

Metallica Minerals Ltd (ASX: MLM)

A Silica Sand Development Company



Brisbane Industry Resources Lunch - May 2021



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Footnotes

1. See ASX Release 3 March 2021 "Revised 38 Mt of High Purity Silica Sand Resource"
2. See ASX Release 22 April 2021 "Rights Issue Closes"
3. See ASX Release 9 February 2021 "Cape Flattery assay results confirm high purity silica sands"
4. See ASX Release on 31 March 2021 titled "Key Cultural Heritage Agreements signed with Traditional Land Owners of Cape Flattery Silica Sands Project"
5. See ASX Release 29 April 2021 "Cape Flattery Silica Sand Project Update"



Competent Person Statement

Cape Flattery Silica Sands

The information in this announcement that relates to the Cape Flattery Silica Project-Eastern Exploration Target and this Resource Estimation was based on results and data collected and compiled by Mr Neil Mackenzie-Forbes, who is a Member of the Institute of Geoscientists and is a Consulting Geologist employed by Sebrof Projects Pty Ltd and engaged by Metallica Resources Pty Ltd. Mr Mackenzie-Forbes has more than 20 years mining and exploration experience in Australia with major mining and junior exploration companies. Mr Neil Mackenzie-Forbes consents to the inclusion of this information in the form and context in which it appears in this release/report.

The information in this announcement that relates to the Cape Flattery Silica Project - Eastern Resource Area is based on information and modeling undertaken by Mr Chris Ainslie, Geotechnical 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 Mr Mutton consent to the disclosure of information in the form and context in which it appears in this release/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".

Silica Sand is in demand – Globally



WORLD POLITICS

A sand shortage? The world is running out of a crucial — but under-appreciated — commodity

PUBLISHED FRI, MAR 5 2021 1:14 AM EST
UPDATED FRI, MAR 5 2021 10:20 AM EST

Sam Meredith
@SMEREDITH19

SHARE



Australia can now join the silica sands race thanks to a global supply crisis

Mining

June 7, 2019 | Angela East

Up until now Australia hasn't been a contender in the silica sands industry, but the tightening supply crunch has made an opening for potential players.

While silica sand is the most abundant mineral on the planet, it is still a finite resource. It's also – apparently – the most used commodity after air and water.

Most supply is used to make concrete for construction, but it is also used to make glass for buildings, solar panels and electronics like mobile phones and TVs, as well as to make car parts.

FINANCIAL REVIEW

Why sand shortage is a big problem

The Lex Column

Aug 9, 2020 – 8.11pm



Green

Glass Shortage Threatens Solar Panels Needed for Climate Fix

Bloomberg News

5 November 2020, 14:46 GMT+10 Updated on 6 November 2020, 12:00 GMT+10

- ▶ PV glass output seen 20%-30% short of demand next year
- ▶ Price have risen 71% since July, hurting solar power economics

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- IMARC estimates the global silica sand market could grow from US\$8 billion in 2019 to US\$20 billion in 2024*.
- Post COVID many countries will embark on infrastructure projects to stimulate their economies. This will also increase the demand for silica sand.
- Primary uses of Silica Sands; Manufacturing glass, Foundry use, Hydraulic Fracturing, Filtration and Abrasives and other uses.
- * <https://www.imarcgroup.com/silica-sand-manufacturing-plant>

Company Highlights



100% owned Cape Flattery Project is adjacent to the world's largest Silica Sand Mine



Demand for Silica Sands Expected to grow significantly



38Mt High Purity Silica Sands Resource¹



Cape Flattery Project is within the current Port boundary



Successful Rights Issue and Placement raises \$7m²



Shares on Issue
557,732,777
Options on Issue
141,678,964

Corporate Snapshot

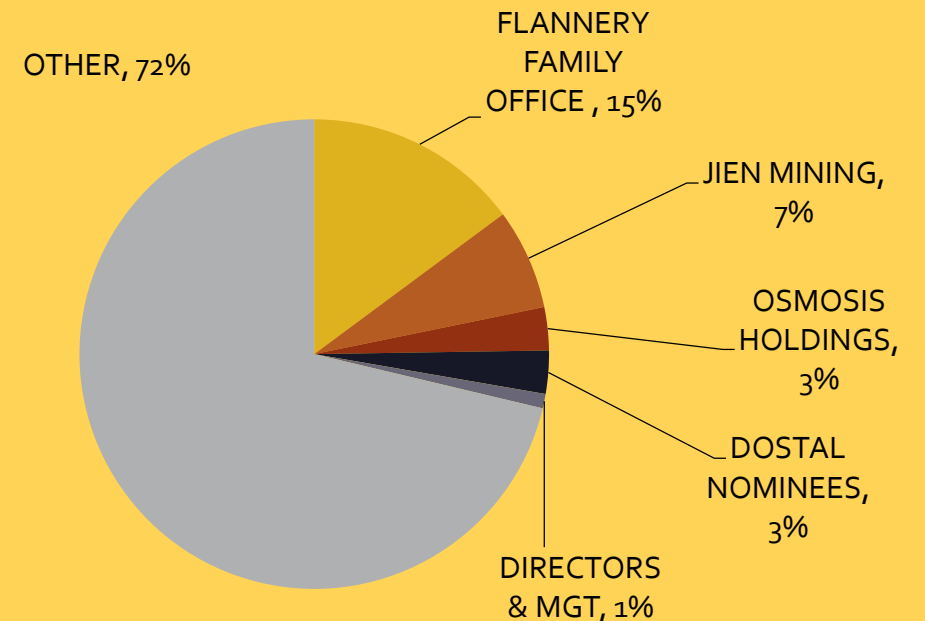
ASX Code	MLM
Share Price (as at 3 May 2021)	\$0.028
Ordinary Shares	557,732,777
Options	
\$0.029	10m
\$0.06	131m
Market Cap	\$15.6m
Cash	\$8.2m
Debt	Nil

Directors	
Theo Psaros	Executive Chairman
Scott Waddell	Executive Director, Chief Financial Officer & Company Secretary
Andrew Gillies	Non-Executive Director

Top 20 shareholders hold 44% of Register



Top 4 Shareholders	Holding
1. Ilwella Pty Ltd	15%
2. Jien Mining Pty Ltd	7%
3. Osmosis Holdings Pty Ltd	3%
4. Dostal Nominees Pty Ltd	3%



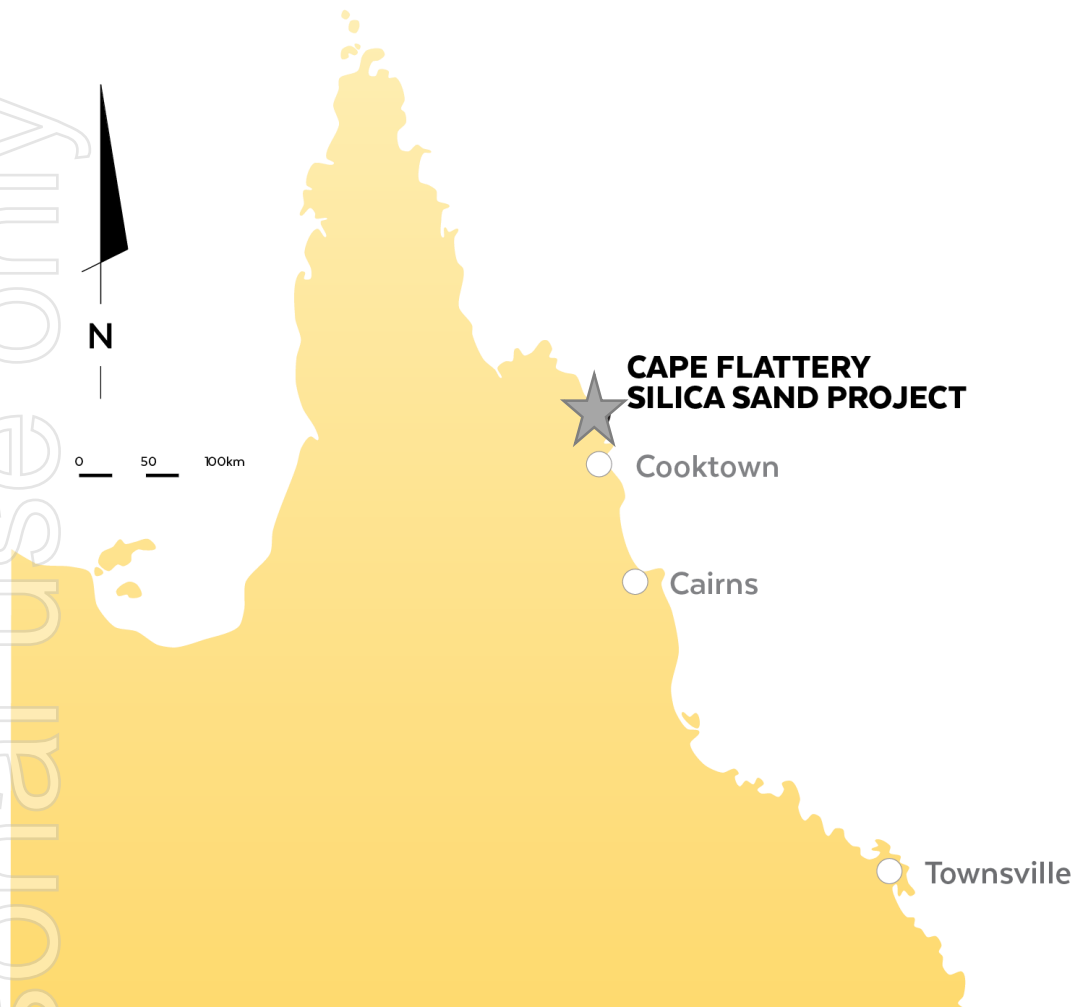
Project Overview



Cape Flattery Silica Sands Project (100% owned)

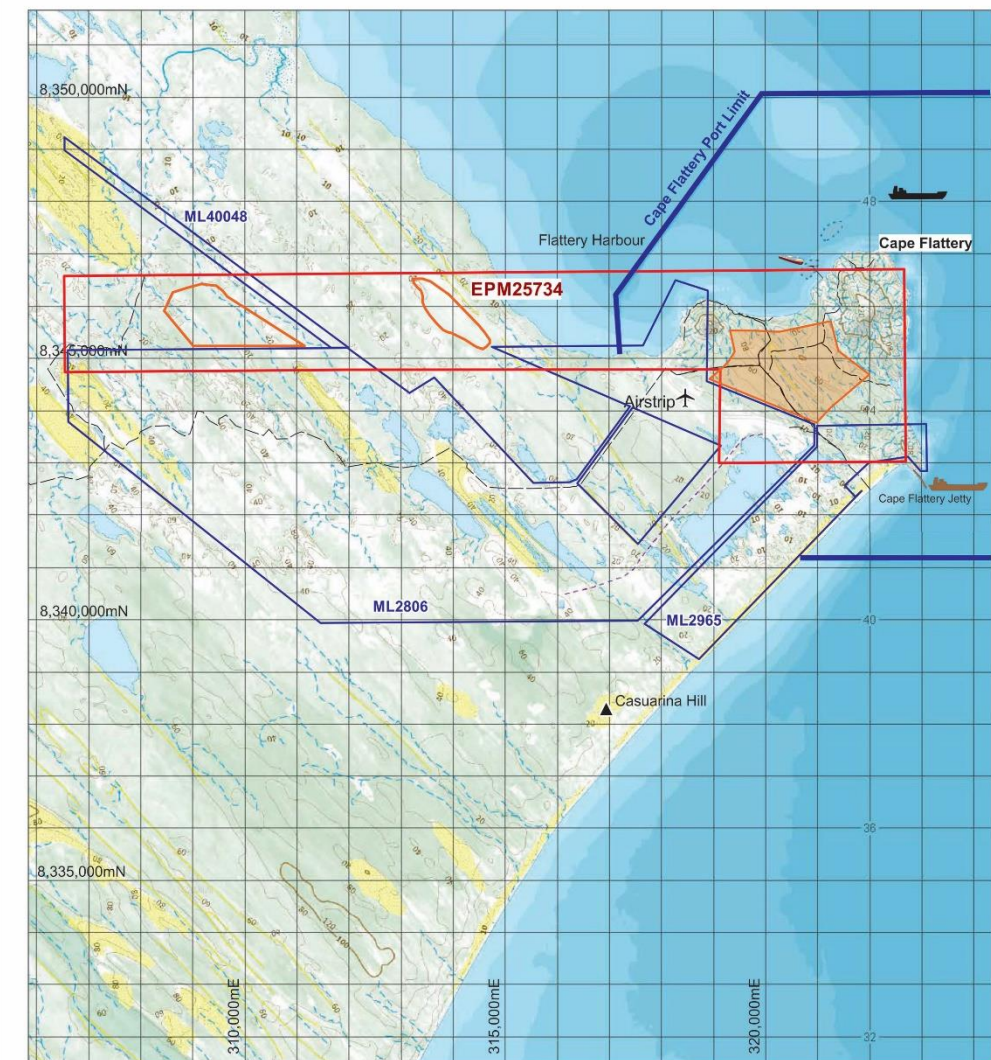
Metallica is focused on becoming a Silica Sand producer.

The Company remains committed to advancing its existing project portfolio toward development and continuing to identify and pursue opportunities.



Cape Flattery Silica Sands Project

- Located adjacent to Mitsubishi's Cape Flattery mine, the world's single largest silica sand mine that has been producing since 1967
- Project is located within the Cape Flattery Port area
- Assay results confirm high purity silica sands – greater than 99% silica sand (SiO_2)³



- LEGEND**
- EPM Granted (Cape Flattery Silica Mines Pty Ltd)
 - ML's Mitsubishi Silica Mine (Granted)
 - Exploration Areas
 - Target #1



Cape Flattery Silica Mines Pty Ltd

EPM25734

Cape Flattery

**Tenement Location
and Exploration Area**

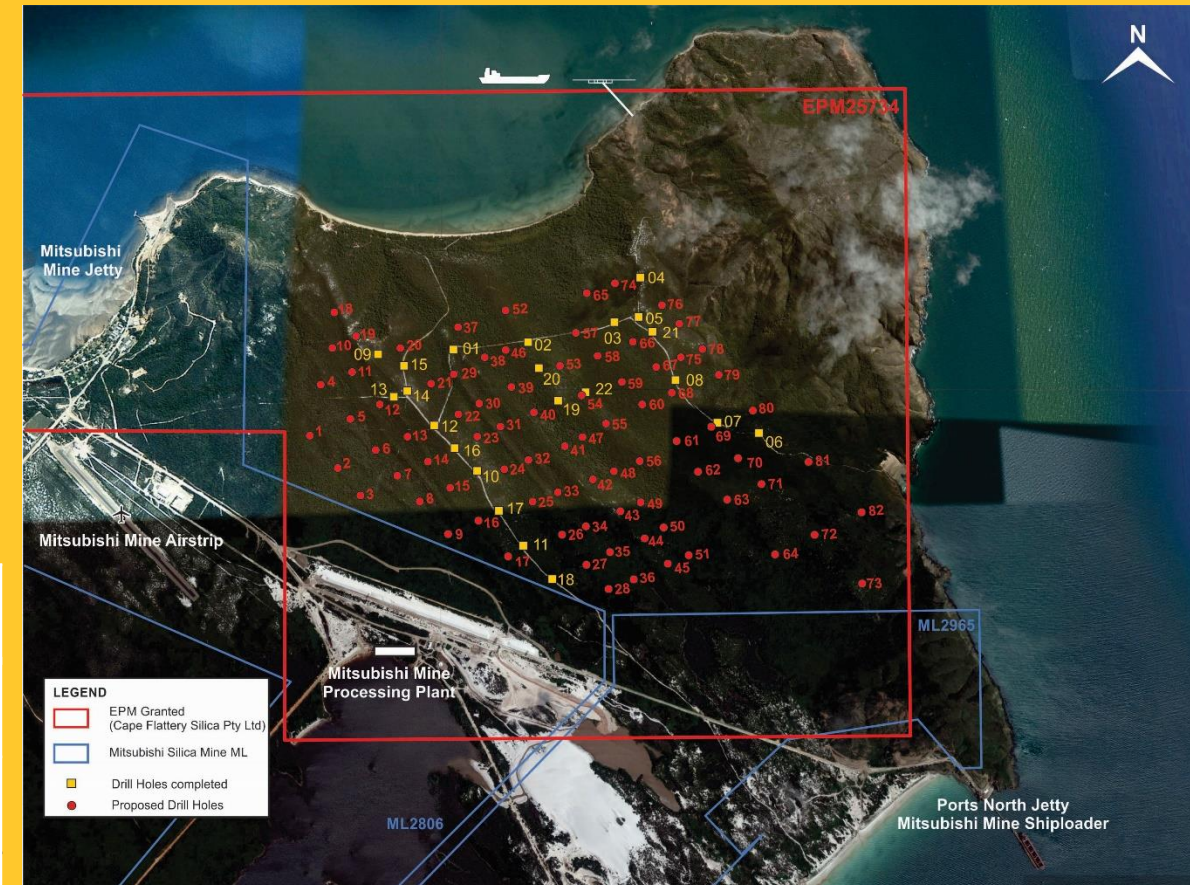
COMPILED BY	S. Hagen	OCT 20	Proj. MGA84 (Zone 58)
DRAFTED BY	A. Davies	OCT 20	DWG No:
REVISED			

FIGURE

Cape Flattery Silica Sands Project - JORC Resource¹

- High purity silica sand resource increased to 38.3Mt @ 99.0% SiO₂
- 22 Drill hole program completed in December 2020
- 82 Drill holes planned to be drilled in June 2021
- Planned drilling campaign aims to increase the existing resource
- In-situ SiO₂ averages 99% at an 98.5% cut-off grade

Cape Flattery Silica Sand Classification	Silica Sand (mt)	Silica Sand (Mm ³)	Density (t/m ³)	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	TiO ₂ %	LOI %
Indicated Resource	5.4	3.4	1.6	99.1	0.04	0.09	0.13	0.13
Inferred Resource	32.9	20.5	1.6	99.0	0.07	0.12	0.15	0.11
TOTAL	38.3	23.9	1.6	99.0	0.06	0.12	0.15	0.12



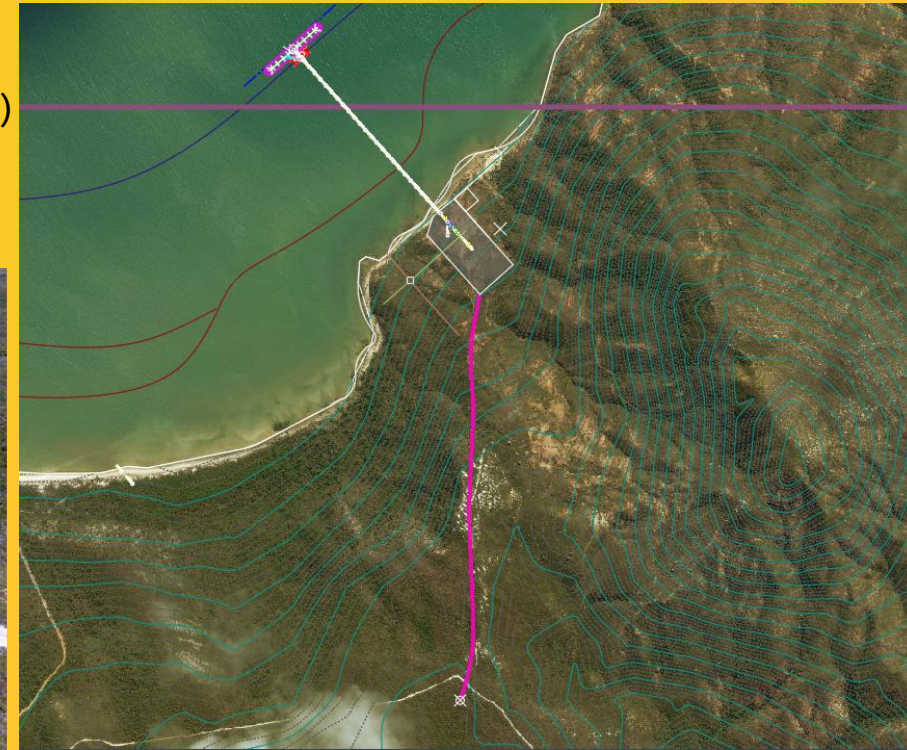
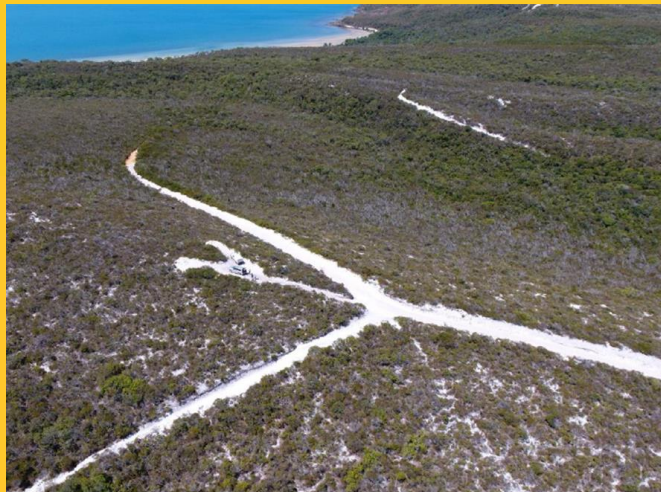
CFS Project – Eastern Resource Area – planned Drill holes June 2021

"For further details, see ASX Release on 2 March 2021 titled "38 Mt of High Purity Silica Sand Resource at Cape Flattery Silica Sands Project". "

Cape Flattery Silica Sands Project - Infrastructure Options



- A key advantage is the project being located in the designated Cape Flattery Port Area
- Queensland Government legislation does not allow for new ports being built outside the designated port areas
- Potential to truck our product less than 1km to port (options under consideration include a new jetty or seeking access to an existing third party jetty)
- Close to deep water suitable for barge loading
- Ports North has identified swing basin areas for ships (up to Panamax size vessels)
- Support from Traditional Land Owners is expected for this location



Positive relationship being built with Traditional Land Owners



- Key message from the very start is that our company is engaging with TLOs including the sharing of our plans and identifying & solving challenges
- Employment opportunities already underway
- Cultural Heritage Agreements signed for next drilling program⁴
- Cultural heritage clearance completed prior to the installation of water monitoring bores



L-R Nathaniel Walker, Naamon Walker, Niall Corbus, Vernon Yoren, Shailand Deeral-Rosendale and Trenton McLean



Signing of the ACHA – Walmbaar Aboriginal Corporation Chairman, Shailand Deeral-Rosendale and Directors, Pauline McLean and Travis Bally with Metallica Executive Chairman Theo Psaros

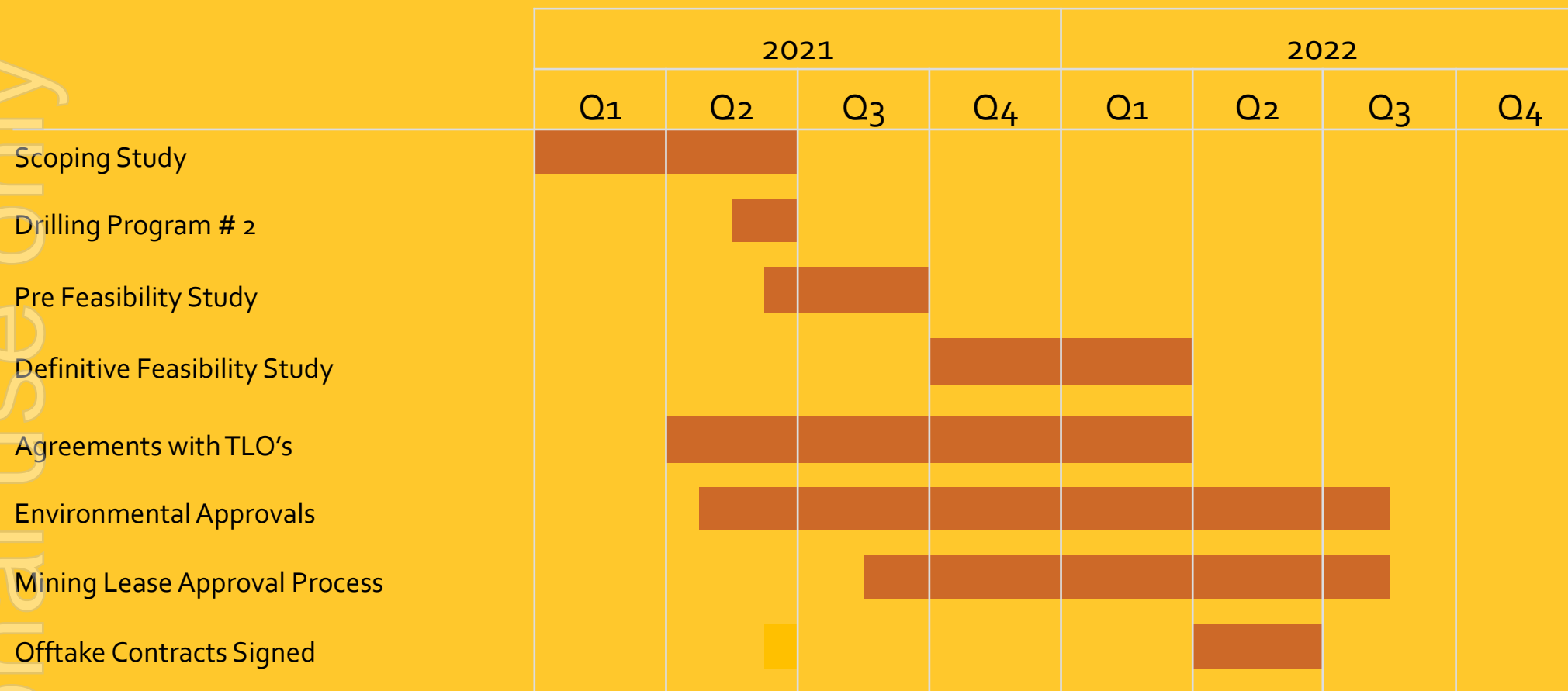
Cape Flattery Silica Sands Project - next six months



- Metallurgical testwork underway to produce premium product
- Continue Environmental studies
- Scoping Study results to be announced
- Follow up drilling program in June to further define the resources
- Continued community engagement
- Mining Lease Application to be submitted
- Cultural Heritage Agreements to be progressed
- Preliminary discussions with Off-Take Partners
- Further investigation of infrastructure options
- Pre-Feasibility Study underway



Cape Flattery Silica Sands Project - Conceptual Development Timeframe*



* Timing expectations are based on current best estimates and are subject to change depending upon exploration and metallurgical success, government and third party approvals, market conditions and funding availability

* Based on granting of Environmental Authority (EA), with no Environmental Impact Statement (EIS) required

Silica Sand peer comparisons



Company Name	ASX Code	Market Cap**	Shares on Issue	JORC Resource
Metallica Minerals 	MLM	\$16M	558M	38.3Mt @ 99% silica oxide. (5.4Mt Indicated and 32.9 Mt Inferred)
Diatreme Resources Refer to DRX Presentation dated 11 November 2020, Appendix 2A 12 November 2020, Galalar Silica Resource expands 30% to 61.9Mt 17 March 2021	DRX	\$54M	2,572M	61.9Mt @ 99.2% silica oxide Measured 35.5mt/Indicated 20.6mt/Inferred 5.8mt
VRX Silica Refer to VRX Presentation dated 25 August 2020 and Appendix 2A on 2 February 2021	VRX	\$145M	504M	1,056 Mt @ 99.6% to 99.9% silica oxide Inferred & Indicated incl 261mt Probable Ore Reserve
Perpetual Resources Refer to PEC presentation 30 March 2021 and ASX Release 17 March 2021	PEC	\$45M	475m	Total probable ore reserves of 64.1Mt @ 98.6% silica oxide

** Based on share prices at 3/5/2021

CAPE FLATTERY SILICA

Our project is located in the world class Cape Flattery Dune field

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FLATTERY
SILICA

