



**LUCA MINING CORPORATION**  
(Formerly Altaley Mining Corporation)

**Management's Discussion and Analysis**

For the year ended December 31, 2022

Report dated: May 1, 2023

(Expressed in thousands of Canadian dollars)

---

## TABLE OF CONTENTS

1. – Cautionary Note Regarding Forward-Looking Information.....	2
2. – Company Profile and Business Overview.....	3
3. – Operating and Financial Performance Highlights.....	4
4. – Overall Operations Performance.....	5
5. – Annual and Quarterly Financial Performance Results.....	7
6. – Campo Morado Mine and Tahuehueto Mining Project.....	11
7. – Non-GAAP measures.....	18
8. – Liquidity.....	19
9. – Capital Resources.....	25
10.– Off-balance sheet arrangements.....	27
11.– Transactions between related parties.....	27
12.– Subsequent events.....	28
13.– Proposed transaction.....	29
14.– Accounting policies and critical accounting estimates and judgements.....	29
15.– Changes in Accounting Policies including Initial Adoption.....	29
16.– Financial Instruments.....	30
17.– Other requirements.....	30
18.– Disclosure Controls and Procedures and Internal Controls over Financial Reporting.....	31

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

---

## 1. – Cautionary Note Regarding Forward-Looking Information

Certain statements included in this MD&A may contain forward-looking statements that relate to future events or the Company's future performance. All statements other than statements of historical fact are forward-looking statements. These statements include, but are not limited to, statements concerning the future financial and operating performance of the Company and its search for resource properties; the future prices of natural resource based commodities; the estimation of reserves and resources; the realization of reserve estimates; timing of technical reports, scoping studies, and preliminary economic assessments; expected content of scoping studies and preliminary economic assessments; anticipated working-capital requirements; capital expenditures; costs and timing of future exploration; requirements for additional capital; government regulation of resource operations; environmental risks; title disputes or claims; and limitation of insurance coverage.

Often, but not always, forward-looking statements can be identified by the use of words such as "plans", "proposes", "expects", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", or "believes" or variations (including negative variations) of such words and phrases, or state that certain actions, events or results "may", "could", "would", "might" or "will" be taken, occur or be achieved.

Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance, or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Such factors include, but are not limited to, general business and economic uncertainties; exploration and resource extraction risks; uncertainties relating to surface rights; the actual results of current exploration activities; the outcome of negotiations; conclusions of economic evaluations and studies; future prices of natural resource based commodities; increased competition in the natural resource industry for properties, equipment and qualified personnel; risks associated with environmental compliance and permitting, including those created by changes in environmental legislation and regulation; the risk of arbitrary changes in law; title risks; and the risk of loss of key personnel.

The forward-looking statements contained herein are based on a number of assumptions that the Company believes are reasonable but may prove to be incorrect. These assumptions include, but are not limited to, assumptions that there is no material deterioration in general business and economic conditions; that there is no unanticipated fluctuation of interest rates and foreign exchange rates; that the supply and demand for natural resource based commodities develops as expected; that the Company receives regulatory approvals for its exploration projects on a timely basis; that the Company is able to obtain financing for its projects on reasonable terms; that the Company's reserve estimates are within reasonable bounds of accuracy and that the geological, operational and price assumptions upon which they are based are reasonable; and that the Company is able to hire the personnel needed to carry out its business plan.

The foregoing lists of factors and assumptions are not exhaustive. The reader should also consider carefully the matters discussed under the heading "Risks Factors and Uncertainties" elsewhere in this MD&A. Forward-looking statements contained herein are made as of the date hereof (or as of the date of a document incorporated herein by reference, as applicable). No obligation is undertaken to update publicly or otherwise revise any forward-looking statements or the foregoing lists of factors and assumptions, whether as a result of new information, future events or results or otherwise, except as required by law. Because forward-looking statements are inherently uncertain, readers should not place undue reliance on them. The forward-looking statements contained herein are expressly qualified in their entirety by this cautionary statement.

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

---

## 2. – Company Profile and Business Overview

Luca Mining Corporation (“Luca” or the “Company”) (formerly Altaley Mining Corporation) is a Canadian mining company listed on TSX Venture Exchange under the symbol “LUCA” and it is focused on the operation, development, and exploration of mineral resource properties in North America. The Company owns and operates the Campo Morado Mine (“Campo Morado”) in Guerrero state, Mexico and is also advancing its Tahuehueto mining project (“Tahuehueto”) towards commercial production, which is in Durango state, Mexico.

The Company was incorporated on April 11, 1986, under the laws of British Columbia, Canada under the name of Samarkand Resources Corp., and most recently, on March 21, 2023, the Company changed its name to Luca Mining Corporation.

The location of the Company’s mining properties are as follows:



### Campo Morado Mine

Luca owns 100% of the Campo Morado Mine which includes an underground polymetallic mine with a concentrator, infrastructure and equipment capable of processing 2,500 tonnes of ore per day, as well as six mining concessions occupying approximately 12,045 hectares located in the state of Guerrero, Mexico.

After the acquisition of Campo Morado, the Company restarted mining operations on a pre-production basis in October 2017. Effective May 15, 2018, the Company completed commissioning of the Campo Morado mine and declared commercial production.

On August 14, 2019, the Company curtailed operations at Campo Morado mine placing the mining project into care and maintenance as a result of declining zinc prices for a period of about five months. However, with increasing zinc prices and significant improvements in community relations, the Company made the decision to bring the operation out of care and maintenance and restarted operations during the last week of January 2020. In April and May 2020 the Company temporarily suspended operations as mandated by the Mexican Government for COVID-19 precautions, and re-initiated operations on June 3, 2020, after mining was declared an essential service in Mexico and safety and health protocols were approved by the Mexican Government. Mining operations have since reached sustainable levels targeted by management, which contributed to improved operating results through the latter half of 2020, through 2021, and which continue to date.

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

---

## Tahuehueto Mining Project

Tahuehueto includes 28 mining concessions that total 7,492 hectares located in the northwest portion of the state of Durango, Mexico, about 250 km northwest of Durango city, and 160 km northeast of the city of Culiacan, Sinaloa.

Effective January 1, 2017, the decision was made to move the asset into a development stage asset as management determined that technical feasibility and commercial viability were established through the positive results associated with a pre-feasibility study completed for this project (November 2016).

The most recent technical report published for Tahuehueto, a prefeasibility study update dated April 25, 2022, reported compliant Proven & Probable Reserves of 3.58 million tonnes at grades of 2.55 g/t gold, 50.06 g/t silver, 1.92% zinc, 1.11% lead, and 0.26% copper. The report stated Resources, inclusive with Reserves, in the Measured and Indicated (M&I) categories of 6.1 million tonnes grading 2.48 g/t gold, 42.8 g/t silver, 0.31% copper, 1.2% lead and 2.15% zinc, plus Inferred Resources of 3.5 million tonnes grading 1.3 g/t gold, 37.5 g/t silver, 0.27% copper, 1.34% lead and 2.44% zinc.

The project is under construction, with the first stage to deliver a throughput of 500 tonnes per day ("tpd") approximately 85% complete and is expected to complete in 2Q23. The second stage, the nameplate capacity of 1,000 tpd, will be completed by year-end 2023. Pre-production commenced in May 2022, and the mine is currently producing at a rate of approximately 320 tpd.

## 3. – Operating and Financial Performance Highlights

### 2022 Annual

- The Company updated its mineral reserves and resources reflecting the release of a positive pre-feasibility study with Reserves of 3.585 million Proven and Probable tonnes at Tahuehueto, grading 2.55 g/t gold, 50.06 g/t silver, 0.26% copper, and 1.92% zinc
- Pre-commercial production operations at Tahuehueto were initiated, commissioning one ball mill for the initial 500 tpd stage
- The Company processed 746,522 tonnes of ore (an average of 2,045 tpd) at Campo Morado, grading 0.82 g/t gold, 81 g/t silver, 3.10% zinc, 0.51% copper. An additional 40,822 tonnes of ore (an average of 172 tpd) was processed at Tahuehueto, grading 2.02 g/t gold, 30 g/t silver, 2.58% zinc, and 1.03% lead
- Gross sales totaled \$89,291 from the sale of 16,137 tonnes of zinc, 1,148 tonnes of copper, 884 tonnes of lead, 159 kg of gold, and 23,043 kg of silver
- Mine operating profit during 2022 was \$3,007 and net loss totaled \$11,607
- Cash flow generated from operations totaled \$1,989

# Luca Mining Corporation

## Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

### 2022 Fourth Quarter

- The Company processed 186,028 tonnes of ore (an average of 2,022 tpd) grading 2.72% zinc, 0.52% copper, 70 g/t silver and 0.73 g/t gold at its Campo Morado mine and processed 23,871 tonnes of ore (an average of 259 tpd) grading 2.83% zinc, 1.08% lead, 26.19 g/t silver and 2.42 g/t gold at its Tahuehueto mine
- Gross sales amounted to \$25,075 from the sale of 3,734 tonnes of zinc, 357 tonnes of copper, 186 tonnes of lead, 64 kg of gold, and 5,053 kg of silver
- Mine operating loss during Q4-2022 was \$1,302 and net loss totaled \$3,805
- Cash flow generated from operations totaled \$141

## 4. – Overall Operations Performance

### 2022 Annual and Quarterly Operational Performance Results

The following table and subsequent discussion provide a summary of the operating performance of the Campo Morado mine and financial metrics of the Company for the three months and years ended December 31, 2022, and 2021.

	Three months ended December 31,		Years ended December 31,	
	2022	2021	2022	2021
<b>Operational</b>				
Ore Processed	186,028	183,091	746,522	689,963
Zn concentrate produced (ton)	7,689	12,209	35,152	45,778
Average realized zinc price per tonne (US\$)	\$ 3,008	\$ 3,105	\$ 3,245	\$ 2,894
Zn grade	46%	46%	46%	46%
Zn recovery	70%	71%	70%	71%
Cu concentrate produced (ton)	4,188	–	11,158	–
Average realized copper price per tonne (US\$)	\$ 8,400	\$ –	\$ 8,197	\$ –
Cu grade	11%	–	12%	–
Cu recovery	46%	–	35%	–
Pb concentrate produced (ton)	–	2,691	3,974	9,936
Average realized lead price per tonne (US\$)	\$ –	\$ 2,348	\$ 2,250	\$ 2,177
Pb grade	–	22%	16%	22%
Pb recovery	–	30%	12%	29%
<b>Cost Analysis</b>				
C1 Cash Cost (US\$/lb)	\$ 1.43	\$ 0.74	\$ 1.20	\$ 0.60
All-in Sustaining Cost (US\$/lb)	\$ 1.83	\$ 0.95	\$ 1.53	\$ 0.83
<b>Financial</b>				
Gross revenues	\$ 25,075	\$ 29,671	\$ 89,291	\$ 98,452
Mine operating profit	\$ (1,302)	\$ 10,125	\$ 3,007	\$ 34,256
Net (loss) income for the period	\$ (3,805)	\$ 20,611	\$ (11,607)	\$ 36,265
Cash	\$ 1,152	\$ 3,049	\$ 1,152	\$ 3,049
Working capital deficiency	\$ (46,275)	\$ (3,114)	\$ (46,275)	\$ (3,114)
<b>Shareholders</b>				
Basic (loss) earnings per share	\$ (0.11)	\$ 0.08	\$ (0.34)	\$ 0.15
Diluted earnings per share	\$ (0.11)	\$ 0.07	\$ (0.34)	\$ 0.13

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

---

## Operational Performance Results

### Campo Morado Mine

Production and concentrate sales for the year ended December 31, 2022:

- Produced 35,152 tonnes of zinc concentrate grading an average of 46% zinc, 1.48 g/t gold, 415 g/t silver and sold 35,208 tonnes generating 2022 revenue from zinc concentrate of US\$36.60 million.
- Produced 11,158 tonnes of copper concentrate, beginning May 2022, grading an average of 12% copper, 4.75 g/t gold, 591 g/t silver and sold 9,726 tonnes generating 2022 revenue from copper concentrate of US\$9.62 million
- Production of lead concentrate was curtailed in lieu of higher quality copper concentrate, but before the strategic decision was made during 2022 Campo Morado produced 3,974 tonnes of lead concentrate grading an average of 16% lead, 3.61% copper, 4.29 g/t gold, 603 g/t silver and sold 3,664 tonnes generating 2022 revenue from lead concentrate of US\$1.89 million
- 746,522 tonnes of mineralized material were processed through the processing plant at a C1 cash cost per lb. of US\$1.20 with average grades of 3.10% zinc, 0.51% copper, 0.71% lead, 0.82 g/t gold, and 81 g/t silver
- Recoveries during 2022 were 69.6% zinc, 34.7% copper, 12.1% lead, 20.0% gold, and 38.9% silver

Production and concentrate sales for the three months ended December 31, 2022:

- Produced 7,689 tonnes of zinc concentrate grading an average of 46% zinc, 1.36 g/t gold, 332 g/t silver and sold 7,819 tonnes generating Q4-2022 revenue from zinc concentrate of US\$7.27 million
- Produced 4,132 tonnes of copper concentrate grading an average of 11% copper, 4.23 g/t gold, 660 g/t silver and sold 3,274 tonnes generating Q4-2022 revenue from copper concentrate of US\$ 3.33 million
- 186,028 tonnes of mineralized material were processed through the processing plant at a C1 cash cost per lb. of US\$1.43 with average grades of 2.72% zinc, 0.52% copper, 0.64% lead, 0.73 g/t gold, and 70 g/t silver
- Recoveries during Q4-2022 were 69.6% zinc, 45.6% copper, 3.1% lead, 21.3% gold, and 41.9% silver

### Tahuehueto Mining Project

Although the project has not yet completed construction, production and concentrate sales for the year ended December 31, 2022:

- Produced 899 tonnes of zinc concentrate grading an average of 47.4% zinc, 7.13 g/t gold, 145.4 g/t silver and sold 337 tonnes generating 2022 revenue from zinc concentrate of US\$0.45 million
- Produced 1,514 tonnes of lead concentrate grading an average of 17.0% lead, 29.83 g/t gold, 427.8 g/t silver and sold 1,223 tonnes generating Q4-2022 revenue from lead concentrate of US\$ 2.84 million
- 40,822 tonnes of mineralized material were processed through the processing plant with average grades of 2.58% zinc, 0.15% copper, 1.03% lead, 2.02 g/t gold, and 29.8 g/t silver
- Recoveries during 2022 were 42.0% zinc, 76.4% lead, 87.7% gold, and 76.3% silver

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

Production and concentrate sales for the three months ended December 31, 2022:

- Produced 728 tonnes of zinc concentrate grading an average of 50.0% zinc, 6.75 g/t gold, 140.7 g/t silver and sold 337 tonnes generating Q4-2022 revenue from zinc concentrate of US\$0.45 million
- Produced 713 tonnes of lead concentrate grading an average of 27.9% lead, 51.28 g/t gold, 655.9 g/t silver and sold 749 tonnes generating Q4-2022 revenue from lead concentrate of US\$ 2.26 million
- 23,871 tonnes of mineralized material were processed through the processing plant with average grades of 2.83% zinc, 1.08% lead, 2.42 g/t gold, and 26.2 g/t silver
- Recoveries during Q4-2022 were 55.4% zinc, 78.3% lead, 88.7% gold, and 82.4% silver

## 5. – Annual and Quarterly Financial Performance Results

### Comparison of the three months and years ended December 31, 2022 and 2021

The following table is a summary of the consolidated statements of income (loss) and comprehensive income (loss) of the Company.

	Three months ended December 31,		Years ended December 31,	
	2022	2021	2022	2021
Mine operating profit	\$ (1,302)	\$ 10,125	\$ 3,007	\$ 34,256
General expenses	(1,449)	14,195	(6,529)	7,883
Other income (expenses)	(1,054)	(3,709)	(8,085)	(5,874)
<b>Net (loss) income for the year</b>	<b>(3,805)</b>	<b>20,611</b>	<b>(11,607)</b>	<b>36,265</b>
Foreign currency translation adjustment	(340)	167	2,395	465
<b>Total comprehensive (loss) income for the period</b>	<b>\$ (4,145)</b>	<b>\$ 20,778</b>	<b>\$ (9,212)</b>	<b>\$ 36,730</b>

During the year ended December 31, 2022, the Company reported total mine operating profit of \$3,007, total comprehensive loss of \$9,212, and basic loss per share of \$0.34. In comparison, the Company reported total mine operating profit of \$34,256, total comprehensive income of \$36,730, and basic and diluted earnings per share of \$0.15 and \$0.13, respectively for the year ended December 31, 2021.

During the three months ended December 31, 2022, the Company reported total mine operating loss of \$1,302, total comprehensive loss of \$4,145, and basic loss per share of \$0.11. In comparison, the Company reported total mine operating profit of \$10,125, total comprehensive income of \$20,778, and basic and diluted earnings per share of \$0.08 and \$0.07, respectively.

During Q4-2022, Campo Morado continues to recognize operating results from the copper recovery flotation circuit installed during Q2-2022. The added operating income was partially offset in comparison to Q3-2021 due to the substitution of copper concentrates in lieu of lower quality lead concentrate. Further, depletion of mineral resources has begun being recognized during 2022 as a result of the reversal of previous impairment charges on the Campo Morado mine in 2021. As a result, mine operating income is being impacted from such depletion during 2022 that was not able to be recognized in 2021.

# Luca Mining Corporation

## Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

Mine operating profit for the three months and years ended December 31, 2022, and 2021 is comprised of:

	Three months ended December 31,		Years ended December 31,	
	2022	2021	2022	2021
<b>Revenue</b>				
Gross sales	\$ 25,075	\$ 29,671	\$ 89,291	\$ 98,452
Treatment and selling costs	(7,344)	(9,914)	(30,083)	(28,768)
	17,731	19,757	59,208	69,684
<b>Cost of Sales</b>				
Production cost	17,038	8,885	51,763	32,628
Royalties	512	599	1,987	2,262
Depletion, depreciation and amortization	1,483	148	2,451	538
	19,033	9,632	56,201	35,428
<b>Mine operating profit</b>	<b>\$ (1,302)</b>	<b>\$ 10,125</b>	<b>\$ 3,007</b>	<b>\$ 34,256</b>

During the year ended December 31, 2022, the Company generated revenues in the amount of \$89,291 (December 31, 2021 – \$98,452) primarily from Campo Morado operations as a result of, selling 35,208 tonnes of zinc concentrate with average grades of 45.4% zinc and 411.46 g/t silver and 1.44 g/t gold at an average selling price of US\$3,245 per tonne of zinc, US\$21.02/oz of silver, and US\$1,768/oz of gold, in addition to selling 9,727 tonnes of copper concentrate with average grades of 11.8% copper, 583.41 g/t silver, and 4.48 g/t gold at an average selling price of US\$ 8,197 per tonne of copper, US\$20.47/oz of silver, and US\$1,736/oz of gold. Although sales of lead concentrate at Campo Morado ceased in Q2-2022, sales from lead concentrate during the year amounted to 3,664 tonnes being sold with average grades of 17.4% lead, 630.90 g/t silver, and 4.15 g/t gold at an average selling price of US\$ 2,250 per tonne of lead, US\$21.27/oz of silver, and US\$1,755/oz of gold.

Additionally, from Tahuehueto pre-commercial production and mill commissioning operations, 1,223 tonnes of lead concentrate was sold with an average of 20.1% lead, 422.5 g/t silver and 37.5 g/t gold at an average selling price per tonne of lead of US\$2,115, US\$21.72/oz silver and US\$1,787/oz gold. During Q4-2022, shipments of zinc concentrate commenced at Tahuehueto with 338 tonnes of zinc concentrate being sold with an average of 49.8% zinc, 157.1 g/t silver and 10.4 g/t gold at an average selling price per tonne of zinc of US\$3,040, US\$22.88/oz silver and US\$1,822/oz gold. Net revenues of \$59,208 (December 31, 2021 – \$69,684) were inclusive of treatment charges and penalties in the amount of \$22,017 (December 31, 2021 – \$19,760) and freight and selling costs in the amount of \$8,067 (December 31, 2021 – \$9,008) reported during the year.

Total cost of sales incurred during the year ended December 31, 2022 were \$56,201 (December 31, 2021 – \$35,428), including production cost in the amount of \$51,763 (December 31, 2021 – \$32,628), which represents direct costs attributable to the production of concentrates from both the Campo Morado and Tahuehueto mines. It also includes royalties paid and/or payable to the Servicio Geologico Mexicano in the amount of \$1,987 (December 31, 2021 – \$2,262), for a 2% and 3% discovery royalty, and depletion, depreciation, and amortization expenses of \$2,451 (December 31, 2021 – \$538).

General and administration expenses for the three months and year ended December 31, 2022, and 2021 are comprised of:

	Three months ended December 31,		Years ended December 31,	
	2022	2021	2022	2021
<b>General Expenses</b>				
Consulting fees, wages and benefits	\$ 738	\$ 770	\$ 3,223	\$ 2,402
Legal and professional fees	284	177	991	756
Office, rent and administration	204	(115)	988	2,219
Amortization of right-of-use assets	49	63	139	123
Regulatory, transfer agent and shareholder information	28	88	112	131
Travel, promotion and investor relations	122	200	846	808
Share-based compensation	24	963	230	2,018
(Reversal of) impairment of assets	–	(16,340)	–	(16,340)
	\$ 1,449	\$ (14,194)	\$ 6,529	\$ (7,883)



# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

During the year ended December 31, 2022, the Company incurred general expenses in the amount of \$6,529, compared to \$8,457 before the reversal of impairment of assets of \$16,340 during the year ended December 31, 2021.

The net decrease of \$1,928 is mainly attributable to the following:

Prior to restructuring of the Company's debt in 2021 the Company realized concessions and surcharges on late payments of royalties resulting in increased administration fees which were recognized during 2021. As a result of improved mine performance and successful restructuring of debt, such surcharges were not realized in 2022 given the ability for the Company to make scheduled royalty payments, reducing office, rent, and administration expenses by \$1,231. Additionally, share-based compensation recorded during the period decreased by \$1,788 as additional stock options were lower in quantum and were granted during Q4-2022. The share-based compensation expense is commensurate with the vesting period, which follows a vesting period of one third on the date of the grant, one third after six months, and one third on the first-year anniversary; this represents a total vesting period of 12 months, whereby the expense is weighted toward the respective grant dates. These decreases in office, rent, and administration, and share-based compensation were partially offset by increases to consulting fees, wages, and benefits as a result of annual retainers approved to be paid to non-executive directors of the Company in addition to salaries and benefits of the newly appointed management.

Other income and expenses for the three months and year ended December 31, 2022, and 2021 are comprised of:

	Three months ended December 31,		Years ended December 31,	
	2022	2021	2022	2021
<b>Other income and expenses:</b>				
Interest income	\$ (7)	\$ 3	\$ (233)	\$ (422)
Change in fair value of financial instruments	58	499	2,774	2,371
Finance costs	1,230	1,342	4,473	3,215
Other income and expenses	55	4,254	208	3,429
Foreign exchange loss (gain)	(282)	(2,389)	863	(2,719)
	\$ 1,054	\$ 3,709	\$ 8,085	\$ 5,874

During the year ended December 31, 2022, the Company incurred net other income and expenses in the amount of \$8,085, compared to \$5,874 incurred during the year ended December 31, 2021. The total net other income and expenses incurred in the year is mainly attributable to the fair value changes of the Company's senior bond trusts, whereby the Company realized a loss of \$2,774 in the redemption of the bonds to facilitate working capital needs. Additionally, finance costs consisted of interest on debt of \$1,349 (December 31, 2021 – \$1,071), bank fees and penalties of (\$2) (December 31, 2021 – \$199), interest on lease liabilities of \$32 (December 31, 2021 – \$37), amortization of deferred finance costs of \$1,105 (December 31, 2021 – \$761), accretion of provision for site reclamation and closure of \$566 (December 31, 2021 – \$464), and accretion on streaming arrangements of \$1,423 (December 31, 2021 – \$683).

Foreign exchange variations are additionally recorded in connection to fluctuations in exchange rates between the United States dollar, Mexican peso and Canadian dollar and the underlying assets or liability and the currency in which these are receivable or payable.

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

## Selected Annual and Quarterly Financial Information

	As at December 31,		
	2022	2021	2020
Gross revenues	\$ 89,291	\$ 98,452	\$ 44,443
Mine operating profit	3,007	34,256	(138)
Net (loss) income	(11,607)	36,265	(11,624)
Basic (loss) earnings per share	(0.34)	0.15	(0.07)
Diluted (loss) earnings per share	(0.34)	0.13	(0.07)
Cash	1,152	3,049	257
Total assets	133,203	108,805	52,924
Non-current liabilities	74,169	46,392	6,435
Equity (deficiency)	28,363	30,671	(26,711)
Working capital deficiency	(46,275)	(3,114)	(60,334)

	2022				2021			
	Q4	Q3	Q2	Q1	Q4	Q3	Q2	Q1
Gross revenues	\$ 25,075	\$ 23,472	\$ 19,210	\$ 21,534	\$ 29,671	\$ 23,076	\$ 24,489	\$ 21,216
Mine operating profit	(1,302)	1,161	1,933	1,215	10,125	9,669	9,165	5,297
Net (loss) income	(3,805)	(5,596)	(2,051)	(155)	20,610	4,284	7,568	3,802
Basic (loss) earnings per share	(0.11)	(0.02)	(0.01)	0.00	0.08	0.02	0.03	0.02
Diluted (loss) earnings per share	(0.11)	(0.02)	(0.01)	0.00	0.07	0.01	0.03	0.01
Cash	1,152	2,421	1,535	1,822	3,049	7,466	8,908	10,792
Total assets	133,203	131,964	125,149	114,541	108,805	81,265	69,207	64,125
Non-current liabilities	74,169	49,562	43,702	44,585	46,392	41,605	6,620	6,465
Equity (deficiency)	28,363	38,940	35,786	32,780	30,671	5,461	(903)	(12,316)
Working capital deficiency	(46,275)	(22,001)	(13,619)	(9,496)	(3,114)	(5,451)	(38,470)	(45,881)

The results for the year ended December 31, 2022 reflect the continuation of capital investments being made to advance the Tahuehueto mining project to its intended production capacity. Updated capital estimates and construction schedules, strengthening of construction management resources, and a renewed focus on execution and delivery are expected to yield very positive results for the Company in 2023. In parallel, restructuring of certain financial obligations and securing additional funding will support the achievement of these critical milestones in 2023.

Although the Tahuehueto Project is still under construction, pre-commissioning production initially from stockpiled ores and then commencing in Q4 from fresh underground ores continued through the quarter, albeit somewhat erratically as priority is given to construction activities. During the quarter, working capital deficiencies continued to mount, although revenues from both mines contributed significantly. Several debt settlement agreements and ongoing negotiations with lenders provided valuable breathing space by year end to enable the company to focus on achieving key goals at Tahuehueto.

The Campo Morado Mine, since commissioning the copper concentrate circuit in Q2-2022, has realized improved results and this trend is expected to continue in 2023. A greater strategic focus on copper production was prompted by a change in ore sources within the underground mine, as mining moved into areas with higher copper grade ores. Revenues from copper concentrate sales from Campo Morado comprised 13% of gross revenues from other minerals at the mine during the year, and this is expected to increase to over 20% in 2023. A detailed review of

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

process plant performance by international consultants in Q4 has also provided a roadmap for progressively improving performance in 2023 and beyond.

## Cash flow results

The following table provides a summary of cash flows for the three months and years ended December 31, 2022, and 2021:

	Three months ended December 31,		Years ended December 31,	
	2022	2021	2022	2021
<b>Cash provided by (used in):</b>				
Operating activities	\$ 141	\$ 2,340	\$ 1,989	\$ 4,071
Investing activities	(628)	(7,434)	(11,881)	(17,988)
Financing activities	(550)	(2,944)	7,620	16,982
Effect of foreign exchange rate changes on cash	(232)	(425)	375	(273)
<b>(Decrease) increase in cash during the period</b>	<b>(1,269)</b>	<b>(8,463)</b>	<b>(1,897)</b>	<b>2,792</b>
Cash beginning of period	2,421	11,512	3,049	257
<b>Cash end of period</b>	<b>\$ 1,152</b>	<b>\$ 3,049</b>	<b>\$ 1,152</b>	<b>\$ 3,049</b>

As of December 31, 2022, the Company had a cash balance of \$1,152 and a working capital deficiency of \$46,275. Current liabilities at the same date are in the amount of \$74,169, which have been incurred in connection with the acquisition and restart of Campo Morado mining project, the advancement of the Tahuehueto project into development phase, and costs associated with maintaining the Company's public listing.

During the three months ended December 31, 2022, the Company generated cash from operating activities in the amount of \$141 (December 31, 2021 – \$2,340). The cash burn during Q4-2022 is primarily due to more aggressive servicing of short-term liabilities and trade payables. Additionally, the ongoing pre-commercial production operations at the Tahuehueto mine is generating expected losses which were offset by operating profits at the fully operational Campo Morado mine.

The Company also used cash in the amount of \$628 in investing activities during the three months ended December 31, 2022 compared to \$7,434 used during the three months ended December 31, 2021. The \$6,806 decrease in cash used in investing activities is primarily due to capital spend reductions as the Tahuehueto mine nears commercial production.

During the three months ended December 31, 2022, the Company used cash in the amount of \$550 (December 31, 2021 – \$2,944) in financing activities comprised of mainly \$2,302 related to funds received in advance as a guarantee on the Private Placement, the repayment of debt in the amount of \$1,440 and the repayment of interest for \$528. Current available financing is being used mainly to finalize the development activities at the Tahuehueto project and general working capital purposes.

## 6. – Campo Morado Mine and Tahuehueto Mining Project

### Campo Morado Mine

Summary of NI 43-101 compliant Mineral Resources and Preliminary Economic Assessment dated March 30, 2018, the "PEA"

The PEA Report was prepared by Eric Titley BSc, PGeo of Titley Consulting Ltd., William J. Lewis BSc, PGeo of Micon International Limited ("Micon"), Christopher Jacobs CEng, MIMMM of Micon, James W.G. Turner BSc(Hons) ACSM, MSc MCSM, MIMMM CEng of Micon and Eur Ing Bruce Pilcher CEng, FIMMM, FAusIMM (CP) of Micon.

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

## Campo Morado PEA Highlights

- Undiscounted cash flow before income and mining taxes of US\$114M
- Pre-tax Net Present Value ("NPV") at an 8% discount rate of US\$81M
- Undiscounted cash flow after income and mining taxes of US\$91M
- After-tax NPV at a discount rate of 8% of US\$65M
- Life of mine ("LOM") of 12 years, with 9.7 million tonnes of potential mill feed at an average grade of 4.33% zinc grade, 1.00% lead grade, 0.78% copper grade, 131.9 grams per tonne ("g/t") of silver and 1.71 grams per tonne ("g/t") of gold.

Note – only potential mill feed resources located in close proximity to existing underground mine workings that are easily accessible with limited mine development are currently included in the PEA mine plan. There are additional measured and indicated resources of approximately 6.9 million tonnes available that could extend the project's LOM.

- Mining rate of 2,500 tonnes per day ("tpd")

Campo Morado Mine resources estimate with effective date as at November 5<sup>th</sup>, 2017:

Cut-off ZnEq (%)	ZnEq (%)	Tonnes	Au (g/t)	Ag (g/t)	Cu (%)	Pb %	Zn (%)
------------------	----------	--------	----------	----------	--------	------	--------

### Measured

3.0	6.94	17,004,000	1.34	91	0.73	0.67	3.17
4.0	7.87	13,412,000	1.49	104	0.76	0.78	3.71
<b>5.5</b>	<b>9.27</b>	<b>9,292,000</b>	<b>1.70</b>	<b>124</b>	<b>0.82</b>	<b>0.94</b>	<b>4.56</b>
7.0	10.71	6,318,000	1.88	143	0.87	1.11	5.44

### Indicated

3.0	5.78	16,848,000	1.25	85	0.68	0.61	2.25
4.0	6.62	12,324,000	1.42	99	0.72	0.73	2.68
<b>5.5</b>	<b>7.94</b>	<b>7,335,000</b>	<b>1.70</b>	<b>123</b>	<b>0.78</b>	<b>0.92</b>	<b>3.31</b>
7.0	9.32	4,086,000	1.96	151	0.86	1.12	3.94

### Measured + Indicated

3.0	6.36	33,852,000	1.29	88	0.70	0.64	2.71
4.0	7.27	25,736,000	1.46	102	0.74	0.76	3.22
<b>5.5</b>	<b>8.68</b>	<b>16,627,000</b>	<b>1.70</b>	<b>123</b>	<b>0.80</b>	<b>0.93</b>	<b>4.01</b>
7.0	10.16	10,404,000	1.91	146	0.87	1.11	4.85

### Inferred

3.0	5.03	3,316,000	0.98	76	0.52	0.58	2.10
4.0	5.85	2,152,000	1.11	90	0.55	0.71	2.54
<b>5.5</b>	<b>7.27</b>	<b>988,000</b>	<b>1.32</b>	<b>116</b>	<b>0.64</b>	<b>0.92</b>	<b>3.20</b>
7.0	8.75	416,000	1.52	148	0.76	1.10	3.78

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

---

## Campo Morado Operations

Luca purchased Campo Morado in September 2017 and, during August 2017, Luca commenced underground pre-production mining operations at Campo Morado. Mining development commenced within the El Largo Zone with mineralized mined development material transported and stockpiled at the mill site.

On August 14, 2019, the Company suspended mining operations at Campo Morado placing the mine into care and maintenance as a result of weak zinc prices.

Luca brought the mine out of care and maintenance and reinitiated mining and milling operations during late January 2020, but subsequently during April and May 2020 the Company temporarily suspended operations as mandated by the Mexican Government for COVID-19 precautions, then re-initiated mining operations in September 4, 2020, after mining was declared an essential service in Mexico.

As of the date of this MD&A mining operations are continuing.

In Q4-2022 the Company engaged international engineering consultants Ausenco to undertake a detailed review of the Campo Morado process plant and its performance. This was very successful and provided the operation with a roadmap to progressively improve performance, with some significant potential gains in recoveries and concentrate grades. One of the priority recommendations was to implement an effective geometallurgy program at the site, linking detailed understanding of ore zones mineralogies with process plant configurations and performance. The operating team has fully embraced this, and this approach underpins the 2023 production planning. The site is now progressively implementing the Ausenco recommendations.

Management also initiated a metallurgical test work program to investigate technologies for potentially increasing both base metal recoveries and precious metal recoveries at Campo Morado, which, if successful, will enable Campo Morado to increase revenues and will create additional mine flexibility to target precious metal rich zones in times of reduced base metal pricing. This metallurgical test work program commenced during mid-July 2021 and is ongoing. Testing includes exploring pneumatic flotation and micro fine grinding; the potential to produce a precious metals-rich pyrite concentrate from both legacy and fresh tailings; investigating forced oxidation and leaching technologies (refer below); and ongoing metallurgical testing on various ore bodies within the global resource.

Successful testing results from these technologies may allow the Company to improve recoveries of all payable metals and potentially to reprocess the existing tailings stored in the historic tailings facility to recover a portion of the precious and base metals contained within the tailings.

The Company engaged Glencore Technologies to test the possibilities of increased metal recoveries utilizing pneumatic flotation Jamison Cell Technology. A Jamison Cell pilot plant operated at Campo Morado for approximately three months testing a number of process streams within the processing plant and also tested the potential metal recoveries from historic tailings material stored within the legacy Naranjo Bajo tailings storage facility. This pilot plant was able to test recoveries at microfine grind levels. Encouraging results were obtained during the flotation cleaning process where higher grade base metal concentrates were generated within the pilot plant. In addition, the Jamison cell successfully produced a precious metal rich pyrite concentrate from the historic legacy tailings. This pyrite concentrate material was submitted to Glencore Technologies for Albion Process™ testing, which is a forced oxidation and leaching technology for enhanced precious metal recoveries.

Luca also intends, finances permitting, to initiate metallurgical testing of other potential recovery methods such as bioleaching and the SART process, for both fresh and historic tailings.

During Q3 2022, Campo Morado operations team completed work on an expansion of the Alto Tailings Storage Facility ("TSF"). The storage capacity is increased progressively through the construction of a series of embankment lifts, with each lift providing a further 15-20 months of storage capacity.

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

---



During May 2022 the Company commenced producing copper concentrate at Campo Morado. Copper concentrate production is ongoing however, as a result of copper and lead recoveries competing with one another, lead concentrate production was curtailed. Metallurgical studies designed to effectively separate copper and lead are underway and if concluded successfully, lead concentrate production is expected to resume. At the time of submitting this report this work is very advanced and it now appears likely that lead concentrate production will resume in the second quarter of 2023.

## **Tahuehueto Mining Project**

### NI 43–101 Compliant Pre-Feasibility Study

In January 2017, Luca announced the results of a NI 43–101 compliant Prefeasibility Study (the “PFS”) for Tahuehueto. The PFS was prepared by Metal Mining Consultants Inc. based in Highlands Ranch, Colorado. And authored by Scott E. Wilson of MMC along with contributions from other industry experts. This PFS has been prepared in compliance with Form 43-101F1 (Technical Report) and Companion Policy 43-101CP with an effective date of the report is November 18, 2016. Given that much of the data and models from the 2017 report were significantly updated in 2022, the 2017 report is no longer considered current and should therefore not be relied upon by investors.

On April 25, 2022, the Company released an update to the NI 43–101 compliant PFS for Tahuehueto. This updated PFS builds off the previous 2017 report with an expansion of the mining operation to 1,000tpd, adoption of the sub-level long hole open stoping mining method combined with lesser cut and fill mining method, and an updated reserve and resource calculation.

The Project configuration evaluated in the updated 2022 PFS is a conventional underground mine utilising contractor mining, and owner-operated surface facilities. Mill feed will be processed in a 1,000 tonnes per day comminution circuit consisting of primary and secondary crushing, wet grinding to an initial two-circuit flotation/concentration plant producing precious metal rich lead and zinc concentrates and subsequently, in the second year of operation a third circuit added to produce copper concentrates.

The PFS was prepared by independent third-party consultants, Resource Development Associates Inc. (“RDA”) and integrated updated geological interpretations based on expanded knowledge of the mineral deposit, geological modeling, an optimized mine plan and production schedule, additional metallurgical work, a mill currently under construction and updated cost estimates, all of which de-risk the Project.

The Company cautions that the PFS is preliminary in nature and is based on technical and economic assumptions which could be further refined and evaluated in a full feasibility study. The PFS is based on an updated project reserve and resource estimate effective as of February 23, 2022. As the Company has elected to bring the

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

---

Tahuehueto Mining Project into production without the benefits of a full feasibility study, the Company cautions that this could result in a higher risk of economic or technical failure of the operation than if a full feasibility study had been prepared. There are no assurances that the Tahuehueto Mining Project will be found to be economic.

Investors are urged to review the complete NI 43-101 report for complete details of the Technical Report that summarises the results of the PFS has been filed on SEDAR at [www.sedar.com](http://www.sedar.com) on April 25, 2022 and is available on the Company's website [www.lucamining.com](http://www.lucamining.com).

## Tahuehueto Bulk Sample and Pre-production Testing

On February 23, 2017, the Company announced that it had finalized the sale of lead and zinc concentrates produced from its industrial scale bulk sample collected from the El Creston zone during late 2016 and 2017, on its 100% owned Tahuehueto project.

The collection and processing of this industrial test provided proof of concept that the selective mining method utilized in the bulk sample collection to be employed at Tahuehueto in future mining operations resulted in industry-standard mining costs and metal recovery processes utilized at the sulphide flotation toll mill were very successful in producing saleable lead and zinc concentrates.

## Tahuehueto Pre-production Program 2019

Based upon the successful results of the above referenced industrial-scale bulk sample, Management initiated a program of pre-production during the Tahuehueto mine development and construction phase. Pre-production mining commenced early September 2017 and continued throughout 2018 and part of 2019. Management curtailed pre-production at Tahuehueto during Q3 2019.

Tahuehueto Pre-production operations during 2019, produced a total of 32,558 tonnes of ore. During 2019, an estimated 12,316 tonnes of ore were shipped to the Atocha Toll Mill. Mineral processing at the Atocha Toll mill processed 13,574 tonnes of ore producing:

- 436 tonnes of lead concentrate with average grades of 90.08 grams per tonne gold, 879 grams per tonne silver, 39% lead, and 4.80% copper.
- 547 tonnes of zinc concentrate with average grades of 12.23 grams per tonne gold, 158 grams per tonne silver, and 45% zinc.

Overall average metal recoveries achieved during pre-production operations in 2019 were 83.83% gold, 84.56% silver, 88.89% lead, 82.02% zinc, and 93.37 copper.

## Underground Exploration 2019

Tahuehueto underground development along the major mineralized structure, El Perdido, extended approximately 225 meters along strike to the north-east from the Level 12 access decline. The first 60 meters of this development was designed to prepare reserves identified by previous drilling for mining, however, the development drift was extended in continuous mineralization beyond known reserves/resources outlined by previous drilling and exposed an additional 165 meters of continuous mineralization beyond the known drilling. This development is effectively serving as both mine development and underground exploration and is adding new resources at Tahuehueto. Underground exploration drilling is planned to further explore this newly exposed mineralization within the El Perdido structure.

Channel sampling results from this newly exposed El Perdido mineralization are the subject of corporate news releases dated June 25, 2019 available on the Company's web site and are verifying the continuity of mineralization along the El Perdido structure helping to prove managements assumption that the El Perdido Zone connects with the Santiago Zone on the same structure and if continuously mineralized will allow new exploration along approximately 800 meters of unexplored structure which could add significant additional resources to the project.

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

---

## Mine Construction and Underground Development

Luca initiated construction activities on-site at Tahuehueto in 2018. In 2018 and 2019 construction was advanced to within an estimated 50-60% of completion. However, as a result of reduced cash flows from the Company's Campo Morado operations, Luca management curtailed, on a temporary basis, its construction efforts at Tahuehueto.

Upon securing funding, the Company reinitiated construction efforts at Tahuehueto during 2021. As of May 2022, construction efforts had advanced sufficiently that the Company initiated pre-commercial production. As of the date of this Management Discussion, . construction of the first phase with a capacity of 500 tonnes per day is approximately 85% complete. The mine is currently producing between 300-375 tonnes per day and generating saleable zinc and lead concentrates.



*1<sup>st</sup> Ball Mill Being Installed*

Although the first ball mill is currently capable of operating at 500 tpd, construction delays occurred on finalizing the permanent crushing circuit, permanent water pumping station and tailings storage facility. The permanent crushing circuit, currently with 400 tpd capacity until additional screens and cyclones are installed, is now operational. Crushing over the past months was being handled by a limited capacity provisional crushing circuit. The project's backup diesel powered water pumping system is providing water to the mill and the permanent water pumping station, although substantially built, requires a limited amount of work and connection to electrical power over the coming months.



# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

---



*Mill Concentrate Filtration Area*

Tailings are being stored in a temporary facility until the permanent dry stack tailings facility is fully constructed. Work here was temporarily suspended during the rainy season in 2022 as a result of an uncharacteristically heavy rains, complicating tailings construction, but is scheduled to resume imminently and is expected to be completed to receive dry stack tailings within the next three months.

Electrical power generation is being supplied by Aggreko International Power Projects Limited who have installed power generation equipment capable of supplying power to the mining unit for 1,000 tpd sustained production. The water pumping backup system and pipeline is operational to supply processing water to the mine at planned capacity of 1,000 tpd. The permanent water pumping system requires final installation and electrical power hook-up. The permanent crushing circuit in the mill is installed and operational at 400 tpd, and will shortly achieve full operational capacity of 500 tpd. Over the past several months, Tahuehueto has been processing mostly stockpiled ore mined in 2018-19 during the projects toll milling campaign, plus a limited amount of freshly mined development ore.

Luca's underground mining contractor has recently re-commenced mining of fresh ore from underground, and has developed access to mining stopes, two on the El Creston structure and two on the Perdido structure, providing multiple working faces more than fully capable to supply adequate mill feed for the mine's initial production phase of up to 500 tpd. Underground development was temporarily suspended over the past several months as there was adequate stockpiled ore feed for operations with the first ball mill. Underground development and ore production was reinitiated during the last week of October 2022.

The second phase of construction will be to expand the mine to a capacity of 1,000 tpd. The major elements of the 1000 tpd expansion are a second 500 tpd ball mill; a third tailings filter press; and a modest material handling solution in the form of an ore pass within the mine to relieve expected traffic congestion issues when operating at 1000 tpd. Installation of the projects second 500 tpd ball mill, a key element in the 1000 tpd project is temporarily postponed, as it requires the permanent tailings facility to be available to receive the increased load of tailings that will be generated. Civil works for the second ball mill will commence as soon as the 500 tpd project is fully commissioned and delivering consistent revenues. A definitive timetable for delivery of the 1000 tpd project will be communicated in subsequent Company announcements.

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

## Mineral Properties and Development Assets

Effective January 1, 2017, the Company commenced capitalization of all direct costs related to the development of the Tahuehueto project to property, plant and equipment under IAS 16, as management determined the technical feasibility and commercial viability were established through the positive results associated with the pre-feasibility study, thereby moving it into a development stage asset under IFRS.

As at December 31, 2022, the Company capitalized the following acquisition and developments costs:

		<b>Tahuehueto</b>
Balance, December 31, 2021	\$	<b>24,237</b>
<b>Costs incurred:</b>		
Freight and related costs		322
Depreciation and amortization capitalized		2,323
Camp cost, equipment, and field supplies		292
Development costs		2,257
Supplies, fuel, lubricants and other		788
Project general and office expenses		540
Permitting, environmental and community costs		365
Salaries and wages		716
Share-based compensation		6
Travel and accommodation		139
Gain on modification of debt (Note 11)		(97)
Interest capitalized, net		4,779
Total additions for the year	\$	12,430
Foreign currency movement		1,772
<b>Balance, December 31, 2022</b>	<b>\$</b>	<b>38,439</b>

## Qualified Person

The Qualified Person who has reviewed and approved all technical disclosure in this MD&A is Ralph Shearing, P. Geol, who is the Company's President and Director.

## 7. – Non-GAAP measures

The Company has included certain non-GAAP performance measures throughout this MD&A. These performance measures are employed by management to assess the Company's operating and financial performance and to assist in business decision-making. The Company believes that, in addition to conventional measures prepared in accordance with GAAP, certain investors and other stakeholders use this information to evaluate the Company's operating and financial performance; however, as explained elsewhere herein, these non-GAAP performance measures do not have any standardized meaning. Accordingly, these performance measures are intended to provide additional information and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with GAAP.

### C1 cash cost per pound of payable zinc

C1 cash costs per pound of payable zinc for the Campo Morado Mine operation are estimated by adding the total cost to produce concentrate (mining, milling, site general and administration), adding the cost of transporting concentrate to the point of sale, adding the cost of smelter treatment and refining charges, subtracting the by-product credits estimated from sales of lead, silver, gold and dividing by the pounds of payable zinc. By-product credits are calculated using the realized weighted average metal price, during the year.

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

## All-in sustaining costs (“AISC”)

The Company believes that AISC more fully defines the total costs associated with producing zinc. The Company calculates all-in sustaining costs as the sum of total cash costs (as described above), corporate general and administrative expense (net of stock-based compensation), reclamation cost accretion and amortization and sustaining capital, all divided by the zinc pounds produced to arrive at a per pound figure.

Other companies may calculate this measure differently as a result of differences in underlying principles and policies applied. Differences may also arise due to a different definition of sustaining versus growth capital.

(Amounts in US dollars)

	Three months ended December 31,		Years ended December 31,	
	2022	2021	2022	2021
<b>Non GAAP reconciliation</b>				
Production payable Zinc (1,000 lb)	6,410	10,272	29,321	38,229
Production cost per financial statements (US\$000)	\$ 9,368	\$ 7,052	\$ 34,555	\$ 26,047
Treatment and refining charges (US\$000)	3,800	5,980	16,485	15,737
Freight (US\$000)	1,434	1,888	6,201	7,192
By-product credits (US\$000)	(5,408)	(7,289)	(21,912)	(25,958)
C1 cash cost (US\$000)	\$ 9,195	\$ 7,631	\$ 35,328	\$ 23,018
<b>C1 cash cost per payable pound of zinc (US\$/lb)</b>				
Production Cost	\$ 1.46	\$ 0.69	\$ 1.18	\$ 0.68
Treatment and refining charges	0.59	0.58	0.56	0.41
Freight	0.22	0.18	0.21	0.19
By-product credits – estimated	(0.84)	(0.71)	(0.75)	(0.68)
<b>C1 cash cost per payable pound of zinc (US\$/lb)</b>	<b>\$ 1.43</b>	<b>\$ 0.74</b>	<b>\$ 1.20</b>	<b>\$ 0.60</b>
<b>All-in Sustaining Costs</b>				
C1 cash cost (US\$000)	\$ 9,195	\$ 7,631	\$ 35,328	\$ 23,018
Depletion, Depreciation & Amortization (US\$000)	1,092	118	1,846	429
Accretion (US\$000)	64	84	250	346
Corporate Costs (US\$000)	654	915	2,761	3,658
Royalties (US\$000)	377	475	1,526	1,805
Capital Expenditure (sustaining) (US\$000)	367	557	3,115	2,660
All-in Sustaining Costs (US\$000)	\$ 11,748	\$ 9,780	\$ 44,827	\$ 31,916
AISC per payable pound of zinc (US\$/lb)	\$ 1.83	\$ 0.95	\$ 1.53	\$ 0.83

Note: Amounts in the table above are presented in thousands of US dollars. These amounts were translated into US dollars using the average foreign exchange rate or the true US dollar amounts if available.

## 8. – Liquidity

The Company manages its capital structure and adjusts it, based on the funds available to the Company, in order to support the acquisition, development, exploration and evaluation of assets. The Board does not impose quantitative return on capital criteria for management, but rather relies on the expertise of the Company's management to sustain the future development of the business.

The Company's principal business activity is the production of base metals and the acquisition, exploration and development of resource properties in Mexico, with a focus on the mine operation of Campo Morado and the development of Tahuehueto mine project (Note 7). Effective May 16, 2018, the Company completed commissioning of Campo Morado mine and declared commercial production. On February 23, 2021, the Company executed a letter of intent with Accendo Banco S.A. de C.V., Empress Royalty Corp., & Endeavour Financial (the “Accendo Syndicate”) to provide up to US\$25 million of financing to complete the construction and ramp-up of Tahuehueto mining project, meet debt service obligations and working capital purposes. On September 29, 2021, the Mexican National Banking and Securities Commission revoked Accendo's banking license and started its liquidation. The

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

---

Company has a US\$5.8 million balance to be drawn down from its executed Medium Term Loan Facility (“MTLF”) (Note 11 (c)) which is now impaired and was part of the total US\$25 million Accendo Syndicate financing. Notwithstanding, subsequent to completing the necessary financing to place Tahuehueto into commercial production, there can be no assurances that the Company will meet its production targets and that realized metal prices will be sufficient to cover the cost of operations. In addition, the business of mineral development involves a high degree of risk and there can be no assurance that the Company’s current operations, including development programs, will result in profitable mining operations. The recoverability of the carrying value of development project assets or mineral properties, and the Company’s continued ongoing existence is dependent upon the preservation of its interest in the underlying properties, the achievement of profitable operations, the ability of the Company to raise additional sources of funding, and/or, alternatively, upon the Company’s ability to dispose of some or all of its interests on an advantageous basis. As a result of these risks, there are material uncertainties which may cast significant doubt as to the Company’s ability to continue as a going concern. In response to these matters the Company has taken several actions during the first and second quarters of 2023 to improve its financial position (Note 27). These actions include a series of debt settlement agreements settling \$10,615 through the issuance of 21,711,450 Common Shares in the Company, and capital raising initiatives resulting gross proceeds of \$18,344.

These consolidated financial statements do not reflect the adjustments to carrying values of assets and liabilities and the reported consolidated statements of financial position classifications that would be necessary if the going concern assumption were inappropriate. No adjustments have been made should the going concern assumption not be appropriate and such adjustments could be material. The Company has an excess of current liabilities over current assets as at December 31, 2022 of \$46,275 (December 31, 2021 - \$3,114) and an accumulated deficit of \$76,094 (December 31, 2021 - \$64,487). These consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the payment of liabilities in the ordinary course of business.

There are inherent risks to mining that may affect the Company’s liquidity. The ability to generate revenue and positive cash flow will depend on the ability of the Company to meet its production targets, ship concentrates and realize economic commodity prices for zinc, lead, copper, gold and silver. Exchange rates could also have a significant impact on the Company’s profitability since some of its costs and expenses are denominated in currencies other than the US dollar.

The Company has received the following sources of capital:

## Line of Credit

On July 22, 2016, the Company entered into an agreement with Estrategica Corporativa en Finanzas, S.A.P.I. de C.V. (“Escorfin”), for a line of credit for up to \$9.2 million (MXN\$150 million) (the “LOC”). The funds from the LOC were used towards the Company’s investment plan established in its completed Internal Scoping Study. The funds drawn down under the LOC accrue interest at a rate of 15% per annum, payable monthly after a grace period of 12 months. Interest generated during the grace period will be subsequently paid in 12 consecutive monthly instalments. Furthermore, the Company is required to pay back any cash advances in 24 equal consecutive monthly instalments following a 36-month grace period and no later than July 28, 2022. In case of default any payment under the LOC, the Company will pay a moratorium interest rate of 30% per annum. The Company has drawn down from its LOC a total amount of \$2.8M (MXN\$46 million) primarily to further its Tahuehueto project.

Effective July 1, 2021, the Company and Escorfin agreed to amend the LOC agreement resulting in a substantial modification whereby the outstanding balance including interest was capitalized and converted to United States dollars at current exchange rates. To accommodate the amendment, Escorfin has been accepted into the Trust Agreement defined in Note 11(b). The remaining term was extended thirty-six months from the date of amendment with a grace period equal to twelve months on principal and interest. The amended interest rate was decreased to 10% per annum from 15% per annum and as consideration for LOC modification, the Company has agreed to issue Escorfin, 62,500 bonus shares and 187,500 bonus warrants. Each bonus warrant is exercisable within a period of two years at a price of \$3.80. The shares issued were valued at the date of issuance, July 30, 2021, and the bonus warrants were fair valued using the Black-Scholes option pricing model, together totaling \$1,197 which was

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

---

recorded as deferred financing costs in other assets.

Effective May 26, 2022, the Company and Escorfin agreed to amend the terms of the LOC Agreement. As a result of amendment of terms, the maturity dates of the LOC Agreement were extended to September 2025, with thirty-six equal instalments beginning October 2023 with outstanding principal accruing interest at a rate of 10% per annum.

As at December 31, 2022, the Company has an outstanding balance of \$5,419, which includes interest accrued during the year of \$482, of which \$98 was during Q4-2022.

## Due to Breakwater Resources Ltd

As at December 31, 2022, the Company has a balance owing of \$3,682, which includes interest accrued during the year of \$483, of which \$106 was during Q4-2022, and principal and interest repayments during the year of \$2,153 and \$422, respectively, of which \$561 and \$80, respectively were during Q4-2022.

On June 13, 2017, the Company acquired Campo Morado mine for a total purchase price of US\$20 million paid as follows:

- i. US\$0.8 million at signing of the agreement (paid);
- ii. US\$2.7 million on or before September 12, 2017 (paid); and
- iii. US\$16.5 million on or before June 13, 2018 of which US\$2.7 million remains outstanding as at December 31, 2022 (December 31, 2021 – US\$4.3 million).

On June 12, 2018, the Company renegotiated the terms for the remaining US\$8.5 million balance on the Campo Morado Agreement and entered into a loan agreement with Nyrstar (“Campo Morado Loan Agreement”).

Effective April 13, 2021, the Company exercised its option to settle the US\$4 million VPP obligation under the Campo Morado Agreement. As consideration, it was agreed that the obligation was settled with 1,825,000 common shares of Luca valued at \$3.04 per common share. The Company recorded a loss of \$2,148 which represents the change in the fair value of common shares issued at \$5,548 and the VPP cash settlement of \$1,629 contingent consideration settled with Nyrstar.

On June 17, 2021, the Company and Nyrstar agreed to amend the Campo Morado Loan Agreement with the following terms: upon the execution and funding of the Accendo MTLF (Note 11(c)), the Company will repay the interest owing, a portion of the principal of the loan and the incurred VPP for a total of US\$3.2 million (paid). The remaining outstanding balance of the loan will be paid in twenty-six equal monthly instalments accruing interest at a rate of 10% per annum.

In addition to the aforementioned monthly principal repayments, Luca will pay at the end of each quarter succeeding the grace period, 70% of any excess cash above US\$7 million generated by Luca on the Campo Morado mining project.

The above loan amendments resulted in a substantial modification of terms as outlined above. As a result of the amendment of terms, during the year ended December 31, 2021, the Company recognized a gain on extinguishment in other income and expenses totaling \$25 impacting the valuation in relation to the Campo Morado Loan Agreement.

Effective September 30, 2021, Breakwater Resources Ltd., acquired from Nyrstar the rights and obligations associated with the Campo Morado Loan Agreement. The Deed of Novation between the Company, Nyrstar, and Breakwater effectively releases and discharges the Company and Nyrstar from further obligations to each other with respect to the Campo Morado Loan Agreement and their respective rights against each other thereunder are cancelled. In respect to the Deed of Novation, the Company and Breakwater each undertake liabilities and obligations towards the other and acquire rights against each other effectively replacing Nyrstar with Breakwater as the lender in relation to the Campo Morado Loan Agreement.

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

---

Effective May 1, 2022, the Company and Breakwater agreed to amend the terms of the Campo Morado Loan Agreement. As a result of amendment of terms, the maturity date of the Campo Morado Loan Agreement was extended to December 2023, with a three-month grace period between May and July 2022. All other terms remain unchanged from the amending agreement entered into on June 17, 2021. As a result of the amendment of terms, during the year ended December 31, 2022, the Company recognized a gain on the non-substantial modification in other income and expenses totaling \$3, impacting the valuation in relation to the Campo Morado Loan Agreement.

As at December 31, 2022, principal payments with a carrying value of US\$206,749 were overdue and Breakwater is contractually entitled to request for immediate payment of the loan. As such, the outstanding balance of the Campo Morado Loan is presented as a current liability as at December 31, 2022. The Company is actively engaged in negotiations with Breakwater to resolve the matter and is optimistic that a mutually acceptable resolution can be reached. The outcome of these negotiations is uncertain at this time, and there can be no assurance that a resolution will be achieved on terms favourable to the Company.

## Loan Facilities

On September 11, 2017, the Company entered into a loan agreement (“Loan Agreement Campo”) with Trafigura in the amount of US\$5 million for financing working capital to initiate the restart of continuous mining operations at the Campo Morado mining facility. The loan bears interest at an effective annual rate equivalent to LIBOR (3M) plus 5%, it has a three-year term with nine months grace period followed by thirty monthly repayments. In connection to the loan agreement the Company’s subsidiary, Minas de Campo Morado, S.A. de C.V., also entered into an Offtake agreement with Trafigura, (“Offtake Agreement Campo”) in which the Company will sell all its zinc and lead concentrates for a fifty-one-month term starting October 2017.

On December 7, 2017, the Company entered into an additional loan agreement (“Loan Agreement Real”) with Trafigura Mexico, S.A. de C.V. in the amount of US\$15 million for financing working capital, rehabilitation and operation of the Tahuehueto mining project. The Loan Facility is available in three tranches, the first tranche equivalent to US\$7.5 million was received upon signing of the agreement. The second tranche equal to US\$5 million was received on November 6, 2018. The third tranche for US\$2.5 million was not received and is no longer available. The loan bears interest at an effective annual rate equivalent to LIBOR (1 year) plus 6%, it has a three-year term with a twelve-month grace period followed by twenty-four repayments. In connection to the loan agreement the Company’s subsidiary Real de la Bufa, S.A. de C.V., also entered into an Offtake agreement with Trafigura., (“Offtake Agreement Real”) in which the Company will sell all its zinc and lead concentrates for a sixty-month term, starting January 2018.

Under the terms of the Loan Agreement Campo and Loan Agreement Real (collectively the “Trafigura Loans”), the Company is subject to covenants. The Company was not in compliance and on July 1, 2021, the Company and Trafigura agreed to amend the terms of the Trafigura Loans. The loan amendments resulted in a non-substantial modification whereby the interest rates remained unchanged and the outstanding balances including interest were capitalized. The terms of the Loan Agreement Campo and Loan Agreement Real were extended to September 30, 2023 and September 30, 2024, respectively, with 26 equal instalments beginning August 30, 2021 for the Loan Agreement Campo and 32 equal instalments beginning February 1, 2022 for the Loan Agreement Real. As a result of the amendment of terms, the Company recognized a loss on modification totaling \$1,087 impacting the valuation of the Trafigura Loans.

Effective April 1, 2022, the Company and Trafigura agreed to a subsequent amendment of terms. As a result, the maturity dates of the Loan Agreement Campo and Loan Agreement Real were extended to December 2023 and December 2024, respectively, with eighteen equal instalments due for the Loan Agreement Campo and thirty equal instalments due for the Loan Agreement Real, each beginning July 2022. As a result of the amendment of terms, during the year ended December 31, 2022, the Company recognized a gain on the non-substantial modification in other income and expenses totaling \$10 impacting the fair value of the Loan Agreement Campo and capitalized a loss on the non-substantial modification to development project assets of \$37 impacting the fair value of the Loan Agreement Real.

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

---

As at December 31, 2022, the Company has a balance owing of \$2,970 under the Loan Agreement Campo which includes interest accrued during the year in the amount of \$451, of which \$142 was accrued during Q4-2022, and principal and interest repayments during the year of \$1,411 and \$218, respectively, of which \$219 and \$49, respectively were paid during Q4-2022.

As at December 31, 2022, the Company has a balance owing of \$17,202 under the Loan Agreement Real which includes interest accrued during the year in the amount of \$2,624, of which \$1,000 was accrued during Q4-2022, and principal and interest repayments during the year of \$2,869 and \$1,438, respectively, of which \$660 and \$321, respectively were paid during Q4-2022.

Principal payments on the Trafigura Loans with a carrying value of US\$309,590 for the Loan Agreement Campo and US\$965,774 for the Loan Agreement Real, were overdue as at December 31, 2022. As the Tahuehueto mining project nears commercial production, available funds had been allocated to its completion in lieu of debt servicing obligations. Due to the reallocation of funding, principal payments were temporarily suspended, and as a result, Trafigura is contractually entitled to request for immediate payment of the loans. Trafigura has not requested early repayment as of the date these consolidated financial statements were approved by the Board of Directors, and management is in the process of renegotiating terms of the Trafigura loans to align with expected completion of the Tahuehueto mining project.

## Accendo Loan

On July 1, 2021, the Company and Accendo executed a US\$12 million Medium Term Loan Facility ("MTLF") for the purpose of funding the construction of Luca Mining's Tahuehueto mining project and several working capital purposes. First and second funding were received in the amount of US\$3.2 million and US\$2.5 million on July 19, 2021 and August 23, 2021, respectively. Additionally, an amount of US\$500,000 was advanced during the year ended December 31, 2020.

The main terms and conditions of Accendo's MTLF are as follows:

- Loan facility amount - US\$12 million
- Repayment term - 4 years including a one-year grace period on principal
- Repayable in 36 equal monthly payments starting 12 months after closing
- Interest rate of 13.5% per annum payable quarterly in arrears calculated on the drawn amount
- Secured by second ranking security interest over all assets of the Company
- An arrangement fee of 2.5% of the facility amount payable from the proceeds upon first draw down at the closing
- An origination fee of 2.5% of the facility amount payable from the proceeds upon first draw down at the closing

Luca issued 1,875,000 bonus warrants at an exercise price of \$0.72 per common share for a period of 48 months. The bonus warrants were issued in lieu of a work fee but subject to cancellation if the loan facility is not fully drawn. The bonus warrants were fair valued using the Black-Scholes option pricing model and the value of \$1,628 which was recorded in other assets. The assumptions used for determining the fair value of the warrants were: risk-free interest rate 0.33%, expected dividend yield \$nil, stock price volatility 128% and expected life of 4 years. On October 27, 2022, the bonus warrants were cancelled and an expense was recorded in other income and expenses to accelerate the unamortized balance of the deferred financing expense. The unamortized balance as at December 31, 2022 is \$nil (December 31, 2021 – \$812).

On September 29, 2021, the Mexican National Banking and Securities Commission revoked Accendo's operating license to organize and operate as a multiple banking institution and started a liquidation process to protect the savings of the bank's clients. The Company has a US\$5.8 million balance to be drawn down from the MTLF, however due to recent events the Company anticipates that its ability to draw any future funds is impaired.

As at December 31, 2022, the Company has a balance owing of \$9,395 under the Accendo MTLF which includes interest accrued during the year of \$643, of which \$277 was accrued during Q4-2022.

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

## Calu Loan

On December 29, 2021, the Company executed a loan agreement (“Calu Loan”) with Calu Opportunity Fund, LP (“Calu”) whereby Calu will provide a US\$5 million loan facility to Luca, with proceeds to be used to fund the final costs of construction and working capital at the Company’s Tahuehueto Gold Mine Project. The Company received US\$1.7 million on January 7, 2022 and US\$645,000 in February 2022 for a total amount drawn from the facility of US\$2.345 million. The loan is unsecured, has a term of 4 years, bears interest at 13.5% per annum, and is payable in 12 quarterly instalments commencing March 10, 2023.

Effective August 31, 2022, the Company and Calu agreed to amend the terms of the Calu Loan whereby US\$144,088 of interest accrued as of June 30, 2022 was capitalized to the loan principal. Interest thereafter shall continue to accrue interest at a rate of 13.5% per annum and payment terms the remaining balance is payable in thirty-seven blended principal and interest payments to be made monthly commencing December 21, 2022. As a result of the amendment of terms, during the year ended December 31, 2022, the Company recognized a loss on the non-substantial modification in other income and expenses totaling \$23, impacting the valuation in relation to the Calu Loan.

As part of the Trust Agreement (Note 11(b)), principal payments made to members of the Trust require settlement of overdue amounts owed to Trafigura prior to servicing debt obligations of other members of the Trust. Due to the temporary suspension of principal payments to Trafigura, principal and interest payments on the Calu Loan with a carrying value of US\$239,020 were overdue as at December 31, 2022 and Calu is contractually entitled to request for immediate payment of the loan. As such, the outstanding balance of the Calu Loan is presented as a current liability as at December 31, 2022. In February of 2023, the Company and Calu entered into a second amending agreement to remedy the overdue amounts and subsequently settled the full balance of the Calu Loan through the issuance of shares.

As at December 31, 2022, the Company has a balance owing of \$3,561 under the Calu Loan which includes interest accrued during the year of \$415, of which \$123 was accrued during Q4-2022.

## Right of use assets and lease liabilities

The continuity of lease liabilities for the years ended December 31, 2022 and 2021 are as follows:

		<b>Amount</b>
Balance, December 31, 2020	\$	1,621
Lease additions		9,554
Lease amendments		9
Lease cancelations		(733)
Lease payments		(528)
Interest expense		226
Interest paid		(226)
Foreign currency movement		98
<b>Balance, December 31, 2021</b>	<b>\$</b>	<b>10,021</b>
Lease additions		574
Lease amendments		15
Lease payments		(1,204)
Interest expense		1,025
Interest paid		(1,025)
Foreign currency movement		656
<b>Balance, December 31, 2022</b>	<b>\$</b>	<b>10,062</b>



# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

---

## 9. – Capital Resources

On December 20, 2022, the Company completed a consolidation of its common shares on the basis of one new share for eight old shares (1:8). All share and per share numbers in this MD&A are presented on a post consolidation basis.

### Common shares issued

For the year ended December 31, 2022

- i. On April 20, 2022, the Company closed the first tranche of a non-brokered private placement for gross proceeds of \$4,241. The Company issued 1,514,537 units (each, a “Unit”) of the Company at a price of \$2.80 per Unit. Each Unit is comprised of one common share (a “Common Share”) and one-half of one common share purchase warrant (each whole such warrant, a “Warrant”). Each Warrant entitles the holder thereof to purchase one additional Common Share of the Company at a price of \$4.40 per Common Share within twenty-four months from April 20, 2022 (the “Closing Date”). All securities issued under the private placement were subject to a hold period expiring four months and one day after the Closing Date.

On May 12, 2022, the Company closed the second and final tranche of a non-brokered private placement, whereby gross proceeds of \$759 were raised through the issuance of 271,178 Units. In connection with the above private placement, the Company incurred \$179 of share issue costs consisting of finders’ fees of \$68, issuance of 5,250 finders’ Units with a fair value of \$15, and legal fees of \$96.

- ii. During the year ended December 31, 2022, the Company issued 882,023 common shares for gross proceeds of \$1,659 in connection with share purchase warrants exercised. The fair value of the warrants exercised was \$6 and was transferred from equity reserves and recorded against share capital. As a result of the share purchase warrants exercised, Escorfin, a related party to the Company, was issued 454,137 common shares.

For the year ended December 31, 2021

- i. On March 30, 2021, the Company closed a non-brokered private placement for gross proceeds of \$10,080. The Company issued 6,300,000 units (each, a “Unit”) of the Company at a price of \$1.60 per Unit. Each Unit is comprised of one common share (a “Common Share”) and one-half of one common share purchase warrant (each whole such warrant, a “Warrant”). Each Warrant entitles the holder thereof to purchase one additional Common Share of the Company at a price of \$0.30 per Common Share within twenty-four months from March 29, 2021 (the “Closing Date”). All securities issued under the private placement were subject to a hold period expiring four months and one day after the Closing Date.

Escorfin, a related party to the Company, acquired 62,500 Units.

In connection with the above private placement, the Company incurred in \$478 of finders’ fees and \$28 of legal fees.

- ii. Effective April 13, 2021, the Company exercised its option to settle the US\$4 million VPP obligation under the Campo Morado Agreement (Note 10). As consideration, it was agreed that the obligation was settled with 1,825,000 common shares of Luca valued at \$3.04 per common share.
- iii. On July 30, 2021, the Company issued 62,500 common shares to Escorfin, a related party to the Company, in part for its efforts in amending the terms of the LOC (Note 11(a)).

# Luca Mining Corporation

## Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

- iv. During the year ended December 31, 2021, the Company issued 375,834 common shares for gross proceeds of \$408 in connection with stock options exercised. The fair value of the options exercised was \$390 and was transferred from the equity reserves and recorded against share capital. An additional fair value of \$497 was reclassified to share capital from the equity reserves upon cancellation or expiry of stock options.
- v. During the year ended December 31, 2021, the Company issued 785,907 common shares for gross proceeds of \$1,486 in connection with share purchase warrants exercised. There was no fair value allocated to 660,907 of these share purchase warrants. The fair value of the remaining 125,000 warrants exercised was \$208 and was transferred from the equity reserves and recorded against share capital.

### Other sources of funds

As at December 31, 2022, the other sources of funds potentially available to the Company are through the exercise of outstanding stock options and share purchase warrants with terms as follows:

Stock options outstanding are as follows:

Expiry date	Outstanding		Exercisable	
	Number of options	Exercise price	Remaining contractual life (years)	Number of options
March 16, 2023	37,500	2.40	0.2	37,500
April 16, 2023	50,000	2.40	0.3	50,000
December 3, 2023	37,500	3.04	0.9	37,500
January 29, 2025	25,000	1.60	2.1	25,000
February 8, 2025	31,250	1.60	2.1	31,250
August 6, 2025	12,500	1.28	2.6	12,500
December 5, 2025	112,500	0.72	2.9	37,500
February 25, 2026	635,417	2.40	3.2	635,417
May 11, 2026	9,375	3.64	3.4	9,375
May 19, 2026	250,000	3.81	3.4	250,000
August 9, 2026	12,500	4.24	3.6	12,500
August 23, 2026	12,500	4.40	3.6	12,500
<b>Outstanding, December 31, 2022</b>	<b>1,226,042</b>			<b>1,151,042</b>

Share purchase warrants outstanding are as follows:

Expiry date	Outstanding		
	Granted	Exercise price	Remaining contractual life (years)
March 29, 2023	3,089,072	2.40	0.2
July 1, 2023	187,500	3.80	0.5
October 16, 2023	1,375,000	1.40	0.8
April 20, 2024	757,273	4.40	1.3
May 12, 2024	43,750	4.40	1.4
May 30, 2024	94,463	4.40	1.4
June 30, 2025	622,272	2.80	2.5
	<b>6,169,330</b>		

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

In the future, the Company may have capital requirements in excess of its currently available resources and may be required to seek additional financing. There can be no assurance that the Company will have sufficient financing to meet its future capital requirements or that additional financing will be available on terms acceptable to the Company in the future.

## 10.– Off-balance sheet arrangements

The Company does not utilize off-balance sheet arrangements.

## 11.– Transactions between related parties

The Company's related parties consist of the Company's directors, officers and companies associated with them including the following:

- Estrategica Corporativa en Finanzas, S.A.P.I. DE C.V. ("Escorfin") with Roberto Guzman as a Director in common.
- Bursametrica Casa de Bolsa, S.A. de C.V. ("Bursametrica") with Roberto Guzman as a Director in common.

All transactions with related parties have occurred in the normal course of operations and are measured at their fair value as determined by management.

a) Compensation of key management personnel:

Key management personnel include members of the Board of Directors and officers of the Company. The net aggregate compensation paid, or payable and related party transactions are shown as follows:

	Three months ended December 31,		Years ended December 31,	
	2022	2021	2022	2021
Short-term benefits	\$ 376	\$ 850	\$ 1,746	\$ 850
Share-based compensation	24	1,479	186	1,479
	\$ 400	\$ 2,329	\$ 1,932	\$ 2,329

b) Related party balances:

As at December 31, 2022, directors and officers or their related companies were owed \$732 (December 31, 2021 – \$168) included in accounts payable and accrued liabilities mainly in respect to reimbursement of expenses, labour obligations, and director fees. These amounts are unsecured, non-interest bearing and have no specific terms of settlement.

c) Estrategica Corporativa en Finanzas, S.A.P.I. DE C.V. ("Escorfin")

Effective November 6, 2018, the Company appointed Roberto Guzman to the Board of Directors. Roberto is also the president, director and shareholder of Escorfin. Escorfin is a private equity fund that specialize in real estate development, energy innovations, and tourism investment in Mexico.

The following summarizes the transactions and balances owing to Escorfin as at December 31, 2022:

	December 31, 2022		December 31, 2021	
Debt current portion	\$	1,274	\$	1,357
Debt long term portion		4,145		3,379
<b>Balance</b>	<b>\$</b>	<b>5,419</b>	<b>\$</b>	<b>4,736</b>

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

---

During the three months and year ended December 31, 2022, the Company incurred interest in the amount of \$98 and \$482, respectively (December 31, 2021 –\$85 and \$483) of which \$nil was paid (December 31, 2021 – \$nil and \$nil).

During the three months and year ended December 31, 2022, the Company issued nil and 454,137 common shares, respectively, to Escorfin as a result of share purchase warrants exercised (December 31, 2021 – nil and nil) and no Units were acquired by the related party via private placement (December 31, 2021 – nil and 62,500 Units).

d) Bursametrica Casa de Bolsa, S.A. de C.V. (“Bursametrica”)

On April 4, 2021, the Company entered into a service agreement with Bursametrica whereby the financial institution would provide foreign exchange services primarily for the exchange of funds denominated in US dollars for funds denominated in the Mexican Peso. A director of the Company was deemed to have economic influence in the financial institution. During the year ended December 31, 2022, the amount exchanged for currency denominated in the Mexican Peso at exchange rates at the time of the conversion was \$26,974 (US\$20.72 million) (December 31, 2021 - \$28,912 (US\$23.1 million)). As at December 31, 2022, the amount owed to Bursametrica was \$nil (December 31, 2021 - \$nil).

## 12.– Subsequent events

Between January 1, 2023 and the date these consolidated financial statements were approved by the Board of Directors, the Company granted stock options to certain directors, officers, and insiders of up to an aggregate 527,778 shares in the capital stock of the Company. The options are exercisable on or before April 25, 2028 at a price of \$0.45 per share. During this period, 87,500 stock options expired without being exercised. The Company also repriced 1,076,042 stock options originally granted and exercisable between \$1.92 and \$5.76, with expiry dates between April 16, 2023 and August 23, 2026. These stock options have been repriced to \$0.50 per share and expiry dates remain unchanged.

On January 3, 2023, the Company entered into a debt settlement agreement with an arms’ length mining contractor (the “Creditor”) to settle \$1,176 which is owing to the Creditor as a result of underground mine development work. The Company and the Creditor have agreed that the issuance to the Creditor of 735,186 common shares of the Company at a deemed price of \$1.60 per common share will extinguish and settle the debt.

On January 5, 2023, the Company was unable to deliver silver credits to Empress in connection with the Stream Agreement (Note 12), which triggered a contractual default. As of the date these consolidated financial statements were approved by the Board of Directors, no action has been taken by the lender. On May 1, 2023, the Company entered into an amended Stream Agreement with Empress to remedy the default. The terms of the amendment defer silver delivery obligations until June 30 (the “Deferral Period”), and extend the terms nine months, commensurate with the Deferral Period. To accommodate for the waiver on overdue deliveries and the Deferral Period, the Company has agreed to provide Empress with cash consideration of US\$150,000 due June 30, 2023.

On February 10, 2023, the Company granted Peak Investor Marketing (“Peak”) a total of 100,000 incentive stock options (the “Peak Options”) exercisable at \$0.40 per share. The Peak Options are issued in accordance with the terms of the Company’s Incentive Stock Option Plan (the “Plan”) and vest in four stages over a period of 12 months, with one quarter vesting three months after the grant date and every three months thereafter. The Peak Options expire two years following the grant date.

On February 28, 2023, the Company entered into a series of debt settlement agreements in respect of \$9,439 of loan debts owed to various creditors (the “Debt Settlements”). Pursuant to the Debt Settlements, the Company will issue an aggregate of 20,976,264 Shares, at a deemed price of \$0.45 per Share. As at the date these consolidated

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

---

financial statements were approved by the Board of Directors, 12,721,310 Shares have been issued and the remaining are subject to the acceptance of the TSX Venture Exchange.

On March 29, 2023, the Company recognized the expiry of 3,089,072 share purchase warrants.

On April 27, 2023, the Company closed the first tranche of its non-brokered private placement (the "Private Placement") announced by news release dated March 31, 2023. The Company has sold 52,412,064 units of the Company (each, a "Unit") at a price of CAD\$0.35 per Unit for gross proceeds of \$18,344. Each Unit consists of one common share in the Company (a "Share") and one half of one Share purchase warrant (each whole, a "Warrant") entitling the holder to purchase an additional Share at a price of \$0.50 per Share until April 25, 2025. Finder's fees are to be paid in cash and securities (6% cash and 6% in warrants) in connection with the Private Placement to various finders. A Director and a related party to a Director of the Company acquired 1,728,500 Units under the first tranche for an aggregate purchase price of \$605.

## 13.– Proposed transaction

The Company has not engaged in any proposed transactions that have not been executed.

## 14.– Accounting policies and critical accounting estimates and judgements

Full disclosure of the Company's accounting policies and significant accounting estimates and judgments in accordance with IFRS can be found in note 2 and 3 of its audited consolidated financial statements as at December 31, 2022. Key estimates and judgements include going concern assumptions, functional currency, economic recoverability, impairment and probability of future economic benefits of mineral property interests, commencement of commercial production, accounting policies for streaming arrangements, mineral reserves and mineral resource estimates, operating levels intended by management, provisions for site reclamation and closure, assumptions in inventory, accounts receivable, and stock based compensation valuation, depreciation and amortization rates, and deferred tax assets and liabilities.

## 15.– Changes in Accounting Policies including Initial Adoption

There have been no new standards and interpretations adopted since the release of the Company's financial statements for the year ended December 31, 2021. The following amendments to standards and interpretations are effective for annual periods beginning on or after January 1, 2023 and 2024, however early adoption is permitted:

- i. Amendments to IAS 8 – Definition of Accounting Estimates. The amendments introduce a definition of accounting estimates and are intended to help entities distinguish changes in accounting policies from changes in accounting estimates. Under the new definition, accounting estimates are "monetary amounts in financial statements that are subject to measurement uncertainty". This distinction is important because changes in accounting policies must be applied retrospectively while changes in accounting estimates are accounted for prospectively. The amendment is effective for annual periods beginning on or after January 1, 2023.
- ii. Amendments to IAS 12 – Deferred Tax related to Assets and Liabilities arising from a Single Transaction. The amendments narrow the scope of the initial recognition exemption to clarify that the initial recognition exemption does not apply to transactions in which equal amounts of deductible and taxable temporary differences arise on initial recognition. The amendment is effective for annual periods beginning on or after January 1, 2023.
- iii. Amendments to IAS 1 – Classification of Liabilities as Current or Non-current. The amendment clarified the guidance on whether a liability should be classified as either current or non-current. The amendments are applied retrospectively for annual periods beginning on or after January 1, 2024.

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

- iv. Amendments to IFRS 16 – Lease liability in a Sale and Leaseback. The amendment clarifies how a seller-lessee subsequently measures sale and leaseback transactions that satisfy the requirements in IFRS 15 to be accounted for as a sale. The amendment is effective for annual periods beginning on or after January 1, 2024.

The Company does not expect these amendments to have a significant impact on its consolidated financial statements.

## 16.– Financial Instruments

As at December 31, 2022, the Company's financial instruments consist of cash, marketable securities, amounts receivable, accounts payable and accrued liabilities, obligation under share purchase obligation, current portion of the long-term debt, and amounts due to Breakwater Resources, Ltd. The fair values of these financial instruments approximate their carrying values due to their short-term to maturity. Marketable securities are classified as level one and recorded at fair value using quoted market prices. The fair value of the long-term debt have been determined based on Level 1 of the fair value hierarchy and approximates their carrying values as the cost of the long-term debt is consistent with market rates.

The Company's financial instruments are exposed to certain financial risks including, credit risk, liquidity risk, foreign currency risks, interest rate risk, commodity and equity price risk and capital risk management. Details of each risk are laid out in the notes to the Company's consolidated financial statements.

## 17.– Other requirements

Outstanding share data

Authorized: Unlimited number of common shares

Number of common shares issued and outstanding as at December 31, 2022: 34,868,057

Number of common shares issued and outstanding as at May 1, 2023: 100,736,617

Stock options as at May 1, 2023:

Expiry date	Number of options	Outstanding		Exercisable	
		Exercise price	Remaining contractual life (years)	Number of options	
December 3, 2023	37,500	0.50	0.6	37,500	
January 29, 2025	25,000	0.50	1.8	25,000	
February 8, 2025	31,250	0.50	1.8	31,250	
February 10, 2025	100,000	0.40	1.8	25,000	
August 6, 2025	12,500	0.50	2.3	12,500	
December 5, 2025	112,500	0.72	2.6	37,500	
February 25, 2026	635,417	0.50	2.8	635,417	
May 11, 2026	9,375	0.50	3.0	9,375	
May 19, 2026	250,000	0.50	3.1	250,000	
August 9, 2026	12,500	0.50	3.3	12,500	
August 23, 2026	12,500	0.50	3.3	12,500	
April 25, 2028	527,778	0.45	5.0	175,926	
<b>Outstanding</b>	<b>1,766,320</b>	<b>\$ 0.49</b>	<b>3.4</b>	<b>1,264,468</b>	

# Luca Mining Corporation

Management Discussion and Analysis

(Expressed in thousands of Canadian dollars, unless otherwise stated and per share amounts)

For the years ended December 31, 2022, and 2021

Share purchase warrants outstanding as at May 1, 2023:

Expiry date	Outstanding		Remaining contractual life (years)
	Granted	Exercise price	
July 1, 2023	187,500	\$ 3.80	0.2
October 16, 2023	1,375,000	1.40	0.5
April 20, 2024	757,273	4.40	1.0
May 12, 2024	43,750	4.40	1.0
May 30, 2024	94,463	4.40	1.1
April 26, 2025	26,206,028	0.50	2.0
June 30, 2025	622,272	2.80	2.2
	<b>29,286,286</b>	<b>\$ 0.73</b>	<b>1.9</b>

## 18.– Disclosure Controls and Procedures and Internal Controls over Financial Reporting

Disclosure controls and procedures are intended to provide reasonable assurance that information required to be disclosed is recorded, processed, summarized, and reported within the time periods specified by securities regulations and that the information required to be disclosed is accumulated and communicated to management. Internal controls over financial reporting are intended to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS. In connection with National Instrument 52-109 (Certificate of Disclosure in Issuer's Annual and Interim Filings) ("NI 52-109"), the Chief Executive Officer and Chief Financial Officer of the Company have filed a Venture Issuer Basic Certificate with respect to the financial information contained in the consolidated financial statements for the years ended December 31, 2022, and 2021, and this accompanying MD&A (together, the "Annual Filings").

In contrast to the full certificate under NI 52-109, the Venture Issuer Basic Certificate does not include representations relating to the establishment and maintenance of disclosure controls and procedures and internal control over financial reporting, as defined in NI 52-109. For further information, the reader should refer to the Venture Issuer Basic Certificates filed by the Company on SEDAR at [www.sedar.com](http://www.sedar.com).