IVANHOE MINES
NEW HORIZONS

MANAGEMENT'S DISCUSSION AND ANALYSIS

FOR THE THREE AND NINE MONTHS ENDED SEPTEMBER 30, 2022

DATED: NOVEMBER* 11*, 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 nine months ended September 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 ***November 11, 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 41. 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.

THIRD QUARTER HIGHLIGHTS

- Production at the Kamoa-Kakula Mining Complex for the third quarter of 2022 was 97,820 tonnes of copper in concentrate, up from 87,314 tonnes in Q2 2022 and 55,602 tonnes in Q1 2022.

- During Q3 2022, Kamoa-Kakula sold 93,812 tonnes of payable copper and recognized revenue of $460.5 million, with an operating profit of $222.8 million and an EBITDA of $254.4 million.

- Kamoa-Kakula's cost of sales per pound (lb.) of payable copper sold was $1.05/lb. for Q3 2022, while cash costs (C1) per pound of payable copper produced totalled $1.43/lb., compared to $1.42/lb. and $1.21/lb. in Q2 2022 and Q1 2022 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 $23.9 million for Q3 2022, compared to a profit of $85.4 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 $74.9 million for Q3 2022.

- Ivanhoe Mines has a strong balance sheet with cash and cash equivalents of $663.3 million on hand as at September 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 joint venture.

- Ivanhoe continues its copper exploration program on its Western Foreland licences that cover approximately 2,407 square kilometres (km^2) neighbouring the 400-square-kilometre Kamoa-Kakula mining licences and has been granted 80 square kilometres of new highly prospective exploration rights adjacent to the Platreef Project.

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 Holding 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 Mining Complex's Phase 1 concentrator began producing copper in May 2021 and achieved commercial production on July 1, 2021. The Phase 2 concentrator, which doubled nameplate production capacity, was commissioned in April 2022.

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.

Photo: Kamoa-Kakula took delivery of new large-scale underground equipment (MT65 haul truck and ST18 Scooptram) from Epiroc of Norsborg, Sweden. The new equipment aims to assist in improving underground productivity.

Health and safety at Kamoa-Kakula

At the end of September 2022, Kamoa-Kakula reached 2.46 million work hours free of a lost-time injury and had a Total Recordable Injury Frequency Rate (TRIFR) (total injuries recorded per 1,000,000 hours worked) of 1.73 for the nine months ended September 30, 2022.

Kamoa-Kakula regretfully reported a fatal accident in September 2022. The fatal accident occurred in a development area at the underground Kansoko Mine when a fall of ground struck a Kamoa-Kakula employee. Kamoa-Kakula is undertaking a comprehensive internal investigation into the accident and is working with the DRC authorities to facilitate their investigation of the accident. Kamoa-Kakula continues to strive toward its workplace objective of zero harm to all employees and contractors.

Photo: The projects construction team at Kamoa-Kakula conducted in-depth, onsite training on advanced risk assessment techniques through an accredited training institution. A group of 120 managers, supervisors and safety officers participated in the training program.

Kamoa-Kakula summary of operating and financial data

	Q3 2022	Q2 2022	Q1 2022	Q4 2021
Ore tonnes milled (000's tonnes)	**2,082**	1,950	1,083	1,059
Copper ore grade processed (%)	**5.60%**	5.44%	5.91%	5.96%
Copper recovery (%)	**85.9%**	84.0%	87.1%	86.4%
Copper in concentrate produced (tonnes)	**97,820**	87,314	55,602	54,481
Payable Copper sold (tonnes)	**93,812**	85,794	51,919	53,165
Cost of sales per pound ($ per lb.)	**1.05**	1.15	1.08	1.12
Cash cost (C1) ($ per lb.)	**1.43**	1.42	1.21	1.28
Sales revenue before remeasurement ($'000)	**570,504**	699,381	467,453	458,880
Remeasurement of contract receivables ($'000)	**(110,031)**	(205,248)	52,142	29,656
Sales revenue after remeasurement ($'000)	**460,473**	494,133	519,595	488,536
EBITDA ($'000)	**254,423**	286,313	399,391	357,619
EBITDA margin (% of sales revenue)	**55%**	58%	77%	73%

All figures in the above tables are on a 100%-project basis. Metal reported in concentrate is before 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 herein 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 41.

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

		Q3 2022	Q2 2022	Q1 2022	Q4 2021
Mining	($ per lb.)	0.41	0.39	0.30	0.27
Processing	($ per lb.)	0.12	0.14	0.15	0.17
Logistics charges (delivered to China)	($ per lb.)	0.56	0.51	0.36	0.37
Treatment, refining and smelter charges	($ per lb.)	0.21	0.21	0.20	0.24
General and administrative expenditure	($ per lb.)	0.13	0.17	0.20	0.23
C1 cash cost per pound of payable copper produced	**($ per lb.)**	**1.43**	**1.42**	**1.21**	**1.28**

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 the 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.

Copper C1 cash costs per pound of payable copper for the second and third quarters of 2022 remain elevated by approximately 17% and 18% respectively compared with the first quarter. This is mostly due to an increase in logistics charges experienced in transporting Kamoa-Kakula's copper concentrate. The site costs, however, have been much less affected by inflation year-to-date. The cost of sales for the quarter were $1.05/lb., compared with US$1.15/lb. and US$1.08/lb. in Q2 2022 and Q1 2022, respectively. This is significantly aided by fixed-electricity costs of approximately six cents per kilowatt hour.

Kamoa-Kakula undertaking optimization of logistics costs

Kamoa-Kakula and other regional operators have experienced delays and increased logistics costs due to a shortage of available trucks, border congestion and occasional work action by truck drivers. Kamoa-Kakula is working alongside its offtake partners, Zijin Mining, CITIC Metal and Trafigura, as well as the government of the DRC, to undertake initiatives to optimize the transportation of Kamoa-Kakula's products.

These initiatives include working with Kamoa-Kakula's offtake partners, logistics service providers and local entrepreneurs to increase regional trucking capacity, improve processes for clearing products for export and the opening of new border crossings between the DRC and Zambia. Kamoa-Kakula is also continuing to explore the optionality of using a greater number of ports for exporting concentrate. These include Durban in South Africa, Dar es Salaam in Tanzania, Walvis Bay in Namibia and Beira in Mozambique, and longer-term the port of Lobito in Angola.

Cost pressures associated with logistics have occurred since Kamoa-Kakula's Phase 2 concentrator declared commercial production four months ahead of schedule in early Q2 2022. While concentrate production doubled, this was not met with a sufficient supply of trucking capacity and this led to an increase in trucking contractor market pricing. In addition, the Lualaba Copper Smelter was closed in June for maintenance. This further increased trucking demand.

Under normal operating conditions, the cycle time of trucking concentrate from the mine gate to the port of Durban, and back, is approximately 45 days. Congestion experienced in the past two quarters saw this cycle time increase to as high as 70 days. This, in turn increased trucking demand by an additional 50%, further pushing up trucking contractor market pricing. The cycle time is shorter for the ports of Dar es Salaam, Walvis Bay and Beira.

Two new commercial DRC-Zambia border crossings opened, helping to reduce logistics bottleneck

During September, the operating hours of the Kasumbalesa border, located in Haut-Katanga province, were increased from 6 hours to 12 hours. The extended operating hours are expected to be permanent. Earlier in the quarter, congestion at the Kasumbalesa border crossing saw extended queues, which caused delays in customs clearing. Delays from congestion often incur additional charges.

During the third quarter, two new commercial border crossings opened on the DRC-Zambia border. A border crossing at Sakania, located approximately 150 kilometres by road southeast of Kasumbalesa, opened for commercial exports and imports. In addition, the Mokambo border crossing, located half way between Kasumbalesa and Sakania opened for commercial imports.

Reopening of Lualaba Copper Smelter in September reducing trucking demand

The Lualaba Copper Smelter, located approximately 50 kilometres from the Kamoa-Kakula Mining Complex, completed its scheduled maintenance in early September and the transportation of copper concentrates to the facility recommenced shortly thereafter. While undergoing scheduled maintenance, Kamoa-Kakula's concentrate production was wholly transported and exported as a copper concentrate (approximately 50% contained copper), without the expected quantity of blister copper (approximately 99% contained copper), thereby temporarily increasing logistics volumes and costs for the quarter. The restart of the Lualaba Copper Smelter will assist in reducing overall shipping volumes, as the export of blister copper incurs lower logistics costs per unit compared to copper concentrate. The Lualaba Copper Smelter is expected to treat approximately 120,000 tonnes of copper concentrates from Kamoa-Kakula in 2022.

The increased opening hours of the Kasumbalesa border crossing, the opening of a new commercial export border crossing at Sakania, the resumption of blister copper shipments from the Lualaba Copper Smelter, as well as increased availability of trucks, is expected to ease congestion over the coming quarters.

A step-change improvement in cash costs of between 10% and 20% is anticipated once the Phase 3, 500,000-tonne-per-annum, direct-to-blister flash smelter is commissioned, expected by the end of 2024. A significant part of the reduction in cash costs, on a per tonne basis, is a result of the trucks hauling ~99% pure blister copper, instead of ~50% contained copper concentrate. Therefore, truck demand for hauling copper products to port is expected to decrease from current levels once the smelter is in operation. In addition, the smelter will generate valuable by-product credits from the sale of sulphuric acid, which is in structural deficit in the DRC Copperbelt.

Kakula Mine optimization work targeting grades towards 6% copper

Ongoing mining optimization work at the Kakula Mine successfully targeted higher head grades during the third quarter, to increase head grades up to 6% copper. Kamoa-Kakula continues to evaluate additional material handling capacity at the Kakula Mine to increase mining rates to feed the de-bottlenecked Phase 1 and 2 processing capacity of 9.2 million tonnes per year. Further details will be incorporated into the Phase 3 expansion pre-feasibility study, scheduled for release early in 2023.

While the near-term expansion of underground infrastructure at Kakula takes place, ore is being drawn from the surface stockpiles to maximize copper production as the Phase 1 and 2 concentrators are currently operating at more than design capacity. As of the end of September 2022, Kamoa-Kakula's high- and medium-grade ore surface stockpiles totalled approximately 4.2 million tonnes at an estimated grade of 4.15% copper for a total of over 174,000 tonnes of contained copper.

Photo: Installation of additional underground conveying capacity at the Kakula South decline will increase the output of ultra-high-grade ore to the surface from the Kakula mine.

Record quarterly production of 97,820 tonnes of copper in Q3 2022

Kamoa-Kakula's Phase 1 and 2 concentrator plants milled approximately 2.1 million tonnes of ore during the third quarter at an average feed grade of 5.6% copper, up from 1.95 million tonnes at an average grade of 5.4% copper in the second quarter. This included high-grade, run-of-mine ore from the Kakula Mine, supplemented with ore from the surface stockpiles to meet the throughput over design capacity. In line with design parameters, copper recoveries averaged approximately 86% during the quarter.

The Kamoa-Kakula Mining Complex set a new quarterly production record in the third quarter of 2022, with 97,820 tonnes of copper in concentrate produced, up from 87,314 tonnes produced in the second quarter and 55,602 tonnes produced in the first quarter. Kamoa-Kakula produced a total of 240,736 tonnes of copper in concentrate in the nine months ending September 30, 2022. Subsequent to quarter end, during the month of October Kamoa-Kakula produced a further 33,379 tonnes of copper.

The Phase 1 and 2 milling and flotation circuits continue to operate in excess of design capacity. At the end of October, there was also an additional 5,786 tonnes of floated, but not yet filtered, copper in the circuit. This marks the second month in a row that floated and filtered copper production from the Kamoa-Kakula Mining Complex has exceeded 400,000 tonnes per annum on an annualized basis.

The difference between floated, and subsequently, filtered copper arises from the current bottleneck in concentrate thickening and filter capacity at the tail end of the processing circuit. Excess floated copper is currently being temporarily stored as a slurry in a fully-lined pond adjacent to the Phase 1 and 2 concentrators. The unfiltered copper in inventory will be reclaimed into the concentrate thickener and filter press once capacity is expanded following the installation of a new concentrate thickener and Larox filter press, as part of the ongoing de-bottlenecking program.

All figures are on a 100% project basis and metal reported in concentrate is before refining losses or deductions associated with smelter terms. Guidance involves estimates of known and unknown risks,

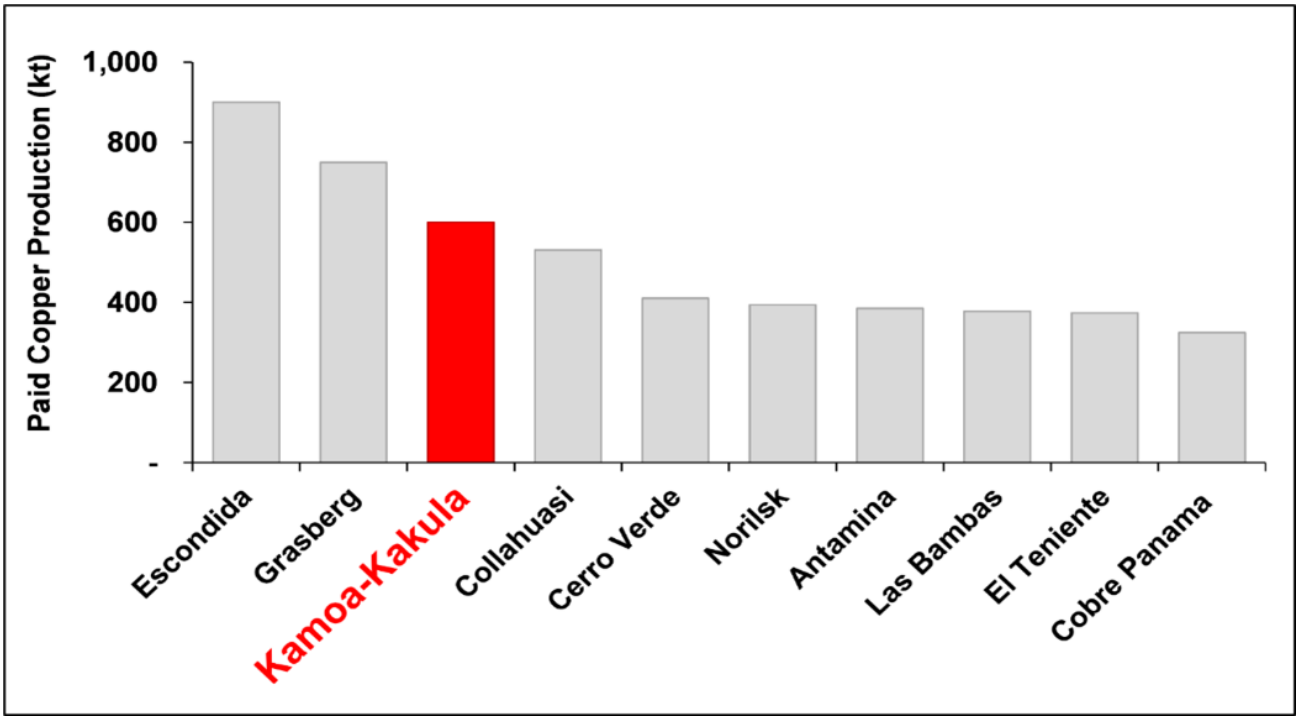
uncertainties and other factors, which may cause the actual results to be materially different.

Phase 1 and Phase 2 debottlenecking project to boost throughput to 9.2 million tonnes of ore per year is tracking ahead of schedule

Kamoa-Kakula's previously announced de-bottlenecking program is approximately 70% complete and is tracking ahead of schedule. The program will increase the combined design processing capacity of the Phase 1 and 2 concentrator plants from 7.6 million tonnes per annum to approximately 9.2 million tonnes per annum

The de-bottlenecking program is targeting completion in the second quarter of 2023 and will boost Kamoa-Kakula's annual production to approximately 450,000 tonnes of copper in concentrate by the second quarter of 2023, positioning Kamoa-Kakula as the world's fourth largest copper producer.

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: 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 the de-bottlenecking of both Phase 1 and 2 concentrators, and commercial ramp-up of the Phase 3 concentrator.

Civil works on site are effectively complete with structural steel and plate work erection ongoing and electrical and mechanical installation well underway.

Planned plant shutdowns to install the new equipment required for the de-bottlenecking program are scheduled to take place between December 2022 and January 2023, with the aim to minimize any negative effects on production. Civil works on site are nearing completion with structural steel and plate work erection ongoing and electrical and mechanical installation now underway.

Photo: Aerial view of the additional concentrate thickener at Kamoa-Kakula's Phase 1 and 2 concentrator plants that is under construction as part of the de-bottlenecking program.

Photo: Construction is progressing well in advance of the installation of the fourth Larox filter press at Kamoa-Kakula's concentrate warehouse.

Phase 3 box-cut and basic engineering complete, procurement and construction activities have commenced

Construction of the twin declines to the Kamoa 1 and Kamoa 2 underground mines and excavation to access Phase 3 mining areas is advancing well.

Basic engineering design for the Phase 3 underground mine infrastructure, 5-million-tonne-per-annum concentrator plant and associated infrastructure is now complete. Detailed engineering, procurement and early construction activities are advancing well.

Earthworks for the concentrator plant and surface infrastructure is advancing on schedule, with the contract for the civil construction awarded and site preparation underway. Equipment fabrication is also ongoing.

Tenders for structural steel supply have been received and are in the process of being adjudicated.

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 (see Figure 1).

Kamoa-Kakula's Phase 3 expansion includes a 500,000-tonne-per-annum, direct-to-blister flash smelter to produce approximately 99% pure 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 and provide power for Phase 3 at a cost of approximately 6 cents per kilowatt hour, based on today's tariff.

Earthworks at the smelter site situated adjacent to Kamoa-Kakula's Phase 1 and Phase 2 concentrator plants are approximately 70% complete with civil construction activities currently underway.

Detailed engineering is well advanced with orders for the bulk of the long lead items of equipment placed. Equipment and structural steel fabrication are currently underway.

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, while any remaining copper concentrate may be smelted locally.

Photo: Located inside a containment area, rebar installation is taking place for the foundations of the acid tanks at the smelter site. The 500,000-tonnes-per-annum direct-to-blister smelter will be the largest single-line flash copper smelter in Africa.

Draw-down of surface ore stockpiles has commenced; stockpiles hold approximately 4.2 million tonnes grading 4.15% copper, containing more than 174,000 tonnes of copper

Kamoa-Kakula's high- and medium-grade ore surface stockpiles totalled approximately 4.2 million tonnes at an estimated grade of 4.15% copper as of the end of September 2022. The operation mined 1.70 million tonnes of ore grading 5.39% copper in Q3 2022, which was comprised of 1.61 million tonnes grading 5.51% copper from the Kakula Mine, including 0.83 million tonnes grading 6.89% copper from the mine's high-grade centre.

A total of 118.3 kilometres (73.5 miles) of underground development has been mined across the mining complex at quarter end. While the ongoing expansion of underground infrastructure at the Kakula Mine takes place, ore will be drawn as required from the stockpile to maximize copper production, as the concentrators are currently operating at more than the design capacity.

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

During Q2 2022, 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 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 long-lead order items under construction and EPC contractor mobilized to the site

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.

The Inga II turbine #5 refurbishment project is expected to produce an additional 178 MW of renewable hydropower, providing Kamoa-Kakula's Phase 3 expansion, its associated smelter, as well as future expansions, with sustainably generated electricity. The refurbishment is scheduled for completion in Q4 2024.

Mobilization to the Inga II site took place in October. A health, safety and environment (HSE) survey has been completed and the results have been submitted to SNEL for review.

A new, 6.5-metre diameter, 89-tonne runner, which generates the rotation movement inside Turbine #5, is currently under construction. The bespoke equipment is the longest-lead order of the equipment items being replaced or refurbished at Turbine #5. It is expected that the component will be delivered to the Inga II site at the end of 2023. The new runner design has been engineered to improve efficiency and deliver an additional 16 MW of power generation from Turbine #5, compared with the original design that was installed in 1982.

A study is underway to upgrade the transmission capacity of the existing grid infrastructure between the Inga II hydropower facility and the Kamoa site. The engineering for the remaining equipment items is ongoing and the ordering of the replacement components is expected to be completed early in the new year.

Photo: The runner blades for the new turbine are being fabricated at Voith's fabrication facility in China. Delivery of the completed runner to the Inga II hydropower facility is expected by the end of 2023.

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 include 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 2,830 kilograms of bananas since June 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 the Muvunda Village has been completed and the facility has now been equipped. The construction of a church at Tshilongo Village is approximately 70% complete.

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. The construction and equipping of two early childhood development centres were finalized and officially handed over to the Provincial Minister of Education in September 2022. These new facilities and curriculum afford access to 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 have progressed well.

Local community enterprise programs such as the brickmaking and sewing programs continued. These businesses have also been expanded, enabling them to ramp-up production, and providing

additional income and employment opportunities. A review of the business model for the landscaping and gardening enterprise programs aims to provide a new operating model which will enhance business efficiency and growth.

Bulk earthworks now are underway at the site for the Kamoa Center of Excellence, which once in operation, aims to create a sustainable and community-centered learning environment in the heart of the Democratic Republic of Congo.

The Kamoa Centre of Excellence will be a world-class facility, developed on the outskirts of Kolwezi, offering degrees, diplomas and short courses in collaboration with internationally accredited institutions.

The project will take place over multiple phases to accommodate departments, as well as sports facilities, to be added over time. Initial curriculum offerings will be aligned with the mining industry i.e., mining engineering, French-English language courses, and much more. Phase 1 will include just over 100 students, with enrollment to commence in 2023.

Photo: A visit by Kamoa-Kakula to the Complexe Scolaire Les Calinours School in Kolwezi, to introduce the high school students to the programs available at the Kamoa Centre of Excellence that opens next year. The application deadline is in December 2022 for enrollment in September 2023. A full bursary program is also available.

COPPER PRODUCTION AND CASH COST GUIDANCE FOR 2022

Management anticipates that the early commissioning of the Phase 2 concentrator plant in April 2022, approximately four months ahead of schedule, as well as the strong operating performance to date, has enabled Kamoa-Kakula to further increase the lower end of its full-year 2022 production guidance from a range of between 310,000 to 340,000 tonnes of copper in concentrate, to between 325,000 and 340,000 tonnes.

Kamoa-Kakula produced a total of 240,736 tonnes of copper in concentrate in the nine months ending September 30, 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 $1.43 for the third quarter of 2022 and $1.38 for the nine months ending September 30, 2022.

Given ongoing cost pressures experienced during the second and third quarters, largely related to logistics costs, the Company is tightening its full-year C1 cash cost guidance to between $1.35/lb. and $1.40/lb. (previously $1.20/lb. to $1.40/lb.).

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.

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. With Shaft 1, the initial access to the deposit, now in operation and hoisting development rock from underground, Ivanhoe is focusing on construction activities to bring Phase 1 of Platreef into production by Q3 2024.

Health and safety at Platreef

At the end of September 2022, the Platreef Project reached 1,571,130 lost-time injury-free hours worked with a Total Recordable Injury Frequency Rate (TRIFR) (total injuries recorded per 1,000,000 hours worked) of 4.57 for the nine months that ended September 30, 2022.

Surface construction activities underway, while lateral underground mine development progressing well

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 300 metres of development completed at the end of Q3 2022.

Construction for Platreef's Phase 1 concentrator plant has commenced, with the first production on track for Q3 2024. Earthworks construction is now underway, with mill foundation civil activities advancing well. Mill manufacturing is also progressing well, with other long-lead equipment orders placed.

The 10-metre diameter Shaft 2, which will be 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 26-metre concrete hitch-to-collar construction in August 2022, Ivanplats plans to continue with the construction of the 103-metre-tall concrete headframe that will house the shaft's 6 million tonnes per annum hoisting equipment. The pilot drilling required for the raised bore centre 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 provide optionality in bringing forward the timeline of Phase 2 production.

Photo: Shaft 2 headgear construction preparation advancing well with the batch plant commissioned and required tower cranes erected.

Photo: Shaft 2 raise-boring equipment being lowered into position.

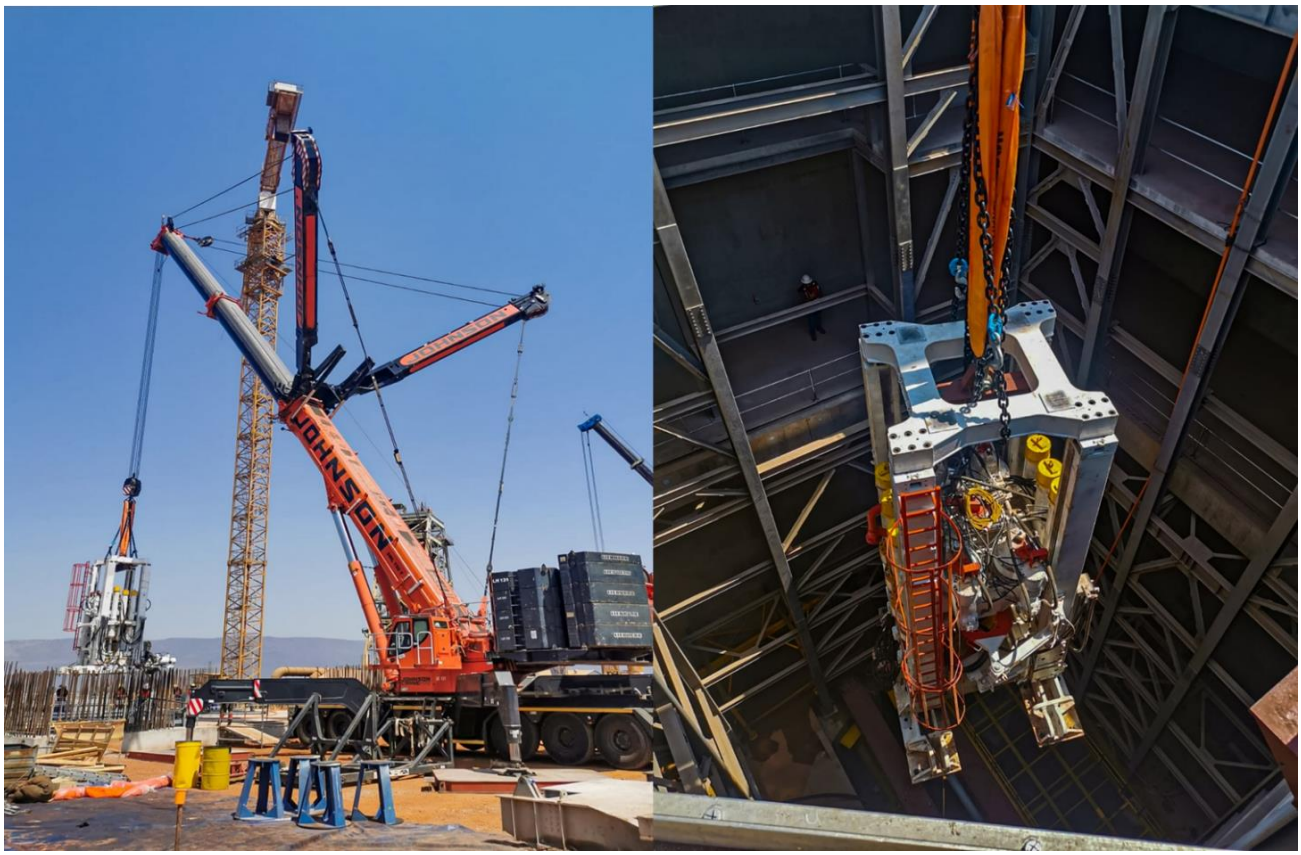


Photo: Construction of the foundations of Platreef's Phase 1 concentrator plant is progressing well.

Construction for Platreef's Phase 1 concentrator plant has commenced, with the first production on track for Q3 2024. Earthworks construction is now underway, with mill foundation civil activities advancing well. Mill manufacturing is also progressing well, with other long-lead equipment orders placed.

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.

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

Ivanplats received the second and final prepayment of the $300 million Platreef streaming agreement during the third quarter. In addition, the Company signed updated engagement letters with its mandated lead arrangers, Société Générale and Nedbank, to increase the Platreef project senior debt facility from $120 million to $150 million. The expanded facility, which is subject to due diligence, will provide further optionality in terms of project financing, and limit potential equity contributions for Platreef's Phase 1 development. Discussions continue to finalize the expanded facility with the view to it being completed in the new year.

As announced on December 8, 2021, Ivanplats' $300 million in stream-financing agreements are with Orion Mine Finance and Nomad Royalty (which was subsequently acquired by Sandstorm Gold Royalties). This includes a $200 million gold-streaming facility and a $100 million palladium and platinum streaming facility. The first prepayment of $75 million was received upon the closing of the transaction in December 2021, with the final $225 million instalment received in September 2022.

The stream facilities are subordinated to any future senior secured financing. Ivanplats remains flexible to raise additional debt or equity and has pre-agreed inter-creditor arrangements with the stream purchasers for future senior debt. The stream facilities are guaranteed by Ivanplats and secured over its assets, as well as Ivanhoe and the Japanese consortium's shares of Platreef.

The fully realized stream agreements allow Ivanplats to advance Platreef's ongoing Phase 1 construction activities, with an initial capital cost of $488 million as set out in the Platreef feasibility study announced in February 2022.

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. 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 construction works, scheduled to take approximately 18 months, are progressing well.

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 to focus on community development, human resources, and job training

Platreef supports several educational programs and provides free Wi-Fi in host communities.

The implementation plan for the second cadetship program, planned for commencement in October 2022, has progressed well, with recruitment and selection almost complete. The cadetship program offers young people from the local community 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 program also aims to enhance gender diversity within the mine's workforce, striving for an aspirational target of 50% female representatives in the program. Platreef's first cadetship program provided learnership opportunities to over 50 local students, 54% of whom were female.

Local economic development projects planned in the Social and Labour Plan (SLP) will contribute to community water-source development through the Mogalakwena Municipality boreholes program. 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.

Enterprise and Supplier Development initiatives continue to focus on creating capacity and opportunities for local small, medium, and micro enterprises, which play a crucial role in stimulating the regional economy and establishing sustainable job creation in the communities around Mokopane.

Over 60 local small, medium, and micro enterprises have attended an accredited 5-day business accelerator training and the Company has initiated additional programs aimed at training local businesses on "How to do Business with Ivanplats". To date over 100 members of the local small, medium, and micro enterprises have attended, with a further 350 scheduled to attend in November 2022.

A widespread poverty alleviation waste campaign project was initiated in partnership with the Impact Catalyst and the Bonega Communities Trust, Ivanplats' broad-based black economic empowerment vehicle. Other projects included an awareness campaign for the United Nations' Sustainable Development Goals in the form of a poster competition in eight primary schools near the mine, as well as a health and hygiene campaign, aimed at keeping young girls from missing school through the donation of sanitary products.

Photo: Dr. Poobie Pillay (third from right), Ivanplats' Enterprise and Supplier Development Manager, with a group of recent local entrepreneurs graduating from the business accelerator training program.

Photo: Phillip Ramphisa, Ivanplats' Environmental Manager, addresses high school students regarding the importance of the U.N. Sustainable Development Goals.

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 which 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 term sheet for a new agreement to return the ultra-high-grade Kipushi Mine 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.

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 September 30, 2022, the balance of the shareholder loan owing to Kipushi Holding, including accrued interest, was approximately $577 million.

Health and safety at Kipushi

At the end of September 2022, the Kipushi Project reached a total of 5.43 million work hours free of lost-time injuries with a Total Recordable Injury Frequency Rate (TRIFR) (total injuries recorded per 1,000,000 hours worked) of 1.98 for the nine months that ended September 30, 2022. It has been more than three and a half years since the last lost-time injury occurred at the project.

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.

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, 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 activities underway to return Kipushi to production

In preparation for the start of underground mining, early works activities were completed in August 2022, comprising the refurbishment, and supporting of key mining excavations, as well as blasting of the truck tip turning bay and truck passing bays on the 1,150-metre-level. Explosive storage bays and a trackless machinery assembly bay were also completed. Cover drilling of the main decline commenced in September 2022.

During the third quarter, Ivanhoe and Gécamines hosted a breaking-of-ground ceremony to commemorate the start of the construction of Kipushi's processing plant. In addition, Ivanhoe signed a memorandum of understanding (MOU) with the provincial government of Haut-Katanga to study options for upgrading the DRC-Zambia border crossing in the town of Kipushi for commercial imports and exports.

Earthworks for the new concentrator are advancing well with civil works just starting, and the first concrete pour took place in October 2022. The bulk of the long-lead items for the concentrator plant have been ordered and manufacturing is underway. The plant is scheduled to be complete by Q3 2024.

Financing and offtake discussions are well advanced with several interested parties and are expected to culminate in combination with a final, revised joint venture agreement between Kipushi Holding and Gécamines.

Photo: Underground work at Kipushi is progressing ahead of first production.

Photo: The breaking-of-ground ceremony was attended by His Excellency Jean-Michel Sama Lukonde, Prime Minister of the Democratic Republic of the Congo, Her Excellency Adèle Kayinda Mahina, Minister of State and Minister of Portfolio, Her Excellency Antoinette N'Samba Kalambayi, Minister of Mines, members of the provincial government of the Haut-Katanga Province and other national, provincial, and local dignitaries, in addition to representatives from Ivanhoe, Gécamines and the town of Kipushi.

A new commercial border crossing at Kipushi will provide a significant advantage to the Kipushi Mine as a direct means of importing materials and consumables, as well as clearing customs and exporting products from the mine, and will provide socio-economic benefits to the town and Province of Haut-Katanga.

The opening of the Kipushi border crossing also is anticipated to provide ancillary benefits to Kamoa-Kakula, where work is underway to improve processes for clearing copper products for export and to open alternative export border crossings between the DRC and Zambia, to alleviate congestion at the existing border crossings at Kasumbalesa and Sakania in Haut-Katanga Province.

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.

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.

In preparation for the start of underground mining, early works activities were completed in August 2022, comprising of the refurbishment and supporting of key mining excavations, as well as blasting of the truck tip turning bay and truck passing bays on the 1,150-metre-level. Explosive storage bays and a trackless machinery assembly bay were also completed. Cover drilling of the main decline commenced in September 2022.

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. Approximately 1,000 cubic metres of potable water is pumped hourly and continuously to consumers daily.

Another 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. In addition to the existing, already drilled and operational 16 boreholes, six new boreholes are being drilled and will be completed before the end of

the year to improve community members' accessibility to potable water around the Kipushi district.

The Kipushi Project continues to support educational initiatives through ongoing renovations at the Mungoti School, and the granting of bursaries and scholarships to local students. 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 successful program will culminate for the year in the fourth quarter with an official graduation ceremony.

Photo: Ivanhoe is committed to fostering access to potable water in the footprint area of our mines. Since 2018, Ivanhoe has installed sixteen solar-powered, fresh drinking water boreholes in communities surrounding the Kipushi Project.

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. Western Foreland consists of 17 licences that cover a combined area of approximately 2,407 km^2.

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.

At the Makoko West area, drilling is ongoing and mapping of the mafic intrusions in the Kibaran basement is underway. At the Lupemba target area in the far southwest of Western Foreland, ground gravity and a large 800-metre-spaced air core grid were initiated; drilling continued at both the Mushiji prospect, to the north of the Kamoa-Kakula mining licence, and in the Makoko Sud target area.

Regional stratigraphic drilling was completed at the Lupemba licence during Q2 2022, with an 800- by 800-metre air core drill grid initiated over the licence early in the third quarter. The program was intended to drill though the Kalahari sand cover and take a top of saprolite and top of bedrock sample, for geochemical and lithological mapping, respectively. Also, at Lupemba, a ground gravity survey program is in progress, and the results will be used in conjunction with the airborne gravity and air core drilling program to provide increased structural definition around the edge of the basin.

The drilling of the Makoko West area is targeting the westerly extension of the Makoko Sud deposit discovered in 2018. Drilling was aimed at infilling the original wide-spaced drill sections along the strike of the projected Makoko graben feature. The area is characterized by a significant number of north-northeast trending mafic intrusions that disrupt the continuity of mineralization along the trend. To better understand the distribution of the intrusions a stream mapping program was undertaken to the north of the target area to try and map out the individual intrusions.

Two holes were drilled in the Mushiji area three kilometres north of the Kamoa-Kakula licence to define the edge of the Roan sandstone. The first did not intersect any Roan and the second is in progress.

Soil sampling programs were also completed at the Sakanama and 155 locations at Kakula East.

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			
	September 30, 2022	June 30, 2022	March 31, 2022	December 31, 2021
	$'000	$'000	$'000	$'000
Finance income	46,720	38,596	31,505	27,978
Share of profit from joint venture	34,057	49,690	87,109	78,391
Deferred tax recovery	4,252	114,184	(1,347)	74,069
(Loss) gain on fair valuation of embedded derivative liability	(27,700)	183,600	(66,400)	(88,500)
Finance costs	(10,223)	(10,013)	(7,391)	(10,539)
General administrative expenditure	(9,199)	(8,957)	(6,238)	(10,658)
Share-based payments	(7,381)	(4,637)	(7,389)	(7,490)
Exploration and project evaluation expenditure	(4,312)	(13,470)	(12,243)	(15,800)
(Loss) gain on fair valuation of financial asset	(2,873)	(2,942)	3,358	184
Profit (loss) attributable to:				
Owners of the Company	26,344	316,242	26,394	45,833
Non-controlling interests	(2,477)	35,278	(4,854)	2,333
Total comprehensive income (loss) attributable to:				
Owners of the Company	4,588	306,381	45,495	29,774
Non-controlling interest	(4,678)	34,495	(2,858)	632
Basic profit per share	0.02	0.26	0.02	0.04
Diluted profit per share	0.02	0.26	0.02	0.04

	Three months ended			
	September 30, 2021	June 30, 2021	March 31, 2021	December 31, 2020
	$'000	$'000	$'000	$'000
Gain (loss) on fair valuation of embedded derivative liability	54,900	(85,700)	25,600	-
Share of profit (loss) from joint venture	41,404	(9,960)	(4,093)	(6,151)
Finance income	26,437	25,095	22,780	21,032
Exploration and project evaluation expenditure	(15,677)	(11,972)	(8,722)	(13,754)
Finance costs	(10,451)	(10,110)	(1,791)	(1,464)
General administrative expenditure	(6,731)	(13,165)	(7,919)	(6,973)
Share-based payments	(5,117)	(4,068)	(3,327)	(4,824)
Deferred tax (expense) recovery	(50)	978	44	(356)
Profit (loss) attributable to:				
Owners of the Company	89,806	(104,452)	24,055	(5,463)
Non-controlling interests	(4,456)	(4,161)	(3,646)	(5,447)
Total comprehensive income (loss) attributable to:				
Owners of the Company	72,470	(92,793)	20,339	33,170
Non-controlling interest	(6,277)	(2,901)	(4,102)	(1,349)
Basic profit (loss) per share	0.07	(0.09)	0.02	0.00
Diluted profit (loss) per share	0.07	(0.09)	0.02	0.00

DISCUSSION OF RESULTS OF OPERATIONS

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

The Company recorded a total comprehensive loss of $0.1 million for Q3 2022 compared to a total comprehensive income of $66.2 million for the same period in 2021.

The Company recognized income in the aggregate of $74.9 million from the joint venture in Q3 2022, which can be summarized as follows:

	Three months ended September 30,	
	2022	**2021**
	$'000	**$'000**
Company's share of profit from joint venture	34,057	41,404
Interest on loan to joint venture	40,832	24,232
Company's income recognized from joint venture	**74,889**	**65,636**

The Company's share of profit from the Kamoa Holding joint venture was $7.3 million less in Q3 2022 compared to the same period in 2021 and is broken down in the following table:

	Three months ended September 30,	
	2022	**2021**
	$'000	**$'000**
Revenue from contract receivables	570,504	355,022
Remeasurement of contract receivables	(110,031)	(12,438)
Revenue	**460,473**	**342,584**
Cost of sales	(216,233)	(98,663)
Gross profit	**244,240**	**243,921**
General and administrative costs	(21,477)	(34,265)
Profit from operations	**222,763**	**209,656**
Finance costs	(81,105)	(51,950)
Finance income and other	4,230	618
Profit before taxes	**145,888**	**158,324**
Current tax expense	(16,971)	(3,572)
Deferred tax expense	(40,368)	(47,487)
Profit after taxes	**88,549**	**107,265**
Non-controlling interest of Kamoa Holding	(19,747)	(23,622)
Profit for the period attributable to joint venture partners	68,802	83,643
Company's share of profit from joint venture (49.5%)	**34,057**	41,404

Kamoa-Kakula sold 93,812 tonnes of payable copper in Q3 2022 realizing revenue of $460.5 million for the Kamoa Holding joint venture, compared to 41,490 tonnes of payable copper sold realizing revenue of $342.6 million in Q3 2021. Revenue did not increase in proportion to tonnes sold due to the lower prevailing copper price in Q3 2022. The realized, provisional and copper price used for the production remeasurement (mark-to-market) of provisional sales can be summarized as follows:

		Three months ended September 30,	
		2022	**2021**
Realized payable copper[1]	(tonnes)	**102,381**	2,452
Realized copper price[1]	($ per lb.)	**3.50**	4.24
New provisionally priced payable copper[2]	(tonnes)	**93,812**	41,490
Average price of new provisionally priced copper	($ per lb.)	**3.48**	4.24
Copper price for remeasurement (mark-to-market) of provisional sales at period end	($ per lb.)	**3.36**	4.10
Outstanding balance of provisionally priced payable copper[3]	(tonnes)	**115,495**	39,413

[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.

Kamoa-Kakula's other operating data is summarized under the review of operations section on page 5.

The Company recognized a loss on the fair valuation of the embedded derivative financial liability of $27.7 million for Q3 2022, compared to a gain on the fair valuation of the embedded derivative financial liability of $54.9 million for Q3 2021, which is further explained in the accounting for the convertible notes section on page 38.

Finance income for Q3 2022 amounted to $46.7 million and was $20.3 million more than for the same period in 2021 ($26.4 million). Included in finance income is the interest earned on loans to the Kamoa Holding joint venture to fund past development which amounted to $40.8 million for Q3 2022, and $24.2 million for the same period in 2021, and increased due to the higher accumulated loan balance.

Exploration and project evaluation expenditure amounted to $4.3 million in Q3 2022 and $15.7 million for the same period in 2021. Exploration and project evaluation expenditure for Q3 2022 related to exploration at Ivanhoe's Western Foreland exploration licences, while Q3 2021 also included amounts spent at the Kipushi Project, for which expenditure was capitalized in Q3 2022 due to the recommencement of the development of the project.

Review of the nine months ended September 30, 2022, vs. September 30, 2021

The Company recorded a total comprehensive income of $383.4 million for the nine months that ended September 30, 2022, compared to a loss of $13.3 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 commenced commercial production on July 1, 2021, and sold 41,490 tonnes of payable copper until September 30, 2021, realizing revenue of $342.6 million, compared to 231,525 tonnes of payable copper sold in the nine months ended September 30, 2022, realizing revenue of $1,474.2 million for the Kamoa Holding joint venture. Kamoa-Kakula's other operating data is summarized under the review of operations section on page 5. The Company recognized income in aggregate of $274.9 million from the joint venture in the nine months ended September 30, 2022, which can be summarized as follows:

	Nine months ended September 30,	
	2022	**2021**
	$'000	**$'000**
Company's share of profit from joint venture	170,856	27,351
Interest on loan to joint venture	103,995	68,372
Company's income recognized from joint venture	**274,851**	**95,723**

The Company's share of profit from the Kamoa Holding joint venture was $170.9 million in the nine months that ended September 30, 2022, compared to $27.4 million in the same period in 2021. The following table summarizes the Company's share of profit of the joint venture for the nine months ended September 30, 2022, and for the same period in 2021:

	Nine months ended September 30,	
	2022	**2021**
	$'000	**$'000**
Revenue from contract receivables	1,737,338	355,022
Remeasurement of contract receivables	(263,137)	(12,438)
Revenue	**1,474,201**	**342,584**
Cost of sales	(556,715)	(98,663)
Gross profit	**917,486**	**243,921**
General and administrative costs	(61,209)	(36,700)
Profit from operations	**856,277**	**207,221**
Finance costs	(202,576)	(95,027)
Finance income and other	13,046	3,087
Profit before taxes	**666,747**	**115,281**
Current tax expense	(26,912)	(3,572)
Deferred tax expense	(202,586)	(37,496)
Profit after taxes	**437,249**	**74,213**
Non-controlling interest of Kamoa Holding	(92,086)	(18,959)
Profit for the period attributable to joint venture partners	345,163	55,254
Company's share of profit from joint venture (49.5%)	**170,856**	**27,351**

Kamoa-Kakula sold 231,525 tonnes of payable copper in nine months ended September 30, 2022, realizing revenue of $1,474.2 million for the Kamoa Holding joint venture, compared to 41,490 tonnes of payable copper sold realizing revenue of $342.6 million in Q3 2021. Revenue did not increase in proportion to tonnes sold due to the lower prevailing copper price in Q3 2022. The realized, provisional and copper price used for the production remeasurement (mark-to-market) of provisional sales can be summarized as follows:

		Nine months ended September 30,	
		2022	**2021**
Realized payable copper[1]	(tonnes)	**233,721**	2,452
Realized copper price[1]	($ per lb.)	**3.91**	4.24
New provisionally priced payable copper[2]	(tonnes)	**115,495**	41,490
Average price of new provisionally priced copper	($ per lb.)	**3.82**	4.24
Copper price for remeasurement (mark-to-market) of provisional sales at period end	($ per lb.)	**3.36**	4.10
Outstanding balance of provisionally priced payable copper[3]	(tonnes)	**115,495**	39,413

[1] Payable copper that was provisionally priced in prior or current periods and settled during the period.
[2] Provisionally priced payable copper sold during the period 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 period that has not been realized.

As explained in the accounting for the convertible notes section on page 38, the Company recognized a gain on fair valuation of the embedded derivative financial liability of $89.5 million for the nine months ended September 30, 2022 (Q3 2022: loss of $27.7 million; Q2 2022: gain of $183.6 million; Q1 2022: loss of $66.4 million), compared to a loss on fair valuation of the embedded derivative financial liability of $5.2 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 in June 2022, it was 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 in Q2 2022.

Finance income for the nine months ended September 30, 2022, amounted to $116.8 million and was $42.5 million more than for the same period in 2021 ($74.3 million). Included in finance income is the interest earned on loans to the Kamoa Holding joint venture to fund operations that amounted to $104.0 million for the nine months ended September 30, 2022, and $68.4 million for the same period in 2021. Interest increased due to the higher accumulated loan balance and increased interest rates.

Exploration and project evaluation expenditure amounted to $30.0 million in the nine months that ended September 30, 2022, and $36.4 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 until June 2022 when project development recommenced. The main classes of expenditure at the Kipushi Project in the nine months that ended September 30, 2022, and for the same period in 2021 are set out in the following table:

	Nine months ended September 30,	
	2022	**2021**
	$'000	**$'000**
Kipushi Project		
Other expenditure	10,557	6,913
Salaries and benefits	8,994	7,202
Depreciation	5,591	5,523
Studies and contracting work	3,496	404
Electricity	2,395	2,643
Mine construction costs	2,173	–
Other additions to property, plant and equipment	501	339
Reversal of VAT write-off previously capitalized	(7,377)	–
Total project expenditure	26,330	23,024
Accounted for as follows:		
Exploration and project evaluation expenditure in the loss from operating activities	18,352	22,685
Development costs capitalized to property, plant and equipment	5,304	–
Additions to property, plant and equipment	2,674	339
Total project expenditure	26,330	23,024

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

The Company's total assets increased by $555.3 million, from $3,218.2 million as at December 31, 2021, to $3,773.5 million as at September 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 $274.9 million, as well as the increase in deferred tax assets by $142.9 million.

The Company's investment in the Kamoa Holding joint venture increased from $1,641.8 million as at December 31, 2021, to $1,916.7 million as at September 30, 2022. The Company's share of profit from the Kamoa Holding joint venture for the nine months ended September 30, 2022, amounted to $170.9 million, while the interest on the loan to the joint venture amounted to $104.0 million. The Company's investment in the Kamoa Holding joint venture can be broken down as follows:

	September 30, 2022	**December 31, 2021**
	$'000	**$'000**
Company's share of net assets of the joint venture	427,116	256,260
Loan advanced to joint venture	1,489,530	1,385,535
Total investment in joint venture	1,916,646	1,641,795

Before 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:

	September 30, 2022		December 31, 2021	
	100%	49.5%	100%	49.5%
	$'000	$'000	$'000	$'000
Assets				
Property, plant and equipment	2,477,038	1,226,133	2,000,818	990,405
Mineral property	802,021	397,000	802,021	397,000
Cash and cash equivalents	374,175	185,217	22,031	10,905
Long-term loan receivable	239,824	118,713	197,122	97,575
Indirect taxes receivable	236,197	116,918	152,099	75,289
Non-current inventory	217,387	107,607	190,154	94,126
Prepaid expenses	206,073	102,006	127,328	63,027
Consumable stores	190,637	94,365	94,459	46,757
Current inventory	28,706	14,209	20,978	10,384
Right-of-use asset	14,459	7,157	21,161	10,475
Non-current deposits	2,272	1,125	1,689	836
Deferred tax asset	729	361	17,904	8,862
Contract receivables	–	–	198,513	98,264
Liabilities				
Shareholder loans	(3,008,314)	(1,489,115)	(2,798,282)	(1,385,149)
Trade and other payables	(233,745)	(115,704)	(219,475)	(108,640)
Deferred tax liability	(185,502)	(91,823)	–	–
Equipment finance facility	(99,537)	(49,271)	(72,296)	(35,787)
Other provisions	(42,539)	(21,057)	(15,681)	(7,762)
Rehabilitation provision	(35,604)	(17,624)	(35,742)	(17,692)
Provisional payment facility	(26,796)	(13,264)	(5,117)	(2,532)
Contract liabilities	(26,231)	(12,984)	–	–
Lease liability	(16,393)	(8,115)	(23,287)	(11,527)
Income taxes payable	(9,475)	(4,690)	(8,265)	(4,091)
Non-controlling interest	(242,522)	(120,048)	(150,436)	(74,465)
Net assets of the joint venture	**862,860**	**427,116**	**517,696**	**256,260**

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

	Q3 2022	Q2 2022	Q1 2022
	$'000	$'000	$'000
Net cash generated from operating activities	319,316	366,197	224,519
Net cash used in investing activities	(282,228)	(143,751)	(107,016)
Net cash (used in) generated from financing activities	(10,832)	(895)	2,028
Effects of foreign exchange rates on cash	(8,530)	(5,097)	(1,567)
Net cash inflow	17,726	216,454	117,964
Cash and cash equivalents - beginning of period	356,449	139,995	22,031
Cash and cash equivalents - end of period	**374,175**	**356,449**	**139,995**

The Kamoa Holding joint venture's net increase in property, plant and equipment from December 31, 2021, to September 30, 2022, amounted to $476.2 million and can be further broken down as follows:

	Nine months ended September 30,	
	2022	**2021**
	$'000	**$'000**
Kamoa Holding joint venture		
Expansion capital	498,406	–
Sustaining capital	25,709	–
Initial capital	9,009	509,526
Total development costs	533,124	509,526
Borrowing costs capitalized	34,927	49,964
Total additions to property, plant and equipment for Kamoa Holding	568,051	559,490
Less depreciation, disposals and foreign exchange translation	(91,831)	(32,977)
Net increase in property, plant and equipment of Kamoa Holding	476,220	526,513

Ivanhoe's cash and cash equivalents increased by $55.1 million, from $608.2 million as at December 31, 2021, to $663.3 million as at September 30, 2022. The Company spent $81.0 million on project development and acquiring other property, plant and equipment and generated $168.1 million from operating activities, which includes the receipt of the second and final prepayment of $225 million under the Ivanplats stream financing agreements. 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 has however elected not to exercise its option to further increase its equity stake in Renergen.

The increase in the Company's deferred tax asset is related mainly to the recognition of the previously unrecognized deferred tax asset of the Kipushi Project in June 2022, due to the agreement of the development plan by the shareholders of Kipushi, making it 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.

Ivanhoe's total liabilities increased by $148.2 million to $989.4 million as at September 30, 2022, from $841.2 million as at December 31, 2021, with the increase mainly due to the deferred revenue recognized on the streaming facility of $224.0 million after transaction costs. The deferred revenue represents the prepayment for the future sale of refined gold and palladium and platinum to be delivered by the Platreef Project in the future and will be amortized as ounces are delivered to the stream purchasers.

The net increase in property, plant and equipment amounted to $46.8 million, with additions of $90.8 million to project development and other property, plant and equipment. Of this total, $74.1 million and $15.4 million, pertained to development costs and other acquisitions of property, plant and equipment at the Platreef Project and Kipushi Project respectively.

The main components of the additions to property, plant and equipment – including capitalized development costs – at the Platreef Project for the nine months ended September 30, 2022, and for the same period in 2021, are set out in the following table:

	Nine months ended September 30,	
	2022	**2021**
	$'000	**$'000**
Platreef Project		
Shaft 1 changeover and construction	40,130	5,947
Shaft 2 construction works	10,108	3,798
Salaries and benefits	9,500	6,916
Administrative and other expenditure	5,123	3,973
Studies and contracting work	3,459	8,288
Site costs	2,483	2,250
Social and environmental	987	1 131
Infrastructure	–	–
Total development costs	71,790	32,303
Other additions to property, plant and equipment	2,264	367
Total additions to property, plant and equipment for Platreef	74,054	32,670

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

The main components of the expenditure at the Kipushi Project for the nine months ended September 30, 2022, and for the same period in 2021, are set out in the following table:

	Nine months ended September 30,	
	2022	**2021**
	$'000	**$'000**
Kipushi Project		
Other expenditure	10,557	6,913
Salaries and benefits	8,994	7,202
Depreciation	5,591	5,523
Studies and contracting work	3,496	404
Electricity	2,395	2,643
Mine construction costs	2,173	–
Other additions to property, plant and equipment	501	339
Reversal of VAT write-off previously capitalized	(7,377)	–
Total project expenditure	26,330	23,024
Accounted for as follows:		
Exploration and project evaluation expenditure in the loss from operating activities	18,352	22,685
Development costs capitalized to property, plant and equipment	5,304	–
Additions to property, plant and equipment	2,674	339
Total project expenditure	26,330	23,024

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 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 before April 22, 2024, except upon the occurrence of certain tax law changes. On or after April 22, 2024, and on or before 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 $10.1 million in Q3 2022, after the capitalization of $0.7 million borrowing costs. The carrying value of the host liability was $461.6 million as at September 30, 2022, up from $437.4 million as at December 31, 2021.

The embedded derivative liability had a fair value of $150.5 million on the closure of the convertible notes offering and increased to $244.2 million as at December 31, 2021, and decreased to $154.7 million as at September 30, 2022, resulting in a gain on fair valuation of embedded derivative liability of $89.5 million for the nine months ended September 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:

	Mar 17, 2021	Mar 31, 2021	Jun 30, 2021	Sep 30, 2021	Dec 31, 2021	Mar 31, 2022	Jun 30, 2022	Sep 30, 2022
Share price	C$7.00	C$6.47	C$8.95	C$8.10	C$10.32	C$11.66	C$7.41	C$8.89
Credit spread (basis points)	630	610	487	435	356	277	541	401
Volatility	42%	42%	40%	40%	40%	40%	40%	40%
Borrowing cost (basis points)	50	50	50	50	25	25	25	25
Fair value of derivative liability ($'million)	$150.5	$124.9	$210.6	$155.7	$244.2	$310.6	$127.0	$154.7

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

LIQUIDITY AND CAPITAL RESOURCES

The Company had $663.3 million in cash and cash equivalents as at September 30, 2022. At this date, the Company had consolidated working capital of approximately $685.7 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 the second prepayment of $225 million received in September 2022.

Kipushi Holding together with Gécamines, approved the development budget for the Kipushi Project in line with the Kipushi 2022 Feasibility Study and project execution is now underway. Orders for many long-lead items of equipment have already been placed and earthworks have started. Financing and offtake discussions are well advanced 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 Shaft 2. 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 $72 million on further development at the Platreef Project; $49 million on development at the Kipushi Project; and $12 million on corporate overheads for the remainder of 2022. Exploration activities include a budget of $12 million on Western Forelands and $5 million on other targets for the remainder of 2022. 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	Initially planned for 2022	Incurred in Q1-Q3 2022	Forecast for Q4 2022
	$'000	**$'000**	**$'000**
Platreef Project			
Initial capital (Phase 1)	142,953	63,946	57,336
Expansion capital (Phase 2)	25,209	10,108	15,101
	168,162	**74,054**	**72,437**
Kipushi Project			
Initial capital	79,621	7,978	49,232
	79,621	**7,978**	**49,232**
Kamoa-Kakula Mining Complex [(1)]			
Phase 2 and other expansion capital	469,216	306,895	138,630
Phase 3 and smelter early works [(2)]	550,056	200,520	166,416
Sustaining capital	83,406	25,709	44,834
	1,102,678	**533,124**	**349,880**

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 are the planned expenditure for 2022 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, before 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 $461.6 million and the fair value of the embedded derivative liability was $154.7 million as at September 30, 2022.

The Company has a mortgage bond outstanding on its offices in London, United Kingdom, of £3.2 million ($3.5 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 a party to a loan payable to ITC Platinum Development Limited, which had a carrying value of $36.0 million as at September 30, 2022, and a contractual amount due of $35.8 million. The loan is repayable once the Platreef Project has residual cash flow, 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 incurs interest of USD 3-month LIBOR plus 2% calculated monthly in arrears. Interest is not compounded. The difference of $0.2 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:

Contractual obligations as at September 30, 2022	Total $'000	Payments Due By Period: Less than 1 year $'000	1-3 years $'000	4-5 years $'000	After 5 years $'000
Convertible notes	581,616	6,616	-	575,000	-
Debt	39,368	-	-	3,487	35,881
Lease commitments	894	434	460	-	-
Total contractual obligations	**621,878**	**7,050**	**460**	**578,487**	**35,881**

The debt in the above table represents the mortgage bond owing to Citibank and the 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 the 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 September 30, 2022	Kamoa-Kakula Nine months ended September 30, 2022
	$'000	$'000
Cost of sales	**216,233**	**556,715**
Logistics, treatment and refining charges	141,126	303,638
General and administrative expenditure	21,476	61,209
Royalties and production taxes	(58,160)	(142,387)
Depreciation	(31,023)	(78,716)
Movement in finished goods inventory	7,451	7,999
General and administrative expenditure of other group entities	1,224	(1,078)
C1 cash costs	**298,327**	**707,380**
Cost of sales per pound of payable copper sold ($ per lb.)	1.05	1.09
C1 cash costs per pound of payable copper produced ($ per lb.)	1.43	1.38

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 per 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.

The EBITDA margin is an indicator of Kamoa-Kakula's overall health and denotes its profitability, which is calculated by dividing EBITDA by revenue. The 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 per IFRS.

Reconciliation of profit after tax to EBITDA:

	Three months ended September 30,		**Nine months ended September 30,**	
	2022	2021	**2022**	2021
	$'000	$'000	**$'000**	$'000
Profit after taxes	**88,549**	107,265	**437,249**	74,213
Finance costs	**81,105**	51,950	**202,576**	95,027
Finance income	**(3,593)**	(1,123)	**(7,912)**	(3,591)
Current and deferred tax expense	**57,339**	51,059	**229,498**	41,068
Depreciation	**31,023**	24,061	**78,716**	24,075
EBITDA	**254,423**	233,212	**940,127**	230,792

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 September 30,		Nine months ended September 30,	
	2022	2021	**2022**	2021
	$'000	$'000	**$'000**	$'000
Kamoa Holding Limited (a)	**40,832**	24,232	**103,995**	68,372
High Power Exploration Inc. (b)	**1,199**	1,438	**4,086**	3,702
Kamoa Services (Pty) Ltd. (c)	**723**	937	**2,139**	3 196
Kamoa Copper SA (d)	**329**	275	**981**	784
Ivanhoe Electric Inc. (e)	**61**	–	**181**	–
Ivanhoe Mines Energy DRC SARL (f)	**31**	37	**112**	97
Ivanhoe Capital Aviation Ltd. (g)	**(1,125)**	(1,125)	**(3,375)**	(3,358)
Ivanhoe Capital Services Ltd. (h)	**(108)**	(112)	**(363)**	(376)
CITIC Metal Africa Investments Limited (i)	**(53)**	(53)	**(158)**	(158)
Global Mining Management Corporation (j)	**(33)**	(65)	**(183)**	(492)
Ivanhoe Capital Pte Ltd (k)	**–**	26	**(3)**	16
	41,856	25,590	**107,412**	71,783
Finance income	**42,030**	25,659	**108,085**	72,059
Cost recovery and management fee	**1,097**	1,248	**3,250**	4,076
Office and administration	**2**	(31)	**37**	(391)
Travel	**(1,076)**	(1,107)	**(3,307)**	(3,357)
Salaries and benefits	**(113)**	(132)	**(393)**	(420)
Directors fees	**(53)**	(53)	**(158)**	(158)
Consulting	**(31)**	6	**(102)**	(26)
	41,856	25,590	**107,412**	71,783

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) 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.

(j) 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.

(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 September 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 September 30, 2022, amounted to $4.2 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 nine months ended September 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 and Kipushi projects. 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 2021 and the previously unrecognized deferred tax asset relating to the Kipushi Project in 2021. The Company considers it highly probable that the projects will have future taxable profits that will be available against which the deductible temporary differences can be utilized.

Provisions for tax claims

From time to time, the Company becomes subject to claims or assessments made by tax or other authorities in the ordinary course of its business. Such claims may be made against the Company, or its subsidiaries and affiliates, or its joint ventures. Given the complexity, scope and multi-jurisdictional nature of the Company's business, such claims may arise in several jurisdictions and may involve complex legal, tax or accounting matters. Management assesses the Company's liabilities and contingencies for all tax years open to claims or assessment based upon the latest information available. The Company accrues for such claims, or makes a provision, in its financial statements, when a liability resulting from the claim is both probable and the amount can be reasonably estimated. In order to assess such likelihood management reviews claims with the benefit of internal and external legal advice where appropriate.

The Company is currently subject to several such claims, all of which have been determined by management, with the benefit of legal advice, to be without merit and justification and therefore not probable that a liability would arise therefrom. Where an estimated liability is determined as probable, management has determined that such liability would not have a material effect on the consolidated financial statements of the Company. Such determinations are based on current information and advice, which is subject to change based on changed facts or circumstances. Accordingly, management may re-assess any prior determination regarding the likelihood of a probable liability at any time.

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 September 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 September 30, 2022, which reference the US LIBOR and which have not yet transitioned to an alternative interest rate benchmark:

	September 30, 2022	**December 31, 2021**
	$'000	**$'000**
Financial assets at amortized cost		
Loan advanced to the joint venture	**1,489,530**	1,385,535
Loans receivable - Social development loan	**43,053**	41,776
Financial liabilities at amortized cost		
Borrowings	**39,517**	38,342
Advances payable	**3,054**	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	**September 30, 2022**	December 31, 2021
		$'000	$'000
Financial assets			
Financial assets at fair value through profit or loss			
Investment in Renergen Ltd.	Level 1	**8,502**	–
Investment in other listed entities	Level 1	**1,183**	1,144
Investment in unlisted entity	Level 3	**655**	655
Amortized cost			
Loan advanced to joint venture	Level 3	**1,489,530**	1,385,535
Cash and cash equivalents		**663,347**	608,176
Loans receivable	Level 3	**109,356**	103,478
Promissory note receivable	Level 3	**26,746**	26,717
Other receivables		**6,623**	8,611
Financial liabilities			
Financial liabilities at fair value through profit or loss			
Convertible notes - embedded derivative liability	Level 3	**154,700**	244,200
Amortized cost			
Convertible notes - host liability	Level 3	**461,629**	437,414
Borrowings	Level 3	**39,517**	38,342
Trade and other payables		**22,232**	22,769
Advances payable	Level 3	**3,054**	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 September 30,		Nine months ended September 30,	
	2022	2021	**2022**	2021
	$'000	$'000	**$'000**	$'000
Interest on loan to joint venture	40,832	24,232	103,995	68,372
Interest on bank balances	3,649	535	6,928	1,519
Interest on loan receivable - HPX	1,708	1,427	4,601	3,687
Interest on long term loan receivable - Gecamines	531	242	1,277	729
Other finance income	-	1	20	5
	46,720	26,437	116,821	74,312

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:

	September 30, 2022	**December 31, 2021**
	$'000	**$'000**
Assets		
South African rand	241,727	104,110
Australian dollar	1,083	917
British pounds	1,338	4,259
Canadian dollar	622	12,247
Liabilities		
South African rand	(14,070)	(10,635)
British pounds	(767)	(3,971)
Canadian dollar	(163)	(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.

	Nine months ended September 30,	
	2022	**2021**
	$'000	**$'000**
Canadian dollar	23	699
Australian dollar	54	39
South African rand	(218)	(101)
British pounds	(1)	(2)

Credit risk

Credit risk is the risk of an unexpected loss if a customer or third party to a financial instrument fails to meet its contractual obligations. Credit risk for the Company is primarily associated with the loan to the 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 September 30, 2022, the fair value of the embedded derivative liability would have increased by $35.6 million, which would have resulted in the Company recording a gain on the fair valuation of the financial liability of $53.9 million for the period ended September 30, 2022, instead of a gain of $89.5 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 September 30, 2022 would have decreased or increased by $8.9 million (September 30, 2021: $7.9 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 September 30, 2022					
Convertible notes liability	6,616	-	-	575,000	**581,616**
Non-current borrowings	-	-	-	39,368	**39,368**
Trade and other payables	20,375	687	1,171	-	**22,233**
Lease liability	71	121	609	10,558	**11,359**
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 November 11, 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 1,213,975,344 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 1,181,565 options in 2022 to date. As at November 11, 2022, there were 16,809,433 options outstanding, issued in terms of the Equity Incentive Plan exercisable into 16,809,433 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 November 11, 2022, there were 4,890,251 RSUs which may vest into 4,890,251 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 November 11, 2022, there were 372,113 PSUs which may vest into 372,113 Class A Shares.

The Company granted 191,623 deferred share units (DSUs) in 2022 to date and 196,073 DSUs in 2021 per the Company's deferred share unit plan. As at November 11, 2022, there were 737,201 DSUs which may settle into 737,201 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 September 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 September 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 September 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 in this MD&A regarding the Kamoa-Kakula Mining Complex (other than stockpiles estimation), the Platreef Project and the Kipushi Project 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 Executive Vice President, Projects, at Ivanhoe Mines. Mr. Amos has verified the technical data related to the foregoing disclosed in this MD&A.

Disclosures of a scientific or technical nature regarding the Kamoa-Kakula 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, at Ivanhoe Mines. Mr. Gilchrist has verified the technical data regarding the Kamoa-Kakula stockpiles disclosed in this MD&A.

Disclosures of a scientific or technical nature regarding the Western Foreland Project in this MD&A have been reviewed and approved by Stephen Torr, who is considered, by virtue of his education, experience and professional association, a Qualified Person under the terms of NI 43-101. Mr. Torr is not considered independent under NI 43-101 as he is the Vice President, Geosciences, at Ivanhoe Mines. Mr. Amos has verified the technical data regarding the Western Foreland Project 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 of 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 using 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 a de-bottlenecking program 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; (ii) statements regarding copper production from Kamoa-Kakula’s first two phases is projected to reach 450,000 tonnes per annum by Q2 2023; (iii) statements regarding the expectation that the extended operating hours at the Kasumbalesa border will be permanent; (iv) statements regarding the Lualaba Copper Smelter is expected to treat approximately 120,000 tonnes of copper concentrates from Kamoa-Kakula in 2022; (v) statements regarding the increased opening hours of the Kasumbalesa border crossing, the opening of a new commercial export border crossing at Sakania, the resumption of blister copper shipments from the Lualaba Copper Smelter, as well as increased availability of trucks, is expected to ease congestion; (vi) statements regarding a step-change improvement in cash costs of between 10% and 20% is anticipated once the Phase 3 500,000-tonne-per-annum, direct-to-blister flash smelter is commissioned, expected by the end of 2024; (vii) statements that the smelter will generate valuable by-product credits from the sale of sulphuric acid, which is in structural deficit in the DRC Copperbelt; (viii) statements regarding the installation of additional underground conveying capacity is nearing completion at the Kakula South decline, which will increase output of ultra-high-grade ore to surface from the Kakula mine; (ix) statements regarding the de-bottlenecking program is on track to boost Kamoa Copper's annual production to approximately 450,000 tonnes of copper in concentrate by the second quarter of 2023; (x) statements that 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; (xi) statements that 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 turbine replacement will supply an

additional 178-megawatts (MW) of clean hydroelectric power to the national grid, and provide power for Phase 3 at a cost of approximately 6 cents per kilowatt hour and that the refurbishment is scheduled for completion in Q4 of 2024; (xiii) statements regarding the Kamoa Center of Excellence and that it will be a world-class facility, developed on the outskirts of Kolwezi, offering degrees, diplomas and short courses in collaboration with internationally accredited institutions; (xiv) statements that the Kamoa Centre of Excellence will take place over multiple phases to allow for departments, as well as sports facilities, to be added over time; (xv) statements that Management continues to anticipate 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; (xvi) statements regarding off-site concentrate transportation and logistics charges, which is projected to ease slightly in the fourth quarter as a result of the resumption in operation of the Lualaba Copper Smelter and as Kamoa Copper and its partners implement logistical optimizations; (xvii) statements that cash costs is projected to come in at the upper end of the guidance range, subject to logistics costs easing in the fourth quarter; (xviii) statements regarding Platreef's Phase 1 concentrator plant first production on track for Q3 2024; (xix) statements regarding the construction of Platreef's first solar-power plant commenced in Q3 2022 with commissioning expected in 2023 and that 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; (xx) statements regarding Platreef's 10-metre diameter Shaft 2, which will be the among the largest hoisting shafts on the African continent; (xxi) statements regarding the pilot drilling required for the raise bore center hole of Platreef's Shaft 2 and the commencement of the sliding of the headframe are both planned to commence before the end of 2022; (xxii) statements regarding the expanded senior debt facility of up to $150 million providing Platreef with further optionality in terms of project financing, and limit potential equity contributions for Platreef's Phase 1 development; (xxiii) statements regarding discussions to finalize the expanded Platreef senior debt facility with the view to it being completed in the new year; (xxiv) statements regarding the water requirement for Platreef's 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; (xxv) statements regarding Ivanplats undertaking a commitment to complete the partially constructed Masodi Wastewater Treatment Works, which was halted in 2018 and that Ivanplats anticipates spending approximately ZAR 215 million ($13 million) to complete the works; (xxvi) statements that Ivanplats will purchase the treated water at a reduced rate of ZAR 5 per thousand litres; (xxvii) statements regarding the bulk power project at Platreef being scheduled for completion in Q4 2023; (xxviii) statements regarding implementation of the Platreef Project's second Social and Labour Plan (SLP); (xxix) 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; (xxx) statements regarding the new agreement signed between Kipushi Holding and Gécamines to return the ultra-high-grade Kipushi Mine back to commercial production; (xxxi) statements that the Kipushi concentrator plant is scheduled to be complete by Q3 2024; (xxxii) statements that a new commercial border crossing will provide a significant advantage to the Kipushi Mine as a direct means of importing materials and consumables, as well as clearing customs and exporting products from the mine, and will provide socio-economic benefits to the town and Province of Haut-Katanga; (xxxiii) statements regarding the opening of the Kipushi border crossing also is anticipated to provide ancillary benefits to Kamoa-Kakula; (xxxiv) statements that mining at Kipushi will be performed using highly productive, mechanized methods and cemented rock fill will be utilized to fill open stopes; (xxxv) statements regarding 50 boreholes of potable water are planned to be drilled around the Kipushi district over the next five years, to reach areas not served by current distribution; (xxxvi) statements that all Phase 1 and Phase 2 operating costs and most Phase 3 capital expenditure at Kamoa-Kakula are expected to be funded from copper sales and facilities in place; (xxxvii) statements that the company has forecast to spend $94 million on further development at the Platreef Project; $69 million on development at the Kipushi Project; and $12 million on corporate overheads for the remainder of 2022; (xxxviii) statements regarding exploration activities at the Western Foreland exploration project in the DRC and other targets will continue in 2022 with an initial budget of $12 million for the remainder of 2022 on Western Forelands and $5 million on other targets; (xxxix) statements that Kamoa-Kakula's operating and expansion capital expenditures on Phase 3 will continue to be funded from copper sales and additional facilities at the Kamoa-Kakula joint venture; (xl) statements that an updated technical report on Kamoa-Kakula's Phase 3 expansion will be released early in the new year; (xli) statements regarding planned plant shutdowns to install the new equipment required for the de-bottlenecking program are scheduled to take place between December 2022 and January

2023, with the aim to minimize any negative effects on production; (xlii) statements regarding ore being drawn as required from Kamoa-Kakula's stockpile to maximize copper production, as the concentrators are currently operating at more than the design capacity; (xliii) statements regarding the Inga II damn refurbishment project being complete in Q4 2024, with the engineering for the remaining equipment items and the ordering of replacement components expected to be completed early in 2023; (xliv) statements regarding enrollment at the Kamoa Centre of Excellence to commence in 2023; and (xlv) statements regarding Kamoa-Kakula possibly using a greater number of ports for exporting concentrate.

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, concerning 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 after 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. Many 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 because of the factors set forth below in the "Risk Factors" section beginning on page 54 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.