MANAGEMENT'S DISCUSSION AND ANALYSIS

FOR THE THREE MONTHS ENDED MARCH 31, 2019

DATED: MAY 7, 2019

INTRODUCTION

This management's discussion and analysis (MD&A) should be read in conjunction with the unaudited condensed consolidated interim financial statements of Ivanhoe Mines Ltd. ("Ivanhoe", "Ivanhoe Mines" or the "Company"), for the three months ended March 31, 2019, which have been prepared in accordance with International Accounting Standard 34 - Interim Financial Reporting (IAS 34) and the audited consolidated financial statements of Ivanhoe 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 ***May 7, 2019***. Additional information relating to the Company is available on SEDAR at www.sedar.com. 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 June 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 that Ventilation Shaft 2 will be constructed by raise boring and that the shaft will be 5.5 metres in diameter and 200 metres deep; (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 a definitive feasibility study at the Kipushi Project nearing completion; (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 be completed in Q3 2020 with an output increased to a capacity of approximately 72 megawatts (MW) of power; (xiv) statements regarding timing and completion of the basic engineering design of the plant and surface infrastructure and the underground design at Kakula; (xv) statements regarding expected expenditure for the remainder of 2019 of $76 million on further development at the Platreef Project; $42 million at the Kipushi Project; $13 million on regional exploration in the DRC; and $22 million on corporate overheads – as well as its proportionate funding of the Kamoa-Kakula Project, expected to be $87 million for the remainder of 2019; (xvi) statements

regarding Platreef projecting it to be Africa's lowest-cost producer of platinum-group metals; (xvii) statements regarding the construction of a 1,050-metre-level-dam at the Kakula deposit to be commissioned in mid-2019; and (xviii) statements regarding accessing the Kamoa North Bonanza Zone by way of a surface box-cut and decline in a relatively short time-frame; that material mined at Kamoa North could be processed at a nearby, standalone plant, or hauled to the plant that will be constructed at Kakula; and that this has the potential of significantly increasing the copper grades during the initial stages of production at Kamoa-Kakula.

As well, all of the results of the pre-feasibility study (PFS) for the Kakula copper mine and the updated and expanded Kamoa-Kakula Project preliminary economic assessment (PEA), 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 (xv) 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 43 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.

Photo: The Platreef Mine site, showing Shaft 1's headframe and the box cut for Shaft 2.

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 Q1 2019, the Platreef Project had reached a total of 1,305,357 lost-time, injury-free hours worked in accordance with South Africa's Mine Health and Safety Act and Occupational Health and Safety Act. At the end of March 2019, it had been nearly twelve 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 then planned first phase of the Platreef Project's palladium-platinum-nickel-copper-gold-rhodium mine in South Africa.

The Platreef DFS covered a four million tonnes per annum 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.
- 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 alternative production plan

Ivanhoe Mines is investigating an alternative production plan for the Platreef Project, targeting significantly lower initial capital, to accelerate first production by using Shaft 1 as the mine's initial production shaft. This plan will focus on initially targeting the development of mining zones accessible from Shaft 1 and maximizing the hoisting capacity of this shaft, followed by expansions to the production rate as outlined in the DFS.

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 Flatreef 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 Flatreef Deposit is characterized by its very large vertical thicknesses of high-grade mineralization.

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.

Shaft 1 now extends to a depth of 855 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 a depth of 855 metres below surface. The 850-metre-level station development is underway and was an estimated 70% complete at the end of March 2019. 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 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.

The DFS planned for Shaft 1 to ultimately become the primary ventilation shaft during the project's four-Mtpa production case.

Photo: Limpopo Premier Stanley Chupu Mathabatha (centre) cutting a ceremonial ribbon, alongside members of the Platreef shaft-sinking team, to signify the completion of the 850-metre top-cut station development.

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 June 2019, enabling the beginning of pre-sinking work that will extend the depth of the shaft to 84 metres below surface.

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).

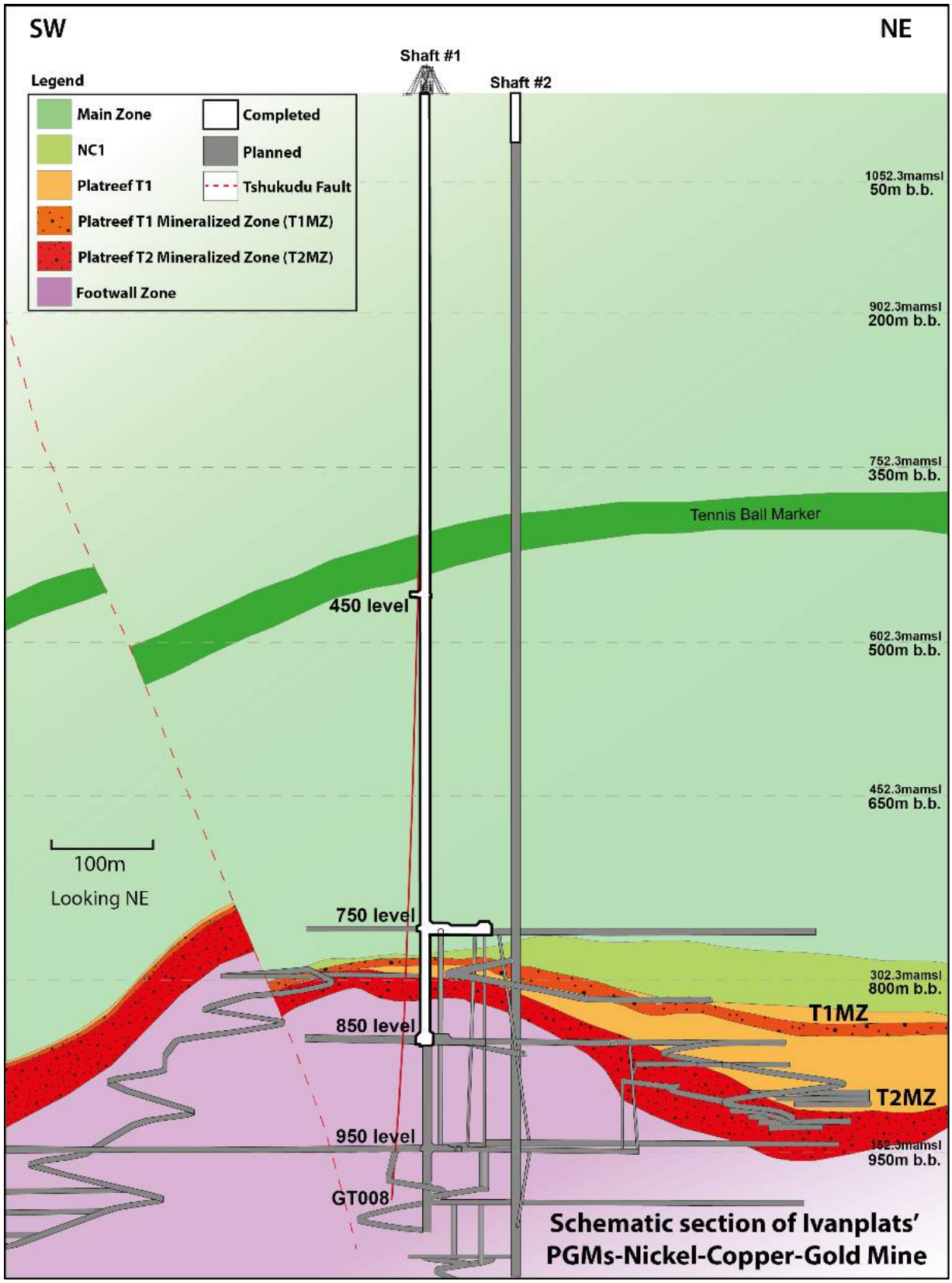


Photo: Ongoing construction of the foundation that will support Shaft 2's 103-metre-tall concrete headframe.

Underground mining to incorporate highly productive, mechanized methods

Ivanhoe plans to develop the Platreef Mine in phases. The initial production plans are designed to establish an operating platform to support future expansions. Production is expected to be increased to 8 Mtpa in subsequent phases, and then further increased to a steady-state 12 Mtpa phase, 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.

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. As per the DFS, 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 with a syndicate of international banks.

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.

Photo: Anthony Baloyi, Mokopane Micraas, Abatian Manmela and Ruddy Malete (left to right), of South Africa-based Malecombo Steel Fixers, installing steel rebar for Shaft 2's concrete foundation, which is expected to be completed in June 2019.

Development of human resources and job skills

Work has 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 R110 million ($8 million) already had been spent by March 2019. 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: On April 1, 2019, a ceremony was held at Masodi Secondary School where recipients of the Ivanplats Scholarship Program received new uniforms and school supplies.

KIPUSHI PROJECT

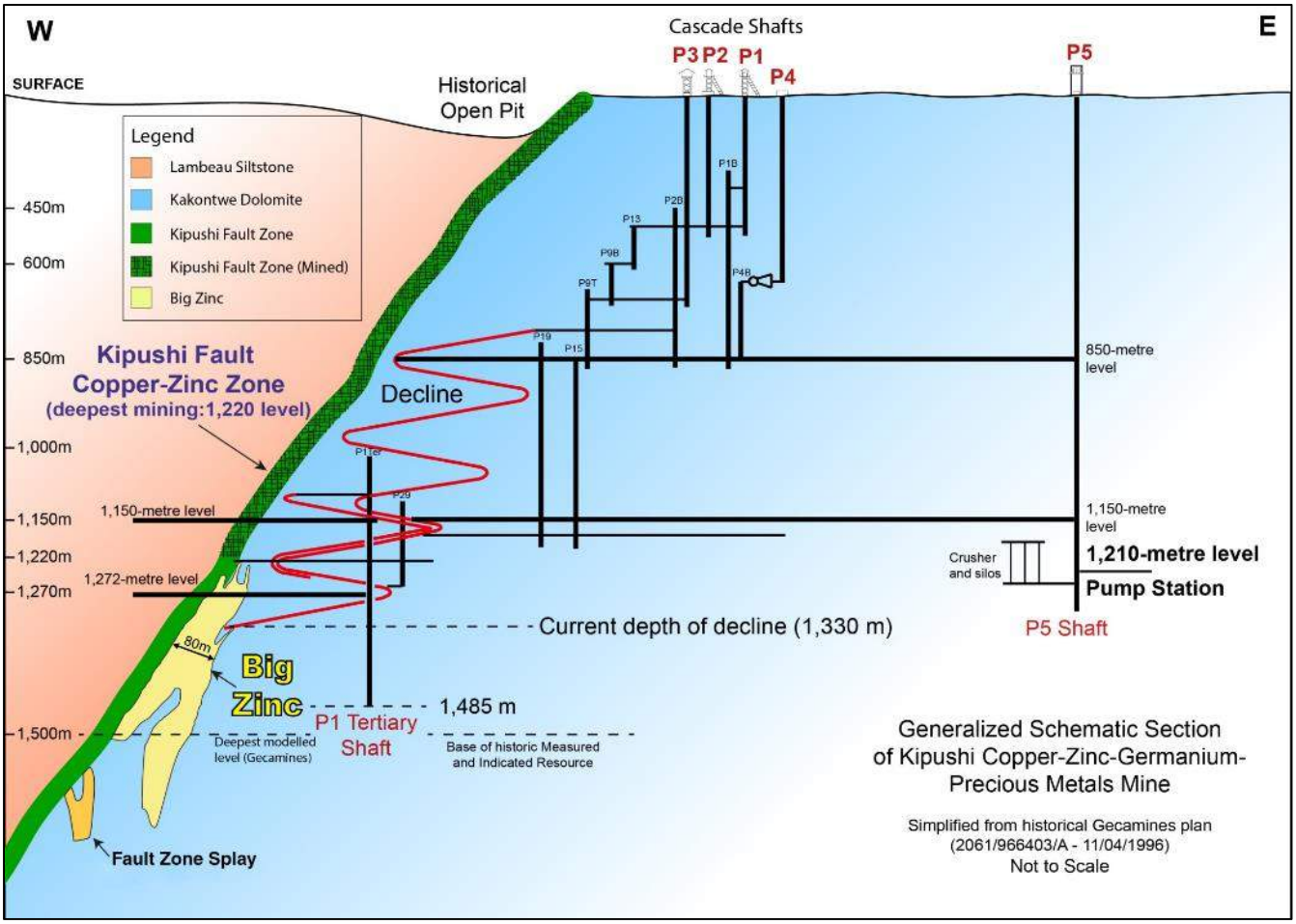
The Kipushi copper-zinc-germanium-lead mine, in the DRC, is adjacent to the town of Kipushi and approximately 30 kilometres southwest of Lubumbashi. It is located on the Central African Copperbelt, approximately 250 kilometres southeast of the Kamoa-Kakula Project and less than one kilometre from the 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 Q1 2019, the Kipushi Project reached a total of 457,458 work hours free of lost-time injuries. It has been more than four months since the last lost-time injury occurred at the Kipushi Project.

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 Q1 2019 and included a new enrolment into the Kipushi women's literacy project and the continuation of the sewing training centre project.

Figure 2: Schematic underground section of the Kipushi Mine.



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 filed an updated National Instrument 43-101 (NI 43-101) technical report for the Kipushi Project covering the June 2018 Mineral Resource in March 2019. The technical report is 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.

Pre-feasibility study for Kipushi completed in December 2017; definitive feasibility study nearing completion

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 nearing completion and will incorporate the updated Mineral Resource estimate of June 14, 2018.

Photo: Start-up and testing of the five, high-capacity pumps at Kipushi's upgraded water-pumping station on the 1,210-metre level.

Geology and exploration

Geological work is focused on obtaining additional information required for the DFS, as well as planning the geological delineation-drilling and grade-control program for underground mine development. The design criteria for the delineation drilling will target 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, including upgrading 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 have been cleared of old materials and equipment to facilitate modern, mechanized mining. The underground infrastructure also includes a series of pumps to manage the mine's water levels, which now 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. A new truck-tipping bin, which feeds into the large-capacity rock crusher located directly below, has been installed on this level.

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

Photo: The new truck-tipping bin on Kipushi's 1,150-metre level. Ore from the Big Zinc Deposit will be trucked here, then dumped into the bin, which feeds into the large-capacity rock crusher located directly below.

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.

Photo: View of Kamoa Copper's camp and offices, looking east toward Kolwezi.

Health and safety at Kamoa-Kakula

At the end of Q1 2019, the Kamoa-Kakula Project had achieved a total of 13,399,799 work hours free of lost-time injuries. It has been approximately seven years since the last lost-time injury occurred at the project. This outstanding achievement reflects the dedication to a safety-focused culture of the entire Kamoa-Kakula exploration and development teams.

PFS for Kakula and updated PEA for an expanded Kamoa-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 Kamoa-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 “Kamoa-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 3: Kamoa-Kakula 18 Mtpa PEA long-term development plan.

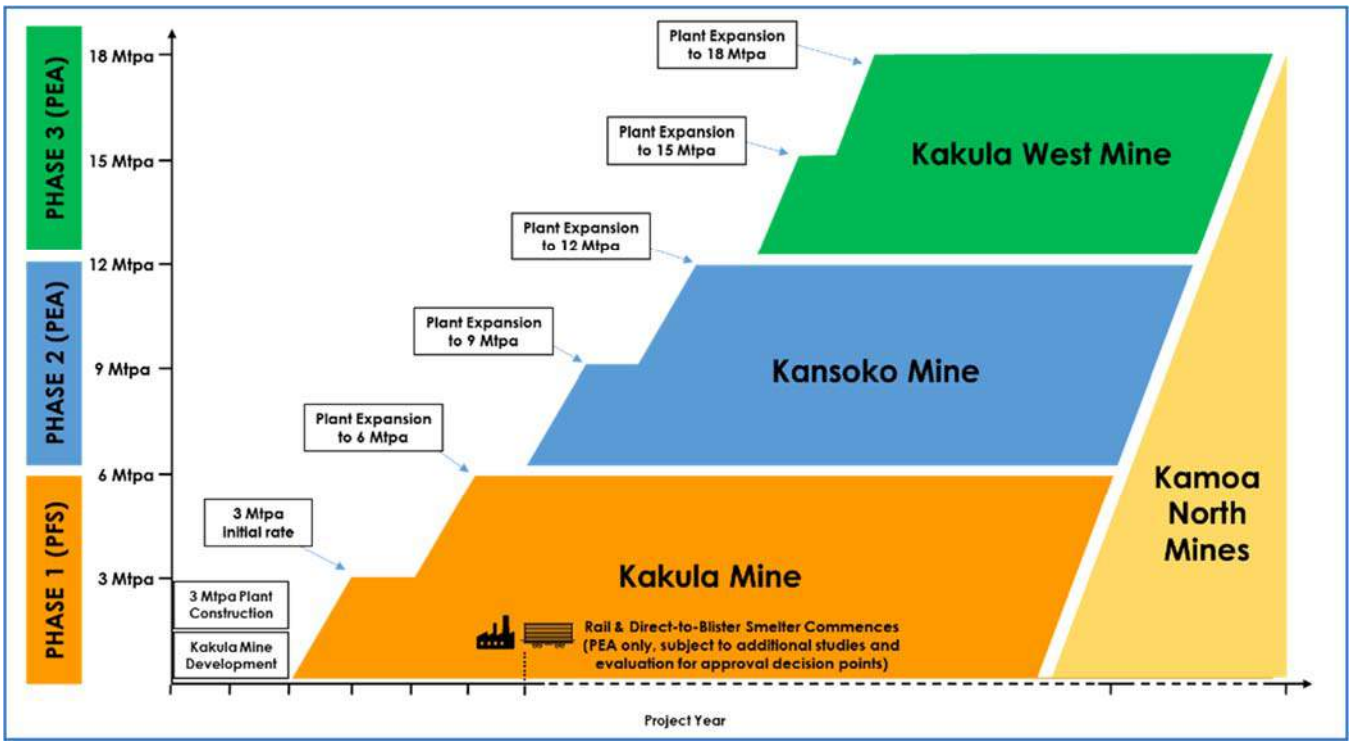
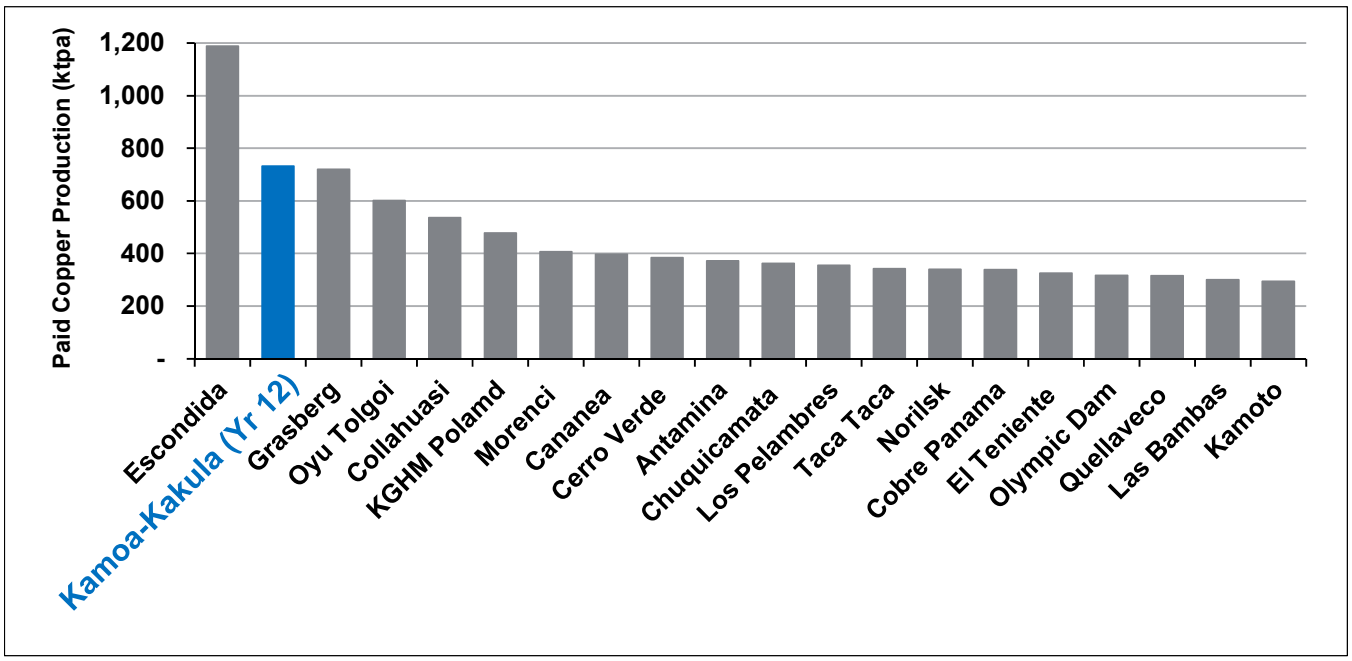


Figure by OreWin 2019.

Figure 4: Projected 18 Mtpa Kamoa-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: Kamoa-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

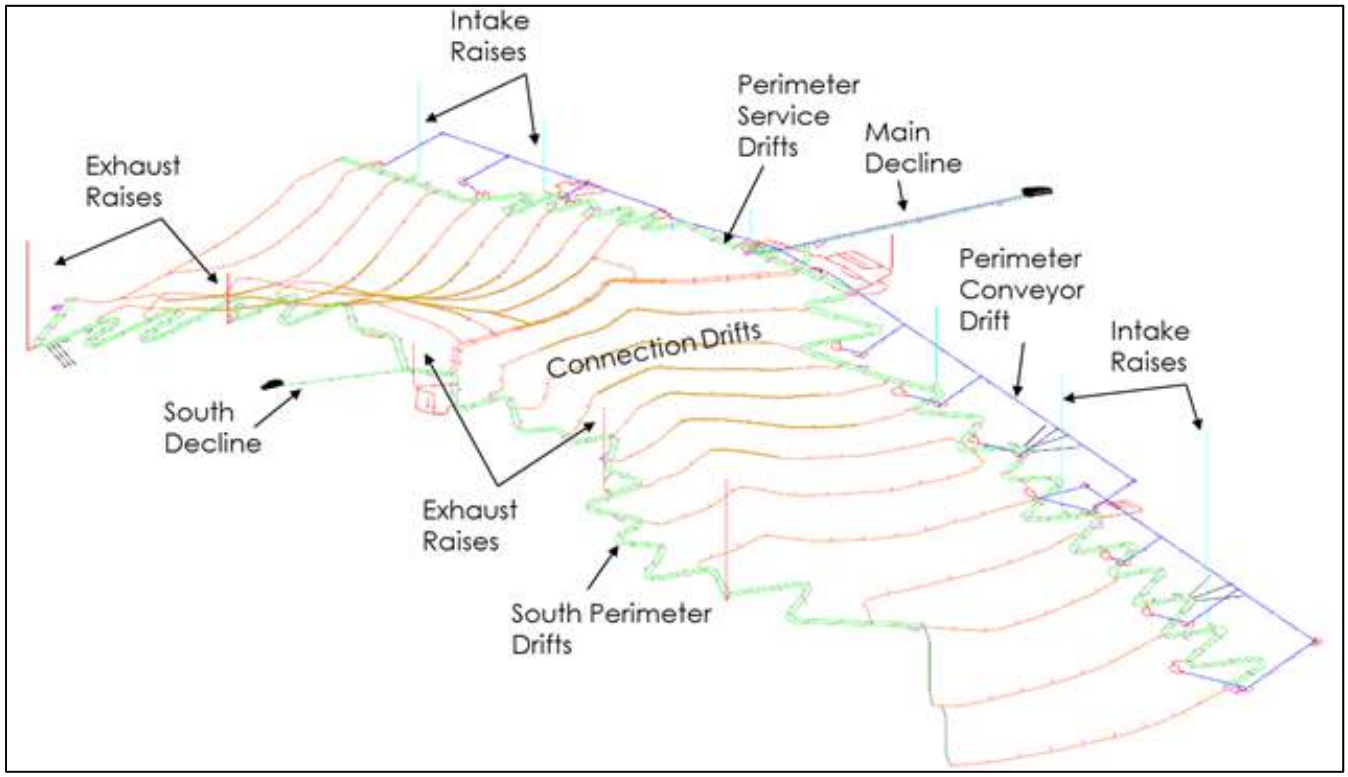
Each of the twin declines on the northern side of the Kakula ore body were completed in Q1 2019 and the 1,050-metre-level decline bottom dam excavation is nearing completion. This dam will manage water inflows in the declines and the first permanent pumps and pipes will be installed in Q2 2019. The development of two access drives towards the ore body are well advanced, as well as the top and bottom access drives to the first truck-tipping area and Ventilation Shaft 1. Surface preparation for Ventilation Shaft 1, that will be constructed by raise boring, also is well advanced. The shaft will be 5.5 metres in diameter and 200 metres deep.

The detailed design for the truck-tripping area, where underground development ore will feed onto the conveyor system for transportation to surface, and the conveyor system for the main declines has been completed, and component manufacture is progressing well. The contract for the underground civil works has been awarded and tenders for the mechanical installation and erection are being adjudicated.

Development of the ventilation and access decline on the southern side of the ore body has started and the steel sets are currently being installed.

Photo: View of the Kakula Mine, looking south. Kakula's main box cut and northern twin declines are in the front centre of the photo.

Figure 5: Kakula 2019 PFS mine development plan prepared by Stantec.



Basic engineering, early works engineering and construction at Kakula

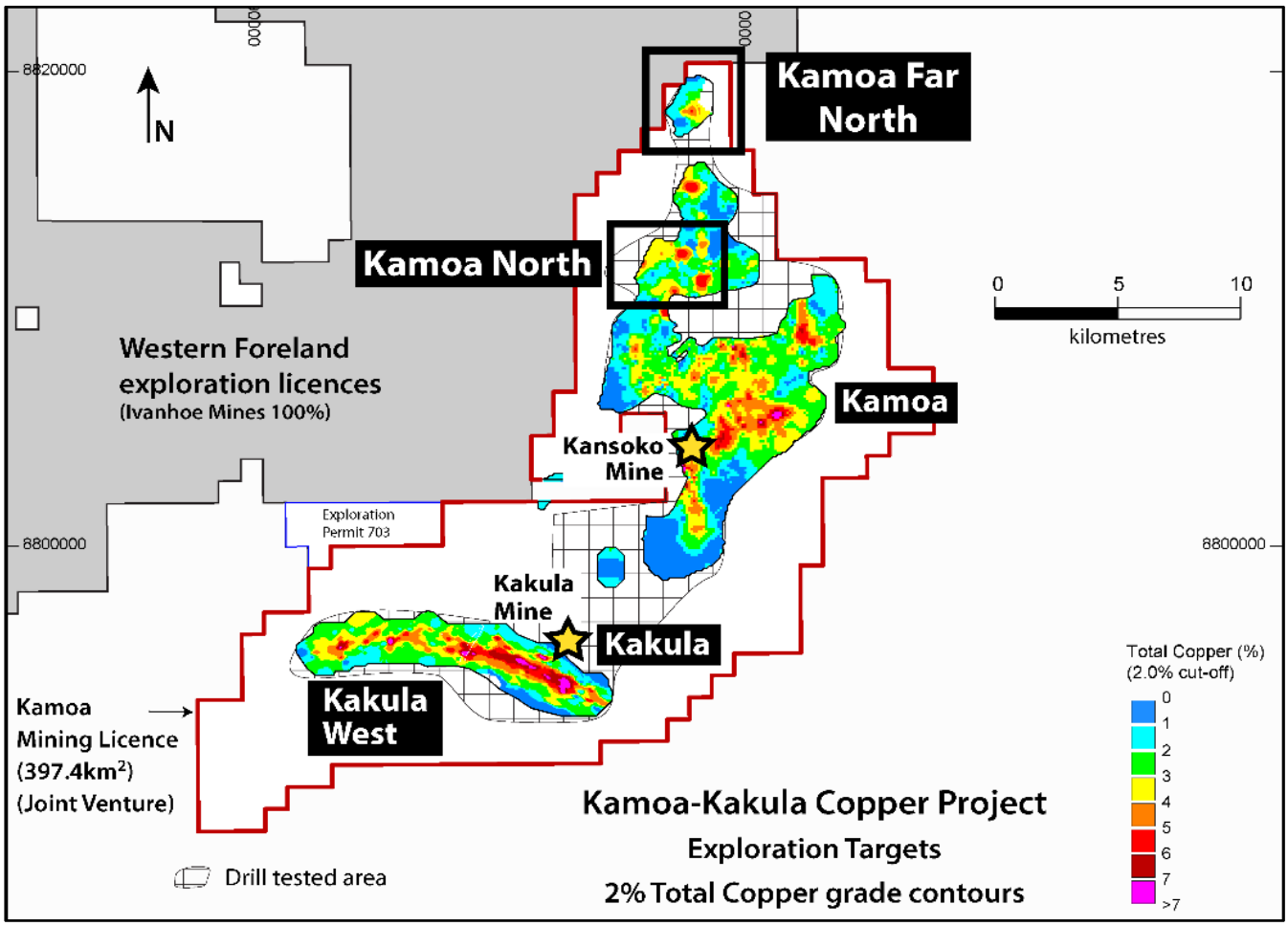
The basic engineering design is currently being carried out by DRA Global as the main contractor. Design of the plant and surface infrastructure is due to be completed by the end of Q2 2019, and the underground design in Q3 2019. The basic engineering package will advance engineering and provide a detailed capital cost estimate by which the project costs can be controlled.

Other early works engineering and construction activities that are currently underway include the construction of a permanent mine road joining the Kolwezi airport to the mine site, the construction of the first phase of the permanent mine village, consisting of accommodations for 1,000 employees and contractors, and earthworks for the processing plant and surface infrastructure.

Exploration extends strike length of the new, shallow, thick 'Kamoa North Bonanza Zone'

Recent drilling has confirmed that the discovery zone of bonanza-grade copper mineralization at Kamoa North on the Kamoa-Kakula mining licence — the Kamoa North Bonanza Zone — is continuous over a strike length of at least 350 metres and a width of up to 60 metres. The mineralized zone, which was discovered earlier this year in drill hole DD1450, has an implied strike length of at least 2.7 kilometres and a drilled thickness of between six and 30 metres, and is approximately 170 to 220 metres below surface, with grades ranging as high as 18.48% copper over 13.6 metres, at both a 2% and a 3% cut-off grade.

Figure 6: Kamoa-Kakula mining licence (outlined in red) showing the new, high-grade discoveries at Kamoa North and Kamoa Far North relative to the Kakula and Kansoko mine sites. A portion of Ivanhoe's adjoining, 100%-owned Western Foreland exploration licences is shown in grey.



The Kamoa North Bonanza Zone represents a new style of copper mineralization at Kamoa-Kakula, where massive to semi-massive chalcopyrite, bornite and chalcocite have locally replaced pyrite in the Kamoa Pyritic Siltstone (KPS) – a pyritic siltstone that lies immediately above the basal diamictite unit that typically hosts the copper mineralization at Kamoa-Kakula.

Assay results for 10 new holes were received from the Kamoa North drilling in May 2019, a complete list of which is available in Ivanhoe's news release dated May 3, 2019. Significant new drilling intercepts at the Kamoa North Bonanza Zone include:

- DD1486 intersected 16.70 metres of 15.84% copper, at a 3% and 2% copper cut-off, in semi-massive sulphide KPS-hosted mineralization, beginning at a downhole depth of 215 metres; and 17.46 metres of 15.21% copper at a 1% cut-off.

- DD1494 intersected 13.15 metres of 9.88% copper, at a 3%, 2% and 1% copper cut-off, in semi-massive sulphide KPS-hosted mineralization, beginning at a downhole depth of 215.50 metres.

- DD1497 intersected 13.60 metres of 18.48% copper, at a 3% and 2% copper cut-off, in semi-massive sulphide KPS-hosted mineralization, beginning at a downhole depth of 208.00 metres; and 30.37 metres of 8.90% copper at a 1% cut-off.

- DD1498 intersected 16.48 metres of 10.94% copper, at a 3% and 2% copper cut-off, in semi-massive sulphide KPS-hosted mineralization, beginning at a downhole depth of 222 metres; and 16.48 metres of 10.94% copper at a 1% cut-off.

- DD1499 intersected 16.93 metres of 11.31% copper, at a 3% copper cut-off, and 17.35 metres of 11.10% copper, at a 2% copper cut-off, in semi-massive sulphide KPS-hosted mineralization, beginning at a downhole depth of 205 metres; and 18.35 metres of 10.57% copper at a 1% cut-off.

- DD1504 intersected 21.25 metres of 13.32% copper, at a 3%, 2% and 1% copper cut-off, in semi-massive sulphide KPS-hosted mineralization, beginning at a downhole depth of 211.15 metres.

Figure 7: Copper grade profiles of two recent holes drilled at the Kamoa North Bonanza Zone, showing individual one-metre intervals more than 46% copper.

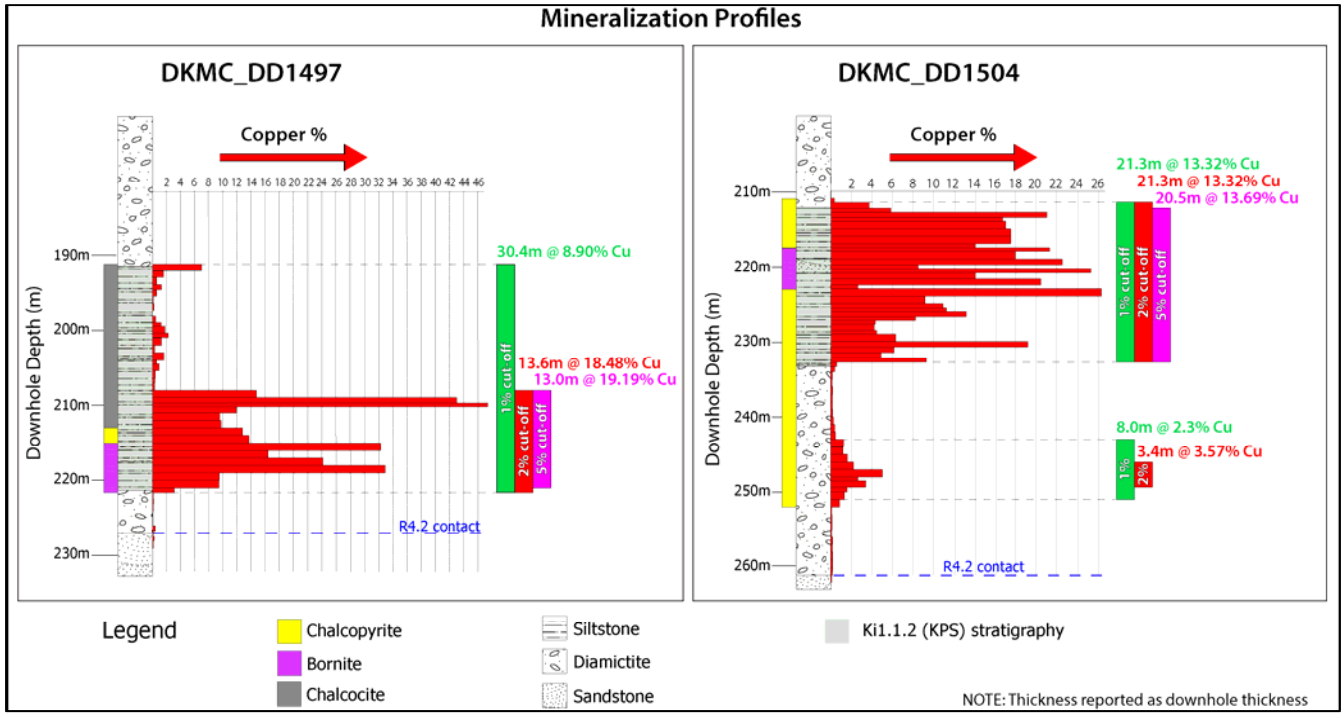
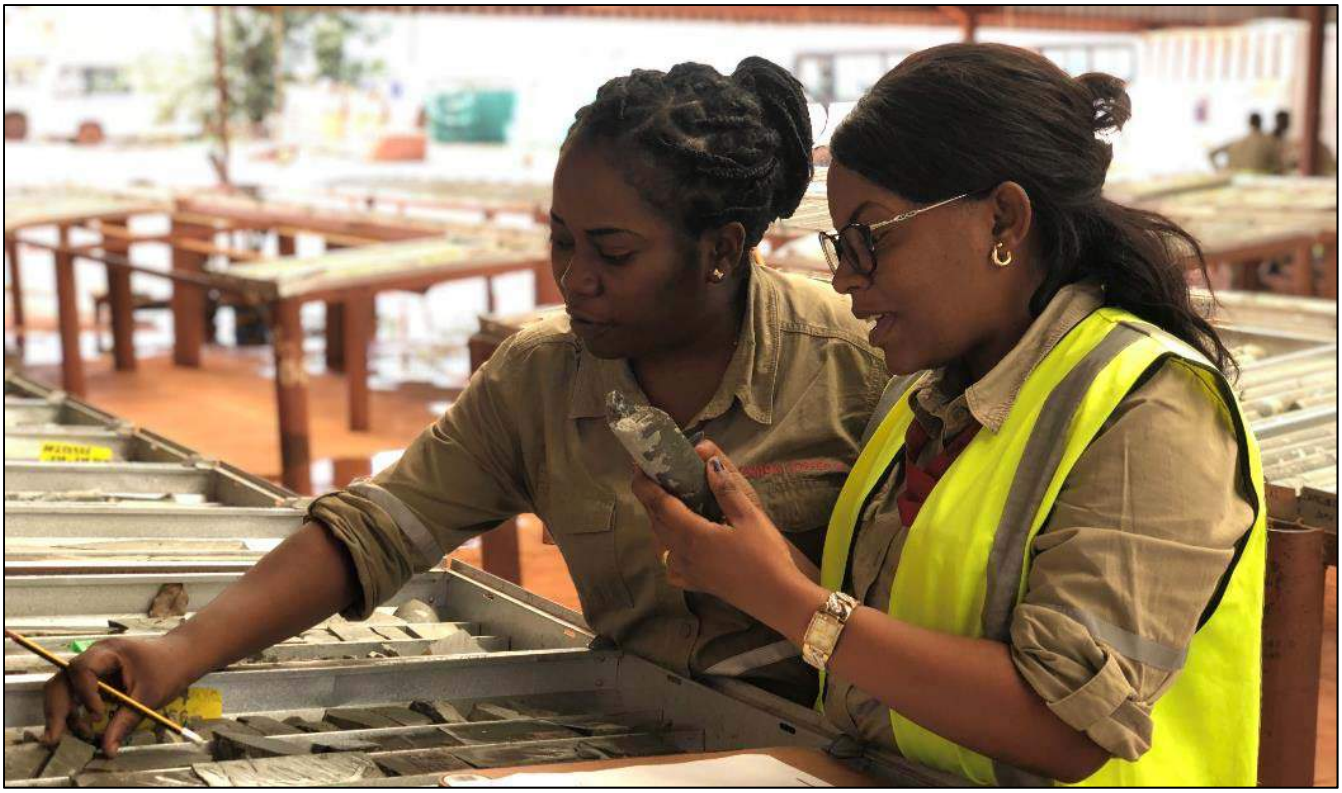


Photo: Drilling a step-out hole along strike at the Kamoa North Bonanza Zone.

Photo: Geologists Lydia Makong (left) and Christelle Nkulu logging copper-rich drill core from the Kamoa North Bonanza Zone.



The Kamoa North Bonanza Zone remains open along a westerly-easterly strike for a considerable distance. An east-west lineament, thought to represent the controlling growth structure, can be traced in aeromagnetic data for up to 20 kilometres, across the western side of the Kamoa-Kakula Mining Licence and onto Ivanhoe's adjoining, 100%-owned Western Foreland exploration licences.

The controlling east-west structure was previously intersected in holes DD0015, DD1200 and DD1396 that were drilled as part of an earlier, wide-spaced resource delineation drilling program. The recent, detailed drilling in the hole DD1450 discovery area has led Kamoa geologists to consider that these earlier holes may have intercepted the same structure that hosts the KPS bonanza-grade copper, inferring a corridor of high-grade copper of at least 2.7 kilometres.

The potential to fast-track Kamoa North under initial assessment

Given the shallow depth, remarkable thickness and massive copper sulphide mineralization discovered within the Kamoa North Bonanza Zone, Kamoa-Kakula's engineers are evaluating potential options to accelerate the development of this new discovery.

Based on the shallow depth of the high-grade mineralized intercepts to date at the Kamoa North Bonanza Zone, the discovery zone may be accessed by way of a surface box-cut and decline, similar to those at the Kakula and Kansoko deposits, in a relatively short time-frame.

Any material mined at Kamoa North could be processed at a nearby, standalone plant, or hauled to the plant that will be constructed at Kakula. This has the potential of significantly increasing the copper grades during the initial stages of production at Kamoa-Kakula.

Drilling extends the nine-kilometre corridor of shallow, high-grade copper at the Kamoa Far North discovery to the boundary of Ivanhoe's 100%- owned Western Foreland exploration licences

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. The Far North exploration target is the more typical stratiform mineralization characteristic of the majority of the Kamoa-Kakula copper deposits.

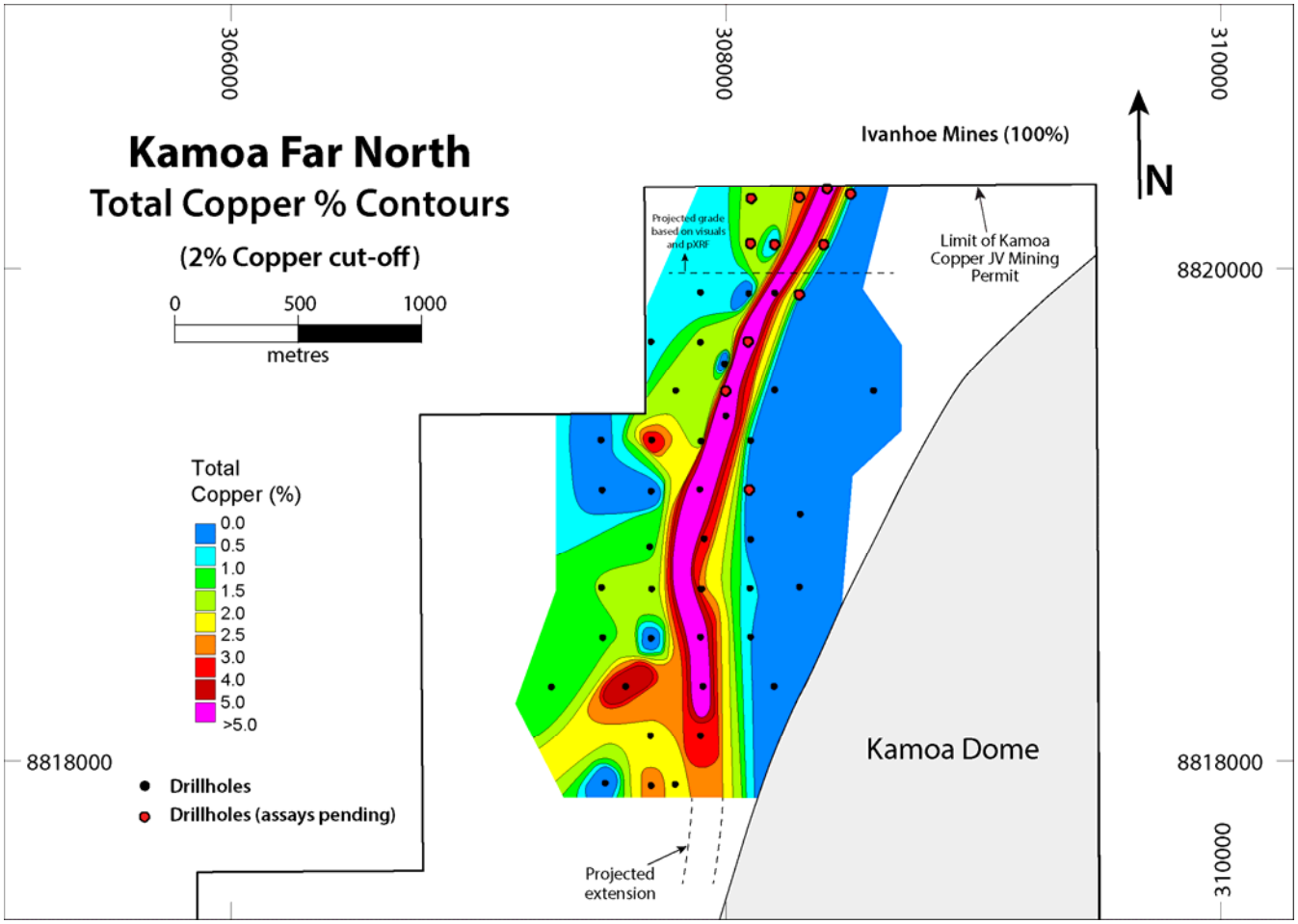
The high-grade copper zone at Kamoa Far North follows a north-south trend controlled by growth faulting and by the pinching out of the basal diamictite and the KPS against the Roan sandstone on the western flank of the Kamoa Dome. The pinching out results in the sulphide-rich upper portion of the diamictite and the KPS being brought into direct contact with the Roan Aquifer, resulting in the high copper grades seen at Kamoa Far North.

The mineralized corridor trends for more than nine kilometres and is projected to continue onto the adjacent Western Foreland exploration licences. The Kamoa geology team has been drill testing the high-grade trend to the north of Kamoa North and has successfully followed it to within 15 metres of the northern boundary of the Kamoa-Kakula mining licence. Assays from 11 holes are pending from drilling in this area.

Exploration drilling during Q1 2019 was split between Kakula West, Kamoa North and Kamoa Far North. Given the recent outstanding results from the Kamoa North Bonanza Zone, the focus of exploration now has shifted to Kamoa North with four rigs there to delineate the extent of the discovery and assess its potential to be fast-tracked to production to increase Kamoa-Kakula's early copper grades.

Drilling for the first quarter was completed with a maximum of nine drill rigs. Excellent progress was seen on the rigs overall, despite challenging wet-season conditions. In total, 12,943 metres were completed in 35 holes, drilled by both contractors and project-owned rigs.

Figure 8: Kamoa Far North exploration area, showing the high-grade mineralized zone delineated to date.



Geophysical surveys

The seismic survey data from work completed in 2018 was processed and preliminary observations made. Additional ground gravity and ground mag survey programs were started in Kamoa North towards the end of Q1 2019, including a ground mag survey over the Kamoa North Bonanza Zone.

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, has recently commenced and is expected to be completed in Q3 2020. The refurbished plant is projected to deliver approximately 72 megawatts (MW) of power to the national power grid.

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.

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), vegetables and bananas, plus poultry production and beekeeping.

Additional non-farming related activities for Q1 2019 included education and literacy programs, the continuation of a community brick-making program, a basic training program, the construction of a school and housing for teachers and the supply of fresh water to a number of communities.

Photo: Fabrice Mazeze with fresh tomatoes produced in the Ecolivelihood vegetable garden. The initiative is part of Kamoa-Kakula's program to support and expand food production in nearby communities.

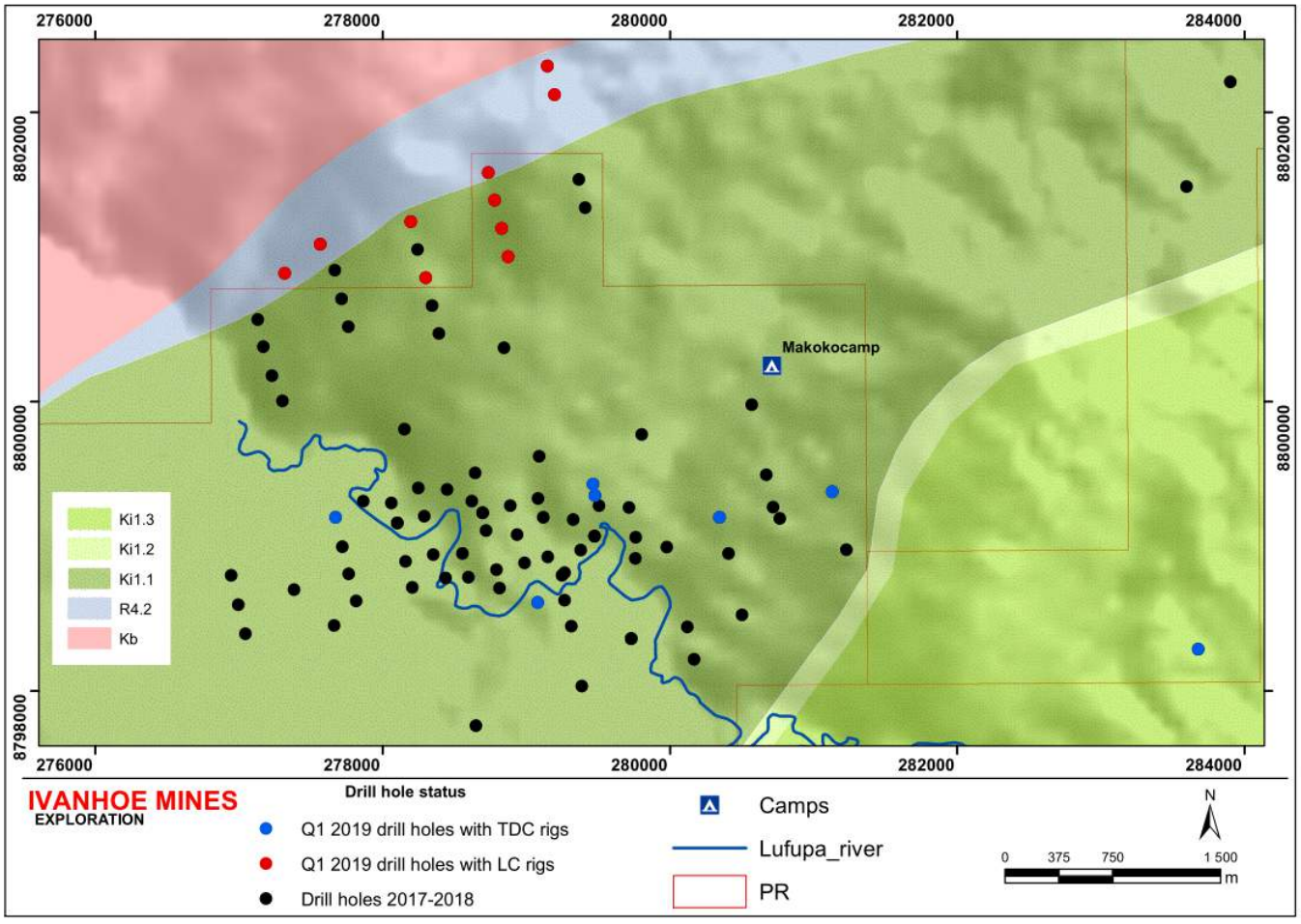
DRC WESTERN FORELAND EXPLORATION PROJECT

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, south and west of the Kamoa-Kakula Project.

During Q1 2019, exploration drilling continued in the Makoko area with three rigs, one contractor rig and two project-owned Toyota Land Cruiser mounted (LC) rigs. A total of 5,320 metres were completed in 17 diamond drill holes during the quarter. Ten holes were drilled by the project-owned rigs for a total of 1,289 metres, while seven holes were drilled by a contractor rig for a total of 4,031 metres.

The contractor rig, drilling deeper holes, concentrated on infill holes for geotechnical and metallurgical studies as well as testing the western and eastern limits of the currently defined Makoko system. To the north, up-dip of Makoko, Ivanhoe used two project-owned drill rigs, to test the up-dip limit of the Nguba (host) stratigraphy along the basin margin, as well as the limit of the Roan sub basin associated with mineralization. The holes drilled by the LC rigs and deeper contractor rigs (TDC) are shown in figure 9 below.

Figure 9: Drilling locations for Q1 at Ivanhoe Mines' Makoko project.



Processing of seismic data has been ongoing through Q1 2019. 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.

The projected extensions of the Kamoa North Bonanza Zone and the Kamoa Far North high-grade discovery onto the Western Foreland licences are two high-priority exploration targets that Ivanhoe plans to target in its future drilling campaigns.

Ground gravity and magnetic surveys are ongoing at Kamoa North and on the Western Foreland licences in an attempt to pick up growth faults, basin structures (transfer faults) and potentially stratigraphic changes in the target areas The Kamoa North work is essentially complete and is being interpreted by the Ivanhoe exploration team.

Makoko Copper Discovery

On October 1, 2018, Ivanhoe announced the Makoko Copper Discovery on its 100%-owned Western Foreland exploration licences, near Kamoa-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 Kamoa-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 with follow-up and infill drilling ongoing since that time. Drilling to date at Makoko has defined a flat-lying, near-surface stratiform copper deposit, similar to the Kamoa 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.

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			
	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018
	$'000	$'000	$'000	$'000
Exploration and project expenditure	1,399	4,910	2,368	2,773
Share of losses (profits) from joint venture	5,879	(41,274)	7,757	6,702
General administrative expenditure	2,107	12,869	1,823	6,269
Share-based payments	2,019	1,866	1,829	1,764
Finance income	(15,855)	(16,481)	(12,146)	(10,875)
Finance costs	96	66	185	352
Total comprehensive (profit) loss attributable to:				
Owners of the Company	(5,536)	(30,740)	5,838	33,710
Non-controlling interest	2,180	2,330	2,046	4,263
Basic (profit) loss per share	(0.01)	(0.04)	0.00	0.01
Diluted (profit) loss per share	(0.01)	(0.04)	0.00	0.01

	Three months ended			
	March 31, 2018	December 31, 2017	September 30, 2017	June 30, 2017
	$'000	$'000	$'000	$'000
Exploration and project expenditure	1,436	10,986	11,595	9,626
Share of losses from joint venture	7,200	10,193	6,759	5,035
General administrative expenditure	5,254	3,316	6,039	4,952
Share-based payments	1,412	1,111	1,224	1,201
Reversal of impairment of mineral property and other items	-	(286,283)	-	-
Finance income	(10,357)	(8,986)	(8,032)	(9,167)
Finance costs	343	442	434	355
Total comprehensive (profit) loss attributable to:				
Owners of the Company	(4,916)	(207,991)	15,893	7,477
Non-controlling interest	1,064	(77,336)	5,269	3,885
Basic (profit) loss per share	0.01	(0.25)	0.01	0.01
Diluted (profit) loss per share	0.01	(0.24)	0.01	0.01

DISCUSSION OF RESULTS OF OPERATIONS

Review of the three months ended March 31, 2019 vs. March 31, 2018

The Company recorded a total comprehensive profit of $3.4 million for Q1 2019 compared to a profit of $3.9 million for the same period in 2018. Finance income for Q1 2019, amounted to $15.9 million, and

was $5.5 million more than for the same period in 2018 ($10.4 million). The increase mainly was due to interest earned on loans to the Kamoa Holding joint venture to fund operations as the accumulated loan balance increased. This amounted to $12.0 million for Q1 2019, and $8.7 million for the same period in 2018. Interest received on cash and cash equivalents also increased due to a higher cash balance during Q1 2019.

The Company's share of losses from the Kamoa Holding joint venture decreased from $7.2 million in Q1 2018 to $5.9 million in Q1 2019. The following table summarizes the Company's share of the profits and losses of Kamoa Holding for the three months ended March 31, 2019, and for the same period in 2018:

	Three months ended March 31,	
	2019	**2018**
	$'000	**$'000**
Interest expense	16,241	12,666
Exploration costs	3,755	5,515
Foreign exchange loss	27	21
Interest income	(1,234)	(620)
Loss before taxes	18,789	17,582
Deferred tax	(4,713)	-
Loss after taxes	14,076	17,582
Loss attributable to non-controlling interest	(2,199)	(3,037)
Loss for the period attributable to joint venture partners	11,877	14,545
Company's share of losses from joint venture (49.5%)	5,879	7,200

The Company's total comprehensive profit for Q1 2018 included an exchange gain on translation of foreign operations of $11.3 million for the three months ended March 31, 2018, resulting from the strengthening of the South African Rand from December 31, 2017, to March 31, 2018, compared to an exchange loss on translation of foreign operations recognized in Q1 2019 of $0.5 million.

Exploration and project expenditure for Q1 2019 was consistent with the expenditure incurred in the same period in 2018 ($1.4 million). With the focus at the Kipushi and Platreef projects being on development and the Kamoa-Kakula Project being accounted for as a joint venture, all exploration and project expenditure in both periods related to exploration at Ivanhoe's 100%-owned Western Foreland exploration licences.

Financial position as at March 31, 2019 vs. December 31, 2018

The Company's total assets increased by $11.8 million, from $1,884.8 million as at December 31, 2018, to $1,896.6 million as at March 31, 2019. The Company utilized $9.2 million of its cash resources in its operations and received interest of $3.3 million during Q1 2019.

The Company's investment in the Kamoa Holding joint venture increased by $20.3 million from $681.7 million as at December 31, 2018, to $701.9 million as at March 31, 2019, with each of the current shareholders funding the operations equivalent to their proportionate shareholding interest. The Company's portion of the Kamoa Holding joint venture cash calls amounted to $14.2 million during the three months ending March 31, 2019, while the Company's share of losses from the joint venture amounted to $5.9 million.

The net increase of property, plant and equipment amounted to $30.2 million, with a total of $31.0 million being spent on project development and to acquire other property, plant and equipment. Of this total, $13.9 million and $17.3 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 three months ended March 31, 2019, and for the same period in 2018, are set out in the following table:

	Three months ended March 31,	
	2019	**2018**
	$'000	**$'000**
Platreef Project		
Shaft 1 construction	7,377	5,833
Salaries and benefits	2,469	1,954
Administrative and other expenditure	1,544	1,701
Shaft 2 early works	1,145	1,297
Social and environmental	672	734
Studies and contracting work	239	408
Site costs	242	275
Infrastructure	106	-
Total development costs	13,794	12,202
Other additions to property, plant and equipment	80	113
Total additions to property, plant and equipment for Platreef	13,874	12,315
Kipushi Project		
Infrastructure and refurbishment	6,248	4,902
Salaries and benefits	4,163	3,501
Electricity	1,887	1,520
Studies and contracting work	1,595	1,175
Depreciation	518	768
Other expenditure	2,816	2,390
Total development costs	17,227	14,256
Other additions to property, plant and equipment	101	117
Total additions to property, plant and equipment for Kipushi	17,328	14,373

Costs incurred at the Platreef and Kipushi projects are deemed necessary to bring the projects to commercial production and are therefore capitalized as property, plant and equipment.

On adoption of IFRS 16, the Company recognized a right-of-use asset of $14.8 million and a lease liability of $15.0 million. The Company's total liabilities increased by $6.4 million to $72.4 million as at March 31, 2019, from $66.0 million as at December 31, 2018, with the recognition of the lease liability being the reason for the increase.

LIQUIDITY AND CAPITAL RESOURCES

The Company had $521.6 million in cash and cash equivalents as at March 31, 2019. At this date, the Company had consolidated working capital of approximately $515.9 million, compared to $562.9 million at December 31, 2018.

Photo: On April 25, 2019 CITIC Metal agreed to invest an additional C$612 million ($454 million) in Ivanhoe Mines at C$3.98 per share. Left to right: Peter Zhou (Vice President, Corporate Development, Asia, Ivanhoe Mines), Yufeng "Miles" Sun (President, CITIC Metal Group / Chairman, CITIC Resources Holdings / Co-Chairman, Ivanhoe Mines), Robert Friedland (Executive Co-Chairman, Ivanhoe Mines) and Manfu Ma (Vice President, CITIC Metal Group).

Subsequent to the end of the quarter, in April 2019, Ivanhoe announced that CITIC Metal Co., Ltd. (CITIC Metal), through its subsidiary CITIC Metal Africa Investments Limited (CITIC Metal Africa), has agreed to invest an additional C$612 million (approximately $454 million) in Ivanhoe Mines at C$3.98 per share.

The investment is conditional upon completion of customary, confirmatory due diligence by CITIC Metal and certain internal approvals. It also is subject to approval by the Company's shareholders, approval by the Toronto Stock Exchange and recordals with certain Chinese regulatory agencies, the latter two of which also were required and obtained for CITIC Metal's initial investment in Ivanhoe Mines. Receipt of all necessary approvals and completion of the transaction is expected no later than September 7, 2019.

Zijin Mining, which acquired a 9.9% stake in Ivanhoe Mines in 2015 through a wholly-owned subsidiary, will be entitled to exercise its anti-dilution rights through a concurrent private placement at C$3.98 per share, which could result in additional proceeds of up to C$67 million ($49 million).

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 $12.4 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 Kamoa-Kakula Project, priorities are the continuation of development at Kakula and the completion of the feasibility study for Kakula. The Company has budgeted to spend $76 million on further development at the Platreef Project; $42 million at the Kipushi Project; $13 million on regional exploration in the DRC; and $22 million on corporate overheads for the remainder of 2019 – as well as its proportionate funding of the Kamoa-Kakula Project, expected to be $87 million for the remainder of 2019. The Company will reassess its planned spending for 2019 as a result of CITIC Metal's additional investment of approximately $454 million.

Subsequent to the end of the quarter, in April 2019, the Company extended a secured loan of $50 million to High Power Exploration (HPX), a subsidiary of I-Pulse Inc. The loan has a two-year maturity and an interest rate of 8% per annum, compounding annually. The principal amount of the loan and accrued interest is convertible in whole, or part, by Ivanhoe at its sole discretion into shares of treasury common stock of HPX. The loan is secured by a pledge of shares of an HPX subsidiary in the United States which is pursuing a Tier One copper-gold exploration and development project.

The Company has a mortgage bond outstanding on its offices in London, United Kingdom, of £3.2 million ($4.2 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 $27.8 million as at March 31, 2019, and a contractual amount due of $32.9 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 $5.1 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:

	Payments Due By Period				
Contractual obligations as at March 31, 2019	**Total $'000**	**Less than 1 year $'000**	**1-3 years $'000**	**4-5 years $'000**	**After 5 years $'000**
Debt	37,088	-	4,207	-	32,881
Lease commitments	1,130	461	669	-	-
Shaft 1 construction – Platreef Project	28,954	20,440	8,514	-	-
Shaft 2 construction – Platreef Project	1,626	1,626	-	-	-
Total contractual obligations	**68,798**	**22,527**	**13,390**	**-**	**32,881**

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 Kamoa 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:

	Three months ended March 31,	
	2019	**2018**
	$'000	**$'000**
Global Mining Management Corporation (a)	965	1,062
Ivanhoe Capital Aviation LLC (b)	625	625
GMM Tech Holdings Inc. (c)	313	817
HCF International Advisers (d)	203	62
Ivanhoe Capital Services Ltd. (e)	133	128
Ivanhoe Capital Pte Ltd (f)	54	101
Global Mining Services Ltd. (g)	24	10
Kamoa Copper SA (h)	(952)	(895)
Ivanhoe Mines Energy DRC Sarl (i)	(58)	(74)
Ivanhoe Capital Corporation (UK) Limited (j)	(5)	1
	1,302	1,837
Salaries and benefits	977	845
Travel	686	736
Consulting	535	1,126
Office and administration	114	99
Cost recovery and management fee	(1,010)	(969)
	1,302	1,837

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 March 31, 2019, trade and other payables included $0.9 million (December 31, 2018: $1.2 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 $0.2 million (December 31, 2018: $0.2 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) 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.

(i) 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.

(j) 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.

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, 2019, with earlier application permitted. The Company adopted these standards in the current period.

- 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.

  The Company has adopted IFRS 16 retrospectively using the first variation of the modified retrospective approach, and has therefore not restated comparatives for the 2018 reporting period, as permitted under the specific transitional provisions in the standard.

Right-of use assets were measured at the amount equal to the lease liability at the date of initial application (January 1, 2019), adjusted by the amount of any prepaid or accrued lease payments relating to that lease.

- 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.

- 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.

- 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.

- 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.

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

- 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.

Accounting standards issued but not yet effective

- 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. (i)

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

- IAS 1 – Presentation of Financial Statements and IAS 8 - Accounting Policies, Changes in Accounting Estimates and Errors. The amendments clarify and align the definition of ‘material’ and provide guidance to help improve consistency in the application of that concept whenever it is used in IFRS Standards. (i)

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

  (i) 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	March 31, 2019	December 31, 2018
		$'000	$'000
Financial assets			
Financial assets at fair value through profit or loss			
Investment in listed entity	Level 1	**1,675**	1,924
Amortized cost			
Cash and cash equivalents	Level 1	**521,617**	574,048
Loan advanced to joint venture	Level 3	**505,667**	479,521
Promissory note receivable	Level 3	**37,078**	36,471
Right-of-use asset	Level 3	**14,835**	-
Long term loan receivable	Level 3	**12,999**	12,713
Financial liabilities			
Amortized cost			
Borrowings	Level 3	**32,025**	31,291
Lease liability	Level 3	**15,023**	-
Trade and other payables	Level 3	**16,865**	26,442
Advances payable	Level 3	**2,545**	2,502
Fair value through profit or loss			
Financial liability	Level 3	**3,523**	3,349

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:

	Three months ended March 31,	
	2019	**2018**
	$'000	**$'000**
Interest from loan to joint venture	(11,950)	(8,685)
Other interest income	(3,299)	(1,086)
Interest on long term loan receivable	(606)	(586)
	(15,855)	(10,357)

The interest from the loan to the joint venture is interest earned from the Kamoa Holding joint venture on shareholder loans advanced by the Company where each shareholder is required to fund Kamoa 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:

	March 31, 2019	December 31, 2018
	$'000	$'000
Assets		
Canadian dollar	140,436	180,321
South African rand	13,671	16,848
British pounds	6,386	5,257
Australian dollar	1,675	1,924
Liabilities		
South African rand	(5,726)	(7,325)
British pounds	(4,075)	(3,427)
Canadian dollar	(317)	(571)
Australian dollar	(26)	-

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.

	Three months ended March 31,	
	2019	2018
	$'000	$'000
Canadian dollar	7,006	137
Australian dollar	82	327
South African rand	(89)	(110)

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 Kamoa Holding. The loan advanced to the joint venture will be repaid as and when there is residual cash flow in Kamoa Holding. Due to the excellent economics of the Kamoa-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	**undiscounted cash flows**
	$'000	$'000	$'000	$'000	**$'000**
As at March 31, 2019					
Trade and other payables	14,204	1,362	1,299	-	**16,865**
Non-current borrowings	-	-	-	37,088	**37,088**
As at December 31, 2018					
Trade and other payables	24,247	1,296	899	-	**26,442**
Non-current borrowings	-	-	-	36,656	**36,656**

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 three months ended March 31, 2019 would have increased or decreased by $5.1 million.

DESCRIPTION OF CAPITAL STOCK

As at May 7, 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 1,018,163,590 Class A Shares, nil Class B Shares, nil warrants and nil preferred shares were issued and outstanding.

The Company granted 6,000,000 options in 2018 and 5,000,000 options in 2019 to date. As at May 7, 2019, there were 22,402,500 options outstanding issued in terms of the Equity Incentive Plan exercisable into 22,402,500 Class A Shares.

The Company granted 2,066,184 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 May 7, 2019, there were 3,749,940 RSUs which may vest into 3,749,940 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 effectiveness of the Company's DC&P and ICFR as of March 31, 2019 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 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.

The Company's CEO and CFO have used the Committee of Sponsoring Organizations of the Treadway Commission (COSO) framework to evaluate the design of the Company's ICFR as of March 31, 2019 and have concluded that these controls and procedures have been designed 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.

During the three months ended March 31, 2019, 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), DRA Global, SRK Consulting (South Africa) (Pty) Ltd and Stantec Consulting International LLC, covering the company's Kamoa-Kakula Project;

- The Platreef 2017 Feasibility Study Technical Report dated September 4, 2017, prepared by DRA Global, OreWin Pty Ltd., 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 2019 Resource Update Technical Report dated March 28, 2019, prepared by OreWin Pty Ltd., MSA Group (Pty) Ltd., SRK Consulting (South Africa) (Pty) Ltd and MDM (Technical) Africa Pty Ltd., 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 and Mineral Reserve 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.