

## SPEC BUY

Current Price \$0.21  
Target Price \$0.35

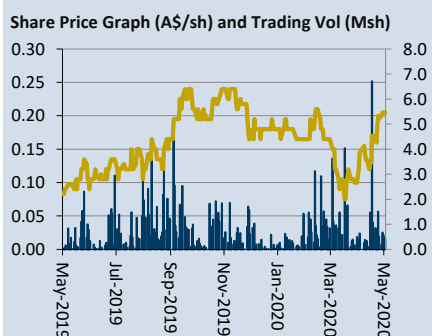
Ticker:	CTM	
Sector:	Metals & Mining	
Shares on Issue (m):	259.7	
Market Cap (\$m):	54.5	
Net Cash (\$m):	7.5	
Enterprise Value (\$m):	47.0	
52 wk High/Low:	\$0.24	\$0.07
12m Av Daily Vol (m):	0.7	

<b>Brazil Projects</b>	<b>Stage</b>	
Jaguar Nickel Project (100%)	Resource Definition	
Jambreiro Iron Ore Project (100%)	PFS	
Itapitanga Nickel-Cobalt Project	Farm-out	

<b>Reserve and Resources</b>			
Jaguar (non-JORC Inferred Resource)			
Mt	Ni %	Contained Ni (kt)	
40.4	0.8	315	
Jambreiro Iron Ore Reserve (PFS sinter product)			
Mt	Fe %	Si %	Al %
17.9	65	4.3	0.8
<b>Cashflows</b>			
	2018	2019	
Operating Cashflow	-4.1	-3.6	
Investing Cashflow	0.0	-0.2	
Cash Balance	1.4	9.7	

<b>Directors:</b>	
Didier Murcia	Chairman
Darren Gordon	MD and CEO
Bruno Scarpelli	Executive Director
Mark Hancock	Non-Executive Director
Chris Banasik	Non-Executive Director

<b>Major Shareholders (%)</b>	
Taurus Asset Management	NA
Sprott Asset Management	NA
Board and Management	~5%



Please refer to important disclosures at end of the report (from page 16)

Friday, 8 May 2020

## Centaurus Metals Ltd

### Handed the keys to a Jaguar

Analyst: Matthew Keane

#### Quick Read

In September 2019, Centaurus Metals (CTM) executed an acquisition agreement with Vale for the Jaguar Nickel Sulphide Project in the Carajás region of Brazil. Jaguar has a non-JORC resource of 40.4Mt @ 0.8% Ni, mineralised from surface. Importantly, the deposit contains several zones of high-grade massive nickel sulphide grading up to 15.5% Ni. Argonaut sees opportunity for CTM to rapidly define a development scenario incorporating both open pit and underground mining across several deposits within the Jaguar Project. CTM is currently drilling with two diamond rigs targeting both resource definition/infill and resource expansion. A Scoping Study is due for release in Q3 2020.

#### Key points

**Rare high grade open pitable nickel sulphides :** When CTM acquired Jaguar in 2019, the project had a stated non-JORC resource of 40.4Mt at 0.8% Ni for 315kt contained Ni, making it one of the largest nickel sulphide inventories of any ASX listed company. Within the resource envelope are steeply dipping higher grade zones extending from ground surface. Significant intercepts recently reported by CTM include: 37.7m at 2.11% Ni from 109m and 21.8m at 2.65% Ni from 22m at the Jaguar South Deposit, 15m @ 2.9% Ni from 57m at the Onça-Preta Deposit and 9m @ 3.1% from 247m at the Onça-Rosa discovery.

**Continuity of high-grade zone:** The initial drilling objective was to confirm the resource and test the continuity of higher grade zones. This looks to have been achieved with up to 600m strike at the Jaguar South deposit and 300m strike at Onça-Preta. At Jaguar South, high grade is concentrated in an east-west trending mylonitised shear zone hosting sub-vertical grade lodes, which should provide the basis for an initial open pit mine.

**Production scenario:** Jaguar offers significant development optionality, ranging from a large low-grade bulk tonnage open pit operation to a smaller high-grade open pit and underground operation. CTM is expected to focus on the latter and Argonaut envisages a 1.0-1.5Mtpa concentrator plant processing ~1.5% Ni from open pit ore and up to 2.5% Ni from underground ore, producing up to 20ktpa nickel in concentrate. A Scoping Study is due to be released in Q3 2020, which will likely incorporate mainly open pit mining, due to a lack of drill density at depth. Given the advanced work completed by Vale, including 55,000m of drilling, and environmental baseline studies, the project should have an expedited timeline to production. CTM aims to lodge the Environmental Licence in Q2 2021. We predict that construction could commence from late-2023 to early-2024.

#### Recommendation

Argonaut maintains a Speculative Buy recommendation. CTM is a key pick for Argonaut in the ASX base metal developer sector given its scale, high grade, shallow mineralisation and location in the well-established Carajás mining province. Argonaut assigns a valuation of \$0.35ps, derived from EV/Resource metrics (further detail Page 3).

## Key investment highlights for CTM include...

...315kt contained nickel...

...with tangible resource upside

CTM trades on very undemanding EV/Resource metrics...

...and is operating in an established mining jurisdiction

The project presents high mining optionality based on grade and shallow mineralisation...

...and CTM has the team to permit and develop the project

## Investment highlights

### Significant nickel inventory

CTM's inventory of 315kt contained nickel (non-JORC) makes it one of the largest on the ASX behind BHP. In contrast to other nickel sulphide deposits, Jaguar propagates to surface making it a viable option for open pit mining. [READ MORE](#)

### Significant exploration upside – Proven by early discoveries

The greater Jaguar Project has a number of untested targets with coincident GeoTEM, ground magnetic and geochemical anomalies. Testing of the Onça Rosa Prospect earlier this year led to new high-grade discovery (9.3m at 3.1% Ni, 0.19% Cu and 0.08% Co from 281.8m). Most defined deposits remain open at depth and a number of targets, particularly to the west of the project, are yet to be tested. [READ MORE](#)

### Deep value based upon peer comparisons

CTM trades on an undemanding EV/Resource multiple of A\$138/t Ni Eq versus its ASX peer group average of A\$312/t. We believe this multiple, in comparison to peers, does not reflect the resource quality or advanced stage of the project. [READ MORE](#)

### Established mining jurisdiction

The Carajás is an established mining province with installed infrastructure, skilled mining personnel and readily available engineering and mining services. The acquisition from Vale, with trailing benefits, aligns CTM's interests with the dominant major in the region. [READ MORE](#)

### Mining optionality

Argonaut sees significant mining optionality for Jaguar. The project can be either assessed on a bulk low-grade open pit mine or as a smaller open pit and underground operation targeting the higher-grade zones of the Resource. The bulk mining scenario would likely generate a higher net present value (NPV) and lower operating costs, while the latter could reduce upfront capex and facilitate faster development. [READ MORE](#)

### Team with a successful operating history in Brazil

CTM has been Brazil focussed for over 10 years. This time in country gives the Company a significant jurisdictional operating advantage having forged relationships with key stakeholders and government relevant agencies. CTM has a successful permitting record having taken its Jambreiro Iron Ore Project to a shovel ready development status. [READ MORE](#)

### Strong medium to long term nickel thematic

Argonaut maintains a positive outlook on nickel over the medium to long term given the accelerating demand for the metal in growing lithium ion battery sector. In the near-term, disruptions to nickel laterite exports from Indonesia and the Philippines and rationalisation of Chinese stainless steel production, should drive a nickel price recovery. [READ MORE](#)

## Valuation

Argonaut values CTM on an EV/Resource basis for contained Ni Eq...

No development studies have been published on Jaguar by either CTM or previous owner Vale. As such, we regard an EV/Resource multiple for contained nickel as the best means to value the project. However, we note that Jaguar has a number of unique attributes (namely high grade and open pit potential), which make it challenging to find viable analogies. Our comparative list includes pre-production listed companies with a nickel sulphide project(s) as their primary asset. We have only included those projects with an existing resource. Nickel laterite or nickel limonite deposits have been excluded due to their vastly different processing routes (i.e. pressure acid leaching) and different end products.

...and achieves a conservative asset value of \$81.6m for Jaguar...

The ASX nickel sulphide peer group as a mean EV/Resource of A\$312/t and a median of A\$140/t Ni Eq (see Figure 2. over). We have applied A\$240/t to Jaguar to derive a project valuation of ~A\$82m. We regard this to be conservative, given the open pit potential and the presence of a higher-grade core. We value exploration upside at Jaguar and other exploration properties, foremost the Jambreiro Iron Ore Project (100% CTM), at A\$32m.

...and a sum of parts valuation of \$0.35/sh

*Table 1. Argonaut's sum of parts valuation for CTM*

Sum of Parts	Value (A\$m)	Value (A\$/ps)
Jaguar Nickel Project	81.6	0.31
Jaguar Exploration Upside	20	0.08
Other Exploration Properties	12	0.05
Corporate and Overheads	-30	0.12
Cash est.	7.5	0.03
Debt est.	0	-
<b>Total</b>	<b>90.6</b>	<b>0.35</b>

Source: Argonaut

However, applying a DCF valuation, achieve an asset level valuation >\$500m...

### Discounted cashflow valuation

On a discounted cashflow (DCF) basis, we believe Jaguar could be valued at >A\$500m applying a mining scenario of 5-years open pit mining at 1.5% Ni grade and 5-years underground mining at 2.5% Ni grade. Capital and operating costs assumptions are largely based upon other base metal development projects including OZ Minerals' Petra Branca project also located in the Carajás.

...and therefore see significant upside potential...

*Table 2. What Jaguar could be worth on a discounted cashflow basis*

Metric	Measure	Value	Metric	Measure	Value
<b>Timing</b>			<b>Costs</b>		
Start Construction	2024		Preproduction Capex	US\$m	160
Start Mining	2025		Sustaining/Development Capex	US\$m LOM	75
			Operating costs	US\$/lb	2.63
<b>Open Pit Mining</b>					
Open Pit Mine Life	Yrs	5	AISC	US\$/lb	3.15
Open Pit Ni Grade	%	1.5%			
Open pit mine output	Mtpa	1.5	<b>Financials</b>		
Strip Ratio	Waste/Ore	10	Average Ni Price	US\$/t	15,432
			Ni Payability	%	70%
			Corporate Tax Rate	%	25%
			Total Royalty Rate	%	5%
			Discount Rate	%	11%
			AUD/USD FX	#	0.70
			Net Present Value	A\$m	\$514
<b>Underground Mining</b>					
Underground Mine Life	Yrs	5			
Underground Ni Grade	%	2.50%			
Underground Mine Output	Mtpa	1.00			
<b>Processing</b>					
Throughput	Mtpa	1.0-1.5			
Ni Recovery	%	80%			

Source: Argonaut

Note: Argonaut's DCF model incorporates Cu and Co recoveries and revenue, which are applied to the cash costs and AISC

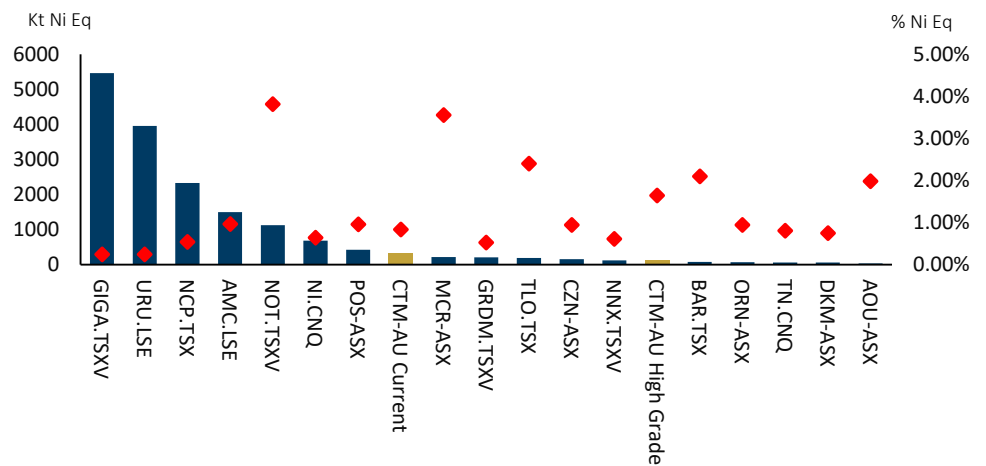
...when project metrics are release in the upcoming Scoping Study

**CTM has one of the highest open pittable resources amongst listed nickel developers**

### Peer Comparisons

CTM's contained nickel equivalent inventory ranks well against listed peers. Compared to its open pittable peers (i.e. Giga Metals' Turnagain Project), it contains one of the best grade to tonnage ratios on a nickel equivalent (Ni Eq) basis. We also note value disparity between CTM and ASX nickel explorers Legend Mining (LEG) and Chalice Gold Mines (CHN), with enterprise values (EV) of \$419m and \$327m respectively. While we recognised both have Australian domiciled discoveries, which the market is will to pay a premium for, the are very early stage, pre-resource nickel plays.

Figure 1. Nickel grade and contained Ni Eq for comparable listed nickel development companies

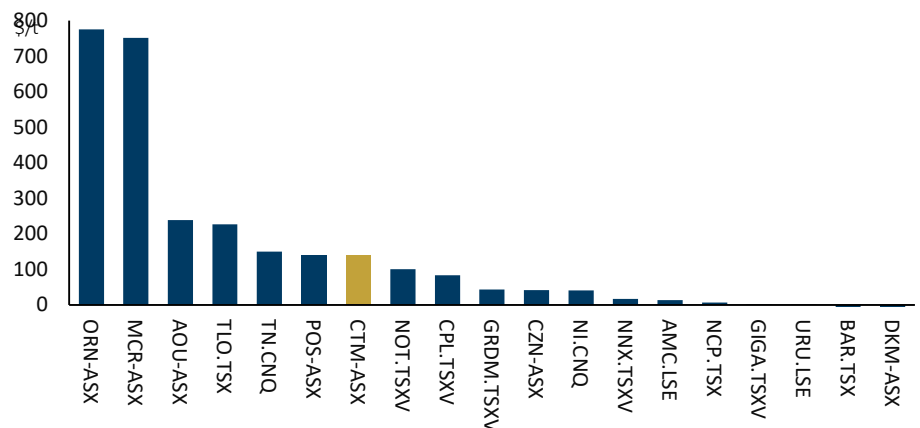


Source: S&P Market Intelligence, Company Reports  
The CTM high grade is based on Argonaut's estimates

**The Company presents deep value on an EV/Resource basis**

CTM scans as deep value on an EV/Resource basis compared to its peers. This is particularly true when compared to its underground ASX peers, namely Orion Minerals (ORN) and Poseidon Nickel (POS).

Figure 2. EV/Resource for selected listed comparable Nickel development companies



Source: S&P Market Intelligence, Company Reports.  
Based on CTM non-JORC Ni Resource and all sotocks on a Ni Eq basis

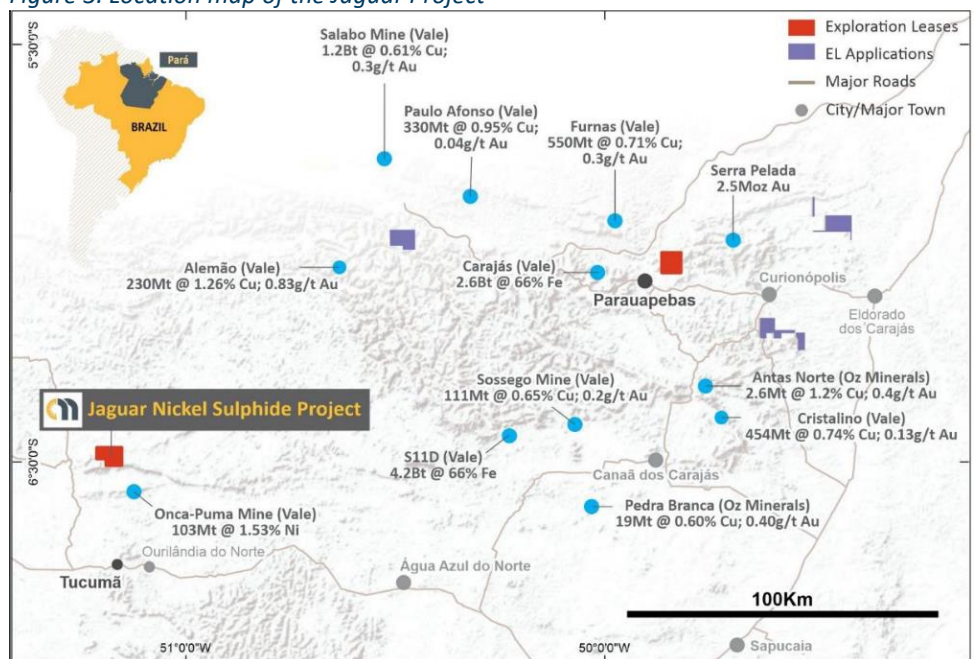
## Project Overview

### Location

**Jaguar is located in the mining friendly Carajás Mineral Province...**

Jaguar is located on the western side of the well-established Carajás Mineral Province in the Pará state of Brazil. The project was discovered by Vale in 2007. The Carajás hosts numerous world class deposits such as S11D, the largest iron ore mine globally, and the Salobo copper-gold mine (both Vale assets). Vale's Onça Puma nickel laterite mine and smelting facilities are located 15km from Jaguar. CTM's tenure in the region is >100km<sup>2</sup> incorporating Jaguar, which spans over a prospective strike of ~7km. The project sits on low population density farm land with only four key landowners.

Figure 3. Location map of the Jaguar Project



Source: CTM

**...located 15km from Vale's Onça Puma nickel laterite mine**

### Infrastructure

**The region is well-established with infrastructure and mining surfaces**

The Pará state is a mining friendly jurisdiction and the Carajás region has established transport routes to port (road and rail), power infrastructure, a skilled mining workforce and access to key mining services. The regional mining centres of Tucumã and Ourilândia do Norte (population +50,000) are accessible 35km to the south of the Project via all-weather roads. A high voltage power substation is located at Vale's Onça-Puma Ferronickel Plant 15km to the north. Water is readily available in the area. Rail is accessible from the iron ore hub of Parauapebas (~350km by sealed roads).

### Geology

**The mineralisation style of Jaguar is most likened to an IOCG deposit**

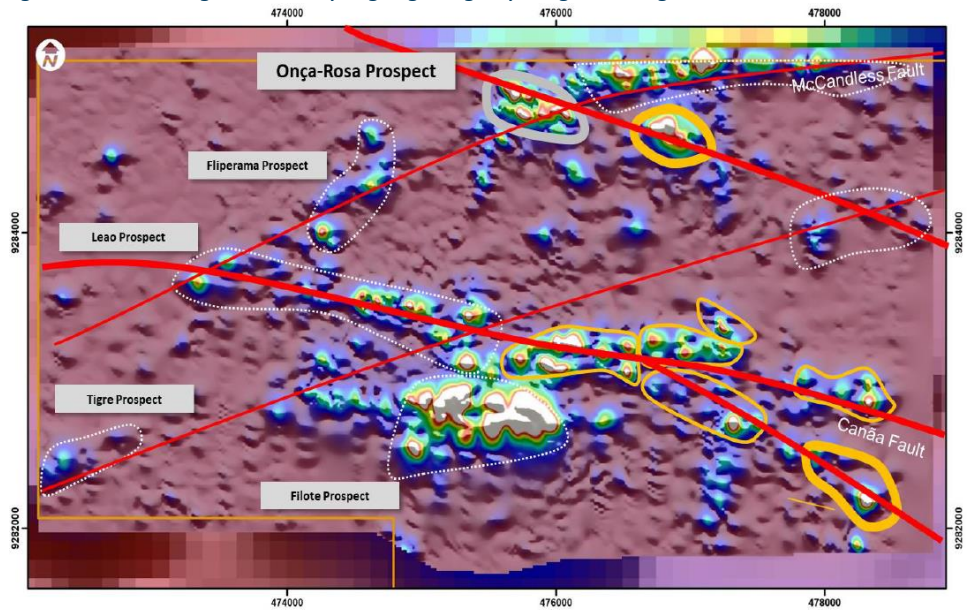
Jaguar has a relatively unique style of nickel mineralisation, most akin to Iron Oxide Copper Gold (IOCG) deposits, only with nickel instead of copper. Most other nickel deposits of this scale are related to ultramafic komatiite flows or layered mafic/ultramafic intrusives, whereas Jaguar is hosted in felsic subvolcanic rocks. It is a hydrothermal system, with mineralisation generally concentrated on the confluence of W-NW (major) and E-NE shear zones. Nickel sulphide mineralisation is generally in steeply dipping lens shaped bodies associated with biotite-chlorite-magnetite alteration, enriched in FeO and MgO. Key economic minerals include pentlandite and millerite (Ni) with minor

**Nickel mineralisation is in Pentlandite and millerite**

chalcopyrite (Cu) and lesser sphalerite (Zn). Jaguar South is hosted in felsic volcanics while Onça Preta and Onça Rosa are hosted in more granitic/gneissic country rocks. The more brittle environment of Onça Preta has resulted in a tabular style deposit, making it well suited to open stope underground mining methods.

**Deposits are concentrated on major regional shears**

Figure 4. Areal magnetic survey highlighting key targets along structural lineaments



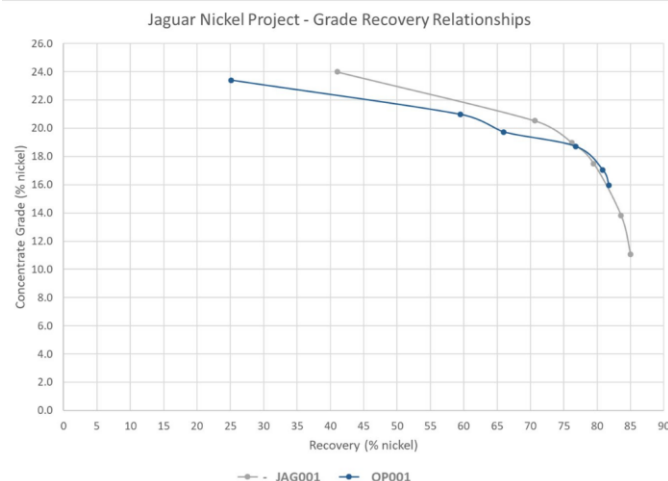
Source: CTM

**Initial test work produced 82% Ni recoveries into a 16% concentrate**

**Metallurgy**

CTM has conducted preliminary metallurgical flotation test work on Jaguar South and Onça Preta composites. The results for both deposits were very similar, producing 16% Ni in concentrate with ~82% Ni recoveries. The presence of millerite, which contains ~65% nickel (vs pentlandite ~34% Ni) is likely to be the driver of higher concentrate grades. The unique mineralisation style of Jaguar results in high FeO:MgO ratios (+5.5:1, favourable for smelting temperatures) and very low arsenic. While chlorine and fluorine are slightly elevated, they are not expected to reach penalty levels in concentrate products.

Figure 5. Grade / recovery curves for test on Jaguar South (JAG001) and Onça Preta (OP001) composites



Source: CTM

**Jaguar's non-JORC Resources is 315kt Ni at 0.8% Ni...**

### Resources

Jaguar has historic non-JORC resources of 40.4Mt @ 0.78% Ni for 315kt contained Ni (applying a 0.5% Ni Cut-off) or 92 Mt @ 0.65% Ni (applying a 0.4% Ni cut-off). At the 0.4% Ni cut-off there is an additional 17.2Mt @ 0.76% Ni of Inferred Resources. Confirmatory and expansion drilling by CTM will be the basis to convert this to a JORC compliant Resource. This maiden JORC resource is due for release mid-2020, with a large component expected to be in the Indicated category. Argonaut estimates the higher-grade sub-resource for the Jaguar and Onça Preta deposits could contain ~7Mt @ 1.5% Ni down to ~150m below surface.

**...however, it contains higher grade zones up to 15% Ni**

*Table 3. Current non-JORC resource for the Jaguar Project (0.5% Ni cut-off)*

Classification <sup>1</sup>	Mt	Grade			Metal		
		Ni %	Cu %	Co ppm	Ni	Cu	Co
<b>Measured</b>	19.0	0.79	0.06	145	150,008	11,393	2,753
<b>Indicated</b>	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>

Source: CTM

**CTM acquired Jaguar last year from Vale...**

### Transaction details

CTM entered into an agreement to acquire the Jaguar asset from Vale in late August 2019. Consideration for the transaction was US\$250k with two deferred payments totalling US\$6.75m and a 0.75% royalty. The deal was largely an asset swap with CTM transferring its Salobo West Exploration tenements to Vale. Salobo West is prospective for IOCG copper deposits and sits in close proximity to Vale's Salobo Mine.

**...in an effective asset swap transaction...**

Key terms of the transaction included:

- US\$250k cash paid upon completion
- CTM's transfer of its Salobo West Exploration tenements to Vale
- US\$1.75m upon the commencement of a Bankable Feasibility Study (BFS) or 3 years whichever comes first – we expect the BFS to come first
- US\$5.0m on first commercial production
- A net operating revenue royalty of 0.75% on all concentrate production from the project
- CTM will adopt Vale's 1.8% net operating revenue royalty to Brazil's National Bank for Economic and Social Development (BNDES)

**...with US\$7m total cash consideration**

## Exploration Potential

**Jaguar is a district scale play with many untested targets**

Jaguar is a district scale project with multiple targets beyond currently defined resources. Given the presence of magnetite in the IOCG style mineralisation, magnetic geophysics is an effective regional targeting tool. On a smaller scale, massive sulphides make electromagnetics (EM) an effective tool. CTM is operating Southern Geoscience’s downhole EM (DHEM) equipment on site which enables fast turnaround of drilling to downhole surveying. A number of DHEM targets remain untested and present an opportunity to extend known massive sulphide mineralisation. The average depth of drilling prior to CTM’s acquisition was 335m with the deepest drill holes reaching ~535m below surface. Given the hydrothermal nature of the deposit, we would expect deep plumbing and therefore considerable depth extends beyond known mineralisation. CTM is currently drilling at Jaguar North and Jaguar Central. There are three rigs on site with two currently drilling.

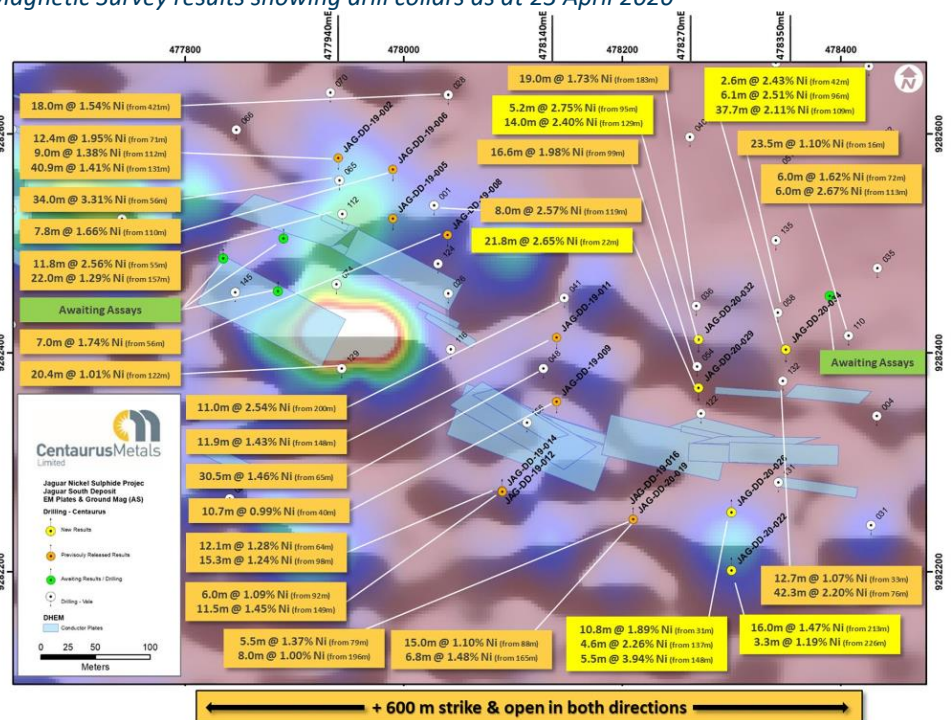
**The main Jaguar South zone remains open along strike and down dip...**

### Jaguar South

Jaguar South has a >600m strike extent and contains a semi-continuous, sub-vertical, semi-massive and massive breccia zone. This zone is up to 20m wide and extends to a depth of >300m below surface. This higher-grade zone remains open along strike to the west and down-dip. Recent results include shallow intersections of 37.7m at 2.11% from 109.4m and 21.8m at 2.65% from just 22.2m.

Figure 6. Jaguar South with DHEM conductor plates (blue) overlaid on the Ground Magnetic Survey results showing drill collars as at 23 April 2020

**...with multiple DHEM anomalies yet to be tested**



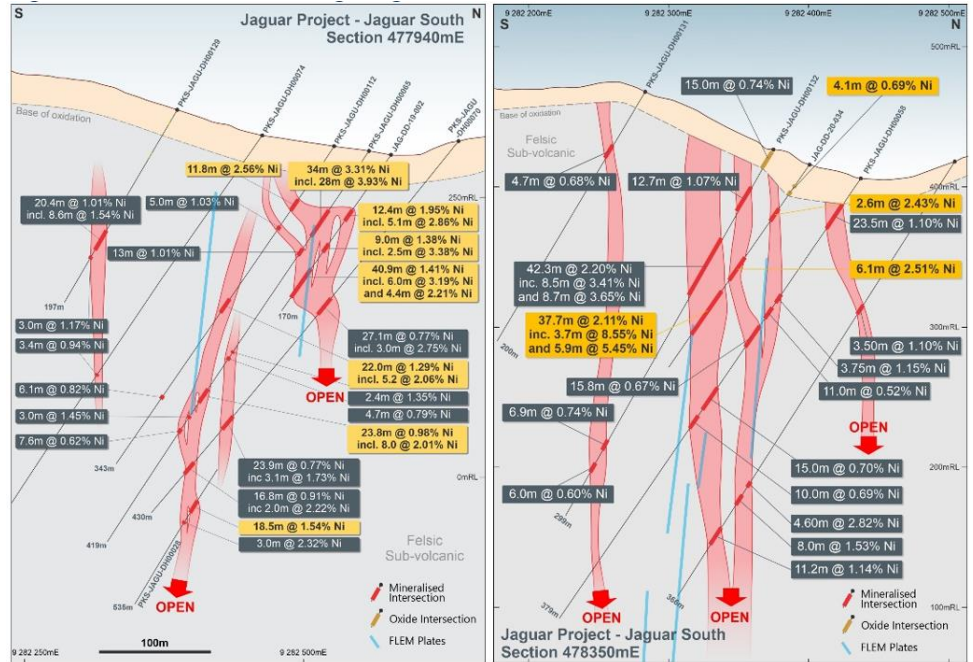
Source: CTM



Current drilling focussed on the top 220m of mineralisation...

CTM has a number of DHEM targets to test, particularly at depth. The current program has focussed on mineralisation down to ~220m below surface for the upcoming resource update.

Figure 7. Cross sections through Jaguar South



Source: CTM

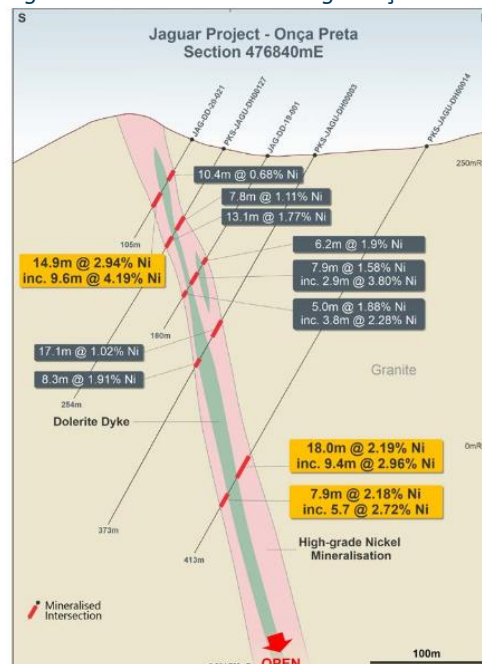
...however the system mineralised well below 300m

**Onça-Preta**

Onça-Preta is hosted in brittle granitic rock and as a result is more tabular...

Onça-Preta has a mineralised strike of ~300m and is drilled to just over 250m below surface. Importantly, grade appears to be increasing with depth. A number of assays remain outstanding for drilling completed to date. Drilling is ongoing.

Figure 8. Cross sections through Onça-Preta



Source: CTM

...making it well-suited to underground traditional open stop mining

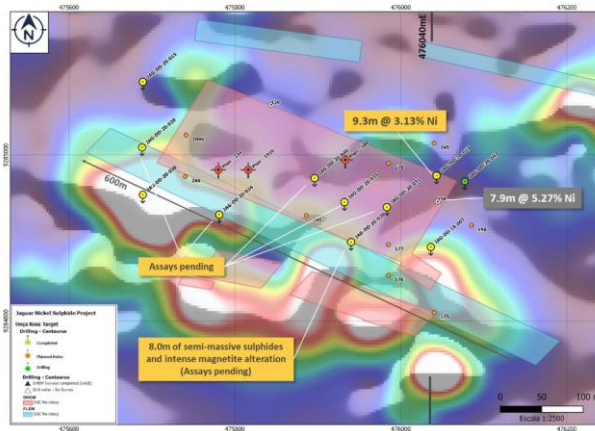
**Earlier this year, CTM announced the discovery of Onça Rosa...**

**Onça-Rosa**

CTM proved the potential for further discoveries in the region with early success at the Onça Rosa prospect. This included a high-grade intercept of 9.3m @ 3.13% Ni, 0.19% Cu, 0.08% Co from 247m. This was a follow up to a single high-grade historic intercept by Vale (7.9m @ 5.27% Ni, 0.26% Cu, 0.11% Co). Assays are pending for another semi-massive intercept 100m along strike from 157m downhole. Onça Rosa sits within a 600m long Fixed Loop EM (FLEM) conductor, coincident with a Ni/Cr soil geochem anomaly and a broader magnetic anomaly.

**...with an intercept of 9.3m @ 3.13% Ni, 0.19% Cu, 0.08% Co from 247m**

*Figure 9. Onça Rosa mag anomaly showing drill collars and EM plates*



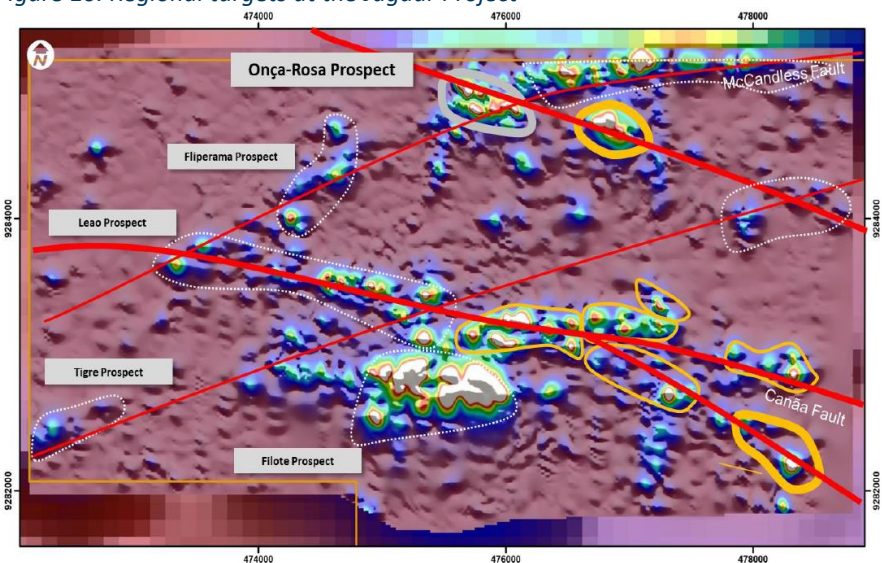
Source: CTM

**Regionally, there are a number of targets based on Geochem and geophysical anomalies to test**

*Regional exploration*

Regionally, CTM has a number of untested targets with coincident GeoTEM , ground magnetic and geochemical anomalies. Many of these lie out to the west of the project area including the Filote, Leão, Fliperama and Tigre prospects. As with many IOCG style deposits in the Carajás region, the most prospective areas are at the convergence of regional shears trending W-NW and E-NE.

*Figure 10. Regional targets at the Jaguar Project*



Source: CTM

**Jaguar could be developed as a large low-grade or small high-grade mine**

**CTM is likely to pursue a high grade open pit and underground mining scenario**

**Previous owner Vale, was focused on a larger bulk mining operation**

**A maiden JORC resource is due mid-2020...**

**...and a Scoping Study is due in Q3 2020**

## Development Scenarios

The large lower grade resource with discrete high-grade zones provides significant development optionality for the Jaguar Project. The resource could either be exploited as a large low-grade operation or a smaller scale targeted high-grade operation. We foresee a range of open pit and underground mining techniques being assessed in upcoming development studies.

### High-grade mining scenario

We believe the most likely mining scenario for CTM, will include a high-grade open pit mine, targeting +1.5% Ni down to ~150-200m below surface, then a +2.5% Ni underground. Capex would likely be US\$150-200m, based on other like-scale base metal projects. We regard this capex to be manageable for a junior mining developer such as CTM. Argonaut's discounted cashflow scenario presented above applies to a high grade mine of this nature.

### Large scale bulk mining lower grade scenario

Due to the large footprint, near-surface mineralisation and large resource, Jaguar is also amenable to a large-scale bulk open-pit mining scenario. This was the main option being investigated by previous owners Vale. The greater Jaguar resource is low-grade in contrast to most small-scale underground nickel deposits under the ownership of ASX junior and mid-cap resource companies. We believe this mining scenario is more analogous to a large open pit low grade copper deposit (commonly associated porphyry or IOCG deposits). On a copper equivalent basis Jaguar has a grade of ~1.95% Cu (applying spot pricing and 100% payability). We estimate that pre-production capex for a large bulk mining operation processing up to 5Mtpa would be >US\$400m.

### Vale Strategic Partnership

Given Vale's trailing royalty and established infrastructure in the region, it has a vested interest to see Jaguar proceed. Argonaut sees potential for a similar strategic partnership as that forged between Vale and OZ Minerals (OZL) last year. Under this agreement, OZL will sell Cu/Au concentrates to Vale from its Carajás operation at market rates, which retains its exposure to prevailing metal prices. While Vale does not have any nickel smelting capacity, it could provide logistical access to port.

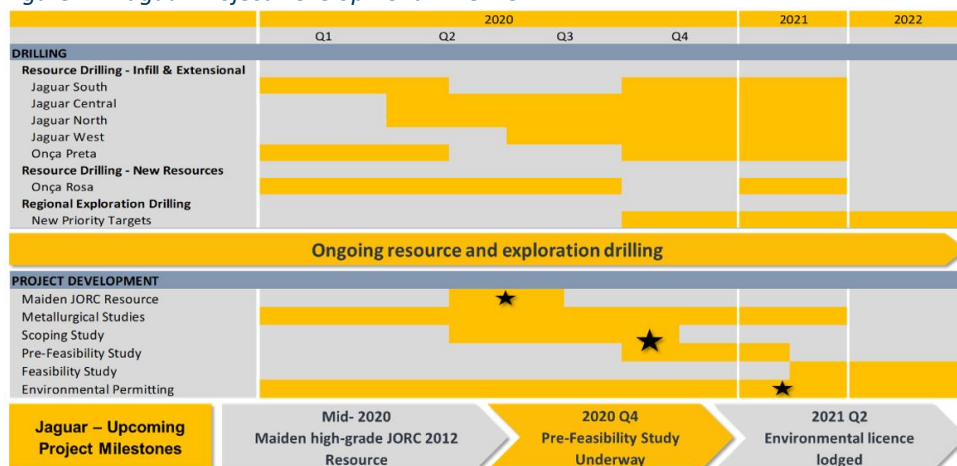
## Development Timeline

The first major milestone for Jaguar will be the release of a maiden JORC compliant Resource in mid-2020. A Scoping Study should be released shortly after, however due to limited drilling to date, it will most likely include mainly open pit material with a small amount of Inferred underground resources at the back end of the mine life. CTM will then commence Pre-Feasibility Study work streams later in the year, with an aim to complete the study in mid-2021. A final Feasibility Study should be completed by the end of 2022. Environmental studies have commenced and the Company aims to lodge the main environmental study in Q2 2021 with the completion of the PFS. CTM has the advantage of a significant amount of environmental data collected by Vale, which the Company has been assured will be submittable with its studies. FID is expected in Q2/Q3 2023 and Argonaut models first production from late 2024 to early 2025.

We believe CTM could reach a FID by Q2/Q3 2023...

...with first production is late 2024 to early 2025

Figure 11. Jaguar Project Development Timeline



Source: CTM

## Project Portfolio

CTM has two other key projects in Brazil including the Jambreiro Iron Ore Project and the Itapitanga Nickel-Cobalt Project.

The Company also owns the Jambreiro Iron Ore Project...

...which has a completed PFS and is shovel ready

### Jambreiro Iron Ore Project (100% CTM)

The Jambreiro Project in south-east Brazil was formerly CTMs' core project and the Company completed all permits for a 3Mt/pa iron ore production facility. As such, the project is regarded as shovel ready. The project contains an itabirite style iron ore deposit requiring product beneficiation. The 2019 PFS outlined A\$60m development capex with A\$29/t cash costs (incl. royalties) producing ~1Mt/pa iron ore. Using mine gate prices of US\$41/t, the PFS returned a post-tax NPV<sub>8</sub> of A\$115m and a 32% IRR. Current Ore Reserve are 43.3Mt grading 29.1% Fe, able to generate 17.9Mt of 65% Fe high-grade, low-impurity (4.3% SiO<sub>2</sub>, 0.8% Al<sub>2</sub>O<sub>3</sub> & 0.01% P) sinter product. CTM opted for dry stacked tails for the project, in light of recent tails dam failures in the country.

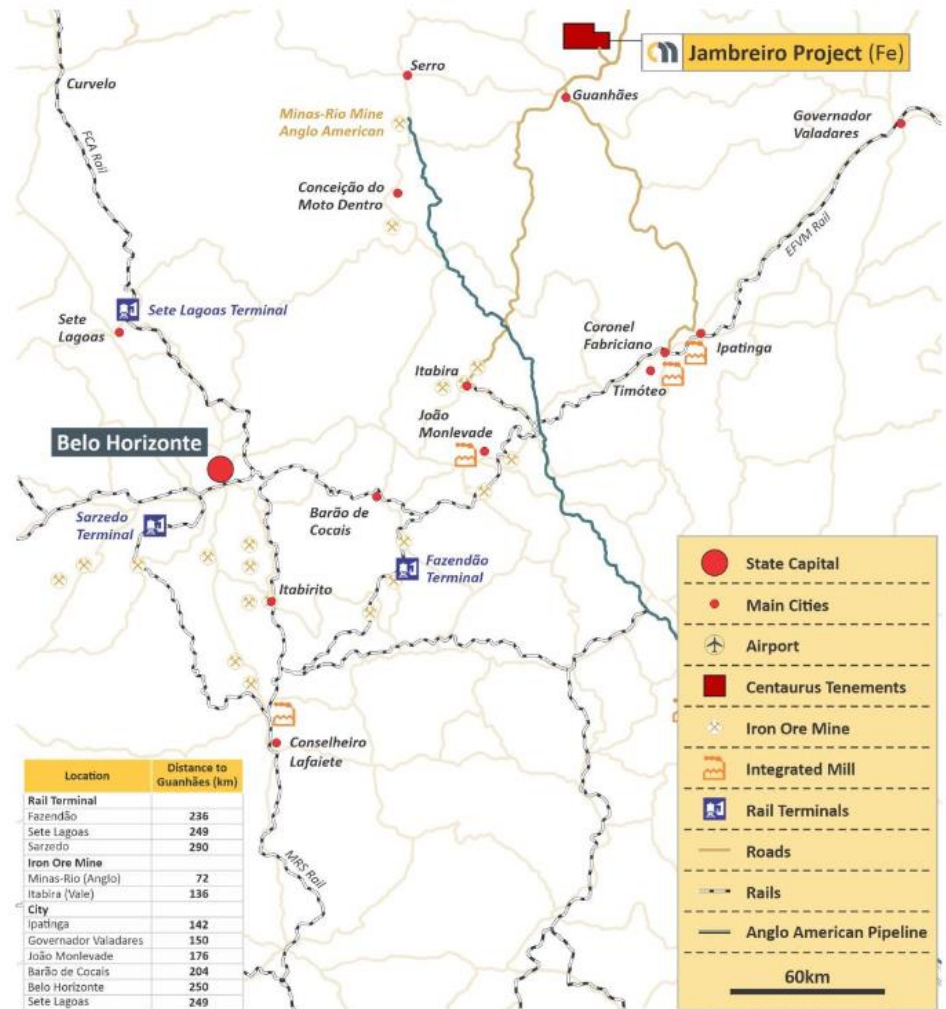
Table 4. Key financial metrics for the Jambreiro Iron Ore Project

Key Financial Outcomes	Total A\$
Total Revenue	1,052 Million
EBITDA	533 million
Annual Cash Surplus – Pre-Tax	29.6 million
Capital Costs	59.8 million
Direct Operating Cost (per tonne Product - LOM)	25.1/dmt
Total Operating Cost (per tonne Product – LOM)	29.0/dmt
NPV <sub>8</sub> Pre- tax	190.2 million
NPV <sub>8</sub> Post- tax	114.9 million
Post-Tax IRR	32%

Source: CTM

Figure 12. Jambreiro Iron Ore Project location

We believe CTM could monetise Jambreiro to help fund the Jaguar Project



Source: CTM

**Itapitanga Nickel-Cobalt Project**

CTM is currently farming out up to 80% of its Itapitanga Nickel-Cobalt Project

Itapitanga is a nickel-cobalt in laterite exploration project located in the Carajás adjacent to Anglo American’s Jacaré Ni-Co Project (Resource 307Mt at 1.3% Ni and 0.13% Co). CTM established an exploration target for Itapitanga of 35-45Mt at 0.80-1.10% nickel, 0.07-0.12% cobalt and 18-30g/t scandium. In late-2018, the Company entered into a JV with Simulus Group, giving them the right to earn up to 80% of the project, in stages. This would free-carry CTM through to a decision to mine. The project would likely require High-Pressure Acid Leach (HPAL) mineral processing.

## Experienced Team

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**CTM has a very strong technical team...**

CTM has a 10+ year history of operating in Brazil and has proven experience of exploring, securing projects, permitting and transacting with established producers (Vale). This time in country gives the Company a significant jurisdictional operating advantage having forged relationships with key stakeholders and government agencies relevant. CTM has a successful permitting record having taken its Jambreiro Iron Ore Project to a shovel ready development status. Key members of Board and Management Team include:

**...and is well-established in Brazil...**

### **Darren Gordon (MD and CEO)**

Mr Gordon is a Chartered Accountant with 25 years' experience in the mining industry as a senior finance and resources executive. He has been with CTM since 2008 and has extensive experience operating in Brazil. Darren was instrumental in negotiating the Jaguar deal with Vale.

**...with strong relationships with key stakeholders...**

### **Bruno Scarpelli (Executive Director)**

Mr Scarpelli has been with the Company since 2011 and is based in Brazil. He is Country Manager and the key person for in country relations, in particular in matters relating to environmental permitting. Before joining CTM, Mr Scarpelli was the Environmental Coordinator for Vale's giant S11D Iron Ore Project.

**...forged from +10 year of operating in the country**

### **Roger Fitzhardinge (Operations Manager)**

Mr Fitzhardinge has been working in Brazil for 15 years and is fluent in Portuguese. He is a Geologist with >20 years' experience and held senior roles with Mirabela Nickel, the only other major ASX listed nickel miner in Brazil. Roger was instrumental in identifying the opportunity to acquire Jaguar project from Vale.

### **John Knoblauch (Principal Metallurgist)**

Mr Knoblauch is a Metallurgist with >20 years' mining and processing experience with strong nickel exposure through previous roles with Mirabela Nickel and Sally Malay Mining. He also worked at Sandfire Resources through the development and operation of its DeGrussa and Monty mines in Western Australia.

### **Rocky Osborne (Principal Geologist)**

Mr Osborne is a well-regarded nickel Geologist with >40 years' experience. He has led the discovery of numerous nickel sulphide orebodies, including his namesake Rocky's Reward deposit in Western Australia. He also has 17 years' experience in Brazil.

## Key Risks

**We regard the following as the key risks to CTM and the Jaguar Project...**

**...project financing for exploration through to construction...**

**...exploration and resource conversion risk...**

**...permitting risk, which could be heightened given recent tail dam failures in the country**

**...and minor jurisdictional risk related to Brazil**

### Financing risk

The scale of the Jaguar Project will necessitate several drilling campaigns requiring ongoing funding. The Company will also need to finance feasibility studies and testwork as it progresses towards a FID. Moving into the development phase it will require significant construction capital (Argonaut est. +US\$150m). The shallow high-grade nature of the deposit should substantiate high free cash generation under a mining scenario, which would make the project attractive to traditional debt financiers. We note that while the current market cap would be unlikely to support the equity component of the development capex (assuming ~60:40 debt to equity funding), the Company's valuation will rise as the project is derisked and progresses towards production. During the exploration and feasibility phase, we would expect share dilution from equity raises unless value can be realised from its other Brazilian projects, including the Jambreiro Iron Ore Project.

### Resource / exploration risk

While Jaguar has had extensive work undertaken by previous owner Vale, the current Resource is non-JORC and requires validation. Due to the hydrothermal nature of mineralisation, we would expect to see pinching and swelling of mineralised lenses with moderate grade variability. This will necessitate a relatively close spaced drill spacing (~50m x 50m for Indicated Category), particularly at depth to support underground mining confidence (~25m x 25m for Indicated Category). While Argonaut sees high potential for the expansion of known deposits and the discovery of new lodes, there is no guarantee of exploration success.

### Permitting risk

As with any resource development project, permitting is a key risk. Brazil has a well-defined system in terms of permitting and environmental regulations. While Argonaut has not visited the Jaguar site, we see a low risk of landholder/land use disputes. The project is located on low population density agricultural land. Under a mining scenario one farmstead would need to be relocated. CTM has a good working relationship with the local municipalities and the local community and has worked with the municipalities to upgrade roads and the improve the health services of the local region during the COVID19 pandemic. Given the recent tails dam failures in Brazil, we expect heightened focus by regulators on environmental permitting, in particular tails storage. This may result in some extensions to the prescribed permitting process.

### Sovereign and Geopolitical Risks

Brazil Ranks 46<sup>th</sup> out of 76 jurisdictions ranked on the 2019 Fraser Institute Investment Mining Attractiveness Index. The country is ranked 106<sup>th</sup> least corrupt nations out of 180 countries, according to the 2019 Corruption Perceptions Index reported by Transparency International. Unfortunately, the perception of corruption has increased over the past 10 years. However, we highlight that security around mining project tenure ranks amongst the best jurisdictions globally and that the Carajás region, within the state of Pará, is a well-established, mining friendly jurisdiction dominated by a number of large Vale operations who now have some of the highest ESG standards globally, which should support the activities of all companies who operate in the region.

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The reporting analyst owns or manages a shareholding in CTM.

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