

SPEC BUY

Current Price\$1.00Valuation\$1.40

Code: стм Sector: Materials * All figures in AUD unless stated otherwise Shares on Issue (M): 358 - fully diluted (M) 462 Market Cap (\$M): 358 - fully diluted (\$M) 462 Cash (31 Aug 21) A\$20m Debt (31 Aug 21) A\$0m Net cash (SM): 20 Enterprise value (\$M): 338 52 wk High/Low (ps): \$0.46 \$1.03 12m av. daily vol. (Mshs): 1.0 **Key Metrics:** FY25e FY26e FY27e P/E(x)38 25 24 EV/EBITDA (x) 1.7 0.8 1.1 Financials: FY25e FY26e FY27e Revenue (\$M) 319 502 502 EBIT (SM) 142 234 237 NPAT (A\$M) 106 194 201 Net assets (\$M) 570 686 825 Op CF (\$M) 126 214 210 Per share data: EPS (c) 21.5 39.5 40.9 Dividend (cps) 0.0 0.0 0.0 Yield (%) CF/Share (cps) 34.4 59.8 58.5 Prod (kt Ni) 13,599 21.415 21.415

Share Price Graph and trading volumes (msh)



Please refer to important disclosures at end of the report (from page 10)

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Friday, 3 September 2021

Centaurus Metals (CTM)

Sulphate option adds more bite

Analyst: George Ross

Quick Read

The Value-Add scoping study provides a step up in project economics. The ongoing drilling program is expected to further improve the existing impressive Resource base. A recent assessment by Skarn Associates suggests Jaguar will produce nickel with lower carbon emissions than 97% of current competitors. Permitting is moving forward and we believe CTM has the team to deliver first production by the end of 2024.

Key Points

Confirmation of Value-Add Upside: CTM's Value-Add case scoping study has confirmed the strong economic fundamentals of producing nickel sulphate product at Jaguar. Integration of ore sorting technology will facilitate beneficiation of lower grade ore prior to processing. The addition of hydrometallurgical circuits at the back of the plant will be used to produce high value nickel sulphate and a mixed sulphate precipitate product. High purity nickel sulphate is sold at a 10-20% premium over nickel metal on the open market. Production of a sulphate also eliminates payability discounts enforced by nickel matte smelters.

Resource base set to grow: Over 60,000m of drilling is scheduled for CY2021. We expect this will result in tonnage and JORC classification improvement to Resources. The existing 58.5Mt at 0.96% Ni Jaguar Resource already rates highly against competitor projects.

Top of class carbon footprint credentials: CTM engaged ESG specialist consultants Skarn Associates to assess Jaguar's expected greenhouse gas emission performance. Jaguar is expected to produce less greenhouse gas emissions per tonne of nickel than 97% of global producers.

Environmental permitting documentation lodged: Key environmental permitting documentation has been lodged to relevant authorities. CTM is well positioned to navigate the Brazilian environmental approval process, having done so previously. Construction scheduled to begin in second half of CY2023 with first production in the second half of FY2024.

Recommendation

We are now confident that CTM will elect to develop the Jaguar project using the 'Value-Add' development scenario. Argonaut has increased CTM's valuation to \$1.40ps (previously \$1.31ps) and maintains a SPEC BUY recommendation.



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| Recommendation | Speculative Buy |
|----------------|-----------------|
| Current Price | \$1.00 |
| Valuation | \$1.40 |

| Profit & loss (A\$M) 30 June | Unit | 2024E | 2025E | 2026E | 2027E |
|------------------------------|------|-------|-------|-------|-------|
| Sales Revenue | A\$M | 0 | 319 | 502 | 502 |
| + Other income/forwards | A\$M | 0 | 0 | 0 | 0 |
| - Operating costs | A\$M | -2 | -100 | -156 | -160 |
| - Royalties | A\$M | 0 | -15 | -23 | -23 |
| - Corporate & administration | A\$M | -4 | -4 | -4 | -4 |
| Total Costs | A\$M | -6 | -118 | -183 | -187 |
| EBITDA | A\$M | -6 | 201 | 319 | 315 |
| - margin | | 0% | 63% | 64% | 63% |
| - D&A | A\$M | 0 | -59 | -85 | -78 |
| EBIT | A\$M | -6 | 142 | 234 | 237 |
| + Finance Income/Expense | A\$M | -20 | -18 | -6 | 0 |
| PBT | A\$M | -26 | 124 | 228 | 237 |
| - Tax expense | A\$M | 4 | -19 | -34 | -36 |
| - Impairments and other | A\$M | 0 | 0 | 0 | 0 |
| NPAT | A\$M | -22 | 106 | 194 | 201 |

| Cash flow (A\$M) | Unit | 2024E | 2025E | 2026E | 2027E |
|--|------|-------|-------|-------|-------|
| + Revenue | A\$M | 0 | 319 | 502 | 502 |
| - Cash costs | A\$M | -7 | -163 | -252 | -257 |
| -Tax payments | | 3 | -13 | -30 | -35 |
| + Interest & other | A\$M | -20 | -18 | -6 | 0 |
| Operating activities | A\$M | -24 | 126 | 214 | 210 |
| Property, plant, mine devel. | A\$M | -392 | -4 | -33 | -19 |
| - Exploration | A\$M | -2 | -2 | -2 | -2 |
| - Feasibility Studies | | 0 | 0 | 0 | 0 |
| Investment activities | A\$M | -394 | -6 | -35 | -21 |
| + Borrowings | A\$M | 240 | 0 | 0 | 0 |
| - Dividends | A\$M | 0 | 0 | 0 | 0 |
| + Equity | A\$M | 164 | 0 | 0 | 0 |
| Financing activities | A\$M | 404 | 0 | 0 | 0 |
| Cash change | A\$M | -13 | 120 | 179 | 188 |

| Balance sheet (A\$M) | Unit | 2024E | 2025E | 2026E | 2027E |
|--------------------------|------|-------|-------|-------|-------|
| Cash | A\$M | 182 | 301 | 481 | 669 |
| Other Current Assets | A\$M | 0 | 0 | 0 | 0 |
| Total current assets | A\$M | 182 | 301 | 481 | 669 |
| Property, plant & equip. | A\$M | 392 | 338 | 285 | 226 |
| Investments/other | A\$M | 0 | 0 | 0 | 0 |
| Total non-curr. assets | A\$M | 392 | 338 | 285 | 226 |
| Total assets | A\$M | 573 | 639 | 766 | 895 |
| Trade payables | A\$M | 56 | 21 | 39 | 35 |
| Short term borrowings | A\$M | 133 | 240 | 27 | 0 |
| Other | A\$M | 49 | 21 | 40 | 35 |
| Total curr. liabilities | A\$M | 105 | 42 | 79 | 70 |
| Long term borrowings | A\$M | 267 | 27 | 0 | 0 |
| Other | A\$M | 0 | 0 | 0 | 0 |
| Total non-curr. liabil. | A\$M | 267 | 27 | 0 | 0 |
| Total liabilities | A\$M | 372 | 69 | 79 | 70 |
| Net assets | AŚM | 201 | 570 | 686 | 825 |

| Resource | Mt | Ni % | Cu % | Co ppm | Cont. Ni (kt) |
|-------------------------|------|------|------|--------|---------------|
| Jaguar South (II) | 18.7 | 0.97 | 0.05 | 206 | 181 |
| Jaguar Central (II) | 10.2 | 1.00 | 0.06 | 268 | 102 |
| Jaguar North (II) | 3.3 | 1.09 | 0.18 | 350 | 36 |
| Jaguar Central North(I) | 5.8 | 0.80 | 0.05 | 210 | 47 |
| Jaguar North East (I) | 8.3 | 0.78 | 0.09 | 253 | 65 |
| Jaguar West (I) | 5.7 | 0.80 | 0.04 | 150 | 45 |
| Onca Preta (II) | 3.7 | 1.58 | 0.08 | 536 | 58 |
| Onca Rosa (I) | 3.2 | 0.88 | 0.06 | 251 | 29 |
| Total Global MRE | 58.9 | 0.96 | 0.07 | 249 | 563 |

| Sector | Metals 8 | kΝ | lining |
|-----------------------|-----------|----|--------|
| Issued Capital (Mshs) | | | 358 |
| Market Cap (M) | Ş | | 358 |
| Thursday, | 2 Septemb | er | 2021 |

| | 20245 | 20255 | 20275 | 20205 |
|---|--------------------------|--|--|--|
| Financial ratios | 2024E | 2025E | 2027E | 2028E |
| GCFPS Diluted (A¢) | -6 | 34 | 60 | 59 |
| CFR (X) | 0 | 2 | 1.7 | 1.7 |
| EPS Diluted (A¢) | -4 | 22 | 39 | 41 |
| PER (X) | 0 | 4 | 2.5 | 2.4 |
| DPS (\$) | 0 | 0 | 0% | 0% |
| Yield (%) | 0 | 0 | 0% | 0% |
| Interest cover (X) | 0 | 8 | 43 | 0 |
| ROCE (%) | 0 | 0 | 34% | 29% |
| ROE (%) | 0 | 0 | 33% | 29% |
| Avg Gearing (%) | 0 | 83% | 17% | 0% |
| | | | | |
| Operations summary | 2024E | 2025E | 2027E | 2028E |
| Operations summary Jaguar | 2024E | 2025E | 2027E | 2028E |
| Operations summary Jaguar Ore processed (Mt) | 2024E 0.0 | 2025E 1.7 | 2027E 2.7 | 2028E 2.7 |
| Jaguar | | | | |
| Jaguar Ore processed (Mt) Ni Head grade (%) | 0.0 | 1.7 | 2.7 | 2.7 |
| Jaguar Ore processed (Mt) Ni Head grade (%) Met. Recovery (%) | 0.0 | 1.7 1.0 | 2.7 1.0 | 2.7 1.0 |
| Jaguar Ore processed (Mt) Ni Head grade (%) Met. Recovery (%) Share of Ni in Final Product (t) | 0.0 0.0 | 1.7 1.0 80% | 2.7 1.0 80% | 2.7 1.0 80% |
| Jaguar Ore processed (Mt) Ni Head grade (%) Met. Recovery (%) | 0.0 0.0 0.0 | 1.7 1.0 80% 13599 | 2.7 1.0 80% 21415 | 2.7 1.0 80% 21415 |
| Jaguar Ore processed (Mt) Ni Head grade (%) Met. Recovery (%) Share of Ni in Final Product (t) Share of Payable Ni (t) Cost per milled tonne (US\$/t) | 0.0 0.0 0.0 | 1.7 1.0 80% 13599 13599 | 2.7 1.0 80% 21415 21415 | 2.7 1.0 80% 21415 21415 |
| Jaguar Ore processed (Mt) Ni Head grade (%) Met. Recovery (%) Share of Ni in Final Product (t) Share of Payable Ni (t) Cost per milled tonne (US\$/t) C1 Costs (US\$/lb) | 0.0 0.0 0.0 0.0 | 1.7 1.0 80% 13599 13599 64 | 2.7 1.0 80% 21415 21415 63 3.6 | 2.7 1.0 80% 21415 21415 65 |
| Jaguar Ore processed (Mt) Ni Head grade (%) Met. Recovery (%) Share of Ni in Final Product (t) Share of Payable Ni (t) Cost per milled tonne (US\$/t) | 0.0 0.0 0.0 0.0 | 1.7 1.0 80% 13599 13599 64 3.6 | 2.7 1.0 80% 21415 21415 63 | 2.7 1.0 80% 21415 21415 65 3.7 |

| Price assumptions | 2024E | 2025E | 2027E | 2028E |
|-------------------|-------|-------|-------|-------|
| AUDUSD | 0.75 | 0.75 | 0.75 | 0.75 |
| Nickel (US\$/t) | 16500 | 16500 | 16500 | 16500 |
| Nickel (A\$/t) | 22000 | 22000 | 22000 | 22000 |

| Jaguar Project Valuation | A\$M | A\$/sh |
|--|------|--------|
| Jaguar Project NPV9 AUD | 979 | 2.73 |
| Risk Discount (Study Maturity -35% & Technical -15%) | -489 | 1.37 |
| Jaguar Project NPV9 (Risk Discounted 50%) | 489 | 1.37 |

| Company Valuation summary | A\$M | A\$/sh |
|---|------|--------|
| laguar Project NPV9 (Risk Discounted 50%) | 489 | 1.37 |
| lambreiro Project | 10 | 0.03 |
| Exploration, all sites | 148 | 0.41 |
| Corporate overheads | -18 | -0.05 |
| Cash and bullion | 20 | 0.06 |
| Current debt | 0 | 0.00 |
| Fax benefit | 0 | 0.00 |
| ledging | 0 | 0.00 |
| Option/equity dilution | -147 | -0.41 |
| Fotal | 502 | 1.40 |

| Didier Murcia | Chairman |
|--------------------|---------------------------|
| Darren Gordon | Managing Director / CEO |
| Bruno Scarpelli | Executive Director |
| Mark Hancock | Non-Executive Director |
| Chris Banasik | Non-Executive Director |
| Roger Fitzhardinge | GM - Exploration & Growth |
| Wayne Foote | GM - Operations |
| John Westdorp | Chief Financial Officer |

| Shares | 2024E | 2025E | 2027E | 2029E |
|-----------------------------|-------|-------|-------|-------|
| New shs issued/exerciseable | 92 | 0 | 0 | 0 |
| Average issue price | 1.8 | 0 | 0 | 0 |
| Ordinary shares - end | 492 | 492 | 492 | 492 |
| Diluted shares - end | 492 | 492 | 492 | 492 |



Confirmation of Value-Add upside

In late May, CTM reported results from the Jaguar <u>Value-Add Scoping study</u>. This study assessed the viability of producing a nickel sulphate product at the Company's flagship Jaguar Nickel Sulphide development project (Brazil). This study differed from the earlier <u>Base Case study</u>, which was limited to a conventional mill and flotation flowsheet.

The Value-Add study generates a post-tax NPV(8) of A\$1.1B over 13 years with an initial capital expenditure of US\$294M inclusive of \$42M in contingency. Rather than a sulphide concentrate, project generates revenue through sale of purified sulphate products.

Approximately 35% of lower grade mined ore will be beneficiated with ore sorting technology prior to being blended with the standard run of mine material for comminution and flotation. The flotation circuit will be optimised for recovery over grade. The resulting intermediate concentrate will then be fed to hydrometallurgical circuits for sulphide dissolution, metal purification and final precipitation of refined sulphates.



Figure 1: Flow sheet for CTM's value-add development of Jaguar.

Source: CTM - Value-Add Scoping Study



POX technology key to value realisation

Utilisation of Pressure Oxidation autoclave (POX) technology is key to the Value-Add flowsheet. POX autoclaves differ from HPAL (high-pressure-acid-leach) autoclaves, as they operate a lower standard pressure and do not consume harsh acids.

In our <u>previous research</u> we had assumed that the oxidised slurry generated from the POX would be purified and then treated through solvent extraction and electro-winning for nickel cathode, however this is not the case. Instead, CTM has opted to generate a nickel sulphate product with accessory zinc-cobalt mixed sulphate precipitate (MSP).

We previously addressed the importance of nickel for the low carbon future in our research <u>The Emergence of Green Nickel</u>. High purity nickel sulphate is vital for production of the Nickel-Cobalt-Manganese (NCM) cathode. NCM cathode is used in one of the more common form of electric vehicle (EV) batteries. Until the recent push towards EV, the market for nickel sulphate had been extremely small, however, change is afoot. At the recent Diggers and Dealers conference, BHP surprised the crowd by <u>announcing</u> that 85% of Nickel West's current nickel production would be consumed by the battery market. Almost all nickel sulphate producers, including BHP, currently produce nickel sulphate either from a >75% Ni matte, or pure nickel powder refined through pyrometallurgy.

CTM's adoption of hydrometallurgical technology to extract sulphate from nickel sulphide is progressive, but not entirely novel. The technology has been around for more than 20 years and has been used in comparable form at nickel operations in Finland and Canada. The reason hydrometallurgical sulphide-sulphate conversion technology usage has not previously been used more broadly comes down to the historic makeup of the nickel industry. The traditional refined nickel product market was (and still is) dominated by pure nickel metal, nickel matte, ferro-nickel and nickel-pig iron. Nickel sulphate has historically been a low volume and niche segment of the intermediate market, however is now rapidly growing due to NCM battery driven demand. Previously, little benefit could be gained from a specialised direct sulphide to sulphate processing plant. It made more economic sense to produce a sulphide concentrate for sale to smelters for conversion to a refined nickel metal. However, with surging sulphate demand we expect nickel ore miners and processors to increasingly adopt hydrometallurgical treatment technology to bypass unnecessary pyrometallurgical refinement and associated payability penalties.

Producing a saleable nickel sulphate will enable CTM to avoid the ~25% payability penalty forced upon sulphide miners by metal smelters and minimise the projects carbon footprint. Purified battery grade nickel sulphate currently demands a 10-20% premium over the LME nickel metal price due to scarcity of sulphate supply and the cost of conversion. CTM have used a 6% payability premium for nickel in sulphate product in the Value-Add study for Jaguar, this appears reasonable, but conservative in the current pricing environment. The combined payability benefits of avoiding the smelter penalties and gaining the sulphate premium aggregate to ~106% of LME metal pricing.



Resource base set to grow

The Jaguar global Mineral Resource Estimate (MRE) is currently reported as 58.9Mt grading 0.96% Ni for 562,600 tonnes of contained nickel metal. Approximately one third of total Resource tonnage (19.9Mt) is categorised at Indicated, with the remainder being Inferred.

CTM's exploration team is expected to complete 60,000m of drilling during CY2021. The majority of drill metres are being directed towards Resource growth and improvement to JORC classification. As at the 25th of August, six diamond rigs were drilling at the existing deposits, with another two rigs joining them shortly. An updated MRE is due for release later this year. We anticipate the new Resource will have an increased tonnage of approximately 20%, and with a corresponding increase to contained nickel tonnes.

Adoption of the POX development scenario may shift the floor of Resource economics. Utilisation of POX eliminates the requirement for the concentrator to produce a commercial grade sulphide concentrate. Less grade sensitivity in processing could present an opportunity to drop the mineable cut-off of the Resource, increasing the scale of the mineable inventory.

Table 1: Reported JORC 2012 Resources for the Jaguar Project area.

| Resource | Mt | Ni % | Cu % | Co ppm | Cont. Ni (kt) |
|-------------------------|------|------|------|--------|---------------|
| Jaguar South (II) | 18.7 | 0.97 | 0.05 | 206 | 181 |
| Jaguar Central (II) | 10.2 | 1.00 | 0.06 | 268 | 102 |
| Jaguar North (II) | 3.3 | 1.09 | 0.18 | 350 | 36 |
| Jaguar Central North(I) | 5.8 | 0.80 | 0.05 | 210 | 47 |
| Jaguar North East (I) | 8.3 | 0.78 | 0.09 | 253 | 65 |
| Jaguar West (I) | 5.7 | 0.80 | 0.04 | 150 | 45 |
| Onca Preta (II) | 3.7 | 1.58 | 0.08 | 536 | 58 |
| Onca Rosa (I) | 3.2 | 0.88 | 0.06 | 251 | 29 |
| Total Global MRE | 58.9 | 0.96 | 0.07 | 249 | 563 |
| | | | | | Source: CTM |



Figure 2: Isometric downward view to the north of the Jaguar project deposits with reported Resources for key areas.

Source: CTM



Nickel sulphide peers

The existing Jaguar MRE compares favourably with other Australian nickel sulphide deposits held by Australian peers (Figure 3). The Jaguar camp hosts more contained nickel in total Resources than any of our sulphide deposit comparisons held by ASX stocks outside of BHP Group (BHP) and Oz Minerals (OZL). Note that for the purpose of this comparison we have split the low-grade disseminated Mt Goode (Western Areas) remnant ore body from the broader Cosmos suite of deposits.

When comparing with other nickel sulphide deposits it is important to understand that Jaguar is in many ways a geological oddity. Without becoming too bogged down in the geology technical detail, Jaguar is most likely a nickel-rich 'IOCG' style deposit. Large-scale, magmatic hosted disseminated sulphide deposits such as Mt Keith and Yakabindie often suffer from poor metallurgical recoveries (65% and 63% respectively) and are known to be anomalously high in arsenic. In contrast, Jaguar deposit nickel sulphide recoveries are expected to be between 78-82% and includes lower abundances of deleterious elements.

Figure 3: Jaguar project Resources compared with ASX company associated nickel sulphide deposits. Results filtered above 0.2% Ni Resource grade. Ni tonnes per annum production may be either actual or estimated. All deposits located in Australia except for Jaguar, Santa Rita and Ta Khoa. West Musgrave (OZL) is a mixed copper-nickel sulphide deposit.

| Property Name | Ticker | Development Stage | Mine Type | Ni tpa Prod | | | | |
|----------------|----------|--------------------------|-------------|-------------|----------------------|---------|--------------|-------|
| Honeymoon Well | BHP | Preproduction | Open Pit | 40kt | | 4,007Kt | | 0.8% |
| Yakabindie | BHP | Reserves Develop. | Open Pit | 32kt | | 2,601Kt | | 0.6% |
| Leinster | BHP | Operating | Underground | 26kt | | 1,668Kt | 0.9% | |
| West Musgrave | OZL | Prefeas/Scoping | Open Pit | 29kt | 1, | 190Kt | | 0.29 |
| Mt Keith | BHP | Operating | Open Pit | 34kt | 1, | 187Kt | 0.5% | |
| Jaguar | CTM | Scoping Study | Open Pit | 20kt | 563Kt | : | 1.0% | |
| Ta Khoa | BSX | Prefeas/Scoping | Open Pit | 13kt | 342Kt | | 0.6% | |
| Mt Goode | WSA | Feasibility | Open Pit | Not Avail. | 327Kt | | 0.6% | |
| Cosmos | WSA | Construction Started | Underground | 13kt | 292Kt | | 2.6% | |
| Forrestania | WSA | Expansion | Underground | 25kt | 287Kt | | 1.6% | |
| Savannah | PAN | Restarting | Underground | 9kt | 210Kt | | 1.6% | |
| Nova-Bollinger | IGO | Operating | Underground | 26kt | 209Kt | | 1.8% | |
| Santa Rita | Unlisted | Operating | Open Pit | 19kt | 193Kt | | 0.3% | |
| Black Swan | POS | Feasibility Complete | Underground | Not Avail. | 179Kt | | 0.6% | |
| Cliffs | BHP | Operating | Underground | Not Avail. | 171Kt | | 1.6% | |
| Mt Edwards | NMT | Reserves Develop. | Underground | Not Avail. | 163Kt | | 1.6% | |
| Windarra | POS | Construction Plann. | Underground | 10kt | 149Kt | | 1.5% | |
| Pardoo-Highway | CAD | Reserves Develop | Open Pit | Not Avail. | 134Kt | | 0.3% | |
| Fisher East | RXL | Prefeas/Scoping | Underground | 7kt | 78Kt | | 1.9% | |
| Cassini | MCR | Operating | Not Avail | 7kt | 59Kt | | 4.0% | |
| Radio Hill | ARV | Feasibility | Open Pit | Not Avail. | 52Kt | | 0.5% | |
| Lake Johnston | POS | Commissioning | Underground | 8kt | 52Kt | | 1.5% | |
| Long Complex | MCR | Operating | Underground | 9kt | 45Kt | | 3.9% | |
| Silver Swan | POS | Feasibility | Underground | 4kt | 16Kt | | 9.5% | |
| Waterloo | NST | Operating | Underground | 6kt | 14Kt | | 2.1% | |
| Nepean | AOU | Feasibility | Open Pit | Not Avail. | 13Kt | | 2.2% | |
| Carr Boyd | ESR | Reserves Develop. | Underground | Not Avail. | 9Kt | | 1.4% | |
| Mt Cobalt | ANW | Reserves Develop | Not Avail | Not Avail. | 7Kt | | 0.9% | |
| | | | | | OM | 2M 4M | OM 200M 400 | 600M |
| | | | | | R&R - Contained Ni = | | R&R - Ore To | nnage |

Sources: Argonaut with data from SP Global & Company Announcements



Top of class carbon footprint credentials

In our research <u>The Emergence of Green Nickel</u> we examined the carbon intensity of various pathways to nickel metal and identified that Jaguar's production was likely to be exceptionally green. Pleasingly, our assessment has since been validated by ESG research specialists Skarn Associates who have graded CTM's Value-Add nickel production better than 97% of the market (<u>CTM announcement</u>).

Jaguar's Value-Add development scenario is expected to produce nickel at a carbon cost of 4.69t of CO₂ per tonne of nickel equivalent metal. This exceptionally low emission result is a function of relatively high mined grades and utilisation of 80% renewably sourced for processing power.

We maintain that CTM will become an increasingly attractive investment proposition to OEM's seeking low greenhouse gas footprint metal and ESG focused funds.





Source: CTM/Skarn Associates

Environmental permitting documentation lodged

In mid-August CTM reported that key environmental approvals had been lodged with the state environmental authority SEMAS. The Company is targeting approval of the Environmental Impact Assessment (EIA/RIMA) and grant of a Preliminary Licence (LP) during Q3 2022. The EIA/RIMA submission was prepared using parameters for the Value-Add development scenario, for production of a nickel sulphate product.

Upon grant of an LP, CTM will apply for an Installation Licence (LI), which once granted will allow for construction of site infrastructure. Grant of the LI is targeted for the end of Q2 2023, allowing for plant construction to commence in the second half of 2023.

CTM's management team is experienced in the permitting of mines in Brazil and is well placed to navigate the local approval process in a timely fashion.

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Table 2: Detailed discounted cash flow model assumptions for development of Jaguar with

| liming | | | | | |
|--|---|----------------------------|--|--|--|
| Timing Start Construction | 202 | 13 | | | |
| Start/End Mining | | | | | |
| Initial Mine Life | 2024/2037 13+ years | | | | |
| | 1 20. 9 | | | | |
| Mining | | | | | |
| Open Pit Development | Jaguar Central, Jaguar South, Jag | | | | |
| | North-East, Onca F | | | | |
| Ore Production (LOM) | Open Pit: 31Mt, Underground 9Mt | | | | |
| Pre-Strip Tonnage (LOM) | 51 Mt total for all pits | | | | |
| OP Strip Ratio (Excl PS) | LOM Average 6:1 | | | | |
| Underground Development | Onca Preta, Jaguar South, Ja | | | | |
| Distance from Mill | 1-3k | m | | | |
| Processing | | | | | |
| Total Processing Costs | \$30/t Ore | | | | |
| Mill | 2.7 Mt Capacity/2. | 7 Mt Throughput | | | |
| Grind Size | 75μm | | | | |
| Low Grade Ore Sorted | 16N | Лt | | | |
| LOM Mill Throughput | 35Mt at 2 | 1.0% Ni | | | |
| Flotation Conc. Grade | 8.1% Ni, 2.5% Zn, 0. | 56% Cu, 0.22% Co | | | |
| Hydromet. Recoveries | 96.2% Ni, 95% | | | | |
| Full Circuit Ni Recovery | 80% | | | | |
| Production | | | | | |
| Final Products | Nickel Sulphate | Mixed Sulphate Precipitate | | | |
| | (Ni) | (Zn-Co-Ni) | | | |
| Product Specification | 22% Ni | 59% Zn, 5.4% Co, 2.3% Ni | | | |
| Annual Product | 91ktpa | 10ktpa | | | |
| Metal in Products | 21.4ktpa Ni | 5.9ktpa Zn, 0.5ktpa Co, | | | |
| | | 0.2ktpa Ni | | | |
| Metal Payabilities | 100% Ni LME + 6.6% Premium | 85% Zn, 30% Co, 0% Ni | | | |
| Payable Metals | 22ktpa Ni | 5ktpa Zn, 0.15ktpa Co | | | |
| Product Transport | \$131/t Product | \$131/t Product | | | |
| | (\$600/t Contained Metal) | (\$200/t Contained Metal) | | | |
| Financial Factors | | | | | |
| Royalties | 4.5% | | | | |
| Corporate Tax Rate | 4.5% 15% for years 1-10, 34% for years >10 | | | | |
| AUD/USD FX | 0.75 | | | | |
| Ni Price Forecast | \$16,500 | | | | |
| MSP Credit to C1 Costs | \$1,000 | | | | |
| Discount Rate | 9% | | | | |
| | | | | | |
| Capital Expense | | | | | |
| Develop. Capex (Incl pre dev Pre-strip) | \$294M | | | | |
| Pre-Strip (LOM Post Dev) | ¢102N4 | | | | |
| UG Dev. (LOM Post Dev) | \$103M \$78M | | | | |
| | \$/8 | IVI | | | |
| Project Valuation | | | | | |
| 2021 NPV9 | A\$979M | | | | |
| Risk Discount Factors | Scoping Study Maturity -35% | | | | |
| | Technical F | Risk -15% | | | |
| | Total Discount = -A\$489M | | | | |
| NPV ₉ (Risk Discounted) | A\$48 | 014 | | | |

Project valuation scenarios have been refined to adopt parameters published in the Value-Add scoping study

Source: Argonaut



Valuation

We believe the 'Value-Add' case provides the most compelling scenario for development of the Jaguar project. As a consequence, we have discarded our previous valuation method of averaging two development scenarios in favour of the 'Value Add' case alone.

Our new financial model incorporates details provided in CTM's <u>Value-Add Scoping study</u> announcement released in May. Our assumptions include a 13-year mine life with exploitation of multiple deposits by open pit and underground mining. Select assumptions for our financial modelling are provided in Table 2.

In our model the majority of ore will be fed directly to the mill, with approximately 5Mt of lower grade material upgraded via inductive or x-ray sorting. A 2.7Mtpa mill and sulphide concentrator will produce a ~8% intermediate nickel sulphide concentrate that will then be oxidised in a pressure oxidation autoclave. The resulting oxidised slurry will then be purified prior to treatment by solvent extraction circuit and final crystallisation of two product precipitates.

The high purity nickel sulphate product has been modelled by us to attract 100% LME nickel metal pricing plus a 6.6% premium for sulphate form. The MSP co-product is expected to contain payable quantities of zinc and cobalt.

Our base NPV model discounted at 9% generates a project value of <u>A\$979M</u>. This model includes US\$240M (A\$320M) in debt funding with the remainder of development funding being provided through equity raisings (total option/equity dilution of A\$147M).

We have applied an aggregate 50% risk discount to our NPV valuation. This includes 35% risk for the stage of studies (Scoping) and an additional 15% risk to account for the usage of less-common processing technology.

| Company Valuation summary | A\$M | A\$/sh |
|---|------|--------|
| Jaguar Project NPV9 (Risk Discounted 50%) | 489 | 1.37 |
| Jambreiro Project | 10 | 0.03 |
| Exploration, all sites | 148 | 0.41 |
| Corporate overheads | -18 | -0.05 |
| Cash and bullion | 20 | 0.06 |
| Current debt | 0 | 0.00 |
| Tax benefit | 0 | 0.00 |
| Hedging | 0 | 0.00 |
| Option/equity dilution | -147 | -0.41 |
| Total | 502 | 1.40 |

Conclusion

The Jaguar Value-Add scoping study has delivered better economic outcomes than the original base case development scenario. We expect the results of ongoing drilling and feasibility studies to generate further interest from an international pool of investors, potential partners and larger corporates who are keen to gain exposure to a robustly economic, long-lived and low-carbon emission nickel asset.



RESEARCH:

Ian Christie | Head of Research +61 8 9224 6872 ichristie@argonaut.com

John Macdonald | Director, Metals & Mining Research +61 8 9224 6835 jmacdonald@argonaut.com

George Ross | Analyst, Metals & Mining Research +61 8 9224 6840 georger@argonaut.com

Royce Haese | Analyst, Metals & Mining Research +61 8 9224 6869 rhaese@argonaut.com

Jonas Dorling | Associate Analyst +61 8 9224 6837, jdorling@argonaut.com

INSTITUTIONAL SALES:

Chris Wippl | Executive Director, Head of Institutional Sales +61 8 9224 6875 cwippl@argonaut.com

Damian Rooney | Director Institutional Sales +61 8 9224 6862 drooney@argonaut.com

John Santul | Consultant, Sales & Research +61 8 9224 6859 jsantul@argonaut.com

Josh Welch | Institutional Dealer +61 8 9224 6868 jwelch@argonaut.com

George Ogilvie | Institutional Dealer +61 8 9224 6871 gogilvie@argonaut.com

CORPORATE AND PRIVATE CLIENT SALES:

Glen Colgan | Managing Director, Desk Manager +61 8 9224 6874 gcolgan@argonaut.com

Kevin Johnson | Executive Director, Corporate Stockbroking +61 8 9224 6880 kjohnson@argonaut.com

James McGlew | Executive Director, Corporate Stockbroking +61 8 9224 6866 jmcglew@argonaut.com

Geoff Barnesby-Johnson | Senior Dealer, Corporate Stockbroking +61 8 9224 6854 bj@argonaut.com

Ben Willoughby | Senior Dealer, Corporate Stockbroking +61 8 9224 6876 bwilloughby@argonaut.com

Philip Grant | Senior Dealer, Corporate Stockbroking +61 8 9224 6834, pgrant@argonaut.com

David Keogh | Senior Dealer, Corporate Stockbroking +61 8 9224 6852, dkeogh@argonaut.com

Rob Healy | Dealer, Private Clients +61 8 9224 6873, rhealy@argonaut.com

Cameron Prunster | Dealer, Private Clients +61 8 9224 6853 cprunster@argonaut.com

James Massey | Dealer, Private Clients +61 8 9224 6849 jmassey@argonaut.com

Harry Massey | Dealer, Private Clients +61 8 9224 6829, hmassey@argonaut.com

Reece O'Connell | Financial Advisor, Private Clients +61 8 9224 6851, roconnell@argonaut.com

Quinton Meyers | Financial Advisor, Private Clients +61 8 9224 6879, qmeyers@argonaut.com

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