



# Ivanhoe Mines begins 20,000-metre drilling program designed to confirm and expand Kipushi Mine's historical high-grade zinc-copper resources

## Successful dewatering program opens underground access for drill rigs

LUBUMBASHI, DEMOCRATIC REPUBLIC OF THE CONGO – Robert Friedland, Executive Chairman of Ivanhoe Mines (TSX: IVN), and Lars-Eric Johansson, Chief Executive Officer, announced today that work has begun underground on the company's 20,000-metre diamond-drilling program at the Kipushi copper-zinc-germanium-lead and precious-metals mine on the Central African Copperbelt in southern Katanga Province, less than one kilometre from the Zambian border.

The drilling is designed to confirm and update Kipushi's estimated historical resources and to further expand the resources on strike and at depth. Production at the mine ceased in 1993.

"This is a major advance toward our goal of returning Kipushi, formerly one of the world's highest-grade copper and zinc mines, to full production," Mr. Friedland said.

"Our first rig began drilling from a strategically sited pad 1,225 metres below surface last Saturday. We expect that two additional rigs now en route to Kipushi also will join the drilling later this month."

Crews have been upgrading underground and surface infrastructure to support the start of the drilling program since access to the mine's principal working level at 1,150 metres below the surface was restored in December 2013.

The mine, which was placed on care and maintenance in 1993, flooded in early 2011 due to a lack of pumping maintenance over an extended period. Water reached 851 metres below surface at its peak. After acquiring a 68% interest in Kipushi in November 2011, Ivanhoe Mines assumed responsibility for ongoing rehabilitation and pumping, which now has dewatered to the 1,257-metre level. Ivanhoe expects to have the mine dry to its lowest ramp level at 1,325 metres below surface during this current quarter, several months ahead of earlier projections.

## 100 holes planned in underground drilling program

Ivanhoe's 2014 drilling program is scheduled to complete approximately 100 holes totalling more than 20,000 metres. The objectives are to:

- Conduct confirmatory drilling to validate the historical resources within Kipushi's Big Zinc Deposit and Fault Zone (see accompanying Figure 1 graphic) – which were included in the September 2012 Kipushi Technical Report prepared by IMC Group Consulting – and qualify them as current resources prepared in conformance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) standards as required by National Instrument 43-101.
- Conduct extension drilling to test and upgrade the deeper portions of the Big Zinc and Fault zones, below the 1,500-metre level, which previously were classified as Inferred Resources.

- Conduct exploration drilling to test areas that have not been previously evaluated, such as the deeper portions of the Fault Zone and extensions to the high-grade copper mineralization of the mine's Northern Deposit.
- Obtain large-diameter drill core from the Big Zinc for confirmatory metallurgy test work.

New, underground drill holes also may provide a platform for geophysical exploration of Kipushi's deep mineral potential, leveraging the Ivanhoe group's proprietary, in-house expertise. Kipushi has never been evaluated using modern geophysical techniques.

Most of the drilling will be conducted from sites on the hanging-wall development drift at the 1,270metre level and from the footwall ramp below the 1,150-metre level.

The first hole has been started on the 1,225-metre level at an inclination of -67 degrees and is designed to test the depth continuity of the Big Zinc Deposit and the down-dip extension of the adjacent, copperrich Fault Zone. The hole is expected to be drilled for approximately 600 metres to a depth of greater than 1,800 metres below surface. It also will provide sample material for ongoing metallurgical studies.

The second and third rigs will begin confirmatory drilling from sites on the 1,270-metre level. A 280metre step-back extension of the hanging-wall drift will be driven to enable rigs to test deep extensions of the Big Zinc and Fault zones.

Independent consulting engineering firm MSA Group, of Gauteng, South Africa, has been appointed to prepare a current estimate of the Big Zinc resources to CIM standards following completion of the confirmation drilling program.

## Known resources at Kipushi

Previous mining at Kipushi was conducted to a below-surface depth of 1,207 metres on the Kipushi Fault, a deposit of high-grade, copper-zinc-lead mineralization that has a strike length of 600 metres. The Fault Zone mineralization is known to extend to at least 1,800 metres below surface, based on previous drilling reports prepared by state-owned mining company Gécamines (La Générale des Carrières et des Mines).

The Big Zinc Deposit, adjacent to the Fault Zone on the footwall side, was discovered shortly before the mine ceased production in 1993 and never has been mined. From its top at approximately the 1,200-metre level, the Big Zinc Deposit extends down dip to at least the 1,640-metre level, as indicated by Gécamines' drilling reports.

Accessible from existing underground workings, the Big Zinc has a strike length of at least 100 metres, a true thickness calculated at 40 to 80 metres and is open to depth. Gécamines also reported that multiple, steeply-dipping, Big Zinc exploratory holes intersected exceptionally high-grade zinc mineralization, grading 42% to 45% zinc, between the 1,375-metre and 1,600-metre levels, with estimated, apparent thicknesses of between 60 and 100 metres.



Figure 1: Kipushi cross-section, showing current water level and unmined Big Zinc Discovery.







Figure 3: Pumping station at the 850-metre Operations level.

Figure 4: Ongoing refurbishment of Shaft 5 components.





Figure 5: Newly installed winder control centre at Shaft 5.



Figure 6: Moving heavy equipment at 1,150 metres below surface in preparation for underground drilling.

## **Production history at Kipushi**

From its start-up in 1924 as the Prince Léopold Mine, Kipushi produced a total of 6.6 million tonnes of zinc and 4.0 million tonnes of copper – from 60 million tonnes of ore grading 11% zinc and approximately 7% copper – until operations were halted in 1993 due to political instability. The mine also produced 278 tonnes of germanium between 1956 and 1978. Underground workings were extensively flooded during Kipushi's 18 years of care-and-maintenance as a former state-owned asset before Ivanhoe Mines acquired a 68% interest in the Kipushi Mine in 2011; Gécamines retained a 32% interest.

In addition to the recorded production of copper, zinc, lead and germanium, historical Gécamines minelevel plans for Kipushi also reported the presence of precious metals. There is no formal record of gold and silver production; the concentrate was shipped to Belgium and any recovery of precious metals was not disclosed during the colonial era.

The Kipushi Mine is adjacent to the town of Kipushi, approximately 30 kilometres southwest of the provincial capital of Lubumbashi.

## Previous estimate of historical resources

IMC Group Consulting, which prepared the current Kipushi Technical Report, considers the historical estimate prepared by Techpro Mining and Metallurgy in 1997 to be the most relevant and reliable. Techpro reported the following resources:

Resource Category	Tonnes	Copper %	Zinc %
Measured	8,899,979	2.53	9.99
Indicated	8,029,127	2.09	24.21
Total	16,929,106	2.32	16.76
Inferred	9,046,352	1.93	23.32
Totals shown above include the following Big Zinc resources:			
Measured	793,086	1.16	33.52
Indicated	3,918,366	0.68	39.57
Measured & Indicated	4,711,452	0.76	38.55

IMC is of the opinion that the Techpro estimate generally is fair and reasonable for demonstrated Measured plus Indicated resources and that Inferred mineral resource estimates largely represent the projection of Kipushi's Fault Zone mineralization from the 1,500-metre level to the 1,800-metre level.

Although Gécamines' drilling confirmed that the Big Zinc continues down to at least the 1,640-metre level, the historical Measured and Indicated Resources for the Big Zinc are stated only to 1,500 metres.

Gécamines principally was interested in the copper content of the Kipushi Mine, not its zinc content. Ivanhoe considers that the density estimation factor used by Gécamines to calculate resources was only an approximation and may be inappropriate for the estimation of zinc in high-grade, iron-poor sphalerite, such as occurs in the Big Zinc, and therefore potentially understates the Big Zinc's historical resources.

A Qualified Person has not done sufficient work to classify the historical estimates as current Mineral Resources and Ivanhoe Mines is not treating such estimates as current Mineral Resources. The 1997 estimate was prepared in accordance with the JORC Code. Ivanhoe Mines will validate previous work through new drilling, sampling, assaying and other procedures to produce a mineral resource that is current for CIM purposes.

Further information relating to the historical resource estimate is included in the Kipushi Technical Report, dated September 2012, prepared by IMC and available at <u>www.sedar.com</u> and <u>www.ivanhoemines.com</u>.

## **Qualified Person, Quality Control and Assurance**

The scientific and technical information in this release has been reviewed and approved by Stephen Torr, P.Geo., Ivanhoe Mines' Vice President, Project Geology and Evaluation, a Qualified Person under the terms of National Instrument 43-101. Mr. Torr has verified the technical data disclosed in this press release.

## About Ivanhoe Mines

Ivanhoe Mines, with offices in Canada, the United Kingdom and South Africa, is advancing and developing its three principal projects:

- The Kamoa copper discovery in a previously unknown extension of the Central African Copperbelt in the Province of Katanga in the Democratic Republic of Congo (DRC).
- The Platreef Discovery of platinum, palladium, nickel, copper, gold and rhodium on the Northern Limb of the Bushveld Complex in South Africa.
- The historic Kipushi zinc, copper and germanium mine, also on the Copperbelt in the DRC and now being dewatered and upgraded to support a future return to production of copper, zinc and other metals following a care-and-maintenance program conducted between 1993 and 2011.

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

#### <u>Media</u>

North America: Bob Williamson +1.604.512.4856 South Africa: Jeremy Michaels +27.11.088.4300

Website www.ivanhoemines.com

## FORWARD-LOOKING STATEMENTS

Statements in this release that are forward-looking statements are subject to various risks and uncertainties concerning the specific factors disclosed here and elsewhere in the company's periodic filings with Canadian

securities regulators. When used in this document, the words such as "could," "plan," "estimate," "expect," "intend," "may," "potential," "should" and similar expressions, are forward-looking statements. Information provided in this document is necessarily summarized and may not contain all available material information.

Statements in this release that constitute forward-looking statements or information include, but are not limited to: statements regarding the expectation to reduce the current water level during Q'1 2014; statements regarding plans to commence and complete an underground drilling program consisting of approximately 100 holes totalling more than 20,000 metres; statements regarding the expectation to extend the known mineralization down dip. Statements regarding the primary goals of the 2014 drilling program; statements regarding plans to confirm and expand the mine's historical resources; statements regarding Ivanhoe's goal to return Kipushi to production as one of the world's highest grade mines; and statements regarding MSA Group being appointed to prepare an updated resource estimation of the Big Zinc Deposit. All such forward-looking information and statements are based on certain assumptions and analyses made by Ivanhoe Mines' management in light of their experience and perception of historical trends, current conditions and expected future developments, as well as other factors management believe are appropriate in the circumstances. These statements, however, are subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking information or statements. Important factors that could cause actual results to differ from these forward-looking statements include those described under the heading "Risk Factors" in the company's most recently filed MD&A. Readers are cautioned not to place undue reliance on forward-looking information or statements.