



29 August 2022

Study Manager Appointed for the Cape Flattery Silica Sand Definitive Feasibility Study

Highlights

- JukesTodd appointed as Study Manager for the Definitive Feasibility Study (DFS)
- JukesTodd is a highly experienced consulting firm who bring specialist expertise and resources for the successful and timely delivery of the DFS
- Tenderers for the transshipping contract have been shortlisted
- Detailed DFS planning is being updated with JT input with planned completion in Q2 2023

Following the completion of the Pre-Feasibility Study on 21 March 2022, Metallica Minerals Limited (ASX: MLM) is pleased to announce the appointment of JukesTodd. JukesTodd has been appointed as Integrated Delivery Partner to deliver commercial and technical advisory for the DFS.

The study will include the design, engineering and planned delivery of the Cape Flattery Silica operation producing 1.35Mt of high-purity silica sand per annum. JukesTodd will have overall responsibility for the management and delivery of the DFS.

Metallica Minerals Executive Chairman, Theo Psaros said, "We have completed a competitive tendering process based on experience, capabilities, capacity to add value and alignment with our Company goals. We are delighted with the appointment of JT as our study managers for the Cape Flattery Silica Sand Project. JT brings significant experience to help us towards delivering high purity silica sand to a diversified global customer-base."

Other Project Updates

- All key work streams to advance Cape Flattery Silica Sand Project progressing rapidly
- Multiple permit applications close to submission
 - Environmental studies for the sand recovery, processing and marine operations are completed and permit applications advancing with goal to submit to Qld Government in 3rd Quarter 2022
 - Development Application for purpose-built jetty expected to be finalised in 4th Quarter 2022 subject to finalisation of lease terms with Ports North
 - Application for approval to access ground water for sand recovery and processing anticipated to be submitted in 4th Quarter 2022
- Negotiations with Traditional Landowners continuing in a productive manner
- Multiple potential offtake partners in established international silica sand markets continue to engage with the Company

About JukesTodd – ASX Announcement

JukesTodd is an experienced project manager and advisory group that will be working with a team of service providers to deliver the feasibility study. JukesTodd supplies advisory and project management services with a philosophy of providing a strong link between the commercial and technical aspects of project feasibility, execution and operations. With offices in Brisbane, Sydney and Perth, JukesTodd has delivered for clients in Australia, Asia, New Zealand, Africa, Europe and the Americas. JukesTodd has a strategic focus to support clients in developing commodities fundamental to current and emerging technologies including Tungsten, Copper, Gold, Vanadium, Lithium and Hydrogen.

About the Cape Flattery Silica (CFS) Project

Metallica's 100% owned Cape Flattery Silica (CFS) project is adjacent to the world class Cape Flattery Silica Sand mining and shipping operation owned by Mitsubishi. Exploration drilling to date has now confirmed that the sand dunes within EPM 25734 contain high purity silica sands with an in-situ quality which is understood to be comparable to Mitsubishi's Cape Flattery Silica Mine. On 15 June 2021 the Company announced that it had lodged a Mine Lease Application (MLA) for the project (see ASX Release: 15 June 2021 MLA Lodged for Cape Flattery Silica), Figure 1.

On 21 March 2022 the Company released the Pre-feasibility Study (PFS) for the CFS Project (see ASX Release 21 March 2022: "Cape Flattery Silica PFS Confirms Excellent Economics and Maiden Ore Reserve").

The key highlights of the PFS Report are as follows:

- Cape Flattery Silica Sand Project's (CFS) Pre-Feasibility Study (PFS) confirms the Project can be a long-life silica sand project producing high-quality silica sand for the booming Asia-Pacific glass manufacturing markets supplying the solar panel industry.
- The PFS returns pre-tax Net Present Value (NPV⁸) of A\$290 million (M), Internal Rate of Return (IRR) of 34.9% and life of Project cash revenue of A\$2,127M. This compares with the Updated Scoping Study (10 November 2021) which had an NPV⁸ of A\$253M.
- The Capital Cost of CFS is estimated to be \$79M (including a 15% contingency of \$10M) with a payback period from commencement of production of 3.9 years. All production is based on the Maiden Ore Reserve (refer table 2 – Ore reserves).
- The Maiden Ore Reserve of 46 million tonnes @ 99.18% SiO₂ (refer to table 2 below) is exploited over a 25-year Project life producing saleable product of 1.35Mt per annum.

- Sensitivity and scenario analysis demonstrate the Project is financially robust and can maintain a positive Net Present Value (NPV) through stress-testing of the various scenarios.
- Both the sand extraction area and the industry standard processing facility will have a small footprint and low environmental impact.
- A purpose-built jetty is planned to be constructed (subject to Development Approval (DA)) to allow barge loading and transhipping operations. This infrastructure, importantly, is located within the Port Limit of Cape Flattery.
- Development of CFS will deliver employment, apprenticeship and training opportunities to the Hope Vale and Cooktown communities, particularly the local indigenous communities.
- CFS will contribute to delivery of the Queensland Government’s commitment to the development of new economy minerals in Far North Queensland.
- The results from the PFS demonstrate a strong financial case and the Company’s Board has approved commencement of a Definitive Feasibility Study (DFS) in Q2 2022.

The Company released an upgrade of the Mineral Resources for the CFS Project (see ASX Release 7 April 2022: “Significant Increase in Measured and Indicated Resources at Cape Flattery Silica Project”)

Table 1 –Cape Flattery Silica Project Mineral Resources

Resource Classification	Silica Sand (Mt)	SiO ₂ %	Fe ₂ O ₃ %	Al ₂ O ₃ %	TiO ₂ %	LOI %	Silica Sand (Mm ³)	Density (t/m ³)
Measured	16.7	99.26	0.10	0.08	0.13	0.17	10.4	1.6
Indicated	35.2	99.14	0.13	0.13	0.14	0.19	22.0	1.6
Inferred	0.3	99.06	0.14	0.16	0.12	0.23	0.20	1.6
Total	52.2	99.18	0.12	0.11	0.14	0.18	32.60	1.6

The Resource has been prepared in accordance with the JORC Code 2012 – A cut-off grade 98.5% has been defined based on the surrounding data. These results show there is potential to produce a premium grade silica product using standard processing techniques.

Table 2 –Cape Flattery Silica Project Reserve

Ore Reserve Category	Silica Sand (Mt)	SiO₂ %	Fe₂O₃ %	Al₂O₃ %	TiO₂ %	LOI %	Silica Sand (Mm³)	Waste Mt
Probable Reserve	46	99.18	0.12	0.11	0.14	0.19	28.76	2.6

This announcement has been approved in accordance with the Company’s published continuous disclosure policy and has been approved by the Board.

For further information, please contact:

Mr Theo Psaros
Executive Chairman
+61 (7) 3249 3000

Mr Scott Waddell
CFO & Company Secretary
+61 (7) 3249 3000

Competent Person Statement Cape Flattery Silica Sand Resource

The information in this report that relates to the Cape Flattery Silica Project – Eastern Resource Area is based on information and modelling carried out by Chris Ainslie, Project Engineer, who is a full-time employee of Ausrocks Pty Ltd and a Member of the Australasian Institute of Mining & Metallurgy. The work was supervised by Mr Carl Morandy, Mining Engineer who is Managing Director of Ausrocks Pty Ltd and a Member of the Australasian Institute of Mining & Metallurgy and also by Mr Brice Mutton who is a Senior Associate Geologist for Ausrocks Pty Ltd. Mr Mutton is a Fellow of the Australasian Institute of Mining & Metallurgy and a Fellow of the Australian Institute of Geoscientists. Mr Morandy and Mr Ainslie and Mr Mutton are employed by Ausrocks Pty Ltd who have been engaged by Metallica Minerals Ltd to prepare this independent report, there is no conflict of interest between the parties. Mr Morandy, Mr Ainslie and Mutton consent to the disclosure of information in the form and context in which it appears in this report.

The overall resource work for the Cape Flattery Silica Project – Eastern Resource Area is based on the direction and supervision of Mr Mutton who 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 “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves”.

Cape Flattery Silica Sand Exploration Results

The information in this report that relates to the Exploration Sampling and Exploration Results is based on information compiled by Mr Patrick Smith, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy.

Mr Smith is the owner and sole Director of PSGS Pty Ltd and is contracted to Metallica Minerals as their Exploration Manager. Mr Smith confirms there is no potential for a conflict of interest in acting as the Competent Person. Mr Smith 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 “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Smith consents to the inclusion of this information in the form and context in which it appears in this release/report.

Reference to Previous Releases

PFS and reserve figures of this announcement have been previously reported to the market in the report dated 21 March 2022. Pursuant to Listing Rule 5.19.2, the Company confirms that all the material assumptions underpinning the production target and forecast financial information derived from the production target in the original market announcement continue to apply and have not materially changed.

Drilling, resource estimates and metallurgical results referred to in this announcement have been previously announced to the market in reports dated; 7 April 2022, 12 August 2021, 15 June 2021, 22 June 2021, and 2 March 2021 and are available to view and download from the Company’s website: [ASX Announcements — Metallica Minerals Limited](#)

Pursuant to Listing Rule 5.23.2, the Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. In relation to the referenced estimates of mineral resources and ore reserves, the Company confirms that all material assumptions and technical parameters underpinning the estimates in the referenced market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original market announcements.

Forward-looking statements

Forward-looking statements are based on assumptions regarding Metallica, business strategies, plans and objectives of the Company for future operations and development and the environment in which Metallica may operate.

Forward-looking statements are based on current views, expectations and beliefs as at the date they are expressed and which are subject to various risks and uncertainties. Actual results, performance or achievements of Metallica could be materially different from those expressed in, or implied by, these forward-looking statements. The forward-looking statements contained in this presentation are not guarantees or assurances of future performance and involve known and unknown risks, uncertainties and other factors, many of which are beyond the control of Metallica, which may cause the actual results, performance or achievements of Metallica to differ materially from those expressed or implied by the forward-looking statements. For example, the factors that are likely to affect the results of Metallica include general economic conditions in Australia and globally; ability for Metallica to fund its activities; exchange rates; production levels or rates; demand for Metallica’s products, competition in the markets in which Metallica does and will operate; and the inherent regulatory risks in the businesses of Metallica. Given these uncertainties, readers are cautioned to not place undue reliance on such forward-looking statements.