

March 8, 2020

## **Ivanhoe Mines issues 2019 full-year results and review of mine construction progress and exploration activities**

**Excellent development progress being made at the high-grade Kakula Copper Mine in D.R. Congo, with initial production on track for third quarter of 2021**

**February 2020 Independent Resource Estimate boosts the combined Kamoia-Kakula Project Indicated Mineral Resources to 1.4 billion tonnes grading 2.7% copper, at a 1% cut-off**

**Initial Indicated Mineral Resource estimate for the Kamoia North Bonanza Zone includes 1.5 million tonnes grading 10.7% copper, at a 5% cut-off**

**Drilling extends the new high-grade Kamoia Far North extension discovery on Ivanhoe's 100%-owned Western Foreland licences to at least 800 metres and the mineralized trend remains open**

TORONTO, CANADA – Ivanhoe Mines (TSX: IVN; OTCQX: IVPAF) today announced its financial results for the year ended December 31, 2019. Ivanhoe Mines is a Canadian mining company advancing its three joint-venture mining projects in Southern Africa: the Kamoia-Kakula copper discovery in the Democratic Republic of Congo (DRC); the Platreef palladium-platinum-nickel-copper-gold-rhodium discovery in South Africa; and the extensive upgrading of the historic Kipushi zinc-copper-lead-germanium mine, also in the DRC. All figures are in U.S. dollars unless otherwise stated.

### **HIGHLIGHTS**

- **CITIC Metal Africa Investments Limited's (CITIC Metal Africa) C\$612 million (\$459 million) second equity investment in Ivanhoe Mines at C\$3.98 per share successfully closed on August 16, 2019. The investment is an integral part of Ivanhoe and CITIC Metal's long-term strategic cooperation and brought CITIC Metal's investment in Ivanhoe Mines in less than one year to more than \$1.0 billion. On the same date, CITIC Metal's Vice President Manfu Ma was appointed to Ivanhoe's Board of Directors, increasing CITIC Metal's appointees to Ivanhoe's 11-person Board to three.**

- Also on August 16, 2019, Ivanhoe's joint-venture partner at Kamoakakula, Zijin Mining Group Co., Ltd. (Zijin Mining), provided additional proceeds to Ivanhoe of C\$67 million (\$50 million) also at C\$3.98 per share through the exercise of its anti-dilution rights. Zijin Mining's Chairman Chen Jinghe was elected to Ivanhoe's Board on June 28, 2019.
- CITIC Metal Africa and Zijin Mining are each subject to long-term standstill agreements with Ivanhoe Mines that limit the maximum number of shares each may acquire, which in the case of CITIC Metal Africa is 29.9% until January 8, 2023, and in the case of Zijin currently is 13.88% until December 7, 2026, beyond which each can only acquire shares on a consensual, negotiated basis with Ivanhoe Mines until the standstills expire. Zijin Mining's maximum allowable shareholding under its standstill increased from 9.9% to 13.88% on completion of the rebalancing transaction announced by Ivanhoe on October 8, 2019.
- On October 8, 2019, Ivanhoe and Zijin announced the installation of a stand-alone executive team to take Kamoakakula to commercial production. Mark Farren, formerly Ivanhoe's Executive Vice President, Operations, was appointed as the Chief Executive Officer of the Kamoakakula Copper Joint Venture. Dr. Yong Chen of Zijin Mining was appointed Chief Operating Officer.
- In two concurrent moves to further enhance Ivanhoe's development and operating capabilities, Louis Watum, Ivanhoe's DRC country manager, was appointed President of the Board of Directors of Kamoakakula Copper SA, the DRC operating company of the joint venture between Ivanhoe Mines, Zijin Mining, Crystal River and the Government of the Democratic Republic of Congo that is developing the Kamoakakula Project. South African mining veteran Warwick Morley-Jepson was appointed as Ivanhoe's new Chief Operating Officer, assuming the duties formerly held by Mr. Farren.
- Development of the Kakula Mine, the first of multiple, planned mining areas at Kamoakakula, is making excellent progress. The first underground access drives intersected Kakula's initial high-grade ore (+3% copper) in late August, then intersected an even higher grade zone (approximately 6% copper) in late October as the drives advance towards mining zones of +8% copper in the center of the Kakula deposit. Ivanhoe and its joint-venture partner Zijin Mining are advancing rapidly on civil works for the processing plant and other surface infrastructure. The joint venture has issued purchase orders for the long-lead mining and processing equipment. The first oversized loads of equipment for the processing plant arrived at the mine on February 21, 2020. Initial copper concentrate production from the Kakula Mine is scheduled for the third quarter of 2021.
- In parallel with the construction of Kamoakakula's phase 1 Kakula Mine, work is progressing on the independent Kakula Definitive Feasibility Study (DFS) and an updated Integrated Development Plan for the entire Kamoakakula mining complex. The Kakula DFS will provide an increased level of accuracy for the design, production schedule and expenditures for the initial phase of mine development at Kakula. The Integrated Development Plan will include details on the planned expansion phases for the greater Kamoakakula mining complex, incorporating updates for mineral resources, production rates and economic analysis.

- Following the completion of basic engineering and procurement, as part of the forthcoming Kakula DFS, Kakula's initial processing plant capacity has increased from 3.0 Mtpa to 3.8 Mtpa. The expansion in initial plant capacity requires increasing the underground mining crews in 2020 from 11 to 14 to ensure sufficient mining operations to feed the expanded plant and create pre-production stockpiles of approximately 1.5 million tonnes of high-grade ore and an additional 700,000 tonnes of material grading approximately 1% to 3% copper. This should allow the plant to ramp up quickly and maintain a steady state throughput of 3.8 Mtpa.
- In November 2019, the Kamo-Kakula Project team completed basic engineering design and costing for Kakula's initial mine and underground infrastructure, the first concentrator module and associated surface infrastructure. The updated estimate of the project's initial capital costs is approximately \$1.3 billion (from January 1, 2019), which assumes commissioning of the processing plant in Q3 2021.
- Ivanhoe will continue to fund its share of approximately 40% of the initial capital costs, plus it will fund its share of capital associated with the 20% carried interest owned by the Government of the DRC, from its existing cash resources. Ivanhoe and Zijin Mining are jointly reviewing equipment and project-related financing options to potentially accelerate the timeline for Kakula's Phase 2 development – a doubling of mill throughput to 7.6 Mtpa.
- Other engineering and construction activities underway at Kamo-Kakula include the refurbishment of six turbines at the Mwadingusha hydro-electric power plant and associated 220-kilovolt infrastructure to supply the mine with clean hydropower, construction of the first phase of accommodations for 1,000 employees and contractors, civil works for the processing plant and other surface infrastructure.
- An independent preliminary economic assessment (PEA) issued in February 2019 indicates that Kamo-Kakula has a potential production rate of at least 18 Mtpa. Once this expanded rate is achieved, Kamo-Kakula is projected to become the world's second largest copper mine, with peak annual production of more than 700,000 tonnes of copper.
- On February 6, 2020, Ivanhoe announced an updated independently verified Indicated Mineral Resource increased the combined Kamo-Kakula Project Indicated Mineral Resource to 423 million tonnes grading 4.68% copper, at a 3% cut-off. The combined Kamo-Kakula Project Indicated Mineral Resource now stands at 1.4 billion tonnes grading 2.7% copper, at a 1% cut-off.
- The initial Indicated Mineral Resource estimate for the Kamo North Bonanza Zone includes 1.5 million tonnes grading 10.7% copper, at a 5% cut-off. Drilling continues to target additional resources in the vicinity of the ultra-high-grade Bonanza Zone and the Far North Zone. Given the shallow depth, remarkable thickness and massive copper sulphide mineralization discovered within the Kamo North Bonanza Zone, Kamo-Kakula's engineers are evaluating potential options to accelerate the development of this new discovery.
- The controlling east-west striking structure thought to be responsible for the massive copper sulphide mineralization in the Kamo North Bonanza Zone is visible as a lineament on airborne magnetic images and can be traced over a distance of up

to 20 kilometres. It trends west onto the adjacent Western Foreland exploration licences that are 100%-owned by Ivanhoe Mines.

- Drilling also has confirmed the extension of the Kamo North high-grade copper structure for at least 800 metres in the Kiala Discovery area, part of Ivanhoe's 100%-owned Western Foreland licences that adjoin the Kamo-Kakula mining licence to the north. The high-grade copper zone on Ivanhoe's 100%-owned exploration licences is being delineated through a series of step-out fences of holes drilled in a northerly direction.
- During 2019, Ivanhoe significantly expanded the size of its 100%-owned exploration licences in the Western Foreland area. Ivanhoe now controls more than 2,500 square kilometres of highly-prospective land holdings in the vicinity of the 400-square-kilometre Kamo-Kakula mining licence.
- At the Kipushi mine redevelopment project in the DRC, the project team continues to work towards the completion of the Kipushi Project's definitive feasibility study (DFS). The DFS will update and refine the findings of the pre-feasibility study (PFS) issued in December 2017 and will focus on the initial mining of Kipushi's Big Zinc Zone.
- Ivanhoe has made excellent progress in upgrading the mine's underground infrastructure to allow for mining to quickly begin at the ultra-high-grade Big Zinc orebody. Resumption of production at Kipushi now requires the construction of a surface processing plant and other related surface production facilities. Discussions are continuing with Ivanhoe's joint-venture partner, Gécamines, in order to help advance a new era of production at Kipushi.
- At the Platreef mine development project in South Africa, the project's first shaft (Shaft 1) has been sunk to a depth of more than 957 metres below surface. The 950-metre-level station development for Shaft 1 is nearing completion, with completion of the shaft to a final depth of approximately 1,000 metres planned for mid-2020.
- Palladium prices continued to surge to new record highs in 2019 and early 2020, recently topping \$2,800 an ounce as stricter air-quality rules boost demand for the metal used in vehicle pollution-control devices. Rhodium prices also have soared to more than \$12,700 an ounce. The price increases of palladium and rhodium – two key metals in the Platreef orebody – has propelled Ivanhoe's Platreef Project 'metals-price basket' to a new, multi-year high.
- Platreef contains an estimated 26.8 million ounces of palladium and 1.8 million ounces of rhodium in Indicated Resources, plus an additional 43.0 million ounces of palladium and 3.1 million ounces of rhodium in Inferred Resources, at a cut-off grade of 1 gram per tonne.
- Ivanhoe is investigating a phased development 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, followed by expansions to the production rate as outlined in the DFS.
- Ivanhoe is evaluating various project-related financing options to fast-track Platreef's development schedule and accelerate initial production.

- The concrete foundation for Platreef's Shaft 2 headframe was completed in July 2019. Work on Shaft 2 has been temporarily deferred while the company completes its review of the phased development production plan. Shaft 2 is designed with an internal diameter of 10 metres and equipped with two Koepe winding plants, one equipped with 40-tonne rock-hoisting skips providing the mine with a total capacity to hoist six million tonnes of ore per year – the single largest hoisting capacity at any mine in Africa.
- Ivanhoe Mines deeply regrets to report that a fatal accident involving a contractor's employee occurred at the Kamo-a-Kakula Project in September 2019. The accident involved a civil contractor at a surface cement batching plant. On February 6, 2020 a second contractor's employee passed away due to fat embolism syndrome causing severe brain damage following a broken bone incurred in a workplace accident on January 21, 2020 at Kamo-a-Kakula. The project had gone more than 7.5 years without a lost-time injury prior to the fatal injury in September 2019.
- At the end of 2019, Kipushi had reached 1.88 million work hours free of a lost-time injury, and Platreef 171,525 work hours free of a lost-time injury.

**A sample of chalcocite-rich development ore from the Kakula Mine. Based on Niton (X-ray fluorescence or XRF) analysis, this sample grades 62.9% copper.**



## Principal projects and review of activities

### COVID-19 Response Plan

Ivanhoe Mines is closely monitoring the impact of the COVID-19 virus and is prepared for potential short-term impacts on its projects and operations worldwide. The company has appointed a team with overall responsibility for COVID-19 response planning, which includes senior Ivanhoe Mines representatives with expertise in health and safety, operations, law, human resources, and communications as well as outside counsel from world-leading epidemiologists. As part of its COVID-19 Response Plan, the company is putting particular focus on the health and safety of all its employees and contractors as well as its host communities. In addition, the company is conducting a careful review of purchase orders and its supply chain to minimize disruption to its projects.

#### 1. Platreef Project

64%-owned by Ivanhoe Mines  
South Africa

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. In Q2 2019, Ivanplats reached Level 2 contributor status in its verification assessment on the B-BBEE scorecard. A Japanese consortium of ITOCHU Corporation, Japan Oil, Gas and Metals National Corporation; and Japan Gas Corporation, owns a 10% interest in Ivanplats, which it acquired in two tranches for a total investment of \$290 million.

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

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

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



**Aerial view of the Platreef Project, with Shaft 1's headframe and the boxcut and concrete shaft collar foundation for Shaft 2. Ivanhoe is looking into accelerating first production by using Shaft 1 as the mine's initial production shaft.**



### **Health and safety at Platreef**

At the end of 2019, the Platreef Project reached a total of 171,525 lost-time, injury-free hours worked in accordance with South Africa's Mine Health and Safety Act, and Occupational Health and Safety Act. Unfortunately a lost-time injury (LTI) occurred in November 2019. The Platreef Project continues to strive toward its workplace objective of an environment that causes zero harm to employees, contractors, sub-contractors and consultants.

### **Platreef phased development production plan**

In July 2017, Ivanhoe Mines announced the 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.

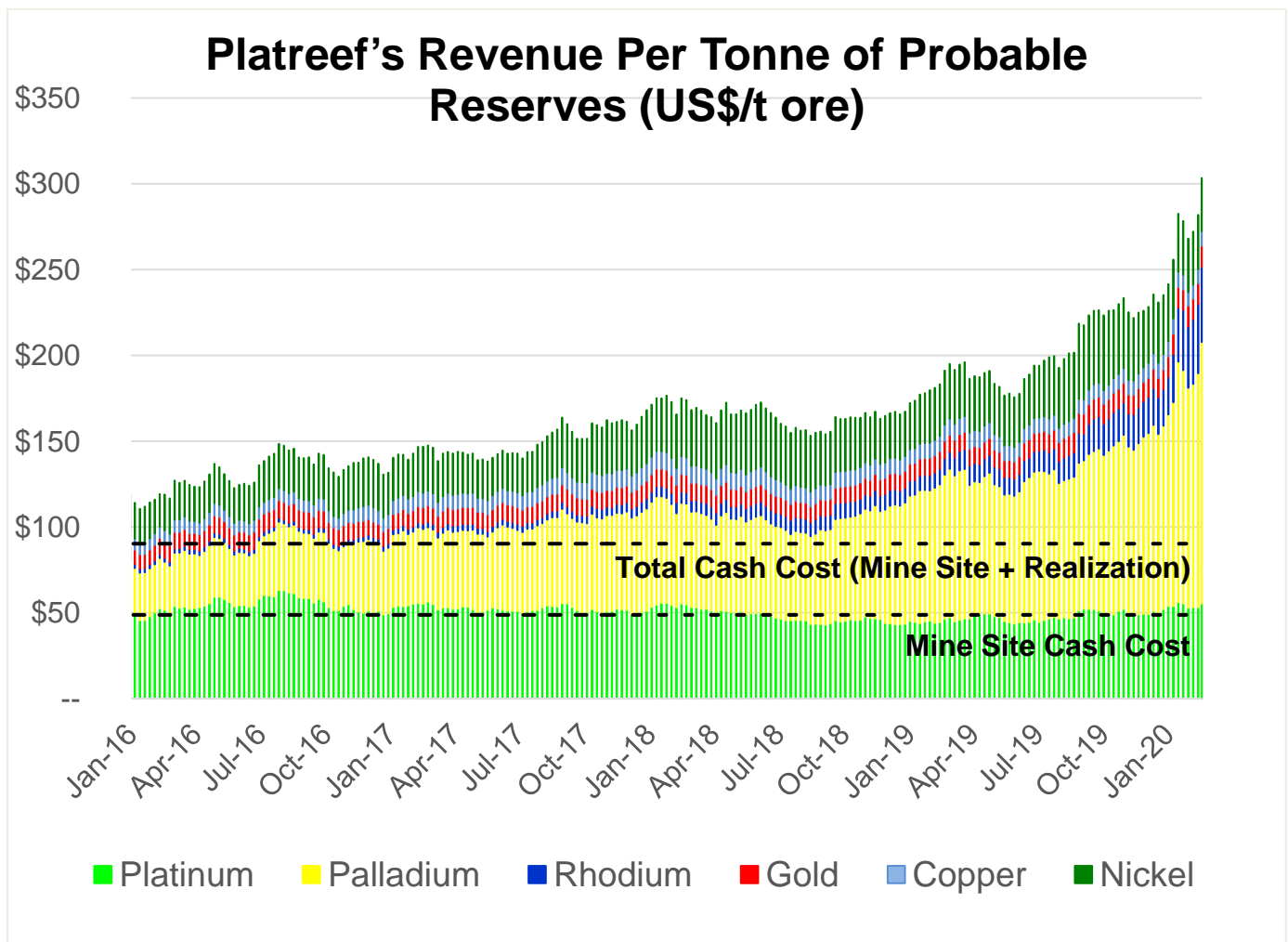


During 2019 and early 2020, palladium prices have continued to surge to new record highs, recently topping \$2,800 an ounce as stricter air-quality rules boost demand for the metal used in vehicle pollution-control devices, while the price of rhodium hit a record high of more than \$12,700 an ounce. The price increases have propelled Ivanhoe's Platreef Project 'metals-price basket' to a new, multi-year high.

Platreef contains an estimated **26.8 million ounces of palladium** and **1.8 million ounces of rhodium** in Indicated Resources, plus an additional **43.0 million ounces of palladium** and **3.1 million ounces of rhodium** in Inferred Resources, at a cut-off grade of 1 gram per tonne.

Given the recent surge in Platreef's 'metals-price basket', Ivanhoe Mines is investigating a phased development 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.

**Led by the surge in prices of palladium and rhodium, Platreef's 'metals-price basket' revenue per tonne of probable reserves recently reached a new, all-time high of more than \$300.**



## **Shaft 1 now extends to a depth of more than 957 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 more than 957 metres below surface. The thickness of the mineralized orebody (T1 and 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 further metallurgical sampling.

The 750-metre-level and 850-metre-level stations have both been completed with the 950-metre-level station currently in development and approximately 80% completed. Development is being carried out on the east drift of the 950-metre-level with the north drift and temporary refuge bay completed.

The final shaft bottom depth has been revised to 1,000 metres below surface in order to cater for a long-term life of mine spillage arrangement. This projected final depth is expected to be reached in mid-2020. The three development stations will provide initial, underground access to the high-grade orebody, enabling mine development to proceed concurrently with the construction of Shaft 2. Shaft 1 changeover detailed designs have commenced and will enable Shaft 1 to be configured for permanent rock hoisting.

## **Shaft 2 box cut and concrete foundation completed in July 2019**

Shaft 2, 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 Koepe winding plants, one equipped with 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. The box-cut excavation to a depth of approximately 29 metres below surface, including the concrete foundation, has been successfully completed and will form the foundation of the 103-metre-tall concrete headgear that will house the shaft's permanent hoisting facilities and support the shaft collar. Work on Shaft 2 has been temporarily deferred while the company completes its review of the phased development production plan using Shaft 1 as the mine's initial production shaft.

## **Underground mining to incorporate highly productive, mechanized methods**

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

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

## Members of the sinking crew at the Platreef Project's Shaft 1.



Ivanhoe has prioritized an increase in the number of female employees at all three of our mine development projects. At Platreef, females now make up more than 31% of the project's employees. From left to right: Raisibe Ntini (Geology Intern); Vongani Nkuna (Group Manager, Metallurgy); Maenetja Lebea (Intermediate Life Support Practitioner); Ayakha Mbongonya (Geotechnical Engineer); Sinah Tjale (Safety Officer).



## **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 the 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 \$16 million) to complete the Masodi treatment plant. Ivanplats will purchase the treated wastewater at a reduced rate of R5 per thousand litres for the first 10 million litres per day to offset a portion of the initial capital contributed.

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

## **Development of human resources and job skills**

The Platreef Project's first Social and Labour Plan (SLP), towards which it pledged a total of R160 million (\$11 million) during the past five years, ended in November 2019. That approved plan included R67 million (\$4 million) for the development of job skills among local residents and R88 million (\$6 million) for local economic development projects. Consultation regarding the project's second SLP is in the final stages.

## **2. Kipushi Project**

68%-owned by Ivanhoe Mines  
Democratic Republic of Congo

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 Kamo-a-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 2019, the Kipushi Project reached a total of 1,887,093 work hours free of a lost-time injury.

The Kipushi Project operates a potable-water station to supply the municipality of Kipushi 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 2019 included the Kipushi women's literacy project, the sewing training centre project and the upgrading of the Mungoti School in Kipushi.



**Ivanhoe Mines and its joint-venture partners have committed to bringing clean water solutions to local communities near all of its mining projects. A potable water storage tank at a small village near the Kipushi Mine, where 700 families collect their daily water.**



**Ivanhoe also funds an adult literacy program as part of its community skills development initiative at Kipushi. The program is a partnership with Alfa Congo, a Kinshasa-based non-profit NGO dedicated to improving literacy levels among vulnerable social groups.**





**Kipushi's construction team assisting in civil works for the new 850-metre-level pumping station that will significantly reduce power consumption and electricity costs during production. From left to right: K. Mudikike, M. Kalula, K. Mukendi, G. Graham, P. Dikwenda, K. Nyandwe, M. Ngoyi, M. Mutomb, E. Ditend.**



### **Definitive feasibility study in final stages of 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 project team continues to work towards the completion of the Kipushi Project's definitive feasibility study (DFS).

**Alfons Molepo, Senior Electrical Foreman (left), discussing the electrical drawings with Tshilay Pascal, Electrician (right), at the newly installed, medium voltage switchgear at the 850-metre-level pump station.**



**Prince Kaomba, Electrician (left), and Paul Dikwenda, Mining Manager (right), inspecting diagrams of the 17.5-megawatt variable speed drives for the five high-volume water pumps installed on Kipushi's 1,200-metre level.**





## **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, bulk 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. The old winder at P2 Shaft has been removed and construction of the new foundation, along with assembly and installation of the new modern winder, has been completed and fully commissioned after passing safety inspection and testing procedures.

### **3. Kamo-Kakula Project**

39.6%-owned by Ivanhoe Mines  
Democratic Republic of Congo

The Kamo-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. The project is approximately 25 kilometres west of the town of Kolwezi and about 270 kilometres west of Lubumbashi.

Ivanhoe sold a 49.5% share interest in Kamo Holding Limited (Kamo Holding) to Zijin Mining in December 2015 for an aggregate consideration of \$412 million. In addition, Ivanhoe sold a 1% share interest in Kamo 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 Kamo-Kakula Project in an amount equivalent to its proportionate shareholding interest in Kamo Holding.

A 5%, non-dilutable interest in the Kamo-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 Kamo-Kakula Project was transferred to the DRC

government, Ivanhoe and Zijin Mining now each hold an indirect 39.6% interest in the Kamoakakula Project, Crystal River holds an indirect 0.8% interest and the DRC government holds a direct 20% interest. Kamoakakula Holding holds an 80% interest in the project.

**Wide-angle, aerial view of Kakula's main declines (centre), ore stockpiles (right), Kakula workshops under construction (left) and the first phase of accommodations for 1,000 employees and contractors (upper centre).**



### **Health and safety at Kamoakakula**

At the end of 2019, the Kamoakakula Project reached 2,629,889 work hours free of a lost-time injury. Regrettably a fatality occurred in September 2019 and the Company reported on February 7, 2020, that a contractor's employee passed away due to fat embolism syndrome causing severe brain damage following a broken bone incurred in a workplace accident on January 21, 2020 at the Kamoakakula Project. These incidents occurred after the project had gone more than 7.5 years without a lost-time injury. The Kamoakakula Project continues to strive toward its workplace objective of an environment that causes zero harm to all employees and contractors.

**Approximately 90% of Kamo-a-Kakula's more than 4,400 current employees and contractors are Congolese nationals. A training program is in place to increase the number of local employees in management positions.**



### **Definitive Feasibility Study underway for the Kakula Mine**

An independent definitive feasibility study (DFS) for the Kakula Mine is underway with an expected completion date of Q3 2020. At the same time, Ivanhoe expects to issue an updated preliminary economic assessment for the expanded Kamo-a-Kakula combined production scenario that will include an updated Mineral Resource estimate for Kamo-a-North, including the initial Mineral Resource estimate for the Kamo-a-North Bonanza Zone.

The forthcoming Kakula DFS will incorporate detailed design, engineering and procurement, which is largely complete, with plans to increase the initial processing plant ore capacity by approximately 26% from 3.0 Mtpa to 3.8 Mtpa.

Based on the results of the February 2019 PFS, Kakula's average feed grade over the first five years of operations is projected to be 6.8% copper, and 5.5% copper on average over a 25-year mine life. An increase in the initial processing plant throughput is expected to result in improved cash flows, which may be used to accelerate subsequent expansions.

### **Additional mining crews being added at Kakula to increase pre-production ore stockpiles and to position the mine to accelerate commencement of the second phase of development**

The expansion in initial plant capacity from 3.0 Mtpa to 3.8 Mtpa would require increasing the underground mining crews in 2020 from 11 to 14 to ensure sufficient mining operations to feed



the expanded plant throughput. This would have the benefit of producing a larger surface stockpile of ore prior to the scheduled commissioning of the processing plant, as well as accelerating the mine development schedule, providing the opportunity to bring forward the commencement of the second phase of development at Kakula. The second 3.8 Mtpa plant module will be fed from the Kakula mine at a planned full production rate of 6 Mtpa. Further study work will determine the amount of tonnes to be sourced from the Kansoko Mine, or elsewhere, to maximize the full milling capacity of 7.6 Mtpa. Any plans to accelerate the second module of Kakula's processing plant would be subject to securing the necessary project-level financing.

Kakula's original 3.0 Mtpa first processing plant module has already been redesigned during the basic engineering phase to a nameplate capacity of 3.8 Mtpa. Purchase orders have been placed for all major long-lead time mechanical equipment, and plant civil works have started. The contract for the SMPP (structural, mechanical, piping and platework) supply and erection portion of the plant construction has been awarded and steel fabrication is underway. The capital cost estimate related to the construction of the processing plant has been estimated to a basic engineering level of accuracy and is thus well defined.

**The first oversize loads of equipment for Kakula's initial 3.8 Mtpa processing plant module being transported from Kolwezi to Kamo-Kakula on the newly constructed road. The equipment, which has been delivered to site, is two low-entrainment flotation cells (Jamison cells) that will be used as cleaner cells to produce a final copper concentrate, before thickening and filtration.**



The current updated estimate of the project's initial capital costs is approximately \$1.3 billion as of January 1, 2019, which assumes commissioning of the first processing plant module in Q3 2021 and includes expanded plant capacity and pre-production ore stockpiles.

The capital costs incurred by the Kamo-Kakula joint venture in 2019 amounted to \$309.1 million, of which \$125.2 million was spent on the Kakula declines and mine development.

Ivanhoe will fund its share of approximately 40% of the initial capital costs, plus it will fund its share of capital associated with the 20% carried interest owned by the Government of the DRC, a portion which will be repaid through future cash flows from the project. Ivanhoe expects that it will continue to have sufficient cash resources or project-related financing options available to cover its share of the potential increase in initial capital costs.

## **Kamoa-Kakula Mineral Resources increased again**

Ivanhoe announced the completion of an independently-verified, updated Mineral Resource estimate for the Kamoa-Kakula Project on February 5, 2020. The new Mineral Resource estimate is the culmination of an infill drilling program designed to better define higher-grade copper zones within the existing Kamoa Deposit.

At a 1% cut-off, Kamoa's Indicated Mineral Resources now total 760 million tonnes grading 2.73% copper, containing 45.8 billion pounds of copper. At the same 1% cut-off, Kamoa's Inferred Mineral Resources now total 235 million tonnes grading 1.70% copper, containing 8.8 billion pounds of copper. At a 3% cut-off, the new Mineral Resource estimate boosts the Kamoa Deposit's Indicated Mineral Resource tonnages by 15% and contained copper by 15.5%, to a total of 256 million tonnes at a grade of 4.15% copper. At the same 3% cut-off, Kamoa's Inferred Mineral Resources now total 13 million tonnes at a grade of 3.51% copper.

The entire Kamoa Deposit was updated in the new Mineral Resource estimate. The majority of recent drilling, however, targeted the ultra-high-grade Bonanza Zone at Kamoa North, and an approximated north-south corridor of elevated copper grades in the far north of the mining licence area (the Far North Zone).

The new Kamoa Mineral Resource estimate covers approximately 600 metres of strike length in the deeper western portions of the Bonanza Zone (west of the West Scarp Fault), and 1,500 metres of strike length in the shallower eastern portions of the Bonanza Zone, defined by drill sections spaced 50 metres apart on strike in the central section, and 100 metres apart on strike elsewhere.

At a 1% cut-off, the current, combined Indicated Mineral Resources for the Kamoa-Kakula Project now totals 1.387 billion tonnes grading 2.74% copper, containing 83.7 billion pounds of copper. At the same 1% cut-off, Kamoa-Kakula's combined Inferred Mineral Resources now total 339 million tonnes grading 1.68% copper, containing 12.5 billion pounds of copper.

At a higher 3% cut-off, the current, combined Indicated Mineral Resources for the Kamoa-Kakula Project now totals 423 million tonnes grading 4.68% copper, containing 43.7 billion pounds of copper. At the same 3% cut-off, Kamoa-Kakula's combined Inferred Mineral Resources now total 17 million tonnes grading 3.51% copper, containing 1.3 billion pounds of copper.

The new Kamoa Indicated and Inferred Mineral Resource estimate was prepared by George Gilchrist, Ivanhoe Mines' Vice President, Resources, under the direction of Gordon Seibel, RM SME, of the Wood Group (formerly Amec Foster Wheeler E&C Services Inc.) of Reno, USA, and is reported in accordance with the 2014 CIM Definition Standards for Mineral Resources and Mineral Reserves. Mr. Seibel is the Qualified Person for the estimate. The effective date of the estimate is January 30, 2020, and the cut-off date for drill data is January 20, 2020. There has been no change to the Mineral Reserve estimate at Kamoa-Kakula.

## **Approximately eight kilometres of underground development was completed in 2019 as the project tracks towards first production in Q3 2021**

The underground development work at Kakula is being performed by mining crews operating large-capacity, semi-autonomous mining equipment, such as jumbo drilling rigs and 50-tonne trucks. A total of 7.8 kilometres of underground development was completed during 2019, which was 1.7 kilometres ahead of plan.

Mine access drives 1 and 2 (interconnected, parallel tunnels that will provide access to ore zones) continue to progress, with both access drives currently in the high-grade zone.

The number of underground mining crews has increased from six at the start of the fourth quarter, to eight working at Kakula at the end of 2019, including one owner crew. The project will continue to add additional crews over the next 12 months to further accelerate development. By the end of 2019, approximately 900 metres of development had been completed at the southern ventilation decline, which will facilitate the acceleration of critical early mine development.

## **Engineering, procurement and construction advancing well**

Project engineering and procurement activities are advancing well. The current primary construction focus that runs through the project's critical path is the installation of the underground rock handling system, the processing plant and the electrical high-voltage infrastructure installation.

Construction progress on the underground rock handling system is progressing well with an expected commissioning date of early April 2020. The reaming of Ventilation Shaft 2 is underway and once complete, the raise bore machine will be moved to Ventilation Shaft 3. Ventilation Shaft 1 was fully commissioned earlier in 2019.

The plant earthworks is complete and civil construction is underway. Initial civil construction has prioritized the run of mine stockpile, HPGR stockpile and mill foundation, and concrete is in the process of being poured in these areas. The process plant long lead items will start to arrive on site from April 2020, with the mills scheduled for arrival in June 2020.

The Kamoia-Kakula Project sources a number of infrastructure items and equipment from Chinese based companies, whose operations have been impacted by the COVID-19 virus (Novel Coronavirus), and which has and can continue to be expected to, result in delays in obtaining such equipment for the continuing development of the project.

The contract for the 220 kilovolt overhead power line, as well as the contract for the new electrical substation, has been awarded. Bush clearing for the overhead line has started and earthworks for the electrical substation is underway.

Construction of the new road linking Kamoia-Kakula with the Kolwezi airport is operational with only minor items outstanding. The bulk of the accommodation at the Kakula village is complete and occupied, while the kitchen, mess area and laundry still is being constructed.



**A Kamoia transport bus, used for carrying Kamoia-Kakula employees to the mine site from the city of Kolwezi, along a recently-completed section of the permanent new highway linking the Kakula Mine with the Kolwezi airport.**



**Housing units are being constructed at Kamoia-Kakula to provide on-site accommodations for employees and contractors.**





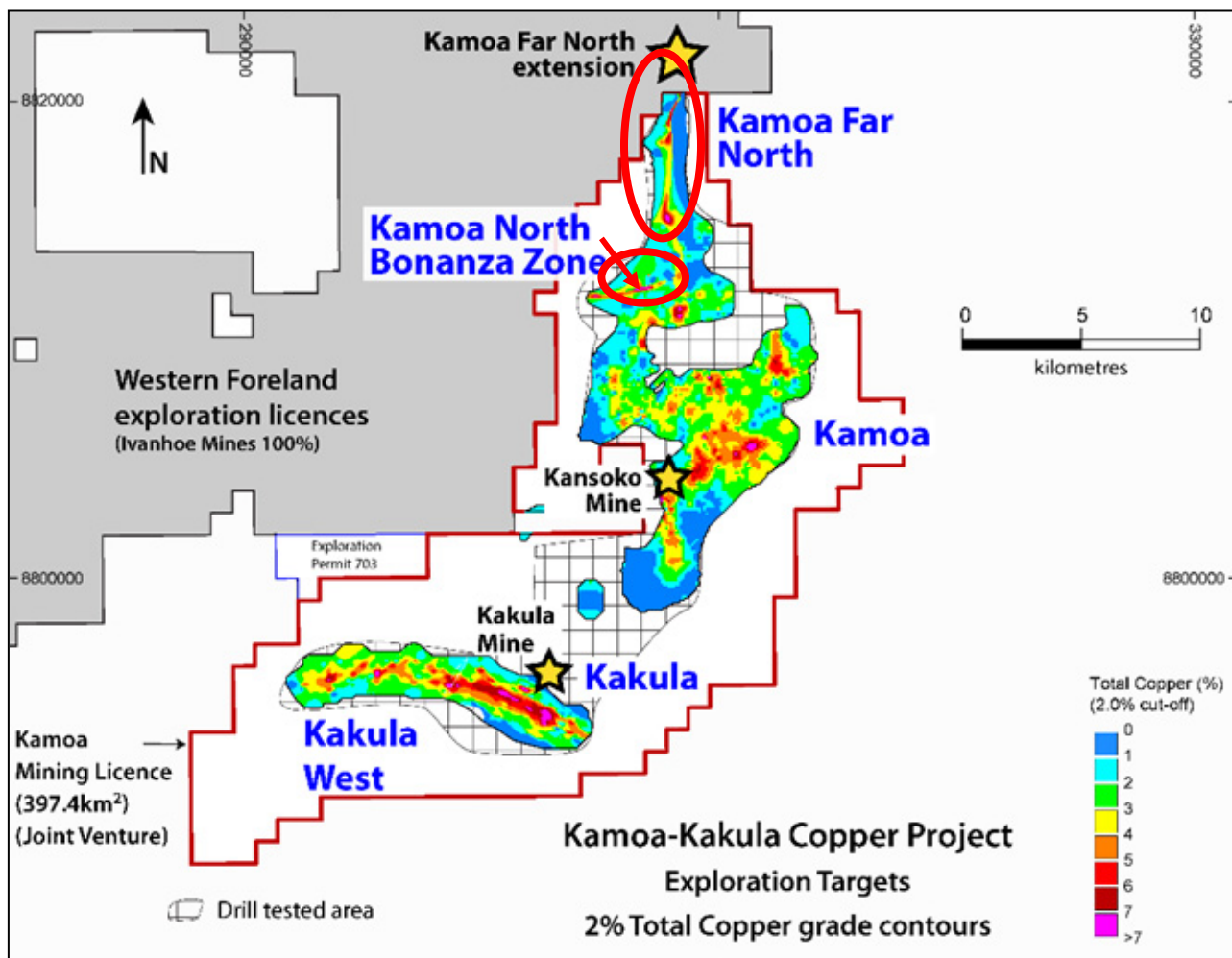
## Exploration success leads to discovery of shallow thick ultra-high grade Kamo North Bonanza Zone

Most of the drilling in 2019 focused on the extension and definition of the Kamo North Bonanza Zone, however some holes were drilled to target the typical K1.1.1 mineralized horizon and the Far North trend. In total, 51,187 metres were completed in 182 holes, of which 6,453 metres were completed in Q4 2019.

Ultra-high-grade mineralization previously identified over an approximately 350 metre strike length, and an implied 2.7 km potential, was further defined on 50-metre east-west spaced sections at 20-metre to 25-metre spaced centres, approximately 300 metres east and west of the discovery hole DD1450 (13.05% copper over 22.3 metres (true thickness)).

Beyond the central core of the Bonanza Zone, drilling was done on wider 100-metre spaced section lines to fully define the limits of the system. This drilling constrains the shallow portion of the Central Bonanza Zone, however the zone remains untested along considerable strike length on the western side of the West Scarp Fault.

**On February 6, 2020, Ivanhoe announced an updated Mineral Resource estimate for the extensive Kamo deposit, including the recent high-grade discoveries at the Kamo North Bonanza Zone and Kamo Far North (circled in red).**



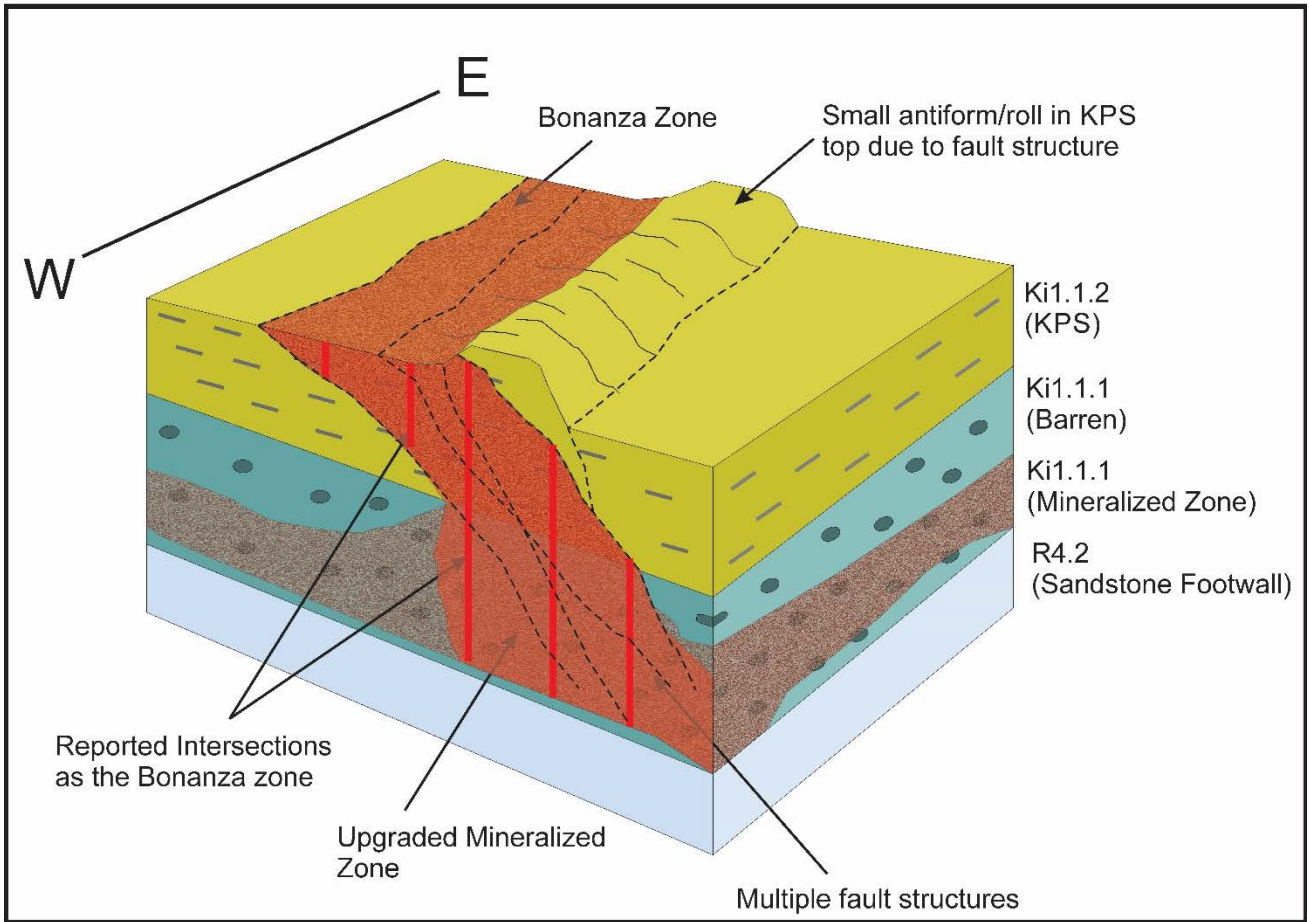


Assay results of holes from the Kamo North Bonanza Zone were included in the updated Mineral Resource estimate announced on February 5, 2020.

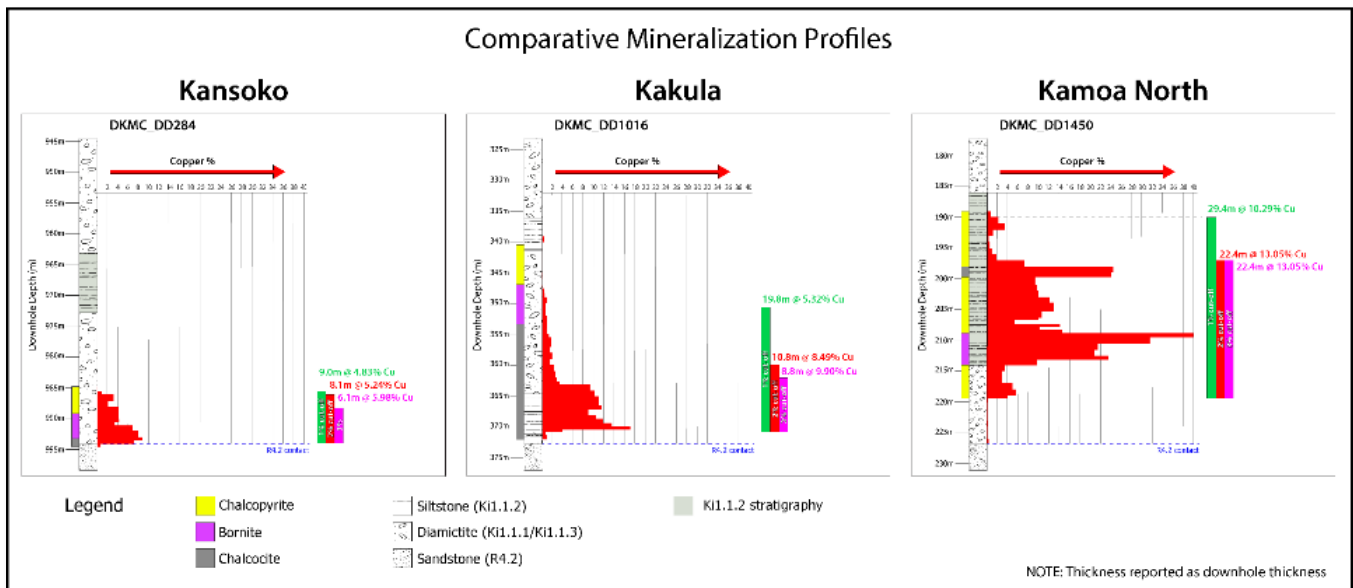
Several geophysical studies such as ground gravity, ground magnetics and “Excalibur” airborne were conducted in the Kamo North area to better understand the controls of the ultra-high-grade mineralization which is hoped will assist in locating additional targets. Additional geological studies are planned for 2020. Packer testing has been completed in the Kamo North Bonanza Zone and the report is expected in Q1 2020.

In the Kakula area, 2,362 metres were completed in five holes to test the extension of the Kakula West Deposit.

### Conceptual model of the Kamo North Bonanza Zone.



Grade profiles plotted on the same scale show the significance of the grades between the different discovery areas on the Kamo-Kakula Project.



## Development options at Kamo North being considered

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

Geotechnical and hydrogeological drilling to provide support for future mining studies has been completed and resource modelling and mine planning are underway. A number of metallurgical composites also have been generated for existing coarse reject material that will be used for flotation test work.

**Ben Muding, Environment Officer, obtains a water sample from a stream near the Kamo-Kakula Project. Ivanhoe Mines is committed to responsible water use in support of the United Nations' Sustainable Development Goals with regard to access to water and sanitation, and responsible consumption and production.**



## **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 major equipment being delivered to 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, is underway 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).

The Kansoko Mine, Kakula Mine and Kamoia 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 ventilation shafts and mine has started, which includes substations, overhead lines and surface cables.



**Aerial view of the Mwadingusha hydropower dam in the DRC that Ivanhoe and Zijin are upgrading in a private-public partnership venture with the DRC's state-owned power company, La Société Nationale d'Electricité, to provide long-term, environmentally-friendly electricity for the Kamo-Kakula and Kipushi mines and the Congolese people.**





**Assembling one of the six new turbines at the Mwadingusha hydropower plant. The upgrading program is restoring the plant to its installed output capacity of approximately 72 megawatts of clean, sustainable electricity.**



**Delivering new penstocks that will deliver water from the dam to the new turbines at the Mwadingusha hydropower plant.**



## Continued focus on enriching communities and sustainable development

The Kamoia-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 living standards of the people who reside within the project's footprint. The program consists primarily of fish farming, poultry production, beekeeping and food crops, including farming of maize (corn), vegetables and bananas. With the increase in development activities at the project, a significant number of employment opportunities have also been made available to residents of the local communities.

The Sustainable Livelihoods Program started in 2010 in an effort to strengthen food security and farming capacity in the host communities near Kamoia-Kakula through establishing an agricultural training garden and support for farmers at community level. Today, approximately 350 local "farmers" are benefiting from the Sustainable Livelihoods Program, producing high-quality food for their families and selling the surplus for additional income.

Additional non-farming related activities for 2019 included education and literacy programs, the continuation of a community brick-making program, the construction of a school, the construction of housing for teachers and the supply of fresh water to a number of local communities using solar powered boreholes. Community members also have been trained by community health experts to maintain the sanitation of the water boreholes in their communities. The second and third phases of the relocation program are underway. The entire Kakula mine area, including the tailings dam, will be secured once these relocation phases are complete.

**Women from the small village of Lwansenga near Kamoia-Kakula proudly show off their chickens and eggs. As part of Kamoia-Kakula's Sustainable Livelihood Project, the women sell their products to the Kamoia-Kakula camp kitchen.**





**Mushiya Kalonji Huguette, an environmental laboratory technical trainee at Kamo-Kakula, takes a water sample from newly-installed fresh water taps in the local village of Israel. Supplying clean, fresh drinking water to people living in the small, rural villages near Kamo-Kakula is a key part of the project's Sustainable Livelihoods Program.**



#### **4. Western Foreland Exploration Project**

100%-owned by Ivanhoe Mines  
Democratic Republic of Congo

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

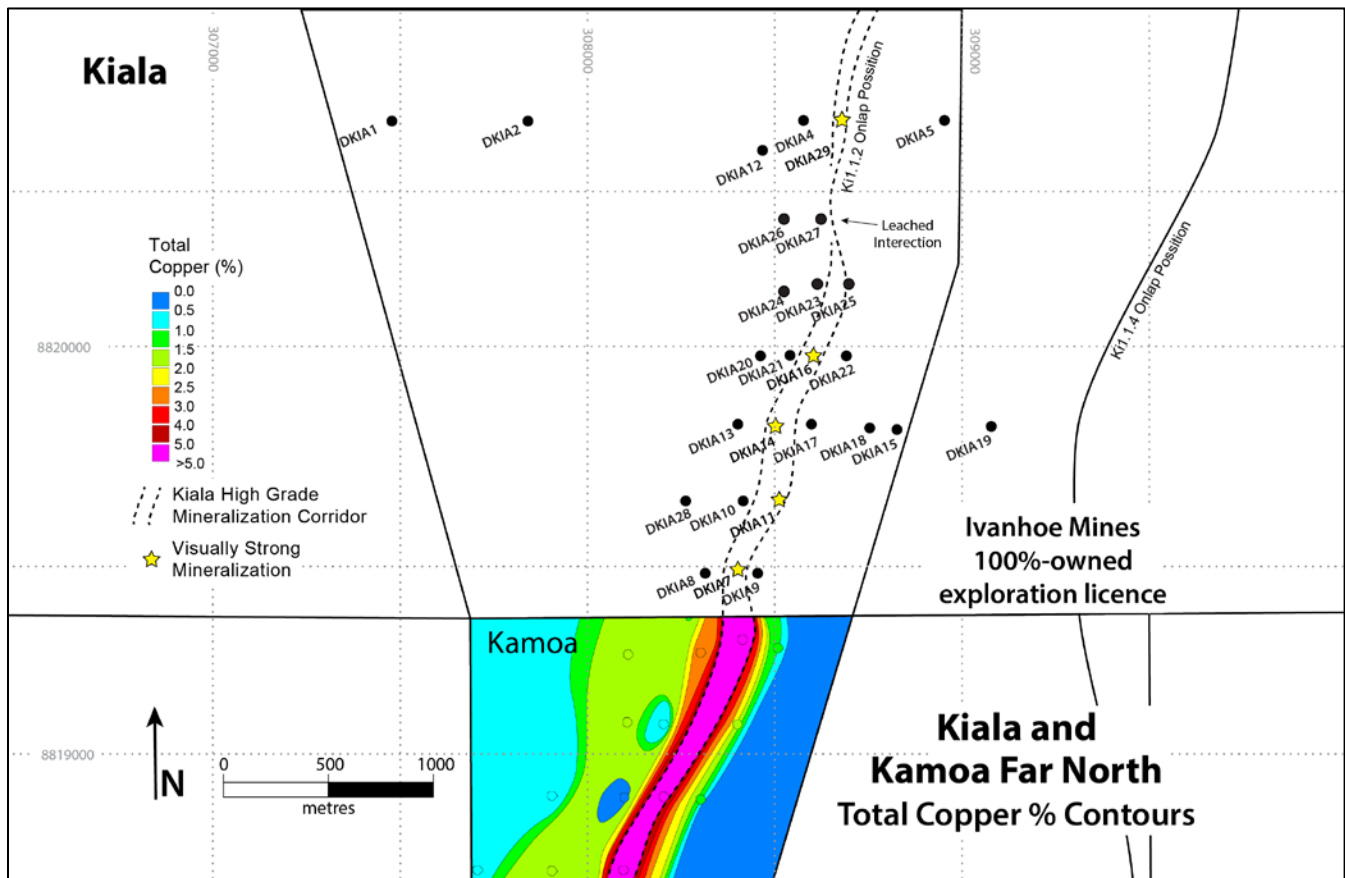
A high resolution airborne magnetic survey was completed in Q2 2019 over the Makoko and Kiala prospects, as well as over Ivanhoe's Lufupa South East Tenements. The survey was used extensively to assist with planning of the drilling in the second half of 2019.

#### **Exploration drilling**

A total of 23,752 metres of diamond drilling was completed during 2019 in 96 drill holes over all the licences. Drilling continued to follow up the extension of the Kamo Far North high-grade trend on the Kiala licence, PR706, located north of the northern border of the Kamo-Kakula mining licence. Eleven drill holes and 4,154 metres were completed during Q4 2019 at Kiala, bringing the total to 24 drill holes and 9,072 metres for 2019. The drilling and grade contour plan is shown on the map below.



## Map showing the 2019 drilling in the Kiala and Kamoia Far North exploration area.



The 2019 program at Lufupa South East (LSE) aimed to drill test all outstanding steam- and soil-targets and anomalies, and confirm the existence or lack of existence of economic mineralization. If mineralization was confirmed, the plan was to fast track follow up drilling and work required for conversion to an Exploitation Permit. The fieldwork was aided significantly by the collection of high-resolution Xcalibur airborne magnetic data over all the prospects, as well as airborne Electro-Magnetics (EM) over Musinga and ground gravity over Kengere. A total of 31 diamond drill holes have been drilled for a total of 3,011 metres in the LSE area using Land Cruiser rigs, and 2,089 metres at Kengere, for a total of 5,100 metres. No additional significant mineralization was discovered.

No drilling was completed on the Makoko Sud licence in Q4 2019, with exploration focusing on acquiring detailed ground gravity data to assist the 2020 drill targeting. A total of 12 deep drill holes (6,391 metres) as well as 25 sub outcrop drill holes (3,188 metres) using the company owned Land Cruiser mounted rigs were completed earlier in 2019. Resource, as well as metallurgical and geotechnical drilling was carried out in the first half of the year, and then the focus shifted to the subcrop drilling during the second half of the year.

## SELECTED ANNUAL FINANCIAL INFORMATION

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

	For the year ended December 31,		
	2019	2018	2017
	\$'000	\$'000	\$'000
Exploration and project expenditure	11,619	11,487	40,503
Share of loss (profit) from joint venture	24,821	(19,615)	27,505
General administrative expenditure	16,464	26,215	19,260
Share-based payments	10,322	6,871	4,908
Loss (gain) on fair valuation of financial asset	784	6,639	(5,843)
Reversal of impairment of mineral property and other items	-	-	(286,283)
Finance income	(72,395)	(49,859)	(32,614)
Finance costs	299	946	1,710
Total comprehensive (income) loss attributable to:			
Owners of the Company	(27,211)	3,892	(182,872)
Non-controlling interest	7,022	9,703	(64,909)
Basic profit per share	(0.02)	(0.03)	(0.22)
Diluted profit per share	(0.02)	(0.03)	(0.21)
<b>Total assets</b>	<b>2,444,722</b>	<b>1,884,788</b>	<b>1,271,311</b>
<b>Non-current liabilities</b>	<b>49,716</b>	<b>36,189</b>	<b>33,668</b>

## DISCUSSION OF RESULTS OF OPERATIONS

### Review of the year ended December 31, 2019 vs. December 31, 2018

The company recorded total comprehensive income of \$20.2 million for the year ended December 31, 2019, compared to a total comprehensive loss of \$13.6 million for the year ended December 31, 2018. The main reason for the loss for the year ended December 31, 2018, was the exchange loss on translation of foreign operations of \$33.0 million, resulting from the weakening of the South African Rand by 17% from December 31, 2017, to December 31, 2018, compared to an exchange gain on translation of foreign operations recognized in 2019 of \$8.8 million.

The company recognized a foreign exchange gain of \$14.9 million for the year ended December 31, 2019, compared to a foreign exchange loss of \$1.1 million for the same period for 2018. The gain in 2019 resulted from the company converting the majority of its Canadian Dollar bank balance, as well as the proceeds received from the private placement completed in August 2019, to U.S. dollars at favourable exchange rates. Of the company's \$702.8 million cash and cash equivalents as at December 31, 2019, an equivalent of \$41.4 million remained denominated in Canadian Dollar.

Finance income for the year ended December 31, 2019 amounted to \$72.4 million, and was \$22.5 million more than for the same period in 2018 (\$49.9 million). The increase mainly was due to interest earned on loans to the Kamoia Holding joint venture to fund operations that amounted to \$53.5 million in 2019, and increased by \$13.1 million when compared to 2018 as the accumulated loan balance increased. Interest received on cash and cash equivalents also increased from \$7.1 million for the year ended December 31, 2018 to \$13.6 million for the same period in 2019 due to a higher cash balance in 2019.

Exploration and project expenditure amounted to \$11.6 million in 2019 and \$11.5 million in 2018 and related to exploration at Ivanhoe's 100%-owned Western Foreland exploration licences.

The company's share of losses from the Kamoia Holding joint venture was \$24.8 million for the year ended December 31, 2019, compared to a profit of \$19.6 million for the same period in 2018, the breakdown of which is summarized in the following table:



	Year ended December 31, 2019	Year ended December 31, 2018
	\$'000	\$'000
Finance costs	70,196	57,083
Exploration expenses	10,265	19,921
Foreign exchange losses	345	168
Finance income	(5,631)	(3,742)
Reversal of VAT impairment	-	(15,557)
Loss before taxes	75,175	57,873
Deferred tax recovery	(17,068)	(110,416)
Loss (profit) after taxes	58,107	(52,543)
Non-controlling interest of Kamo Holding	(7,965)	12,917
Loss (profit) for the year attributable to joint venture partners	50,142	(39,626)
Company's share of loss (profit) from joint venture (49.5%)	24,821	(19,615)

In 2018, the Kamo Holding joint venture recognized a deferred tax asset due to future taxable income being deemed probable at the Kamo-Kakula Project. Furthermore, with revenue deemed probable, the Kamo Holding joint venture also had reversed the impairment of previously impaired VAT receivables that will be available for set-off once income tax is payable. The costs associated with mine development are capitalized as development costs in Kamo Holding, while the exploration expenditure is expensed.

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

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

The company's total assets increased by \$559.9 million, from \$1,884.8 million as at December 31, 2018, to \$2,444.7 million as at December 31, 2019. The increase mainly was due to the proceeds received on completion of the second equity investment by CITIC Metal Africa Investments Limited (CITIC Metal Africa) and Zijin exercising its anti-dilution rights, for total proceeds of \$509 million.

Cash and cash equivalents increased by \$128.8 million to \$702.8 million as at December 31, 2019, from \$574.0 million as at December 31, 2018. The company utilized \$26.4 million of its cash resources in its operations and received interest of \$13.6 million during the year ended December 31, 2019.

The net increase of property, plant and equipment amounted to \$126.2 million, with a total of \$120.5 million being spent on project development and to acquire other property, plant and equipment. Of this total, \$50.4 million and \$68.1 million pertained to development costs and other acquisitions of property, plant and equipment at the Platreef Project and Kipushi Project respectively.

The main components of the additions to property, plant and equipment – including capitalized development costs – at the Platreef and Kipushi projects for the year ended December 31, 2019, and for the same period in 2018, are set out in the following table:

	Year ended December 31, 2019 \$'000	Year ended December 31, 2018 \$'000
<b>Platreef Project</b>		
Shaft 1 construction	28,810	29,856
Salaries and benefits	8,533	9,077
Administrative and other expenditure	4,305	7,515
Shaft 2 early works	3,263	5,438
Social and environmental	2,328	2,331
Studies and contracting work	1,351	1,885
Site costs	1,007	1,114
Infrastructure	113	2,233
Total development costs	49,710	59,449
Other additions to property, plant and equipment	645	476
Total additions to property, plant and equipment for Platreef	50,355	59,925
<b>Kipushi Project</b>		
Infrastructure, equipment and refurbishment	19,380	21,488
Salaries and benefits	17,907	16,174
Studies and contracting work	6,594	6,762
Electricity	6,166	7,008
Depreciation	4,938	3,005
Other expenditure	11,444	13,647
Total development costs, infrastructure and equipment	66,429	68,084
Other additions to property, plant and equipment	1,644	1,001
Total additions to property, plant and equipment for Kipushi	68,073	69,085

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. The company's investment in the Kamoa Holding joint venture increased by \$230.9 million from \$681.7 million as at December 31, 2018, to \$912.6 million as at December 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 \$202.3 million during the year ending December 31, 2019, while the company's share of losses from the joint venture amounted to \$24.8 million.

The company's investment in the Kamoia Holding joint venture can be broken down as follows:

	December 31, 2019	December 31, 2018
	\$'000	\$'000
Company's share of net assets in joint venture	177,319	202,140
Loan advanced to joint venture	735,317	479,521
<b>Total investment in joint venture</b>	<b>912,636</b>	<b>681,661</b>

The Kamoia Holding joint venture principally uses loans advanced to it by its shareholders to advance the Kamoia-Kakula Project through investing in development costs and other property, plant and equipment, as well as continuing with exploration. This can be evidenced by the movement in the company's share of net assets in the Kamoia Holding joint venture which can be broken down as follows:

	December 31, 2019		December 31, 2018	
	100%	49.5%	100%	49.5%
	\$'000	\$'000	\$'000	\$'000
<b>Assets</b>				
Mineral property	802,021	397,000	802,021	397,000
Property, plant and equipment	727,391	360,059	423,183	209,476
Deferred tax asset	127,484	63,105	110,416	54,656
Long term loan receivable	126,012	62,376	87,775	43,449
Prepaid expenses	77,844	38,533	9,104	4,507
Cash and cash equivalents	73,968	36,614	34,916	17,283
Indirect taxes receivable	47,233	23,380	30,427	15,061
Right-of-use asset	30,128	14,913	-	-
Non-current inventory	9,188	4,548	-	-
Consumable stores	8,987	4,449	5,302	2,624
Non-current deposits	1,289	638	385	191
<b>Liabilities</b>				
Shareholder loans	(1,484,737)	(734,945)	(968,173)	(479,246)
Trade and other payables	(54,005)	(26,733)	(17,990)	(8,905)
Lease liability	(30,211)	(14,954)	-	-
Rehabilitation provision	(5,727)	(2,835)	(2,394)	(1,185)
Non-controlling interest	(98,644)	(48,829)	(106,609)	(52,771)
<b>Net assets of the joint venture</b>	<b>358,221</b>	<b>177,319</b>	<b>408,363</b>	<b>202,140</b>



The Kamo Holding joint venture's net increase in property, plant and equipment from December 31, 2018, to December 31, 2019, amounted to \$304.2 million and can be further broken down as follows:

	Year ended December 31, 2019 \$'000	Year ended December 31, 2018 \$'000
<b>Kamo Holding joint venture</b>		
Kakula decline and mine development	125,179	34,787
Borrowing costs capitalized	37,751	24,442
Studies and contracting work	30,948	10,292
Salaries and benefits	28,321	15,075
Camp and office construction	16,630	1,466
Roads	12,858	-
Office and administrative expenditure	10,784	6,249
Site costs, security and safety	8,208	4,620
Project fleet	3,802	530
Other development costs	14,863	9,238
Total development costs	289,344	106,699
Other additions to property, plant and equipment	19,401	2,961
Total additions to property, plant and equipment for Kamo Holding	308,745	109,660
Less depreciation and disposals	(4,539)	(3,657)
<b>Net increase in property, plant and equipment of Kamo Holding</b>	<b>304,206</b>	<b>106,003</b>

The company extended a secured loan of \$50 million to High Power Exploration Inc. (HPX), a subsidiary of I-Pulse Inc., in April 2019. The loan has a two-year maturity and an interest rate of 8% per annum. 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 and/or a subsidiary 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.

On adoption of IFRS 16 on January 1, 2019, the company recognized a right-of-use asset of \$15.2 million and a lease liability of \$15.2 million. The company's total liabilities increased by \$15.9 million to \$81.9 million as at December 31, 2019, from \$66.0 million as at December 31, 2018, with the recognition of the lease liability being the main reason for the increase.

## 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.

	<b>Three months ended</b>			
	December 31,	September 30,	June 30,	March 31,
	2019	2019	2019	2019
	\$'000	\$'000	\$'000	\$'000
Exploration and project expenditure	3,664	3,266	3,290	1,399
Share of loss from joint venture	5,610	7,084	6,248	5,879
General administrative expenditure	5,642	4,985	3,730	2,107
Share-based payments	3,320	2,744	2,239	2,019
Finance income	(20,761)	(18,920)	(16,859)	(15,855)
Finance costs	76	71	56	96
Total comprehensive (income) loss attributable to:				
Owners of the Company	(25,182)	13,077	(9,570)	(5,536)
Non-controlling interest	(317)	3,718	1,441	2,180
Basic profit per share	(0.01)	(0.00)	(0.00)	(0.01)
Diluted profit per share	(0.01)	(0.00)	(0.00)	(0.01)

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

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

The company recorded total comprehensive income of \$25.5 million for Q4 2019 compared to \$28.4 million for the same period in 2018. The majority of the income in Q4 2019 mainly was due to an exchange gain on translation of foreign operations of \$20.7 million resulting from the strengthening of the South African Rand from September 30, 2019, to December 31, 2019. The company recognized an exchange loss on translation of foreign operations in Q4 2018 of \$9.1 million.

Finance income for Q4 2019 amounted to \$20.8 million, and was \$4.3 million more than for the same period in 2018 (\$16.5 million). The increase mainly was due to interest earned on loans to the Kamoia Holding joint venture to fund operations as the accumulated loan balance increased. This interest amounted to \$15.1 million for Q4 2019, and \$11.6 million for the same period in 2018.

Exploration and project expenditure for Q4 2019 amounted to \$3.7 million and was \$1.2 million less than for the same period in 2018 (\$4.9 million). With the focus at the Kipushi and Platreef projects being on development and the Kamoia-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.

The company's share of losses from the Kamoia Holding joint venture was \$5.6 million for the three months ended December 31, 2019, compared to a profit of \$41.3 million for the same period in 2018, the breakdown of which is summarized in the following table:

	Three months ended	
	December 31,	
	2019	2018
	\$'000	\$'000
Finance costs	19,067	16,155
Exploration expenses	(2,114)	5,618
Foreign exchange losses	131	145
Reversal of VAT impairment	-	(15,557)
Finance income	(1,714)	(1,145)
Loss before taxes	15,370	5,216
Deferred tax recovery	(2,753)	(110,416)
Loss (profit) after taxes	12,617	(105,200)
Non-controlling interest of Kamoia Holding	(1,285)	21,818
Loss (profit) for the period attributable to joint venture partners	11,332	(83,382)
Company's share of loss (profit) from joint venture (49.5%)	5,609	(41,274)

It is evident from the above table that the profit in 2018 was due to the recognition of the previously unrecognized deferred tax asset in Kamoia Holding, as well as the reversal of the impairment of previously impaired VAT receivables.

## LIQUIDITY AND CAPITAL RESOURCES



The company had \$702.8 million in cash and cash equivalents as at December 31, 2019. At this date, the company had consolidated working capital of approximately \$688.5 million, compared to \$562.9 million at December 31, 2018.

The private placement transaction with CITIC Metal Africa, a direct subsidiary of CITIC Metal Co., Ltd. (CITIC Metal), announced on April 25, 2019, was completed on August 16, 2019. The company received gross proceeds of C\$612 million (\$459 million) from CITIC Metal Africa and issued 153,821,507 common shares to CITIC Metal Africa through the private placement at a price of C\$3.98 per share. Zijin Mining Group Co., Ltd., exercised its existing anti-dilution rights, which yielded additional proceeds to the company of C\$67 million (\$50 million), also at a price of C\$3.98 per share.

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 Platreef Project's current expenditure is being funded solely by Ivanhoe, through an interest bearing loan to Ivanplats, as the Japanese consortium has elected not to contribute to current expenditures.

The company's main objective for 2020 at the Platreef Project is the continuation of Shaft 1 construction and study work on the phased development production plan. At Kipushi, the principal objectives are the completion of the feasibility study and upgrading of certain mining infrastructure. At the Kamoa-Kakula Project, priorities are the continuation of development at Kakula where initial copper concentrate production from the Kakula Mine is currently scheduled for the third quarter of 2021. The company has budgeted to spend \$60 million on further development at the Platreef Project; \$40 million at the Kipushi Project; \$16 million on regional exploration in the DRC; and \$30 million on corporate overheads for 2020 – as well as its proportionate funding of the Kamoa-Kakula Project, expected to be \$400 million for 2020.

As Ivanhoe continues to advance its projects, representatives of Ivanhoe have reviewed and assessed numerous alternatives to finance its share of construction costs for the Kamoa-Kakula Copper Mine and to advance exploration and development initiatives at its other projects in Southern Africa. These alternatives include, but are not limited to, existing liquidity sources, including cash, receivables and investments, selling assets, project financing, streaming or royalty transactions, equipment financing, and accessing lines of credit. While Ivanhoe expects that it will continue to have sufficient cash resources or project-related financing options available to cover its share of the initial capital costs at the Kamoa-Kakula Mine, the company will continue to seek out and review opportunities presented to Ivanhoe, having regard to the best interests of Ivanhoe as well as to Ivanhoe's operations and financial position, industry conditions and geopolitical considerations.

This news release should be read in conjunction with Ivanhoe Mines' audited 2019 Financial Statements and Management's Discussion and Analysis report available at [www.ivanhoemines.com](http://www.ivanhoemines.com) and at [www.sedar.com](http://www.sedar.com).

## Qualified Person

Disclosures of a scientific or technical nature regarding the revised capital expenditure and development scenarios at the Kamo-Kakula Project in this news release have been reviewed and approved by Steve Amos, who is considered, by virtue of his education, experience and professional association, a Qualified Person under the terms of NI 43-101. Mr. Amos is not considered independent under NI 43-101 as he is the Head of the Kamo-Kakula Project. Mr. Amos has verified the technical data disclosed in this news release.

Other disclosures of a scientific or technical nature in this news release 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 other technical data disclosed in this news release.

Ivanhoe has prepared a current, independent, NI 43-101-compliant technical report for each of the Platreef Project, the Kipushi Project and the Kamo-Kakula Project, which are available under the company's SEDAR profile at [www.sedar.com](http://www.sedar.com):

- The Kamo-Kakula Integrated Development Plan 2019 dated March 18, 2019, prepared by OreWin Pty Ltd., Amec Foster Wheeler E&C Services Inc. (a division of Wood PLC), SRK Consulting Inc., KGHM Cuprum R&D Centre Ltd., Stantec Consulting International LLC, DRA Global, Golders Associates, and Epoch Resources (Pty) Ltd., covering the company's Kamo-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 Mineral Resource Update 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. (a division of Wood PLC), covering the Company's Kipushi Project.

These technical reports include relevant information regarding the effective dates and the assumptions, parameters and methods of the mineral resource estimates on the Platreef Project, the Kipushi Project and the Kamo-Kakula Project cited in this news release, as well as information regarding data verification, exploration procedures and other matters relevant to the scientific and technical disclosure contained in this news release in respect of the Platreef Project, Kipushi Project and Kamo-Kakula Project. Additional information regarding the company, including the company's Annual Information Form, is available on SEDAR at [www.sedar.com](http://www.sedar.com).

## Information contacts

### Investors

Bill Trenaman +1.604.331.9834

### Media

Matthew Keevil +1.604. 558.1034

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

## Forward-looking statements

Certain statements in this news release 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 the company’s MD&A for the year ended December 31, 2019.

Such statements include without limitation, the timing and results of: (i) statements regarding first copper concentrate production at the Kakula Mine in Q3 2021; (ii) statements regarding the expansion in initial plant capacity of Kakula’s processing plant modules from 3.0 Mtpa to 3.8 Mtpa; (iii) statements regarding the updated estimate of Kakula’s initial capital costs is approximately \$1.3 billion as of January 1, 2019, which assumes commissioning of the processing plant in Q3 2021 and includes expanded plant capacity and pre-production ore stockpiles; (iv) statements regarding the expected completion of Platreef’s Shaft 1 to a final depth of approximately 1,000 metres is planned for mid-2020; (v) statements regarding Platreef’s Shaft 2 will have an internal diameter of 10 metres and will be equipped with two Koepe winding plants, one equipped with 40-tonne rock-hoisting skips with a capacity to hoist a total of six million tonnes of ore per year; (vi) statements regarding Ivanhoe’s investigation of a phased development 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, followed by expansions to the production rate as outlined in the definitive feasibility study (DFS); (vii) statements regarding the three development stations in Platreef’s Shaft 1 will provide initial, underground access to the high-grade orebody, enabling mine development to proceed concurrently with the construction of Shaft 2; (viii) statements regarding the planned mining methods at Platreef will use highly productive, mechanized methods, including long-hole stoping and drift-and-fill mining, and that each method will utilize cemented backfill for maximum ore extraction; (ix) statements regarding an independent DFS for the Kakula Mine is underway with an expected completion date of Q3 2020, and at the same time, Ivanhoe expects to issue an updated preliminary economic assessment for the expanded Kamoakakula combined production scenario that will include an updated Mineral Resource estimate for Kamo North, including the initial Mineral Resource estimate for the Kamo North Bonanza Zone; (x) statements regarding the forthcoming Kakula DFS will incorporate detailed design, engineering and procurement, with the plans to increase the initial processing plant ore capacity by approximately 26% from 3.0 Mtpa to 3.8 Mtpa; (xi) statements that based on the results of the February 2019 PFS, Kakula’s average feed grade over the first five years of operations is projected to be 6.8% copper, and 5.5% copper on average over a 25-year mine life, and an increase in the initial processing plant throughput is expected to result in improved cash flows, which may be used to accelerate subsequent expansions; (xii) statements regarding Ivanhoe’s expectation that it will continue to have sufficient cash resources or project-related financing options available to cover its share of the potential increase in initial capital costs; (xiii) statements regarding the progressive re-commissioning of the turbines at the Mwadingusha hydropower plant in the DRC, fully refurbished and modernized with state-of-the-art control and instrumentation, is underway and is expected to be completed in Q3 2020, and that the refurbished plant is projected to deliver approximately 72 megawatts of power to the national power grid; (xiv) statements regarding the Company’s COVID-19 Response Plan (including the review of purchase orders and its supply chain to minimize disruption to its projects); and (xv) statements regarding the expected expenditure for 2020 of \$60 million on further development at the Platreef Project; \$40 million at the Kipushi Project; \$16 million on regional exploration in the DRC; and \$30 million on corporate overheads for 2020 – as well as its proportionate funding of the Kamoakakula Project, expected to be \$400 million for 2020.



As well, all of the results of the pre-feasibility study for the Kakula copper mine and the updated and expanded Kamo-a-Kakula Project preliminary economic assessment, the feasibility study of the Platreef Project and the pre-feasibility study of the Kipushi Project, constitute forward-looking statements or information, and include future estimates of internal rates of return, net present value, future production, estimates of cash cost, proposed mining plans and methods, mine life estimates, cash flow forecasts, metal recoveries, estimates of capital and operating costs and the size and timing of phased development of the projects. Furthermore, with respect to this specific forward-looking information concerning the development of the Kamo-a-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; (xiv) changes in project scope or design, and (xv) political factors.

This news release 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", and elsewhere in the company's MD&A for the year ended December 31, 2019, 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 news release are based upon what management of the company believes are reasonable assumptions, the Company cannot assure investors that actual results will be consistent with these forward-looking statements. These forward-looking statements are made as of the date of this news release and are expressly qualified in their entirety by this cautionary statement. Subject to applicable securities laws, the company does not assume any obligation to update or revise the forward-looking statements contained herein to reflect events or circumstances occurring after the date of this news release.

The company's actual results could differ materially from those anticipated in these forward-looking statements as a result of the factors set forth in the "Risk Factors" section and elsewhere in the company's MD&A for the year ended December 31, 2019.