

September 29, 2014

## **Ivanhoe Mines reports improved metallurgical testwork results for planned initial mining area at its Kamoia copper project in the Democratic Republic of Congo**

### **Very low arsenic levels in Kamoia concentrate expected to attract a premium from concentrate traders**

**LUBUMBASHI, DEMOCRATIC REPUBLIC OF CONGO** – Robert Friedland, Executive Chairman of Ivanhoe Mines (TSX: IVN), and Lars-Eric Johansson, Chief Executive Officer, today issued a summary of recent metallurgical flotation testwork at the company's Kamoia copper project, near the mining centre of Kolwezi in the Democratic Republic of Congo's southern province of Katanga.

Recent bench-scale metallurgical flotation testwork carried out at XPS Consulting and Testwork Services laboratories in Falconbridge, Ontario, Canada, has shown positive preliminary results. The work was conducted on a composite sample of drill core from the Kansoko Sud and Kansoko Centrale areas in the southern part of the Kamoia resource area. The sample is representative of the first four to five years of planned Kamoia mine production, when Ivanhoe Mines intends to produce and sell a clean, high-grade copper flotation concentrate.

#### **Highlights:**

- **Copper recoveries of 88.3%.**
- **Copper concentrate grade of 39.0%.**
- **Very low arsenic levels in concentrate are expected to attract a premium from concentrate traders.**
- **Flowsheet improvements derived from this testwork are expected to result in lower up-front capital costs and reduced operational costs and risks.**

The testing is the first metallurgical work done on material from the Kansoko Sud area of the resource. The results are integral to the final metallurgical design input parameters that will be needed for the completion of the Kamoia development studies.

Copper recoveries of 88.3%, at a concentrate grade of 39.0% copper, were achieved for the composite sample – an improvement on the previously published 85.9% life-of-mine average copper recovery projected in the November 2013 Kamoia preliminary economic assessment (PEA).

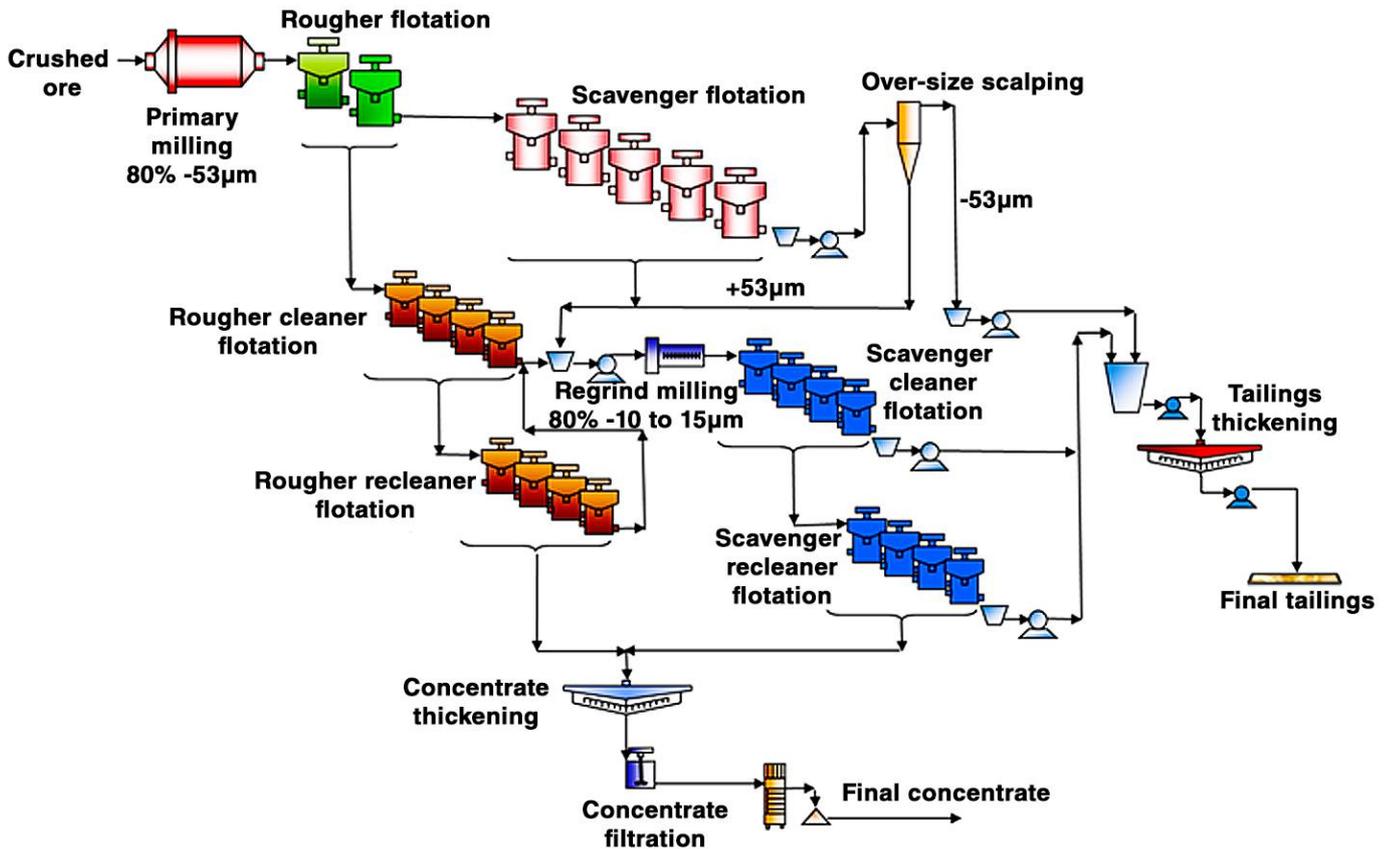
Arsenic levels in concentrate were measured to be 0.010%, which is significantly lower than the limit of 0.5% imposed by Chinese smelters. Ivanhoe believes that Kamoia concentrate with such low arsenic levels should attract a premium from concentrate traders.

"This testwork further confirms the attractiveness of the high-grade Kansoko Sud area for initial mine development at Kamoia," said Mr. Friedland.

The testwork results were achieved using a laboratory flowsheet with a single stage of primary milling followed by rougher and scavenger flotation. The rougher concentrate was cleaned in two stages to produce a high-grade copper concentrate without regrinding. The scavenger concentrate

and a screened, coarse portion of the final tailings were combined and reground to between 10 and 15 micrometres ( $\mu\text{m}$ ), before being cleaned in two stages. The concentrate then was combined with the cleaned, rougher concentrate to form the final concentrate. The flowsheet is a simplification of the previous flowsheet, which included two stages of mainstream grinding and two separate regrind stages.

**Figure 1: Laboratory flowsheet.**



## Progress on development studies, with initial mining planned at Kansoko Sud

In line with the phased approach to project development outlined in the 2013 updated Kamoia PEA, the Kamoia development studies are progressing on the basis of an initial three-million-tonne-per-annum (3Mtpa) mine and concentrator. The mine plan produced in the PEA focused initial mining in the shallower portion of Kansoko Sud, an area previously drilled with holes spaced 400 metres apart.

Since completion of the PEA, Ivanhoe has concentrated on substantially reducing the drill spacing in this area, initially to 100-metre spacing on 200-metre-spaced, east-west lines and subsequently to a 100-metre-spaced grid. The goal of the drilling program has been to confirm grade and structural continuity of this high-grade zone at potentially elevated cut-offs. Results to date from the infill drilling have been encouraging and have confirmed the continuity of the deposit and its copper grades. The close-spaced drilling, combined with a better understanding of geological controls, will allow resource models to be constrained at higher grade cut-offs than the 1% total copper used to define the mineralized zone in the current estimate.

The 3Mtpa mine and concentrator can be split into modules to potentially better match the underground ramp-up and further reduce the pre-production development capital. This will be

examined in more detail as part of the development studies to provide flexibility to the development of the Kamoa Project.

### **Good progress being made on box-cut construction**

Construction of the box cut for the initial decline portals, being performed by Lubumbashi-based Mining Company Katanga SPRL (MCK), is progressing well.

Work on the box cut began in July 2014 and is expected to take approximately five months, after which development of the first set of twin declines can commence. The declines have been designed to intersect the high-grade copper mineralization in Kansoko Sud area, approximately 150 metres below surface. A recently reported drill hole in Kansoko Sud intercepted 15.7 metres (true width) of 7.04% copper, at a 1.5% total copper cut-off. Additional details of the recent drill results are contained in Ivanhoe Mines' May 13, 2014, news release.

### **Figure 2: Ivanhoe's geologists examine progress at the Kamoa box cut, September 15, 2014.**



Figure 3: Blasting at box-cut site, September 20, 2014.



Figure 4: Box-cut excavation work, September 23, 2014.



## Kamoa Project description

The Kamoa Project is a very large, stratiform copper deposit with adjacent prospective exploration areas within the Central African Copperbelt, approximately 25 kilometres west of the town of Kolwezi and about 270 kilometres west of the provincial capital of Lubumbashi. Ivanhoe Mines holds its 95% interest in the project through an indirect subsidiary company, Kamoa Copper SA. A 5%, non-dilutable interest in Kamoa Copper was transferred to the DRC government on September 11, 2012, for no consideration, pursuant to the DRC Mining Code. Ivanhoe also has offered to sell an additional 15% interest to the DRC on commercial terms, to be negotiated.

In December 2012, an independent mineral resource estimate was prepared for the Kamoa Project by AMEC E&C Services, of Reno, Nevada. The new estimate ranked Kamoa as Africa's largest, high-grade copper discovery and the world's largest, undeveloped high-grade copper discovery.

As of January 2013, Ivanhoe Mines had discovered Indicated Mineral Resources of 739 million tonnes grading 2.67% copper, containing 43.5 billion pounds of copper, and Inferred Mineral Resources of 227 million tonnes grading 1.96% copper, containing 9.8 billion pounds of copper. A 1% copper cut-off grade and a minimum vertical mining thickness of three metres were applied in each classification.

## Kamoa Mineral Resources December 2012

Copper cut-off	Tonnage (Mt)	Copper grade	Contained copper (billion lbs)
<b>Indicated Resource</b>			
3.00%	224	3.85%	19.0
2.00%	550	3.04%	36.9
1.00%	739	2.67%	43.5
<b>Inferred Resource</b>			
3.00%	19	3.40%	1.4
2.00%	93	2.64%	5.4
1.00%	227	1.96%	9.8

Note: Mineral Resources have an effective date of December 10, 2012. Harry M. Parker and Gordon Seibel, both SME Registered Members, are the Qualified Persons responsible for the Mineral Resource estimate, which was prepared by Mr. Seibel. Mineral Resources are reported using a total copper cut-off grade of 1% copper and a minimum assumed mining thickness of three metres. A 1% copper cut-off grade is typical of analogue deposits in neighbouring Zambia.

## Qualified Person and Quality Control and Assurance

The scientific and technical information in this release has been reviewed and approved by Stephen Torr, P.Geol., Ivanhoe Mines' Vice President, Project Geology and Evaluation, and Steve Amos, Ivanhoe Mines' Vice President, Metallurgy, both Qualified Persons under the terms of National Instrument 43-101. Mr. Torr and Mr. Amos have verified the technical data disclosed in this news release.

The bench-scale metallurgical flotation testwork was performed by XPS Consulting and Testwork Services laboratories, based in Falconbridge, Ontario, Canada. Norman Lotter, consulting metallurgist with XPS, supervised the testwork.

Copper assays were determined by mixed-acid digestion with ICP finish at Bureau Veritas Minerals, formerly Ultra Trace Geoanalytical Laboratories, in Perth, Australia, an ISO 17025-accredited laboratory. Ivanhoe Mines utilized a well-documented system of inserting blanks and standards into the assay stream and has a strict chain of custody and independent laboratory re-check system for quality control. For detailed information about assay methods and data verification measures used

to support the scientific and technical information, please refer to the current technical report on the Kamoia Copper Project on the SEDAR profile of Ivanhoe Mines at [www.sedar.com](http://www.sedar.com).

## About Ivanhoe Mines

With offices in Canada, the United Kingdom and South Africa, Ivanhoe Mines also is developing its two other principal projects:

- The Platreef Project, a platinum, palladium, nickel, copper, gold and rhodium discovery on the Northern Limb of the Bushveld Complex in South Africa. Ivanhoe Mines is planning a multi-phased development of a large, mechanized, underground mine on its Platreef discovery.
- The historic, high-grade Kipushi zinc, copper, silver and germanium mine, also on the Copperbelt in the D.R. Congo's Katanga province. Ivanhoe acquired its majority interest in Kipushi in 2011, which had been operated and maintained by previous owners since 1924, and now is conducting resource drilling and upgrading of facilities.

Ivanhoe Mines also is evaluating other opportunities as part of its objective to become a broadly based, international mining company.

## Information contacts

### Investors

Bill Trenaman +1.604.331.9834

### Media

North America: Bob Williamson +1.604.512.4856

South Africa: Jeremy Michaels +27.11.088.4300

Website [www.ivanhoemines.com](http://www.ivanhoemines.com)

## Cautionary statement on forward-looking information

Certain statements in this release constitute "forward-looking statements" or "forward-looking information" within the meaning of applicable securities laws, including without limitation, the statement that very low arsenic levels in Kamoia concentrate are expected to attract a premium from concentrate traders; statements that flowsheet improvements derived from the testwork are expected to result in lower up-front capital costs and reduced operational costs and risks; and statements regarding the expected amount of time to complete the box cut. Such statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the company, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements or information. Such statements can be identified by the use of words such as "may", "would", "could", "will", "intend", "expect", "believe", "plan", "anticipate", "estimate", "scheduled", "forecast", "predict" and other similar terminology, or state that certain actions, events or results "may", "could", "would", "might" or "will" be taken, occur or be achieved. These statements reflect the company's current expectations regarding future events, performance and results and speak only as of the date of this release.

This release also contains references to estimates of Mineral Resources. The estimation of Mineral Resources is inherently uncertain and involves subjective judgments about many relevant factors. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The accuracy of any such estimates is a function of the quantity and quality of available data, and of the assumptions made and judgments used in engineering and geological interpretation (including estimated future production from the Kamoia Project, the anticipated tonnages and grades that will be mined and the estimated level of recovery that will be realized), which may prove to be unreliable and depend, to a certain extent, upon the analysis of drilling results and statistical inferences that may ultimately prove to be inaccurate. Mineral Resource estimates may have to be re-estimated based on: (i) fluctuations in copper price; (ii) results of drilling, (iii) metallurgical testing and other studies; (iv) proposed mining operations, including dilution; (v) the evaluation of mine plans subsequent to the date of any estimates; and (vi) the possible failure to receive required permits, approvals and licenses.

Forward-looking statements involve significant risks and uncertainties, should not be read as guarantees of future performance or results, and will not necessarily be accurate indicators of whether or not such results will be achieved. A number of factors could cause actual results to differ materially from the results discussed in the forward-looking statements, including, but not limited to, the factors discussed here, as well as unexpected changes in laws, rules or regulations, or their enforcement by applicable authorities; the failure of parties to contracts with the company to perform as agreed; social or labour unrest; changes in commodity prices; and the failure of exploration programs or studies to deliver anticipated results or results that would justify and support continued exploration, studies, development or operations.

Although the forward-looking statements contained in this release are based upon what management of the company believes are reasonable assumptions, the company cannot assure investors that actual results will be consistent with these forward-looking statements. These forward-looking statements are made as of the date of this release and are expressly qualified in their entirety by this cautionary statement. Subject to applicable securities laws, the company does not assume any obligation to update or revise the forward-looking statements contained herein to reflect events or circumstances occurring after the date of this release.

The company's actual results could differ materially from those anticipated in these forward-looking statements as a result of the factors set forth in the "Risk Factors" section and elsewhere in the company's most recent Management's Discussion and Analysis report and Annual Information Form, available at [www.sedar.com](http://www.sedar.com).