



Investor Presentation
September 2023

TSX 30
2023

TSX: **AYA** | OTCQX: **AYASF**

Building the Largest Pure-Play Silver Producer Globally

Forward-Looking Statement

The Zgounder Expansion Feasibility Study (“FS”) is based on a technical report entitled “NI43-101 TECHNICAL REPORT – FEASIBILITY STUDY ZGOUNDER EXPANSION PROJECT”, originally dated March 31, 2022, and amended on June 16, 2022 with an effective date of December 13, 2021 (the “Zgounder Report”) which was prepared under the supervision of Daniel M. Gagnon, DRA, with the participation of William Stone, Antoine Yassa, Jarita Barry, Fred Brown, Eugene Puritch, Daniel Morrison, André-François Gravel, Claude Bisailon, Julie Gravel, Kathy Kalenchuk, Hugo Della Sbarba, Philippe Rio Roberge, Richard Barbeau & Stephen Coates all “qualified persons” for the purpose of the Zgounder Report. Scientific and technical information contained in this presentation has been reviewed and approved David Lalonde, B.Sc, Aya’s Head of Exploration and a QP as defined under NI 43-101. Mineral Resources are reported exclusive of Mineral Reserves and as such the Mineral Resources do not have demonstrated economic viability. Numbers may not add or multiply accurately due to rounding. Inferred Mineral Resources are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is therefore no certainty that the conclusions of the initial exploration drilling results will be realized. Additionally, where the Company discusses exploration/expansion potential, any potential quantity and grade is conceptual in nature and there has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the target being delineated as a Mineral Resource. Varying cut-off grades have been used depending on the mine, methods of extraction and type of ore contained in the reserves. Mineral resource metal grades and material densities have been estimated using industry-standard methods appropriate for each mineral project with support of various commercially available mining software packages. Additional details regarding Mineral Reserve and Mineral Resource estimation, classification, reporting parameters, key assumptions and associated risks for each of the Company’s mineral properties are provided in the respective NI 43-101 Technical Reports which are available at www.sedar.com and the Company’s website at www.ayagoldsilver.com.

Certain statements and information contained in this presentation are “forward-looking information” within the meaning of applicable securities laws. Such statements involve known and unknown risks, uncertainties and assumptions and accordingly actual results and events may differ materially from those implied or expressed therein. This includes statements such as “expected”, “anticipated”, “growth”, “demonstrate”, “high-potential”, “developing”, “lower”, “prospective”, “adding”, “continuous”, “will”, “timeline”, “favorable”, “opportunities”, “backstopped”, “expand”, “extend”, “expected”, “continue”, “potential”, “deliver”, “complete”, “achieve”, “growing”, “increasing”, as well as statements by the Corporation concerning expected timelines, including the expected timeline for the Corporation to

produce new resources estimates, and exploration results, including deposit size, quantities, grades and contained metals, which are generally made on the basis of estimations and extrapolations from a limited number of drill holes and assays. These estimations and extrapolations are subject to uncertainties, which include but are not limited to uncertainty in connection with evaluating a deposit until the deposit has been extensively drilled on closely spaced centers. Should one or more of these underlying estimations or extrapolations prove incorrect, actual results may vary materially from those described in forward-looking statements.

Forward-looking statements contained herein also include the Corporation’s plans for its mineral properties, which involve known and unknown risks, uncertainties and other factors which may cause the Corporation’s actual results, performance or achievements, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking information. Forward-looking information is subject to a variety of risks and uncertainties, which could cause actual events or results to differ from those reflected in the forward-looking information, including, without limitation, the ability of the Corporation to continue to access capital markets for the funding necessary to acquire and maintain exploration properties and to carry out its desired exploration programs; difficulties in executing exploration programs according to the Corporation’s proposed schedules and within its cost estimates, whether due to weather conditions in the areas where it operates, increasingly stringent environmental regulations and other permitting restrictions, or the availability of essential supplies and services; and factors beyond the capacity of the Corporation to anticipate and control, such as the marketability of minerals, government regulations relating to health, safety and the environment, and the scale and scope of royalties and taxes on production and other risks described in the Corporation’s documents filed with Canadian securities regulatory authorities. You can find further information with respect to these and other risks in the Corporation’s 2023 Q1 MD&A, and other filings made with Canadian securities regulatory authorities and available at www.sedar.com. Should one or more of these risks or uncertainties materialize, actual results may vary materially from those described in forward-looking statements.

Accordingly, readers are advised and cautioned not to place undue reliance on forward-looking information. Except as required under applicable securities legislation, the Corporation undertakes no obligation to publicly update or revise forward-looking information, whether as a result of new information, future events or otherwise.



AYA

- 1 **AYA**
- 2 Zgounder Silver Mine
- 3 Exploration
- 4 Catalysts

Aya – Proven Management Team



Benoit La Salle, FCPA, MBA
President & CEO, Director

Benoit has over 25 years of experience as a corporate executive in the mining industry. Benoit founded, developed and led SEMAFO into a 250,000 oz gold producer in West Africa, delivering more than a billion dollars of value to shareholders. Benoit holds a BCom from McGill University and an MBA from IMEDE, Switzerland.



Mustapha Elouafi
President-Managing Director,
Morocco

Mustapha is an established mining executive with almost 30 years in mining and senior management in Morocco and MENA. Previously, he was Managing Director of OCP S.A., the world's largest producer of phosphate and phosphate-based products and served as president of affiliates of OCP Group. A graduate of the Mohammedia School of Engineering in Morocco, Mr. Elouafi holds an Executive MBA from École des Ponts Business School in Paris.



Ugo Landry-Tolszczuk
Chief Financial Officer

Ugo's involvement with Africa spans 12 years of his 15-year professional experience and includes positions as President and COO of TSXV-listed SRG Mining and director of operations for Windiga Energy. A CFA charter holder, Ugo holds a bachelor's degree of applied science in computer engineering, management science option, from the University of Waterloo.



Elias Elias
Vice-President, Legal &
Corporate Secretary

Elias brings with him over 15 years of legal experience, mainly focused on advising West African-focused mining and energy companies such as SRG Mining, Sama Resources, Windiga Energy and SEMAFO. Elias holds a civil law degree (summa cum laude), a common law degree (cum laude) from the University of Ottawa and has been a member of the Barreau du Québec since 2007.



David Lalonde
Head of Exploration &
Aya's Qualified Person

David is a geologist with over 20 years of experience in progressively senior exploration roles. His expertise has been acquired in Canada and internationally (Russia, West Africa, and Oman), primarily in precious metals exploration with SEMAFO Inc. and Kinross Gold. Prior to joining Aya, David was head of exploration for MDO, Oman's government-backed mining company. David earned his B.Sc. in geology at Université du Québec à Montréal.



Alex Ball
Vice-President, Corporate
Development & Investor Relations

During his more than 15-year corporate finance career, Alex managed \$5 billion in debt, equity financings and M&A transactions in mining with UBS Canada, CIBC World Markets, and BMO Capital Markets. Previously, he was Executive Vice-President, Finance & Corporate Development at Algold Resources. Alex has an MBA majoring in finance from University of Toronto's Rotman School of Management and a BA in Economics from McGill University.



Raphaël Beaudoin
Vice-President, Operations

Raphaël has over 10 years of mineral processing experience across various operations and projects in West Africa and Canada. Prior to Aya, Raphaël was Vice-President, Operations, Metallurgy and Process Design at SRG Mining and director of operations at Sama Resources, two resource companies focused on West African projects. Before this, he held positions of increasing responsibility at Canadian Royalties Inc. Raphaël earned a degree in materials engineering at McGill University.

Aya – Board of Directors



Benoit La Salle, FCPA, MBA
President & CEO, Director

Benoit has over 25 years of experience as a corporate executive in the mining industry. Benoit founded, developed and led SEMAFO into a 250,000 oz gold producer in West Africa, delivering in excess of a billion dollars of value to shareholders. Benoit holds a BCom from McGill University and an MBA from IMEDE, Switzerland.



Robert Taub
Chair

Robert is an entrepreneur in life sciences and investor in several pharmaceutical and medical device companies. Mr. Taub is currently chairman of a NASDAQ-listed company. Robert holds a BA Languages from the University of Antwerp, Belgium and an MBA from INSEAD, France.



Natacha Garoute, CPA, CA
Director

Natacha has more than 20 years of finance experience as a CPA, including with Champion Iron Limited, Roxgold Inc., and SEMAFO Inc. Currently, she is CFO of Patriot Battery Metals Inc. Ms. Garoute holds a BCom from the Université du Québec à Montréal and a law degree from the Université de Montréal.



Yves Grou, CPA, CA
Director

A CPA CA, Yves holds a degree in Commerce (BCom) from McGill University. He is a member of the Québec Institute of Chartered Professional Accountants. Between 1980 and 2004, he was co-founder and partner of Grou La Salle & Associates. Mr. Grou coordinated and led reverse take-over processes related to several public companies.



Dr. Jürgen Hambrecht
Lead Director

Dr. Jürgen Hambrecht served BASF in various capacities around the world for more than 40 years, lastly as CEO and Chairman of the Supervisory Board. He has served on a multitude of board including Daimler Truck AG, Mercedes Benz AG, Bosch, Lufthansa AG, and Fuchs SE. Currently, he is Chairman of Trumpf SE. Dr. Hambrecht earned his doctorate in Chemistry in 1975 from the University of Tübingen, Germany.



Annie Torkia Lagacé
Director

Annie brings over 20 years of legal and financial experience, mainly within the mining and aerospace sectors. Until recently, Ms. Torkia Lagacé held the position of Senior-Vice President, Legal Affairs, General Counsel and Corporate Secretary of Bombardier Inc and served on its ESG steering committee. She holds a civil law degree and a common law degree from University of Ottawa as well as an EMBA from the Schulich School of Business in Toronto and the Kellogg School of Management in Chicago.



Eloïse Martin
Director

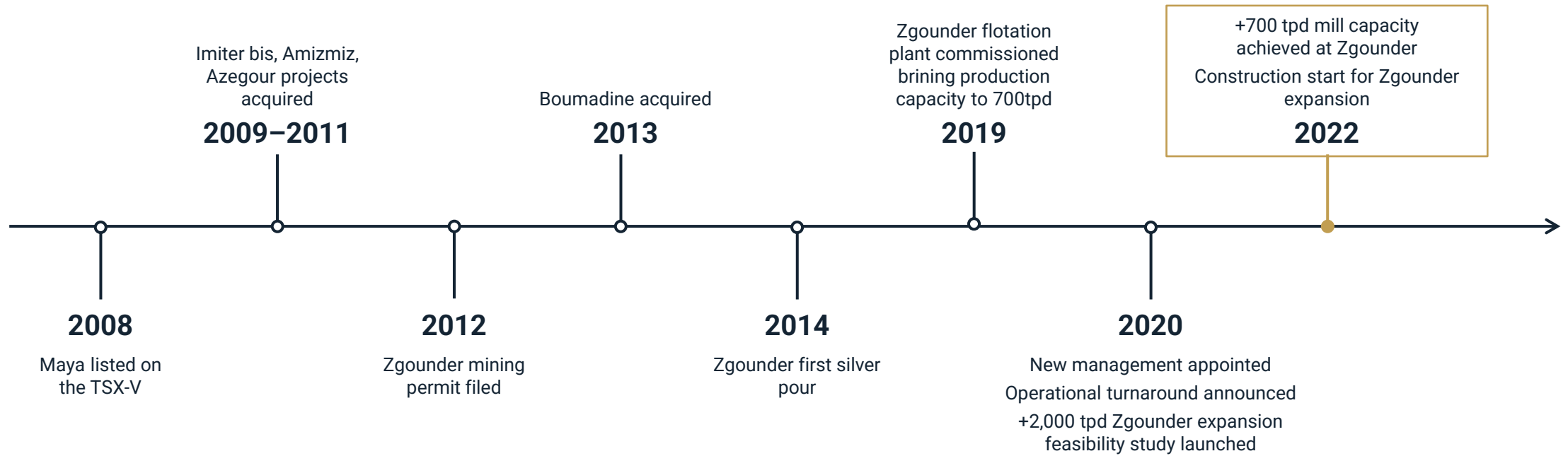
Eloïse has over 10 years of experience in project finance, structured finance, and capital structuring advisory with a focus on the energy and natural resources sector. Currently, she is an Executive Director with HCF International Advisers. Ms. Martin holds an MBA from ESSEC Graduate School of Management, Paris, a Master of International Business (Honours) from L'Institut d'Etudes Politiques (Paris), and a Master of Humanities from Sorbonne University.



Nikolaos Sofronis
Director

Nikolaos is founder of BS Family Office Assets Management S.A Geneva, specialized in private equity. He gained his over 16 years of experience in private banking within prestigious institutions in Luxembourg and Switzerland. He previously served as Chairman of a London-listed corporation. For the last 20 years, he has been actively involved in the mining sector.

Aya – Our History



TSX: **AYA**; OTCQX: **AYASF**

Morocco – Top Mining Jurisdiction

By the numbers



37M
inhabitants



1st

silver producer in Africa; 15th worldwide
2022 silver production (6 million oz)

Phosphate – 1st producer in Africa, 4th worldwide

Barite – 1st producer in Africa, 3rd worldwide

Fluorite – 2nd producer in Africa, 7th worldwide

Cobalt – 3rd producer in Africa, 11th worldwide



3

languages
(Arabic, Amazigh & French)



21%

of Morocco's export value;
80% in volume (mining sector)



#16 Investment Attractiveness Global Index

#17 Policy Perception Global Index

Fraser Institute Annual Survey of
Mining Companies, 2022



710,850km²
area



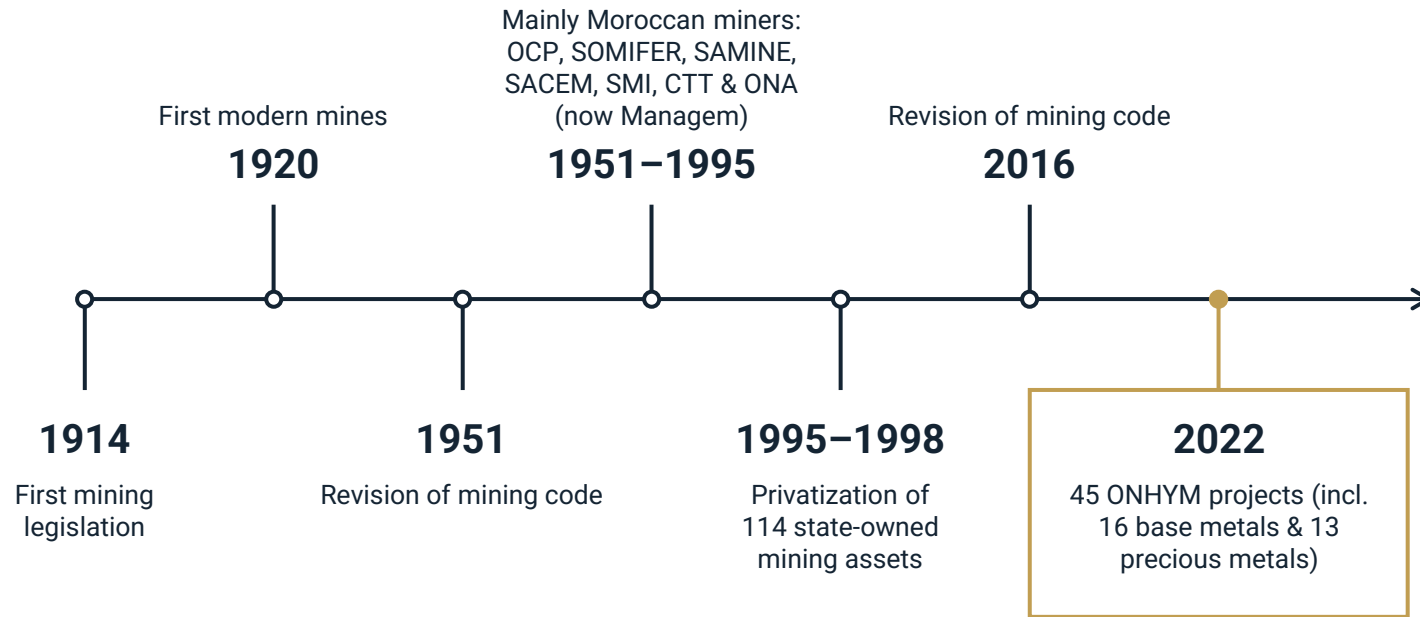
10%

GDP (mining sector, 90% of
which from phosphates)



TSX: **AYA**; OTCQX: **AYASF**

Morocco – Developing the Mining Sector



2016 Baseline Mining Code Zgouder	
Royalty	3% of sales
Tax rate*	25%
State free-carried interest	Nil
Foreign ownership permitted	Yes
Repatriation of profits	Yes
Mining permit (renewable)	10 years

Sources CIA World Factbook, October 2021, Silver Institute's World Silver Survey 2022, and ONHYM's Mining Overview 2020

*2023



Our Assets – Morocco-Focused, Quality Growth Portfolio

Zgounder Silver Mine – Cornerstone of Aya’s Growth Story

- 2022 production of **1.88M oz**
- 2023 guidance of **1.7M – 1.9M oz**
- 2024 production significantly increased with expansion
- **96M oz** M&I resources at 306 g/t Ag

Development Upside

- Boumadine – Gold, Silver, Lead, Zinc
- Tijirit – Gold

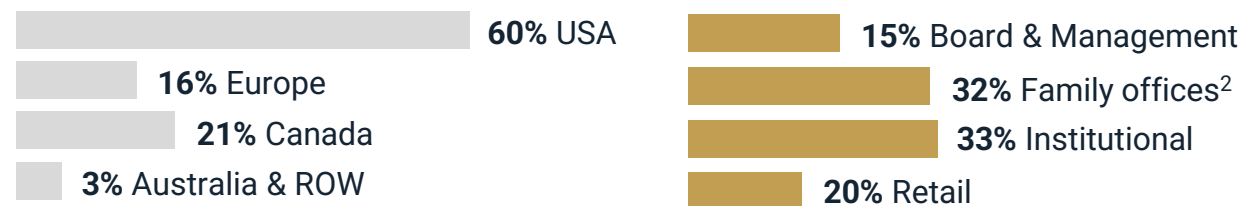
Exploration Upside

- Zgounder Regional
- Tirzzit
- Imiter bis
- Azegour
- Amizmiz



Capital Structure – Robust Balance Sheet

Institutional Shareholder Breakdown¹



¹ Based on 42.5M shares institutional ownership

² Affiliated with Board and insiders

Exchanges – TSX: AYA OTCQX: AYASF		
Shares – Basic		122.3M
Shares – F.D.*		128.7M
Share Price (September 1, 2023)	C\$	\$8.11
Market Cap (August 28, 2023)	C\$	\$1.0B
Cash (June 30, 2023)**	US\$	\$52M
Debt***	US\$	\$100M
30-day average volume	'000	870

* Includes 5.1m in options and 1.3M RSU/DSU.

** Includes cash and cash equivalents of \$49.6 million and restricted cash of \$2.5 million

*** First drawdown (US\$35M) on project financing from EBRD (August 29, 2023 press release)

TSX 30
2023



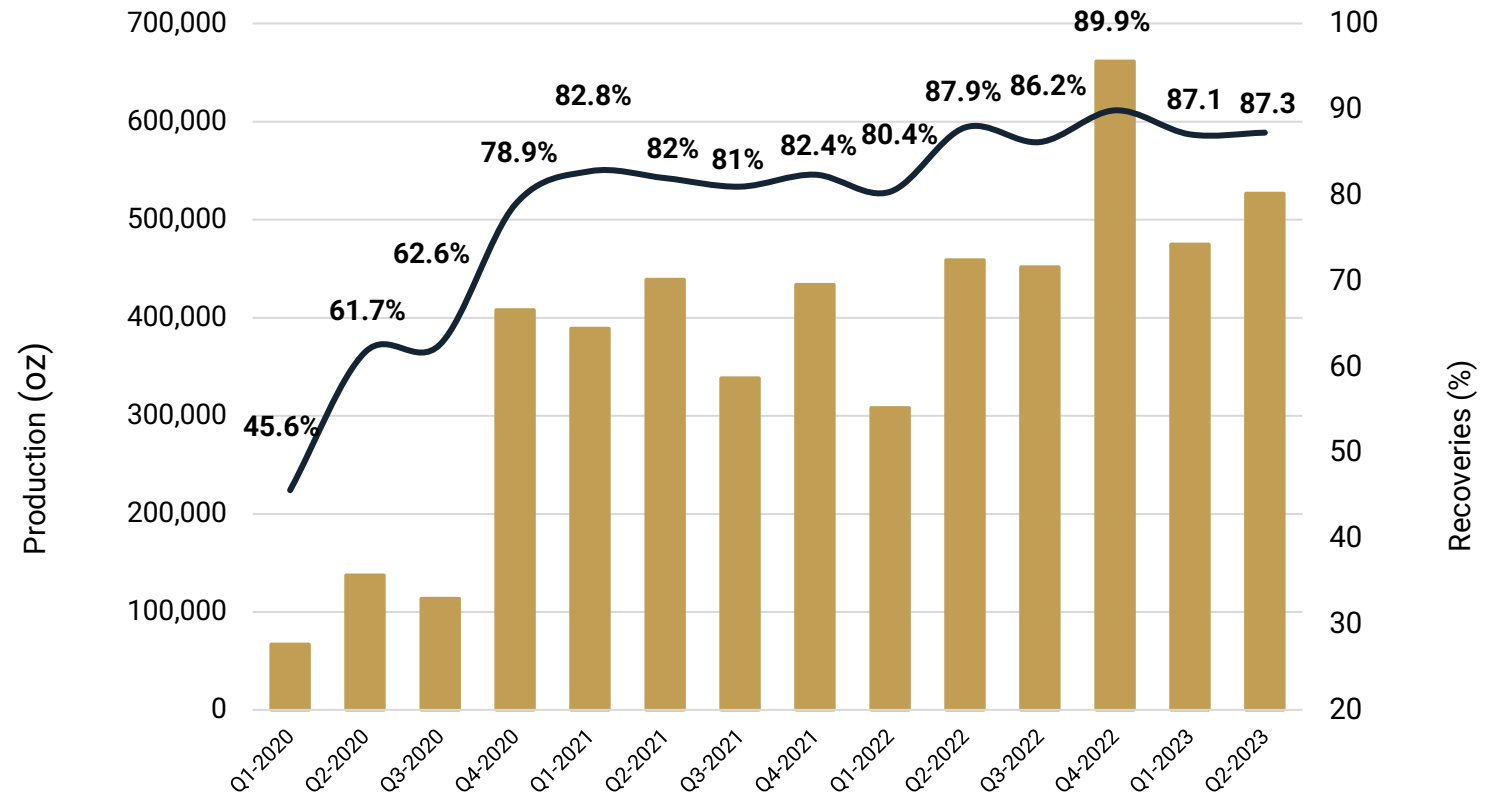
Zgounder – Strong Execution and Operational Efficiencies

Solid operational standard reached in 2021 by:

- Switch to cut-and-fill mining method
- Implementation of operating best practices
- Capital infrastructure & equipment upgrades
- Recruitment of key personnel

Pre-expansion mechanization began in 2022

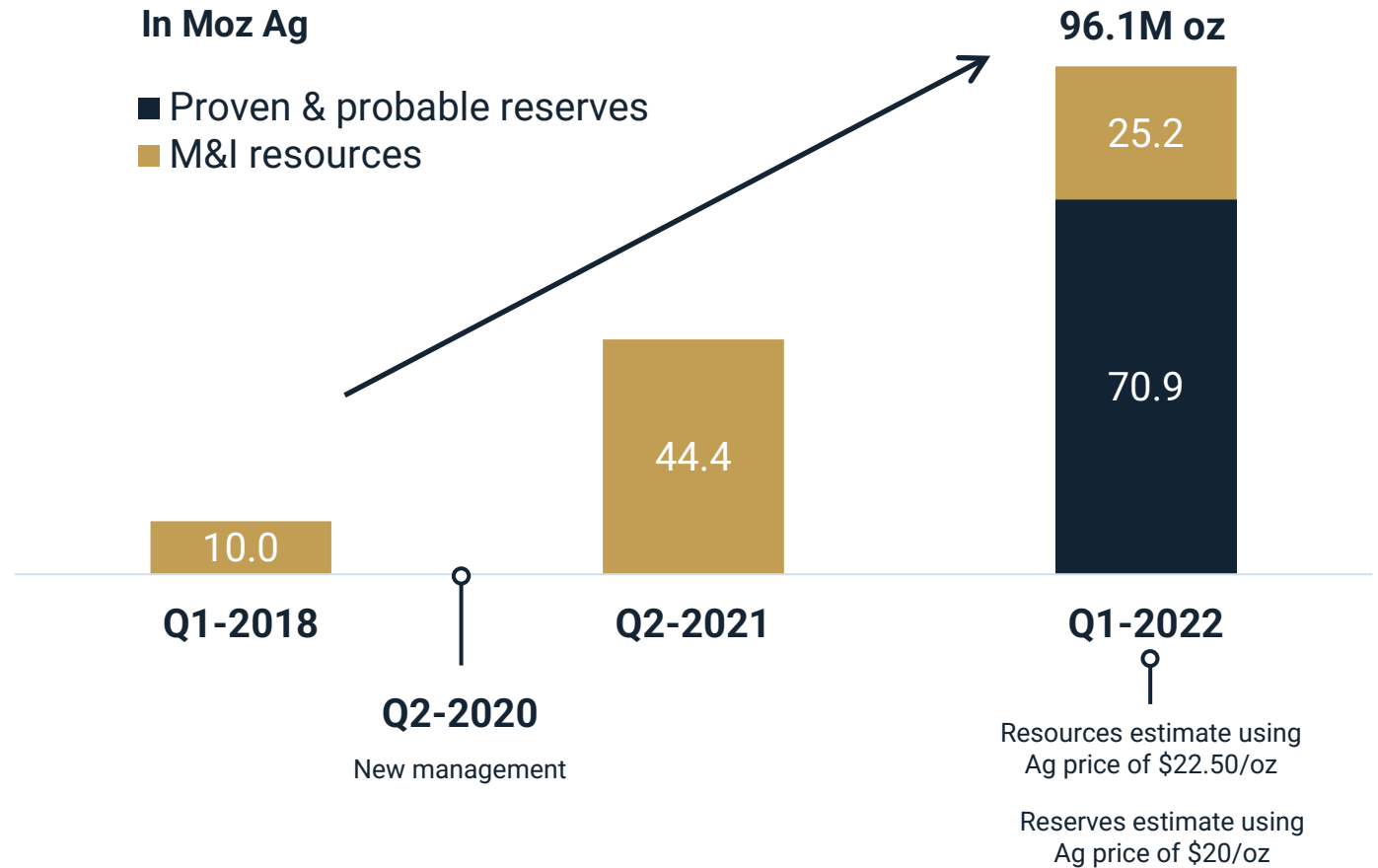
- Addition of cone crusher increased throughput; 700tpd+ nameplate capacity
- Commissioning of new equipment, such as jumbos, dumpers, scoops, crane & scissor lift platforms
- Improved operational standards
- Block model mining
- Grade control



Zgounder – Industry – **Low Discovery Costs**

- Resources as a unit of total shares outstanding up >630% to 96.1M oz since 2020
- Industry-low discovery cost of \$0.18 with only \$15.3M spent

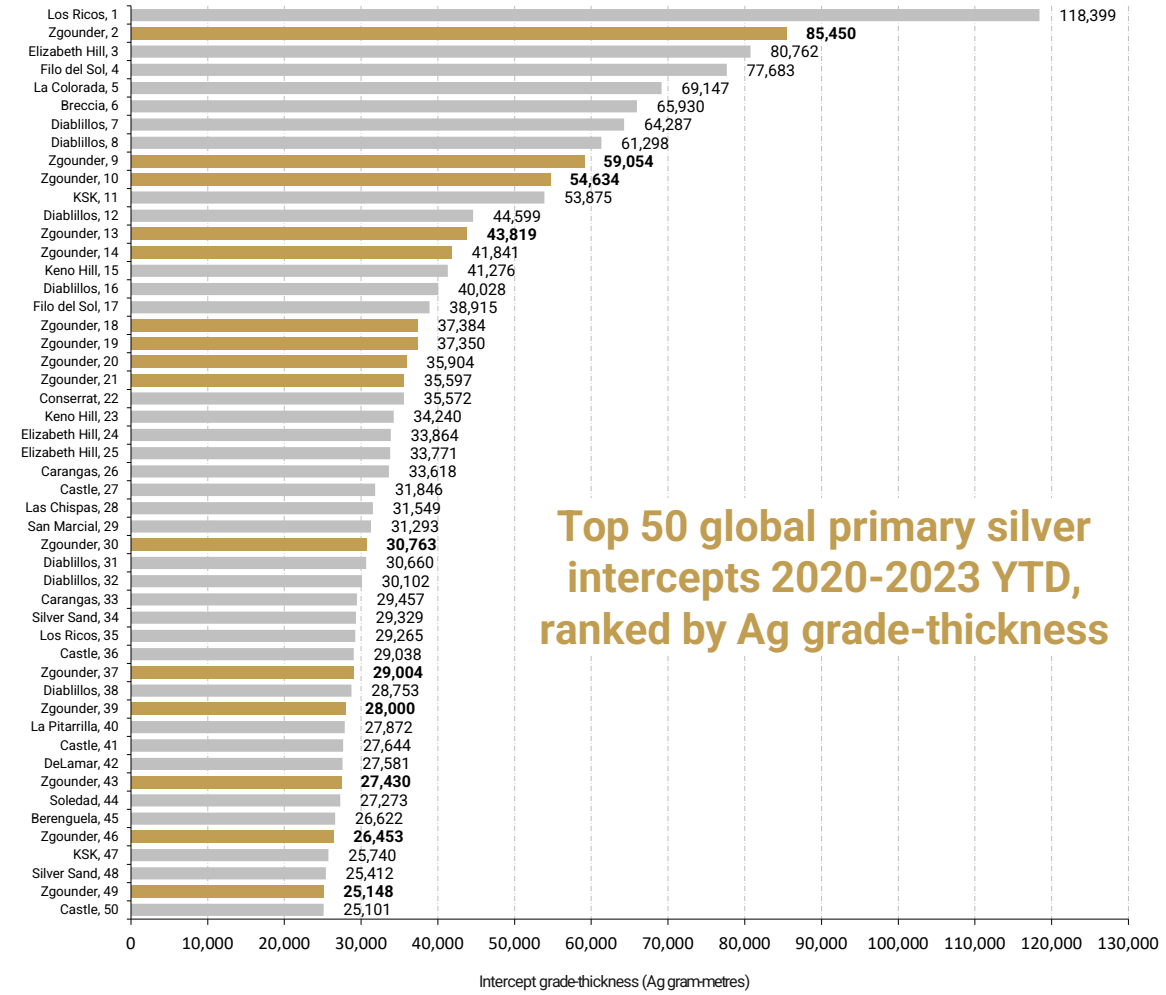
All mineral resources are exclusive of mineral reserves.



Zgounder – Top Silver Intercepts Globally

Zgounder reported 3 out of the top 10 and 15 out of the top 50 global silver intersections of 2020-2023¹

- 21.6m @ 3,956 g/t Ag
- 14.4m @ 4,101 g/t Ag
- 9.6m @ 5,691 g/t Ag
- 14.4m @ 3,043 g/t Ag
- 6.5m @ 6,437 g/t Ag



Top 50 global primary silver intercepts 2020-2023 YTD, ranked by Ag grade-thickness

¹ Refer to Aya Gold & Silver Press Releases (<https://ayagoldsilver.com/press-releases/>)

Zgounder – Mineral Reserves

Silver Reserves

- The reserves include drilling carried out between **January and September 2021**
- Reserves include **29%** open-pit and **71%** underground ore
- **Well-positioned to extend the 11-year LOM**, given the 71% resource-to-reserve conversion ratio and that the deposit is open at depth to the granite

¹ Refer to the December 14, 2021, press release entitled "Aya Gold & Silver Grows Measured and Indicated Mineral Resources By 116% at Zgounder"

² Refer to the February 22, 2022, press release entitled "Aya Gold & Silver Announces Robust Expansion Feasibility Study for Zgounder"

³ Refer to June 16, 2022, amended NI 43-101 Technical Report Feasibility Study, Zgounder Expansion Project.

On a 100% basis. M&I resources shown inclusive of reserves. ¹			
	Tonnes (K)	Ag (G/T)	Content (Ag K Oz)
Proven Reserves	2,100	288	28,748
Probable Reserves	5,490	239	42,128
P&P Reserves	8,590	257	70,876
Measured Resources (Incl. Reserves)	3,511	347	39,183
Indicated Resources (Incl. Reserves)	6,254	283	56,874
M&I Resources (Incl. Reserves)	9,765	306	96,057
Inferred Resources	196	367	6,400

¹ The mineral reserves were estimated based on a Ag price of \$20/oz and a corresponding COG of 47 g/t for open-pit reserves, 85 g/t for underground reserves and 44 g/t for historical tailings.

Zgounder – Expansion Feasibility Study Highlights



71Moz

P&P reserves



\$373M

Post-tax NAV_{5%}
(\$22/oz)



\$139.4M

Growth capex



\$9.58

AISC (LOM)



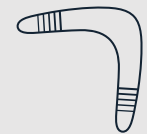
11-year

LOM



48%

Post-tax IRR
(\$22/oz)



1.7-year

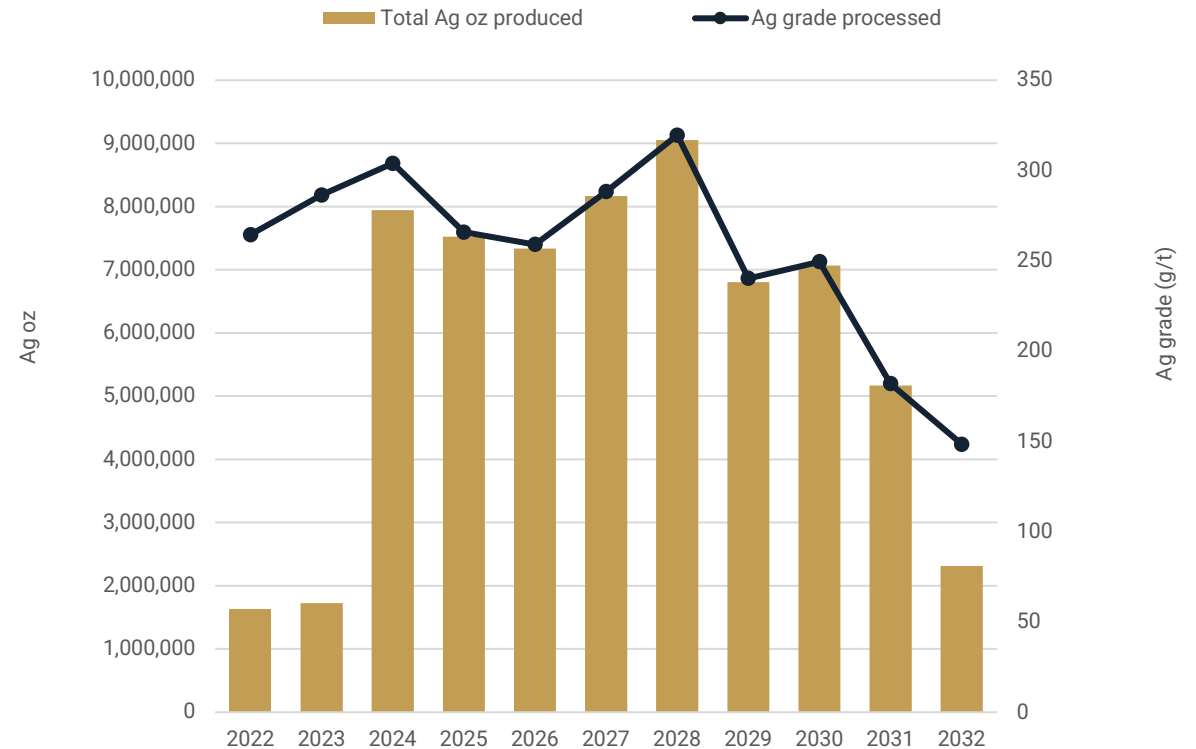
Payback
(post-expansion)



ESG

Plan
enhancements

LOM Production Profile*



* Based on projections of 2022 Zgounder Expansion feasibility study

ZGOUNDER MINE | Open-pit production

Combined open-pit and UG production to average 6.8M oz silver per year, when in full production

EXISTING TAILINGS
STORAGE FACILITY

NEW PROCESS PLANT

Expanded operations will combine:

- 2,000 tpd Merrill-Crowe plant and 700 tpd flotation-cyanidation plant
- Open-pit & UG operations

OPEN PIT

HISTORICAL TAILINGS
STORAGE FACILITY





Zgounder flotation plant

ROM pad

Crushing platforms

Milling platform

Leaching reactor platform

Ore silo platform

Emergency process water pond

CCD platforms

Merrill-Crowe & silver room platforms

Electrical substation

CONSTRUCTION OF ZGOUNDER NEW PROCESSING PLANT | July 2023

Aya – Achieving Sustainability Leadership



Low-Carbon Strategy and Environmental Commitment

Priorities: water, tailings management and clean energy. Near-zero Scope 2 emissions in 2024.



61%
Water recycled

Ongoing
Global Industry Standard on Tailings Management



20-year
wind PPA signed

88%¹
Reduction in Scope 2 emissions in 2025



Health and Safety

2023 Priorities: solidifying H&S processes, mine rescue, emergency readiness, and training.



Ongoing
Best practices for risk management



3,166 hours
of H&S training in 2022



0 fatalities
Reported in 2022



Corporate Social Responsibility

Priorities: national recruitment and procurement, combined with a four-pronged community program.



46%
Local workforce

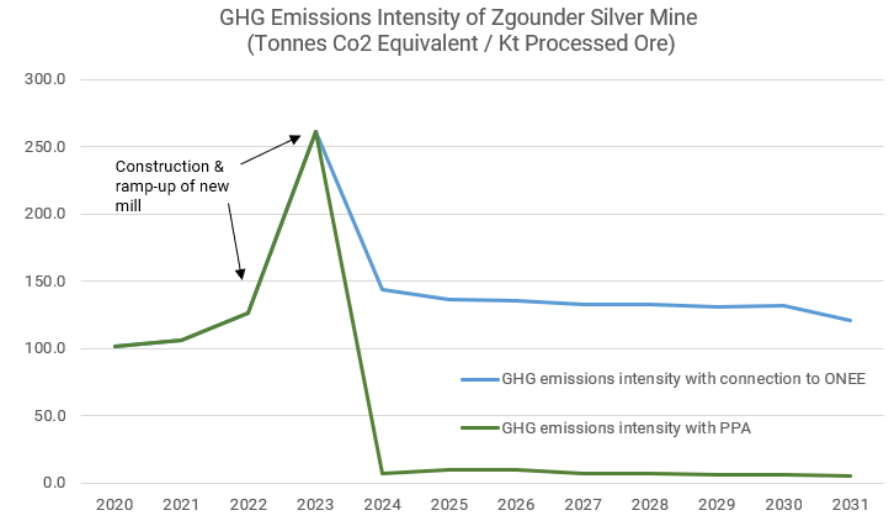


99%
National workforce

75%
National procurement



13,000
villagers impacted by medical clinic support



Alignment of community program with Morocco's National Initiative for Human Development

المبادرة الوطنية للتنمية البشرية
Initiative Nationale pour le Développement Humain

¹ Reduction compared to same year, 2024, in the absence of a signed PPA with a renewable energy producer, as per the mining plan in the NI 43-101 FS study presented in 2022.

Aya – High Governance Standards

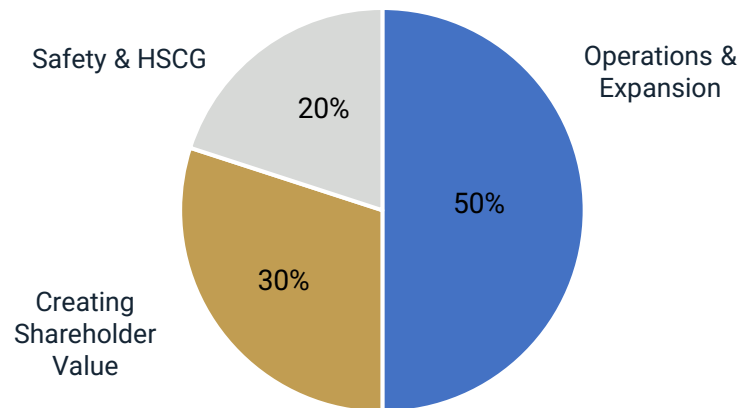
Achieved in the last three years since arrival of new management team

37%
Women
board members

63%
Director
independence

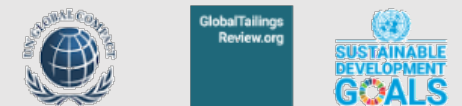
15%
Board & management holdings
(As of September 1, 2023)

Alignment of executive pay to performance and shareholder interests



Implementation of high **governance standards** & alignment of executive remuneration with performance and shareholders

Increased transparency of ESG disclosure in support of the below frameworks





Exploration

- 1 AYA
- 2 Zgounder Silver Mine
- 3 **Exploration**
- 4 Catalysts

Aya – 2023 Drill Exploration Program of 119,000m

Growth Pipeline Includes Five Priority Projects

Zgounder Silver Mine

- 29,000m budgeted (3 drills active) for near-mine drilling (2023 program expanded by 3,000m)
- Follow up early 2023 results east of deposit and RC results in the southern part of the open pit

Boumadine (Development)

- 76,000m budgeted (6 drills active); +400% over 2022 budget (2023 program expanded by 40,000m)
- Infill drill & explore along strike, at depth, new targets

Zgounder Regional (Exploration)

- 14,000m budgeted (2023 program expanded by 7,300m)
- Build on 2022 results; test continuation of the Zgounder deposit; test new targets

Tirzzit (Exploration)

- Initial stream sediment and mapping campaign
- High resolution hyperspectral survey

Tijirit – Mauritania (Development)

- 25,000m program complete
- Convert resources into reserves

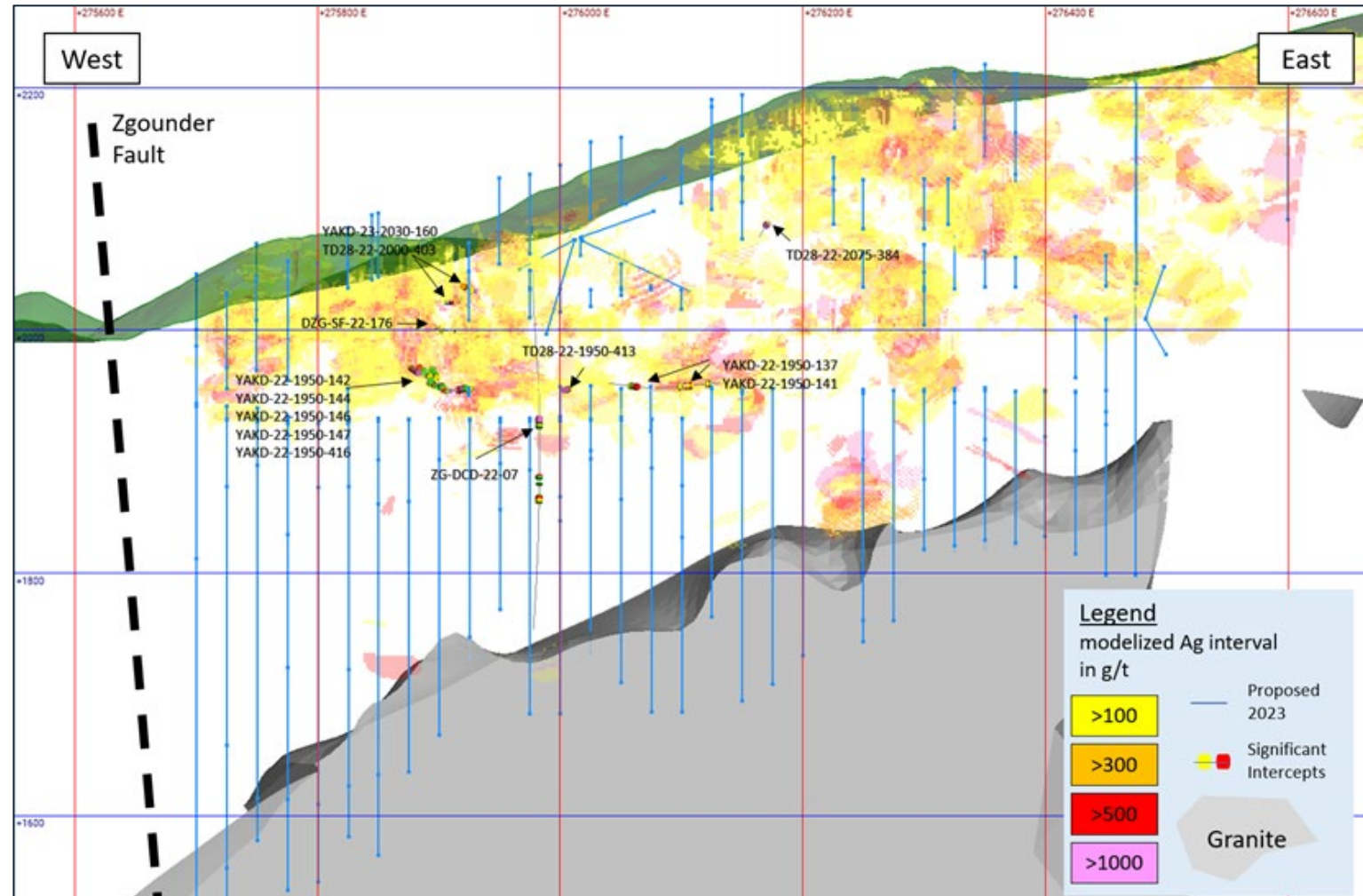


Zgounder – Near-Mine Drill Exploration Program (Ag)

29,000m budgeted for near-mine drilling

Recent Drill Result Highlights¹

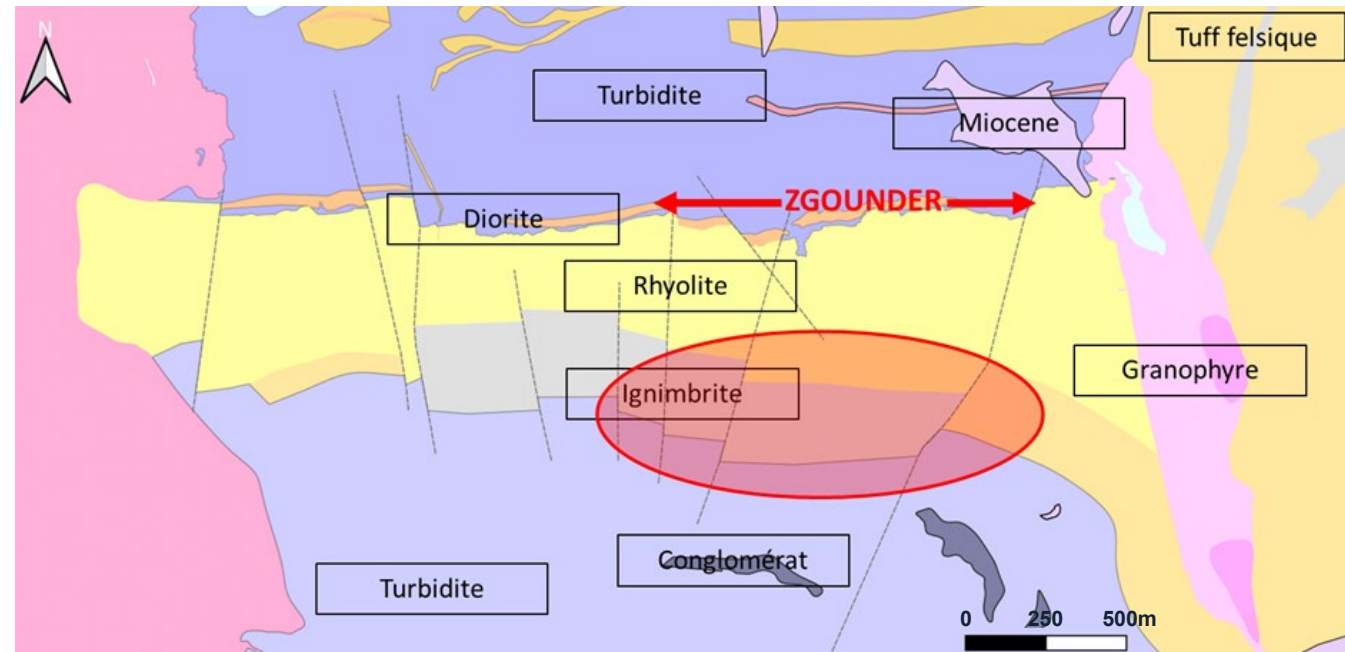
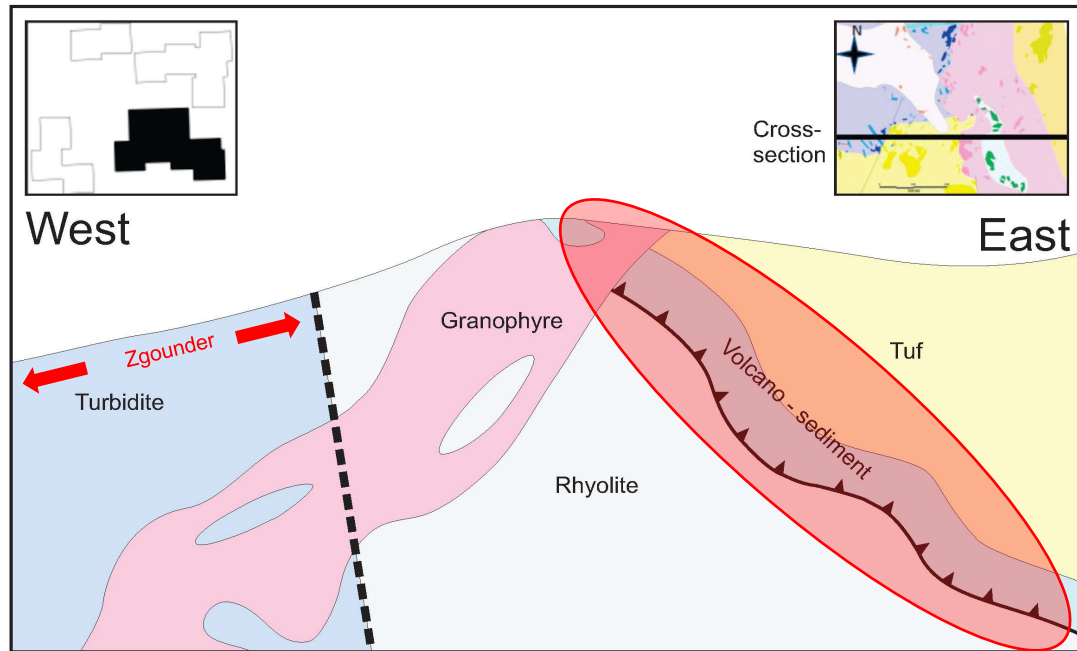
- 2,812 g/t Ag over 8.0m
- 1,242 g/t Ag over 9.0m, including 2,052 g/t Ag over 5.0m
- 2,227 g/t Ag over 7.0m, including 6,768 g/t Ag over 2.0m
- 812 g/t Ag over 13.5m, including 2,207 g/t Ag over 4.5m
- 4,980 g/t Ag over 7.5m, including 9,234 g/t Ag over 4.0m
- 846 g/t Ag over 9.5m



¹ Refer to Aya Gold & Silver's February 28 and September 6, 2023 press releases

Zgounder Regional – Testing Possible East Extension & South Mirror

- **3,000m** drilling to test drill conceptual target under the Neocene cover (Tuffs) east of the granophyre
 - Potential continuation of the Zgounder Deposit (Volcano-sediments).
- **3,000m** Test drill southern contact of the rhyolite (never drill tested)
 - Sediments South of the Rhyolite are slightly more conglomeratic than the “Série-Brune” (shale, siltstone and sandstone) of Zgounder, Imiter has found mineralization inside conglomeratic units



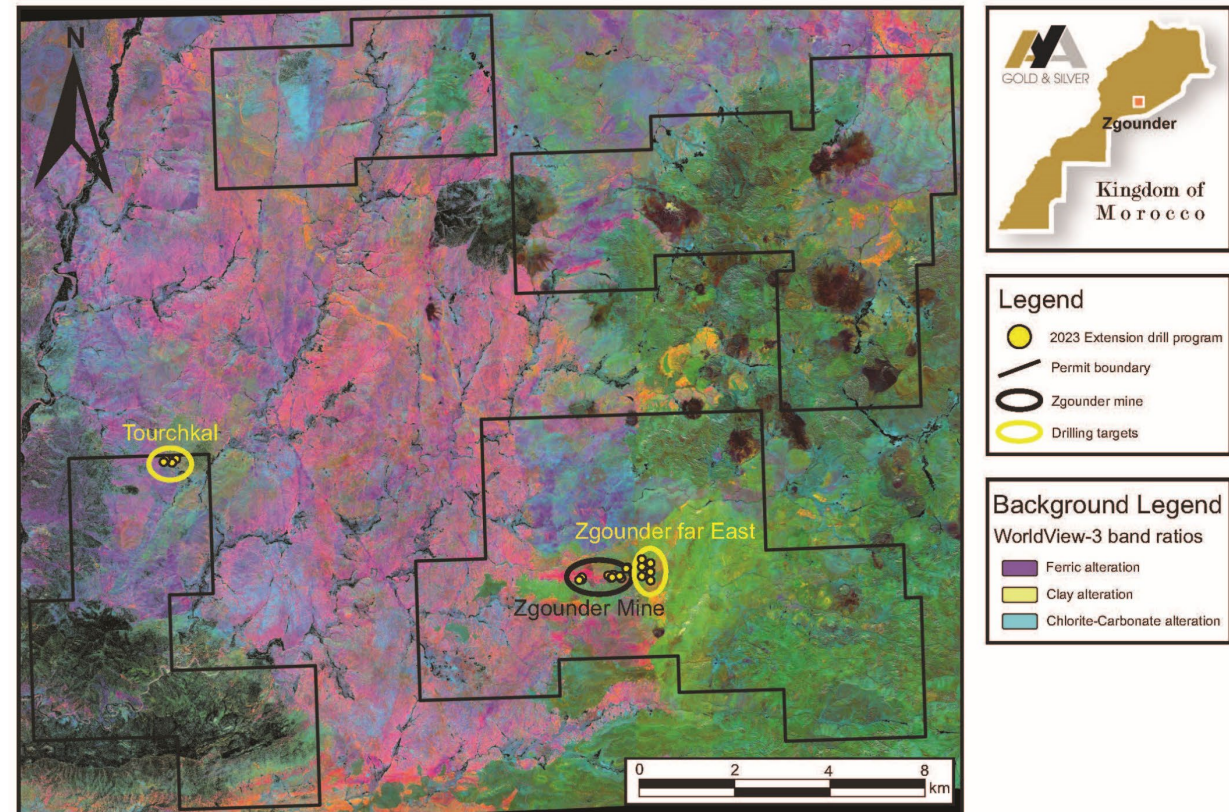
Zgounder Regional – Drill Exploration Program Expanded (Ag, Au, Cu)

2023 Drill Program

- Initial 6,700m of DDH completed; program **expanded to 14,000m for 2023**
- Drilling in H2 2023 will test the potential continuation of the Zgounder deposit and test a new target in the Tournchal area
- Prospective package for epithermal Ag, Au or Cu-Au vein mineralization
- Identification of five target areas with Ag, Cu and Au showings

Informed by comprehensive geophysical and mapping programs

- 1,061 grab samples taken to date across the exploration permits
- Airborne geophysics survey data (magnetic, VTEM and radiometric)
- Stream sediment campaign (954 samples)



Boumadine – Drill Exploration Program Expanded (Au, Ag, Pb, Zn, Cu)

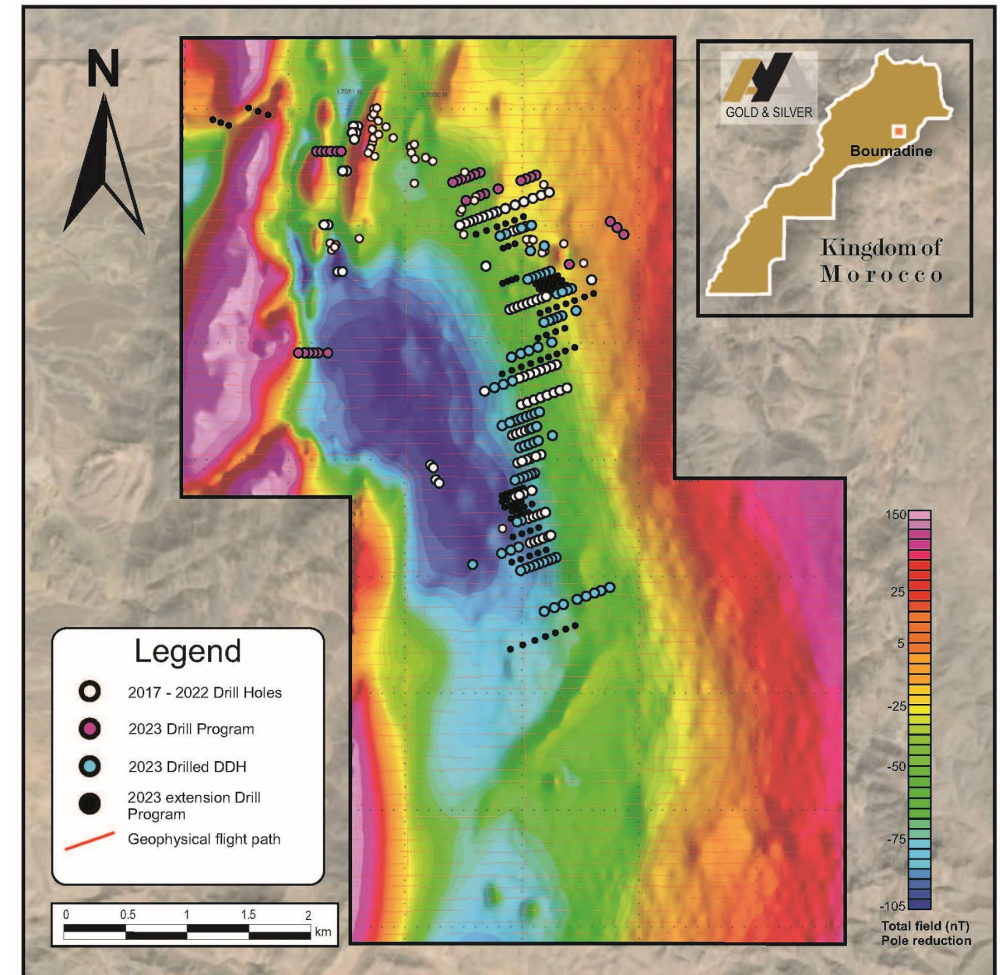
76,000m DDH Drill Program in 2023

- More than doubled initial 2023 drill program from 36,000m to 76,000m
- 3.8km strike length open at both ends, along strike and at depth (6km hydrothermal system)
- Definition of a new high-grade mineralized stockwork area that expands the South Zone along strike and at depth
- Discovery of a new at-surface northwest area through mapping that extends more than 1.5km
- NI 43-101-compliant resource estimate expected in Q1-2024

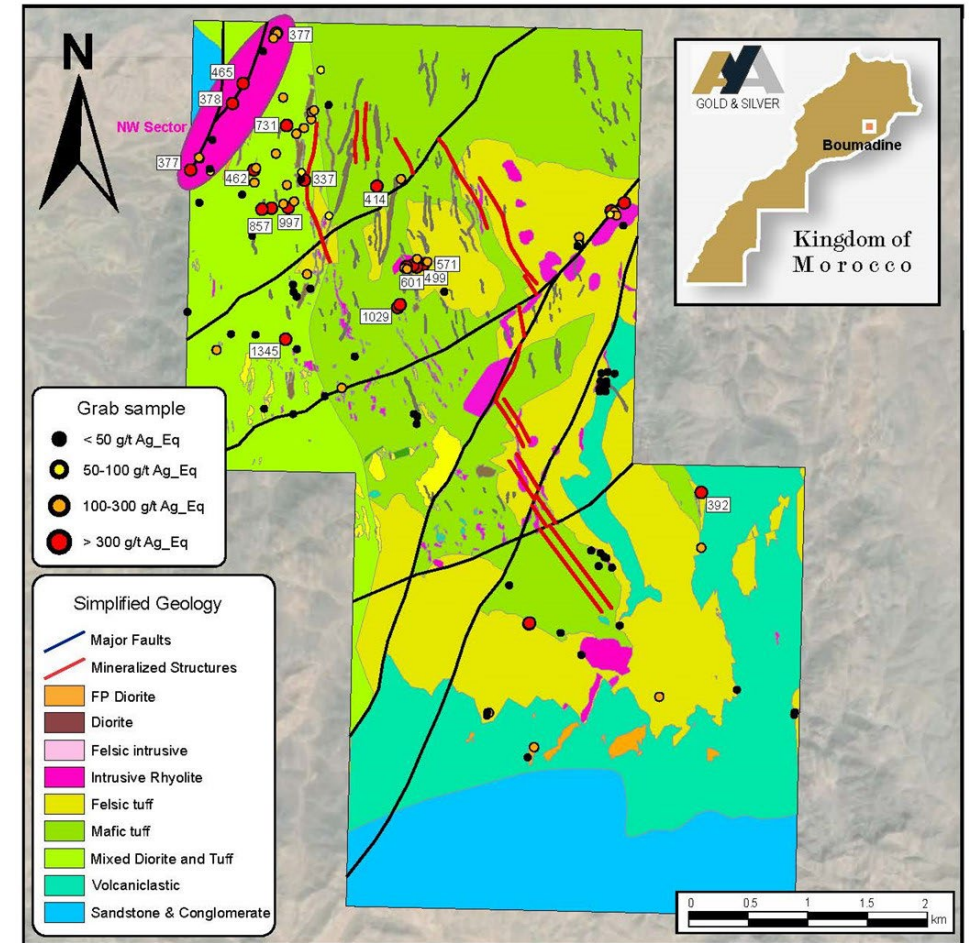
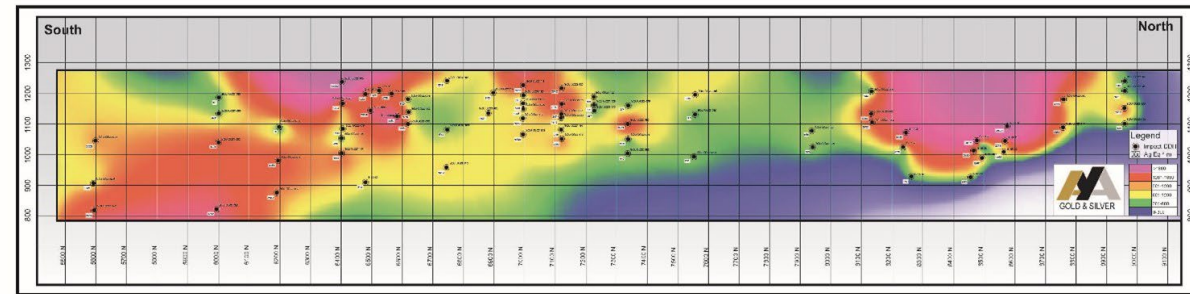
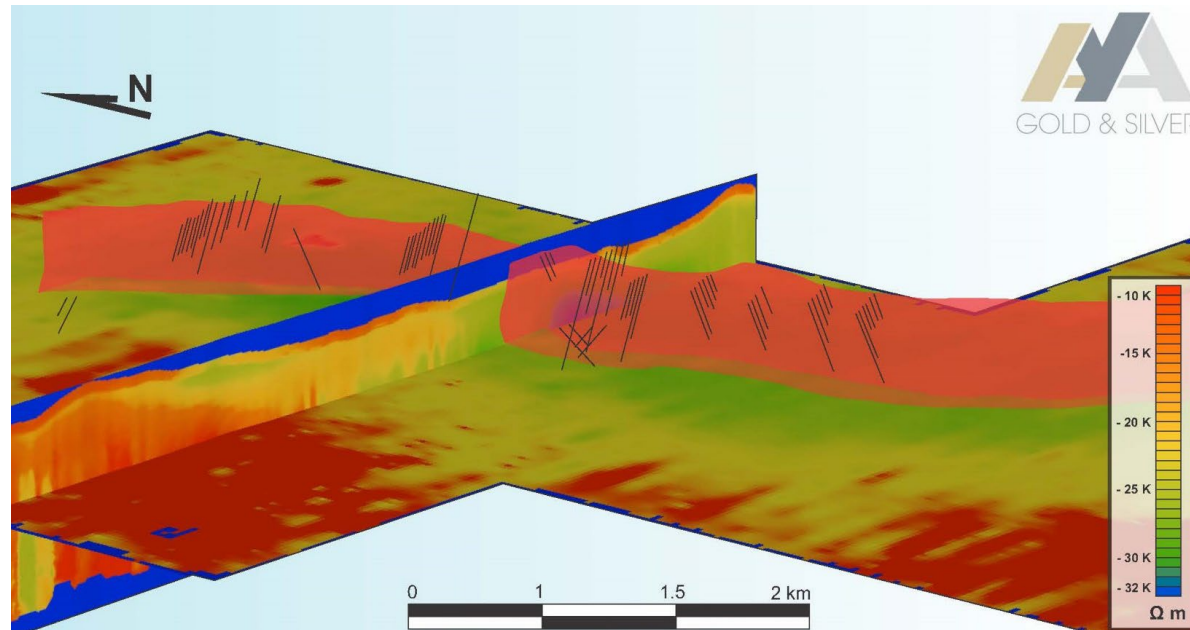
Drill Exploration Results¹

- 192 g/t Ag_{Eq} over 129.4m (1.06 g/t Au, 25 g/t Ag, 1.0% Zn, 0.2% Pb and 0.03% Cu),
- 539 g/t Ag_{Eq} over 9.6m (1.76 g/t Au, 134 g/t Ag, 3.9% Zn, 0.5% Pb and 0.1% Cu)
- 475 g/t Ag_{Eq} over 11.8m (0.97 g/t Au, 88 g/t Ag, 4.2% Zn, 1.6% Pb and 0.01% Cu)

¹ Refer to Aya Gold & Silver's November 1, 2022, February 14, 2023 and July 5, 2023 press releases



Boumadine – Interpreted 3D Conductor and Simplified Geology



Tirzzit – Historic Copper Mine & Potential New District (Cu, Ag)

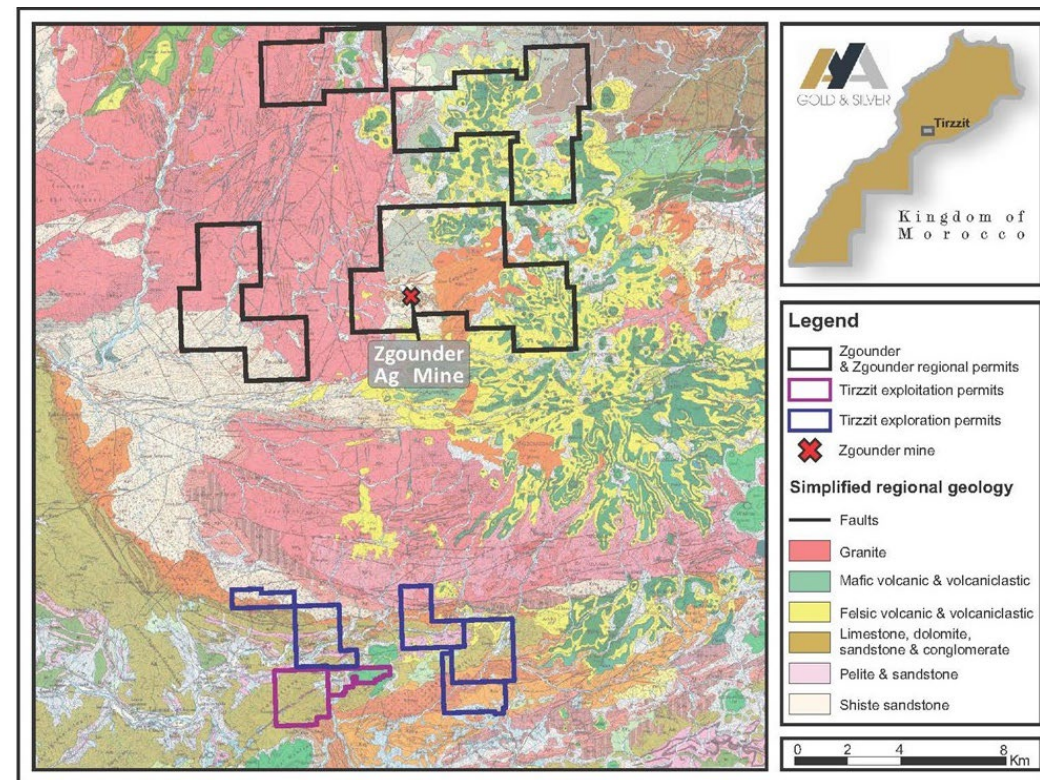
Collection of 7 permits including the historical Tirzzit Copper Mine on Morocco's anti-Atlas range, 25 km south of Zgounder

Through the pending transaction announced in June 2023, Aya acquires:

- Historical copper mine offering near-surface silver and copper mineralization potential, with historical drilling intercepts of up to **3.5% Cu**
- Historical data including drill results and geophysics, which will be used to launch fieldwork
- Land holdings totaling 67.7km
- 2023 exploration work to include initial stream sediment and mapping campaign and high-resolution hyperspectral survey

Potential

- Mineralization of historical deposit remains open in three directions
- No systematic exploration program using modern methods
- Easy road access and proximity to infrastructure



Aya – Catalysts

- Zgounder & Boumadine drill program results
- Boumadine resource estimate
- Zgounder Silver Mine expansion
- Achieve 2023 **silver production and cost guidance**
- Achieve 2023 **ESG** milestones of **EBRD-CTF loan agreement**





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