

13 April 2023

CARAVEL COPPER PROJECT, WA

PFS PROCESSING UPDATE

INDEPENDENT PROCESS PLANT REVIEW OUTLINES POTENTIAL FOR ENHANCED PRODUCTION AND RETURNS

Caravel Minerals (ASX: CVV) is pleased to report the outcomes of an independent metallurgical process review and update completed recently for its 100%-owned Caravel Copper Project, located 150km north-east of Perth in Western Australia. The results identified substantial opportunities to enhance Project value and confirmed the suitability of the process flowsheet ahead of the start of engineering for the Definitive Feasibility Study (DFS).

The three-month review was undertaken by industry specialist engineering and project delivery firm Lycopodium Minerals (Lycopodium) and Orway Mineral Consultants (OMC).

The key outcomes of the review support an incremental increase in process plant capacity of ~10% to 30Mtpa undertaken by Lycopodium and OMC, the inclusion of a Molybdenum Recovery Circuit (MRC) undertaken by Caravel Minerals (refer to ASX release dated 22 March 2023 titled "Project Update - Molybdenum Recovery Circuit Included in DFS") and the deferral of the previously considered Coarse Particle Flotation (CPF) circuit. Based on these changes, forecast annual copper production increases from 60ktpa to ~65tpa at steady state, supplemented by ~0.9ktpa of molybdenum production as saleable by-product.

All other study areas including Ore Reserves, Mineral Resources, Mining Method, Infrastructure studies reported in the PFS Report dated 12 July 2022 and the PFS Update released on 20 September 2022 remain unchanged. The material assumptions in respect of these PFS financial forecasts and production targets continue to apply with no material change to these assumptions.

The combined financial benefits of these changes are significant, with Project NPV increasing by ~A\$0.6B to ~A\$2.0B and Project payback reduced to less than five years. All-in Sustaining Costs decrease by ~14% to ~US\$2.07/lb of copper produced, and IRR increases to 21%.

Following completion of the review, the base case process flowsheet for the DFS has now been established. The DFS is scheduled for delivery in the first half of 2024.

This announcement should be read together with the cautionary statement on Page 2, the PFS Update released on 20 September 2022 and the PFS Report released on 12 July 2022. All are available at www.caravelminerals.com.au or www.asx.com.au.

HIGHLIGHTS

- **Independent review of the metallurgical process for the Caravel Copper Project has delivered a revised process flowsheet ahead of the DFS based on the following changes:**
 - **An increase in process plant capacity;**
 - **Inclusion of a Molybdenum Recovery Circuit (MRC) to produce molybdenum as a separate by-product (as foreshadowed in the ASX announcement of 22 March 2023); and**
 - **Deferring Coarse Particle Flotation (CPF) as part of a future expansion option.**
- **Inclusion of the MRC captures significant value from molybdenum credits and allows exposure to strong forward pricing from forecast supply deficits.**
- **Deferral of CPF reduces process risk to the flowsheet and lowers capital and operating costs. The CPF will continue to be investigated as a future plant expansion opportunity.**
- **Following this review and update, Caravel Minerals has selected Perth-based Lycopodium Minerals as the lead engineer for the Definitive Feasibility Study.**

Cautionary Statement

The PFS Report (12 July 2022) and the PFS Update (20 September 2022) together with this announcement (PFS Processing Update) is a study of the potential viability of the production of copper from the Caravel Copper Project. It has been undertaken to understand the technical and economic viability of the Project.

The PFS Processing Update assumes a 25+ year Project life based on Proven and Probable Ore Reserves (81.6%) and includes Inferred Mineral Resources (18.4%) which remains unchanged from the PFS Update (20 September 2022). There is a lower level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the delineation of higher-level Resources or Reserves or add to the economics of the Project. This update supplements the material assumptions set out in the PFS Update announcement of 20 September 2022. While the Company considers all the material assumptions 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 relevant proportions of Proven Reserves, Probable Reserves and Inferred Resources that underpin the production target are:

	Mt	%
Proven Reserve	105	14.8%
Probable Reserve	478	66.9%
Inferred Resource	131	18.4%
	714	

To achieve the range of outcomes indicated in this update, funding in the order of A\$1.5 billion will likely be required. Investors should note that there is no certainty that the Company will be able to raise the amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of the Company's existing shares. It is also possible that the Company could pursue other "value realisation" strategies such as a sale, partial sale, or joint venture of the Project. If it does, this could materially reduce the Company's proportionate ownership of the Project.

Caravel Managing Director and CEO, Don Hyma, commented: *“Our decision to commission a wide-ranging independent metallurgical review of the Caravel Project flowsheet by leading engineering group Lycopodium, supported by a group of consulting technical experts, reflects our commitment to exhaustively analyse all aspects of the Project and to strive to ‘build it right’ from the beginning.*

“The results of this review and update have exceeded our expectations. The increase in copper production stems from relatively minor changes and enhancements to the project flowsheet, in combination with the inclusion of the previously flagged Molybdenum Recovery Circuit. Collectively, these changes result in a significant increase in Project cash-flow, NPV and financial returns for a modest increase in capital expenditure. Importantly, we have also used a modest assumed price of US\$4/lb for copper and US\$20/lb for molybdenum – with significant scope for upside on these prices.

“The outcomes of this review will now be ‘frozen’ into the detailed engineering phase, and we are delighted to announce the appointment of Lycopodium as the Lead Engineer for the Definitive Feasibility Study, which will get underway in earnest in the second half of this year.”

RESULTS OF PFS PROCESSING REVIEW AND UPDATE

The key outcomes of the review support an incremental increase in process plant capacity of ~10% to from 27Mtpa to approximately 30Mtpa, the inclusion of a Molybdenum Recovery Circuit (MRC) (refer to ASX release dated 22 March 2023 titled “Project Update - Molybdenum Recovery Circuit Included in DFS”) and the deferral of the previously considered Coarse Particle Flotation (CPF) circuit. Based on these changes, forecast annual copper production increases from 60ktpa to ~65ktpa at steady state, supplemented by ~0.9ktpa of molybdenum production as saleable by-product.

The adopted changes have all demonstrated benefits to the Project and have now been incorporated into the base case process plant design and financial model for the DFS. There is no change to the overall project execution schedule or mine plan resulting from these improvements.

The PFS Processing Update outcomes presented in this report are based on changes to the comminution and flotation circuits within the process plant. All other study areas including Ore Reserves, Mineral Resources, Mining Method, Infrastructure studies reported in the July 2022 PFS remain unchanged. The material assumptions in respect of these PFS financial forecasts and production targets continue to apply with no material change to these assumptions, unless noted. There is no change to the project schedule that was reported in the PFS Update.

Collectively, the adopted changes are forecast to:

- Increase copper production from 65ktpa to ~71ktpa over first five years
- Increase steady state copper production from 60ktpa to ~65ktpa
- Increase initial capital investment from A\$1.6B to ~A\$1.7B
- Reduce C1 costs from US\$1.54 to ~US\$1.23
- Reduce AISC from US\$2.37 to ~US\$2.07
- Increase pre-tax net cash flow from A\$5.6B to ~A\$6.6B
- Increase pre-tax NPV7 from A\$1.5B to ~A\$2.0B
- Increase pre-tax IRR from 18% to ~21%
- Reduce the Project payback period from 5.6 years to 4.9 years.

Table 1: Comparison between PFS Update September 2022 and Process Update April 2023

STUDY AREA	PFS UPDATE SEPTEMBER 2022	PFS PROCESSING UPDATE APRIL 2023
Tenements	E70/2788, E70/3674, E70/3680, R70/0063, MLA70/1410, ML70/1411, GPLA70/262, GPL70/263	No change
Mineralisation	Porphyry-style chalcopyrite sulphide mineralisation associated with foliated granitic gneiss	No change
Mineral Resources	1.18Bt @ 0.24% Cu and 48 ppm Mo 2.84Mt of contained copper @ 0.1% Cu cut-off <i>(Measured and Indicated portion for Bindi and Dasher is 661.3Mt @ 0.24% Cu and 51ppm Mo)</i>	No change
Ore Reserve	583.4Mt @ 0.24% copper <i>(Bindi and Dasher)</i>	583.4Mt @ 0.24% Cu and 50ppm Mo
Mining Method	Conventional open-pit using ACE technologies including diesel-electric haul trucks and electric drills and shovels	No change
Operating Structure	Owner-miner	No change
Processing Capacity	27Mtpa throughput	~30Mtpa throughput
Processing Flowsheet	Primary crushing, secondary crushing, grinding by HGPR and ball mill, followed by conventional rougher, CPF, cleaning flotation, thickening, and filtering	Inclusion of Molybdenum Recovery Circuit (MRC) Deferral of Coarse Particle Flotation (CPF)
Recovery	92% Cu	~89% Cu (range: 88% – 90% Cu) ~60% Mo
Production	60,000tpa copper-in-concentrate (132Mlbs per annum)	~65,000tpa copper-in-concentrate (~143Mlbs per annum) ~900tpa molybdenum-in-concentrate (~2.0Mlbs per annum)

Power	Existing access to grid-power from WA State (SWIS) grid, with renewable energy mix	No change
Water	Borefield ~60km to the west with associated pipeline	No change
Concentrate Export	Concentrate trucked by public road 340km to Bunbury Port or 400km to Geraldton Port	No change
Metal Prices	Cu: US\$4/lb Mo: N/A Au: US\$1700/oz Ag: US\$18/oz	Cu: No change Mo: US\$20/lb Au: No change Ag: No change

PROCESS FLOWSHEET DESCRIPTION

The Caravel mineral processing plant is a conventional design suitable for treating porphyry-style copper ores. Operating examples are common throughout the Americas, including three operating plants in western Canada of similar scale and ore characteristics.

The selection of the largest proven process equipment, including High Pressure Grinding Rolls (HPGRs), achieves the most efficient use of capital at the lowest unit operating cost. The inclusion of a Molybdenum Recovery Circuit captures the full value of the Resource by producing a by-product to the main copper production stream.

The following is a summary of the process flowsheet adopted as the base case for the DFS:

Run-of-mine ore is crushed in two stages using a single primary gyratory crusher followed by two secondary cone crushers, producing minus 45mm material which is conveyed to a crushed ore storage stockpile prior to downstream processing.

Two HPGR's provide energy efficient dry grinding capacity to a 5mm feed size, suitable for two large ball mills which provide the final size reduction to 0.18mm prior to beneficiation in the downstream copper-molybdenum flotation circuit.

The copper beneficiation circuit consists of six rougher/scavenger flotation cells followed by rougher concentrate grinding to liberate additional copper and three stages of final cleaner flotation to produce a final 25% Cu concentrate. Rougher and cleaner flotation tailings are thickened and pumped to a Tailings Management Facility (TMF) sized for the 25+ year mine life. Water reclaimed from the TMF is returned to the process water storage pond.

The MRC separates molybdenum from the copper concentrate using three stages of flotation to produce a 50% Mo by-product to the copper concentrate. Both concentrates are thickened and filtered prior to transport by road to port.

Schematic diagrams of the process flowsheet and plant layout are illustrated in Figure 1 and 2.

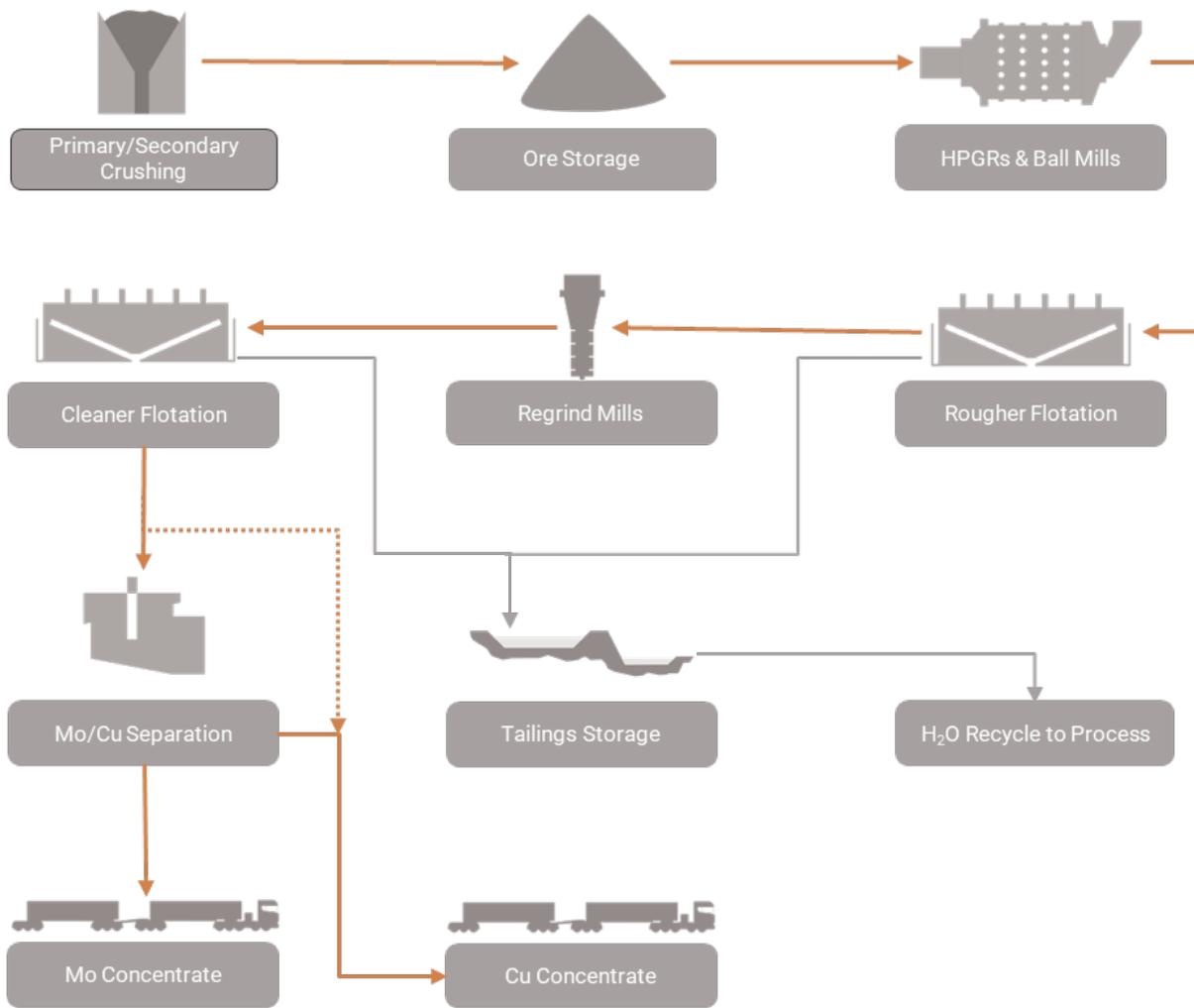


Figure 1: Process flowsheet including a Molybdenum Recovery Circuit to produce separate Mo and Cu concentrate products.

CARAVEL COPPER PROJECT PROCESSING PLANT

UNDER FEASIBILITY STUDY DEVELOPMENT



Figure 2: 3D diagram of the Caravel Copper Project Process Plant layout.

MATERIAL ASSUMPTIONS AND FINANCIAL MODELLING

Revenue

Increasing annual throughput to approximately 30Mtpa, incorporating a Molybdenum Recovery Circuit, and adjusting overall copper recovery results in estimated revenue of ~A\$19.0B over the life of mine, an increase of ~8% over the PFS Update revenue.

Operating Costs

Mine operating costs are unchanged, with increased energy consumption in earlier years being offset by a reduced tonnage being hauled in the final years of mine life. Processing costs decrease by ~5%, with increased power consumption offset by deferring the CPF circuit. Significant by-product credits from molybdenum production reduces the life-of-mine C1 cost from US\$1.54/lb to approximately US\$1.23/lb of copper.

Table 2: C1 Operating Costs

C1 Operating Costs	PFS Update September 2022 US\$/lb	PFS Processing Update April 2023 US\$/lb
Mining Costs	0.44	0.45
Processing Cost	0.82	0.78
Site & General Administration	0.09	0.09
Logistics	0.21	0.21
Treatment and Refining Costs	0.16	0.16
By-Product Credits	(0.19)	(0.46)
Total	1.54	1.23

Capital Costs

Increasing annual throughput to ~30Mtpa requires A\$9M of additional mine fleet and A\$18M of mine pre-stripping, together with A\$41M for larger process plant equipment. In addition, including a Molybdenum Recovery Circuit requires incremental capital of A\$57M. This increase is offset by removing A\$33M for the CPF circuit.

The net result is an increase of A\$92M to a Total Installed Cost estimated at A\$1.676B, which includes A\$318M of mine fleet and A\$194M of mine pre-stripping costs.

Capital costs in relation to these changes are estimated to an accuracy of -30% to +50%, equivalent to an AACE Class 5 estimate. Other capital costs are unchanged from the PFS and estimated to an accuracy of ±25%, equivalent to an AACE Class 4 estimate.

Table 3: Initial Capital costs

Initial Capital Cost A\$M	PFS Update September 2022 Year 0 to 3	PFS Processing Update April 2023 Year 0 to 3
Plant direct costs	585	637
Site infrastructure	112	114
Tailings storage management	51	52
Water supply	66	70
Owner costs, EPCM and indirects	176	181
Contingencies	101	101
Mine infrastructure	8	8
	1,100	1,165
Mining equipment	309	318
Mining pre-strip	176	194
Total Initial Capital Cost	1,584	1,676

Project Financial Assumptions and Analysis

This PFS Processing Update is based on the same financial assumptions as the September 2022 PFS Update, utilising a US\$4.00/lb copper price and US\$/A\$ 0.72 exchange rate. The changes noted above result in an additional ~A\$1.0B in pre-tax net cashflows, which over the mine life are estimated to total A\$6.6B (up from A\$5.6B previously) on revenues of A\$19.0B. At a 7% real discount rate, the net cashflows generate a pre-tax Net Present Value (NPV) of ~A\$2.0B (up from A\$1.5B previously), and a pre-tax IRR of approximately 21%. The Project is forecast to repay up-front development capital approximately 4.9 years from the start of production.

Table 4: Life-of-Mine Financial Economics

Life-of-Mine Financial Economics (A\$)	PFS Update September 2022	PFS Processing Update April 2023
Revenue	\$17.6B	\$19.0B
Net cash flow (pre-tax)	\$5.6B	\$6.6B
Pre-tax NPV ₇	\$1.5B	\$2.0B
Pre-tax IRR	18%	21%
Payback period	5.6 years	4.9 years

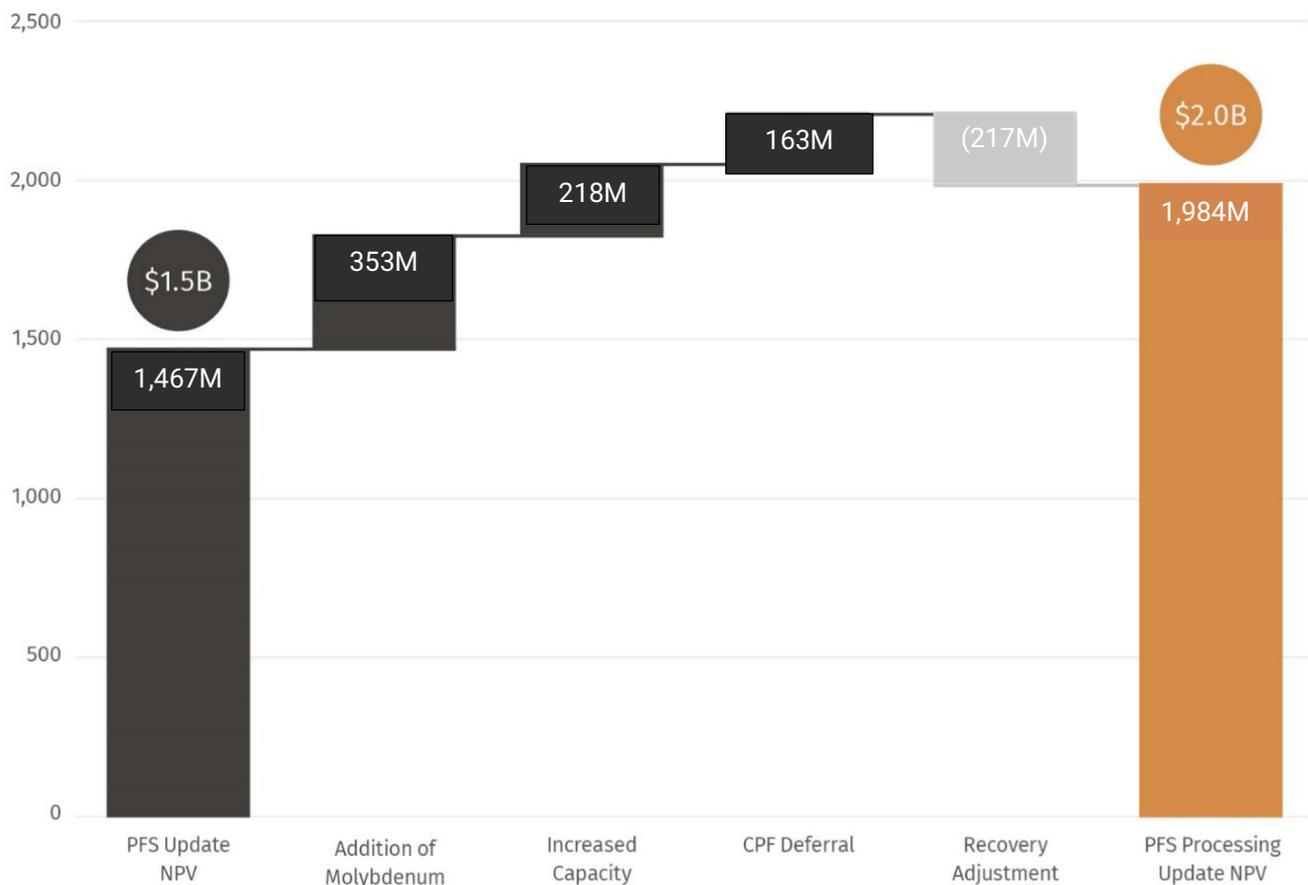


Figure 3: NPV₇ A\$M Comparison between PFS Update 2022 and PFS Processing Update 2023

Assumptions remain consistent with the PFS Update dated 20 September 2022 unless noted.

Sensitivity

The following are the major sensitivities of the project NPV in A\$B.

Variable	-15%	-10%	-5%	Base Case	+5%	+10%	+15%
Capital Cost	2.3	2.2	2.1	2.0	1.9	1.8	1.7
Mining Costs	2.2	2.1	2.1	2.0	1.9	1.8	1.7
Milling Costs	2.2	2.1	2.1	2.0	1.9	1.8	1.8
Operating Costs	2.6	2.4	2.2	2.0	1.8	1.6	1.4
Cu Grade	1.0	1.3	1.6	2.0	2.3	2.7	3.1
US\$: A\$	0.8	1.2	1.6	2.0	2.4	2.8	3.1

Cu Price \$US/lb	\$2.5	\$3.0	\$3.5	Base Case	\$4.5	\$5.0	\$5.5
NPV ₇	(0.8)	0.1	1.1	2.0	2.9	3.8	4.7

LYCOPODIUM APPOINTED AS LEAD ENGINEER

Caravel Minerals is pleased to announce the appointment of Perth-based Lycopodium Minerals Pty Ltd as lead engineer for the DFS. Lycopodium has extensive experience in mineral processing plant design and project management, including copper processing projects at Sandfire's Motheo Copper Project (Botswana) and First Quantum's Cobre Panama Project (Central America). Lycopodium is a highly experienced engineering and project management firm and a strategic partner for Caravel, with an extensive West Australian pedigree in mineral processing, large capital project delivery, firsthand knowledge of local fabricators, constructors, regulatory processes, and long-standing business relationships in the resources sector.

In conjunction with Caravel, as lead engineer Lycopodium will be responsible for the Engineering, Procurement & Construction Management (EPCM) delivery of the Caravel Copper Project, including engaging with numerous technical advisors and specialist consultants in resource modelling, mine planning, metallurgical testing, environmental and regulatory approvals, and technology development. The DFS is expected to take approximately twelve months to complete, with results expected in mid-2024.

This announcement is authorised for release by Managing Director, Don Hyma.

For further information, please contact:

Dan Davis
Company Secretary
Caravel Minerals Limited
Suite 1, 245 Churchill Avenue, Subiaco WA 6010
Telephone: 08 9426 6400
Email: investors@caravelminerals.com.au

Media Inquiries:
Read Corporate
Nicholas Read/Kate Bell
320 Churchill Ave, Subiaco WA 6010
Telephone: 08 9388 1474
Email: info@readcorporate.com.au

Competent Persons Statements

The information in this report that relates to Exploration Results and Exploration Targets(?) is based on and information compiled by Mr Peter Pring, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Pring is a Senior Exploration Geologist with and a full-time employee of Caravel Minerals. Mr Pring is a shareholder of Caravel Minerals. Mr Pring has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration, and to the activity being undertaken to qualify as a Competent Person 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 Pring consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Mineral Resources is based on information compiled by Mr Lauritz Barnes, a Competent Person who is a member of both the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mr Barnes is a consultant to Caravel Minerals and is employed by Trepanier Pty Ltd. Mr Barnes has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the activity being undertaken to qualify as a Competent Person 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 his information in the form and context in which it appears.

The information in this report that relates to Ore Reserves is based upon information compiled by Mr Steve Craig, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Craig is a consultant to Caravel Minerals and is employed by Orology Consulting Pty Ltd. Mr Craig has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person 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 Craig consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Forward Looking Statements

This document may include forward looking statements. Forward looking statements include, but are not necessarily limited to, statements concerning Caravel Minerals planned exploration programmes, studies and other statements that are not historic facts. When used in this document, the words such as "could", "indicates", "plan", "estimate", "expect", "intend", "may", "potential", "should" and similar expressions are forward looking statements. Such statements involve risks and uncertainties, and no assurances can be provided that actual results or work completed will be consistent with these forward-looking statements.

Previous Disclosure

The information in this report is based on the following Caravel Minerals ASX Announcements, which are available from the Caravel Minerals website www.caravelminerals.com.au and the ASX website www.asx.com.au:

- 25 August 2021 "Bindi Deposit – Updated Geological Model"
- 23 November 2021 "Major Mineral Resource Upgrade – Caravel Copper Project"
- 12 July 2022 "Caravel Copper Project Pre-Feasibility Study Highlights Robust, Executable Project and Reports Maiden Ore Reserve"
- 20 September 2022 "Pre-Feasibility Study Update – Caravel Copper Project"
- 22 March 2023 "Molybdenum Circuit Included in the Definitive Feasibility Study"