

# IVANHOE MINES

NEW HORIZONS

## **MANAGEMENT'S DISCUSSION AND ANALYSIS**

**FOR THE YEAR ENDED DECEMBER 31, 2020**

***DATED: MARCH 4, 2021***

## INTRODUCTION

This management's discussion and analysis (MD&A) should be read in conjunction with the audited consolidated financial statements of Ivanhoe Mines Ltd. ("Ivanhoe", "Ivanhoe Mines" or the "Company") for the years ended December 31, 2020 and 2019, which have been prepared in accordance with International Financial Reporting Standards (IFRS). All dollar figures stated herein are in U.S. dollars, unless otherwise specified. References to "C\$" mean Canadian dollars and references to "R" mean South African Rands.

The effective date of this MD&A is **March 4, 2021**. Additional information relating to the Company is available on SEDAR at [www.sedar.com](http://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 regarding the capital costs remaining until initial production for the Kamoa-Kakula joint venture estimated at \$336 million as of December 31, 2020; (ii) statements that Ivanhoe expects that it will have sufficient cash resources, or financing options available, to cover its proportionate share of the remaining initial capital costs at the Kamoa-Kakula Project; (iii) statements regarding progress and schedule of the Kamoa-Kakula Project's concentrator plant, including that it remains on track to be mechanically complete in Q2 2021, with first copper concentrate production scheduled for July 2021; (iv) statements that construction of the Kamoa-Kakula backfill plant is progressing in parallel with the concentrator plant and is expected to be commissioned in July 2021; (v) statements regarding the expected progress on other construction at the Kamoa-Kakula Project, including that the tailings storage facility is scheduled to be completed well ahead of the required date; (vi) statements that the Kamoa-Kakula Project will continue to add additional crews and that the pace of underground development is expected to continue to accelerate as additional mining crews are mobilized; (vii) statements that Kamoa-Kakula is on track to have more than three million tonnes of high-grade and medium-grade ore stockpiled on surface, holding more than 125,000 tonnes of contained copper, prior to the planned start of processing in July 2021; (viii) statements that Kakula is expected to produce an extremely high grade and clean copper concentrate (containing over 55% copper) that will be highly coveted by copper smelters around the world; (ix) statements regarding the Kamoa-Kakula Project being among the world's lowest greenhouse gas emitters per unit of copper produced; (x) statements regarding refurbishment of six turbines at the Mwadingusha hydro-electric power plant and that electricity from all of Mwadingusha's six turbines are expected to be integrated into the national power grid in the second quarter of 2021; (xi) statements regarding the Platreef Project's streaming facility, including that it is planned to be drawn down in four separate tranches; (xii) statements regarding the Platreef Projects' Shaft 1 changeover including that it is expected to be completed by February 2022; (xiii) 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; (xiv) statements that the draft feasibility study and development and financing plan for Kipushi are being reviewed by Ivanhoe Mines together with its partner Gécamines and that it is anticipated that these discussions will be concluded with the

finalization of the feasibility study and the agreement on the development and financing plan by mid-2021; (xv) statements regarding future drilling in the Makoko West area including that it will target specific structural locations that are conducive to developing higher copper grades; (xvi) statements that mine development at the Kamoa-Kakula Project continues with first production now expected in July 2021 and the Phase 2 concentrator expansion is being fast tracked; (xvii) statements regarding the expected expenditure for 2021 of \$59 million on further development at the Platreef Project; \$27 million at the Kipushi Project; \$16 million on regional exploration in the DRC; and \$28 million on corporate overheads – as well as its proportionate funding of the Kamoa-Kakula Project, expected to be \$154 million for 2021.

As well, all of the results of the feasibility study for the Kakula copper mine, the Kakula-Kansoko 2020 pre-feasibility study and the updated and expanded Kamoa-Kakula Project preliminary economic assessment, the feasibility study of the Platreef Project and the pre-feasibility study of the Kipushi Project, constitute forward-looking statements or information, and include future estimates of internal rates of return, net present value, future production, estimates of cash cost, proposed mining plans and methods, mine life estimates, cash flow forecasts, metal recoveries, estimates of capital and operating costs and the size and timing of phased development of the projects. Furthermore, with respect to this specific forward-looking information concerning the development of the Kamoa-Kakula, Platreef and Kipushi projects, the Company has based its assumptions and analysis on certain factors that are inherently uncertain. Uncertainties include: (i) the adequacy of infrastructure; (ii) geological characteristics; (iii) metallurgical characteristics of the mineralization; (iv) the ability to develop adequate processing capacity; (v) the price of copper, nickel, zinc, platinum, palladium, rhodium and gold; (vi) the availability of equipment and facilities necessary to complete development; (vii) the cost of consumables and mining and processing equipment; (viii) unforeseen technological and engineering problems; (ix) accidents or acts of sabotage or terrorism; (x) currency fluctuations; (xi) changes in regulations; (xii) the compliance by joint venture partners with terms of agreements; (xiii) the availability and productivity of skilled labour; (xiv) the regulation of the mining industry by various governmental agencies; (xv) the ability to raise sufficient capital to develop such projects; (xvi) changes in project scope or design, and (xvii) 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", and elsewhere in this MD&A, 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 52 and elsewhere in this MD&A.

## REVIEW OF OPERATIONS

Ivanhoe Mines is a mineral exploration and development company. At present the Company's financial performance is primarily affected by ongoing exploration and development activities being conducted at its four 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 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 (DRC) 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*")
- **The Platreef Project.** Construction of the planned Platreef Mine on the Company's discovery of platinum, palladium, rhodium, nickel, copper and gold, on the Northern Limb of South Africa's Bushveld Igneous Complex is in progress. 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 DRC's 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 Western Foreland Exploration Project.** A group of exploration licences, ranging from 90%-100%-owned, totalling approximately 2,550 km<sup>2</sup>, much of it located in close proximity to the Kamoa-Kakula Project. Ivanhoe's DRC exploration group is targeting Kamoa-Kakula-style copper mineralization through a regional exploration and drilling program. (See "*DRC Western Foreland Exploration Project*")

## 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. 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 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: The Kakula Mine, with the main pre-production ore stockpiles in the foreground, Kakula's northern decline (in red circle), and the concentrator and backfill plants in the background.**





### ***Health and safety at Kamo-Kakula***

At the end of 2020, the Kamo-Kakula Project reached 2,618,438 work hours free of a lost-time injury. Regrettably, as previously reported, a fatality occurred in February and August 2020. The project continues to strive toward its workplace objective of zero harm to all employees and contractors.

Kamo-Kakula continues to focus on prevention, preparation and mitigation in managing the risks associated with COVID-19. Large-scale testing, combined with focused preventative measures, ensures that positive cases are quickly identified, isolated and treated, with cross contamination kept to a minimum.

**Photos: The new Kamo Hospital is a world-class medical facility featuring state-of-the-art equipment and highly-experienced doctors, nurses and paramedics.**



The project has a well-established COVID-19 isolation facility at the Kamo Camp. Suspected cases and positive patients are moved to this facility, where they are isolated and treated. Once patients have recovered and are deemed no longer infectious, they can return to work only after an additional quarantine period determined by the project's medical staff.

Kamo-Kakula has successfully treated a number of symptomatic patients in the Kamo Hospital, where highly-experienced doctors and nurses apply the latest medical treatments in a world-class facility.

As the pandemic evolves, the medical team at Kamo-Kakula continues to review and update its risk mitigation protocols, while ensuring that new medical advances are investigated and applied to protect the health and safety of the workforce and community members.

### ***Outstanding economic results of the Kamo-Kakula Integrated Development Plan 2020***

On September 8, 2020, Ivanhoe Mines announced the results of an independent Integrated Development Plan (IDP) for the Kamo-Kakula Project. The Kamo-Kakula Integrated Development Plan 2020 encompasses three development scenarios:

- The definitive feasibility study (DFS) for stage one Kakula Mine development. The Kakula 2020 DFS evaluates the initial development of a 6.0-Mtpa underground mine and surface processing complex at the Kakula Deposit with a capacity of 7.6 Mtpa, built in two modules of 3.8 Mtpa, with the first already under advanced construction.
- The pre-feasibility study (PFS) including Kansoko Mine development. The Kakula-Kansoko 2020 PFS evaluates the development of mining activities at the Kansoko Deposit in addition to the Kakula Mine, initially at a rate of 1.6 Mtpa to fill the concentrator at Kakula, eventually ramping up to 6.0 Mtpa as the reserves at Kakula are depleted.
- The expanded, subsequent development to four producing mines. The Kamo-Kakula 2020 preliminary economic assessment (PEA) includes an analysis of the potential for an integrated, 19-Mtpa multi-stage development, beginning with initial production from the Kakula Mine, to be followed by subsequent, separate underground mining operations at the nearby Kansoko, Kakula West and Kamo North mines, along with the construction of a direct-to-blister smelter. The Kamo North area comprises five separate mines that would be developed as resources are mined out elsewhere, to maintain the production rate at up to 19 Mtpa, with an overall life in excess of 40 years.

The Kamo-Kakula IDP 2020 was independently prepared on a 100%-basis by OreWin Pty Ltd. of Adelaide, Australia; China Nerin Engineering Co., Ltd., of Jiangxi, China; DRA Global of Johannesburg, South Africa; Epoch Resources of Johannesburg, South Africa; Golder Associates Africa of Midrand, South Africa; KGHM Cuprum R&D Centre Ltd. of Wroclaw, Poland; Outotec Oyj of Helsinki, Finland; Paterson and Cooke of Cape Town, South Africa; Stantec Consulting International LLC of Phoenix, USA; SRK Consulting Inc. of Johannesburg, South Africa; and Wood plc of Reno, USA.

Highlights of the Kakula 2020 DFS, initial 6.0-Mtpa mine at Kakula, include:

- The Kakula 2020 DFS evaluates the development of a stage one, 6.0-Mtpa underground mine with a surface processing complex at the Kakula Deposit with a capacity of 7.6 Mtpa, built in two modules of 3.8 Mtpa, with the first already under advanced construction. For this option, the DFS envisages an average annual production rate of 284,000 tonnes of copper at a mine-site cash cost of \$0.52 per pound (lb) copper and total cash cost of \$1.16/lb copper for the first 10 years of operations, and annual copper production of up to 366,000 tonnes by year four.
- Remaining initial capital cost of \$0.65 billion for this option would result in an after-tax net present value at an 8% discount rate (NPV8%) of \$5.5 billion.
- The internal rate of return of 77.0% and project payback period of 2.3 years confirm the compelling economics for the Kamo-Kakula Project's stage one of production.
- Kakula benefits from an ultra-high feed grade averaging 6.6% copper over the first five years of operations, and 5.2% copper on average over a 21-year mine life.

Highlights of the Kakula-Kansoko 2020 PFS, which incorporates Kansoko mine development, include:

- The Kakula-Kansoko 2020 PFS evaluates the development of mining activities at the Kansoko Deposit in addition to Kakula, initially at a rate of 1.6 Mtpa to fill the 7.6-Mtpa concentrator at Kakula, eventually ramping up to 6.0 Mtpa as the reserves at Kakula are depleted. For this option, the PFS envisages an average annual production rate of 331,000 tonnes of copper at a mine-site cash cost of \$0.55/lb copper and total cash cost of \$1.23/lb copper for the first 10 years of operations, and annual copper production of up to 427,000 tonnes by year four.
- Remaining initial capital cost of \$0.69 billion for this option would result in an after-tax net present value at an 8% discount rate (NPV8%) of \$6.6 billion. The internal rate of return of 69.0% and project payback period of 2.5 years confirm the compelling economics of Kakula and Kansoko.
- The combined Kakula-Kansoko production benefits from an ultra-high feed grade averaging 6.2% copper over the first five years of operations, and 4.5% copper on average over a 37- year mine life.

Highlights of the modular, integrated, expanded development option potential for the Kakula and Kamoia deposits, mining a total of 19 Mtpa, with construction of a direct-to-blister smelter, include:

- The Kamoia-Kakula 2020 PEA presents an additional development option of a multi-stage, sequential operation on Kamoia-Kakula's high-grade copper deposits.
- Initial production from the Kakula Mine at a rate of 6.0 Mtpa, followed by subsequent, separate underground mining operations at the nearby Kansoko, Kakula West and Kamoia North mines, along with the construction of a direct-to-blister smelter. The Kamoia North Area comprises five separate mines that will be developed as resources are mined out elsewhere, to maintain the production rate at up to 19 Mtpa, with an overall life in excess of 40 years.
- For the integrated, 19-Mtpa, multi-stage development, the PEA envisages \$0.7 billion in remaining initial capital costs. Future expansion at the Kansoko Mine, Kakula West Mine and Kamoia North mines would be funded by cash flows from the Kakula Mine, resulting in an after-tax net present value at an 8% discount rate (NPV8%) of \$11.1 billion, an internal rate of return of 56.2%, and a payback period of 3.6 years.
- Under this approach, the PEA also contemplates the construction of a direct-to-blister copper smelter at the Kakula plant site with a capacity to process one million tonnes of copper concentrate per annum to be funded from internal cash flows. This would be completed in year five of operations, achieving significant savings in treatment charges and transportation costs.
- The 19-Mtpa scenario shows the potential for average annual production of 501,000 tonnes of copper at a total cash cost of \$1.07/lb copper during the first 10 years of operations, and production of 805,000 tonnes of copper by year eight.
- At this future production rate, Kamoia-Kakula would rank as the world's second largest copper mine.

The capital costs incurred by the Kamoia-Kakula joint venture in 2019 amounted to \$309.1 million, of which \$125.2 million was spent on the Kakula declines and mine development. A further capital cost of \$643 million, which includes the costs allocated to the pre-production ore stockpiles, has been incurred in 2020. Ivanhoe's share of the capital costs incurred in 2020 was \$318 million, representing its share of approximately 40% of the initial capital costs, plus its share of capital associated with the 20% carried interest owned by the Government of the DRC, which will be repaid through future cash flows from the project. Ivanhoe has budgeted \$154 million for its proportionate funding of approximately 50% for the Kamoia-Kakula Project for 2021. As of December 31, 2020, the joint venture had an estimated \$336 million of capital costs remaining until initial production.

Ivanhoe expects that it will have sufficient cash resources, or financing options available, to cover its proportionate share of the remaining initial capital costs.



### ***Draw down of equipment financing facility successfully commenced***

On December 1, 2020, Ivanhoe announced the Kamoia Holding joint venture had secured an equipment financing facility of up to EUR 176 million (approximately \$211 million), together with a \$9 million down-payment facility to be used by the Kamoia-Kakula Project to purchase underground mobile mining equipment and services from leading Swedish manufacturers Sandvik AB and Epiroc AB, and Finnish manufacturer Normet Oy.

The facility has an availability period of three years and amortizes over a period of five years from utilization and is tied to underground mining equipment at the Kamoia-Kakula Project. The Swedish Export Credit Agency (EKN) has provided both political and commercial cover to the lenders and receives a one-off premium per tranche's first utilization.

The EKN guarantee is for an amount up to 85% of the export contract value from the equipment suppliers, and hence the determining factor in the sizing of the equipment finance facility. In order to optimize the overall funding package, a portion of the equipment purchase not covered under the EKN guarantee is being provided by Standard Bank DRC under the down-payment facility.

After the completion of all conditions precedent, the Kamoia-Kakula Project completed the draw-down of an equivalent \$56 million of the equipment financing and \$9 million of the down-payment facilities in late December 2020 to account for the large fleet of mobile mining equipment already purchased and in operation at the Kakula Mine. Further drawdowns under the equipment finance facilities remain subject to a number of conditions precedent customary for facilities of this nature. The Company expects the conditions precedent to be met prior to each utilization.

The equipment finance is secured only by the equipment that is being financed. The down-payment facility is unsecured. No guarantee is required from any of the sponsors or parent companies with Kamoia Holding Limited issuing a non-binding Letter of Support, confirming its support for the project.

In addition, Gold Mountains (H.K.) International Mining Company, a subsidiary of Zijin Mining Group, has provided Kamoia Holding Limited with a limited recourse line of credit of \$200 million secured by the project's pre-production ore stockpiles to fund the Phase 2 concentrator expansion. Kamoia Holding has not yet drawn on this line of credit.

**Photo: Nadege Santos, Construction Secretary – one of thousands of bright, talented Congolese who are helping to transform Kamoia-Kakula into the world's next great copper mine. Kamoia Copper is focused on driving positive change for women in mining.**



## ***Kamoa-Kakula Mineral Resources***

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 has an effective date of January 30, 2020, and is the culmination of an infill drilling program designed to better define higher-grade copper zones within the existing Kamoa Deposit. The cut-off date for drill data is January 20, 2020.

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 January 30, 2020 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 January 30, 2020 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 totals 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 totals 17 million tonnes grading 3.51% copper, containing 1.3 billion pounds of copper.

The January 30, 2020 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.

## ***Excellent construction progress being made on Kakula's concentrator plant; first production expected in July 2021***

Overall progress of Kamoa-Kakula's first-phase, 3.8-Mtpa mining and milling operation (covering mine infrastructure, concentrator plant and surface infrastructure) was approximately 68% complete as of the December 2020 measurement, and progressed to approximately 78% as of the January 2021 measurement.

Construction progress on the project's first phase 3.8-Mtpa concentrator plant and associated facilities is advancing rapidly and was approximately 43% complete in early December 2020 and approximately 62% as of the January 2021 measurement. C1 commissioning has commenced and the concentrator plant remains on track to be mechanically complete in Q2 2021, with first copper concentrate production scheduled for July 2021. The project and construction teams have consistently achieved the milestone dates despite the challenges presented by the COVID-19 pandemic, and have placed Kamoa-Kakula in a position to commission earlier than initially planned in Q3 2021.

Civil works for the first concentrator plant is effectively complete and the civil contractor now is focused on the Phase 2 concentrator plant, with work progressing in most areas.

**Photo: Kakula's initial 3.8-Mtpa concentrator plant, the flotation cells (green) and ball mills (yellow) are more than 85% complete and commissioning now underway. The foundations for the second 3.8-Mtpa concentrator plant are on the left.**



Electrical, controls & instrumentation (EC&I) installation is the last activity before construction completion and subsequent commissioning. Cable installation and cable termination is well advanced, with more than 150,000 metres of copper cable installed out of a total of 207,000 metres (207 kilometres). The installation of instrumentation is well underway and the energizing of the concentrator plant with medium-voltage power is scheduled for the end of March 2021.

**Photo: Kakula's Phase 1 backfill plant is nearing completion. Approximately one half of the mine's tailings will be sent back underground as paste backfill to help support mined-out areas.**





***Engineering, procurement and construction of other surface infrastructure rapidly progressing***

Beijing-based CITIC Construction Co., Ltd. is building Kakula's first phase, backfill paste plant. The backfill plant will be used to mix tailings from the concentrator plant with cement to produce paste backfill. The backfill will be pumped back into the mine and used to help support mined-out areas. Approximately one half of the mine's tailings will be sent back underground, significantly reducing the surface tailings storage. Construction of the backfill plant is progressing in parallel with the concentrator plant and is expected to be commissioned in July 2021.

Construction of the tailings storage facility is progressing well and is scheduled to be completed well ahead of the required date.

Construction of the surface bulk reclaim tip, bypass conveyor system and run-of-mine stockpile feed conveyor also is progressing well, with first commissioning and tie into the main decline conveyor planned for early 2021. The bulk reclaim tip system will be used to feed ore from Kakula's surface stockpiles to the processing circuit, as well as ore from the Kansoko Mine when second phase operations begin.

**Photo: In early March 2021, David Mitchell, Kasper Badenhorst and Morne Kruger (left to right), members of Kamo Copper's construction management team, oversaw the conveying of the first high-grade copper ore directly from Kakula's underground mine to the run-of-mine stockpile adjacent to the Phase 1 concentrator plant.**



***Underground development more than 10 kilometres ahead of plan at the end of 2020***

A total of 29.8 kilometres of underground development was completed by the end of 2020, which was approximately 10.5 kilometres ahead of plan. Good progress continuing in early 2021 further increased the underground development to more than 35.5 kilometres at the end of February 2021, which is 12.4 kilometres ahead of schedule.

There currently are 10 mining crews (three owner crews and seven contractor crews) at Kakula and three owner crews at Kansoko. The project will continue to add additional crews to further accelerate development.

Holing of Kakula's main north-south access drives in the high-grade centre of the deposit was achieved in November 2020. The holing has significantly increased ventilation to the centre of the orebody, allowing for additional mining crews to begin highly-productive mining operations in Kakula's high-grade ore zones.

In addition to advancing the main connecting access drives, underground mining crews at Kakula are focused on preparation work for developing the high grade, drift-and-fill mining blocks in the centre of the orebody. Opening up of the mining footprint for these high grade, drift-and-fill mining areas entails development work in areas of low-, medium- and high-grade ore, and is designed to coincide with the start-up of the concentrator plant next year. This will allow mining crews to deliver significant volumes of high-grade ore directly from Kakula's underground workings to the concentrator plant.

During 2020, cover drilling ahead of mining faces defined an approximate north-south water-bearing structure present to the west of the current mining areas. Flow rates and pressure readings are being monitored to further understand this zone and inform a hydrogeology model and dewatering strategy for this feature.

A significant amount of underground infrastructure was constructed and commissioned in 2020, including the main Kakula underground ore handling system consisting of two underground ore bins (the east and west tips), a sacrificial conveyor and main decline conveyor to surface, three major underground dams and pump stations, as well as three ventilation shafts.

**Photo: George Gilchrist, Ivanhoe Mines' Vice President, Resources (right), and Franck Twite, Kamo Copper's Senior Supervisor, Geology (left), examining chalcocite ore from the Kakula Mine. In February 2021, 107,000 tonnes grading 9.01% copper were mined and stockpiled from the high-grade centre of the Kakula Mine.**



***Pre-production ore stockpiles now contain approximately 2.16 million tonnes grading 4.44% copper***

At the end of December 2020, Kamo-Kakula's pre-production surface stockpiles contained approximately 1.52 million tonnes of high-grade and medium-grade ore at an estimated blended grade



of 4.03% copper, containing more than 61,000 tonnes of copper. Contained copper in the stockpiles increased by approximately 34,000 tonnes in Q4 2020, reflecting the mining in the ultra-high-grade centre of the Kakula Deposit.

The project's combined medium-grade and high-grade ore mined was approximately 300,000 tonnes at an average grade of 5.45% copper in January, and approximately 339,000 tonnes at an average grade of 5.50% copper in February. This brings the project's total pre-production high- and medium-grade ore surface stockpiles to approximately 2.16 million tonnes at an estimated grade of 4.44% copper as of the end of February 2021.

Kamoa-Kakula is on track to have more than three million tonnes of high-grade and medium-grade ore stockpiled on surface, holding more than 125,000 tonnes of contained copper, prior to the planned start of processing in July 2021. The tonnes and grade contained on the stockpiles are not additive to the Mineral Resource or Mineral Reserve.

**Photo: Kamoa-Kakula's international team of geologists standing in an ultra-high-grade underground access drift in the Kakula Mine, where the ore grade exceeds 6% copper.**



#### ***Discussions underway for the marketing of Kakula's copper concentrates***

Kamoa-Kakula is in detailed discussions with a number of parties with respect to the marketing and smelting of its copper concentrates. Kakula is expected to produce an extremely high grade and clean copper concentrate (containing over 55% copper) that will be highly coveted by copper smelters around the world. Metallurgical test work indicates that the Kakula concentrates contain extremely low arsenic levels by world standards – approximately 0.01%.

***Kamoa-Kakula connected to the national power grid, providing clean, renewable 220-kV hydropower***

The mine is receiving hydro-electric power for the Kamoa 120-kilovolt (kV) overhead line via the 18-megawatt mobile substation, which is connected to the national grid. Energizing of the permanent 35-kilometre, 220-kV power line connecting the New Western Dispatch substation in Kolwezi to Kamoa-Kakula, and thereby supplying the project with reliable and clean hydro-generated electricity from the national grid, was achieved in December 2020. This was a major milestone in securing permanent grid power for the project.

A 2020 independent audit of Kamoa-Kakula's greenhouse gas intensity metrics performed by Hatch Ltd. of Mississauga, Canada, confirmed that the project will be among the world's lowest greenhouse gas emitters per unit of copper produced.

**Photo: The main 220-kV substation at the Kakula Mine is nearing completion and is expected to be energized by the end of March. The 35-kilometre-long double circuit 220-kV power line to Kamoa-Kakula connects the substation to the national electrical grid.**



***Ongoing upgrading work enables Mwadingusha hydropower station to supply clean, sustainable electricity***

The upgrading work at the Mwadingusha hydropower plant is nearing completion with the synchronization of the first turbine achieved in December 2020. Electricity from all of Mwadingusha's six turbines, with an upgraded output of 78 megawatts, is expected to be integrated into the national power grid in the second quarter of 2021.

The work 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).

***Exploration success leads to discovery of shallow, thick, ultra-high grade Kamoa North Bonanza Zone***

Exploration drilling in Q1 2020 totalled 5,195 metres and was focused on further definition of known high-grade copper trends in the typical mineralized horizon (Ki1.1.1) at Kamoa North. No further drilling in the Bonanza Zone was completed in 2020.



### ***Construction of Phase 2 of the Kamo-Kakula project well underway***

Engineering, procurement and construction of the second phase of the project, which will double the mine's processing capacity from 3.8 Mtpa to 7.6 Mtpa, is well underway. The EPCM contract for the plant and associated surface infrastructure was awarded to China ENFI Engineering Corporation.

Orders for all long-lead equipment have been placed and procurement of additional equipment is underway. Contracts for earthworks and civil construction have been awarded and work in the milling and stockpile areas are advancing well. The contract for supply of structural steel also has been awarded.

**Photo: Contract employees installing rebar for the Phase 2 flotation circuit foundations.**



### ***Enriching communities through sustainable development***

The Sustainable Livelihoods Program was founded in 2010 in an effort to strengthen food security and farming capacity in the host communities near Kamo-Kakula by establishing an agricultural training garden and support for farmers at the community level. Today, approximately 350 community farmers are benefiting from the Sustainable Livelihoods Program, producing high-quality food for their families and selling the surplus for additional income. The Sustainable Livelihoods Program, which commenced with maize and vegetable production, now includes both aquaculture and poultry. During 2020, an additional nine fish ponds were constructed and stocked. As Kamo gears up to take the Livelihood Program to the next level, an agronomy school has been constructed and equipped to offer training programs to local farmers and serve as a research facility.

Additional non-farming-related activities for 2020 include education and literacy programs, the continuation of a community brick-making program and the supply of fresh water to a number of local communities using solar powered boreholes. During 2020, 27 additional boreholes were drilled in communities using local contractors, and a facility for a sewing program was constructed and equipped. A clinic, school, football pitch and two churches also are currently under construction.

Kamo-Kakula conducted a number of interventions in respect of COVID-19 awareness and prevention. These include the donation of medication, rapid test kits, masks and hand-washing equipment to local communities.



Construction of resettlement houses for the second phase of the relocation program continued throughout the year with 27 families having been relocated. Relocation also took place for the third phase of the relocation program with 19 families relocated during the year. The survey for Kakula North and all crop compensation has been completed, with 108 people receiving compensation pursuant to the economic displacement of their crops and farming structures. The entire Kakula Mine area, including the tailings dam area, will be secured once these relocation phases are complete.

**Photo: Alain Mukoj of Kamo Copper (centre) inspecting a pineapple crop at a local community garden with Prince Kiluba (left) and Erick Kabwita (right).**



**Photo: Local women harvesting bananas grown at their community banana plantation, a Kamo-Kakula Livelihoods program designed to enhance food security.**



## **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. Ivanplats reached Level 4 contributor status in its most recent 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 primarily hosted 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 that form part of the Company's mining right.

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

At the end of 2020, the Platreef Project reached a total of 59,213 lost-time, injury-free hours worked in accordance with South Africa's Mine Health and Safety Act, and Occupational Health and Safety Act.

As previously reported on September 14, 2020, a tragic accident, resulting in three fatalities, occurred in Shaft 1 as a result of a kibble bucket falling down the shaft and striking the northern side of the working platform. The legal review process into the accident as outlined by the South African Mine Health and Safety Act is ongoing. The Mine Health and Safety Inspectorate has completed its investigation under Section 60 of the Mine Health and Safety Act. Preliminary findings attributed the primary cause of the tragic accident to a very rare electronic device failure and that all mine safety standards and safe operating procedures were fully complied with. The work stoppage imposed was partially lifted in November 2020 and a full upliftment of the Section 54 stop order was received in January 2021, allowing full access to the Ivanplats team to continue with Shaft 1 equipping.

Leading industry specialists also assisted the Ivanplats team in determining the possible causes resulting in the accident to inform equipping decisions and to ensure reoccurrence is prevented.

### ***Powerful economic results of the Platreef Integrated Development Plan 2020***

On November 30, 2020, Ivanhoe Mines published the results of an independent Integrated Development Plan 2020 (IDP20) for the Platreef Project. The Platreef IDP20 encompasses two development scenarios:

- The Platreef 2020 feasibility study (Platreef 2020 FS) updates the feasibility results announced in July 2017. The Platreef 2020 FS evaluates the development of a 4.4 Mtpa underground mine with two concentrators built in modules of 2.2 Mtpa. This update takes into account development schedule advancement since 2017, as well as updated costs, metal prices and



foreign exchange assumptions; in addition to increased throughput from 4.0 Mtpa to 4.4 Mtpa to utilize the full processing capacity of the two concentrators.

- The Platreef 2020 preliminary economic assessment (Platreef 2020 PEA) evaluates an alternate, phased development plan that fast-tracks Platreef into production. The Platreef 2020 PEA evaluates a phased development plan starting with an initial 700-ktpa underground mine using the existing Shaft 1 and a new concentrator on site with a capacity of up to 770 ktpa. This phased development plan will be targeting high-grade mining areas in close proximity to the shaft with significantly lower initial capital costs. After first production has been achieved, Shaft 2 sinking will commence in tandem with the construction of two additional 2.2 Mtpa concentrator modules and ramp up of the initial concentrator to its full capacity of 770 ktpa. Total mine production will then ramp up to the envisaged steady-state production of 5.2 Mtpa. Should capital become available sooner, the development of Shaft 2 can be brought forward to accelerate the expansion.

**Photo: Jan Mapeka, Junior Geologist, inspecting pieces of high-grade ore from the reef intersection. A large-scale sample of the ore is being used for metallurgical testing for the feasibility study on the 770-ktpa mine and concentrator.**



Highlights of the Platreef 2020 FS, include:

- The Platreef 2020 FS evaluates the development of a 4.4-Mtpa underground mine with two concentrators built in modules of 2.2 Mtpa, which updates the 2017 FS by taking into account development schedule advancement, as well as updated costs, metal prices and foreign exchange assumptions.
- The FS has increased throughput from 4.0 Mtpa to 4.4 Mtpa to utilize the full processing capacity of the two concentrators, which is well within the mining and hoisting capability of Shaft 2.
- Tailings storage methodology has been modified to a dry-stack tailings facility – a sustainable and water-efficient method wherein tailings are placed and compacted in a mound that is concurrently rehabilitated with soil and vegetation during the operating life of the facility.

- The FS has an average annual production rate of 508,000 ounces of platinum, palladium, rhodium and gold (3PE+Au), plus 22 million pounds of nickel and 13 million pounds of copper, at a cash cost of \$442 per ounce of 3PE+Au, net of by-products, and including sustaining capital costs.
- The project schedule is driven by the sinking of Shaft 2, a 10-metre-diameter shaft with total rock hoisting capacity of up to 6.0 Mtpa, plus a 40-tonne-capacity, double-deck man/material cage capable of transporting fully assembled load-haul-dump vehicles and other equipment to support the mine, with first production targeted in 2025.
- Initial capital cost of \$1.4 billion for this option would result in an after-tax net present value at an 8% discount rate (NPV8%) of \$1.8 billion and an internal rate of return (IRR) of 19.8%.
- At spot prices as at November 27, 2020, the NPV8% increases to \$3.7 billion and the IRR increases to 28.4%.

Highlights of the Platreef 2020 PEA, include:

- The Platreef 2020 PEA evaluates the phased development of Platreef, with an initial 700-ktpa underground mine and a 770-ktpa capacity concentrator, targeting high-grade mining areas close the Shaft 1, with a significantly lower initial capital cost of \$390 million.
- First concentrate production for this option is targeted in 2024, with the sinking of Shaft 2 recommencing in 2025 to coincide with the construction of two 2.2-Mtpa concentrators to be completed by 2029 and 2030. This would increase steady production to 5.2 Mtpa by using Shaft 2 as the primary production shaft.
- While the PEA considers the deferral of Shaft 2 sinking to 2025, this is a discrete decision that can commence at any point in time, pending funding.
- By utilizing the 825-ktpa rock-hoisting capacity (including up to 125 ktpa allocated for development rock) of Shaft 1, reduced initial development is required, targeting the nearest and highest-grade stopes with drift-and-fill mining.
- Cost estimates for the phased development plan are largely based on the Platreef 2020 FS, augmented with early drift-and-fill mining and a 770-ktpa concentrator and associated site infrastructure.
- For this option, the PEA envisages phase one during years 1 to 6 at an average annual production rate of 109,000 ounces of platinum, palladium, rhodium and gold (3PE+Au), plus 5 million pounds of nickel and 3 million pounds of copper followed by phase two during years 7 to 30 at an average annual production rate of 613,000 ounces of 3PE+Au, plus 27 million pounds of nickel and 16 million pounds of copper.
- The PEA envisages a life-of-mine cash cost of \$460 per ounce of 3PE+Au, net of by-products, and including sustaining capital costs.
- The after-tax net present value at an 8% discount rate (NPV8%) is \$1.6 billion with an internal rate of return (IRR) of 20.0%. At spot prices as at November 27, 2020, the NPV8% increases to \$3.3 billion and the IRR increases to 29.1%.
- Construction of the 950-metre-level station near the bottom of Shaft 1 was recently completed. This station lies within a few hundred metres of the initial high-grade mining zone that would be targeted during the early years of the phased development plan under the 2020 PEA alternative development scenario.
- In parallel with the changeover of Shaft 1 for permanent hoisting, detailed engineering will take place in 2021 on the mine design, 770-ktpa concentrator and associated infrastructure design, which also will include the dry-stack tailings storage facility. In addition, amendments to the water use licence, waste licence and environmental impact assessment required for the phased development plan will be tabled. Following the completion of the changeover, off-shaft development would take place in early 2022, with the initial aim of establishing a ventilation raise to allow for the development of underground infrastructure from 2023.

All figures are on a 100%-project basis unless otherwise stated. The Platreef IDP20 was independently prepared on a 100%-basis by OreWin Pty Ltd. of Adelaide, Australia; Wood plc (formerly Amec Foster Wheeler) of Vancouver, Canada; SRK Consulting Inc. of Johannesburg, South Africa; Stantec Consulting International LLC of Phoenix, USA; DRA Global of Johannesburg, South Africa; and Golder Associates Africa of Midrand, South Africa.

### ***Arranging project-level financing of up to \$420 million to advance development of Platreef***

In February 2021, Ivanplats signed a non-binding term sheet with Orion Mine Finance, a leading international provider of production-linked stream financing to base and precious metals mining companies, for a \$300 million gold, palladium and platinum streaming facility. The stream financing remains subject to completion of legal due diligence and structuring, as well as negotiation and execution of definitive documentation. The streaming facility is planned to be drawn down in four separate tranches, as needed, in parallel with the engineering studies to upgrade the Platreef 2020 PEA to a feasibility study and the changeover of Platreef's Shaft 1 to a production shaft.

Ivanplats also appointed two prominent, international commercial banks – Societe Generale and Nedbank – as mandated lead arrangers for a senior project debt facility of up to \$120 million. The senior project debt facility is scheduled to be utilized only after the streaming facility is fully drawn down. Definitive terms and conditions of the debt facility are subject to the completion of the feasibility study for Platreef's phased development plan, completion of due diligence and structuring, as well as negotiation and execution of definitive documentation. Terms and conditions of the debt facility will be made available when finalized.

### ***Platreef Mineral Resources***

The Platreef Project's Mineral Resource estimate was prepared for Ivanhoe Mines under the direction of Dr. Harry Parker, RM SME, of Wood plc. Timothy Kuhl, RM SME, also of Wood plc, has independently confirmed the Mineral Resource estimate and is the Qualified Person 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 changeover to a production shaft progressing well***

The construction of the 996-metre-level station at the bottom of Shaft 1 was completed in July 2020. The completed Shaft 1 is located approximately 350 metres away from a high-grade area of the Flatreef orebody that is planned for bulk-scale, mechanized mining. The three development stations that will provide initial, underground access to the high-grade orebody have also been completed on the 750-, 850-, and 950-metre levels.

The changeover construction at Shaft 1, initially delayed following the September 14, 2020 accident, is progressing to plan and is on schedule for commencement of rock hoisting early in 2022. All equipment for the shaft changeover has been procured and is on site. The detailed engineering

designs for the shaft changeover have been completed, reviewed and approved. The changeover work within the shaft will be conducted by Platreef's experienced owners team.

The winder that was used to successfully sink Shaft 1 will be converted and re-equipped to function as the permanent rock, personnel and material winder for the life of mine. The shaft will be equipped with two 12.5-tonne skips (with hoisting capacity of 825,000 tonnes per year) and an interchangeable personnel and materials cage to accommodate the movement of personnel and materials up and down the shaft during the initial phase of mining.

The shaft will be equipped using rope guides for the main rock, personnel and materials conveyances. The stage and winder ropes used during the sinking phase have been removed, and the equipping stage, new permanent guide-ropes and the new permanent hoisting ropes have been delivered to site. Further to this, an auxiliary winder will be installed mainly to function as a man winder during the main rock hoisting cycle.

The construction of the winder foundations is underway and will be completed in time for the auxiliary winder installation and commissioning. The headgear, both winders, equipping stage, conveyances and control systems will comply with the highest industry safety standards, with proven and tested safety and redundancy systems in place.

Newly-designed rock chutes will connect the conveyors feeding the concentrator plant and the waste rock area, from where the rock will be converted to cemented backfill and also used for protection berms to contain storm water and reduce noise emissions.

The new ropes and the newly-designed and constructed equipping stage will be installed in the shaft by specialist contractors. The equipping in the shaft barrel is scheduled to commence at the end of March 2021 for completion by end of February 2022. Following the completion of the changeover work in the underground stations, and establishment of the ore and waste passes, lateral underground mine development will commence toward high-grade ore zones.

Early-works surface construction for Shaft 2 began in 2017. It includes the excavation of a surface box-cut to a depth of approximately 29 metres below surface and construction of the concrete hitch for the 103-metre-tall concrete headgear (headframe) that will house the shaft's permanent hoisting facilities and support the shaft collar. Platreef's budget for 2021 is \$59 million, which includes \$10 million for commencement of headframe construction for Shaft 2.

**Photo: Platreef team members preparing Shaft 1's headframe in advance of the installation of new ropes and the newly-designed and constructed equipping stage by specialist contractors.**



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

Mining zones in the current Platreef mine plan occur at depths ranging from approximately 700 metres to 1,200 metres below surface. Once expanded mine production is achieved, primary access to the mine will be by way of a 1,104-metre-deep, 10-metre-diameter production shaft (Shaft 2). Secondary access to the mine will be via the 996-metre-deep, 7.25-metre-diameter ventilation shaft (Shaft 1) that recently has been sunk to its final depth. During mine production, both shafts also will serve as ventilation intakes. Three additional ventilation exhaust raises (Ventilation Raise 1, 2, and 3) are planned to achieve steady-state production.

Mining will be performed using highly-productive mechanized methods, including long-hole stoping and drift-and-fill. Each method will utilize cemented backfill for maximum ore extraction. The production plans in both the PEA's initial five-year drift-and-fill mining operation off of Shaft 1 and the larger FS expansion are focused on maximizing higher-grade areas, which was achieved through optimization based on stope locations, stope grades, mining method, and zone productivities. The orebody was targeted to recover approximately 125 million tonnes at the highest net smelter return.

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.



**Photo: Vongani Nkuna, Group Manager, Metallurgy, is part of the team leading the development of Platreef, Ivanhoe's second Tier One mine development project.**



### ***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.

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

Consultation regarding the Platreef Project's second Social and Labour Plan (SLP) is in the final stages. In this second SLP, Ivanplats plans to build on the foundation laid in the first SLP and continue with its training and development suite, which includes 15 new mentors, internal skills training for 78 staff members, a legends program to prepare retiring employees with new/other skills, community adult education training for host community members, core technical skills training for at least 100 community members, portable skills training, and more.

Local economic development projects will contribute to community water source development through the Mogalakwena Municipality boreholes program, as well as provide a significant funding contribution toward sanitation infrastructure at the municipality. Other projects, which will be undertaken in partnership with the neighbouring Anglo Mogalakwena Mine, include the refurbishment and equipping of a clinic in the Tshamahansi Village.

The enterprise and supplier development commitments comprise of expanding the existing kiosk and laundry facilities even further and adding expanded change house facilities to be managed by a community partner in the future. A five-year integrated business accelerator and funding project will assist community members interested to obtain help with development and supplier readiness.

During 2020, and in the absence of an approved SLP due to the COVID-19 pandemic, the Platreef Project has continued supporting a number of educational programs, including the e-learning project and the maintenance of science and computer laboratories, as well as the provision of free Wi-Fi in host communities. The Platreef Project also planted 25 trees at two local schools in the mine's footprint area and promoted educational activities centered on climate change and health.

**Photo: Victor Skinner, Winder Technician, installing cables at Shaft 1's new winder house.**



## **KIPUSHI PROJECT**

The Kipushi copper-zinc-germanium-silver-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.

As part of the Company's cost-cutting measures announced on April 27, 2020, Ivanhoe's board of directors allocated a reduced total budget for 2020 of \$28.7 million for the Kipushi Project.

### ***Health and safety at Kipushi***

At the end of December 2020, the Kipushi Project reached a total of 2,918,693 work hours free of lost-time injuries and 766 lost-time injury-free shifts. It has been more than two years since the last lost-time injury occurred at the Kipushi Project.

In response to government-imposed travel restrictions and emergency protocols being introduced worldwide due to the COVID-19 pandemic, Kipushi has temporarily suspended mine development operations to reduce the risk to the workforce and local communities. The project maintained a reduced workforce to safely and cost-effectively maintain infrastructure and pumping systems and to execute planned projects.

The Kipushi Project operates a potable-water station for the daily supply of water to the municipality of Kipushi. This support includes power supply, disinfectant chemicals, routine maintenance, security, and emergency repair of leaks to the primary reticulation. During 2020, two additional solar-power boreholes were established, providing clean potable water to a further two host communities near Kipushi and bringing the total number of boreholes to seven.

Other community development projects included the donation of 5,000 N95 face masks to host communities, the donation of additional infrared thermometers to the Health Zone management, and the sponsorship of a COVID-19 awareness campaign broadcast on local radio. Additional COVID-19 awareness efforts include signboards erected throughout the town and a motorized caravan that rotates within urban and rural areas thrice per week, broadcasting prevention messages. The sewing training centre project produces cloth face masks and donates approximately 2,000 masks a month to host communities.

During 2020, the Kipushi Project has implemented a Sustainable Livelihoods Program, commencing with a poultry farming initiative established for the benefit of a consortium of local women.

### ***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](http://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 204 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.

### ***Kipushi's definitive feasibility study in final stages of completion***

The Kipushi Project's pre-feasibility study (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, of \$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 draft feasibility study and development and financing plan for Kipushi are being reviewed by Ivanhoe Mines together with its partner Gécamines. It is anticipated that these discussions will be concluded with the finalization of the feasibility study and the agreement on the development and financing plan by mid-2021.

**Photo: Crew performing maintenance at Kipushi's 850-metre-level pumping station.**



## ***Project development and infrastructure***

Although development and rehabilitation activities in the year ending December 31, 2020 were limited, significant progress has been made in recent years to modernize 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 headframes, 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 high-capacity 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 and 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 also 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.

**Photo: Kyungu Kabulo, Instrumentation Assistant (left), and Junior Kisula Ngoy, Instrumentation Engineer (right), installing probes and a balance disk on a Grifo Pump at Kipushi's 1,200-metre-level pumping station.**



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.



## **DRC WESTERN FORELAND EXPLORATION PROJECT**

Ivanhoe's DRC exploration group is targeting Kamoa-Kakula-style copper mineralization through a regional exploration and drilling program on its Western Foreland exploration licences, located to the north, south and west of the Kamoa-Kakula Project. Ivanhoe's Western Foreland Exploration Project consists of 17 licences that cover a combined area of approximately 2,550 square kilometres.

Exploration models that successfully led to the discoveries of Kakula, Kakula West, and the Kamoa North Bonanza Zone on the Kamoa-Kakula joint-venture mining licence, are being applied to the Western Foreland extensive land package by the same team of exploration geologists responsible for the previous discoveries.

Exploration activities at the Western Foreland area continued during Q4 2020 with the field season ending in mid-December. The target of the 2020 field season was to increase geological understanding for the new permits, as well as to generate targets for future exploration and drilling. Drilling focused on wide-spaced drill holes along strike to the west of the Makoko Deposit. The drill core from the program is being processed for analysis and detailed rock physical property test work also is carried out to further geological understanding, as well as the ability of the data to be used for future larger-scale geophysical test work and analysis.

The 2020 field season focused initially on a program of validation work on each of the permits to provide a required report back to the government and fulfil legal obligations. The majority of the field season focused on initial mapping of the sub-crop region with the collection of grab samples, mapping of exposed rocks in streams and rivers, and stream and surface sampling.

In Q4 2020, a total of eight new diamond drill holes were completed at the Makoko prospect and along strike of Makoko to the west. The drilling aimed to confirm the continuation of prospective lower Nguba stratigraphy westwards toward the new exploration permits. Diamond drilling was completed on northwest-southeast fences every 1,000 metres, with typically two to three holes drilled on each fence and spaced approximately 200 metres apart. Holes drilled generally were around 400 to 500 metres deep, with some shallower holes. A total of 3,412 metres were drilled during the quarter. Exploration also continued on the Western Foreland exploration licences with strict procedures in place to protect employees and drilling contractors from COVID-19. The exploration work, as well as drilling, included field mapping, stream sediment and soil sampling. In total, 347 stream sediment samples and 116 soil samples were collected and processed for preliminary XRF (pXRF) analysis on site, then exported for external assay analysis.

The total data collected during 2020 was 958 soil samples, 411 stream samples, 133 rock grab samples and 981 mapping points. A total of 21 holes totalling 8,212 metres were drilled during 2020. The remaining set of soil, rock chips, stream and diamond drilling samples were dispatched to Bureau Veritas laboratory in Perth at the end of the year.

On February 10, 2021, Ivanhoe Mines announced that assay results from drilling completed in early 2020 confirm the extension of the Kamoa North high-grade copper structure for at least 800 metres in the Kiala Discovery area.

The high-grade copper zone at the Kiala Discovery was originally discovered on the Kamoa-Kakula mining licence and delineated through a series of step-out fences of holes drilled on 100-metre spacings in a northerly direction onto Ivanhoe's 100%-owned exploration licences.

The structure controlling the zone of high-grade copper remains open to the north, and Ivanhoe now has secured 35 kilometres of highly-prospective, 100%-owned exploration ground along trend and to the north of the Kiala Discovery.

Selected drill holes at the Kiala Discovery include:

- DKIA\_DD007 intersected 7.21 metres (true width) of 7.98% copper, at a 1% and 2% copper cut-off, from 345.44 metres down hole.
- DKIA\_DD011 intersected 3.82 metres (true width) of 5.35% copper, at a 1% and 2% copper cut-off, from 348.00 metres down hole.
- DKIA\_DD014 intersected 5.30 metres (true width) of 12.42% copper, at a 1% and 2% copper cut-off, from 366.70 metres down hole.
- DKIA\_DD016 intersected 3.59 metres (true width) of 9.71% copper, at a 1% and 2% copper cut-off, from 351.40 metres down hole.

On February 10, 2021, Ivanhoe Mines also announced that drilling at the Makoko Sud Discovery intercepted significant, shallow copper mineralization (including up to 6.01 metres grading 3.38% copper) over a 7.5-kilometre strike length in a south-westerly direction along strike from the initial Makoko Sud Discovery area. Road clearance commenced in the second half of 2020 to extend the current exploration opportunities to the south and west from Makoko Sud.

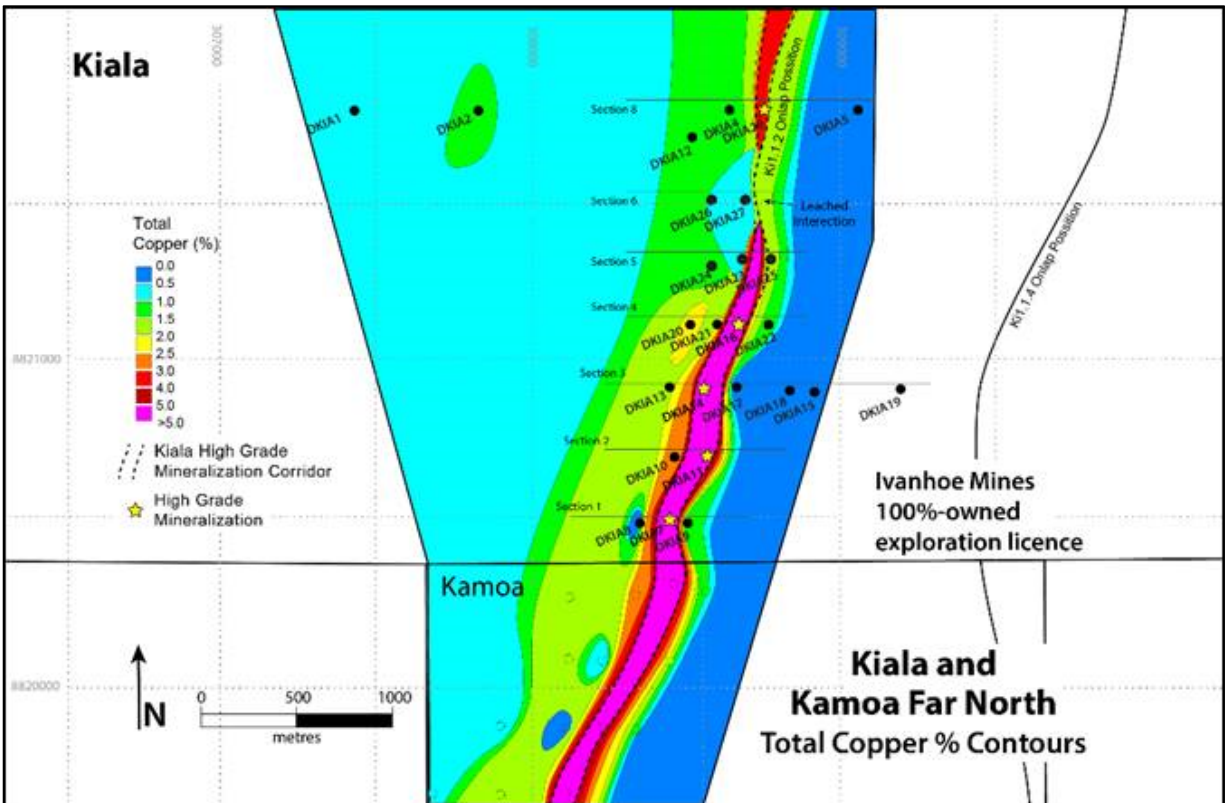
Significant new drill intercepts from Makoko West include:

- DMKK\_DD117, a 3.6-kilometre step-out hole from previous Makoko Sud drilling, intersected 6.01 metres (true width) of 3.38% copper, at a 2% copper cut-off from 259.72 metres down hole and 9.75 metres (true width) of 2.63% copper at a 1% copper cut-off.
- DMKK\_DD118, a 1.6-kilometre step-out hole from previous Makoko Sud drilling, intersected 4.19 metres (true width) of 3.01% copper, at a 2% copper cut-off from 209.50 metres down hole and 5.15 metres (true width) of 2.78% copper at a 1% copper cut-off.
- DMKK\_DD123, a 7.5-kilometre step-out hole from previous Makoko Sud drilling, intersected 3.33 metres (true width) of 1.44% copper, at a 2% copper cut-off from 570 metres down hole and 17.77 metres (true width) of 1.39% copper at a 1% copper cut-off.

**Photo: Drilling at the Kiala Discovery in early 2020.**



**Photo: Plan view of the Kiala high-grade zone showing copper grades.**



The recent Makoko West drilling is extremely significant for the exploration potential of the new exploration permits as it demonstrates that the target stratigraphy extends westward and that the copper mineralizing system on the western edge of the basin is laterally extensive. Future drilling in the Makoko West area will target specific structural locations that are conducive to developing higher copper grades.

The planned high-resolution magnetic and radiometric survey commenced during Q4 2020 and continued through until the end of December. In total, 61% of the data acquisition was completed during 2020 with the remainder planned for the first half of 2021. Preliminary data and imagery were received during the acquisition, as different areas were flown.

Construction of a 16-kilometre road to gain access to new exploration target areas on the new western permits began during Q4 2020, running from the Makoko exploration area out to the west. The work will continue until the end of Q1 2021. In addition, a new bridge over the Lubudi River will be constructed to gain access to new exploration permits. Bridge construction started in Q4 2020 and is expected to be completed at the end of Q1 2021 in preparation for the dry season.

The initial 2021 exploration program includes 40,000 metres of combined aircore and diamond drilling, airborne and ground-based geophysics, soil sampling and road construction. Fieldwork will begin at the start of the 2021 dry season, which typically begins in April. The initial 2021 budget is \$16 million, which may be expanded based on program results. Much of this year's exploration will focus on the more than 1,700 square kilometres of new, 100%-owned permits that were acquired in 2019 and received environmental certification in 2020.

## SELECTED ANNUAL FINANCIAL INFORMATION

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

	For the year ended December 31,		
	2020	2019	2018
	\$'000	\$'000	\$'000
Exploration and project expenditure	44,724	11,619	11,487
General administrative expenditure	33,321	16,464	26,215
Share of loss from joint venture	26,799	24,821	(19,615)
Share-based payments	16,931	10,322	6,871
(Gain) loss on fair valuation of financial asset	(270)	784	6 639
Finance income	(80,755)	(72,395)	(49,859)
Finance costs	1,703	299	946
Total comprehensive loss (profit) attributable to:			
Owners of the Company	26,076	(27,211)	3,892
Non-controlling interest	19,410	7,022	9,703
Basic loss (profit) per share	0.02	(0.02)	0.03
Diluted loss (profit) per share	0.02	(0.02)	0.03
Total assets	2,417,091	2,444,722	1,884,788
Non-current liabilities	57,581	49,716	36,189



## DISCUSSION OF RESULTS OF OPERATIONS

### *Review of the year ended December 31, 2020 vs. December 31, 2019*

The Company recorded total comprehensive loss of \$45.5 million for the year ended December 31, 2020, compared to a total comprehensive income of \$20.2 million for the year ended December 31, 2019.

Exploration and project expenditure amounted to \$44.7 million for the year ended December 31, 2020 and was \$33.1 million more than for the same period in 2019 (\$11.6 million). While all the exploration and project expenditure incurred in 2019 related to exploration at Ivanhoe's 100%-owned Western Foreland exploration licences, 2020 also included \$36.2 million spent at the Kipushi Project which was on reduced activities and incurred limited cost of a capital nature in 2020.

The main classes of expenditure at the Kipushi Project for the year ended December 31, 2020, and for the same period in 2019 are set out in the following table:

	Year ended December 31, 2020 \$'000	Year ended December 31, 2019 \$'000
<b>Kipushi Project</b>		
Salaries and benefits	15,900	17,907
Other expenditure	9,199	11,444
Depreciation	6,815	4,938
Electricity	3,091	6,166
Other additions to property, plant and equipment	2,665	1,644
Studies and contracting work	1,233	6,594
Infrastructure and refurbishment	—	19,380
Total project expenditure	38,903	68,073
<i>Exclude</i>		
Capitalized as development costs in property, plant and equipment	—	(66,429)
Other additions to property, plant and equipment	(2,665)	(1,644)
Exploration and project evaluation expenditure in the loss from operating activities	36,238	—

Finance income amounted to \$80.8 million for the year ended December 31, 2020, and \$72.4 million for the same period in 2019. Included in finance income is the interest earned on loans to the Kamoia Holding joint venture to fund operations that amounted to \$70.4 million for 2020, and \$53.5 million for 2019. Interest increased as the accumulated loan balance increased. Interest received on cash and cash equivalents decreased due to interest rate cuts by the US Federal Reserve.

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 \$0.6 million for the same period for 2020. The gain in 2019 resulted from the Company converting Canadian Dollar cash to U.S. dollars at favourable exchange rates.

The Company's share of losses from the Kamo Holding joint venture was \$26.8 million for the year ended December 31, 2020, compared to a loss of \$24.8 million for the same period in 2019, the breakdown of which is summarized in the following table:

	Year ended December 31, 2020 \$'000	Year ended December 31, 2019 \$'000
Finance costs	79,838	70,196
Exploration expenses	3,450	10,265
Foreign exchange loss	50	345
Finance income	(5,141)	(5,631)
Loss before taxes	78,197	75,175
Current tax expense	6	–
Deferred tax recovery	(16,407)	(17,068)
Loss after taxes	61,796	58,107
Non-controlling interest of Kamo Holding	(7,657)	(7,965)
Loss for the period attributable to joint venture partners	54,139	50,142
Company's share of losses from joint venture (49.5%)	26,799	24,821

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, 2020 vs. December 31, 2019*

The Company's total assets decreased by \$27.6 million, from \$2,444.7 million as at December 31, 2019, to \$2,417.1 million as at December 31, 2020. The Company utilized \$60.5 million of its cash resources in its operations and received interest of \$4.6 million on cash and cash equivalents during the year ended December 31, 2020.

The net increase of property, plant and equipment amounted to \$29.6 million, with a total of \$41.9 million being spent on project development and to acquire other property, plant and equipment. Of this total, \$37.7 million pertained to development costs and other acquisitions of property, plant and equipment at the Platreef Project.

The main components of the additions to property, plant and equipment – including capitalized development costs – at the Platreef Project for the year ended December 31, 2020, and for the same period in 2019, are set out in the following table:

	Year ended December 31, 2020 \$'000	Year ended December 31, 2019 \$'000
<b>Platreef Project</b>		
Shaft 1 construction	19,415	28,810
Salaries and benefits	6,096	8,533
Administrative and other expenditure	3,511	4,305
Studies and contracting work	1,381	1,351
Site costs	977	1,007
Social and environmental	723	2,328
Shaft 2 early works	34	3,263
Infrastructure	13	113
Total development costs	32,150	49,710
Other additions to property, plant and equipment	5,511	645
Total additions to property, plant and equipment for Platreef	37,661	50,355

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

The Company's investment in the Kamoa Holding joint venture increased by \$376.9 million from \$912.6 million as at December 31, 2019, to \$1,289.5 million as at December 31, 2020, 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 \$333.3 million during the year ended December 31, 2020, while the Company's share of losses from the joint venture amounted to \$26.8 million.

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

	December 31, 2020 \$'000	December 31, 2019 \$'000
Company's share of net assets in joint venture	150,520	177,319
Loan advanced to joint venture	1,138,992	735,317
Total investment in joint venture	1,289,512	912,636



The Kamo Holding joint venture principally uses loans advanced to it by its shareholders to advance the Kamo-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 Kamo Holding joint venture which can be broken down as follows:

	<b>December 31, 2020</b>		<b>December 31, 2019</b>	
	<b>100%</b>	<b>49.5%</b>	<b>100%</b>	<b>49.5%</b>
	<b>\$'000</b>	<b>\$'000</b>	<b>\$'000</b>	<b>\$'000</b>
<b>Assets</b>				
Property, plant and equipment	1,316,708	651,770	727,391	360,059
Mineral property	802,021	397,000	802,021	397,000
Long term loan receivable	155,815	77,128	126,012	62,376
Deferred tax asset	143,891	71,226	127,484	63,105
Cash and cash equivalents	138,805	68,708	73,968	36,614
Prepaid expenses	114,784	56,818	77,844	38,533
Non-current inventory	109,516	54,210	9,188	4,548
Indirect taxes receivable	91,862	45,472	47,233	23,380
Consumable stores	32,883	16,277	8,987	4,449
Right-of-use asset	24,689	12,221	30,128	14,913
Non-current deposits	1,689	836	1,289	638
<b>Liabilities</b>				
Shareholder loans	(2,300,271)	(1,138,634)	(1,484,737)	(734,945)
Trade and other payables	(131,167)	(64,927)	(54,005)	(26,733)
Equipment finance facility	(57,556)	(28,490)	–	–
Lease liability	(26,318)	(13,027)	(30,211)	(14,954)
Rehabilitation and other provisions	(22,281)	(11,029)	(5,727)	(2,835)
Non-controlling interest	(90,987)	(45,039)	(98,644)	(48,829)
<b>Net assets of the joint venture</b>	<b>304,083</b>	<b>150,520</b>	<b>358,221</b>	<b>177,319</b>

The Kamo Holding joint venture completed the draw-down of EUR 45 million (approximately \$56 million) of the equipment financing and \$9 million of the down-payment facilities in late December 2020. The equipment finance is secured only by the equipment that is being financed and has an effective interest rate of 8.96%. The down-payment facility is unsecured and has an effective interest rate of 11.58%.

The Kamoa Holding joint venture's net increase in property, plant and equipment from December 31, 2019, to December 31, 2020, amounted to \$589.3 million and can be further broken down as follows:

	Year ended December 31, 2020 \$'000	Year ended December 31, 2019 \$'000
<b>Kamoa Holding joint venture</b>		
Kakula decline and mine development	283,552	125,179
Studies and contracting work	65,257	30,948
Borrowing costs capitalized	62,350	37,751
Salaries and benefits	35,734	28,321
Other development costs	34,114	14,863
Office and administrative expenditure	23,694	10,784
Camp and office construction	12,595	16,630
Site costs, security and safety	9,989	8,208
Project fleet	2,600	3,802
Roads	5,690	12,858
Total development costs	535,575	289,344
Other additions to property, plant and equipment	68,847	19,401
Total additions to property, plant and equipment for Kamoa Holding	604,422	308,745
Less depreciation and disposals	(15,105)	(4,539)
Net increase in property, plant and equipment of Kamoa Holding	589,317	304,206

The Company's total liabilities decreased by \$1.3 million to \$80.6 million as at December 31, 2020, from \$81.9 million as at December 31, 2019, due to a \$3.9 million decrease in the lease liability.

## SELECTED QUARTERLY FINANCIAL INFORMATION

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

	Three months ended			
	December 31,	September 30,	June 30,	March 31,
	2020	2020	2020	2020
	\$'000	\$'000	\$'000	\$'000
Exploration and project evaluation expenditure	13,754	9,972	9,018	11,980
General administrative expenditure	6,973	4,868	7,464	14,016
Share of losses from joint venture	6,151	7,323	6,597	6,728
Share-based payments	4,824	4,250	4,180	3,677
Finance income	(21,032)	(20,241)	(18,672)	(20,810)
Finance costs	1,464	69	70	100
Total comprehensive (income) loss attributable to:				
Owners of the Company	(33,170)	(3,032)	(3,458)	65,736
Non-controlling interest	1,349	4,049	3,123	10,889
Basic (profit) loss per share	(0.00)	0.00	0.00	0.01
Diluted (profit) loss per share	(0.00)	0.00	0.00	0.01

	Three months ended			
	December 31,	September 30,	June 30,	March 31,
	2019	2019	2019	2019
	\$'000	\$'000	\$'000	\$'000
Exploration and project evaluation expenditure	3,664	3,266	3,290	1,399
General administrative expenditure	5,642	4,985	3,730	2,107
Share of losses from joint venture	5,610	7,084	6,248	5,879
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)



*Review of the three months ended December 31, 2020 vs. December 31, 2019*

The Company recorded total comprehensive income of \$31.8 million for Q4 2020 compared to \$25.5 million for the same period in 2019. The majority of the income in Q4 2020 mainly was due to an exchange gain on translation of foreign operations of \$42.7 million resulting from the strengthening of the South African Rand from September 30, 2020, to December 31, 2020. The Company recognized an exchange gain on translation of foreign operations in Q4 2019 of \$20.7 million.

Salaries and benefits of \$3.5 million for Q4 2020 was \$3.9 million less than for the same period in 2019 (\$7.4 million) due to the Company suspending short term incentive award payments to senior management, reducing its global office footprint and reducing its senior management headcount as part of company-wide, cash-saving measures.

Finance income for Q4 2020, amounted to \$21.0 million, and was \$0.2 million more than for the same period in 2019 (\$20.8 million). Included in finance income is the interest earned on loans to the Kamoia Holding joint venture to fund operations that amounted to \$19.8 million for Q4 2020, and \$15.1 million for the same period in 2019. Interest increased as the accumulated loan balance increased. Interest received on cash and cash equivalents decreased due to interest rate cuts by the US Federal Reserve.

Exploration and project expenditure amounted to \$13.8 million in Q4 2020 and \$3.7 million for the same period in 2019. While all the exploration and project expenditure incurred in Q4 2019 related to exploration at Ivanhoe's 100%-owned Western Foreland exploration licences, Q4 2020 also included \$11.0 million spent at the Kipushi Project which incurred limited costs of a capital nature in the quarter due to reduced activities. The main classes of expenditure at the Kipushi Project in Q4 2020 and Q4 2019 are set out in the following table:

	<b>Three months ended</b>	
	<b>December 31,</b>	
	<b>2020</b>	<b>2019</b>
	<b>\$'000</b>	<b>\$'000</b>
<b>Kipushi Project</b>		
Salaries and benefits	5,576	5,145
Other expenditure	3,375	3,904
Depreciation	1,883	3,420
Other additions to property, plant and equipment	1,384	353
Electricity	143	1,248
Studies and contracting work	—	1,154
Infrastructure and refurbishment	—	3,494
Total project expenditure	12,361	18,718
<i>Exclude:</i>		
Capitalized as development cost in property, plant and equipment	—	(18,365)
Other additions to property, plant and equipment	(1,384)	(353)
Exploration and project evaluation expenditure in the loss from operating activities	10,977	—

The Company's share of losses from the Kamoa Holding joint venture increased from \$5.6 million in Q4 2019 to \$6.2 million in Q4 2020. The following table summarizes the Company's share of the losses of Kamoa Holding for the three months ended December 31, 2020, and for the same period in 2019:

	<b>Three months ended</b>	
	<b>December 31,</b>	
	<b>2020</b>	<b>2019</b>
	<b>\$'000</b>	<b>\$'000</b>
Finance costs	21,278	19,067
Exploration costs	(3,729)	(2,114)
Foreign exchange (gain) loss	(96)	131
Finance income	(1,151)	(1,714)
Loss before taxes	16,302	15,370
Current tax expense	2	–
Deferred tax recovery	(2,644)	(2,753)
Loss after taxes	13,660	12,617
Non-controlling interest of Kamoa Holding	(1,234)	(1,285)
Loss for the period attributable to joint venture partners	12,426	11,332
Company's share of losses from joint venture (49.5%)	6,151	5,609

The finance costs in the Kamoa Holding joint venture relates to shareholder loans where each shareholder is 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.

## **LIQUIDITY AND CAPITAL RESOURCES**

The Company had \$262.8 million in cash and cash equivalents as at December 31, 2020. At this date, the Company had consolidated working capital of approximately \$308.0 million, compared to \$688.5 million as at December 31, 2019.

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 objectives for 2021 at the Platreef Project is the detailed engineering and updated feasibility study for the phased development plan, progression of the Shaft 1 changeover and the construction of the Shaft 2 headframe to the collar. At Kipushi, cost-saving measures will continue until the finalization of the feasibility study and the development and financing plan is agreed. Mine development at the Kamoa-Kakula Project continues with first production now expected in July 2021 and the Phase 2 concentrator expansion is being fast tracked. The Company has budgeted to spend \$59 million on further development at the Platreef Project; \$27 million at the Kipushi Project; and \$28 million on corporate overheads for 2021. Exploration activities on the Western Foreland's exploration project in DRC will continue in 2021 with an initial budget of \$16 million, which may be expanded based on program results. The Company's proportionate funding of the Kamoa-Kakula Project is expected to be \$154 million for 2021, with the assumption that additional equipment purchases would be funded through the equipment financing facilities and that expenditure on Kamoa-Kakula's Phase 2 would be funded through the limited recourse line of credit from Zijin.

As Ivanhoe continues to advance its projects, the Company's management has reviewed and assessed numerous alternatives to finance its share of construction costs for the 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, and equipment and debt financing. 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 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.

The Company has a mortgage bond outstanding on its offices in London, United Kingdom, of £3.2 million (\$4.4 million). The bond is fully repayable on August 28, 2025, secured by the property and incurs interest at a rate of GBP 1 month 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 \$31.8 million as at December 31, 2020, and a contractual amount due of \$34.5 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 USD 3 month LIBOR plus 2% calculated monthly in arrears. Interest is not compounded. The difference of \$2.7 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				
	Total	Less than 1 year	1-3 years	4-5 years	After 5 years
Contractual obligations as at December 31, 2020	\$'000	\$'000	\$'000	\$'000	\$'000
Debt	38,876	-	-	4,369	34,507
Lease commitments	1,551	350	882	319	-
<b>Total contractual obligations</b>	<b>40,427</b>	<b>350</b>	<b>882</b>	<b>4,688</b>	<b>34,507</b>

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 Kamoia 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 such parties:

	Year ended December 31,	Year ended December 31,
	2020	2019
	\$'000	\$'000
Ivanhoe Capital Aviation Ltd (a)	3,652	3,500
Global Mining Management Corporation (b)	2,418	4,302
GMM Tech Holdings Inc. (c)	453	679
Global Mining Services Ltd. (d)	446	59
Ivanhoe Capital Services Ltd. (e)	418	499
HCF International Advisers (f)	333	1,020
CITIC Metal Africa Investments Limited (g)	226	188
Ivanhoe Capital Pte Ltd (h)	114	181
Ivanhoe Capital Corporation (UK) Limited (i)	2	25
Ivanhoe Mines Energy DRC Sarl (j)	(361)	(291)
High Power Exploration Inc. (k)	(4,206)	(2,899)
Kamoa Copper SA (l)	(8,701)	(7,883)
Kamoa Holding Limited (m)	(70,357)	(53,524)
	(75,563)	(54,144)
Travel	3,644	3,776
Salaries and benefits	2,770	4,392
Consulting	778	1,656
Office and administration	287	296
Directors fees	226	188
Maintenance of aircraft	151	–
Cost recovery and management fee	(9,062)	(8,174)
Finance income	(74,357)	(56,278)
	(75,563)	(54,144)

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.

- (a) Ivanhoe Capital Aviation Ltd. (“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.
- (b) Global Mining Management Corporation (“Global”) is a private company based in Vancouver, Canada. 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.
- (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) Global Mining Services Ltd. (“GMS”) is a private company incorporated in Delaware and is 100% owned by Global. GMS provides administration and other services to the Company on a cost-recovery basis.
- (e) Ivanhoe Capital Services Ltd. (“Services”) is a private company owned indirectly by the Executive Co-Chairman of the Company. Services provides salaries administration and other services to the Company in Singapore and Beijing on a cost-recovery basis.
- (f) 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.
- (g) Citic Metal Africa Investments Limited (“Citic Metal Africa”) is a private company incorporated in Hong Kong. Citic Metal Africa is a shareholder in the Company and nominates two directors who serve of the Company’s Board of Directors.
- (h) 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.
- (i) Ivanhoe Capital Corporation (UK) Ltd. (“ICC”) is a private company owned indirectly by the Executive Co-Chairman of the Company. ICC provides administration, accounting and other services in the United Kingdom on a cost-recovery basis.
- (j) Ivanhoe Mines Energy DRC Sarl (“Energy”) is a company incorporated in the DRC. Energy is 100% owned by Kamoa Holding Limited, a joint venture of the Company. The Company provides administration, accounting and other services to Energy on a cost-recovery basis.
- (k) High Power Exploration Inc. (“HPX”) is a private company incorporated under the laws of Delaware, USA. The Company’s Executive Co-Chairman is the Chief Executive Officer and Chairman of HPX and holds an indirect equity interest in HPX. The Company extended a secured loan of \$50 million to HPX in April 2019. The loan receivable has a two-year maturity and earns interest at a rate of 8% per annum.
- (l) 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.
- (m) Kamoa Holding Limited (“Kamoa Holding”) is a company registered in Barbados. The Company has an effective 49.5% ownership in Kamoa Holding. The Company earns interest on the loans advanced to Kamoa Holding.

As at December 31, 2020, trade and other payables included \$1.1 million (December 31, 2019: \$0.6 million) with regards to amounts due to parties related by way of director, officers or shareholder in common. These amounts are unsecured and non-interest bearing.

Amounts included in other receivables due from parties related by way of director, officers or shareholder in common as at December 31, 2020 amounted to \$4.0 million (December 31 2019: \$3.9 million).

On March 11, 2020, the Company entered into a purchase and sale agreement with ICA Global Services LLC (“ICA Global”), under which ICA Global agreed to sell a Gulfstream Aerospace G-IV aircraft to the Company for a purchase consideration equal to 1,000,000 Common Shares of the Company. The transaction closed on May 11, 2020. ICA Global is a private company controlled by the Executive Co-Chairman of the Company.

On June 30, 2020, the Kipushi Project sold equipment to Kamoia Copper SA for proceeds of \$1.6 million.

## **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, 2020. 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:

### *Recoverability of assets*

Property, plant and equipment, including capitalized development costs and finite lived intangible assets are assessed at each reporting period to determine whether there is any indication that those assets have suffered an impairment loss.

In assessing whether an impairment is required, the carrying value of the asset or cash generating unit ("CGU") is compared with its recoverable amount. The recoverable amount is the higher of the CGU's fair value less costs of disposal and value in use. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent, if any, of the impairment loss.

The Company assesses whether an impairment is required on loans receivable. A range of cash flow scenarios are considered, taking into account forward looking information which may impact recoverability of loan receivables.

Given the nature of the Company's activities, information on the fair value of an asset is usually difficult to obtain unless negotiations with potential purchasers or similar transactions are taking place. Consequently, the fair value less costs of disposal for each CGU is estimated based on discounted future estimated cash flows that are expected to be generated from the continued use of the CGUs. They are estimated using market consensus based commodity price and exchange assumptions, estimated quantities of recoverable minerals, production levels, operating costs and capital requirements, including any expansion projects, and its eventual disposal, based on the CGU development plans and latest technical reports. These cash flows were discounted using a discount rate that reflected current market assessments of the time value of money and the risks specific to the CGU.

If the recoverable amount of an asset or CGU is estimated to be less than its carrying amount, the carrying amount of the asset or CGU is impaired to its recoverable amount. An impairment loss is recognized immediately in the statement of comprehensive income. The Company has concluded that there is no impairment required to any of its projects.

### *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, whereafter 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.

### *Determination of inputs into lease accounting*

Lease payments should be discounted using the interest rate implicit in the lease unless that rate cannot be readily determined, in which case the lessee's incremental borrowing rate is used, being the rate that the individual lessee would have to pay to borrow the funds necessary to obtain an asset of similar value to the right-of-use asset in a similar economic environment with similar terms, security and conditions. The Company has used the risk-free interest rate adjusted for credit risk specific to the lease.

In determining the lease term, the Company considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated).

## **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, 2020, with earlier application permitted. The Company adopted these standards in the current period.

- IFRS 3 – 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.
- 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.

- IFRS 9, IAS 39 and IFRS 7 – Financial Instruments. These amendments provide certain reliefs in connection with interest rate benchmark reform (IBOR). The reliefs relate to hedge accounting and have the effect that IBOR should not generally cause hedge accounting to terminate. However, any hedge ineffectiveness should continue to be recorded in the income statement.

#### **Accounting standards issued but not yet effective**

- IFRS 16 – Leases. The amendment provides relief in the form of an optional exemption from assessing whether a rent concession related to COVID-19 is a lease modification, provided that the concession meets certain conditions. Lessees can elect to account for qualifying rent concessions in the same way as they would if they were not lease modifications. (i)

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

- IFRS 9, IAS 29, IFRS 7 – Financial Instruments, IFRS 4 - Insurance Contracts and IFRS 16 - Leases. The amendments address issues that arise from the implementation of the reform of an interest rate benchmark, including the replacement of one benchmark with an alternative one. (ii)

The Company is in the process of considering the amendment and assessing the impact that it will have on adoption.

- IFRS 3 - Business combinations. IFRS 3, has been updated to refer to the 2018 Conceptual Framework for Financial Reporting, in order to determine what constitutes an asset or a liability in a business combination. In addition, a new exception in IFRS 3 for liabilities and contingent liabilities specifying that, for some types of liabilities and contingent liabilities, an entity applying IFRS 3 should instead refer to IAS 37, 'Provisions, Contingent Liabilities and Contingent Assets', or IFRIC 21, 'Levies', rather than the 2018 Conceptual Framework. (iii)

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

- IAS 1 – Presentation of Financial Statements. The amendments clarify how to classify debt and other liabilities as current or non-current. (iii)

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

- IAS 16 – Property, plant and equipment. The amendments prohibit an entity from deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced while bringing that asset to the location and condition necessary for it to be capable of operating in a manner intended by management. Instead an entity recognises the proceeds from selling such items, and the cost of producing these items, in profit or loss. (iii)

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

- IAS 37 – Provisions, Contingent Liabilities and Contingent Assets. The amendments specify which costs should be included in an entity's assessment of whether a contract will be loss making. (iii)

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 June 1, 2020
- (ii) Effective for annual periods beginning on or after January 1, 2021
- (iii) Effective for annual periods beginning on or after January 1, 2022

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

## FINANCIAL INSTRUMENTS AND OTHER INSTRUMENTS

### Fair value of financial instruments

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

	Level	December 31, 2020 \$'000	December 31, 2019 \$'000
<b>Financial assets</b>			
<i>Financial assets at fair value through profit or loss</i>			
Investment in listed entity	Level 1	1,410	1,140
Investment in unlisted entity	Level 3	655	655
<i>Amortized cost</i>			
Loan advanced to joint venture	Level 3	1,138,992	735,317
Cash and cash equivalents		262,825	702,810
Loans receivable	Level 3	97,340	91,955
Promissory note receivable	Level 3	23,519	16,799
Other receivables		5,559	6,657
<b>Financial liabilities</b>			
<i>Amortized cost</i>			
Borrowings	Level 3	36,197	33,904
Trade and other payables	Level 3	22,677	23,025
Advances payable	Level 3	2,788	2,661

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.

## Finance income

The Company's finance income is summarized as follows:

	Year ended December 31, 2020 \$'000	Year ended December 31, 2019 \$'000
Interest on loan to joint venture	(70,357)	(53,524)
Interest on bank balances	(4,561)	(13,612)
Interest on loan receivable - HPX	(4,000)	(2,740)
Interest on long term loan receivable - Gecamines	(1,828)	(2,492)
Other	(9)	(27)
	(80,755)	(72,395)

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:

	December 31, 2020 \$'000	December 31, 2019 \$'000
Assets		
Canadian dollar	25,289	41,358
South African rand	22,809	24,386
British pounds	4,116	7,387
Australian dollar	1,410	1,141
Liabilities		
South African rand	(6,338)	(9,484)
British pounds	(3,400)	(7,008)
Canadian dollar	(1,978)	(718)
Australian dollar	(56)	—

### 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 period 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.

	<b>Year ended December 31, 2020 \$'000</b>	<b>Year ended December 31, 2019 \$'000</b>
Canadian dollar	1,166	2,032
Australian dollar	68	57
South African rand	(72)	(104)
British pounds	(3)	(8)

### *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 the loan to the Kamoa Holding joint venture, promissory note receivable, loans receivable, other receivables and cash and cash equivalents.

The Company reviews the recoverable amount of their 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, where the 12 month expected credit losses are calculated. The Company did not apply lifetime expected credit losses as there has not been a significant increase in credit risk in 2020.

A significant increase in credit risk would include:

- Existing or forecast adverse changes in business, financial or economic conditions that are expected to cause a significant change in the borrower's ability to meet its debt obligations.
- An actual or expected significant change in the operating results of the borrower.
- Significant increases in credit risk on other financial instruments of the same borrower.
- An actual or expected significant adverse change in the regulatory, economic, or technological environment of the borrower that results in a significant change in the borrower's ability to meet its debt obligations.
- Significant changes in the value of the collateral supporting the obligation or in the quality of third-party guarantees or credit enhancements, which are expected to reduce the borrower's economic incentive to make scheduled contractual payments or to otherwise have an effect on the probability of a default occurring.

The Company assesses whether an impairment is required on loan receivables. A range of cash flow scenarios are considered, taking into account forward looking information which may impact recoverability of loan receivables.

The loan advanced to the joint venture will be repaid as and when there is residual cash flow in Kamoa Holding. Due to the positive results of Kamoa-Kakula's definitive feasibility study, repayment of the loan is deemed to be highly probable.

The promissory note receivable will be repaid using proceeds from the sale of Crystal River's 1% stake in Kamoa Holding.



The principal amount of the loan receivable from HPX and accrued interest thereon, is convertible in whole, or part, by the Company 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, into which the Company also may convert and acquire at least a 25% interest.

Repayment of the social development loan will be made by offsetting the loan against future royalties and dividends payable to Gécamines which arise from future profits to be earned at Kipushi.

The credit risk on cash and cash equivalents is limited because the cash and cash equivalents are composed of deposits with major banks who have investment grade credit ratings assigned by international credit ratings agencies and have low risk of default.

Other receivables is comprised primarily of administration consulting income from the joint venture and refundable taxes. The credit quality of these financial assets can be assessed by reference to historical information about counterparty default rates and adjusted to reflect current and forward-looking information, as well as macroeconomic factors affecting the ability of the parties to settle the receivables. The historical loss rates are negligible and therefore the expected credit losses relating to other receivables is also negligible.

The Company continues to monitor its credit risk and assess expected credit losses.

#### *Interest rate risk*

The Company's interest rate risk arises mainly from long term borrowings, the loans 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 LIBOR.

If interest rates (including applicable USD LIBOR rates) had been 50 basis points higher or lower and all other variables were held constant, the Company's loss for the year ended December 31, 2020 would have decreased or increased by \$6.1 million (2019: \$5.0 million).

#### *Liquidity risk*

In the management of its liquidity risk, 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 \$'000	1 to 3 months \$'000	3 to 12 months \$'000	More than 12 months \$'000	Total undiscounted cash flows \$'000
<b>As at December 31, 2020</b>					
Non-current borrowings	-	-	-	38,876	<b>38,876</b>
Trade and other payables	15,445	1,327	2,445	-	<b>19,217</b>
Lease liability	30	93	227	11,554	<b>11,904</b>
<b>As at December 31, 2019</b>					
Non-current borrowings	-	-	-	33,767	<b>33,767</b>
Trade and other payables	18,960	1,002	1,376	-	<b>21,338</b>
Lease liability	80	151	640	14,980	<b>15,851</b>
Current borrowings	-	-	4,230	-	<b>4,230</b>

Trade and other payables in the above table excludes payroll tax, other statutory liabilities and indirect taxes payable.

## DESCRIPTION OF CAPITAL STOCK

As at March 4, 2021, 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 1,207,941,580 Class A Shares, nil Class B Shares, nil warrants and nil preferred shares were issued and outstanding.

The Company granted 7,500,000 options in 2019, 10,384,900 options in 2020 and 952,587 options in 2021 to date. As at March 4, 2021, there were 18,746,023 options outstanding issued in terms of the Equity Incentive Plan exercisable into 18,746,023 Class A Shares.

The Company granted 478,846 restricted share units (RSUs) in 2021 to date, 1,140,653 RSUs in 2020 and 2,098,333 RSUs in 2019 per the Company's restricted share unit plan. As at March 4, 2021, there were 1,432,725 RSUs which may vest into 1,432,825 Class A Shares.

The Company granted 152,154 deferred share units (DSUs) in 2021 to date, 307,147 DSUs in 2020 and 130,621 DSUs in 2019 per the Company's deferred share unit plan. As at March 4, 2021, there were 529,038 DSUs issued and outstanding, of which 379,722 may settle into 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 President, in the capacity of Chief Executive Officer (CEO) and Chief Financial Officer (CFO) has evaluated the design and operating effectiveness of the Company's DC&P and ICFR as of December 31, 2020 and, in accordance with the requirements established under National Instrument 52-109 - Certification of Disclosure in Issuer's Annual and Interim Filings, the President has concluded that these controls and procedures have been designed and operate to provide reasonable assurance that material information relating to the Company is made known to her by others within the Company and that the information required to be disclosed in reports that are filed or submitted under Canadian securities legislation are recorded, processed, summarized and reported within the time period specified in those rules.

As at December 31, 2020, management, including the President, in the capacity of CEO and CFO, have evaluated the effectiveness of the design and operation of the Company's disclosure controls and procedures. Based upon the results of that evaluation, the President have concluded that as of the end of the period covered by this MD&A, the Company's disclosure controls and procedures were effective.

The Company's President, in the capacity of CEO and CFO, has used the Committee of Sponsoring Organizations of the Treadway Commission (COSO) framework to evaluate the design and operation of the Company's ICFR as of December 31, 2020 and has concluded that these controls and procedures have been designed and operated effectively to provide reasonable assurance that financial information is recorded, processed, summarized and reported in a timely manner. Management of the Company was required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. The result of the inherent limitations in all control systems means design and operation of controls cannot provide absolute assurance that all control issues and instances of fraud will be detected.

As at December 31, 2020, management assessed the effectiveness of the Company's internal control over financial reporting and concluded that the Company's internal control over financial reporting was effective.

During the year ended December 31, 2020, 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](http://www.sedar.com).

## **DISCLOSURE OF TECHNICAL INFORMATION**

Disclosures of a scientific or technical nature regarding the revised capital expenditure and development scenarios at the Kamoa-Kakula Project in this MD&A 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 Kamoa Project. Mr. Amos has verified the technical data disclosed in this MD&A.

Other disclosures of a scientific or technical nature regarding the Kakula and Kansoko stockpiles in this MD&A have been reviewed and approved by George Gilchrist, who is considered, by virtue of his education, experience and professional association, a Qualified Person under the terms of NI 43-101. Mr. Gilchrist is not considered independent under NI 43-101 as he is the Vice President, Resources of Ivanhoe Mines. Mr. Gilchrist has verified the other technical data disclosed in this MD&A.

Other 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 other 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](http://www.sedar.com):

- The Kamoa-Kakula Integrated Development Plan 2020 dated October 13, 2020, prepared by OreWin Pty Ltd., China Nerin Engineering Co., Ltd., DRA Global, Epoch Resources, Golder Associates Africa, KGHM Cuprum R&D Centre Ltd., Outotec Oyj, Paterson and Cooke, Stantec Consulting International LLC, SRK Consulting Inc., and Wood plc., covering the Company's Kamoa-Kakula Project;
- The Platreef Integrated Development Plan 2020 dated December 6, 2020, prepared by OreWin Pty Ltd., Wood plc (formerly Amec Foster Wheeler), SRK Consulting Inc., Stantec Consulting International LLC, DRA Global, and Golder Associates Africa, 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 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](http://www.sedar.com).