



**CentaurusMetals**

Limited

ASX : CTM



## Dawn of a new global nickel sulphide growth project

- ✓ **Advanced Jaguar Project – acquired from Vale**
- ✓ **Large-scale, open pit potential**
- ✓ **10,000m drill program underway**
- ✓ **Outstanding results from initial drilling**

December 2019 | RRS Summer Series | Darren Gordon, Managing Director



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- All information contained in this presentation on the Salobo Mine of Vale has been taken from the “Vale Production in 4Q18” Report, its 20-F Annual Report for 2018 and other public domain reports including their 2018 Vale Day presentation
- All information included in this presentation regarding the Jaguar Nickel Sulphide Project should be read in conjunction with the Company’s ASX announcements dated 6 August 2019. The resource information is reported on the basis of a Foreign Estimate and as such, is not reported in accordance with the JORC Code 2012. The Foreign Estimate reported is based on a 0.5% Nickel cut-off and no additional economic constraints were applied to the resource. An additional 17.2Mt at 0.76%Ni is reported in the Inferred Resource category of the Foreign Estimate, the Centaurus competent person considers that these Inferred Resources do not meet the requirements of the JORC Code (2012) for reporting Mineral Resources. The resource is to be read in conjunction with ASX Listing Rule 5.12 (ASX announcements dated 1 August 2019 - Annexure A)
- The information in this report that relates to new Exploration Results is based on information compiled by Roger Fitzhardinge who is a Member of the Australasia Institute of Mining and Metallurgy. Mr Roger Fitzhardinge confirms that the historical information in this market announcement that relates to the Exploration Results and Mineral Resource provided under ASX Listing Rules 5.12.2 to 5.12.7 is an accurate representation of the available data and studies supplied to Centaurus as a foreign estimate.
- Roger Fitzhardinge is a permanent employee of Centaurus Metals Limited. Roger Fitzhardinge has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Roger Fitzhardinge consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

# Centaurus – A Ground-Floor Nickel Investment Opportunity

- ☀️ Focused on exploring and developing the advanced Jaguar Nickel Project – acquired from Vale in September 2019
- ☀️ High-quality entry into sought-after nickel sulphide development space
- ☀️ Global foreign resource of 40.4Mt at 0.78% Ni\* (0.5% Ni cut-off):
  - 315,000 tonnes of contained nickel, based on more than 55,000m of diamond drilling
- ☀️ 40,000m of new drilling to be undertaken over next 9 months focused on zones of high-grade mineralisation
- ☀️ Outstanding results from initial drilling
- ☀️ Development-ready 1Mtpa iron ore project at Jambreiro –value realisation strategies underway
- ☀️ Well-funded +\$10 million in cash reserves

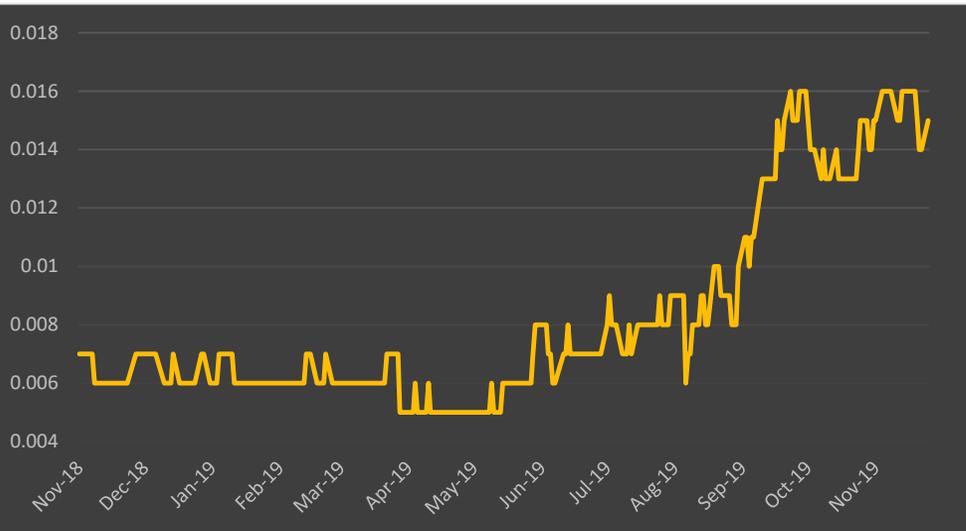


\* CTM cautions that the mineral resources for the project are not reported in accordance with the JORC Code. A competent person has not yet done sufficient work to classify the resources as mineral resources in accordance with JORC code. It is uncertain that following evaluation or further work that the foreign estimate will be able to be reported as mineral resources in accordance with JORC Code. The resource is to be read in conjunction with Appendix A of the ASX Release made on 6 August 2019 which deals with the requirements of ASX Listing Rule 5.12.

# Corporate Summary

## Capital Structure

Shares on Issue	3,790m
Listed Options (EP \$0.012, Exp 31/5/21)	434m
Unlisted Options (EP \$0.008 to \$0.015)	253m
Top 20 Holders	42%
Directors and Management Holding	5%
Market Capitalisation (at \$0.015)	A\$56.8m
Cash as at 30 September 2019	A\$11.3m



## Experienced Board and Management Team

### Didier Murcia – Non-executive Chairman

Lawyer with +30 years experience across multiple commodities & jurisdictions

### Darren Gordon – Managing Director

Chartered Accountant & Mining Professional with +20 years experience

### Bruno Scarpelli – Brazil Country Manager & Executive Director

Engineer with +15 years experience focussed in Brazil

### Chris Banasik – Non-executive Director

Geologist with +30 years experience. Extensive nickel sulphide experience with WMC

### Mark Hancock – Non-executive Director

Chartered Accountant with 25 years experience

### Roger Fitzhardinge – Operations Manager, Nickel

Geologist with +15 years experience. Former senior roles with Mirabela Nickel in Brazil

### John Westdorp – Chief Financial Officer

25 years finance experience across multiple commodities and jurisdictions

### John Knoblauch – Principal Metallurgist

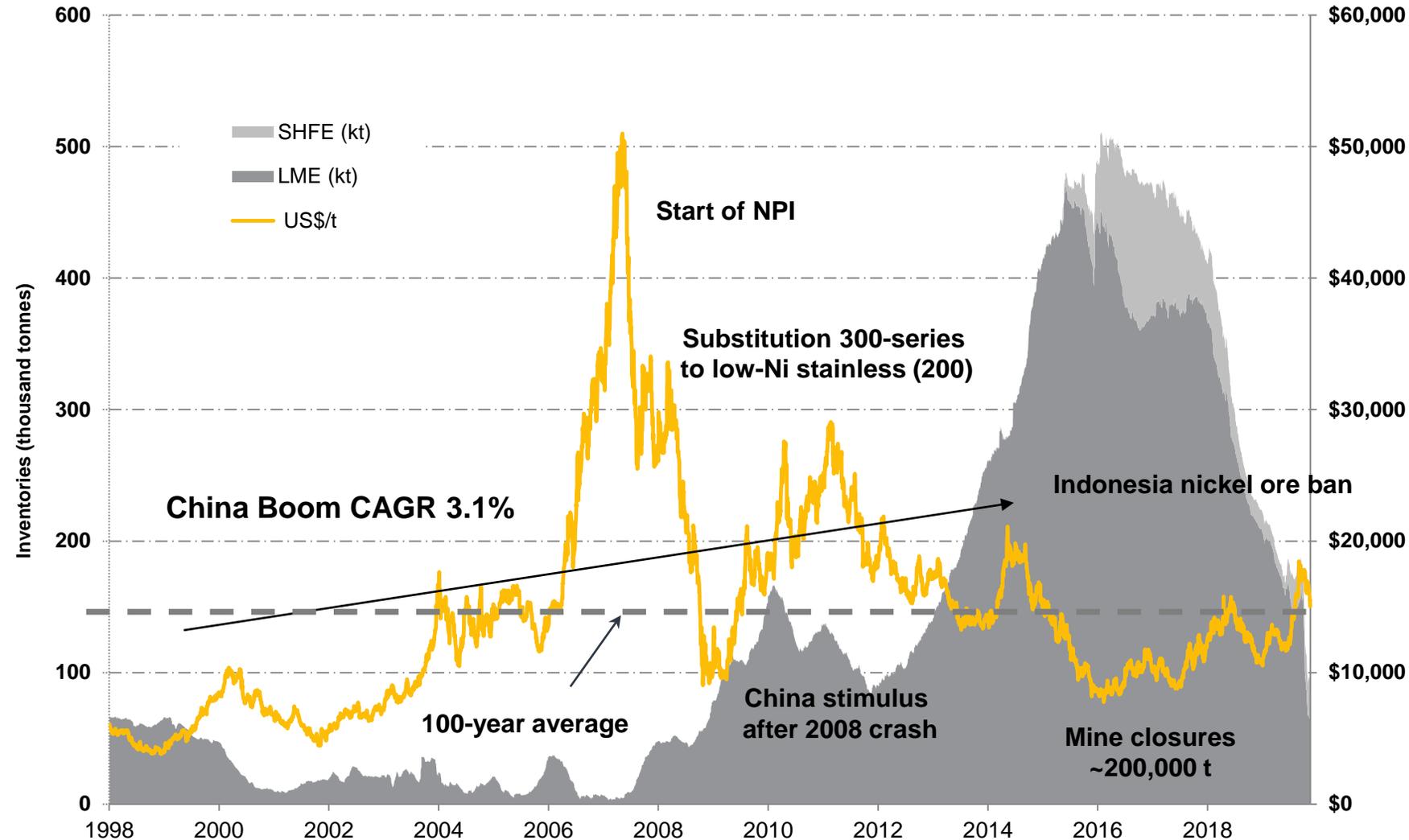
Strong nickel experience, previous roles with Mirabela Nickel and Sally Malay Mining

### Grant “Rocky” Osborne – Principal Geoscientist

40 years’ experience, led the discovery of numerous nickel sulphide orebodies

# Nickel – Plummeting Inventories a Sign of Things to Come...

- Nickel prices hit record high of US\$50,000/t in 2007-08
- Supply response (+technology and substitution) generated considerable inventories
- Nickel Pig Iron (NPI) now 35% of global nickel supply vs ~0% in 2006
- Low-point \$8,000/t – 80% of sector losing money
- Nickel market deficits since 2015 have decreased the level of inventories from a peak of 511,000 tonnes in January 2016 to about 103,000 tonnes currently
- Nickel market on the rise with spot prices up by 38% since October 2018 – but a long way to go!

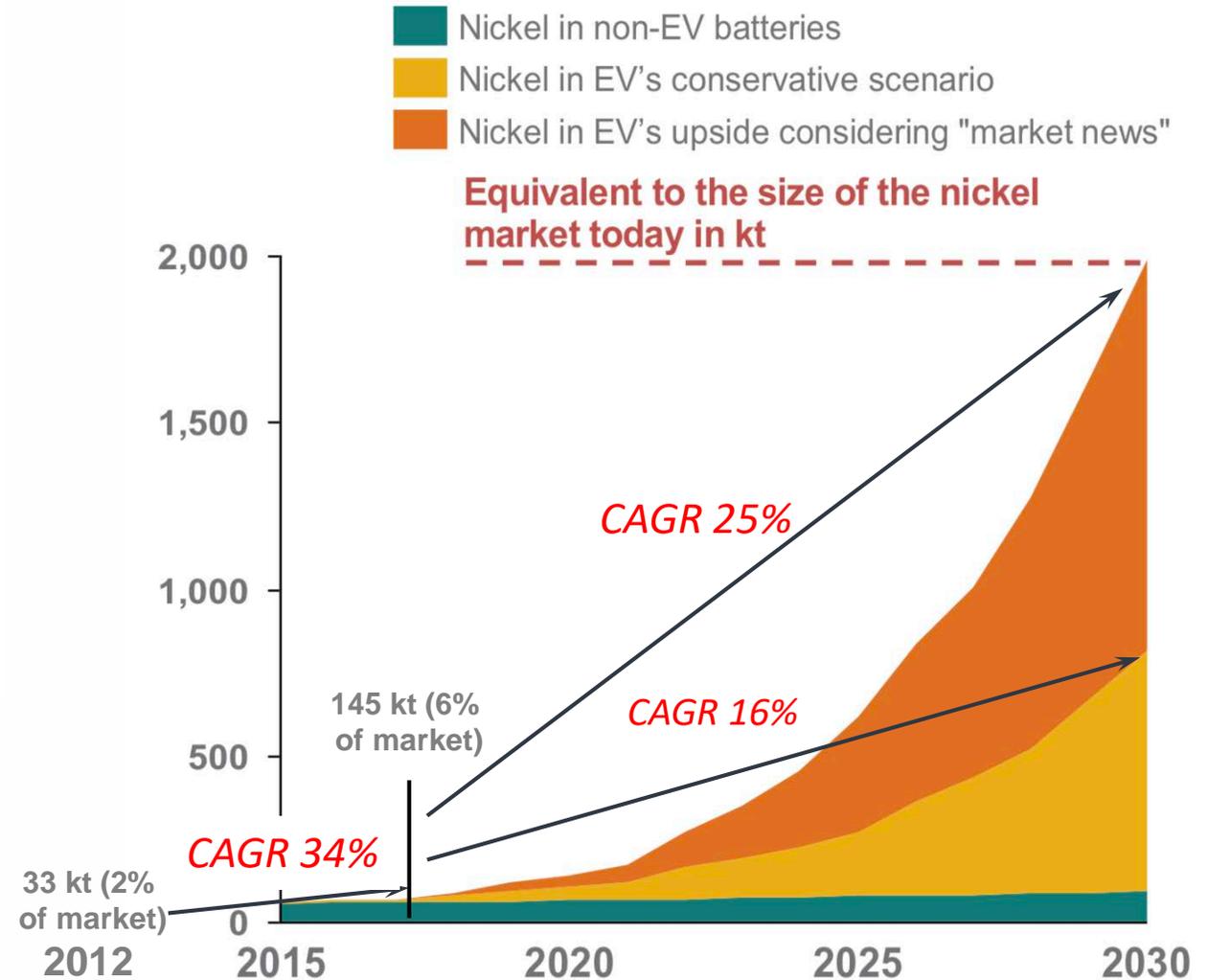


# Nickel – The Looming EV Revolution

- ☀️ Current nickel market size ~2.5Mt
- ☀️ Nickel demand for batteries growing strongly (more than 4X in six years to 2018) but from a low base – still only 145,000t or 6% of market
- ☀️ Depending on the scenario for the EV rate of adoption, nickel volumes to meet this additional demand vary between 750,000 tonnes and 2 million tonnes
- ☀️ Nickel demand from EV will far exceed nickel production from existing operations in any scenario of EV adoption

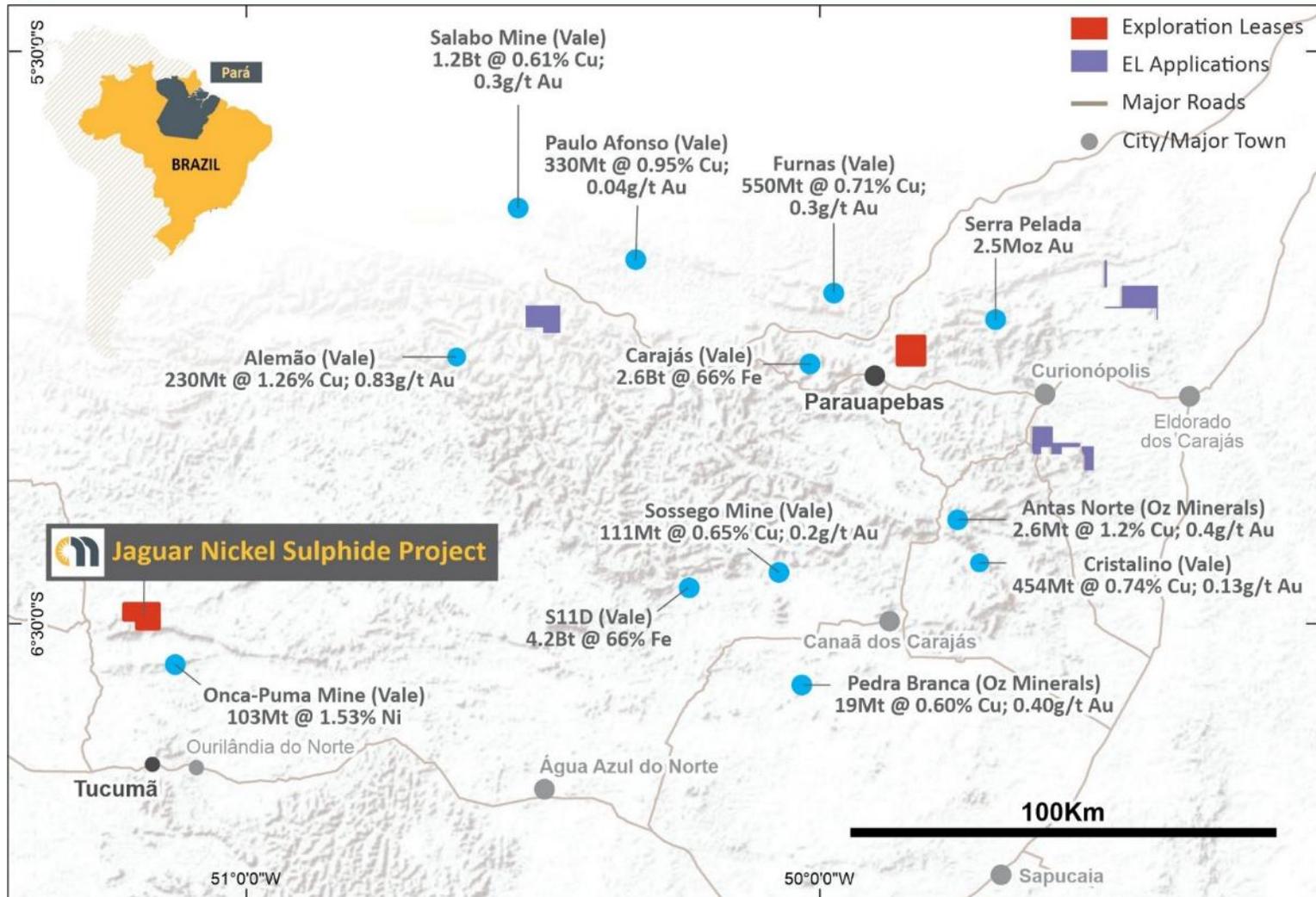
## Where is the new supply going to come from?

EV nickel demand requires Class-1 nickel provided by sulphide and HPAL projects, rather than NPI which targets stainless steel production.





# The Carajás Mineral Province – Land of the Giants



- ☀ 10 IOCG deposits with resources of +100Mt Cu-Au, including six >300Mt for +4.0Bt of Cu-Au resources
- ☀ Includes Vale’s giant Salobo Mine which hosts Reserves of 1.2Bt @ 0.61% Cu, 0.3g/t Au
- ☀ Hosts the largest high-grade iron ore deposits on the planet, plus multiple large nickel laterite mines and deposits
- ☀ CTM holds + 100km<sup>2</sup> tenement portfolio located within the world-class Carajás Mineral Province
- ☀ Includes the **Jaguar Nickel Sulphide Project, the Itapitanga Ni-Co Project, and the Pebas Cu-Au Project**

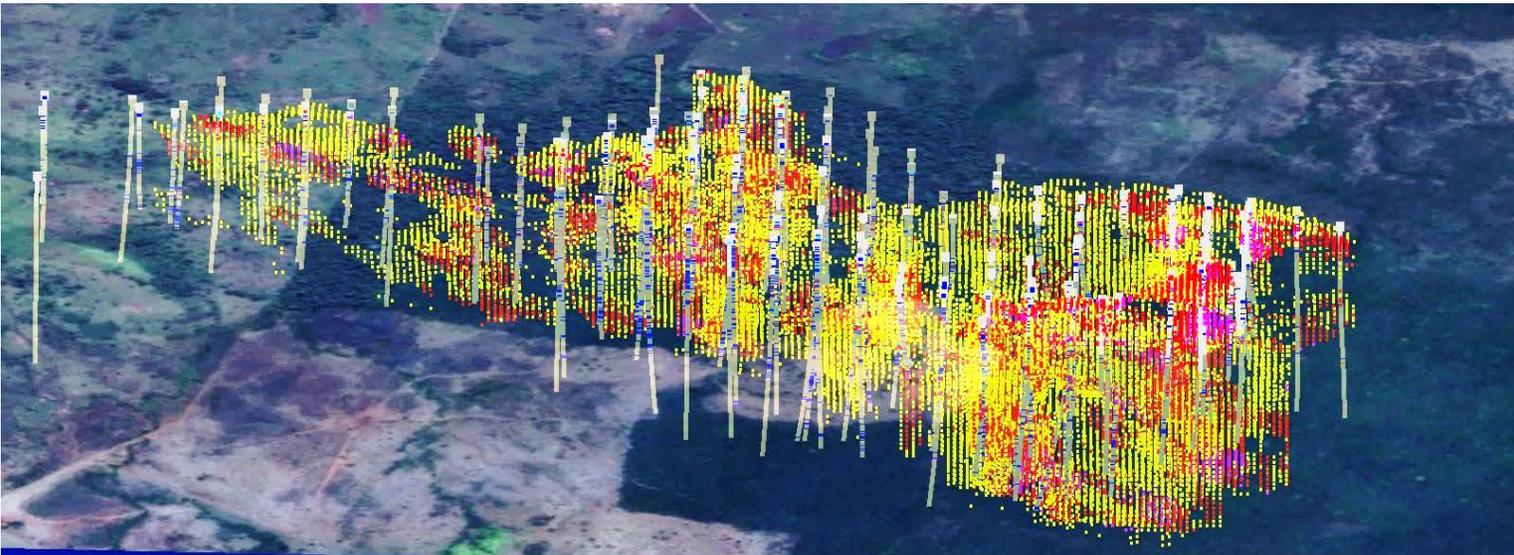
The Carajás contains one of the world’s largest known concentrations of large-tonnage mineral deposits

# Jaguar Project – Large-Tonnage Resources at Surface

## Historical resources of 40.4Mt at 0.78% Ni – 315,000 tonnes of contained Nickel Metal

Classification <sup>1</sup>	Mt	Ni %	Grade			Metal	
			Cu %	Co ppm	Ni	Cu	Co
Measured	19.0	0.79	0.06	145	150,008	11,393	2,753
Indicated	21.4	0.77	0.07	123	164,939	14,994	2,635
<b>Total</b>	<b>40.4</b>	<b>0.78</b>	<b>0.07</b>	<b>133</b>	<b>314,947</b>	<b>26,388</b>	<b>5,388</b>

<sup>1</sup> Rounding errors may occur. The Foreign Estimate reported is based on a 0.5% Nickel cut-off and no additional economic constraints were applied to the resource. An additional 17.2Mt at 0.76%Ni is reported in the Inferred Resource category of the Foreign Estimate. The Centaurus competent person considers that these Inferred Resources do not meet the requirements of the JORC Code (2012) for reporting Mineral Resources. The resource is to be read in conjunction with Appendix A of the ASX Release made on 6 August 2019 which deals with the requirements of ASX Listing Rule 5.12.



- ☀ Resource<sup>2</sup> estimate completed in 2010 based on more than **55,000m of diamond drilling**
- ☀ All exploration and resource work of Vale was completed to the highest industry standards
- ☀ Centaurus to engage an independent resources specialist (JORC CP) to review and update the resources to JORC 2012 compliance
- ☀ The historical resource is based on an interpretation which focused on the bulk disseminated mineralisation – **huge potential for a high-grade model**

## 315Kt of nickel metal in Resources Open along strike and down-dip

<sup>2</sup> CTM cautions that the mineral resources for the project are not reported in accordance with the JORC Code. A competent person has not yet done sufficient work to classify the resources as mineral resources in accordance with JORC code. It is uncertain that following evaluation or further work that the foreign estimate will be able to be reported as mineral resources in accordance with JORC Code.

# Jaguar – Multiple Deposits, Brownfields and Greenfield Targets

## Multiple Greenfields Targets

### Onça-Rosa Prospect:

- 7.9m at 5.27% Ni from 247m
- Nearest drill hole + 250m away

### Leão Targets:

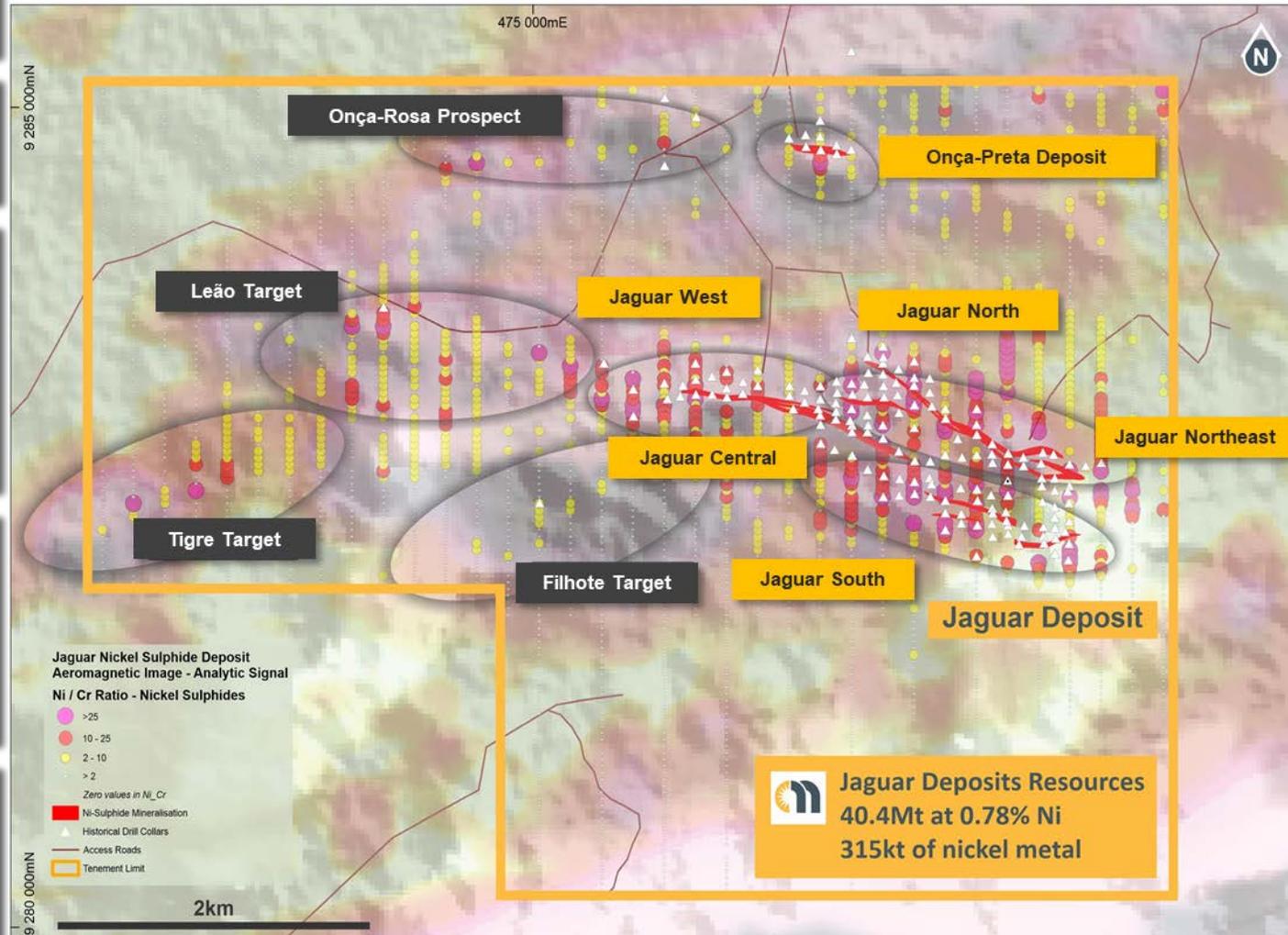
- Large scale Ni/Cr (Ni-sulphides) and Cu in soil anomalies coincident with Ground Mag and IP anomalies
- Only one drill hole testing more than 3.5km of anomalies

### Tigre Targets:

- Large scale Ni/Cr (Ni-sulphides) and Cu in soil anomalies coincident with Ground Mag and IP anomalies
- No drilling

### Filhote Target:

- 2.0km PGEs soil anomaly with coincident geophysical target (IP)
- Two drill holes with intersections up to 1.1g/t PGEs



## Multiple Deposits and Brownfields Targets

### Onça-Preta Deposit: 400m strike

- 12.2m at 1.80% Ni from 84.9m
- 7.3m at 3.58% Ni from 318.0m
- 5.7m at 2.73% Ni from 352.0m

### Jaguar North: +1.8km strike

- 5.1m at 4.09% Ni from 70.0m
- 3.9m at 3.33% Ni from 35.0m
- 6.0m at 3.24% Ni from 68.0m

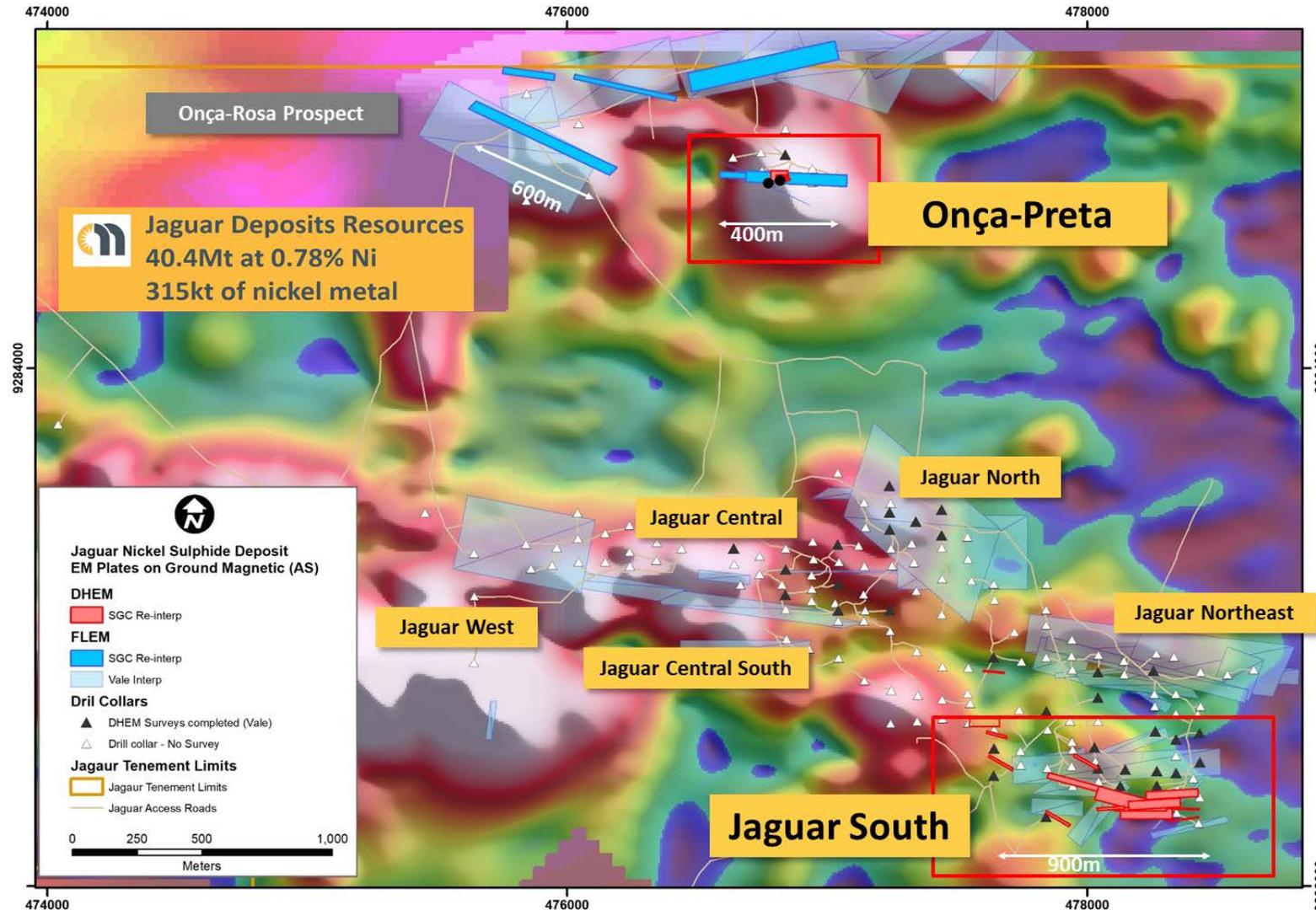
### Jaguar West: +1.2km strike

- 8.2m at 1.59% Ni from 94.0m
- 10.0m at 2.00% Ni from 25.0m
- 4.15m at 5.20% Ni from 60.0m

### Jaguar South: +1.2km strike

- 28.0m at 3.93% Ni from 62.0m
- 37.4m at 2.42% Ni from 81.0m
- 31.4m at 2.47% Ni from 15.3m
- 25.0m at 2.20% Ni from 66.0m
- 12.5m at 3.15% Ni from 28.7m
- 11.0m at 2.67% Ni, from 72.0m
- 4.6m at 4.65% Ni from 421.5m

# Jaguar Project – Maiden Drill Campaign



Centaurus drill campaign objectives:

1. Confirm and extend the known high-grade nickel sulphide intersections
  2. Identify new high-grade nickel sulphide zones
- ☀ FLEM and DHEM conductor plates consistently correlate well with high-grade nickel mineralisation in historical and new drilling
  - ☀ Southern Geoscience to mobilise DHEM and FLEM equipment to Brazil, which should arrive on site by mid-January

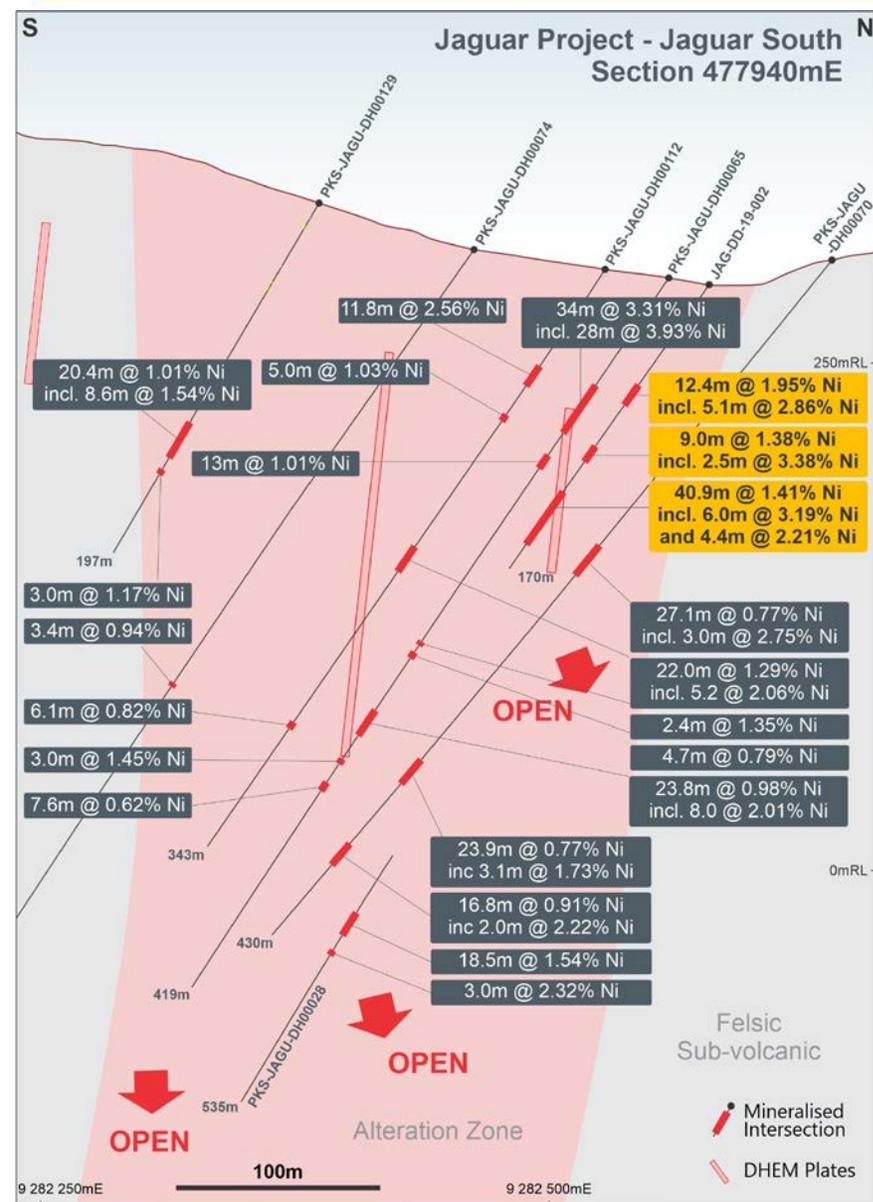
# Jaguar South – Outstanding First Assay Results

## Jaguar South – over 1.2km strike with wide sub-vertical semi-massive and massive nickel sulphide zones

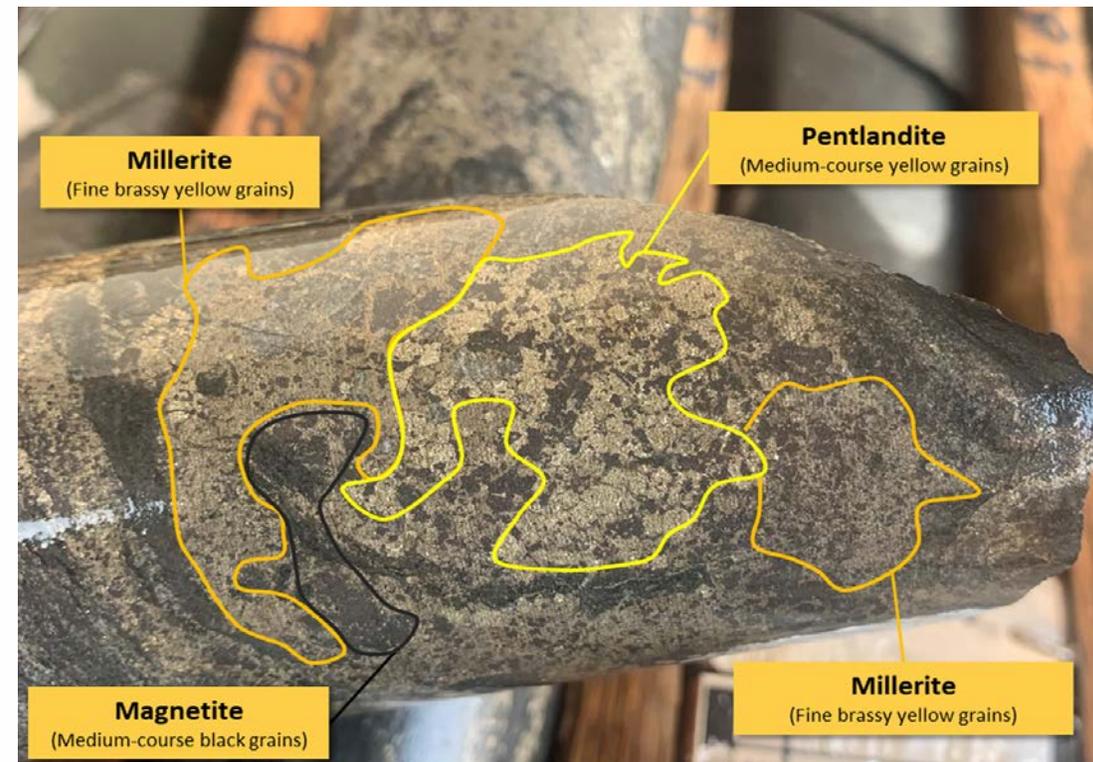
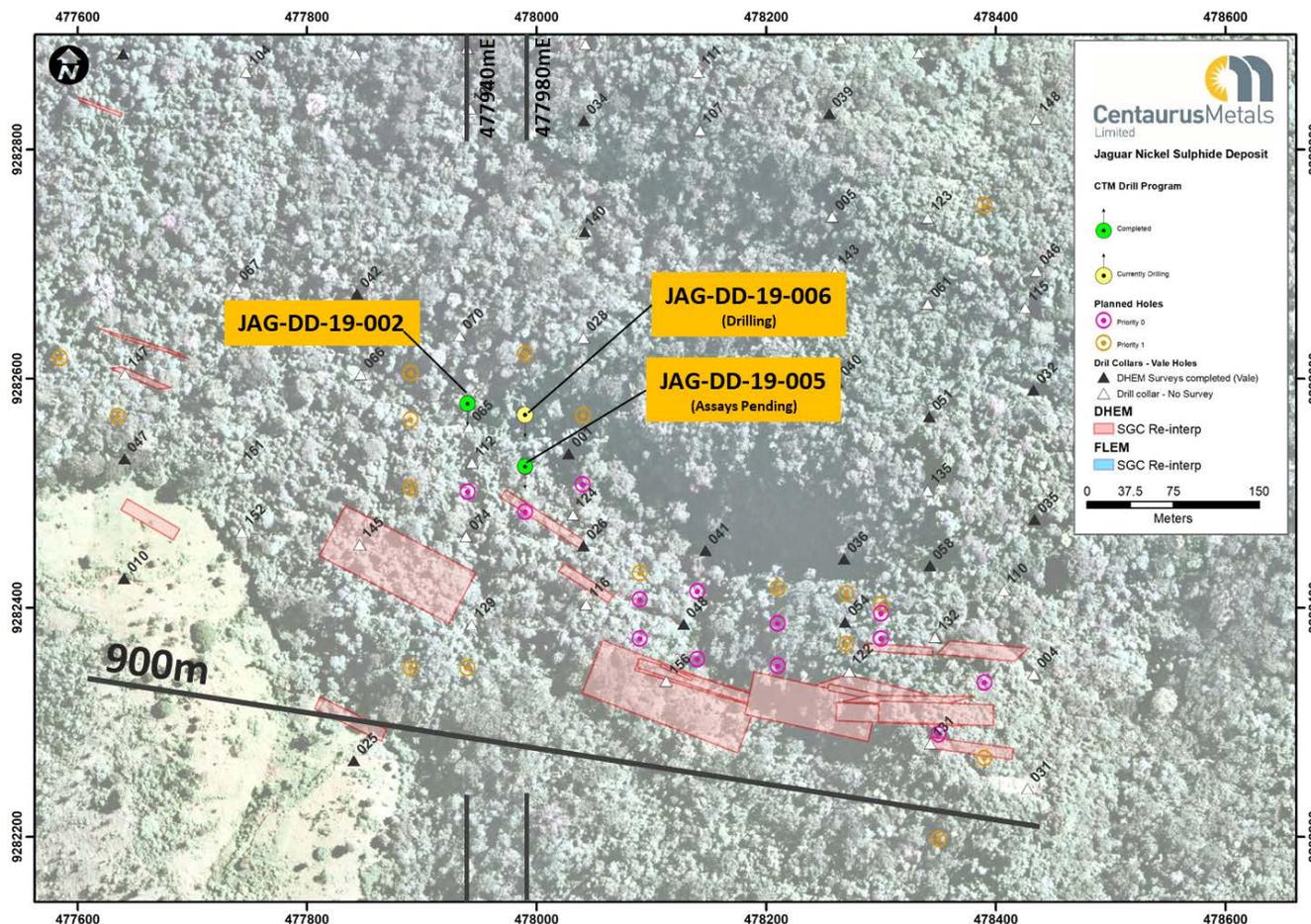
At the Jaguar South Deposit, the Company's first drill hole, JAG-DD-19-002, intersected:

- ☀ **12.4m at 1.95% Ni, 0.10% Cu and 0.03% Co from 71.0m, including:**
  - ☀ **5.1m at 2.86% Ni, 0.16% Cu and 0.05% Co from 71.9m;**
  - ☀ **9.0m at 1.38% Ni, 0.04% Cu and 0.02% Co from 112.0m, including:**
    - ☀ **2.5m at 3.38% Ni, 0.11% Cu and 0.06% Co from 113.3m;**
    - ☀ **40.9m at 1.41% Ni, 0.04% Cu and 0.03% Co from 131.5m, including:**
      - ☀ **6.0m at 3.19% Ni, 0.08% Cu and 0.06% Co from 152.0m; and**
      - ☀ **4.4m at 2.21% Ni, 0.06% Cu and 0.04% Co from 161.1m**

**Results confirm the consistency and grade of historical intersections, such as 34.0m at 3.31% Ni, and adds 50m of down-dip extension**



# Jaguar South – Open in Both Directions and at Depth



Millerite, the highest tenor nickel sulphide mineral, appears to be the dominant nickel sulphide at Jaguar South

Mineralisation is open in both directions and at depth

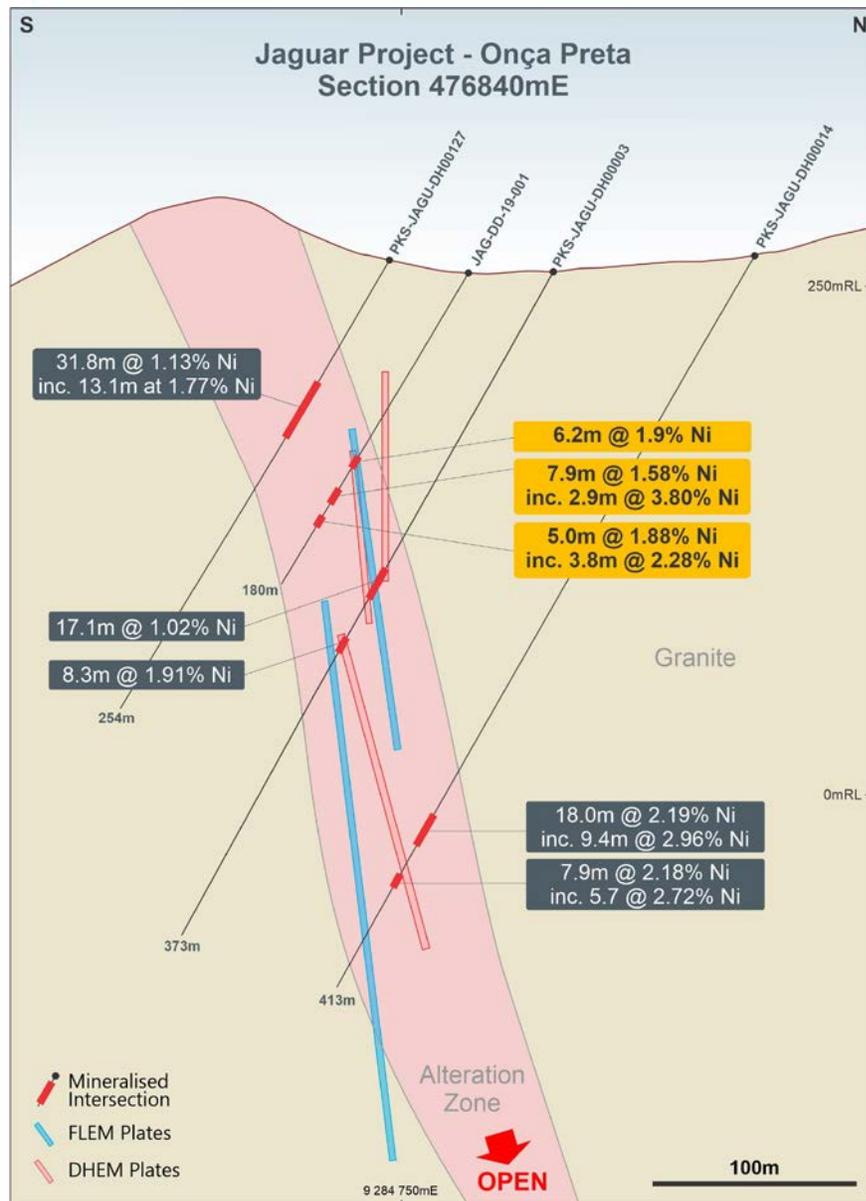
Additional step-out holes planned to test the along strike and down-dip extensions

# Jaguar Project – The Onça-Preta Deposit

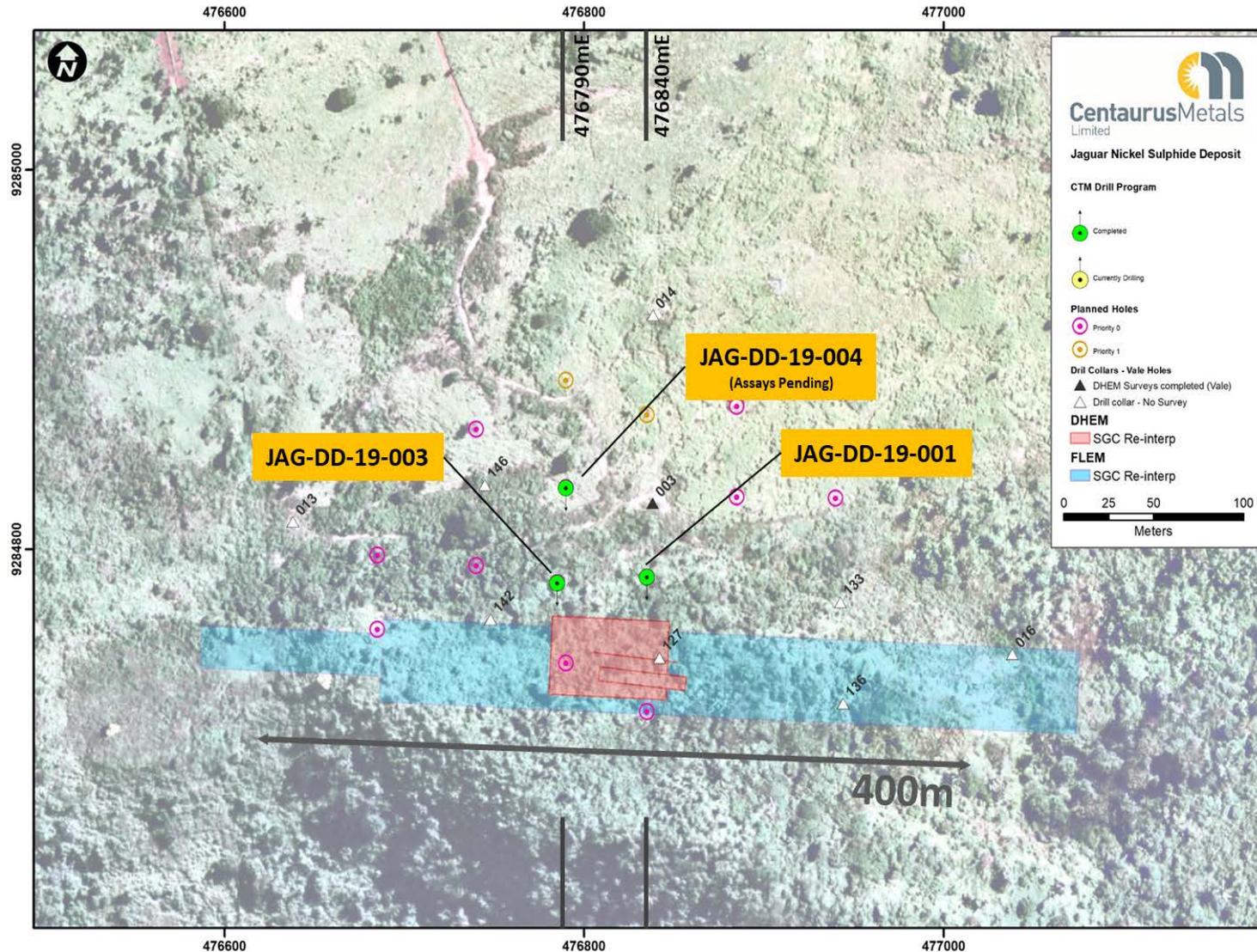
## Onça-Preta – 100m long DHEM conductor plate sitting within a broader 400m long FLEM conductor

- ☀ At the Onça-Preta Deposit, the first two drill holes, JAG-DD-19-001 and JAG-DD-19-003, intersected:
  - ☀ 6.2m at 1.90% Ni, 0.10% Cu and 0.07% Co from 107.0m in JAG-DD-19-001;
  - ☀ 7.9m at 1.58% Ni, 0.11% Cu and 0.11% Co from 126.1m in JAG-DD-19-001, including:
    - ☀ 2.9m at 3.80% Ni, 0.27% Cu and 0.26% Co from 126.1m;
  - ☀ 5.0m at 1.88% Ni, 0.18% Cu and 0.14% Co from 141.5m in JAG-DD-19-001, including:
    - ☀ 3.8m at 2.28% Ni, 0.22% Cu and 0.12% Co from 142.1m;
  - ☀ 10.2m at 1.20% Ni, 0.06% Cu and 0.04% Co from 83.7m in JAG-DD-19-003, including:
    - ☀ 3.5m at 2.44% Ni, 0.10% Cu and 0.09% Co from 90.3m;
  - ☀ 2.5m at 1.44% Ni, 0.04% Cu and 0.21% Co from 100.0m in JAG-DD-19-003;

The Onça-Preta deposit remains open at depth and along strike in both directions.



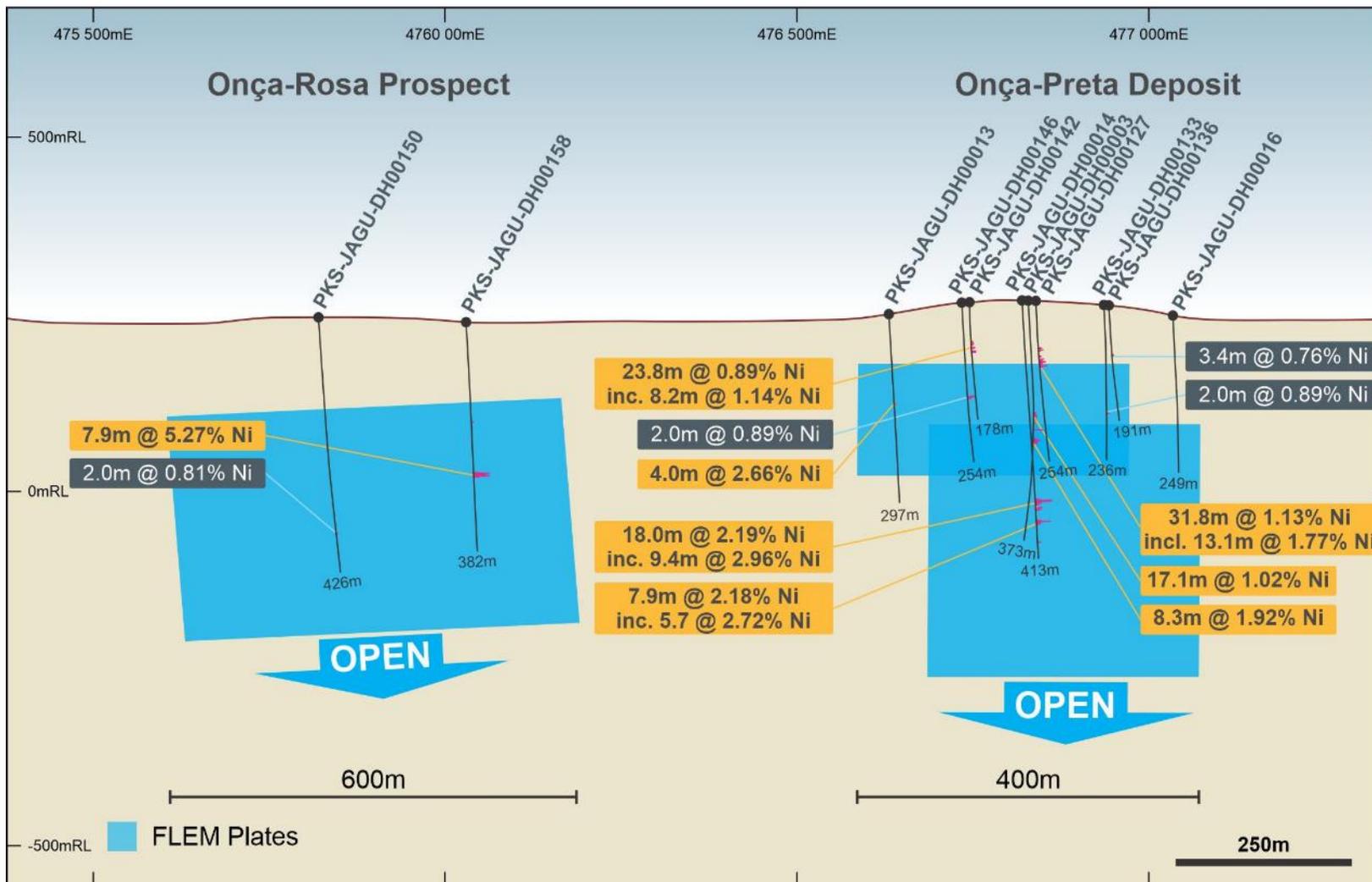
# Jaguar Project – The Onça-Preta Deposit



**JAG-DD-19-001 returned the highest-grade intersection seen on the project:  
1.0m at 9.06% Ni, 0.55% Cu and 0.40% Co**

- ☀️ JAGU-DH00014, returned 18.0m @ 2.19% Ni including Collars 9.4m @ 2.96% Ni from 318m depth and the DHEM conductor plates continue down-dip
- ☀️ **Grade and width is increasing with depth**
- ☀️ Step-out drilling is planned on down-dip extensions with further drilling along strike in both directions to test the 400m FLEM conductor plate

# Jaguar Project – The Onça-Rosa Prospect



## The Onça-Rosa Prospect

- 800m west of Onça-Preta Deposit
- Hosts **+1.5km strike of Ni/Cr in soil anomalies** (Ni Sulphides) coincident with ground magnetics and IP anomalies
- 600m long EM conductor plate**, tested by only two historical diamond drill-holes – both were mineralized, with one returning an outstanding intercept of **7.9m @ 5.27% Ni**
- No other drill holes within 200m of this high-grade intercept**

**DH00158, 253.5m:**  
7.66% Ni;  
0.38% Cu;  
949ppm Co.





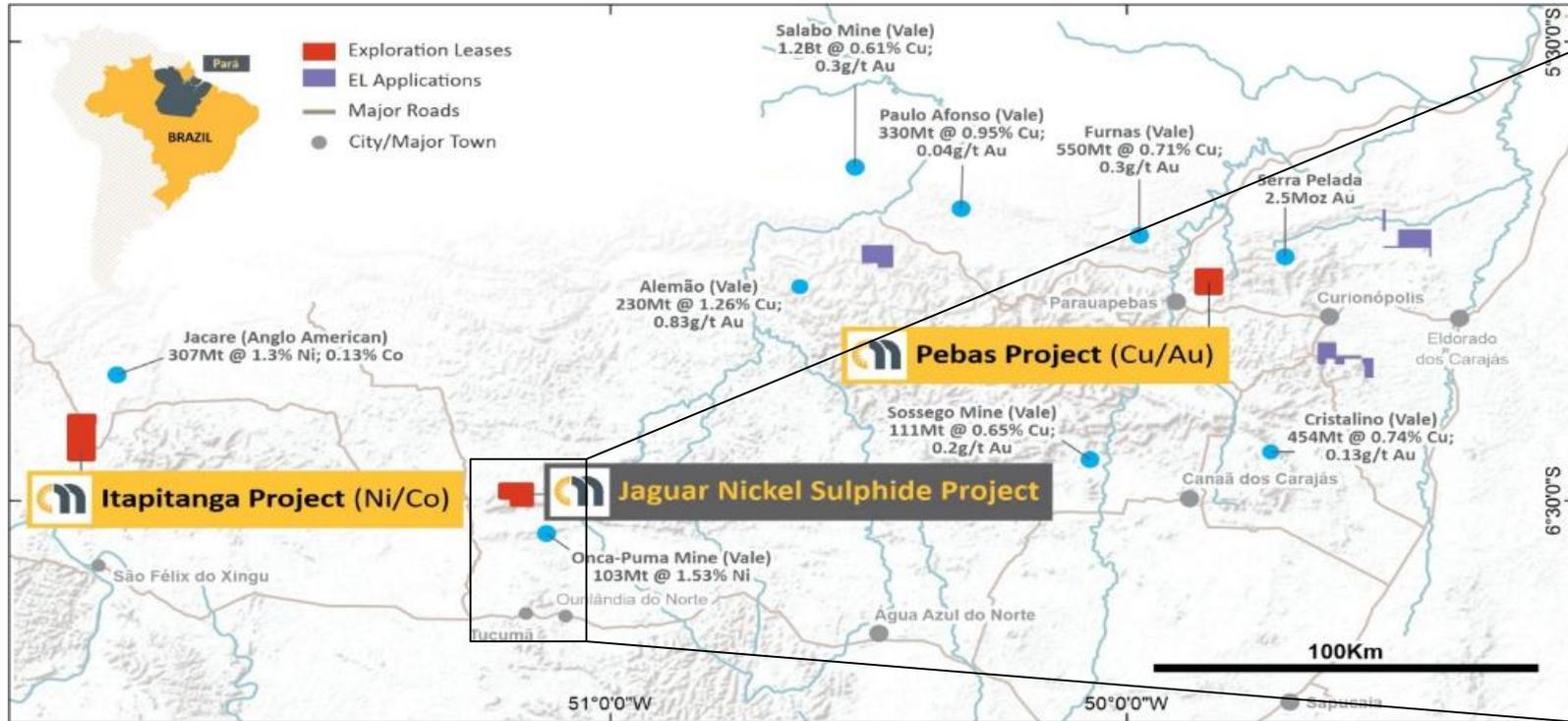
## Preliminary Metallurgical Testwork

- ☀ Nickel sulphide mineralisation is recoverable by conventional flotation process
- ☀ Preliminary lock-cycle flotation tests targeted Voisey’s Bay **high-grade +23% nickel concentrate** returned a **64% recovery**
- ☀ Good Fe:MgO ratio of 8.6, very low arsenic (25 ppm), low talc
- ☀ Historical test work consisted of 10 first pass lock-cycle tests based on 0.86% Ni feed grade
- ☀ **Further testwork likely to enhance already high-quality metallurgical recovery results**

Element		Concentrate Grade	Recovery
		P <sub>80</sub> =20µm	P <sub>80</sub> =20µm
Ni	%	23.1	64.0%
Cu	%	1.1	60.4%
Co	ppm	1114	15.2%
Fe	%	20.5	3.4%
Mg	%	1.41	0.7%
S	%	28.1	27.5%
As	ppm	24.8	5.5%
F	ppm	702	0.7%

**Clean high-grade concentrate will attract a premium price**

# Jaguar Project – Outstanding Infrastructure and Logistics



- ☀ 35km north of regional mining centres of Tucumã and Ourilândia do Norte (population 50,000) with access via all-weather roads – mining towns with strong skilled workforce
- ☀ **High Voltage (230kVA) sub-station located 15km south-east at Vale’s Onça-Puma Ferronickel Plant**
- ☀ **Mining Lease Application lodged and Land Access Agreements in place with four key landowners at Jaguar**

# Jaguar Project – Only 15km From Onça Puma Ferronickel Plant



# Centaurus – Key Investment Takeaways



- ☀️ **Nickel focus** – large-scale, high-quality nickel sulphide asset leveraged to strong long-term nickel market outlook
- ☀️ **Substantial resource** – 40.4Mt at 0.78% Ni (0.5% Ni cut-off) for a total of 315,000 tonnes of contained nickel
- ☀️ **Outstanding high-grade open pit potential** – focusing on high-grade semi-massive to massive sulphide zones
- ☀️ **Active work program underway, strong news-flow** – initial 10,000m drill program with outstanding first results
- ☀️ **Iron ore optionality** – PFS-level Jambreiro Project, off-take discussions and value realisation strategies in progress

**Centaurus represents a ground-floor investment opportunity in a rapidly unfolding high-grade nickel sulphide growth story in Brazil, at the perfect time in the nickel market cycle.**



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**3 December 2019 | RRS Summer Series | Darren Gordon, Managing Director**