

Base Metals Exploration in Brazil

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nexa



Mineral Exploration| overview

With a robust pipeline and consistent investments, Mineral Exploration has contributed to **increase the reserves and resources** in current operation and provide strategic growth opportunities.

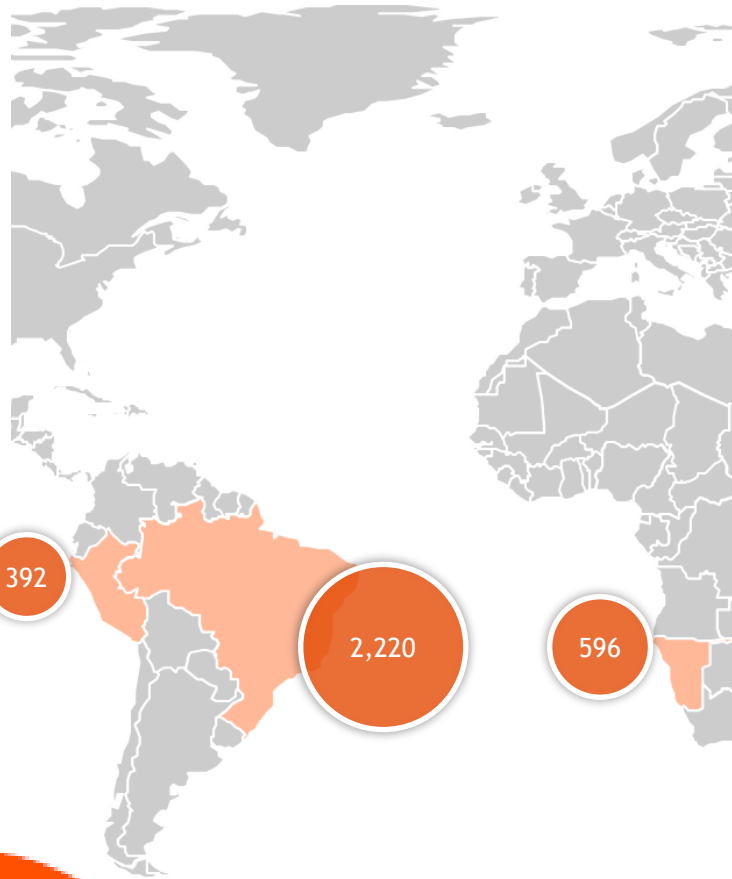
Exploration in 3 Countries

10

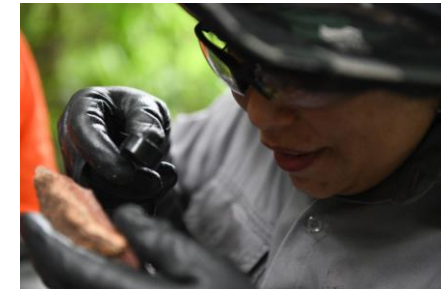
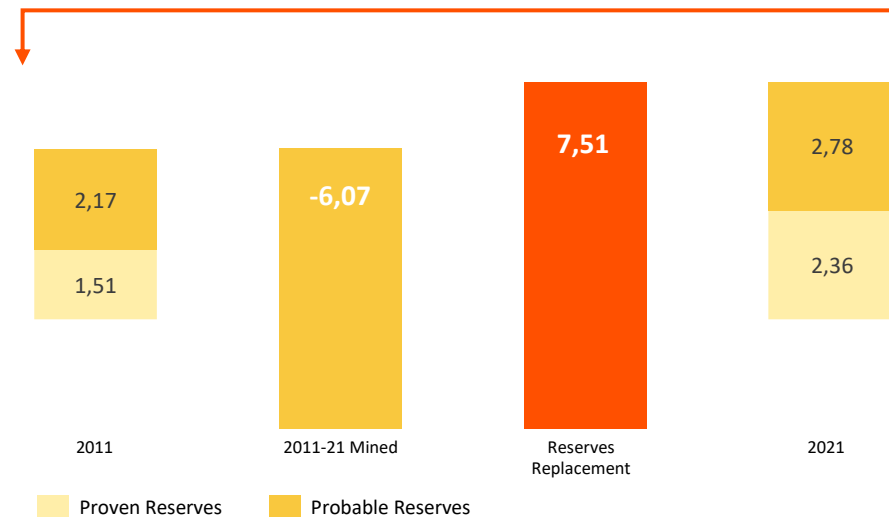
Greenfield
Projects

5

Brownfield
Mine site
Projects

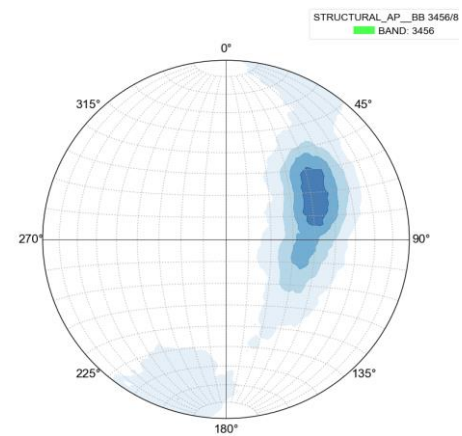
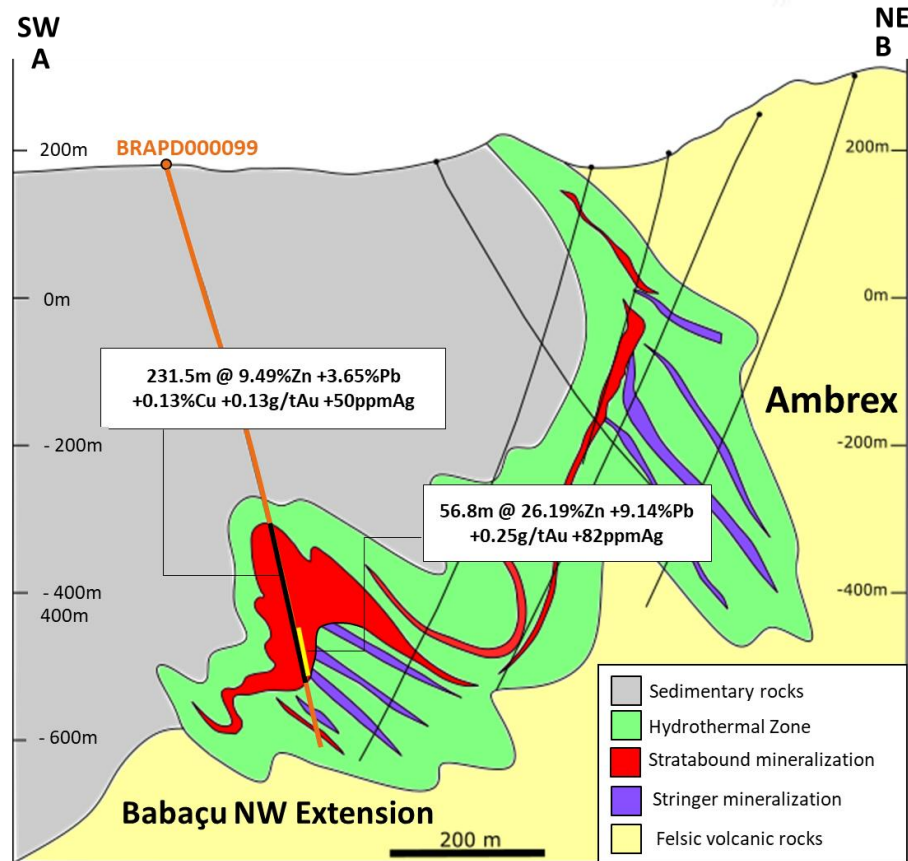
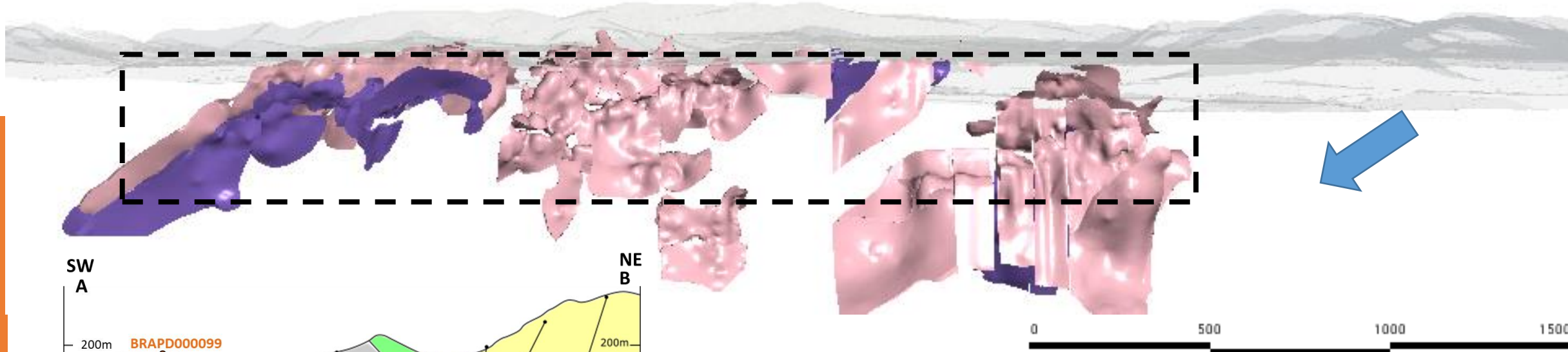


Reserves have grown by ~40% since 2011

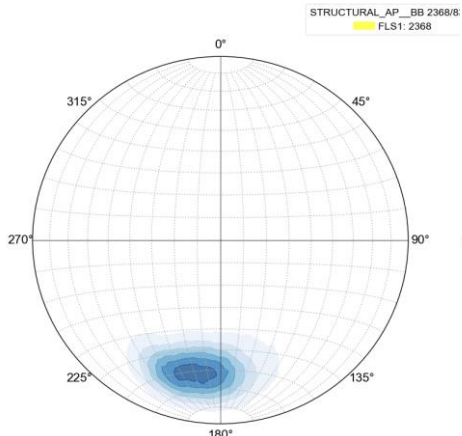


Mine site Exploration

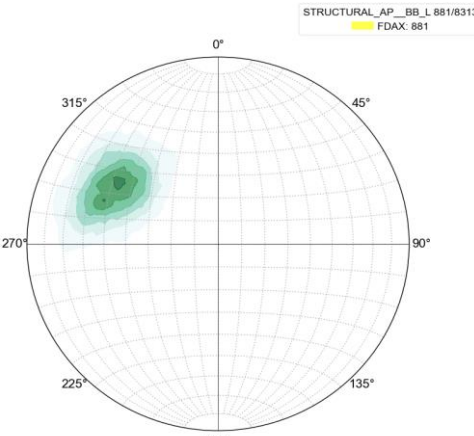
Mineralized Zone Model



Bedding
N: 3456



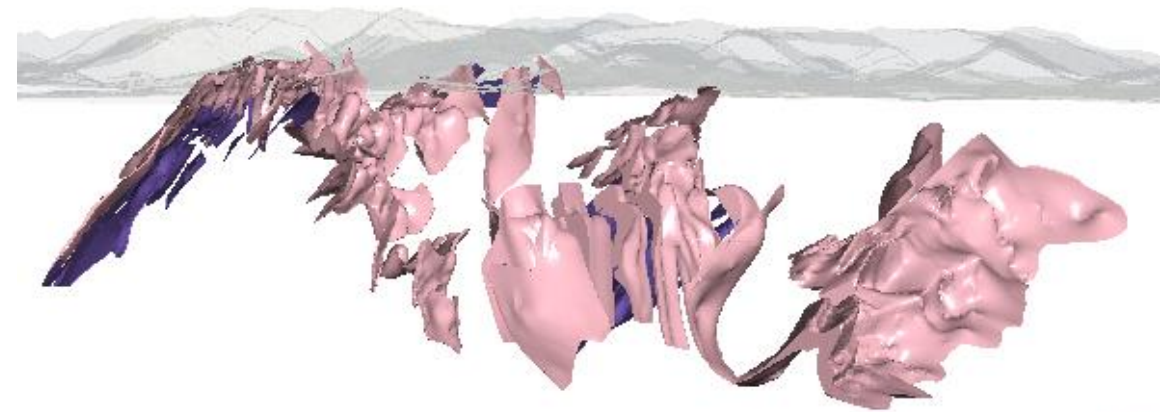
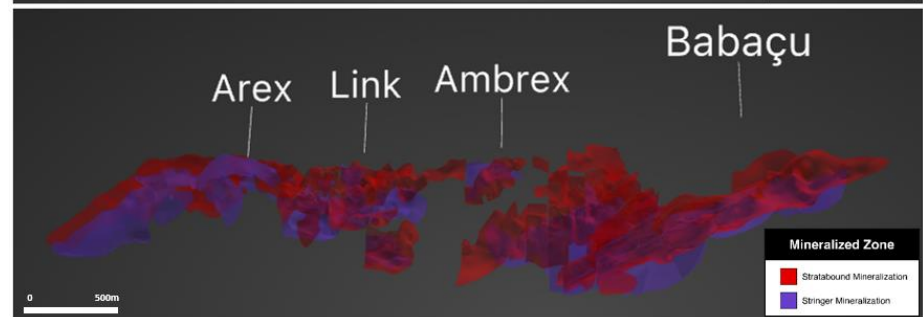
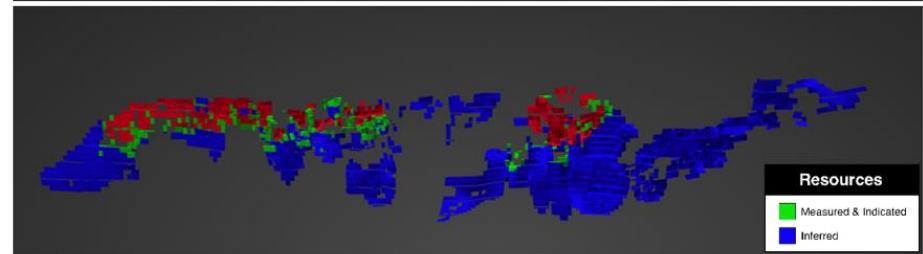
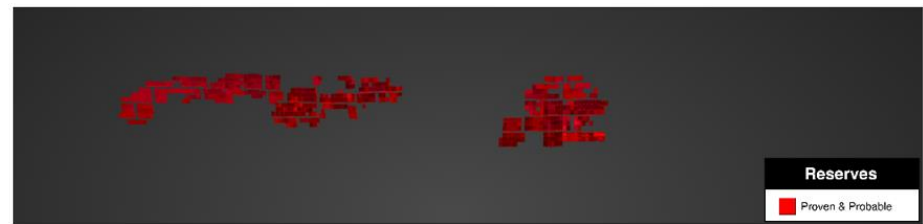
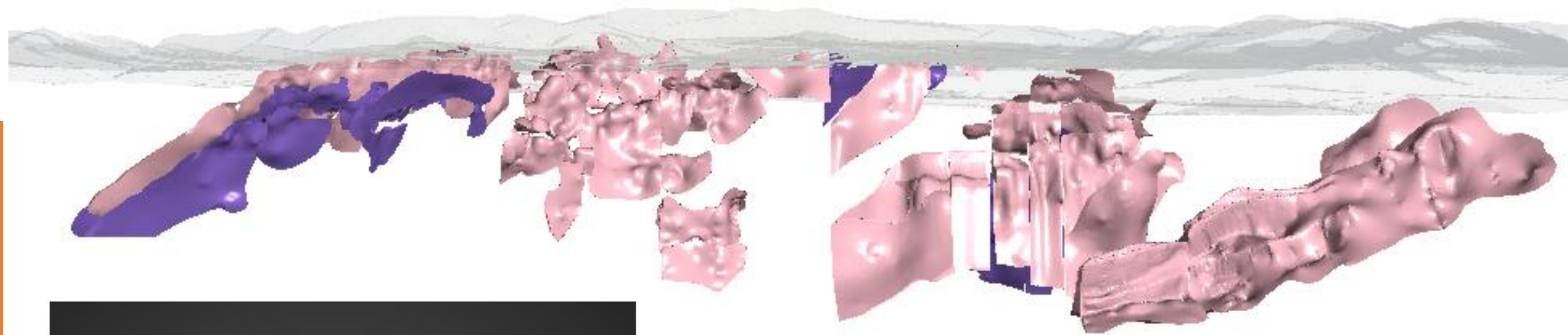
Foliation = N8/61
N: 2368



Fold axis = 297/35
N: 881

Mine site Exploration

Mineralized Zone Model

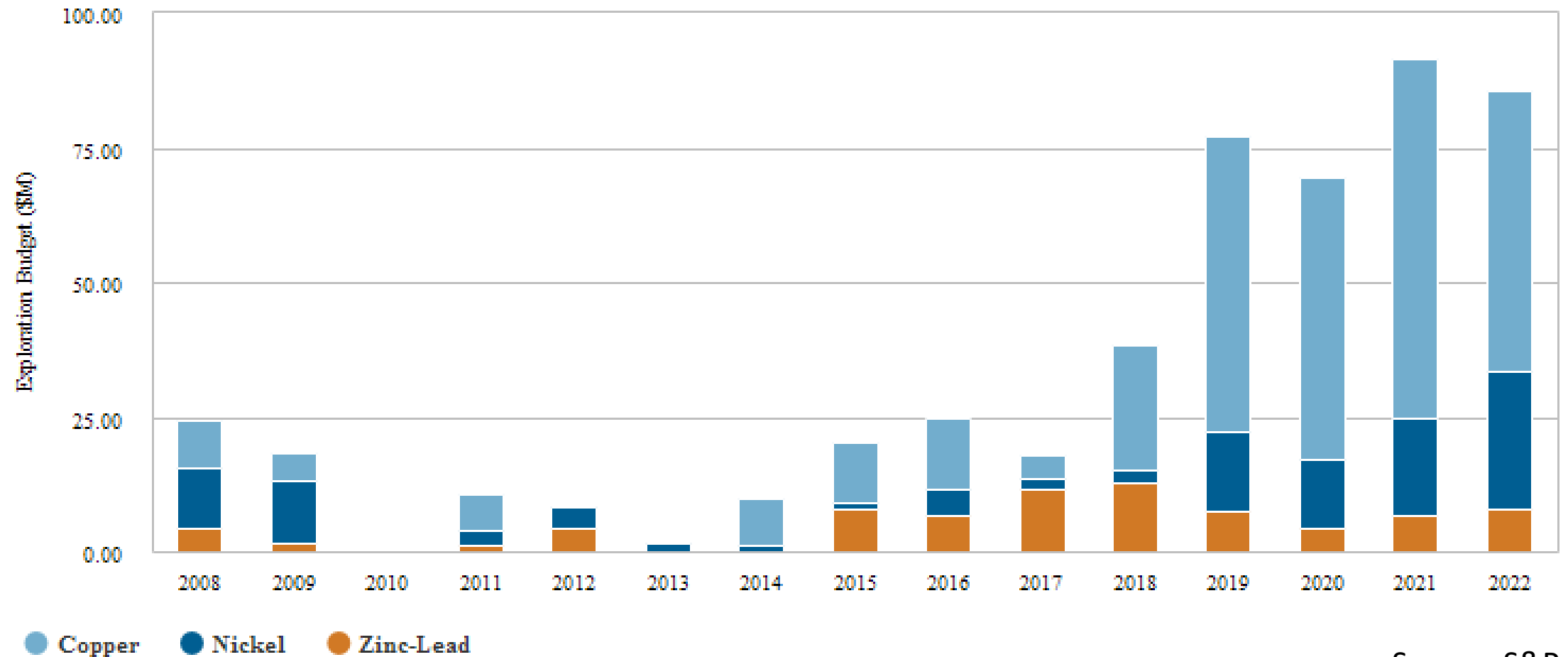


Exploração Mine site

Exploration Budget Trends

Stage(s): Minesite

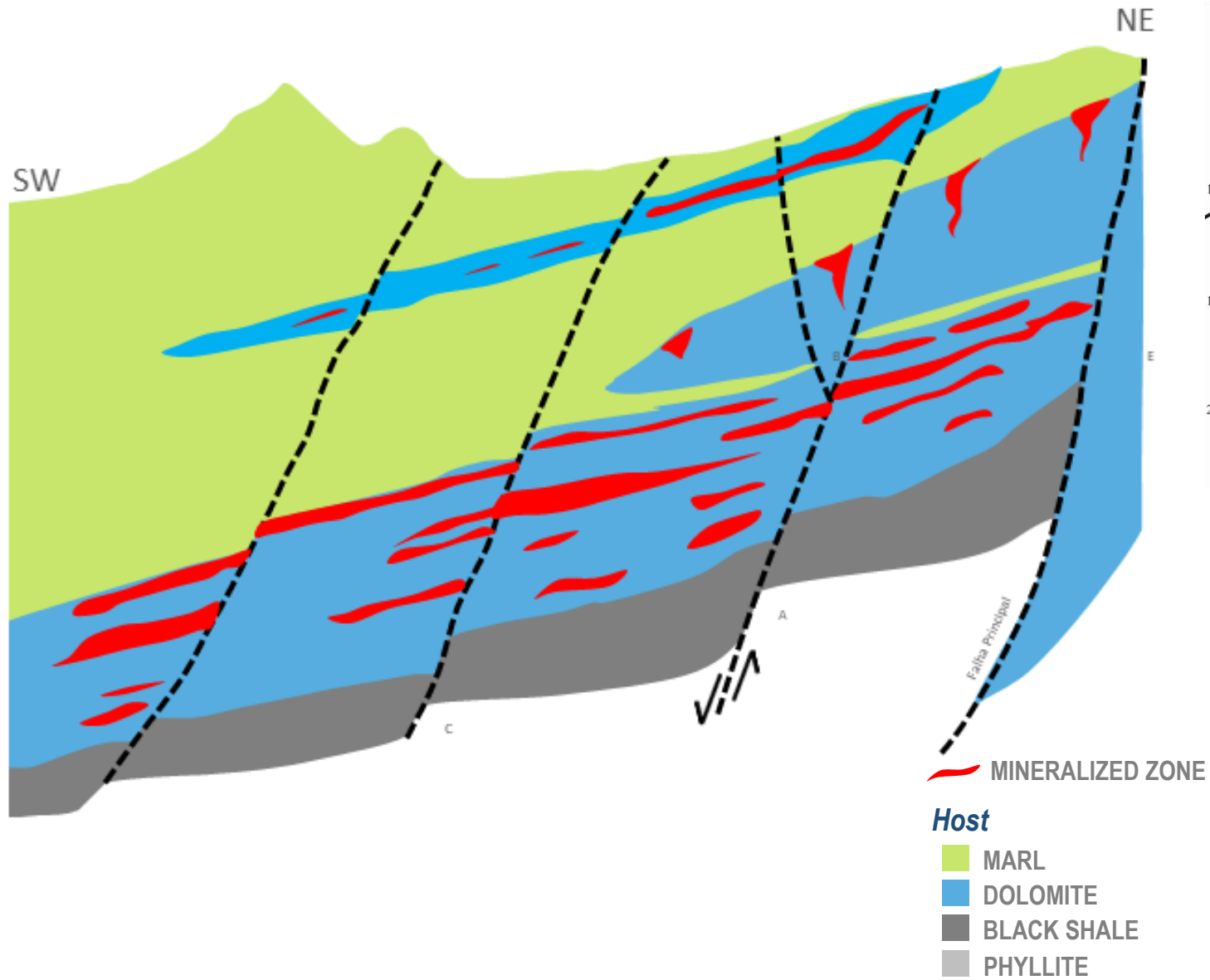
Company Type(s): Major, Intermediate, Junior, Government, Other



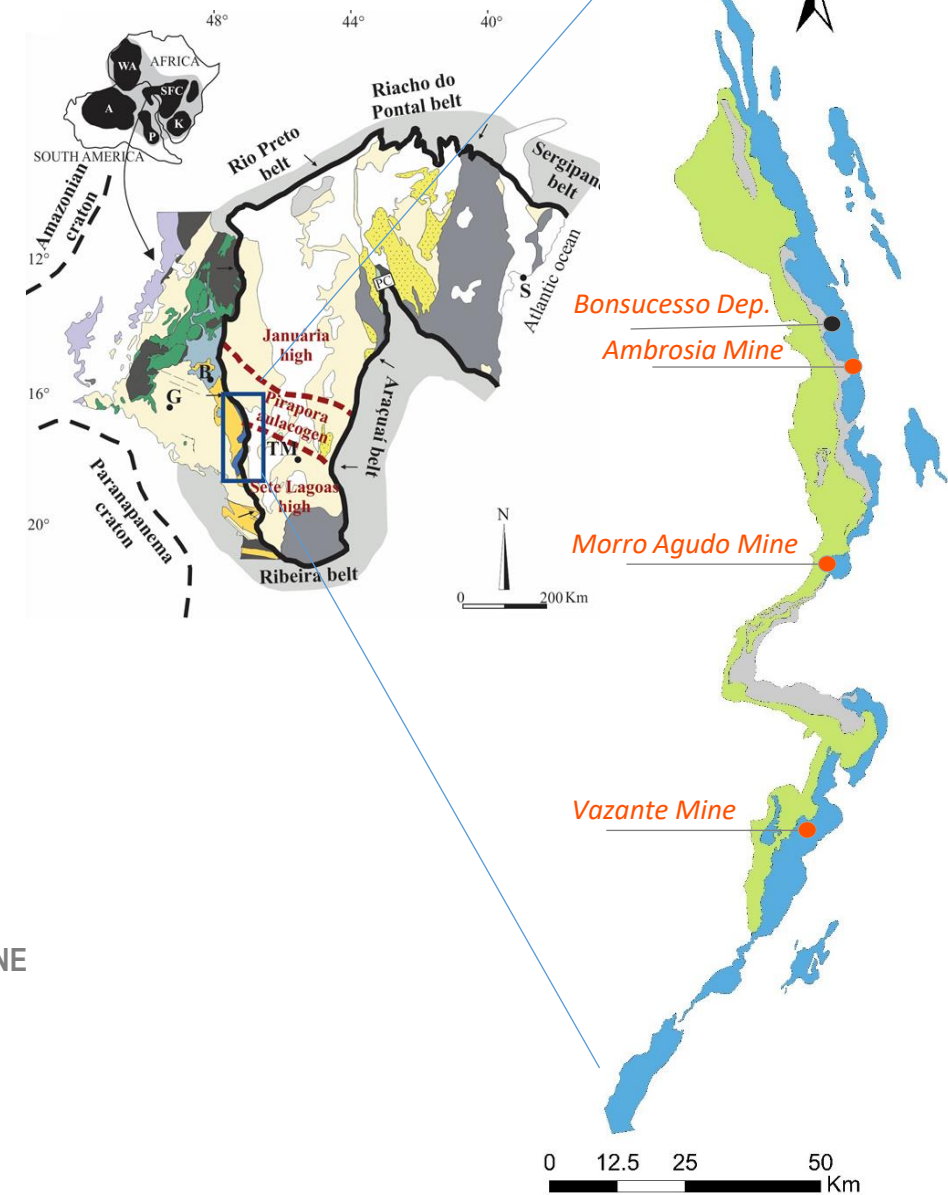
Source: S&P

Brownfield Exploration

Morro Agudo Mine

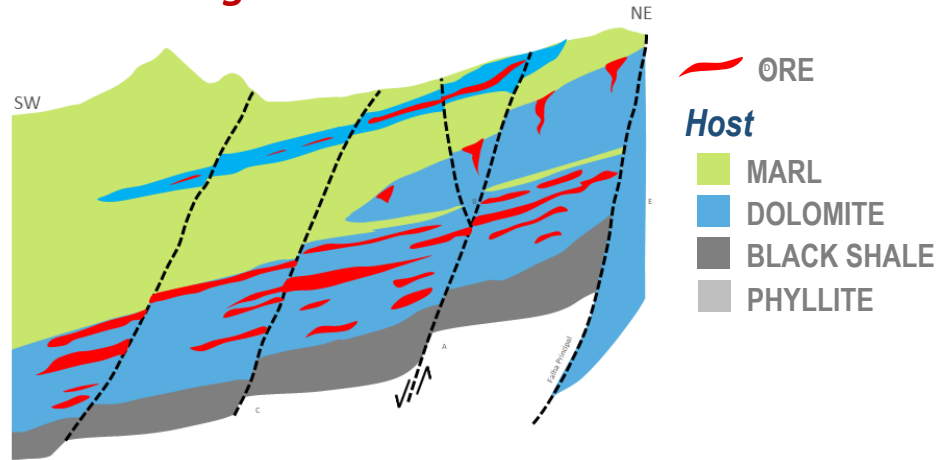


Vazante Belt - Location

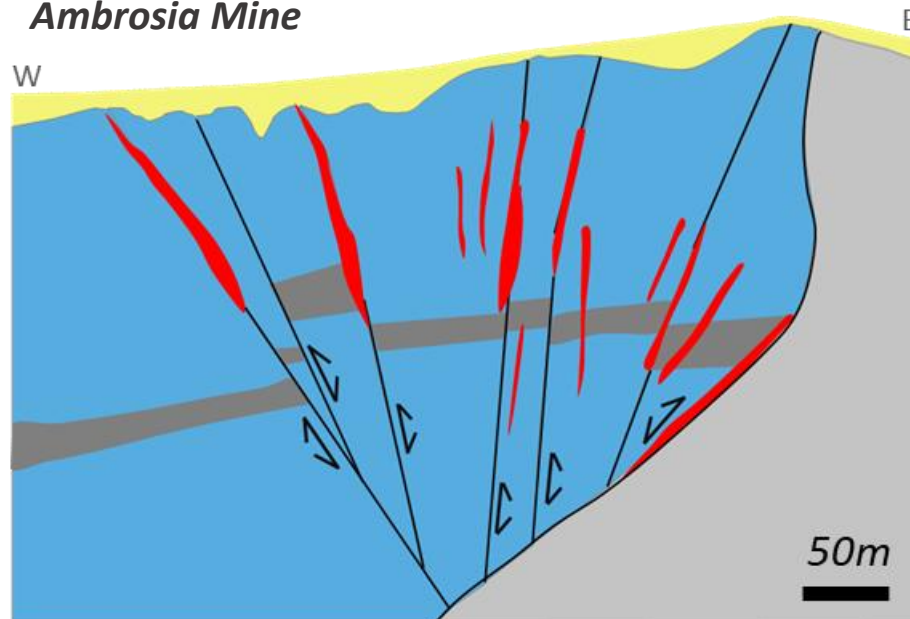


Brownfield Exploration

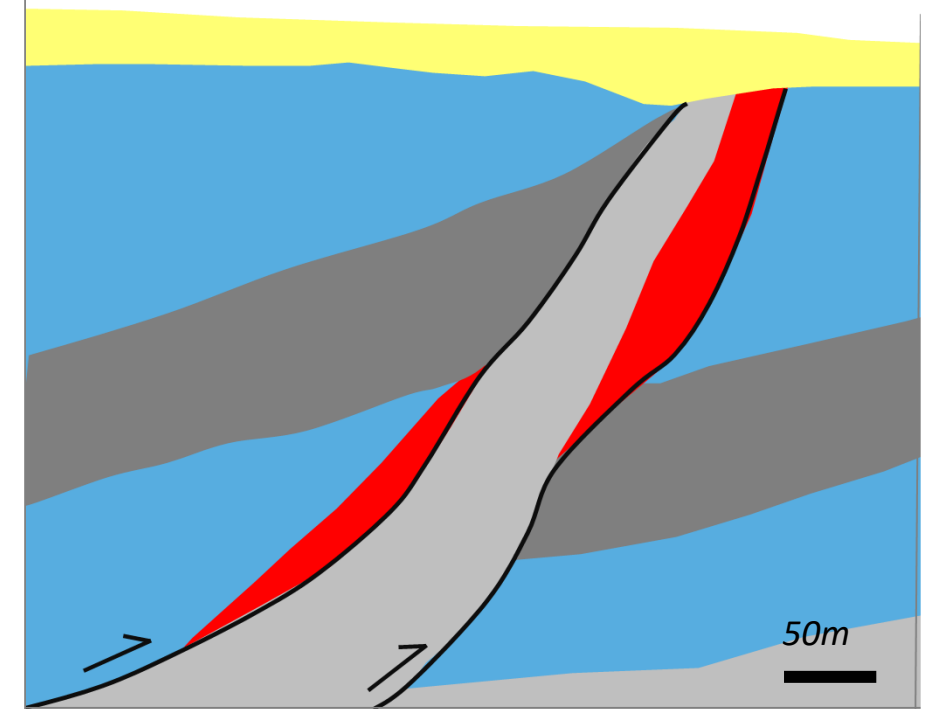
Morro Agudo Mine



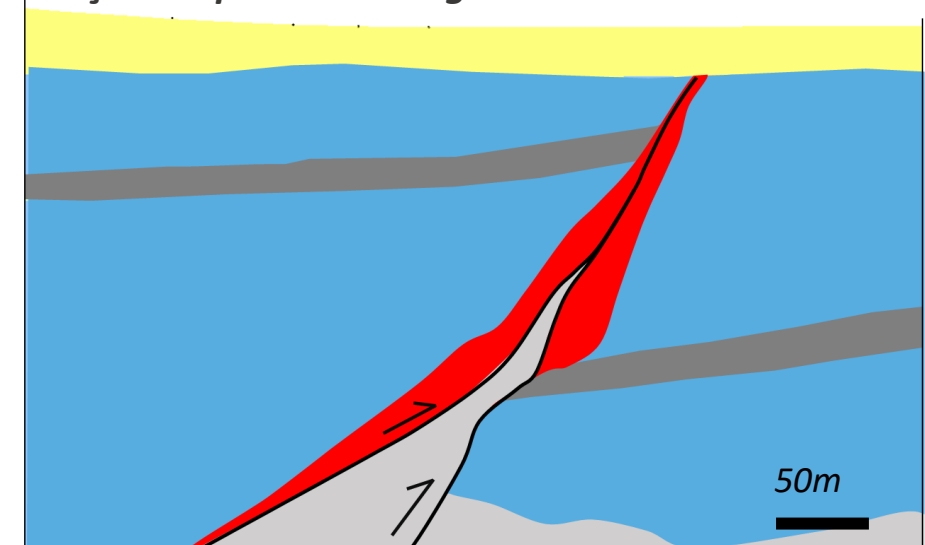
Ambrosia Mine



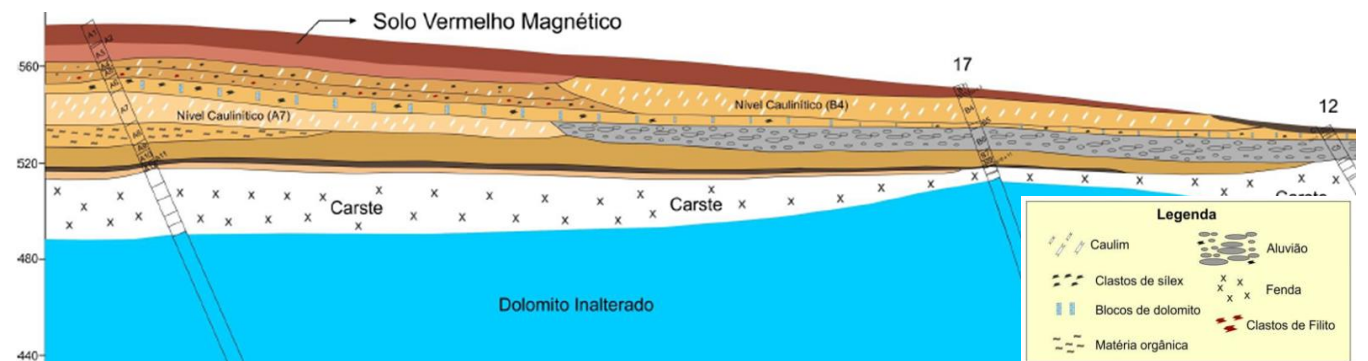
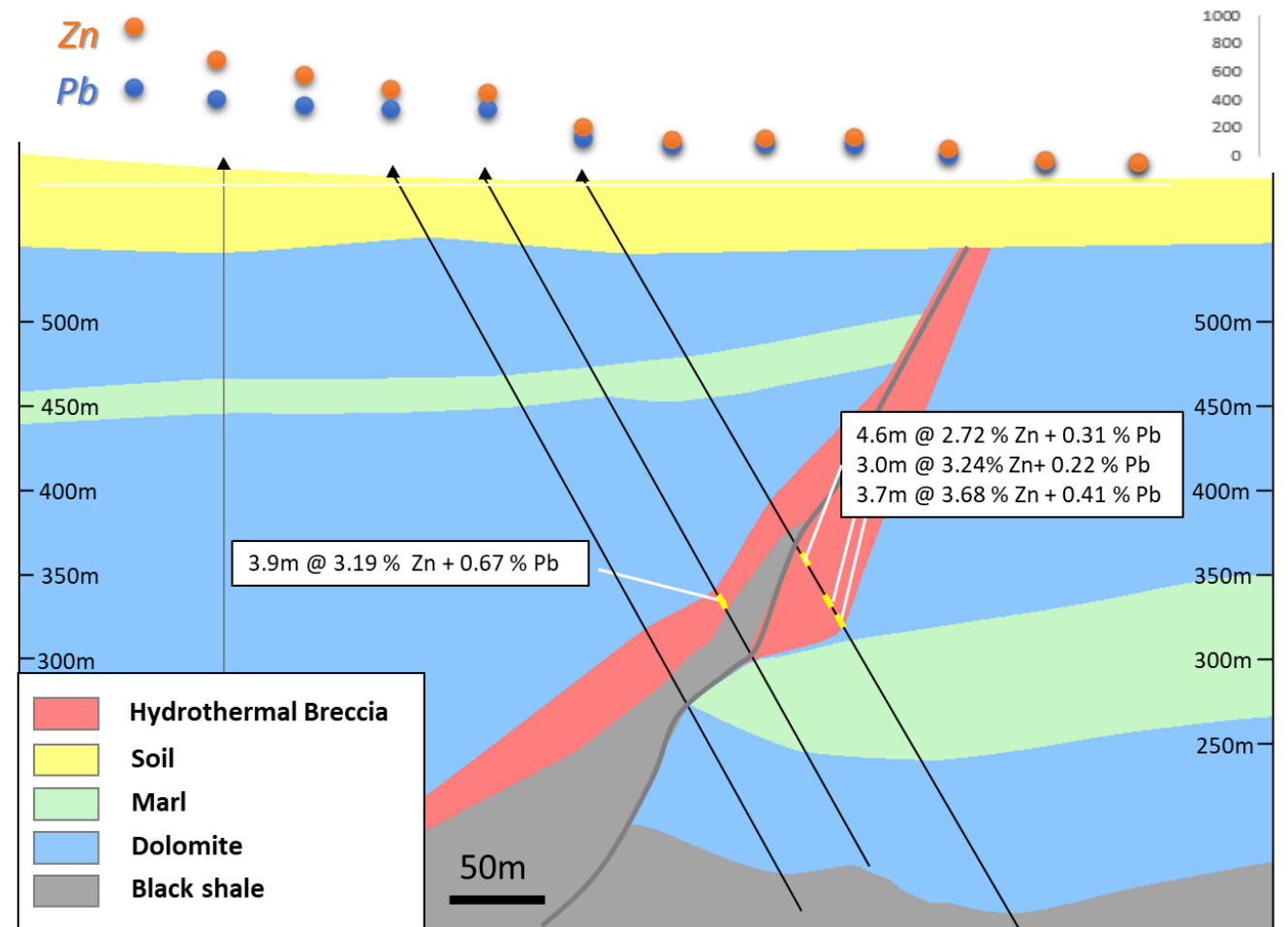
Bonsucesso Deposit



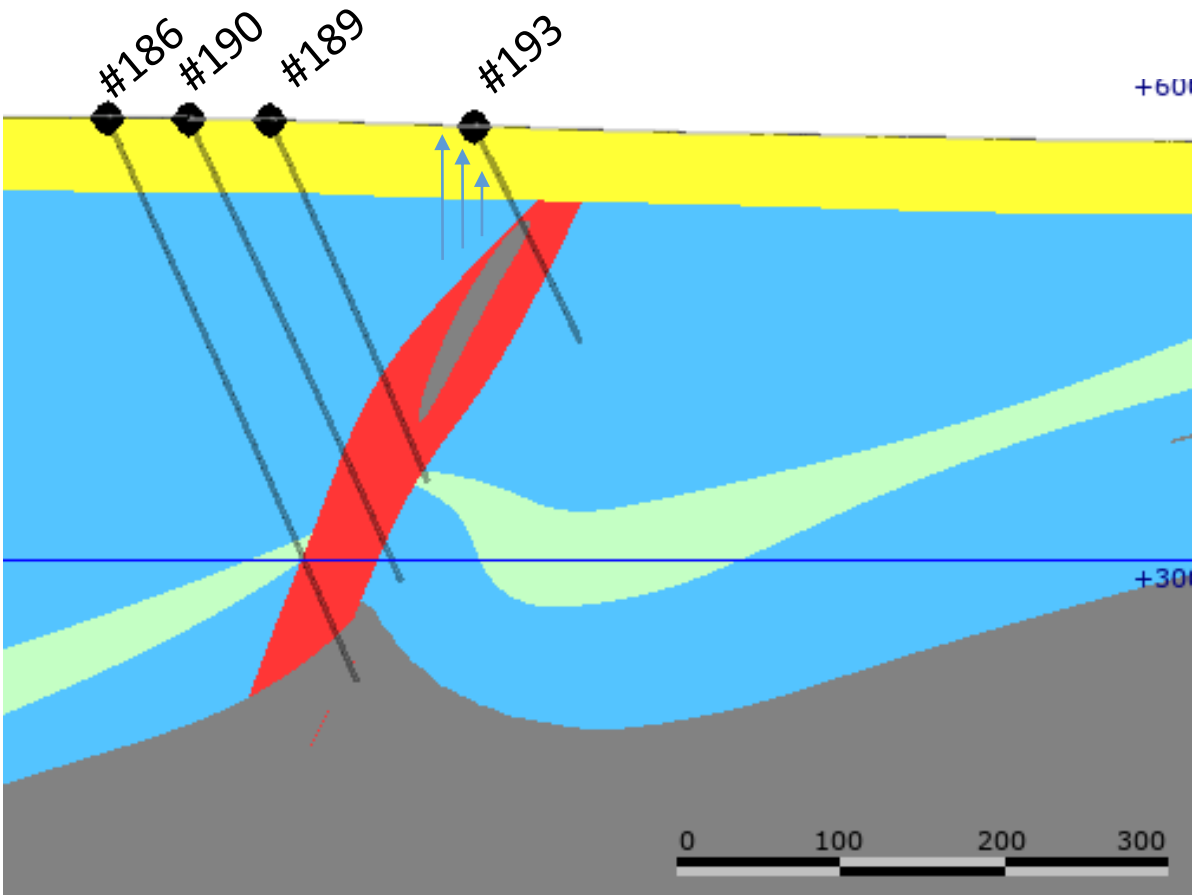
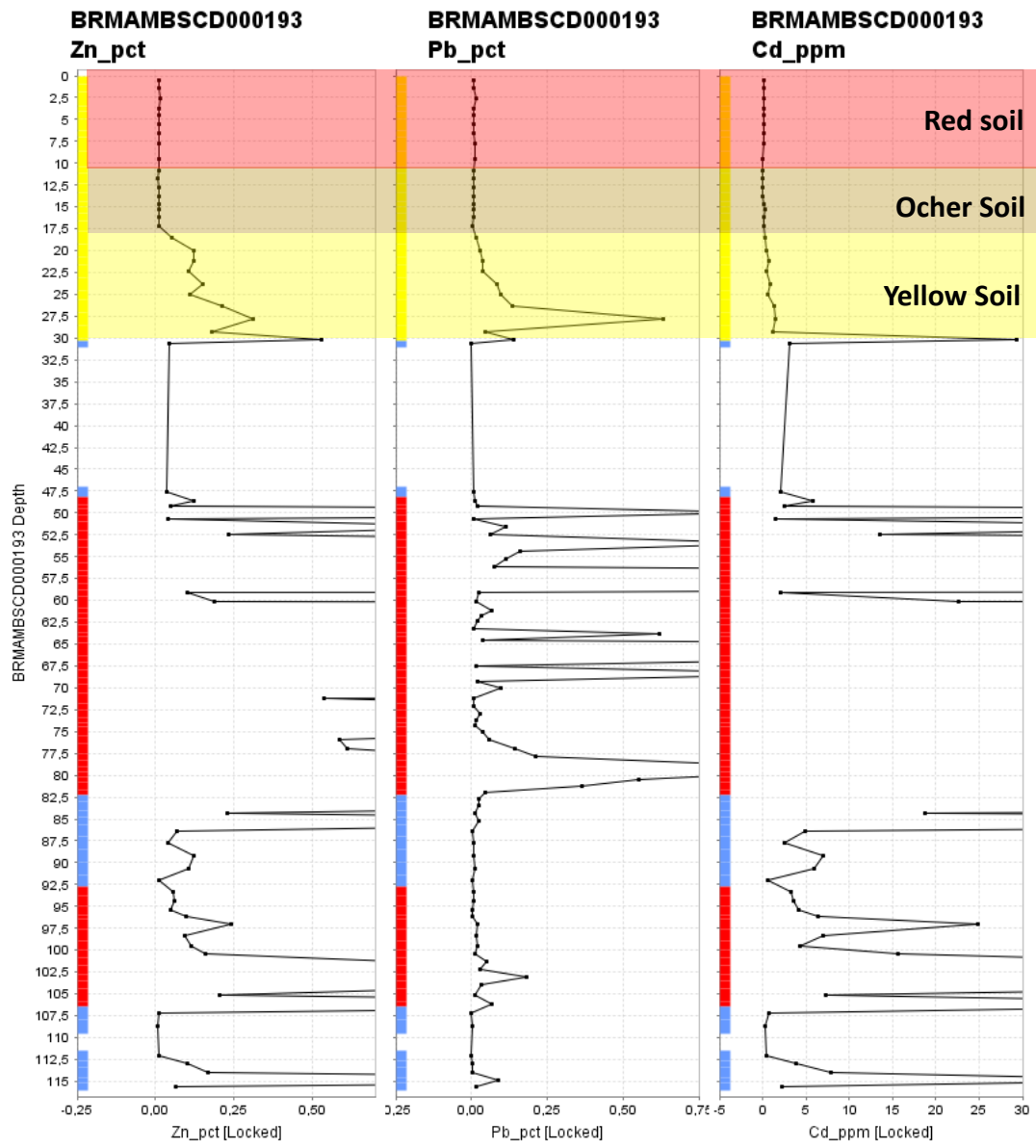
Poções Exploration Target



Brownfield Exploration



Brownfield Exploration



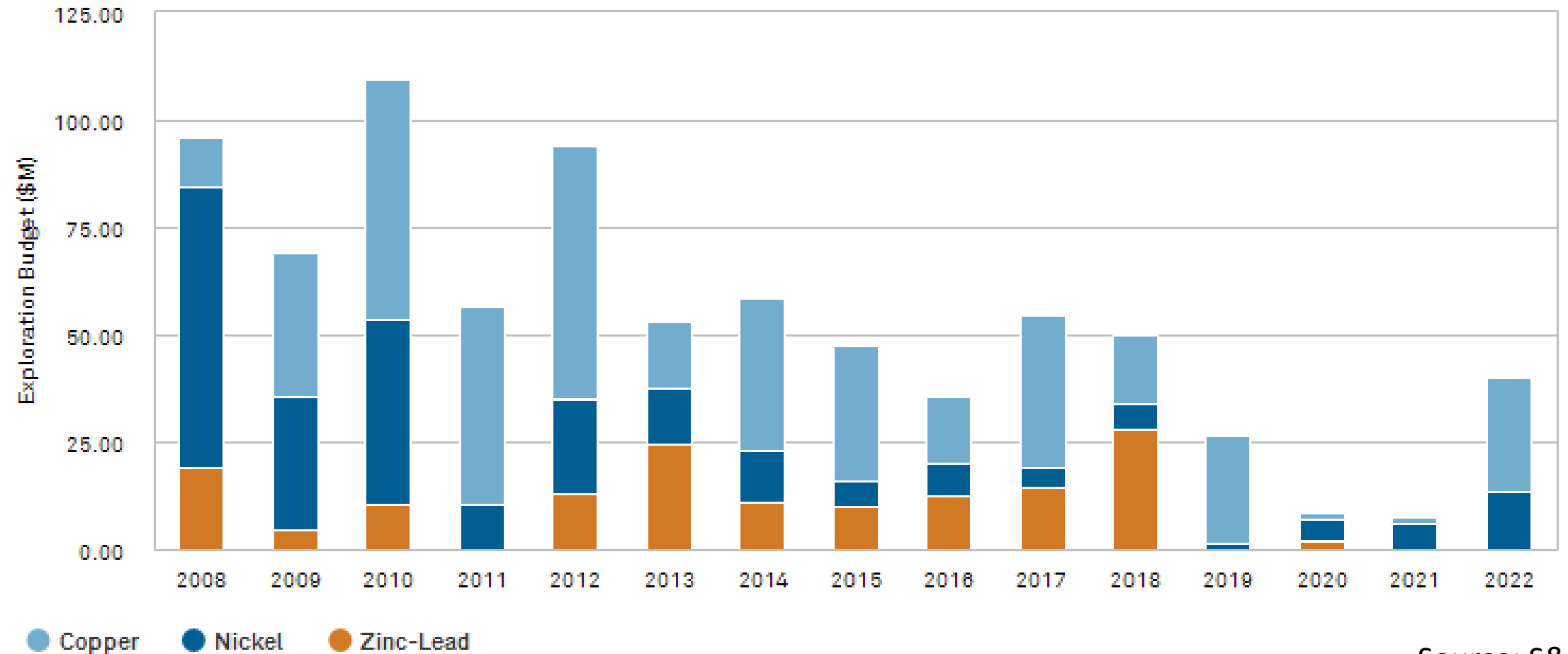
Hole	From	To	Length	Zn %	Pb %	Zn + Pb	Linear Grade ((Thickness x (Zn+Pb)))
BRMAMBSCD000193	53	58.81	5.81	15.09	2.05	17.14	99.58
BRMAMBSCD000193	60.86	70.58	9.72	11.74	0.93	12.67	123.12
BRMAMBSCD000193	71.75	75.53	3.78	1.39	0.02	1.42	5.35
BRMAMBSCD000193	77.5	85.7	8.2	2.3	0.32	2.62	21.52
BRMAMBSCD000193	101.7	106.51	4.81	1.25	0.05	1.3	6.25

Brownfield Exploration

Exploration Budget Trends

Stage(s): Late Stage & Feasibility

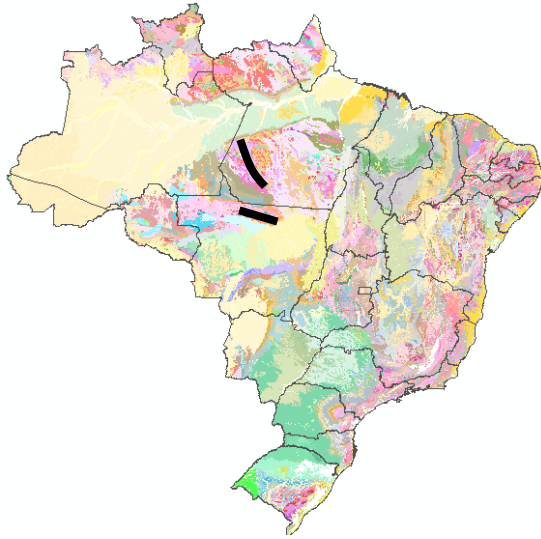
Company Type(s): Major, Intermediate, Junior, Government, Other



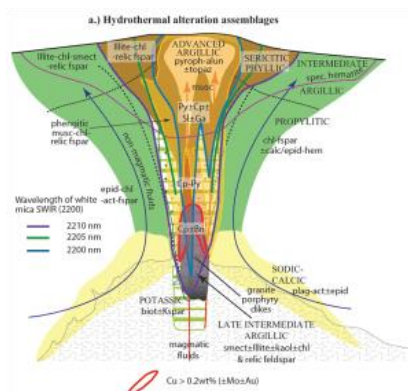
Source: S&P

Grassroots Exploration

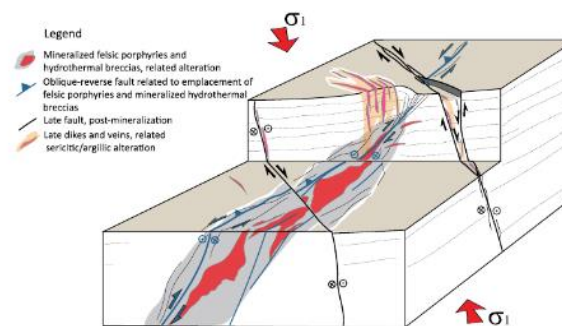
TAPAJÓS E ALTA FLORESTA



- **METALLOGENETIC POTENTIAL:** PALEOPROTEROZOIC MAGMATIC-HYDROTHERMAL SYSTEMS
- **EXPLORATION CHALLENGE:** GEOTECTONIC CONTEXT AND KNOWLEDGE REGARDING PALEOPROTEROZOIC MAGMATIC-HYDROTHERMAL SYSTEMS

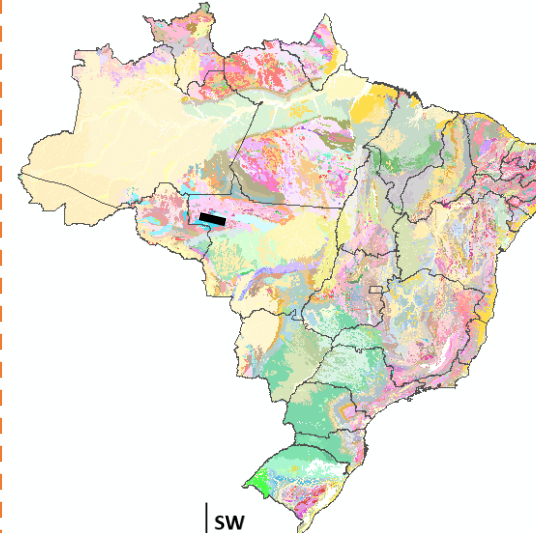


Hydrothermal alterations in porphyry copper deposits (Halley et al., 2015)

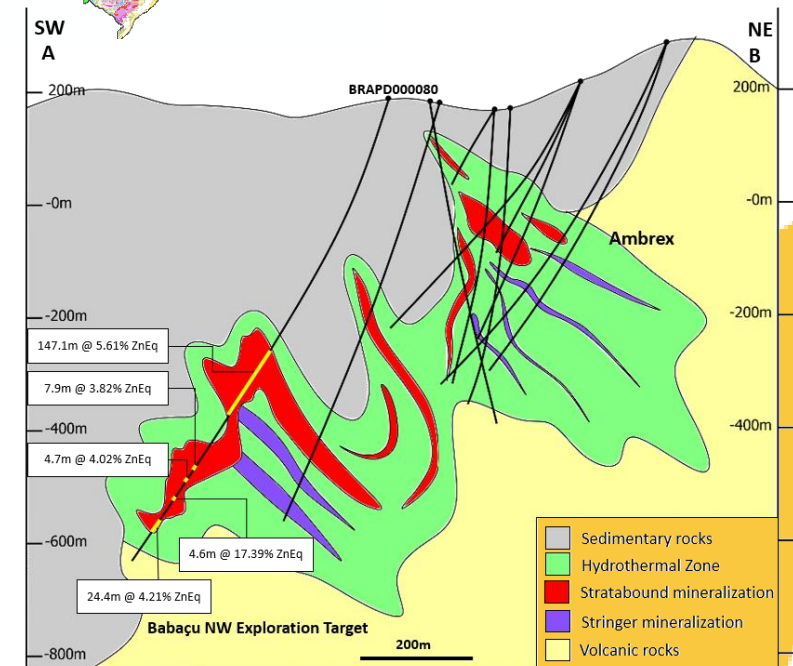


Conceptual model of the interplay between faults and magmatic-hydrothermal systems during and after formation of porphyry copper deposits at different structural levels (Piquer et al., 2021)

ROOSEVELT



- THE ROOSEVELT GROUP COMPRISES **FAVORABLE VOLCANIC ARCHITECTURE** FOR THE VMS TYPE MINERAL DEPOSITS (Zn-Pb-Cu-Au).
- **EXPLORATION CHALLENGE:** STRONG WEATHERING AND BLIND SURFACE GEOCHEMISTRY, DEEP SEATED DEPOSITS. ALSO FAVORABLE FOR OROGENIC GOLD.



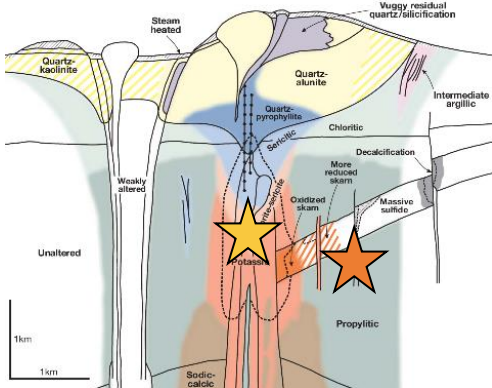
Grassroots Exploration

SUL-RIOGRANDENSE SHIELD



- **MAGMATIC-HYDROTHERMAL SYSTEMS.** DEPOSITS AND MINERAL OCCURRENCES OF Cu-Pb-Zn-Au
- **EXPLORATION CHALLENGE:** DEFINE THE POTENTIAL OF EACH SECTOR OF THE SUL-RIOGRANDENSE SHIELD, FOR COPPER-GOLD MAGMATIC HYDROTHERMAL DEPOSITS

Bom Retiro:
Skarn (Cu-Au)



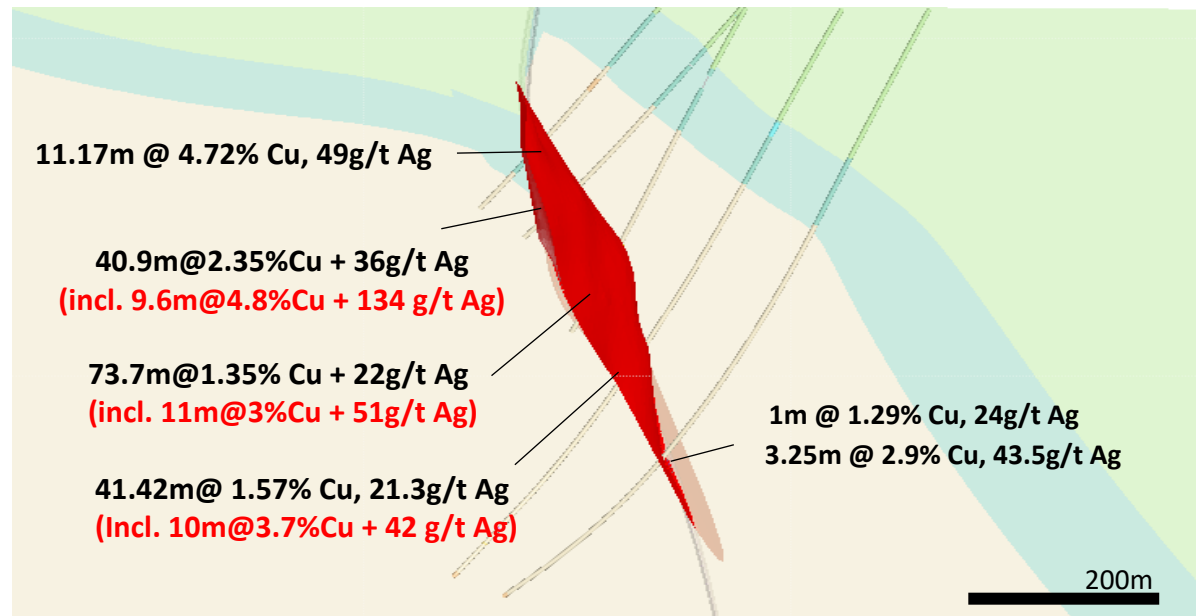
Santo Antônio Porphyry: k-Alteration (right) – M Vein Type (center) – A Vein Type (left)

RIO MARIA AND ARAGUAIA



- THE CARAJÁS MINERAL PROVINCE REPRESENTS **THE MAIN AND LARGEST MINERAL PROVINCE IN BRAZIL**, MINERAL RESOURCES DIVERSITY: Fe-Au-Cu-Mn-EGP-Ni
- **EXPLORATION CHALLENGE :** SEARCH FIELD SWITCHING TO DEEP SEATED DEPOSITS AND TEST NEW CONCEPTS SUCH AS Cu SED HOSTED

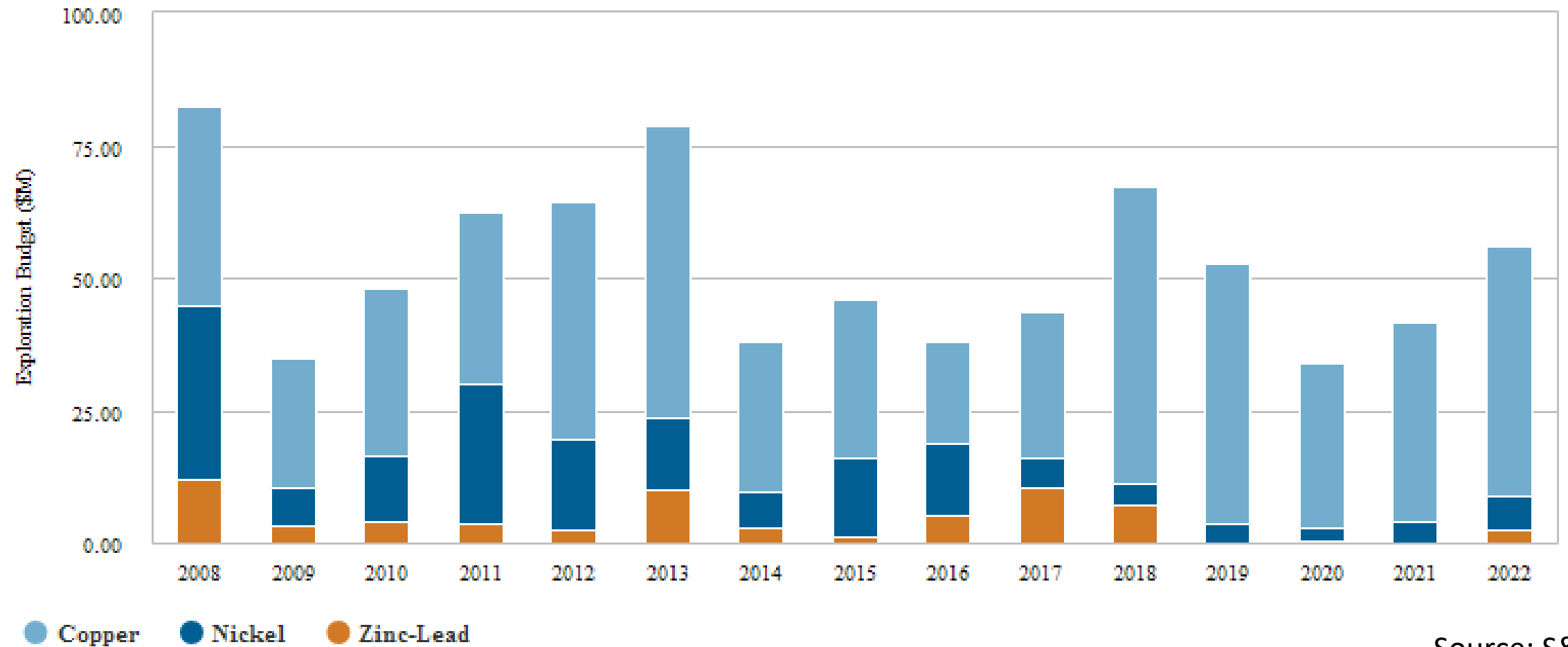
Sed Hosted T13 – Namibia OTV



Grassroots Exploration

Stage(s): Grassroots

Company Type(s): Major, Intermediate, Junior, Government, Other



Source: S&P

PERSPECTIVES

LATE STAGE PROJECTS

MOST BASE METALS COMPANIES ARE FOCUSED IN MINE SITE EXPLORATION. THE COUNTRY IS LACKING ADVANCED PROJECTS



NEW FRONTIERS

THE JACA DISCOVERY ENCOURAGED EXPLORATION EFFORTS IN NEW AREAS, BUT THE REAL POTENTIAL FOR BASE METALS REMAINS LARGELY UNDEREXPLORED



EXPLORATION INVESTMENT

BRAZIL HOLDES THE 10th EXPLORATION BUDGET IN THE WORLD, BUT ONLY 50 COMPANIES ARE ACTIVELY EXPLORING. ATTRACTING INVESTMENTS FOR NEW FRONTIERS REMAIN A CHALLENGE.



SKILLED WORKFORCE

THE COUNTRY HAS A VERY TALENTED AND SKILLED WORKFORCE FOR EXPLORATION, BUT TALENTE RETENTION REMAINS A CHALLENGE DUE TO MARKET DOWNTURNS



Aripuanã Mine

nexa

#THANKS