



**MERIDIAN**  
MINING

# ESPIGÃO PROJECT

LARGE SCALE COPPER-GOLD POTENTIAL



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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.



# ESPIGÃO PROJECT

LARGE SCALE COPPER-GOLD POTENTIAL

IOCG / Intrusive-related targets established: diverse vein / breccia system associated with Proterozoic A-type granite complex

- Auriferous quartz-pyrite veins
- Extensive manganese / iron oxide breccia systems at surface:
  - Interpreted to be a high-level expression of deeper-rooted polymetallic vein arrays
  - Regional zonation recognized reflecting metal partitioning
  - Drill targets defined based on magnetic modelling and conductivity

Located in a mining-friendly region:

- State of Rondônia - historical production across the state has included an estimated 7Moz of gold, 270kt Sn
- Amazon region tax incentives bring the effective tax rate down to 15.25% for the initial 10 years

Geologically part of the Juruena Domain, Rondônia-Juruena Province, Southern Amazon Craton - extending east to Mato Grosso

- Region of renewed interest in gold-base metal exploration



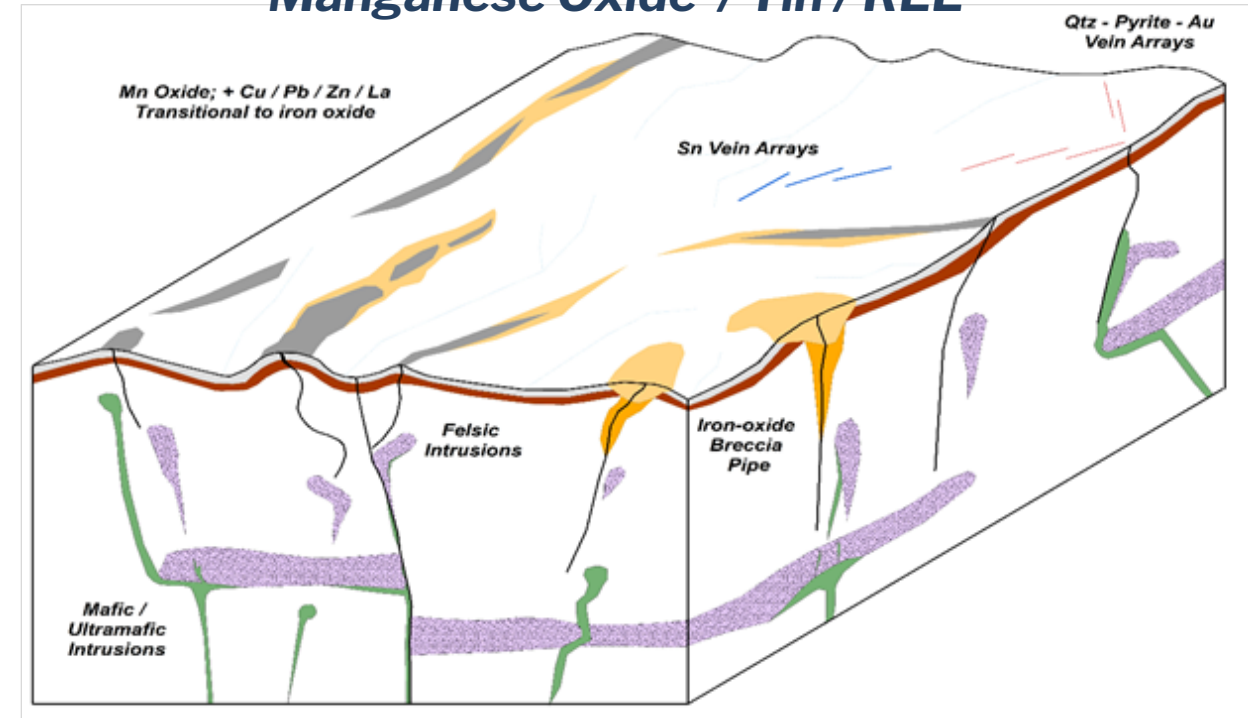
A diversity of vein styles and hydrothermal alteration are evident across the project

The Company's preferred model is that the metals form part of a progressive event, assemblages reflecting differences in pressure / temperature / redox conditions. Further technical studies may test the timing, and whether multiple events are superimposed.

Components of the system include:

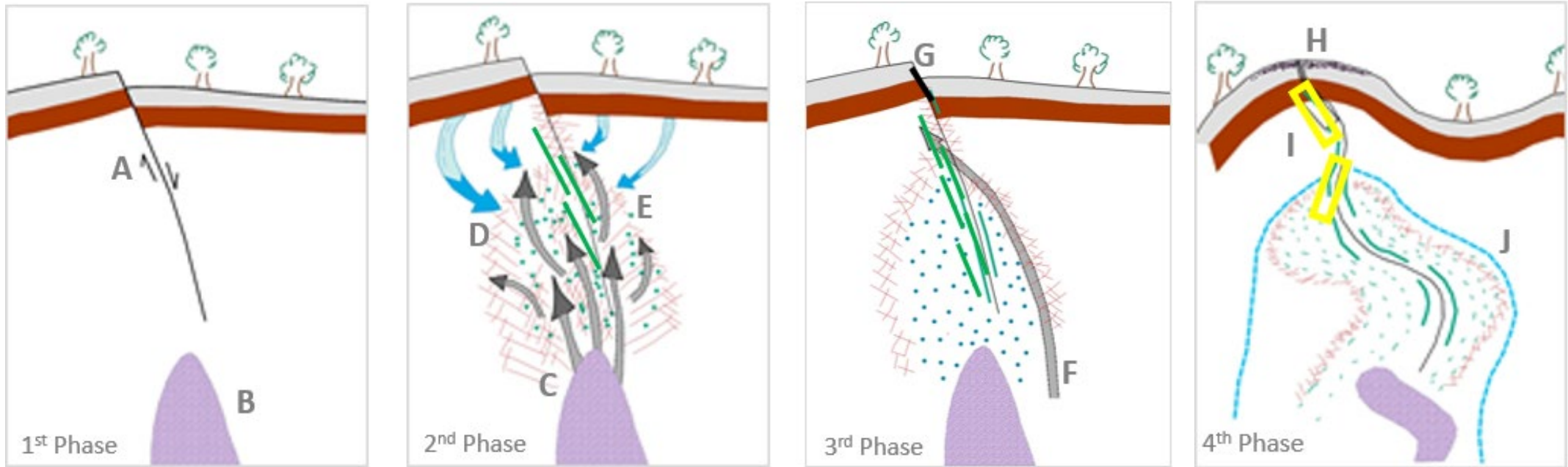
- Early formed quartz veins: mesothermal (transitional to later epithermal)
- Widespread manganese veins & iron oxide breccias
  - Transitional from & overprinting quartz vein event
  - Includes base metal (Cu-Pb-Zn) / REE / locally gold-anomalous
  - Mineralized structures also exploited by mafic/felsic dykes
- Tin-bearing greisen - locally recognized
- Gold-bearing quartz-pyrite veins
  - mineralization recognized in the east and west of the area

### Iron Oxide / Copper / Gold / Manganese Oxide / Tin / REE



Schematic illustration of vein / hydrothermal systems

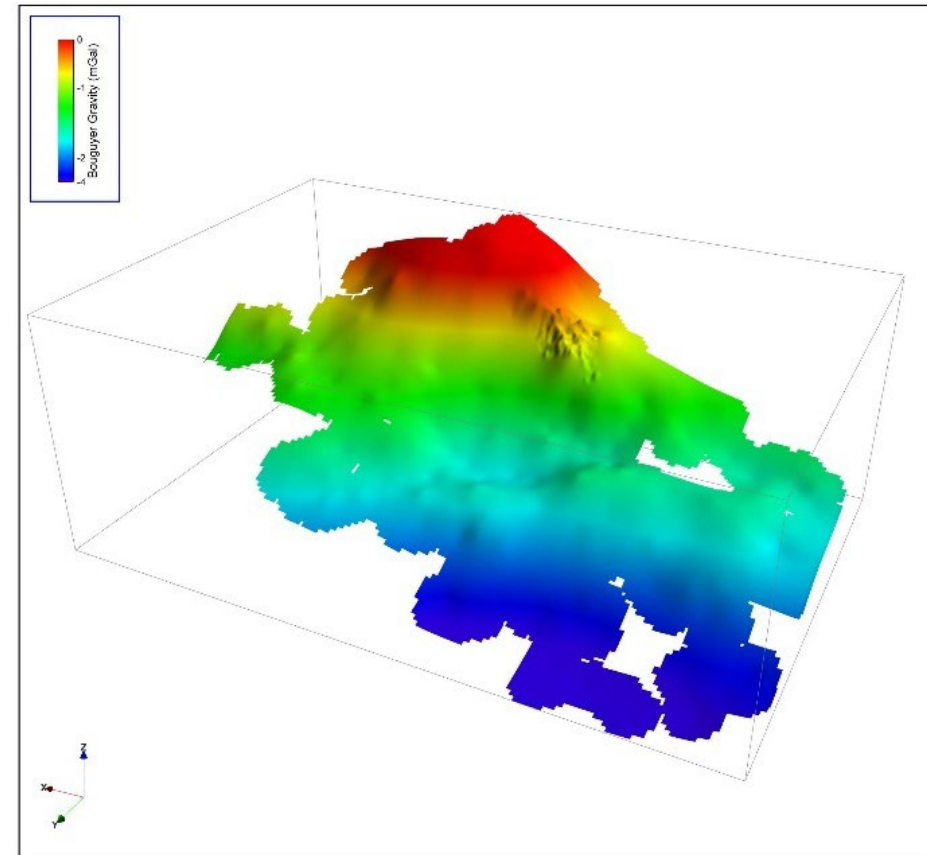
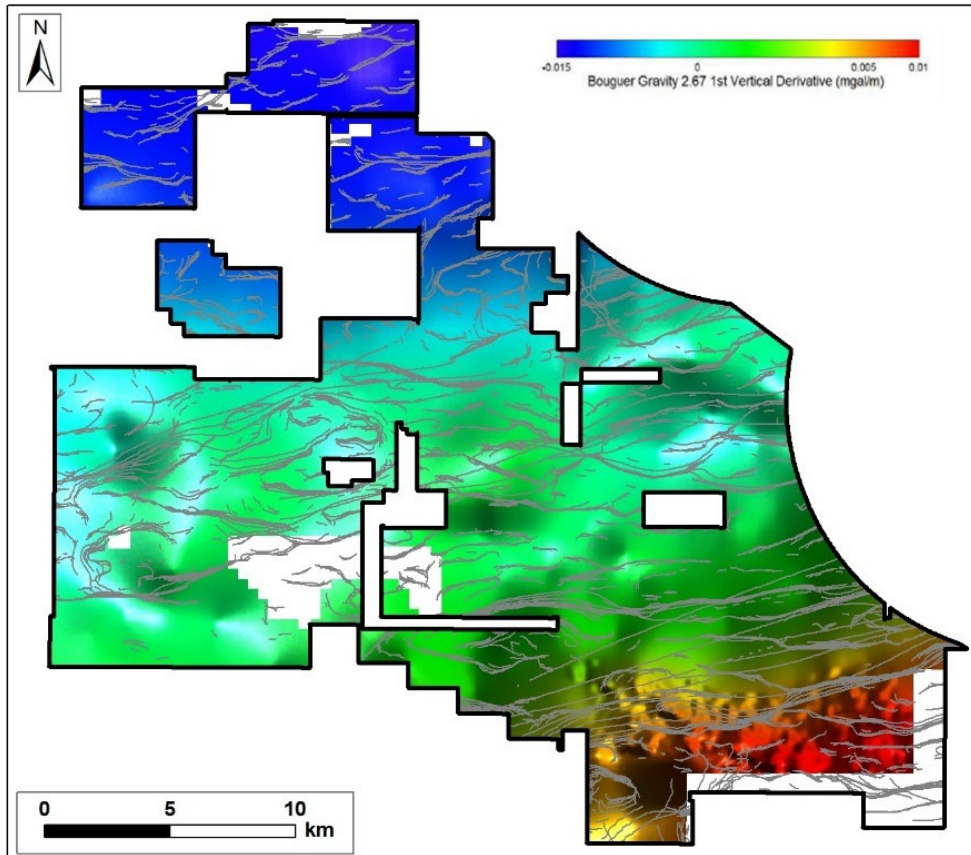
Deep-seated crustal structures focus ultramafic / mafic / felsic intrusive system and related hydrothermal processes. Shallow level surface expression marked by Mn/Fe breccias, vein systems, hydrothermal alteration. Tropical weathering and lateritization superimposed on the system. Potential for zonation in underpinning intrusive complexes.



### INTRUSION RELATED POLYMETALLIC MINERAL EMPLACEMENT

- Tectonic activity creates pathways (A) for hot intrusive body into local area (B)
- Hydrothermal fluids (C) rise mixing with surface derived fluids (D) creating alteration halos and precipitating a multi element mineral assemblage (E)
- A final hydrothermal event brought fluids through the metal saturated mineral system (F) scavenging some base metals and forming manganese veins systems at the surface (G)
- Tectonic activity deforms the local geology. Historical Mn mining (H) was the weathered and eroded remains of the original surface mineralisation. The geophysical anomalies detected, EM plates (I) and magnetic anomalies (J) are proposed to be related to the sub surface mineralisation as a result of the intrusion – gravity survey confirms subsurface potential

- 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 and Olympic Dam
- Espigão hosts the prospective geochemistry comparable to large-scale IOCG/Intrusive type deposits
- First gravity survey completed on 2km centred stations and testing for scale with select infill initiated



	Magnetic Anomaly Amplitude	Magnetic Anomaly Amplitude	Gravity Anomaly Amplitude	Gravity Anomaly Amplitude
Units	nT	km	Mgal	Km
Espigão Project	500	Open	15	Open
<b>Deposit</b>				
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

Example of an iron oxide copper gold (“IOCG”) deposit include Olympic Dam in Australia, Candelaria–Punta del Cobre in Chile, Sossego & Salobo in Brazil

- Meridian’s Espigão Cu-Au polymetallic project hosts significant IOCG type gravity anomalies
- Broad regional gravity anomalies defined across Espigão Cu-Au polymetallic project
  - Gravity anomalies of up to 15mgal above background have been defined
  - Individual anomalies measured up to 2km across
  - Gravity anomalies are co-incident with hydrothermal vein and breccia arrays at surface
- Gravity anomalies mirror those of common IOCG ore provinces in Australia

The Salobo mine is the largest copper deposit ever discovered in Brazil.

Mineralization at the Salobo deposit is hosted by upper-greenschist to lower- amphibolite- metamorphosed rocks of the Igarapé Salobo Group. The Igarapé Salobo Group consists of iron-rich sediments, quartzites and gneisses, metamorphosed to amphibolite facies and is associated with copper-gold and copper-gold-silver mineralization. The major host units are biotite and magnetite schists.

The low-cost copper-gold mine began operating at a throughput capacity of 12 million tonnes per annum (“Mtpa”) and is currently ramping up to an expanded throughput capacity of 36 Mtpa.



### Salobo - Mineral Resources @ 0.25 %CuEq Cut off grade

Category	Tonnage (Mt)	Cu (pct)	Au g(/t)	Contained Cu (Mt)	Contained Au (Moz)
Measured	30.2	0.39	0.17	0.1	0.2
Indicated	439.4	0.49	0.25	2.2	3.5
<b>Measured + Indicated</b>	<b>469.7</b>	<b>0.48</b>	<b>0.24</b>	<b>2.3</b>	<b>3.6</b>
Inferred	268.9	0.5	0.3	1.3	2.6

### Salobo - Mineral Reserves @ 0.25 %CuEq Cut off grade

Category	Tonnage (Mt)	Cu (pct)	Au g(/t)	Contained Cu (Mt)	Contained Au (Moz)
Proven	231	0.69	0.4	1.6	3.0
Probable	902.4	0.6	0.34	5.4	9.9
<b>Total</b>	<b>1133.4</b>	<b>0.62</b>	<b>0.35</b>	<b>7.0</b>	<b>12.8</b>

### Salobo - Summary of Annual Copper Production

Project	2021		2020		2019	
	Production (kT)	Cu (pct)	Production (kT)	Cu (pct)	Production (kT)	Cu (pct)
Salobo	39,418	0.61	43,151	0.68	48,468	0.69

<sup>1</sup> Details from Vale Form 20-F & B Website  
Summary of Copper Mineral Reserves & Resources as of December 31, 2021

The Sossego Mine Complex consists of two open-pit mines, Sossego and Sequeirinho, located in the Carajás region in the southeastern portion of Pará State in Brazil.

The Sossego deposit is associated with a 10 km regional structural shear zone striking northeast to southeast and dipping steeply to the south. A series of copper gold deposits are associated with this structure.

The deposit is hosted by granite, granophyric granite, gabbro, and felsic metavolcanic rocks



### Sossego - Mineral Resources @ 0.25 %CuEq Cut off grade

Category	Tonnage (Mt)	Cu (pct)	Au g/(t)	Contained Cu (Mt)	Contained Au (Moz)
Measured	162.6	0.72	0.12	1.2	0.6
Indicated	152.9	0.84	0.1	1.3	0.5
Measured + Indicated	315.5	0.78	0.11	2.5	1.1
Inferred	21.7	0.8	0.1	0.2	0.1

### Sossego - Mineral Reserves @ 0.25 %CuEq Cut off grade

Category	Tonnage (Mt)	Cu (pct)	Au g/(t)	Contained Cu (Mt)	Contained Au (Moz)
Proven	1.5	0.83	0.23	0.0	0.0
Probable	83.9	0.61	0.17	0.5	0.5
Total	85.4	0.18	0.17	0.2	0.5

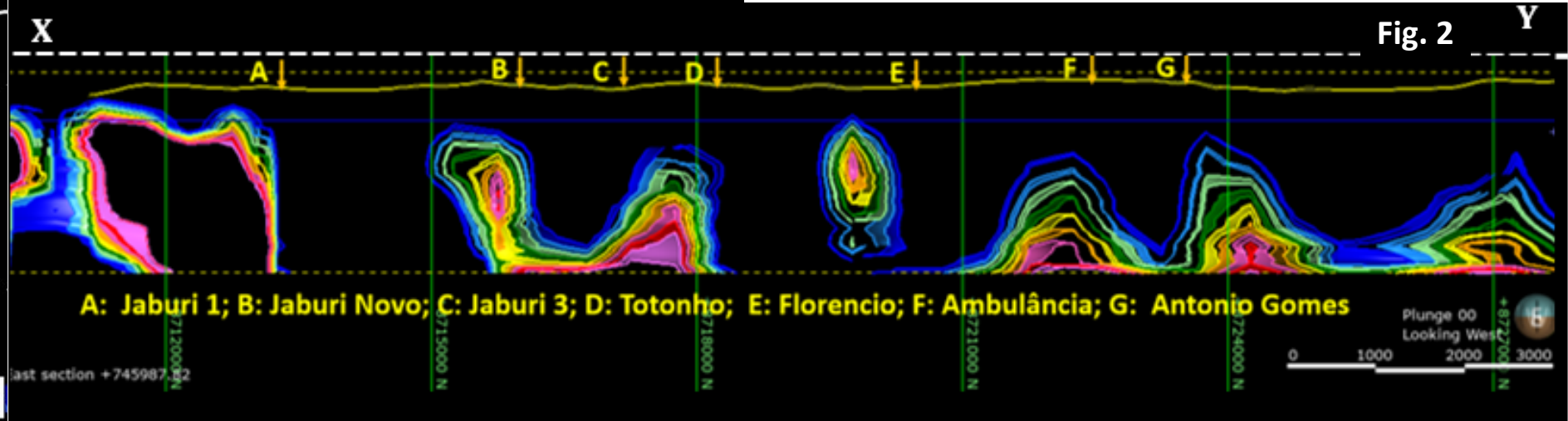
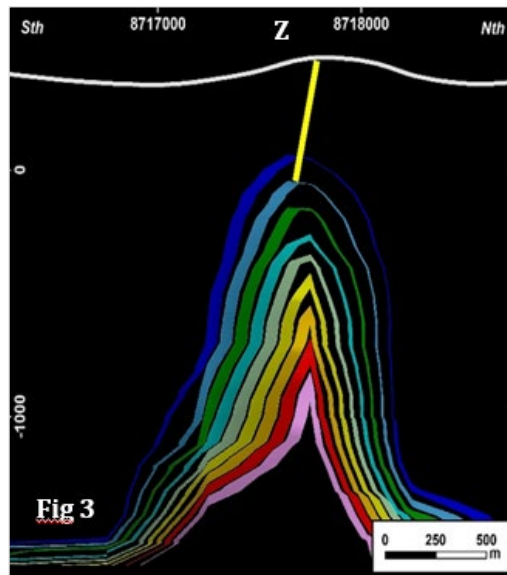
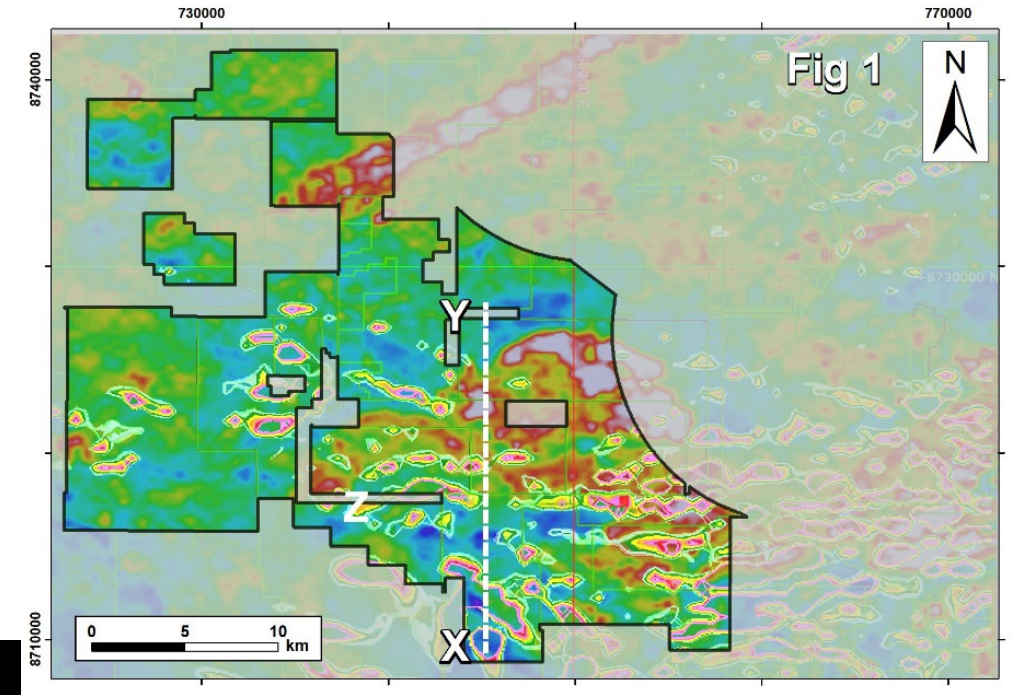
### Sossego - Summary of Annual Copper Production

Project	2021		2020		2019	
	Production (kT)	Cu (pct)	Production (kT)	Cu (pct)	Production (kT)	Cu (pct)
Sossego	16,164	0.74	13,145	0.85	11,735	0.79

<sup>1</sup> Details from Vale Form 20-F & B Website  
Summary of Copper Mineral Reserves & Resources as of December 31, 2021

### AIRBORNE GEOPHYSICS RESULTS<sup>1</sup> COMBINED WITH SURFACE & DDH DATA

- Surface Mineralisation is co-incident with the subsurface projection of conductors modelled from electromagnetic survey data. Results point to a much more intricate architecture to the intrusive system than first thought Fig. 1
- Magnetic anomalies are found along the same regional structural corridors hosting hydrothermal metalliferous prospects Fig. 2
- Electromagnetic (EM) plates are positioned above the magnetic anomalies and below the surface mineralization Fig. 3
- Hydrothermal rocks overly or are in proximity to geophysical anomalies, including haematite breccias, quartz stockworks, and areas of silicification



### LICENCES PACKAGE CONSOLIDATED OVER 2014 – 2015 FROM THREE SEPARATE ENTITIES:

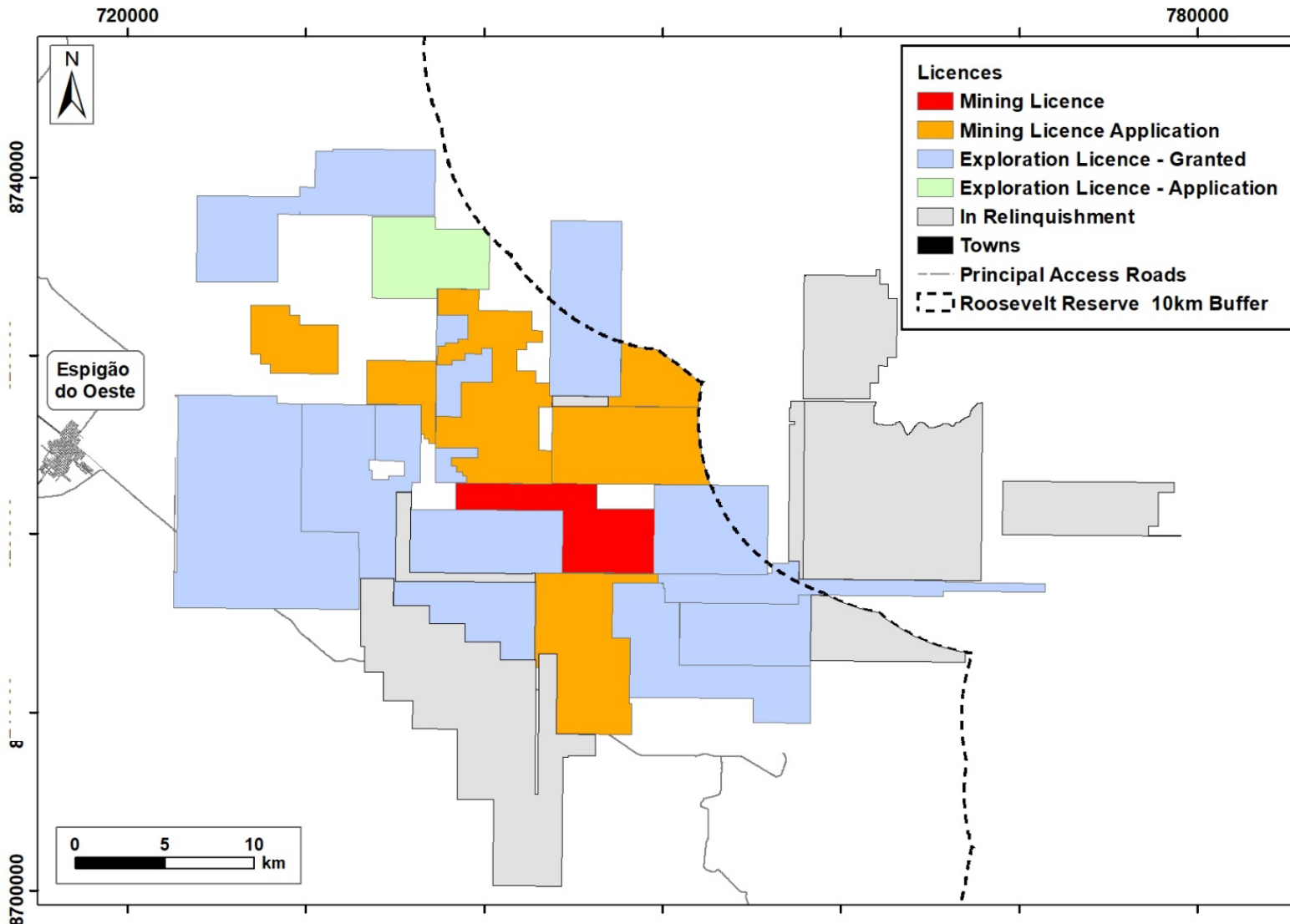
- Cancana Resources / Rio Madeira Comércio e Exportação de Minérios / Eletroligas

### 2019 EXPLORATION REFOCUSED ON POLYMETALLIC POTENTIAL:

- Processing of airborne Geophysics
- Regional Soils program identifies large scale metalliferous anomalies

### IOCG / INTRUSIVE-RELATED POTENTIAL :

- Exploration was originally instructed to focus exclusively on the manganese potential
- Indications of a broader polymetallic opportunity were recognized over the course of the program
- The hydrothermal system exhibits zonation in base metal and precious metal content
- One campaign of gold exploration defined two broad surface geochemical anomalies and confirmed basement mineralization
- Funding restrictions have prevented a systematic evaluation of the broader opportunity
- 368 drill holes; average inclined depth 50m mostly in weathering profile



### THE ESPIGÃO PROJECT HOSTS AN ADVANCED LICENCE POSITION

- One approved mining licence
- Six mining licence applications
- Other licences active or with renewal applications pending
- Some licences that were once part of the project are under relinquishment
- The licence package is being trimmed to a 10km buffer zone introduced around an indigenous land (Roosevelt Reserve)
- Located to the east of the project area. Some licences remain in the process of relinquishment



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**Meridian Mining plc**

Email: [info@meridianmining.net.br](mailto:info@meridianmining.net.br)

Corporate Address:

8th Floor 4 More London, Riverside,  
London, United Kingdom, SE1 2AU

**Gilbert Clark**

Chief Executive Officer