Southern Complex Achieves Highest Ever Ionic Recoveries

First widespread metallurgical test work across Cupim South and Centro Sul confirms highest ever Ionic Recoveries

ASX Release: 14 November 2024

Highlights

- **Maiden bulk composite test work for Southern Complex (Cupim South and Centro Sul) consisted of 26 holes for a 41kg sample which returned the highest Ionic recoveries ever seen to date at Colossus. Head Grade of 4,561ppm TREO[A], including 33% MREO [Nd, Pr, Dy, Tb].**

- **This marks the first time Centro Sul has been tested for Ionic Recoveries along with the new Cupim South Mining Licenses. Over 88% of the ore within the 41kg Southern Complex composite consisted of never before tested areas of Colossus.**

- **Diagnostic leach tests using a standard Ammonia Sulfate ('AMSUL') at 0.5M, pH4, Room Temperature, and 30-minute leach cycle have shown the ionic MREO[B] recoveries for the Southern Complex composite to be the highest worldwide for this form of testing, as seen below:**
  - **Average Recovery of Nd + Pr of 82%**
  - **Average Recovery of Dy + Tb of 67%**
  - **Overall MREO [Nd, Pr, Dy, Tb] Recovery of 82%**

- **Remarkably, this test-work has shown the Southern Complex IMPROVES recoveries at a higher pH and lower AMSUL concentration, which is the first time this has been witnessed at Colossus. Results from a cost-efficient reagent of AMSUL, pH 4.5, 0.3M Concentration, Room Temp, 30mins-minute leach:**
  - **Average Recovery of Nd + Pr of 83%**
  - **Average Recovery of Dy + Tb of 67%**
  - **Overall MREO [Nd, Pr, Dy, Tb] Recovery of 83%**

- **These are major achievements in metallurgical testing within the Southern Complex, which has shown the highest ionic MREO recoveries to date. These breakthrough improvements in recovery at higher pH (4.5) and lower AMSUL concentrations (0.3M), will lead to material operational savings, increased TREO production rates and higher MREC basket value.**

- **This test-work is the first step in the Southern Complex mixed rare earth carbonate ('MREC') production. The composite will now be tested through the entire practical flowsheet to report overall "ore to MREC" recovery for the Southern Complex (noting the Northern Concession MREC showed < 1% MREO losses in subsequent steps after Ionic leaching).**

- **Given the Southern Complex shows improved recoveries of 83% MREO at a higher 4.5pH, this also ensures incredibly low amounts of impurities are transported into leached solution – with 0.02ppm Uranium and below detection limits of Thorium.**

[A] Total Rare Earth Oxides ('TREO'): La2O3 + CeO2 + Pr6O11 + Nd2O3 + Sm2O3 + Eu2O3 + Gd2O3 + Tb4O7 + Dy2O3+ Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Lu2O3 + Y2O3

[B] Magnetic Rare Earth Oxides ('MREO'): Dy2O3, Nd2O3, Pr6O11, Tb4O7

Chief Executive Officer, Rafael Moreno commented:

"These results represent an outstanding start to the MREC test program from our southern group of concessions. After the remarkable results we achieved from our Northern Concessions MREC, we were hoping to demonstrate something similar here, but these first of a kind leaching results for a simple and benign salt wash have surpassed all expectations.

With our recent drill results from our Southern Concessions highlighting the fantastic grades and superior MREO / TREO ratio compared to peers, we are working tirelessly to get the updated resource estimate out to the market, especially considering it's predominately made up from our Southern cluster of tenements.

To now have recoveries above 80% for our precious MREO's and at near neutral pH and low molar concentrations, this really does showcase the unique value proposition of the Colossus Project. With the exceptional ionic nature, high grade and elevated MREO / TREO ratio of our geology, paired with today's remarkable recoveries and the size of our landholdings in the complex, we're very excited to able to soon announce the final project economics, combining high production rates, a high average basket value together with a low cost and environmentally friendly flowsheet design.

We are looking forward to seeing how the rest of the test program progresses and taking this critical data to help finalise the mine planning in the Southern Complex and the much-anticipated scoping study"

Viridis Mining and Minerals Limited ('Viridis' or 'Company') is pleased to report its maiden wide-spread metallurgical test work conducted at the Southern Complex consisting of Cupim South and Centro Sul. This has **achieved the highest publicly known bulk composite recoveries, surpassing all previous results achieved at Colossus** and upgrades the existing world leading production and economic implications for Colossus. **Using a benign and cost-efficient AMSUL at pH4.5, 0.3M, 30-minute leach cycle, room temperature: Net MREO recovery of 83% was achieved**.

Most impressively, the Southern Complex composite consisted of material from 26 different holes covering a large footprint area of 5.66km^2, **along with over 88% of the composite consisting of ore which has never been metallurgically tested, which has led to these astonishing results.**

This work was completed by the Australian Nuclear Science and Technology Organisation ('ANSTO') to study optimal reagent selection and operating conditions for the Southern Complex, which aims to meet the goal for Colossus becoming one of the most cost-efficient producers of Ionic Rare Earths. The detailed test-work by ANSTO has made a remarkable and unprecedented breakthrough, which has shown the recoveries of Southern Complex **improve** with at a lower AMSUL solution concentration and higher pH, which throughout the multiple metallurgical test programs conducted across Colossus by different labs has never been witnessed before.

The average recovery rates of magnet rare earth element ('MREE') (Nd, Pr, Dy, Tb) for all four testing conditions have outperformed every previous result observed at Colossus. The Southern Complex has shown to be superior in grades, size, recoveries and AMSUL consumption, which is transformative to the potential OPEX, CAPEX and production profile of Colossus. The next critical steps which are currently undergoing testing by ANSTO are progressing the Southern Complex composite through the entire practical flowsheet – slurry leach testing, impurity removal and MREC precipitation, which will lead to a maiden MREC production and recovery data out of the Southern Complex that will be fed into the subsequent Scoping Study.

Viridis has taken a systematic strategy and thorough approach in producing two separate MRECs and associated recovery data from both Northern Complex (Northern Concessions) and Southern Complex (Cupim South and Centro Sul). This work has been undertaken to allow the Company to generate a more accurate scoping study and mine plan which is truly representative of the unique recoveries, reagent consumption and characteristics of the ore within separate areas at Colossus, rather than making a broad assumption that the MREC recovery, quality and reagent consumption at the Northern Concessions will be applicable to Cupim South and Centro Sul.

Metallurgy Testing Program

The Southern Complex ('SC') bulk composite consisted of 35 samples totalling 41kg across 26 holes, with >88% of the ore being untested previously for ionic recoveries.

Portions of the bulk composite were split for diagnostic leach tests and head assays. ALS Brisbane took three 50g sub-samples and tested them for head assays (ICMPS). The average of these three results was used to determine the overall head assay for the bulk composite.

For each diagnostic leach test (taken under the conditions provided in Table 1), 80g sub-samples were split and tested under a 4% S/L ratio and ambient room temperature. The final liquor was assayed using ICP-MS for rare earth elements ('REEs') by ALS Brisbane and ICP-OES for assaying impurities by ANSTO.

Results

Head Assay Data

The SC bulk composite had 3 random sub-samples prepared from it, with each sub-sample assayed for an accurate average head grade reading for the overall Southern Complex bulk composite. The average of those tests is presented in Table 1 below:

	Southern Complex Comp. Sample 1A	Southern Complex Comp. Sample 1B	Southern Complex Comp. Sample 1C	Southern Complex Composite Average
La2O3	1,818	1,835	1,765	**1,806**
CeO2	620	678	635	**645**
Pr6O11	355	354	346	**352**
Nd2O3	1,096	1,107	1,078	**1,094**
Sm2O3	130	129	125	**128**
Eu2O3	33	32	30	**32**
Gd2O3	86	84	83	**84**
Tb4O7	10	10	10	**10**
Dy2O3	51	51	50	**51**
Ho2O3	9	10	9	**9**
Er2O3	24	24	24	**24**
Tm2O3	3	3	3	**3**
Yb2O3	18	17	17	**17**
Lu2O3	2	2	2	**2**
Y2O3	307	306	300	**304**
TREO	4,564	4,642	4,477	**4,561**
MREO	1,513	1,522	1,484	**1,506**
MREO %	33%	33%	33%	**33%**

Table 1: *Head Assay data for each sub-sample taken from the SC bulk composite to form an overall representative average of the Southern Complex bulk composite grades.*
MREO = Sum of Nd, Pr, Dy, Tb Oxides
MREO % = MREO/TREO

Metallurgical Recovery Data

A total of three separate metallurgical tests were completed under different conditions with variables in pH level and reagent concentration. This multi-variate testing has made a remarkable breakthrough showing the Southern Complex composite has higher recoveries at lower reagent concentration (i.e. from 0.5M to 0.3M) and increasing pH level (i.e. from pH 4 to 4.5).

This means through using a more neutral solution and reducing AMSUL consumption by 40%, the **Southern Complex has improved MREO [Nd, Pr, Dy, Tb] recoveries to an outstanding 83%.** This data drastically improves the economic implications at Colossus in terms of both CAPEX, OPEX, production profile, basket value and impurities and places the Southern Complex (particularly Cupim South Mining Licenses) as a geological outlier with its exceptional recoveries and grade. The full summary of metallurgical testing results is provided in Table 2 below:

Southern Complex Metallurgical Recovery Results

	Testing Conditions					Recoveries - %					Impurities and Radionuclides - ppm				
Test No.	**Reagent**	**Concentration**	**pH**	**Temperature**	**Duration**	**Nd**	**Pr**	**Dy**	**Tb**	**MREO**	**Al**	**Ca**	**Fe**	**U**	**Th**
1	(NH4)2SO4	0.5M	4	Ambient	0.5 hr	82	81	66	67	**82**	27	4	<1	0.02	0.01
2	(NH4)2SO4	0.3M	4.5	Ambient	0.5 hr	84	80	67	68	**83**	16	2	1	0.02	<0.01
3	(NH4)2SO4	0.2M	4.5	Ambient	0.5 hr	82	78	65	65	**80**	14	2	1	0.01	<0.01

Table 2: *Ionic recoveries and residual impurities within leached solution under different reagents and conditions for Southern Concessions ('SC') Bulk Composite. Note MREO = Nd, Pr, Dy, Tb.*

Metallurgical Breakthroughs

ANSTO has made significant metallurgical breakthroughs in the diagnostic leaching characteristics for the Southern Complex (Cupim South and Centro Sul), which fundamentally transforms the initial mine plan and economic implications through having a lower OPEX/CAPEX operation alongside a stronger production profile of a high basket value MREC.

Using a standard AMSUL test (pH 4, 0.5M, 30-minute cycle, room temperature) the Southern Complex bulk sample showed:

- **Average Recovery of Nd + Pr of 82%**
- **Average Recovery of Dy + Tb was 67%**
- **Overall MREO [Nd, Pr, Dy, Tb] Recovery of 82%**

By changing the variables of the leaching conditions, the following breakthrough characteristics were identified:

1. pH level & Reagent Concentration

Between Test No. 1 and Test No. 2, all key variables remained constant with only an increase of pH level from 4 to 4.5 and 40% reduction in AMSUL concentration from 0.5M to 0.3M.

Contrary to the majority of Rare Earth projects globally, where raising pH levels into more neutral solutions tends to drop recoveries drastically, the Southern Complex **for the first time within known ionic adsorption clay ('IAC') projects** has shown an improvement in ionic recoveries progressing to an overall recovery to 83% MREO recovery from a higher pH level.

This is a unique breakthrough which hasn't been seen before at Colossus, through reducing the reagent concentration by 40% and increasing pH to a more neutral state the overall MREO recoveries in fact improve. This implies the Southern Complex can recover better from a more neutral reagent while consuming 40% less AMSUL than standard ionic clay projects, while ionically recovering a remarkable 83% of Nd, Pr, Dy, Tb within the ore. Having a higher starting base leaching pH of 4.5 also reduces downstream reagent consumption in Impurity Removal and Precipitation steps.

Between Test No. 1 and Test No. 3, all key variables remained constant with only an increase of pH level from 4 to 4.5 and 60% reduction in AMSUL concentration from 0.5M to 0.2M. This has shown the ability for the Southern Complex to make minimal compromise to overall MREO recoveries while drastically reducing reagent consumption and costs. Whereby, the overall MREO recoveries have fallen a mere 2% while essentially halving the impurities desorbed, through using highly cost-efficient reagent conditions, comprising of 60% lower AMSUL consumption at a more neutral pH in comparison to a standard Ionic Adsorption Clay AMSUL reagent.

2. Low Impurities

Between Test No. 1 and Test No. 2, the key variable change was a 40% decrease in AMSUL Concentration from 0.5M to 0.3M and an increase in pH from 4 to 4.5.

The raising of pH and reducing of AMSUL concentration has also led to lower impurities being recovered into the leach solution, with higher levels of MREO being recovered, providing an overall purer and higher value product.

This breakthrough essentially leads to less reagent consumption both in leaching and downstream stages, a purer product as minimal gangue elements needing to be precipitated during the impurity removal stage, which shows the potential for Colossus to be a lower-cost-intensive and high-value operation.

Economic Implications

A summary of all the detailed metallurgical phases of testing conducted by Viridis to date has been provided below, which shows the systematic and thorough approach taken in understanding the full metallurgical characteristics and the ideal and most cost-efficient conditions for Ionic recoveries.

The systematic portfolio of test-work will allow Viridis to design a production facility with optimised operating conditions which leverages the unique characteristics of Northern Complex (Northern Concessions) and Southern Complex (Cupim South and Centro Sul) to provide an exceptionally low cost, high-value and outstanding production operation.

The Southern Complex bulk composite recoveries standout drastically in metallurgical recoveries and are the best set of results seen to date at Colossus – of which >88% of ore within the Southern Complex composite has never been previously tested.

Summary of all Metallurgical Test-work and results to date at Colossus:

Sampling Details					*Testwork Conditions*						*Recoveries*		
Date	**Tenement**	**Batch No.**	**Testwork**	**Samples**	**Lab**	**Agent**	**Concentration**	**pH**	**Temp.**	**Duration**	**Nd-Pr**	**Dy-Tb**	**MI**
Phase I - 20th March 2024	Cupim South	CS-DDH-001	Meter-by-Meter Leaching	11.9 meters	ANSTO	AMSUL	0.5M	4	Ambient	0.5hr	80	66	
Phase II - 18th April 2024	Northern Concessions	BS1NC	Bulk Sample Leaching	29	SGS	AMSUL	0.5M	4	Ambient	0.5hr	63	65	64
	Cupim South	BS1CS	Bulk Sample Leaching	19		AMSUL	0.5M	4	Ambient	0.5hr	67	53	67
	Capao Da Onca	BS1CDO	Bulk Sample Leaching	22		AMSUL	0.5M	4	Ambient	0.5hr	59	59	59
	Ribeirao	BS1RA	Bulk Sample Leaching	21		AMSUL	0.5M	4	Ambient	0.5hr	59	49	
Phase III - 17th July 2024	Northern Concessions	BS2NC	Bulk Sample Leaching	36	ANSTO	AMSUL	0.5M	4	Ambient	0.5hr	76	65	75
	Northern Concessions		Bulk Sample Leaching	36		AMSUL	0.3M	4.5	Ambient	0.5hr	73	64	73
	Northern Concessions		Bulk Sample Leaching	36		AMSUL	0.1M	4.5	Ambient	0.5hr	73	60	73
	Northern Concessions		Bulk Sample Leaching	36		MAGSUL	0.3M	4.5	Ambient	0.5hr	77	64	
Phase IV - 24th September 2024	Northern Concessions	BS2NC	**Ore to Final MREC Recovery (Entire Flowsheet)**	36	ANSTO	**AMSUL**	**0.3M**	**4.5**	**Ambient**	**0.5hr**	**76**	**68**	**76**
Phase V - 14th November 2024 (*This announcement*)	Southern Concessions	BS3SC	Bulk Sample Leaching	35	ANSTO	AMSUL	0.5M	4	Ambient	0.5hr	82	67	82
	Southern Concessions		Bulk Sample Leaching	35		**AMSUL**	**0.3M**	**4.5**	**Ambient**	**0.5hr**	**83**	**67**	**83**
	Southern Concessions		Bulk Sample Leaching	35		AMSUL	0.2M	4.5	Ambient	0.5hr	81	65	80
Phase VI - TBC	Southern Concessions	BS3SC	Ore to Final MREC Recovery (Entire Flowsheet)	35	ANSTO	*Undergoing Test Procedure with ANSTO - Impurity removal and Precipitation to MREC*							

Table 3: *Summary of all metallurgical procedures and test-work completed across Colossus to date. Please refer to respective announcements for each date to see full details[1,2,3,4]. Green text highlights preferred reagent conditions to be used at Colossus.*

The next phase of metallurgical work will have ANSTO testing the Southern Complex composite through the entire flowsheet, which aims to replicate the practical conditions of the Colossus operation to understand the net recovery from Ore to MREC. This will include slurry leach testing, impurity removal testing and MREC precipitation.

Viridis expects minimal MREO losses from current recovery levels, similar to the Northern Concessions MREC which showed <1% losses of MREO from slurry leach testing through to final MREC production of a high purity product.

The Metallurgical results to date show Viridis has tremendous advantages in optionality between using different reagent conditions to improve recoveries during stronger REE pricing market cycles or using cost-efficient reagent conditions without compromising recoveries (if at all) in tighter markets and inflationary environments for raw materials. Currently using a cost-efficient 0.3M AMSUL at pH4.5 reagent gives leaching **MREO recoveries of 76% at Northern Concessions and 83% at Southern Complex** for initial feeds, which far exceeds industry peers.

Basket Value

The current basket value using pricing from Shanghai Metals Markets (SMM) dated 8 November 2024 for the Northern Concessions MREC stands at an outstanding $29.22/kg TREO due to a robust 39% MREO content.

Likewise, the current basket value for Southern Complex from leaching stands at $29.72/kg TREO with a robust 40% MREO content, which has been detailed in the table below. The losses from subsequent slurry density testing, impurity removal and MREC precipitation is expected to retain the current basket value, similar to what has been demonstrated in the Northern Concessions final MREC product.

Southern Complex: Potential Basket Value from Diagnostic Leaching

	Feed	Recoveries		Basket Value - Diagnostic Leaching		
	Head Grade (ppm)	Leaching Recoveries	Ionically Recovered REO (ppm)	MREC: TREO Composition	Spot Price Assumption (USD $/kg) *SMM 08th Nov. 2024*	Theoretical Basket Value Distribution (USD)
	TREO	0.3 M (NH4)2SO4, pH4.5	0.3 M (NH4)2SO4, pH4.5			
La2O3	1,806	80%	1,438	46%	0.56	$0.26
CeO2	645	3%	19	1%	1.01	$0.01
Pr6O11	352	80%	282	9%	60.19	$5.44
Nd2O3	1,094	84%	921	30%	60.19	$17.77
Sm2O3	128	72%	92	3%	2.10	$0.06
Eu2O3	32	70%	22	1%	27.29	$0.20
Gd2O3	84	68%	58	2%	24.35	$0.45
Tb4O7	10	68%	7	0%	836.31	$1.83
Dy2O3	51	67%	34	1%	244.24	$2.67
Ho2O3	9	60%	6	0%	72.22	$0.13
Er2O3	24	60%	14	0%	42.41	$0.20
Tm2O3	3	54%	2	0%	0.01	$0.00
Yb2O3	17	51%	9	0%	14.00	$0.04
Lu2O3	2	45%	1	0%	755.83	$0.26
Y2O3	304	71%	215	7%	5.88	$0.41
TREO	4,561	68%	3,118	100%	Basket Price per kg of TREO in MREC	$29.72
Nd & Pr	1,445	83%	1,203	39%		
Dy & Tb	61	67%	41	1%		
MREO	33%	83%	1,244	40%		

Table 4: *Leaching recoveries achieved within the Southern Complex Bulk Composite, using a weaker solution of 0.3M AMSUL at pH 4.5 which will provide numerous OPEX advantages. Theoretical basket value is calculated from diagnostic leaching based on Shanghai Metals Market pricing dated 8 November 2024.*

The production output of rare earth projects is simply a function of the head grade and recovery – with the outstanding recovery profiles at Colossus, Viridis has the potential to become a leading producer of Rare Earths globally.

Whereas the output of annual revenue is simply a function of annual TREO production and basket value, where in each parameter Colossus is shown to be a standout asset. This is especially given the higher MREO contents seen at Colossus which have led to a significantly higher basket value than IAC peers with a similar flowsheet design.

The true scale of Cupim South and potential TREO feed will be determined upon the upcoming resource upgrade and subsequent mine planning which will be fed into the Scoping Study.

The recent step-out drilling at the Cupim South Mining Licenses has drastically increased the potential years of initial high grade feed, as seen below, the last three batches of step-out drilling at Cupim South have achieved[5,6]:

- CS-AG-0085: **21m @ 15,339ppm TREO** from surface, ending in mineralisation of **3,821ppm TREO**
  Including 10m @ 28,425ppm TREO
- CS-AG-0108: **10m @ 5,869ppm TREO** from 2m, ending in mineralisation of **7,359ppm TREO**
  Including last 4m @ 138ppm Dy-Tb Oxide
- CS-AG-0258: **10m @ 5,770ppm TREO** from surface, ending in mineralisation of **5,186ppm TREO**
  Including last 8m @ 118ppm Dy-Tb Oxide
- CS-AG-0279: **16m @ 5,953ppm TREO** from surface, ending in mineralisation of **3,372ppm TREO**
  Including 6m @ 105ppm Dy & Tb Oxide
- CS-AG-0197: **10m @ 5,172ppm TREO** from 2m, ending in mineralisation of **4,740ppm TREO**
  Ending last 4m @ 93ppm Dy & Tb Oxide

- CS-AG-0173: **9m @ 6,551ppm TREO** from surface, ending in mineralisation of **4,003ppm TREO**
  Including 2m @ 221ppm Dy & Tb Oxide
- CS-RC-0361: **14m @ 6,644ppm TREO** from 8m, including 8m @ **9,472ppm TREO [41% MREO]**
- CS-RC-0430: **24m @ 5,362ppm TREO** from surface, including 10m @ **6,131ppm TREO [42% MREO]**

Location of Holes

The location of holes intentionally selected over a wide area to confirm the homogenous and widespread nature of clays being amenable through an ion exchange mechanism, covering a total area of 5.66km^2 within the Southern Complex. Furthermore, the composition of ore was used to best represent the grades and composition of the initial production profile for the Southern Complex

These results now confirm to Viridis the Southern Complex in fact hosts the best recoveries seen to date at Colossus, with remarkable homogeneity of Ionic mineralisation resulting in **82% MREO recovery** using a standard AMSUL test (0.5M, pH4, room temperature, 30-minutes leach cycle). Furthermore, optionality in using a more neutral leaching solution and less intensive impurity removal process of AMSUL (0.3M, pH 4.5, room temperature, 30-minutes leach cycle) **achieving an overall 83% MREO recovery.**

In conjunction with the Northern Concessions, whereby using a cost-efficient AMSUL, 0.3M, pH 4.5, room temperature and 30-minutes leach cycle, **achieved an overall 76% MREO recovery from ore to final MREC** shows outstanding ability for the initial feeds from both NC and SC areas of Colossus to lead to a multiyear cost-efficient and high-production operation.

Furthermore, the average depth of samples taken from drill holes to form the SC bulk composite was 5.6 metres, which confirms recoveries occur within a shallow and flat-lying mineral body.

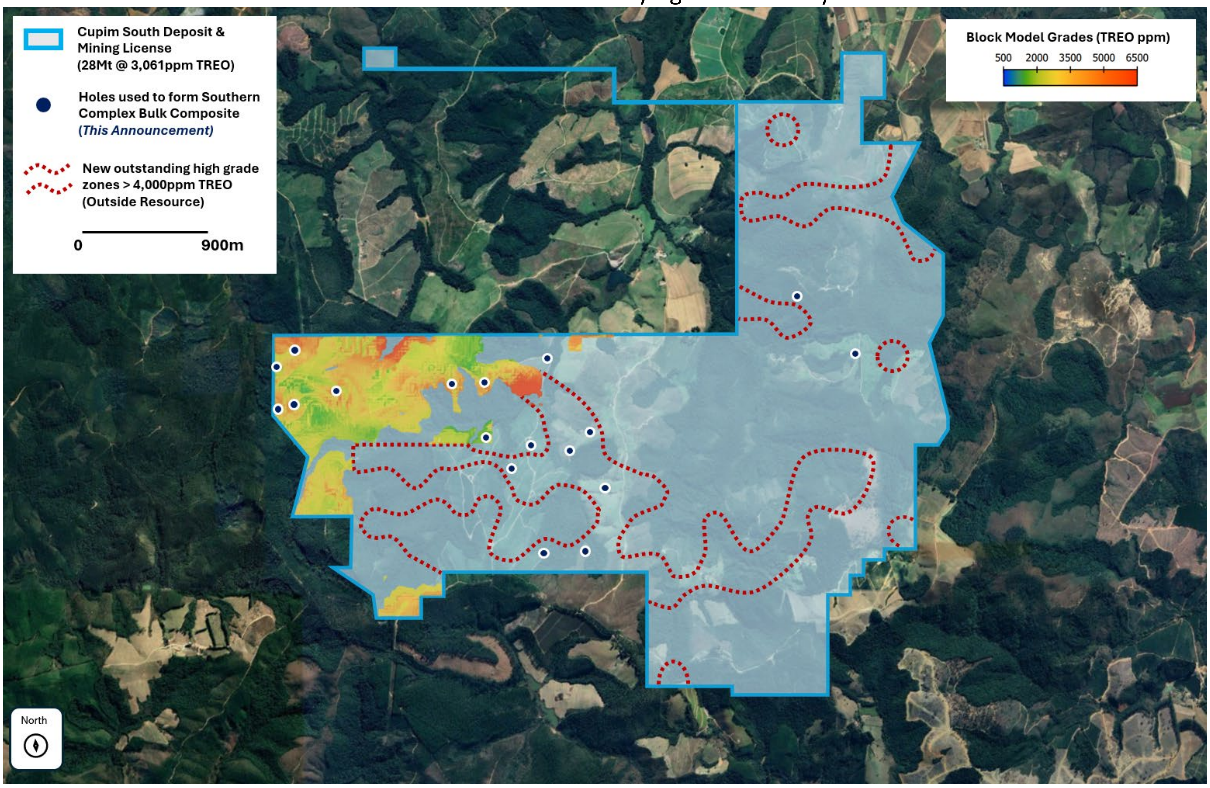

Figure 1: *Location of holes within Cupim South used to form the Southern Complex for bulk composite ionic recoveries. Hole CS-AG-0307 was from the Northern Extension of Cupim South, ~2.5km North of this image.*

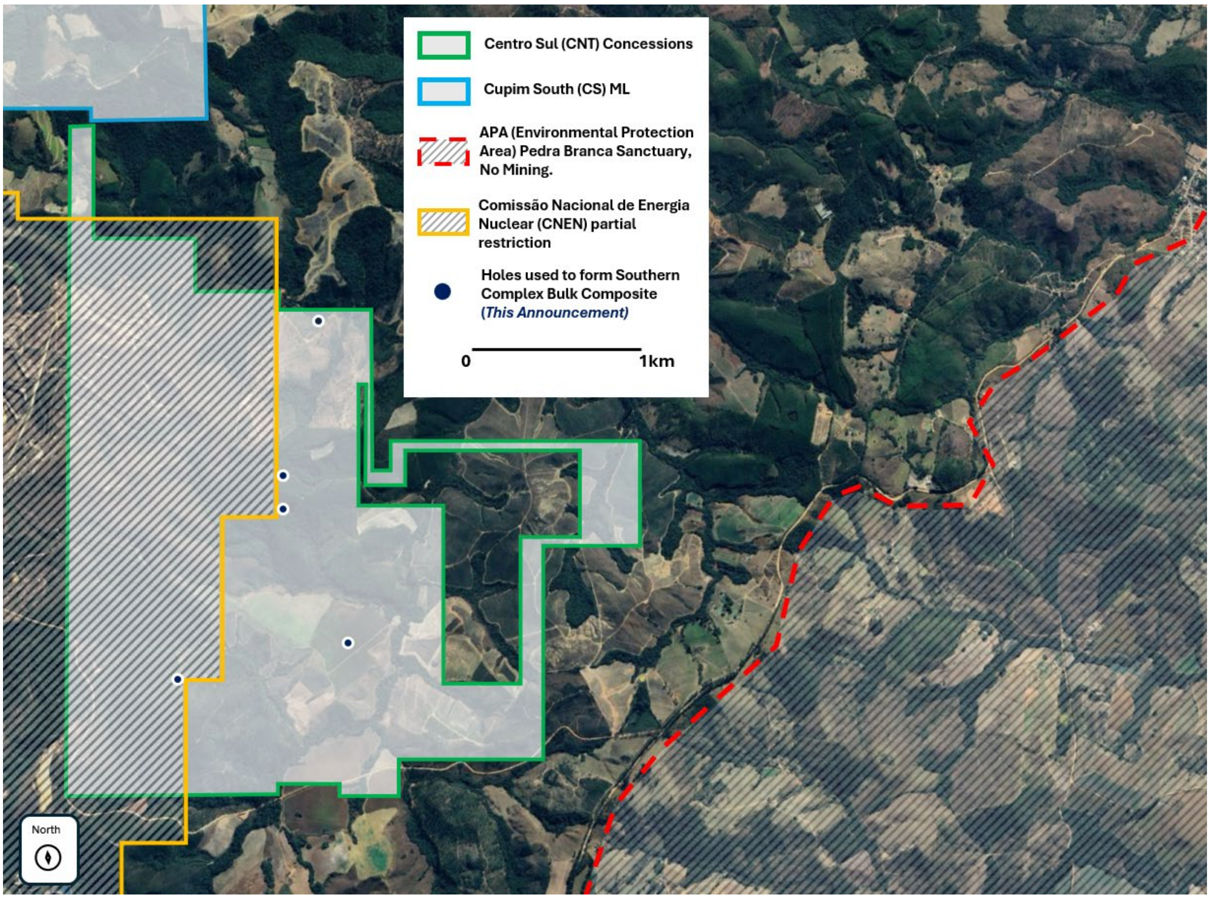

Figure 2: *Location of holes within Centro Sul used to form the Southern Complex for bulk composite ionic recoveries. Note Hole CNT-AG-0168 & CNT-AG-0165 was from SW Extension of Centro Sul, ~5km SW of this image.*

Future Work

With a very exciting few months ahead, Viridis will look to complete its Southern Complex MREC testing program with ANSTO by the end of the year. With drilling for the updated resource now completed, the company is in the process of updating its resource estimate. Once this is complete, it will support the mine planning of the Southern Complex. All three of these will form the final input required to update and issue the Scoping Study in Q1 2025. In parallel, Viridis is progressing the PFS and is in the process of finalising the EIA for the Preliminary Environmental Licence (LP) submission.

Approved for release by the Board of Viridis Mining and Minerals Ltd.

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About Viridis Mining and Minerals

Viridis Mining and Minerals Limited is a resource exploration and development company with assets in Brazil, Canada and Australia. The Company's Projects comprise:

- The Colossus Project, which the Company considers to be prospective for Rare Earth Elements;
- The South Kitikmeot Project, which the Company considers to be prospective for gold;
- The Boddington West Project, which the Company considers to be prospective for gold;

- The Bindoon Project, which the Company considers to be prospective for nickel, copper and platinum group elements; and
- The Poochera and Smoky Projects, which the Company considers to be prospective for kaolin-halloysite.

Competent Person Statement

Dr. José Marques Braga Júnior, the in-country Executive Director of Viridis' Brazilian subsidiary (Viridis Mineração Ltda), 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 mineralisation 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 including of matters in the report based on information in the form and context in which it appears.

The Company confirms that it is unaware of any new information or data that materially affects the information included in the market announcements referred to in this release and that all material assumptions and technical information referenced in the market announcement continue to apply and have not materially changed.
All announcements referred to throughout can be found on the Company's website – viridismining.com.au.

Forward-Looking Statements

This announcement contains 'forward-looking information' based on the Company's expectations, estimates and projections as of the date the statements were made. This forward-looking information includes, among other things, statements concerning the Company's business strategy, plans, development, objectives, performance, outlook, growth, cash flow, projections, targets and expectations, mineral reserves and resources, results of exploration and related expenses. Generally, this forward-looking information can be identified by the use of forward-looking terminology such as 'outlook', 'anticipate', 'project', 'target', 'potential', 'likely', 'believe', 'estimate', 'expect', 'intend', 'may', 'would', 'could', 'should', 'scheduled', 'will', 'plan', 'forecast', 'evolve' and similar expressions. Persons reading this announcement are cautioned that such statements are only predictions and that the Company's results or performance may differ materially. Forward-looking information is subject to known and unknown risks, uncertainties, and other factors that may cause the Company's actual results, level of activity, performance or achievements to materially differ from those expressed or implied by such forward-looking information.

References

1. *VMM ASX announcement dated 20 March 2024 '80% Average Ionic Recoveries from First Colossus Hole'*
2. *VMM ASX announcement dated 18 April 2024 'Colossus Achieves Highest Overall Bulk Ionic Recoveries Globally'*
3. *VMM ASX announcement dated 17 July 2024 'Significant Breakthrough in Metallurgical Testing at Colossus'*
4. *VMM ASX announcement dated 24 September 2024 'Colossus Maiden Mixed Rare Earth Carbonate ('MREC') Product'*
5. *VMM ASX announcement dated 28 August 2024 'Cupim South Delivers 21m @ 15,339ppm TREO, Ending in Mineralisation'*
6. *VMM ASX announcement dated 30 October 2024 'Cupim South Drilling Paves Way for Major Resource Upgrade'*

APPENDIX A: DRILL LOCATIONS

Coordinates of holes used to form Southern Complex Bulk Composite

All holes were drilled vertically.

Hole Number	Northing	Easting	Elevation	Type	Final Depth	ANM_ID
CS-AG-10	7576277	343969	1377	AG	13.00	833.560/1996
CS-RC-0071	7576295	344193	1344	RC	37.00	833.560/1996
CS-AG-29	7576231	343120	1411	AG	11.00	833.560/1996

Hole Number	Northing	Easting	Elevation	Type	Final Depth	ANM_ID
CS-AG-36	7576371	342697	1398	AG	9.50	833.560/1996
CS-RC-0096	7576097	342785	1423	RC	27.00	833.560/1996
CS-AG-37	7576508	342840	1401	AG	9.70	833.560/1996
CS-AG-32	7576082	342706	1409	AG	11.00	833.560/1996
CS-AG-0221	7575894	344955	1330	AG	7.00	830.464/1982
CS-AG-0186	7576878	346494	1357	AG	12.00	830.464/1982
CS-AG-0220	7575757	344808	1303	AG	8.00	830.464/1982
CS-AG-0173	7575047	344654	1375	AG	9.00	830.464/1982
CS-AG-0240	7575616	344380	1331	AG	17.00	830.464/1982
CS-AG-0280	7576467	344672	1250	AG	9.00	830.464/1982
CS-AG-0241	7575761	344521	1325	AG	15.00	830.464/1982
CS-AG-0155	7575053	344948	1344	AG	10.00	830.464/1982
CS-AG-0093	7574907	345935	1380	AG	7.50	830.464/1982
CS-AG-0307	7581032	346167	1309	AG	9.00	806.604/1973
CS-AG-0131	7576465	346931	1411	AG	11.00	830.464/1982
CS-AG-0176	7575463	345090	1339	AG	14.00	830.464/1982
CNT-AG-0019	7572825	347380	1238	AG	11.00	830.711/2006
CNT-AG-0168	7568650	340785	1296	AG	8.00	832.025/2009
CNT-AG-0114	7570629	346573	1284	AG	10.00	830.850/2024
CNT-AG-0165	7568858	340977	1296	AG	7.00	832.025/2009
CNT-AG-0063	7571821	347173	1335	AG	8.00	830.711/2006
CNT-AG-0072	7571635	347202	1320	AG	6.00	830.711/2006
CNT-AG-0110	7570828	347581	1242	AG	12.00	830.711/2006

Table 5: *Drill log table of drills used for sampling to form bulk composites and leach for the reported metallurgical work.*

APPENDIX B: SAMPLES USED

Hole samples used to form Northern Concessions Bulk Composite

All holes were drilled vertically.

Bulk Sample	Concession	Hole ID	Sample No	Sample ID	From	To	Weight (kg)
SOUTHERN COMPLEX BULK COMPOSITE	Cupim South	CS-AG-10	1	CS-AG-10-5	4	5	1.2
	Cupim South	CS-AG-10	2	CS-AG-10-6	5	6	1.2
	Cupim South	CS-RC-0071	3	CS-RC-0071-004	2	3	1.2
	Cupim South	CS-AG-29	4	CS-AG-29-7	3	4	1.2
	Cupim South	CS-AG-29	5	CS-AG-29-9	4	5	1.2
	Cupim South	CS-AG-29	6	CS-AG-29-11	5	6	1.2
	Cupim South	CS-AG-36	7	CS-AG-36-6	5	6	1.2
	Cupim South	CS-AG-36	8	CS-AG-36-9	8	9	1.2
	Cupim South	CS-RC-0096	9	CS-RC-096-017	14	15	1.2
	Cupim South	CS-AG-37	10	CS-AG-37-4	3	4	1.2
	Cupim South	CS-AG-37	11	CS-AG-37-5	4	5	1.2
	Cupim South	CS-AG-37	12	CS-AG-37-9	8	9	1.2
	Cupim South	CS-AG-32	13	CS-AG-32-8	7	8	1.2
	Cupim South	CS-AG-0221	14	CS-AG-0221-004	6	7	0.6

Bulk Sample	Concession	Hole ID	Sample No	Sample ID	From	To	Weight (kg)
	Cupim South	CS-AG-0186	15	CS-AG-0186-006	8	10	1.2
	Cupim South	CS-AG-0186	16	CS-AG-0186-004	4	6	1.2
	Cupim South	CS-AG-0220	17	CS-AG-0220-004	4	6	1.2
	Cupim South	CS-AG-0173	18	CS-AG-0173-006	8	9	1.2
	Cupim South	CS-AG-0240	19	CS-AG-0240-003	4	6	1.2
	Cupim South	CS-AG-0155	20	CS-AG-0155-003	4	6	1.2
	Cupim South	CS-AG-0280	21	CS-AG-0280-006	8	9	0.8
	Cupim South	CS-AG-0241	22	CS-AG-0241-004	4	6	1.2
	Cupim South	CS-AG-0155	23	CS-AG-0155-002	2	4	1.2
	Cupim South	CS-AG-0093	24	CS-AG-0093-004	4	6	1.2
	Cupim South	CS-AG-0307	25	CS-AG-0307-004	4	6	1.2
	Cupim South	CS-AG-0131	25	CS-AG-0131-006	8	10	1.2
	Cupim South	CS-AG-0176	26	CS-AG-0176-004	6	8	1.2
	Centro Sul	CNT-AG-0019	28	CNT-AG-0019-006	8	10	1.2
	Centro Sul	CNT-AG-0168	29	CNT-AG-0168-005	6	8	1.2
	Centro Sul	CNT-AG-0114	30	CNT-AG-0114-004	4	6	1.2
	Centro Sul	CNT-AG-0114	31	CNT-AG-0114-006	8	10	1.2
	Centro Sul	CNT-AG-0165	32	CNT-AG-0165-004	6	7	1.2
	Centro Sul	CNT-AG-0063	33	CNT-AG-0063-004	6	8	1.2
	Centro Sul	CNT-AG-0072	34	CNT-AG-0072-003	4	6	1.2
	Centro Sul	CNT-AG-0110	35	CNT-AG-0110-006	8	10	1.2
						Total Weight (Kg)	**41.00**

Table 6: *Sample numbers used to form each bulk composite. Depths have been rounded to closest 0.5m*

Appendix C: JORC Code, 2012 Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample retrospectivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	*The Bulk Sample composite were formed using the powered auger and Reverse Circulation drills samples.* • *Auger drill holes:* *Each drill site was cleaned, removing leaves and roots from the surface. Tarps were placed on either side of the hole, and samples of soil and saprolite were collected every 1 m in advance. They were logged, photographed, and subsequently bagged in plastic bags, and each sample was identified.* • *Reverse Circulation drill holes:* *Samples were collected and identified from every 1 metres of the RC rig.* *All samples were sent for preparation to the contracted laboratories, ALS or SGS, in Vespasiano-MG, Brazil.*
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diametre, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	***Powered Auger:*** • *Powered auger drilling employed a motorised post-hole digger with a 2 to 4-inch diameter. All holes were drilled vertically. The maximum depth achieved was 17 metres, the minimum was 6 metres, and the average was 10.32 metres, providing the hole did not encounter fragments of rocks/boulders within the weathered profile and/or excessive water. Final depths were recorded according to the length of rods in the hole.* ***Reverse Circulation:*** • *RC drilling was conducted using an Atlas Copco EXPLORAC R50 RC Machine configured with a 4.75-inch diameter. The drill site preparation included clearing, levelling the ground, and delineating the drilling area. The RC rig conducted drilling within each hole and terminated upon intercepting transitional material or fresh rock. RC drilling was used predominantly in a systematic manner, forming a grid with 200m spacing. Samples were collected from every 1 metre of the RC rig and sent for preparation to the contracted laboratories, ALS or SGS.*
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures are taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	***Auger sample recovery:*** • *Estimated visually based on the sample recovered per 1m interval drilled. Recoveries ranged from 85% to 100%. If estimates dropped below 75% recovery in a 1m interval, the field crew aborted the drill hole and redrilled the hole.* ***Reverse Circulation recovery:*** • *Every 1m sample is collected in plastic buckets and weighed. Each sample averages approximately 15kg, which is considered acceptable given the hole diameter and the specific density of the material. 98% of the samples had more than 85% recovery.*
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	*Geological descriptions are made using a tablet with the MX Deposit system, which directly connects the geological descriptions to the database in the MX Deposit system managed by the Viridis geologist team.* ***Auger drilling:*** • *Material is described in a drilling bulletin every 1m and photographed. The description is made according to tactile-visual characteristics, such as material (soil, colluvium, saprolite, rock fragments), material colour, predominant particle size, presence of moisture, indicator minerals, and extra observations.* • *The chip trays of all drilled holes have a digital photographic record and are retained at the core facility in Poços de Caldas.* • *All drill holes are photographed and stored at the core facility in Pocos de Caldas.* ***Reverse Circulation drilling:***

		• *A geologist logs the material at the drill rig or core facility. Logging focuses on the soil (humic) horizon, saprolite/clay zones, and transition boundaries. Other parameters recorded include grain size, texture, and colour, which can help identify the parent rock before weathering.* • *Due to the nature of the drilling, logging is done at 1m intervals. 1m samples weighing approximately 15kg are collected in a bucket and presented for sampling and logging.* *The chip trays of all drilled holes have a digital photographic record and are retained at the core facility in Poços de Caldas.*
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• *Sub-sampling Method: Bulk composite samples, totalling 41 kg, were formed from 35 samples derived from 26 drill holes (2 RC and 24 augers) within the Southern Complex.* • *The weight of each sample ranged from 600g to 1.2kg, with an average weight of 1.2kg per sample. This homogenisation process was carried out at the ANSTO laboratory.* ***Powdered Auger Drilling and RC:*** • ***Collection and Labeling:*** *Samples of regolith and saprolite were collected at 1m intervals, placed into clear plastic bags, sealed, and labelled.* • ***Weighing and Lab Analysis:*** *The samples were weighed and sent to SGS Geosol for analysis.* • ***Sample Preparation (PRP102_E):*** *Upon arrival at the lab, samples were dried at 105°C, crushed to 75% less than 3 mm, homogenised, and passed through a Jones riffle splitter.* • ***Homogenisation and Sampling:*** *Each original sample was subsampled to approximately 1.2 kg and sent to ANSTO. At ANSTO, the 35 subsampled samples were homogenised to create a representative composite for the Southern Complex.* ***ANSTO*** *The Bulk composite was dried at 60°C, homogenised and crushed to <1 mm to ensure sample representativity in subsequent sub-sampling.* *Portions of the bulk composite were split for diagnostic leach tests and head assays. ALS Brisbane took three 50g sub-samples and tested them for head assays (ICMPS). The average of these three results was used to determine the overall head assay for the Bulk Composite.* *For each diagnostic leach test, 80g sub-samples were split and tested under a 4% S/L ratio with ambient room temperature (~22ºC). The final liquor was assayed using ICP-MS for rare earth elements ('REEs') by ALS Brisbane and ICP-OES for assaying impurities by ANSTO.* *The procedure included strict quality controls to ensure sample representativity and minimise sampling bias. Sub-samples underwent diagnostic leach testing under various pH conditions and reagent concentrations (such as Ammonium Sulfate solution, 'AMSUL'), ensuring that the preparation technique was appropriate for the grain size and nature of the material being analysed.*
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	*The leaching test was conducted under the following different conditions:* • *Utilization of 0.5M – 0.2M (NH4)2SO4 as lixiviant;* • *pH maintained at 4 – 4.5;* • *Duration of 0.5 hours;* • *Ambient temperature (~22°C);* • *Solids density of 4 wt%.* *Each test was carried out in a 2 L baffled leach vessel with an overhead stirrer. When necessary,* H_2SO_4 *was used to adjust the test pH. Minor elements in the solution were not analysed due to high dilution, focusing instead on assessing REE extraction variability. Gangue element dissolution indicated relative acid consumption. After each test, the slurry was vacuum-filtered to separate the leach liquor. The final residue solids were washed on the filter with 200 mL of DI water and dried at 105°C to constant weight. Individual REE recoveries from each sample were calculated using head and leach liquor assays. The final leach liquor filtrates were analysed subsequently.* *The final leach liquor filtrates were analysed as follows:* *ICP-MS for Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Mn, Nd, Pr, Sc, Sm, Tb, Th,*

<table>
<tr><td></td><td></td><td>Tm, U, Y, Yb (At ALS-Brisbane);
ICP-OES for Al, Ca, Fe, K, Mg, Mn, Na, Si, Zn (At ANSTO: in-house).
Quality Control: The laboratory follows strict quality control procedures, ensuring the accuracy and precision of the assay data. Internally, the laboratory uses duplicate assays, standards, and blanks to maintain quality.
Comments on Assay Data and Tests: The techniques employed are well-suited for the elements and minerals of interest. These methods, combined with the reputable quality control practices of the ANSTO and ALS laboratories, ensure the reliability of the assay data.</td></tr>
<tr><td>Verification of sampling and assaying</td><td>The verification of significant intersections by either independent or alternative company personnel.
The use of twinned holes.
Documentation of primary data, data entry procedures, data verification, and data storage (physical and electronic) protocols.
Discuss any adjustment to assay data.</td><td>Significant intersections have not been independently verified by alternative company personnel yet.
Primary data collection follows a structured protocol, with standardised data entry procedures in place. Data verification procedures ensure that any anomalies or discrepancies are identified and rectified. All data is stored both in physical forms, such as hard copies and electronically, in secure databases with regular backups.
The only adjustments to the data were made- transforming the elemental values into the oxide values. The conversion factors used are included in the table below.
<table>
<tr><th>Element</th><th>Oxide</th><th>Factor</th></tr>
<tr><td>Ce</td><td>CeO2</td><td>1.2284</td></tr>
<tr><td>La</td><td>La2O3</td><td>1.1728</td></tr>
<tr><td>Sm</td><td>Sm2O3</td><td>1.1596</td></tr>
<tr><td>Nd</td><td>Nd2O3</td><td>1.1664</td></tr>
<tr><td>Pr</td><td>Pr6O11</td><td>1.2082</td></tr>
<tr><td>Dy</td><td>Dy2O3</td><td>1.1477</td></tr>
<tr><td>Eu</td><td>Eu2O3</td><td>1.1579</td></tr>
<tr><td>Y</td><td>Y2O3</td><td>1.2699</td></tr>
<tr><td>Tb</td><td>Tb4O7</td><td>1.1762</td></tr>
<tr><td>Gd</td><td>Gd2O3</td><td>1.1526</td></tr>
<tr><td>Ho</td><td>Ho2O3</td><td>1.1455</td></tr>
<tr><td>Er</td><td>Er2O3</td><td>1.1435</td></tr>
<tr><td>Tm</td><td>Tm2O3</td><td>1.1421</td></tr>
<tr><td>Yb</td><td>Yb2O3</td><td>1.1387</td></tr>
<tr><td>Lu</td><td>Lu2O3</td><td>1.1371</td></tr>
</table>
The TREO (Total Rare Earth Oxides) was determined by the sum of the following oxides: CeO2, Dy2O3, Er2O3, Eu2O3, Gd2O3, Ho2O3, La2O3, Lu2O3, Nd2O3, Pr6O11, Sm2O3, Tb4O7, Tm2O3, Y2O3, Yb2O3. For the
MREO (Magnetic Rare Earth Oxides), the following oxides were considered: Dy2O3, Nd2O3, Pr6O11, and Tb4O7.</td></tr>
<tr><td>Location of data points</td><td>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.
Specification of the grid system used.
Quality and adequacy of topographic control.</td><td>RC and auger collars
The positioning of the drill has been achieved with high precision using a GPS RTK (Real-Time Kinematic) system CHC i73. This sophisticated GPS provides real-time corrections. The horizontal accuracy in RTK is 8 mm + 1 ppm RMS, and the Vertical accuracy is 15 mm + 1 ppm RMS, with a startup time of under 10 seconds and a Startup Reliability greater than 99.9%. The project's grid system is based on the SIRGAS 2000 UTM coordinate system. This universal grid system facilitates consistent data interpretation and integration with other geospatial datasets.
Benchmark and control points were established within the project area to ensure the quality and reliability of the topographic location data.</td></tr>
</table>

Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution are sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	***RC and auger Grid space*** *The Auger and RC drilling were conducted on a regular grid with 200 x 200 metres spacing. This grid spacing provides a detailed exploration framework suitable for the area of interest. It aims to assist in defining our initial resource and offer a foundational understanding of the geological and grade continuity in the targeted zone.*
Orientation of data about geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of crucial mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• *All drill holes were vertically oriented, which is deemed appropriate given the nature of the deposit. The deposit in question is a supergene deposit with a much larger areal extent than the thickness of the mineralised body. This type of deposit tends to be horizontally extensive with relatively consistent thickness.* • *Given the vast area extent of the deposit and its relatively consistent thickness, vertical drilling is best suited to achieve unbiased sampling. This orientation allows for consistent intersecting of the horizontal mineralised zones and provides a representative view of the overall geology and mineralisation.* • *There is no indication that drilling orientation has introduced any sampling bias about the crucial mineralised structures. The drilling orientation aligns well with the deposit's known geology, ensuring accurate representation and unbiased sampling of the mineralised zones. Any potential bias due to drilling orientation is considered negligible in this context.*
Sample security	• *The measures taken to ensure sample security.*	• *All samples were collected by field personnel and carefully packed in labelled plastic bags. Once packaged, the samples were transported directly to the SGS-GEOSOL or ANSTO laboratories. The samples were secured during transportation to ensure no tampering, contamination, or loss. Chain of custody was maintained from the field to the laboratory, with proper documentation accompanying each batch of samples to ensure transparency and traceability of the entire sampling process. Using a reputable laboratory further reinforces the sample security and integrity of the assay results.*
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• *As of the current reporting date, two independent audits have been conducted on the sampling techniques, assay data, or results obtained from this work.*

Section 2 Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section).

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership, including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	*All samples were acquired from tenements owned by Viridis Mining and Minerals Ltd, Specifically:* *833.560/1996 – 154.20 ha – Mining Request – 13 samples* *830.464/1982 – 783.00 ha – Mining Request – 13 samples* *806.604/1973 – 23.90 ha – Mining Licence – 1 sample* *830.711/2006 – 168.74 ha – Exploration Licence – 4 samples* *832.025/2009 – 16.05 ha - Mining Request – 2 samples* *830.850/2024 – 319.07 ha – Exploration Licence – 2 samples* *Location: Southern Concessions*

Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• *Historical exploration in the area comprises notable endeavors by various entities:*
		  • *The Colossus project is geologically intertwined with the Caldeira Project, sharing the same geological context.*
		  • *Varginha Mineração previously undertook regional drilling exercises, utilising a powered auger drill rig to produce open holes.*
		  • *This historical data provides essential context and complements current exploration efforts in understanding the region's geological potential.*

Geology	• *Deposit type, geological setting and style of mineralisation.*	• *The geology of the region where the deposit is located can be summarised as follows:*
		  • *Deposit Nature: The deposit under study is recognised as an Ionic Adsorption Clay Rare Earth Element (REE) deposit. Its spatial positioning is within and adjacent to the renowned Poços De Caldas Alkaline massif complex.*
		  • *Poços de Caldas Complex: This geological entity stands as one of the most extensive alkaline massif intrusions globally, enveloping an area of roughly 800 km². It stretches across the Brazilian states of São Paulo and Minas Gerais. From a macro perspective, it portrays a near-circular structure with an approximate diameter of 30 km. This formation has a semblance of a collapsed caldera. Delving deeper, the dominant rocks within the alkaline complex encompass phonolite, nepheline syenites, sodalite syenites, and many volcanic rocks. This diverse geological setting has played a crucial role in dictating mineral occurrences and potential mining prospects.*
		  • *REE Mineralisation: The specific REE mineralisation highlighted in this disclosure leans towards the Ionic Clay type. Evidence pointing to this is mainly derived from its occurrence within the saprolite/clay zone of the weathering profile of the Alkaline granite basement. The enriched MREO (Medium Rare Earth Oxides) composition also attests to this classification.*
		  • *Relevant Additional Information: The Ionic Adsorption Clay Rare Earth Element deposits, particularly in regions like Poços de Caldas, have recently gained significant attention due to the global demand surge for rare earth elements. These elements, especially the heavy rare earths, have vital applications in modern technologies such as renewable energy systems, electronics, and defence apparatus. The ability of these deposits to offer relatively environmentally friendly mining prospects compared to traditional hard rock REE mines further enhances their appeal.*
		  • *Given the strategic importance of REEs in modern industries, a thorough understanding, and exploration of such geologies becomes paramount. The unique geological setting of the Poços de Caldas complex presents both opportunities and challenges, making further detailed study and research essential for sustainable exploitation.*

Drill hole Information	• *A summary of all information material to the understanding of the exploration results, including a tabulation of the following information for all Material drill holes:* ○ *Easting and northing of the drill hole collar*	• *Auger Drilling* *Total number of holes: 24* *Total number of samples: 33*

Criteria	JORC Code explanation	Commentary
	○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *Dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• *RC Drilling* *Total number of holes: 2* *Total number of samples: 2* *Reported in Appendix A and B of this Report*
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• *Data collected for this project includes surface geochemical analyses, geological mapping, and auger and RC drilling results. Data were compiled without selective exclusion. All analytical methods and aggregation were done according to industry best practices, as detailed in previous discussions.*
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• *Given the nature of the deposit, which is a supergene deposit with a much larger areal extent than its thickness, the vertical drilling orientation is suitable for accurately representing the mineralised zones.* • *All drill holes are vertical and are appropriate for the deposit type, ensuring unbiased sampling of the mineralisation.* • *Due to the mineralisation's geometry and the drill holes' vertical orientation, downhole lengths can be considered close representations of the true widths of the mineralised zones. However, further studies would be required for absolute precision.* • *In cases where there might be a discrepancy between downhole lengths and true widths, it should be noted that "downhole length, true width not known."*
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	*The data presented in this report helps readers better understanding of the information. Various diagrams and supplementary information are included in the document, enhancing the clarity and accessibility of the geological findings and exploration results.*
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• *The data presented in this report strives to provide a transparent and holistic view of the exploration activities and findings. All the information, ranging from sampling techniques, geological context, prior exploration work, and assay results, has been reported comprehensively. Where relevant, cross-references to previous announcements have been provided to ensure continuity and clarity. Including diagrams, such as geological maps and tables, supports a more in-depth understanding of the data. It's noteworthy to mention that while positive results have been highlighted, the nature of the samples, particularly their origin from either saprolitic clays or bauxite, has been distinctly reported to ensure a balanced view. This report faithfully represents the exploration activities and findings without any undue bias or omission.*
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• *There is no additional substantive exploration data to report currently.*
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of*	• *Continuing metallurgical testing program with ANSTO, including metre-by-metre testing to identify precise locations of highest recoveries to support mine planning and development strategy. Progressing drilling and environmental permitting scope at our*

Criteria	JORC Code explanation	Commentary
	possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	*Northern Concessions which is the focus of our initial production facility. In parallel, Viridis is progressing with all key development activities, including resource modelling and scoping study.*