



MANAGEMENT'S DISCUSSION AND ANALYSIS

FOR THE YEAR ENDED DECEMBER 31, 2018

DATED: MARCH 26, 2019

INTRODUCTION

This management's discussion and analysis (MD&A) should be read in conjunction with the audited consolidated financial statements of Ivanhoe Mines Ltd. ("Ivanhoe", "Ivanhoe Mines" or the "Company") for the years ended December 31, 2018 and 2017, which have been prepared in accordance with International Financial Reporting Standards (IFRS). All dollar figures stated herein are in U.S. dollars, unless otherwise specified. References to "C\$" mean Canadian dollars and references to "R" mean South African Rands.

The effective date of this MD&A is **March 26, 2019**. Additional information relating to the Company is available on SEDAR. Certain statements contained in the MD&A are forward-looking statements that involve risks and uncertainties. See "*Forward-Looking Statements*" and "*Risk Factors*".

FORWARD-LOOKING STATEMENTS

Certain statements in this MD&A constitute "forward-looking statements" or "forward-looking information" within the meaning of applicable securities laws. Such statements and information involve known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of the Company, its projects, 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 MD&A.

Such statements include without limitation, the timing and results of: (i) statements that one more station will be developed at a mine-working depth of 950 metres at Shaft 1; (ii) statements regarding Shaft 1 reaching the planned, final depth at 982 metres below surface in early 2020; (iii) statements regarding the timing of Shaft 2 development; (iv) statements regarding the operational and technical capacity of Shaft 1; (v) statements regarding the internal diameter and hoisting capacity of Shaft 2, including that the excavation of the box cut and construction of the hitch foundation is expected to be completed in Q2 2019, enabling the beginning of the pre-sink, that will extend 84 metres below surface; (vi) statements regarding the Company's plans to develop the Platreef Mine in three phases: an initial annual rate of four million tonnes per annum (Mtpa) to establish an operating platform to support future expansions; followed by a doubling of production to eight Mtpa; and then a third expansion phase to a steady-state 12 Mtpa; (vii) statements regarding the planned underground mining methods of the Platreef Project including long-hole stoping and drift-and-fill mining; (viii) statements regarding supply of treated water from the town of Mokopane's new Masodi treatment plant including that it will supply 5 million litres of treated water a day for 32 years; (ix) statements regarding the development of a single decline on the south side of the Kakula deposit to provide bottom access to Ventilation Shaft 2 enabling this shaft to be constructed by raise boring and the use of this decline as a second means of egress from the mine; (x) statements regarding the timing, size and objectives of drilling and other exploration programs for 2019 and future periods; (xi) statements regarding exploration on the Western Foreland exploration licences; (xii) statements regarding the timing and completion of a definitive feasibility study at the Kipushi Project in Q2 2019; (xiii) statements regarding the progressive re-commissioning of the turbines, fully refurbished and modernized with state-of-the-art control and instrumentation at Mwadingusha power station, will start in 2019 and be completed in Q3 2020 with an output increased to a capacity of approximately 72 MW of power; (xiv) statements regarding expected expenditure for 2019 of \$90 million on further development at the Platreef Project; \$57 million at the Kipushi Project; \$16 million on regional exploration in the DRC; and \$30 million on corporate overheads in 2019 – as well as its proportionate funding of the Kamoakakula Project, expected to be \$101 million for 2019; (xv) statements regarding Platreef projecting it to be Africa's lowest-cost producer of platinum-group metals; (xvi) statements regarding Ivanhoe plans to file an updated NI 43-101 technical report for the Kipushi Project covering the June 2018 Mineral

Resource estimate by the end of March 2019; and (xvii) statements regarding the construction of a 1,050-metre-level-dam at the Kakula deposit to be commissioned in mid-2019.

As well, all of the results of the pre-feasibility study for the Kakula copper mine and the updated and expanded Kamoa-Kakula Project preliminary economic assessment, the feasibility study of the Platreef Project and the pre-feasibility study of the Kipushi Project, constitute forward-looking statements or information, and include future estimates of internal rates of return, net present value, future production, estimates of cash cost, proposed mining plans and methods, mine life estimates, cash flow forecasts, metal recoveries, estimates of capital and operating costs and the size and timing of phased development of the projects. Furthermore, with respect to this specific forward-looking information concerning the development of the Kamoa-Kakula, Platreef and Kipushi Projects, the Company has based its assumptions and analysis on certain factors that are inherently uncertain. Uncertainties include: (i) the adequacy of infrastructure; (ii) geological characteristics; (iii) metallurgical characteristics of the mineralization; (iv) the ability to develop adequate processing capacity; (v) the price of copper, nickel, zinc, platinum, palladium, rhodium and gold; (vi) the availability of equipment and facilities necessary to complete development; (vii) the cost of consumables and mining and processing equipment; (viii) unforeseen technological and engineering problems; (ix) accidents or acts of sabotage or terrorism; (x) currency fluctuations; (xi) changes in regulations; (xii) the compliance by joint venture partners with terms of agreements, (xiii) the availability and productivity of skilled labour; (xiv) the regulation of the mining industry by various governmental agencies; (xv) the ability to raise sufficient capital to develop such projects; and (xvi) political factors.

This MD&A also contains references to estimates of Mineral Resources and Mineral Reserves. The estimation of Mineral Resources is inherently uncertain and involves subjective judgments about many relevant factors. Estimates of Mineral Reserves provide more certainty but still involve similar subjective judgments. 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 Company's projects, 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 ultimately may prove to be inaccurate. Mineral Resource or Mineral Reserve estimates may have to be re-estimated based on: (i) fluctuations in copper, nickel, zinc, platinum group elements (PGE), gold or other mineral prices; (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/or changes in mine plans; (vi) the possible failure to receive required permits, approvals and licences; and (vii) changes in law or regulation.

Forward-looking statements and information 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 or information, including, but not limited to, the factors discussed below and under "Risk Factors", 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 MD&A 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 MD&A 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 MD&A.

The Company's actual results could differ materially from those anticipated in these forward-looking statements as a result of the factors set forth below in the "Risk Factors" section beginning on page 54 and elsewhere in this MD&A.

REVIEW OF OPERATIONS

Ivanhoe Mines is a mineral exploration and development company. The Company's financial performance is primarily affected by ongoing exploration and development activities being conducted at its three material properties. The Company has no producing properties and does not have operating revenues. The Company expects to fund all of its exploration and development activities through debt and equity financing until operating revenues are generated. The Company's material properties consist of:

- **The Platreef Project.** Construction of the planned Platreef mine is now underway on the Company's discovery of platinum, palladium, nickel, copper, gold and rhodium on the Northern Limb of South Africa's Bushveld Complex. Ivanhoe Mines holds a 64% interest in Platreef, the South African beneficiaries of a broad-based, black economic empowerment structure have a combined 26% stake in the Platreef Project and the remaining 10% is owned by a Japanese consortium of ITOCHU Corporation, Japan Oil, Gas and Metals National Corporation; and Japan Gas Corporation. (See "*Platreef Project*")
- **The Kipushi Project.** The existing Kipushi Mine is located on the Central African Copperbelt in the Democratic Republic of Congo's (DRC) southern Haut-Katanga province, one of Africa's major mining hubs. The mine, which operated between 1924 and 1993, is approximately 30 kilometres southwest of the provincial capital, Lubumbashi, and less than one kilometre from the DRC-Zambia border. Ivanhoe Mines holds a 68% interest in Kipushi; the state-owned mining company, La Générale des Carrières et des Mines (Gécamines), holds the remaining 32% interest. (See "*Kipushi Project*")
- **The Kamoa-Kakula Project.** A joint venture between Ivanhoe Mines and Zijin Mining Group Co., Ltd., ("Zijin" or "Zijin Mining") within the Central African Copperbelt in the Democratic Republic of Congo's southern Lualaba province. Following the signing of an agreement with the DRC government in November 2016 to transfer an additional 15% interest in the Kamoa-Kakula Project to the government of the DRC, Ivanhoe Mines and Zijin Mining each hold an indirect 39.6% interest in the Kamoa-Kakula Project, Crystal River Global Limited (Crystal River) holds an indirect 0.8% interest and the DRC government holds a direct 20% interest. The Kamoa-Kakula Project is independently ranked as the world's fourth largest copper deposit by international mining consultant Wood Mackenzie. (See "*Kamoa-Kakula Project*")

PLATREEF PROJECT

The Platreef Project is owned by Ivanplats (Pty) Ltd (Ivanplats), which is 64%-owned by Ivanhoe Mines. A 26% interest is held by Ivanplats' historically-disadvantaged, broad-based, black economic empowerment (B-BBEE) partners, which include 20 local host communities with approximately 150,000 people, project employees and local entrepreneurs. A Japanese consortium of ITOCHU Corporation, Japan Oil, Gas and Metals National Corporation and Japan Gas Corporation, owns a 10% interest in Ivanplats, which it acquired in two tranches for a total investment of \$290 million.

The Platreef Project hosts an underground deposit of thick, platinum-group metals, nickel, copper and gold mineralization on the Northern Limb of the Bushveld Igneous Complex in Limpopo Province, approximately 280 kilometres northeast of Johannesburg and eight kilometres from the town of Mokopane.

On the Northern Limb, platinum-group metals mineralization is hosted primarily within the Platreef, a mineralized sequence that is traced more than 30 kilometres along strike. Ivanhoe's Platreef Project, within the Platreef's southern sector, is comprised of two contiguous properties: Turfspruit and Macalacaskop. Turfspruit, the northernmost property, is contiguous with, and along strike from, Anglo Platinum's Mogalakwena group of mining operations and properties.

Since 2007, Ivanhoe has focused its exploration and development activities on defining and advancing the down-dip extension of its original discovery at Platreef, now known as the Flatreef Deposit, which is amenable to highly mechanized, underground mining methods. The Flatreef area lies entirely on the Turfspruit and Macalacaskop properties, which form part of the Company's mining right.

Health and safety at Platreef

As at the end of 2018, the Platreef Project had reached a total of 887,097 lost-time, injury-free hours worked in terms of South Africa's Mine Health and Safety Act and Occupational Health and Safety Act. At the end of 2018, it had been nine months since the last lost-time injury occurred at the Platreef Project, which continues to strive toward its workplace objective of an environment that causes zero harm to employees, contractors, sub-contractors and consultants.

Positive independent, definitive feasibility study for Platreef's first-phase development; Platreef projected to be Africa's lowest-cost producer of platinum-group metals

On July 31, 2017, Ivanhoe Mines announced the positive results of an independent, definitive feasibility study (DFS) for the planned first phase of the Platreef Project's palladium-platinum-nickel-copper-gold-rhodium mine in South Africa.

The Platreef DFS covers the first phase of development that would include construction of a state-of-the-art underground mine, concentrator and other associated infrastructure to support initial production of concentrate. As Phase 1 is being developed and commissioned, there would be opportunities to refine the timing and scope of subsequent phases of expanded production.

The 2017 DFS highlights include:

- Indicated Mineral Resources containing an estimated 41.9 million ounces of platinum, palladium, rhodium and gold, with an additional 52.8 million ounces of platinum, palladium, rhodium and gold in Inferred Resources.
- Increased Mineral Reserves containing 17.6 million ounces of platinum, palladium, rhodium and gold following stope optimization and mine sequencing work.

- Development of a large, safe, mechanized, underground mine, with an initial four-Mtpa concentrator and associated infrastructure.
- Planned initial average annual production rate of 476,000 ounces of platinum, palladium, rhodium and gold (3PE+Au), plus 21 million pounds of nickel and 13 million pounds of copper.
- Estimated pre-production capital requirement of approximately \$1.5 billion, at a ZAR:USD exchange rate of 13 to 1.
- Platreef would rank at the bottom of the cash-cost curve, at an estimated \$351 per ounce of 3PE+Au produced, net of by-products and including sustaining capital costs, and \$326 per ounce before sustaining capital costs.
- After-tax net present value (NPV) of \$916 million, at an 8% discount rate.
- After-tax internal rate of return (IRR) of 14.2%.

All figures are on a 100%-project basis unless otherwise stated. The DFS was prepared for Ivanhoe Mines by principal consultant DRA Global, with economic analysis led by OreWin, and specialized sub-consultants including Amec Foster Wheeler E&C Services (Amec Foster Wheeler), Stantec Consulting, Murray & Roberts Cementation, SRK Consulting, Golder Associates and Digby Wells Environmental.

Platreef Mineral Resources

The Platreef Project's Mineral Resource estimate was prepared by Ivanhoe Mines under the direction of Dr. Harry Parker, RM SME, of Amec Foster Wheeler. Dr. Parker and Timothy Kuhl, RM SME, also of Amec Foster Wheeler, have independently confirmed the Mineral Resource estimate and are the Qualified Persons for the estimate, which has an effective date of April 22, 2016.

The Platreef Mineral Resource, with a strike length of 6.5 kilometres, lies predominantly within a flat-to-gently-dipping portion of the Platreef mineralized belt at relatively shallow depths of approximately 500 metres to 1,350 metres below the surface. The Platreef Deposit is characterized by its very large vertical thicknesses of high-grade mineralization and a platinum-to-palladium ratio of approximately 1:1, which is significantly higher than other recent PGM discoveries on the Bushveld's Northern Limb.

The Platreef Indicated Mineral Resources for all mineralized zones are 346 million tonnes at a grade of 3.77 grams per tonne (g/t) 3PE+gold (1.68 g/t platinum, 1.70 g/t palladium, 0.11 g/t rhodium, 0.28 g/t gold), 0.32% nickel and 0.16% copper at a 2.0 g/t 3PE+gold cut-off. The average thickness of the 2.0 g/t 3PE+gold grade shell used to constrain the T2MZ resources for the indicated area is 19 metres.

Inferred mineral resources for all mineralized zones are 506 million tonnes at a grade of 3.24 g/t 3PE+gold (1.42 g/t platinum, 1.46 g/t palladium, 0.10 g/t rhodium, 0.26 g/t gold), 0.31% nickel and 0.16% copper. The average thickness of the 2.0 g/t 3PE+gold grade shell used to constrain the T2MZ resources for the inferred area is 12.7 metres.

Photo: The northern excavation at Shaft 1's 750-metre station, showing the large scale of the underground workings – ideal for safe, mechanized mining.



Shaft 1 now extends to a depth of 850 metres below surface

Shaft 1 reached the top of the high-grade Flatreef Deposit (T1 mineralized zone) at a depth of 780.2 metres below surface in Q3 2018 and has since been extended to the 850-metre-level with the 850-metre-level station development underway. The thickness of the mineralized reef (T1 & T2 mineralized zones) at Shaft 1 is 29 metres, with grades of platinum-group metals ranging up to 11 grams per tonne (g/t) 3PE (platinum, palladium and rhodium) plus gold, as well as significant quantities of nickel and copper. The 29-metre intersection yielded approximately 3,000 tonnes of ore, estimated to contain more than 400 ounces of platinum-group metals. The ore is stockpiled on surface for metallurgical sampling.

The 750-metre-level station, including the steelwork and concrete construction, was successfully completed in Q4 2018. The 750-metre-level and 850-metre-level stations will provide initial, underground access to the high-grade orebody, enabling mine development to proceed during the construction of Shaft 2.

As sinking of Shaft 1 advances, one more station will be developed at a mine-working depth of 950 metres. Shaft 1 is expected to reach its projected, final depth of 982 metres below surface in early 2020. Shaft 1 ultimately will become the primary ventilation shaft during the project's initial four-Mtpa production case.

Photo: Ongoing development work at Shaft 1's 850-metre-level mine access station, showing the northern top-cut excavation.



Photo: Spraying shotcrete over 6.5-metre anchor bolts and wire mesh to reinforce the brow at Shaft 1's 850-metre-level mine access station.



Shaft 2 early-works construction progressing

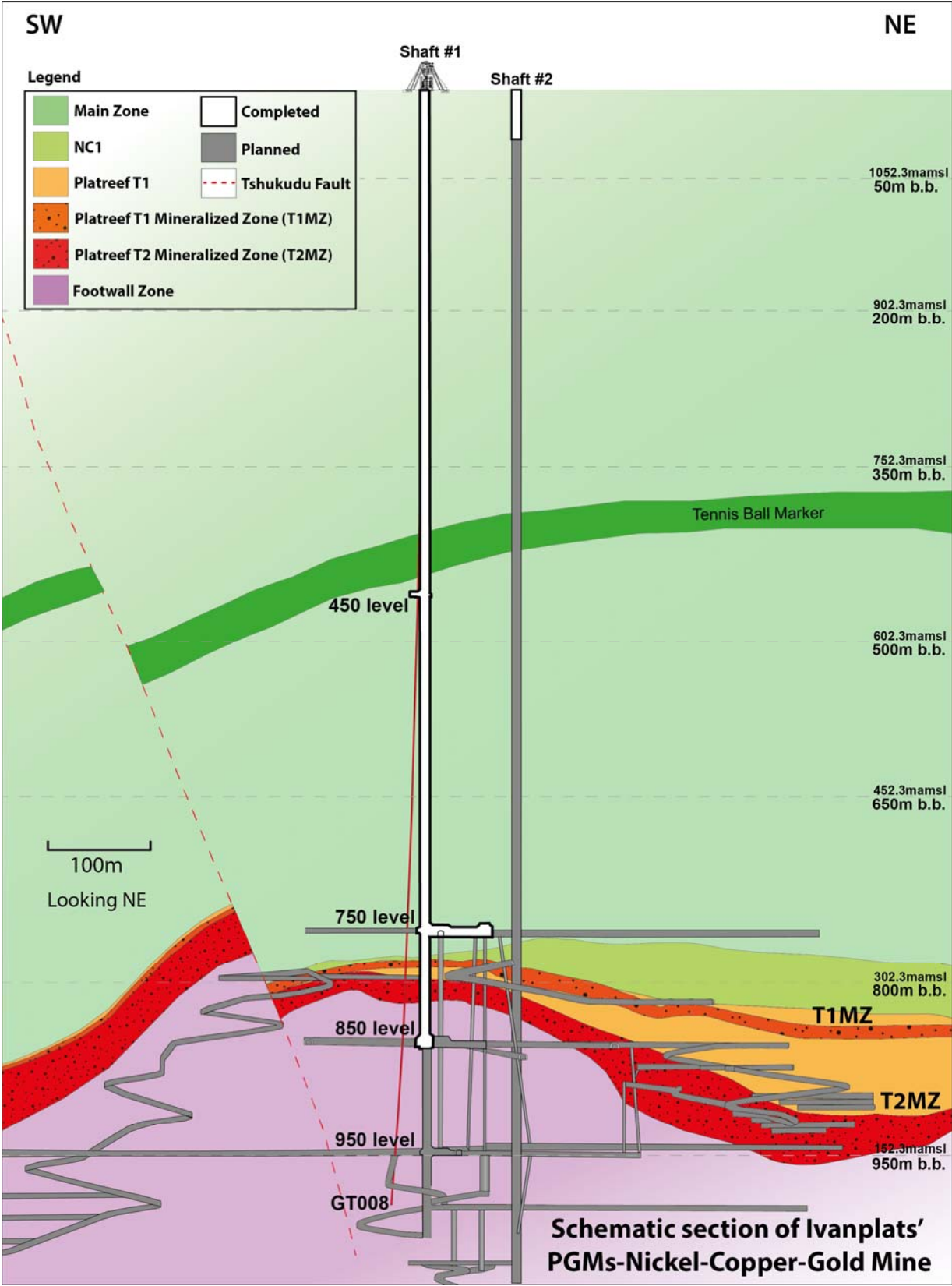
Shaft 2, to be located approximately 100 metres northeast of Shaft 1, will have an internal diameter of 10 metres. It will be lined with concrete and sunk to a planned, final depth of more than 1,104 metres below surface. It will be equipped with two, 40-tonne, rock-hoisting skips capable of hoisting a total of six million tonnes of ore a year – the single largest hoisting capacity at any mine in Africa.

The headgear for the permanent hoisting facility was designed by South Africa-based Murray & Roberts Cementation. Nine blasts were successfully completed in 2018 enabling the excavation of Shaft 2's box cut to a depth of approximately 29 metres below surface and the construction of the concrete hitch (shaft collar foundation) for the 103-metre-tall concrete headgear that will house the shaft's permanent hoisting facilities and support the shaft collar. Excavation of the box cut and construction of the hitch foundation is expected to be completed in Q2 2019, enabling the beginning of the pre-sink, that will extend 84 metres below surface.

Photo: Ongoing construction of the foundation that will support Shaft 2's 103-metre-tall concrete headframe.



Figure 1: Schematic section of the Platreef Mine, showing Flatreef's T1 and T2 thick, high-grade mineralized zones (red and dark orange), underground development work completed to date in shafts 1 and 2 (white) and planned development work (gray).



Underground mining to incorporate highly productive, mechanized methods

Ivanhoe plans to develop the Platreef Mine in phases. The initial annual production rate of four million tonnes a year is designed to establish an operating platform to support future expansions. This is expected to be followed by a potential doubling of production to eight Mtpa, and then a third expansion phase to a steady-state 12 Mtpa, which would establish Platreef among the largest platinum-group-metals mines in the world.

The mining zones in the current Platreef mine plan occur at depths ranging from approximately 700 metres to 1,200 metres below surface. Shaft 2 will provide primary access to the mining zones; secondary access will be via Shaft 1. During mine production, both shafts also will serve as ventilation intakes. Three additional ventilation exhaust raises are planned to achieve steady-state production.

Planned mining methods will use highly productive, mechanized methods, including long-hole stoping and drift-and-fill mining. Each method will utilize cemented backfill for maximum ore extraction. The ore will be hauled from the stopes to a series of internal ore passes and fed to the bottom of Shaft 2, where it will be crushed and hoisted to surface.

Platreef project financing continuing to advance

Ivanhoe continues to advance the arrangement of project financing for the development of the Platreef Project. Negotiation of a term sheet is progressing well with the Initial Mandated Lead Arrangers.

In addition, preliminary discussions are underway with leading South African financial institutions regarding the financing of the black economic empowerment partners' contribution to the development capital which would thereby reduce the amount that would otherwise have to be contributed by Ivanhoe on their behalf.

Long-term supply of bulk water secured for the Platreef Mine

On May 7, 2018, Ivanhoe announced the signing of a new agreement to receive local, treated water to supply most of the bulk water needed for the first phase of production at Platreef. The Mogalakwena Local Municipality has agreed to supply a minimum of five million litres of treated water a day for 32 years, beginning in 2022, from the town of Mokopane's new Masodi Treatment Works. Initial supply will be used in Platreef's ongoing underground mine development and surface infrastructure construction.

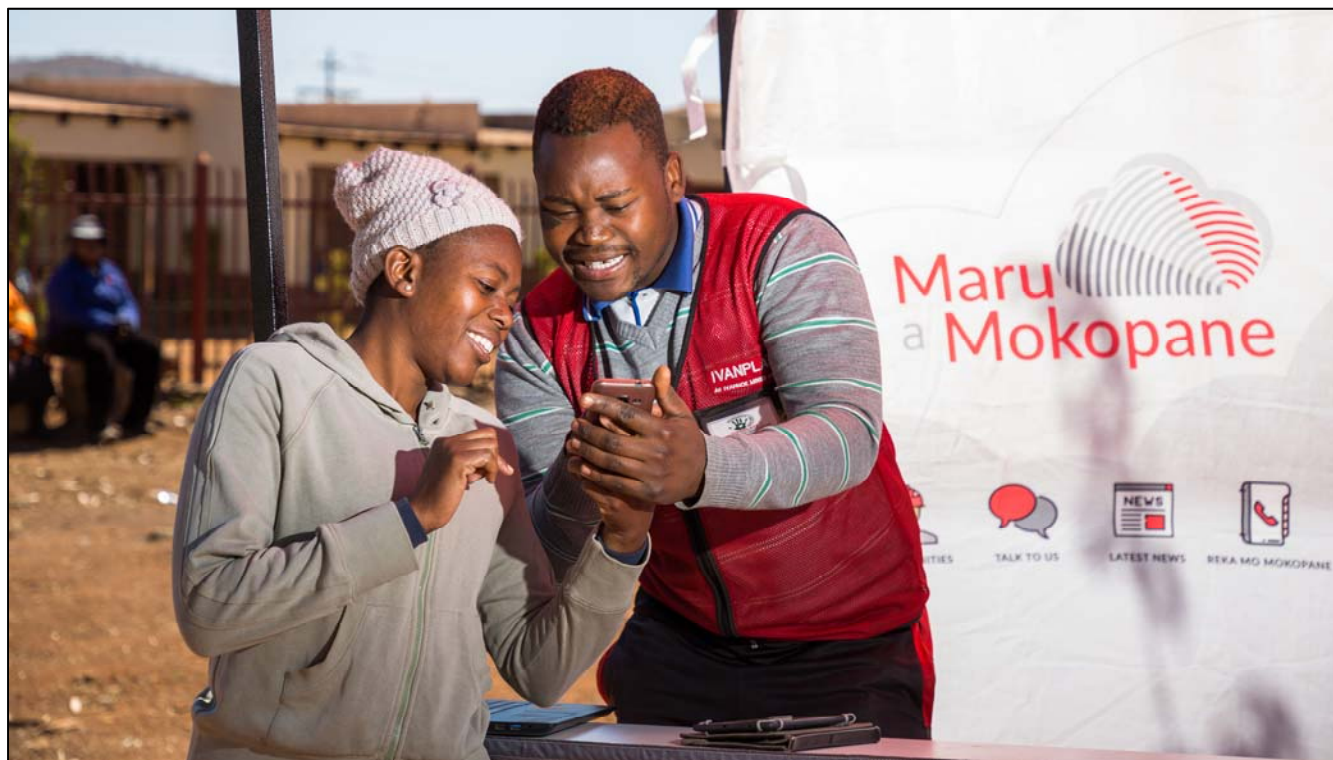
Under terms of the agreement, which is subject to certain suspensive conditions, Ivanplats will provide financial assistance to the municipality for certified costs of up to a maximum of R248 million (approximately \$19.6 million) to complete the Masodi treatment plant. Ivanplats will purchase the treated wastewater at a reduced rate of R5 per thousand litres for the first 10 million litres per day to offset a portion of the initial capital contributed.

Ivanplats received its Integrated Water Use Licence in January 2019, which is valid for 30 years and enables the Platreef Project to make use of water as planned in the 2017 DFS.

Development of human resources and job skills

Work progressed on the implementation of Ivanhoe's Social and Labour Plan (SLP). The Company has pledged a total of R160 million (\$11 million) during the first five years, culminating in November 2019, of which R98 million (\$7 million) already had been spent by December 2018. The approved plan includes R67 million (\$5 million) for the development of job skills among local residents and R88 million (\$6 million) for local economic development projects.

Photo: A digital trainer from Ivanplats (right) demonstrates the use of the free Wi-Fi system to a local resident. The Ivanplats Maru a Mokopane initiative – a digital communication system – is designed for people living in Mokopane, Limpopo to learn more about the Platreef Project, and provides complimentary access to wireless internet.



KIPUSHI PROJECT

The Kipushi copper-zinc-germanium-lead mine, in the DRC, is adjacent to the town of Kipushi and approximately 30 kilometres southwest of Lubumbashi. It is located on the Central African Copperbelt, approximately 250 kilometres southeast of the Kamoa-Kakula Project and less than one kilometre from the Zambian border. Ivanhoe acquired its 68% interest in the Kipushi Project in November 2011; the balance of 32% is held by the state-owned mining company, Gécamines.

Health, safety and community development

At the end of 2018, the Kipushi Project reached a total of 165,576 work hours free of lost-time injuries. One lost-time injury occurred in November 2018 when the Kipushi Project had reached 2,092,924 work hours – more than a year since a lost-time injury had previously occurred.

The Kipushi Project operates a potable-water station to supply the municipality with water. This includes power supply, disinfectant chemicals, routine maintenance, security and emergency repair of leaks to the primary reticulation. The Kipushi Project also installed and commissioned new overhead powerlines to the pump station. Other community development projects continued during Q4 2018 included the Kipushi women's literacy project, the setup of a new sewing training centre, scholarships and more water boreholes drilled and equipped for community use.

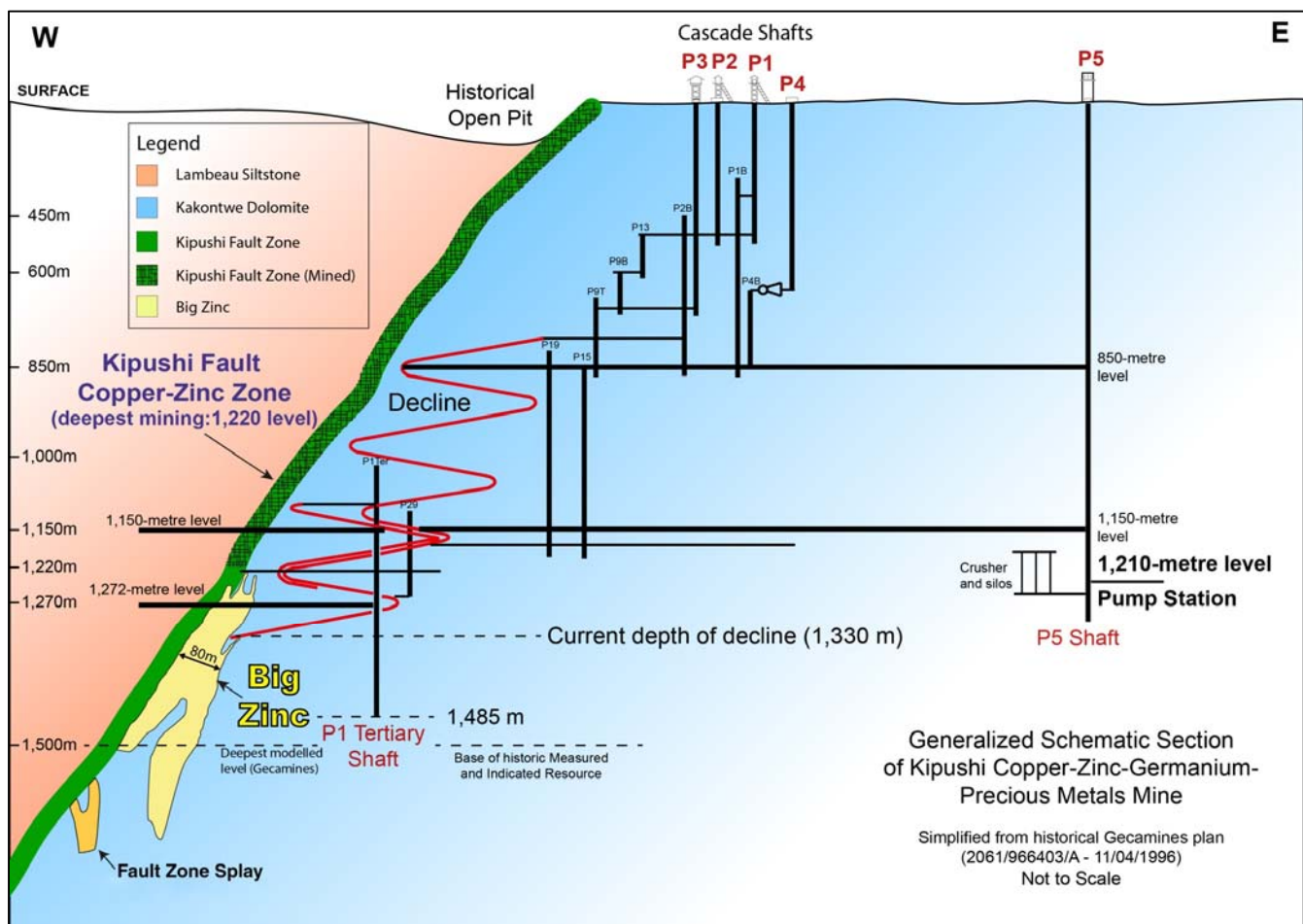
Kipushi Mineral Resources

The Kipushi Project's current Mineral Resource estimate was updated with an effective date of June 14, 2018, and was prepared by the MSA Group of Johannesburg, South Africa, in compliance with 2014 CIM Definition Standards. Ivanhoe plans to file an updated National Instrument 43-101 (NI 43-101) technical report for the Kipushi Project covering the June 2018 Mineral Resource estimate by the end of March 2019. The technical report will be filed on the company's website and under the company's SEDAR profile at www.sedar.com.

Zinc rich Measured and Indicated Mineral Resources, primarily in the Big Zinc Zone total 11.78 million tonnes at grades of 35.34% zinc, 0.80% copper, 23 g/t silver and 64 g/t germanium, at a 7% zinc cut-off – containing an estimated 9.2 billion pounds of zinc. Zinc-rich Inferred Mineral Resources total an additional 1.14 million tonnes at grades of 33.77% zinc, 1.24% copper, 12 g/t silver and 62 g/t germanium. The Inferred Mineral Resources are contained partly in the Big Zinc Zone and partly in the Southern Zinc Zone.

Copper-rich Measured and Indicated Mineral Resources contained in the adjacent Fault Zone, Fault Zone Splay and Série Récurrente Zone total an additional 2.29 million tonnes at grades of 4.03% copper, 2.85% zinc, 21 g/t silver and 19 g/t germanium, at a 1.5% copper cut-off – containing 144 million pounds of copper. Copper-rich Inferred Mineral Resources in these zones total an additional 0.44 million tonnes at grades of 3.89% copper, 10.77% zinc, 19 g/t silver and 55 g/t germanium.

Figure 2: Schematic underground section of the Kipushi Mine.



Pre-feasibility study for Kipushi completed in December 2017; definitive feasibility study expected in Q2 2019

The Kipushi Project's PFS, announced by Ivanhoe Mines on December 13, 2017, anticipated annual production of an average of 381,000 tonnes of zinc concentrate over an 11-year, initial mine life at a total cash cost of approximately \$0.48 per pound (lb) of zinc.

Highlights of the PFS, based on a long-term zinc price of \$1.10/lb include:

- After-tax net present value (NPV) at an 8% real discount rate of \$683 million.
- After-tax real internal rate of return (IRR) of 35.3%.
- After-tax project payback period of 2.2 years.
- Pre-production capital costs, including contingency, estimated at \$337 million.
- Existing surface and underground infrastructure allows for significantly lower capital costs than comparable greenfield development projects.
- Life-of-mine average planned zinc concentrate production of 381,000 dry tonnes per annum, with a concentrate grade of 59% zinc, is expected to rank Kipushi, once in production, among the world's largest zinc mines.

All figures are on a 100%-project basis unless otherwise stated. Estimated life-of-mine average cash cost of \$0.48/lb of zinc is expected to rank Kipushi, once in production, in the bottom quartile of the cash-cost curve for zinc producers internationally.

The planned primary mining method for the Big Zinc Deposit in the PFS is sublevel long-hole, open stoping, with cemented backfill. The crown pillars are expected to be mined once adjacent stopes are backfilled using a pillar-retreat mining method. The Big Zinc Deposit is expected to be accessed via the existing decline and without any significant new development. The main levels are planned to be at 60-metre vertical intervals, with sublevels at 30-metre intervals.

The Kipushi Project's definitive feasibility study is progressing and is expected to be completed in Q2 2019.

Geology and exploration

Work is focused on additional information required for the ongoing feasibility study as well as planning the geological delineation drilling and grade control program for the underground mine development. The design criteria for the delineation drilling, targeted areas along the edge of the Big Zinc, which presently are inaccessible from the historic workings.

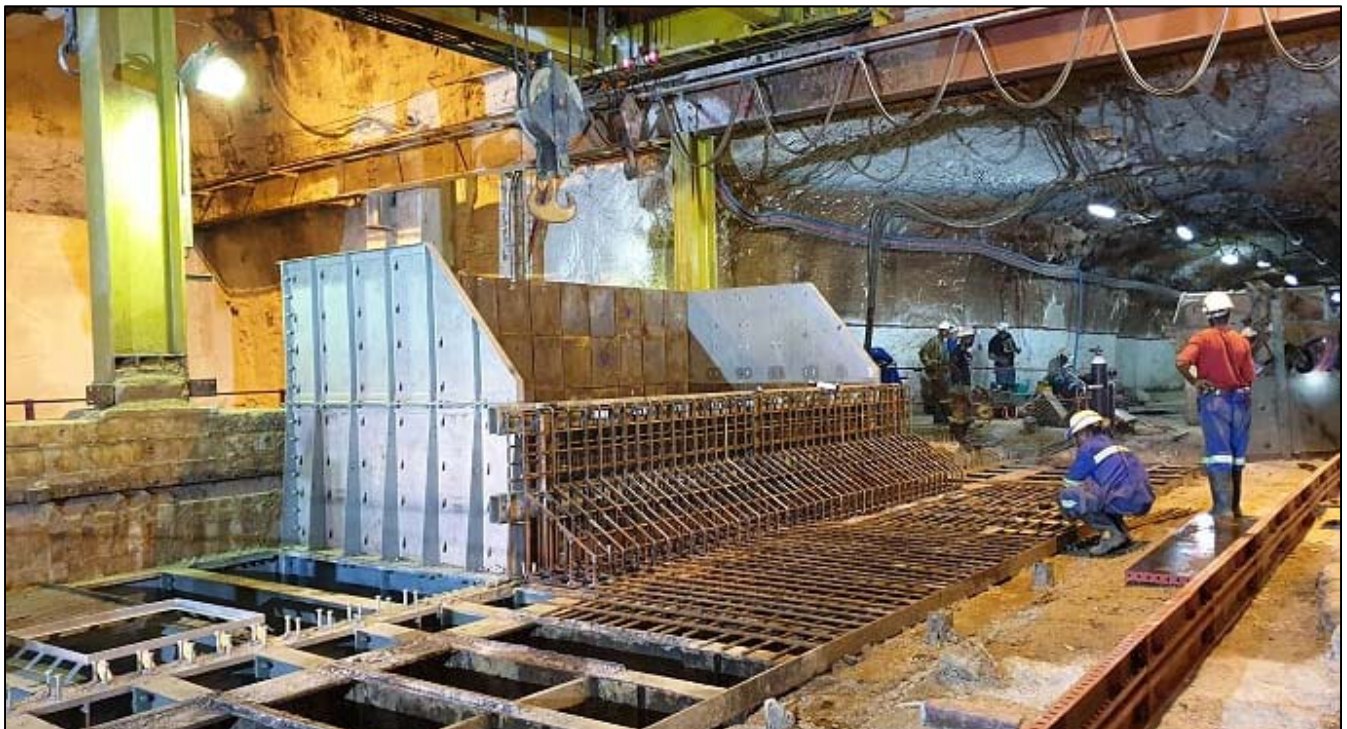
Project development and infrastructure

Significant progress has been made in modernizing the Kipushi Mine's underground infrastructure as part of preparations for the mine to resume commercial production. In Q4 2018, the Kipushi Project successfully hoisted previously mined ore from Shaft 5 to surface. This was the first time that ore had been hoisted to surface since the mine was placed on care and maintenance by Gécamines in 1993.

Photo: Kipushi's fully-assembled Sandvik jaw crusher, capable of crushing up to 1,085 tonnes of ore an hour.



Photo: Construction of the rock load-out facility on Kipushi's 1,150-metre level. Ore from the Big Zinc Deposit will be unloaded here, for crushing and hoisting to surface.



Earlier in 2018, the Kipushi Project successfully completed initial, pre-production testing as part of the equipment commissioning process for the new, large-capacity rock crusher that has been installed 1,150 metres below surface. The Sandvik jaw crusher has a maximum capacity of 1,085 tonnes an hour. The 54-tonne machine was re-assembled and installed in the crusher chamber after it was disassembled on surface and its pieces were lowered down Shaft 5, which is the Kipushi Mine's main production shaft.

Ivanhoe completed the upgrading of a significant amount of underground infrastructure at the Kipushi Project, including a series of vertical mine shafts to various depths, with associated head frames, as well as underground mine excavations and infrastructure. A series of crosscuts and ventilation infrastructure still is in working condition and has been cleared of old materials and equipment to facilitate modern mechanized mining. The underground infrastructure also includes a series of pumps to manage the influx of water into the mine and water levels are easily maintained at the bottom of the mine.

Shaft 5 is eight metres in diameter and 1,240 metres deep. It now has been upgraded and re-commissioned. The main personnel and material winder has been upgraded and modernized to meet international industry standards and safety criteria. The Shaft 5 rock-hoisting winder now is fully operational with new rock skips, new head- and tail-ropes and attachments installed. The two newly manufactured rock conveyances (skips) and the supporting frames (bridles) have been installed in the shaft to facilitate the hoisting of rock from the main ore and waste storage silos feeding rock on the 1,200-metre level.

The main haulage way on the 1,150-metre level between the Big Zinc access decline and Shaft 5 rock load-out facilities has been resurfaced with concrete so the mine now can use modern, trackless, mobile machinery.

With the underground upgrading program nearing completion, the project's focus now will shift to modernizing and upgrading Kipushi's surface infrastructure to handle and process Kipushi's high-grade zinc and copper resources.

Photo: Modern, new control room at Kipushi's Shaft 5.



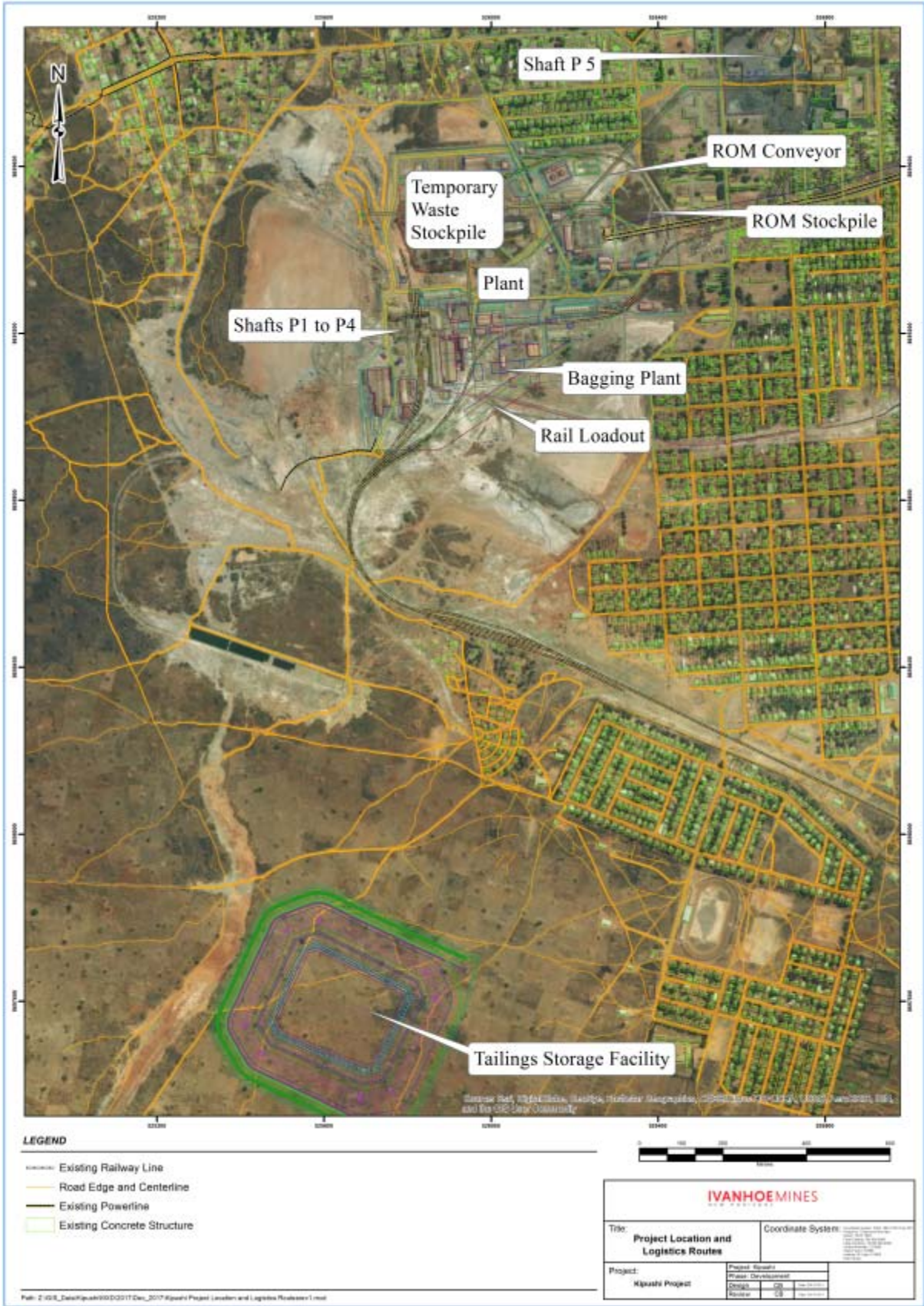
Photo: New electrical panels installed underground at Kipushi.



Photo: High-volume water pipes to keep Kipushi's underground workings dry.



Figure 3: Kipushi Project's proposed site layout.



KAMOA-KAKULA PROJECT

The Kamoa-Kakula Project, a joint venture between Ivanhoe Mines and Zijin Mining, has been independently ranked as the world's fourth largest copper deposit by international mining consultant Wood Mackenzie, with adjacent prospective exploration areas within the Central African Copperbelt in the Democratic Republic of Congo, approximately 25 kilometres west of the town of Kolwezi and about 270 kilometres west of Lubumbashi.

Ivanhoe sold a 49.5% share interest in Kamoa Holding Limited (Kamoa Holding) to Zijin Mining in December 2015 for an aggregate consideration of \$412 million. In addition, Ivanhoe sold a 1% share interest in Kamoa Holding to privately-owned Crystal River for \$8.32 million - which Crystal River will pay through a non-interest-bearing, 10-year promissory note. Since the conclusion of the Zijin transaction in December 2015, each shareholder has been required to fund expenditures at the Kamoa-Kakula Project in an amount equivalent to its proportionate shareholding interest in Kamoa Holding.

A 5%, non-dilutable interest in the Kamoa-Kakula Project was transferred to the DRC government on September 11, 2012, for no consideration, pursuant to the 2002 DRC mining code. Following the signing of an agreement with the DRC government in November 2016, in which an additional 15% interest in the Kamoa-Kakula Project was transferred to the DRC government, Ivanhoe and Zijin Mining now each hold an indirect 39.6% interest in the Kamoa-Kakula Project, Crystal River holds an indirect 0.8% interest and the DRC government holds a direct 20% interest. Kamoa Holding holds an 80% interest in the project.

Kamoa-Kakula surpassed 12 million hours worked without a lost-time injury in 2018 , and recently broke the 13-million-hour mark

At the end of 2018, the Kamoa-Kakula Project had achieved a total of 12,305,545 work hours free of lost-time injuries. It has been approximately seven years since the last lost-time injury occurred at the project. During 2018 the project achieved three significant milestones in safety which include 10-, 11- and 12 million hours free of lost-time injuries. This outstanding achievement reflects the dedication to a safety-focused culture of the entire Kamoa-Kakula exploration and development teams.

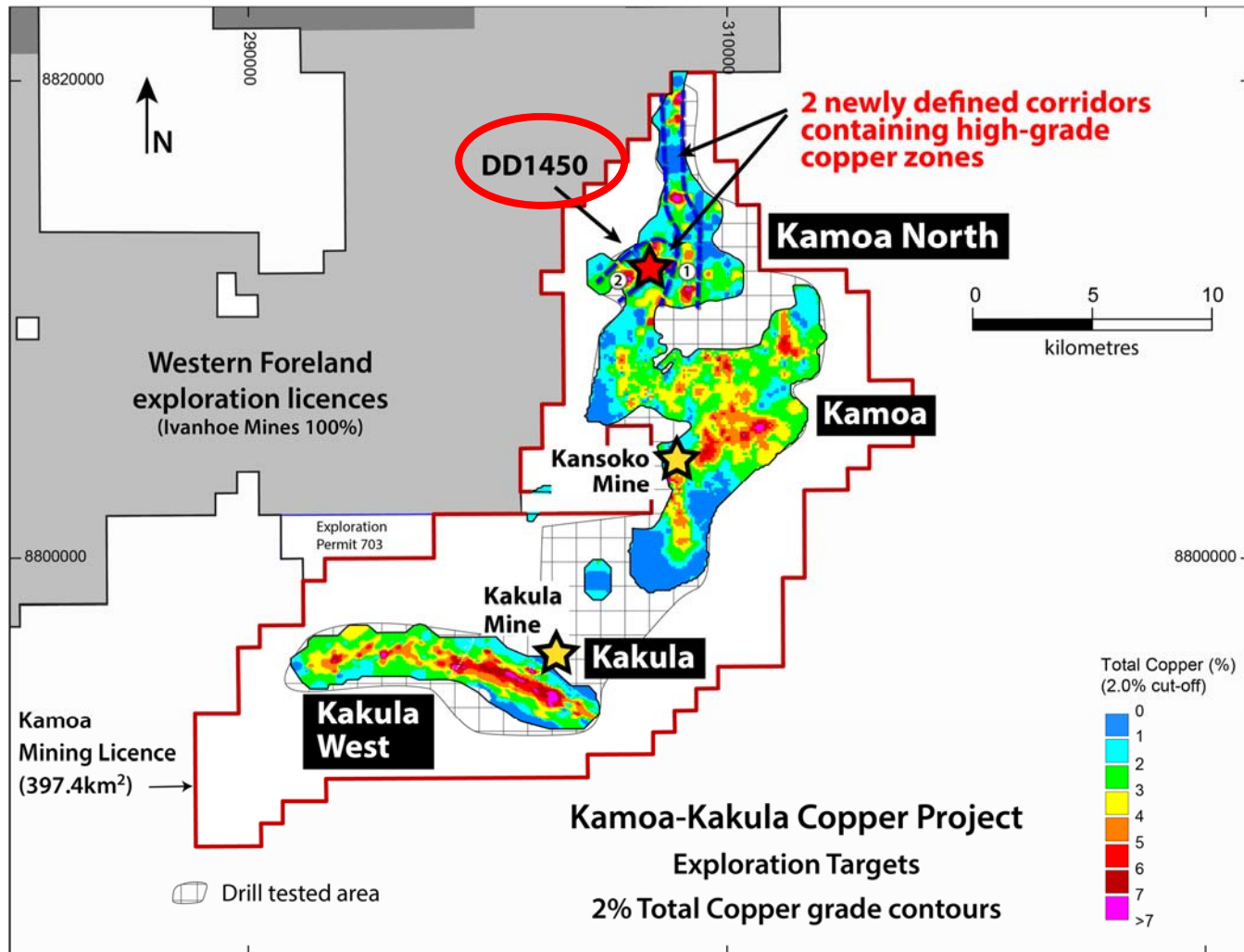
Photo: In March 2019, Kamo-Kakula celebrated achieving more than 13 million work hours free of lost-time injuries.



Photo: Members of Kamo's drilling team marked the completion of the 1,500th exploration hole drilled at the Kamo-Kakula Project.



Figure 4: Map of the Kamo-Kakula mining licence showing the Kakula and Kansoko mining areas, as well as Kakula West, Kamo North and drill hole DD1450, and a portion of Ivanhoe's adjacent, 100%-owned Western Foreland exploration area.



PFS for Kakula and updated PEA for an expanded Kamo-Kakula production rate of 18 Mtpa announced

On February 6, 2019, Ivanhoe announced the results from the Kakula 2019 PFS. The study assesses the potential development of the Kakula Deposit as a 6 Mtpa mining and processing complex. The Kakula mill would be constructed in two smaller phases of 3 Mtpa each as the mining operations ramp-up to full production of 6 Mtpa. The life-of-mine production scenario provides for 119.7 million tonnes to be mined at an average grade of 5.48% copper, producing 9.8 million tonnes of high-grade copper concentrate, containing approximately 12.4 billion pounds of copper. All figures are on a 100%-project basis unless otherwise stated.

On March 22, 2019, Ivanhoe filed an updated NI 43-101 technical report for the Kamo-Kakula Copper Project covering the independent pre-feasibility studies for the development of the Kakula and Kansoko copper mines, and an updated, expanded preliminary economic assessment for the overall integrated development plan for the project. The report, titled Kamo-Kakula Integrated Development Plan 2019, is available on the company's website and under the company's SEDAR profile at www.sedar.com.

Highlights of the PFS, based on a consensus, long-term copper price of \$3.10/lb include:

- Very high-grade, stage-one production is projected to have a grade of 7.1% copper in the second year of production and an average grade of 6.4% copper over the initial 10 years of operations, resulting in estimated average annual copper production of 291,000 tonnes.
- Annual copper production is estimated at 360,000 tonnes in year four.
- Initial capital cost, including contingency, is estimated at \$1.1 billion.
- Average total cash cost of \$1.11/lb of copper during the first 10 years, inclusive of royalties.
- After-tax NPV, at an 8% discount rate, of \$5.4 billion.
- After-tax internal rate of return (IRR) of 46.9%, and a payback period of 2.6 years.
- Kakula is expected to produce a very high-grade copper concentrate in excess of 55% copper, with extremely low arsenic levels.

Ivanhoe also announced an updated independent PEA for an expanded Kakula-Kamoa production rate of 18 Mtpa, supplied initially by a 6 Mtpa mine at Kakula, followed by two 6 Mtpa mines at Kansoko and Kakula West, and a world-scale direct-to-blister smelter.

Highlights of the PEA, based on a consensus, long-term copper price of \$3.10/lb include:

- Very high-grade initial phase projected to have a grade of 7.1% copper in the second year of production and an average grade of 5.7% copper during the first 10 years of operations, resulting in estimated average annual copper production of 386,000 tonnes.
- Recovered copper production is estimated at 740,000 tonnes in year 12, which would rank the Kamoa-Kakula Project as the second largest copper producer in the world.
- Initial capital cost, including contingency, is \$1.1 billion, with subsequent expansions at Kansoko, Kakula West, and other mining areas, as well as the smelter, to be funded by cash flows from the Kakula Mine.
- Average total cash costs of \$0.93/lb of copper during the first 10 years, including sulphuric acid credits.
- After-tax NPV, at an 8% discount rate, of \$10.0 billion.
- After-tax IRR of 40.9% and a payback period of 2.9 years.

Figure 5: Kamo-Kakula 18 Mtpa PEA long-term development plan.

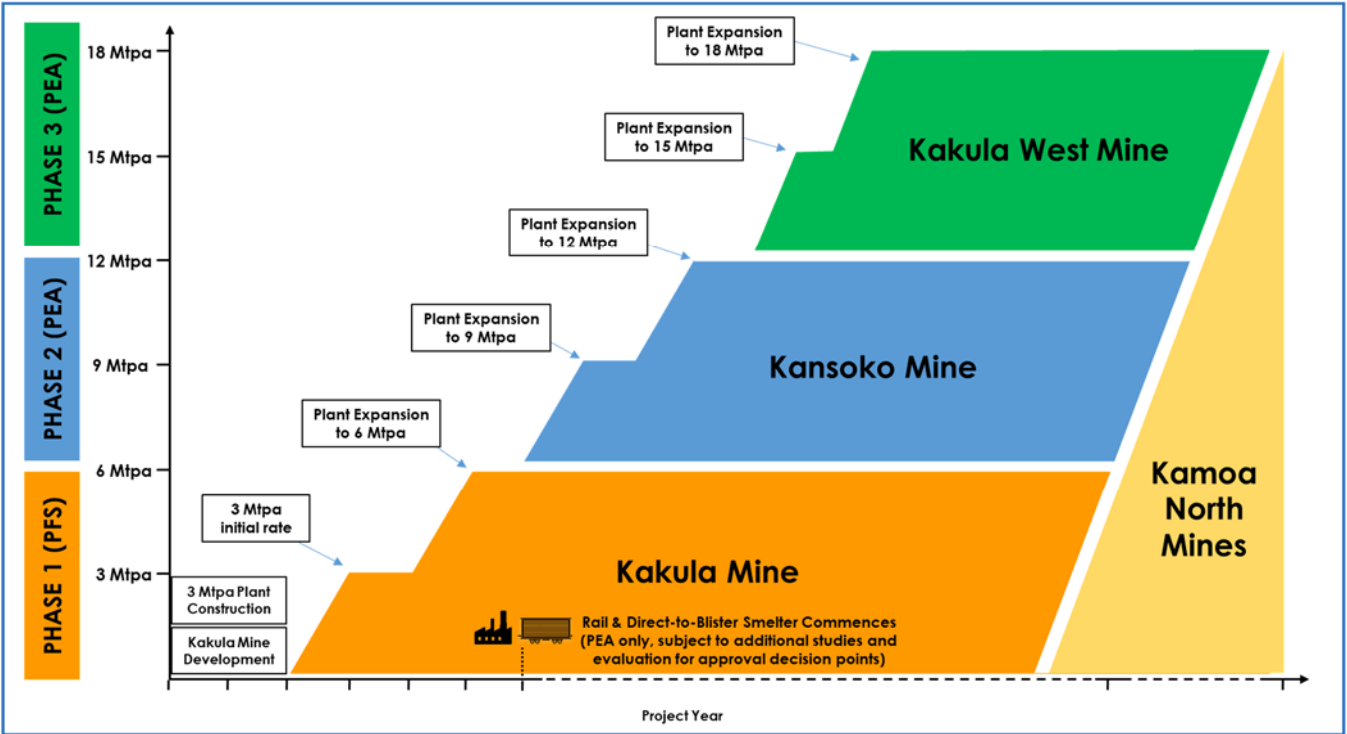
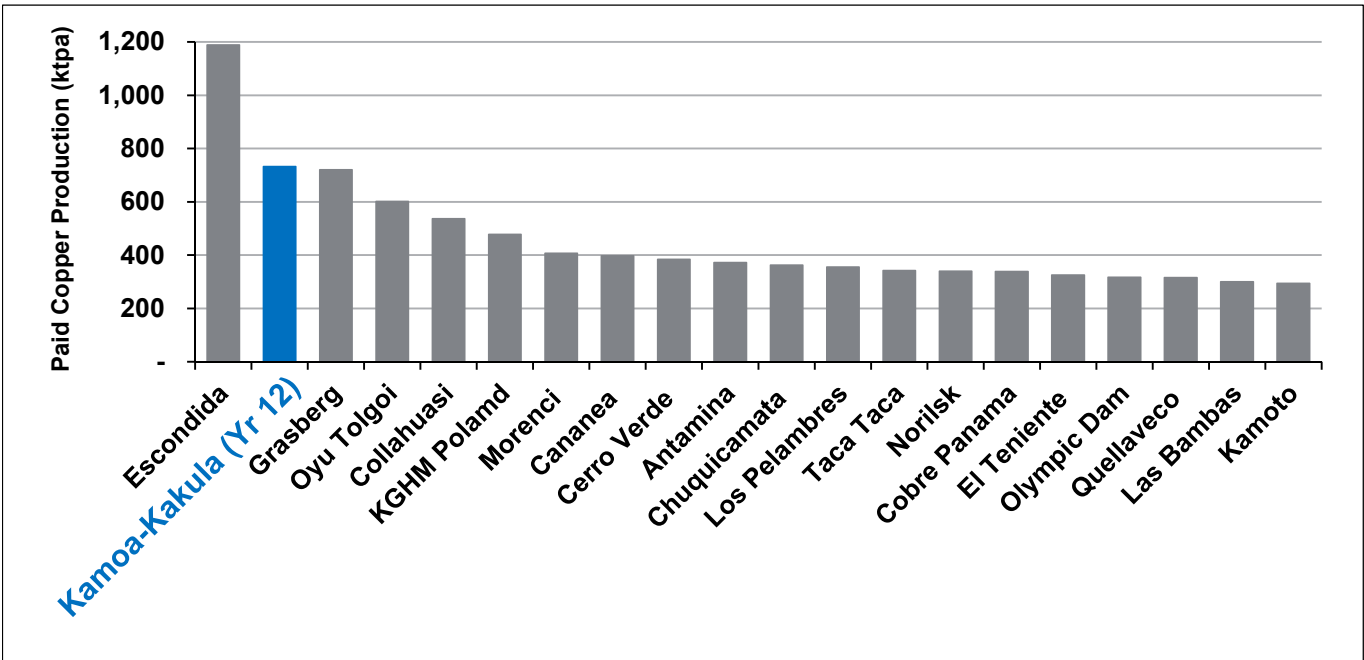


Figure by OreWin 2019.

Figure 6: Projected 18 Mtpa Kamo-Kakula PEA production (year-12 peak copper production shown) compared to the world's projected top 20 producing mines in 2025 by paid copper production.



Note: Kamo-Kakula 2019 PEA production based on projected peak copper production (which occurs in year 12) of the 18 Mtpa alternative development option.
Source: Wood Mackenzie (based on public disclosure, the Kakula 2019 PFS has not been reviewed by Wood Mackenzie).

Kamoa-Kakula Mineral Resources

Ivanhoe issued an updated Mineral Resource estimate for the Kamoa-Kakula Project on February 6, 2019. Details of the updated Mineral Resource estimate are contained in the March 2019, independent NI 43-101 technical report for the Kamoa-Kakula Project.

The updated Mineral Resource estimate includes an updated Kakula Mineral Resource estimate and was prepared by Ivanhoe Mines under the direction of Amec Foster Wheeler E&C Services Inc., of Reno, USA, in accordance with the 2014 CIM Definition Standards for Mineral Resources and Mineral Reserves. The Qualified Persons for the 2019 Kamoa-Kakula Mineral Resource estimate are Dr. Harry Parker, RM, SME and Gordon Seibel, RM, SME both of Amec Foster Wheeler E&C Services Inc.

Indicated Mineral Resources for the combined Kamoa-Kakula Project now total 1,387 million tonnes grading 2.64% copper, containing 80.6 billion pounds of copper at a 1.0% copper cut-off grade and a minimum thickness of three metres. Kamoa-Kakula also has Inferred Mineral Resources of 316 million tonnes grading 1.76% copper and containing 12.2 billion pounds of copper, also at a 1.0% copper cut-off grade and a minimum thickness of three metres.

The Kakula Mineral Resource estimate covers a mineralized strike length of 13.3 kilometres and is based on results from 323 holes completed by November 1, 2018. Indicated Mineral Resources total 628 million tonnes at a grade of 2.72% copper, containing 37.6 billion pounds of copper at a 1% copper cut-off. At a 2% copper cut-off, Indicated Mineral Resources total 319 million tonnes at a 3.99% copper grade, containing 28.1 billion pounds of copper. At a 3% copper cut-off, Indicated Mineral Resources total 164 million tonnes at a grade of 5.50% copper, containing 19.9 billion pounds of copper.

Inferred Mineral Resources total 114 million tonnes at a grade of 1.59% copper, containing 4.0 billion pounds of copper at a 1% copper cut-off. At a 2% copper cut-off, Inferred Mineral Resources total 23 million tonnes at a 2.62% copper grade, containing 1.3 billion pounds of copper. At a 3% copper cut-off, Inferred Mineral Resources total 5.0 million tonnes at a grade of 3.52% copper, containing 0.4 billion pounds of copper.

The average true thickness of the selective mineralized zone (SMZ) at a 1% copper cut-off is 10.5 metres in the Indicated Mineral Resources area and 6.9 metres in the Inferred Mineral Resources area. At a higher 3% copper cut-off, the average true thickness of the SMZ is 4.9 metres in the Indicated Mineral Resources area and 3.9 metres in the Inferred Mineral Resources area.

The Kakula Mineral Resources are defined within a total area of 27.4 square kilometres at a 1% copper cut-off. At the same cut-off grade, the areal extent of Indicated Mineral Resources is 21.5 square kilometres and the areal extent of the Inferred Mineral Resources is 5.9 square kilometres.

Underground development progressing at the Kakula Deposit

Development of the twin access declines at the northern side of the Kakula Deposit started with the first blast on November 16, 2017. At the end of 2018, each of the twin declines at Kakula had been advanced more than 1,180 metres from the portal face toward the mineralized zone for a total advancement of 3,430 metres. Both declines currently are passing through the lower diamictite, approaching the high-grade mineralization. Construction of the 1,050-metre-level dam and the two access drifts also were initiated in Q4 2018.

Photo: Preparing an explosive charge underground at Kakula. The main twin declines intersected the northern edge of the mineralized reef in January 2019. Lateral underground mine development now is progressing toward the initial, high-grade mining area.



A system of 'through-ventilation' has been constructed with fresh air being pulled down the service decline and exhausted up the conveyor decline. This will allow the project to increase the underground work force to four development crews and will enable fresh air to be pushed further into the mine than had been possible with forced vent ducts from surface.

A single decline also is being developed on the south side of the Kakula Deposit to provide bottom access to Ventilation Shaft 2, enabling this shaft to be constructed by raise boring instead of sinking. This decline also will be used as a second means of egress from the mine.

The design for the main Kakula decline conveyor system and initial two truck tips at the bottom of the decline is well advanced. Most of the major procurement packages had been ordered by the end of 2018, including steel fabrication, conveyor drives, idlers and apron feeders. Construction is expected to start in late-March 2019 and it is scheduled to be operational by the end of 2019. This will reduce the truck traffic in the declines with consequent reduction in costs, congestion and ventilation requirements.

The contract for raise boring of Ventilation Shaft 1 was awarded in November 2018. The shaft will be 5.5 metres in diameter and 200 metres deep.

Photo: Construction is underway on a third decline tunnel on the southern side of the Kakula Deposit to provide access and ventilation to the high-grade copper.



Figure 7: Kakula 2019 PFS mine development plan prepared by Stantec.

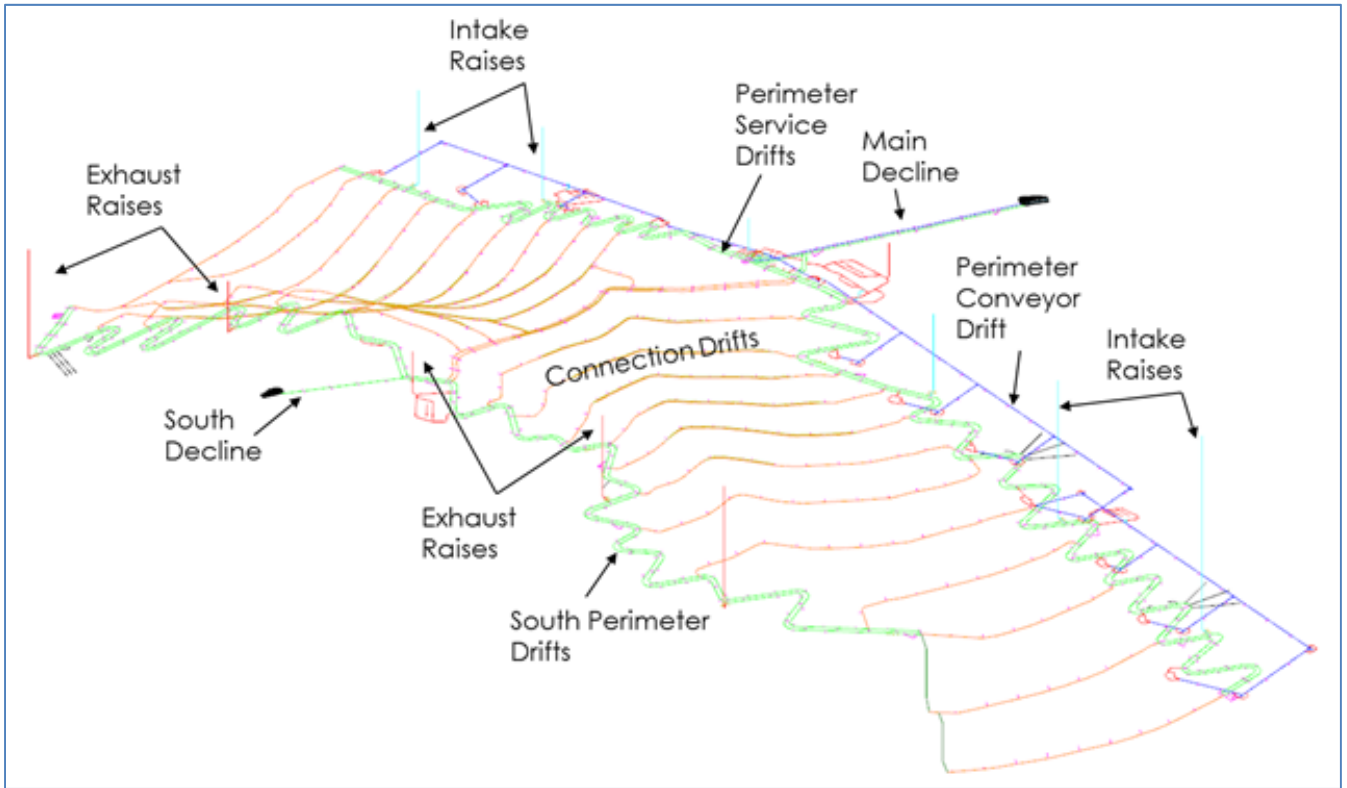


Photo: Contractors wiring up explosives for Ventilation Shaft 1 that will provide fresh air to Kakula's underground workings.



Exploration activities continue at Kakula and Kamoa North

Exploration drilling in Q4 2018 was completed with eight contractor drill rigs and two company-owned drill rigs. The number of drill rigs was gradually reduced in December 2018 to allow for a shut down over the holiday period and for scheduled reduction in drilling for 2019. A total of 85,593 metres were drilled in 2018 from 272 diamond drill-holes.

Exploration drilling during Q4 2018 was split between Kakula and Kamoa North, with 21,198 metres drilled for exploration purposes in 58 holes. The reduction from the previous quarter was due to geotechnical drilling for the decline and planned tailings storage facility site. A total of 36 holes, totalling 16,178 metres, were completed in Kamoa North in which two rigs were drilling shallow holes.

Unprecedented exploration drilling results

On January 30, 2019, Ivanhoe released assay results from ongoing exploration drilling at Kamoa North. Assays for 22 holes were released. The results included an unprecedented 22.3-metre intersection (true thickness) of 13.05% copper at a cut-off of 2% copper, in a shallow, flat-lying discovery at the Kamoa North copper exploration area.

Drill hole DD1450 includes multiple one-metre intersections with copper grades higher than 20% copper, including a 40%-copper interval.

At a cut-off of 5% copper, DD1450's intersection is 15.92% copper over 16.8 metres (true thickness). Using a lower cut-off grade of 1% copper, the intersection is 10.29% copper over 29.4 metres (true thickness), beginning at a depth of only 190 metres below surface.

Photo: One of two rigs currently drilling in the Kamo North area. One rig is pursuing extensions of high-grade mineralization intersected in the far northern region of the Kamo-Kakula mining licence, while the other rig is targeting extensions of the ultra-high-grade copper intersected in drill hole DD1450.



Photo: David Edwards, Kamo-Kakula's Geology Manager (right) identifies the location of the next drill hole at Kamo North to one of Kamo's contract drillers.

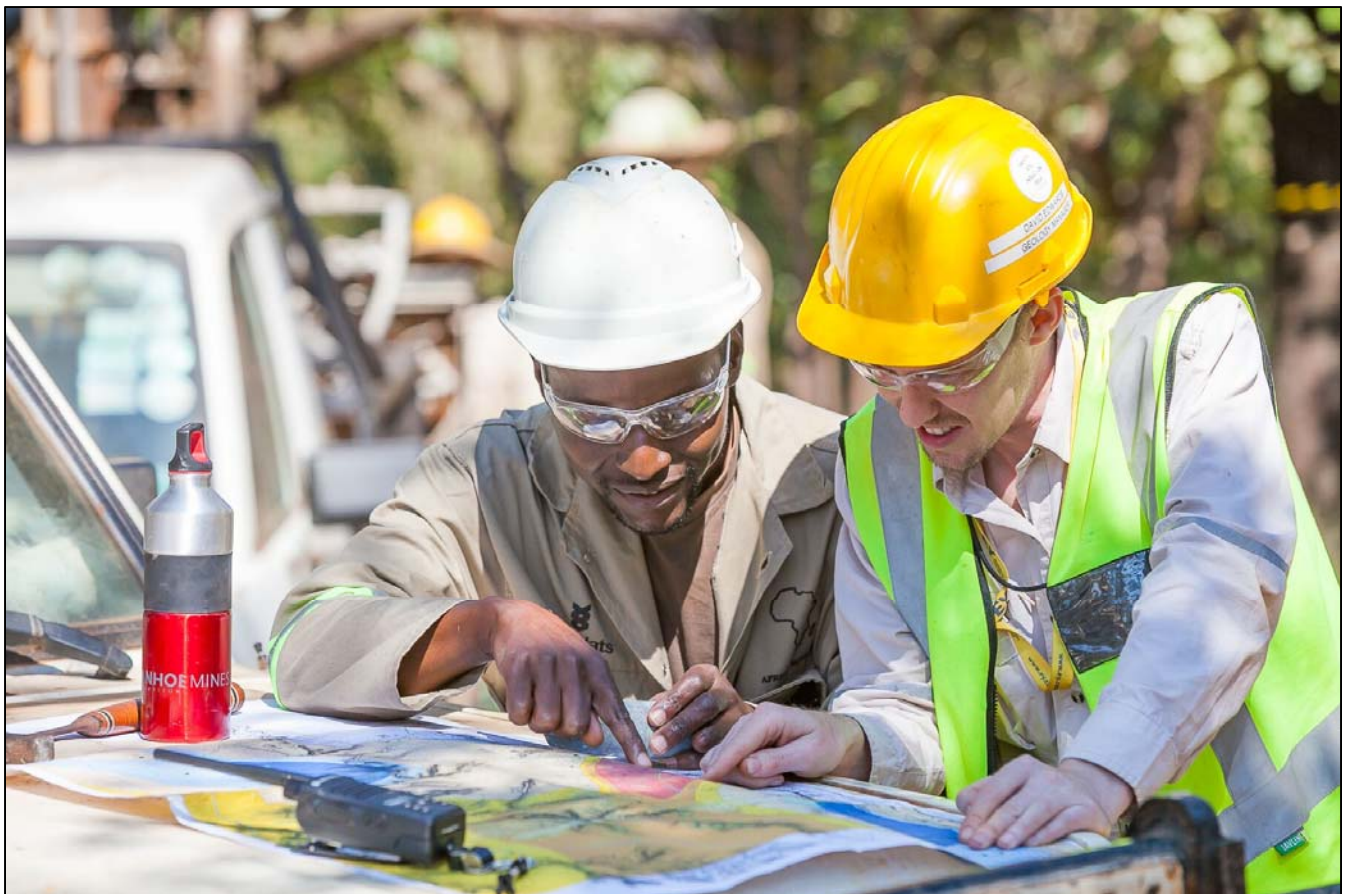
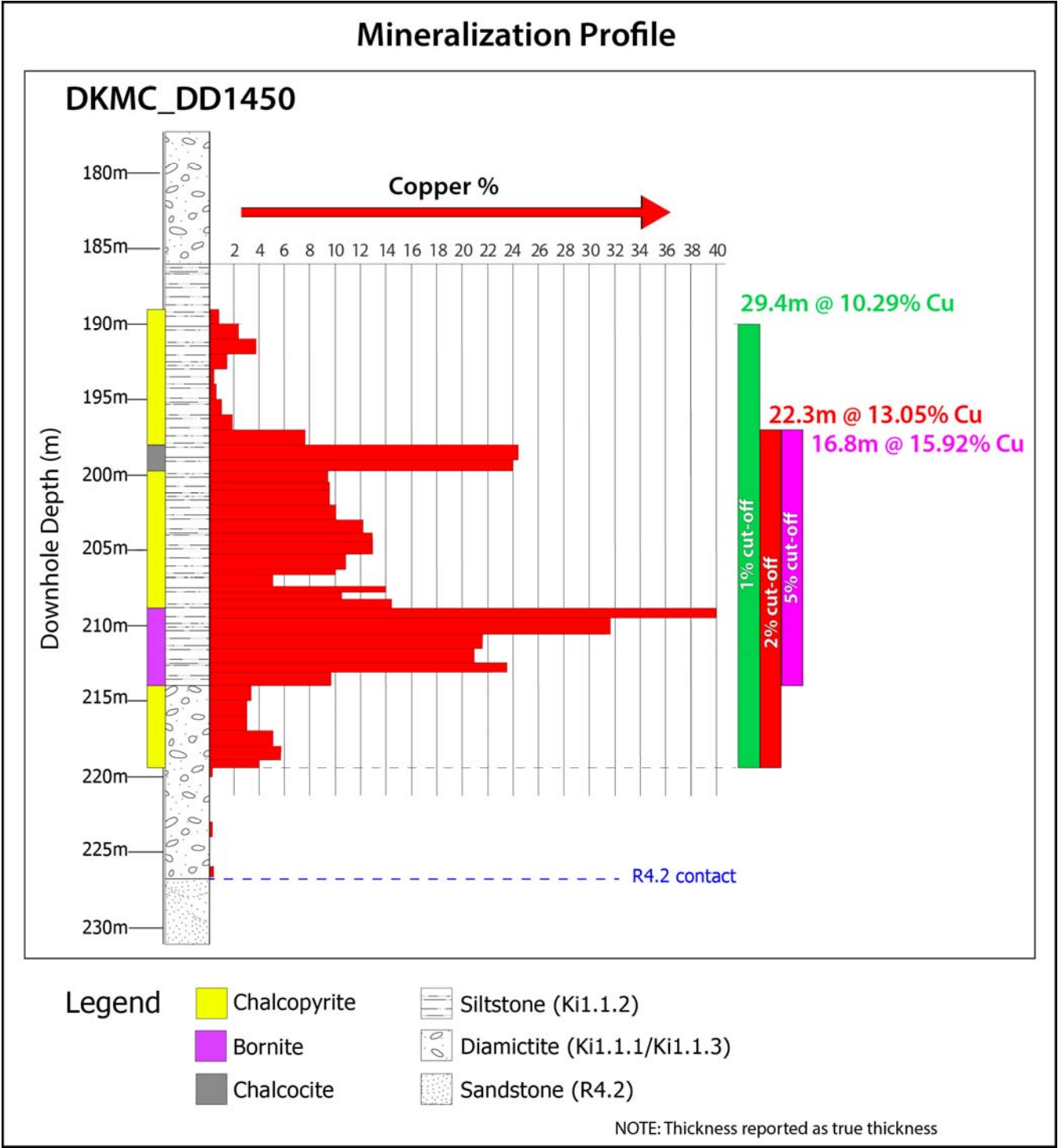


Figure 8: Mineralization profile for drill hole DD1450 at Kamo North, beginning at a depth of only 190 metres below surface.



Additional drilling is underway to test the strike and width of the east-west trending fault structure that hosts the bonanza-grade copper in hole DD1450. Nine holes now have been completed in the discovery area, and assays are pending for eight of the holes. Based on visual interpretation of massive bornite and chalcopyrite in the recent drill intersections, the new, high-grade zone of shallow, thick, flat-lying, copper mineralization has been extended over a strike length of at least 200 metres, a width of up to 80 metres, and drilled thickness of between 13 and 30 metres. The new discovery zone is approximately

170 to 200 metres below surface.

Discovery hole DD1450 is associated with an east-west trending fault structure that allowed copper-rich fluids to flow into the stratigraphy above the conventional, Kamoa-Kakula mineralized zone and into a pyrite-rich, siltstone zone called the Kamoa Pyritic Siltstone (KPS). The shallow depth, remarkable thickness and massive copper mineralization in the KPS discovery could prove extremely significant if targeted early from a future Kamoa North decline.

The controlling east-west striking fault responsible for the massive copper sulphide mineralization in the KPS is visible on airborne magnetic images and can be traced over a distance length at least 10 to 20 kilometres. It trends west of Kamoa-Kakula for a considerable distance onto the adjacent Western Foreland exploration licences that are 100%-owned by Ivanhoe Mines. More rigs will be added to expedite the drill testing of this mineralizing structure.

Kamoa-Kakula geologists also are exploring another zone of shallow, high-grade copper mineralization in the far northern region of the Kamoa-Kakula mining licence. This mineralized corridor trends north and south for more than nine kilometres before swinging to the northwest and is projected to continue onto the adjacent Western Foreland exploration licences.

Regional geophysical surveys

The preliminary results for the seismic survey were received in Q4 2018 and were reviewed to check the consistency of the data, look for geological features and decide the best parameters for further data processing. Processing continued in Q1 2019.

Ongoing upgrading work enables Mwadingusha hydropower station to supply clean electricity to the national grid

Ongoing upgrading work at the Mwadingusha hydropower plant in the DRC has significantly progressed with the major equipment being delivered on site. The power station was shut down to replace sections of penstocks that were found to be in an advanced stage of corrosion. The progressive re-commissioning of the turbines, fully refurbished and modernized with state-of-the-art control and instrumentation will start in 2019 and be completed in Q3 2020. The refurbished plant will deliver an output increased by 10% to a capacity of approximately 72 megawatts (MW) of power.

The work at Mwadingusha, part of a program to eventually overhaul and boost output from three hydropower plants, is being conducted by engineering firm Stucky of Lausanne, Switzerland, under the direction of Ivanhoe Mines and Zijin Mining, in conjunction with the DRC's state-owned power company, La Société Nationale d'Electricité (SNEL). Once fully reconditioned, the three plants will have a combined installed capacity of approximately 200 MW of electricity for the national grid, which is expected to be more than sufficient for the Kamoa-Kakula Project.

The Kansoko Mine, Kakula Mine and Kamoa camp have been connected to the national hydroelectric power grid since the completion of a 12-kilometre, 120-kilovolt, dual-circuit power line between Kansoko and Kakula in December 2017. The design of permanent, 11-kilovolt reticulation to the vent shafts and mine has started, which includes substations, overhead lines and surface cables.

Photo: Construction has commenced on a 220-kilovolt electrical substation at the Kakula Mine that will allow the mine to be powered by clean, sustainable hydro-generated electricity from the country's national power grid.



Photo: Surveying and construction is underway on a new, 20-kilometre by-pass road linking the Kamo-Kakula Project to the Kolwezi airport, located approximately six kilometres south of Kolwezi. When completed, this new road will significantly improve the transportation corridor between Kolwezi and Kamo-Kakula.



Continued focus on community and sustainability

The Kamoa-Kakula Sustainable Livelihoods Program is committed to sustainable development in the communities within the project's footprint. The main objective of the livelihoods program is to enhance food security and the living standards of the people who reside within the project's footprint. The program is mainly implemented through fish farming and food crops, including farming of maize (corn) and vegetables, plus poultry production and beekeeping.

Additional non-farming related activities for 2018 included education and literacy programs, the completion of a community water program, the continuation of the brick-making program and the creation of unskilled job opportunities.

The resettlement and fencing for the 16-kilometre mine perimeter fence was completed in October 2018. A total of 45 households were successfully resettled in newly constructed houses in the Muvunda village and a new school was constructed in Muvunda.

Photo: Farmers weeding newly-planted cabbage at one of the new community farms established near the Kamoa-Kakula Project. Two fish-farming ponds are in the background, where local community members raise tilapia until they are big enough to harvest. The initiatives are part of Kamoa-Kakula's Sustainable Livelihoods Program to support and expand food production in nearby communities.



DRC WESTERN FORELAND EXPLORATION PROJECT

Ivanhoe's DRC exploration group is targeting Kamoa-Kakula-style copper mineralization through a regional drilling program on its 100%-owned Western Foreland exploration licences, located to the north and west of the Kamoa-Kakula Project.

During Q4 2018, exploration drilling continued with three rigs. A total of 7,339 metres in 19 diamond drill holes were completed during the quarter, bringing the total to 29,271 metres in 66 holes.

Drilling continued at Makoko throughout the quarter, with 13 holes completed. Ivanhoe commissioned a Toyota Landcruiser mounted drill rig during September 2018 that is being used to test for geochemical anomalies and prospective stratigraphy along the margin of the Western Foreland, where access is difficult. Seven of the 13 completed Makoko holes were drilled by the Landcruiser rig for a total of 821 metres.

Processing of seismic data has been ongoing through the quarter with additional processing completed at Velseis Integrated Seismic Technologies in Brisbane, Australia. The 2D sections are being combined with detailed ground gravity data, airborne magnetics and drilling data to create a predicted geological interpretation from Kakula to Makoko. This work is providing an intricate insight into the behaviour of the mineralizing system in the Western Foreland area.

Photo: A drill rig in action at the Makoko Discovery.



Makoko Copper Discovery

On October 1, 2018, Ivanhoe announced the Makoko Copper Discovery on its 100%-owned Western Foreland exploration licences, near Kamoia-Kakula in the DRC. The Makoko Discovery is Ivanhoe's third major copper discovery in the DRC and shows characteristics identical to Ivanhoe's tier-one Kamoia-Kakula discoveries.

Selected drill holes at the Makoko Discovery include:

- DD004 (the Makoko discovery hole) intersected 3.94 metres (true width) of 5.46% copper, at a 2.0% copper cut-off, and 3.94 metres (true width) of 5.46% copper at a 1.0% copper cut-off, from a downhole depth of 306 metres.
- DD010 intersected 3.21 metres (true width) of 6.78% copper, at a 2.0% copper cut-off, and 3.95 metres (true width) of 5.81% copper at a 1.0% copper cut-off, from a downhole depth of 441 metres.
- DD017 intersected 3.19 metres (true width) of 6.49% copper at a 2.0% copper cut-off, and 4.64 metres (true width) of 4.88% copper, at a 1.0% copper cut-off, from a downhole depth of 471.7 metres.
- DD025 intersected 3.00 metres (true width) of 7.61% copper at a 2.0% copper cut-off, and 3.00 metres (true width) of 7.61% copper, at a 1.0% copper cut-off, from a downhole depth of 406 metres.
- DD046 intersected 7.44 metres (true width) of 7.81% copper at a 2.0% copper cut-off, and 9.39 metres (true width) of 6.51% copper, at a 1.0% copper cut-off, from a downhole depth of 523.51 metres.

The initial discovery hole at Makoko, DD004, was drilled in September 2017; follow-up and infill drilling has been ongoing since then. Drilling to date at Makoko has defined a flat-lying, near-surface stratiform copper deposit, similar to the Kamoia and Kakula deposits. The structure contour map indicates that the mineralized formation in the Makoko area is within 1,000 metres of surface. The majority of the drilling to date at Makoko has intersected the copper-rich zone between 400 metres and 800 metres below surface. The mineralized zone at Makoko strikes approximately south-southeast. It has been tested over a strike length of 4.5 kilometres and a dip extent of between one and two kilometres. Copper mineralization remains open both along strike and down dip.

Photo: Silstone-hosted mineralization in Makoko drill holes DD004, DD017 and DD010. DD004 is one of the holes where chalcocite is the dominant copper sulphide mineral. The purple-coloured copper mineral is bornite.

DD004



0.83m @ 12% Cu
2% Cu cut-off: 3.94m @ 5.46%

DD017



0.85m @ 15.9% Cu
2% Cu cut-off: 3.19m @ 6.49%

DD010



0.67m @ 15% Cu
2% Cu cut-off: 3.21m @ 6.87%

SELECTED ANNUAL FINANCIAL INFORMATION

This selected financial information is in accordance with IFRS as presented in the annual consolidated financial statements. Ivanhoe had no operating revenue in any financial reporting period and did not declare or pay any dividend or distribution in any financial reporting period.

	For the year ended December 31,		
	2018	2017	2016
	\$'000	\$'000	\$'000
Exploration and project expenditure	11,487	40,503	32,426
Share of (profits) losses from joint venture	(19,615)	27,505	21,732
General administrative expenditure	26,215	19,260	18,835
Share-based payments	6,871	4,908	5,977
Loss (gain) on fair valuation of financial asset	6,639	(5,843)	(1,693)
Reversal of impairment of mineral property and other items	-	(286,283)	-
Finance income	(49,859)	(32,614)	(29,902)
Finance costs	946	1,710	1,798
Total comprehensive loss (profit) attributable to:			
Owners of the Company	3,892	(182,872)	23,011
Non-controlling interest	9,703	(64,909)	12,739
Basic (profit) loss per share	(0.03)	(0.22)	0.04
Diluted (profit) loss per share	(0.03)	(0.21)	0.04
Total assets	1,884,788	1,271,311	1,002,230
Non-current liabilities	36,189	33,668	28,957

DISCUSSION OF RESULTS OF OPERATIONS

Review of the year ended December 31, 2018 vs. December 31, 2017

The Company recorded a total comprehensive loss of \$13.6 million for the year ended December 31, 2018, compared to a total comprehensive profit of \$247.8 million for the year ended December 31, 2017. The profit in 2017 was attributable mainly to the reversal of the impairment of mineral property and other items of the Kipushi Project of \$286.3 million.

When excluding the 2017 reversal of impairment of \$286.3 million, the Company's total comprehensive loss for the year ended December 31, 2017, would have amounted to \$38.5 million. This is \$24.9 million higher than the total comprehensive loss of \$13.6 million for the same period in 2018. The decrease mainly was due to the Company recording its share of a profit from the Kamoa Holding joint venture of \$19.6 million for the year ended December 31, 2018, compared to a loss of \$27.5 million in 2017.

The following table summarizes the Company's share of the profits and losses of Kamo Holding for the year ended December 31, 2018, and for the same period in 2017:

	Year ended December 31, 2018	Year ended December 31, 2017
	\$'000	\$'000
Interest expense	57,083	42,137
Exploration costs	19,921	26,631
Foreign exchange loss	168	4,333
Reversal of VAT impairment	(15,557)	-
Interest income	(3,742)	(1,747)
Loss before taxes	57,873	71,354
Deferred tax recovery	(110,416)	-
(Profit) loss after taxes	(52,543)	71,354
Profit (loss) attributable to non-controlling interest	12,917	(15,788)
(Profit) loss for the period attributable to joint venture partners	(39,626)	55,566
Company's share of (profits) losses from joint venture (49.5%)	(19,615)	27,505

The costs associated with mine development are capitalized as development costs in Kamo Holding, while the exploration expenditure is expensed. Capitalization of costs at Kakula commenced during Q2 2017, coinciding with the start of the Kakula box cut. Expenditure attributable to exploration at Kamo North, Kakula West and in the saddle area between Kakula West and Kakula still was expensed in 2018.

The interest expense in the Kamo Holding joint venture relates to shareholder loans where each shareholder is required to fund Kamo Holding in an amount equivalent to its proportionate shareholding interest. The Company is advancing Crystal River's portion on its behalf in return for an increase in the promissory note due to Ivanhoe.

With the Kamo-Kakula Project quickly advancing towards production and as supported by the excellent economics in the recently completed pre-feasibility study on Kakula, future taxable income now is deemed probable at the Kamo-Kakula Project and the previously unrecognized deferred tax asset has been recognized by the Kamo Holding joint venture as a result. Furthermore, with revenue deemed probable, the Kamo Holding joint venture also has reversed the impairment of previously impaired VAT receivables that will be available for set-off once income tax is payable.

The Company's total comprehensive loss included an exchange loss on translation of foreign operations of \$33.0 million for the year ended December 31, 2018, resulting from the weakening of the South African Rand by 17% from December 31, 2017, to December 31, 2018, compared to an exchange gain on translation of foreign operations recognized in 2017 of \$13.8 million.

Exploration and project expenditure for the year ended December 31, 2018, amounted to \$11.5 million and was \$29.0 million less than for the same period in 2017 (\$40.5 million). Exploration and project expenditure for 2018 related solely to Ivanhoe's 100%-owned Western Foreland exploration licences, while \$36.7 million for 2017 related to the Kipushi Project.

Finance income for the year ended December 31, 2018, amounted to \$49.9 million, and was \$17.2 million more than for the same period in 2017 (\$32.6 million). The increase mainly was due to interest earned on loans to the Kamo Holding joint venture to fund operations that amounted to \$40.4 million in 2018, and increased by \$13.0 million as the accumulated loan balance increased.

Financial position as at December 31, 2018 vs. December 31, 2017

The Company's total assets increased by \$613.5 million, from \$1,271.3 million as at December 31, 2017, to \$1,884.8 million as at December 31, 2018. The increase mainly was due to the proceeds received on completion of the equity investment by CITIC Metal Africa Investments Limited (CITIC Metal Africa) and Zijin exercising its anti-dilution rights, for gross proceeds of \$555 million and \$60 million respectively.

Cash and cash equivalents increased by \$392.6 million. The Company utilized \$14.7 million of its cash resources in its operations, which includes interest of \$7.1 million received during the year ended December 31, 2018.

The Company's investment in the Kamoia Holding joint venture increased by \$129.3 million from \$552.4 million as at December 31, 2017, to \$681.7 million as at December 31, 2018, with each of the current shareholders funding the operations equivalent to their proportionate shareholding interest. The Company's portion of the Kamoia Holding joint venture cash calls amounted to \$69.3 million during 2018, while the Company's share of comprehensive profit from the joint venture amounted to \$19.6 million.

The net increase of property, plant and equipment amounted to \$96.4 million, with a total of \$127.9 million being spent on project development and to acquire other property, plant and equipment. Of this total, \$59.9 million and \$69.1 million pertained to development costs and other acquisitions of property, plant and equipment at the Platreef Project and Kipushi Project respectively.

The main components of the additions to property, plant and equipment - including capitalized development costs - at the Platreef and Kipushi projects for the year ended December 31, 2018, and for the same period in 2017, are set out in the following table:

	Year ended December 31, 2018 \$'000	Year ended December 31, 2017 \$'000
Platreef Project		
Shaft 1 construction	29,856	23,112
Salaries and benefits	9,077	8,222
Administrative and other expenditure	7,515	6,929
Shaft 2 early works	5,438	1,164
Social and environmental	2,331	2,431
Infrastructure	2,233	145
Studies and contracting work	1,885	4,371
Site costs	1,114	865
Total development costs	59,449	47,239
Other additions to property, plant and equipment	476	1,856
Total additions to property, plant and equipment for Platreef	59,925	49,095
Kipushi Project		
Salaries and benefits	16,174	14,569
Electricity	7,008	6,204
Studies and contracting work	6,762	3,240
Depreciation	3,005	3,445
Repair and maintenance	960	3,820
Other expenditure	13,647	7,662
	47,556	38,940
<i>Classified as:</i>		
Exploration and project expenditure in the loss from operating activities	-	36,681
Capitalized as development cost in property, plant and equipment	47,556	2,259
Other additions to property, plant and equipment	21,529	9,390
Total additions to property, plant and equipment for Kipushi	69,085	11,649

Costs incurred at the Kipushi Project subsequent to the finalization of its pre-feasibility study, have been capitalized as property, plant and equipment. Costs incurred at the Platreef Project are deemed necessary to bring the project to commercial production and are therefore also capitalized.

The Company's total liabilities increased by \$6.2 million to \$66.0 million as at December 31, 2018, from \$59.8 million as at December 31, 2017. The increase was mainly due to a \$2.9 million increase in trade and other payables and a \$2.0 million increase in borrowings resulting from un-paid interest.

SELECTED QUARTERLY FINANCIAL INFORMATION

The following table summarizes selected financial information for the prior eight quarters. Ivanhoe had no operating revenue in any financial reporting period and did not declare or pay any dividend or distribution in any financial reporting period.

	Three months ended			
	December 31,	September 30,	June 30,	March 31,
	2018	2018	2018	2018
	\$'000	\$'000	\$'000	\$'000
Exploration and project expenditure	4,910	2,368	2,773	1,436
Share of (profits) losses from joint venture	(41,274)	7,757	6,702	7,200
General administrative expenditure	12,869	1,823	6,269	5,254
Share-based payments	1,866	1,829	1,764	1,412
Finance income	(16,481)	(12,146)	(10,875)	(10,357)
Finance costs	66	185	352	343
Total comprehensive (profit) loss attributable to:				
Owners of the Company	(30,740)	5,838	33,710	(4,916)
Non-controlling interest	2,330	2,046	4,263	1,064
Basic (profit) loss per share	(0.04)	0.00	0.01	0.01
Diluted (profit) loss per share	(0.04)	0.00	0.01	0.01

	Three months ended			
	December 31,	September 30,	June 30,	March 31,
	2017	2017	2017	2017
	\$'000	\$'000	\$'000	\$'000
Exploration and project expenditure	10,986	11,595	9,626	8,296
Share of losses from joint venture	10,193	6,759	5,035	5,518
General administrative expenditure	3,316	6,039	4,952	4,953
Share-based payments	1,111	1,224	1,201	1,372
Reversal of impairment of mineral property and other items	(286,283)	-	-	-
Finance income	(8,986)	(8,032)	(9,167)	(6,429)
Finance costs	442	434	355	479
Total comprehensive (profit) loss attributable to:				
Owners of the Company	(207,991)	15,893	7,477	1,749
Non-controlling interest	(77,336)	5,269	3,885	3,273
Basic (profit) loss per share	(0.25)	0.01	0.01	0.01
Diluted (profit) loss per share	(0.24)	0.01	0.01	0.01

Review of the three months ended December 31, 2018 vs. 2017

The Company recorded a total comprehensive profit of \$28.4 million for Q4 2018 compared to a profit of \$285.3 million for the same period in 2017. The profit in 2017 was attributable mainly to the reversal of the impairment of mineral property and other items of the Kipushi Project of \$286.3 million as described above, while the profit in 2018 mainly was due to the Company recording its share of a profit from the

Kamoa Holding joint venture of \$41.3 million for the three months ended December 31, 2018, compared to a loss of \$10.2 million for the same period in 2017.

The following table summarizes the Company's share of the profits and losses of Kamoa Holding for the three months ended December 31, 2018, and for the same period in 2017:

	Three months ended December 31,	
	2018 \$'000	2017 \$'000
Interest expense	16,155	12,137
Exploration costs	5,618	9,989
Foreign exchange loss	145	4,336
Reversal of VAT impairment	(15,557)	-
Interest income	(1,145)	(588)
Loss before taxes	5,216	25,874
Deferred tax recovery	(110,416)	-
(Profit) loss after taxes	(105,200)	25,874
Profit (loss) attributable to non-controlling interest	21,818	(5,281)
(Profit) loss for the period attributable to joint venture partners	(83,382)	20,593
Company's share of (profits) losses from joint venture (49.5%)	(41,274)	10,193

Finance income for Q4 2018, amounted to \$16.5 million, and was \$7.5 million more than for the same period in 2017 (\$9.0 million). The increase mainly was due to interest earned on loans to the Kamoa Holding joint venture to fund operations that increased by \$3.6 million as the accumulated loan balance increased and increase in interest received on cash and cash equivalents due to a higher cash balance during Q4 2018.

The Company's total comprehensive profit for Q4 2018 included an exchange loss on translation of foreign operations of \$9.1 million for the three months ended December 31, 2018, resulting from the weakening of the South African Rand from September 30, 2018, to December 31, 2018, compared to an exchange gain on translation of foreign operations recognized in Q4 2017 of \$12.4 million.

Exploration and project expenditure for the three months ended December 31, 2018, amounted to \$4.9 million and was \$6.1 million less than for the same period in 2017 (\$11.0 million). The decrease in exploration and project expenditure is attributable to the capitalization of costs incurred at the Kipushi Project that began following the finalization of its PFS in December 2017.

With the focus at the Kipushi and Platreef projects being on development and the Kamoa-Kakula Project being accounted for as a joint venture, the total \$4.9 million exploration and project expenditure for the three months ended December 31, 2018, related to exploration at Ivanhoe's 100%-owned Western Foreland exploration licences. In Q4 2017, \$8.3 million of the total \$11.0 million exploration and project expenditure related to the Kipushi Project.

LIQUIDITY AND CAPITAL RESOURCES

The Company had \$574.0 million in cash and cash equivalents as at December 31, 2018. At this date, the Company had consolidated working capital of approximately \$562.9 million, compared to \$182.0 million at December 31, 2017.

On September 19, 2018, Ivanhoe announced the completion of a major strategic equity investment totalling C\$723 million (\$555 million) in Ivanhoe Mines by CITIC Metal Africa, a direct subsidiary of CITIC Metal Co., Ltd. (CITIC Metal), one of China's leading international resources companies. Ivanhoe Mines issued 196,602,037 common shares to CITIC Metal Africa through a private placement at a price of C\$3.68 per share. Zijin exercised its anti-dilution rights, generating additional proceeds for Ivanhoe of C\$78 million (\$60 million). The exercise by Zijin of its anti-dilution rights also was at a price of C\$3.68 per share.

Photo: Ivanhoe Mines' Executive Co-Chairman Robert Friedland and CITIC Metal Group President Yufeng "Miles" Sun signed the landmark agreement to complete CITIC's C\$723 million equity investment in Ivanhoe during a ceremony in Beijing on September 19, 2018.



The Platreef Project's restricted cash, which were funds of \$290 million invested by the Japanese consortium of ITOCHU Corporation, Japan Oil, Gas and Metals National Corporation and Japan Gas Corporation, has been fully utilized and the project's current expenditure is being funded solely by Ivanhoe as the Japanese consortium has elected not to contribute to current expenditures. Since the Platreef Project's restricted cash was fully utilized, Ivanhoe has contributed a total of \$11.2 million on behalf of the Japanese consortium through an interest bearing loan to Ivanplats.

Since December 8, 2015, each shareholder in Kamoa Holding has been required to fund Kamoa Holding in an amount equivalent to its proportionate shareholding interest. The Company is advancing Crystal River's portion on its behalf in return for an increase in the promissory note due to Ivanhoe.

The Company's main objectives for 2019 at the Platreef Project are the continuation of Shaft 1 construction and the completion of early-works construction of Shaft 2. At Kipushi, the principal objectives

are the completion of the feasibility study and continued upgrading of mining infrastructure. At the Kamoakakula Project, priorities are the continuation of development at Kakula and the completion of the feasibility study for Kakula. The Company has budgeted to spend \$90 million on further development at the Platreef Project; \$57 million at the Kipushi Project; \$16 million on regional exploration in the DRC; and \$30 million on corporate overheads for 2019 – as well as its proportionate funding of the Kamoakakula Project, expected to be \$101 million for 2019.

The Company has a mortgage bond outstanding on its offices in London, United Kingdom, of £3.2 million (\$4.1 million). The bond is fully repayable on August 31, 2020, secured by the property and incurs interest at a rate of LIBOR plus 1.9% payable monthly in arrears. Only interest will be payable until maturity.

In 2013, the Company became party to a loan payable to ITC Platinum Development Limited, which had a carrying value of \$27.2 million as at December 31, 2018, and a contractual amount due of \$32.6 million. The loan is repayable once the Platreef Project has residual cashflow, which is defined in the loan agreement as gross revenue generated by the Platreef Project, less all operating costs attributable thereto, including all mining development and operating costs. The loan attracts interest of LIBOR plus 2% calculated monthly in arrears. Interest is not compounded. The difference of \$5.4 million between the contractual amount due and the carrying value of the loan is the benefit derived from the low-interest loan.

The Company has an implied commitment in terms of spending on work programs submitted to regulatory bodies to maintain the good standing of exploration and exploitation permits at its mineral properties. The following table sets forth the Company's long-term obligations:

Contractual obligations as at December 31, 2018	Payments Due By Period				
	Total \$'000	Less than			After 5 years \$'000
		1 year \$'000	1-3 years \$'000	4-5 years \$'000	
Debt	36,656	-	4,097	-	32,559
Operating leases	1,243	454	789	-	-
Shaft 1 construction – Platreef Project	36,880	29,969	6,911	-	-
Shaft 2 construction – Platreef Project	1,816	1,816	-	-	-
Total contractual obligations	76,595	32,239	11,797	-	32,559

Debt in the above table represents the mortgage bond owing to Citibank and loan payable to ITC Platinum Development Limited, as described above.

The Company is required to fund its Kamoakakula Holding joint venture in an amount equivalent to its proportionate shareholding interest.

OFF-BALANCE SHEET ARRANGEMENTS

The Company had no off-balance sheet arrangements for the periods under review.

TRANSACTIONS WITH RELATED PARTIES

The following tables summarize related party income earned and expenses incurred by the Company, primarily on a cost-recovery basis, with companies related by way of directors or significant shareholders in common. The tables summarize the transactions with related parties and the types of income earned and expenditures incurred with related parties:

	Year ended December 31, 2018 \$'000	Year ended December 31, 2017 \$'000
Global Mining Management Corporation (a)	3,926	2,256
Ivanhoe Capital Aviation LLC (b)	2,457	2,000
GMM Tech Holdings Inc. (c)	996	681
HCF International Advisers ((d)	838	601
Ivanhoe Capital Services Ltd. (e)	481	465
Ivanhoe Capital Pte Ltd (f)	335	285
Global Mining Services Ltd. (g)	22	24
Ivanhoe Capital Corporation (UK) Limited (h)	8	(44)
Kamoa Copper SA (i)	(4,304)	(3,746)
Ivanhoe Mines Energy DRC Sarl (j)	(363)	(383)
	4,396	2,139
Salaries and benefits	3,244	2,154
Travel	2,925	2,258
Consulting	2,657	1,655
Office and administration	237	201
Cost recovery and management fee	(4,667)	(4,129)
	4,396	2,139

The above noted transactions were in the normal course of operations and were measured at the exchange amount, which is the amount of consideration established and agreed to by the related parties.

As at December 31, 2018, trade and other payables included \$1.21 million (December 31, 2017: \$0.93 million) with regards to amounts due to related parties related by way of director or officers in common. These amounts are unsecured and non-interest bearing. Included in other receivables is \$0.19 million (December 31, 2017: \$0.18 million) due from parties related by way of directors, officers or shareholders in common.

- (a) Global Mining Management Corporation (Global) is a private company based in Vancouver. The Company and the Executive Co-Chairman of the Company hold an indirect equity interest in Global. Global provides administration, accounting and other services to the Company on a cost-recovery basis.
- (b) Ivanhoe Capital Aviation LLC (Aviation) is a private company owned indirectly by the Executive Co-Chairman of the Company. Aviation operates an aircraft for which the Company contributes toward the running costs.

- (c) GMM Tech Holdings Inc. (GMM Tech) is a private company incorporated in British Columbia, Canada and is 100% owned by Global. GMM Tech provides information technology services to the Company on a cost-recovery basis.
- (d) HCF International Advisers (HCF) is a corporate finance adviser specializing in the provision of advisory services to clients worldwide in the metals, mining, steel and related industries. Guy de Selliers, a director of Ivanhoe, is the President and co-founder of HCF, which provides financial advisory services to the Company.
- (e) Ivanhoe Capital Services Ltd. (Services) is a private company owned indirectly by the Executive Co-Chairman of the Company. Services provides for salaries administration and other services to the Company in Singapore and Beijing on a cost-recovery basis.
- (f) Ivanhoe Capital Pte. Ltd. (Capital) is a private company owned indirectly by the Executive Co-Chairman of the Company. Capital provides administration, accounting and other services in Singapore on a cost-recovery basis.
- (g) Global Mining Services Ltd. (Mining) is a private company incorporated in Delaware and is 100% owned by Global. Mining provides administration and other services to the Company on a cost-recovery basis.
- (h) Ivanhoe Capital Corporation (UK) Limited (UK) is a private company owned indirectly by the Executive Co-Chairman of the Company. UK provides administration, accounting and other services in London on a cost-recovery basis.
- (i) Kamoa Copper SA (Kamoa Copper) is a company incorporated in the DRC. Kamoa Copper is 80% owned by Kamoa Holding Limited, a joint venture of the Company. The Company provides administration, accounting and other services to Kamoa Copper on a cost-recovery basis.
- (j) Ivanhoe Mines Energy DRC Sarl (Energy) is a company incorporated in the DRC. Energy is 100% owned by Kamoa Holding Limited (KHL), a joint venture of the Company. The Company provides administration, accounting and other services to Energy on a cost-recovery basis.

CRITICAL ACCOUNTING ESTIMATES

The Company's significant accounting policies are presented in Note 2 to the consolidated financial statements for the year ended December 31, 2018. The preparation of the consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the end of the reporting period presented and reported amounts of expenses during said reporting period. Actual outcomes could differ from these estimates. The consolidated financial statements include estimates that, by their nature, are uncertain. Such estimates have a pervasive effect on the consolidated financial statements and may require accounting adjustments based on future occurrences. Revisions to accounting estimates are recognized in the year in which the estimate is revised and future years if the revision affects both current and future years. These estimates are based on historical experience, current and future economic conditions and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

Significant assumptions about the future and other sources of estimation uncertainty at the end of the reporting period, which could result in a material adjustment to the carrying amounts of assets and liabilities in the event that actual results differ from assumptions made, include, but are not limited to, the following:

(i) *Technical feasibility and commercial viability of projects*

All direct costs related to the acquisition of mineral property interests are capitalized by property or project. Exploration costs are charged to operations in the period incurred, until such time as the Company determines that a property is technically feasible and commercially viable, where after development costs are capitalized. In making this determination, the Company considers whether a proposed project is capable of being developed at a sufficient return to justify the capital and managerial resources that must be committed to the project. This determination is made on a property-by-property basis and generally coincides with the finalization of a preliminary economic assessment or pre-feasibility study of the property. Exploration costs include value-added taxes incurred in foreign jurisdictions when recoverability of those taxes is uncertain.

In determining whether an exploration and evaluation property is technically feasible and commercially viable, the Company considers several criteria, including:

- a technical analysis of the basic geology of the project;
- a mine plan for accessing and exploiting the ore body;
- a process flow sheet for processing the ore generated from mining;
- projections as to the capital cost of constructing the project;
- projections as to the cost of operating the project in accordance with the mine plan;
- projections as to revenues from the concentrate or other mineral product to be generated from operations in accordance with the mine plan; and
- an economic analysis of the project based on the projected capital and operating costs and production revenues.

CHANGES IN ACCOUNTING POLICIES INCLUDING INITIAL ADOPTION

Newly adopted accounting standards

The following standards became effective for annual periods beginning on or after January 1, 2018, with earlier application permitted. The Company adopted these standards in the current period, which did not have a material impact on its audited consolidated financial statements.

- IFRS 15 – Revenue from contracts with customers. It is a single, comprehensive revenue recognition model for all contracts with customers to achieve greater consistency in the recognition and presentation of revenue.
- Amendments to IFRS 2 – Share-based payments. This amendment clarifies the measurement basis for cash-settled, share-based payments and the accounting for modifications that change an award from cash-settled to equity-settled.
- Amendment to IFRS 9 – Financial instruments. The standard replaces the provisions of IAS 39 that relate to the recognition, classification and measurement of financial assets and financial liabilities, derecognition of financial instruments, impairment of financial assets and hedge accounting.

On transition, the new expected credit loss impairment model on financial assets did not result in a material amount and therefore opening retained earnings was not adjusted.

The reclassification of financial assets and liabilities are summarized in the table below.

<u>Financial Instrument</u>	<u>Classification in terms of IAS 39</u>	<u>Classification in terms of IFRS 9</u>
Financial Assets		
Loan advanced to joint venture	Loans and receivables	Amortized cost
Long term loan receivable	Loans and receivables	Amortized cost
Promissory note receivable	Loans and receivables	Amortized cost
Financial assets at fair value through profit or loss	Fair value through profit or loss	Fair value through profit or loss
Cash and cash equivalents	Amortized cost	Amortized cost
Financial Liabilities		
Borrowings – Loans from other entities	Amortized cost	Amortized cost
Borrowings – Citi bank loan	Amortized cost	Amortized cost
Advances payable	Amortized cost	Amortized cost
Trade and other payables	Amortized cost	Amortized cost
Financial liability	Amortized cost	Amortized cost

- IFRIC 22 – Foreign currency transactions and advance consideration. This IFRIC addresses foreign currency transactions or parts of transactions where there is consideration that is denominated or priced in a foreign currency.
- Annual improvements 2014-2016. IFRS 1 - First-time adoption of IFRS.

Accounting standards issued but not yet effective

- IFRS 16 – Leases. IFRS 16 was issued in January 2016 and will result in almost all leases being recognized on the statement of financial position by lessees, as the distinction between operating and finance leases has been removed. An asset (the right to use the leased item) and a financial liability to pay rentals are recognized. The only exceptions are short-term and low-value leases. (i)

The Company has reviewed all of its leasing arrangements in light of the new lease accounting as required in IFRS 16. The standard will primarily affect the accounting for the Company's operating leases.

As at the reporting date, the Company has non-cancellable operating lease commitments of \$15.0 million. Of these commitments, approximately \$0.2 million relate to short-term leases and \$0.1 million to low value leases which will both be recognized on a straight-line basis as an expense in profit or loss.

For the remaining lease commitments the Company expects to recognize right-of-use assets of approximately \$11.4 million on January 1, 2019, lease liabilities of \$11.4 million (after adjustments for prepayments and accrued lease payments recognized as at December 31, 2018) and deferred tax assets of nil. Overall net assets and net current assets will not be impacted.

The Company expects that net profit after tax will increase by approximately \$0.7 million for 2019 as a result of adopting the new rules. Adjusted EBITDA used to measure segment results is

expected to increase by approximately \$0.7 million, as the operating lease payments were included in EBITDA, but the amortization of the right-of-use assets and interest on the lease liability are excluded from this measure.

Operating cash flows will increase and financing cash flows will decrease by approximately \$0.7 million as repayment of the principal portion of the lease liabilities will be classified as cash flows from financing activities. The Company's activities as a lessor are not material and hence the Company does not expect any significant impact on the financial statements.

- IFRS 13 – Business Combinations. The amendment to the definition of a business confirmed that a business must include inputs and a process and clarified that the process must be substantive and that the inputs and process must together significantly contribute to creating outputs. Furthermore, the amendment narrowed the definition of a business by focusing the definition of outputs on goods and services provided to customers and other income from ordinary activities, rather than providing dividends or other economic benefits directly to investors or lowering costs. (ii)

The Company has considered the amendment and assessed that it will have no material impact on adoption.

- Annual improvements 2015-2017 Cycle: IFRS 3 – Business Combinations and IFRS 11 – Joint arrangements. The amendment clarifies that when an entity obtains joint control of a business that is a joint operation, the entity does not re-measure previously held interests in that business. (i)

The Company has considered the amendment and assessed that it will have no material impact on adoption.

- Annual improvements 2015-2017 Cycle: IAS 12 – Income Taxes. The amendment clarifies that all income tax consequences of dividends should be recognized in profit or loss, regardless of how the tax arises. (i)

The Company has considered the amendment and assessed that it will have no material impact on adoption.

- Annual Improvements 2015 - 2017 Cycle: IAS 23 – Borrowing Costs. The amendment clarifies that if any specific borrowing remains outstanding after the related asset is ready for its intended use or sale, that borrowing becomes part of the funds that an entity borrows generally when calculating the capitalization rate on general borrowings. (i)

The Company is in the process of determining the impact of the adoption of this amendment on the consolidated financial statements, if any.

- IFRIC 23 – Uncertainty over income tax treatments. The interpretation specifies how an entity should reflect the effects of uncertainties in accounting for income taxes. (i)

The Company has considered the interpretation and assessed that it will have no material impact on adoption.

(i) Effective for annual periods beginning on or after January 1, 2019

(ii) Effective for annual periods beginning on or after January 1, 2020

The Company has not yet adopted these new and amended standards.

FINANCIAL INSTRUMENTS AND OTHER INSTRUMENTS

Fair value of financial instruments

The Company's financial assets and financial liabilities are categorized as follows:

	Level	December 31, 2018 \$'000	December 31, 2017 \$'000
Financial assets			
<i>Financial assets at fair value through profit or loss</i>			
Investment in listed entity	Level 1	1,924	8,563
<i>Amortized cost</i>			
Cash and cash equivalents	Level 1	574,048	181,419
Loan advanced to joint venture	Level 3	479,521	369,860
Promissory note receivable	Level 3	12,713	13,610
Long term loan receivable	Level 3	36,471	34,065
Financial liabilities			
<i>Amortized cost</i>			
Borrowings	Level 3	31,291	29,204
Trade and other payables	Level 3	26,442	23,586
Advances payable	Level 3	2,502	2,344
<i>Fair value through profit or loss</i>			
Financial liability	Level 3	3,349	2,605

IFRS 13 - "Fair value measurement", requires an explanation about how fair value is determined for assets and liabilities measured in the financial statements at fair value and established a hierarchy into which these assets and liabilities must be grouped based on whether inputs to those valuation techniques are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect the Company's assumptions. The two types of inputs create the following fair value hierarchy:

- Level 1: observable inputs such as quoted prices in active markets;
- Level 2: inputs, other than the quoted market prices in active markets, which are observable, either directly and/or indirectly; and
- Level 3: unobservable inputs for the asset or liability in which little or no market data exists, therefore require an entity to develop its own assumptions.

The long term loan receivable and promissory note receivable are evaluated based on parameters such as interest rates, specific country risk factors, creditworthiness of the creditor and the risk characteristics of the financed projects. Based on this evaluation, allowances are taken into account for the estimated losses of the receivable.

The fair value of borrowings are determined in accordance with generally accepted pricing models based on discounted future cashflow analysis. The fair value of the loan payable to ITC Platinum Development Limited is determined assuming an interest rate of USD LIBOR plus 7%. The carrying value of borrowings does not significantly differ from its fair value.

The fair value of the Company's remaining financial instruments were estimated to approximate their carrying values, due primarily to the immediate or short-term maturities.

Finance income

The Company's finance income is summarized as follows:

	Year ended December 31, 2018 \$'000	Year ended December 31, 2017 \$'000
Interest from loan to joint venture	(40,378)	(27,394)
Other interest income	(7,074)	(3,682)
Interest on long term loan receivable	(2,407)	-
Unwinding discount	-	(1,538)
	(49,859)	(32,614)

The interest from the loan to the joint venture is interest earned from the Kamo Holding joint venture on shareholder loans advanced by the Company where each shareholder is required to fund Kamo Holding in an amount equivalent to its proportionate shareholding interest.

Financial risk management objectives and policies

The risks associated with the Company's financial instruments and the policies on how to mitigate these risks are set out below. Management manages and monitors these exposures to ensure appropriate measures are implemented in a timely and effective manner.

Foreign exchange risk

The Company incurs certain of its expenses in currencies other than the U.S. dollar. The Company also has foreign currency denominated monetary assets and liabilities. As such, the Company is subject to foreign exchange risk as a result of fluctuations in exchange rates. The Company enters into derivative instruments to manage foreign exchange exposure as deemed appropriate.

The carrying amount of the Company's foreign currency denominated monetary assets and liabilities at the respective statement of financial position dates are as follows:

	December 31, 2018	December 31, 2017
	\$'000	\$'000
Assets		
Canadian dollar	180,321	2,597
South African rand	16,848	46,030
British pounds	5,257	452
Australian dollar	1,924	8,563
Liabilities		
South African rand	(7,325)	(11,100)
British pounds	(3,427)	(180)
Canadian dollar	(571)	(384)
Australian dollar	-	(57)

Foreign currency sensitivity analysis

The following table details the Company's sensitivity to a 5% increase or decrease in the U.S. dollar against the foreign currencies presented. The sensitivity analysis includes only outstanding foreign currency denominated monetary items not denominated in the functional currency of the Company or the relevant subsidiary and adjusts their translation at the end of the period for a 5% change in foreign currency rates. A positive number indicates a decrease in loss for the year where the foreign currencies strengthen against the U.S. dollar. The opposite number will result if the foreign currencies depreciate against the U.S. dollar.

	Year ended December 31, 2018	Year ended December 31, 2017
	\$'000	\$'000
Canadian dollar	8,987	110
Australian dollar	96	425
South African rand	(85)	(97)

Credit risk

Credit risk is the risk of an unexpected loss if a customer or third party to a financial instrument fails to meet its contractual obligations. Credit risk for the Company is primarily associated with trade and other receivables and cash equivalents as well as long-term loan receivables.

The Company reviews the recoverable amount of its financial assets at each statement of financial position date to ensure that adequate impairment losses are made for irrecoverable amounts. The Company has considered the requirement of IFRS 9 to recognize a loss allowance for expected credit losses on financial assets. The general approach was applied to these financial assets. Under the general approach the 12 month expected credit losses is calculated unless there has been a significant increase in credit risk in which case the lifetime credit losses are calculated.

The credit risk on cash equivalents is limited because the cash equivalents are composed of deposits with major banks that have investment grade credit ratings assigned by international credit-rating agencies and have low risk of default. The credit quality of financial assets that are neither past due nor impaired can be assessed by reference to historical information about counterparty default rates. The historical loss rates are adjusted to reflect current and forward-looking information on macroeconomic factors affecting the ability of the parties to settle the receivables. Repayment of the long term loan receivable will be made by offsetting the loan against future royalties and dividends payable to Gécamines which arise from future profits earned in Kipushi. The promissory note receivable is expected to be repaid using proceeds from the sale of Crystal River's 1% stake in Kamo Holding. The loan advanced to the joint venture will be repaid as and when there is residual cash flow in Kamo Holding. Due to the excellent economics of the Kamo-Kakula's recently announced PFS and PEA, repayment of the loan is deemed to be highly probable.

Therefore, the Company is not exposed to significant credit risk and overall the Company's credit risk has not changed significantly from prior years. There are no expected credit losses on financial assets.

Liquidity risk

In the management of liquidity risk of the Company, the Company maintains a balance between continuity of funding and flexibility through the use of borrowings. Management closely monitors the liquidity position with the goal of maintaining adequate sources of funding to finance the Company's projects and operations.

The following table details the Company's expected remaining contractual maturities for its financial liabilities. The table is based on the undiscounted cash flows of financial liabilities based on the earliest date on which the Company can be required to satisfy the liabilities.

	Less than 1 month	1 to 3 months	3 to 12 months	More than 12 months	Total undiscounted cash flows
	\$'000	\$'000	\$'000	\$'000	\$'000
As at December 31, 2018					
Trade and other payables	24,247	1,296	899	-	26,442
Non-current borrowings	-	-	-	36,656	36,656
As at December 31, 2017					
Trade and other payables	21,154	1,452	940	40	23,586
Non-current borrowings	-	-	-	35,711	35,711

Interest rate risk

The Company's interest rate risk arises mainly from long term borrowings, the long term loan receivable and the loan advanced to the joint venture. The Company's main exposure to interest rate risk arises from the fact that the Company earns and incurs interest on interest rates linked to USD LIBOR.

If interest rates (including applicable USD LIBOR rates) had been 50 basis points higher or lower and all other variables were held constant, the Company's loss for the year ended December 31, 2018 would have increased or decreased by \$3.4 million.

DESCRIPTION OF CAPITAL STOCK

As at March 26, 2019, the Company's capital structure consists of an unlimited number of Class A common shares without par value (the "Class A Shares"), an unlimited number of Class B common shares without par value (the "Class B Shares") and an unlimited number of preferred shares without par value. At this date 1,017,958,817 Class A Shares, nil Class B Shares, nil warrants and nil preferred shares were issued and outstanding.

The Company granted no options in 2017, and 6,000,000 in 2018 and 1,500,000 options in 2019 to date. As at March 26, 2019, there were 19,152,500 options outstanding issued in terms of the Equity Incentive Plan exercisable into 19,152,500 Class A Shares.

The Company granted 1,666,184 restricted share units (RSUs) in 2019 to date, 1,520,813 restricted RSUs in 2018 and 43,683 RSUs in 2017 per the Company's restricted share unit plan. As at March 26, 2019, there were 3,374,444 RSUs which may vest into 3,374,444 Class A Shares.

DISCLOSURE CONTROLS AND PROCEDURES AND INTERNAL CONTROL OVER FINANCIAL REPORTING

Management is responsible for the design and operation of disclosure controls and procedures (DC&P) and internal control over financial reporting (ICFR) in order to provide reasonable assurance that material information related to the Company, including its consolidated subsidiaries, is made known to the Company's certifying officers. The Company's Chief Executive Officer (CEO) and Chief Financial Officer (CFO) have each evaluated the design and operating effectiveness of the Company's DC&P and ICFR as of December 31, 2018 and, in accordance with the requirements established under National Instrument 52-109 - Certification of Disclosure in Issuer's Annual and Interim Filings, the CEO and CFO have concluded that these controls and procedures have been designed and operate to provide reasonable assurance that material information relating to the Company is made known to them by others within the Company and that the information required to be disclosed in reports that are filed or submitted under Canadian securities legislation are recorded, processed, summarized and reported within the time period specified in those rules.

As at December 31, 2018, management, including the CEO and CFO, has evaluated the effectiveness of the design and operation of the Company's disclosure controls and procedures. Based upon the results of that evaluation, the CEO and CFO have concluded that as of the end of the period covered by this MD&A, the Company's disclosure controls and procedures were effective.

The Company's CEO and CFO have used the Committee of Sponsoring Organizations of the Treadway Commission (COSO) framework to evaluate the design and operation of the Company's ICFR as of December 31, 2018 and have concluded that these controls and procedures have been designed and operated effectively to provide reasonable assurance that financial information is recorded, processed, summarized and reported in a timely manner. Management of the Company was required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. The result of the inherent limitations in all control systems means design and operation of controls cannot provide absolute assurance that all control issues and instances of fraud will be detected.

As at December 31, 2018, management assessed the effectiveness of the Company's internal control over financial reporting and concluded that the Company's internal control over financial reporting was effective.

During the year ended December 31, 2018, there were no changes in the Company's DC&P or ICFR that materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

RISK FACTORS

The Company has summarized its foreign exchange risk, credit risk, interest rate risk and liquidity risk under the “Financial risk management objectives and policies” sub-heading under the “Financial instruments and other instruments” section in this MD&A. Additional risks and uncertainties are discussed in the Company’s Annual Information Form filed with Canadian provincial regulatory authorities and available at www.sedar.com.

DISCLOSURE OF TECHNICAL INFORMATION

Disclosures of a scientific or technical nature in this MD&A have been reviewed and approved by Stephen Torr, who is considered, by virtue of his education, experience and professional association, a Qualified Person under the terms of NI 43-101. Mr. Torr is not considered independent under NI 43-101 as he is the Vice President, Project Geology and Evaluation. Mr. Torr has verified the technical data disclosed in this MD&A.

Ivanhoe has prepared a current, independent, NI 43-101-compliant technical report for each of the Platreef Project, the Kipushi Project and the Kamoa-Kakula Project, which are available under the Company’s SEDAR profile at www.sedar.com:

- The Kamoa-Kakula Integrated Development Plan 2019 dated March 18, 2019, prepared by OreWin Pty Ltd., Amec Foster Wheeler E&C Services Inc. (a division of Wood PLC), SRK Consulting Inc., KGHM Cuprum R&D Centre Ltd., Stantec Consulting International LLC, DRA Global, Golders Associates, and Epoch Resources (Pty) Ltd., covering the company’s Kamoa-Kakula Project;
- The Platreef 2017 Feasibility Study Technical Report dated September 4, 2017, prepared by DRA Global, OreWin, Amec Foster Wheeler, Stantec Consulting, Murray & Roberts Cementation, SRK Consulting, Golder Associates and Digby Wells Environmental, covering the Company’s Platreef Project; and
- The Kipushi 2017 Prefeasibility Study Technical Report dated January 25, 2018, prepared by OreWin, The MSA Group, SRK Consulting (South Africa) and MDM (Technical) Africa, covering the Company’s Kipushi Project.

These technical reports include relevant information regarding the effective dates and the assumptions, parameters and methods of the mineral resource estimates on the Platreef Project, the Kipushi Project and the Kamoa-Kakula Project cited in this MD&A, as well as information regarding data verification, exploration procedures and other matters relevant to the scientific and technical disclosure contained in this MD&A in respect of the Platreef Project, Kipushi Project and Kamoa-Kakula Project.

ADDITIONAL INFORMATION

Additional information regarding the Company, including the Company’s Annual Information Form, is available on SEDAR at www.sedar.com.