COLOSSUS IONIC CLAY PROJECT

Unlocking a new frontier of Rare Earths in the Poços De Caldas Alkaline Complex

VIRIDIS

MINING & MINERALS

Investor Presentation

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Compliance Statement

This document contains information extracted from ASX market announcements reported in accordance with the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (2012 JORC Code) and available for viewing at https://viridismining.com.au/. VMM confirms that it is not aware of any new information or data that materially affects the information included in any original ASX market announcements.

The release of this document on ASX has been authorized by the Board of Viridis Mining and Minerals Limited.

Competent Person Statement

Dr. José Marques Braga Júnior, the in-country Executive Director of Viridis' Brazilian subsidiary (Viridis Mining and Minerals Brazil Ltd), compiled and evaluated the technical information in this release and is a member of the Australian Institute of Geoscientists (AIG) (MAusIMM, 2024, 336416), accepted to report in accordance with ASX listing rules. Dr Braga has sufficient experience relevant to the style of mineralization and type of deposit under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the 'Australian Code for Reporting of Regulation, Exploration Results, Mineral Resources, and Ore Reserves. Dr Braga consents to the inclusion in the report of the matters based on information in the form and context in which it appears.

All announcements referred to throughout can be found on the Company's website – viridismining.com.au.

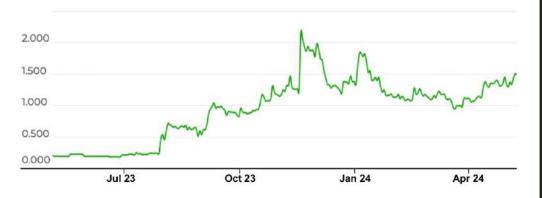
Capitalisation Data

Current shares on Issue ¹	63.76 million			
Share Price ¹	\$1.43			
Market Capitalisation (MC) ¹	\$91.17 Million			
BALANCE SHEET				
Cash Balance ²	\$8,585,000			
Debt ²	Nil			

1. As at 8 May 2024

2. Cash balance post Capital Raise at 2 May 2024

Share Price Performance



Contact Details

Rafael Moreno *Chief Executive Officer* Carly Terzanidis Company Secretary

🖾 info@viridismining.com.au 🖾 cosec@viridismining.com.au

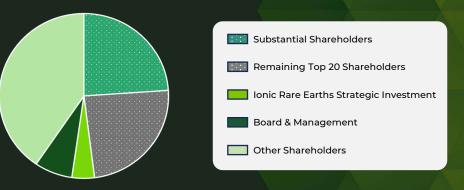
Company Website

https://viridismining.com.au/

Principal Office

Level 50, 108 St Georges Terrace Perth WA 6000

Shareholder Breakdown





Highly Experienced Team: Strong Leadership, Technical & Commercial Experience



Rafael Moreno

Mr. Moreno is a Chartered Professional Engineer with over 23 years' global experience in the mining & petrochemical industries. He has held executive & senior leadership roles at Argosy, Santos, & INPEX, specializing in execution of major capital projects and has extensive experience covering exploration, business development, commercial, offtake agreements involved with projects in Australia, Asia, Europe, S & N America.



Agha Shahzad Pervez Executive Chairman

Mr. Pervez is an experienced Company Director, CFO and Company Secretary, with over 13 years' experience working with ASX listed companies. Mr. Pervez currently holds a role of Non-Executive Director of Equinox Resources Limited and Pioneer Lithium Limited. Previously, Mr. Pervez was Chief Financial Officer of Battery Age Mineral and also held numerals roles at Resonance Health Limited including CFO and Company Secretary.

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Timothy Harrison Non-Executive Director

Mr. Harrison has over 23 years' of experience as a metallurgist and executive with an extensive record advancing resource companies through to project development. He has a successful track record in fields of processing and hydrometallurgy across multiple commodities, including technology metals experience. Previously, Mr. Harrison held senior positions with BHP, WMC, Fluor, Ivanhoe Australia and is currently CEO/MD of Ionic Rare Earths Ltd.



Jose Carlos Guedes

Mr Guedes is a senior industrial executive in the mining and chemical sectors, with an extensive record in delivering and operating projects in the EU, NORAM, LATAM and APAC regions. He was previously the COO of Serra Verde Mineração and Vice President Industrial of Lynas Corp, two leading Rare Earths businesses outside of China.



Christopher Gerteisen Non-Executive Director

Mr. Christopher Gerteisen has over 25 years of experience as an economic geologist and executive with an extensive record of managing and advancing resource projects from discovery to start-up. Previously, he has held senior positions with Newmont, Sons of Gwalia, Oxiana, OZ Minerals, Pan Aust. He is currently CEO and Executive Director of Nova Minerals Limited.



Faheem Ahmed

Non-Executive Director

Mr. Ahmed holds a Bachelor of Engineering and Bachelor of Project Management and has over 6 years of experience in project evaluation, asset management, data analysis, lifecycle cost analysis and risk modelling including projects in the fields of infrastructure, mining, health and transport.



Carly Terzanidis

Company Secretary

Mrs Terzanidis is an experienced corporate professional with 20 years' prior experience in the financial services industry, with a focus on capital markets and governance, and is a Chartered Secretary. Mrs Terzanidis is an Associate of the Governance Institute of Australia, and holds a Bachelor of Commerce with majors in Accounting & Corporate Administration and a Graduate Diploma of Applied Corporate Governance.



Dr Jose Marques Braga

Executive Director Brazil and Lead Exploration

Dr Braga is former Principal Geologist at CBMM. His 12 years of experience at CBMM has allowed him to gain a unique skillset in Niobium and Rare Earth mineral assets. Dr Braga oversaw and managed CBMM's full suite of geological activities including prospecting, metallurgy, modelling, mining, and administrative rights. He has authored multiple scholarly publications on alkalinehosted Nb, REE, P deposits, saprolite and weathered ores in Brazil.



Dr Klaus Petersen

Executive Director Brazil and Country Manager

Dr Petersen is a seasoned geologist and mining executive with 35-years' experience across Iron, Gold, Copper, Manganese and Rare Earth projects in Brazil. Dr Petersen has built an extensive network with mining investors, financiers, governmental and environmental agencies which has allowed him to introduce and execute numerous successful transactions. Dr Petersen has spent significant time in Poços De Caldas over the last year and is very familiar with lonic Clay Rare Earth hosting mineralization in the Complex.



Colossus Value Proposition : Progressing Rapidly from Explorer to Producer

World Class Geology	Homogenous mineralisation, highest individual grade in Alkaline complex (>27,000ppm), significant HREO from surface			
Signifi Explor Upsi	tion Since project acquisition, la	andholding in and around Alkaline complex has covers 16km², will be issued end of Q2 2024		
		rgical testing with standard AMSUL wash the highest recoveries worldwide		
G		in Alkaline complex to have BOTH local and ament agreements to develop Colossus		
	major operational lor	nd Management team who have delivered nic REE projects. In-country team 40+ and aggressive development timeline		
We've the Tech	of when worka reading his	EO Separation and Refining technology		
Accelerated Pathway to Production	Government agreements, experie and mature technology to suppo			

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Rare Earths Market

Developing a new chain of Critical Metals

Ionic Clays: A Disruptive Rare Earth Opportunity

	IONIC CLAYS	HARD ROCK					
	VIRIDIS MINING & RESOURCES	Lynas Rare Earths Ltd					
MINING AND EXPLORATION	 Clay hosted soft material requiring no blasting Mineralisation occurs at surface Minimal stripping Simple exploration with homogenous mineralisation 	 Requirement of blasting Mineralisation can occur at depth requiring large amounts of stripping Mineral body can be scattered and complex 					
PROCESSING	 No crushing and milling Simple "one-step" leaching Leaching done using cheap salts such as Ammonium Sulfate or Magnesium Sulfate through ion-exchange mechanism Ambient temperatures and pressures with minimal reagent consumption No requirement for tailings dam 	 Uses crushing and milling Complex multi-step metallurgy Leaching agent combination of expensive strong acids such as Hydrochloric Acid Requires very high temperatures, pressure and agitation Requirement for tailings dam, floatation, cracking, roasting, re-leaching facilities 					
PRODUCT	 High value Chemical Carbonate Product (90% + TREO grade) Selective leaching with low La, Ce allowing high basket value High payability 	 Mixed Rare Earth Concentrate (20-40% TREO grade) requiring secondary processing and refining Low payability 					
ENVIRONMENTAL	 Low Uranium and Thorium No radioactive tailings Progressive rehabilitation of mined areas 	 Presence of Uranium and Thorium waste Large energy consumption with significant environmental and carbon footprint Extensive mine rehabilitation required 					
	Fast to develop, low CAPEX and OPEX, simple and environmentally friendly process	Significant time and cost to develop, complex and energy intensive process					



Rare Earths: Race to Develop Western Supply Chain

China 44,000,000t

WHERE ARE

THE WORLD'S

RARE EARTH

RESERVES?

Onina tops the list for more production and reserves of rare earth elements, with 44 million tors in reserves and 140,000 tons of annual mine production

Africa Asia Desania Other

Poços De Caldas Alkaline Complex presents an opportunity to be the next South China Rare Earth Hub

"Significant investment by governments in the US, the EU and Australia is now going into rare earths...However, there must be further financial support throughout the supply chain to reduce dependence on China." – **Wood Mackenzie**

WED 9 AUGUST 2023 | 20:05 | UPDATED ON THU 10 AUGUST 2023 203:13

Government signs partnership with Australian company to invest in A\$1 billion in Poços de Caldas

Australia joins Western alliance on critical minerals

ELEMENTS (2)

Australia 4,198,000

- South Africa 790,030t

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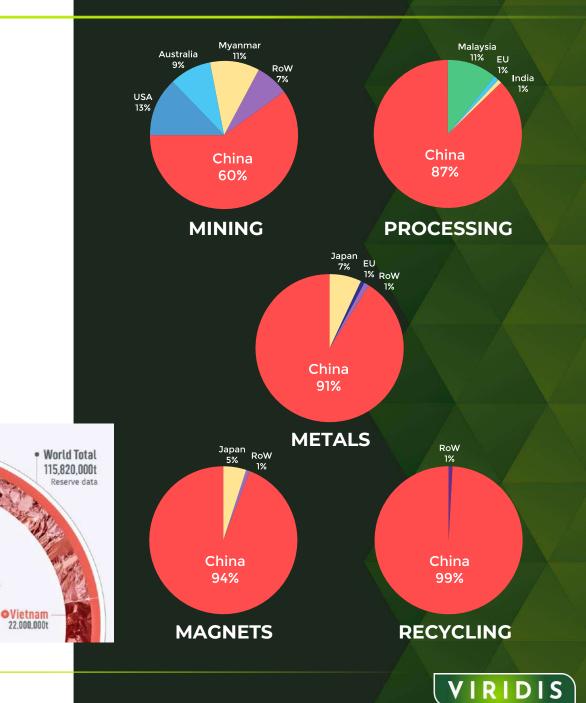
Greenland 1 500 000

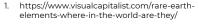
Russia

12,000,0000

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Stuart McKinnon | The West Australian Tue, 12 July 2022 11:02AM

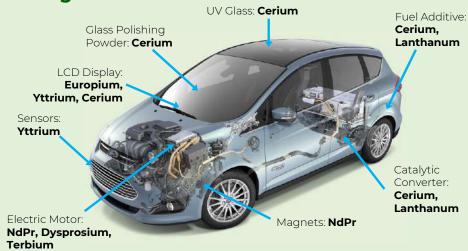




 Rare Earth Magnets and Motors: A European Call of Action. A report by the rare Earth Magnets and Motors Cluster of the European Raw Materials Alliance. Berlin 2021

Rare Earths: Technology Metal For a Green Future

Each Hybrid Vehicle Uses 4.5kg of REE on Average

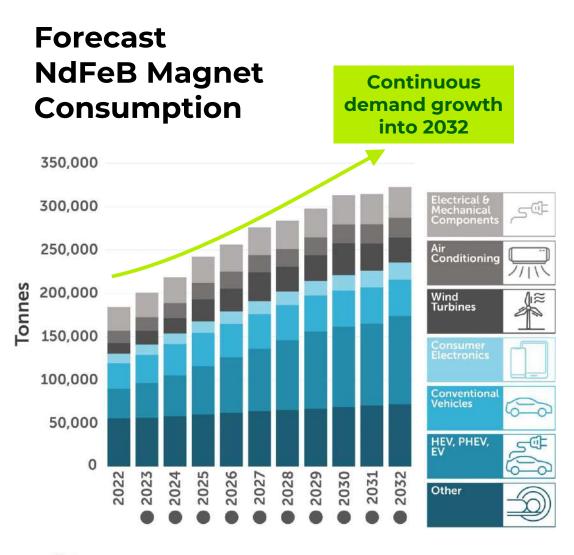


Net Electric Capacity Additions

By Energy Source, 2021 - 2025P



Source: U.S Electricity Information Administration



Forecast

'Other' includes MRI, elevator motor, robotics and industrial applications. Source: Wood Mackenzie

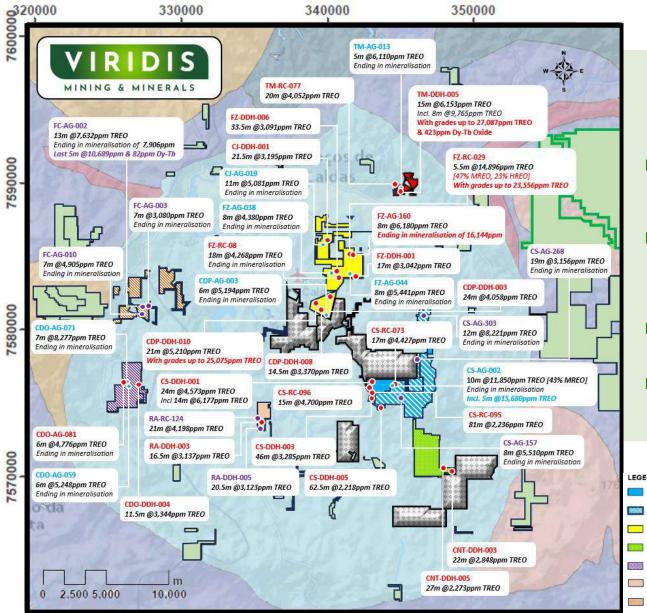
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Canada and an and

Colossus Project

Progressing from Grassroots Exploration to Development

Colossus: Strategic Land Position in Ideal Location



Unlocking the true geological potential of the Colossus Project

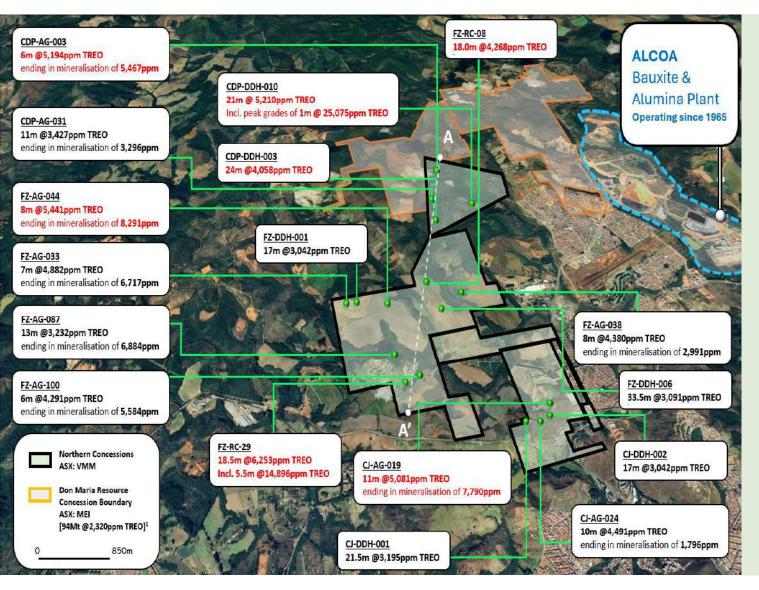
- Poços De Caldas ("PDC") Largest Alkaline Complex in Southern Hemisphere and is homogenously mineralised with Rare Earths.
- Local community is supportive of mining operations with numerous bauxite, alumina, clay, peat mines and chemical plants. Ample infrastructure, paved roads and mining focused labor force.
- Remainder of significant areas within the Complex are held by major corporations such as Alcoa and CBA.
- Viridis remains the last major opportunity to gain significant exposure to this remarkable complex.



1. ASX: VMM Announcement dated 06 Feb 2024, 10 Apr 2024



Northern Concessions: Prime Position



Northern Progress

- Viridis has gone from a greenfield acquisition to delineating numerous areas >4,000ppm TREO within its Mining Licenses²
- Located 2km away from the largest plant in the Complex operating since 1965. Allowing unparalleled access and leverage to infrastructure, cheap energy, water and trained labor
- All assays received and included into the resource model for the Colossus Maiden Resource Estimate due H1 2024
- Based on outstanding drilling results, metallurgical testing, signed MoU with the Municipality of Pocos De Caldas, and de-risked approvals timeline, Colossus initial production facility to be built near the Northern Concessions

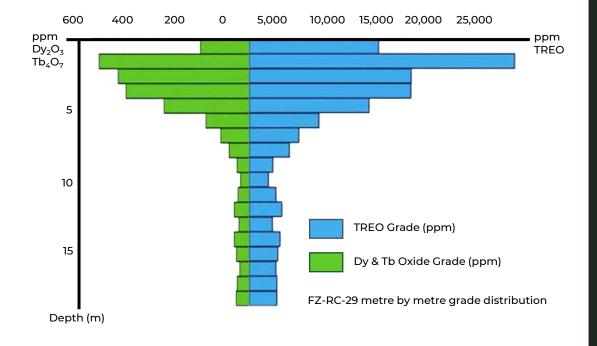
Our commitment to ambitious exploration and development plans has allowed Colossus to move swiftly towards proving itself as a Tier-1 lonic Adsorption Clay REE Project.

1. ASX: MEI Announcement dated 01 May 2023

2. ASX: VMM Announcement dated 20 Nov 2023, 7 Dec 2023, 3 Jan 2024 and 01 Feb 2024



Northern Concessions: A New Frontier



- First breakthrough confirmation of shallow Dysprosium and Terbium potential which can <u>transform early mine life economics and cashflows at</u> <u>Fazenda Mining License</u>.
- First 5.5m intercepting 5,486ppm Nd-Pr and 386ppm Dy-Tb Oxide.

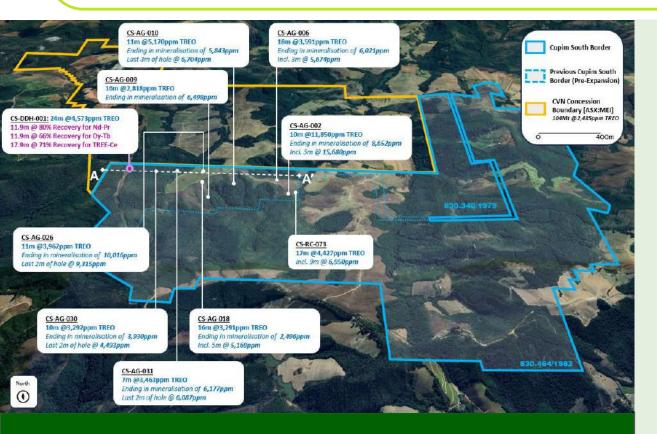
1. ASX: VMM Announcement dated 06 Feb 2024, 'Spectacular Shallow Intercepts up to 23,556ppm TREO - Amended

FAZENDA: Heavy Rare Earth Potential Uncovered ¹

- FZ-RC-029 returned 5.5m at 14,896ppm TREO within 18.5m at 6,253ppm TREO from 1m.
 - Including 23,556ppm TREO: 7,407ppm Nd, 1,753ppm Pr,
 441ppm Dy and 96ppm Tb Oxides at one metre depth.
 - First time in the entire Alkaline Complex where over 500ppm Dy-Tb Oxide can be found even close to surface within the lonic portion of the mineralised body.
 - Viridis aims to follow up this spectacular hit through a 50m by 50m drill grid and testing the drill hole for confirmation of lonic leachability.
- Not just about large intercepts, but quality distribution of high-value elements.
 - Clays within this Alkaline Complex are rarely Ionic once depths go below 30 metres.
 - Structural, hydrogeological and economic challenges with mining clays below 50 metres.
 - Hence Fazenda Mining License holds strategic importance within the entire Alkaline Complex due to the first discovery of high-grades HREOs occurring within first 5 metres.

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Cupim South: Mega Growth Potential



- Grade: Numerous zones >4,000ppm with grades up to 24,894ppm TREO
- Size: Land package of 16.3km² with significant mineralisation found in each hole to date
- Scale: Only ~14% explored to date with remarkable results. Largest saprolite hills untested
- Metallurgy: 80% Magnet REE recoveries over 11.9m from a shallow 3.3m using Ammonia Sulphate, room temperature over 30 minutes
- Location: Ideal at central of complex, void of environmental restrictions allowing accelerated permitting

Cupim South

- Only ~14% of Cupim South has been explored to date already yielding world-class results¹:
 - CS-DDH-001: 24.0m @ 4,573ppm TREO
 - CS-DDH-003: 46.0m @ 3,285ppm TREO
 - CS-DDH-005: 62.5m @ 2,218ppm TREO
 - Scs-RC-073: 17m @ 4,427ppm TREO
 - CS-AG-002: 10m @ 11,850ppm TREO, ending in 8,652ppm TREO
 - Including5m @ 15,680ppm TREO [45% MREO]
 - CS-AG-010: 11.0m @ 5,170ppm TREO, ending in 5,843ppm TREO
 - Including last 3m @ 6,704ppm TREO [42% MREO]
 - CS-AG-026: 11.0m @ 3,962ppm TREO, ending in10,016ppm TREO
 Local Line Line Line Control Contr

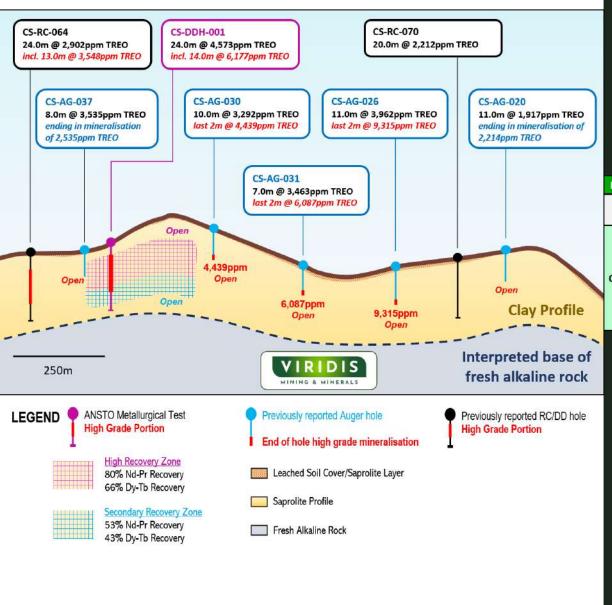
Including last 2m @ 9,315ppm TREO [41% MREO]

- Highest grades are shown towards the east which spills over into newly acquired unexplored ground
- Cupim South holds all the key pieces for immense growth potential:
 - First sets of assays showing Tier-1 Geology
 - S Large unexplored land package
 - Ability to fast-track as Cupim South sits on a granted Mining License and a Mining License Application
 - Minimal permitting risk due to location situated far away from environmental protected zone further South-East

1. ASX: VMM Announcement dated 20 Nov 2023, 3 Jan 2024, 12 Mar 2024, 20 Mar 2024



Colossus: A True Iconic Clay REE Project



ASX: VMM Announcement dated 06 Feb 2024, 'Spectacular Shallow Intercepts up to 23,556ppm TREO - Amended'
 ASX: VMM Announcement dated 18 Apr 2024, 'Colossus Achieves Highest Overall Bulk Ionic Recoveries Globally'

Metallurgy – First Hole Tested by ANSTO¹

- 11.9m at 80% Nd-Pr Recovery from 3.3m. [Ammonia Sulphate, pH4, room temp., 30 minutes cycle]
- 0.01ppm of U and <0.01ppm of Th (below detection limit)</p>
- Unoptimised conditions providing ANSTO with significant upside scope

DRILL HOLE	DRILL LOG			RECOVERY - Ammonium Sulphate [pH4, Room Temp.]							np.]	
DRILL ID	From m	To m	Intercept m	Head Assay TREE ppm	Pr %	Nd %	Tb %	Dy %	Nd-Pr %	Dy-Tb %	Magnets %	TREE-Ce %
CS-DDH-001	3.3	6.3	3.0	3,807	76	80	56	55	78	55	79	74
	6.3	9.3	3.0	6,284	80	79	66	68	79	67	79	78
	9.3	12.3	3.0	5,821	83	84	70	73	84	72	83	84
	12.3	15.2	2.9	4,842	75	80	68	71	77	70	78	80
	15.2	18.2	3.0	3,456	49	53	44	45	51	45	52	54
	18.2	21.2	3.0	1,713	55	57	42	43	56	43	56	54

Metallurgy – Bulk Composite Test Work²

Overall average ionic recoveries at Colossus to be one of the highest worldwide for this form of test work:

Northern Concessions:

Average Recovery of Nd + Pr (63%) & Dy + Tb (65%)

Cupim South:

Average Recovery of Nd + Pr (67%) & Dy + Tb (53%)

Capão da Onça:

Average Recovery of Nd + Pr (59%) Dy + Tb (59%)

Ribeirão:

Average Recovery of Nd + Pr (59%) & Dy + Tb (49%)

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Key Work Program for 2024:

Execution Activities on Critical Path

Engineering / Scoping Study / Pre-Feasibility Study

- Scoping Study to be completed in Q3 2024, with the initial focus being on the highly prospective Northern Concessions consisting of Fazenda, Caminho Das Pedras, Central and Carijo Prospects.
- Pre-Feasibility Study to commence in Q3 2024, with the initial focus being on the highly prospective Northern Concessions consisting of Fazenda, Caminho Das Pedras, Central and Carijo Prospects.

Resource Development

- Viridis engaged BNA Mining Solutions, to prepare its Maiden JORC Mineral Resource Estimate (MRE), for the Colossus Ionic Adsorption Clay Rare Earth project in Pocos De Caldas, Brazil².
- ▶ The MRE will be based on the four different potential project areas of the Northern Concession, Cupim South, Capao da Onca and Ribeirao prospects. Results end of Q2 2024.
- ▶ Updated Resource Estimate to be delivered in Q4 2024.

Metallurgy and Flowsheet Test Work with ANSTO

- Viridis is also conducting further metallurgical drilling across Northern Concessions, Cupim South and Capão Da Onca, which will be transported to ANSTO upon sample collection.
- Leaching optimisation testing to commence in June 2024, followed by a work program to test the preferred operating conditions for Impurity Removal and Mixed Rare Earth Carbonate (MREC) precipitation.

Environmental Approvals

- Viridis has engaged leading Environmental consultant Alger to deliver environmental approvals for Colossus.
- Alger aim to deliver Construction approval by Q2 2026.

ΗΔΤΟΗ







1. VMM ASX announcement 15 Feb 2024 "Hatch awarded Colossus Scoping Study and Eng Support Contractor"

- 2. VMM ASX announcement 19 Jan 2024 "Colossus Exploration and Development Update"
- 3. VMM ASX announcement 20 Mar 2024 "80% Average Ionic Recoveries from First Colossus Hole"



Government Signed MOUs: De-risking the Colossus Regulatory and Environmental Approvals Process

"Viridis has entered into two crucial non-binding MoUs with the State Government of Minas Gerais and the associated State Secretary for Economic Development (Invest Minas) and the local Municipality of Poços De Caldas" ¹



Poços de Caldas, conhecida por suas belezas naturais e seu potencial turístico, está agora no radar global dos investidores de alta tecnologia. Nesta quinta--feira (29), um marco significativo foi estabelecido com a assinatura do protocolo de investimentos entre o Governo de Minas e a empresa australians Viridis Mineração e Minerais. O investimento previsto é de 18,1.35 bilhão, destinado ao Projeto Colossus, que visa a exploração de terrar arama na região. PAGINA 8

Agreement with : State of Minas Gerais/Invest Minas

- MoU with the Government of Minas Gerais and Invest Minas is a selective initiative to form strategic partnerships with private companies that will strengthen the local economy in a sustainable manner.
- The selection by Invest Minas at such an early stage in our development journey highlights the importance of Colossus at local, state and federal levels.
- The Agreement through Invest Minas will facilitate and fast track regulatory and environmental approvals between Viridis and government departments.

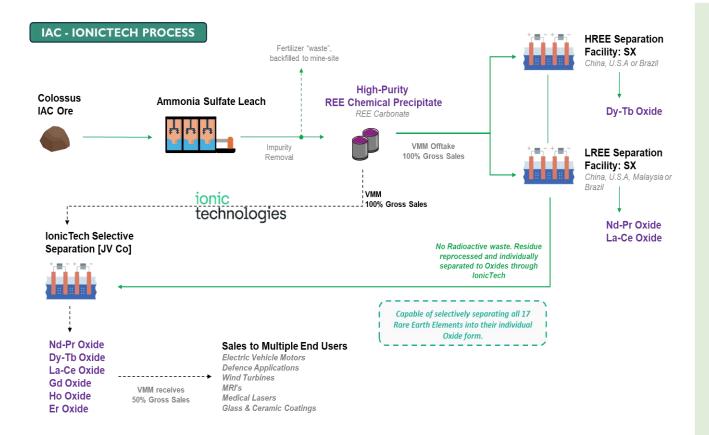
Agreement with : Municipality of Pocos De Caldas

- MoU with Poços De Caldas solidifies the commitment from the local government to support the development of the Colossus Project through supply of power, water, sewage to our future Production and Mining facilities.
- The local Secretariat of the Environment will assist Viridis to obtain authorisation and/or environmental license from the State of Minas Gerais to carry out interventions in the area, as well as operating authorisation.
- Environmental approvals (issued by the State) can't be attained without approval from the local government. This MoU and will help de-risk and accelerate the project approvals and execution timeline.

1. VMM ASX announcement 4 Mar 2024 'Viridis Signs Key MoU's with State of Minas Gerias and Poços De Caldas"



Downstream Technology: JV For Separation / Refining / Recycling



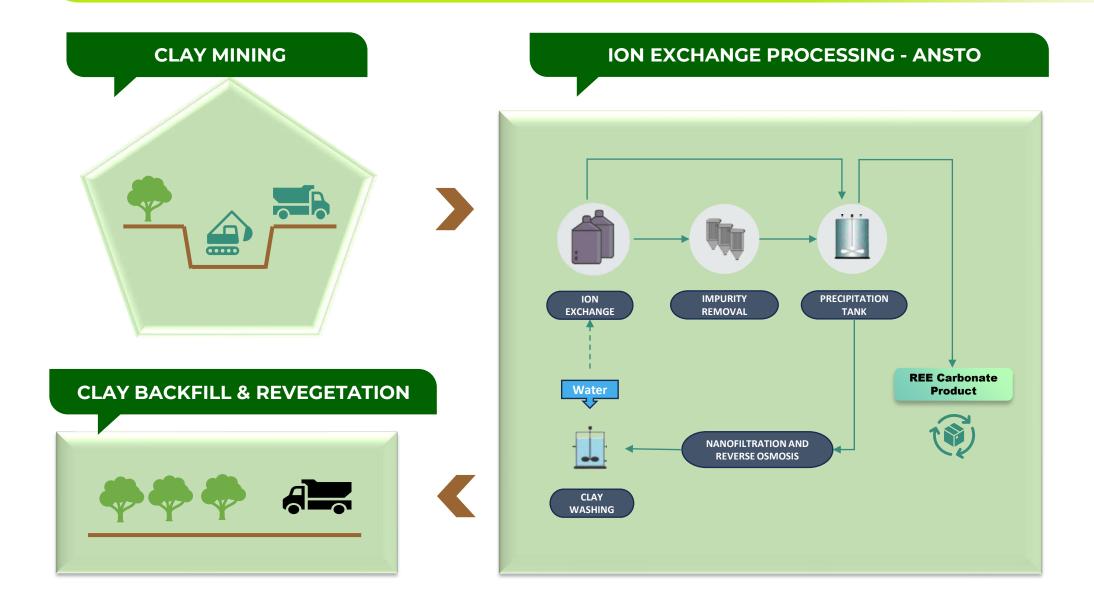
Conceptual flowsheet for Colossus integrating IonicTech into its downstream plant, exemplifies the simplicity of processing an Ionic Clay Project and developing a MREC through a single leaching agent.

Joint Venture with Ionic Rare Earths (IXR)

- Colossus positioned to become the first producer of refined Rare Earth Oxides ('REO') in Brazil, through a Joint Venture signed with IXR¹.
- The JV has exclusive global (excluding Asia and Uganda) rights to commercialise Selective Separation Technology ('SST') for downstream processing, and exclusive rights to commercialise IXR's Rare Earth Recycling Technology ('RRT') in Brazil.
- The new JV company formed will be 50/50 owned by both Viridis and Ionic Rare Earths respectively. All IP developed will be exclusively owned by the JV in order to scale the technology across numerous Ionic Clay projects in Brazil and REE projects globally.
- The JV provides optionality to Colossus to produce both a Mixed Rare Earth Carbonate and refined Oxides based on future offtake agreements and customer requirements.



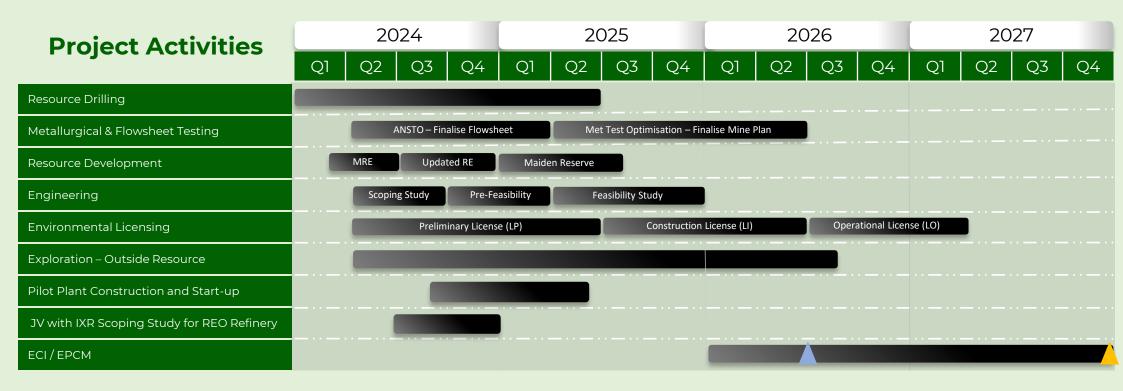
Flowsheet Development: ANSTO & Engineering Contractor Testing



Viridis Mining and Minerals Ltd - Colossus Ionic Clay Project



Anticipated Project Milestones: Work Program to Initial Production









THANK YOU

Further Enquiries:

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Carly Terzanidis

Company Secretary Phone: +61 3 9071 1847 Email: <u>cosec@viridismining.com.au</u>