

A close-up photograph of a person's open palm holding a large quantity of dark, granular mineral concentrate. The concentrate is composed of many small, dark particles with some lighter, yellowish-brown specks interspersed. The background is blurred, showing more of the same material.

# **DISCOVERY TO DEVELOPMENT**

## **MRG METALS – A SIGNIFICANT HMS PLAYER**

**INVESTOR PRESENTATION // October 2021 // ASX: MRQ**



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Exploration targets are conceptual in nature and drilling may not convert these targets to mineral resources.



# WHAT ARE HEAVY MINERAL SANDS (HMS)?

- HMS deposits are found in shoreline environments – mostly exploited for titanium minerals and zircon
- The Valuable Heavy minerals fall into two categories: **Titanium minerals** (ilmenite, leucoxene and rutile) and **Zircon**
- Titanium minerals are processed to TiO<sub>2</sub> feedstocks concentrate (titania slag, synthetic rutile)
- Zircon, a very valuable part of the HMS suite, is processed as a separate concentrate
- Known to contain Iron/titanium oxides that have significant potential value in high Iron ore price environments



# HEAVY MINERAL SANDS USES

- Titanium is used as  $\text{TiO}_2$  pigment in paint, welding electrode fluxes, alloying agent with Al, Fe, Mo and Mn
- The alloys are used in aerospace and aircraft applications including engines, where strong, lightweight, temperature-resistant materials are needed
- $\text{TiO}_2$  is considered a “quality of life” product – consumption increases as disposable income rises
- Zircon is a high value mineral used in many industrial and chemical applications

# HEAVY MINERAL SANDS – MARKET UPSIDE

- **Outlook is improving** - market has bottomed and is on the rise
- Titanium Oxide and Titanium metal demand increasing
- Titanomagnetite has potential value in high Iron Ore price environment
- Improvement in Ilmenite concentrate a key driver for MRG, with recent improvement and prices now ranging from USD\$180-USD\$250/T
- MRG is an Ilmenite play with significant Zircon and Rutile and potential iron ore credits
- Ilmenite price will increase with TiO<sub>2</sub> demand

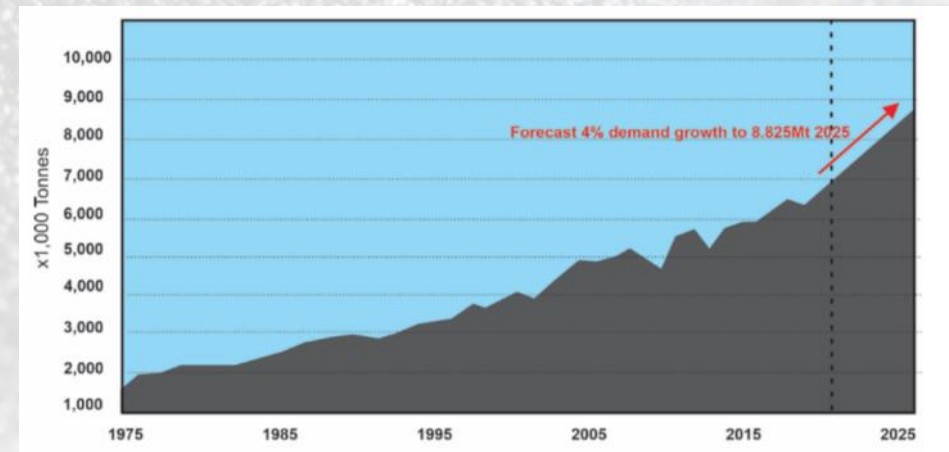
## MRG MOZAMBIQUE ASSETS

**ILMENITE**  
**US\$ 250+/T**

**RUTILE**  
**US\$**  
**1250+/T**

**ZIRCON**  
**US\$**  
**1500+/T**

## TiO<sub>2</sub> Long Term Demand Growth Chart



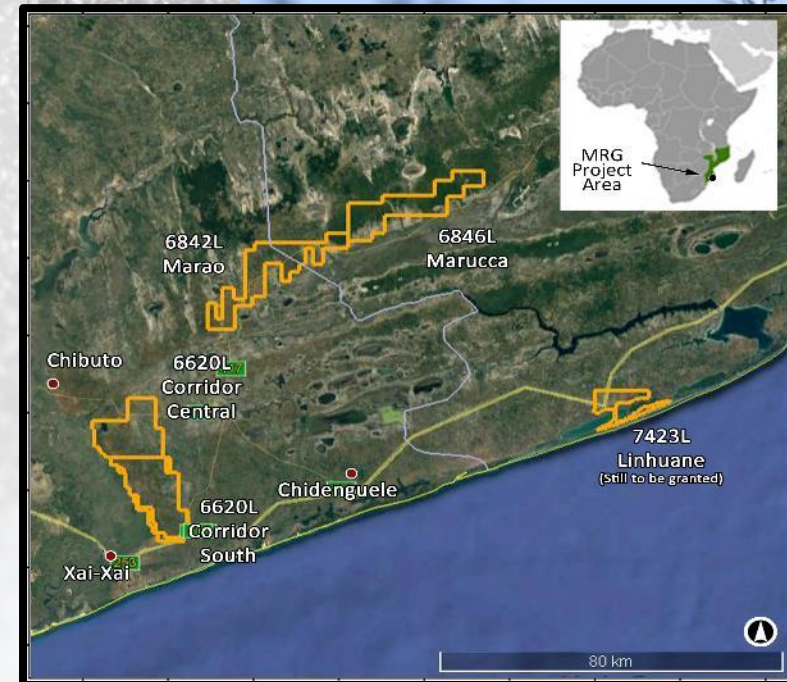
Source: Artikol at Mineral Sands Conference Perth, 2019



# WHO IS MRG METALS?

**MRG Metals is a junior ASX explorer, punching way above it's weight!  
A world class JORC classified discovery in the bag - now working  
towards a 100 year mine development**

- **4 high calibre 100 % owned projects** (746km<sup>2</sup>) and 1 further project under application in Mozambique – a world prolific HMS province
- Corridor Central and South Portfolio – 2 contiguous tenements containing 13 high priority targets
- **1.4 Bt @ 5.2% Total Heavy Mineral (THM) JORC Resource** (4% cut-off grade) delivered at Koko Massava (refer ASX: 22 April 2020)
  - Infill drilling has identified very high grade (>6%) from surface
- Targeting early mine life feed across multiple targets - MRE's upcoming within Koko Massava, at Nhacutse and Poiombo targets
- Ongoing exploration programs leveraging off skills and efficiencies developed at Koko Massava.
- **Dual speed approach:** exploring across multiple tenements whilst progressing to mine development at Corridor Central and South. Prospects delivering the best 100-200MT MRE likely to feed into scoping study in early 2022 – potential **Feasibility Study in 2022**
- Exploration discovery costs (to Inferred Resource) lowest in industry with discovery/tonne running at under AUD 2 cents / tonne





Very High-Grade Target	Grade THM (%) *	Volume (Million M <sup>3</sup> ) **
Koko Massava	5-6%	224
	>6%	68
Nhacutse	5-6%	129
	>6%	11
Poiombo	5-6%	27
	>6%	9

\* Based in part on Visual Estimation of grade

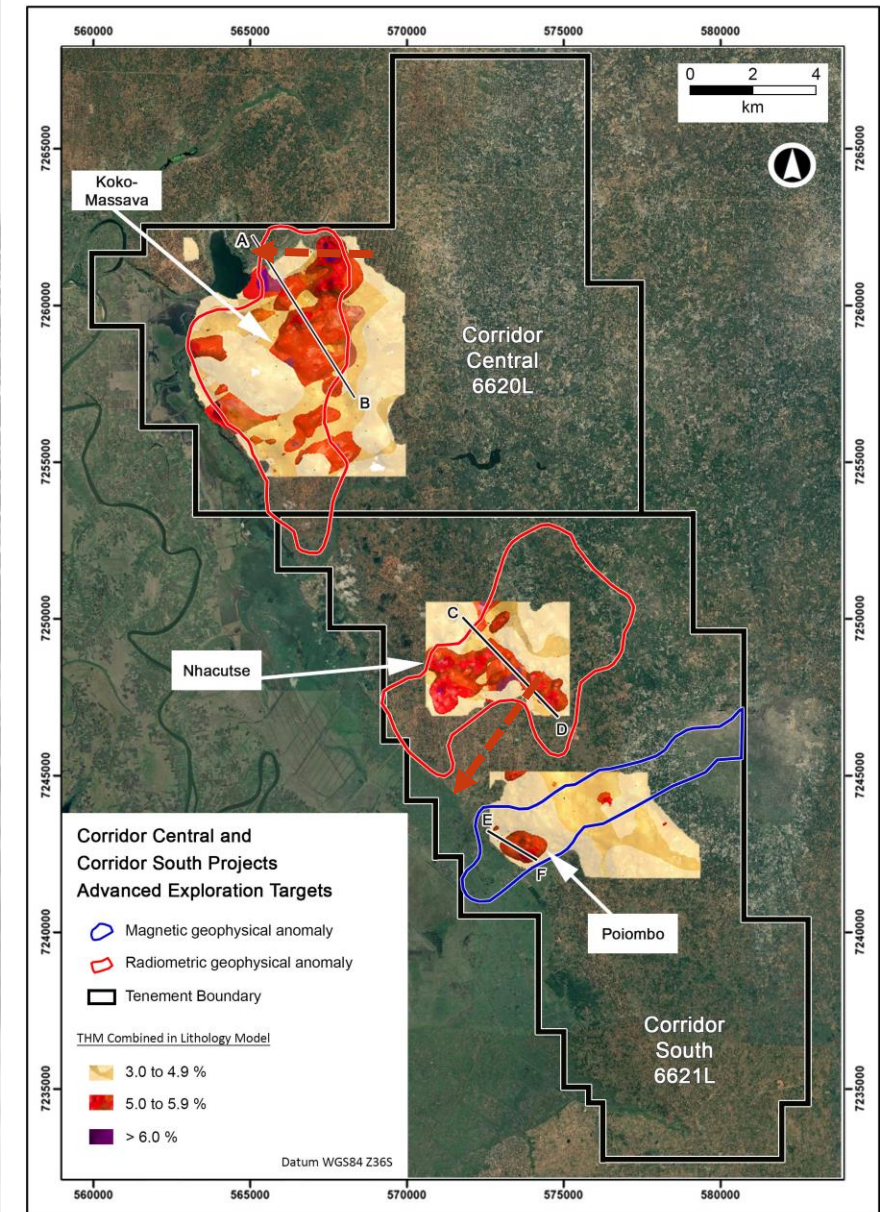
\*\* Derived from Leapfrog modelling.

NOTE: Potential conversion to tonnes: JORC MRE at Koko Massava: 1 M<sup>3</sup> = 1.8 Tonnes

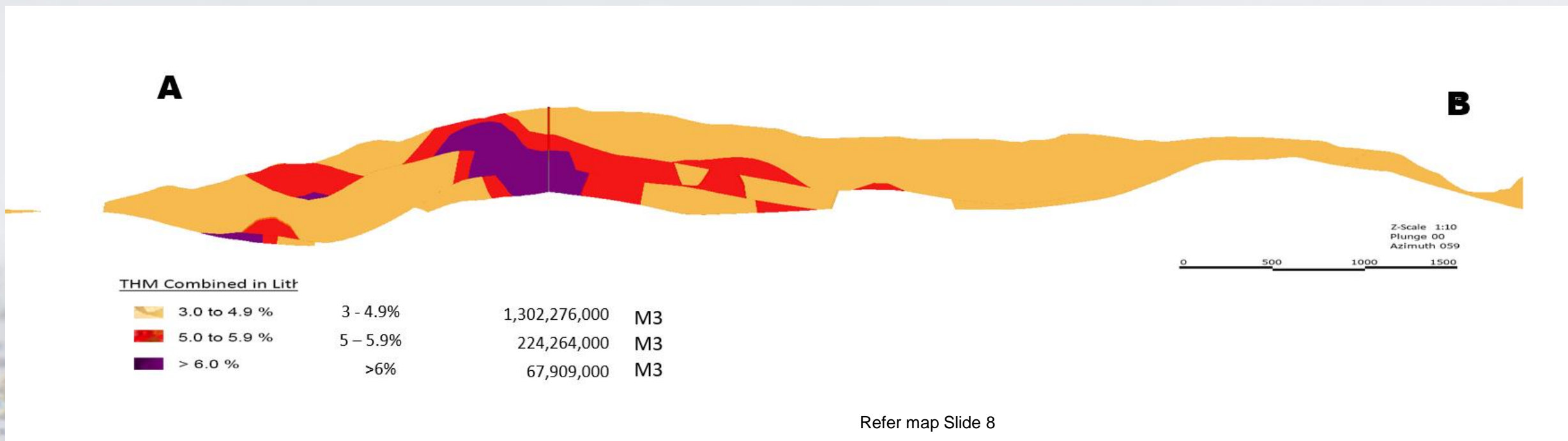
## NEXT STEPS

- MRE's for all 3 very high-grade options
- Scoping Study

NOTE: JORC MRE for Koko Massava : 1.4 Billion Tonnes @ 5.2% THM (43% Ilmenite, 2% Zircon, 1% Rutile)



# SCHEMATIC CROSS SECTION – KOKO MASSAVA HIGH GRADE

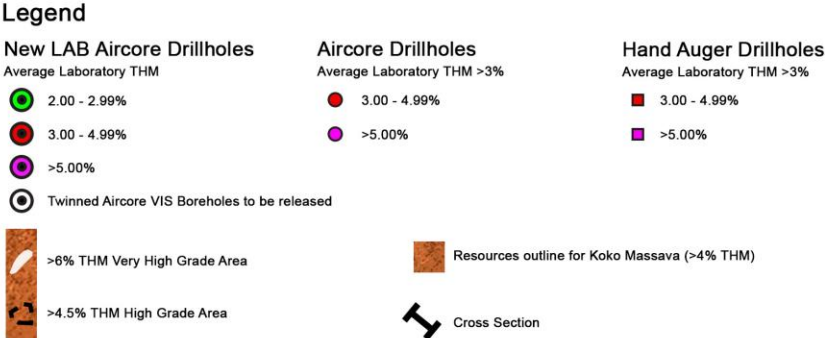
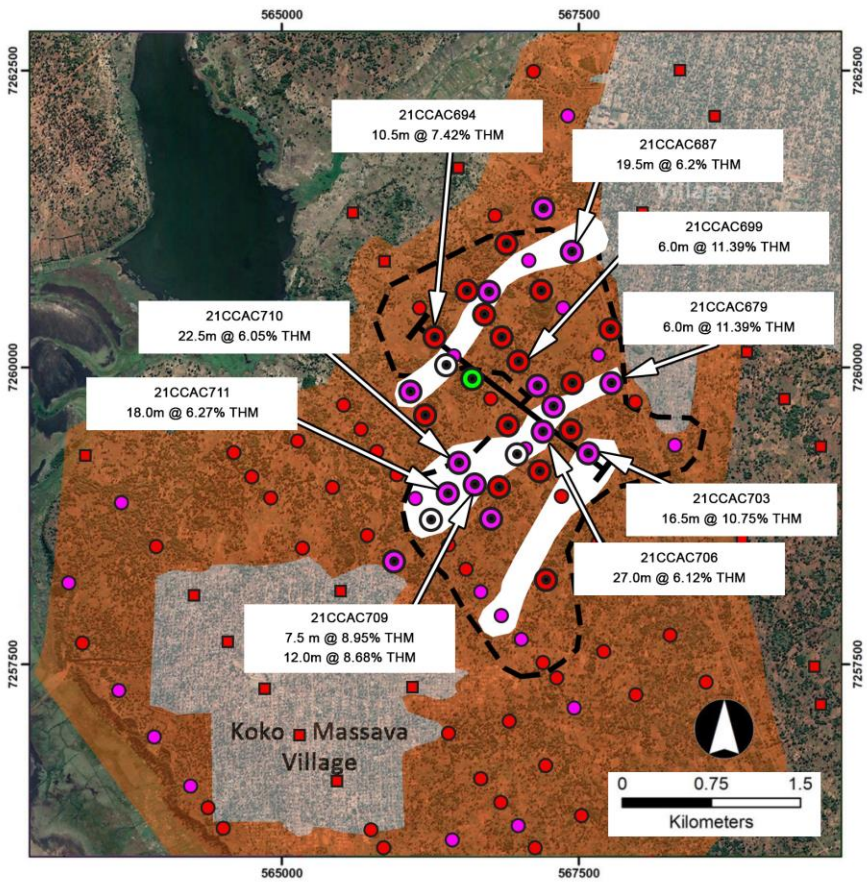


Leapfrog modelling of assay and visually estimated grade from previous MRE plus recent infill drilling shows:

- A potential high grade zone of 292 million cubic metres at a cut-off grade of 5% THM
- Including a potential very high grade zone of 68 million cubic metres at a cut-off grade of 6% THM
- Based on an SG of 1.8 from the existing Koko Massava MRE, this represents potential in the very high grade zone for 120 Million tonnes @ >6% (to be calculated and confirmed by MRE in Q4 2021)

**Koko Massava alone has the potential to become a mine start-up  
opportunity for MRG**





21CCAC703	58.5m	@ 5.77% THM	from surface
including	52.5m	@ 6.23% THM	from 6m
and	16.5m	@ 10.75% THM	from 39m
21CCAC709	58.5m	@ 5.64% THM	from surface
including	51.0m	@ 6.05% THM	from 7.5m
and	7.5m	@ 8.95% THM	from 25.5m
and	12.0m	@ 8.68% THM	from 42m
21CCAC687	19.5m	@ 6.2% THM	from surface
21CCAC710	22.5m	@ 6.05% THM	from surface
including	19.5m	@ 6.68% THM	from 3m
21CCAC699	19.5m	@ 5.83% THM	from surface
including	15.0m	@ 6.37% THM	from 4.5m
21CCAC706	27.0m	@ 6.12% THM	from surface
21CCAC694	61.5m	@ 4.34% THM	from surface
including	10.5m	@ 7.42% THM	from 33m
21CCAC711	28.5m	@ 5.38% THM	from surface
including	18.0m	@ 6.27% THM	from 10.5m
21CCAC679	58.5m	@ 5.54% THM	from surface
including	6.0m	@ 11.39% THM	from 52.5 m



# Koko Massava – On the Road to Development

- 7 holes averaging over 6% THM. Drilling to depth of 50m
- 3 high grade near surface zones identified from recent infill and extension drilling - expected to result in an MRE as “Indicated Resource” - MRE now underway.
- Pit optimization of the MRE data will be aimed at identifying significant tonnage of near surface high grade HMS with potential to support a start-up operation, with adjacent high grade near surface HMS at Nhacutse and Poiombo providing options to maximise profitability and further extend mine life as determined by their economics
- Koko Massava has potential to be the foundation of a multi-decade mine operation.
- MRG has ongoing exploration plans at Corridor Sands and other properties yet to be explored
- A number of additional exploration opportunities are available in Mozambique which will allow MRG to run parallel strategy of Mine approval and development while continuing to enhance shareholder value from targeted exploration.
- MRG is continuing to build the exploration portfolio, with aspirations in HMS and other strategic commodities

**Koko Massava MRE aim to classify >150 MT of near-surface high grade zones into Indicated Resource**



## IHC MINING CONTRACTED TO COMMENCE MRE; PIT OPTIMISATION/MET WORK AND SCOPING STUDY\*

Activity	Scheduled for Completion
Updated Mineral Resource Estimate (MRE) at Koko Massava utilising recent infill drilling and expansion drilling results	<b>Mid November</b>
Pit optimisation / mine planning studies for Koko Massava	<b>Mid December</b>
Maiden MRE (Nhacutsce & Poiombo)	<b>Mid December</b>
Re-run pit optimisation / mine planning for all 3 MRE's to achieve best scenario	<b>Late December</b>

### UPON ACHIEVEMENT OF SUCCESSFUL OUTCOMES

Activity	Scheduled to Commence
<p>Preliminary Economic Assessment (PEA) comprising a Scoping Study and Financial Modelling, including Pre-Feasibility Stage Metallurgical Testwork</p> <ul style="list-style-type: none"> <li>7 tonnes of targeted Sands are already in transit to IHC Mining in anticipation of this contract work proceeding</li> <li>This work will also allow us to see the potential value of the full range of Valuable Heavy Mineral (VHM) products</li> <li>Scale of testing will enable sample concentrate to be available for potential off-takers.</li> </ul>	<b>Mid January</b>



# VALUE PROPOSITION OF CORRIDOR CENTAL AND CORRIDOR SOUTH SANDS

## TOTAL HEAVY MINERAL (THM) BREAKDOWN

## VHM ASSEMBLAGE

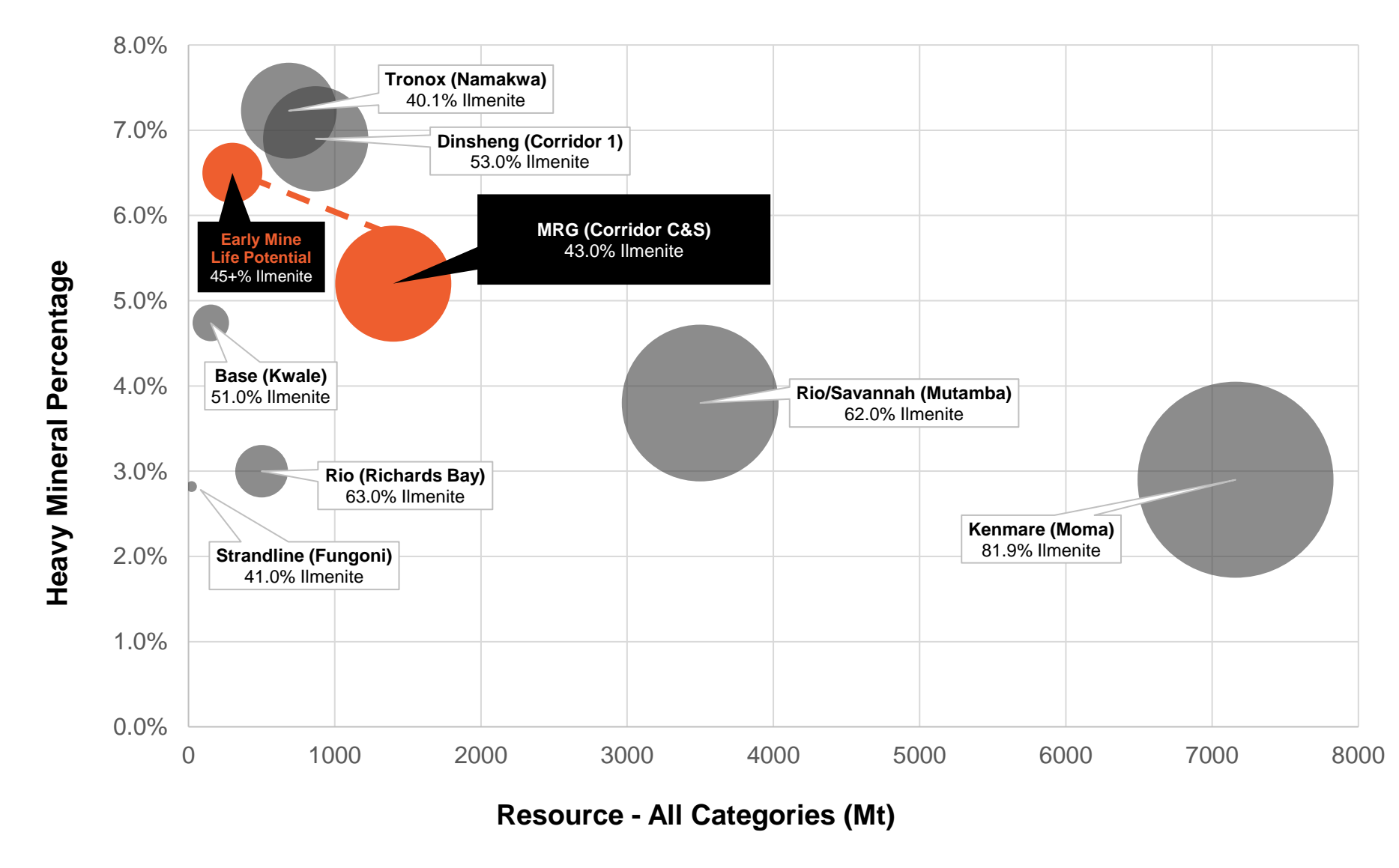
		VHM (%)	MINERAL	DESCRIPTION	CONCENTRATE PRICE (US\$/t)
44-72%	Valuable Heavy Minerals	1-2	Rutile	Naturally occurring very high-grade titanium dioxide feedstock, typically with TiO2 content of 92-95%	+\$1,200
		2-4	Zircon	High value mineral used in many industrial and chemical applications	+\$1,500
		2-4*	Leucoxene	Naturally occurring altered ilmenite titanium dioxide feedstock, typically with TiO2 content up to 90%	+\$700
		37-65	Hi-Ti Ilmenite	Naturally occurring titanium dioxide feedstock, typically with TiO2 content of 58-62%	+\$240
15-36%	Non-Traditional VHM	0-4	Monazite	High value mineral with rare earth elements including Neodymium and Praseodymium	+\$4,000
		15-32	Titanomagnetite	High grade iron ore with contained titanium. Possible use in smelter protection	Iron Ore
		11-33	Other minerals	Non valuable waste products (Sands/Clays Other)	

Source: Current market prices at Mozambique Wharf

**Inground value can improve by over \$1.25 / tonne for every 1% improvement in Base THM and further \$1.25+ / tonne for every 10% increase in ilmenite component of VHM**

\* Leucoxene likely to fall into the Ilmenite slag in concentration phase

# KOKO MASSAVA ILMENITE RESOURCE





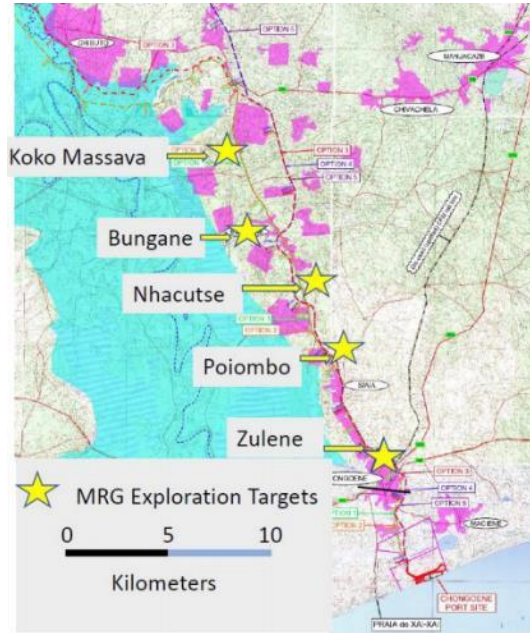
# CORRIDOR PROJECTS POTENTIAL INFRASTRUCTURE BOOST

Proposed Multibillion-dollar **Chongoene Development Corridor Project** (CDC) – deep water seaport with proposed mineral processing zone (ASX Announcement 6 August 2020)

- Phase 1 of the CDC Development expected to commence in 2023 at an investment cost of approx. **USD\$3.78 billion**
  - A 2-berth jetty at the Chongoene Port with capacity for 10Mtpa
  - Railway line (221km) from Chongoene to Macaratane, proposed to run through/adjacent to Corridor Projects

Proposed **African Renaissance Pipeline Project** (ARP) to deliver natural gas within Mozambique, South Africa and surrounds (ASX Announcement 16 February 2021)

- 2,600km line running through Mozambique and South Africa with annual capacity of 18 billion cubic metres - equivalent to 13.2 million tons of LNG – **~USD\$8 billion**
- A key component of the project is the construction of an airport which has already commenced within MRG Metal's Tenements
- MRG has formally submitted its expression of interest to utilise the ARP for the supply of natural gas feedstock to the MRG asset



China Petroleum Pipeline Bureau International, July 2016



# THE OPPORTUNITY TO INVEST

- Over **2 Billion Tonnes of JORC Resource + JORC Exploration Target** at preliminary economic grades already confirmed
- Scalable projects at High THM grades from surface with potential long mine life
- Near term opportunity of identifying multiple very high-grade resources to **turbo charge economics into Feasibility phase**
- Possibly **the largest HMS discovery of the last decade**
  - Ore amenable to primary concentration and magnetic separation techniques on site
  - Metallurgy analysis confirms near 50% TiO2 concentrate achievable with Ultra Low-Cost Roasting
- Multi Billion Dollar value of contained resource, **emphasis now on early mine life mill feed to ensure economic viability**
- Market cycle appears to be on the **up-tick**
- High calibre team with in-country experience and broader development capabilities
- Next **3 months will move MRG to scoping phase** while continuing upside exploration
- Country infrastructure developments could add substantially to project economics via **significant reduction to energy and transport costs** inherently a difficulty of junior exploration companies moving to development.

**Current Market Cap of ~\$15 million does not reflect over \$15 billion of contained inground value of resources identified to date**



## FINANCIALS

Share price @ 14/10/21	0.010c
Shares on Issue	1.54 billion
Market Cap	\$15.4m
Cash @ 30/6/2021	\$1.6m
Debt @ 30/6/2021	Nil

## SHAREHOLDING

Board and Management	8%
Top 20	31%
Top 50	48%

## BOARD AND MANAGEMENT

### **Andrew Van Der Zwan** // Executive Chairman // BA Chemical Engineering (Honours)

Andrew has over 30 years commercial and engineering experience. He is Non-Executive Director of Argo Exploration Ltd (ASX: AXT) and JV Global Limited (ASX:JVG). Andrew has held various senior positions in the US, Australia, Africa and Europe with Exxon Mobil (1986 to 2003). Since February 2011 until January 2013, Andrew served as MRQ's Managing Director. He became Chairman in October 2013 and maintains his association as a significant shareholder.

### **Christopher Gregory** // Non-Executive Director // BSc Geology

Chris has extensive global experience in mineral discovery and mine operation, including in developing countries where government and community stakeholder management is critical to successful investment. His career foundation was 22 years with Rio Tinto, holding numerous senior roles around the Asia Pacific Region. He has made or led exploration discoveries in Laos, Chile, Australia, Sweden and other countries. He was VP, Operational Geology and Exploration at Mandalay Resources (TSX:MND). He is a Director and Founding Partner of Sasak Minerals, a major shareholder of SensOre (Private).

### **Shane Turner** // Non-Executive Director, CoSec & CFO // BBus Chartered Accountant

Shane has had over 30 years accounting and financial experience and operated his own Chartered Accounting Practice for 10 years until merging with RSM Australia 10 years ago. Director, Company Secretary and Chief Financial Officer of MRQ since incorporation and Company Secretary and Chief Financial Officer of White Rock Minerals Ltd (ASX:WRM) since August 2015.

### **Kobus Badenhorst** // Country Manager – Exploration, Mozambique // BSc Geology (Hons) (UFS)

Kobus is a South African based senior geologist and an established expert in Heavy Mineral Sands (HMS) exploration. He was the exploration manager for the 3 years of the original Corridor Sands exploration programs carried out by Southern Mining in the early 2000's. In recent years, Kobus brings with him access to a wider skill set in Resource Geology, Metallurgy and Mineralogy. Kobus is MRG's Qualified Person for reporting of Market Updates to ASX.





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