Cape Flattery Silica

Mining Monday's, Gold Coast – 31 January 2022

Metallica Minerals Limited (ASX: MLM)

A Silica Sand development company

Cape Flattery Silica

What we do

Metallica Minerals is an Australian development company focussed on successfully delivering high purity silica sand to a diversified global customer-base. We are committed to delivering increasing value for our shareholders.

Our project’s prime location in Cape Flattery is recognised globally for its high purity silica sand.

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The Cape Flattery Silica Sands Project is at the exploration, advanced evaluation & feasibility stage & although reasonable care has been taken to ensure that the facts stated in this presentation are accurate & or that the opinions expressed are fair & reasonable, no reliance can be placed for any purpose whatsoever on the information contained in this document or on its completeness.

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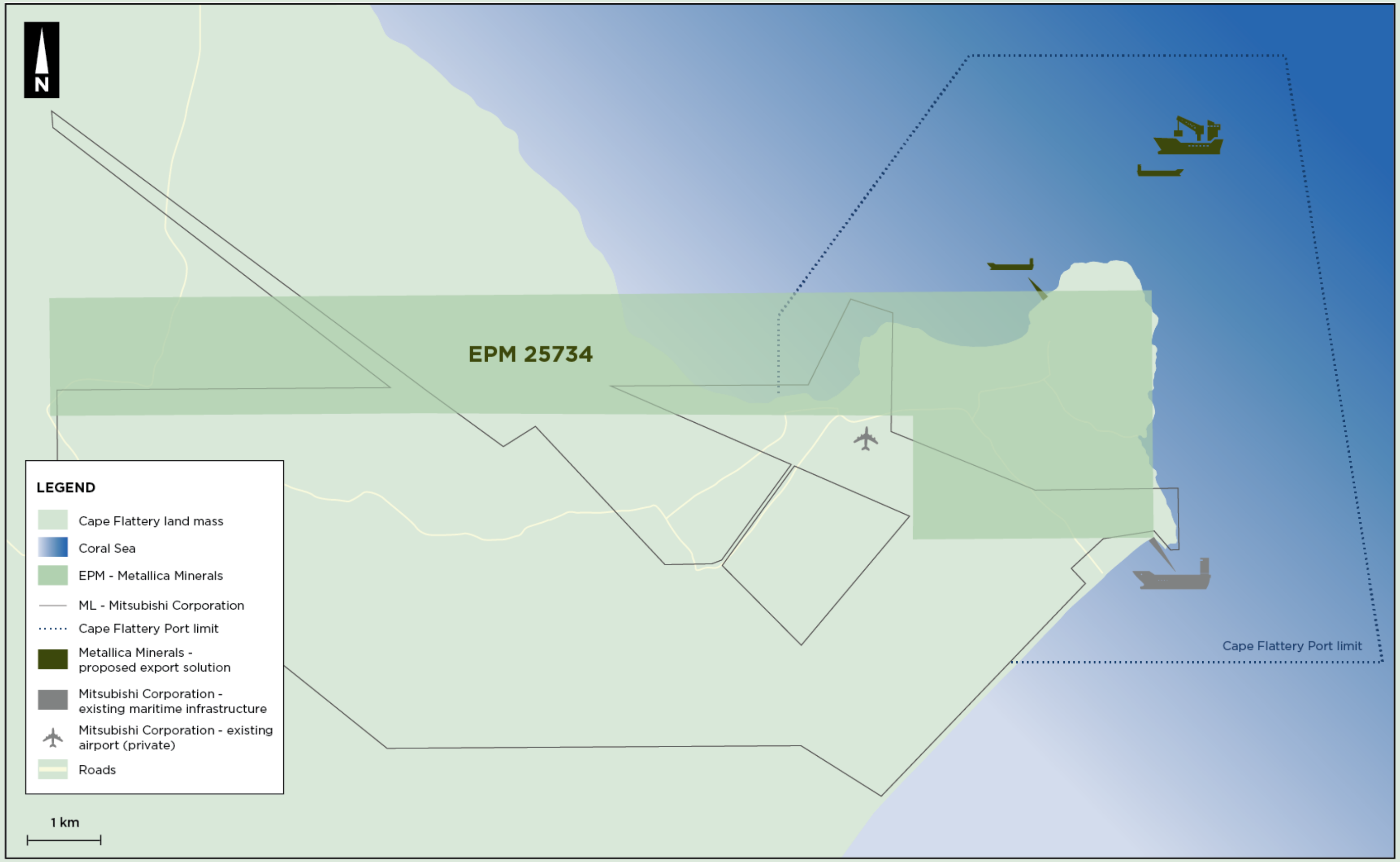
Forward-looking statements are based on current views, expectations and beliefs as at the date they are expressed and which are subject to various risks and uncertainties. Actual results, performance or achievements of Metallica could be materially different from those expressed in, or implied by, these 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 funds 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.

Footnotes

1. See ASX Release 21 October 2021 "Revised 40% Increase of the Cape Flattery Silica Sand Resource to 53.5Mt"
2. See ASX Release 15 June 2021 "Mining Lease Application lodged for Cape Flattery Silica"
3. See ASX Release 22 June 2021 "Excellent Metallurgical Test results on Cape Flattery Silica Sand"
4. See ASX Release 10 November 2021 "Cape Flattery Silica Sand Project Production Target"

Cape Flattery Silica



> *Our Cape Flattery Silica project in Cape Flattery, Queensland, is home to some of the best high-purity silica sand in the world and is located adjacent to a designated & operating port area that exports silica sand.*

Company Highlights

Cape Flattery Silica is
100% owned by
Metallica Minerals

Demand for
Silica Sands expected to
grow for solar panel production

53.5Mt
high purity Silica Sand
resource[1]

Mining Lease Application lodged[2]

Cape Flattery Silica is
within the
current port boundary

Strong financial results from updated Scoping Study

Major drilling program completed

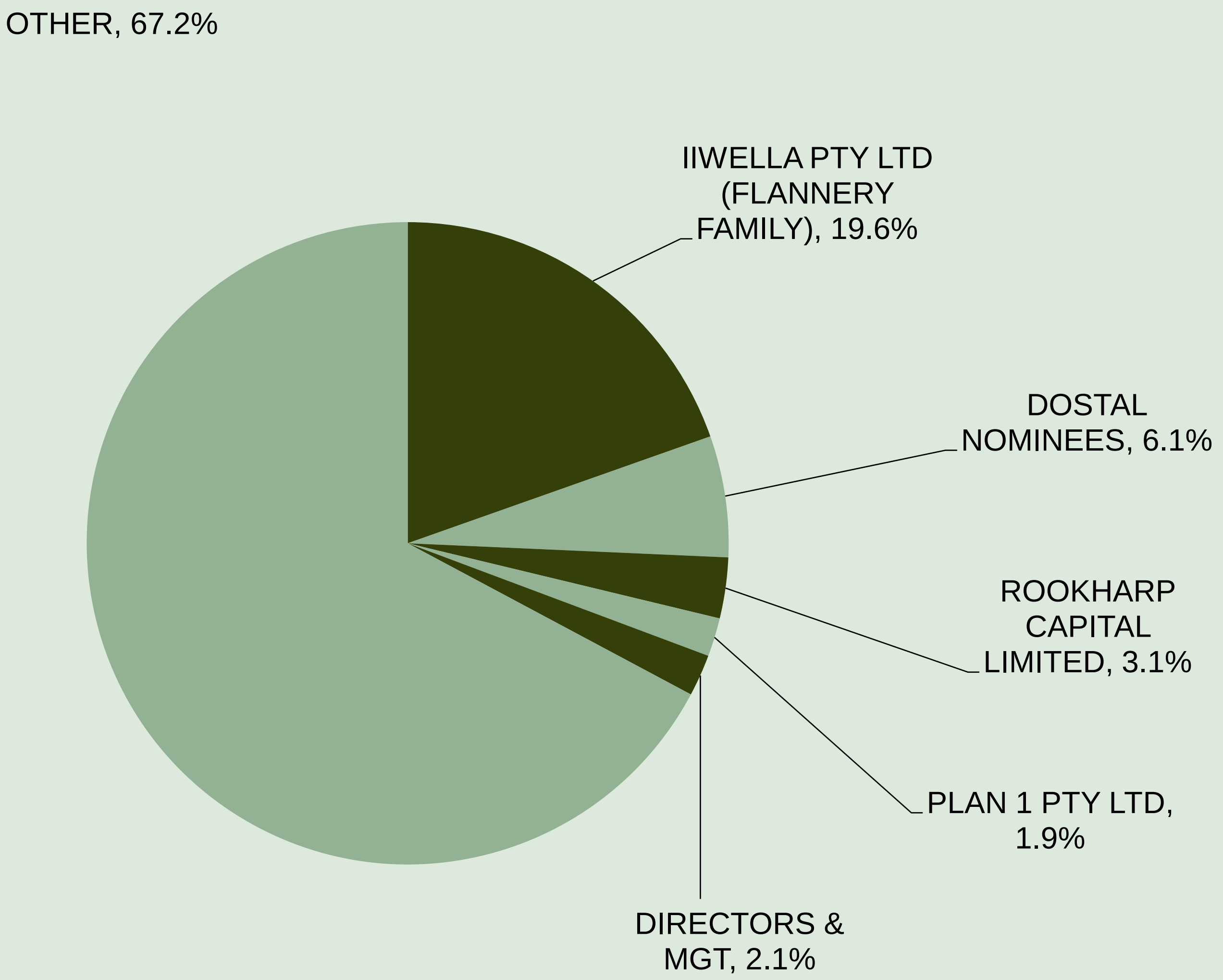
Excellent Metallurgical
test results received[3] **suitable for solar panels**

Corporate snapshot

ASX Code	MLM
Share Price (as at 31 January 2022)	2.3c
Ordinary Shares	567.7m
OPTIONS	
$0.06	130.7m
Market Cap	$14m
Cash (as at 31 December 2021)	$5.1m
Debt	Nil

Top 20 shareholders hold 46.8% of Register

Top 4 Shareholders	Holding
1. Ilwella Pty Ltd	19.6%
2. Dostal Nominees Pty Ltd	6.1%
3. Rookharp Capital Limited	3.1%
4. Plan-1 Pty Ltd	1.9%



Directors and Management

Theo Psaros
Executive Chairman
Appointed 1 February 2019

- Experienced Director and Executive
- More than 30 years' diverse global and local commercial experience in multiple business sectors and industries (publicly listed and private companies and government departments).

Brad Sampson
Non-Executive Director
Appointed 13 May 2021

- Brisbane-based Director and mining professional with more than 30 years resources industry experience
- Significant mine development and operating experience along with listed company governance experience across multiple international jurisdictions.

Mark Bojanjac
Non-Executive Director
Appointed 13 May 2021

- Perth-based Director with more than 20 years' experience in ASX resource companies
- Executive Chairman of PolarX Limited (ASX: PXX), Non-executive Director of Kula Gold Limited (ASX: KGD).

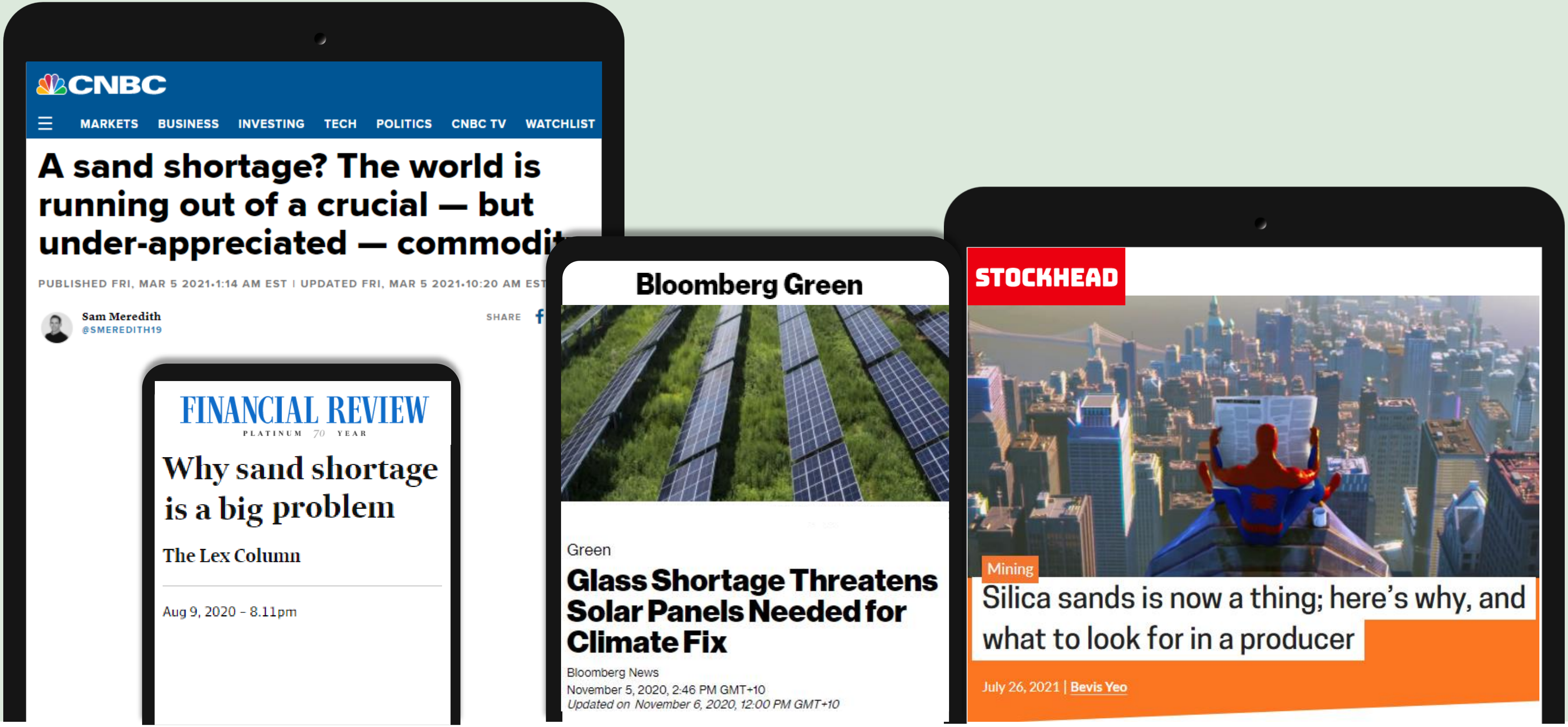
Scott Waddell
CFO & Company Secretary
Appointed 1 February 2019

- More than 28 years' resources experience gained through positions with Metro Mining Limited, Cape Alumina Limited, Anglo Coal and Rio Tinto Alcan.

Nicholas Villa
General Manager, Cape Flattery
Appointed 14 June 2021

- More than 20 years' mining industry experience
- Experience in Queensland resource project approvals processes including Environmental Studies and Native Title negotiations
- Project Manager which delivered Metro Mining's Bauxite Hills mine in Northern Cape York to full production.

Demand for Silica Sand



Environmental, Social & Governance (ESG) benefits and principles

Environment

Silica sand is a highly sought global commodity with many uses, i.e. glass manufacturing, solar panel manufacturing

Climate change

Silica sand will continue to be a key part of the mix in reducing carbon emissions

Environmental management

Our approach will be based on identifying, assessing and controlling environmental risks

Indigenous Peoples

We have proactively established positive relationships from an early stage, to ensure these are sustained for the long-term

Community and social engagement

Committed to contributing to the economic and social wellbeing of the communities where we operate, e.g. employment, training and other community initiatives

Working with integrity

Committed to working with integrity. What we say we will do will be delivered

Governance

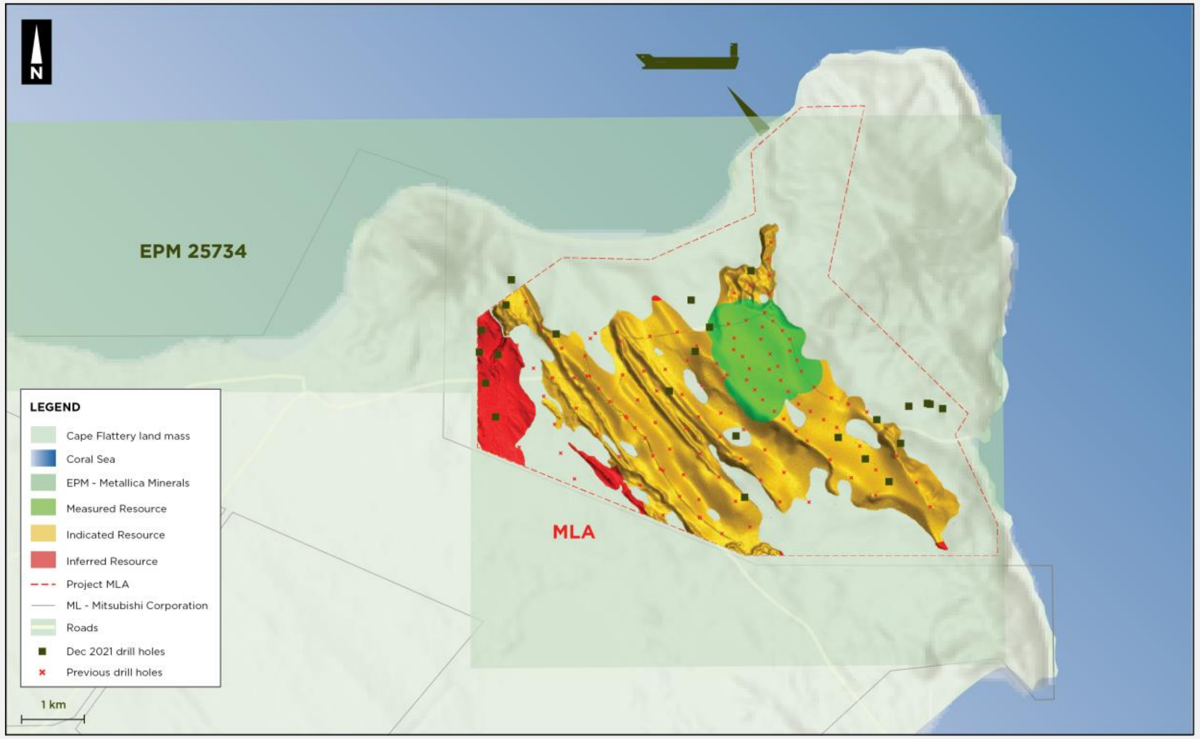
Committed to high ethical business practices and governance standards

JORC Resource[1]

- High purity silica sand resource increased to 53.5Mt @ 99.2% SiO_2
- 22 Drill hole program completed in December 2020
- 98 Drill hole program completed in August 2021
- 24 Drill hole program completed December 2021
- In-situ SiO_2 averages 99.2% at an 98.5% cut-off grade
- Mining Lease application lodged over the Resource area

Resource Category	Silica Sand (Mt)	SiO_2 (%)	Fe_2O_3 (%)	TiO_2 (%)	LOI (%)	Al_2O_3 (%)	Density (t/m³)	Silica Sand (Mm³)
Measured	9.6	99.29	0.10	0.13	0.18	0.08	1.6	5.97
Indicated	38.2	99.15	0.13	0.14	0.19	0.12	1.6	23.91
Inferred	5.7	99.26	0.11	0.11	0.18	0.16	1.6	3.54
Total	53.5	99.19	0.12	0.14	0.19	0.12	1.6	33.41

For further details, see ASX Release on 21 October 2021 titled “Revised: 40% increase of the Cape Flattery Silica Resource to 53.5Mt”.



CFS Project – Eastern Resource Area with Mining Lease boundary and completed Drill holes

Updated Scoping Study outcomes[4]

1.8Mtpa
Production
1.35Mt/annum exported product

38%
Pre-tax IRR

AUD$253M
Pre-tax NPV (8%)

AUD $65.5M
Initial CAPEX

AUD$63
Price/tonne
(USD $47.50)

AUD $33.0
OPEX/tonne

22 year
Initial Mine Life

75%
Recovery rate

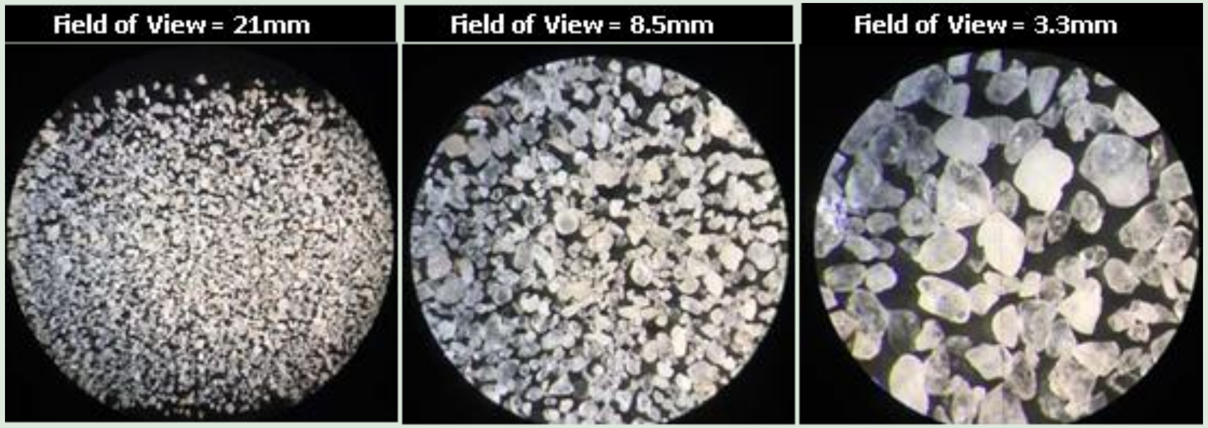
2.9 years
Payback on capital

The Updated Scoping Study mine schedule and production target contain approximately 89% Measured and Indicated Resources and 11%Inferred Resources. There is a low level of geological confidence associated with Inferred Resources and there is no certainty that further exploration work will results in the determination of Indicated Resources or that the production target itself will be realised. Metallica confirms that the financial viability of the Cape Flattery Silica Project is not dependent on the inclusion of Inferred Resources in the mine schedule.

Metallurgical Test work[3]

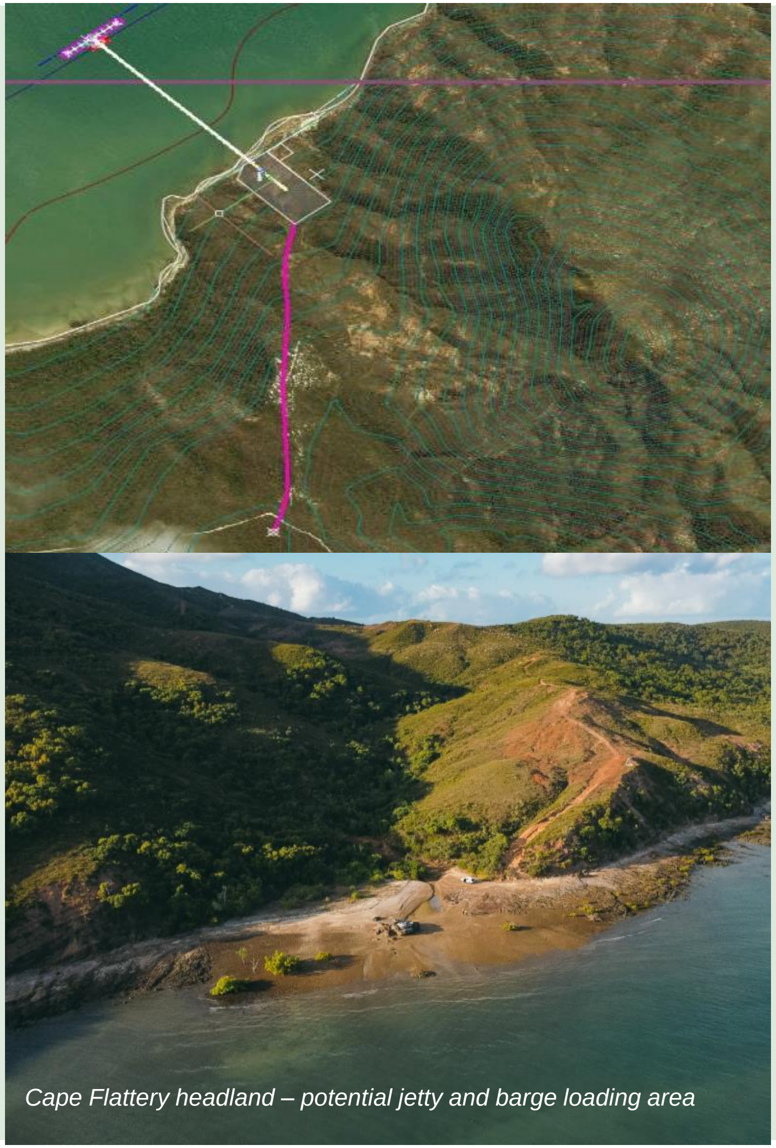
- Bulk sample metallurgical testing confirms high quality silica sand product
- The test work confirmed a product with 99.8% SiO_2, 170ppm Fe_2O_3 and 450ppm Al_2O_3
- Further work included a successful test of process to reduce Fe_2O_3 from 170ppm to 70ppm Fe_2O_3
- The work demonstrated a relatively low contaminant product with an attractive narrow particle size distribution and a high-moderate yield
- Further metallurgical testing is underway from the July/August 2021 drilling program based on white sand samples to investigate further enhancement of the processed product

Potential Product Options	Mass Yield	Assay				
		SiO2	Al2O3	Fe2O3	TiO2	LOI 1000
	%	%	ppm	ppm	ppm	%
Feed Preparation Sand	97.6	99.7	715	760	1225	**0.07**
Spiral Product	84.0	99.9	500	240	260	**0.10**
UCC Product	**77.4**	**99.8**	**450**	**170**	**210**	**0.05**



Planned barging operations

- A key advantage is the project's location in the designated Cape Flattery Port Area
- Queensland Government legislation (Sustainable Ports Act) does not allow for new ports outside the designated port area
- Potential to move our product less than 1km to our own proposed jetty or a third-party jetty for barging operations provides significant commercial advantages
- Ports North has identified swing basin areas for ships (up to Panamax size vessels) close to this site and they have completed survey studies on this
- Close to deep water suitable for barge loading



Cape Flattery headland – potential jetty and barge loading area

Upcoming work plan

- Pre-Feasibility Study underway (completion Q1 2022)
- Further Metallurgical test work to be completed Q1 2022
- Further investigation of infrastructure options to reduce CAPEX +/or OPEX
- Finalise Environmental studies
- Environmental Application to be lodged Q2 2022
- Traditional Landholder Agreements negotiation underway
- Preliminary discussions with Off-Take buyers
- Continued community engagement

Cape Flattery drilling July/August 2021

Silica Sand peer comparisons

Company Name	ASX Code	Market Cap**	Shares on Issue	JORC Resource
Metallica Minerals	MLM	$14.0M	558m	53.5Mt @ 99.2% silica oxide. (9.6Mt Measured, 38.2Mt Indicated and 5.7Mt Inferred)
Diatreme Resources Refer to DRX Release 10 January 2022, Diatreme Discovers 2nd Major Regional High-Grade Silica Deposit	DRX	$63M	3,029m	128.5Mt @ 99.2% silica oxide Measured 43.1mt/Indicated 23.1mt/ Inferred 62.3mt
VRX Silica Refer to VRX Annual Report 2021	VRX	$92M	558m	1,056 Mt @ 99.6% to 99.9% silica oxide Inferred & Indicated incl 261mt Probable Ore Reserve
Perpetual Resources Refer to PEC presentation 26 October 2021	PEC	$37M	492m	Total probable ore reserves of 64.1Mt @ 98.6% silica oxide

** Based on share prices at 31 January 2022

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