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## SPEC BUY

Current Price	\$0.50
Valuation	\$0.90
TSR	80%

Wednesday, 29 May 2024

## Centaurus Metals (CTM)

### Oh Boi Novo

Analyst | George Ross

### Quick Read

Exploration drilling at CTM's Boi-Novo greenfields copper-gold exploration project has begun. The discovery of potentially economic grade mineralisation could provide a significant boost to CTM's share price. Meanwhile, the Jaguar Nickel Project's DFS is scheduled for release in June. Publishing of the study will enable formal negotiations with potential funding and offtake partners to advance. CTM remains one of our key picks for nickel exposures despite unappreciation by the market.

### Key Points

**Boi Novo Exploration:** Drilling is now underway at CTM's Boi Novo Iron-Oxide-Copper-Gold project. The Carajas is recognised as globally significant IOCG province and hosts deposits such as Salobo, Paulo Afonso, Sossego and Cristalino. Recently completed IP geophysical surveys have identified high priority targets coincident with surface geochemical anomalies and copper oxide mineralisation. Newly released results from TSXV listed Bravo Mining Corporation's nearby Luanga project highlight the potential for the Carajas region to produce stunning copper and gold grades. A second drill rig is expected to begin drilling following finalisation of further municipal approvals.

**Jaguar Nickel Concentrate Project:** The Jaguar Nickel Sulphide Project DFS will assess production of a nickel sulphide concentrate rather than sulphate as had previously been planned. This change is expected to reduce capital expenditure requirements and technical execution risk. The study will adopt assumptions planned for the beneficiation and flotation stages of the originally planned sulphate production plant. This will leave the door ajar to build hydrometallurgical refinement circuits including POX and crystallisation at a later date. Under our base case assumptions our model generates a Build-Date NPV(9) of A\$794M, equivalent to ~\$1.57 per share of undiluted capital.

**Jambreiro Iron Ore Project:** Since acquisition of Jaguar, the market has heard little about CTM's 100% owned Jambreiro iron ore asset. Studies are currently underway for production of a direct reduction pellet feed concentrate, potentially lifting revenues. The capital hurdle to development of Jambreiro is expected to be much lower than Jaguar and could provide CTM with positive cashflow. Update and reissue of relevant permits is currently underway. Under our base assumptions we estimate a Post-Tax Build Date NPV(9) of A\$170M equivalent to \$0.34 per share.

**Nickel Metal Pricing:** Class 1 nickel metal pricing has continued to improve and is now valued at approximately US\$9.07/lb (US\$20,000/t). CTM's share price has lagged compared with historical performance.

### Recommendation & Price Target

We maintain our Speculative Buy recommendation and ascribe a \$0.90 per share price target (previously \$0.80ps).

Code:	ASX:CTM		
Sector:	Materials		
Shares on Issue (m):	496		
- Fully Diluted (m)	502		
Market Cap (A\$m):	248		
- Fully Diluted (\$m):	251		
Cash (A\$m) (Estimate):	28		
Debt (A\$m) (Estimate):	0		
Enterprise Value (A\$m):	220		
52 wk High/Low (ps):	A\$0.96	A\$0.25	
12m av. daily vol. (Mshs):	736		
<b>Advanced Projects</b>	<b>Stage</b>		
Jaguar	Scoping (DFS mid-2024)		
Jambreiro	PFS		
<b>Jaguar</b>	<b>Mt</b>	<b>Ni %</b>	
Measured	14.0	1.06	
Indicated	72.6	0.81	
Inferred	22.6	0.93	
<b>Key Metrics:</b>	<b>FY29e</b>	<b>FY30e</b>	<b>FY31e</b>
P/E (x)	1.4	1.3	1.3
EV/EBITDA (x)	1.0	0.8	0.9
<b>Financials:</b>	<b>FY29e</b>	<b>FY30e</b>	<b>FY31e</b>
Revenue (\$m)	424	480	471
EBIT (\$m)	272	303	289
NPAT (A\$m)	236	262	256

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

<b>Top Shareholders</b>	<b>%</b>
McCusker Holdings Pty Ltd	12.1
Harmanis	4.9
Sprott Inc.	4.0
Regal	4.0

Share Price Graph and trading volumes (msh)



Please refer to important disclosures from page 19



**Centaurus Metals (ASX:CTM)**

(Assumed 70% Retention of Jaguar)

**Equities Research**

Analyst: George Ross

<b>Recommendation</b>	<b>Spec Buy</b>
<b>Current Price (A\$)</b>	<b>0.50</b>
<b>Price Target (A\$)</b>	<b>0.90</b>
<b>TSR</b>	<b>80%</b>

<b>Sector</b>	<b>Metals &amp; Mining</b>
<b>Issued Capital (Mshs)</b>	<b>496</b>
<b>Market Cap (M)</b>	<b>A\$248M</b>

Profit & loss (\$M)	Unit	2029E	2030E	2031E	2032E
<b>Revenue</b>	<b>A\$M</b>	<b>424</b>	<b>480</b>	<b>471</b>	<b>454</b>
+ Other income/forwards	A\$M	0	0	0	0
- Operating costs	A\$M	-167	-182	-182	-182
- Royalties	A\$M	-25	-28	-28	-27
- Corporate & administration	A\$M	-8	-8	-8	-8
<b>Total Costs</b>	<b>A\$M</b>	<b>-200</b>	<b>-219</b>	<b>-218</b>	<b>-216</b>
<b>EBITDA</b>	<b>A\$M</b>	<b>224</b>	<b>261</b>	<b>253</b>	<b>238</b>
- margin	%	53%	54%	54%	52%
- D&A	A\$M	48	42	36	1
<b>EBIT</b>	<b>A\$M</b>	<b>272</b>	<b>303</b>	<b>289</b>	<b>239</b>
+ Finance Income/Expense	A\$M	-9	2	8	14
<b>PBT</b>	<b>A\$M</b>	<b>263</b>	<b>305</b>	<b>297</b>	<b>252</b>
- Tax expense	A\$M	-27	-43	-41	-39
- Remeasurement	A\$M	0	0	0	0
<b>NPAT</b>	<b>A\$M</b>	<b>236</b>	<b>262</b>	<b>256</b>	<b>213</b>

Cash flow (\$M)	Unit	2029E	2030E	2031E	2032E
+ Sales	A\$M	421	480	471	454
- Cash costs	A\$M	-187	-219	-218	-217
- Forwards	A\$M	0	0	0	0
- Tax payments	A\$M	-17	-40	-42	-40
- Stamp duty/other	A\$M	0	0	0	0
+ Interest & other	A\$M	-9	2	8	14
<b>Operating activities</b>	<b>A\$M</b>	<b>208</b>	<b>223</b>	<b>219</b>	<b>211</b>
- Property, plant, mine devel.	A\$M	-7	-6	-5	-5
- Acquisition/ asset sale	A\$M	0	0	0	0
- Exploration & evaluation	A\$M	0	0	0	0
<b>Investment activities</b>	<b>A\$M</b>	<b>-7</b>	<b>-6</b>	<b>-5</b>	<b>-5</b>
+ Borrowings	A\$M	-140	-89	0	0
- Lease payments	A\$M	0	0	0	0
- Dividends	A\$M	0	0	0	0
+ Equity	A\$M	0	0	0	0
Financing activities	A\$M	-140	-89	0	0
<b>Cash change</b>	<b>A\$M</b>	<b>61</b>	<b>128</b>	<b>214</b>	<b>207</b>

Balance sheet	Unit	2029E	2030E	2031E	2032E
<b>Cash</b>	<b>A\$M</b>	<b>90</b>	<b>218</b>	<b>432</b>	<b>638</b>
Receivables	A\$M	30	30	29	28
Inventories	A\$M	6	6	6	6
Other current assets	A\$M	0	0	0	0
<b>Total current assets</b>	<b>A\$M</b>	<b>126</b>	<b>254</b>	<b>467</b>	<b>672</b>
Property, plant & equip.	A\$M	0	0	0	0
Exploration Properties	A\$M	0	0	0	0
Investments/other	A\$M	0	0	0	0
<b>Total non-curr. assets</b>	<b>A\$M</b>	<b>285</b>	<b>249</b>	<b>217</b>	<b>189</b>
<b>Total assets</b>	<b>A\$M</b>	<b>411</b>	<b>503</b>	<b>684</b>	<b>861</b>
Trade payables	A\$M	27	28	28	28
Short term borrowings	A\$M	89	0	0	0
Other	A\$M	28	28	28	28
<b>Total curr. liabilities</b>	<b>A\$M</b>	<b>144</b>	<b>56</b>	<b>56</b>	<b>55</b>
Long term borrowings	A\$M	0	0	0	0
Other	A\$M	0	0	0	0
<b>Total non-curr. liabil.</b>	<b>A\$M</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total liabilities</b>	<b>A\$M</b>	<b>144</b>	<b>56</b>	<b>56</b>	<b>55</b>
<b>Net assets</b>	<b>A\$M</b>	<b>267</b>	<b>447</b>	<b>628</b>	<b>806</b>

Share Capital		2029E	2030E	2031E	2032E
New shs issued/exerciseable	M	0	0	0	0
Average issue price	ps	0.00	0.00	0.00	0.00
Total Cash Raised	A\$M	0	0	0	0
Ordinary shares - end	M	662	662	662	662
Diluted shares - end	M	662	662	662	662

Key Financials/Ratios	Unit	Date			
		2029E	2030E	2031E	2032E
GCFPS	c	125.6	135.0	132.4	127.7
CFR	X	0.4	0.4	0.4	0.4
EPS	c	35.7	39.6	38.7	32.3
PER	X	1.4	1.3	1.3	1.5
Yield	%	0%	0%	0%	0%
Interest cover	x	6.7	0.0	0.0	0.0
ROCE	%	66%	60%	42%	28%
ROE	%	88%	59%	41%	26%
Gearing	%	32%	0%	0%	0%

Jaguar Project Performance		2029E	2030E	2031E	2032E
Ore Mined					
Tonnage	Mt	3.3	3.5	3.5	3.5
Ni	%	0.95	0.95	0.94	0.90
Co	%	0.03	0.03	0.03	0.03
Payable Metal Produced					
Nickel	kt	17.0	20.0	19.6	18.8
Cobalt	kt	0.3	0.3	0.3	0.3
Payable Nickel Costs					
C1 Cost Net-BP	US\$/t Ni	3.51	3.27	3.32	3.45
AISC Net-BP	US\$/lb Ni	4.17	3.88	3.91	4.04
C1 Cost Ore Milled	US\$/t Ore	47.1	44.1	44.0	43.7
Nickel Forecast (Real)	US\$/lb Ni	8.06	8.06	8.06	8.06

Project Valuation	A\$M	A\$/sh
Jaguar Build Date Post-Tax NPV(9)   100% Ownership	778	1.57
Jambreiro Build Date Post-Tax NPV(9)   100% Ownership	191	0.39

Company Valuation Summary	Spot		Forecast	
	A\$M	A\$/sh	A\$M	A\$/sh
Jaguar Post-Tax NPV(9) 70% Ownership	644	1.30	467	0.94
Study Stage Risk Discount -25%	-161	-0.33	-117	-0.24
Jambreiro Post-Tax NPV(9) 100% Ownership	244	0.49	164	0.33
Study Stage Risk Discount -25%	-61	-0.12	-41	-0.08
Regional Exploration	20	0.04	20	0.04
Corporate Overheads	-65	-0.13	-65	-0.13
Cash (Estimate)	28	0.06	28	0.06
Debt	0	0.00	0	0.00
Future Option/Equity^	-131	-0.26	-69	-0.14
Valuation	<u>518</u>	<u>1.05</u>	<u>388</u>	<u>0.78</u>
<b>Price Target 50:50 Spot:Forecast</b>	<b>453</b>	<b>0.90</b>		

<sup>^</sup> Future Option/Equity Dilution is calculated using an NPV formula that considers value of dilutionary shares/options in future periods against the current project valuation

Directors & Management	
Didier Murcia	Chairman
Darren Gordon	Managing Director / CEO
Bruno Scarpelli	Executive Director
Mark Hancock	Non-Executive Director
Chris Banasik	Non-Executive Director
Natalia Streltsova	Non-Executive Director

Top Shareholders	M shs	%
McCusker Holdings Pty Ltd	60	12.1
Harmanis	24	4.9
Sprott Inc.	20	4.0
Regal	20	4.0
IGO	24	4.9

Jaguar Project Resources	Mt	Ni %	Co %
Measured	14	1.06	0.04
Indicated	73	0.81	0.02
Inferred	23	0.93	0.03
<b>Total</b>	<b>109</b>	<b>0.87</b>	<b>0.03</b>



## Boi Novo IOCG Drilling Underway

CTM has reported that drilling at the Boi Novo Iron-Oxide-Copper-Gold greenfields exploration project is now underway. Boi Novo is located 30 kilometres east of the regional centre of Parauapebas (population 250k) and approximately 15km north-east of BHP's (previously Oz Minerals) Antas Norte copper-gold mine. The Carajas is a world class IOCG province, hosting major deposit like Salobo, Furnas and Cristalino.

The Carajas is a premier copper-gold province

Boi Novo is located approximately 30km from Bravo Mining Corporation's (TSXV:BRVO) Luguanga PGM-Au-Ni Project which recently returned a high grade regional exploration result of 11.48m at 14.3% Cu, 3.3g/t Au incl 2.9m at 22.9% Cu, 3.6g/t Au. While we are not suggesting CTM will necessarily encounter similar high grades, this result underlines the prospectivity of the region.

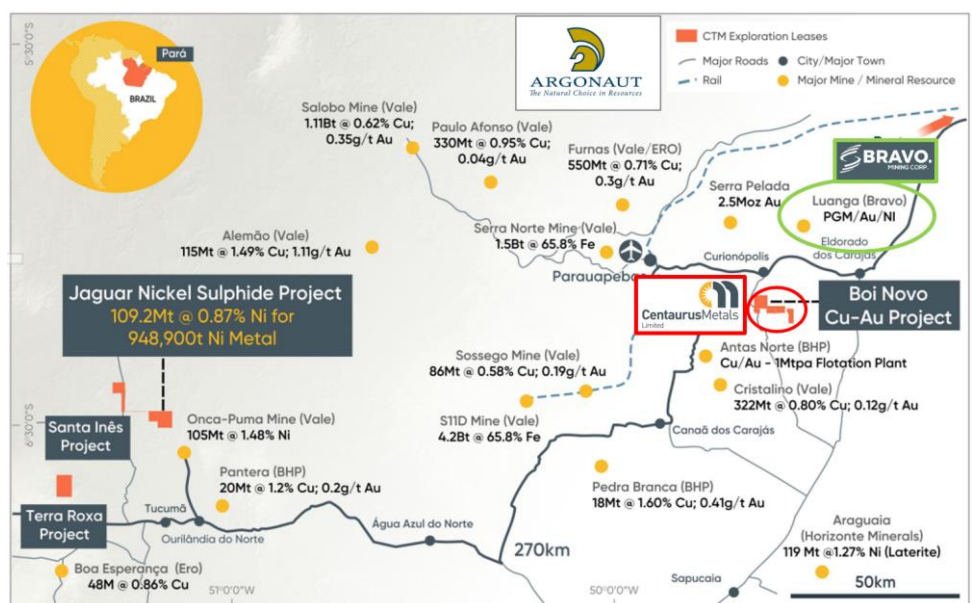
Boi Novo targets are defined by soil geochemistry results associated with specific lithological contacts within the Itacaiúnas Supergroup. A drone magnetics survey over the project area clearly defines iron rich formations within the host volcano-sedimentary sequence (Figure 2). CTM geologists have identified widespread subcrop exposures of copper oxide mineralisation associated with igneous rocks. The main target for mineralisation remains disseminated, rather than massive sulphides. Within broader surface geochemistry anomalies exist discrete zones of >1,000ppm Cu extending over a strike length of 1.5km.

Drilling will initially focus on high rank coincident IP-geochemistry targets

Drilling will initially target Priority 1 & 2 IP targets in the eastern portion of the project. (Figure 2). These geophysical anomalies are coincident with anomalous copper and gold mineralisation.

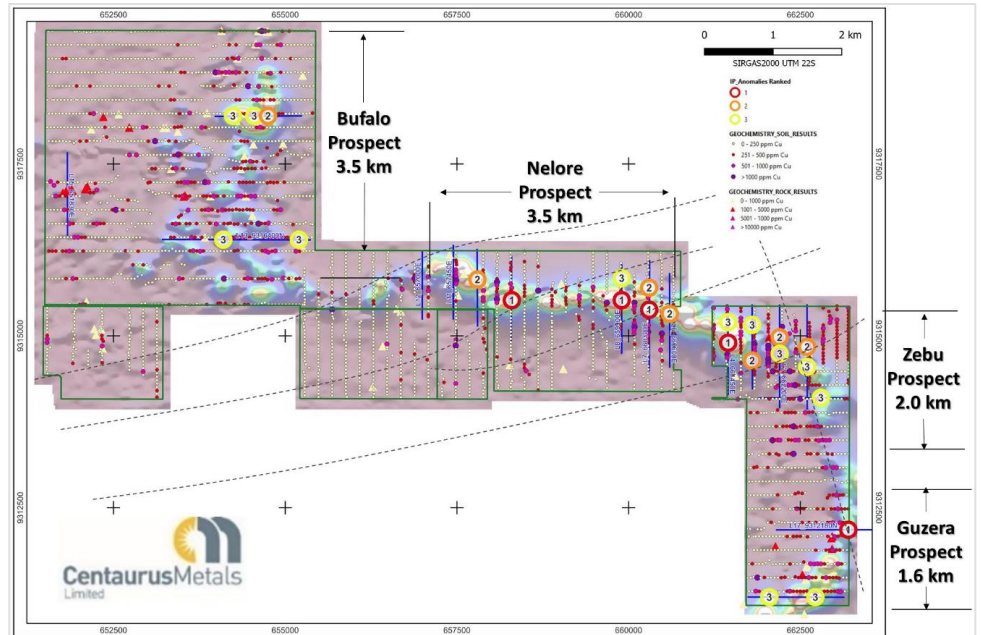
Once additional environmental permits have been granted, a second drill rig is expected to target western area anomalies.

Figure 1: Location of CTM's Pará projects including Jaguar.



Source: CTM

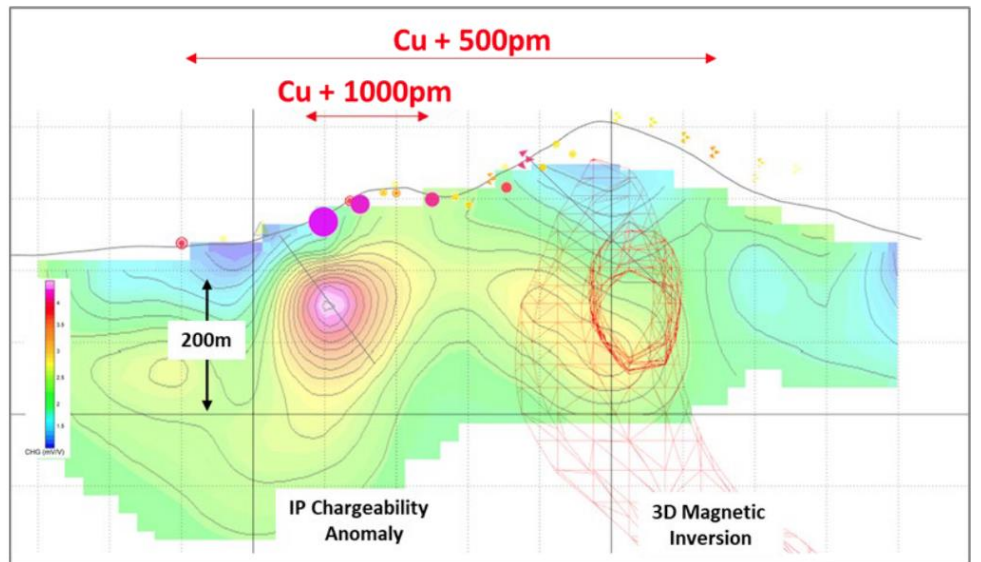
Figure 2: Boi Novo soil sampling overlaid on drone magnetic imagery.



Preliminary exploration initiatives have identified numerous targets at Boi Novo

Source: CTM

Figure 3: Boi Novo – Zebu Prospect IP chargeability cross section with magnetic inversion volumes and surface geochemistry results.



IP, magnetics and surface geochemistry results have been integrated to generate and rank targets

Source: CTM

## Jaguar – Sulphide Scenario

CTM’s Jaguar Project DFS is scheduled for release in June 2024. CTM has reframed Jaguar for production of nickel sulphide concentrate rather than nickel sulphate as recently planned. Plans for hydrometallurgical processing will not be entirely abandoned, but instead suspended until market conditions improve.

**A switch back to a nickel sulphide concentrate reduces initial capital requirements and risk**

Elimination of process equipment required for pressure-oxidation, purification and crystallisation will substantially reduce upfront capital requirements, reduce process operating expenditure and reduce project technical risk. Production of nickel in a saleable sulphide concentrate form will reduce applicable metal payabilities and per unit revenues.

The DFS will integrate outcomes of existing pit optimisations, site layout, process flowsheet and concentrate specifications as were intended for the now suspended integrated hydrometallurgical processing scenario.

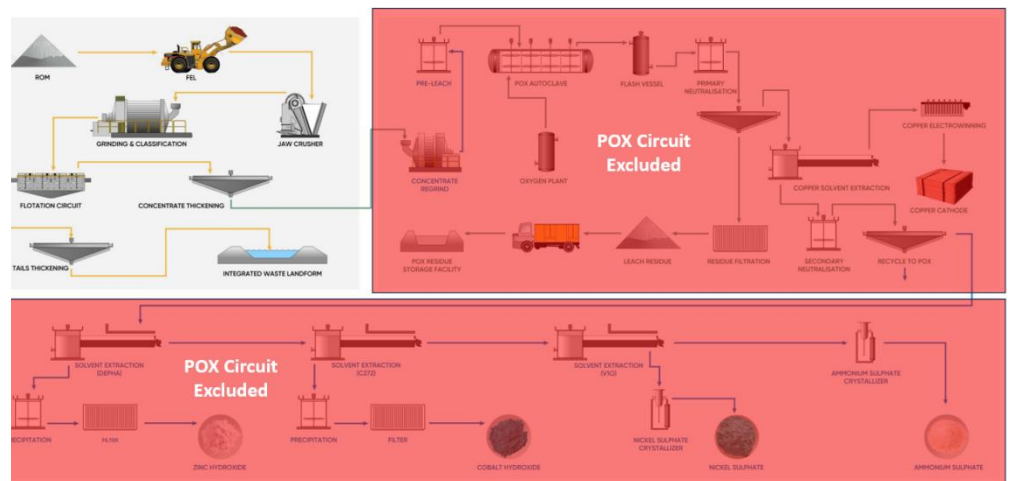
As reframed, the project will produce approximately ~20ktpa of nickel in sulphide 11.2% nickel sulphide concentrate. We estimate a 75% payability for nickel contained within concentrate inclusive of all TCRC’s. We expect cobalt payability will be reduced to approximately 50% and other byproduct credits eliminated.

**The door has been left ajar to pursuing hydrometallurgical processing in the future**

Considering the market headwinds CTM and other nickel players are facing we think the reshaped approach is prudent. The final POX integrated initial capital number would most likely have frightened the market, especially considering the recent sell off CTM has endured. Jaguar is a world class nickel sulphide asset we expect it to perform well without the value optimisation provided hydrometallurgical processing. Configuring the initial build to enable the bolt on of hydrometallurgical processing leaves the door open to production of battery precursor chemicals.

We expect partnership discussions will continue with external parties. A change in output product, might attract a different class of partner. Jaguar’s sulphide concentrate would be viewed as desirable to both metal traders and refiners. Battery chemical refiners might find the product particularly desirable due to its low carbon footprint. While the notion of a ‘green premium’ has failed to materialise within metal markets, a low emission product should still be viewed as desirable by some buyers.

Figure 4: Previously proposed Jaguar DFS flowsheet with circuits proposed to be excluded shaded red.



Source: Argonaut after CTM

## Argonaut Jaguar Concentrate Development Model

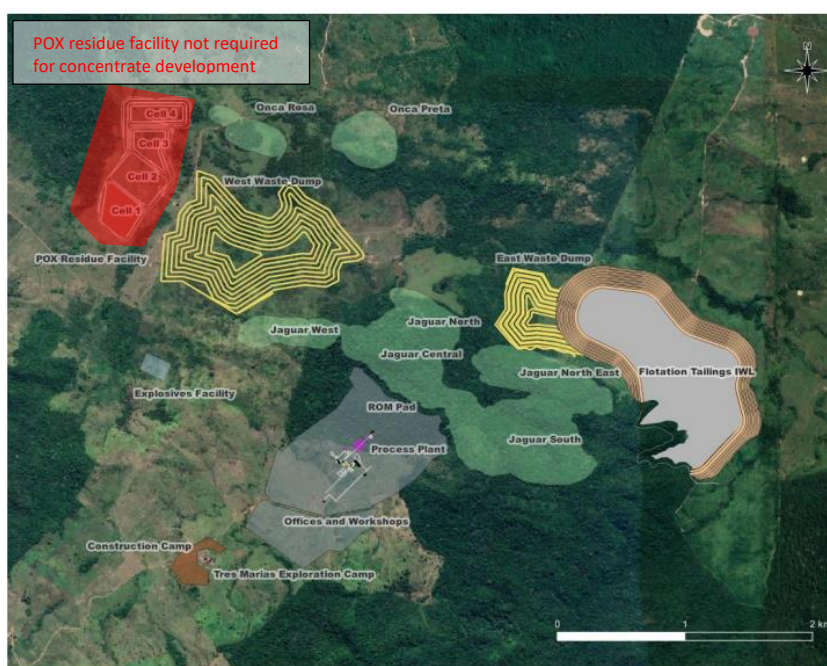
Our rescoped Jaguar development model generates a build date Post-Tax NPV(9) of A\$778M (US\$505M). Our build date Pre-Tax NPV(9) estimate is A\$947M (US\$616M).

**Our rescoped Jaguar model estimates a Post-Tax Build Date NPV(9) of A\$778M with a 27% IRR**

We apply a 9% WACC for discounted cashflow modelling. Our base case nickel forecast flat lines at a long term US\$17,769/t or US\$8.05/lb (real) from January 2028. This is slightly higher than our previously utilised US\$17,500/t Ni assumption. Nickel is currently trading at ~US\$18,135/t on the London Metals Exchange.

We have rescoped our Jaguar development model as an 18-year concentrate only operation. We assume US\$400M in initial capital expenditure requirements including preliminary pit pre-strip. We model a 3.5Mtpa open pit mining operation with ore mined at 6:1 strip ratio. Our mining model includes 65Mt of inventory averaging 0.87% Ni, 0.03% Co. We anticipate the first 3-years of open pit production would source ore from the Jaguar South and Central deposits, yielding slightly higher than average LOM metal grades.

*Figure 5: Jaguar DFS layout as at August 2023.*



Source: Argonaut after CTM

Site layout is expected to remain the same

No underground mining is considered in our development scenario. We consider underground mining at higher grade deposits such as Onca Preta and Onca Rosa as sources of potential upside to the project.

We model a 3.5Mtpa comminution and flotation circuit for production of 210ktpa of sulphide concentrate containing an 24ktpa of nickel, or 18ktpa of payable metal assuming a 75% payability and 0.5ktpa of payable cobalt (50% payability). Our model assumes a full circuit nickel recovery of 80% and cobalt recovery of 55%.

Elemental characterisation of bulk concentrate generated during previous pilot flotation test work is shown in Figure 10. The output product would be attractive to a range of refiners, particularly those with hydrometallurgical capacity. The >11% Ni sulphide product would be trucked to rail or port for ultimate seaborne export into the Atlantic.

Table 1: Pilot bulk concentrate sample analysis.

Ni (%)	Cu (%)	Co (%)	Zn (%)	Al (%)
11.2	0.72	0.31	3.07	0.44
Cl (%)	As (%)	F (%)	Fe (%)	K (%)
<0.01	<0.01	<0.01	30.3	0.13
MgO (%)	Fe/MgO	Pb (%)	S (%)	P (%)
2.56	11.9	0.05	36.7	0.42

Source: CTM

**Jaguar's concentrate product could be treated by either pyrometallurgical or hydrometallurgical refiners**

Our model includes aggregate Gross Revenue royalties (government and private) of 5.8% for a sulphide concentrate. Our notional tax rate is set at a discounted 15% for the first 10-years as per government provisions and then 34% thereafter.

Our model estimates a C1 Cost per tonne of ore milled of US\$41.7 and AISC of US\$50.2 per tonne of ore milled. Treatment and refining charges are accounted for in the percentage rate of metal payability. This results in a C1 cash cost of US\$3.39/lb of payable Ni metal and an AISC of US\$4.12/lb over life of mine.

Table 2: Key Jaguar model variables and parameters.

Argonaut Jaguar Project Model Key Variables & Parameters			
<b>Pre-Tax Project Value (9% DR)</b>		<b>Jaguar Performance LOM</b>	
Pre-tax Current NPV	796 A\$M	Mined Per Annum (Avg)	3.5 Mtpa
Pre-tax Build Date NPV	947 A\$M	LOM Strip Ratio	6.0 x
<b>Post-Tax Project Value (9% DR)</b>		Mined Grade Average (LOM)	
Post-tax Current NPV	653 A\$M	Ni	0.86 %
Post-tax Build Date NPV	778 A\$M	Co	0.03 %
Operation Start Date	Jan-28	Tonnes Milled (Avg)	3.4 Mtpa
Initial Capital Cost	400 US\$M	Avg Metal in Product	Avg pa   LOM
Growth/Sustaining Capital	223 US\$M	Nickel	23   417 kt
Metal Prices (Long Term Real)		Cobalt	0.6   10 kt
Nickel	17,769 US\$/t	Nickel Payability	75 %
Nickel	8.1 US\$/lb	Cobalt Payability	50 %
Cobalt	33,317 US\$/t	Payable Metal Produced	Avg pa   LOM
Cobalt	15.1 US\$/lb	Nickel	18   313 kt
AUDUSD	0.65 x	Cobalt	0   1 kt
First 10 Years Federal Tax Rate	15.00 %	C1 Cost /t ore Milled	41.7 US\$/t
Full Tax Rate after 10 Years	34.00 %	AISC Cost /t ore Milled	50.2 US\$/t
Gross Revenue Royalties	5.80 %	Payable Nickel Costs (Avg During Operations)	
		C1 Net ByProducts	3.39 US\$/t Ni
		AISC Net ByProducts	4.12 US\$/lb Ni
		AIC Net ByProducts	4.14 US\$/lb Ni

Source: Argonaut

**18kt of payable nickel in concentrate produced per annum**

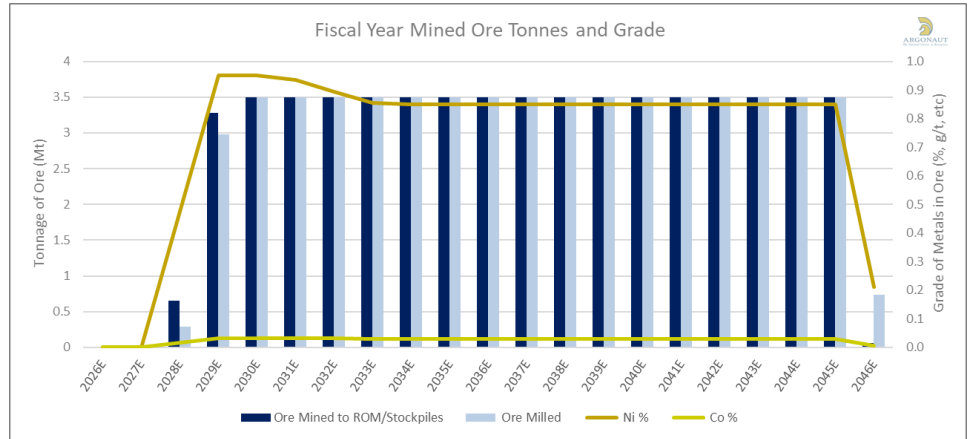
Table 3: Jaguar average operating cost per tonne milled over LOM.

Operating Cost Estimate	US\$ /t ore Milled LOM
Mining Cost	20.4
Stockpile Rehandling	0.0
Processing Cost	12.0
Administration	1.2
Transport & Logistics	8.1
Treatment/Refining Charge	0.0
<b>C1 Cash Cost (No BP Credit)</b>	<b>41.7</b>
Royalties (Various)	5.5
Sustaining Capital	2.9
<b>AISC (No BP Credit)</b>	<b>50.2</b>
Growth Capital	0.2
<b>AIC (No BP Credit)</b>	<b>50.3</b>

Source: Argonaut

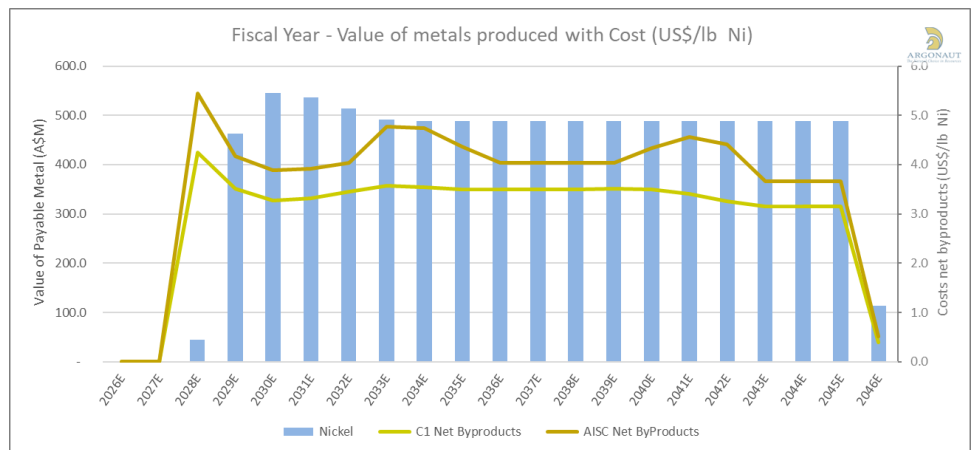
Figure 6: Argonaut's Jaguar mining inventory tonnage and grade profile with tonnes milled.

The mine is scheduled to produce 3.5Mtpa of ore per annum at a 6.0 waste strip ratio



Source: Argonaut

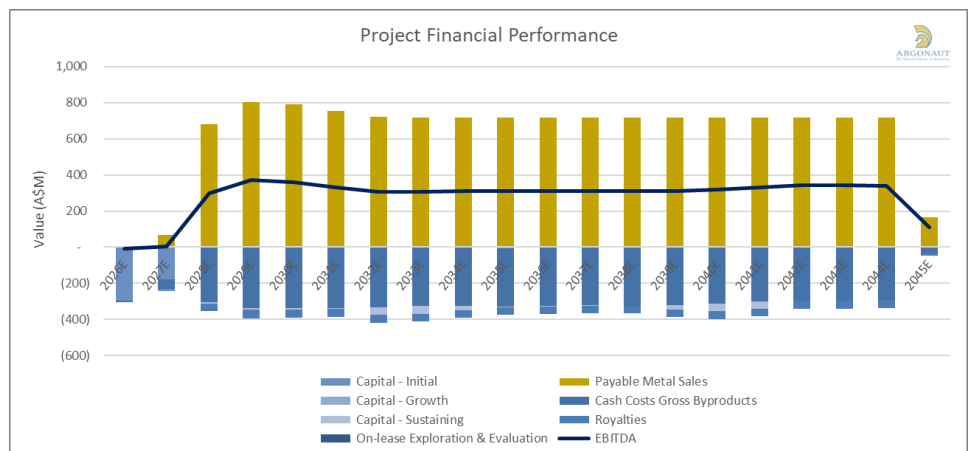
Figure 7: Jaguar value of payable nickel metal in sulphide concentrate with costs.



Source: Argonaut

Figure 8: Jaguar financial performance with sales revenues, costs and EBITDA.

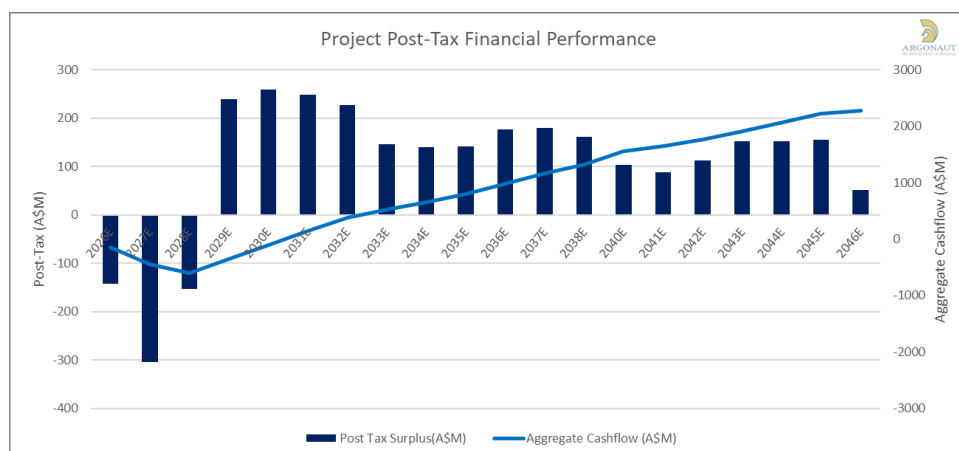
EBITDA of approximately A\$300M over life of mine (100% basis)



Source: Argonaut



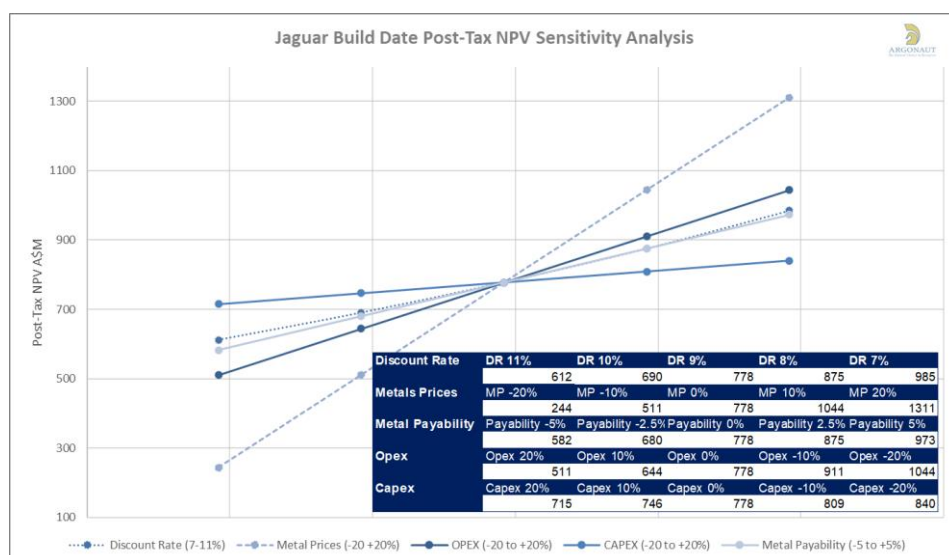
Figure 9: Jaguar Post-Tax financial performance with aggregate cashflow.



Aggregate positive cashflow of over \$2 billion over life of mine

Source: Argonaut

Figure 10: Jaguar project Argonaut Model sensitivity analysis.



At a discount rate of 7% our Post Tax NPV rises to A\$985M

Source: Argonaut

Table 4: Jaguar Project Resources by deposit.

Resource	Mt	Ni %	Cu %	Co ppm	Zn %	Ni Metal (kt)
Jaguar South (II)	35.8	0.91	0.05	211	0.12	327
Jaguar Central (II)	12.5	0.81	0.05	239	0.47	100
Jaguar North (II)	3.2	1.15	0.18	383	1.19	37
Jaguar Central North(II)	14.2	0.62	0.04	191	0.57	88
Jaguar North East (I)	16.8	0.75	0.11	279	0.51	126
Jaguar West (II)	8.7	0.72	0.03	167	0.12	63
Onca Preta (II)	14.2	1.23	0.09	534	0.19	174
Onca Rosa (I)	1.9	0.98	0.07	282	0.03	19
Tigre (II)	2.0	0.77	0.07	271	0.03	15
Total Global MRE	109.2	0.87	0.07	268	0.32	949

Source: CTM

## Jambreiro Iron Ore Project

CTM's second major Brazilian asset the Jambreiro Iron Ore Project remains largely ignored by the market. The project is located 250km north-east of the city of Belo Horizonte. Jambreiro incorporates three deposits containing a mix of friable, semi-compact and colluvium itabirite iron ore grading an average 28% Fe. The key commercial benefit of



**The 2019 Jambreiro PFS evaluated an operation of 1Mtpa 65% Fe**

concentrate produced from itabirite ore is its quality. The concentrate is high grade with very low phosphorous, alumina and silica content.

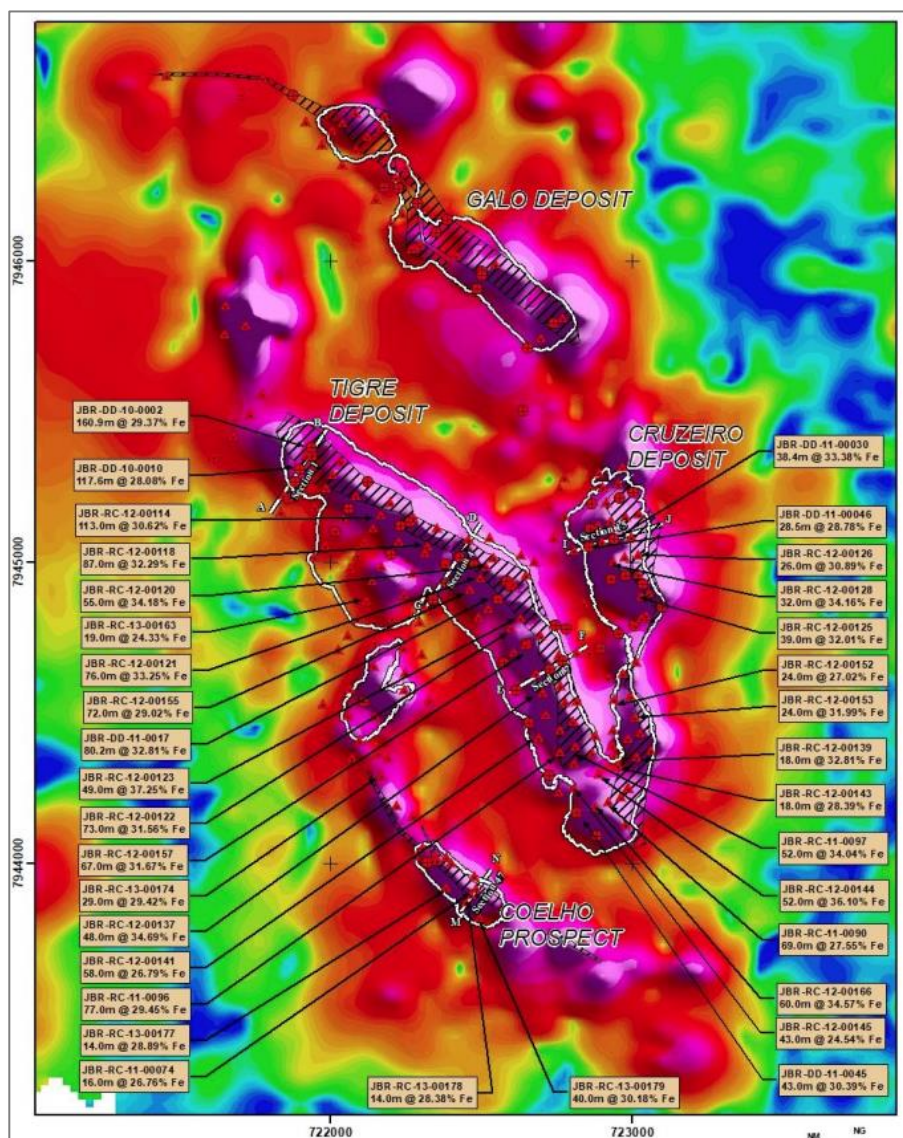
CTM's 2019 Jambreiro PFS evaluated an 18-year, 1Mtpa +65% Fe operation at an Fe 62% reference price of US\$75/t (Mine Gate FOB US\$41/t). Under base cost parameters including pre-production capital costs of A\$60M, the study estimated a Post-Tax NPV(8) of A\$115M. The study assumed a C1+Royalty operating cost of A\$29.0/t product.

The study outlined the mining of ~2.3Mt of ore per annum with at an average waste strip ratio of 0.68. Initially mined material would grade just under 34% Fe and taper over life of mine. The friable nature of ore will make mining free dig in the initial period of operations.

Jambreiro ore will be processed via a flowsheet involving screening, concentration and scavenging (Figure 15). Pilot scale tests of the flowsheet achieved a 65.9% Fe sinter feed with low impurities.

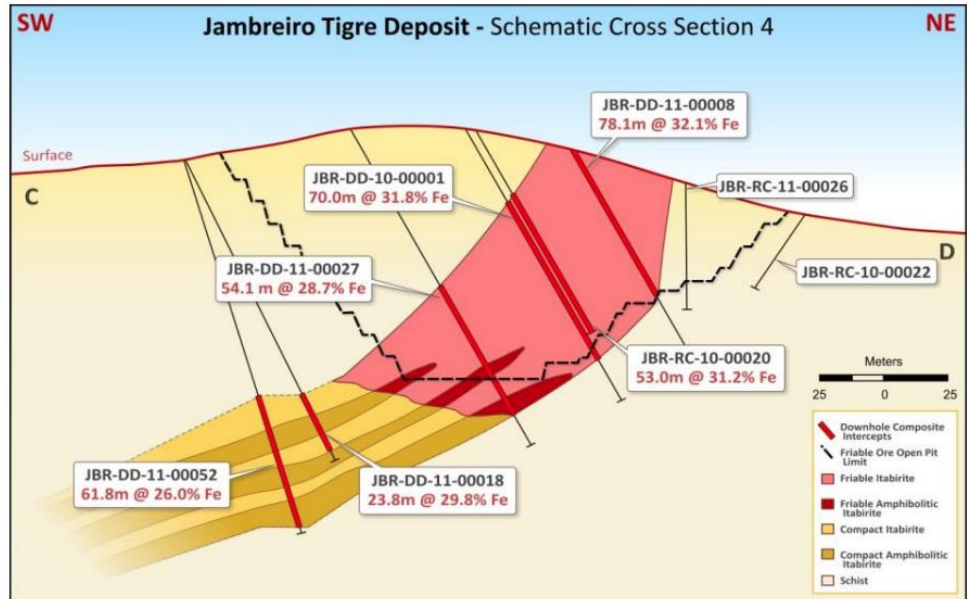
Figure 11: Overview map of Jambreiro with proposed pits.

**Several pits would be used to source friable itabirite iron mineralisation**



Source: CTM

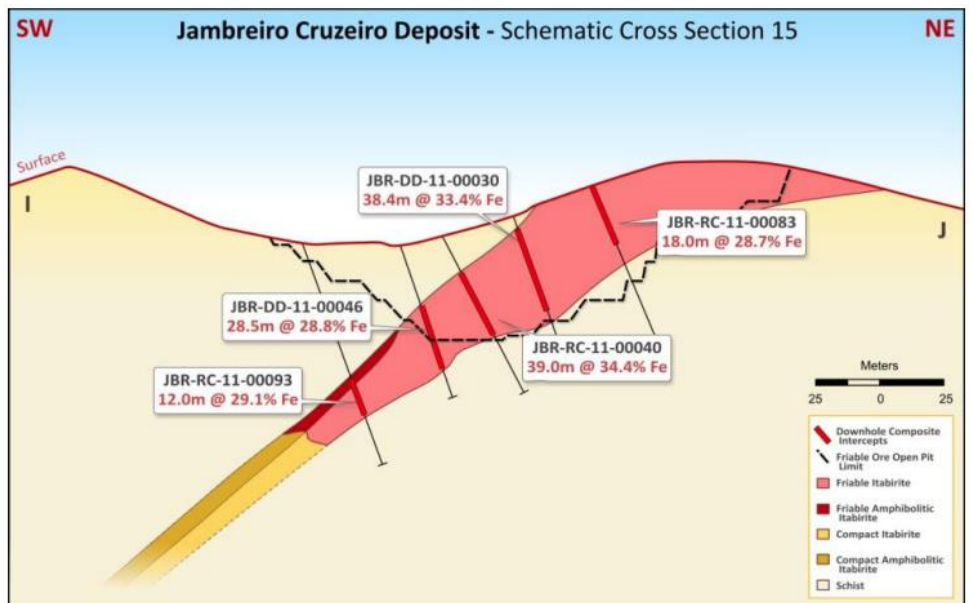
Figure 12: Jambreiro Tigre deposit cross section.



Source: CTM

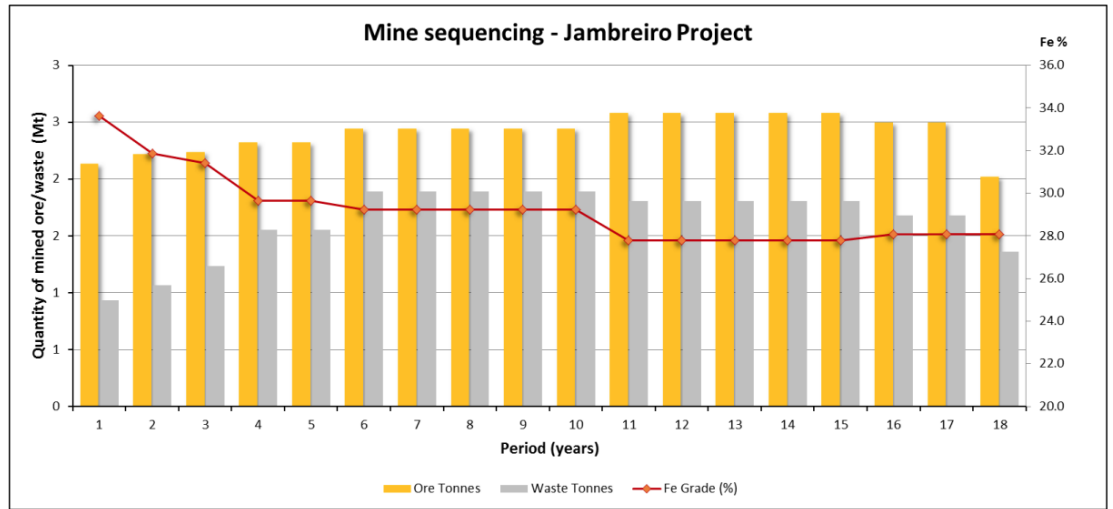
Deposit geometry ensures low strip ratios

Figure 13: Jambreiro Cruzeiro deposit cross section.



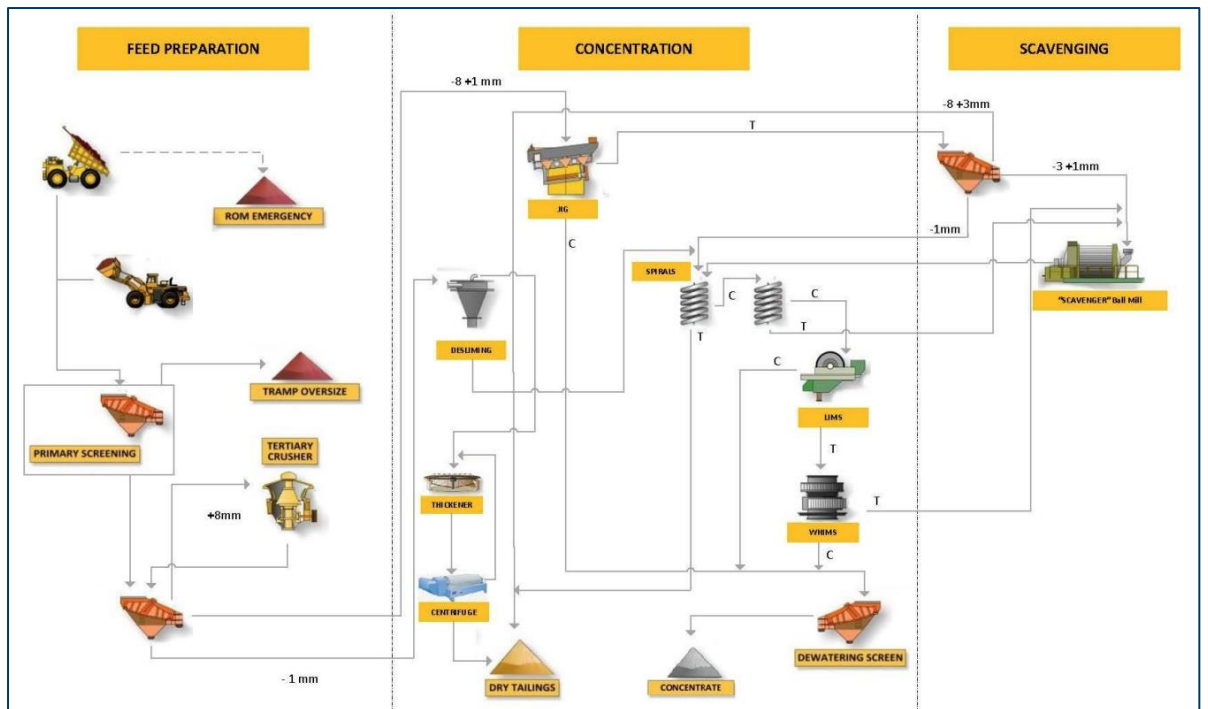
Source: CTM

Figure 14: Jambreiro PFS mine sequencing.



Source: CTM

Figure 15: Jambreiro 2019 PFS flow sheet.



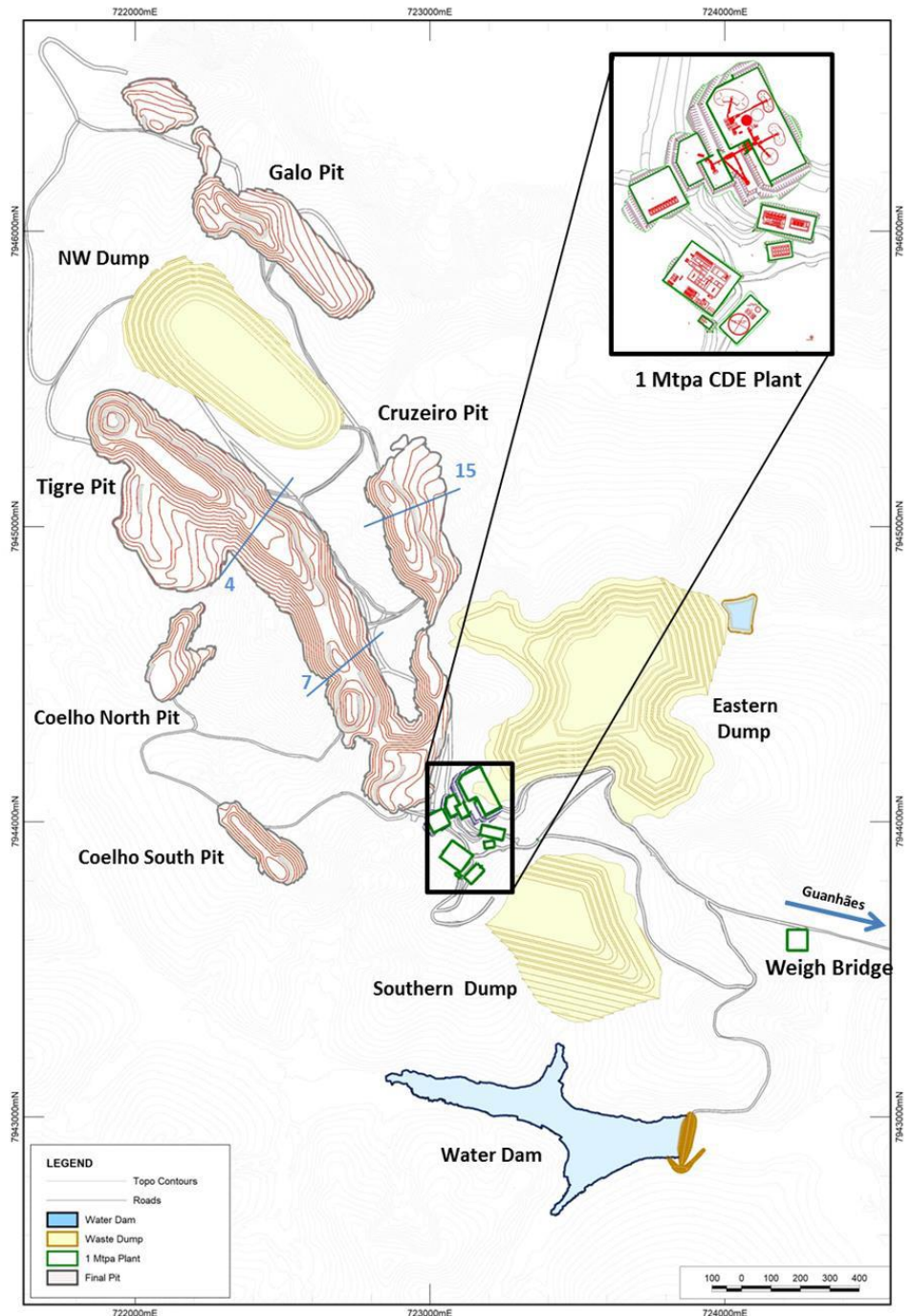
Source: CTM

Table 5: Jambreiro pilot plant test work product characteristics.

		Sinter Feed
Chemical Analysis	Fe (%)	65.9%
	SiO <sub>2</sub> (%)	4.3%
	Al <sub>2</sub> O <sub>3</sub> (%)	0.8%
	P (%)	0.01%
	Mn (%)	0.04%
	LOI (%)	0.42%

Source: CTM

Figure 16: Jambreiro site layout.



Site layout for the 1Mtpa operation

Source: CTM

### Direct Reduction Pellet Feed Concentrate Option

**A DR feed product could provide benefits to revenues**

Earlier this week CTM reported that it has commenced a new study on the potential for Jambreiro to deliver a high-grade Direct Reduction (DR) quality pellet feed concentrate. DR pellet feed product is used to produce DR pellets, which in turn are then used as feed for Electric Arc furnaces. Production of steel using electric-arc-furnaces fed by DR feed lowers the overall carbon footprint of steel production compared to conventional blast furnace processing.

Recent sighter on Jambreiro itabirite samples with a head grade of 38-39% Fe successfully generated concentrates grading >68% Fe with recoveries ranging between 80-86% Fe.

Test flowsheets included grinding to 150µm followed by either magnetic separation (WHIMS) or desliming and flotation.

CTM will now complete a high-level study to assess the revenue benefits, process recovery characteristics and capital/operating costs of augmenting the existing Jambreiro flowsheet to produce a DR pellet feed.

## Argonaut Jambreiro Model

We have completed a detailed project production and financial model for Jambreiro using modified 2019 PFS assumptions. Under our base model parameters, we estimate a Build Date Post-Tax NPV(9) of A\$191M, valued at A\$161M today (construction starting 2027).

Our model assumes production of 1Mtpa of 65% Fe concentrate over an 18-year mine life. We estimate an AISC operating cost of A\$41.44/t ore milled resulting in an AISC of A\$50.49/t 62% Fe product produced. We assume initial capital requirements of A\$80M (up from \$60M in the 2019 PFS) and have escalated operating costs.

Our NPV estimate is based on a 9% discount rate and long-term Fe 62% reference forecast price of US\$90/t, equivalent to a mine gate FOB price of US\$50/t (A\$77/t). Spot pricing for Fe 62% product is ~US\$133/t. Additional value could be added assuming positive DR studies, however, for the moment we exclude this upside.

Royalties and other similar charges are estimated at 10%. We apply a flat 34% tax rate over life of mine.

An updated EIA/RIMA was lodged in September 2023 with the environmental agency in Minas Gerais State, Supram, for Jambreiro. All environmental licences required to build Jambreiro (3Mtpa scale potential) were previously held by the Company but lapsed during the period when the Project was put on hold. New approvals are anticipated to be received in Q3 2024.

*Table 6: Argonaut Jambreiro Model key variables and parameters.*

Argonaut Jambreiro Project Model Key Variables & Parameters			
<b>Pre-Tax Project Value (9% DR)</b>		<b>Jaguar Performance LOM</b>	
Pre-tax Current NPV	227 A\$M	Tonnes Mined (LOM)	40.0 Mt
Pre-tax Build Date NPV	271 A\$M	Tonned Benefiated (pa)	2.3 Mt
<b>Post-Tax Project Value (9% DR)</b>		Ore Metal Grades	
Post-tax Current NPV	161 A\$M	Fe	29.10 %
Post-tax Build Date NPV	191 A\$M	Metal Payabilities	
Operation Start Date	1/01/2027	Fe	100 %
Initial Capital Cost	80 A\$M	Payable (Avg pa/LOM)	Avg pa   LOM
Process Plant Design Rate	0.94 Mtpa	Fe	1   17.9 Mt
Long Term Forecast Metal Prices		C1 Cost /t ore Milled	29.3 A\$/t
Fe 62%	90 US\$/t	AISC Cost /t ore Milled	35.8 A\$/t
Adjusted Mine Gate FOB	50 US\$/t	Payable Costs	
AUDUSD	0.65 x	C1 Net Byproducts	41.44 A\$/t Fe
Tax Rate	34.00 %	AISC Net ByProducts	50.49 A\$/t Fe
Royalties and Other Charges	10.00 %	AIC Net ByProducts	51.20 A\$/t Fe

Source: Argonaut

**We estimate a Build Date Post-Tax NPV9 of A\$191M with an IRR of 45%**

**Strong project metrics**

Figure 17: Argonaut Jambreiro mining schedule with ore tonnes and grade.

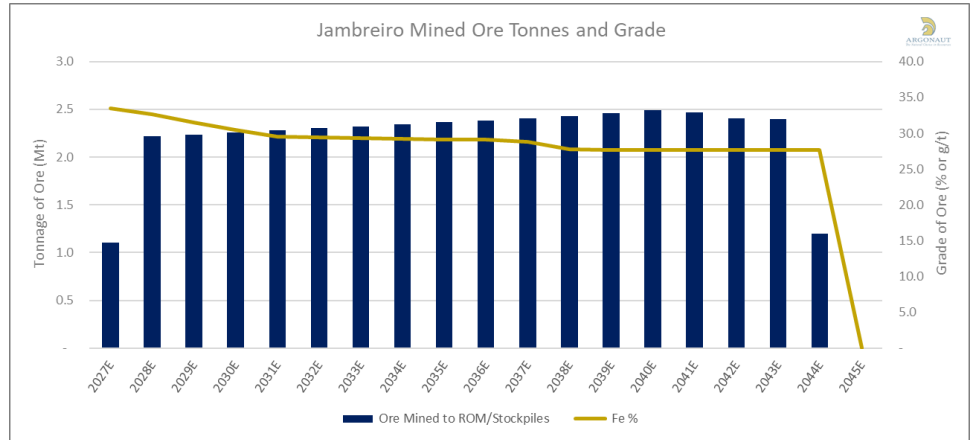


Figure 18: Jambreiro value of metals produced with C1 and AISC costs.

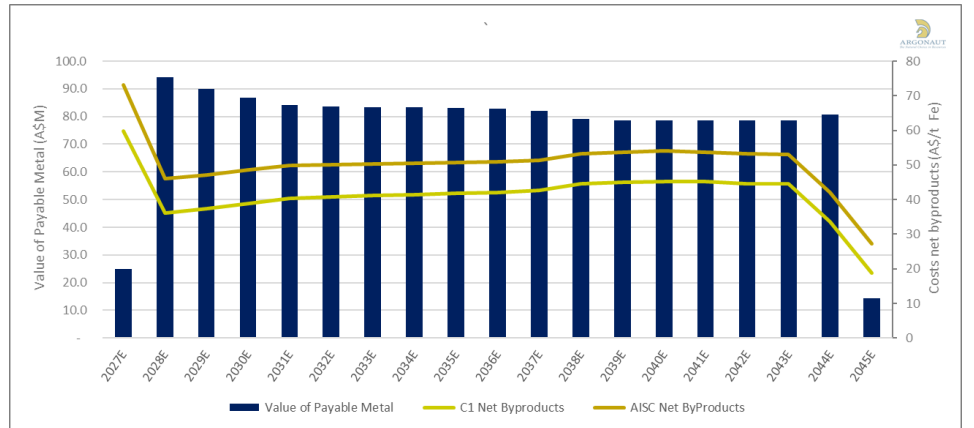


Figure 19: Jambreiro financial performance with costs and EBITDA.

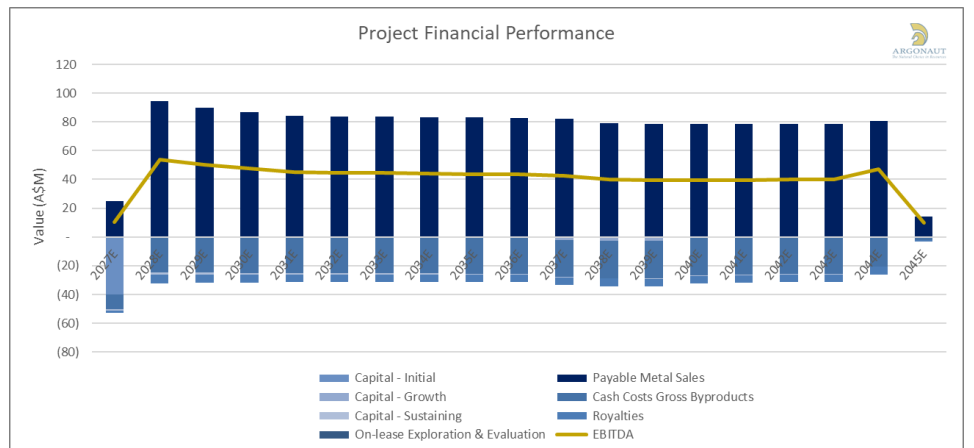
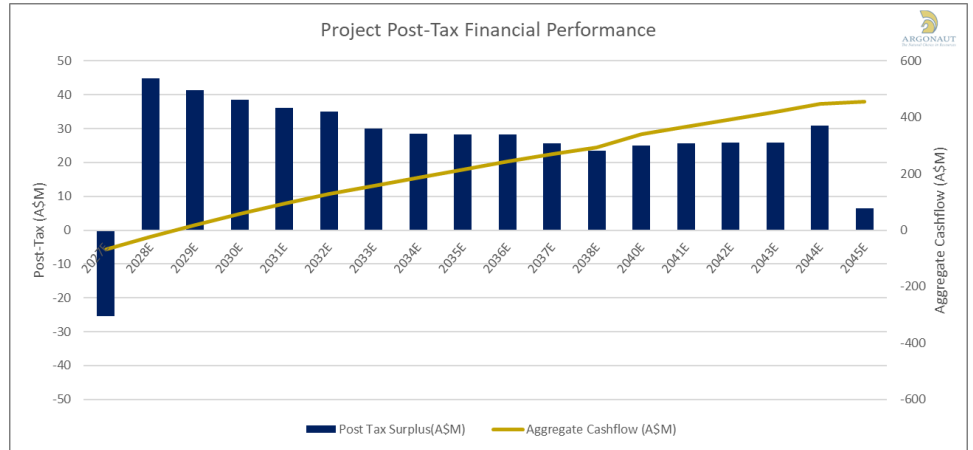
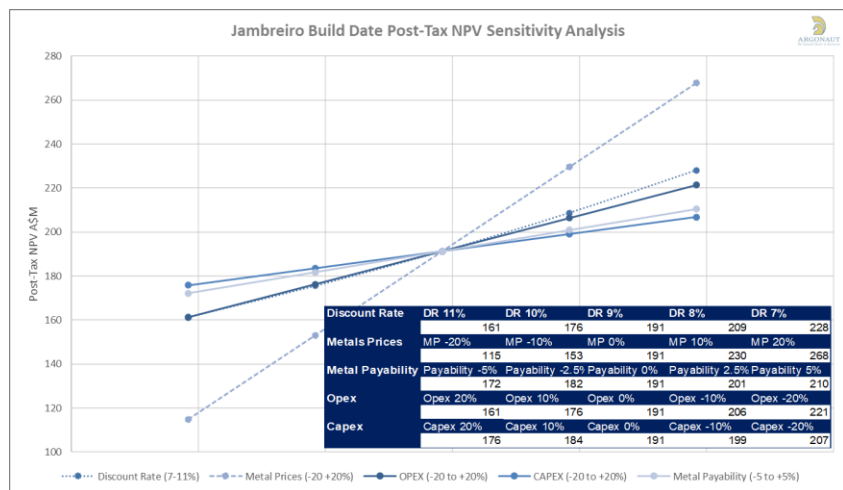


Figure 20: Argonaut model Jambreiro Post-Tax financial performance with surplus and aggregate cashflow.



Aggregate post tax cashflow of almost A\$500M over life of mine

Figure 21: Sensitivity analysis for Argonaut’s Jambreiro project development.



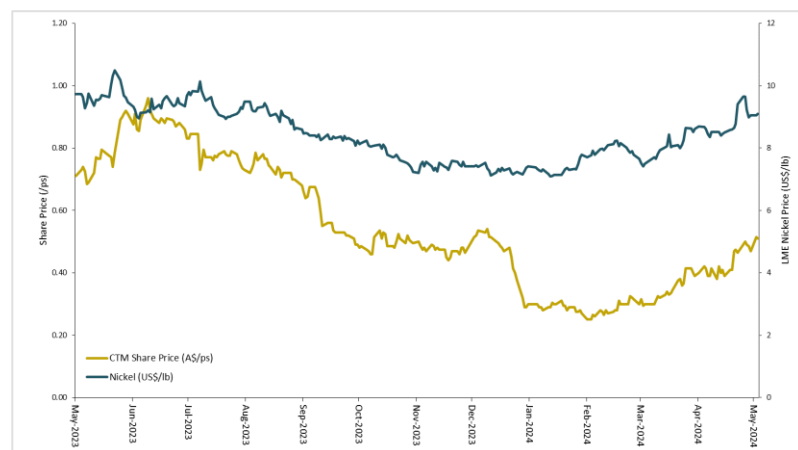
Our Jambreiro Build Date NPV increases to A\$228M at a 7% discount rate

Source: Argonaut

### CTM Share Price & Nickel Metal Pricing

Class 1 nickel metal pricing has continued to recover. Despite this, CTM’s relative share price has continued to lag compared to historical LME metal price performance.

Figure 22: CTM share price and LME nickel pricing – prior 12 months.



Source: Argonaut

## Corporate Level Valuation

**Our Valuation integrates build of both the Jaguar and Jambreiro projects**

Our corporate level valuation assumes construction of Jaguar will begin mid-CY2026, with operations ramping up from mid-CY2028. We assume capital requirements would be provided by a 30% selldown of the project for US\$106M, equivalent to 30% of our Build Date NPV. Funding shortfalls would be provided by debt and an equity raising. Using our base case assumptions, CTM's assumed 70% retained stake in Jaguar is today valued at NPV(9) A\$457M or A\$0.92 per share. We overlay a 25% discount to our Jaguar valuation to reflect maturity of studies and uncertainty in our assumptions. This will be relaxed once the Jaguar DFS is released.

The Jambreiro Iron Ore project remains CTM's sleeper project. Our base case NPV(9) model generates a current value of A\$161M, or \$0.32 per share for 100% of the project. Our model assumes development would begin at the beginning of January 2026, funded by equity and debt. We also apply a 25% study maturity discount overlay to reflect model uncertainty.

We include \$20M in value for regional exploration projects including Boi Novo.

Corporate overheads are presented as a the NPV of modelled heady company future outgoings. We estimate \$29M in current cash and equivalents with no major debt.

The impact of modelled future option and equity dilution is addressed. Our cashflow model supports both developments as currently scheduled.

*Table 7: CTM company level net asset valuation.*

Company Valuation Summary	Spot		Forecast	
	A\$M	A\$/sh	A\$M	A\$/sh
Jaguar Post-Tax NPV(9) 70% Ownership	644	1.30	467	0.94
Study Stage Risk Discount -25%	-161	-0.33	-117	-0.24
Jambreiro Post-Tax NPV(9) 100% Ownership	244	0.49	164	0.33
Study Stage Risk Discount -25%	-61	-0.12	-41	-0.08
Regional Exploration	20	0.04	20	0.04
Corporate Overheads	-65	-0.13	-65	-0.13
Cash (Estimate)	28	0.06	28	0.06
Debt	0	0.00	0	0.00
Future Option/Equity <sup>^</sup>	-131	-0.26	-69	-0.14
Valuation	<u>518</u>	<u>1.05</u>	<u>388</u>	<u>0.78</u>
<b>Price Target 50:50 Spot:Forecast</b>			<b>453</b>	<b>0.90</b>

<sup>^</sup> Future Option/Equity Dilution is calculated using an NPV formula that considers value of dilutionary shares/options in future periods against the current project valuation

Source: Argonaut

## Recommendation & Price Target

**We assign a Price Target of A\$0.90 per**

We maintain our Speculative Buy recommendation and ascribe a Price Target of \$0.90 per share (previously \$0.80 per share). Changes to our price target are related to improved spot market pricing and reduced equity dilution requirements. Upcoming catalysts include results from the Jaguar DFS, Boi Novo drilling results and a potential deal on Jambreiro

## Key Risks to valuation

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### Timelines

Our discounted cash flow model is time dependant. Any delay to scheduled development or production will adversely effect on our valuation.

### Metallurgical performance

Pilot POX test programmes have been completed with positive outcomes. Fluro-apatite is associated with mineralisation at the Jaguar project. Sulphide concentrate characterisation studies have concluded that fluorine is present at manageable levels for pyrometallurgical refiners. Deleterious elements are less of an issue for hydrometallurgical refiners.

### Commodity Pricing

Value estimates are based on consensus long term commodity price forecasts. A 10% difference to the price of nickel over the modelled life of mine will result in a ~25% shift in project valuation.

### Costs

Cost assumptions are based on operating and capital costs from CTM documentation and our knowledge of industry rates.

### Exploration success

Valuation assumes that future exploration and investments achieve acceptable returns. Subjective value is attributed to exploration assets at Jaguar.

### Interest rates/discount rates

Argonaut takes cash flow risk into account when choosing discount rates for different projects. Our valuation is sensitive to the discount rate used.

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**Important Disclosure**

The publishing analyst holds CTM shares.

Argonaut Securities Pty Ltd acted as Joint Lead Manager and Joint Bookrunner in respect of the Placement to raise approximately \$35M announced in July 2023 and received fees commensurate with this service. Argonaut holds or controls 759,976 CTM shares.

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