



DEVELOPING TWO TOP TIER VMS ASSETS TO PRODUCTION DECISION & EXPLORING UPSIDE OF 50KM VMS GOLD-COPPER BELT

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The Cabaçal Gold-Copper Project NI 43-101 Technical Report and Preliminary Economic Assessment, Mato Grosso, Brazil, and dated March 30, 2023 (with an effective date of March 1, 2023) (the "2023 Cabaçal PEA") was prepared for the Meridian by Tommaso Roberto Raponi, P. Eng., of Ausenco Engineering Canada Inc., Scott Elfen, P. Eng., of Ausenco Engineering Canada Inc., Simon Tear, P. Geo., of H&S Consultants Pty Ltd, Marcelo Batelochi, MAusIMM (CP Geo), of MB Geologia Ltda. Joseph Keane, P. Eng., of SGS North America Inc. and Guilherme Gomides Ferreira (Mine Engineer MAIG), of GE21 Consultoria Mineral. All authors of the 2023 Cabaçal PEA are independent "qualified persons" as defined by NI 43-101. The 2023 Cabaçal PEA may be found on the Company's website at www.meridianmining.co or under the Company's profile on SEDAR at www.sedar.com Readers are encouraged to read the entire 2023 Cabaçal PEA.

Readers are cautioned that the 2023 Cabaçal PEA is preliminary in nature and is intended to provide an initial assessment of the Cabaçal's economic potential and development options. The 2023 Cabaçal PEA mine schedule and economic assessment includes numerous assumptions and is based on inferred mineral resources. Inferred 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 no certainty that the 2023 Cabaçal PEA results will be realized. Mineral resources are not mineral reserves and do not have demonstrated economic viability. Additional exploration will be required to potentially upgrade the classification of the inferred mineral resources to be considered in future advanced studies.

Mr. Erich Marques, B.Sc., MAIG, Chief Geologist of Meridian Mining and a Qualified Person as defined by National Instrument 43-101, has reviewed, and verified the technical information in this presentation.

#### MERIDIAN AT A GLANCE



### **DUAL-TRACK STRATEGY**

**DEVELOPING TWO VMS ASSETS TO PRODUCTION DECISION & EXPLORING UPSIDE OF 50KM VMS BELT** 

#### **ECONOMICS**

- MARKET LEADING PEA **METRICS AT CABAÇAL**
- LOW CAPITAL INTENSITY

### **EXPLORATION**

50 KM VMS BELT TO BE SYSTEMATICALLY TESTED

### **BRAZILIAN FOCUSED**

**TIER 1 MINING JURISDICTION** WITH HISTORY OF GOLD & **COPPER MINES** 

## SIMPLE MINING

- SHALLOW OPEN PIT
- **EXCELLENT METALLURGY**
- LOW STRIP RATIO
- SUSTAINABLE HYDROPOWER

### **SCALABILITY**

**PROJECT EXPANSION &** POTENTIAL HIGH-GRADE FEED FROM SANTA HELENA



HOCHSCHILD

MINING

**MERO** 



# **Corporate Structure**<sup>1</sup>

**Shares Outstanding** 

**Compensation Warrants** 

**Options** 

**Fully Diluted** 

**Share Price** 

**Market Capitalization** 

Cash<sup>2</sup>

300.1 m

4.3 m

(CAD 0.35-0.50)

21.1 m

(CAD 0.07-1.10)

325.4 m

CAD 0.38

(6 Sept 2024)

CAD 114.0 m

CAD 20.3

(30 June 2024)

## **Meridian Mining UK S**



## **Analyst Coverage**





**RAYMOND JAMES** 

Mike Curran

Stefan Ioannou

Craig Stanley

Notes: 1 Corporate Structure as of 28<sup>th</sup> November 2023 unless otherwise stated.

2 Cash Balance as of 30<sup>th</sup> June 2024 & includes ~USD 1.0m in Escrow per purchase agreement. Annual Financials Cash Balance & Exchange Rate 1.355 (Source - Bank of Canada)

#### MERIDIAN LEADERSHIP







**BRUCE MCLEOD Independent Chair** +30 years experience



GILBERT CLARK **CEO & Director** +25 years experience



ADRIAN MCARTHUR **President & Director** +25 years experience



JOHN SKINNER **Independent Director** +35 years experience



SUSANNE SESSELMANN **Independent Director** +30 years experience



**DOUG FORD Independent Director** +35 years experience

MARTIN MCFARLANE



**NEIL GREGSON Independent Director** +30 years experience

## **Our Management**



GILBERT CLARK **CEO & Director** +25 years experience



**President & Director** +25 years experience



+30 years experience



**SORAIA MORAIS Chief Financial Officer** +15 years experience



**ADRIAN MCARTHUR** 

MARIANA BERMUDEZ **Company Secretary** +15 years experience



KATHERINE MACLEAN **Sustainability & Comms** +15 years experience

## Rio Cabaçal - 100% Brazilian Managed



**JOEL BRANDAO Director of Brazil** +40 years experience

JAMES MCLUCAS Corp. Development

+15 years experience



VITOR BELO **Mining Consultant** +30 years experience



**ERICH MARQUES Chief Geologist** +15 years experience



**ANTONIO ALMEIDA** Senior geologist +40 years experience



**MARCELO AMORIM Project Dev. Manager** +15 years experience



**BARBARA SOUZA Enviro.** Engineer +10 years experience



**RODRIGO SALVI Inhouse Counsel** +10 years experience

#### GLOBAL VMS BELTS



# VMS CLUSTERS HUB & SPOKE STRATEGY

- VMS deposits occur in Clusters & tend to form ~4km spacings
- Deposit clusters ideal for Hub & Spoke development strategy

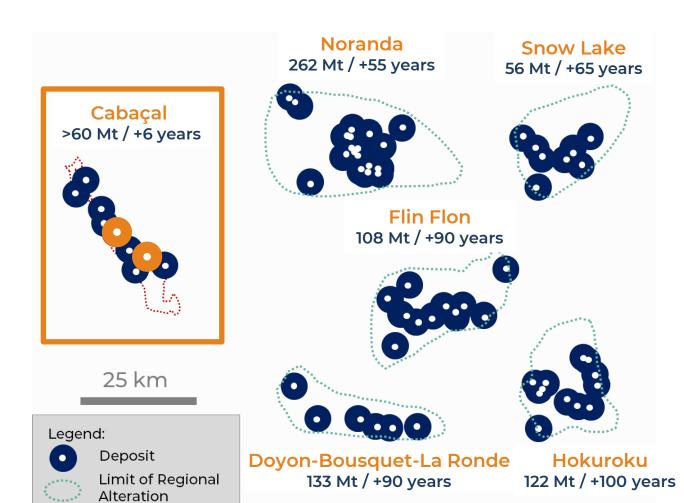
#### GIANT SCALE VMS

- Cabaçal Mine "Giant" (>30 Mt)
   VMS Deposit on Standalone Basis
- Top 4% Global VMS Deposits by Tonnage
- Cabaçal VMS Belt underexplored and under-developed compared to analogue camps

# INTERGENERATIONAL PRODUCTION

- Many large VMS Deposits have over 50 year production history
- Cabaçal 6 years past production &
   22 year projected LOM (PEA)<sup>3</sup>

## VMS Belts – Low Capex – High Returns – Long Life



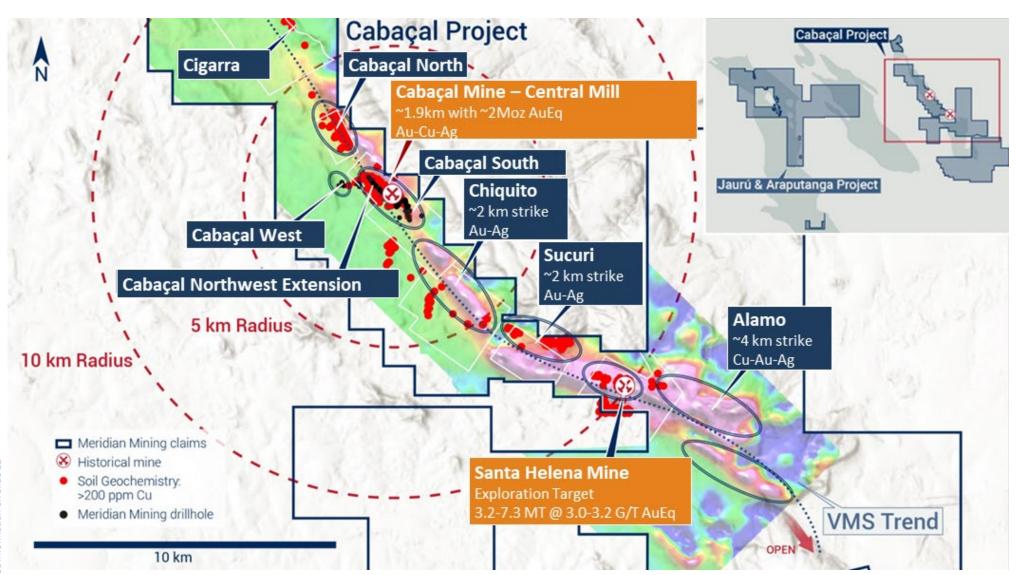
Notes: 1 See Meridian Announcements

<sup>2</sup> Source: Akita University, Galley et al. (2007); Mercier-Langevin et al. (2007) S&P Global, Hudbay 2020

<sup>3</sup> See News Release 6th March 2023

## CABAÇAL VMS CLUSTER / HUB & SPOKE DEVELOPMENT





## STRATEGY FOR DEVELOPING THE PREMIUM CABAÇAL BELT



#### **DEVELOPMENT**

#### **EXPLORATION**

## CABAÇAL MINE

- $\triangle$  NPV<sub>5</sub> USD 573 M
- ▲ IRR 58.4%
- Payback 10.6 months
- ▲ Low Capex USD 180 M
- ▲ LOM revenue USD 2.9 B
- Base Case:
  - **Au USD 1,650 /oz**
  - **Cu USD 3.59 / lbs**
- (All Post Tax)

## **SANTA HELENA**

- 2nd high-grade open pit
- Exploration Target\*:
  - 3.2-7.3 MT @ 3.0-3.2 g/t AuEq<sup>2</sup>
  - 306,000 to 763,000AuEq ounces
- Potential High-Grade Feed
- Hosted within only 1.4km of ~3km prospect

## **BELT SCALE EXPLORATION**

- Giant Cabaçal deposit defined
- Multiple VMS prospects
- Hub & Spoke development strategy using Cabaçal Plant

\*The potential quantity and grade of an Exploration Target is conceptual in nature. 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. The metal equivalence formula is based on the historical Santa Helena resource report, calculated as AuEq based on gold being the dominant metal of the Cabaçal VMS camp, as the expectation is that Santa Helena's mineralization will be evaluated for processing through a centralized facility at the Cabaçal mill with the addition of a zinc circuit.

See Meridian NI-43-101 2<sup>nd</sup> June 2022

See Information on Slide 22





Note – See News Releases



## Cabaçal

- Pre-Feasibility Study Greater engineering certainty
- Expansion of production from 2.5mtpa to 4.5mtpa
- Metallurgy & Geotechnical testing expanded
- Ramp-up curve applied for conservative scenario
- Infill drilling increasing resource confidence

## Q4 2024 - Publish Initial Resource

- Metallurgical testwork commencing
- Potential high-grade feed for Hub & Spoke operation
- Upside development beyond first 20 years production
- Multiple potential open pit targets to be drill tested

## Santa Helena

# Belt Scale Exploration



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## PEA demonstrates exceptional potential economics from open-pit mining operation

				Copper Price										
			Dow	nside	Ва	se			PEA	Spot			Ups	side
			3.	50	3.	59	4.	.00	4.	13	4.	50	5.	00
			NPV	IRR	NPV	IRR	NPV	IRR	NPV	IRR	NPV	IRR	NPV	IRR
	Downside	1,550	\$510	53.5%	\$523	54.2%	\$582	57.0%	\$600	57.9%	\$654	60.3%	\$726	63.5%
Se	Base	1,650	\$560	57.8%	\$573	58.4%	\$632	61.1%	\$650	62.0%	\$704	64.4%	\$776	67.4%
Pri		1,750	\$609	62.0%	\$622	62.6%	\$681	65.2%	\$700	66.0%	\$753	68.3%	\$825	71.3%
Gold	PEA Spot	1,841	\$655	65.7%	\$668	66.3%	\$727	68.9%	\$745	69.7%	\$799	71.9%	\$871	74.8%
ပြ		1,850	\$659	66.1%	\$672	66.7%	\$731	69.2%	\$750	70.0%	\$803	72.2%	\$875	75.1%
	Upside	1,950	\$709	70.1%	\$722	70.7%	\$781	73.1%	\$799	73.9%	\$853	76.0%	\$925	78.9%

Low Initial Capex USD 180 M

Throughput Rate 2.5 Mtpa

Quick
Payback
10.6 months

Capex
USD 108 M

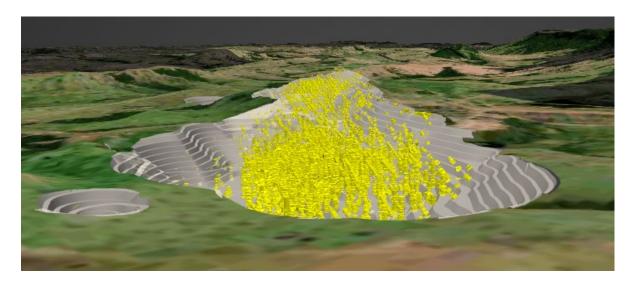
Ave. Y1-5
Production
131 koz AuEq

LOM Revenue USD 2.9 Bn Low AISC (Y1-5) USD 671 / oz eq

Total
Production
1.8 Moz AuEq

PFS Initiated Target 2024









# PEA superior economics, driven by:

- **High-grade starter pit**
- Low Strip Ratio
- Simple processing
- High metallurgical recoveries
- Sustainable low-cost hydroelectric power
- Brazil's low-cost operating environment

<sup>1</sup> See News Release 6th March 2023

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#### BRAZIL PROJECTS DELIVER ON TIME AND BUDGET









Targeting completion Q3 2024



## **Tucumã**



## Commercial production declared

- On time and budget
- Nameplate throughput Q1 2025



## **Tocantinzinho**



- First gold pour completed
- On time and budget
- Commercial Production declared



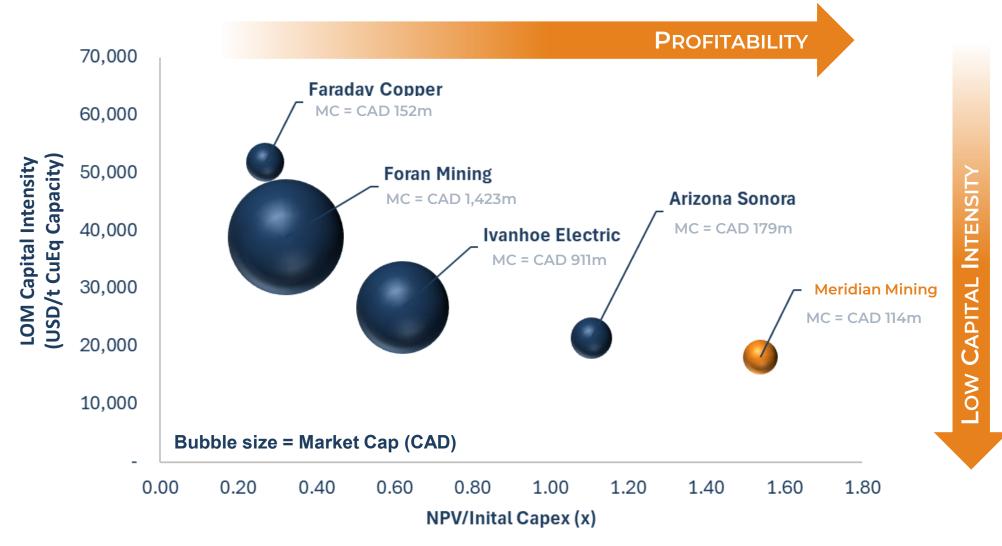




- Project complete
- On time and budget
- **△ Targeting expansion 15% production**







votes:

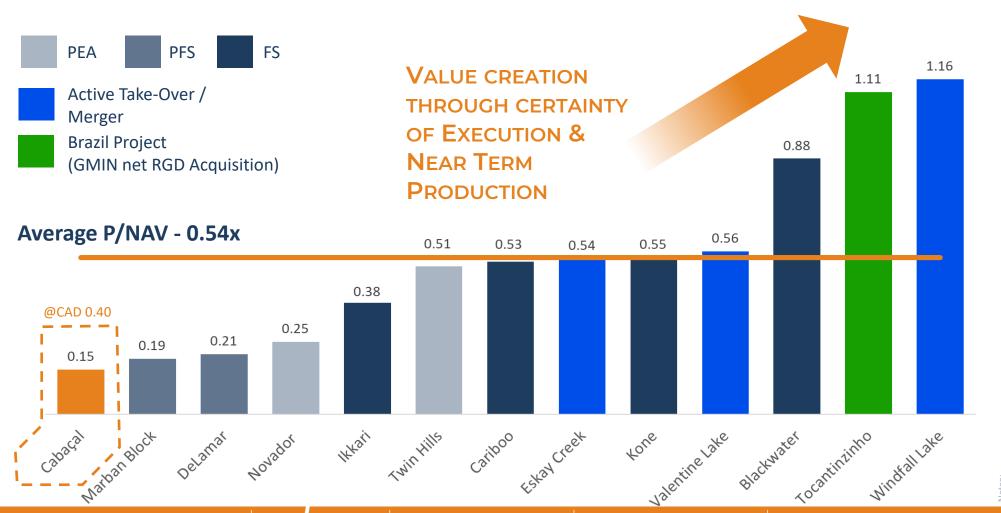
See News Release 6<sup>th</sup> March 2023

Source CIBC Data, Market Data / Company Data – 8th April 2024



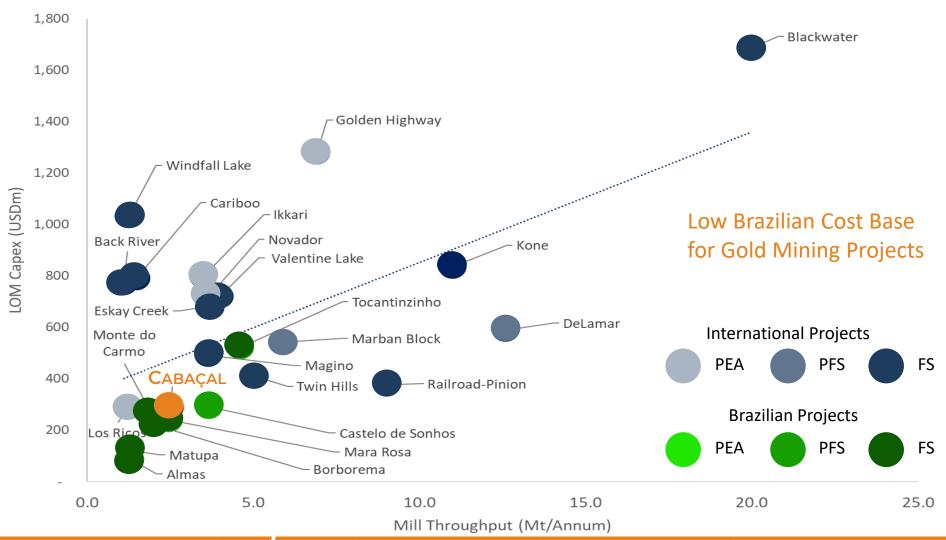
## Gold Development Project – Asset Basis - P/NAV

(Au USD 1,600 - 1,700 / oz (27 August 2024))





# LOM Capex / Mill Throughput (USDm / Tonne / Annum)



### BENCHMARKING MNO - OPEX & ASIC VS PEERS

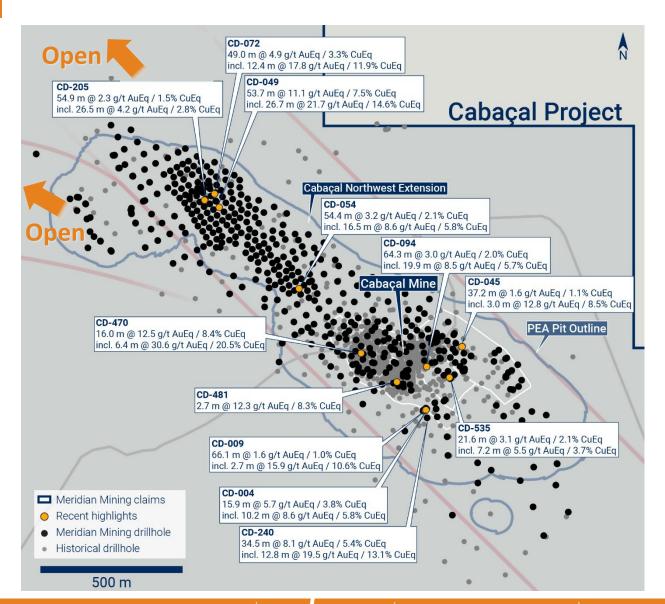




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## CABAÇAL MINE'S HIGHER-GRADE ZONES DRIVE ECONOMICS





**CD-240** 34.5 M

@ 8.1 G/T AUEQ

@ 5.4 % CUEQ

**CD-205** 

54.9 M

@ 2.3 G/T AUEO

@ 1.5 % CUEQ

**CD-045** 

**37.2** м

@ 1.6 G/T AUEO

@ 1.1 % CUEQ

**CD-009** 

66.1 M

@ 1.6 G/T AUEQ

@ 1.0 % CUEO

**CD-470** 

16.0 M

@ 12.5 G/T AUEQ

@ 8.4 % CUEQ

**CD-049** 

53.7 M

@ 11.1 G/T AUEQ

@ 7.5 % CUEQ

**CD-094** 

54.4 M

@ 3.0 G/T AUEO

@ 2.0 % CUEQ

**CD-072** 

49.0 M

@ 4.9 G/T AUEQ

@ 3.3 % CUEQ

**CD-004** 

15.9 м

@ 5.7 G/T AUEQ

@ 3.8 % CUEQ

**CD-054** 

54.4 M

@ 3.2 G/T AUEQ

@ 2.1 % CUEQ

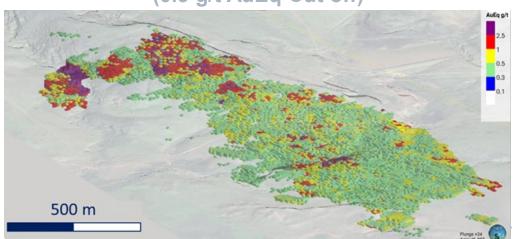
Note: 1 See Meridian News Releases



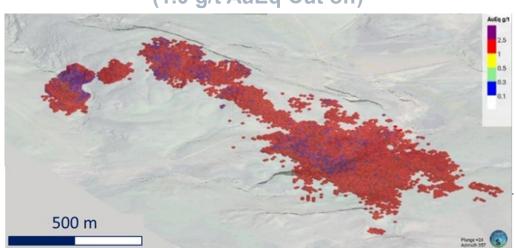
## **Resource Model**

# **Resource Model**

(0.3 g/t AuEq Cut off)



(1.0 g/t AuEq Cut off)



# **Cabaçal Mineral Resource**

(0.3 g/t AuEq Cut off)

İTEM	TONNAGE	<b>Α</b> υ	Cu	AG	Au			EQ
	(MT)	(G/T)	(%)	(G/T)	(G/T)	(Moz)	(%)	(KT)
INDICATED	52.9	0.64	0.32	1.4	1.05	1.8	0.7	362
INFERRED	10.3	0.68	0.24	1.1	0.96	0.3	0.6	64

Note: 1 See Meridian News Releases



# Simple process flowsheet with high recoveries & payables

Primary Crush

Jaw Crusher Grind Course

~200 microns

**Gravity** Recovery

**Knelson Concentrator** 

**Copper Flotation** 

Scavenger Re-grind

Pyrite Flotation

Sulphur Removal



Tailings Storage

Dry Stack Tailings



Au Dore

~30% Gold via Gravity

~28.4% Clean Copper

Cu/Au/Ag

Conc.

Concentrate

HIGH PAYABLES

**High Total Recoveries** 

Gold 89.7%

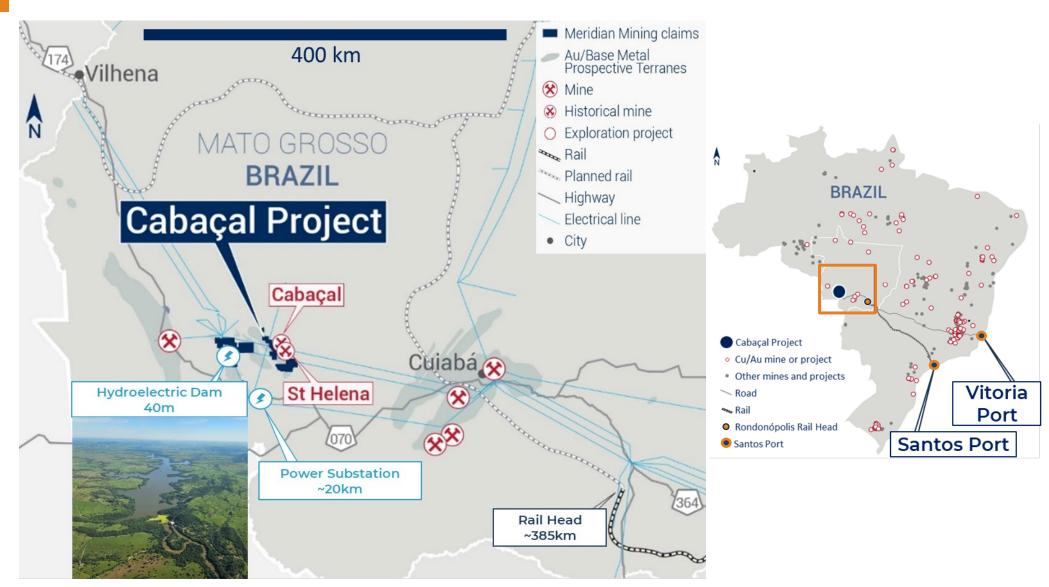
**Copper 92.4%** 



Notes: See News Release 6th March 2023

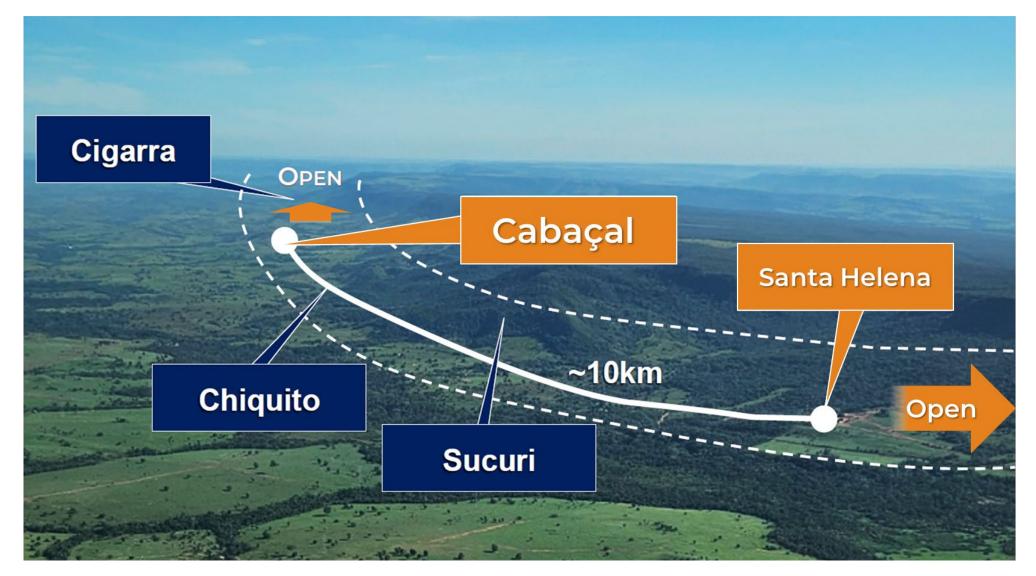
### UTILIZING EXISTING INFRASTRUCTURE





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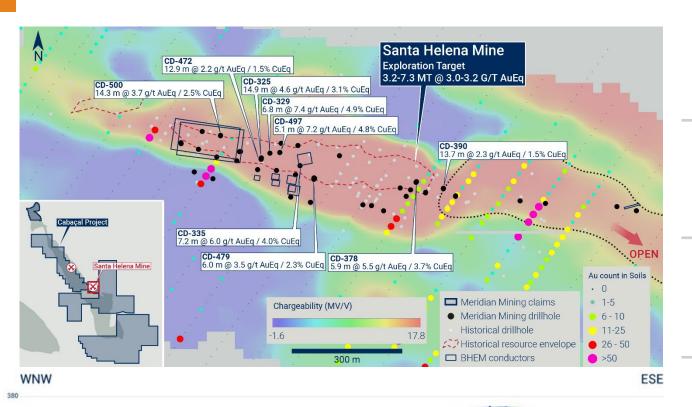




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### SANTA HELENA - HIGH GRADE DRILL RESULTS





CD-500 14.3 M @ 3.7 c/T AUEQ @ 2.5 % CUEQ

CD-325 14.9 M @ 4.6 c/T AUEQ @ 3.1 % CUEQ

CD-497
5.1 M
@ 7.2 G/T AUEQ
@ 4.8 % CUEQ

CD-335 7.2 M @ 6.0 c/T AUEQ @ 4.0 % CUEQ

CD-378
5.9 M
@ 5.5 c/T AUEQ
@ 3.7 % CUEO

CD-472 12.9 M @ 2.2 c/T AUEQ @ 1.5 % CUEQ

CD-329 6.8 M @7.4 G/T AUEQ @ 4.9 % CUEQ

CD-479
6.0 M
@ 3.5 G/T AUEQ
@ 2.3 % CUEQ

CD-311 4.9 M @ 6.8 c/T AUEQ

@ 4.6 % CUEQ

CD-390

13.7 M @ 2.3 c/T AUEQ @ 1.5 % CUEQ

Notes:

See News Releases for further details

**Exploration Target** 

Historical workings

1.4km

300 m

0.3-0.5

0.5-1.0 ≥2.5

### POTENTIAL HIGH-GRADE FEED IN HUB & SPOKE DEVELOPMENT



# **Exploration Target\***

Ітем	TONNE	Αu	AG	Cu	Zn	Рв	Au	JEQ	Cı	JEQ
	(MT)					(%)	(%)	(Koz)	(%)	(MLBS)
UPPER RANGE	7.3	1.1	26.3	0.8	3.0	0.7	3.2	763	2.2	351
LOWER RANGE	3.2	1.0	20.0	0.7	2.8	0.6	3.0	306	2.0	141

Copper Grade\*\*

>2x

Sold Grade\*\*
>1.5x

Silver Grade\*\*

>14x

Zinc Grade\*\*
Included

\*\* Compared with Cabaçal resource.

<sup>\*</sup> The potential quantity and grade of an Exploration Target is conceptual in nature. 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. The metal equivalence formula is based on the historical Santa Helena resource report, calculated as AuEq based on gold being the dominant metal of the Cabaçal VMS camp, as the expectation is that Santa Helena's mineralization will be evaluated for processing through a centralized facility at the Cabaçal mill with the addition of a zinc circuit.

# SANTA HELENA - INITIAL EXPLORATION TARGET & TESTING EXTENSIONS



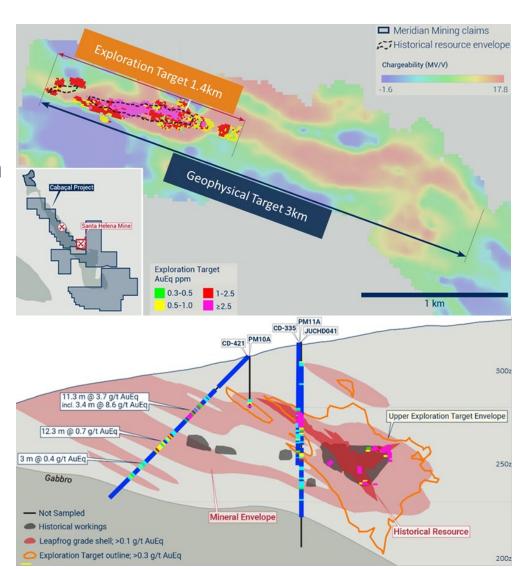
## **Exploring Along Strike**

- Expanding to test 3km Geophysical Target
- Exploration Target contained with in only 1.4 km
- Trending towards Alamo Target

## **Drilling & Expanding**

- Confirming existing data
- Infilling information
- Expanding potential outside Exploration Target:

CD-421 - 11.3 m @ 3.7 g/t AuEq



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# SANTA HELENA - HISTORIC INFORMATION INFORMING POTENTIAL DEVELOPMENT SCENARIO



#### **HISTORIC PRODUCTION**

- 439,813t @ 6.6% Zn, 1.6% Cu, 1.8 g/t Au, & 43.0g/t Ag
- Mining licence Granted
- Mine Operated 2006-2008
- High Quality Concentrate Grades

#### HISTORICAL RECOVERY

- Simple Floatation recovery
- Metallurgical Recovery Assumptions
- 89% Zn, 89% Cu, 65% Au, 61% Ag;
- No Gravity Gold Circuit
- No Pb-Ag Circuit

#### **POTENTIAL DEVELOPMENT**

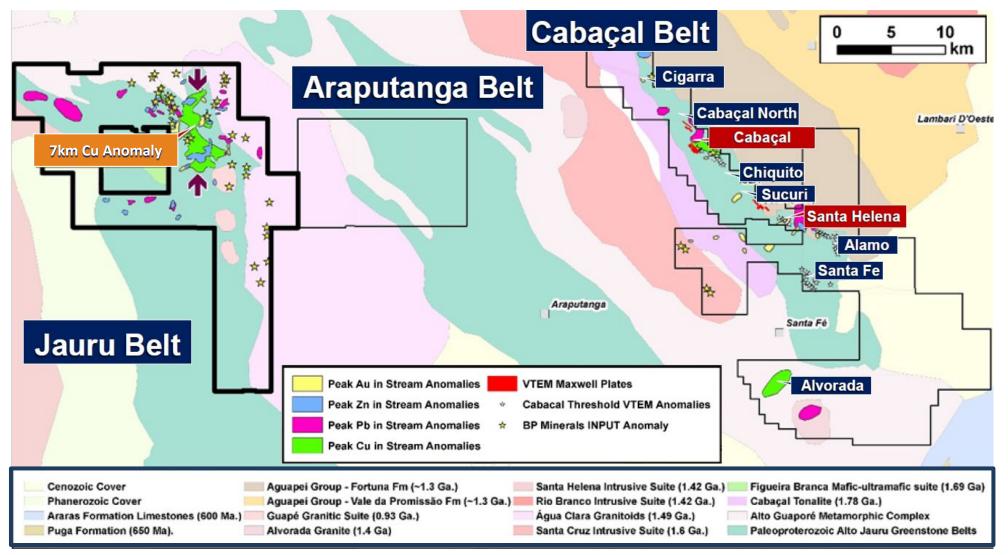
- Shallow High-Grade Open Pit
- 10km distance to Cabaçal



**Previous Floatation Plant (Production 2006-2008)** 

#### **EXPLORATION IN PARALLEL GREENSTONE BELTS**







## **NEAR-TERM UPSIDE OPPORTUNITIES & RE-VALUATION**

### **HUB AND SPOKE**

DEVELOPING HIGH-GRADE **TARGETS TO EXPAND CURRENT DEVELOPMENT SCENARIO** 

## **NEAR-TERM** DEVELOPMENT

- **FS Q3 2025**
- **PRODUCTION DECISION 2026**

#### METALS PRICES

LEVERAGE TO IMPROVING GOLD & COPPER PRICE **ENVIRONMENT THROUGH** MARKET LEADING **ECONOMICS** 

## SIMPLE MINING

- SHALLOW OPEN PIT
- **EXCELLENT METALLURGY**
- SUSTAINABLE HYDROPOWER
- Low-Cost Brazil **OPERATION**

## SIGNIFICANTI Y UNDERVALUED

TRADES AT SIGNIFICANT DISCOUNT TO DEVELOPMENT PEERS ON P/NAV BASIS

## 12 MONTHS OF CATALYSTS

- PFS EXPANSION
- SANTA HELENA RESOURCE
- **BELT SCALE EXPLORATION**





MNO

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## **Cabaçal History**

**BP Minerals** 

Development 1984-1986 Production

1986-1991



ROCKY
OSBORNE
Geologist
+ 40 years
experience



GILSON TEIXEIRA Geologist + 40 years experience

## **Rio Tinto**

Acquisition 1989-2005



JOHN
WAGHORN
Geologist
+ 50 years
experience

# Leading expertise in metallurgy & concentrates

**Discovery** 

1980-1984

**AFONSO** 

Geologist

+ 50 years

experience

**FIGUEIREDO** 



PHILLIP
MACKEY
Metallurgist
+ 50 years
experience
MIKE



experience
MIKE
OUNPUU
Geological Engineer
+ 40 years
experience



noranda





**Capital Markets Expertise** 



TOMMY
HUMPHREYS
Capital Markets
+ 15 years
experience



#### CLEAN INDUSTRIAL RENEWABLE ENERGY









Regional Hydroelectric Generation<sup>1,2</sup>

Jaurú Cascade

235.9 MW

(6 Facilities)

**Juba Cascade** 

139.4 MW

(4 Facilities)

## **Governing ESG Philosophies**











# STRUCTURED PURCHASE AGREEMENT TO ACQUIRE A 100% BENEFICIAL INTEREST<sup>1</sup>



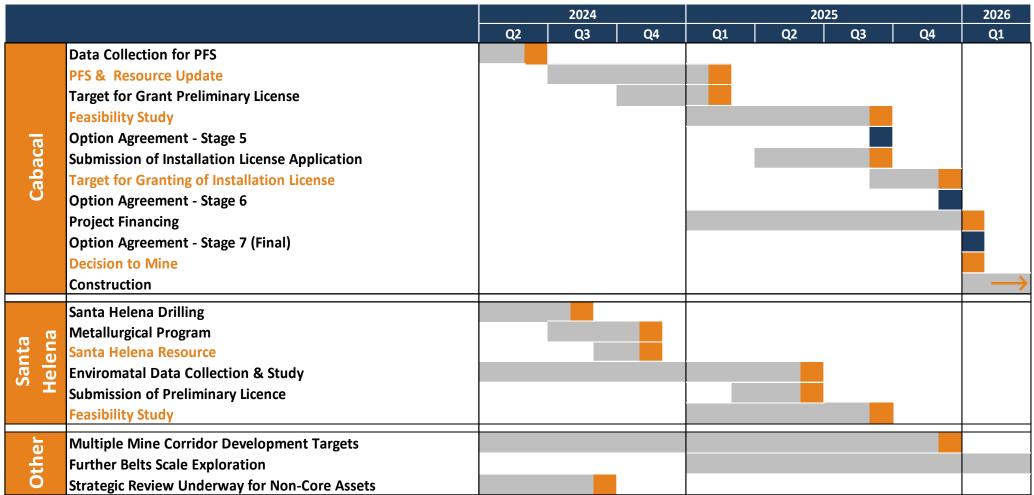
## Protects Meridian Shareholders Equity and provides Vendors an Interest Going Forward

Payments	Requirements	Vendor Payment (USD)	Vendor Payment (Shares)	Status
1	On signing	25,000	_	Complete
2	On completion of due diligence	275,000	_	Complete
3	1st phase drilling program, subject to statutory approvals & access agreements, with independent QP review	1,750,000	_	Complete
4	Completion of NI 43-101 resource estimation	_	1,000,000	Complete
5	Positive Feasibility Study by September 2025	1,850,000	1,500,000 (or CAD 450,000 at election of vendors)	Pending
6	30 days after grant of Installation Permits (LI) by Mato Grosso State	2,250,000	2,000,000 (or CAD 600,000 at election of vendors)	Pending
7	45 days after Cabaçal mine construction finance has been secured	2,600,000	_	Pending
	Total Financial Consideration (USD)	8,750,000	4,500,000	

As Meridian advances Cabaçal its value increases, the investment risk decreases, and milestone related payments are made



## Advancing multiple assets towards near-term production decision



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## **PRODUCTION METRICS**



Item			
Plant Feed Mined	Mt	55.6	
Waste Mined	Mt	118.1	
Total Mined	Mt	173.7	
Mill Throughput	Mt/annum	2.5	
Total gold production	ounces	1,021,320	
Total copper production	tonnes	159,926	
Total silver production	ounces	1,758,923	
Item			
Milled tonnes	Mt	55.6	
Mill throughput	Mt/ annum	2.5	
Strip Ratio	Waste: Mineralized Material	2.1	
Average metallurgical recovery - Gold	%	89.7%	
Average metallurgical recovery - Copper	%	92.4%	
Average metallurgical recovery - Silver	%	75.2%	
Item		Year 1-5	LOM
Average annual gold production (AuEq)	000 Ounces	131.1	81.2
Recovered Gold (AuEq)	000 Ounces	655.3	1,811.2
Total Cash Cost	USD/oz	644.3	804.4
Sustaining capital	USD/oz	26.4	61.8

<sup>1</sup> See News Release 6<sup>th</sup> March 2023

USD/oz

670.7

All in Sustaining Costs ("AISC")

864.2

### CAPITAL & OPERATING COST BREAKDOWN



Cabaçal Initial Capital Costs					
Item	US\$mm				
Equipment & Packages	39.93				
Materials	9.67				
Construction And Erection	36.51				
Others	32.14				
Indirects Costs	31.43				
Contingency	29.94				
Total Initial Capital	179.62				

Cabaçal Sustaining Capital Costs						
Item	US\$mm					
Process	30.53					
Tailings	47.73					
Indirect Costs	7.83					
Owner Costs	3.91					
Contingency	18.00					
Total Sustaining Capital	108.00					

Cabaçal Operating Costs Breakdown		
Item	USD/t milled	USD/oz
Mining Costs	9.31	296.43
Labor	1.63	51.78
Power	2.07	65.80
Reagents & Consumables	2.61	82.96
Maintainence	0.97	30.72
Water/sewage	0.00	0.07
Access maintainance	0.06	1.96
Laboritory	0.38	12.13
Dry stack	2.12	67.33
G&A	2.11	67.06
Total Operating Costs	21.25	676.25

<sup>1</sup> See News Release 6<sup>th</sup> March 2023

## **PROJECT ECONOMICS**



Item		Base	Case	Spot	Case	
Life of mine	Years	22	2.3	22	.3	
NPV(5%)	USD million	57	2.5	74:	5.2	
IRR	%	58.	4%	69.7	7%	
Payback	Days	32	21	27	'9	
Initial Capital Expenditure	USD million	180		180		
Sustaining Capital Expenditure	USD million	10	08	108		
Item		Average Year 1-5	Total LOM	Average Year 1-5	Total LOM	
Revenue	USDmillion	208.6	2,882.1	234.9	3,254.1	
Operating Costs	USDmillion	67.7	1,181.2	67.7	1,181.2	
Free cash (after Tax)	USDmillion	107.3	939.8	128.7	1,216.4	

Item		Base Case	Spot Case
Gold Price	USD/oz	1,650	1,841
Copper Price	USD/lb	3.59	4.13
Silver Price	USD/oz	21.35	21.35
Exchange Rate	BRL:USD	5	.3
Corporate Tax Rate	%	25	5%
Social tax	%	9	%
SUDAM Tax Reduction	%	75	5%
SUDAM Rax Reduction	Years	10	.00
Gold Royalty Rate	%	1.9	5%
Copper Royalty Rate	%	2.0	)%
Silver Royalty Rate	%	2.0	)%

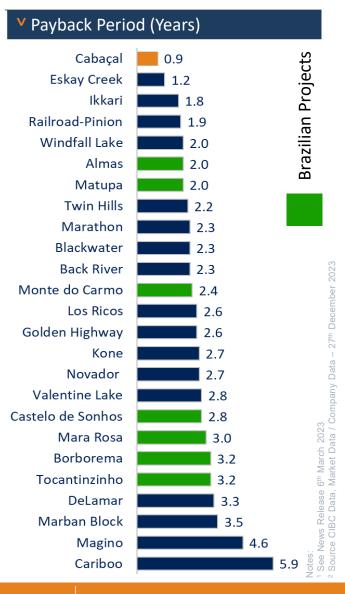
<sup>1</sup> See News Release 6<sup>th</sup> March 2023

# CABAÇAL VS RECENT GOLD PROJECT ECONOMIC STUDIES<sup>1,2</sup>









**2MM** 

#### **COPPER PEERS**



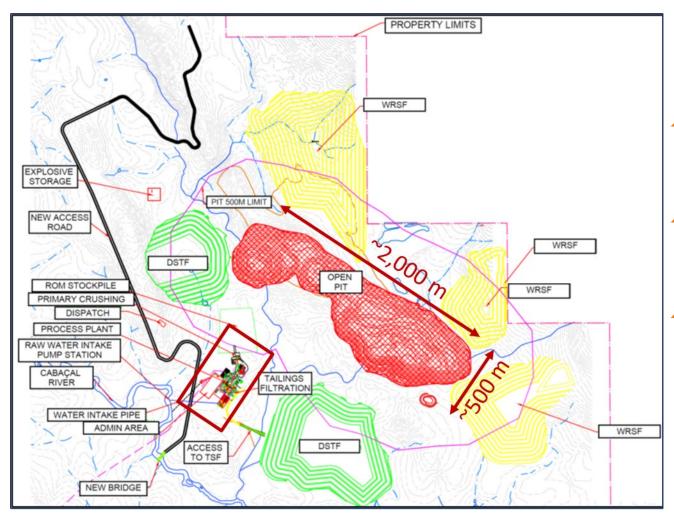
Company		Meridian Mining		Foran Mining	Ivanhoe Electric	Arizona Sonora	Faraday Copper	Marimaca Copper	Arizona Metals
Asset Name	Units	Caba	açal	McIlvenna Bay	Santa Cruz	Cactus/ Parks Salyer	Cu Creek	Marimaca	Kay
Market Capitalization	(CAD M)	11	6	1,380	860	171	150	366	217
Study Level		PEA		FS	Internal Assesment	PEA	PEA	Resource	n/a
Туре		Brownfields		Brownfields	Greenfields	Brownfields	Greenfields	Greenfields	Brownfields
Jurisdiction		Brazil		Canada	USA	USA	USA	Chile	USA
Year of Study Completion		202	23	2022	2023	2024	2023	2024	-
Long-Term Copper Price	(USD/lb Cu)	3.50	4.00	3.50	3.80	3.90	3.80	-	-
Mine Life	(Years)	23	3	18	20	31	32	-	-
Annual LOM Production	(Mlbs CuEq Payable)	35	5	65	175	172	113	-	-
Annual LOM Production	(kT)	15.	.9	29.5	79.4	86.0	51.3	-	-
Initial Capex	(USD M)	18	0	497	1,118	668	798	-	-
Intial Capital Intensity	(USD/t CuEq)	11,335		16,862	14,080	7,767	15,565	-	-
LOM Capex	(USD M)	288		1,147	2,122	1,837	2,657	-	-
LOM Capital Intensity	(USD/t CuEq)	18,1	.36	38,902	26,725	21,360	51,823	-	-
After-Tax IRR	(%)	58%	<b>61</b> %	22%	23%	24%	16%	-	-
After-Tax NPV	(USD M)	443	488	370	1,317	2,030	713	-	-
Discount Rate	(%)	8.0%		7.0%	8.0%	8.0%	7.0%	-	-
NPV / Initial Capex	(x)	1.54	1.69	0.32	0.62	1.11	0.27	-	-
Payback	(years)	0.88	0.86	4.5	n/a	4.9	4.1	-	-
LOM C1 Cash Cost	(USD/lb CuEq)	1.75		1.79	1.36	1.82	1.67	-	-

<sup>&</sup>lt;sup>1</sup> See News Release 6<sup>th</sup> March 2023

<sup>&</sup>lt;sup>2</sup> Source CIBC Data, Market Data / Company Data – 8<sup>th</sup> April 2024

#### CABAÇAL MINE LAYOUT



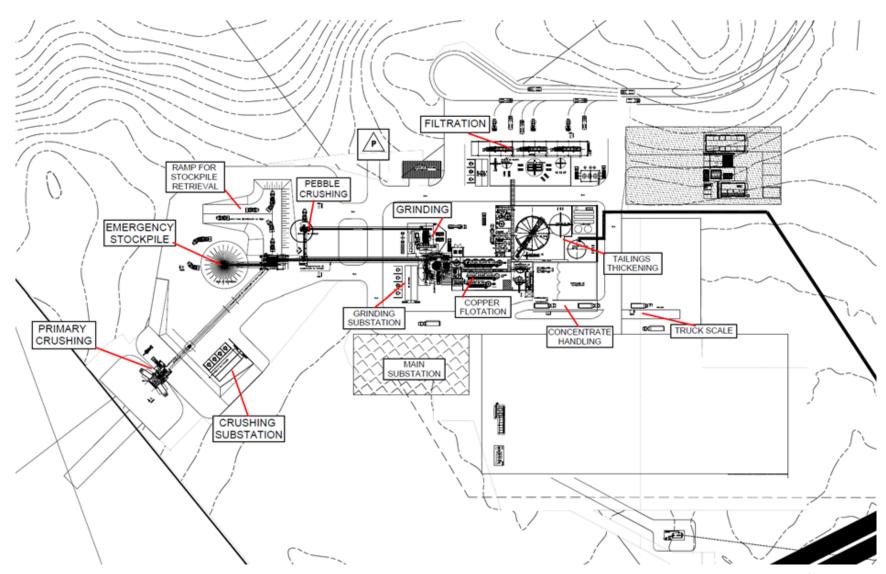


# Simple process flowsheet with high recoveries

- Optimized mine site design to minimize transport distances
- Plant site design flexible for expansion opportunities
- Potential to minimize cost by using depleted open pit for waste storage

### CABAÇAL PLANT LAYOUT





Notes: <sup>1</sup> See News Release 6<sup>th</sup> March 2023

**2MM** 



# 90-97% Copper Recoveries

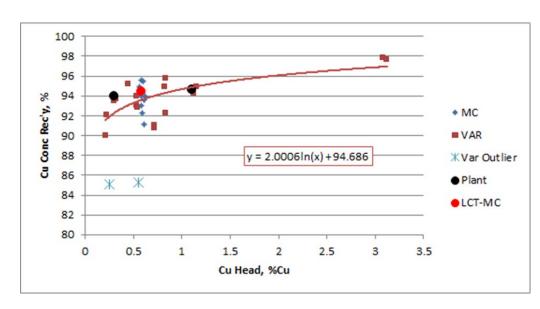
### **Copper Recovery**

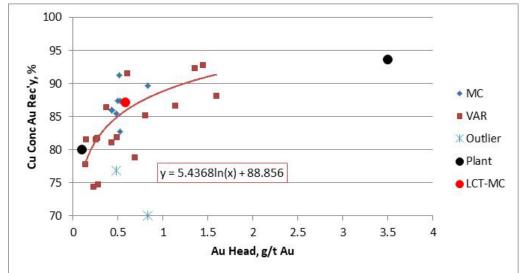
- Copper recovery exceeds 90% from 0.1% Cu head grade to 97% for >3% Cu head grade
- Historic plant data fits the trend
- High copper recoveries at low grades means viability of processing low grade mineralization will be examined

# 85-95% Gold Recoveries

#### **Gold Recoveries**

- Gold recovery increases with head grade with recoveries of 85% for gold head grade of 0.5g/t
- Mistoric plant feeds of >3g/t yield recoveries close to 95%



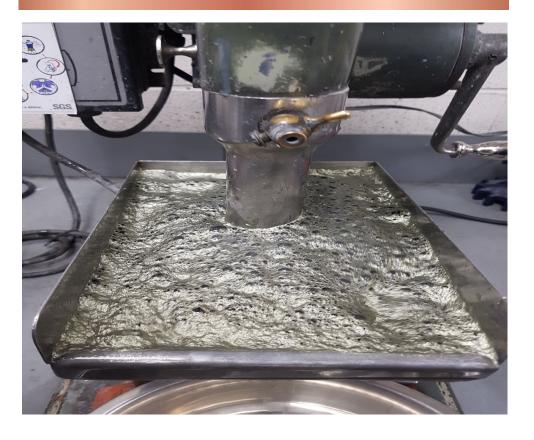


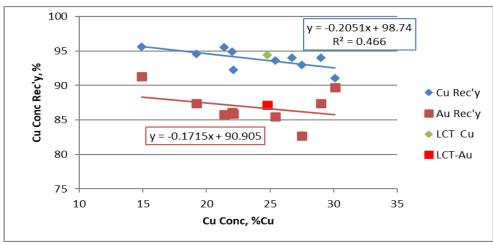
Note: 1 See News Release

## CABAÇAL CONCENTRATE TESTWORK



# 25-29% Copper Concentrate





## **High-grade Copper Concentrate**

- Higher copper concentrate grades due to gentle dipping Cu & Au recoveries
- Concentrates yield high levels of Au & Ag credits
- Concentrates will not incur penalties due to very low levels of deleterious elements
- Copper concentrate grades managed to customers requirements with modest impact to recovery

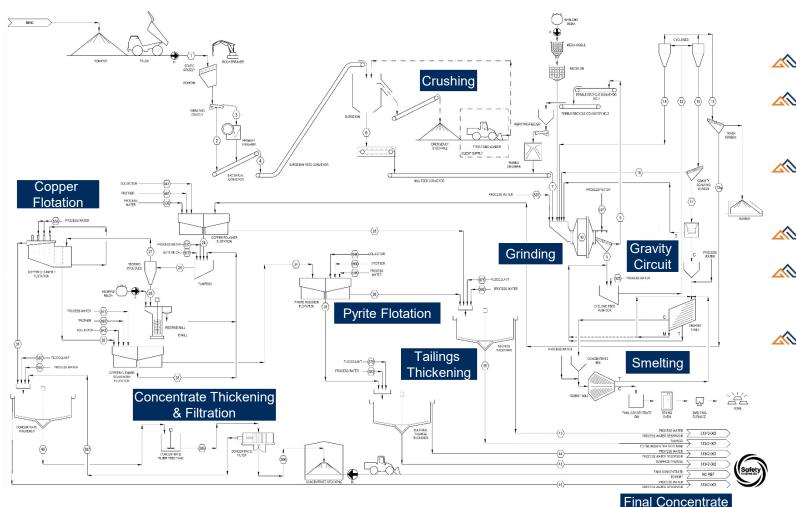
## **Next Steps**

- On-going test work on high-grade course gold zones
- Representative concentrate samples to be made available for smelter performance analysis

Note: 1 See News Release



# Simple process flowsheet with high recoveries



Jaw Crusher

Primary Grind ~200 microns

Gravity Circuit
- 30% Au

First Cu Flotation

Re-Grind ~40 microns

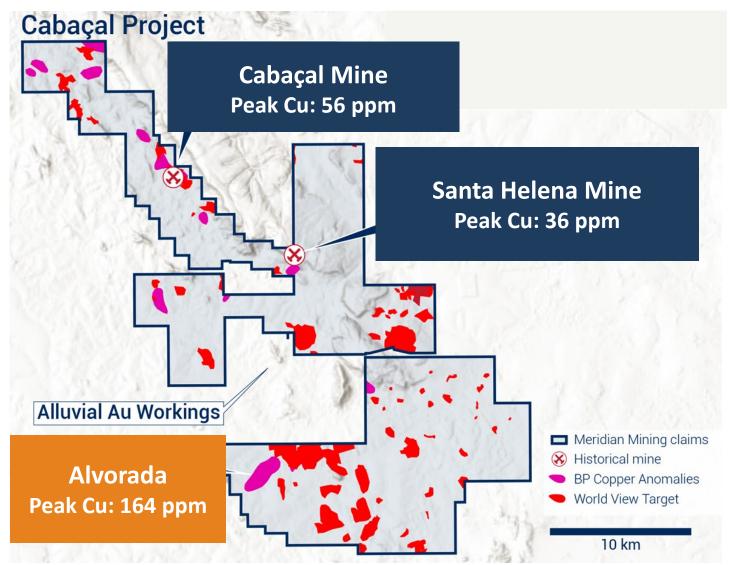
Cleaner Circuit
delivers
high grade,
high recovery,
clean concentrate

lotes:

See News Release 6th March 2023

#### **EXPANDING THE COPPER POTENTIAL FROM ARCHIVES**

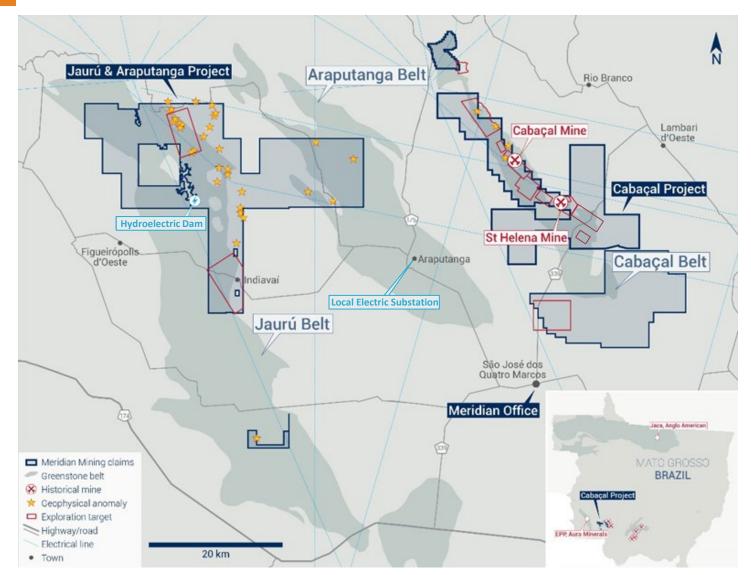




**Alvorada** uncovered as Cabaçal Belts's most significant copper in stream anomaly

#### REGIONAL EXPLORATION TARGETS<sup>1</sup>





#### **District Scale**

- 928 km<sup>2</sup> tenements
- Regional **Exploration by BP Minerals**
- Historical Cu-Au-Zn geochemical anomalies
- **Potential extensions** of VMS belt stratigraphy
- Jaurú & Araputanga Greenstone belts potential to repeat discovery success at Cabaçal

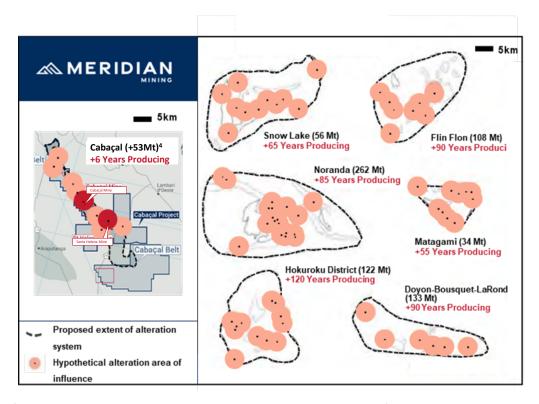
See News Releases: 20th June 2022. 5th Jan 2022 & 12th April 2021

#### POTENTIAL UPSIDE OF CABAÇAL TO GLOBAL VMS DEPOSITS



## **Cabaçal VMS Project Analogues**

- Cabaçal is a camp scale VMS project underexplored and under-developed compared to analogue camps
- Cabaçal has already one giant VMS deposit defined
- VMS deposits tend to form periodically, related to hydrothermal convection cells on the ocean floor at ~4km spacings
- Cabaçal's multiple targets are consistent with deposit clustering, with potential for blind repeats
- VMS deposits are well known for their base and precious metal production
- Cabaçal VMS district has many similarities to other VMS districts such as Flin Flon (Manitoba), and Matagami (Quebec)



A junior company acquiring ownership of a VMS belt on a camp scale is a rare opportunity

"We are excited about the potential for more ore discovery around Cabaçal and in the belt as a whole... In a Canadian context the Cabaçal belt would be a prime long-term target for VMS type mineralization, with strong competition for ground holdings." <sup>3</sup>

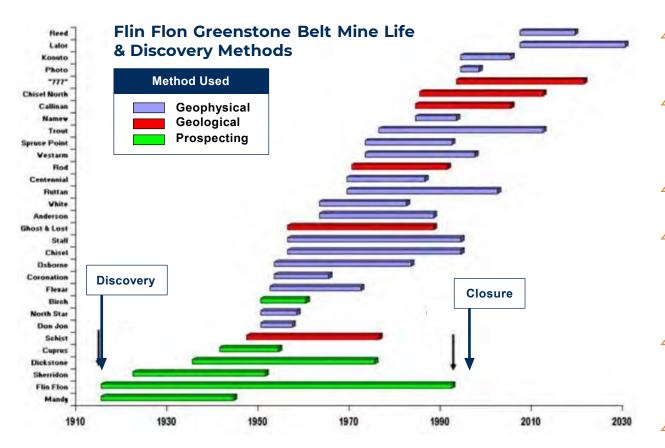
Notes: 1 Source: Akita University, Galley et al. (2007); Mercier-Langevin et al. (2007) S&P Global, Hudbay 2020 See Meridian Announcement of 26th August, 2020

<sup>2</sup> See News Release dated 26th September

3 Cabaçal-1 Mine Mato Grosso State, Brazil. Report by Dr Robert Mason and Mr. David Kerr. Queens University, Ontario, Canada

<sup>4</sup> See News Release 26<sup>th</sup> September 2022





A FLIN FLON: FROM THE PROSPECTOR TO VTEM

#### The Technical Evolution

- First discovery identified through prospecting (David Collins - Tom Creighton, 1914)
- Early mapping and geochemistry may identify hydrothermal centers. **Economic mineralization not** necessarily present at surface
  - Cyclical nature of metal prices can influence sustained exploration effort
- Modern geophysical exploration methods have successfully expanded the discovery window, through surface and down-hole survey techniques
  - Improved analytical methods add increasingly sophisticated criteria for geochemical vectoring to mineralization
  - Geochemical methods are supplemented by alteration mapping, maximizing information from deeper drilling to map fluid pathways, and model the hydrothermal system in 3D

1 Source: Gilmore and Wood, 2012 / Hudbay \*\*https://csegrecorder.com/articles/view/geophysical-exploran-beneath-the-phanerozoic-cover-of-the-flin-flon

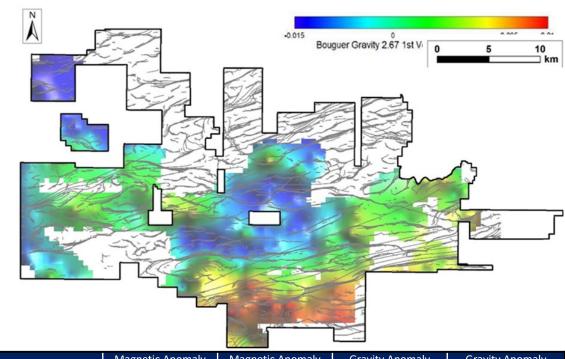
#### ESPIGÃO IOCG TARGET



# **Espigão Project**

- Iron Oxide-Copper-Gold ("IOCG") type deposits host the giant Cu-Au mines of Brazil and some of the biggest Cu-Au mines internationally e.g. Salobo & **Olympic Dam**
- Espigão hosts the prospective geochemistry comparable to large-scale IOCG type deposits
- First gravity survey 2km centered stations and testing for scale - more results pending





	Magnetic Anomaly	Magnetic Anomaly	Gravity Anomaly	Gravity Anomaly	
	Amplitude	Amplitude	Amplitude	Amplitude	
Units	nT	km	Mgal	Km	
Espigão Project	Pending	Open	15	Open	
Deposit					
Olympic Dam	1,400	8 km across	17	8 km across	
Wirrda Well	1,800	6 * 9 km	6	6 * 9 km	
Carapateena	200-300	1.5 * 1.0 km	2 - 2.5	2 * 2 km	
Prominent Hill	7,000	0.7 * 0.5 km	5	2.5 * 1 km	
Ernest Henry	7,000 – 10,000	1.2 * 0.7 km	2 - 3	1.2 * 0.7 km	
Eloise	1,100	0.75 * 0.25 km	1.0	1.0 * 0.5 km	

