IVANHOE MINES
NEW HORIZONS

MANAGEMENT'S DISCUSSION AND ANALYSIS

FOR THE THREE AND SIX MONTHS ENDED JUNE 30, 2022

DATED: AUGUST 12, 2022

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 and six months ended June 30, 2022, 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, 2021 and 2020, 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 ***August 12, 2022***. Additional information relating to the Company is available on SEDAR at www.sedar.com. Certain statements contained in the MD&A are forward-looking statements that involve risks and uncertainties. See "*Forward-Looking Statements*" and "*Risk Factors*".

This MD&A includes references to earnings before interest, tax, depreciation and amortization (EBITDA), and "Cash costs (C1) per pound" which are non-GAAP financial performance measures. For a detailed description of each of the non-GAAP financial performance measures used in this MD&A, and a detailed reconciliation to the most directly comparable measure under IFRS, please refer to the Non-GAAP Financial Performance Measures section of this MD&A starting on page 44. The non-GAAP financial performance measures set out in this MD&A are intended to provide additional information to investors and do not have any standardized meaning under IFRS, and therefore may not be comparable to other issuers, and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS.

SECOND QUARTER HIGHLIGHTS

- Production at the Kamoa-Kakula Mining Complex for the second quarter of 2022 was 87,314 tonnes of copper in concentrate. Commercial production from the Phase 2 concentrator was declared on April 7, 2022.

- During Q2 2022, Kamoa-Kakula sold 85,794 tonnes of payable copper and recognized revenue of $494.1 million, with an operating profit of $253.1 million and an EBITDA of $286.3 million.

- Kamoa-Kakula's cost of sales per pound (lb.) of payable copper sold was $1.15/lb. for Q2 2022, while cash costs (C1) per pound of payable copper produced totalled $1.42/lb., compared to $1.21/lb. and $1.28/lb. in Q1 2022 and Q4 2021 respectively.

- A de-bottlenecking program is underway at Kamoa-Kakula to expand processing capacity of Phase 1 and Phase 2 concentrators by 21%, to a combined total of 9.2 million tonnes of ore per annum. Copper production from Kamoa-Kakula's first two phases is projected to reach 450,000 tonnes per annum by Q2 2023.

- Ivanhoe Mines recorded a profit of $351.5 million for Q2 2022, compared to a loss of $108.6 million for the same period in 2021. The profit in the quarter includes Ivanhoe Mines' share of profit and finance income from the Kamoa-Kakula joint venture of $84.6 million.

- Ivanhoe Mines has a strong balance sheet with cash and cash equivalents of $507.1 million on hand as at June 30, 2022, and expects that Kamoa-Kakula's operating and expansion capital expenditures on Phase 3 will be funded from copper sales and facilities at Kamoa-Kakula.

- Ivanhoe continues its copper exploration program on its Western Foreland licences that cover approximately 2,407 square kilometres neighbouring the 400-square-kilometre Kamoa-Kakula mining licences. The extensive 2022 drilling program is well underway, with 39 diamond drill holes totalling 7,539 metres completed during the second quarter.

REVIEW OF OPERATIONS

Ivanhoe Mines is a mining, exploration and development company. At present, the Company's financial performance is primarily affected by ongoing mining operations at its Kamoa-Kakula Mining Complex, and ongoing exploration and development activities being conducted at its three material properties and the highly prospective Western Foreland Exploration Project. These consist of:

- **The Kamoa-Kakula Mining Complex.** 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. Ivanhoe Mines and Zijin Mining each hold an indirect 39.6% interest in the Kamoa-Kakula Mining Complex, Crystal River Global Limited (Crystal River) holds an indirect 0.8% interest and the DRC government holds a direct 20% interest. The Kamoa-Kakula Mining Complex began producing copper in May 2021 and, through phased expansions, is positioned to become one of the world's largest copper producers. (See "*Kamoa-Kakula Mining Complex*")

- **The Platreef Project.** Construction of the planned Platreef Mine on the Company's discovery of palladium, rhodium, platinum, 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 2,407 km^2 and located in close proximity to the Kamoa-Kakula Mining Complex, the majority of which are 90%-100%-owned. Ivanhoe's DRC exploration group is targeting Kamoa-Kakula-style copper mineralization through a regional exploration and drilling program. (See *"DRC Western Foreland Exploration Project"*)

KAMOA-KAKULA MINING COMPLEX

The Kamoa-Kakula Mining Complex, operated as the Kamoa Copper 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. Kamoa-Kakula began producing copper in May 2021 and achieved commercial production on July 1, 2021.

Ivanhoe sold a 49.5% share interest in Kamoa Holding Limited (Kamoa Holding) to Zijin Mining and a 1% share interest in Kamoa Holding to privately owned Crystal River in December 2015. Kamoa Holding holds an 80% interest in the project. Since the conclusion of the Zijin transaction, each shareholder has been required to fund expenditures at Kamoa-Kakula in an amount equivalent to its proportionate shareholding interest. Ivanhoe and Zijin Mining each hold an indirect 39.6% interest in Kamoa-Kakula, Crystal River holds an indirect 0.8% interest, and the DRC government holds a direct 20% interest.

Kamoa-Kakula summary of operating and financial data

	Q2 2022	**Q1 2022**	**Q4 2021**	**Q3 2021**
Ore tonnes milled (000's tonnes)	**1,950**	1,083	1,059	861
Copper ore grade processed (%)	**5.44%**	5.91%	5.96%	5.89%
Copper recovery (%)	**84.0%**	87.1%	86.4%	83.4%
Copper in concentrate produced (tonnes)	**87,314**	55,602	54,481	41,545
Payable Copper sold (tonnes)	**85,794**	51,919	53,165	41,490
Cost of sales per pound ($ per lb.)	**1.15**	1.08	1.12	1.08
Cash cost (C1) ($ per lb.)	**1.42**	1.21	1.28	1.37
Sales revenue before remeasurement ($'000)	**699,381**	467,453	458,880	355,022
Remeasurement of contract receivables ($'000)	**(205,248)**	52,142	29,656	(12,438)
Sales revenue after remeasurement ($'000)	**494,133**	519,595	488,536	342,584
EBITDA ($'000)	**286,313**	399,391	357,619	233,212
EBITDA margin (% of sales revenue)	**58%**	77%	73%	68%

C1 cash costs are prepared on a basis consistent with the industry standard definitions by Wood Mackenzie cost guidelines, but are not measures recognized under IFRS. In calculating the C1 cash cost, the costs are measured on the same basis as the Company's share of profit from the Kamoa Holding joint venture that is contained in the financial statements. C1 cash costs are used by management to evaluate operating performance and includes all direct mining, processing, and general and administrative costs. Smelter charges and freight deductions on sales to final port of destination, which are recognized as a component of sales revenues, are added to C1 cash cost to arrive at an approximate cost of delivered, finished metal. C1 cash costs exclude royalties and production taxes and non-routine charges as they are not direct production costs.

C1 cash cost per pound of payable copper produced can be further broken down as follows:

		Q2 2022	Q1 2022	Q4 2021	Q3 2021
Mining	($ per lb.)	0.39	0.30	0.27	0.36
Processing	($ per lb.)	0.14	0.15	0.17	0.16
Logistics charges (delivered to China)	($ per lb.)	0.51	0.36	0.37	0.35
Treatment, refining and smelter charges	($ per lb.)	0.21	0.20	0.24	0.21
General and administrative expenditure	($ per lb.)	0.17	0.20	0.23	0.29
C1 cash cost per pound of payable copper produced	**($ per lb.)**	**1.42**	**1.21**	**1.28**	**1.37**

All figures in the above tables are on a 100%-project basis. Metal reported in concentrate is prior to refining losses or deductions associated with smelter terms. This MD&A includes EBITDA, “EBITDA margin” and "Cash costs (C1) per pound" which are non-GAAP financial performance measures. For a detailed description of each of the non-GAAP financial performance measures used in this MD&A, and a detailed reconciliation to the most directly comparable measure under IFRS, please refer to the Non-GAAP Financial Performance Measures section of this MD&A starting on page 44.

Photo: Construction of an additional scavenger-cleaner flotation cell at the Phase 1 concentrator, part of the de-bottlenecking program to boost copper production to approximately 450,000 tonnes per annum by Q2 2023.

Kamoa Copper undertaking optimization of logistics costs

Due to the early commissioning and highly successful ramp-up of the Phase 2 concentrator during Q2 2022, Kamoa Copper dispatched approximately 177,000 tonnes of copper concentrates, a significant increase on approximately 103,000 tonnes dispatched during Q1 2022.

Copper C1 cash costs per pound of payable copper for Q2 2022 were higher than Q1 2022 largely due to a 42% increase in logistics charges for the transportation of Kamoa-Kakula’s copper products. The increase in logistics charges for the quarter were impacted by limitations in truck availability caused by the sharp increase in volumes, interrupted port operations at Durban caused by flooding,

customs clearing times and border congestion between the DRC and Zambia, as well as higher diesel prices.

However, mine site operating costs are somewhat shielded from higher diesel prices, as site power is provided by the DRC national grid at a rate of approximately 6 cents per kilowatt hour, following the refurbishment of the Mwadingusha hydropower facility under a public-private partnership with Société Nationale d'Électricité (SNEL), the DRC state power utility company.

In addition, the Lualaba Copper Smelter located near Kolwezi, which is expected to treat approximately 150,000 tonnes of copper concentrates from Kamoa-Kakula annually, is undergoing scheduled maintenance that is expected to be completed in early September. Until then, Kamoa Copper's concentrate production will be wholly transported and exported as copper concentrate (approximately 50% contained copper), without the expected quantity of blister copper (approximately 99% contained copper), thereby temporarily increasing logistics costs.

Kamoa Copper, working alongside its offtake partners, Zijin Mining and CITIC Metal as well as the government of the DRC, is undertaking several initiatives to optimize the transportation of Kamoa Copper's products.

These activities include working with its offtake partners, logistics service providers and local entrepreneurs to increase regional trucking capacity, improving processes for clearing products for export and opening up alternative export borders between the DRC and Zambia. A second import-export border crossing recently was opened at Sakania, in addition to the existing border at Kasumbalesa, DRC.

Kamoa Copper is also working to increase flexibility to ship from a variety of ports, including Durban in South Africa, Dar es Salaam in Tanzania, Walvis Bay in Namibia and Beira in Mozambique, and longer-term to the port of Lobito in Angola.

A step-change improvement in cash costs of 10% to 20% is anticipated once Kamoa Copper's on-site 500,000-tonne-per-annum, direct-to-blister flash smelter is commissioned as part of the Phase 3 expansion, expected by the end of 2024. This cash cost reduction is in large part due to the significant decrease in volumes shipped, with approximately 600,000 tonnes of blister copper product shipped (including local toll smelting) instead of approximately 1.3 million tonnes of copper concentrate. In addition, the smelter will generate valuable by-product credits from the sale of sulphuric acid, which is in deficit in the DRC Copperbelt.

Kakula Mine optimization work targeting grades towards 6% copper

Ongoing mining optimization work at the Kakula Mine is targeting improved head grade during the second half of 2022 towards 6% copper. Kamoa Copper is also evaluating additional material handling capacity at Kakula to increase mining rates to feed the de-bottlenecked Phase 1 and 2 processing capacity of 9.2 million tonnes of ore per annum, which will be incorporated into the Phase 3 expansion Pre-Feasibility Study scheduled for the end of the year.

While the near-term expansion of underground infrastructure at Kakula takes place, ore will be drawn periodically from the surface stockpiles to maximize copper production as the Phase 1 and 2 concentrators are currently operating in excess of design capacity. As at the end of June 2022, Kamoa-Kakula's high- and medium-grade ore surface stockpiles totalled approximately 4.6 million tonnes at an estimated grade of 4.42% copper.

Management anticipates that the early commissioning of the Phase 2 concentrator plant in March 2022, approximately four months ahead of schedule, has enabled Kamoa Copper to increase the lower end of its full year 2022 production guidance from a range of between 290,000 to 340,000 tonnes of copper in concentrate, to between 310,000 and 340,000 tonnes.

Health and safety at Kamoa-Kakula

At the end of June 2022, Kamoa-Kakula reached 4,272,520 work hours free of a lost-time injury. Two lost-time injuries occurred underground at the Kakula Mine in Q2 2022. Kamoa Copper continues to strive toward its workplace objective of zero harm to all employees and contractors.

Photo: Nursing staff inside the new medical facility at the Kamoa Hospital.

Record quarterly production of 87,314 tonnes of copper in Q2 2022

In late March 2022, Ivanhoe Mines announced that Kamoa-Kakula's Phase 2 concentrator plant began hot commissioning significantly ahead of schedule. First ore was introduced into the Phase 2 milling circuit on March 21, 2022, and first copper concentrate was produced approximately four months ahead of the originally announced development schedule. Commercial production from the Phase 2 concentrator was declared on April 7, 2022, while steady state production was achieved at the end of May 2022. During June 2022, copper recoveries were averaging more than 86%, with feed grades averaging approximately 5.5% copper.

Kamoa-Kakula set a new quarterly production record in the second quarter of 2022 with 87,314 tonnes of copper in concentrate produced, up from 55,602 tonnes of copper in concentrate produced in Q1 2022 and 54,481 tonnes of copper in concentrate produced in the fourth quarter of 2021. A total of 1.95 million ore tonnes were milled during the second quarter of 2022 at an average feed grade of 5.44% copper.

Over the first half of 2022, Kamoa-Kakula milled approximately three million tonnes of ore at an average feed grade of 5.59% copper, and produced 142,916 tonnes of copper in concentrate.

Phase 1 and Phase 2 debottlenecking project to boost throughput to 9.2 million tonnes of ore per year remains on schedule

Kamoa Copper's previously announced de-bottlenecking program is also progressing on schedule to increase the combined design processing capacity of the Phase 1 and Phase 2 concentrator plants to approximately 9.2 million tonnes per annum (from 7.6 million tonnes per annum).

After successfully commissioning and operating the Phase 1 and 2 concentrators, the Kamoa-Kakula team identified several relatively minor modifications that are expected to increase ore throughput from the current design of 475 tonnes per hour to approximately 580 tonnes per hour. These modifications include increasing the diameter of several pipes, replacing several motors and pumps with larger ones and installing additional flotation, concentrate-thickening, concentrate-filtration and tailings-disposal capacity. Detailed planning is underway to maximize the use of planned maintenance shutdowns of the concentrators for the installation of the new debottlenecking equipment, which is expected to take place later this year.

Once completed in the second quarter of 2023, the de-bottlenecking program will enable the copper production from Kamoa-Kakula's first two phases to reach approximately 450,000 tonnes per annum, positioning Kamoa Copper as the world's fourth largest copper producer.

Photo: Construction is advancing well on the additional tailings thickener at Kamoa-Kakula's Phase 1 and Phase 2 concentrator plants as part of the de-bottlenecking program.

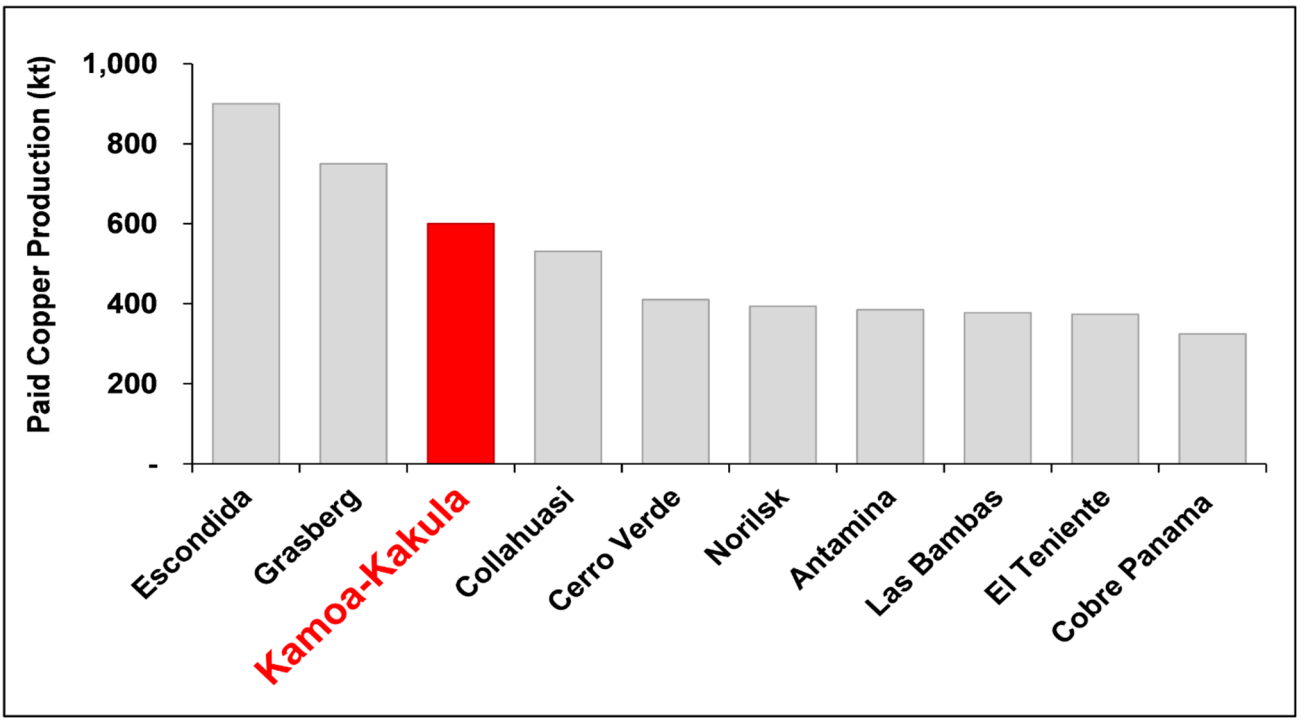
Photo: Civil works are also advancing well for the planned installation of a fourth Larox filter press at Kamoa-Kakula's concentrate warehouse.

Photo: Safety Officer Franck Katende inspects construction of additional scavenger cleaner flotation capacity at the Phase 1 and Phase 2 concentrator plants.

Phase 3 Pre-Feasibility Study nearing completion

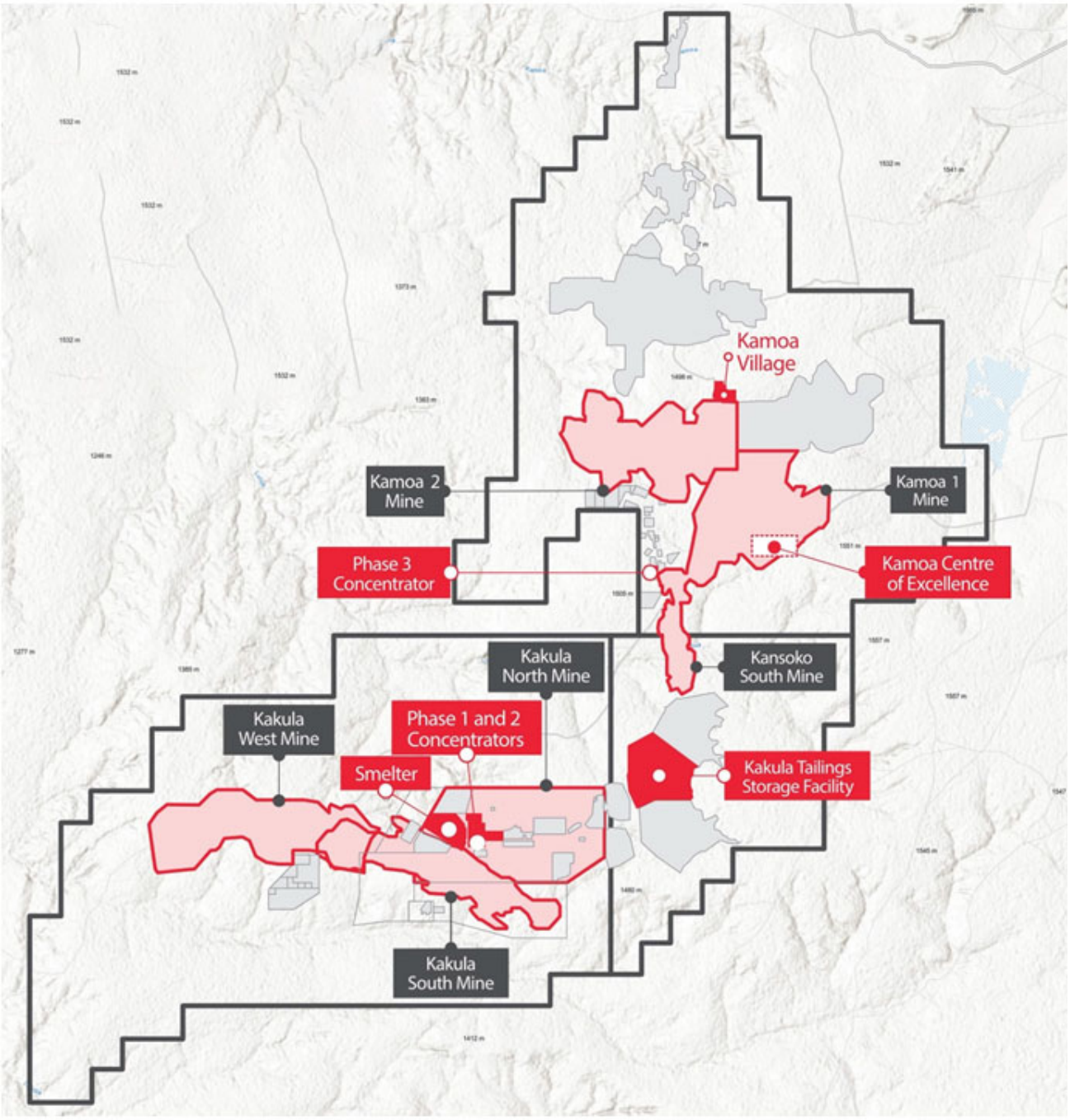
The Pre-Feasibility Study for the Phase 3 expansion is expected to be announced towards the end of this year. Kamoa-Kakula's Phase 3 will consist of two new underground mines, known as Kamoa 1 and Kamoa 2. A new, 5-million-tonne-per-annum concentrator plant will also be established adjacent to the two new mines at Kamoa. In addition, Kamoa-Kakula's Phase 3 expansion includes a 500,000-tonne-per-annum, direct-to-blister flash smelter to produce approximately 99% copper metal, and the replacement of Turbine #5 at the Inga II hydroelectric power station. The turbine replacement will supply an additional 178-megawatts (MW) of clean hydroelectric power to the national grid.

Figure 1: Kamoa-Kakula's base-case, pro-forma Phase 3 copper production (after de-bottlenecking of Phase 1 and 2 is complete) relative to the world's projected top 10 producing mines in 2022 by payable copper production.



Source: company filings, Wood Mackenzie (April 2022). Note: Kamoa-Kakula production of 600 kt copper in concentrate is based on expected Phase 1, 2 and 3 steady state production, following de-bottlenecking of both Phase 1 and 2 concentrators, and commercial ramp-up of the Phase 3 concentrator.

Figure 2: Kamoa-Kakula's Phase 1, Phase 2 and Phase 3 mine, processing plants and infrastructure layout.



Phase 3 basic engineering nearing completion, procurement activities have commenced

Basic engineering design for the Phase 3, 5-million-tonne-per-annum concentrator plant, smelter and associated infrastructure is nearing completion. Procurement activities have commenced with the following long-lead order items placed in June: ball mills, concentrate filters, cone crushers and flotation cells. The earthworks contract has also recently been placed. The associated power and surface infrastructure for Phase 3 will be designed to support future expansions.

Following the commissioning of Phase 3, expected by the end of 2024, Kamoa-Kakula will have a total processing capacity of more than 14 million tonnes per annum. The completion of Phase 3 is expected to increase copper production capacity to approximately 600,000 tonnes per annum. This production rate will position Kamoa-Kakula as the world's third-largest copper mining complex, and the largest on the African continent.

Phase 3 boxcut for the new Kamoa 1 and Kamoa 2 underground mines nearing completion, excavation of the twin declines advancing rapidly

Construction is nearing completion on the Phase 3 box cut and decline ramp at the Kamoa 1 and Kamoa 2 mines, while excavation of the twin declines to access Phase 3 mining areas also is advancing well. Construction works for the ramp, cut-off drains, and water-collection sumps are well advanced.

Photo: Construction progress on the new twin declines is advancing rapidly at the Kamoa 1 and Kamoa 2 mines.

Photo: Machine operator Serge Muteba at work on a new tunnel connection at the Kamoa 1 and Kamoa 2 twin declines.

Basic engineering complete and initial long-lead equipment ordered for Kamoa-Kakula's direct-to-blister flash smelter

Kamoa-Kakula's Phase 3 expansion includes a 500,000-tonne-per-annum, direct-to-blister flash smelter to produce approximately 99% copper metal, and the replacement of Turbine #5 at the Inga II hydroelectric power station. The turbine replacement will supply an additional 178-megawatts (MW) of clean hydroelectric power to the national grid.

Earthworks excavation at the smelter site is progressing well, adjacent to Kamoa-Kakula's Phase 1 and Phase 2 concentrator plants, with bush clearing and top-soil stripping well advanced.

In June, purchase orders were placed for the smelter's slag cleaning furnace, anode refining furnaces and electrostatic precipitators, while basic engineering on the smelter design has been completed.

The Kamoa-Kakula smelter uses technology supplied by Metso Outotec of Espoo, Finland, and meets the International Finance Corporation's (IFC) emissions standards. The smelter has been sized to process most of the copper concentrate forecast to be produced by Kamoa-Kakula's Phase 1, Phase 2, and Phase 3 concentrators.

Phase 3 and the smelter will be powered by hydroelectricity generated from the 178-MW Inga II hydro facility, which is currently undergoing refurbishment, at a cost of approximately 6 cents per kilowatt hour.

Photo: Smelter civil works (as part of the earthworks package), including the erection of concrete retaining walls, now are well underway.

Photo: Geotechnical drilling is underway in preparation of construction of the main structure for Kamoa-Kakula's direct-to-blister flash smelter.

Draw-down of surface ore stockpiles has commenced; stockpiles hold approximately 4.6 million tonnes grading 4.42% copper, containing more than 201,000 tonnes of copper

Kamoa-Kakula's total high- and medium-grade ore surface stockpiles totalled approximately 4.6 million tonnes at an estimated grade of 4.42% copper as of the end of June 2022. The operation mined 1.66 million tonnes of ore grading 5.51% copper in Q2 2022, which was comprised of 1.62 million tonnes grading 5.57% copper from the Kakula Mine, including 0.78 million tonnes grading 6.74% copper from the mine's high-grade centre.

Photo: Surface ore stockpiles contained more than 201,000 tonnes of copper as of the end of June 2022.

Kamoa-Kakula delivering Phase 1 and 2 copper concentrate and blister under off-take agreements

During the quarter, Kamoa Copper entered into an amendment to the existing off-take agreements for Phase 1 copper concentrate with CITIC Metal (HK) Limited (CITIC Metal) and Gold Mountains (H.K.) International Mining Company Limited, a subsidiary of Zijin, which includes the additional production volumes from Phase 2. The revised off-take agreements with CITIC Metal and Gold Mountains are evergreen for 50% each of the production volumes from Phase 1 and 2, and include both copper concentrate and blister copper resulting from processing of Kamoa-Kakula's copper concentrates at the nearby Lualaba Copper Smelter.

Kamoa Copper also recently entered into a third off-take agreement with Trafigura Pte. Ltd. (Trafigura) for a fixed volume of Kamoa-Kakula's concentrate production from 2022 to 2024, with such volume re-allocated on a pro-rata basis from CITIC Metal and Zijin.

Trafigura is one of the largest physical commodities trading groups in the world, and has significant experience in managing commodity logistics flows on the African continent.

All three off-takers are purchasing either the copper concentrate at the Kamoa-Kakula Mine or the blister copper at the Lualaba Copper Smelter on a free-carrier basis, meaning the buyers are responsible for arranging freight and shipment to the final destination, which is reimbursed on an open-book basis.

Kamoa Copper's concentrates and blister copper are exported via the ports of Durban in South Africa and Dar es Salaam in Tanzania, and to a lesser extent Walvis Bay in Namibia and Beira in Mozambique.

Inga II partnership to supply additional clean hydroelectric power for the Phase 3 expansion and smelter; EPC contract signed for Turbine #5 refurbishment

In July 2021, Ivanhoe Mines Energy DRC, a sister company of Kamoa Copper tasked with delivering reliable, clean, renewable hydropower to Kamoa-Kakula, signed an addendum of the financing agreement under a public-private partnership with the DRC's state-owned power company, SNEL, to upgrade a major turbine (#5) at the existing Inga II hydropower facility on the Congo River.

It was this same partnership that successfully refurbished the Mwadingusha hydropower plant in 2021, which now supplies approximately 78 MW of power into the DRC's national grid.

The Inga II project is expected to produce an additional 178 MW of renewable hydropower, providing Kamoa-Kakula and its associated smelter with sustainable electricity for Phase 3 and future expansions, while also benefitting local communities. The Inga II upgrade project is scheduled for completion in Q4 of 2024.

The work at Turbine #5 will include the upgrade and replacement of all the unit line from intake equipment, turbine, speed governor, alternator, voltage regulator and transformers (water to wire).

The Inga II Turbine #5 project has much lower unitary capital cost per megawatt produced ($0.58/MW) compared to the completed Mwadingusha project ($1.45/MW). The engineering, procurement, and construction (EPC) contract for the upgrading of Turbine #5 was signed in Heidenheim, Germany, on April 26, 2022, by SNEL and Voith Hydro, a leading German hydropower company.

Photo: Rehabilitation work under the private-public partnership now is underway to refurbish Turbine #5 at the Inga II hydropower facility.

Empowering local communities through sustainable development

Ivanhoe Mines founded the Sustainable Livelihoods Program in 2010 to strengthen food security and farming capacity in the host communities near Kamoa-Kakula. Today, approximately 900 community farmers are benefiting from the program, producing high-quality food for their families and selling the surplus for additional income. Sustainable Livelihoods commenced with maize and vegetable production, and now includes fruit, aquaculture, poultry and honey.

The banana plantation project began in 2018 and now consists of 11 hectares of banana trees. The 27 women from local communities who own this project harvested and sold more than 350 kilograms of bananas in July 2022.

Photo: Farmers from the local communities of Tshomeka, Katayi and Mundjendje harvesting bananas in July 2022.

Construction of additional livestock farming facilities is underway and planned to be completed in October. Together with the aquaculture project – comprised of approximately 140 fishponds with plans for the construction of another 100 new ponds – the livestock farm will significantly contribute toward local entrepreneurship and enhanced regional food security.

Construction of a health clinic at Muvunda Village has been completed and equipping of the facility is underway. Construction of a church at Tshilongo Village is approximately 60% complete. Kamoa-Kakula continued its support for the adult literacy training program, being implemented by a group of community participants who have been trained as facilitators.

Implementation of the first regulatory five-year community development plan, the Cahier des Charges, which provides $8.6 million towards educational, healthcare, agricultural, potable water provision, and other initiatives, is well underway. Construction of two early childhood development centres, planned for operation in September 2022, is nearing completion. The associated curriculum has been developed and is ready for implementation, thereby enabling access to these formative educational programs for the first time in the region. The Mupenda aquaculture project and the Muvunda poultry project also have been launched, and the planning and design of two rural community health centres has progressed well.

Local community enterprise programs continued, including the expansion of the brick-making and sewing facilities, as well as landscaping and gardening, which are under review seeking to enhance business efficiency and growth. An order has been placed for a new brick-making machine, which will see the production capacity double the average production to approximately 120,000 bricks per month. The extension of the sewing facility aims to double the current average monthly production rate of approximately 600 items of personal protective equipment.

Photo: Construction of a health clinic at the local community of Muvunda has been completed and equipping of the facility is underway.

COPPER PRODUCTION AND CASH COST GUIDANCE FOR 2022

The Kamoa-Kakula Phase 2, 3.8 million tonne per annum concentrator plant successfully declared commercial production on April 7, 2022. First ore was introduced into the Phase 2 milling circuit on March 21, 2022, with first copper concentrate produced approximately four months ahead of the originally announced development schedule. Management expects that with the early commissioning of the Phase 2 concentrator plant, Kamoa-Kakula will be able to deliver the upper end of its original 2022 copper production guidance of 290,000 to 340,000 tonnes. As a result, Ivanhoe Mines increases its 2022 production guidance range for Kamoa-Kakula to between 310,000 and 340,000 tonnes of copper in concentrate.

Kamoa-Kakula produced a total of 87,314 tonnes of copper in concentrate in Q2 2022, and 55,602 tonnes in the first quarter of 2022. The figures are on a 100% project basis and metal reported in concentrate is prior to refining losses, or deductions associated with smelter terms. Guidance involves estimates of known and unknown risks, uncertainties and other factors which may cause the actual results to be materially different.

Cash costs (C1) per pound of payable copper amounted to $1.42 for the second quarter of 2022, as compared to $1.21 and $1.28 in the first quarter of 2022 and the last quarter of 2021 respectively.

Cash costs for the second quarter included a significant increase in off-site concentrate transportation and logistics charges, which is projected to continue during the third quarter as a result of the ongoing maintenance at the Lualaba Copper Smelter and as Kamoa Copper and its partners implement logistical optimizations.

The previously announced cash cost (C1) per pound guidance for the 2022 financial year of $1.20 to $1.40 per pound remains unchanged. Cash cost is projected to come in at the upper end of the guidance range, subject to logistics costs easing in the fourth quarter.

Cash costs (C1) is a non-GAAP measure used by management to evaluate operating performance and includes all direct mining, processing, and general and administrative costs. Smelter charges and freight deductions on sales to final port of destination (typically China), which are recognized as a component of sales revenues, are added to C1 cash cost to arrive at an approximate cost of delivered finished metal.

For historical comparatives, see the Non-GAAP Financial Performance Measures section of this MD&A.

A breakdown of realized and provisionally priced copper production is as follows:

At the end of June 2022 there was an outstanding balance of 125,673 tonnes of provisionally priced copper in concentrate. Following the recent decline in the copper price, a remeasurement of $205 million was made to account for the change in the copper price at period end.

		Q2 2022	**Q1 2022**
Realized payable copper[1]	(tonnes)	**50,642**	53,056
Realized copper price[1]	($ per lb.)	**4.34**	4.51
New provisionally priced payable copper[2]	(tonnes)	**85,794**	51,919
Average price of new provisionally priced copper	($ per lb.)	**4.32**	4.54
Copper price for remeasurement (mark-to-market) of provisional sales at period end	($ per lb.)	**3.79**	4.69
Outstanding balance of provisionally priced payable copper[3]	(tonnes)	**125,673**	90,544

[1] Payable copper that was provisionally priced in prior quarters and settled during the quarter.
[2] Provisionally priced payable copper sold is subject to final pricing over the next several months.
[3] Outstanding balance is made up of new provisionally priced payable copper from the current quarter, with the balance from the previous quarter.

PLATREEF PROJECT

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

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

On the Northern Limb, platinum-group metals mineralization is primarily hosted within the Platreef, a mineralized sequence traced for 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.

Photo: Aerial view of the Platreef Mine site showcasing latest construction activities, with Shaft 1 on the right, Shaft 2 hitch-to-collar construction on the left, and the radial stacker in the foreground.

Health and safety at Platreef

As at the end of June 2022, the Platreef Project reached 1,243,146 lost-time, injury-free hours worked.

Shaft 1 changeover to a production shaft completed, lateral underground mine development progressing well

The construction of the 996-metre-level station at the bottom of Shaft 1 was completed in July 2020. Shaft 1 initially will be used to access the orebody, and is approximately 450 metres away from a high-grade area of Flatreef that is planned for bulk, mechanized mining. The three development stations that will provide initial, underground access to the high-grade orebody also have been completed on the 750-, 850- and 950-metre levels. Ivanplats completed the initial blast on Platreef's 950-metre level on April 22, 2022, marking the commencement of lateral mine development.

The auxiliary winder has been installed and commissioned. The headgear, both winders, equipping stage, conveyances and control systems comply with the highest current industry safety standards, with proven and tested safety and redundancy systems in place.

The winder used to successfully sink Shaft 1 was converted to function as the main equipping conveyance during the shaft changeover, and will serve as the permanent rock, personnel and material winder following the shaft-equipping phase. The shaft will be equipped with two cages on top of twin 12.5 tonne skips with hoisting capacity of 1 million tonnes per annum, resulting from an amended configuration that does not require the cage to be interchanged mid-shift, thereby increasing the hoisting time during the initial phase of mining.

Shaft equipping was successfully completed in March 2022, with Shaft 1 now fully commissioned for Phase 1 mining as planned. Following the completion of this changeover, initial development started on the 950-metre level in April 2022. Underground development work is focused on establishing the waste passes from the 750-metre and the 850-metre levels to the 950-metre level, installing the required underground infrastructure on the various stations, developing towards the first reef and stoping areas, as well as developing towards the first ventilation shaft location. Mine development on the 950-metre level progressed well with more than 200 metres of development successfully completed during the quarter. Mining on the 750-metre level and the 850-metre level will commence in Q3 and Q4 of 2022.

Ivanplats' initial order with Epiroc of Stockholm, Sweden, for its primary mining fleet includes emissions-free, battery-electric jumbo face drill rigs, 14-tonne battery-electric scooptrams, battery-electric bolting rigs and 42-tonne battery-electric dump trucks. The first ordered fleet has been delivered, slung down and are progressing with lateral underground development.

Construction of Platreef's first solar-power plant is scheduled to commence in Q3 2022, with commissioning expected in 2023. The solar-generated power from the plant will be used for mine development and construction activities, as well as for charging Platreef's battery-powered underground mining fleet.

Shaft 2 headgear construction from hitch to collar successfully completed

The 10m diameter Shaft 2, which will be the among the largest hoisting shafts on the African continent, is on the critical path for the future Phase 2 expansion of Platreef. Following the completion of the 26m concrete hitch to collar construction in August 2022, Ivanplats plans to continue with the construction of the 103-metre-tall concrete headgear (headframe) which will house the shaft's permanent personnel and rock hoisting facilities. The pilot drilling required for the raise bore center hole of the shaft and the commencement of the sliding of the headframe are both planned to commence before the end of 2022. This will allow for optionality in bringing forward the timeline of Phase 2 production.

Photo: Shaft 2 headgear construction from hitch to collar (in red circle) now is complete.

Photo: A battery electric ST14 Scooptram from Epiroc operating underground at Platreef. Mine development on the 950-metre-level progressed well in Q2 2022.

Outstanding results of Platreef 2022 Feasibility Study

On February 28, 2022, Ivanhoe Mines announced the results of a new independent feasibility study for the Platreef Project (Platreef 2022 FS). The Platreef 2022 FS is based on a two-phased development to a steady-state production rate of 5.2 million tonnes per annum, and is the current execution plan for the Platreef Project.

Highlights of the Platreef 2022 FS include:

- The Platreef 2022 FS evaluates the phased development of Platreef, with an initial 700,000-tonne-per-annum underground mine and a 770,000-tonne-per-annum capacity concentrator, targeting high-grade mining areas close to Shaft 1, with an initial capital cost of $488 million.
- First concentrate production for Phase 1 is planned for Q3 2024, with the Phase 2 expansion based on the commissioning of Shaft 2 in 2027, followed by the commissioning of two 2.2-million-tonne-per-annum concentrators in 2028 and 2029. This would increase the steady-state production to 5.2 million tonnes per annum by using Shaft 2 as the primary production shaft.
- Expansion capital cost for Phase 2 is estimated at $1.5 billion, which may be partially funded by cash flows from Phase 1 and a project-financing package.
- Ivanplats' dedicated engineering teams and leading consultants are evaluating optimizations to the sinking methodology for Shaft 2 to further accelerate the availability of the shaft for hoisting, which may fast track the overall development timeline.
- Phase 1 average annual production of 113,000 ounces (oz.) of palladium, rhodium, platinum, and gold (3PE+Au), plus 5 million pounds of nickel and 3 million pounds of copper.
- Phase 2 average annual production of 591,000 oz. of 3PE+Au, plus 26 million pounds of nickel and 16 million pounds of copper, which would rank Platreef as the fifth largest primary PGM producer on a palladium equivalent basis.
- Life-of-mine cash cost of $514 per ounce of 3PE+Au, net of by-products, and including sustaining capital costs, would rank Platreef as the industry's lowest cost primary PGM producer.
- After-tax net present value at an 8% discount rate (NPV8%) of $1.7 billion and an internal rate of return (IRR) of 18.5%, based on long-term consensus prices.

Figure 3: Production and timeline schematic from the Platreef 2022 Feasibility Study.

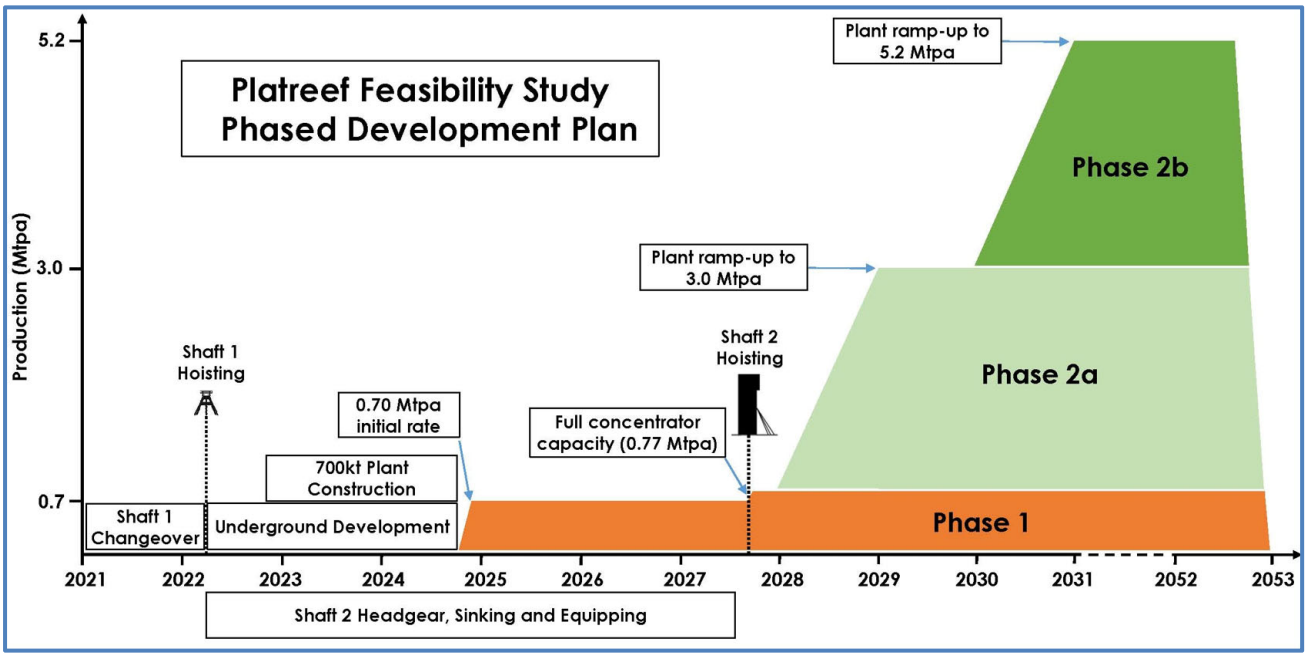
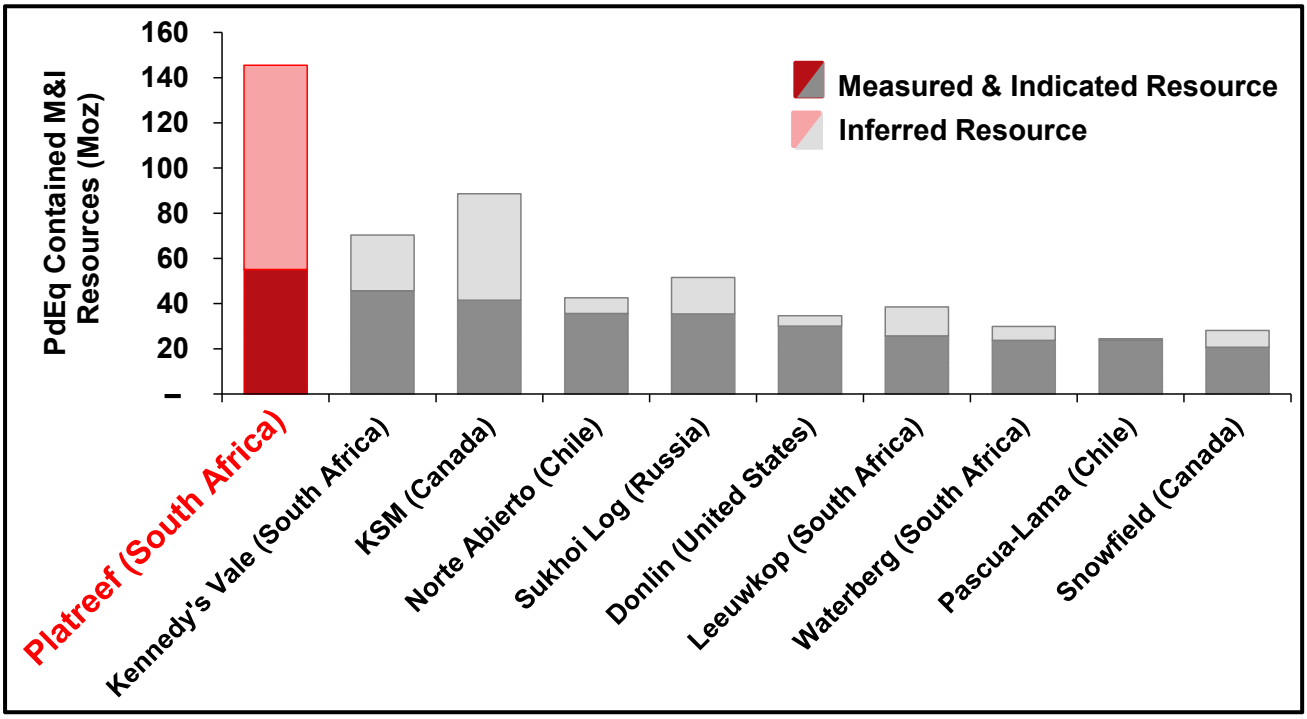


Figure 4: World's largest precious metal deposits under development ranked by contained metal in Measured and Indicated Resources.



Source: company filings, S&P Global Market Intelligence. Notes: Chart ranks the largest undeveloped primary palladium, platinum, gold, silver and rhodium projects from the S&P Global Market Intelligence database based on measured and indicated palladium equivalent resource. Palladium equivalent calculation includes palladium, platinum, gold, silver and rhodium ounces and has been calculated using spot price metal price assumptions (February 23, 2022) of US$1,095/oz. platinum, US$2,480/oz. palladium, US$18,750/oz. rhodium, US$1,909/oz. gold and US$24.55/oz. silver. Measured and Indicated resources for Platreef correspond to palladium, platinum, gold and rhodium ounces at a 1 g/t cut-off grade.

Platreef development currently funded by $300-million stream financing with efforts to finalize additional senior debt facility well underway

In December 2021, Ivanplats entered a gold, palladium and platinum stream financing with Orion Mine Finance, a leading international provider of customized financing to mining companies, and Nomad Royalty Company, a precious metals royalty company, in which Orion Mine Finance is a significant shareholder (Orion Mine Finance and Nomad Royalty Company, together, the Stream Purchasers). Ivanplat's current Phase 1 development costs are being funded by the first prepayment of $75 million received in December 2021 following the closing of the transaction, with a further $225 million expected to be paid upon satisfaction of certain conditions precedent during the Q3 2022.

Under the terms of the $200-million gold stream agreement, the Stream Purchasers will receive an aggregate total of 80% of contained gold in concentrate until 350,000 ounces have been delivered, after which the stream will be reduced to 64% of contained gold in concentrate for the remaining life of the facility. The expected life of this facility will extend from the effective date of the stream agreement until the date when 685,280 ounces of gold have been delivered to the Stream Purchasers. The Stream Purchasers will purchase each ounce of gold at a price equal to the lower of the market price of gold or $100 per ounce.

Under the terms of the $100-million palladium and platinum stream agreement, Orion Mine Finance will receive an aggregate total of 4.2% of contained palladium and platinum in concentrate until 350,000 ounces have been delivered, after which the stream will be reduced to 2.4% for the remaining life of the facility. The expected life of this facility will extend from the effective date of the stream agreement until the date when 485,115 ounces of palladium and platinum have been delivered to the purchaser, which will pay for each ounce at a price equal to 30% of the market price of palladium and platinum. In addition, Société Générale and Nedbank were appointed as mandated

lead arrangers for a project debt facility in early 2021. Both the gold stream facility, and palladium and platinum stream facility, will be subordinated to any senior secured financing.

The senior debt facility of up to $150 million is anticipated to be used only after the stream facilities are fully drawn. Ivanplats remains flexible to raise additional debt or equity later, and has pre-agreed with the Stream Purchasers the inter-creditor arrangements for any future senior debt. While the stream facilities are guaranteed by Ivanplats and secured over the assets and Ivanhoe's shares of Platreef, there is no recourse to Ivanhoe Mines.

Long-term supply of bulk water for the Platreef Mine

The water requirement for the Phase 1 operation is projected to peak at approximately three million litres per day, which will then increase to nine million litres per day once the Phase 2 expansion is complete. In January 2022, Ivanplats signed new agreements for the rights to receive local, treated water to supply the bulk water needed for the phased development plan at Platreef. These agreements replace those originally signed in 2018.

Under the terms of a new offtake agreement, the Mogalakwena Local Municipality (MLM) has agreed to supply at least three million litres per day of treated effluent, up to a maximum of 10 million litres per day for 32 years, from the date of first production, sourced from the town of Mokopane's Masodi Wastewater Treatment Works, currently under construction.

Ivanplats also has signed a sponsorship agreement where Ivanplats has undertaken the commitment to complete the partially constructed Masodi Wastewater Treatment Works, which was halted in 2018. Ivanplats anticipates spending approximately ZAR 215 million ($13 million) to complete the works, whereby Ivanplats' financial contribution will take the form of a sponsorship in favour of the municipality. Ivanplats will purchase the treated water at a reduced rate of ZAR 5 per thousand litres. The selected contractor for the works has been appointed and bush clearing recently completed. The construction works are scheduled to take approximately 18 months.

Supply of bulk power to Platreef (100MVA)

Final agreements for the 100 megavolt-amperes (MVA) power supply from Eskom, the South African public electricity utility, were signed during Q2 2022 and the construction permit was received. Construction of the overhead line has commenced, and fabrication of the pylons is progressing. The bulk power project is scheduled for completion in Q4 2023.

Platreef continues focus on community development, human resources, and job training

Implementation of Platreef's second Social and Labour Plan (SLP) is underway. Ivanplats plans to build on the first SLP and continue with its training and development suite, including: 15 new mentorship initiatives; 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. Platreef also continues to support several educational programs and provide free Wi-Fi in host communities.

The first cadetship program, providing learnership opportunities to over 50 local students, was successfully completed. Selection is underway for the 50 beneficiaries of the second cadetship program, planned to commence in October 2022. Through this program, youth from the local community are afforded the opportunity to obtain a National Certificate in Health and Safety, as well as mining competencies, such as utility vehicle operations from the Murray & Roberts Training Academy. The cadetship program seeks to enhance gender diversity within the mine's workforce, targeting a minimum of 50% female representatives in the program. The first program successfully included 54% female students.

Local economic development projects will contribute to community water-source development through the Mogalakwena Municipality boreholes program. Activities undertaken include the tender process for the Ga-Magongoa community, as well as the launch of the social survey for the other five communities in preparation for the next phase of the water project. Other planned SLP projects, which will be conducted in partnership with other parties, include the refurbishment and equipping of a health clinic in Tshamahansi Village.

The enterprise-and-supplier development commitments comprise of expanding the existing kiosk and laundry facilities. New equipment has been installed at the laundry facilities, which increased capacity allows for service of the laundry needs of both the company and all on-site contractors. The planned kiosk expansion project will incorporate three separate facilities on site. The process of identifying local entrepreneurs to manage the kiosks is underway.

KIPUSHI PROJECT

The Kipushi zinc-copper-germanium-silver-lead mine in the DRC is adjacent to the town of Kipushi and approximately 30 kilometres southwest of Lubumbashi. It is located on the Central African Copperbelt, approximately 250 kilometres southeast of the Kamoa-Kakula Mining Complex and less than one kilometre from the Zambian border. Ivanhoe acquired its 68% interest in the Kipushi Project in November 2011, through Kipushi Holding that is 100%-owned by Ivanhoe Mines. The balance of 32% in the Kipushi Project is held by the state-owned mining company, Gécamines.

Kipushi Holding and Gécamines have signed a new agreement to return the ultra-high-grade Kipushi Mine back to commercial production. Kipushi will be the world's highest-grade major zinc mine, with an average grade of 36.4% zinc over the first five years of production.

Activities in 2022 to date includes the award of the mining contract for early works, repair of underground access roads required for future workings and recruitment of the key staff required for development.

In June 2022, Kipushi Holding together with Gécamines, approved the development budget for the Kipushi Project in line with the Kipushi 2022 Feasibility Study. Ordering of long-lead equipment is in process and early works construction activities now have commenced. Financing and offtake discussions are advancing with several interested parties.

Highlights of the new agreement include:

- Kipushi Holding will transfer 6% of the share capital and voting rights in the Kipushi Project to Gécamines, after which Kipushi Holding and Gécamines will hold 62% and 38%, respectively.
- From January 25, 2027, 5% of the share capital and voting rights in the Kipushi Project will be transferred from Kipushi Holding to Gécamines, after which Kipushi Holding and Gécamines will hold 57% and 43%, respectively.
- If, after the 6% and 5% transfers, part of the Kipushi Project's share capital is required to be transferred to the State or to any third party pursuant to an applicable legal or regulatory provision, Gécamines will transfer the number of the Kipushi Project shares required, and Kipushi Holding will retain 57% ownership in the Kipushi Project.
- Once a minimum of the current proven and probable reserves and up to 12 million tonnes has been mined and processed, an additional 37% of the share capital and voting rights in the Kipushi Project will be transferred from Kipushi Holding to Gécamines, after which Kipushi Holding and Gécamines will hold 20% and 80%, respectively.
- A new supervisory board and executive committee will be established with appropriate shareholder representation.
- Initiatives will be implemented, focusing on the development of Congolese employees, including individual development, the identification of future leaders, succession planning and the promotion of gender equality across the workforce.
- A framework for tendering for the offtake of zinc concentrates produced by the Kipushi Mine has been established, which includes Gécamines' participation.
- Kipushi Holding will continue to fund the Kipushi Project with the shareholder loan and/or procure financing from third parties for the development of the project. The interest on the shareholder loan will be 6%, which will be applicable from January 1, 2022, on the existing balance and any further advances. Under the terms of the current shareholder loan agreement, the shareholder loan carries interest of LIBOR plus 4%, which is applicable to 80% of the advanced amounts with the remaining 20% interest-free. As of June 30, 2022, the balance of the shareholder loan owing to Kipushi Holding, including accrued interest, was approximately $557 million.

Health and safety at Kipushi

At the end of June 2022, the Kipushi Project reached 4,803,537 work hours free of lost-time injuries. It has been more than three and a half years since the last lost-time injury occurred at the project.

Community enrichment and development

The Kipushi Project has built a new potable water station to provide a free daily supply of water to the municipality of Kipushi. This daily supply to the Kipushi municipality community members includes power supply, disinfectant chemicals, routine maintenance, security and emergency repair of leaks to the primary reticulation to the benefit of an estimated 100,000 people. Approximately 1,000 cubic metres of potable water is pumped hourly and continuously to consumers on a daily basis.

50 boreholes of potable water are planned to be drilled around the Kipushi district over five years, to reach areas not served by current distribution. Four new water wells have been drilled, bringing the total to 16 solar-powered potable water wells, which have been installed by the Kipushi Project in the district.

The Kipushi Project continues to support educational initiatives through ongoing renovations at the Mungoti School, and the granting of bursaries and scholarships to students from Kipushi. A local orphanage was presented with a donation of books. Over 300 local beneficiaries are participating in an adult literacy and education program this year after the program resumed with physical classes following a two-year interruption due to the COVID-19 pandemic.

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 sewing initiative has also been producing uniforms and other garments which are planned for distribution to local orphans and widows.

The Kipushi Project continued its efforts to combat COVID-19 through a vaccination campaign in collaboration with the health zone.

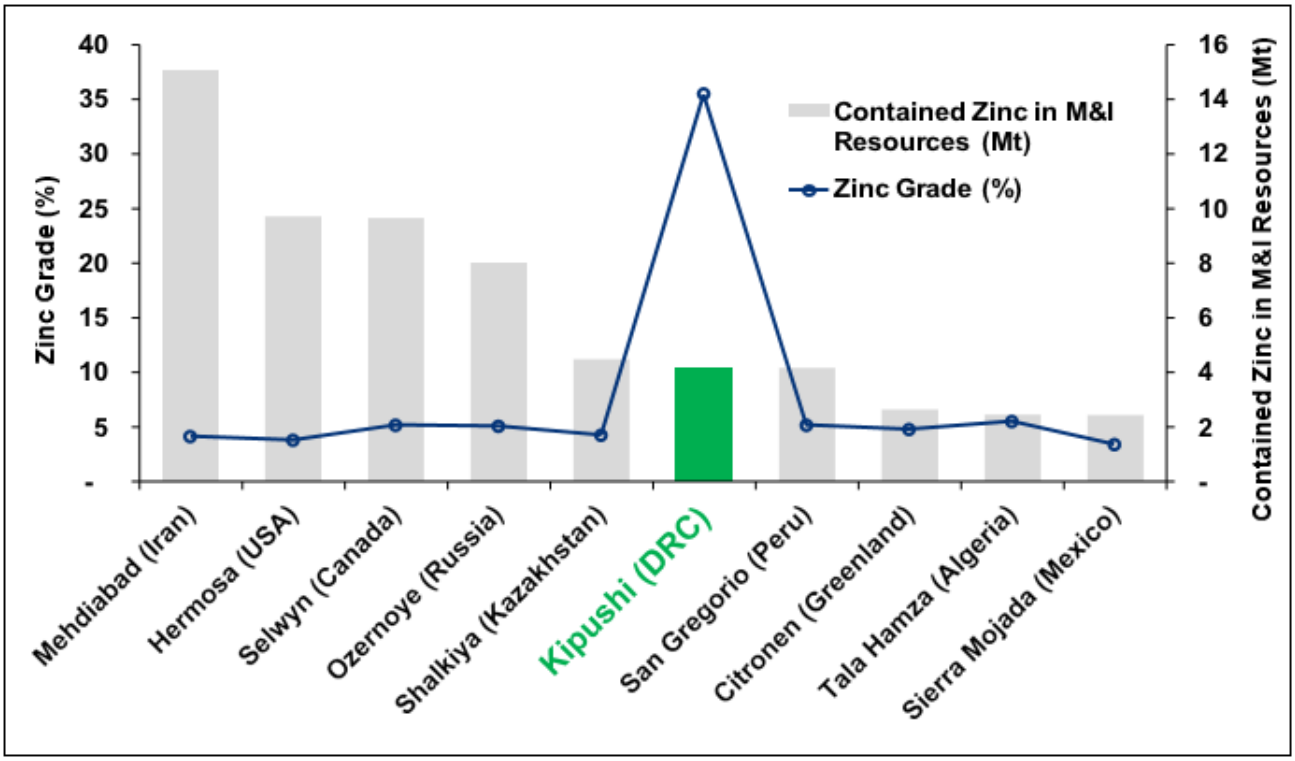
Kipushi feasibility study issued, heralding the planned re-start of the historic mine, with a two-year development timeline and exceptional economic results

On February 14, 2022, Ivanhoe Mines announced the positive findings of an independent, feasibility study for the planned resumption of commercial production at Kipushi.

The Kipushi 2022 Feasibility Study is based on a two-year construction timeline, which utilizes the significant existing surface and underground infrastructure to allow for substantially lower capital costs than comparable development projects. The estimated pre-production capital cost, including contingency, is $382 million.

The Kipushi 2022 Feasibility Study focuses on the mining of Kipushi's zinc-rich Big Zinc and Southern Zinc zones, with an estimated 11.8 million tonnes of Measured and Indicated Mineral Resources grading 35.3% zinc. Kipushi's exceptional zinc grade is more than twice that of the world's next-highest-grade zinc project, according to Wood Mackenzie, a leading, international industry research and consulting group (see Figure 5).

Figure 5: World's top 10 zinc projects, by contained zinc.



Source: Wood Mackenzie, January 2022. Note: All tonnes and metal grades of individual metals used in the equivalency calculation of the above-mentioned projects (except for Kipushi) are based on public disclosure and have been compiled by Wood Mackenzie. All metal grades have been converted by Wood Mackenzie to a zinc equivalent grade at Wood Mackenzie's respective long-term price assumptions.

The Kipushi 2022 Feasibility Study envisages the recommencement of underground mining operations, and the construction of a new concentrator facility on surface with annual processing capacity of 800,000 tonnes of ore, producing on average 240,000 tonnes of zinc contained in concentrate.

Highlights of the 2022 feasibility study results for the Kipushi Mine include:

- The Kipushi 2022 Feasibility Study evaluates the development of an 800,000-tonne-per-annum underground mine and concentrator, with an increased resource base compared to the pre-feasibility study, extending the mine life to 14 years.
- Existing surface and underground infrastructure allow for significantly lower capital costs than comparable development projects, with the principal development activity being the construction of a conventional concentrator facility and new supporting infrastructure on surface in a two-year timeline.
- Pre-production capital costs, including contingency, estimated at $382 million.
- Life-of-mine average zinc production of 240,000 tonnes per annum, with a zinc grade of 32%, is expected to rank Kipushi among the world's major zinc mines (Figure 5), once in production, with the highest grade by some margin.
- Life-of-mine average C1 cash cost of $0.65/lb. of zinc is expected to rank Kipushi, once in production, in the second quartile of the cash cost curve for zinc producers globally.
- At a long-term zinc price of $1.20/lb., the after-tax net present value (NPV) at an 8% real discount rate is $941 million, with an after-tax real internal rate of return (IRR) of 40.9% and project payback period of 2.3 years.

The Kipushi 2022 Feasibility Study was independently prepared on a 100%-project basis by OreWin Pty. Ltd., MSA Group (Pty.) Ltd., SRK Consulting (Pty) Ltd. and METC Engineering.

Project development and infrastructure

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 the upgrading of a series of vertical mine shafts to various depths, with associated headframes, as well as underground mine excavations and infrastructure. 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.

Photo: Kipushi mining crews installing support bolts for cables and water pipes using a boom basket.

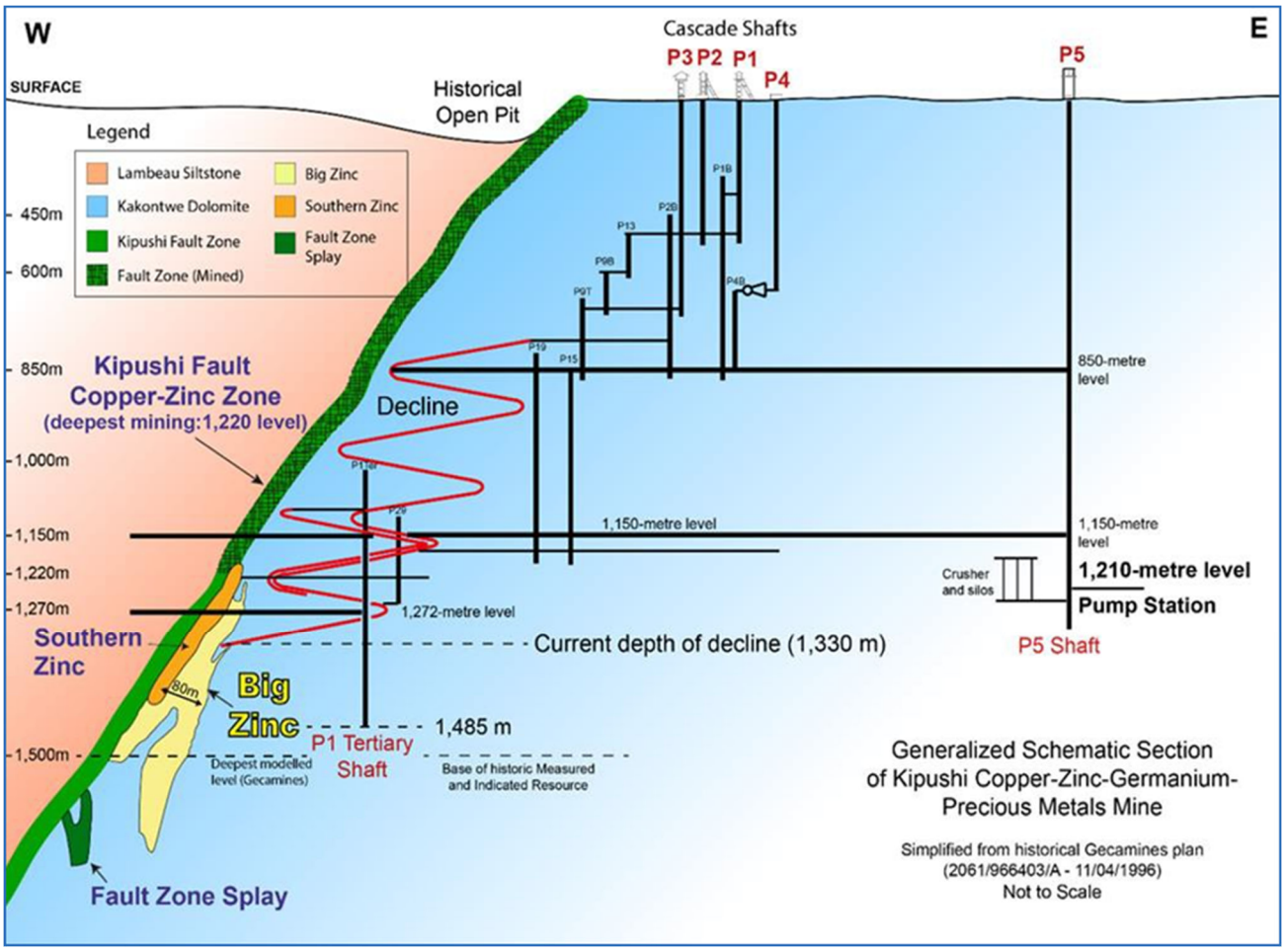
Shaft 5 is eight metres in diameter and 1,240 metres deep and has been upgraded and re-commissioned. The main personnel and material winder has been upgraded and modernized to meet international industry standards and safety criteria. The Shaft 5 rock-hoisting winder also is fully operational, with new 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.

Recently upgraded underground mine with easy access to stopes allows for rapid production ramp-up

Mining at Kipushi historically has been carried out from the surface to a depth of approximately 1,220 metres. Shaft 5 (P5) is planned to be the main production shaft with a maximum hoisting capacity of 1.8 million tonnes per annum and provides the primary access to the lower levels of the mine, including the Big Zinc Zone, through the 1,150-metre haulage level.

Mining will be performed using highly productive, mechanized methods and cemented rock fill will be utilized to fill open stopes. Material generated underground will be trucked to the base of the P5 shaft, crushed and hoisted to surface. Personnel and equipment access also are via the P5 shaft. The Big Zinc Zone will be accessed by way of the existing decline, without significant new development required. As the existing decline already is below the first planned stoping level, it is relatively quick to develop the first zinc stopes for the ramp up of mine production.

Figure 6: Schematic section of Kipushi Mine. Shaft 5 (P5) is planned to be the main production shaft with a maximum hoisting capacity of 1.8 million tonnes per annum.



WESTERN FORELAND EXPLORATION PROJECT

Ivanhoe's DRC exploration group is targeting Kamoa-Kakula-style copper mineralization through a regional exploration and drilling program on its Western Foreland exploration licences, located to the north, south and west of the Kamoa-Kakula Project. Ivanhoe's Western Foreland Exploration Project consists of 17 licences that cover a combined area of approximately 2,407 square kilometres.

Exploration models that successfully led to the discoveries of Kakula, Kakula West, and the Kamoa North Bonanza Zone on the Kamoa Copper SA 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 drilling in Q2 2022 was focused on additional drilling in the Makoko West area, drilling of stratigraphic holes in Lupemba area and regional stratigraphic sections on the permit north of the Kamoa-Kakula mining licence. A total of 39 diamond holes were completed during Q2 2022 to a total of 7,539 metres. In addition to the diamond drilling, 284 metres of air core drilling, within 8 holes, was completed at Makoko. Drilling expanded further afield during the period as the rainy season ended and the ground conditions improved.

The drilling of the Makoko West area is targeting the westerly extension of the Makoko Sud deposit discovered in 2018. Drilling is targeting shallow mineralization, less than 170 metres from surface, using Land Cruiser mounted rigs. In total, 2,802 metres in 21 holes were completed at Makoko West during Q2 2022.

A total of 1,716 metres of diamond drilling was completed in Q2 2022, in four holes, in the Mushiji permit, which is located approximately three kilometres north of the Kamoa-Kakula mining licence. Two five-kilometre-spaced drill fences were planned to test for the presence of lower Nguba and Roan Sandstone in the northern part of the permit. The drilling showed the northern section to have low prospectivity and no further work is planned. The southern portion of the licence still holds numerous prospective areas. A surface mapping program in the Mushiji area also was conducted to establish a more comprehensive surface geological map and assist with Roan distribution mapping.

Regional stratigraphic drilling during the quarter focused mainly on the Lupemba area in the far southwest of the Western Foreland licence package where the regional magnetic signature is more complex. In Q2 2022, diamond drilling for Lubudi, Kakula East and Lupemba were 890 metres, 1,025 metres and 1,106 metres, respectively.

Airborne gravity and electromagnetic helicopter surveys which began in 2021, recommenced and were nearly complete by the end of Q2 2022. Continued interpretation and processing of completed surveys is underway and will be used to better understand the structural domains and basin architecture over the Western Foreland. Ground gravity survey work is still in progress and will be used in conjunction with the airborne gravity to provide increased definition where required.

Ivanhoe's 2022 Western Foreland exploration expenditure is provisionally planned at $25 million. The main component of this expenditure is exploration drilling, with more than 50,000 metres of shallow (depth of less than 150 metres) air core, reverse circulation and diamond drilling focussed on defining sub-outcrop positions and obtaining bed-rock samples under the Kalahari sand cover. In addition, up to 45,000 metres of deeper regional drilling covering the entire 2,407 square kilometre land package is also provisionally planned, some of which is dependent upon exploration success.

Camp infrastructure upgrades during the quarter included the completion of the mobile phone tower construction and the associated IT infrastructure and high-speed internet connection.

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. All revenue from commercial production at Kamoa-Kakula is recognized within the Kamoa Holding joint venture. Ivanhoe did not declare or pay any dividend or distribution in any financial reporting period.

	Three months ended			
	June 30, 2022	March 31, 2022	December 31, 2021	September 30, 2021
	$'000	$'000	$'000	$'000
Gain (loss) on fair valuation of embedded derivative liability	183,600	(66,400)	(88,500)	54,900
Deferred tax recovery (expense)	114,184	(1,347)	74,069	(50)
Share of profit from joint venture	49,690	87,109	78,391	41,404
Finance income	38,596	31,505	27,978	26,437
Exploration and project evaluation expenditure	(13,470)	(12,243)	(15,800)	(15,677)
Finance costs	(10,013)	(7,391)	(10,539)	(10,451)
General administrative expenditure	(8,957)	(6,238)	(10,658)	(6,731)
Share-based payments	(4,637)	(7,389)	(7,490)	(5,117)
(Loss) gain on fair valuation of financial asset	(2,942)	3,358	184	(53)
Profit (loss) attributable to:				
Owners of the Company	316,242	26,394	45,833	89,806
Non-controlling interests	35,278	(4,854)	2,333	(4,456)
Total comprehensive income (loss) attributable to:				
Owners of the Company	306,381	45,495	29,774	72,470
Non-controlling interest	34,495	(2,858)	632	(6,277)
Basic profit per share	0.26	0.02	0.04	0.07
Diluted profit per share	0.26	0.02	0.04	0.07

	Three months ended			
	June 30, 2021	March 31, 2021	December 31, 2020	September 30, 2020
	$'000	$'000	$'000	$'000
(Loss) gain on fair valuation of embedded derivative liability	(85,700)	25,600	-	-
General administrative expenditure	(13,165)	(7,919)	(6,973)	(4,868)
Exploration and project evaluation expenditure	(11,972)	(8,722)	(13,754)	(9,972)
Finance costs	(10,110)	(1,791)	(1,464)	(69)
Share of loss from joint venture	(9,960)	(4,093)	(6,151)	(7,323)
Share-based payments	(4,068)	(3,327)	(4,824)	(4,250)
Finance income	25,095	22,780	21,032	20,241
Deferred tax recovery (expense)	978	44	(356)	(201)
(Loss) profit attributable to:				
Owners of the Company	(104,452)	24,055	(5,463)	(901)
Non-controlling interests	(4,161)	(3,646)	(5,447)	(4,423)
Total comprehensive (loss) income attributable to:				
Owners of the Company	(92,793)	20,339	33,170	3,032
Non-controlling interest	(2,901)	(4,102)	(1,349)	(4,049)
Basic (loss) profit per share	(0.09)	0.02	0.00	(0.00)
Diluted (loss) profit per share	(0.09)	0.02	0.00	(0.00)

DISCUSSION OF RESULTS OF OPERATIONS

Review of the three months ended June 30, 2022 vs. June 30, 2021

The Company recorded a total comprehensive income of $340.9 million for Q2 2022 compared to a total comprehensive loss of $95.7 million for the same period in 2021. The profit for the period principally relates to the Company's share of profit from the Kamoa Holding joint venture, the gain on fair valuation of embedded derivative liability and the recognition of the deferred tax asset relating to the Kipushi Project, all three of which are described in greater detail below.

Kamoa-Kakula sold 85,794 tonnes of payable copper in Q2 2022 realizing revenue of $494.1 million for the Kamoa Holding joint venture. Kamoa-Kakula's other operating data is summarized under the review of operations section on page 4. The Company recognized income in the aggregate of $84.6 million from the joint venture in Q2 2022, which can be summarized as follows:

	Three months ended June 30,	
	2022	**2021**
	$'000	**$'000**
Company's share of profit (loss) from joint venture	49,690	(9,960)
Interest on loan to joint venture	34,874	22,960
Company's income recognized from joint venture	**84,564**	**13,000**

The Company's share of profit from the Kamoa Holding joint venture was $49.7 million in Q2 2022 compared to a loss of $10.0 million in Q2 2021. The following table summarizes the Company's share of profit (loss) of the joint venture for the three months ended June 30, 2022, and for the same period in 2021:

	Three months ended June 30,	
	2022	**2021**
	$'000	**$'000**
Revenue from contract receivables	699,381	–
Remeasurement of contract receivables	(205,248)	–
Revenue	**494,133**	**–**
Cost of sales	(217,112)	–
Gross profit	**277,021**	**–**
General and administrative costs	(23,964)	–
Exploration expenses	–	(2,058)
Profit (loss) from operations	**253,057**	**(2,058)**
Finance costs	(66,828)	(21,906)
Finance income and other	3,312	1,262
Profit (loss) before taxes	**189,541**	**(22,702)**
Current tax expense	(4,726)	–
Deferred tax (expense) recovery	(57,389)	97
Profit (loss) after taxes	**127,426**	**(22,605)**
Non-controlling interest of Kamoa Holding	(27,044)	2,485
Profit (loss) for the period attributable to joint venture partners	100,382	(20,120)
Company's share of profit (loss) from joint venture (49.5%)	**49,690**	**(9,960)**

As explained in the accounting for the convertible notes section on page 40, the Company recognized a gain on fair valuation of the embedded derivative financial liability of $183.6 million for Q2 2022, compared to a loss on fair valuation of the embedded derivative financial liability of $85.7 million for Q2 2021.

Finance income for Q2 2022 amounted to $38.6 million, and was $13.5 million more than for the same period in 2021 ($25.1 million). Included in finance income is the interest earned on loans to the Kamoa Holding joint venture to fund past development that amounted to $34.9 million for Q2 2022, and $23.0 million for the same period in 2021, and increased due to the higher accumulated loan balance.

With the agreement of the development plan by the shareholders of Kipushi and the approval of the development budget consistent with the Kipushi 2022 Feasibility Study, it now is deemed probable that future taxable profit will be available from the Kipushi Project, against which the unused tax losses and unused tax credits can be utilized. As a result, the Company recognized the previously unrecognized deferred tax asset in June 2022, resulting in a deferred tax recovery (income) of $114.2 million.

Exploration and project evaluation expenditure amounted to $13.5 million in Q2 2022 and $12.0 million for the same period in 2021. Exploration and project evaluation 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 Q2 2022 and for the same period in 2021 are set out in the following table:

	Three months ended June 30,	
	2022	**2021**
	$'000	**$'000**
Kipushi Project		
Other expenditure	3,338	2,309
Salaries and benefits	2,756	2,672
Depreciation	1,888	1,842
Studies and contracting work	1,169	112
Other additions to property, plant and equipment	1,164	17
Electricity	635	861
Total project expenditure	10,950	7,813
Exclude:		
Other additions to property, plant and equipment	(1,164)	(17)
Exploration and project evaluation expenditure in the profit (loss) from operating activities	9,786	7,796

Review of the six months ended June 30, 2022 vs. June 30, 2021

The Company recorded a total comprehensive income of $383.5 million for the six months ended June 30, 2022, compared to a loss of $79.5 million for the same period in 2021. The profit for the period principally relates to the Company's share of profit from the Kamoa Holding joint venture, the gain on fair valuation of embedded derivative liability and the recognition of the deferred tax asset relating to the Kipushi Project, all three of which are described in greater detail below.

The Kamoa-Kakula Mining Complex sold 137,713 tonnes of payable copper in the six months ended June 30, 2022, realizing revenue of $1,013.7 million for the Kamoa Holding joint venture. Kamoa-Kakula's other operating data is summarized under the review of operations section on page 4. The Company recognized income in aggregate of $200.0 million from the joint venture in the six months ended June 30, 2022, which can be summarized as follows:

	Six months ended June 30,	
	2022	2021
	$'000	$'000
Company's share of profit (loss) from joint venture	136,799	(14,053)
Interest on loan to joint venture	63,163	44,140
Company's income recognized from joint venture	**199,962**	**30,087**

The Company's share of profit from the Kamoa Holding joint venture was $136.8 million in the six months ended June 30, 2022, compared to a loss of $14.1 million in the same period in 2021. The following table summarizes the Company's share of profit (loss) of the joint venture for the six months ended June 30, 2022, and for the same period in 2021:

	Six months ended June 30,	
	2022	2021
	$'000	$'000
Revenue from contract receivables	1,166,834	–
Remeasurement of contract receivables	(153,106)	–
Revenue	**1,013,728**	–
Cost of sales	(340,482)	–
Gross profit	**673,246**	–
General and administrative costs	(39,732)	–
Exploration expenses	–	(2,435)
Profit (loss) from operations	**633,514**	**(2,435)**
Finance costs	(121,471)	(43,077)
Finance income and other	8,816	2,469
Profit (loss) before taxes	**520,859**	**(43,043)**
Current tax expense	(9,941)	–
Deferred tax (expense) recovery	(162,218)	9,991
Profit (loss) after taxes	**348,700**	**(33,052)**
Non-controlling interest of Kamoa Holding	(72,339)	4,663
Profit (loss) for the period attributable to joint venture partners	276,361	(28,389)
Company's share of profit (loss) from joint venture (49.5%)	**136,799**	**(14,053)**

As explained in the accounting for the convertible notes section on page 40, the Company recognized a gain on fair valuation of the embedded derivative financial liability of $117.2 million for the six months ended June 30, 2022, compared to a loss on fair valuation of the embedded derivative financial liability of $60.1 million for the same period in 2021.

With the agreement of the development plan by the shareholders of Kipushi and the approval of the development budget consistent with the Kipushi 2022 Feasibility Study, it now is deemed probable that future taxable profit will be available from the Kipushi Project, against which the unused tax losses and unused tax credits can be utilized. As a result, the Company recognized the previously unrecognized deferred tax asset in June 2022, resulting in a deferred tax recovery (income) of $112.8 million.

Finance income for the six months ended June 30, 2022, amounted to $70.1 million, and was $22.2 million more than for the same period in 2021 ($47.9 million). Included in finance income is the interest earned on loans to the Kamoa Holding joint venture to fund operations that amounted to

$63.2 million for the six months ended June 30, 2022, and $44.1 million for the same period in 2021. Interest increased due to the higher accumulated loan balance.

Exploration and project evaluation expenditure amounted to $25.7 million in the six months ended June 30, 2022, and $20.7 million for the same period in 2021. Exploration and project evaluation 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 the six months ended June 30, 2022 and for the same period in 2021 are set out in the following table:

	Six months ended June 30,	
	2022	**2021**
	$'000	**$'000**
Kipushi Project		
Other expenditure	5,626	4,091
Salaries and benefits	5,725	4,417
Depreciation	3,759	3,706
Studies and contracting work	1,698	130
Electricity	1,544	1,739
Other additions to property, plant and equipment	1,459	17
Total project expenditure	19,811	14,100
Exclude:		
Other additions to property, plant and equipment	(1,459)	(17)
Exploration and project evaluation expenditure in the profit (loss) from operating activities	18,352	14,083

Financial position as at June 30, 2022, vs. December 31, 2021

The Company's total assets increased by $291.8 million, from $3,218.2 million as at December 31, 2021, to $3,510.0 million as at June 30, 2022. The main reason for the increase in total assets was attributable to the increase in the Company's investment in the Kamoa Holding joint venture by $200.0 million from $1,641.8 million as at December 31, 2021, to $1,841.8 million as at June 30, 2022.

The Company's share of profit from the Kamoa Holding joint venture amounted to $136.8 million, while the interest on the loan to the joint venture amounted to $63.2 million for the six months ended June 30, 2022. The Company's investment in the Kamoa Holding joint venture can be broken down as follows:

	June 30, 2022	**December 31, 2021**
	$'000	**$'000**
Company's share of net assets of the joint venture	393,059	256,260
Loan advanced to joint venture	1,448,698	1,385,535
Total investment in joint venture	1,841,757	1,641,795

Prior to commencing commercial production in July 2021, the Kamoa Holding joint venture principally used loans advanced to it by its shareholders to advance the Kamoa-Kakula Mining Complex through investing in development costs and other property, plant and equipment.

The net assets of the Kamoa Holding joint venture, and the Company's share thereof, can be broken down as follows:

	June 30, 2022		December 31, 2021	
	100%	49.5%	100%	49.5%
	$'000	$'000	$'000	$'000
Assets				
Property, plant and equipment	2,275,890	1,126,567	2,000,818	990,405
Mineral property	802,021	397,000	802,021	397,000
Cash and cash equivalents	356,449	176,442	22,031	10,905
Non-current inventory	228,663	113,188	190,154	94,126
Long term loan receivable	225,564	111,654	197,122	97,575
Indirect taxes receivable	204,752	101,352	152,099	75,289
Consumable stores	143,530	71,047	94,459	46,757
Prepaid expenses	130,163	64,431	127,328	63,027
Trade receivables	127,751	63,237	198,513	98,264
Current inventory	17,121	8,475	20,978	10,384
Right-of-use asset	17,055	8,442	21,161	10,475
Non-current deposits	1,689	836	1,689	836
Deferred tax asset	782	387	17,904	8,862
Liabilities				
Shareholder loans	(2,925,848)	(1,448,295)	(2,798,282)	(1,385,149)
Trade and other payables	(226,596)	(112,165)	(219,475)	(108,640)
Deferred tax liability	(145,127)	(71,838)	-	-
Equipment finance facility	(100,870)	(49,931)	(72,296)	(35,787)
Rehabilitation provision	(38,758)	(19,185)	(35,742)	(17,692)
Other provisions	(33,362)	(16,514)	(15,681)	(7,762)
Lease liability	(19,153)	(9,480)	(23,287)	(11,527)
Provisional payment facility	(16,696)	(8,265)	(5,117)	(2,532)
Income taxes payable	(8,186)	(4,052)	(8,265)	(4,091)
Non-controlling interest	(222,775)	(110,274)	(150,436)	(74,465)
Net assets of the joint venture	**794,059**	**393,059**	**517,696**	**256,260**

Going forward, all Phase 1 and Phase 2 operating costs and most Phase 3 capital expenditures are expected to be funded from copper sales and facilities in place at Kamoa-Kakula. Cash flows generated and used by the Kamoa Holding joint venture can be summarized as follows:

	Six months ended June 30,	
	2022	2021
	$'000	$'000
Net cash generated from (used in) operating activities	**590,716**	(94,826)
Net cash used in investing activities	**(250,767)**	(319,829)
Net cash generated from financing activities	**1,133**	565,036
Effect of foreign exchange rate changes on cash	**(6,664)**	(1,099)
Net cash inflow	**334,418**	149,282
Cash and cash equivalents - beginning of period	**22,031**	138,805
Cash and cash equivalents - end of period	**356,449**	288,087

The Kamoa Holding joint venture's net increase in property, plant and equipment from December 31, 2021, to June 30, 2022, amounted to $280.0 million and can be further broken down as follows:

	Six months ended June 30,	
	2022	**2021**
	$'000	**$'000**
Kamoa Holding joint venture		
Expansion capital	273,096	–
Sustaining capital	25,709	–
Initial capital	9,009	348,979
Total development costs	307,814	348,979
Borrowing costs capitalized	21,554	46,065
Total additions to property, plant and equipment for Kamoa Holding	329,368	395,044
Less depreciation, disposals and foreign exchange translation	(54,296)	(11,602)
Net increase in property, plant and equipment of Kamoa Holding	275,072	383,442

Ivanhoe's cash and cash equivalents decreased by $101.0 million, from $608.2 million as at December 31, 2021, to $507.2 million as at June 30, 2022. The Company utilized $47.6 million of its cash in operating activities and spent $33.4 million acquiring property, plant and equipment. The Company also invested $13.3 million in acquiring a strategic equity stake in Renergen Ltd., a South African emerging energy and helium producer.

The Company's total liabilities decreased by $107.3 million to $733.9 million as at June 30, 2022, from $841.2 million as at December 31, 2021, with the decrease mainly due to the decrease in the embedded derivative liability linked to the convertible senior notes described on page 40.

The net increase in property, plant and equipment amounted to $33.8 million, with additions of $41.2 million to project development and other property, plant and equipment. Of this total, $38.9 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 six months ended June 30, 2022, and for the same period in 2021, are set out in the following table:

	Six months ended June 30,	
	2022	**2021**
	$'000	**$'000**
Platreef Project		
Shaft 1 changeover and construction	17,959	3,752
Salaries and benefits	6,706	4,189
Administrative and other expenditure	3,053	2,706
Shaft 2 construction works	4,722	2,351
Studies and contracting work	2,079	4,401
Site costs	1,773	1,227
Social and environmental	556	662
Infrastructure	–	–
Total development costs	36,848	19,288
Other additions to property, plant and equipment	2,093	161
Total additions to property, plant and equipment for Platreef	38,941	19,449

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.

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 and conversion feature, 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 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 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.

Since upon conversion, the notes may be settled, at the Company's election, in cash, common shares or a combination thereof, the conversion feature is an embedded derivative 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% and the interest recognized on the convertible notes amounted to $9.7 million in Q2 2022, after the capitalization of $0.7 million borrowing costs. The carrying value of the host liability was $450.9 million as at June 30, 2022, up from $437.4 million as at December 31, 2021.

The derivative liability had a fair value of $150.5 million on closure of the convertible notes offering and increased to $244.2 million as at December 31, 2021, and decreased to $127.0 million as at June 30, 2022, resulting in a gain on fair valuation of embedded derivative liability of $117.2 million for the six months ended June 30, 2022. The change in the fair value of the embedded derivative liability is largely due to the changes in the closing share price of the Company's common shares at the different reporting dates.

The following key inputs and assumptions were used in determining the fair value of the embedded derivative liability:

	March 17, 2021	March 31, 2021	June 30, 2021	Dec 31, 2021	March 31, 2022	June 30, 2022
Share price	C$7.00	C$6.47	C$8.95	C$10.32	C$11.66	C$7.41
Credit spread (basis points)	630	610	487	356	277	541
Volatility	42%	42%	40%	40%	40%	40%
Borrowing cost (basis points)	50	50	50	25	25	25
Fair value of derivative liability ($'million)	$150.5	$124.9	$210.6	$244.2	$310.6	$127.0

Transaction costs on the convertible notes offering relating to the embedded derivative liability amounted to $3.7 million and was expensed and included in the profit and loss for Q1 2021.

LIQUIDITY AND CAPITAL RESOURCES

The Company had $507.1 million in cash and cash equivalents as at June 30, 2022. At this date, the Company had consolidated working capital of approximately $529.5 million, compared to $654.8 million as at December 31, 2021.

The Platreef Project entered a gold, palladium and platinum stream financing in December 2021 that will fund a large portion of the Phase 1 capital costs. The stream facilities are a prepaid forward sale of refined metals, with prepayments totaling $300 million, available in two tranches with the first prepayment of $75 million received in December 2021 following the closing of the transaction and $225 million to be paid upon satisfaction of certain conditions precedent.

Kipushi Holding together with Gécamines, approved the development budget for the Kipushi Project in line with the Kipushi 2022 Feasibility Study. Ordering of long-lead equipment and other construction activities now have commenced. Financing and offtake discussions are advancing with several interested parties.

The Company's main objectives for the remainder of 2022 at the Platreef Project are the continued development of the project towards the completion of its first phase currently scheduled for Q3 2024, as well as the continuation of the construction of the Shaft 2 headframe to allow optionality for possibly bringing Phase 2 forward. With the development plan and budget approved by Kipushi Holding together with Gécamines, Kipushi has commenced with the ordering of long-lead equipment and other construction activities as outlined in the 2022 feasibility study. With Phase 1 and Phase 2 commercial production achieved at the Kamoa-Kakula Mining Complex, the current focus is on operational efficiency and de-bottlenecking the Phase 1 and 2 operations, as well as progressing the Phase 3 expansion.

The Company has forecast to spend $129 million on further development at the Platreef Project; $78 million on development at the Kipushi Project; and $21 million on corporate overheads for the remainder of 2022. Exploration activities at the Western Foreland exploration project in the DRC and other targets will continue in 2022 with an initial budget of $17 million for the remainder of 2022 on Western Forelands and $6 million on other targets. At the Kamoa Holding joint venture, all operating, and capital expansion costs are expected to be funded from copper sales and facilities in place at Kamoa.

The planned capital expenditure for 2022 can be broken down as follows:

Capital expenditure	Planned for 2022	Incurred in Q1-Q2 2022	Remaining for 2022
	$'000	**$'000**	**$'000**
Platreef Project			
Initial capital (Phase 1)	142,953	34,219	108,734
Expansion capital (Phase 2)	25,209	4,722	20,487
	168,162	**38,941**	**129,221**
Kipushi Project			
Initial capital	79,621	1,164	78,457
	79,621	**1,164**	**78,457**
Kamoa-Kakula Mining Complex [(1)]			
Phase 2 and other expansion capital	469,216	230,358	238,858
Phase 3 and smelter early works [(2)]	486,028	42,739	443,289
Sustaining capital	83,406	25,709	57,697
	1,038,650	**298,806**	**739,844**

Notes: [1] Amounts in the above table for the Kamoa-Kakula Mining Complex are on a 100%-project basis. [2] The amount for Phase 3 and smelter early works is initial budgets only and will be augmented on completion of the updated pre-feasibility study.

On March 17, 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 $450.9 million and the fair value of the embedded derivative liability was $127.0 million as at June 30, 2022.

The Company has a mortgage bond outstanding on its offices in London, United Kingdom, of £3.2 million ($3.9 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 $35.2 million as at June 30, 2022, and a contractual amount due of $35.5 million. The loan is repayable once the Platreef Project has residual cashflow, which is defined in the loan agreement as gross revenue generated by the Platreef Project, less all operating costs attributable thereto, including all mining development and operating costs. The loan attracts interest of USD 3-month LIBOR plus 2% calculated monthly in arrears. Interest is not compounded. The difference of $0.3 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:

	Payments Due By Period				
Contractual obligations as at June 30, 2022	**Total $'000**	**Less than 1 year $'000**	**1-3 years $'000**	**4-5 years $'000**	**After 5 years $'000**
Convertible notes	577,993	2,993	-	575,000	-
Debt	39,465	-	-	3,936	35,529
Lease commitments	1,166	522	644	-	-
Total contractual obligations	**618,624**	**3,515**	**644**	**578,936**	**35,529**

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

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

NON-GAAP FINANCIAL PERFORMANCE MEASURES

Kamoa-Kakula's C1 cash costs and C1 cash costs per pound

C1 cash costs and C1 cash costs per pound are non-GAAP financial measures. These are disclosed to enable investors to better understand the performance of Kamoa-Kakula in comparison to other copper producers who present results on a similar basis.

C1 cash costs are prepared on a basis consistent with the industry standard definitions by Wood Mackenzie cost guidelines but are not measures recognized under IFRS. In calculating the C1 cash cost, the costs are measured on the same basis as the Company's share of profit from the Kamoa Holding joint venture that is contained in the financial statements. C1 cash costs are used by management to evaluate operating performance and include all direct mining, processing, and general and administrative costs. Smelter charges and freight deductions on sales to final port of destination, which are recognized as a component of sales revenues, are added to C1 cash cost to arrive at an approximate cost of finished metal. C1 cash costs and C1 cash costs per pound, exclude royalties and production taxes and non-routine charges as they are not direct production costs.

Reconciliation of Kamoa-Kakula's cost of sales to C1 cash costs, including on a per pound basis:

	Kamoa-Kakula Three months ended June 30, 2022	**Kamoa-Kakula Six months ended June 30, 2022**
	$'000	**$'000**
Cost of sales	**217,112**	**340,482**
Logistics, treatment and refining charges	113,671	162,512
General and administrative expenditure	23,964	39,732
Royalties and production taxes	(55,651)	(84,227)
Depreciation	(32,457)	(47,693)
Movement in finished goods inventory	545	548
General and administrative expenditure of other group entities	(2,074)	(2,302)
C1 cash costs	**265,110**	**409,052**
Cost of sales per pound of payable copper sold ($ per lb)	1.15	1.12
C1 cash costs per pound of payable copper produced ($ per lb)	1.42	1.34

All figures above are on a 100% basis.

EBITDA and EBITDA margin

EBITDA is a non-GAAP financial measure, which excludes income tax, finance costs, finance income and depreciation from net profit.

Ivanhoe believes that Kamoa-Kakula's EBITDA is a valuable indicator of the mine's ability to generate liquidity by producing operating cash flow to fund its working capital needs, service debt obligations, fund capital expenditures and distribute cash to its shareholders. EBITDA also is frequently used by investors and analysts for valuation purposes. EBITDA is intended to provide additional information to investors and analysts and does not have any standardized definition under IFRS and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS. EBITDA excludes the impact of cash costs of financing activities and taxes, and the effects of changes in operating working capital balances, and therefore are not necessarily indicative of operating profit or cash flow from operations as determined under IFRS. Other companies may calculate EBITDA differently.

EBITDA margin is an indicator of Kamoa-Kakula's overall health and denotes its profitability, which is calculated by dividing EBITDA by revenue. EBITDA margin is intended to provide additional information to investors and analysts, does not have any standardized definition under IFRS, and should not be considered in isolation, or as a substitute, for measures of performance prepared in accordance with IFRS.

Reconciliation of profit (loss) after tax to EBITDA:

	Six months ended June 30,	
	2022	**2021**
	$'000	**$'000**
Profit (loss) after taxes	**348,700**	(33,052)
Finance costs	**121,471**	43,077
Finance income	**(4,319)**	(1,230)
Current and deferred tax expense	**172,159**	(9,991)
Depreciation	**47,693**	-
EBITDA	**685,704**	(1,196)

All figures above are for the Kamoa Holding joint venture on a 100% basis.

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 June 30,		Six months ended June 30,	
	2022	2021	**2022**	2021
	$'000	$'000	**$'000**	$'000
Kamoa Holding Limited (a)	**34,874**	22,960	**63,163**	44,140
High Power Exploration Inc. (b)	**1,408**	1,274	**2,887**	2,264
Kamoa Services (Pty) Ltd. (c)	**806**	1 851	**1,416**	1 851
Kamoa Copper SA (d)	**362**	(962)	**652**	917
Ivanhoe Electric Inc. (e)	**120**	–	**120**	–
Ivanhoe Mines Energy DRC SARL (f)	**46**	14	**81**	60
Ivanhoe Capital Aviation Ltd. (g)	**(1,125)**	(1,125)	**(2,250)**	(2,233)
Ivanhoe Capital Services Ltd. (h)	**(107)**	(160)	**(255)**	(264)
Global Mining Management Corporation (i)	**(67)**	(162)	**(150)**	(427)
CITIC Metal Africa Investments Limited (j)	**(52)**	(52)	**(105)**	(105)
Ivanhoe Capital Pte Ltd (k)	**–**	(10)	**(3)**	(10)
	36,265	23,628	**65,556**	46,193
Finance income	**36,291**	24,234	**66,055**	46,400
Cost recovery and management fee	**1,214**	903	**2,153**	2 828
Office and administration	**67**	(133)	**35**	(148)
Travel	**(1,103)**	(1 125)	**(2,231)**	(2 250)
Salaries and benefits	**(123)**	(169)	**(280)**	(288)
Directors fees	**(52)**	(52)	**(105)**	(105)
Consulting	**(29)**	(30)	**(71)**	(244)
	36,265	23,628	**65,556**	46,193

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) 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. Following the signing of an amendment to the loan facility agreement on June 16, 2021, the scheduled maturity date of the loan was extended to April 25, 2022. In addition, the loan facility agreement was amended such that the rate of interest for the period after April 25, 2021 is fixed at 11% per annum compounded monthly. The Company is negotiating an updated schedule maturity date with HPX.

(c) Kamoa Services (Pty) Ltd. ("Kamoa Services") is a company registered in South Africa. On March 31, 2021 the Company sold its 100% interest in Kamoa Services to Kamoa Holding. The Company now has an effective 49.5% ownership in Kamoa Services. The Company

provides administration, accounting and other services to Kamoa Services on a cost-recovery basis.

(d) 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.

(e) Ivanhoe Electric Inc. ("Ivanhoe Electric") is a company incorporated under the laws of Delaware, USA. A director of the Company is a director and member of executive management of Ivanhoe Electric. The Company provides services to Ivanhoe Electric on a cost-recovery basis.

(f) 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.

(g) 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.

(h) 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.

(i) 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.

(j) 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.

(k) 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.

As at June 30, 2022, trade and other payables included $0.1 million (December 31, 2021: $0.1 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 June 30, 2022, amounted to $4.7 million (December 31, 2021: $6.1 million).

CRITICAL ACCOUNTING ESTIMATES

The Company's significant accounting policies are presented in Note 2 to the consolidated financial statements for the year ended December 31, 2021. 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.

Provisionally-priced revenue and remeasurement of contract receivables

Sales in the Kamoa Holding Limited joint venture are provisionally priced at the average market price on the date that the products are delivered to the buyers at the Kamoa-Kakula Mine concentrate warehouse or the demarcated holding area at the Lualaba Copper Smelter premises. Revenue from the contract receivables is recognized for all the sales during the period at the average market price for the month in which the sales occurred. Revenue from contract receivables are remeasured with reference to the forward market price at each reporting date and the remeasurement of contract receivables is recognized as revenue in the statement of comprehensive income of the Kamoa Holding Limited joint venture.

Technical feasibility and commercial viability of projects

All direct costs related to the acquisition of mineral property interests are capitalized by property or project. Exploration costs are charged to operations in the period incurred, until such time as the Company determines that a property is technically feasible and commercially viable, where after development costs are capitalized. In making this determination, the Company considers whether a proposed project is capable of being developed at a sufficient return to justify the capital and

managerial resources that must be committed to the project. This determination is made on a property-by-property basis and generally coincides with the finalization of a preliminary economic assessment or pre-feasibility study of the property. Exploration costs include value-added taxes incurred in foreign jurisdictions when recoverability of those taxes is uncertain.
In determining whether an exploration and evaluation property is technically feasible and commercially viable, the Company considers several criteria, including:

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

Bill-and-hold arrangements

During the six months ended June 30, 2022, the Kamoa Holding Limited joint venture had a bill-and-hold arrangement with a customer for copper concentrate sales, as described in IFRS 15. The control of the copper concentrate had passed to the customer however physical possession was retained by Kamoa-Kakula.

Revenue from the copper concentrate sales was recognized by the joint venture when control of the goods transferred to the customer through fulfilment of the contractual performance obligations, which was to deliver the concentrate to the customer. Delivery of the concentrate was on a freecarrier basis as per INCOTERMS 2020, with the point of delivery being on the floor of the Kamoa-Kakula concentrate warehouse. Upon delivery as per the contract, Kamoa-Kakula had a present right to payment for the concentrate and revenue was therefore recognized.

Since Kamoa-Kakula retained physical possession of the copper concentrate at period end, this is deemed to be a “bill-and-hold” arrangement as described in IFRS 15. Revenue from this bill-and hold arrangement was recognized by Kamoa-Kakula as the reason for the customer requesting the bill-and-hold arrangement was deemed to be substantive; the copper concentrate was ready for physical transfer to the customer and was separately identifiable on the warehouse floor as being the customer’s product and Kamoa-Kakula could not sell the copper concentrate to another customer.

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).

Valuation of the embedded derivative liability

The Company has used key inputs and estimates to determine the fair value of the embedded derivative liability at initial recognition and at period end date.

Deferred revenue

The advance payments received under the stream financing agreements have been accounted for as contract liabilities within the scope of IFRS 15. Under the terms of the agreements, settlement of the contracts will be executed via the delivery of credits to the purchasers. The credits to be delivered are directly linked to the metal contained in concentrate produced at the Platreef mine. The contracts are therefore not financial instruments as the contracts will not be settled in cash or another financial instrument. Performance obligations under the contracts will be satisfied through production at the Platreef mine and revenue will be recognized over the duration of the contracts. As the contracts are long term in nature and a portion of the financing was received at inception of the contracts, it has been determined that the contracts contain a significant financing component under IFRS 15.

Deferred tax

Significant judgment is required in determining whether to recognize the deferred tax asset related to the Platreef Project. This includes the probability that there will be sufficient taxable income in the future against which the deferred tax can be utilized. The Company recognized the previously unrecognized deferred tax asset relating to the Platreef Project in the year ended December 31, 2021. Due to the conclusion of the stream-financing agreements and the announcement of the exceptional results of the independent Platreef 2022 feasibility study, the Company considers it highly probable that the Platreef Project will have future taxable profits that will be available against which the deductible temporary differences can be utilized.

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, 2022, with earlier application permitted. The Company adopted these standards in the current period.

- 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.

- 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.

- 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.

- 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.

- 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.

  The Phase 2 amendments are relevant to the Company as the Company has exposure to the variable US dollar London Interbank Overnight Rate (LIBOR) through various financial instruments.

When the contractual terms of the Company's borrowings are amended as a direct consequence of the interest rate benchmark reform and the new basis for determining the contractual cash flows is economically equivalent to the basis immediately preceding the change, the Company changes the basis for determining the contractual cash flows prospectively by revising the effective interest rate. If additional changes are made, which are not directly related to the reform, the applicable requirements of IFRS 9 are applied to the other amendments.

The Company is still assessing its approach to implementing the transition. As at June 30, 2022 no modifications to any of the Company's financial instruments have been made in response to the reform. Negotiations with counterparties on appropriate changes and resetting of rates are expected to continue in the following months. Management expects that the transition will be concluded on an economically equivalent basis.

The following table details the financial instruments as at June 30, 2022, which reference the US LIBOR and which have not yet transitioned to an alternative interest rate benchmark:

	June 30, 2022	**December 31, 2021**
	$'000	**$'000**
Financial assets at amortized cost		
Loan advanced to the joint venture	**1,448,698**	1,385,535
Loans receivable - Social development loan	**42,522**	41,776
Financial liabilities at amortized cost		
Borrowings	**39,176**	38,342
Advances payable	**2,995**	2,908

Accounting standards issued but not yet effective

- 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. (i)

- Amendments to IAS 12, Income Taxes: Deferred Tax related to Assets and Liabilities arising from a Single Transaction. The amendments require companies to recognise deferred tax on transactions that, on initial recognition, give rise to equal amounts of taxable and deductible temporary differences. (i)

- Narrow scope amendments to IAS 1 'Presentation of Financial Statements', Practice statement 2 and IAS 8 'Accounting Policies, Changes in Accounting Estimates and Errors'. The amendments aim to improve accounting policy disclosures and to help users of the financial statements to distinguish changes in accounting policies from changes in accounting estimates.(i)

(i) 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	**June 30, 2022**	December 31, 2021
		$'000	$'000
Financial assets			
Financial assets at fair value through profit or loss			
Investment in Renergen Ltd.	Level 1	**12,621**	–
Investment in other listed entities	Level 1	**1,220**	1,144
Investment in unlisted entity	Level 3	**655**	655
Amortized cost			
Loan advanced to joint venture	Level 3	**1,448,698**	1,385,535
Cash and cash equivalents		**507,146**	608,176
Loans receivable	Level 3	**107,117**	103,478
Promissory note receivable	Level 3	**26,738**	26,717
Other receivables		**7,547**	8,611
Financial liabilities			
Financial liabilities at fair value through profit or loss			
Convertible notes - embedded derivative liability	Level 3	**127,000**	244,200
Amortized cost			
Convertible notes - host liability	Level 3	**450,868**	437,414
Borrowings	Level 3	**39,176**	38,342
Trade and other payables		**17,675**	22,769
Advances payable	Level 3	**2,995**	2,908

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:

	Three months ended June 30,		Six months ended June 30,	
	2022	2021	**2022**	2021
	$'000	$'000	**$'000**	$'000
Interest on loan to joint venture	34,874	22,960	63,163	44,140
Interest on loan receivable - HPX	1,416	1,274	2,891	2,260
Interest on bank balances	1,866	612	3,279	984
Interest on long term loan receivable - Gecamines	436	245	746	487
Other finance income	4	4	22	4
	38,596	25,095	70,101	47,875

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:

	June 30, 2022	**December 31, 2021**
	$'000	**$'000**
Assets		
South African rand	61,245	104,110
Canadian dollar	2,255	12,247
Australian dollar	1,110	917
British pounds	644	4,259
Liabilities		
South African rand	(10,125)	(10,635)
British pounds	(21)	(3,971)
Canadian dollar	(69)	(1,493)
Australian dollar	–	(283)

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.

	Six months ended June 30,	
	2022	**2021**
	$'000	**$'000**
Canadian dollar	109	984
Australian dollar	56	48
South African rand	(150)	(157)
British pounds	–	(17)

Credit risk

Credit risk is the risk of an unexpected loss if a customer or third party to a financial instrument fails to meet its contractual obligations. Credit risk for the Company is primarily associated with the loan to the Kamoa Holding joint venture, promissory note receivable, loans receivable, other receivables and cash and cash equivalents.

The Company reviews the recoverable amount of their financial assets at each statement of financial position date to ensure that adequate impairment losses are made for irrecoverable amounts. The Company has considered the requirement of IFRS 9 to recognize a loss allowance for expected credit losses on financial assets. The general approach was applied to these financial assets, where the 12 month expected credit losses are calculated. The Company did not apply lifetime expected credit losses as there has not been a significant increase in credit risk in 2022.

A significant increase in credit risk would include:

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

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

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

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

The principal amount of the loan receivable from HPX and accrued interest thereon, is convertible in whole, or part, by the Company at its sole discretion into shares of treasury common stock of HPX.

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 June 30, 2022, the fair value of the embedded derivative liability would have increased by $38.3 million, which would have resulted in the Company recording a gain on the fair valuation of the financial liability of $78.9 million for the period ended June 30, 2022, instead of a loss of $117.2 million.

Interest rate risk

The Company’s interest rate risk arises mainly from cash and cash equivalents, 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 profit for the period ended June 30, 2022 would have decreased or increased by $6.3 million (June 30, 2021: $6.6 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**
As at June 30, 2022					
Convertible notes liability	2,993	-	-	575,000	**577,993**
Non-current borrowings	-	-	-	39,465	**39,465**
Trade and other payables	15,732	711	1,232	-	**17,675**
Lease liability	70	125	588	10,850	**11,633**
As at December 31, 2021					
Convertible notes liability	3,033	-	-	575,000	**578,033**
Non-current borrowings	-	-	-	39,462	**39,462**
Trade and other payables	20,819	758	1,192	-	**22,769**
Lease liability	66	114	350	11,440	**11,970**

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

DESCRIPTION OF CAPITAL STOCK

As at August 12, 2022, the Company's capital structure consists of an unlimited number of Class A common shares without par value (the "Class A Shares"). At this date 1,213,972,844 Class A Shares were issued and outstanding. On June 28, 2022, the Company's capital structure was amended by deleting the Class B Common shares without par value, and Preferred shares without par value, none of which were outstanding.

The Company granted 2,095,280 options in 2021 and 1,081,151 options in 2022 to date. As at August 12, 2022, there were 16,717,743 options outstanding issued in terms of the Equity Incentive Plan exercisable into 16,717,743 Class A Shares.

The Company granted 1,375,041 restricted share units (RSUs) in 2022 to date and 5,478,846 RSUs in 2021 per the Company's Share Unit Award Plan (formerly the Restricted Share Unit Plan). As at August 12, 2022, there were 4,890,983 RSUs which may vest into 4,890,983 Class A Shares.

The Company granted 372,113 performance share units (PSUs) in 2022 to date and nil PSUs in 2021 per the Company's Share Unit Award Plan (formerly the Restricted Share Unit Plan). As at August 12, 2022, there were 372,113 PSUs which may vest into 372,113 Class A Shares.

The Company granted 179,529 deferred share units (DSUs) in 2022 to date and 196,073 DSUs in 2021 per the Company's deferred share unit plan. As at August 12, 2022, there were 725,107 DSUs which may settle into 725,107 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) have each evaluated the design effectiveness of the Company's DC&P and ICFR as of June 30, 2022 and, in accordance with the requirements established under National Instrument 52-109 - Certification of Disclosure in Issuer's Annual and Interim Filings, the President and CFO have concluded that these controls and

procedures have been designed to provide reasonable assurance that material information relating to the Company is made known to them by others within the Company and that the information required to be disclosed in reports that are filed or submitted under Canadian securities legislation are recorded, processed, summarized and reported within the time period specified in those rules.

The Company's President and CFO have used the Committee of Sponsoring Organizations of the Treadway Commission (COSO) framework to evaluate the design of the Company's ICFR as of June 30, 2022 and have concluded that these controls and procedures have been designed effectively to provide reasonable assurance that financial information is recorded, processed, summarized and reported in a timely manner. Management of the Company was required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. The result of the inherent limitations in all control systems means design and operation of controls cannot provide absolute assurance that all control issues and instances of fraud will be detected.

During the three months ended June 30, 2022, there were no changes in the Company's DC&P or ICFR that materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

RISK FACTORS

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

DISCLOSURE OF TECHNICAL INFORMATION

Disclosures of a scientific or technical nature at the Kamoa-Kakula Mining Complex in this MD&A have been reviewed and approved by Steve Amos, who is considered, by virtue of his education, experience and professional association, a Qualified Person under the terms of NI 43-101. Mr. Amos is not considered independent under NI 43-101 as he is the Head of the Kamoa-Kakula Mining Complex. Mr. Amos has verified the technical data disclosed in this MD&A.

Other disclosures of a scientific or technical nature regarding the 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.

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

- 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.

- The Kipushi 2022 Feasibility Study dated February 14, 2022, prepared by OreWin Pty Ltd., MSA Group (Pty) Ltd., SRK Consulting (South Africa) (Pty) Ltd, and METC Engineering.

- The Platreef 2022 Feasibility Study dated February 28, 2022, prepared by OreWin Pty Ltd., Mine Technical Services, SRK Consulting Inc., DRA Projects (Pty) Ltd and Golder Associates Africa.

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 Mining Complex 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 Mining Complex.

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 expected increase in processing capacity of Phase 1 and Phase 2 concentrators by 21% to a combined total of 9.2 million tonnes of ore per year, resulting from the planned de-bottlenecking program at Kamoa-Kakula and the cost thereof; (ii) statements regarding copper production from Kamoa-Kakula’s first two phases are projected to exceed 450,000 tonnes per year by Q2 2023; (iii) statements regarding the expectation that the majority of Kamoa-Kakula’s expansion capital expenditures on Phase 2 and Phase 3 will be funded from copper sales and facilities in place at Kamoa-Kakula; (iv) statements regarding a step-change improvement in cash costs of 10% to 20% is anticipated once Kamoa Copper’s on-site 500,000 tonne per annum, direct-to-blister flash smelter is commissioned as part of the Phase 3 expansion, expected by the end of 2024; (v) statements that the smelter will generate valuable by-product credits from the sale of sulphuric acid, which is in deficit in the DRC Copperbelt; (vi) statements that management anticipates that the early commissioning of the Phase 2 concentrator plant in March 2022, approximately four months ahead of schedule, has enabled Kamoa Copper to increase the lower end of its full year 2022 production guidance from a range of between 290,000 to 340,000 tonnes of copper in concentrate, to between 310,000 and 340,000 tonnes; (vii) statements regarding the Pre-Feasibility Study for the Phase 3 expansion at the Kamoa-Kakula Mining Complex is expected to be announced towards the end of this year; (viii) statements regarding Kamoa-Kakula's Phase 3 will consist of two new underground mines, known as Kamoa 1 and Kamoa 2, as well as the initial decline development at Kakula West; (ix) statements regarding a new, 5-million-tonne-per-annum concentrator plant will be established adjacent to two new mines at Kamoa; (x) statements regarding following the commissioning of Phase 3, expected by the end of 2024, Kamoa-Kakula will have a total processing capacity in excess of than 14 million tonnes per annum; (xi) statements regarding the completion of Phase 3 is expected to increase copper production capacity to approximately 600,000 tonnes per annum and that this production rate will position Kamoa-Kakula as the world’s third-largest copper mining complex, and the largest on the African continent; (xii) statements regarding the Inga II project is expected to produce an additional 178 MW of renewable hydropower, providing the Kamoa-Kakula Mining Complex and associated smelter with sustainable electricity for Phase 3 and future expansions, while also benefitting local communities; (xiii) statements regarding the Inga II upgrade project being scheduled for completion in Q4 of 2024; (xiv) statements that Kamoa Copper increases its 2022 production guidance range for Kamoa-Kakula to between 310,000 and 340,000 tonnes of copper in concentrate.; (xv) statements regarding production guidance of between 310,000 and 340,000 tonnes of contained copper in concentrate for 2022 from the Kamoa-Kakula Mining Complex; (xvi) statements regarding cash cost guidance of between $1.20 to $1.40 per pound for 2022 from the Kamoa-Kakula Mining Complex; (xvii) statements that Platreef’s shaft will be equipped with two cages on top of twin 12.5 tonne skips with hoisting capacity of 1 million tonnes per annum, resulting from an amended

configuration that does not require the cage to be interchanged mid-shift, thereby increasing the hoisting time during the initial phase of mining; (xviii) statements regarding construction of Platreef's first solar-power plant being scheduled to commence in Q3 2022, with commissioning expected in 2023 and that the solar-generated power from the initial plant will be used for mine development and construction activities, as well as for charging Platreef's battery-powered underground mining fleet; (xix) statements regarding plans to continue the construction of the Shaft 2 headframe, and expects sinking to commence later this year, to allow optionality for possibly bringing the Phase 2 production timeline forward; (xx) statements regarding a new independent feasibility study for the Platreef Project which is based on a two-phased development to a steady-state production rate of 5.2 million tonnes per annum, and is the current execution plan for the Platreef Project; (xxi) statements regarding $225 million expected to be paid upon satisfaction of certain conditions precedent during the Q3 2022; (xxii) statements regarding the senior debt facility for the Platreef Project including that it is anticipated to be used only after the stream facilities are fully drawn; (xxiii) statements regarding the water requirement for the Phase 1 operation is projected to peak at approximately three million litres per day, which will then increase to nine million litres per day once the Phase 2 expansion is complete; (xxiv) statements regarding purchasing the treated wastewater from the Masodi Treatment Works at a reduced rate of R5 per thousand litres; (xxv) statements that arrangements are underway to re-commence the construction works of the Masodi Treatment Works and that the Company anticipates spending approximately ZAR 215 million ($13 million) to complete the works which are scheduled to take approximately 18 months; (xxvi) statements regarding implementation of the Platreef Project's second Social and Labour Plan (SLP); (xxvii) statements regarding equipping of the Platreef's permanent training academy is progressing well, with the official launch being planned for 2022; (xxviii) statements that Kipushi will be the world's highest-grade major zinc mine, with an average grade of 36.4% zinc over the first five years of production; (xxix) statements regarding the new agreement signed between Kipushi Holding and Gécamines to return the ultra-high-grade Kipushi Mine back to commercial production; (xxx) statements that Kipushi Holding will continue to fund the Kipushi Project with the shareholder loan and/or procure financing from third parties for the development of the project; (xxxi) statements regarding 50 boreholes of potable water are planned to be drilled around the Kipushi district over five years, to reach areas not served by the current distribution; (xxxii) statements regarding the redevelopment of Kipushi is based on a two-year construction timeline, which utilizes the significant existing surface and underground infrastructure to allow for substantially lower capital costs than comparable development projects and that the estimated pre-production capital cost, including contingency, is $382 million; (xxxiii) statements regarding the Kipushi 2022 feasibility study envisages the recommencement of underground mining operations, and the construction of a new concentrator facility on surface with annual processing capacity of 800,000 tonnes of ore, producing on average 240,000 tonnes of zinc contained in concentrate; (xxxiv) statements regarding Ivanhoe's 2022 Western Foreland exploration expenditure being provisionally planned at $25 million and that the main component of this expenditure is exploration drilling, with more than 50,000 metres of shallow (depth of less than 150 metres), air core, reverse circulation and diamond drilling and that in addition, up to 45,000 metres of deeper regional drilling covering the entire 2,407-square-kilometre land package also is provisionally planned, some of which is dependent upon exploration success; (xxxv) statements regarding with the agreement of the development plan by the shareholders of Kipushi and the approval of the development budget consistent with the feasibility study; and (xxxvi) statements regarding the main objectives for 2022, the 2022 budget and that, for the balance of 2022, the Company has forecast to spend $129 million on further development at the Platreef Project; $78 million on development at the Kipushi Project; $21 million on corporate overheads; and $17 million on Western Forelands.

As well, all of the results of the feasibility study for the Kakula copper mine, the Kakula-Kansoko 2020 pre-feasibility study and the updated and expanded Kamoa-Kakula Mining Complex preliminary economic assessment, the Platreef 2022 feasibility study, and the Kipushi 2022 feasibility study, 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 operation and development of the Kamoa-Kakula, Platreef and Kipushi projects, the Company has based its

assumptions and analysis on certain factors that are inherently uncertain. Uncertainties include: (i) the adequacy of infrastructure; (ii) geological characteristics; (iii) metallurgical characteristics of the mineralization; (iv) the ability to develop adequate processing capacity; (v) the price of copper, nickel, zinc, platinum, palladium, rhodium and gold; (vi) the availability of equipment and facilities necessary to complete development; (vii) the cost of consumables and mining and processing equipment; (viii) unforeseen technological and engineering problems; (ix) accidents or acts of sabotage or terrorism; (x) currency fluctuations; (xi) changes in regulations; (xii) the compliance by joint venture partners with terms of agreements; (xiii) the availability and productivity of skilled labour; (xiv) the regulation of the mining industry by various governmental agencies; (xv) the ability to raise sufficient capital to develop such projects; (xvi) changes in project scope or design; (xvii) recoveries, mining rates and grade; (xviii) political factors; (xviii) water inflow into the mine and its potential effect on mining operations, and (xix) the consistency and availability of electric power.

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 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 above and under the "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 57 and elsewhere in this MD&A.

ADDITIONAL INFORMATION

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