

LUCA

Mining Corp.

**OPTIMIZATION
EXPLORATION
EXPANSION**

PRODUCTION

GOLD/ZINC/COPPER/SILVER/LEAD

CASH FLOW

DISTRICT SCALE EXPLORATION

FORWARD LOOKING STATEMENTS

LEGAL DISCLAIMER

This corporate presentation (this “Corporate Presentation”) has been prepared by the management of Luca Mining Corp. (the “Company” or “Luca”) for informational purposes only and is not intended to provide financial, tax, legal or accounting advice. This Corporate Presentation and the contents herein do not constitute or form part of any advertisement, any offer to sell or any solicitation of an offer to buy or subscribe for securities of Luca or represent an intention to induce any person to make an investment in the Company or to assist any person in the making of an investment decision. Unless otherwise indicated, the information provided in this Corporate Presentation is provided as of January 31, 2024.

CAUTIONARY NOTE REGARDING PRODUCTION DECISIONS AND FORWARD-LOOKING STATEMENTS

Statements contained in this corporate presentation that are not historical facts are “forward-looking information” or “forward-looking statements” (collectively, “Forward-Looking Information”) within the meaning of applicable securities laws. Forward Looking Information includes, but is not limited to, disclosure regarding: possible events, conditions or financial performance in 2024 and future years that are based on assumptions and forecasts about future economic conditions and courses of action; comparisons to other polymetallic producers in the same jurisdiction as the Company; the timing and costs of future activities on the Company’s properties, such as production rates and increases; success of exploration, development and bulk sample processing activities; and timing for processing at the Company’s own mineral processing facility on the Tahuehueto project site. In certain cases, Forward-Looking Information can be identified by the use of words and phrases such as “plans”, “expects”, “scheduled”, “estimates”, “forecasts”, “intends”, “anticipates” or variations of such words and phrases. In preparing the Forward-Looking Information in this Corporate Presentation, the Company has applied several material assumptions, including, but not limited to: that the current exploration, development, environmental and other objectives concerning the Campo Morado and Tahuehueto Mines can be achieved; estimates of the price of gold, copper, lead, zinc and other metals; economic and political conditions in the jurisdictions in which the Company operates; foreign currency exchange rates; interest rates; access to capital and debt markets and associated costs of funds; availability of a qualified work force; the ultimate ability to mine, process and sell mineral products on economically favourable terms; and operations. Forward-Looking Information involves 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 Information. Such risks and uncertainties includes: fluctuations in metal prices and currency markets; unpredictable results of exploration activities; uncertainties inherent in the estimation of mineral reserves and resources; fluctuations in the costs of goods and services; problems associated with exploration, mining and milling operations; changes in legal, social or political conditions in the jurisdictions in which Luca operates; lack of appropriate funding, and other risk factors discussed in the Company’s filings with

Canadian regulatory agencies and available at www.sedarplus.ca. The Company believes that the expectations reflected in Forward-Looking Information in this Corporate Presentation are reasonable but there can be no assurance that Forward-Looking Information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on Forward-Looking Information. Except as required by law, the Company does not assume or undertake any obligation to update Forward-Looking Information contained in this Corporate Presentation to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events. No statement in this Corporate Presentation, including the asset forecasts, is intended to be nor may be construed as a profit forecast. Luca relies on litigation protection for Forward-Looking Information. It should be noted that Luca has declared commercial production mining at Campo Morado without the benefit of a feasibility study of mineral reserves demonstrating economic and technical viability. Accordingly, readers should be cautioned that Luca’s production decision has been made without a comprehensive feasibility study of established reserves such that there is greater risk and uncertainty as to future economic results from the Campo Morado mine and a higher technical risk of failure than would be the case if a feasibility study was completed and relied upon to make a production decision. The Company filed a preliminary economic assessment for the Campo Morado project titled “Campo Morado Project, Guerrero State, Mexico, Technical Report on Preliminary Economic Assessment” with an effective date of March 30, 2018 (the “PEA”), and a preliminary feasibility study for the Tahuehueto project titled “NI 43-101 Technical Report, Preliminary Feasibility Study, Altaley Mining Corporation, Tahuehueto Project, Durango, Mexico” with an effective date of February 23, 2022 (the “PFS”). The Company has continued to conduct mining operations at the Tahuehueto and Campo Morado mines subsequent to the effective dates of the PFS and PEA. In addition, the mining methods utilized as the basis for the economic analysis in the PFS and PEA differ from the mining methods currently employed by the Company at the Tahuehueto and Campo Morado projects, respectively, and the Company cautions that the economic analysis in the PEA and the PFS could be materially affected by such changes. This Corporate Presentation also refers to non-GAAP financial measures and key performance indicators, such as “free cash flow”, “EBITDA”, “EV” and “P/CF”. These measures do not have a standardized meaning or method of calculation, even though the descriptions of such measures may be common. These performance measures have no meaning under International Financial Reporting Standards (IFRS) and therefore, amounts presented may not be comparable to similar data presented by other mining companies. These measures are intended to complement IFRS measures by providing further understanding of the Company’s results of operations from the perspective of management. These measures should not be considered in isolation or as a substitute for analysis of the Company’s financial information reported under IFRS. For more information please refer to “Non-GAAP measures” in the management’s discussion and analysis filed by the Company on www.sedarplus.ca.

This presentation contains future-oriented financial information and financial outlook information (collectively, “FOFI”) about the Company’s prospective results of operations, production, enterprise value (“EV”), EBITDA, price-to-cash-flow (“P/CF”), revenue and components thereof, all of which are subject to the same assumptions, risk factors, limitations and qualifications as set forth in the above paragraphs. FOFI contained in this presentation was approved by management of the date of this presentation and was provided for the purpose of providing further information about the

Company’s anticipated future business operations. The Company disclaims any intention or obligation to update or revise any FOFI contained in this presentation, whether as a result of new information, future events or otherwise, unless required pursuant to applicable law. Readers are cautioned that the FOFI contained in this presentation should not be used for purposes other than for which it is disclosed herein.

Pricing assumptions in connection with gold equivalent production estimates: Gold \$1,850/oz | Copper \$3.65/lb | Zinc \$1.15/lb | Lead \$0.92lb | Silver \$22.50/oz

CAUTIONARY NOTES TO U.S. INVESTORS CONCERNING RESOURCE ESTIMATES

The terms “Mineral Resource”, “Measured Mineral Resource”, “Indicated Mineral Resource” and “Inferred Mineral Resource” are defined in and required to be disclosed by NI 43-101; however, these terms are not defined terms under SEC Industry Guide 7 and normally are not permitted to be used in reports and registration statements filed with the SEC. Investors are cautioned not to assume that any part or all of mineral deposits in these categories will ever be converted into Reserves. “Inferred Mineral Resources” have a great amount of uncertainty as to their existence, and great uncertainty as to their economic and legal feasibility. It cannot be assumed that all or any part of an Inferred Mineral Resource will ever be upgraded to a higher category or that Mineral Resources will ever be upgraded to Mineral Reserves. Under Canadian rules, estimates of Inferred Mineral Resources may not form the basis of feasibility or other economic studies other than Preliminary Economic Assessments. United States investors are cautioned not to assume that all or any part of Indicated Mineral Resources will ever be converted into Mineral Reserves. United States investors are also cautioned not to assume that all or any part of an Inferred Mineral Resource exists or is economically or legally mineable, or that an Indicated Mineral Resource is economically or legally mineable. Accordingly, information contained in this corporate presentation containing descriptions of the Company’s mineral deposits may not be comparable to similar information made public by U.S. companies subject to the reporting and disclosure requirements under the United States federal securities laws and the rules and regulations there under.

CAUTIONARY NOTE TO U.S. INVESTORS REGARDING ADJACENT OR SIMILAR PROPERTIES

This document may also contain information with respect to adjacent or similar mineral properties in respect of which the Company has no interest or rights to explore or mine. The Company advises United States investors that the United States Securities and Exchange Commission’s mining guidelines strictly prohibit information of this type in documents filed with the SEC. Readers are cautioned that the Company has no interest in or right to acquire any interest in any such properties, and that mineral deposits on adjacent or similar properties are not indicative of mineral deposits on the Company’s properties.

QUALIFIED PERSONS

The technical information contained in this presentation has been reviewed and approved by Mr. Paul Gray, Vice-President Exploration of Luca Mining Corp. as the Qualified Person for the Company as defined in National Instrument 43-101.

MEXICAN MINING EXPERTS

MINING IN MEXICO

We know Mexico - and our experienced management team and our knowledge of the Mexican mining landscape give us a competitive advantage



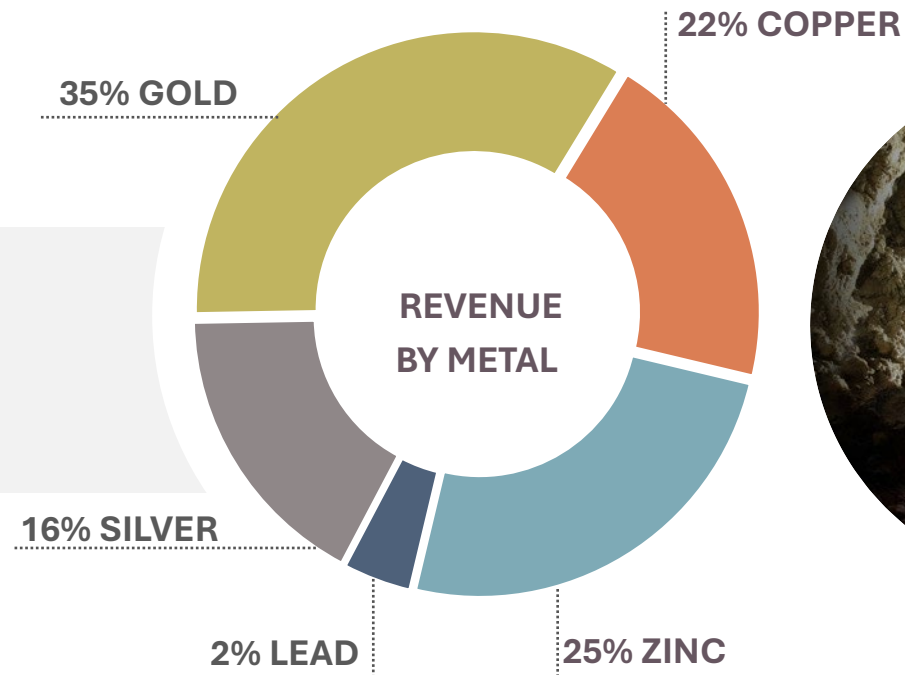
Some of the largest mining companies in the world surround us in Mexico



OUR METAL BREAKDOWN

4

~50/50 PRECIOUS AND BASE METALS



THE LUCA STORY

2

fully permitted operating mines in Mexico producing gold, zinc, copper, silver and lead

PRODUCTION 2024
~60k oz Au Eq

Significant production upside potential

De-risked operations

No further major capex required

2.7 Moz AuEq

Resource with upside

2024 AVERAGE AISC YTD
\$1,842

First 9-months from both mines

\$500+ million infrastructure

In place

Resource and throughput upside

At both mines

TAHUEHUETO



CAMPO MORADO



GROWING CASH BALANCE – US\$6.75 MILLION POST DEBT REDUCTION – WARRANT EXERCISE, CASH FLOW

OUR PLAN

2025 AND BEYOND

These primary areas of focus support our three pillars of value creation:

OPTIMIZATION

EXPLORATION

EXPANSION

Ramp up Campo Morado

New contractor – now consistently achieving objective of 2,000 tpd throughput

Optimize Campo Morado

Sustainable optimized recoveries – implement copper/lead separation

Explore Campo Morado

Explore Campo Morado’s extraordinary upside potential. First meaningful exploration in well over a decade. Transformative potential

Commission Tahuehueto

Continue throughput ramp up – achieve commercial production

Explore Tahuehueto

Exploration commenced at Tahuehueto in Q4 2024. First assays in over a decade due in Q1 2025

Pay off outstanding debt

Cash flow and warrant exercise. US\$5.8 million convertible acquired and canceled. Total debt reduced from US\$18.2 million to US\$10.5 million. Remaining eliminated by mid 2026



WHAT THIS MEANS

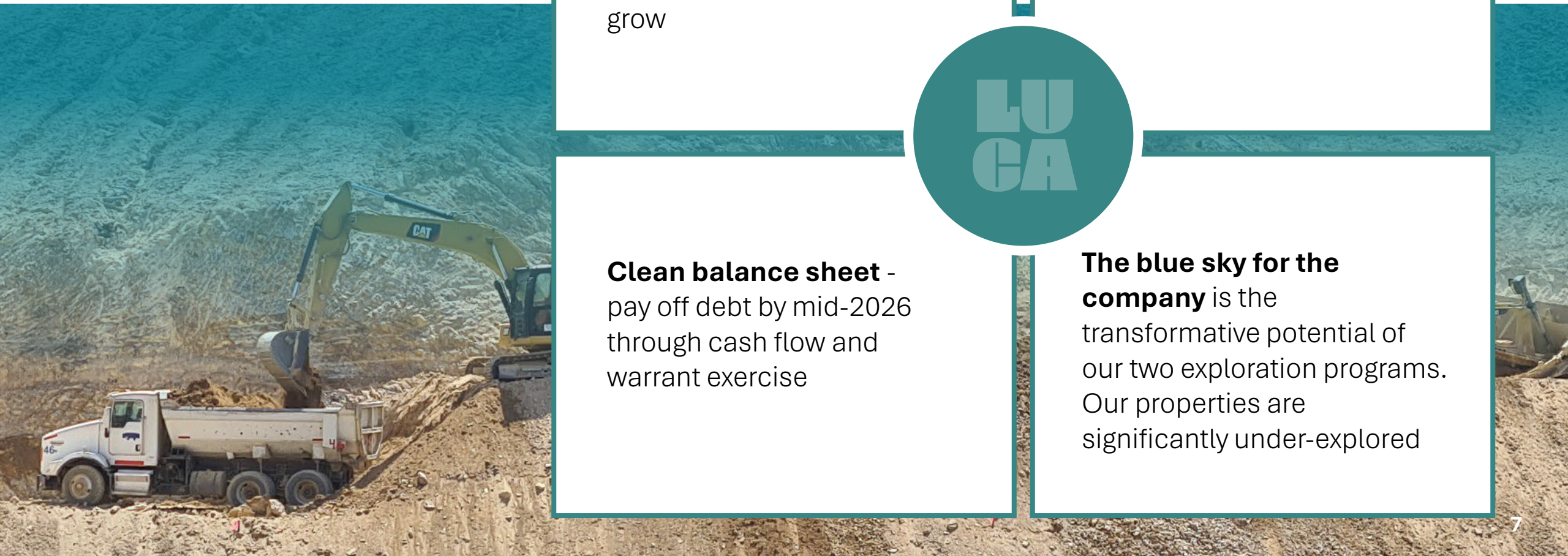
Our mines are permitted, in production and generating cash flow – our foundation on which to grow

Our mines have development and resource upside and optimization at both projects is ongoing



Clean balance sheet - pay off debt by mid-2026 through cash flow and warrant exercise

The blue sky for the company is the transformative potential of our two exploration programs. Our properties are significantly under-explored



GLOBAL M&I
16.6 Mt M&I

GOLD
700 Koz M&I

ZINC
1.2 Blbs M&I

COPPER
0.2 Blbs M&I

SILVER
62 Moz M&I

LEAD
0.3 Blbs M&I

CAMPO MORADO



Location	Guerrero State 121 sq km
Ownership	100%
Royalty	3%
Mine Type	Underground
Deposit Type	VMS zinc/copper/gold/silver/lead
M&I	16.6 million tons of M&I resources grading 4.01% zinc, 0.80% copper, 0.93% lead, 123 g/t Ag and 1.70 g/t Au
Resource	10+ years
Replacement Value	US \$500 million

Processing	2,400 tpd throughput capacity (crushing, milling, flotation)
2024E Full Year Production	39,000-46,000 Au equivalent oz
Infrastructure	Portal and decline, ventilation raises and fans, mineral processing plant, ore stockpiles, tailings storage, camp, workshops, office, cafeteria, medical services facility, sufficient surface rights, power and water for mining operations, etc.
Concentrates	Zinc and bulk copper. Being optimized to produce 3 concentrates: zinc, copper and bulk lead (with precious metals credits)
AISC YTD per oz Au Eq produced	\$1,646

OPTIMIZATION AT CAMPO MORADO YIELDING EXCELLENT RESULTS

Q4 2023 INITIATED OPTIMIZATION PROGRAM



STAGES

1

BACK TO BASICS

- Refurbish & upgrade metallurgical lab
- Review and update testing and operating procedures
- Data management

2

SUSTAINABLE OPERATIONS

- Implement geomet and M2M programs
- Repair critical equipment for reliable plant operation
- Refurbishment of float cells, thickeners and filters

3

IMPROVEMENT PROJECTS

- Partial flotation cell mechanism replacement
- Improved process control (i.e. air flow, level control)
- Copper-lead separation implementation

4

CAMPO MORADO 4.0

- Studies for additional improvements

EXPLORATION UPSIDE AT CAMPO MORADO

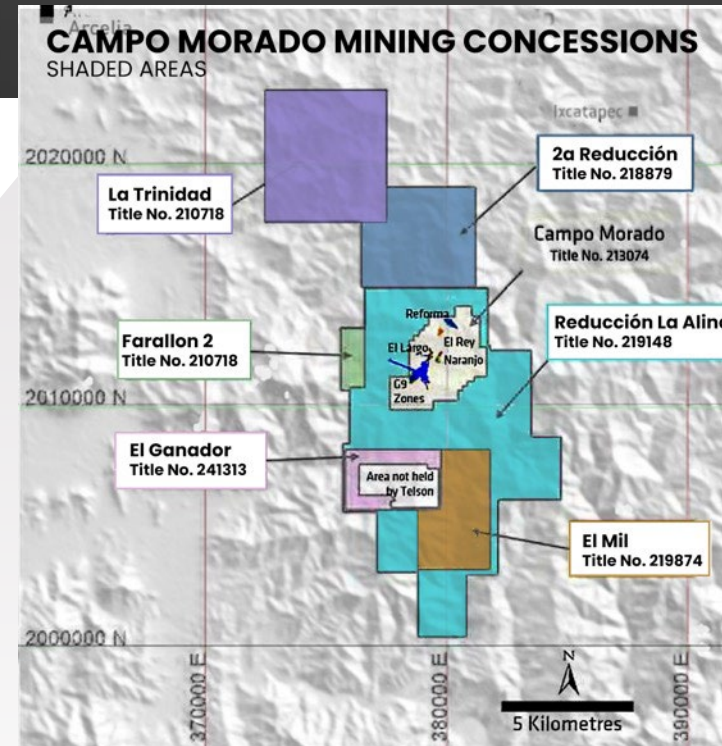
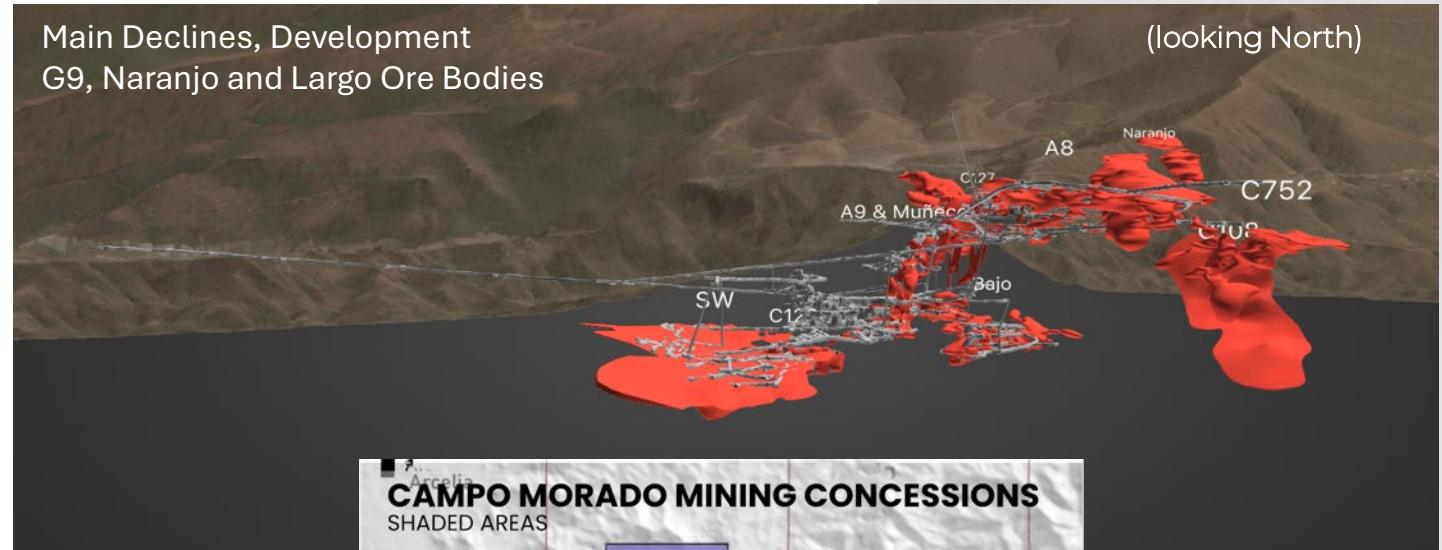
- Well-defined, drilled and developed ore bodies
- Higher Cu recovery, should increase economical and mineable resources

Large amounts of technical data:

Surface & structural mapping
 >29,000 soil samples
 580,886 m of drilling
 Geochemistry

Gravity survey
 Airborne magnetics
 EM surveys
 IP Surveys

Main Declines, Development G9, Naranjo and Largo Ore Bodies

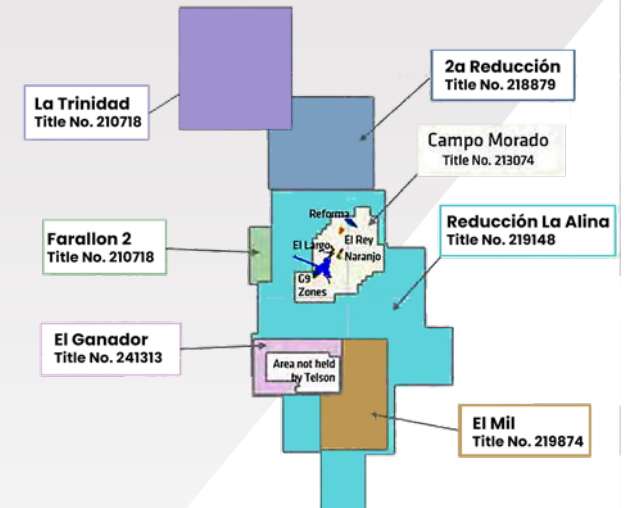
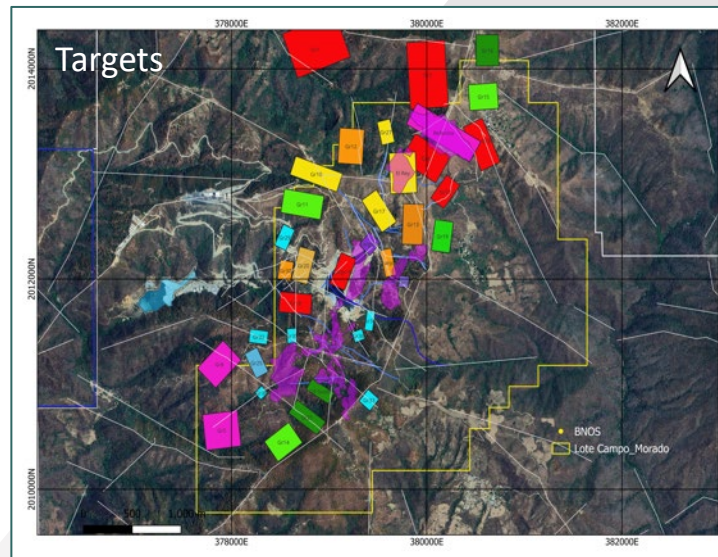
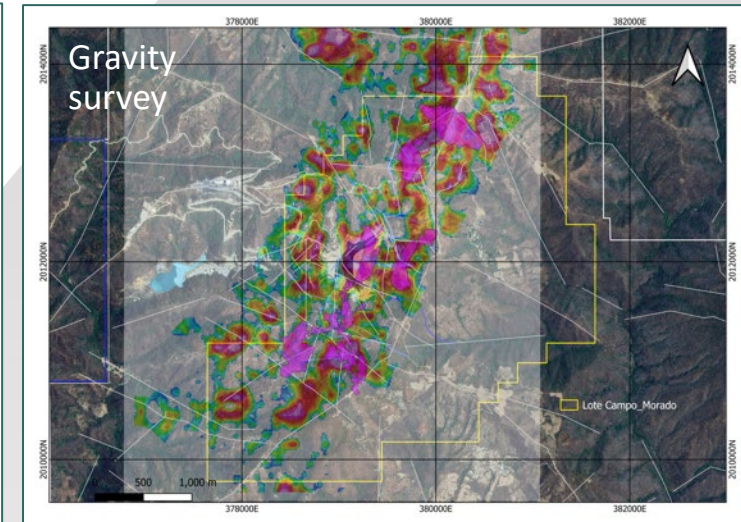
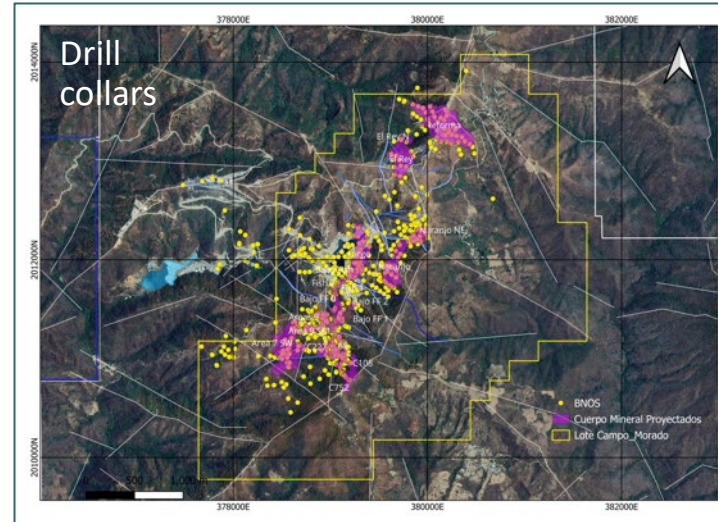


EXPLORATION UPSIDE AT CAMPO MORADO

EXPLORATION TARGETS
38

4 of top 10
“Drill ready”

Mining Concessions
>12,000 hs



GLOBAL M&I
6.3 Mt M&I

GOLD
425 Koz M&I

ZINC
273 Mlbs M&I

COPPER
36 Mlbs M&I

SILVER
9 Moz M&I

LEAD
123 Mlbs M&I

TAHUEHUETO

Location	Durango State 75 sq km
Ownership	100%
Mine Type	Underground
Deposit Type	Epithermal gold/silver and breccias rich in Pb-Zn-Cu
M&I	6.3 million tonnes @ 2.11 g/t gold, 46.97 g/t silver, 0.27% copper, 0.90% lead and 1.98% zinc
Life of Mine	10+ years
Replacement Value	~\$100M

Processing	1,000 tpd throughput capacity (crushing, milling, flotation)
2024E Full Year Production	16,000-19,000 Au equivalent oz Construction completed July 2024 - ramping to plant capacity throughout during Q3 Commercial production expected in Q1 2025
Infrastructure	Portal and decline, ventilation raises and fans, mineral processing plant, ore stockpiles, dry stack tailings storage, camp, workshops, office, cafeteria, medical services facility, sufficient surface rights, power and water for mining operations, etc. Hybrid solar panel generators with gas generators planned.
Concentrates	Zinc and Lead with precious metals
AISC YTD per oz Au Eq produced	\$1,843



Please see Forward Looking Statements for important information about reserve and resource estimates for Tahuehueto. PFS completed on Tahuehueto in 2022.

TAHUEHUETO

MINE CAMP

PROCESS PLANT

CRUSHING CIRCUIT

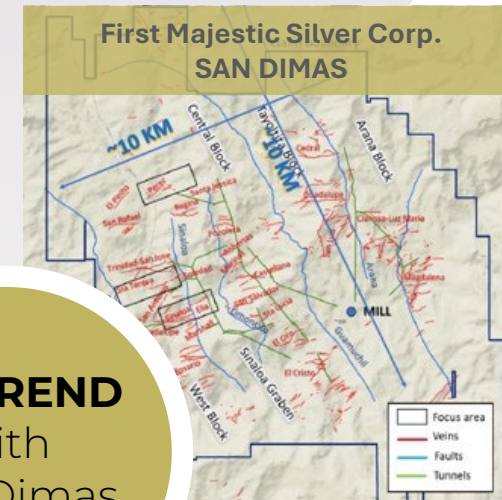
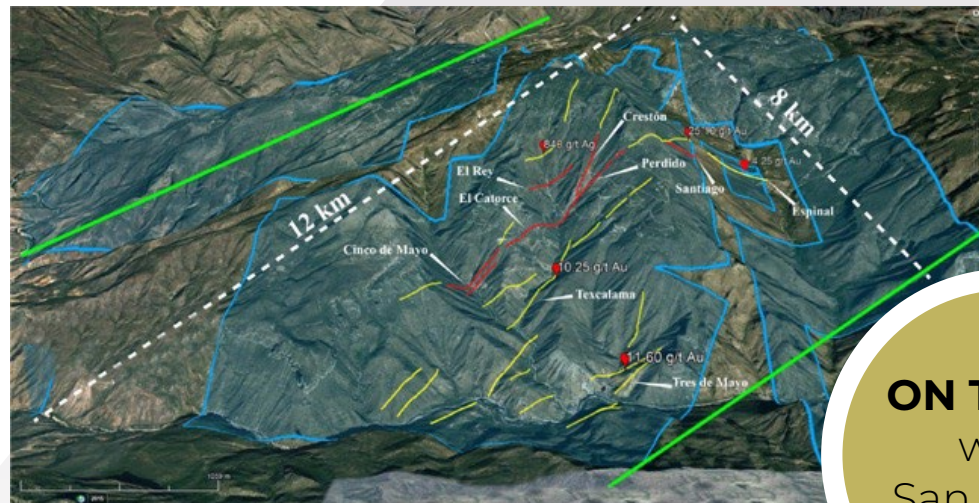
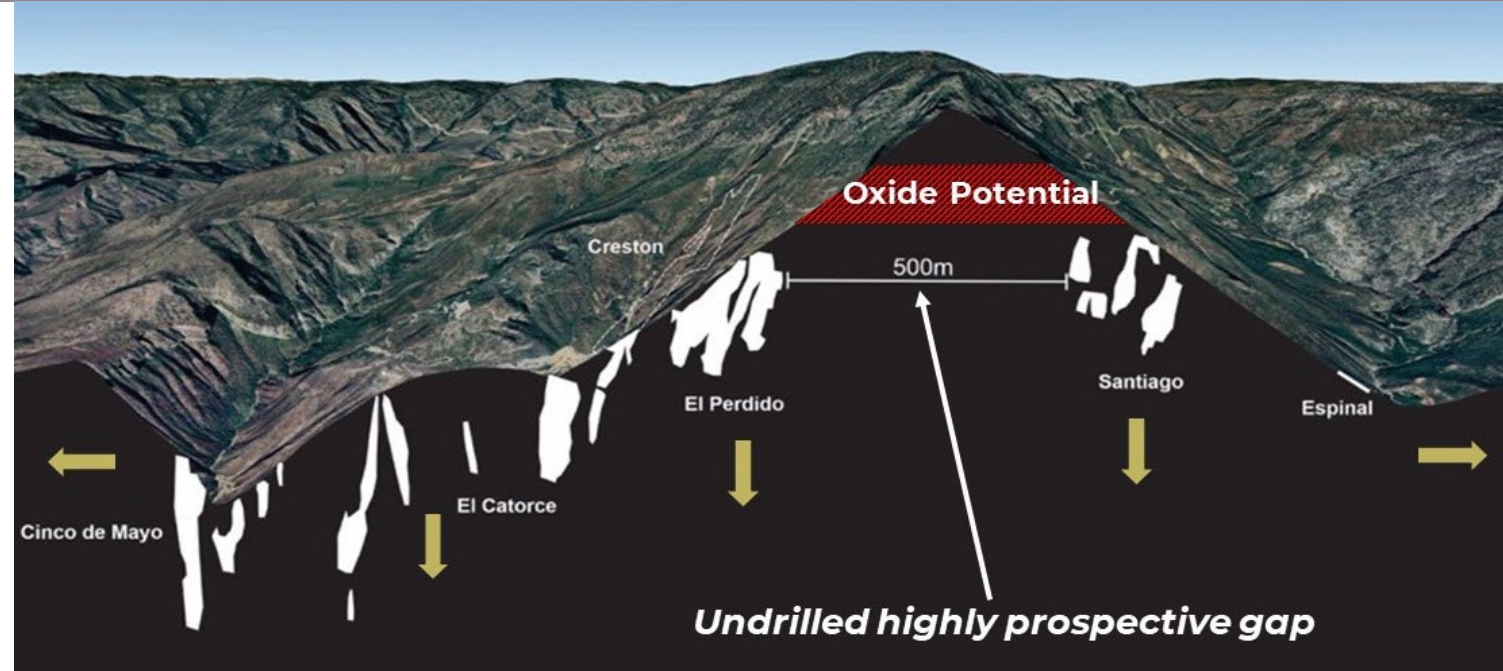
LEVEL 20 PORTAL

LEVEL 12 & 14 PORTALS

TRANSFORMATIVE EXPLORATION POTENTIAL AT TAHUEHUETO

EXPLORATION OBJECTIVES

- Step-out drilling along strike (north and south)
- Determine vertical extent of mineralization
- Drill and explore multiple, known, untested mineralized structures
- Development of new resources



ON TREND
with
San Dimas

References to other mines and mineral projects is for illustration purposes only. There can be no assurances the Company will achieve comparable results.

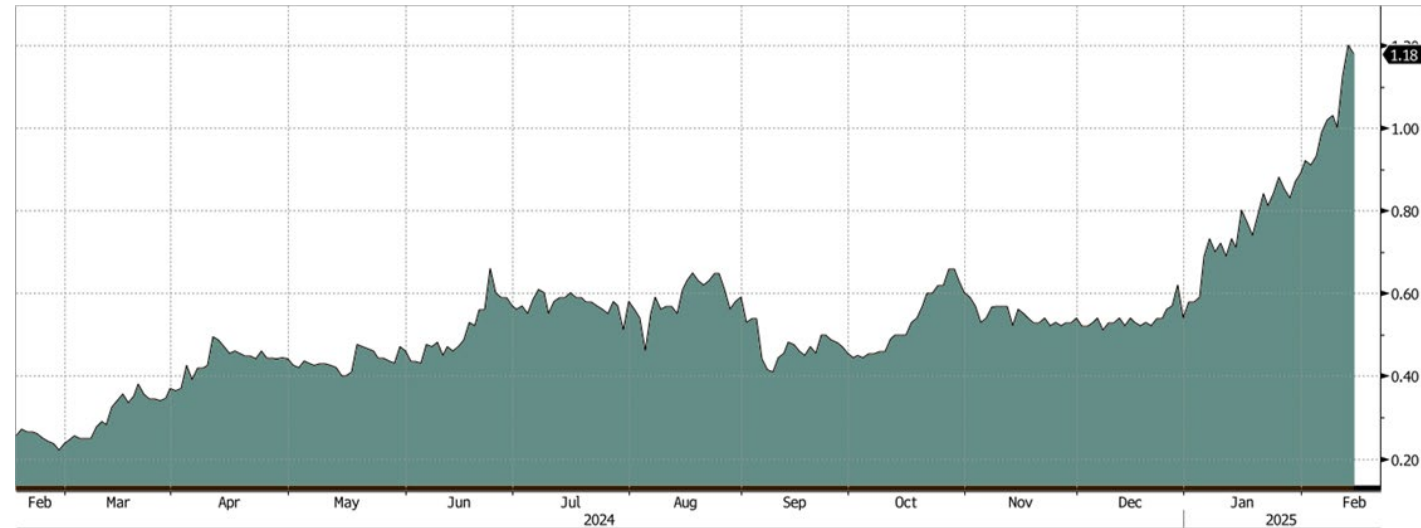
LUCA CORPORATE STATS

LUCA TSXV **LUCMF** OTCQX **Z68** Frankfurt

Shares Outstanding	235 million
Fully Diluted	285 million
Market Cap (Feb 14, 2025)	C\$270 million
52 Week	C\$1.22 high C\$0.20 low
Debt	U\$10.5 million
Cash	U\$6.75 million
Warrants	13.8 mm @ \$0.50 Apr 25 5.3 mm @ \$0.50 Jun 25 2.9 mm @ \$0.50 Dec 25 10.0 mm @ \$0.60 Mar 26 1.1 mm @ \$0.45 Mar 26 250K @ \$0.50 Jun 26

PRICE CHART

One Year

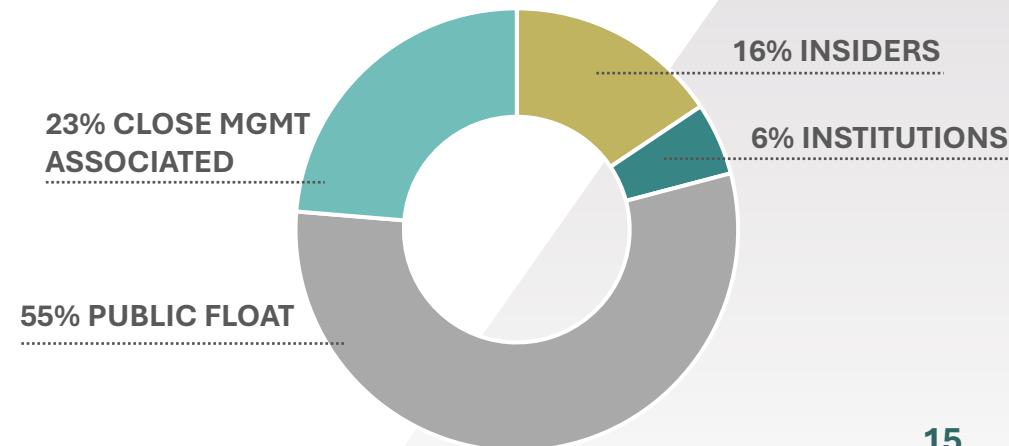


ANALYSTS

Ventum Buy C\$1.50
Maxim Buy U\$1.00

SHAREHOLDER BASE

January 29, 2025



A STRONG BOARD OF DIRECTORS

Mine builders | Opportunity driven



David Rhodes, B.Sc. (Hons) UMIST CHAIRMAN, DIRECTOR

David’s career in the finance industry has spanned more than twenty-five years with an award-winning track record of success in the mining industry, specializing in arranging multi-sourced funding solutions for development companies.



Peter Damouni DIRECTOR

Over 20 years of corporate and investment banking experience with a focus on the natural resource sector. Has been instrumental in developing and executing corporate strategies including equity and debt financings, restructurings, joint ventures, acquisitions and sale processes.



Rory Godinho, LLB DIRECTOR

Over 35 years of capital markets experience on broad range of matters including, mergers and acquisitions, public and private equity and debt financings and regulatory compliance.. Mr. Godinho is a senior partner and Co-Chair of Cozen O'Connor's Canadian Capital Markets and Securities Group. Cozen O'Connor is an Amlaw 100 international law firm. Mr. Godinho is the past Chair of the TSX Venture Exchange's National Advisory Committee.



Dr. Neil O'Brien DIRECTOR

Economic geologist and former mining executive with three decades of industry service including Board of Director roles in public and private mineral exploration companies. Dr. O'Brien retired in 2018 from Lundin Mining Corporation as Senior Vice President, Exploration & New Business Development.



Phil Brumit DIRECTOR

Mr. Brumit is a mining executive with over 40 years of experience in property evaluation, engineering, project management, construction, start-up and operations within the industry. He recently served as Executive VP Projects & Operations at Josemaria Resources Inc. Prior to joining Josemaria, Mr. Brumit was President and Managing Director of Minera Candelaria, Chile, a subsidiary of Lundin Mining Corporation.



Ruben Alvidrez Ortega, BIE & MBA DIRECTOR

Since 1994 he worked in several roles with Citigroup, working with corporate clients in the US and Mexico and leading teams of over 200 people.

A STRONG MANAGEMENT TEAM

Effective Execution



Dan Barnholden, CEO

Dan Barnholden is a seasoned professional with over 20 years of experience in senior mining investment banking roles at bank-owned and boutique dealers in Toronto and Vancouver . He has raised billions of dollars in debt and equity for junior, mid-tier and senior mining companies, as well as advised dozens of companies on mergers, acquisitions, divestitures, and other financial, strategic and governance matters..



Ramon Perez, PRESIDENT

Mining executive with over 15 years of international mining experience. Ten years as VP of the Carrelton Horizon Natural Resource Fund covering the metals and mining sector with a focus on publicly listed junior mining companies in Latin America. Founding member of Sociedad Minera Reliquias S.A., now listed on the TSXV (AGMR) as Silver Mountain Resources..



Paul Gray, P. Geo VP EXPLORATION

Highly successful track record of global precious metals and base metals exploration success spanning multiple continents and over 30 years. His expertise includes the design, management and execution of multi-million dollar advanced exploration and resource delineation programs as well authorships of NI 43-101 Technical Reports.



Armando Alexandri, M.Eng CHIEF OPERATING OFFICER

Mining engineer with over 40 years of experience (mostly in Mexico). Led expansions of the Bolivar mine (500 to 2,000 tpd) and Impact Silver's operations (4,000 to 16,000 tpm). Former COO of Impact Silver, Titan Minerals and Candelaria Mining.



Ramon Mendoza M.Sc., P.Eng. CHIEF TECHNICAL OFFICER

Mr. Mendoza brings over 35 years of senior experience in the mining industry with expertise in mine development, mine process improvements, and a highly successful track record of managing both underground and open-pit operations. He specializes in advanced optimization techniques, integrating mine designs, planning, cost modeling tools, and geo-sciences into the mine and processing plans.



Lisa Dea CPA, CA CHIEF FINANCIAL OFFICER

A highly experienced financial executive with over three decades of expertise in finance, securities, and accounting. As the former Chief Financial Officer of Guanajuato Silver Company Ltd., a TSX-V listed mid-tier producing silver company, Ms. Dea played a pivotal role in strategically reactivating past producing silver and gold mines in central Mexico.



Israel Munoz, CPA, CA VP FINANCIAL

Over 24 years of expertise spanning IFRS, financial reporting, internal controls (SOX and operational), risk management, and budgeting. His background includes roles at various silver, gold, zinc, and lead mining firms across the USA, Mexico, and Latin America. Prior to joining Luca, Mr. Munoz served over a decade at Ernst & Young in Mexico as an audit manager, solidifying his proficiency in financial oversight and regulatory compliance.

WHAT'S NEXT

We see a near-term valuation re-rating

The Campo Morado copper/zinc mine has undergone a highly successful optimization program which significantly increased grades and recoveries

Ramp-up of newly constructed Tahuehueto gold mine – expect to achieve commercial production in the coming months

Result is increasing revenues and cash flow

with significant additional upside

Production upside at both mines

Targeting doubling production to 100,000 oz gold equivalent in the near term

Exciting brownfield and greenfield exploration upside at both mines

and longer term growth ahead

M&A growth

Targeting mid-tier ranking with 200,000 oz gold equivalent production



LUCA

Mining Corp.

TSX-V: LUCA

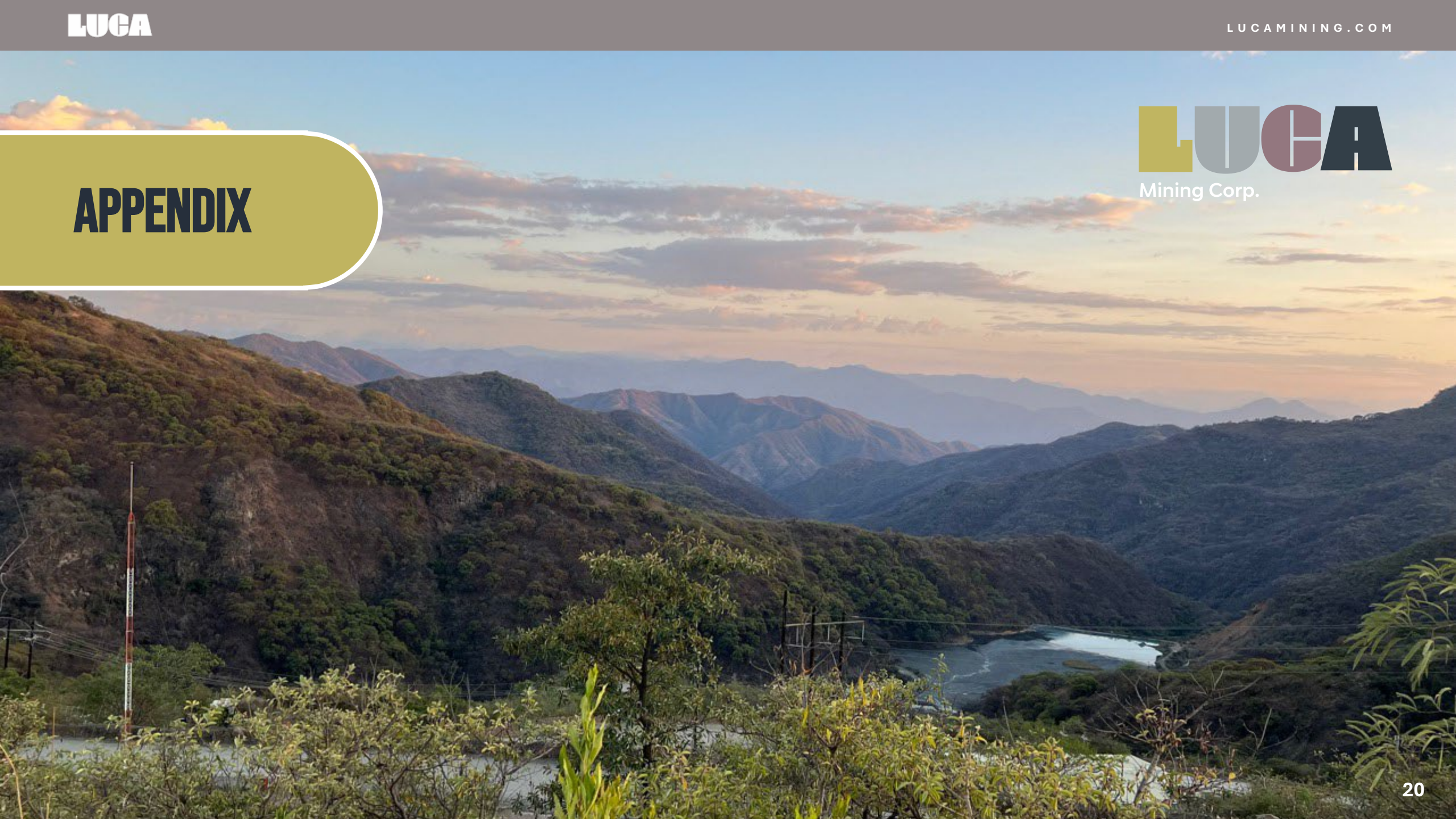
OTCQX: LUCMF

FRANKFURT: Z68

THANK YOU

LUCAMINING.COM

APPENDIX



CAMPO MORADO RESOURCES

RESOURCES (NI 43-101 Compliant, March 2018)

Measured & Indicated Resources

Cut-off	Tonnes	Gold	Silver	Copper	Lead	Zinc	ZnEq
% ZnEq	000s	g/t	g/t	%	%	%	%
3.0	33,850	1.29	88	0.70	0.64	2.71	6.36
4.0	25,730	1.46	102	0.74	0.76	3.22	7.27
5.5	16,620	1.70	123	0.80	0.93	4.01	8.68
7.0	10,400	1.91	146	0.87	1.11	4.85	10.16

Inferred Resources

Cut-off	Tonnes	Gold	Silver	Copper	Lead	Zinc	ZnEq
% ZnEq	000s	g/t	g/t	%	%	%	%
3.0	3,316	0.98	76	0.52	0.58	2.10	6.36
4.0	2,152	1.11	90	0.55	0.71	2.54	5.85
5.5	988	1.32	116	0.64	0.92	3.20	7.27
7.0	416	1.52	148	0.76	1.10	3.78	8.75

TAHUEHUETO RESOURCES

RESERVES & RESOURCES (NI 43-101 Compliant, April 2022)

Category	Tonnes	Gold		Silver		Copper		Lead		Zinc		Gold Equivalent	
		000s	g/t	000 oz	g/t	000 oz	%	000 lbs	%	000 lbs	%	000 lbs	g/t
Probable Reserves	3,585	2.55	294	50.06	5,770	0.26	20,550	1.11	87,357	1.92	151,640	4.92	567
M&I Resources	6,260	2.11	425	46.97	9,454	0.27	36,594	0.90	123,872	1.98	273,364	4.40	886
Inferred Resources	918	1.02	30	28.46	840	0.15	3,077	1.16	23,571	1.96	39,755	2.99	88