 30 m was applied to pit floors and 50 m applied to pit stages.
	•	Support infrastructure for the mining operation will be typical for the size and number of mine equipment. It will include mine workshop and refuelling station, mine offices and magazine facilities.
Metallurgical factors or assumptions	•	The metallurgical process will use differential flotation to produce separate concentrates of copper and zinc. The method is commonly used throughout the world for the style of mineralisation that exists at Khnaiguiyah.
	•	The metallurgical process contemplated at the mine utilises conventional technology which is common practice throughout the world.
	•	Numerous composite samples have undergone batch kinetic testing. The samples were from each of the deposits. Algorithms were developed for the mineralisation domains. The recoveries therefore vary depending on the grade of minerals. The average recoveries across the life of mine were estimated from the project cash flow being as follows:
		<ul> <li>Life of mine recovery of Zinc to zinc concentrate = 89%</li> </ul>
		<ul> <li>Life of mine recovery of Copper to copper concentrate = 80%</li> </ul>
	•	No provision was made in the NSR estimate for penalty elements. The penalty element assays are generally below penalty thresholds and, where slightly high, remain in the negotiable range for settlement.
	•	Locked cycle flotation testing was conducted on a range of composited samples considered to be representative of the various types of mineralisation. This approach is considered appropriate for the level of confidence required for a detailed feasibility study. No bulk samples or pilot scale testing was carried out.

Cost and revenue factors	• Project capital and operating costs were estimated on a bottom-up basis using take-offs from detailed design. Project specific budget quotations were sourced from vendors in compiling the estimate. Plant and infrastructure is considered to be estimated to within +/-15% or better level of accuracy.
	• The mine head grade was determined from the mining schedule which reported individual pit production by mineralogical domain and accounted for their specific timing on the project. The metal prices used were based on real price forecasts by metal traders CRU for 2015.
	• Typical off take terms commensurate with prices for copper and zinc concentrates were used.
	Royalties are not payable in the Kingdom of Saudi Arabia.
	• All costs and revenues were estimated in USD. A conversion factor of 1USD to 3.75SAR was applied to any prices quoted in local currency.
Market assessment	Metal prices used in the cash flow model were as follows:
	<ul> <li>Copper US\$7,070 per tonne of copper metal</li> </ul>
	<ul> <li>Zinc US\$2,335 per tonne of zinc metal</li> </ul>
	• The prices used for the cash flow model were applied as flat forward real pricing and were based on real price forecast for 2015 by CRU at June 2012. The cash flow was modelled in real terms and no price or cost escalation was applied.
Other	• The Khnaiguiyah Project will be operated by Khnaiguiyah Mining Company LLC ('KMC') a 50/50 joint venture between Alara Resources Limited ('Alara') (ASX: AUQ) a company listed on the Australian Securities Exchanges and United Arabian Mining Company LLC ('Manajem'), a privately owned Saudi Arabian mining company
	The Khnaiguiyah Project is located partially within a granted Mining Licence area (ML No.2 Qaaf dated 6/1/1432 H) currently held by Manajem with remaining portions located on Exploration Licence Application Umm AI Wibran and Exploration Licence Application Khnaiguiyah South. Both Exploration Licence Applications have been lodged by Manajem with the Ministry of Petroleum & Mineral Resources and carry with them exclusive rights to the application areas. There are no known impediments to the granting of these applications or their transfer to KMC.
	Under the KMC Shareholders Agreement, Manajem is required to transfer both Mining Licence and, once granted, the Exploration Licences referred to above, to KMC in addition to various other Exploration Licences set out in the Shareholders Agreement.
	• The Mining Licence area will need to be expanded to take in the entire project area. There are no known impediments to the granting of these.
	• Further to the Shareholders Agreement, a Mining Rights Agreement executed by Alara, KMC and Manajem (dated: 2 March 2011) entitles KMC to conduct its business and exploit the project including the right to mine, market, sell and receive the full proceeds of sale of any zinc, copper, gold or silver ore or concentrated ore or other product extracted from the project as though KMC held the Mining Licence and Exploration leases referred to above.
	Approvals Granted to Manajem: Mining Licence (ML), Environmental Licence, Water     Pipeline Route, Undefined Quantities of Water for Mining Village, Industrial Investment     Licence and Commercial Registration (annual renewal required).
	Approvals Pending: Exploration Licence Applications, Expansion of ML, Industrial Water Extraction Rights
	Approvals Not Yet Applied: Environmental Certificate (Ports), Export Licence, Explosives Permits.
	• The environmental approval requires amendment for consideration of a co-disposal landform rather than the approved waste dump and tailings storage facility and the inclusion of the K1 pit.
	• The mining operations will come within close proximity to the Khnaiguiyah Village which has a population of approximately 300 people. Mining operations will come within 400 m of the nearest resident. Social and environmental impact assessments have been conducted by SMEC and have been deemed to be manageable. The project will require the relocation of two residents.
	• A borefield for the supply of process and service water has been identified. Preliminary analysis has determined that there are reasonable expectations that the borefield will be capable of supplying the projects water needs however; confirmatory pump tests are still to be conducted and the impact on proximal users still to be assessed including any compensation costs.

Classification.	• The Ore Reserve was classified in accordance with the JORC (2004) code. Standard modifying factors and conversions were applied as described above. No known issues existed at the time which required the levels of confidence of the Ore Reserve to be downgraded.
	• The methods used are considered by the Competent Person to be appropriate for the style and nature of the deposit.
Audits or reviews.	• The Ore Reserve estimate has been subject to internal reviews including a project risk review conducted by key contributors to the feasibility study. No material residual risks were identified in this review following the implementation of mitigation measures.
Discussion of relative accuracy/confidence.	• A detailed cash flow model was created using the design case commodity pricing described above. The cash flow analysis demonstrated a positive return for the project.
	<ul> <li>Various sensitivity analyses were carried out on the cash flow model. Key parameters were varied by 15% each way. These parameters included metal prices, foreign exchange rate, capital cost, operating costs, grade and process recovery. The results were evaluated on the basis of pre-tax operating cash flow less capital.</li> </ul>