

**ASX:CVV**

4 November 2021

**UPDATED 2021 SCOPING STUDY - CARAVEL COPPER PROJECT**

**Highlights**

- **The updated 2021 Scoping Study is based on first-phase Pre-Feasibility Study (PFS) work completed by lead engineer Ausenco.**
- **This Study provides guidance on the latest PFS input assumptions and results of work to date.**
- **Throughput, capital and operating costs are based on Ausenco's revised flow sheet.**
- **Updated revenue assumptions are based on improved copper price outlook.**
- **The 2021 Scoping Study shows a strong business case for the Caravel Copper Project.**
- **The PFS is scheduled for delivery in early CY22.**

## **CAUTIONARY STATEMENT**

The Scoping Study referred to in this announcement is based on further studies following a scoping study released in 2019. This study remains at the level of a Scoping Study based on preliminary technical and economic study of the viability of developing the Caravel Copper Project by constructing an open cut mine and processing facility to produce copper concentrate for export. The Scoping Study outcomes, production target and forecast financial information referred to in this release are based on low accuracy level technical and economic assessments that are insufficient to support estimation of Ore Reserves.

The Scoping Study has been completed to a level of accuracy of +/- 35% in line with a scoping level study accuracy. While each of the modifying factors was considered and applied, there is no certainty of eventual conversion to Ore Reserves or that the production target itself will be realised. Further exploration and evaluation work and appropriate studies are required before Caravel will be in a position to estimate any Ore Reserves or to provide any assurance of an economic development case. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

The Company has reasonable grounds for disclosing a Production Target, given that in the first five years of production 92% of the mill feed is scheduled from the Indicated Resource category. Approximately 75% of the Life-of-Mine (LOM) Production Target is in the Indicated Mineral Resource category, and 25% is in the Inferred Mineral Resource category. There is a lower level of geological confidence associated with Inferred Mineral Resources. While the Company considers all the material assumptions in this Study to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated will be achieved.

The Mineral Resources underpinning the production target in the Scoping Study have been prepared by a competent person in accordance with the requirements of the JORC Code (2012). The Competent Person's Statement is found on page 8 of the Scoping Study booklet within this ASX release. For full details of the Mineral Resources estimate, please refer to Caravel ASX release dated 29 April 2019. Caravel confirms that it is not aware of any new information or data that materially affects the information included in that release. All material assumptions and technical parameters underpinning the estimates in that ASX release continue to apply and have not materially changed.

### **Forward-looking Statements**

This report contains forward-looking statements which are identified by words such as 'may', 'could', 'believes', 'estimates', 'targets', 'expects', or 'intends' and other similar words that involve risks and uncertainties. These statements are based on an assessment of present economic and operating conditions, and on a number of assumptions regarding future events and actions that, as at the date of this report, are considered reasonable. Such forward-looking statements are not a guarantee of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the Company, the Directors and the management. The Directors cannot and do not give any assurance that the results, performance or achievements expressed or implied by the forward-looking statements contained in this report will actually occur and investors are cautioned not to place undue reliance on these forward-looking statements. The Directors have no intention to update or revise forward looking statements, or to publish prospective financial information in the future, regardless of whether new information, future events or any other factors affect the information contained in this report, except where required by law or the ASX listing rules.

Caravel has concluded that it has a reasonable basis for providing these forward-looking statements and the forecast financial information included in this release.

To achieve the range of Caravel Copper Project outcomes indicated in the 2021 Scoping Study, funding of in the order of an estimated \$600 million will likely be required by the Company.

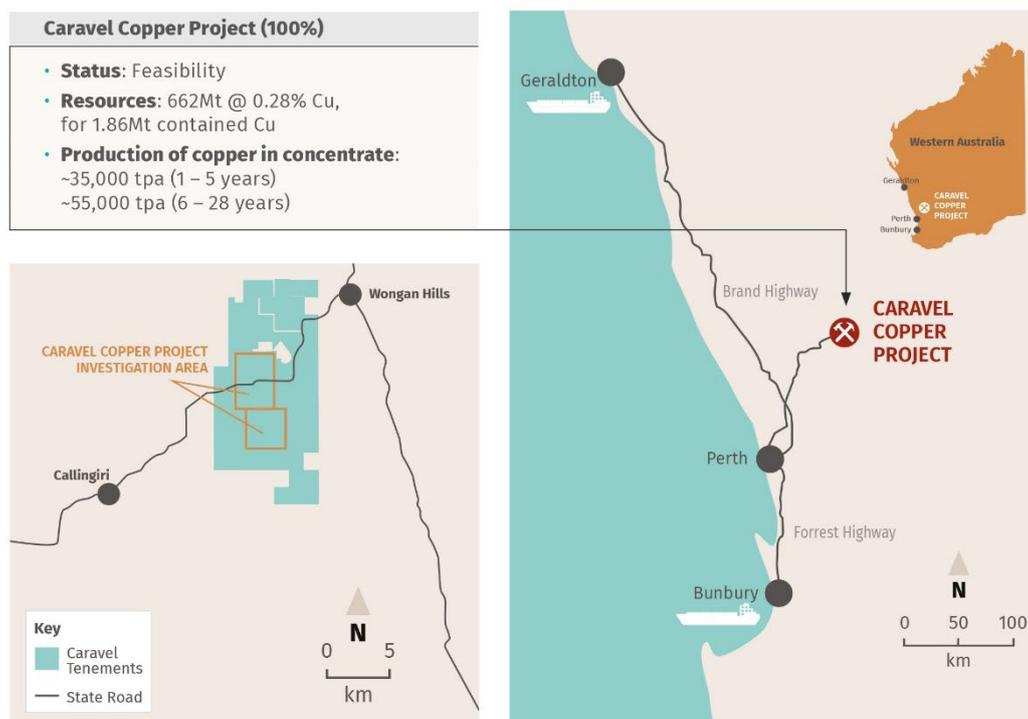
Based on the current market conditions and the results of feasibility studies to date there are reasonable grounds to believe the Project can be financed via a combination of debt and equity, as has been done for numerous comparable projects in Western Australia in recent years. Debt may be secured from several sources including Australian banks, international banks, the high yield bond market, resource credit funds, and in conjunction with product sales of offtake agreements. It is also possible the Company may pursue alternative funding options, including undertaking a corporate transaction, seeking a joint venture partner or partial asset sale. There is, however, no certainty that Caravel will be able to source funding as and when required.

Whilst no formal funding discussions have commenced the Company has engaged with a number of potential financiers on the Caravel Copper Project and these financial institutions have expressed an interest in being involved in the funding of the project.

This ASX release has been prepared in compliance with the current JORC Code (2012) and the ASX Listing Rules. All material assumptions, including sufficient progression of all JORC modifying factors, on which the production target and forecast financial information are based have been included in this ASX release.

## UPDATED 2021 SCOPING STUDY CARAVEL COPPER PROJECT

Caravel Minerals Limited (“Caravel or the “Company”) (ASX: CVV) is pleased to announce it has revised the 2019 Scoping Study to produce a new 2021 Scoping Study for its 100%-owned Caravel Copper Project (“Project”) in Western Australia (Figure 1). The 2021 Scoping Study is part of a Pre-Feasibility Study (PFS) for the Project, which is on track for completion in early CY2022 and is provided as guidance on the PFS and input assumptions.



Engineering services firm Ausenco is undertaking Caravel Copper Project PFS studies on process plant and infrastructure design, capital and operating cost estimation and execution planning. Ausenco has reviewed the 2019 Scoping Study project parameters and updated a range of assumptions prior to commencing detailed PFS work.

### **Updated parameters for the 2021 Scoping Study include:**

#### **Mineral Processing**

Caravel has modified the process flowsheet from the 2019 Scoping Study as part of trade-off studies (to a scoping level) for Phase 1 of the PFS, with the circuit modified to incorporate a Semi Autogenous Grinding (SAG) Mill with pebble crusher comminution circuit in preference to the High Pressure Grinding Roll (HPGR) envisaged previously. This change aims to provide a faster return on capital, higher throughput and the opportunity for pebble rejection.

The study also produced a site layout suitable for start-up operations and future expansion, with an equipment flowsheet for treating the ore at 12Mtpa which will then be effectively replicated when the plant is expanded to 24Mtpa from year 6 onwards.

#### **Capital Expenditure**

Ausenco has updated the plant layout and equipment list based on a revised flowsheet and incorporating numerous other changes to improve costs, as well as materials and labour costs to incorporate the recent increases experienced across the industry.

A new flowsheet and layout have produced cost savings from the 2019 Scoping Study, but higher labour and materials result in an overall increase in capital costs (in line with benchmarked costs experienced across WA resources companies) from to \$482M to approximately \$576M (Range: A\$524m to A\$634m).

### **Operating costs**

Operating costs were recalculated based on the revised flowsheet, plant layout and updated rates for labour and consumables. Cost assumptions for power prices are unchanged. The change to a SAG/Ball Mill circuit results in higher consumption of power and increased consumption of grinding media. Mining costs have not been re-estimated however a provision is made for expected cost increases due to fuel and labour costs.

Overall unit costs (C1) increase from A\$11.71/t milled to approximately A\$14.42/t milled.

### **Revenue Forecasts**

Commodity prices have increased significantly since the 2019 study was published. These price rises are in large part responsible for the recent cost inflation in the mining industry, and therefore it is necessary to update the commodity prices used in the revised study to reflect the current cost and price environment. Caravel has adopted a copper price assumption of US\$4/lb (Range: US\$3.60/lb to US\$4.40/lb) compared to US\$3/lb in the prior study.

### **2021 Scoping Study comparison to 2019 Scoping Study**

Major changes to input variables and the financial outputs from the 2019 Scoping Study are summarised in Tables 1 and 2 over the page.

Cashflow modelling for the 2021 Scoping Study uses the same resource and mine plan as the 2019 Study, however the mining schedule has been adjusted to allow for the revised throughput rates. Preparation of the new mine plan and schedule will commence after the new resource estimate is finalised with completion expected in late November. A key objective of this work will be scheduling of higher-grade ores early in the mine schedule to maximise early cashflow.

All other PFS activities are progressing as planned, further details and updates are provided in this report.

This announcement is authorised for release by Managing Director, Steve Abbott.

### **For further information, please contact:**

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**Table 1: Comparison of 2019 and 2021 Scoping Studies.**

ASSUMPTION	UNITS	2021 SCOPING STUDY	2019 SCOPING STUDY
Copper Price	US\$/lb	4 (Range: 3.60 to 4.40)	3
Gold Price	US\$/oz	1,700	1,270
Silver Price	US\$/oz	18	16
Exchange Rate FX	A\$:US\$	0.72	0.72
Circuit	Mtpa	SABC no Moly 12 – 24	HPGR & Moly 16 – 30
Recovery <sup>3</sup>	%	~92 (Range: ~90 to ~92)	~92
Mining Costs	A\$/t mined	2.93	2.36
Processing Costs	A\$/t milled	6.69	5.17
Concentrate Transport	A\$/wmt	78	78
Freight	A\$/wmt	22	22
Smelting	US\$/t conc	85	85
Refining	US\$/lb Cu	0.085	0.085
Initial Capital	A\$M	576 (Range: 634 to 524)	481
Sustaining Capital	% capex	3	1.2

**Table 2: Comparison of Life of Mine Financial Economics.**

LIFE OF MINE FINANCIAL ECONOMICS	UNITS	2021 SCOPING STUDY			2019 SCOPING STUDY
		LOW	BASE	HIGH	
Revenue (net of TCs/RCs)	A\$M	12,708	<b>14,517</b>	15,969	10,645
Net Cash Flow (pre-tax)	A\$M	2,665	<b>4,489</b>	\$5,991	3,130
Pre-tax NPV (7% disc. rate)	A\$M	686	<b>1,448</b>	2,072	1,123
Pre-tax IRR (7% disc. rate)	%	16	<b>26</b>	35	24
Capital Payback	Years	8	<b>4</b>	3	<4



CARAVEL  
MINERALS



CARAVEL COPPER PROJECT

**SCOPING STUDY**

**NOVEMBER 2021**

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#### Previously Reported Information

This document includes information that relates to the Caravel Copper Project Mineral Resource which was prepared in accordance with the requirements of the JORC Code (2012).

This information was included in the Company's previous announcements as follows:

**18 February 2019**  
 Metallurgical Test Work Confirms High Recoveries

**29 April 2019**  
 Caravel Copper Resource and Project Update

**18 June 2019**  
 Caravel Copper Project Initial Copper Concentrate Analyses

**29 April 2021**  
 Bindi Deposit – Updated Geological Model

**25 August 2021**  
 Bindi Deposit – Updated Geological Model: Potential for Increased Copper Resource

These announcements are available at the Company's website [caravelminerals.com.au](http://caravelminerals.com.au)

## CORPORATE DIRECTORY

### DIRECTORS AND COMPANY SECRETARY

**Wayne Trumble** Non-Executive Chairman

**Alasdair Cooke** Executive Director

**Steve Abbott** Managing Director

**Richard Monti** Non-Executive Director

**Daniel Davis** CFO and Company Secretary

### REGISTERED AND PRINCIPAL OFFICE

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### CARAVEL COPPER PROJECT TEAM

**Steve Abbott** Managing Director

**Alasdair Cooke** Executive Director

**Don Hyma** Project Advisor

**Jason 'Vossie' Vos** Mining Manager

**Peter Pring** Exploration Manager

**Chantal Hartstone** Stakeholder and Social Advisor

**Mick Klvac** Approvals and Compliance Manager

**Bruce McLarty** Commercial Manager

**Lauritz Barnes** Geology and Resource Advisor

**Eamon Byrne** Financial Consultant

This 2021 Scoping Study was prepared by Caravel Minerals with assistance from the following advisors:

**Ausenco** Engineering

**Knight Piesold** Tailings

**Dempers & Seymour** Geotechnical Engineering

**Trepanier** Resource

**Orelogy** Mining

**Wayne Trumble** Power

**Western Power** Power

**ALS Laboratories** Metallurgical Testwork

**Aurifex** Metallurgy

**Qube Bulk** Transport

**Braemer ACM** Shipping

**Preston Consulting** Approvals

**CDM Smith Australia** Mine Closure

**Rockwater** Hydrogeology

**Smith Drilling** Water Exploration

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# EXECUTIVE SUMMARY

This 2021 Scoping Study is provided as guidance on the progress to date for the Caravel Copper Project Pre-feasibility Study (PFS) which is scheduled for completion in early 2022.

An initial phase of the Caravel Copper Project PFS is now complete and a number of changes to previous assumptions and parameters have been determined that will form the basis of the detailed work remaining in the study. This 2021 Scoping Study incorporates these recent changes into the format of the 2019 Scoping Study to allow an updated assessment and provide guidance on the progress of the Project.

The 2019 Scoping Study defined the Caravel Copper Project as having an initial mine life of 23+ years based on an Indicated and Inferred Mineral Resource of 662Mt at 0.28% Cu (at 0.15% Cu cut-off) for a total of 1.86Mt contained copper. The 2019 Scoping Study indicated a robust project (A\$3.1B free cashflow generation on net revenues of A\$10.6B) and recommended proceeding to a Pre-feasibility Study.

Since the 2019 Study Caravel has conducted further drilling and geology modelling aimed at expanding the resource and identifying zones of higher-grade mineralisation that can be accessed in the early mine schedule. This work will be reported in detail in a resource update expected by November 2021.

In May 2021 Caravel engaged global engineering services firm Ausenco to lead the Caravel Copper Project PFS studies on process plant and infrastructure design, capital and operating cost estimation and execution planning.

The first objective of the PFS was to review the 2019 Scoping Study parameters and update assumptions prior to commencing the detailed PFS work. This 2021 Scoping Study presents the revised scope that will be used in the PFS.

## VARIATIONS BETWEEN 2019 SCOPING STUDY AND 2021 SCOPING STUDY

### Flowsheet Design

Ausenco have revised the proposed flowsheet to use a Semi Autogenous Grinding (SAG) Mill with pebble crusher circuit in preference to High Pressure Grinding Rolls (HPGR). This has benefits in using simpler and more standardised equipment at a lower capital cost with increased flexibility although it does incur higher operating costs through grinding media consumption and higher power requirements. The Molybdenum circuit from the 2019 Scoping Study has also been removed as the latest economics have indicated the benefits are marginal. This will be reviewed during the PFS when the revised molybdenum grades are considered as part of the resource model update.

### Throughput Rate

The plant throughput rate has been adjusted to match the new flowsheet design. The SAG mill capacity is the main constraint and therefore the mining rate and plant throughput has been adjusted around a logical “sweet spot” in equipment performance and costs utilising a 16MW twin pinion drive system and retaining the same staged development plan where the flowsheet may be expanded to double capacity. The new design is based on an initial 12Mtpa ore processing circuit that may be expanded by duplication to 24Mtpa.

### Initial Capital

Ausenco have updated the plant layout and equipment list based on the revised flowsheet and incorporating numerous other changes to improve costs. Prices for materials and labour have also been updated to incorporate the recent increases experienced across the industry. Whilst the new flowsheet and layout have produced significant cost savings from the 2019 study, the higher labour and materials result in an overall increase in costs from A\$481M to A\$576M<sup>1</sup> (Range: A\$524M to A\$634M).

### Operating Costs

Operating costs have been recalculated based on the revised flowsheet, plant layout and updated rates for labour and consumables. Cost assumptions for power prices are unchanged. The change to a SABC circuit results in higher power costs and higher consumption of grinding media. Mining costs have not been re-estimated however a provision is made for expected cost increases due to fuel and labour costs. Overall unit costs (C1) increase from A\$11.71/t milled to A\$14.42/t milled.

### Revenue Forecasts

Commodity prices have increased significantly since the 2019 study. These price rises are in large part responsible for recent cost inflation in the mining industry, and therefore it is necessary to update prices used in this study to reflect the current cost and price environment. The copper price has been revised from US\$3.00/lb to US\$4.00/lb<sup>2</sup> (Range: US\$3.60/lb to US\$4.40/lb).

## COMPARISON SUMMARY

The major changes between the 2019 Scoping Study and 2021 Scoping Study input variables and life of mine financial economics are summarised in Tables 1 and 2.

Cashflow modelling uses the same resource and mine plan as the 2019 Study, however the mining schedule has been adjusted to allow for the revised throughput rates. Preparation of the new mine plan and schedule will commence after the new resource estimate is finalised, with completion expected in late November. A key objective of this work will be scheduling of higher grade ores early in the mine schedule to maximise early cashflow.

All other PFS activities are progressing as planned, further details and updates are provided in this report.

<sup>1</sup>Initial Capital: Base Case of A\$576M (Range: A\$524M to A\$634M)  
<sup>2</sup>Copper Price: Low Case = US\$3.60/lb; Base Case = US\$4.00/lb; High Case = US\$4.40/lb

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Pre-tax IRR (7% disc. rate)	%	16	26	35	24
Capital Payback	Years	8	4	3	<4

<sup>3</sup>Recovery: Low Case = 90%; Base Case = 92%; High Case = 92%

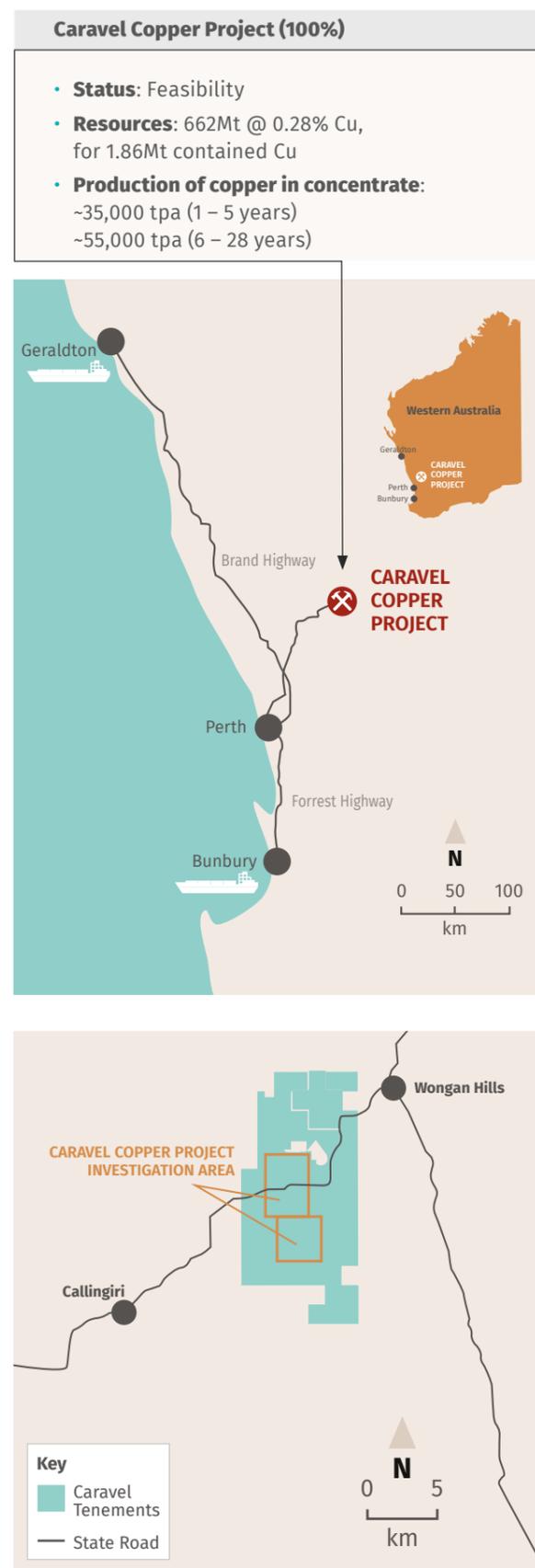


Figure 1: Caravel Copper Project and tenement location.

### Project Highlights

<p><b>~35</b> KTPA Y1 – Y5</p> <p><b>~55</b> KTPA Y6 – Y28</p> <p>Copper in Concentrate</p>	<p><b>\$1.44<sub>B</sub></b></p> <p><b>Base Case</b> Pre-tax NPV</p> <p>AUD 7% Discount Rate (Range: \$686M to \$2.072b)</p>
<p><b>1.1:1</b></p> <p><b>LOM</b> Low Strip Ratio</p> <p>0.43:1 Y1 – Y5</p>	<p><b>&gt;25%</b></p> <p><b>Clean</b> Concentrate</p> <p>Cu: Chalcopyrite</p>
<p><b>#4</b></p> <p><b>Western</b> Australia</p> <p>Best Mining Investment Jurisdiction Fraser Institute 2020</p>	<p><b>~92%</b></p> <p><b>Cu</b> Recovery</p> <p>Excellent Metallurgy (Range: ~90% to ~92%)</p>
<p><b>28</b></p> <p><b>Year</b> Mine Life</p> <p>12 Mtpa Y1 – Y5, Ramping-up to 24 Mtpa from Y6 – Y28</p>	<p><b>1.86<sub>Mt</sub></b></p> <p><b>Contained</b> Copper</p> <p>Based on 662Mt @ 0.28% Cu (0.15% Cu cut-off)</p>
<p><b>\$1.90<sub>/lb</sub></b></p> <p><b>C1</b> Cash Costs</p> <p>USD Y1 – Y5 After By-product Credits</p>	<p><b>&lt;4</b></p> <p><b>Year Payback</b> Initial Capital A\$576M</p> <p>(Range: 8Y to 3Y based on A\$634M to A\$524M)</p>

## PROJECT OVERVIEW

Caravel Mineral's 100% owned Caravel Copper Project is an undeveloped conventional open-cut mining and processing project located approximately 150km north-east of Perth.

Power, road and port infrastructure is readily accessible as well as access to mining services based in the region and the State's capital.

This 2021 Scoping Study is based on the following project attributes:

- Copper mineral resource of 662Mt at 0.28% Cu providing 1.86Mt contained Cu (using 0.15% Cu cut off).
- Establishment of a conventional open-pit and mineral processing infrastructure to produce copper concentrate for road transport to port.
- Initial mine production of 12Mtpa of ore for the first 5 years, with a ramp-up to 24Mtpa commencing in year 6.
- Copper production of ~35,000 tonnes per annum (years 1 – 5) and ~55,000 tonnes per annum (years 6 – 28).
- Copper concentrate by-product credits gold (Au) and silver (Ag).
- Starter pits at Bindi (first 5 years) to ensure early access to higher-grade ore delivering 59Mt of ore at a strip ratio of 0.43:1 to the mill for processing.
- Mining at Dasher commencing in year 14.
- Over the currently estimated 28 year mine life, the Bindi and Dasher deposits will produce 576Mt of ore at a strip ratio of 1.1:1.
- Mining of the Bindi and Dasher deposits is assumed to finish in year 25 at which point the mill will process material from the accumulated low-grade stockpiles.
- 75% of the overall material in the production schedule is currently in the Indicated resource classification category, while 25% is Inferred (including 0.2% unclassified).



## COPPER MARKET

### MARKET AND COPPER PRICING ASSUMPTIONS

The 12-month price range for copper reached a low of US\$2.90/lb and a high of US\$4.80/lb (see Figure 2). A base case price assumption of US\$4.00/lb (and a range of US\$3.60/lb to US\$4.40/lb) has been applied to the calculations for the 2021 Scoping Study. US\$4.00/lb is the mid-point within the 12-month range. The US\$4.00/lb price assumption is viewed as conservative when balanced against higher forecasts based on exceptionally strong pricing conditions year to date (YTD), low inventories, momentum shifts in economic recovery, stimulus packages and expectations of increased medium-term demand due to carbon reduction energy policies.

### COPPER PRICE FUNDAMENTALS

- Growing Electric Vehicle (EV) demand, declining global production, increasing production costs.
- Copper prices are near 10 year highs of US\$9,700 or US\$4.40/lb.
- Consensus forecast to remain around US\$10,000 or US\$4.54/lb.

- Forecast from Goldman Sachs for \$15,000/t or US\$6.80/lb by 2025<sup>1</sup>.

### SUPPLY FACTORS

- Copper's supply-side is experiencing grade decline and resource depletion.
- There is an emerging shortage of high-quality copper concentrate producers.
- Historically reliable sources are in less stable jurisdictions (Chile grade decline and regional unrest).
- Supply squeeze tightening with a lack of major new, long life discoveries.
- Lack of exploration success resulting in a shortage of quality assets.

### DEMAND FACTORS

- Copper metal demand is in response to rising living standards globally.
- Environmental policies (carbon reduction) driving electrification and displacing the use of fossil fuels.
- Urbanisation of developing nation populations including India and China.
- Electrification of transport including EV.
- Growth in renewable energy technology.

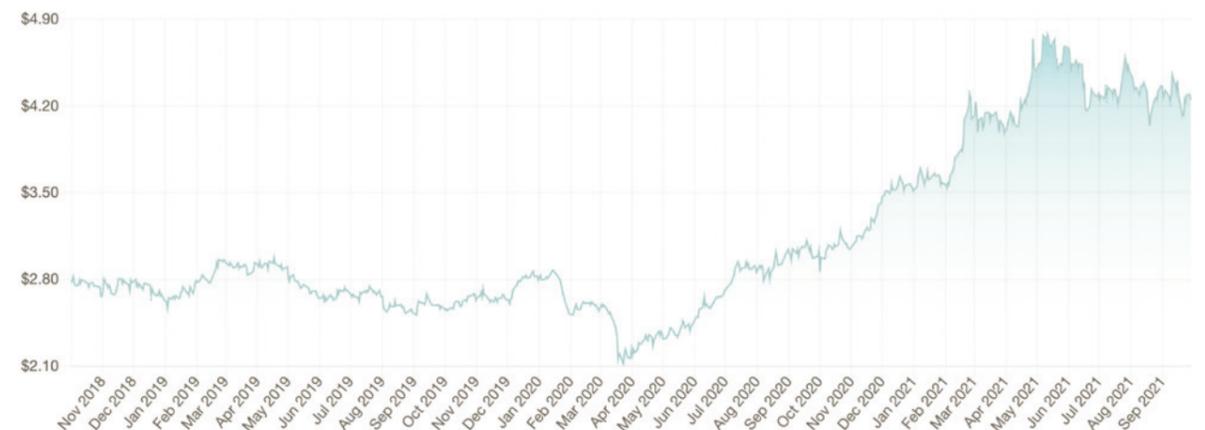


Figure 2. Copper price (US\$/lb) chart as at 28 September 2021.

<sup>1</sup><https://markets.businessinsider.com/news/stocks/copper-price-outlook-demand-rise-goldman-sachs-sustainability-commodities-2021-4>

# GEOLOGY AND EXPLORATION

**Mineralisation at the Caravel Copper Project is hosted by a highly deformed Archaean granite and considered to originate as a large porphyry copper system.**

The granite host rock, the inferred premetamorphic mineral assemblages and general scale and style are all consistent with the porphyry copper model. The broader geological setting is also consistent with a porphyry style of mineralisation, with the 30km mineralised trend following the margins of granite batholith of similar scale, referred to as the Wongan Batholith in Figure 6.

Outhwaite (2017) describes in detail age dating work and the tectonic history of the project area. Host granites and associated mineralisation have been dated at around 3.0 Ga, with subsequent deformation and metamorphism around 2.7 Ga, coincident with the regional deformation and gold mineralisation at Kalgoorlie and the wider Yilgarn goldfields, as well as the Boddington gold deposit.

Copper occurs almost exclusively as chalcopyrite sulphides associated with quartz veins. Copper grade is largely determined by the frequency and thickness of the veins, which may be semi-massive chalcopyrite up to several cm thick, though mostly the sulphide veins are more attenuated and in the range of mm thick following the main foliation. The frequency of veins or sulphide bands also varies on the scale of meters

and tens of meters, where copper grades may range up to 0.6% over thicknesses of tens of meters with lower grades or waste in between. Molybdenite, pyrite and pyrrhotite may also accompany the chalcopyrite, though in much lower amounts. Garnet, sillimanite and magnetite are also commonly associated with mineralisation, possibly as products from metamorphism of the primary alteration assemblages.

The mineralised zones have undergone higher strain than adjacent barren granites in the footwall. In the higher strain zones, the mineralised veins have been transposed into the dominant foliation, as shown in Figures 4 and 5.

The transposed veins, aligned with the main foliation, have then undergone further folding, as part of the regional deformation event that created the overturned fold, which defines the west and east limbs of the Bindi deposit. Higher grade shoots of mineralisation are associated with the northwest plunging fold hinges of the Bindi antiform and the southeast synform, as illustrated in Figure 3. The same folding may be observed in core as illustrated in Figure 3.

At the regional scale, the Wongan Batholith lies on a major boundary between the Boddington and Lake Grace domains of the SW Terrane of the Yilgarn craton. Relatively little research has been undertaken on this significant boundary, which appears to be a 3.0 Ga Archaean magmatic arc that has subsequently closed when the SW Terrane collided with the Yilgarn, resulting in the regional 2.7 Ga deformation event. The Caravel deposits are believed to have formed in the volcanic arc that developed on this margin during subduction convergence prior to that collision event.

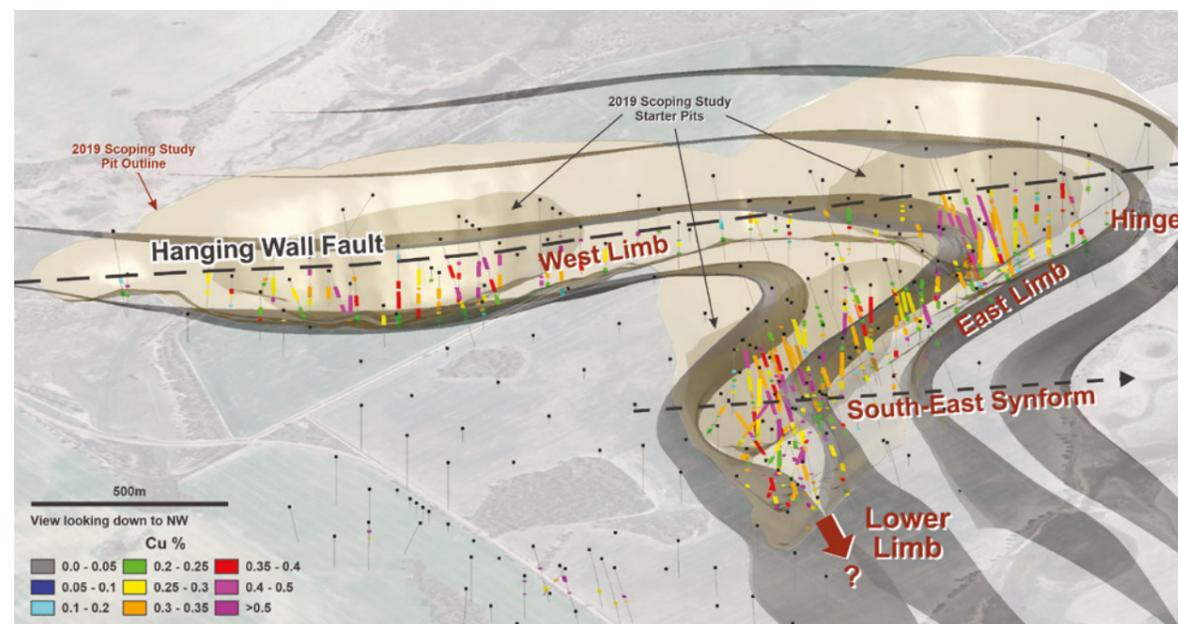


Figure 3. Bindi deposit folding indicated by main structural form lines.

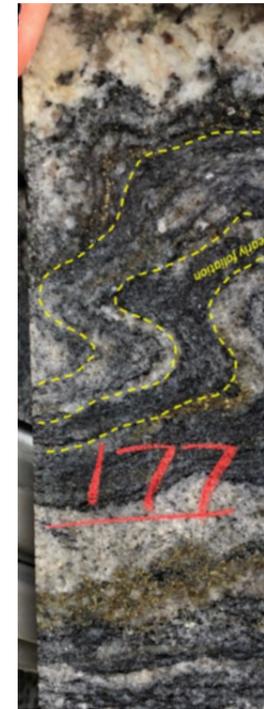


Figure 4. Drill core showing early veins being transposed into dominant foliation.



Figure 5. Drill core showing late folding of early foliation and veins.

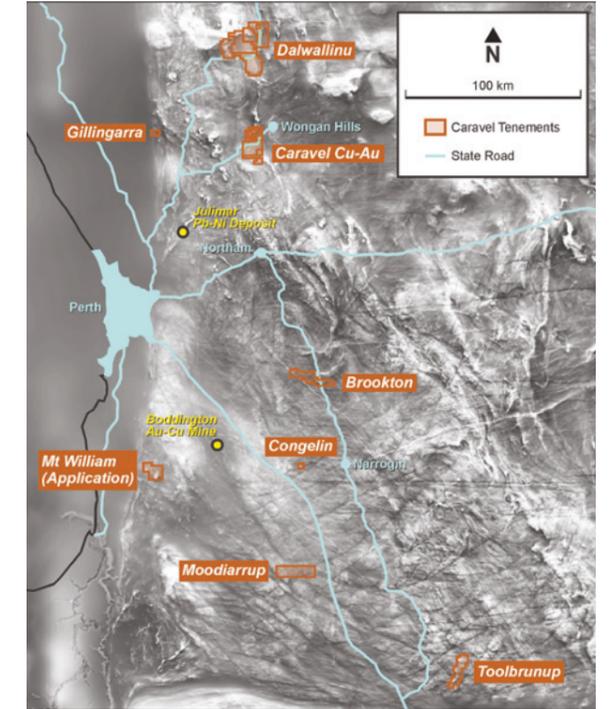


Figure 6. Aeromagnetic image of the Caravel Project area showing outline of the Wongan Batholith and location of main deposits.

## EXPLORATION HISTORY

Between 2005 and 2013 Dominion Mining, and subsequently Kingsgate Consolidated, collected and analysed approximately 200,000 regional roadside soil geochemical samples throughout the WA Wheatbelt primarily looking for gold. From this data areas of anomalous copper were identified at what is now the Caravel Copper Project, leading to the first discovery of mineralisation in 2010 when RC drilling undertaken by Caravel intersected pervasive chalcopyrite-molybdenite mineralisation over widths of up to 250 metres.

Further systematic regional exploration programs including aircore drilling and ground-based IP geophysical surveys were completed by Caravel Minerals, which acquired the project from Dominion. Subsequent RC drilling, and limited diamond core drilling between 2013 and 2015 resulted in the discovery and delineation of a large system of copper mineralisation with significant associated molybdenum, and to a lesser extent associated silver and gold. Further infill drilling between September 2015 and March 2016 resulted in the estimation of a maiden JORC Resource. A preliminary Scoping Study was published on what was termed the 'Calingiri Project'.

The Calingiri Project (Cu, Mo, Au, Ag) was recognised by the WA Government in 2017 and included in the Geological Survey of Western Australia Major Projects map. The Project was renamed to the Caravel Copper Project in 2018.

An updated JORC Resource was completed in 2019 showing the deposit contains an estimated 662Mt @ 0.28% Cu for 1.86Mt contained Cu (0.15% Cu cutoff). The 2019 resource estimate formed the basis for 2019 Scoping Study which confirmed potential for long-life project with strong economics.

Since the 2019 resource, significant further delineation drilling and detailed infill drilling programs have been undertaken to define higher grade zones within the Bindi East limb and Hinge zone to increase confidence of higher-grade areas for resource/reserve classification and potentially incorporate these areas into the early stage of a proposed mine schedule.

A traverse of deep diamond drilling holes has tested the extensions of mineralisation below the 2019 pit shells. Both programs have identified significant new zones of mineralisation which are described further in the section on Mineral Resources.

# MINERAL RESOURCES

The 2021 Scoping Study is based on a 2019 Mineral Resource (at a 0.15% cut-off) of 662 million tonnes at 0.28% Cu, for 1.86 million tonnes of contained Cu (Table 3).

Since late 2020, 34,230m of drilling comprising 7,275m of diamond core and 26,955m of RC percussion drilling, has been completed predominantly at the Project's largest resource at Bindi, as illustrated in Figure 9 drill status plan.

The primary objectives of the recent drilling have been to upgrade resource classification to support reserve reporting in the PFS, test for depth extensions below the previously defined resource and identify areas of shallow higher-grade material that can be accessed in the early mine schedule. Results of this program are discussed in the section on Resource Growth Potential below.

At the time of this report, an updated Mineral Resource estimate was being prepared based on results of drilling during 2020 and 2021. The updated Mineral Resource will form the basis of the Pre-feasibility Study planned for completion in early 2022.

**Table 3: Caravel Copper Project Mineral Resource (using 0.15% Cu cut-off).**

CATEGORY	Mt	Cu (%)	Mo (PPM)	Cu (T)
Measured	-	-	-	-
Indicated	393.4	0.29	57	1,128,800
Inferred	268.6	0.27	52	734,000
<b>Total</b>	<b>661.9</b>	<b>0.28</b>	<b>55</b>	<b>1,862,800</b>

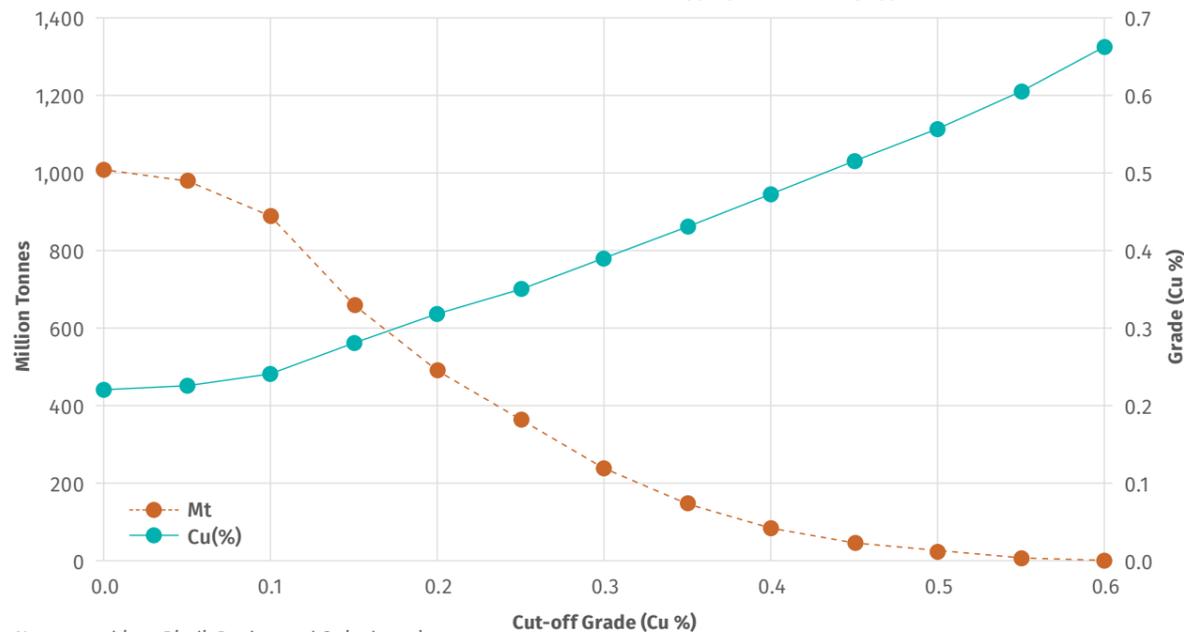
Note – appropriate rounding applied.

**Table 4: Caravel Copper Project Combined Mineral Resource at Various Cu Cut-off Grades.**

CU CUT-OFF (%)	Mt	Cu (%)	Mo (PPM)	Cu (T)
0.15	661.9	0.28	55	1,862,800
0.20	488.5	0.32	63	1,563,600
0.25	372.1	0.35	69	1,301,600
0.30	248.5	0.39	77	962,200

Note – appropriate rounding applied.

**COMBINED GRADE AND TONNES (IND + INF)**

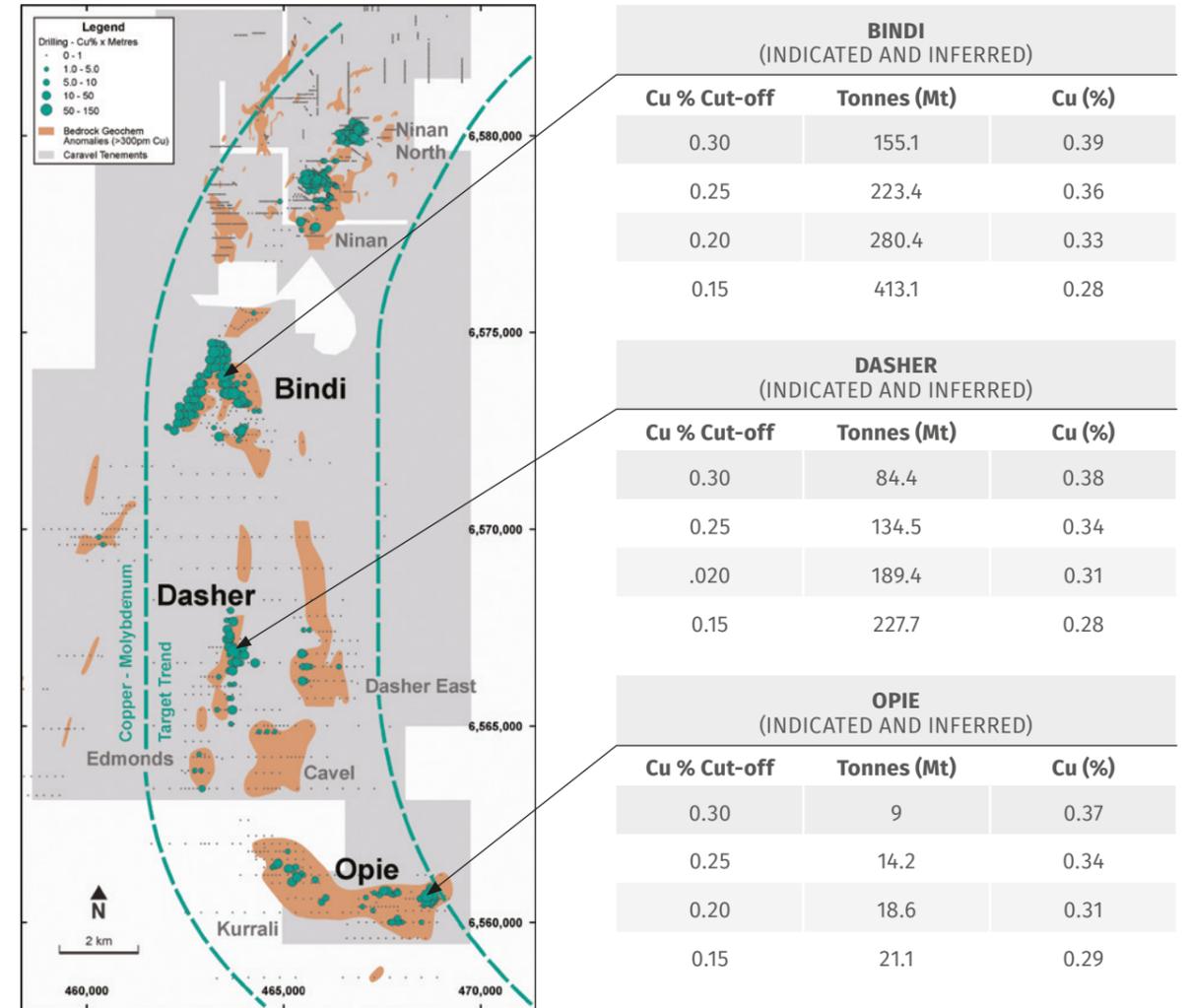


Note – combines Bindi, Dasher and Opie deposits.

**Figure 7: Grade vs. Tonnage curves for the combined Caravel Copper Project Mineral Resource.**

**Previously Reported Information:** This information relates to the Caravel Copper Project Mineral Resource which was prepared in accordance with the requirements of the JORC Code (2012). This information was included in the Company's previous announcement as follows: ASX announcement dated 29 April 2019 Caravel Copper Resource and Project Update or see caravelminerals.com.au

**Competent Person's Statement:** The information in this report that relates to Mineral Resources for the Bindi and Dasher deposits is based on and fairly represents, information compiled by Mr Lauritz Barnes, (Consultant with Trepanier Pty Ltd). Mr Barnes is a shareholder of Caravel Minerals. Mr Barnes is a member of both the Australasian Institute of Mining and Metallurgy and the Australasian Institute of Geoscientists. Mr Barnes has sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Barnes consents to the inclusion in this report of the matters based on information in the form and context in which they appear.



**Figure 8: Caravel Copper Project Resources and prospects with drilling (Cu% x m = aggregate of intervals >0.15% Cu, max 4m internal waste) and bedrock geochemical anomalies (>300ppm Cu).**



**Figure 9: Drilling status plan of the Bindi copper deposit showing the locations of 2020/21 drill hole collars and previous drill collar locations.**

# GROWTH POTENTIAL

## DEPTH EXTENSIONS AT BINDI EAST – EXPLORATION TARGET

A series of four deep diamond holes below the current resource at Bindi East have confirmed the mineralisation extends to >450m below surface<sup>1</sup>. The consistency of the structural trend and style of mineralisation provides high confidence that the resource may be extended at depth, as illustrated in Figure 10. To provide guidance on the potential impact on resources, an exploration target was calculated of 75 to 85 million tonnes at a grade of 0.20% to 0.30% copper, for 150,000 to 255,000 tonnes contained copper. This is additional to the existing Bindi resource estimate shown in Table 3.

Exploration Targets are conceptual in nature and there has been insufficient drilling work to estimate a Mineral Resource. There is no certainty that further work will result in the estimation of a Mineral Resource.

## NEW BINDI SE SYNFORM

Diamond core drilling in the south end of the Bindi East Limb has revealed a synformal fold closure hosting a north-plunging higher-grade mineralised shoot, (see Figure 11). Thickening of the mineralisation in the synform has significant implications for future extensions below the present East Limb. The Bindi Lower

Limb mineralisation remains open to the east of the synform where there is only shallow, sparse drilling. This is a priority area of interest for near-mine exploration.

## ZONE OF HIGHER-GRADE IN BINDI EAST LIMB

The 2020 – 21 RC infill drill programme in the Bindi East Limb and Bindi Hinge areas has achieved a hole spacing of 50x50m. This drilling has defined near surface higher-grade zones associated with northwest plunging fold hinges and provides increased confidence in the resource estimate for these areas that may be mined as starter pits. These higher-grade shoots are illustrated in long section in Figure 10 and in cross section through the SE Synform in Figure 11 and the Bindi Hinge Zone in Figure 12.

## DASHER SOUTH

Reverse circulation drilling at Dasher South shows broad zones of mineralisation 1,000m south of the current optimised pit shell. Grades and widths are comparable to the resource at Dasher and there is good confidence that the resource may be extended south to this area. Further work is planned to better define resources in this area.

## OPIE

Reverse circulation drilling at the Opie prospect shows strong mineralisation 200m north of the current resource in what is interpreted to be a north-plunging structurally controlled shoot similar to those seen at Bindi. Further work is planned to further investigate the potential to extend the resource at Opie through this area.

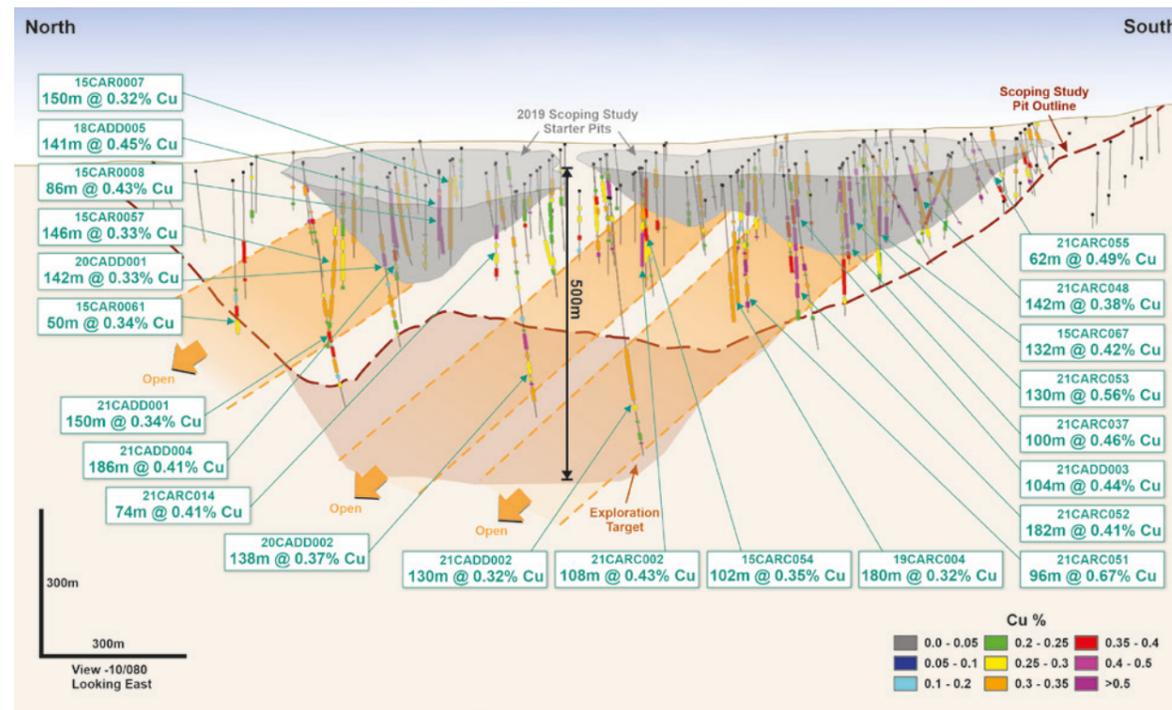


Figure 10: Bindi East long section showing drill intercepts at 0.2% Cu cut-off.

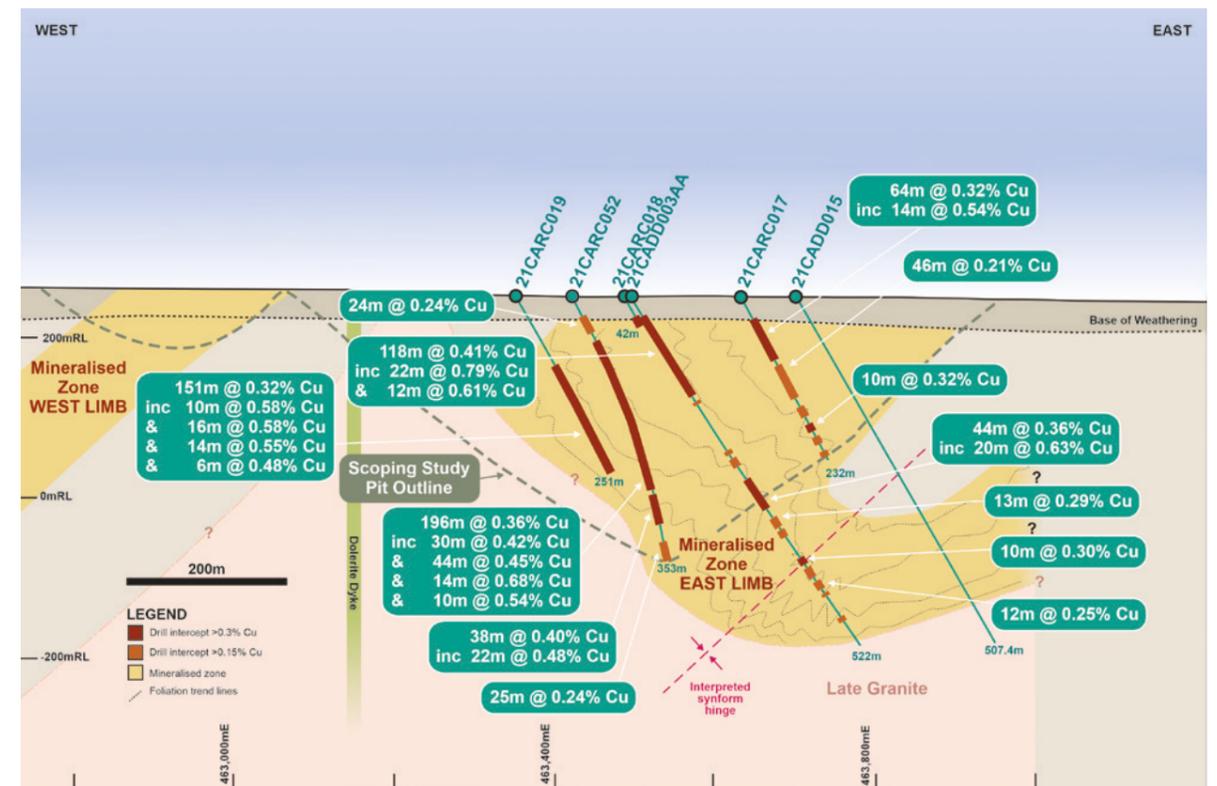


Figure 11: Cross section through Bindi SE Synform showing drill intercepts and structural interpretation.



Figure 12: Cross section through Bindi Hinge Zone showing drill intercepts and structural interpretation.

<sup>1</sup>See ASX announcement 29 April 2021

# MINING OPERATIONS

The 2019 Scoping Study considered the Bindi and Dasher deposits with the mining study assuming traditional open-pit mining performed by a mining contractor.

Orelogy Pty Ltd (Orelogy) undertook the mining studies with Dajolin Mine Management Services providing oversight and peer review.

An owner-operator model using the latest technology has potential to deliver significant cost savings and will be evaluated as part of further feasibility studies.

## MINING PARAMETERS

To determine the most appropriate bench height, block size and loading equipment, a trade-off study was completed by Orelogy. Results showed the best combination to be 500t excavators loading 180t capacity trucks on 5 metre flitch heights, and blasting on a 10 metre bench height. With a selective mining unit of 12.5 x 12.5 x 5m, the overall ore loss and dilution are estimated to be 4.4% and 4.7% respectively.

Grade control of ore will be by RC drilling at 15 metre centres on 30m benches.

## GEOTECHNICAL INVESTIGATION

The Bindi Deposit is covered by up to 50m of overburden, some of which may be suitable for use during Project construction. The Dasher deposit has minimal overburden. Below the overburden the orebodies exhibit sharp transitions to fresh sulphide ore.

Caravel engaged Dempers & Seymour Pty Ltd to undertake geotechnical analysis for the Project. Diamond core drill holes were logged, and data was evaluated according to Laubsher’s Mining Mass

Rating Classification System to determine preliminary inter-ramp pit slope angles. The assessment concluded that the fresh rock exhibits good to very good geotechnical characteristics with pit walls between 49–55 degrees recommended (Table 5).

Table 5: Preliminary Pit Slope Angles

WEATHERING PROFILE	INTER RAMP SLOPE ANGLE BINDI	INTER RAMP SLOPE ANGLE DASHER
Highly Weathered	34 – 35	33
Transitional	43 – 43	44
Fresh	49 – 55	55

## PIT OPTIMISATION

Pit optimisations were carried out to identify and quantify potential mining inventories within optimal pit shells. The open pit optimisation was undertaken utilising Dassault Systèmes Australia (Geovia) Whittle™ software, which generates a series of nested pit shells using “Revenue Factors” based on a set of financial and other parameters such as costs and metal prices. The pit shells (Figure 13) giving the highest undiscounted cashflow values for a given set of optimisation parameters were selected for scheduling.

The aim of the mine production scheduling was to generate a practical, realistically achievable schedule which maximises value within the applied constraints that:

- Meets mill feed requirements.
- Includes ramp-up considerations for mine operations as well as the processing plant.
- Avoids excessive and unachievable vertical advance rates.

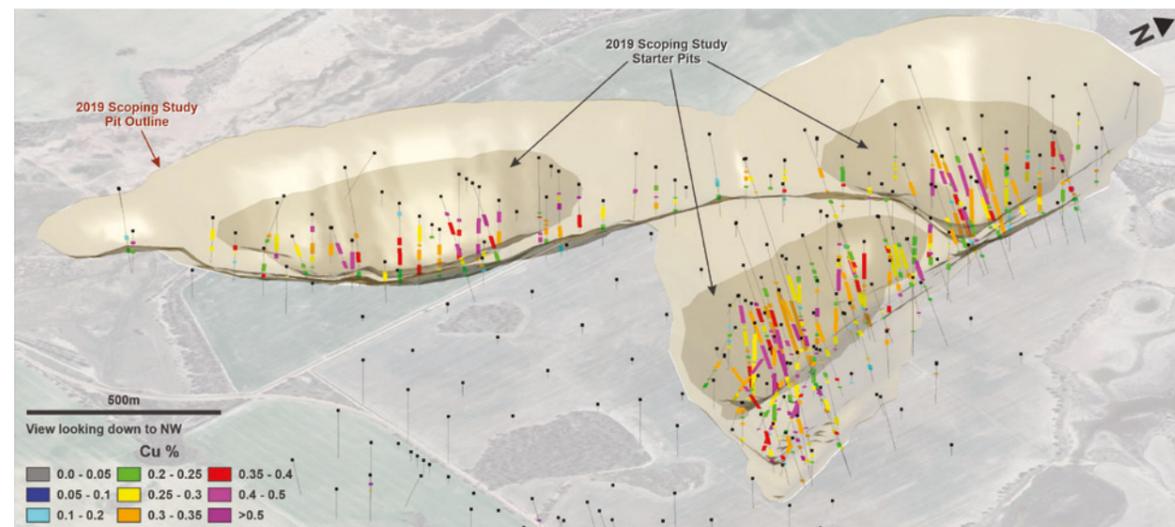


Figure 13: 2019 Scoping Study pit outlines.

Strategic scheduling and cut-off grade optimisation were undertaken using the Maptek EVOLUTION™ – STRATEGY (EVO-STRAT) tool, which uses algorithms to determine the highest possible NPV. To maximise value, scheduling allowed for lower grade ore to be stockpiled so that higher grade ore with higher values can be treated sooner.

## RESULTS

A life-of-mine annual production schedule was completed based on a throughput of 12Mtpa of ore for the first 5 years<sup>1</sup>, with a ramp-up to 24Mtpa<sup>2</sup> commencing in Year 6 (Figure 15). The schedule envisages the Bindi deposit will be mined during the initial stages of the Project with mining at Dasher commencing post Year 14.

Starter pits were generated to ensure early access to higher-grade ore whilst minimising waste stripping. The starter pits at Bindi account for the first 5 years of mining

(Figure 14), during which 59Mt of ore (at 0.31% Cu) will be delivered to the mill for processing at a strip ratio of 0.43:1<sup>3</sup>. A total of 92% of material in the production schedule for the first five years is in the Indicated Resource classification and 8% is in the Inferred category. Inferred Mineral Resources are not the determining factor in project viability and do not feature as a significant proportion early in the mine plan.

Over the 28 year project life, the Bindi and Dasher deposits will produce 576Mt of ore (at an average grade of 0.25% Cu) and a strip ratio of 1.1:1<sup>3</sup> (Figure 14). Mining of the current resources is assumed to finish in year 25 at which point the mill will process material from the accumulated low-grade stockpiles. A total of 75% of the overall material in the production schedule is currently in the Indicated resource classification category, while 25% is Inferred (including 0.2% Unclassified).

## ANNUAL MINING SCHEDULE

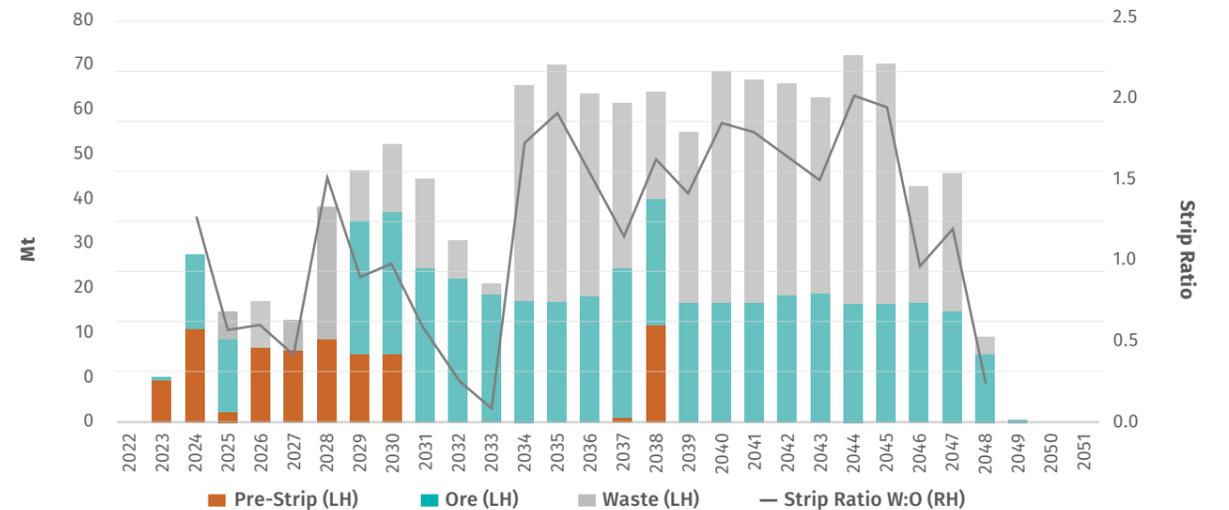


Figure 14: Caravel Copper Project annual mining schedule.

## ANNUAL PROCESSING SCHEDULE AND FEED GRADE

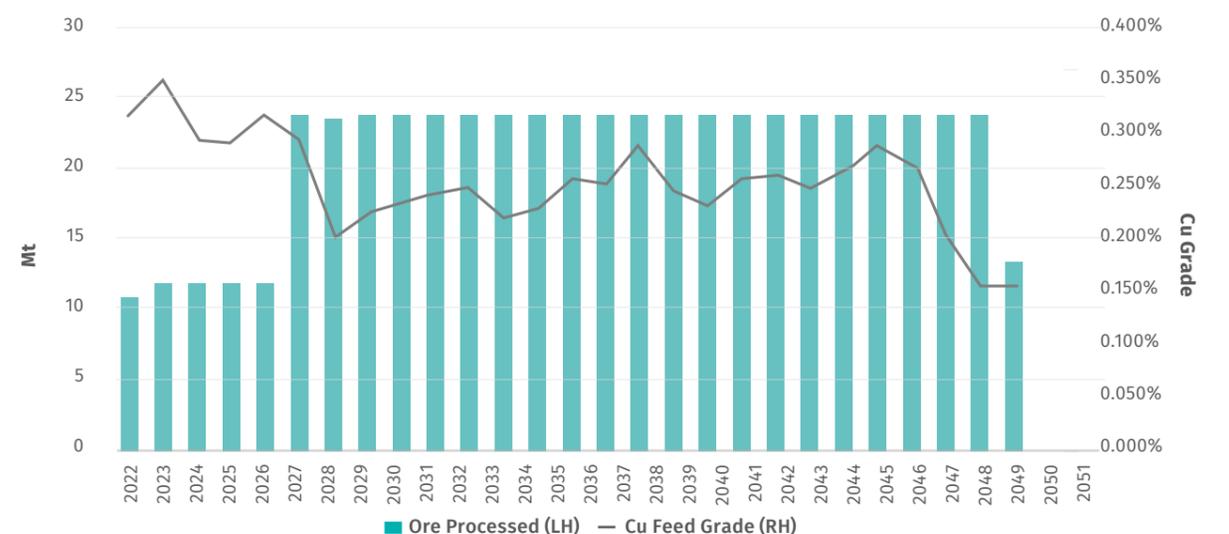


Figure 15: Caravel Copper Project annual processing schedule and feed grade.

<sup>1</sup> Ramp up in Year 1

<sup>2</sup> Future feasibility studies will optimise mill through-put with mine fleet selection

<sup>3</sup> After prestrip. Low grade stockpile included as ore in calculation

# METALLURGY

## MINERALOGY

Copper mineralisation at the Caravel Copper Project is almost entirely coarse grained chalcopyrite. Molybdenite is also coarse grained and separate from other sulphides. The gangue is dominantly silicates (quartz, feldspar, epidote, chlorite, garnet, biotite, sillimanite) with minor magnetite. As with the sulphides, the granulite facies metamorphic overprint gives a dominantly coarse-grained texture.

These mineralogical characteristics are highly favourable for metallurgical recovery, and the potential for the production of high-quality concentrates from standard flotation flowsheets.

A comprehensive metallurgical program utilising diamond core from the Bindi and Dasher deposits is ongoing. Testwork reported below has been carried out by ALS Metallurgy and JK Tech.

## COMMINATION

Bond work index and SMC (comminution) testing has been completed on a number of composited samples. Table 6 below summarises the results.

The rock testing data shows the ore to be generally both competent and hard, though within normal range for comparable deposits. The relatively low UCS levels and high spread of results within the impact tests may indicate the presence of planes of weakness in the rock at a coarser size relative to harder competent ore at finer particle sizes.

## FLOTATION

The majority of flotation test work has been carried out on two master composite samples from holes

18CADD001 and 18CADD002 along with some individual sample testing for variability. The samples, at head grades between 0.28 – 0.51% copper, have been subjected to several rougher and preliminary cleaner flotation tests utilising different reagent regimes and grind sizes (106µm and 150µm) at the ALS Metallurgy laboratory in Perth, Western Australia.

Rougher recoveries varied between 90% to 99% with the average of 95.5%. These recoveries exceeded the previous test results carried out on RC samples as part of the 2016 Calingiri Project Scoping Study which were around 92%.

The majority of the recent tests were carried out at a grind size of 106µm, although those carried out at 150µm continued to show high recoveries, averaging 95.8% (versus 96.6% for 106µm). This data indicates that a coarse rougher grind may be possible (Figure 16).

The tests demonstrated that the copper minerals were highly hydrophobic and require low reagent doses to obtain high recoveries allowing for low processing costs.

Preliminary cleaner flotation test work has suggested that a high-grade copper concentrate can be produced. The latest batch testing after regrind has produced grades between 26.4 – 29.2% at recoveries of 80.3 – 89.7%. These figures are expected to improve as cleaner conditions are optimised and as locked cycle testing is undertaken.

The results also showed rapid kinetics, with 92% (nominal) of the copper recovered in the first 4 minutes of the tests (Figure 17).

See page 17 for initial copper concentrate analyses results provided in the table.

Table 6: Rock Breakage Functions

Test	BOND					SMC								
	USC	Impact	Rod	Ball	Abrasive Index	Dwi	Mia	Mih	Mic	A	b	Axb	ta	SCSE
Unit	MPA	kWh/t	kWh/t	kWh/t		kWh/m <sup>3</sup>	kWh/t	kWh/t	kWh/t					kWh/t
Data Points	6.0	30.0	4.0	7.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max	132	12.9	15.0	19.8	0.3	7.2	20.6	15.4	8.0	100.0	0.6	51.2	0.5	10.0
Min	60	3.6	13.3	15.7	0.2	5.3	16.0	11.3	5.8	79.3	0.4	37.2	0.4	8.9
Avg	109	6.4	13.9	18.4	0.3	6.31	18.4	13.5	7.0	89.4	0.5	43.9	0.4	9.6

RO GRADE RECOVERY CURVES CV02 (18CADD002 MASTER COMPOSITE)

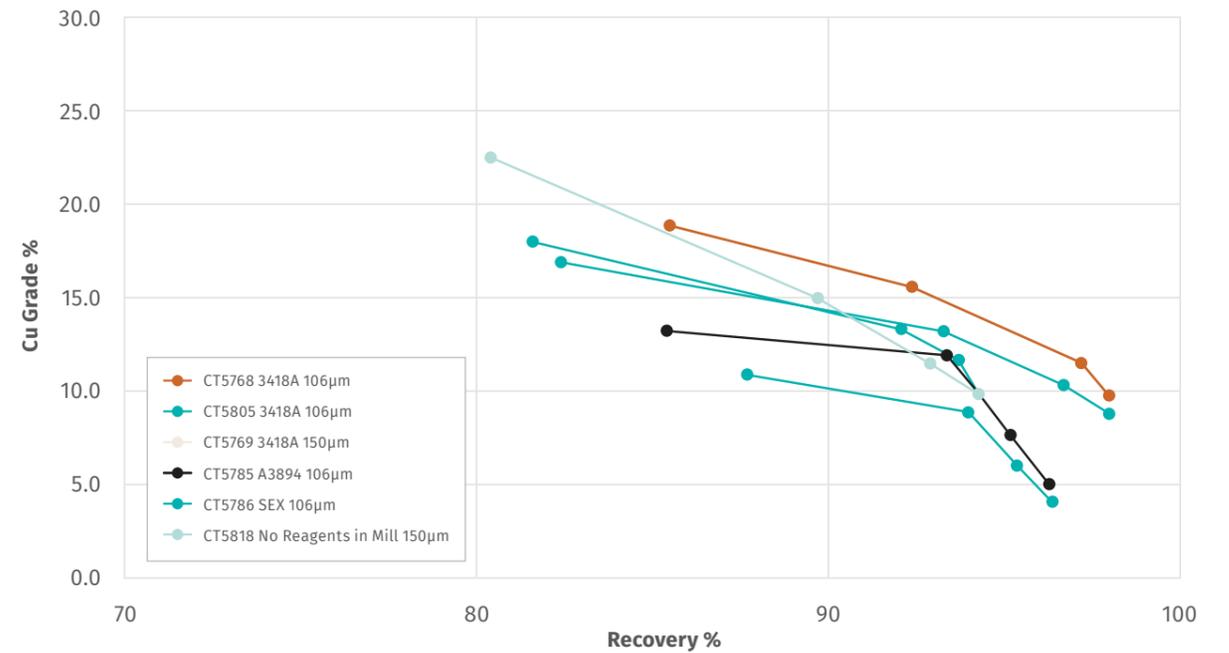


Figure 16: Example of rougher recoveries from CV02 Master Composite.

RO KINETICS CV02 (18CADD002 MASTER COMPOSITE)

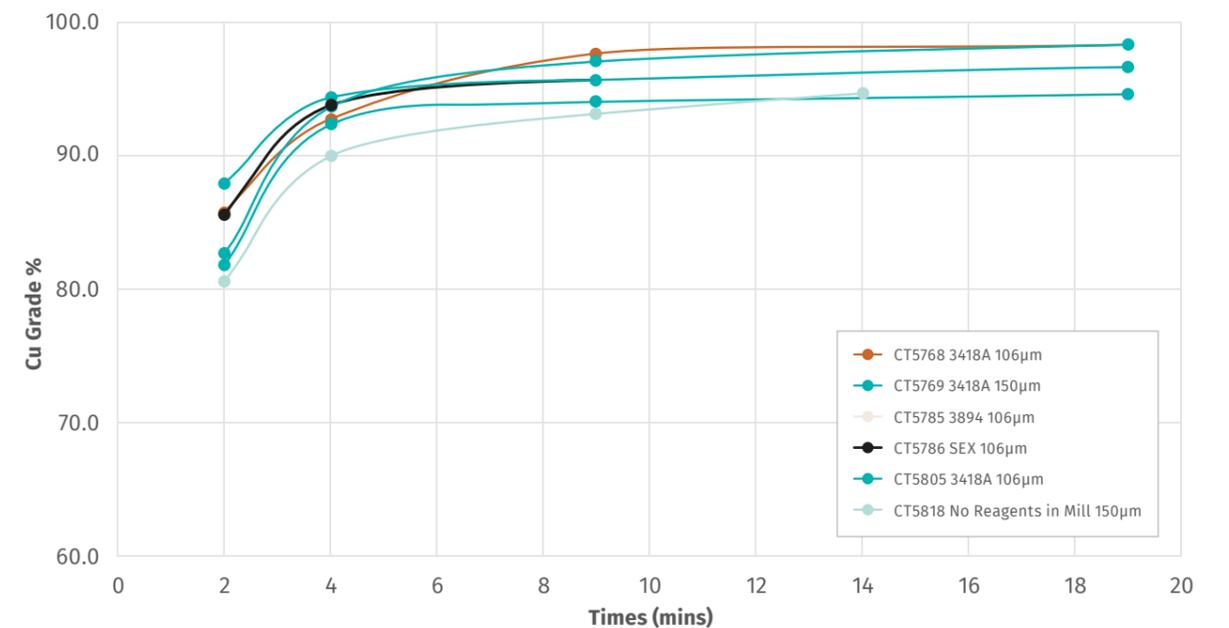


Figure 17: Example of rougher kinetics from CV02 Master Composite.



# COPPER CONCENTRATE

## INITIAL ANALYSES RESULTS

Caravel Minerals has completed initial copper concentrate analyses on composite samples from the Caravel Copper Project. Analyses have demonstrated a very clean copper concentrate product with low level of impurities (Table 7).

As smelting capacity increases globally, smelters are increasingly seeking clean concentrate to blend with complex concentrates (concentrates containing impurities above threshold levels). Based on the level of impurities of the Caravel concentrate, the Project's concentrate is likely to be a sought-after product by copper smelters.

Arsenic (As) is one key impurity element that is undesirable to smelters and is increasingly being seen in high concentration in many copper concentrates. Penalties for As usually start above 0.1 – 0.2% and concentrates >0.5% are not permitted to be imported to some countries.

Caravel copper concentrate levels for arsenic are <0.01%, at least ten times lower than the threshold level penalties that would apply, making it ideal for blending. Other impurities such as Cadmium (Cd), Selenium (Se), Antimony (Sb) and Lead (Pb) are similarly an order of magnitude or more under the typical threshold limits for smelters.

Table 7: Copper Concentrate Analyses Results<sup>1</sup>

ELEMENT CARAVEL CONCENTRATE	RESULT
Cu (%)	~25%
Ag (ppm)	118.0
As (%)	<0.01
Au (ppm)	~2
Bi (%)	0.01
Cd (ppm)	<5
Cl (%)	<0.01
F (ppm)	200
Fe (%)	26.5
Hg (ppm)	0.5
Pb (%)	<0.01
Mo (ppm)	65.0
S (%)	29.3
Sb (ppm)	0.70
Se (ppm)	40.0
U (ppm)	<10
Zn (%)	0.20



<sup>1</sup> This information was prepared in accordance with the requirements of the JORC Code (2012) and included in the Company's ASX announcement "Caravel Copper Project Initial Copper Concentrate Analyses" dated 18 June 2019 which can be found at [caravelminerals.com.au](http://caravelminerals.com.au)

# MINERAL PROCESSING

The Process flowsheet was modified from the 2019 scoping study by Ausenco as part of a number of trade-off studies (to a scoping level) during Phase 1 of the PFS.

The circuit was modified slightly from the 2019 Scoping Study to incorporate a SAG mill rather than HPGR's. The new design offers a faster return on capital, higher throughput and the opportunity for pebble rejection.

The flowsheet is a standard crush, grind, float flowsheet for the production of copper concentrate for export. Figure 19 on page 20 indicates the proposed process flow.

The study also produced a revised site layout (Figure 18) suitable for start-up operations and future expansion. The description below outlines the equipment flowsheet for treating the ore at 12Mtpa which will then be effectively replicated when the plant is expanded to 24Mtpa from year 6 onwards:

## PRIMARY CRUSHING

A large 54 – 75 gyratory crusher capable of treating 12Mtpa will be utilised for primary crushing. Ore will be direct dumped from the mine by haul trucks or by front end loader into a feed pocket and crushed in the gyratory crusher. Crushed ore will be extracted by apron feeder and discharged to the crushed ore stockpile via the crusher discharge conveyor.

## GRINDING

The basis for the mill selection was to use single 16 MW twin pinion-driven mills. Twin pinion mills due to their lower supply and install cost when compared to either Gearless Mill Drives (GMD) of similar size, or two mills.

The discharge from the 11m diameter SAG mill will feed a 7.9m diameter ball mill in closed circuit with a cyclone cluster. Pebbles from the SAG mill will be recycled back to the through the mill via a cone crusher.

## FLOTATION

Cyclone overflow from the ball mill will report to a copper flotation circuit consisting of roughing, regrind and three stages of cleaning with scavenging. Tailings from the flotation circuit will be pumped to the tailings thickener.

## CONCENTRATE HANDLING

Sulphide flotation concentrate will be pumped to the concentrate thickener where the thickened underflow will report to an agitated concentrate filter feed tank. A vertical plate pressure filter will filter the concentrate on a batch basis to a moisture content of 10%. Filter cake will discharge to a hard stand area and then be transferred to the concentrate storage shed.

## TAILINGS DISPOSAL

This study has investigated tailings disposal storage methods and locations in relation to the revised site layout. The preferred options for tailings disposal and storage, will be further modelled in the feasibility studies.

The tailing dam design will be integrated with the mine waste rock storage to minimise impact on the landscape and ensure integrity of the tailing empondment.

## OPPORTUNITIES

There are a number of potential opportunities in the process plant that Caravel is pursuing as part of the PFS but do not form the basis of this study. These include:

- Pebble Rejection – dependent on the grade of the pebbles from the SAG mill, it may be possible to reject some or all of the pebbles resulting in an increase to the throughput of the mill.
- Autogenous Mill – autogenous grinding without the need for steel grind media reducing consumable costs.
- Coarse Particle Flotation (CPF) – the use of CPF cells enabling the grind size to be increased significantly (>300um) which would allow an increase throughput and downstream benefits to tailings and water.

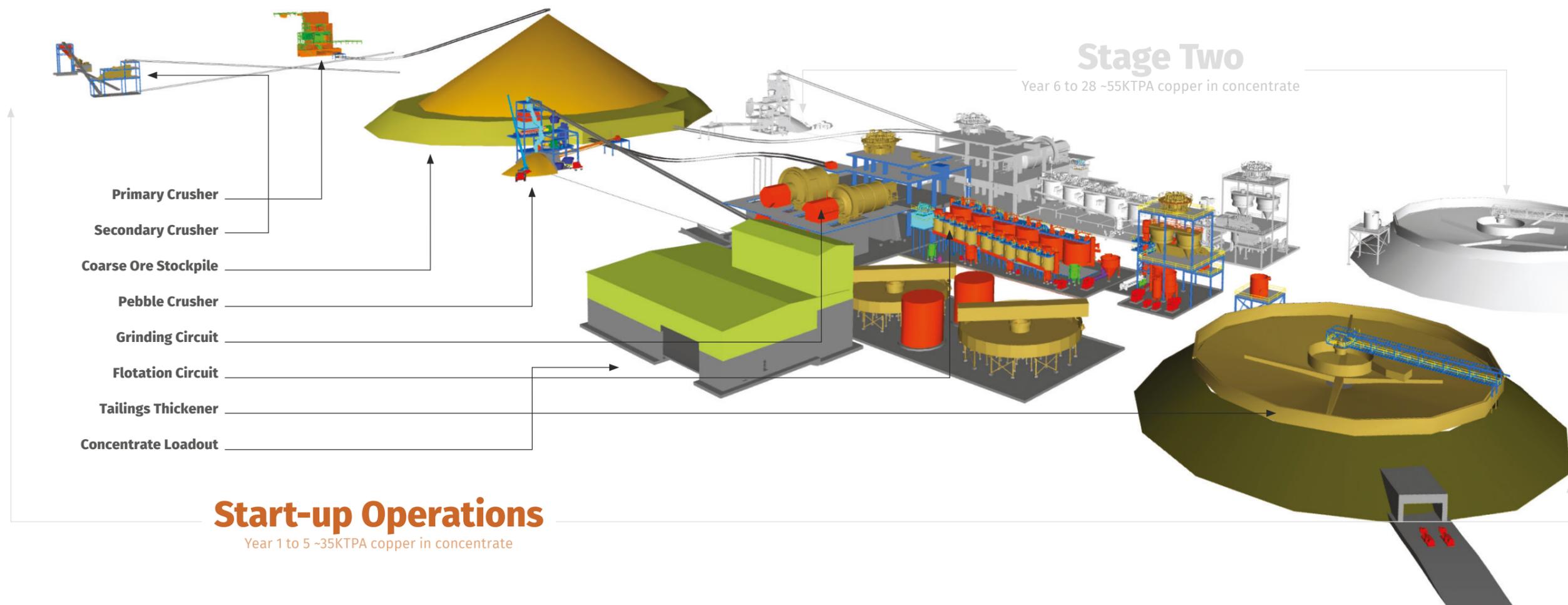


Figure 18: 2021 Scoping Study revised plant layout 3D model.

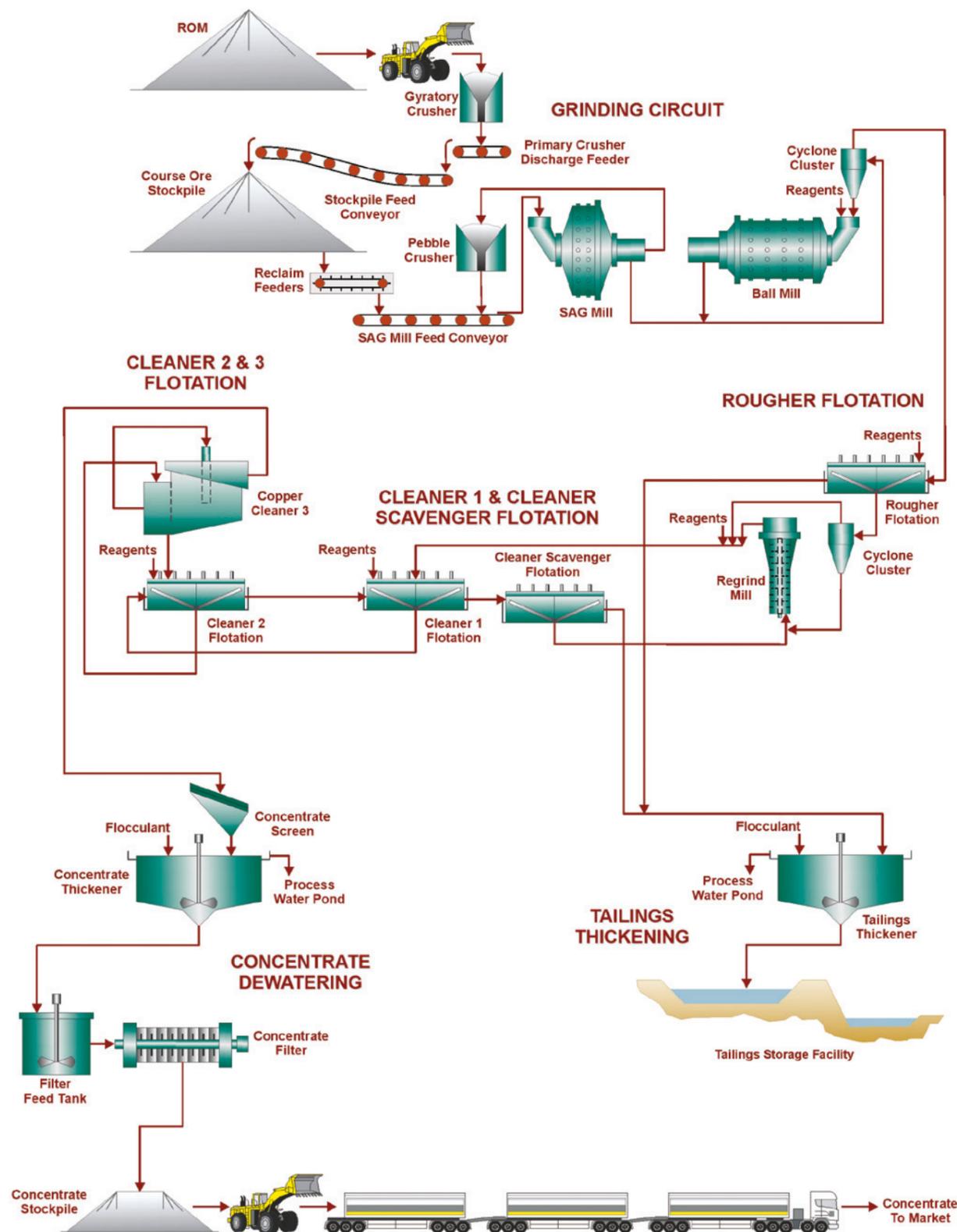


Figure 19: Process plant flowsheet.

# INFRASTRUCTURE AND SERVICES

## PORTS AND ROADS

The Project is located adjacent to a Main Roads WA RAV 7.3 road network linking the planned mine area to multiple WA export ports capable of exporting either bulk or containerised copper concentrate. Preliminary transport studies have confirmed that the ports of Geraldton or Bunbury are viable for the handling and export of copper concentrate with Bunbury being the preferred option.

Unlike many remote mining operations, the Caravel Copper Project will not require the construction of long haulage roads to the public road network. A fly-in fly-out workforce and the associated air transport infrastructure is not required for standard operations due to proximity (150km) to the Perth metropolitan area.

## POWER

Plant and mine power requirements are estimated to be around 65MW for 12Mtpa, which is planned to be supplied from the Western Power South Western Interconnected System (SWIS).

The town of Wongan Hills and nearby farms are supplied with power at 33kV by overhead powerlines. The existing powerline from Moora to Wongan Hills, close to the proposed minesite, is constructed to 132kV standards and, while currently energised at 33kV, is capable of being energised to 132kV

Since the 2019 Scoping Study, Western Power has completed a Detailed Enquiry Assessment of the Project's power requirements and is currently completing a Concept Design of an upgraded sub-station at Wongan Hills as well as the power line configuration to reticulate required power to the Project site. Caravel will submit an Access Application to seek the supply of 65MW for phase 1 of the Project. The application is scheduled to be submitted in October 2021.

Wholesale electricity prices in the WA market are currently averaging (on daily basis) between \$0.04 – 0.05/ kWh (\$40 – 50/MWh). Over the next few years an additional 300 MW of capacity is planned to be connected to the SWIS grid in the areas north of Perth. On this basis the wholesale prices are not expected to increase, therefore the study has assumed electricity costs of around \$0.08/ kWh. This is a significant saving to operating costs compared to off-grid projects where diesel generation costs are in the range \$0.20 – 0.30/kWh.

Caravel is also undertaking studies into the electrification of the mining equipment fleet using

existing technologies for electric drills, excavators and trolley-assist on trucks. New technologies are also emerging for battery combinations with trolley-assist that would further reduce diesel requirements. Electrification of the mining fleet would allow a substantial conversion of diesel fuel consumption across to electrical demand, which is expected to deliver substantial cost savings and, based on current carbon intensity of the SWIS, much lower carbon emissions.



Above: Pump testing at potential borefield.

## WATER

Water supply is planned to be sourced from a remote borefield and pumped to site via a pipeline to be constructed by the Company. Potential water sources have been investigated by the study team through the drilling of bores and the completion of pump tests. Field work and consultation with stakeholders will continue during 2021 and applications for approvals will be completed in 2022.

Provision has been made in the financial model for costs associated with the construction and operation of a remote borefield and pipeline.



## APPROVALS AND SUSTAINABILITY

### ENVIRONMENTAL ASSESSMENT

Baseline environmental survey work commenced in September 2018 and has progressed to final baseline survey fieldwork which will be completed by the end of spring 2021. The survey work and associated reports will be required for an Environmental Protection Act 1986 Part IV assessment commencing with a Project Referral and Environmental Review Document (ERD) currently expected during 2022.

### MINING TENURE

The Caravel Copper Project will apply to convert part of its Exploration Licences to Mining and General Purpose Leases before mining operations commence. Caravel has been working closely with key stakeholders

to design the project and subsequent leases to accommodate the mining and processing infrastructure required for the Project. The Mining and General Purpose leases will contain pits, tailings, waste rock, processing facilities and support infrastructure.

### HERITAGE AND NATIVE TITLE

The Project is located within the South West Settlement area of Western Australia which is subject to a native title agreement negotiated between the Noongar people and the Western Australian Government. The agreement resolves Native Title in the Settlement area while recognising the Noongar people as the traditional owners. The settlement established Noongar governance structures to represent the rights and interests of six Noongar

Agreement groups, replacing the Native Title function of the South West Land and Sea Council.

The Settlement took full effect on 25 February 2021 and Native Title was resolved in the Settlement area on 13 April 2021.

The Project area is primarily located within the Yued and Ballardong People Indigenous Land Use Agreement (ILUA) areas. Caravel Minerals has signed heritage protection agreements with the South West Land and Sea Council representing the Yued and Ballardong People Traditional Owners and is continuing engagement with SWALSC and the new governing bodies.



**COMMUNITY AND STAKEHOLDERS**

The Project is located in an established broadacre farming area and has maintained an active program of consultation with local landowners and community stakeholders since 2018. The project is primarily located in the Shire of Wongan – Ballidu with the nearest service town at Wongan Hills.

The Caravel Copper Project estimates creating approximately 700 jobs during a two year construction phase and approximately 300 skilled, long-term jobs during the 28 year project life.

The Company is working with the Shire to maximise the opportunities presented by the Project including the accommodation and servicing requirements of the construction and operations workforce.

**LOCAL LANDOWNERS**

Caravel works closely with local landowners to efficiently and safely undertake exploration and feasibility work programs. The Company continues to liaise with landowners to progress more detailed investigations and site assessments for conceptual project development layouts that would be further evaluated during a PFS and DFS.

**OTHER KEY STAKEHOLDERS**

Caravel Minerals has briefed or communicated with a range of government, non-government and community stakeholders – including regulators, state government agencies, local government organisations, elected representatives, local residents and business owners, industry professionals and consultants. Stakeholder discussions are ongoing.

The Project will create new social and economic opportunities for surrounding local communities including increased revenue for local governments in the form of rates, local spend on goods and services and relocation of employees to towns. The Project will also deliver royalties and payroll taxation income for the State of Western Australia.

**SnapShot**

Long-term Jobs  
~ **300**

skilled long term jobs required for the duration of the 28 year project

Construction Jobs  
~ **700+**

estimated jobs created during the two year construction phase

Project Life Years  
**28**

28 year project

Estimated Royalties  
**\$810<sub>M</sub>**

paid to the State of Western Australia

# PROJECT SCHEDULE AND FUNDING

**This 2021 Scoping Study provides guidance on the Pre-Feasibility Study interim results based on Ausenco’s initial work and changes to assumptions and parameters that will apply to the detailed work remaining in the PFS.**

The Pre-Feasibility Study is due for completion in early 2022 and will include a new Resource and Reserve model based on additional 34,230m of drilling, advancement of the project approvals, de-risking of the project and engineering design and estimation of capital and operating costs to a PFS level.

Following the PFS, and subject to the findings, a Definitive Feasibility Study (DFS) will be undertaken

and is expected to take 18 – 24 months to complete. The targeted timeframe to reach a decision to mine is early 2024. The overall estimated project schedule is shown in Figure 20.

### FUNDING

Based on current market conditions and results of feasibility studies to date there are reasonable grounds to believe the Project can be financed via a combination of debt and equity, as has been done for numerous comparable projects in Western Australia in recent years. Debt may be secured from several sources including Australian banks, international banks, the high yield bond market, resource credit funds, and in conjunction with product sales of offtake agreements. It is also possible the Company may pursue alternative funding options, including undertaking a corporate transaction, seeking a joint venture partner or partial asset sale. There is, however, no certainty that Caravel will be able to source funding as and when required.

Whilst no formal funding discussions have commenced the Company has engaged with a number of financial institutions on the Caravel Copper Project and these financial institutions have expressed a high level of interest in being involved in the funding of the project.

To achieve the range of outcomes indicated in the Study, funding of approximately A\$600M may be required. Typical project development financing would involve a combination of debt and equity. Caravel has formed the view that there is a reasonable basis to believe that requisite future funding for development of the Caravel Copper Project will be available when required. There are grounds on which this reasonable basis is established including:

- Worldwide demand for copper remains strong and debt and equity finance availability for quality copper projects is robust.
- The Caravel Copper Project is one of Australia’s largest undeveloped copper projects with excellent metallurgy

and a long mine life. Release of these Study results provides a platform for Caravel to discuss funding solutions with potential financiers and investors.

- Caravel has a current market capitalisation of approximately A\$170M and no debt. Caravel also owns 100% of the Caravel Copper Project and has a clean corporate structure. These are all factors expected to be highly attractive to potential financiers.
- The Caravel Board and Management Team has extensive experience in mine development, financing and production in the resources industry.
- The Caravel Board believes the study demonstrates the economics of the Project are robust and able to deliver favourable economic returns for existing and potential new shareholders.
- The Company has a strong track record of raising equity funds as and when required for ongoing exploration of the Caravel Copper Project.

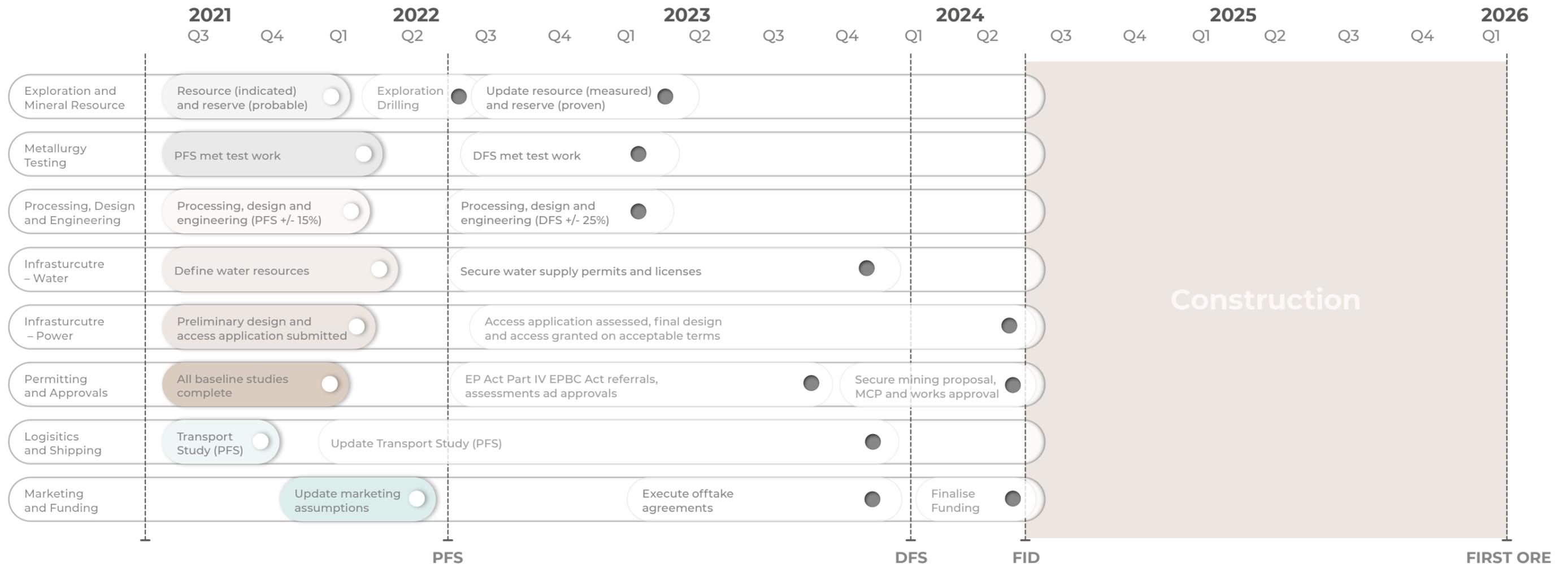


Figure 20: Caravel Copper Project estimated schedule.

# FINANCIALS

## 1. FINANCIALS

### 1.1 Capital Costs – Base Case

Initial capital expenditure (“capex”) for a throughput of 12Mtpa of ore for the first 5 years is estimated at A\$576M (Range: A\$524M to A\$634M). Additional capex of A\$390M in year 5 is required to ramp-up to 24Mtpa commencing in year 6. Initial base case capital expenditure is detailed in Table 8.

Sustaining capital has been estimated at 3% of total capital excluding pre-strip.

**Table 8: Caravel Copper Project Capital Costs – Base Case**

Capital Expenditure	Initial A\$M	LOM A\$M
Process Plant	352	656
Site Infrastructure / Corporate	70	70
Tailings Storage	40	40
Contingency	55	92
Mining Capital and Pre-strip	59	149
Sustaining Capital	–	643
Rehabilitation	–	50
<b>Total Capital Expenditure</b>	<b>576</b>	<b>1,700</b>

### 1.2 Operating Costs

For the first five years of operation, estimated C1 Cash cost of US\$1.90/lb Cu (after by-product credits) place the Caravel Copper Project in the second quartile of copper producers. Operating costs are detailed in Table 9.

#### Mining Estimate

The material excavated for the project is 1,290 million tonnes with an average mining operating cost of \$2.93/t mined over the life of the mine. Costs have been estimated assuming contractor mining.

#### Processing and G&A Estimate

Processing, operating and site and administration cost estimates are \$6.69/t processed on average for life of mine.

**Table 9: Caravel Copper Project Operating Costs**

Operating Costs US\$ <sup>1</sup>	US\$/lb Sold	
	1st 5 years	LOM
Mining Costs	0.76	0.91
Processing Cost	0.85	1.00
Site and General Administration	0.07	0.05
Logistics	0.12	0.17
Treatment and Refining Costs	0.25	0.25
By-Product Credits <sup>2</sup>	(0.15)	(0.17)
<b>Total Operating Expenditure</b>	<b>1.90</b>	<b>2.20</b>

<sup>1</sup> A long-term FX value of A\$1 = US\$0.72 was used in converting USD to AUD

<sup>2</sup> Grade, commodity pricing and payability for the by-product credits were as follows:  
Silver 1.45g/t, US\$18/oz and 60.8%  
Gold 0.022g/t, US\$1,700/oz and 31.4%

### 1.3 Investment Evaluation

A discounted cashflow analysis has been undertaken for the Caravel Copper Project using the base case production target of 12Mtpa of ore to the mill at 0.32% Cu and strip ratio of 0.43:1 for the first 5 years, expanding to 24Mtpa thereafter for a LOM feed grade of 0.25% Cu, and a strip ratio of 1.1:1. A long-term copper price of US\$4.00/lb and AUD:USD exchange rate of 0.72 was used in the analysis, which were selected by the Company as suitable estimates based upon conservative long range forecasts.

A summary of the results of the cashflow modelling is presented in Table 10.

**Table 10: Life of Mine Financial Economics – Base Case**

Project Financial Output	LOM
Revenue (net of payability and TCs/RCs)	A\$14,517M
Net Cash Flow (pre-tax)	A\$4,489M
Pre-tax NPV (7% discount rate)	A\$1,448M
Post-tax NPV (7% discount rate)	A\$995M
Pre-tax IRR	26%
Post-tax IRR	22%
Capital Payback Period	<4 years

**Strong Project Economics**

- **Pre-Tax NPV of AU\$1.45 billion** (7% real discount rate) and **pre-tax IRR of 26%** has been estimated using long term price of US\$4.00/lb Cu.
- Over a 28 year mine life, the Project is expected to generate a **positive cumulative cash flow of AU\$4.5b** on net revenues of AU\$14.4b.
- The Project is expected to repay up-front development capital within four years.

**Annual Cashflow Before Tax (A\$M)**

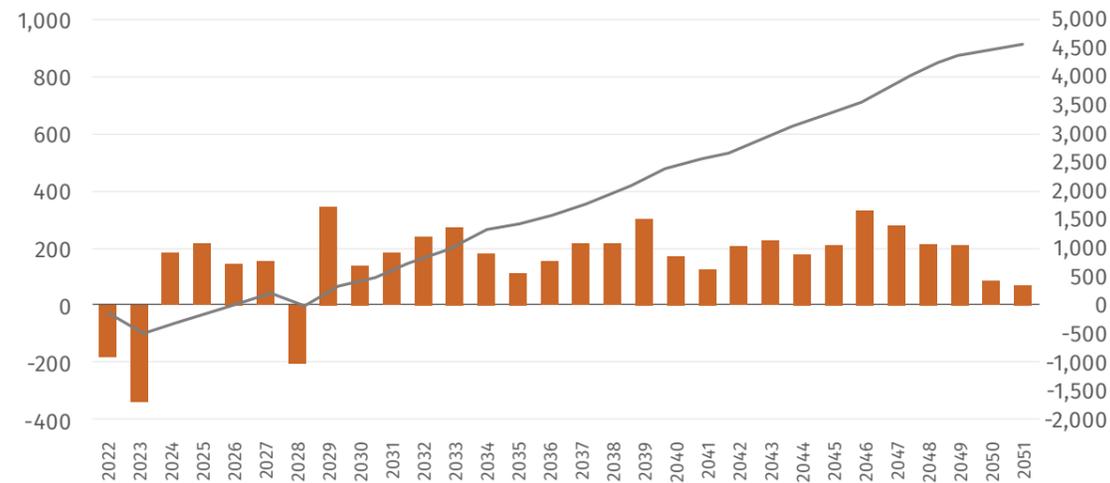


Figure 21: Annual cashflow before tax.

**1.4 Sensitivity**

Sensitivity analysis has been performed on pre-tax NPV. Key Project Sensitivities were flexed between a range of -15% to +15% in 5% increments (Figure 22). The analysis indicates that the Project is most sensitive to exchange rates, copper price and copper grade recoveries.

The tornado chart highlights the sensitivity of pre-tax NPV at -15% and +15% of Key Project Sensitivities against the A\$1,448M base case scenario.

**NPV Sensitivity Analysis (A\$M)**

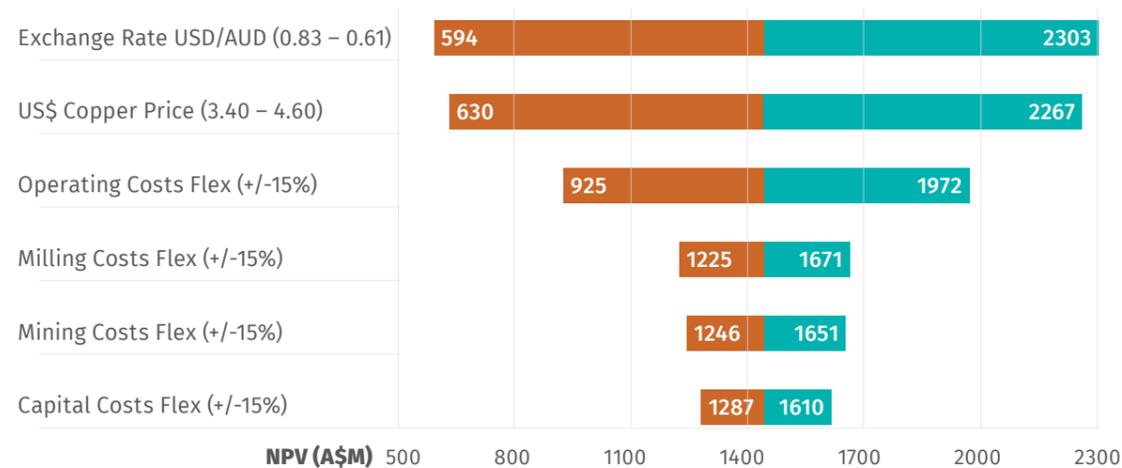


Figure 22: NPV sensitivity analysis.

**Table 11: Pre-tax NPV Sensitivity Against Base Case Discount Rate**

Model Inputs	5%	Base (7%)	9%
Discount Rate	1,968	1,448	1,074

Caravel Minerals considers 7% (Table 11) to be an appropriate discount rate based upon the Australian risk-free interest rate, low risk profile of Western Australia as reported by Fraser Institute and the Project's proximity to major infrastructure.



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## Appendix 1 – JORC Table

The following Table sourced from the JORC Code (2012) is provided as advised in the ASX Scoping Study Interim Guidelines.

### Section 4 Estimation and Reporting of Ore Reserves modified for a Scoping Study which includes an approximate Production Target and/or Forecast Financial Information.

**No JORC Code (2012) Ore Reserves are being reported.**

(Criteria listed in the preceding sections, contained in the ASX Announcement of 29 April 2019, also apply to this section).

Criteria	JORC Code explanation	Commentary
<i>Mineral Resource estimate for conversion to Ore Reserves</i>	<ul style="list-style-type: none"> <li><i>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</i></li> <li><i>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</i></li> </ul>	<ul style="list-style-type: none"> <li>No JORC (2012) Ore Reserve estimate has been classified or reported.</li> <li>The preliminary production target is based on the Mineral Resource for the Caravel Copper Project of 662Mt at 0.28% Cu (at 0.15% cut-off), classified in the Indicated and Inferred categories and reported in the ASX Announcement of 29 April 2019.</li> <li>The Competent Person for the Mineral Resources is Mr Lauritz Barnes (Consultant with Trepanier Pty Ltd).</li> </ul>
<i>Site visits</i>	<ul style="list-style-type: none"> <li><i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i></li> <li><i>If no site visits have been undertaken indicate why this is the case.</i></li> </ul>	<ul style="list-style-type: none"> <li>No JORC (2012) Ore Reserve estimate has been classified or reported.</li> <li>The following persons have contributed to the Scoping Study: <ul style="list-style-type: none"> <li>Mr Ross Cheyne (Orelogy) – Mr Cheyne is a Mining Engineer and the Principal Consultant who reviewed the scoping study.</li> <li>Mr Steve Craig (Orelogy) – Mr Craig is a Mining Engineer and the Principal Consultant responsible for the Mining Production Target. Mr Craig commenced work on the project in June 2018.</li> <li>Mr Jon Lilly (MSP Engineering) – Mr Lilly is an Engineer acting as client engineer on the project with the objective of producing the Scoping Study for Caravel Minerals Ltd.</li> </ul> </li> </ul>
<i>Study Status</i>	<ul style="list-style-type: none"> <li><i>The type and level of study to enable Mineral Resources to be converted to Ore Reserves.</i></li> </ul>	<ul style="list-style-type: none"> <li>The study presented is a Scoping Study and accordingly an Ore Reserve is not being reported.</li> <li>A Pre-Feasibility Study is currently underway, including the conversion of resources to reserves, and is expected to be complete within the next 9 months.</li> <li>The Scoping Study has been prepared to an accuracy of +/- 35% using indicated and Inferred Mineral Resources, appropriate mine planning and modifying factors have been applied commensurate to a Scoping Study level of accuracy and are deemed to have reasonable prospects of being technically achievable and economically viable.</li> <li>Section 4 of the JORC Code (2012)'s Table 1 is being completed to enable material modifying factors and assumptions underpinning the conceptual Production Target and their link to the</li> </ul>

		forecast financial information to be disclosed in an appropriate manner for investors.
<i>Cut-off parameters</i>	<ul style="list-style-type: none"> <li><i>The basis of the cut-off grade or quality parameters applied/</i></li> </ul>	<ul style="list-style-type: none"> <li>A mine cut-off of 1135ppm Cu for Bindi and 1207ppm Cu for Dasher was applied to achieve and optimum NPV for the project.</li> </ul>
<i>Mining factors or assumptions</i>	<ul style="list-style-type: none"> <li><i>The method and assumptions used as reported in the Study (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</i></li> <li><i>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</i></li> <li><i>The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.</i></li> <li><i>The major assumptions made, and Mineral Resource model used for pit and stope optimisation (if appropriate).</i></li> <li><i>The mining dilution factors used.</i></li> <li><i>The mining recovery factors used.</i></li> <li><i>Any minimum mining widths used.</i></li> <li><i>The way Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</i></li> <li><i>The infrastructure requirements of the selected mining methods.</i></li> </ul>	<ul style="list-style-type: none"> <li>No JORC (2012) Ore Reserve estimate has been classified or reported.</li> <li>The Caravel Copper Project is a relatively shallow copper bearing deposit commencing 10-50m below the surface therefore open pit mining was chosen as the appropriate mining method.</li> <li>Geovia Whittle™ pit optimisation software was used to generate a series of potentially viable open pit shells based on the 2019 Mineral Resource.</li> <li>A bench height study was conducted based on various equipment and bench heights. From this, a selective mining unit of 12.5 x 12.5 x 5m an overall ore loss and dilution for this option are estimated to be 4.4% and 4.7% respectively.</li> <li>The following preliminary inputs were used for the optimisation: <ul style="list-style-type: none"> <li>Mining Cost - \$1.91/t mined</li> <li>Processing Cost - \$7.88/t processed for Bindi and \$8.38/t for Dasher</li> <li>Selling Cost - US\$3.00/lb Cu and US\$9/lb Mo</li> <li>Exchange rates of 0.72:1 (USD:AUD)</li> <li>25% cu concentrate grade and 10% moisture content</li> <li>Concentrate transport and smelting costs of AU\$519.2 and AU\$424/t concentrate were included.</li> </ul> </li> <li>A 5.0m bench height for ore and 10m bench height for waste material was assumed.</li> <li>Inter ramp wall angles of 34° in oxide and 49° (allowing for ramps) in fresh material were utilised with work conducted by Dempers &amp; Seymour Pty Ltd (2017).</li> <li>The results are based on a resource which is 75% indicated and 25% inferred. The limited sensitivity analysis highlighted that the project is sensitive to processing costs and the inclusion of the unclassified material.</li> <li>No pit designs were developed for the Scoping Study and all subsequent analysis was completed on optimal shells.</li> <li>A life of mine schedule was developed for 26 years of mining and 28 years of processing (Zero (0) tonnes processed in year 1) with a targeted production rate of 12Mtpa of ore for the first five years of processing ramping up to 24Mtpa of ore for the remaining mine life. Material movement averages 28.7Mtpa for the years 2 - 6 (year 1 pre-strip). Year 7 – 26 averages 56.9Mtpa with a peak of 73.2Mtpa</li> </ul>

		<p>in Year 22.</p> <ul style="list-style-type: none"> <li>The mining approach has assumed the use of a mining contractor. This will require workshops and administration buildings to be constructed on site along with haul roads. It is anticipated that these buildings will be permanent structures.</li> </ul>
<i>Metallurgical factors or assumptions</i>	<ul style="list-style-type: none"> <li><i>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</i></li> <li><i>Whether the metallurgical process is well-tested technology or novel in nature.</i></li> <li><i>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</i></li> <li><i>Any assumptions or allowances made for deleterious elements.</i></li> <li><i>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</i></li> <li><i>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</i></li> </ul>	<ul style="list-style-type: none"> <li>The process is a simple comminution circuit consisting of a primary crusher, a semi autogenous mill in line with a ball mill followed by standard flotation circuit to produce a copper concentrate.</li> <li>The processing techniques are all well tested techniques currently in use in similar operations globally.</li> <li>Bond Work index Advance Media Competency and SMC (comminution) testing was carried out on a number of composites samples. Two master composites from holes 18CADD01 and 18CADD002 were compiled and subjected to several rougher and preliminary cleaner flotation tests utilising different reagents at varying quantities and grind sizes (106um and 150um). These composites were deemed to be broadly representative of the ore body particularly in the early stages of the pit development.</li> <li>Sampling and test work to date have not shown any deleterious element that would detrimentally affect the selling price or projects viability.</li> <li>No bulk scale or pilot scale test work has been carried out to date.</li> <li>The specification for the saleable product is based on initial copper concentrate analysis as reported in June 2019.</li> </ul>
<i>Environmental</i>	<ul style="list-style-type: none"> <li><i>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</i></li> </ul>	<ul style="list-style-type: none"> <li>Baseline environmental survey work commenced in September 2018 and has progressed to final baseline survey fieldwork which will be completed by end of spring 2021</li> <li>An Environmental and Social Impact Study has commenced and will be completed prior to the completed in Mid-2022 in preparation for primary approval assessments under Part IV and Part V of the Environmental Protection Act 1986 (EP Act); the Mining Act 1978 (Mining Act) and Heritage Act 2018. No unacceptable impacts to the environment of aboriginal heritage are expected and all primary approvals are expected to be completed in 2023. . Other secondary and tertiary regulatory approvals will be obtained prior to the commencement of construction in 2024.</li> <li>The study has produced preferred options for tailings disposal and storage, which will be further modelled in the feasibility studies. The tailing dam design will be integrated with the mine waste rock storage to minimise impact on the landscape and ensure integrity of the tailing impoundment.</li> </ul>
<i>Infrastructure</i>	<ul style="list-style-type: none"> <li><i>The existence of appropriate infrastructure; availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided or accessed.</i></li> </ul>	<ul style="list-style-type: none"> <li>The mine site will need minimal infrastructure given its location only 150km from Perth near the town of Wongan Hills and close to services. Power will be provided by the main power grid (SWIS).</li> <li>It is expected the main line between Moora and Wongan Hills will be upgraded to 132kV and new</li> </ul>

		<p>line will be run from Wongan Hills 12km to the mine site. Western Power are currently undertaking studies on the power infrastructure requirements.</p> <ul style="list-style-type: none"> <li>• Water supply is planned to be sourced from a remote bore field approximately 50km to the west and pumped to site via a pipeline to be constructed by the Company.</li> <li>• The company will have access to the ports of Geraldton and Bunbury for containerised or bulk concentrate shipments</li> <li>• Accommodation is expected to be provided locally within the region or drive in drive out from Perth.</li> </ul>
<i>Costs</i>	<ul style="list-style-type: none"> <li>• <i>The derivation of, or assumptions made, regarding projected capital costs in the study.</i></li> <li>• <i>The methodology used to estimate operating costs.</i></li> <li>• <i>Allowances made for the content of deleterious elements. The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.</i></li> <li>• <i>The source of exchange rates used in the study.</i></li> <li>• <i>Derivation of transport charges.</i></li> <li>• <i>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</i></li> <li>• <i>The allowances made for royalties payable, both Government and private.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Capital costs are based on budgeted equipment quotes, preliminary engineering, appropriate factoring and benchmarking appropriate with a study at an AACE Level 5 Study.</li> <li>• Life of Mine of 28 years.</li> <li>• Targeted accuracy of +/- 35% inclusive of appropriate contingency.</li> <li>• <u>Conceptual OPEX Assumptions:</u></li> <li>• OPEX costs for the scenario were estimated using a combination of costs built up from first principles and quotations received from OEM's and benchmarking against similar activities in mining projects in Australia.</li> <li>• Transport costs are based on estimates from reputable transport and shipping companies that operate within Western Australia and globally.</li> <li>• Treatment and refining charges were based on benchmarking of TC/RC costs with a payability factor applied.</li> <li>• Base currency is Australia Dollars (AUD)</li> <li>• Commodity price assumptions are discussed in "Revenue Factors" below</li> <li>• This study assumes sale at destination regional ports.</li> <li>• Royalties of 5% are based on the Western Australian royalty rate for processed material.</li> <li>• All estimates presented here are for the total project and do not take into account the Company's current and future ownership under the acquisition agreements entered into.</li> </ul>
<i>Revenue Factors</i>	<ul style="list-style-type: none"> <li>• <i>The derivation of or assumptions made regarding revenue factors including head grade, metal or commodity price(s), exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</i></li> <li>• <i>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Company has not established any contracts or committed any of its production pursuant to off-take agreements at this time.</li> <li>• The copper market outlook is outlined in the body of the Scoping study report</li> <li>• The sale price is derived from estimated commodity prices based on the market outlook</li> <li>• This study assumes sale in mid Asia. Freight, handling and insurance are included in the cost of shipping.</li> </ul>
<i>Market Assessment</i>	<ul style="list-style-type: none"> <li>• <i>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</i></li> <li>• <i>A customer and competitor analysis along with the identification of likely market windows for the</i></li> </ul>	<p><b>MARKET AND COPPER PRICING ASSUMPTIONS</b></p> <ul style="list-style-type: none"> <li>• The 12-month price range for copper reached a low of US\$2.90/lb and a high of US\$4.80/lb. A price assumption of US\$4.00 has been applied to the calculations for the 2021 Scoping Study as a mid-point within the 12-month range. The US\$4/lb price assumption is viewed as conservative when</li> </ul>

	<p><i>product.</i></p> <ul style="list-style-type: none"> <li>• <i>Price and volume forecasts and the basis for these forecasts.</i></li> <li>• <i>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract</i></li> </ul>	<p>balanced against higher forecasts based on exceptionally strong pricing conditions year to date (YTD), low inventories, momentum shifts in economic recovery, stimulus packages and expectations of increased medium-term demand due to carbon reduction energy policies.</p> <p><b>COPPER PRICE FUNDAMENTALS</b></p> <ul style="list-style-type: none"> <li>• Growing EV demand, declining global production, increasing production costs.</li> <li>• Copper prices are near 10-year highs of \$US\$9,700 or US\$4.40/lb (in real terms).</li> <li>• Forecast to remain around US\$10,000 or US\$4.54/lb</li> <li>• Forecast from Goldman Sachs for \$15,000/t or US\$6.80/lb by 2025<sup>1</sup>.</li> </ul> <p><b>SUPPLY FACTORS</b></p> <ul style="list-style-type: none"> <li>• Copper’s supply-side is experiencing grade decline and resource depletion.</li> <li>• There is an emerging shortage of high-quality copper concentrate producers.</li> <li>• Historically reliable sources are in less stable jurisdictions (Chile grade decline and regional unrest).</li> <li>• Supply squeeze tightening – lack of major new, long life discoveries.</li> <li>• Lack of exploration success resulting in a shortage of quality assets.</li> </ul> <p><b>DEMAND FACTORS</b></p> <ul style="list-style-type: none"> <li>• Copper metal demand is in response to rising living standards globally.</li> <li>• Environmental policies (carbon reduction) driving electrification and displacing the use of fossil fuels.</li> <li>• Urbanisation of developing nation populations including India and China.</li> <li>• Electrification of transport including electric vehicles.</li> <li>• Growth in renewable energy technology.</li> </ul>
<i>Economic</i>	<ul style="list-style-type: none"> <li>• <i>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</i></li> <li>• <i>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The inputs to the NPV estimations are tabulated in the body of the ASX release.</li> <li>• The NPV has been determined using the Discounted Cash Flow method of valuation. For the Scoping Study a discount rate of 7% was applied.</li> <li>• The financial model is in real terms.</li> <li>• The model was based on yearly increments</li> <li>• No escalation was applied.</li> <li>• The Project was valued as a single tax entity.</li> <li>• Royalties of 5% are based on the Western Australian royalty rate for processed material.</li> <li>• Australian corporate tax rate of 27.5% was applied as per the federal government corporate tax rate</li> <li>• NPV ranges is between A\$630M to A\$2,270M based on a 15% variation in the copper price. The project is most sensitive to the copper price and exchange rate. Further detail on the sensitivity analysis is presented in the body of the announcement.</li> </ul>
<i>Social</i>	<ul style="list-style-type: none"> <li>• <i>The status of agreements with key stakeholders and matters leading to social licence to operate.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Company has committed in the public tender to spend 1% of sales revenue on community and</li> </ul>

		<p>social programs as outlined in section 8.2 – these include training, social programs and employment.</p> <ul style="list-style-type: none"> <li>• Socio economic studies were carried out in 2011/2012 with further studies planned as part of the DFS currently underway. This will include an environmental and social impact assessment (ESIA) from which an environmental and social management plan will (ESMP) will be approved and implemented as part of the development.</li> </ul>
<i>Other</i>	<ul style="list-style-type: none"> <li>• <i>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserve</i></li> <li>• <i>Any identified material naturally occurring risks.</i></li> <li>• <i>The status of material legal agreements and marketing agreements.</i></li> <li>• <i>The status of governmental agreements and approval critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the pre-feasibility of Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No natural occurring risks have been identified</li> <li>• No marketing agreements are in place at this stage however discussions are underway with potential offtake parties..</li> <li>• Applications for land access, water usage license and port access are in progress and not expected to affect the timelines outlined in the release.</li> <li>• Land access agreements ...</li> <li>• Final form heritage agreements have been received from the South West Aboriginal Land and Sea Council (SWALSC) for the mine and associated infrastructure. Caravel have signed the agreements and they are with SWALSC for final execution. Heritage surveys are planned for late 2021.</li> <li>• Mining and general purpose leases for the mining deposits and associated mining infrastructure were applied for in September 2021 and are expected to be granted in early 2022.</li> <li>•</li> </ul>
<i>Classification</i>	<ul style="list-style-type: none"> <li>• <i>The basis for the classification of the Ore Reserves into varying confidence categories.</i></li> <li>• <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> <li>• <i>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</i></li> </ul>	<ul style="list-style-type: none"> <li>• Ore Reserves have not been classified and reported.</li> <li>• Section 4 of Table 1 contained in the JORC Code (2012) is being completed as part of the Scoping Study requirements to disclose a conceptual Production Target estimate linked to forecast financial information.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No audits or reviews have been conducted.</li> </ul>
<i>Discussion of relative accuracy/ confidence</i>	<ul style="list-style-type: none"> <li>• <i>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></li> <li>• <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li>• <i>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have material impact on viability, or for which there are remaining areas of uncertainty at the current study stage.</i></li> <li>• <i>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of</i></li> </ul>	<ul style="list-style-type: none"> <li>• Ore Reserves have not been classified and reported.</li> <li>• The level of accuracy for the Scoping Study is + / - 35%</li> <li>• The level of confidence for the estimates used in the conceptual production schedule is below that required for reporting Ore Reserves under the JORC Code (2012).</li> <li>• The Life-of-Mine (LOM) Production Target used in the Scoping Study comprises 75% in the indicated and 25% in the inferred category</li> <li>• A Pre-feasibility study is currently underway, including the conversion of resources to reserves, and is expected to be complete within the next 9 months.</li> </ul>

	<i>the estimate should be compared with production data, where available.</i>	
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