

# ARIQUEMES TIN EXPLORATION PROJECT TECHNICAL PRESENTATION

# CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS



Certain of the statements made and information contained herein is “forward-looking information” within the meaning of applicable Canadian securities laws. All statements other than statements of historical facts included in this document constitute forward-looking information, including but not limited to statements regarding the Company’s plans, prospects and business strategies; the Company’s guidance on the timing and amount of future production and its expectations regarding the results of operations; expected costs; permitting requirements and timelines; timing and possible outcome of pending litigation; the results of any Preliminary Economic Assessment, Feasibility Study, or Mineral Resource and Mineral Reserve estimations, life of mine estimates, and mine and mine closure plans; anticipated market prices of metals, currency exchange rates, and interest rates; the Company’s ability to comply with contractual and permitting or other regulatory requirements; anticipated exploration and development activities at the Company’s projects; and the Company’s integration of acquisitions and any anticipated benefits thereof. Words such as “believe”, “expect”, “anticipate”, “contemplate”, “target”, “plan”, “goal”, “aim”, “intend”, “continue”, “budget”, “estimate”, “may”, “will”, “can”, “could”, “should”, “schedule” and similar expressions identify forward-looking statements.

The Company cautions that it has not completed any feasibility studies on any of its mineral properties, and no mineral reserve estimate or mineral resource estimate has been established. In particular, because the Company’s production decision relating to Meridian Mineracao Jaburi S.A, manganese project is not based upon a feasibility study of mineral reserves, the economic and technical viability of the Espigão manganese project has not been established.

Forward-looking information is necessarily based upon various estimates and assumptions including, without limitation, the expectations and beliefs of management, including that the Company can access financing, appropriate equipment and sufficient labour; assumed and future price of manganese, copper, zinc, gold and other metals; anticipated costs; ability to achieve goals; the prompt and effective integration of acquisitions; that the political environment in which the Company operates will continue to support the development and operation of mining projects; and assumptions related to the factors set forth below. While these factors and assumptions are considered reasonable by Meridian Mining S.E. as at the date of this document in light of management’s experience and perception of current conditions and expected developments, these statements are inherently subject to significant business, economic and competitive uncertainties and contingencies.

Known and unknown factors could cause actual results to differ materially from those projected in the forward-looking statements and undue reliance should not be placed on such statements and information. Such factors include, but are not limited to: risks inherent in and/or associated with operating in foreign countries; uncertain political and economic environments; community activism, shareholder activism and risks related to negative publicity with respect to the Company or the mining industry in general; changes in laws, regulations or policies including but not limited to those related to permitting and approvals, environmental and tailings management, labour, trade relations, and transportation; delays or the inability to obtain necessary governmental approvals and/or permits; regulatory investigations, enforcement, sanctions and/or related or other litigation; risks associated with business arrangements and partners over which the Company does not have full control; risks associated with acquisitions and related integration efforts, including the ability to achieve anticipated benefits, unanticipated difficulties or expenditures relating to integration and diversion of management time on integration; competition; development or mining results not being consistent with the Company’s expectations; estimates of future production and operations; operating, cash and all-in sustaining cost estimates; allocation of resources and capital; litigation; uninsurable risks; volatility and fluctuations in metal and commodity prices; the estimation of asset carrying values; funding requirements and availability of financing; indebtedness; foreign currency fluctuations; interest rate volatility; changes in the Company’s share price, and equity markets, in general; changing taxation regimes; counterparty and credit risks; health and safety risks; risks related to the environmental impact of the Company’s operations and products and management thereof; unavailable or inaccessible infrastructure and risks related to ageing infrastructure; risks inherent in mining including but not limited to risks to the environment, industrial accidents, catastrophic equipment failures, unusual or unexpected geological formations or unstable ground conditions; actual mineral reserves varying from estimates of grade, tonnage, dilution and metallurgical and other characteristics; mineralisation processing efficiency; risks relating to attracting and retaining of highly skilled employees; ability to retain key personnel; the potential for and effects of labour disputes or other unanticipated difficulties with or shortages of labour or interruptions in production; the price and availability of energy and key operating supplies or services; the inherent uncertainty of exploration and development, and the potential for unexpected costs and expenses including, without limitation, for mine closure and reclamation at current and historical operations; risks associated with the estimation of Mineral Resources and Mineral Reserves and the geology, grade and continuity of mineral deposits including but not limited to models relating thereto; actual mineralisation mined and/or metal recoveries varying from Mineral Resource and Mineral Reserve estimates; mine plans, and life of mine estimates; the possibility that future exploration, development or mining results will not be consistent with expectations; natural phenomena such as earthquakes, flooding, and unusually severe weather; potential for the allegation of fraud and corruption involving the Company, its customers, suppliers or employees, or the allegation of improper or discriminatory employment practices, or human rights violations; security at the Company’s operations; breach or compromise of key information technology systems; materially increased or unanticipated reclamation obligations; risks related to mine closure activities; risks related to closed and historical sites; title risk and the potential of undetected encumbrances; risks associated with the structural stability of waste rock dumps or tailings storage facilities; and other risks and uncertainties.

All of the forward-looking statements made in this document are qualified by these cautionary statements. Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated, forecast or intended and readers are cautioned that the foregoing list is not exhaustive of all factors and assumptions which may have been used. Should one or more of these risks and uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described in forward-looking information. Accordingly, there can be no assurance that forward-looking information will prove to be accurate and forward-looking information is not a guarantee of future performance. Readers are advised not to place undue reliance on forward-looking information. The forward-looking information contained herein speaks only as of the date of this document. The Company disclaims any intention or obligation to update or revise forward-looking information or to explain any material difference between such and subsequent actual events, except as required by applicable law.

This presentation may contain certain financial measures which have no standardized meaning within generally accepted accounting principles under IFRS and therefore amounts presented may not be comparable to similar data presented by other mining companies. This data is intended to provide additional information and should not be considered in isolation or as a substitute for measures or performance prepared in accordance with IFRS.

QUALIFIED PERSON: The technical information about the Company’s exploration activity and exploration target range has been reviewed and approved under the supervision of Dr. Adrian McArthur (B.Sc. Hons, Ph.D. FAUSIMM), the Chief Geologist of Meridian Mining, who is a “qualified person” within the meaning of National Instrument 43-101.22

Note: All dollar amounts are in US dollars unless otherwise denoted

Focusing on exploring for paleo-channel and primary tin deposits within the world class Ariquemes tin field, located in Rondônia, NW Brazil, a state rich in natural resources and under-explored.

Meridian's exploration project:

- Ariquemes Regional Tin exploration portfolio
  - Second largest tin district in Brazil after Pitting
  - Good infrastructure, 200 km south of the state capital Porto Velho with connecting sealed highway and fluvial port facilities
  - Polymetallic Province
  - Primary tin mineral is cassiterite
  - Associated minerals present include columbite-tantalite (coltan), wolframite, ilmenite/rutile, base metal sulphides
  - Compelling exploration opportunity
  - Meridian applications and approved exploration licences total 293,500 ha – dominant position
  - Geophysical signature of prospective intrusions and structural corridors under cover - undetected by early prospectors
  - Positive geochemical indicators



## REGIONAL SETTING – AMAZON CRATON

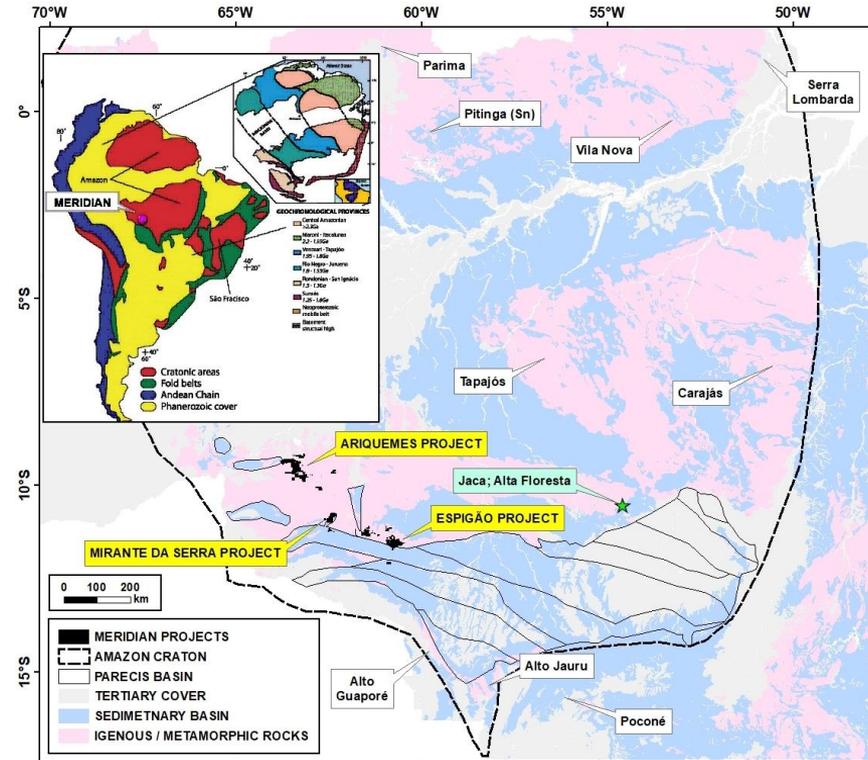
The Amazon Craton consists of an Archean nucleus and westward-accreting to Proterozoic terranes.

Areas of crystalline basement hosting metalliferous provinces are separated by Proterozoic – Phanerozoic basins.

The craton is known for its significant endowment, hosting major resources of tin, gold, iron and manganese.

The province has seen renewed exploration interest by major explorers, following recent base metal discoveries.

- Shows that the craton remains a prospective frontier and destination for natural resource exploration investments



Metallogenic provinces, Amazon Craton

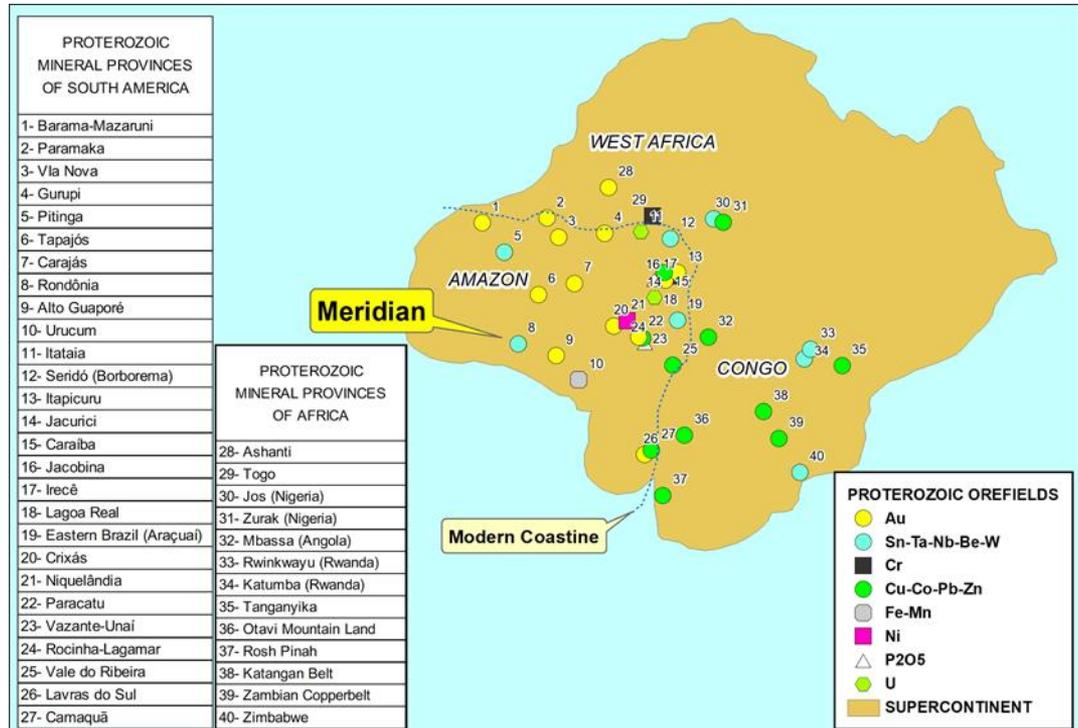
The Ariquemes Province hosts Meso- to Neo-Proterozoic granites. The intrusive episode culminated with the main tin mineralization event at ~1 GA.

The mineralization coincides with a global magmatic event, being coeval with major deposits in Africa (including the newly commissioned high-grade Bisie Tin Mine).

The timing is coincident with a thermal event during the assembly of the Rodinia Supercontinent.

Compelling Tectonic Context:

- Rodinia Supercontinent: an important incubator of major ore deposits



Province formed during major Proterozoic metallogenic event

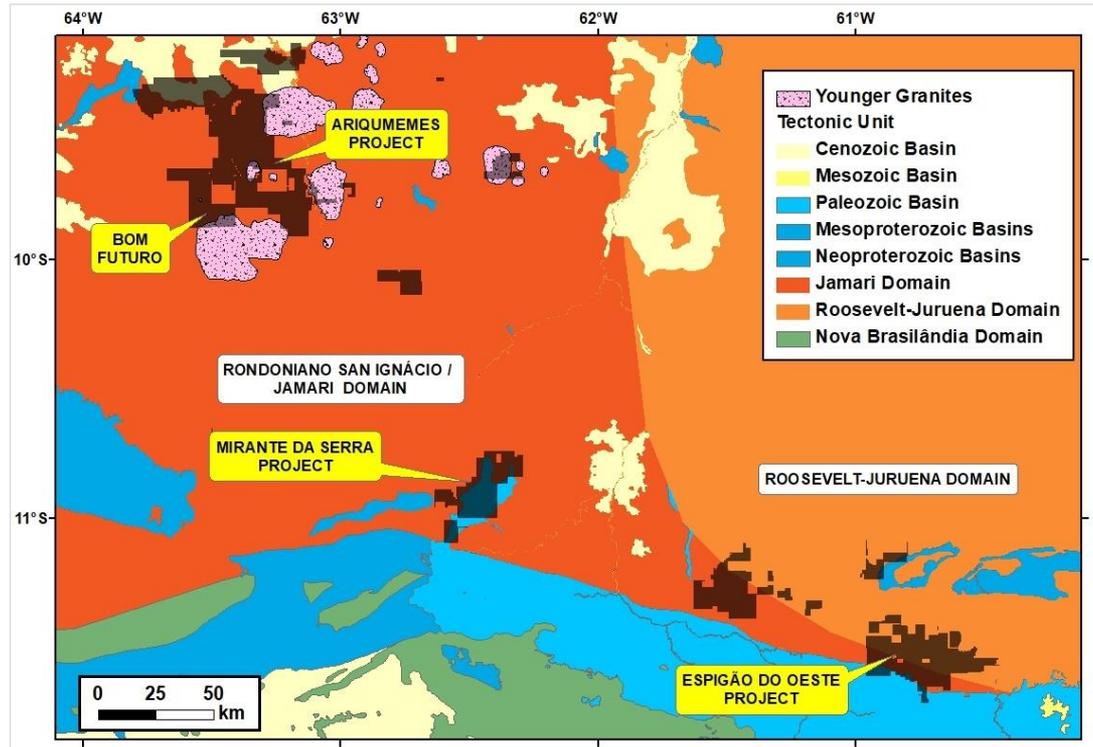
The Ariquemes Project is located within the “Rondoniano San Ignácio / Jamari Domain”

The Domain formed through successive accretion of arcs, ocean basin closure and final oblique microcontinent–continent collision.

Older basement rocks were affected by later collision-related deformation and metamorphism during the Sunsás Orogeny (1.25–1.00 Ga).

The tin mineralization event is particularly associated with the Neo-Proterozoic “Younger Granites” of Rondônia.

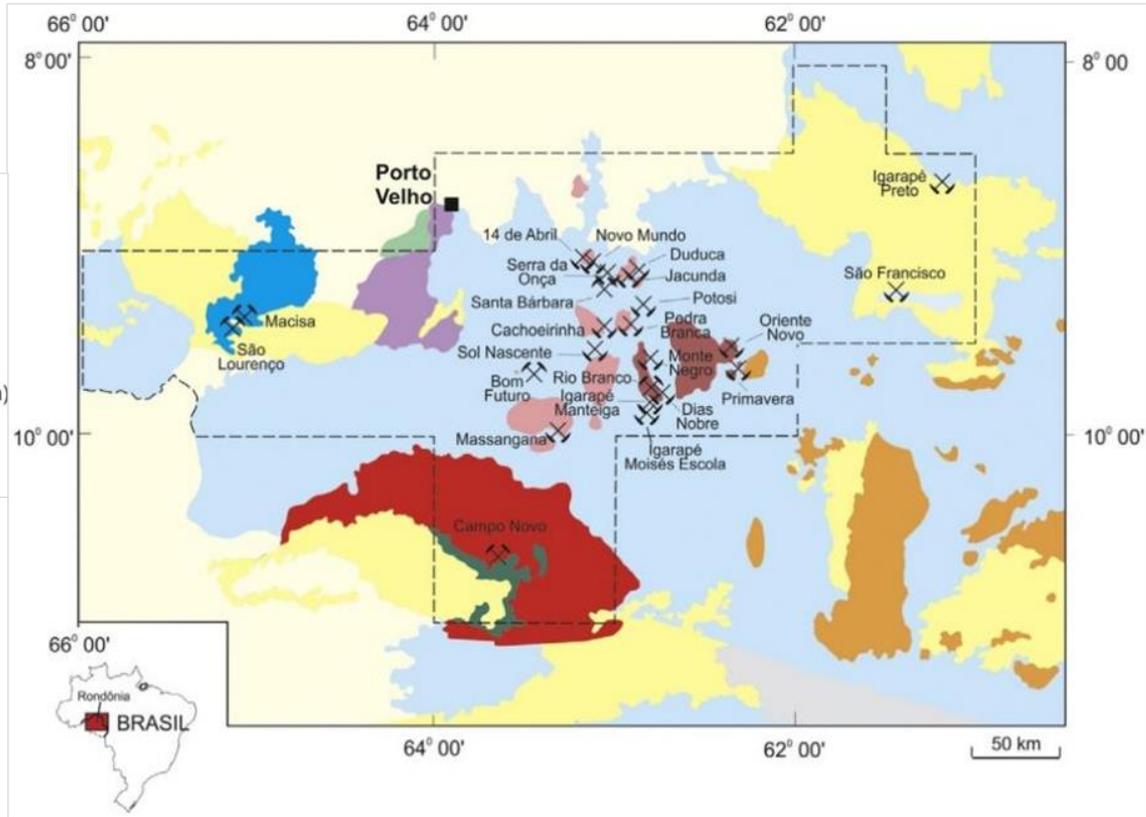
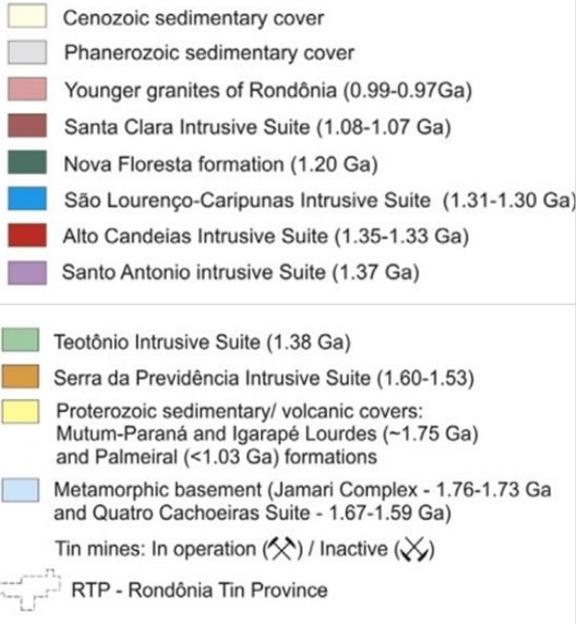
A more detailed division of basement units is shown in the following slide



“Large-scale district footprint”

## Rondônia Tin Province:

- 300,000 t of tin production to date.
  - Paleo channel and primary sources

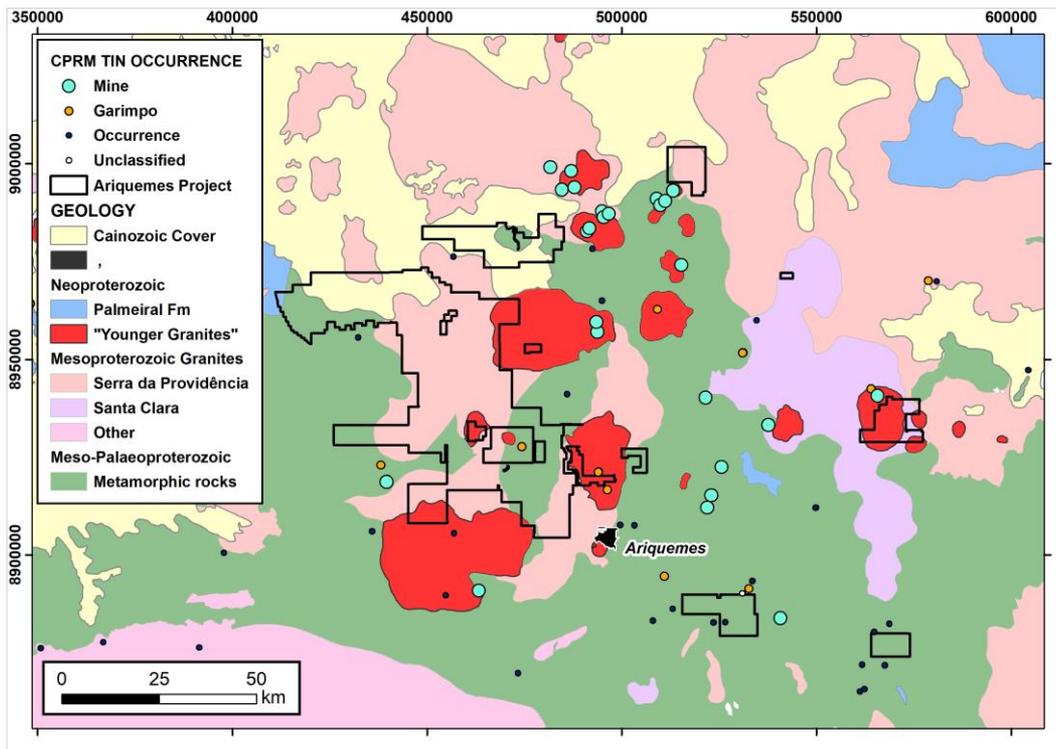


A review of the Ariquemes District based on the state-scale 1:1M Rondônia geological map illustrates the spatial relationship of the significant bedrock and placer tin mines, and the younger “Younger Granites”.

However, it was observed that a number of mining centres are distant to mapped granite sources.

The Company suspected that the basement geology is more complex at a detailed scale. A veneer of younger sediments often conceals the bedrock, with drainage systems reorganized during the rapid Late Miocene uplift of the Andes.

In 2016, the Company obtained and reprocessed the CPRM’s magnetic data to search for the signature of concealed intrusive sources.



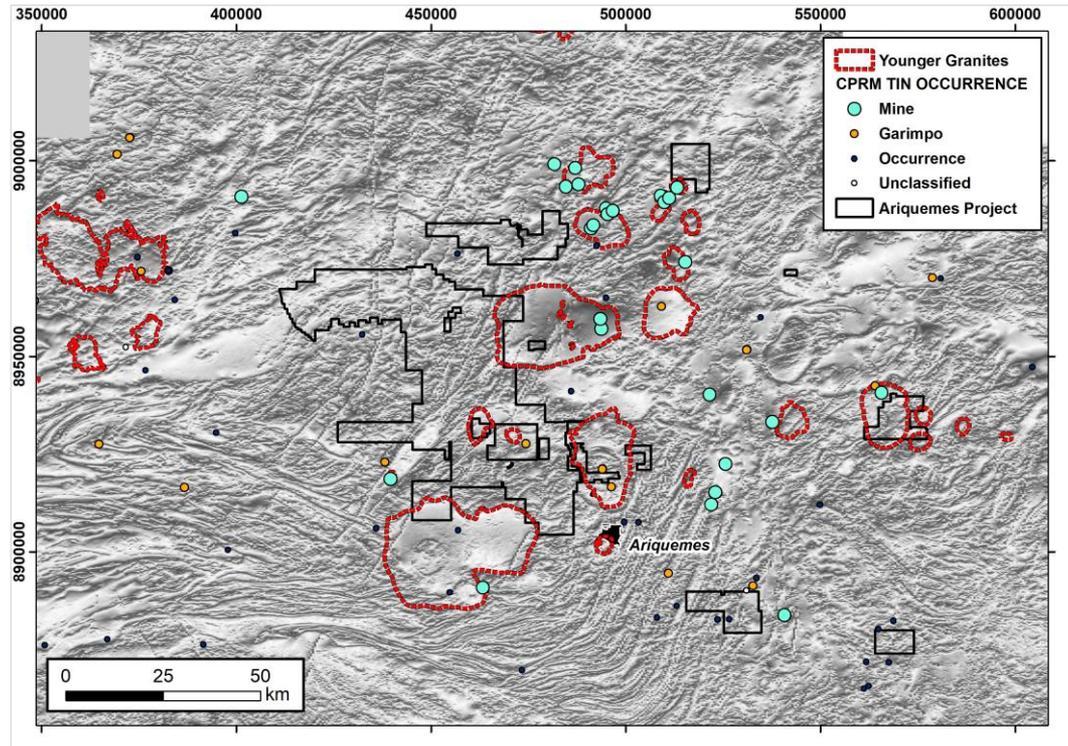
“2016” - data review commenced unlocking district controls

In areas of higher relief, the geological outlines have a good correlation with the magnetic signature of the prospective granites.

However elsewhere, the magnetic response points to the presence of bodies not recognized. The signature of prospective intrusions can be seen to extend from known mineralized positions.

The magnetic processing validated the concept that a robust under-cover exploration opportunity exists.

In addition to the granite responses, structural corridors can be seen, forming lineaments influencing granite emplacement and connecting the mineralized centres.

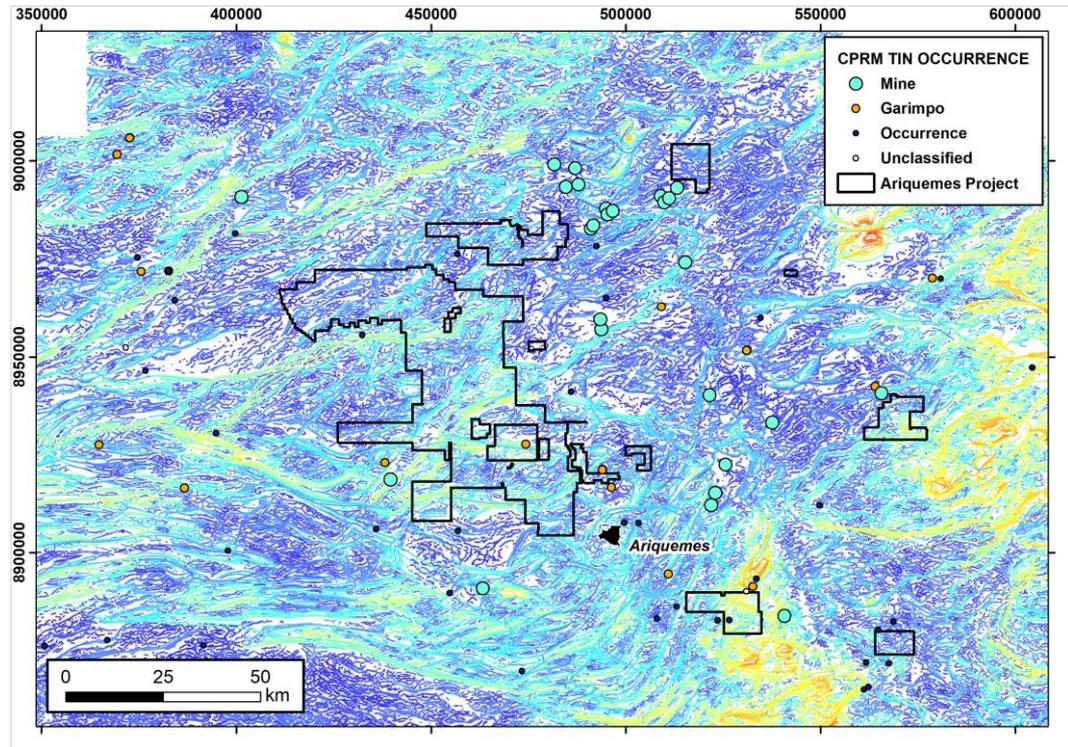


Hidden intrusions identified in reprocessed magnetic data

The magnetic processing included the generation of “Worms”, a modelling technique to detect and project horizontal gradients in potential field data.

The technique helps to highlight positions of deeper-seated controlling structures.

- In the case of tin, vein mineralization can be projected into structural pathways extending away from the source intrusion.
- Structural corridors can be seen to link the major mining centres of the Ariquemes tin field.

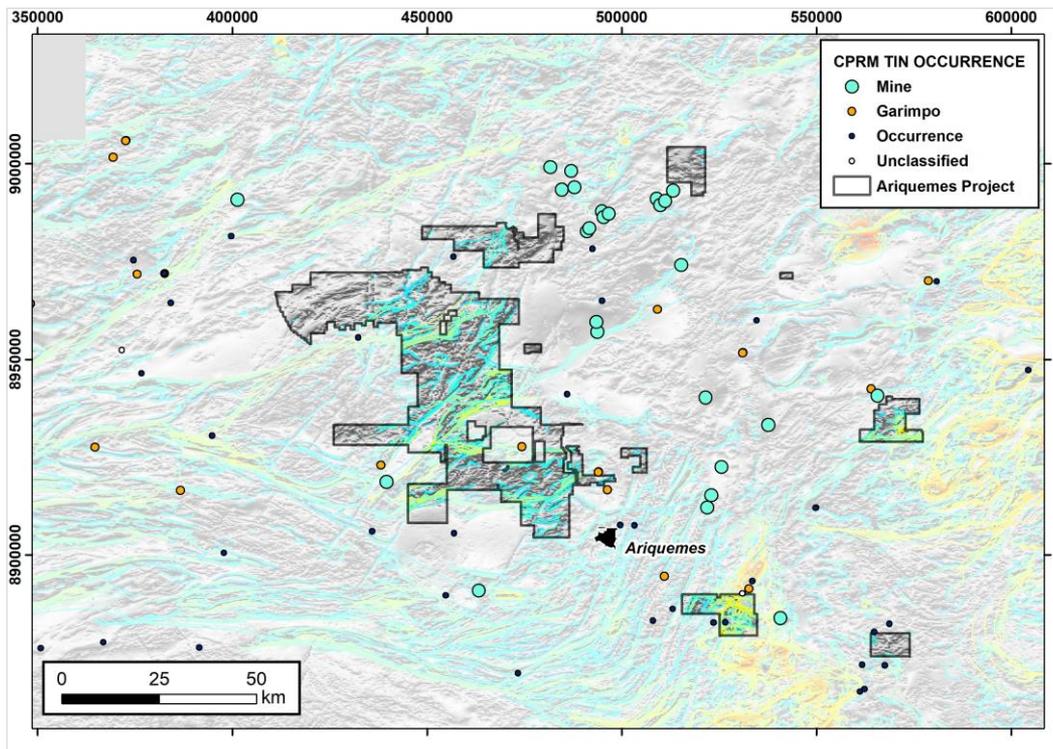


Structures controlling mineralization modelled

The magnetic imagery and structural corridors were used as the basis to apply for licences over vacant ground in the newly recognized prospective areas.

The project represents a prime opportunity to replicate exploration success in other “mature mining districts”, where mineralized corridors extend under shallow cover.

- Modern exploration techniques can unlock discoveries that the first generation of surface prospecting has missed.



Meridian licences – host strike extensions to major deposits

The Ariqueμες district has only opened up in the past 30 years, to today's cattle ranches and cereal crops.

- First generation of deposits located by prospecting in areas of exposure.
- Much historical production has been through artisanal mining, with low recovery and no sub-surface exploration.
- Knowledge of geology clearly still evolving.
- Early in the cycle of exploration maturity.



Tin mineralisation discovered by a woodcutter in 1987

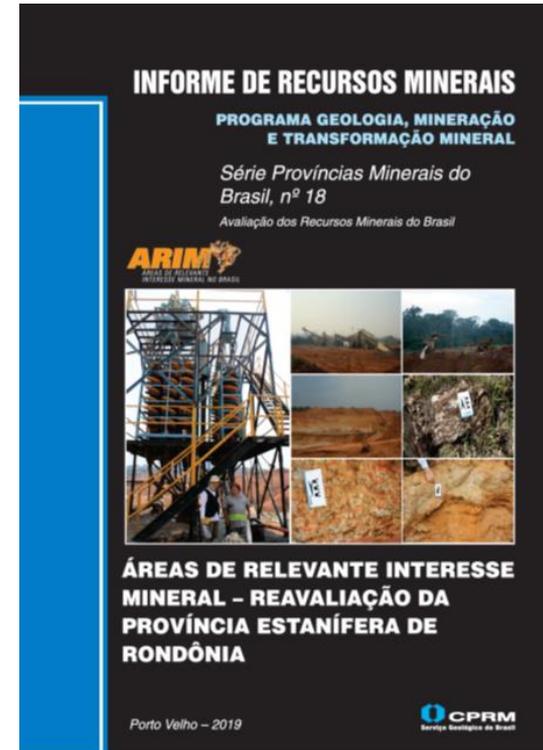
In 2019, the Companhia De Pesquisa De Recursos Minerais (“CPRM”) – (Geological service of Brazil) launched new publications and mapping products as part of it’s ARIM program (Áreas De Relevante Interesse Mineral).

The studies form an initiative to stimulate exploration and production by providing new data select areas judged to be highly prospective.

The Ariquemes District was one of the areas selected for re-evaluation, in light of its significant production history and, ongoing contribution to the state economy.

The new CPRM data and interpretations reinforce Meridian’s targeting studies:

- The geophysical signature of prospective mineralized granites extends beneath the younger cover.
- More detailed mapping show the presence of the prospective granites within Meridian’s licence area.
- Regional pan concentrate sampling provides positive indications of tin and gold in the drainage systems.

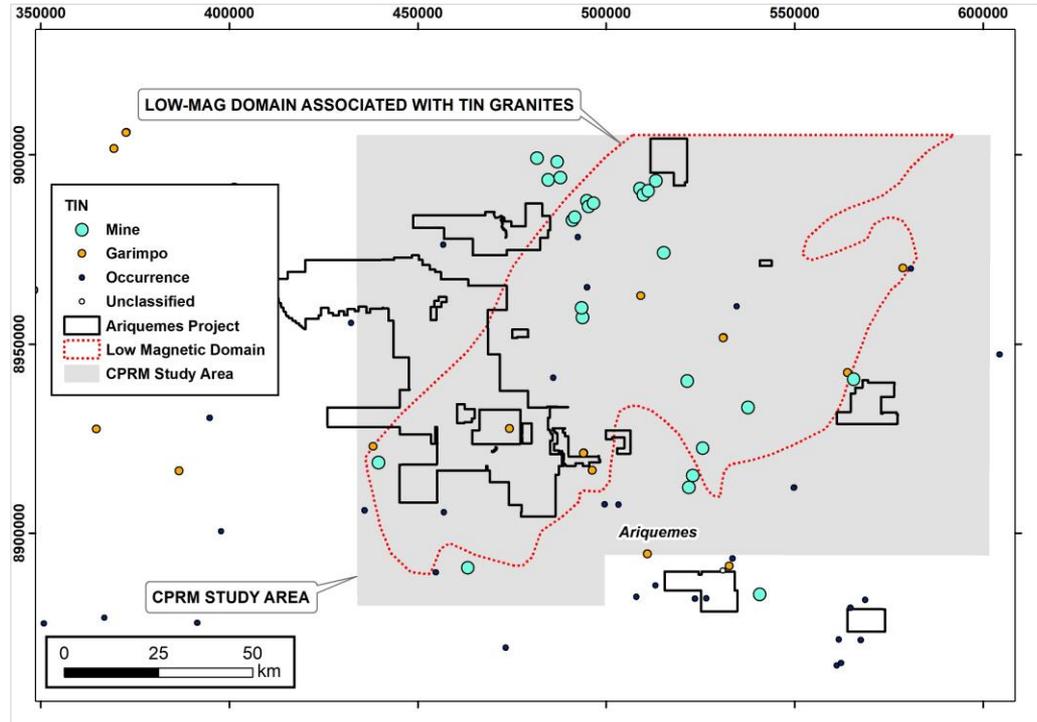


Ranked as a high priority area by CPRM

The CPRM completed geophysical, geological and geochemical reviews, with a particular focus on the areas shown left in grey, spanning a large proportion of Meridian’s project area

Significantly, the CPRM’s reprocessing of the magnetic data outlines a domain of low-magnetic responses, which they correlate with the signature of the tin-bearing granites.

The results reinforce the view that the prospective granites in the basement are much more widespread.



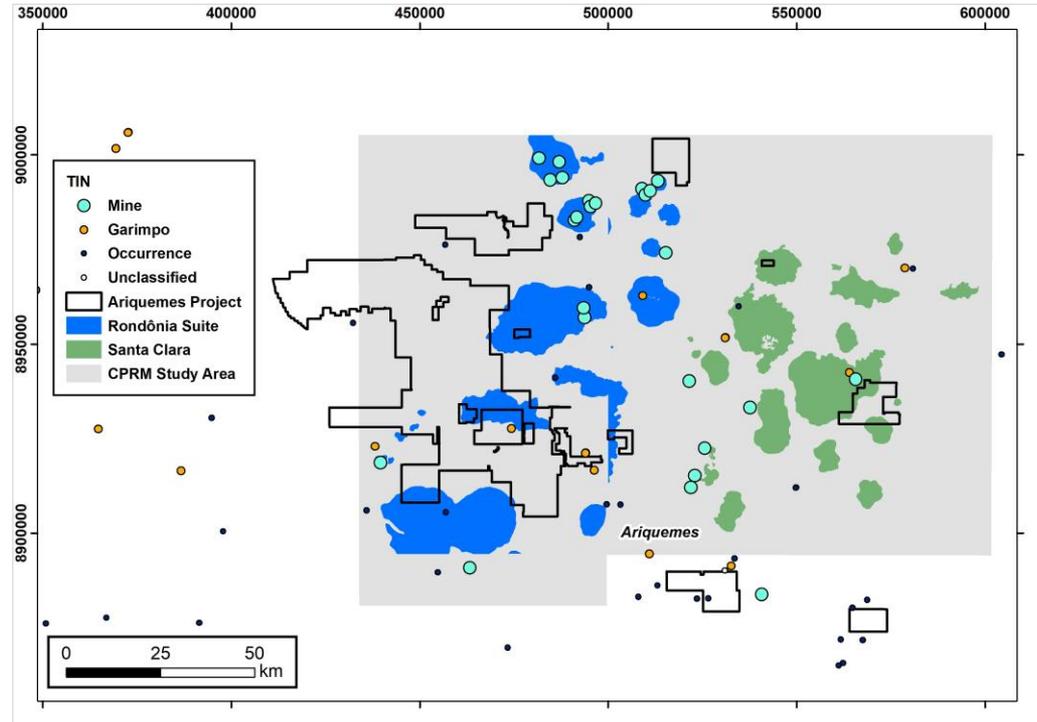
Independent assessment of favourable magnetic signature

The CPRM updated 1:100,000 geological maps in the region.

The more detailed maps show a revised distribution of the Rondônia Suite and the Santa Clara Suite intrusions - both associated with the tin mineralization event.

The maps show the Rondônia Suite intrusives projecting NE into the Meridian Project area, in the structural corridor predicted by the “worming”.

Santa Clara Suite intrusives are also seen to span the licence area to the east.

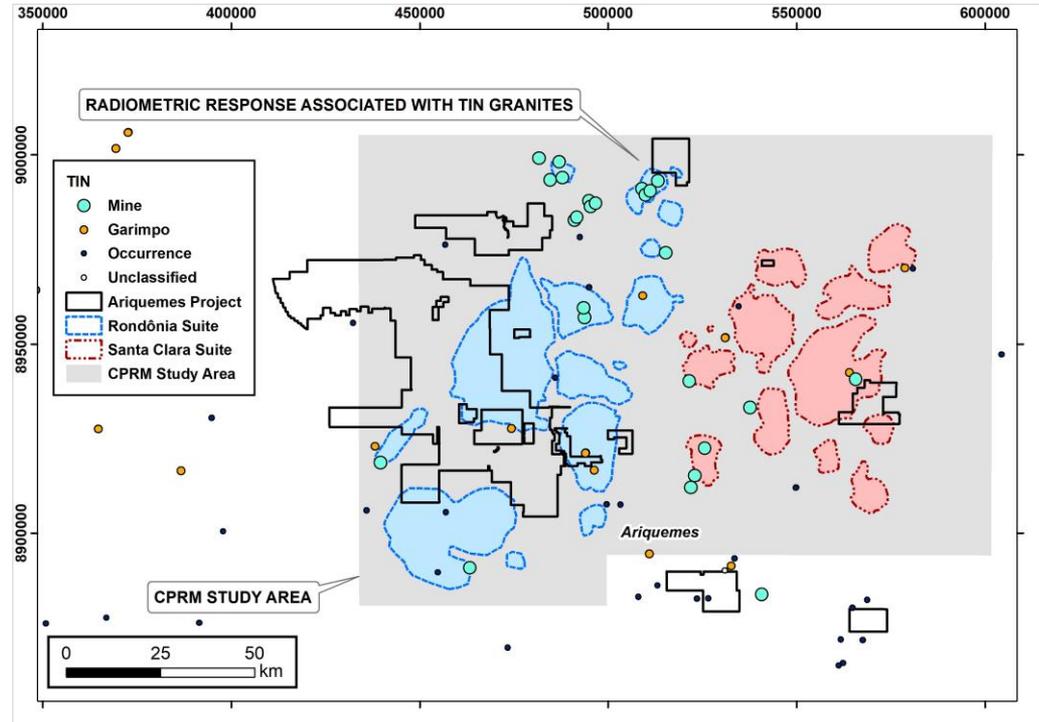


Favourable host rocks extend onto Meridian licences

The CPRM reviewed the radiometric signature of the study area, and interpreted signatures associated with the Rondônia Suite and Santa Clara Suite intrusives.

Radiometrics is a shallow-sensing technique. The results suggest a bedrock source near to surface in an environment that is residual or has limited transport.

Areas of slightly deeper sheetwash cover where responses are not detected may still be prospective. Surficial alluvium deposits will not necessarily have a response characteristic of the local basement.

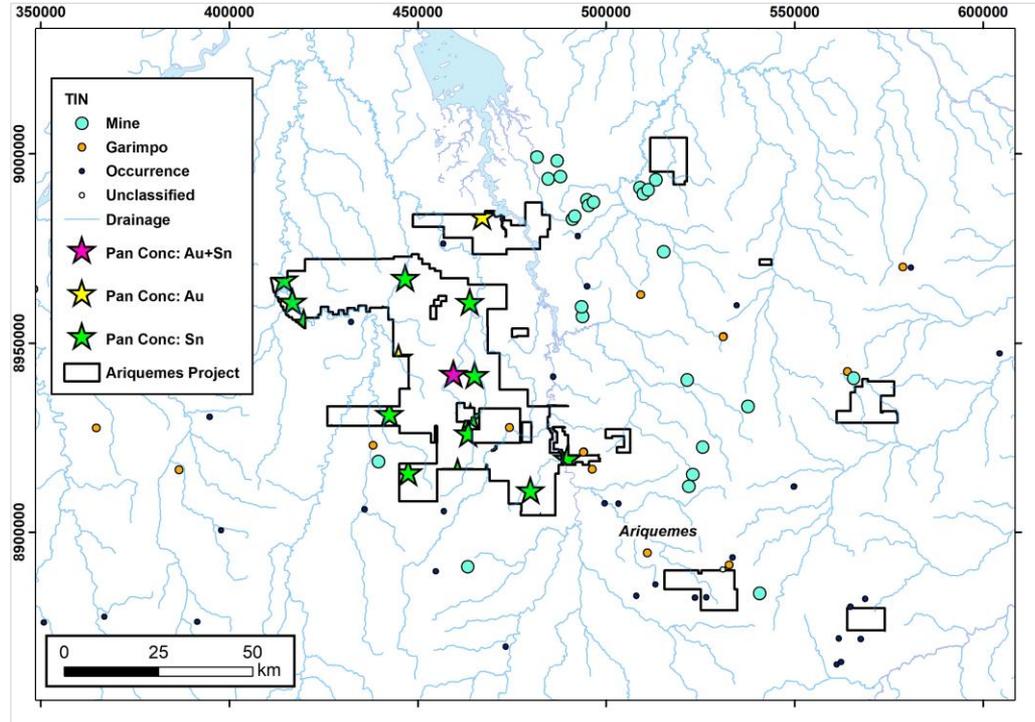


Favourable host rocks extend onto Meridian licences

Supplementing the geophysical and geological mapping, the CPRM has also undertaken a pan-concentrate program, a very broad regional spacings, to map anomalous catchment areas.

Several sample points fall within the Meridian tenements, and have returned positive results, with traces of tin and in some cases gold.

These are extremely positive results coupled with the geophysical and geological context, suggesting there are mineralized sources within the licence area.



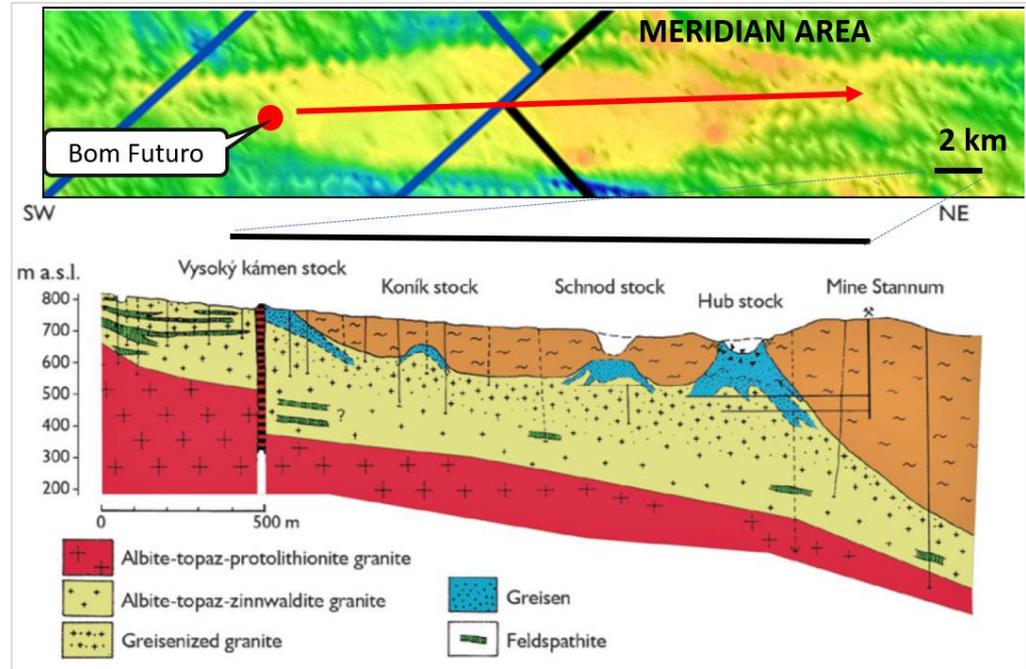
Positive signal for reconnaissance geochemistry

The Ariqueμες type tin deposits are generally developed in “roof pendant” settings, where the veins / pegmatites are underpinned by a deeper intrusion that has reached metal-saturation.

In the Bom Futuro area along, a magnetic body characteristic of the Younger Granites can be seen extending over 20km, with the NE extent projection trending onto Meridian’s licences.

By analogue to other settings with a longer history of mining, such as the Erzgebirge / Krásno Ore District, repeats of mineralization can be expected in the carapace of such intrusions along strike.

This corridor represents one priority area for evaluation.



Robust exploration analogues

Three geomorphological settings exist in the project area:

## Exposed High ground

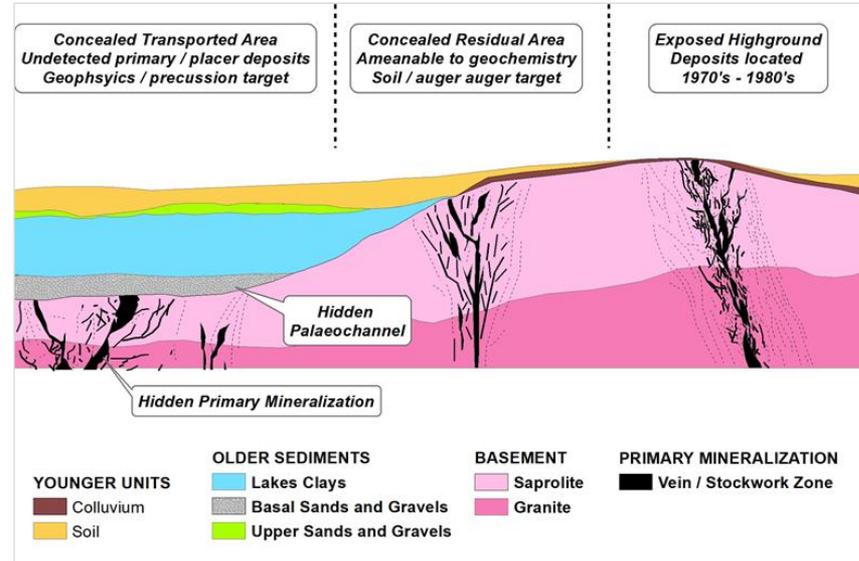
- Areas of greater relief where prospecting generated the first generation of discoveries in the 1970's -1980's. Continued mapping in windows of exposure still can add useful context for interpretation.

## Concealed Residual Areas

- Tropical weathering has often generated a thick tropical soil profile. Based on the CPRM radiometrics and magnetics, scope exists to test for mineralization signatures through soil geochemistry / auger drilling.

## Concealed Transported Areas

- Area of sheetwash and palaeochannels will mask the surface geochemical response in many areas. The more micaceous greisen zones may also have been susceptible to recessive weathering. Geophysics (IP / GPR) can map the palaeotopography; percussion drilling techniques can test for mineralization in basal gravels and upper buried saprolite.



Targeted exploration methods

The project area hosts the “right rocks” and a favourable geophysical signature for targeting repeats of the mineralization.

Magnetics imagery provides focused areas for targeting concealed intrusions for disseminated / stockwork target styles.

Structural modelling provides focused areas for targeting vein / pegmatite mineralization.

- A high priority corridor is the North East trend of the Rondônia Suite (hosting the district's largest tin mine detected to date), which hosted some of the highest primary grades in the district (10% Sn core in 1% Sn envelop).

Geophysical techniques have evolved to now allow effective mapping of palaeochannel systems.

- Concealed primary sources may be associated with concealed placer deposits (historically mined at > 3-4 kg/m<sup>3</sup> of cassiterite).
- Detection of the palaeodrainage systems and testing the heavy mineral content will assist with mapping fertile source areas and may indeed yield placer resources .

\$US 2M budget proposed for geophysics, geochemistry, auger/ percussion drilling to test for the next major discovery in the field.

Meridian Mining SE  
Investor Contact  
info@meridianmining.co  
Suite 488, 625 Howe St  
Vancouver, BC  
V6C 2T6

Phone: +1 604 681 0405

MERIDIAN MINING S.E.  
BRAZIL  
Avenida Brigadeiro Faria Lima 1485, 2º floor, North Tower, room 232  
Jardim Paulistano  
Sao Paulo SP 01452-002 Brasil

+55 11 3797-6665

+55 11 3797-6668

