

# IVANHOEMINES

NEW HORIZONS

**MANAGEMENT'S DISCUSSION AND ANALYSIS**

**FOR THE THREE MONTHS ENDED MARCH 31, 2021**

**DATED: MAY 12, 2021**

# IVANHOE MINES

NEW HORIZONS

## TABLE OF CONTENTS

INTRODUCTION .....	3
FORWARD-LOOKING STATEMENTS .....	3
REVIEW OF OPERATIONS .....	5
KAMOAKAKULA PROJECT .....	6
PLATREEF PROJECT .....	22
KIPUSHI PROJECT .....	29
DRC WESTERN FORELAND EXPLORATION PROJECT .....	33
COPPER PRODUCTION GUIDANCE FOR 2021 .....	34
SELECTED QUARTERLY FINANCIAL INFORMATION .....	35
DISCUSSION OF RESULTS OF OPERATIONS .....	36
LIQUIDITY AND CAPITAL RESOURCES .....	41
OFF-BALANCE SHEET ARRANGEMENTS .....	43
TRANSACTIONS WITH RELATED PARTIES .....	43
CRITICAL ACCOUNTING ESTIMATES .....	45
CHANGES IN ACCOUNTING POLICIES INCLUDING INITIAL ADOPTION .....	46
FINANCIAL INSTRUMENTS AND OTHER INSTRUMENTS .....	48
DESCRIPTION OF CAPITAL STOCK .....	52
DISCLOSURE CONTROLS AND PROCEDURES AND INTERNAL CONTROL OVER FINANCIAL REPORTING .....	53
RISK FACTORS .....	53
DISCLOSURE OF TECHNICAL INFORMATION .....	53
ADDITIONAL INFORMATION .....	54

## INTRODUCTION

This management's discussion and analysis (MD&A) should be read in conjunction with the unaudited condensed consolidated interim financial statements of Ivanhoe Mines Ltd. ("Ivanhoe", "Ivanhoe Mines" or the "Company"), for the three months ended March 31, 2021, which have been prepared in accordance with International Accounting Standard 34 - Interim Financial Reporting (IAS 34) and the audited consolidated financial statements of Ivanhoe for the years ended December 31, 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 **May 12, 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 Kamoakakula joint venture estimated at \$172 million as of March 31, 2021; (ii) statements regarding progress and schedule of the Kamoakakula Project's first concentrator plant, including that it remains on track to be mechanically complete in Q2 2021, with first copper concentrate production scheduled for May or early June 2021; (iii) statements regarding construction of the second 3.8-Mtpa concentrator plant is progressing well toward a Q3 2022 start-up; (iv) statements regarding Ivanhoe and its partner Zijin exploring the acceleration of the Kamoakakula Phase 3 concentrator expansion from 7.6 Mtpa to 11.4 Mtpa, which may be fed from expanded mining operations at Kansoko, or new mining areas at Kamoakakula North (including the Bonanza Zone) and Kakula West; (v) statements regarding the stockpile not being expected to be drawn down significantly until the Phase 2 processing plant comes on stream in Q3 2022; (vi) statements regarding construction of the Kamoakakula backfill plant scheduled to be completed in July 2021, well before paste backfill is required for mining operations, including that approximately one half of the mine's tailings will be sent back underground; (vii) statements regarding the expected progress on other construction at the Kamoakakula Project, including that the tailings storage facility is scheduled to be completed on time to receive tailings from the processing plant; (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 offtake agreements for copper concentrates produced during Phase 1 operations are nearing final, and include arrangements to utilize local smelter capacity to produce blister copper ingots, and also to export concentrates directly; (x) statements regarding the Kamoakakula Project being among the world's lowest greenhouse gas emitters per unit of copper produced; (xi) 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 Q2 2021; (xii) statements regarding the agreement reached to upgrade a major turbine at the Inga II hydropower facility including that the upgraded turbine is expected to produce

162 MW of clean, renewable hydropower, providing the Kamo-Kakula Copper Mine with sufficient, sustainable electricity for future expansions, including its own copper smelter; (xiii) statements regarding Kamo-Kakula aiming to become the first net-zero carbon emitter among the top-tier copper mines by electrifying its mining fleet with state-of-the-art equipment powered by electric batteries or hydrogen fuel cells; (xiv) statements regarding the Platreef Project's streaming facility, including that it is planned to be drawn down in four separate tranches; (xv) statements regarding the Platreef Project's Shaft 1 changeover including that it is expected to commence in May 2021 and be completed by end of March 2022; (xvi) statements that the construction of the Shaft 2 headframe from the hitch to the collar level is scheduled for completion in April 2022; (xvii) 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; (xviii) 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; (xix) 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; (xx) statements regarding Ivanhoe's guidance of contained copper in concentrate expected to be produced by the Kamo-Kakula Project; (xxi) statements regarding production guidance of between 80,00 and 95,000 tonnes of contained copper in concentrate for the balance of 2021 from the Kamo-Kakula Project; (xxii) statements regarding the Company's proportionate funding of the Kamo-Kakula Project is expected to be \$158 million for the remainder of 2021; and (xxiii) statements regarding the main objectives for the remainder of 2021 and the remaining 2021 budget.

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 Kamo-Kakula Project preliminary economic assessment, the feasibility study of the Platreef Project, the Platreef 2020 preliminary economic assessment and the pre-feasibility study of the Kipushi Project, constitute forward-looking statements or information, and include future estimates of internal rates of return, net present value, future production, estimates of cash cost, proposed mining plans and methods, mine life estimates, cash flow forecasts, metal recoveries, estimates of capital and operating costs and the size and timing of phased development of the projects. Furthermore, with respect to this specific forward-looking information concerning the development of the Kamo-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 53 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 Kamo-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 Kamo-Kakula Project to the government of the DRC, Ivanhoe Mines and Zijin Mining each hold an indirect 39.6% interest in the Kamo-Kakula Project, Crystal River Global Limited (Crystal River) holds an indirect 0.8% interest and the DRC government holds a direct 20% interest. The Kamo-Kakula Project is independently ranked as the world’s fourth largest copper deposit by international mining consultant Wood Mackenzie. (See “*Kamo-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 totalling approximately 2,550 km<sup>2</sup> and located in close proximity to the Kamo-a-Kakula Project, the majority of which are 90%-100%-owned. Ivanhoe's DRC exploration group is targeting Kamo-a-Kakula-style copper mineralization through a regional exploration and drilling program. (See “*DRC Western Foreland Exploration Project*”)

## **KAMOA-KAKULA PROJECT**

The Kamo-a-Kakula Project, a joint venture between Ivanhoe Mines and Zijin Mining, has been independently ranked as the world's fourth-largest copper deposit by international mining consultant Wood Mackenzie. The project is approximately 25 kilometres west of the town of Kolwezi and about 270 kilometres west of Lubumbashi.

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

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

**Photo: The Kakula concentrator plant and some of approximately 7,000 employees and contractors who helped construct the mine ahead of schedule and within budget.**



**Photo: Phase 1 concentrator plant now energized with permanent hydroelectricity.**



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

At the end of March 2021, the Kamoakakula Project reached 627,876 work hours free of a lost-time injury. Nine lost-time injuries occurred in Q1 2021. The project continues to strive toward its workplace objective of zero harm to all employees and contractors.

Kamoakakula has successfully focused on prevention, preparation and mitigation in managing the risks associated with COVID-19. Large-scale testing, combined with focused preventative measures, ensured that positive cases were quickly identified, isolated and treated, with cross contamination kept to a minimum. Maintaining this high standard of risk management remains a daily focus, to prevent future cases.

The Kamoakakula COVID-19 hospital continues to treat patients when required, as construction progresses for the expansion and upgrade of the primary healthcare wing of the hospital. Kamoakakula's highly experienced doctors and nurses apply the latest medical treatments, supported by a world-leading emergency response and paramedic team.

As the pandemic evolves, the medical team at Kamoakakula 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.

**Photo: The new primary healthcare wing of the Kamoia hospital under construction.**



***Initial 3.8-Mtpa Kakula concentrator plant nearing completion, with first copper concentrate production within weeks***

Overall progress of Kamoia-Kakula's first phase, 3.8-Mtpa mining and milling operation (covering mine infrastructure, concentrator plant and surface infrastructure) now is approximately 94% complete (as of end of April), compared to 90% at the end of March.

Overall construction of the project's first phase, 3.8-Mtpa concentrator plant and associated facilities is advancing rapidly and is approximately 98% complete (as of end of April), up from 92% complete at the end of March. The concentrator plant is essentially mechanically complete, with first copper concentrate production scheduled for later this month or early June. Lower-grade ore will be fed into the plant during the final commissioning phase, to ensure plant performance and copper recovery are satisfactory before increasing the head grade.

Structural steel erection, platework installation and piping and valve installation for the first concentrator plant are effectively complete, as is electrical, controls and instrumentation installation.

The main mine 220-kilovolt (kV) Kamoia Consumer Substation (KCS) has been energized on grid power, as has the 33kV KCS substation. In addition, the main plant 33kV substation and all the plant medium-voltage and low-voltage substations have been energized, and the concentrator plant is fully energized.

Construction complete (C1) sign off is nearing completion with approximately 75% of the certificates signed off and handed over from construction to commissioning. C2 (pre commissioning) commissioning is well underway with some areas (crushing and screening, milling) more than 90% complete. Early C3 activities (checking for leaks, certain instrument calibration, control-loop checks) have started with water being circulated through certain areas in the plant.

Electrical installation at the backfill plant is ongoing and the backfill plant is scheduled to be completed in July 2021, well before paste backfill is required for mining operations.

The backfill plant will be used to mix tailings from the processing 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 tailings storage facility is progressing well and is scheduled to be completed on time to receive tailings from the processing plant.

Construction and commissioning of the surface bulk reclaim tip, bypass conveyor system and run-of-mine stockpile feed conveyor now is complete. 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: The Phase 1 concentrator plant, now mechanically complete.**



**Photo: Kamoakakula's Phase 1 backfill plant with concentrator plant in the background.**



***Construction of Phase 2 of the Kamo-a-Kakula project is well underway and Phase 3 expansion is being explored***

Construction of the second 3.8-Mtpa concentrator plant is progressing well toward a Q3 2022 start-up, with the current focus on earthworks and civil works. Both earthworks and civil works are tracking slightly ahead of schedule. With orders for all the long-lead items of equipment for the Phase 2 concentrator placed in September 2020, procurement activities have focused on the remainder of the plant equipment. Structural steel fabrication is underway with the first batch complete and due to arrive on site in June 2021.

Given the current copper price environment, Ivanhoe and its partner Zijin are exploring the acceleration of the Kamo-a-Kakula Phase 3 concentrator expansion from 7.6 Mtpa to 11.4 Mtpa, which may be fed from expanded mining operations at Kansoko, or new mining areas at Kamo-a North (including the Bonanza Zone) and Kakula West.

**Photo: Foundations for the Phase 2 ball mills and flotation cells advancing rapidly.**



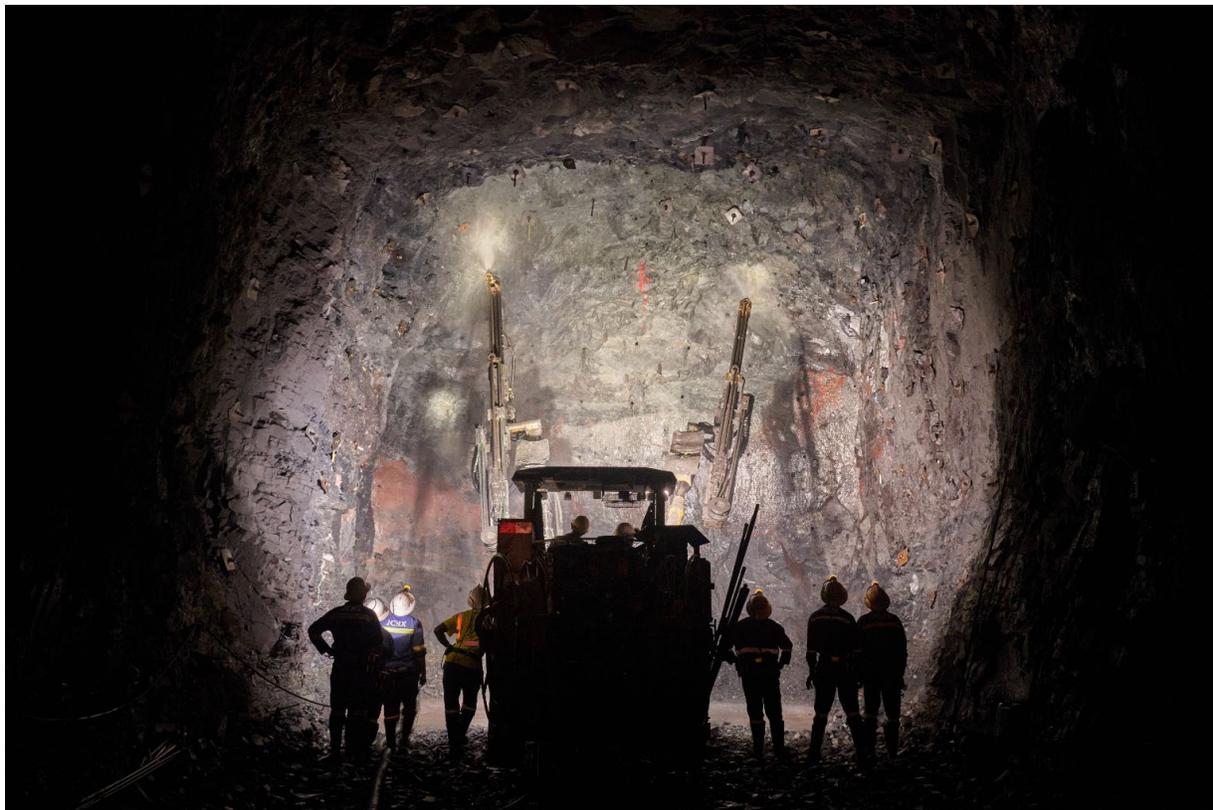
***Underground development more than 13 kilometres ahead of plan at the end of Q1 2021***

Kamo-a-Kakula also set a monthly mine development record in March, with advancement of more than 3,100 metres, bringing total underground development to approximately 38.6 kilometres – approximately 13.5 kilometres ahead of schedule. A total of 8.8 kilometres of underground development was completed in Q1 2021. Good progress continued in early Q2 2021 and further increased the underground development to more than 42 kilometres at the end of April 2021, which is 15 kilometres ahead of schedule.

Drift-and-fill stoping operations are progressing well at the Kakula Mine, with approximately 70% of the ore production coming from stoping operations and the remainder coming from mine development activities. Drift-and-fill stoping is a highly-productive mining method of extracting underground ore, where a single tunnel, known as a stope, is extracted leaving an open void that is subsequently backfilled to allow for the extraction of the neighbouring stope in sequence. The backfill plant, which

will mix tailings from the processing plant with cement to produce paste backfill, will begin pumping backfill to the underground operations in July 2021.

**Photo: Large-scale, mechanized mining operations are progressing well at the Kakula and Kansoko mines. April represented the third consecutive month of mining in excess of the 3.8-Mtpa milling rate, reducing start-up risk as the stockpile is not expected to be drawn down significantly until the Phase 2 processing plant comes on stream in Q3 2022.**



***Pre-production ore stockpiles now hold approximately 3.0 million tonnes grading 4.74% copper, containing more than 140,000 tonnes of copper***

At the end of December 2020, Kamoakakula'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. 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 2021, approximately 339,000 tonnes at an average grade of 5.50% copper in February 2021, and approximately 400,000 tonnes at an average grade of 5.36% copper in March 2021. This brings the project's total pre-production high- and medium-grade ore surface stockpiles to approximately 2.56 million tonnes at an estimated grade of 4.60% copper as of the end of March 2021.

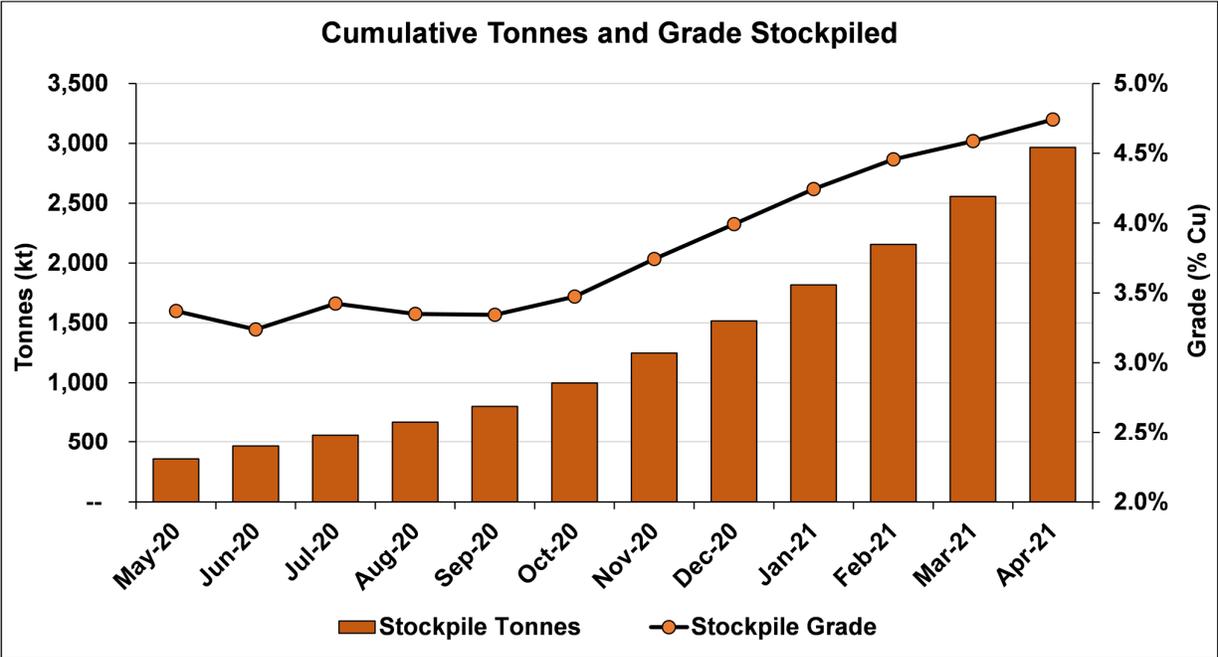
A further 409,000 tonnes were mined in April and comprised 357,000 tonnes grading 5.70% copper from the Kakula Mine, including 121,000 tonnes grading 8.40% copper from the mine's high-grade centre, and 51,000 tonnes grading 5.85% copper from the Kansoko Mine.

The project's pre-production surface stockpiles now contain more than 3.0 million tonnes of high-grade and medium-grade ore at an estimated blended average of 4.74% copper. Kamoakakula now has reached the 3.0-million-tonne target of mined high-grade and medium-grade ore, several months ahead of the timeline estimated in the 2020 pre-feasibility study.

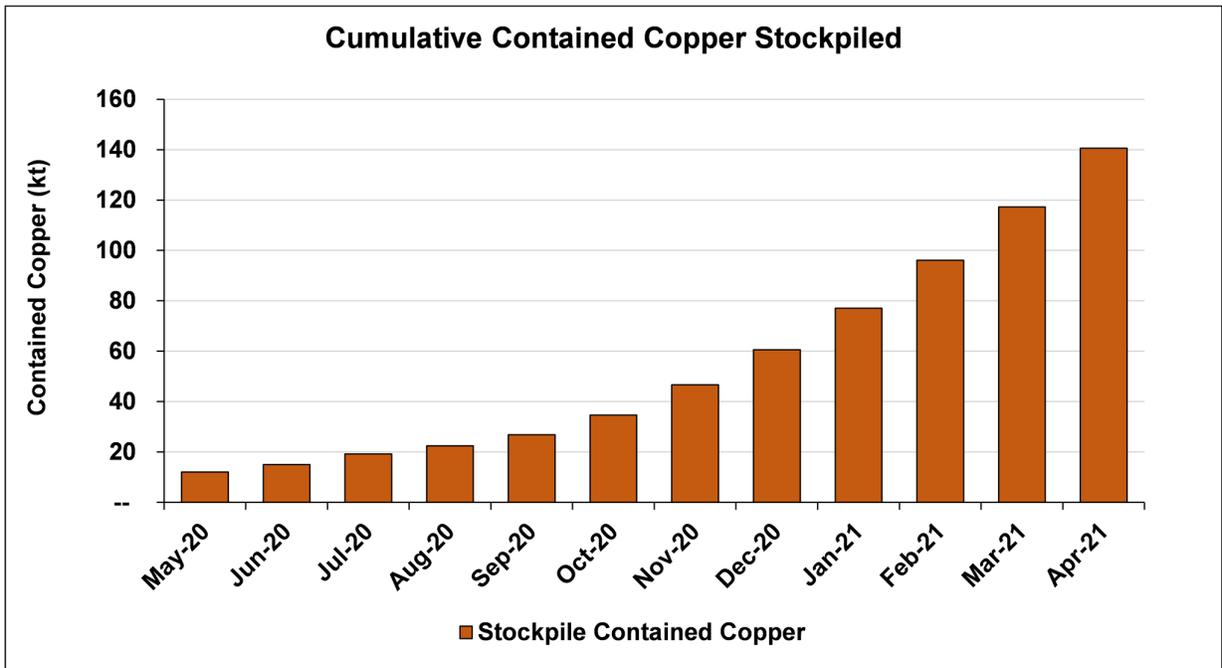
Photo: Kakula’s main pre-production stockpile and concentrator plant. This stockpile, one of three at Kamo-Kakula, currently contains approximately 1.64 million tonnes grading 4.93% copper.



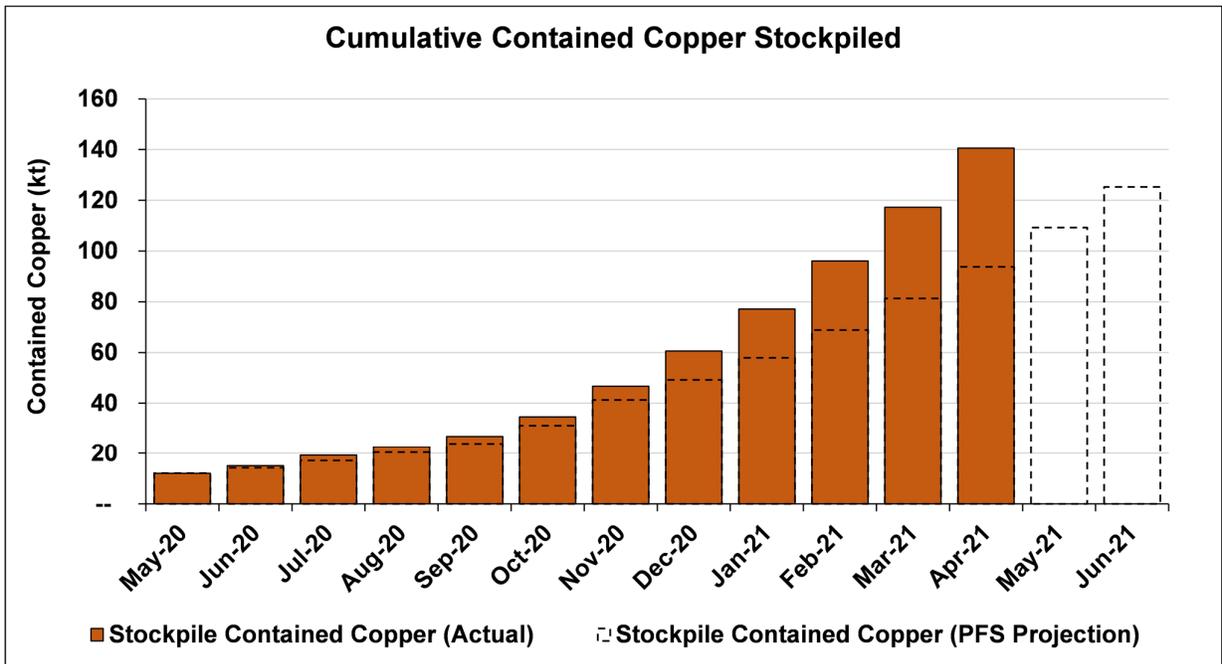
Chart 1: Cumulative tonnes and grade of pre-production ore stockpiles at the Kakula and Kansoko mines – May 2020 to April 2021.



**Chart 2: Growth in contained copper in pre-production ore stockpiles at the Kakula and Kansoko mines – May 2020 to April 2021.**



**Chart 3: Growth in contained copper in surface stockpiles at Kamoā-Kakula to July 2021. Dotted lines denote projections from the 2020 pre-feasibility study.**



***Kamoā-Kakula close to finalizing agreements for the sale of its copper concentrates during Phase 1 operations***

Kakula is expected to produce an extremely high-grade, clean copper concentrate (containing over 55% copper) that will be highly coveted by smelters around the world. Metallurgical test work indicates that the Kakula concentrates contain extremely low arsenic levels by world standards – approximately 0.01%.

Offtake agreements for copper concentrates produced during Phase 1 operations are nearing final, and include arrangements to utilize local smelter capacity to produce blister copper ingots, and also to export concentrates directly.

Upon receipt of final documentation and board approvals from Kamo-a-Kakula's joint-venture partners, as well as from Kamo-a Copper SA, Ivanhoe plans to issue a news release providing details of the marketing arrangements.

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

On September 8, 2020, Ivanhoe Mines announced the results of an independent Integrated Development Plan (IDP) for the Kamo-a-Kakula Project. The Kamo-a-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-a-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-a North mines, along with the construction of a direct-to-blister smelter. The Kamo-a 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-a-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-a-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 amounted to \$309 million in 2019 and \$643 million in 2020. A further capital cost of \$164 million, which includes the costs allocated to the pre-production ore stockpiles, was incurred in Q1 2021. Ivanhoe's share of the capital costs incurred in 2021 was \$81 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. As of March 31, 2021, the joint venture had an estimated \$172 million of Phase 1 capital costs remaining until initial production.

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

On December 1, 2020, Ivanhoe announced the Kamoia-Kakula Project 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 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 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.

After the completion of all conditions precedent, the Kamoia-Kakula Project completed the draw-down of \$9 million of the down-payment facility and an equivalent of \$56 million of the equipment financing in December 2020. In Q1 2021, further draw-downs of the equipment financing equivalent of \$7.2 million were completed. Further draw-downs under the equipment finance facilities remain subject to 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.

### ***Kamoia-Kakula Mineral Resources***

Ivanhoe announced the completion of an independently-verified, updated Mineral Resource estimate for the Kamoia-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 Kamoia Deposit. The cut-off date for drill data is January 20, 2020.

At a 1% cut-off, Kamoia'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, Kamoia'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 Kamoia 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, Kamoia's Inferred Mineral Resources now total 13 million tonnes at a grade of 3.51% copper.

The entire Kamoia 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 Kamoia 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 Kamoia 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 Kamoia-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, Kamoia-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 Kamoia-Kakula Project now totals 423 million tonnes grading 4.68% copper, containing 43.7 billion pounds of copper. At the same 3% cut-off, Kamoia-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 Kamoia 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.

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

The mine is receiving hydroelectric 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.

The main mine 220-kilovolt (kV) Kamoa Consumer Substation (KCS) has been energized on grid power, as has the 33kV KCS substation. The main plant 33kV substation and all the plant medium-voltage and low-voltage substations also have been energized, and the plant now is electrically live.

***Agreement reached to upgrade major turbine at the Inga II hydropower facility***

On April 26, 2021, Ivanhoe announced that Ivanhoe Mines Energy DRC signed an agreement with the DRC's state-owned power company SNEL to upgrade a major turbine at the Inga II hydropower facility. The upgraded turbine is expected to produce 162 megawatts (MW) of clean, renewable hydropower, providing the Kamoa-Kakula Copper Mine with sufficient, sustainable electricity for future expansions, including its own copper smelter.

**Photo: Aerial view of the Inga I (rear) and Inga II (front) hydropower plants on the Congo River. The penstock funneling water to turbine 5 at Inga II is circled in red.**



**Figure: The map shows the Inga and Mwadingusha hydropower complexes, the Inga high-voltage power line, the Kamo-a-Kakula Project, the new 220-kV power line connecting Kamo-a-Kakula to the national grid at Kolwezi, and the Benguela railway connecting the DRC to the Angolan port of Lobito.**



***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. Three of the six new turbines at the Mwadingusha hydropower plant now have been synchronized to the national electrical grid, with each generating unit producing approximately 13 MW of power. Electricity from all of Mwadingusha's six turbines, with an upgraded output of 78 MW, is expected to be integrated into the national power grid in Q2 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).

**Photo: Aerial view of the 78-MW Mwadingusha hydropower plant, the reservoir and the community of Mwadingusha.**



***Kamoa-Kakula aiming to become the first net-zero carbon emitter among the top-tier copper mines by electrifying its mining fleet with state-of-the-art equipment powered by electric batteries or hydrogen fuel cells***

On May 5, 2021, Ivanhoe Mines announced its pledge to achieve net-zero operational greenhouse gas emissions (Scope 1 and 2) at the industry-leading Kamoa-Kakula Copper Mine in the Democratic Republic of Congo.

In support of the Paris Agreement on climate change, and in the spirit of the commitments at the recent virtual global climate conference by the Chinese and American governments to sharply cut emissions, Ivanhoe Mines has committed to working with its joint-venture partners and leading underground mining equipment manufacturers to ensure that Kamoa-Kakula becomes the first net-zero operational carbon emitter among the world's top-tier copper producers.

Since the Kamoakakula mine and concentrator plant already are powered by clean, renewable hydro-generated electricity, the focus of the company's net-zero commitment will be on electrifying the project's mining fleet with new, state-of-the-art equipment powered by electric batteries or hydrogen fuel cells.

Kamoakakula is working closely with its mining equipment suppliers to decrease the use of fossil fuels in its mining fleet, and evaluate the viability, safety and performance of new electric, hydrogen and hybrid technologies. The mine plans to introduce them into its mining fleet as soon as they become commercially available.

**Photo: Towers along the new 35-kilometre, 220-kV power line connecting the new Western Dispatch substation in Kolwezi to Kamoakakula, supplying the project with reliable and clean hydro-generated electricity from the national grid.**



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

The Sustainable Livelihoods Program was founded in 2010 to strengthen food security and farming capacity in the host communities near Kamoakakula by establishing an agricultural training garden and support for farmers at the community level. Today, approximately 467 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 fruit, aquaculture, poultry and honey. The construction of 100 new fish ponds currently is underway, to contribute toward local entrepreneurship and enhanced regional food security. The Musokantanda Agronomist Secondary School, constructed and equipped during 2020, now serves as a research facility and offers educational programs to 118 students, as well as training programs to local farmers. Plans also are underway for a collaboration between the agronomy school and the University of Kolwezi, which will provide further practical training for students.

Additional non-farming-related activities continued and included education programs, a community brick-making program, a sewing program, and the supply of fresh water to a number of local

communities using solar-powered boreholes. To ensure that the sewing team is geared to commence operations and that their production of Kamo-Kakula personal protective equipment (PPE) and other garments meets quality standards, 28 members of the project are undergoing professional training for six months. The new Muvunda Primary School, catering to 206 students, has been opened and construction and equipping of the Kaponda Primary School is underway. Eight out of a planned 29 boreholes were drilled in communities using local contractors, providing 4,244 community members with easy access to clean water.

Construction of resettlement houses for the relocation program continued with 13 more households relocated to the Kaponda host site, bringing the total to 74 homes relocated and 10 households remaining. Land replacement was completed for 108 project-affected people in the Kamo North area. The remaining families are scheduled for relocation upon completion of the construction of their new homes. The entire Kakula Mine area, including the tailings dam area, will be secured once these relocation phases are complete.

**Photo: Local community members (L-R) Dennis Kabadi, Ines Lumbwe, Simon Ilonga, and Hernestine Hlumbwe at the Kamo-Kakula sewing centre. The sewing project, nicknamed Salamah ('security and peace' in Swahili), was initiated by Kamo-Kakula's Local Economic Development team in 2013 and has since seen significant growth and development.**



## 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 March 2021, the Platreef Project reached a total of 202,283 lost-time, injury-free hours worked in accordance with South Africa's Mine Health and Safety Act, and Occupational Health and Safety Act. It has been more than six months since the last lost-time injury occurred at the Platreef Project.

**Photo: Intermediate Life Support nurse Anna Lebea (left) giving a vaccine to Bernard Maruma, a graduate Electrical Engineer at the Platreef Project.**



## ***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, starting with an initial 700-ktpa underground mine using the existing Shaft 1 and a new on-site concentrator 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, requiring significantly lower initial capital costs. After first production has been achieved at Shaft 1, 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 increase to the envisaged steady-state production of 5.2 Mtpa. Ivanhoe is considering accelerating the expansion by bringing forward the development of Shaft 2.

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 to 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.

### ***Arrangement of 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 an accident on September 14, 2020, 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 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.

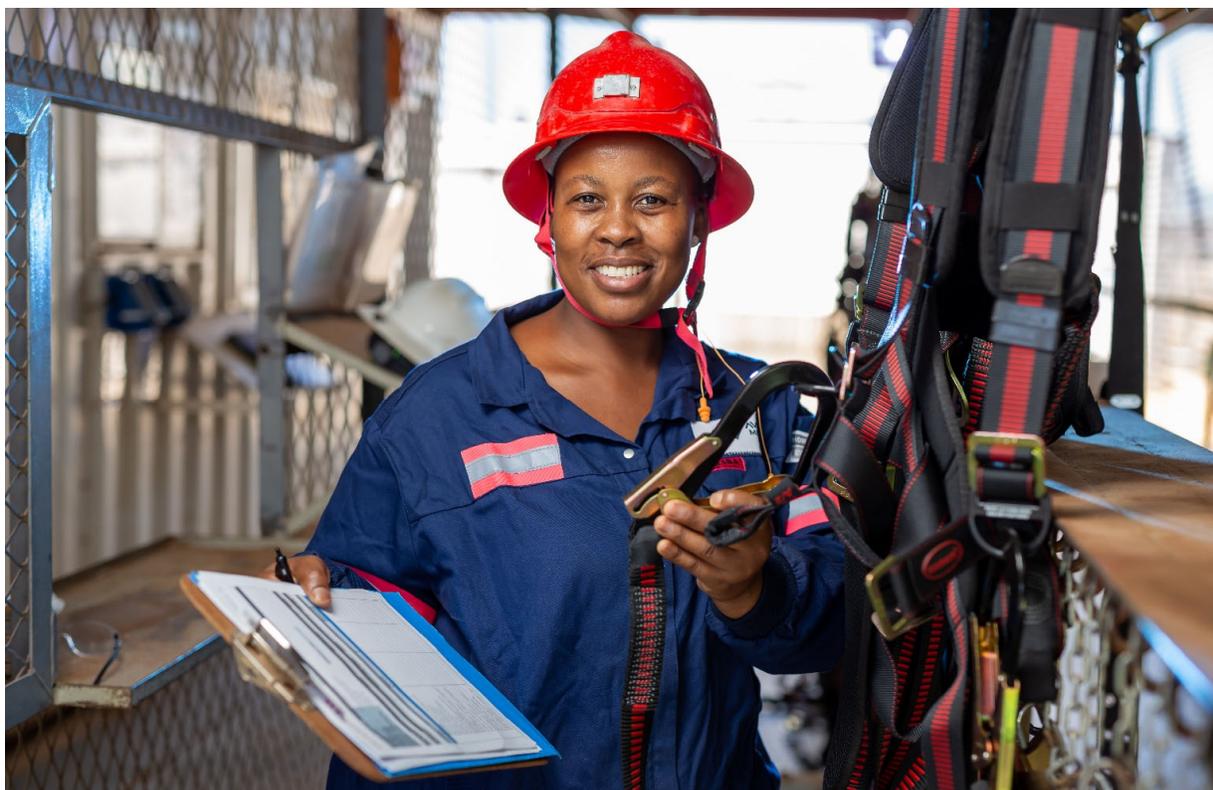
The construction of the winder foundations is underway and will be completed in time for the auxiliary winder installation and commissioning. The headgear, both winders, equipping stage, conveyances and control systems will comply with the highest industry safety standards, with proven and tested safety 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 used for protection berms to contain storm water and reduce noise emissions.

The new ropes and the newly-designed and constructed equipping stage have successfully been installed. The equipping in the shaft is expected to commence in May 2021 for completion by end of March 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 initial budget for 2021 of \$59 million, which included \$10 million for commencement of headframe construction for Shaft 2, has been increased to \$76 million with additional budget allocated toward detailed engineering designs, an alternative downstream processing option study and execution readiness. The Shaft 2 headframe construction, from the hitch to the collar level, recently commenced and is scheduled for completion in April 2022.

**Photo: Sinah Tjale, Safety Officer, inspecting safety harnesses at the Platreef Mine. Ivanhoe is proud of the growing team of talented South African and Congolese women at all levels of the company.**



### ***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. Initial 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. 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). 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 hoisting from Shaft 1

and the expansion when Shaft 2 is available, 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 the shafts, where it will be crushed and hoisted to surface.

**Photo: Platreef employees working on the conversion and re-equipping of the permanent rock, personnel and material winder of the mine's Shaft 1.**



### ***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. The Platreef Project continued supporting several educational programs and the provision of free Wi-Fi in host communities.

Local economic development projects will contribute to community water source development through the Mogalakwena Municipality boreholes program. Other projects, which will be undertaken in partnership with other parties, include the refurbishment and equipping of a clinic in 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 to obtain help with development and supplier readiness.

**Photo: Students at the Somavhuga High School in Tshamahansi Village, near the Platreef Project. Ivanhoe continues to invest in young people through educational support and enrichment such as scholarships, bursaries, internships and learnerships, as well as through the upkeep of Wi-Fi hotspots in support of e-learning.**



## **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 Kamao-Kakula Project and less than one kilometre from the Zambian border. Ivanhoe acquired its 68% interest in the Kipushi Project in November 2011; the balance of 32% is held by the state-owned mining company, Gécamines.

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

At the end of March 2021, the Kipushi Project reached a total of 3,144,006 work hours free of lost-time injuries. It has been more than two years since the last lost-time injury occurred at the Kipushi Project.

Since temporarily suspending mine development operations due to the COVID-19 pandemic, 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. Plans are underway for the establishment of additional solar-powered boreholes at a local school and in nearby communal areas.

The Kipushi Project supported educational initiatives in 2020 through continued renovations at the Mungoti School. The sewing training centre project established by the Kipushi Project continued producing cloth face masks, donating approximately 2,000 masks a month to host communities.

The Sustainable Livelihoods Program, which commenced in 2020 with a poultry farming initiative established for the benefit of a consortium of local women, progressed well with 300 chickens having been brought to market.

### ***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 allow 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, together with the 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.

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

Although development and rehabilitation activities in Q1 2021, as well as for 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: Cyril Muke checking the variable speed drives for the large-capacity Grifo water pumps that are keeping Kipushi's underground operations dry.**



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.

**Photo: Alain Mutomo, Garcao Ilunga and Christophe Ngandu (L-R) surveying underground at Kipushi in preparation for resumption of mining activities.**



**Photo: Young Kipushi residents on their way to collect water from the solar-powered water wells installed by the Kipushi Project.**



## **DRC WESTERN FORELAND EXPLORATION PROJECT**

Ivanhoe's DRC exploration group is targeting Kamo-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 Kamo-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 Kamo North Bonanza Zone on the Kamo-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 Q1 2021 with the field season restarting in mid-February. The target of the 2021 field season is to start drill testing some of the new permits and generate more targets. Initial drill programs in Q1 2021 were planned close to current access routes and to follow up on Makoko West extension discoveries made in 2020. The drill core from the program is being processed for analysis and detailed rock physical property test work also is being done to further geological understanding, as well as the ability of the data to be used for future larger-scale geophysical test work and analysis.

In Q1 2021, a total of eleven new diamond drill holes were completed at the Makoko West area. The drilling aimed to further delineate the continuation of prospective lower Nguba stratigraphy westwards toward the new exploration permits from initial drilling in 2020. 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 400 metres apart. Holes drilled generally were around 150 to 450 metres deep, with some shallower holes. A total of 2,725 metres were drilled during the quarter. Exploration continued on the Western Foreland exploration licences with strict procedures in place to protect employees and drilling contractors from COVID-19.

On February 10, 2021, Ivanhoe Mines announced that assay results from drilling completed in early 2020 confirm the extension of the Kamo 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 Kamo-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.

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.

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.

A high-resolution magnetic and radiometric survey started during Q4 2020 with 61% of the data acquisition completed. This program has been put on hold while ground-water level drops as this could affect the survey quality. The program will be completed during Q2 2021.

Construction of a 16-kilometre road to gain access to new exploration target areas on the new western permits continued during Q1 2021, running from the Makoko exploration area out to the west and now is nearly complete. In addition, a new bridge over the Lubudi River currently is being constructed, with a new 60-kilometre access spine road planned for the other side of the new bridge to access the new permits to the southwest targeted for exploration during 2021.

The initial 2021 budget was \$16 million and now has been increased to \$21 million to include additional drilling, surveys and field-work vehicles. The budget may be further expanded based on program results. The increased 2021 exploration program now includes 60,000 metres of combined aircore and diamond drilling, airborne, electromagnetic and ground-based geophysics, soil sampling, road construction and additional field-work vehicles. 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.

## COPPER PRODUCTION GUIDANCE FOR 2021

The Kamo-a-Kakula concentrator plant is essentially mechanically complete and first copper concentrate production is scheduled for later this month or early June 2021. Assuming first production starts at that time, Ivanhoe's guidance for contained copper in concentrate expected to be produced by the Kamo-a-Kakula Project for the balance of 2021 assumes a ramp-up from first production in line with published technical disclosures, and is as follows:

		<b>2021 Guidance</b>
<b>Kamo-a-Kakula Project</b>		
Contained copper in concentrate	<i>tonnes</i>	80,000 - 95,000

All figures in the above table are on a 100%-project basis. Metal reported in concentrate is prior to refining losses or deductions associated with smelter terms. Cost guidance is expected to be provided once the Kamo-a-Kakula Project's Phase 1 plant has reached steady state production.

## SELECTED QUARTERLY FINANCIAL INFORMATION

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

	<b>Three months ended</b>			
	March 31,	December 31,	September 30,	June 30,
	2021	2020	2020	2020
	\$'000	\$'000	\$'000	\$'000
Exploration and project evaluation expenditure	8,722	13,754	9,972	9,018
General administrative expenditure	7,919	6,973	4,868	7,464
Share of losses from joint venture	4,093	6,151	7,323	6,597
Share-based payments	3,327	4,824	4,250	4,180
Gain on fair valuation of financial liability	(25,600)	-	-	-
Finance income	(22,780)	(21,032)	(20,241)	(18,672)
Finance costs	1,791	1,464	69	70
Total comprehensive (income) loss attributable to:				
Owners of the Company	(20,339)	(33,170)	(3,032)	(3,458)
Non-controlling interest	4,102	1,349	4,049	3,123
Basic (profit) loss per share	(0.02)	(0.00)	0.00	0.00
Diluted (profit) loss per share	(0.02)	(0.00)	0.00	0.00

	<b>Three months ended</b>			
	March 31,	December 31,	September 30,	June 30,
	2020	2019	2019	2019
	\$'000	\$'000	\$'000	\$'000
Exploration and project evaluation expenditure	11,980	3,664	3,266	3,290
General administrative expenditure	14,016	5,642	4,985	3,730
Share of losses from joint venture	6,728	5,610	7,084	6,248
Share-based payments	3,677	3,320	2,744	2,239
Finance income	(20,810)	(20,761)	(18,920)	(16,859)
Finance costs	100	76	71	56
Total comprehensive loss (income) attributable to:				
Owners of the Company	65,736	(25,182)	13,077	(9,570)
Non-controlling interest	10,889	(317)	3,718	1,441
Basic loss (profit) per share	0.01	(0.01)	(0.00)	(0.00)
Diluted loss (profit) per share	0.01	(0.01)	(0.00)	(0.00)

## DISCUSSION OF RESULTS OF OPERATIONS

### *Accounting for the convertible notes closed in March 2021*

The Company closed a private placement offering of \$575.0 million of 2.50% convertible senior notes maturing in 2026 on March 17, 2021. Upon conversion, the convertible notes may be settled, at the Company's election, in cash, common shares or a combination thereof. Due to this election right, the convertible notes have an embedded derivative liability that is measured at fair value with changes in value being recorded in profit or loss, as well as the host loan that is accounted for at amortized cost.

The convertible senior notes are senior unsecured obligations of the Company which will accrue interest payable semi-annually in arrears at a rate of 2.50% per annum and will mature on April 15, 2026, unless earlier repurchased, redeemed or converted. The initial conversion rate of the notes is 134.5682 Class A common shares of the Company per \$1,000 principal amount of notes, or an initial conversion price of approximately \$7.43 (equivalent to approximately C\$9.31) per common share.

Holders of the notes may convert the notes, at their option, in integral multiples of \$1,000 principal amount, or in excess thereof, at any time until the close of business on the business day immediately preceding October 15, 2025, but only under the following circumstances:

- during any calendar quarter commencing after the calendar quarter ending on June 30, 2021 (and only during such calendar quarter), if the last reported sale price of the Company's Class A common shares for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day; or
- during the five consecutive business day period after any ten consecutive trading day period (the "measurement period") in which the trading price per \$1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the Company's Class A common shares and the conversion rate on each such trading day; or
- if the Company calls any or all of the notes for redemption in certain circumstances or upon the occurrence of certain corporate events.

On or after October 15, 2025 until the close of business on the second scheduled trading day immediately preceding the maturity date, holders may convert all or any portion of their notes, in multiples of \$1,000 principal amount, at the option of the holder regardless of the foregoing conditions.

The convertible notes will not be redeemable at the Company's option prior to April 22, 2024, except upon the occurrence of certain tax law changes. On or after April 22, 2024 and on or prior to the 41st scheduled trading day immediately preceding the maturity date, the notes will be redeemable at the Company's option if the last reported sale price of the Company's common shares has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) ending on, and including, the trading day immediately preceding the date on which the Company provides notice of redemption at a redemption price equal to 100% of the principal amount of the convertible notes to be redeemed, plus accrued and unpaid interest to, but excluding, the redemption date.

Due to the fact that upon conversion, the notes may be settled, at the Company's election, in cash, common shares or a combination thereof, the conversion feature is a derivative financial liability. The effect of this is that the host liability will be accounted for at amortized cost, with an embedded derivative liability being measured at fair value with changes in value being recorded in profit or loss.

The effective interest rate of the host liability was deemed to be 9.39%. The carrying value of the host liability was \$415.7 million as at March 31, 2021.

The derivative liability had a fair value of \$150.5 million on closure of the convertible notes offering, which decreased to \$124.9 million as at March 31, 2021, resulting in a gain on fair valuation of financial liability of \$25.6 million for Q1 2021.

The following key inputs and assumptions were used in determining the fair value of the embedded derivative liability on March 17, 2021 at initial recognition:

- Share price of C\$7.00.
- A credit spread of 630 basis points.
- Volatility of 42%.
- Borrowing cost of 50 basis points.

The key inputs and assumptions used at March 31, 2021 was:

- Share price of C\$6.47.
- A credit spread of 610 basis points.
- Volatility of 42%.
- Borrowing cost of 50 basis points.

Transaction costs on the convertible notes offering relating to the derivative liability amounted to \$3.7 million and was expensed and included in the profit for the period.

#### *Review of the three months ended March 31, 2021 vs. March 31, 2020*

The Company recorded a total comprehensive profit of \$16.2 million for Q1 2021 compared to a loss of \$76.6 million for the same period in 2020. The comprehensive loss for Q1 2020 included an exchange loss on translation of foreign operations of \$62.5 million, resulting from the weakening of the South African Rand by 28% from December 31, 2019, to March 31, 2020, compared to an exchange loss on translation of foreign operations recognized in Q1 2021 of \$4.2 million.

As explained above, the Company recognized a gain on fair valuation of the embedded derivative financial liability of \$25.6 million for Q1 2021 and transaction costs on the convertible notes offering relating to the derivative liability was expensed and amounted to \$3.7 million.

Finance income for Q1 2021 amounted to \$22.8 million, and was \$2.0 million more than for the same period in 2020 (\$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 \$21.2 million for Q1 2021, and \$16.3 million for the same period in 2020, and increased as the accumulated loan balance increased. Interest received on cash and cash equivalents decreased due to US interest rate cuts by the Federal Reserve.

Exploration and project expenditure amounted to \$8.7 million in Q1 2021 and \$12.0 million for the same period in 2020. Exploration and project expenditure related to exploration at Ivanhoe's Western Foreland exploration licences and amounts spent at the Kipushi Project which was on reduced activities and incurred limited cost of a capital nature in the periods. The main classes of expenditure at the Kipushi Project in Q1 2021 and Q1 2020 are set out in the following table:

	Three months ended	
	March 31,	
	2021	2020
	\$'000	\$'000
<b>Kipushi Project</b>		
Depreciation	1,864	1,732
Other expenditure	1,782	2,309
Salaries and benefits	1,745	3,762
Electricity	878	1,167
Studies and contracting work	18	1,013
Other additions to property, plant and equipment	–	161
<b>Total project expenditure</b>	<b>6,287</b>	<b>10,144</b>
<i>Exclude:</i>		
Other additions to property, plant and equipment	–	(161)
<b>Exploration and project evaluation expenditure in the loss from operating activities</b>	<b>6,287</b>	<b>9,983</b>

The Company's share of losses from the Kamoia Holding joint venture decreased from \$6.7 million in Q1 2020 to \$4.1 million in Q1 2021. The following table summarizes the Company's share of losses of the joint venture for the three months ended March 31, 2021, and for the same period in 2020:

	Three months ended	
	March 31,	
	2021	2020
	\$'000	\$'000
Finance costs	21,171	19,439
Exploration expenses	377	2,627
Foreign exchange losses	88	130
Other income	(65)	–
Finance income	(1,230)	(1,659)
<b>Loss before taxes</b>	<b>20,341</b>	<b>20,537</b>
Deferred tax recovery	(9,894)	(4,736)
<b>Loss after taxes</b>	<b>10,447</b>	<b>15,801</b>
Non-controlling interest of Kamoia Holding	(2,178)	(2,210)
<b>Loss for the period attributable to joint venture partners</b>	<b>8,269</b>	<b>13,591</b>
<b>Company's share of losses from joint venture (49.5%)</b>	<b>4,093</b>	<b>6,728</b>

The finance costs in the Kamoia Holding joint venture relates to shareholder loans where each shareholder is required to fund Kamoia 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 March 31, 2021 vs. December 31, 2020*

The Company's total assets increased by \$559.0 million, from \$2,417.1 million as at December 31, 2020, to \$2,976.1 million as at March 31, 2021. The main reason for the increase in total assets was the receipt of the net proceeds from the convertible senior notes that closed on March 17, 2021. The net proceeds from the sale of the convertible notes, after deducting the expenses of the offering that related to the host liability of \$10.3 million, was \$564.7 million.

Cash and cash equivalents increased by \$469.1 million, from \$262.8 million as at December 31, 2020, to \$731.9 million as at March 31, 2021 due to the receipt of the convertible note proceeds. The Company utilized \$20.2 million of its cash resources in its operations and advanced loans of \$70.0 million to the Kamoia Holding joint venture during the three months ended March 31, 2021.

The Company's total liabilities increased by \$537.2 million to \$617.8 million as at March 31, 2021, from \$80.6 million as at December 31, 2020, with the increase also due to the private placement offering of \$575.0 million of 2.50% convertible senior notes described above.

The net increase of property, plant and equipment amounted to \$0.5 million, with additions of \$6.8 million to project development and other property, plant and equipment. Of this total, \$6.7 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 three months ended March 31, 2021, and for the same period in 2020, are set out in the following table:

	<b>Three months ended</b>	
	<b>March 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>\$'000</b>	<b>\$'000</b>
<b>Platreef Project</b>		
Salaries and benefits	1,767	1,733
Shaft 1 construction	1,761	6,953
Administrative and other expenditure	1,278	1,146
Studies and contracting work	988	92
Site costs	587	243
Social and environmental	306	186
Shaft 2 early works	5	14
Infrastructure	–	2
<b>Total development costs</b>	<b>6,692</b>	<b>10,369</b>
Other additions to property, plant and equipment	59	1
<b>Total additions to property, plant and equipment for Platreef</b>	<b>6,751</b>	<b>10,370</b>

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 Kamoia Holding joint venture increased by \$87.1 million from \$1,289.5 million as at December 31, 2020, to \$1,376.6 million as at March 31, 2021, with each of the current shareholders funding the operations equivalent to their proportionate shareholding interest. The Company's portion of the Kamoia Holding joint venture cash calls amounted to \$70.0 million during the three months ended March 31, 2021, while the Company's share of losses from the joint venture amounted to \$4.1 million.

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

	<b>March 31, 2021</b>	<b>December 31, 2020</b>
	<b>\$'000</b>	<b>\$'000</b>
Company's share of net assets of the joint venture	146,426	150,520
Loan advanced to joint venture	1,230,209	1,138,992
<b>Total investment in joint venture</b>	<b>1,376,635</b>	<b>1,289,512</b>

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

	<b>March 31, 2021</b>		<b>December 31, 2020</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	1,484,250	734,704	1,316,708	651,770
Mineral property	802,021	397,000	802,021	397,000
Long term loan receivable	157,611	78,017	155,815	77,128
Deferred tax asset	153,785	76,124	143,891	71,226
Prepaid expenses	135,254	66,950	114,784	56,818
Non-current inventory	121,459	60,122	109,516	54,210
Indirect taxes receivable	103,865	51,413	91,862	45,472
Cash and cash equivalents	86,606	42,870	138,805	68,708
Consumable stores	44,678	22,116	32,883	16,277
Right-of-use asset	23,718	11,740	24,689	12,221
Non-current deposits	1,689	836	1,689	836
<b>Liabilities</b>				
Shareholder loans	(2,484,532)	(1,229,843)	(2,300,271)	(1,138,634)
Trade and other payables	(123,323)	(61,045)	(131,167)	(64,927)
Equipment finance facility	(63,761)	(31,562)	(57,556)	(28,490)
Rehabilitation and other provisions	(33,112)	(16,390)	(22,281)	(11,029)
Lease liability	(25,559)	(12,652)	(26,318)	(13,027)
Income taxes payable	(29)	(14)	–	–
Non-controlling interest	(88,809)	(43,960)	(90,987)	(45,039)
<b>Net assets of the joint venture</b>	<b>295,811</b>	<b>146,426</b>	<b>304,083</b>	<b>150,520</b>

The Kamoia 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 and EUR 5.9 million (approximately \$7.2 million) of the equipment financing in Q1 2021. 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 Kamo Holding joint venture's net increase in property, plant and equipment from December 31, 2020, to March 31, 2021, amounted to \$167.5 million and can be further broken down as follows:

	<b>Three months ended</b>	
	<b>March 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>\$'000</b>	<b>\$'000</b>
<b>Kamo Holding joint venture</b>		
Kakula decline and mine development	92,595	36,127
Salaries and benefits	22,538	5,456
Borrowing costs capitalized	21,601	13,495
Studies and contracting work	8,674	12,971
Office and administrative expenditure	8,094	6,665
Other development costs	6,593	5,862
Camp and office construction	2,516	2,978
Project fleet	1,690	701
Site costs, security and safety	868	2,347
Roads	86	1,452
Total development costs	165,255	88,054
Other additions to property, plant and equipment	8,175	4,224
Total additions to property, plant and equipment for Kamo Holding	173,430	92,278
Less depreciation and disposals	(5,888)	(1,708)
<b>Net increase in property, plant and equipment of Kamo Holding</b>	<b>167,542</b>	<b>90,570</b>

## LIQUIDITY AND CAPITAL RESOURCES

The Company had \$731.9 million in cash and cash equivalents as at March 31, 2021. At this date, the Company had consolidated working capital of approximately \$781.8 million, compared to \$308.0 million at December 31, 2020.

Since December 8, 2015, each shareholder in Kamo Holding has been 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.

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 the remainder of 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 Kamo-Kakula Project continues with first production expected later this month or early June 2021 and the Phase 2 concentrator expansion is being fast tracked.

Ivanhoe's board of directors allocated increased 2021 budgets to each of the Platreef, Kipushi and Western Foreland's exploration projects. The budget increases and amounts remaining for the remainder of 2021 are set out in the following table:

	<b>Initial 2021 Budget</b>	<b>Revised 2021 Budget</b>	<b>Remaining 2021 Budget</b>
	<b>\$'million</b>	<b>\$'million</b>	<b>\$'million</b>
<b>Platreef Project</b>	59	76	69
<b>Kipushi Project</b>	27	31	25
<b>Western Foreland Exploration Project</b>	16	21	18

The Company's proportionate funding of the Kamo-a-Kakula Project is expected to be \$158 million for the remainder of 2021, with the assumption that additional equipment purchases would be funded through the equipment financing facilities and that the limited recourse line of credit from Zijin is not drawn.

On 17 March 2021, the Company closed a private placement offering of \$575 million of 2.50% convertible senior notes maturing in 2026. The convertible senior notes are senior unsecured obligations of the Company which will accrue interest payable semi-annually in arrears at a rate of 2.50% per annum and will mature on April 15, 2026, unless earlier repurchased, redeemed or converted. The notes will be convertible at the option of holders, prior to the close of business on the business day immediately preceding October 15, 2025, only under certain circumstances and during certain periods, and thereafter, at any time until the close of business on the second scheduled trading day immediately preceding the maturity date. Upon conversion, the notes may be settled, at the Company's election, in cash, common shares or a combination thereof. The carrying value of the host liability was \$415.7 million and the fair value of the embedded derivative liability was \$124.9 million as at March 31, 2021.

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 \$32.4 million as at March 31, 2021, and a contractual amount due of \$34.7 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 \$2.3 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:

	<b>Payments Due By Period</b>				
	<b>Total</b>	<b>Less than</b>			<b>After</b>
<b>Contractual obligations as at March 31, 2021</b>	<b>\$'000</b>	<b>1 year</b>	<b>1-3 years</b>	<b>4-5 years</b>	<b>5 years</b>
		<b>\$'000</b>	<b>\$'000</b>	<b>\$'000</b>	<b>\$'000</b>
Convertible notes	575,551	551	-	575,000	-
Debt	39,341	-	-	4,682	34,659
Lease commitments	1,710	472	1,052	186	-
<b>Total contractual obligations</b>	<b>616,602</b>	<b>1,023</b>	<b>1,052</b>	<b>579,868</b>	<b>34,659</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. Amounts in brackets denote income.

	Three months ended	
	March 31,	
	2021	2020
	\$'000	\$'000
Kamoia Holding Limited (a)	(21,180)	(16,287)
Kamoia Copper SA (b)	(1,879)	(2,170)
High Power Exploration Inc. (c)	(990)	(1,050)
Ivanhoe Mines Energy DRC Sarl (d)	(46)	(64)
Ivanhoe Capital Aviation Ltd (e)	1,108	875
Global Mining Management Corporation (f)	265	614
Ivanhoe Capital Services Ltd. (g)	104	133
CITIC Metal Africa Investments Limited (h)	53	50
GMM Tech Holdings Inc. (i)	–	417
Global Mining Services Ltd. (j)	–	114
HCF International Advisers Limited (k)	–	92
Ivanhoe Capital Pte Ltd (l)	–	(4)
Ivanhoe Capital Corporation (UK) Limited (m)	–	(2)
	(22,565)	(17,282)
Finance income	(22,166)	(17,282)
Cost recovery and management fee	(1,925)	(2,234)
Travel	1,125	879
Consulting	214	405
Salaries and benefits	119	667
Office and administration	15	233
Directors fees	53	50
	(22,565)	(17,282)

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) 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.
- (b) 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.
- (c) 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 earns interest at a rate of 8% per annum and has a repayment date of May 17, 2021.
- (d) 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.
- (e) 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.
- (f) 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.
- (g) 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.
- (h) 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.
- (i) 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.
- (j) 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.
- (k) 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.
- (l) 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.
- (m) 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.

As at March 31, 2021, trade and other payables included \$1.0 million (December 31, 2020: \$1.1 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 March 31, 2021 amounted to \$3.9 million (December 31 2020: \$4.0 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.

## **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 receivables. 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, 2021, with earlier application permitted. The Company adopted these standards in the current period.

- Amendment to 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.
- Amendment to 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.
- Amendment to 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**

- Amendment to IFRS 3 - Business combinations. The amendment updates a reference in IFRS 3 to the Conceptual Framework for Financial reporting without changing the accounting requirements for business combinations. (i)

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

- Amendment to IFRS 9 – Financial instruments. The amendment clarifies which fees an entity includes when it applies the “10 per cent” test in assessing whether to derecognize a financial liability. (i)

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

- Amendment to IAS 1 – Presentation of financial statements. The amendments clarify how to classify debt and other liabilities as current or non-current. Another amendment requires companies to disclose their material accounting policy information rather than their significant accounting policies, with additional guidance added to the Standard to explain how an entity can identify material accounting policy information with examples of when accounting policy information is likely to be material. (ii)

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

- Amendment to IAS 8 – Accounting policies, changes in accounting estimates and errors. The amendments clarify how companies should distinguish changes in accounting policies from changes in accounting estimates, by replacing the definition of a change in accounting estimates with a new definition of accounting estimates. Under the new definition, accounting estimates are “monetary amounts in financial statements that are subject to measurement uncertainty.” The requirements for recognizing the effect of a change in accounting prospectively remain unchanged. (ii)

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

- Amendment to 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 recognizes the proceeds from selling such items, and the cost of producing these items, in profit or loss. (i)

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

- Amendment to 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. (i)

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

- (i) Effective for annual periods beginning on or after January 1, 2022
- (ii) Effective for annual periods beginning on or after January 1, 2023

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

## FINANCIAL INSTRUMENTS AND OTHER INSTRUMENTS

### Fair value of financial instruments

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

	Level	March 31, 2021	December 31, 2020
		\$'000	\$'000
<b>Financial assets</b>			
<i>Financial assets at fair value through profit or loss</i>			
Investment in listed entity	Level 1	1,642	1,410
Investment in unlisted entity	Level 3	655	655
<i>Amortized cost</i>			
Loan advanced to joint venture	Level 3	1,230,209	1,138,992
Cash and cash equivalents		731,946	262,825
Loans receivable	Level 3	98,568	97,340
Promissory note receivable	Level 3	24,934	23,519
Other receivables		6,235	5,559
<b>Financial liabilities</b>			
<i>Financial liabilities at fair value through profit or loss</i>			
Convertible notes - embedded derivative liability	Level 2	124,900	-
<i>Amortized cost</i>			
Convertible notes - host liability	Level 3	415,693	-
Borrowings	Level 3	36,796	36,197
Trade and other payables	Level 3	16,779	19,217
Advances payable	Level 3	2,818	2,788

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:

	<b>Three months ended</b>	
	<b>March 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>\$'000</b>	<b>\$'000</b>
Interest on loan to joint venture	(21,180)	(16,287)
Interest on loan receivable - HPX	(986)	(995)
Interest on bank balances	(372)	(2,893)
Interest on long term loan receivable - Gecamines	(242)	(635)
	<b>(22,780)</b>	<b>(20,810)</b>

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:

	<b>March 31, 2021</b>	<b>December 31, 2020</b>
	<b>\$'000</b>	<b>\$'000</b>
<b>Assets</b>		
Canadian dollar	23,252	25,289
South African rand	18,725	22,809
British pounds	4,913	4,116
Australian dollar	1,642	1,410
<b>Liabilities</b>		
South African rand	(4,793)	(6,338)
British pounds	(4,161)	(3,400)
Canadian dollar	(832)	(1,978)
Australian dollar	(160)	(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>Three months ended</b>	
	<b>March 31,</b>	
	<b>2021</b>	<b>2020</b>
	<b>\$'000</b>	<b>\$'000</b>
Canadian dollar	1,121	1,582
Australian dollar	74	27
South African rand	(74)	(107)
British pounds	–	(2)

#### *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 Kamo 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 2021.

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 Kamo Holding. Due to the positive results of Kamo-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 Kamo 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.

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.

#### *Market risk*

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: interest rate risk, currency risk and other price risk, such as equity price risk. Financial instruments affected by market risk include the convertible notes, loan advanced to the joint venture and borrowings.

The Company will measure the convertible notes embedded derivative liability at fair value at each reporting date, recognizing changes in the fair value in the statement of comprehensive income. This requirement to "mark-to-market" the derivative features could significantly affect the results in the statement of comprehensive income. If the Company's share price had been C\$1.00 higher than it was on March 31, 2021, the fair value of the embedded derivative liability would have increased by

\$36.5 million, which would have resulted in the Company recording a loss on the fair valuation of the financial liability of \$10.9 million instead of the \$25.6 million gain.

#### *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 three months ended March 31, 2021 would have decreased or increased by \$6.1 million (March 31, 2020: \$4.2 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	1 to 3 months	3 to 12 months	More than 12 months	Total undiscounted cash flows
	\$'000	\$'000	\$'000	\$'000	\$'000
<b>As at March 31, 2021</b>					
Convertible notes liability	-	-	551	575,000	<b>575,551</b>
Non-current borrowings	-	-	-	39,105	<b>39,105</b>
Trade and other payables	13,000	695	1,104	1,980	<b>16,779</b>
Lease liability	35	75	223	11,583	<b>11,916</b>
<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>

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

### **DESCRIPTION OF CAPITAL STOCK**

As at May 12, 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 1,208,072,736 Class A Shares, nil Class B Shares, nil warrants and nil preferred shares were issued and outstanding.

The Company granted 10,384,900 options in 2020 and 1,034,718 options in 2021 to date. As at May 12, 2021, there were 18,667,228 options outstanding issued in terms of the Equity Incentive Plan exercisable into 18,667,228 Class A Shares.

The Company granted 478,846 restricted share units (RSUs) in 2021 to date and 1,140,653 RSUs in 2020 per the Company's restricted share unit plan. As at May 12, 2021, there were 1,432,825 RSUs which may vest into 1,432,825 Class A Shares.

The Company granted 165,853 deferred share units (DSUs) in 2021 to date and 307,147 DSUs in 2020 per the Company's deferred share unit plan. As at May 12, 2021, there were 542,737 DSUs which may settle into 392,418 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 effectiveness of the Company's DC&P and ICFR as of March 31, 2021 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 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.

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 of the Company's ICFR as of March 31, 2021 and has concluded that these controls and procedures have been designed effectively to provide reasonable assurance that financial information is recorded, processed, summarized and reported in a timely manner. Management of the Company was required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. The result of the inherent limitations in all control systems means design and operation of controls cannot provide absolute assurance that all control issues and instances of fraud will be detected.

During the three months ended March 31, 2021, 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 Kamoakakula 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 Kamoakakula 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).