



# A Battery Metals Explorer Focused on Critical Mineral Vanadium

RIU Gold Coast Investment Showcase  
June 2023

ASX:VKA



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## Competent Person's Statements

Information in this release that relates to Exploration Results and Exploration Target is based on information compiled by Mr Julian Woodcock, who is a Member and of the Australian Institute of Mining and Metallurgy (MAusIMM(CP) - 305446). Mr Woodcock is a full-time employee of Viking Mines Ltd. Mr Woodcock has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Woodcock consents to the inclusion in this Presentation of the matters based on this information in the form and context in which it appears.

The information in this report that relates to Mineral Resources is based on, and fairly reflects, information compiled by Mr Aaron Meakin, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Meakin is a consultant to Flinders Mines Ltd and Viking Mines Ltd, employed by CSA Global Pty Ltd, independent mining industry consultants. Mr Meakin has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code). The Company is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The information contained in this report, relating to metallurgical results, is based on, and fairly and accurately represent the information and supporting documentation prepared by Mr Damian Connelly. Mr Connelly is a full-time employee of METS Engineering who are a Contractor to Viking Mines Ltd, and a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Connelly has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.



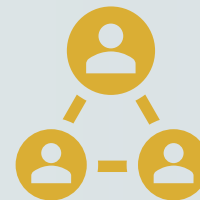
**Critical Mineral  
Vanadium With Cu,  
Ni, & Co Credits**



**Large MRE & ETE with  
Huge Upside Potential <sup>i,ii</sup>**



**Following in Murchison  
Pioneer's Footsteps**



**Management with  
Demonstrable  
Discovery Record**

# Corporate Overview



ASX Code  
**VKA**

Share Price  
**\$0.009**  
(16 June 2023)

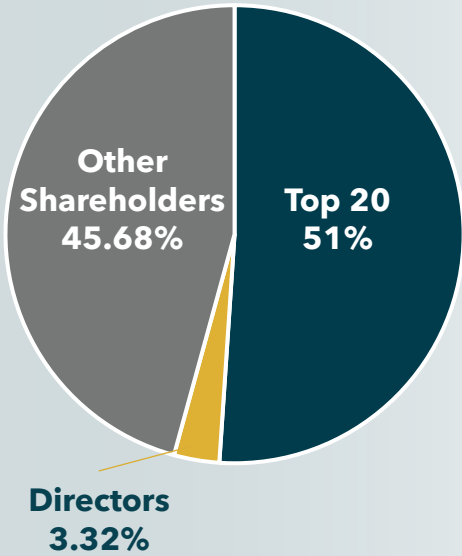
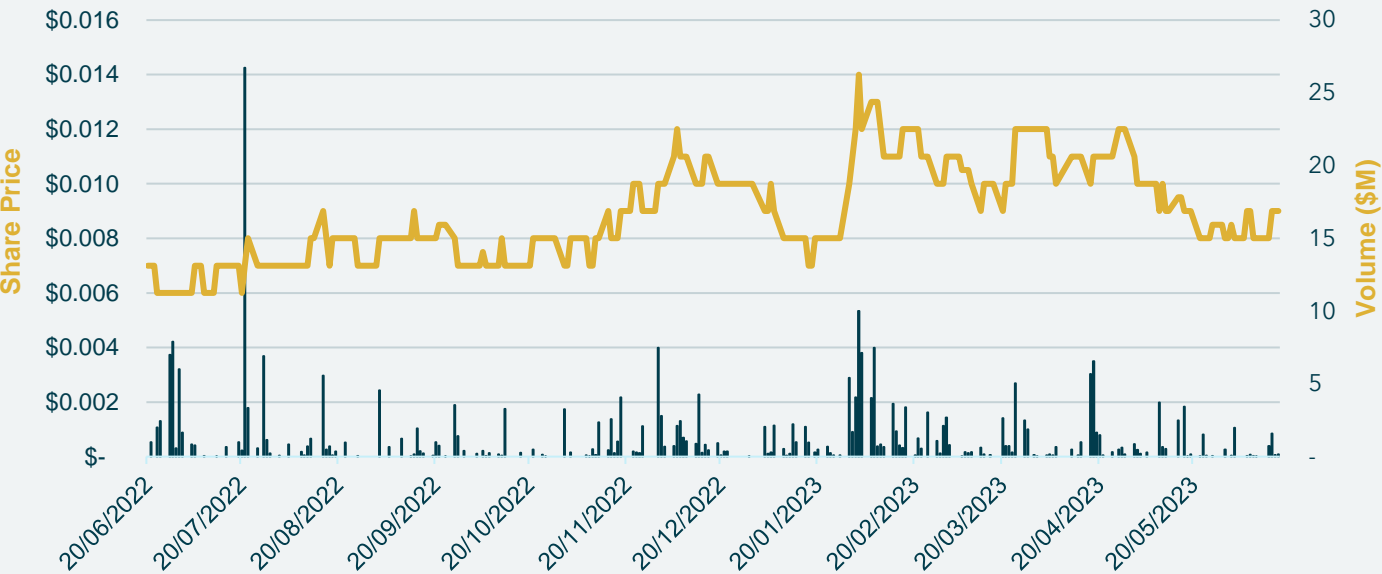
Shares on Issue  
**1.025 B**

Market Cap  
**\$9.2 M**  
(Undiluted)

Cash +  
Receivables  
**\$4.35 M**  
(as at 31 March)

Enterprise Value  
**\$4.85 M**

VKA Share Price and Volume





# Board and Management



**Charles Thomas**  
**Chairman**

Mr. Thomas is an Executive Director and Founding Partner of GTT a leading boutique corporate advisory firm based in Australia.

Mr. Thomas has worked in the financial service industry for more than 17 years and has extensive experience in capital markets as well as the structuring of corporate transactions.



**Julian Woodcock**  
**Managing Director & CEO**

Mr. Woodcock is a geologist with a career spanning 2 decades in the exploration and production of various commodities across multiple counties.

Notable accomplishments involve significant gold discoveries and resource ounce growth including the +2Moz Invincible Deposit at St Ives which advanced from discovery drillhole to production in <3 years, the 0.3Moz Gilmour deposit at Yamarna defined in <12 months and +1Moz resource conversion at Gruyere.



**Michael Cox**  
**Non-Executive Director**

Mr Cox has run a private corporate advisory services firm since 2008.

He commenced his career as a mining analyst for stockbroking firms followed by a role being responsible for the delineation and grade control of a developing bentonite deposit.

He then moved into various board positions and corporate development roles with a number of listed and unlisted public companies.

# Right Rocks, Right Jurisdiction, Right Location



## Investment Attractiveness

- WA, Ranked #1 in Fraser Institute Annual Survey of Mining Companies.
- Situated in the 'Vanadium Triangle' of substantial Vanadium Projects in WA
- Windimurra Igneous Complex - Directly comparable to the famous Bushveld Complex in South Africa.

## Location & Access

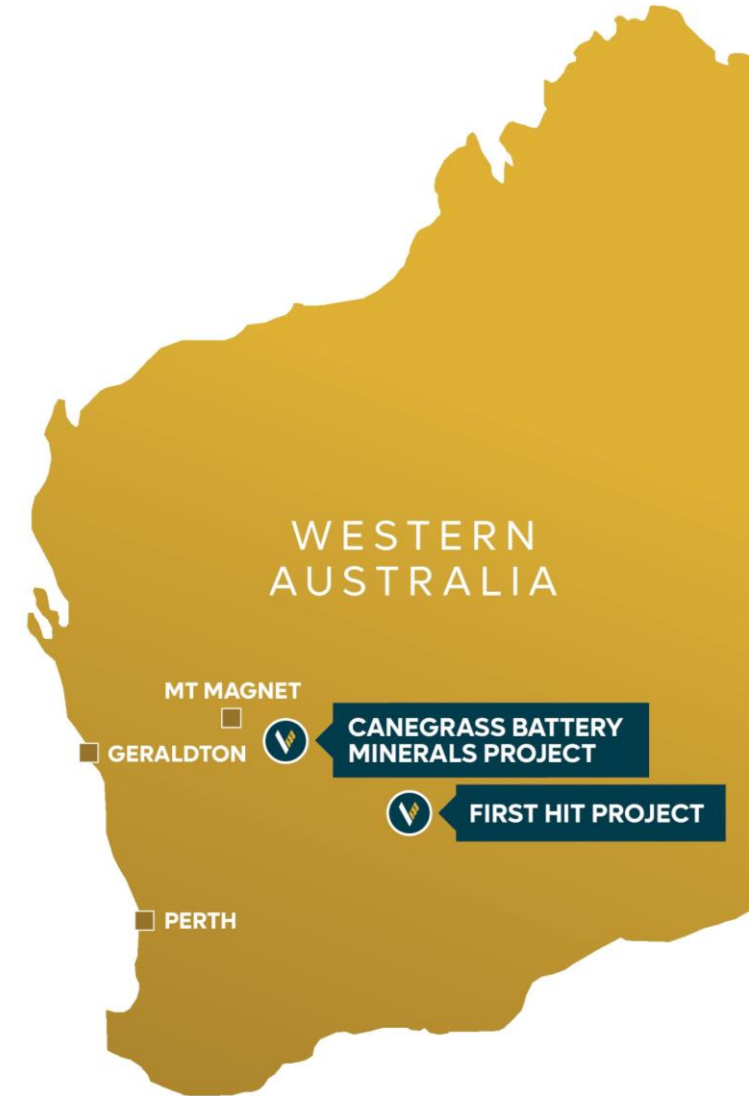
- 620km NE of Perth (WA).
- 60km from the township of Mount Magnet, with sealed airstrip & regular commercial flights.
- Bitumen road to within 22km of the Resource.

## Critical Infrastructure

- Midwest gas pipeline passes 22km north of the Project.

## Port & Rail

- 338km to Tenindewa rail head, on route to Geraldton.
- 419km to established Port at Geraldton already used to export iron ore & mineral sands.



# Vanadium Critical, Industrial and Battery Mineral



Established industrial mineral, primarily used in the steel industry as an additive to increase strength.



Main component in Vanadium Redox Flow Batteries (VRFB) which are a proven and commercially available technology to meet demand for long duration energy storage.

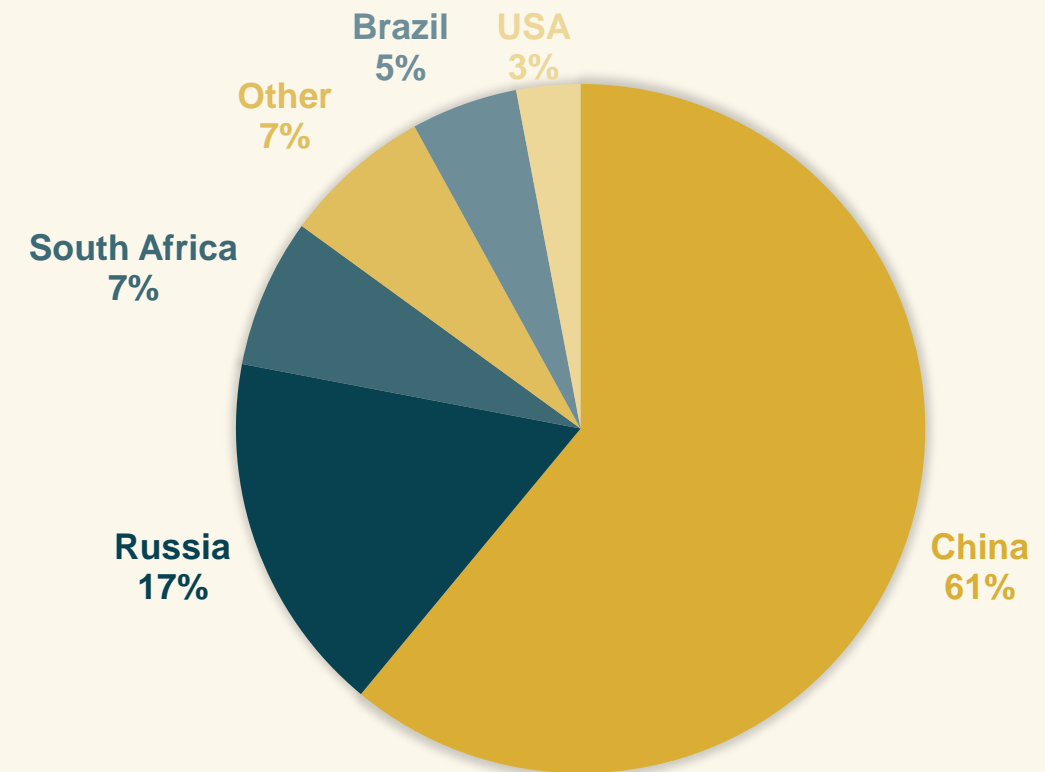


Future innovation applications for Vanadium, with potential in solid state batteries and use in lithium-ion cathodes and anodes.



Opportunity to diversify supply chains to stable jurisdictions, with 85% of global production coming from China, Russia and South Africa.

## 2021 Production by Country



<https://www.bushveldminerals.com/about-vanadium/>

# Vanadium Alternate Energy Storage Solution



## VANADIUM REDOX FLOW BATTERY (VRFB)



VRFB Sector forecast to **grow >900%** by 2031.



**Large energy storage** applications.



**No degradation in capacity or performance** - >20 years life cycle.

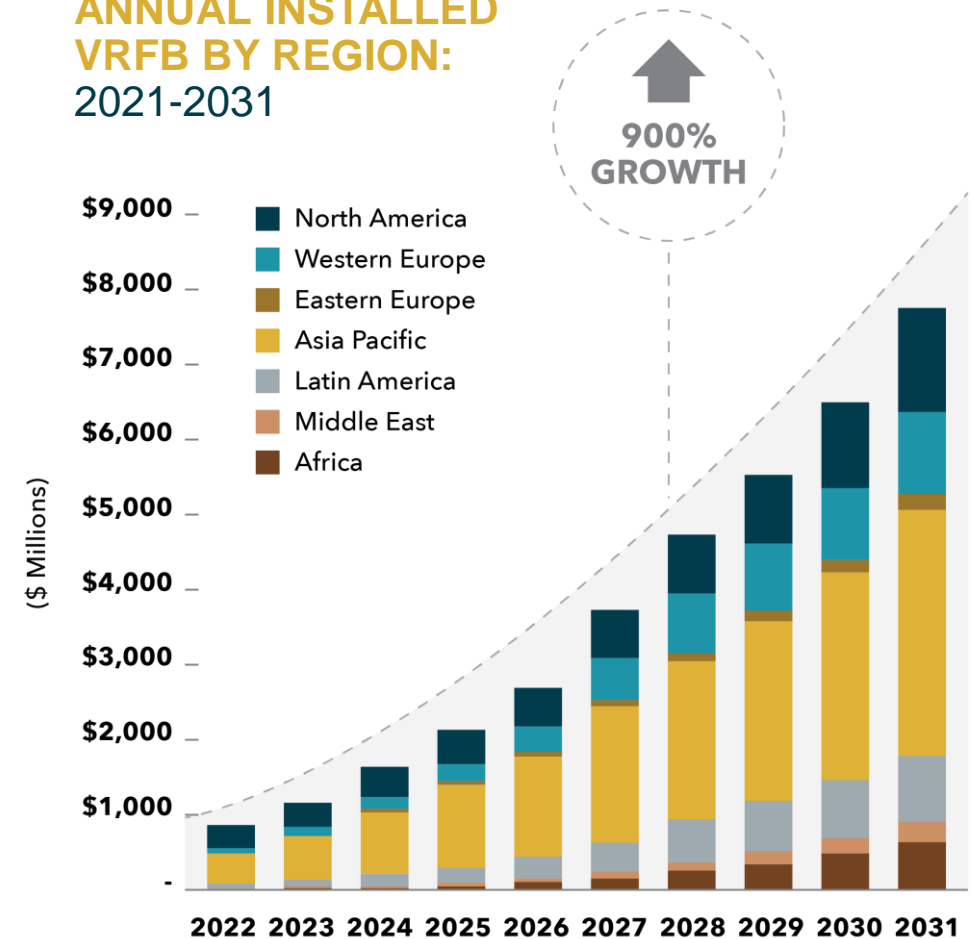


**Storage capacity simply increased** by installing more electrolyte tanks



Vanadium electrolyte **fully recyclable**.

## ANNUAL INSTALLED VRFB BY REGION: 2021-2031



Source: Guidehouse Insights



# Canegrass Battery Minerals Project



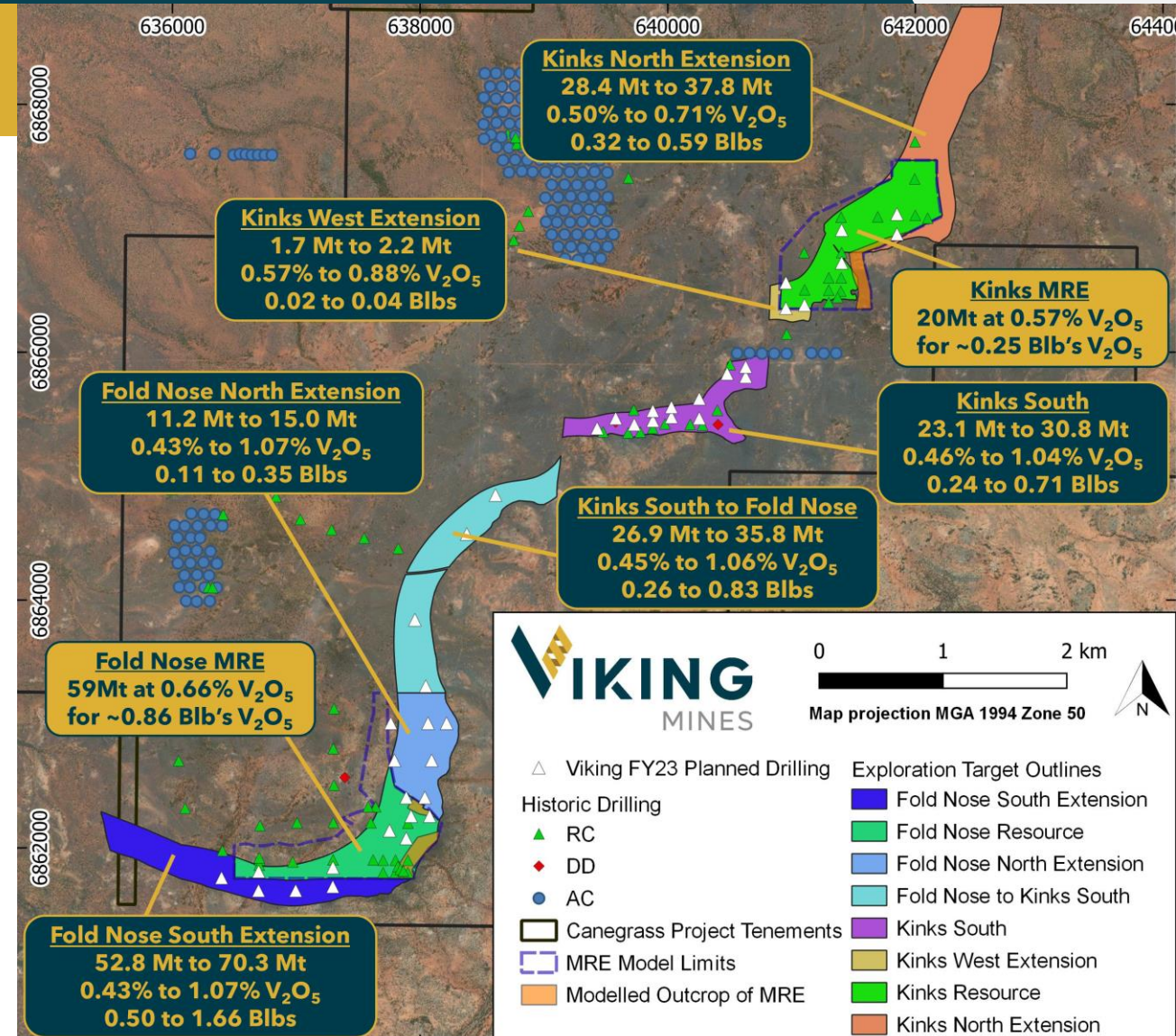
**79Mt @ 0.64%  $V_2O_5$ , 29.7% Fe, 6.0%  $TiO_2$ <sup>i</sup>**

- Large Inferred (JORC 2012) Mineral Resource Estimate (MRE) providing a base to build from.
- 95km<sup>2</sup> Project tenements encompassing the Vanadiferous Titanomagnetite (VTM) horizon.
- Significant upside potential identified via substantial Exploration Target Estimate.<sup>ii</sup>

**144Mt to 192Mt at 0.45% to 0.99%  $V_2O_5$   
for 1.44 to 4.19 Billion Pounds  $V_2O_5$ .\***

*The potential quantity and grade of mineralisation of the ETE at the Canegrass Project is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will confirm the target ranges.*

- Rapid advancement and newsflow with major 6,000m drilling campaign in progress.
- Fast-track proposition with Advanced Murchison peers 'lighting the path' for exploration and development methodology.





# VKA Targeting Extension, Growth & Discovery



## 6,000m Drill Programme Underway



### OBJECTIVE:

- Define high-grade resource  $>30\text{Mt } >0.9\%\text{V}_2\text{O}_5$ .

### STRATEGY:

- Drill test priority targets identified by the ETE.
- Extend the current MRE into areas of outcropping mineralisation not currently included.
- Grow from the high-grade Vanadium horizons identified.
- Discover new mineralisation in areas not previously drilled.

### OUTCOMES:

- MRE update later in the year.
- Growth of the Mineral Resource through discovery of new Vanadium mineralisation outside the limits of MRE.
- Comprehensive metallurgical testwork studies to commence.
- Scoping study decision early 2024.



# Fold Nose New Discovery Targets

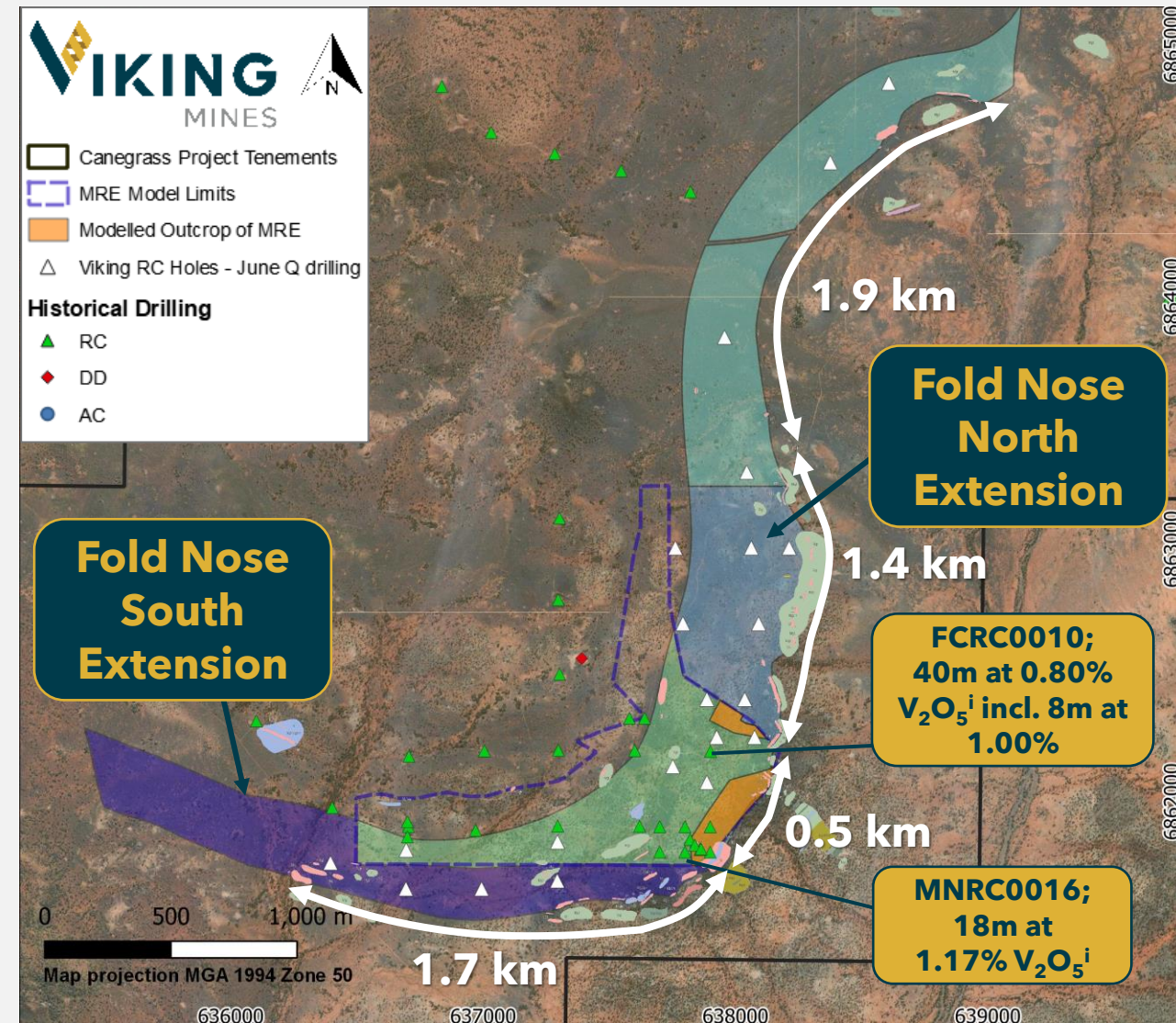


**59Mt at 0.66%  $V_2O_5$  for ~0.86 Billion lbs  $V_2O_5$ <sup>i</sup>**

- Existing substantial MRE with massive upside potential.
- Significant Exploration Target Estimate calculated for Fold Nose Deposit extensions totalling. <sup>ii</sup>

**64 Mt to 85 Mt at 0.43% to 1.07%  $V_2O_5$   
for 0.61 to 2.02 B lbs**

- Mapping confirms outcropping mineralisation North and South of the current MRE.
- Results in a 660% increase to current modelled outcropping strike length (to 3.6km from 0.5km).
- MRE model not extended to surface in these target areas generates opportunity for shallow open pit target tonnage additions.
- Drilling underway to Extend the MRE.





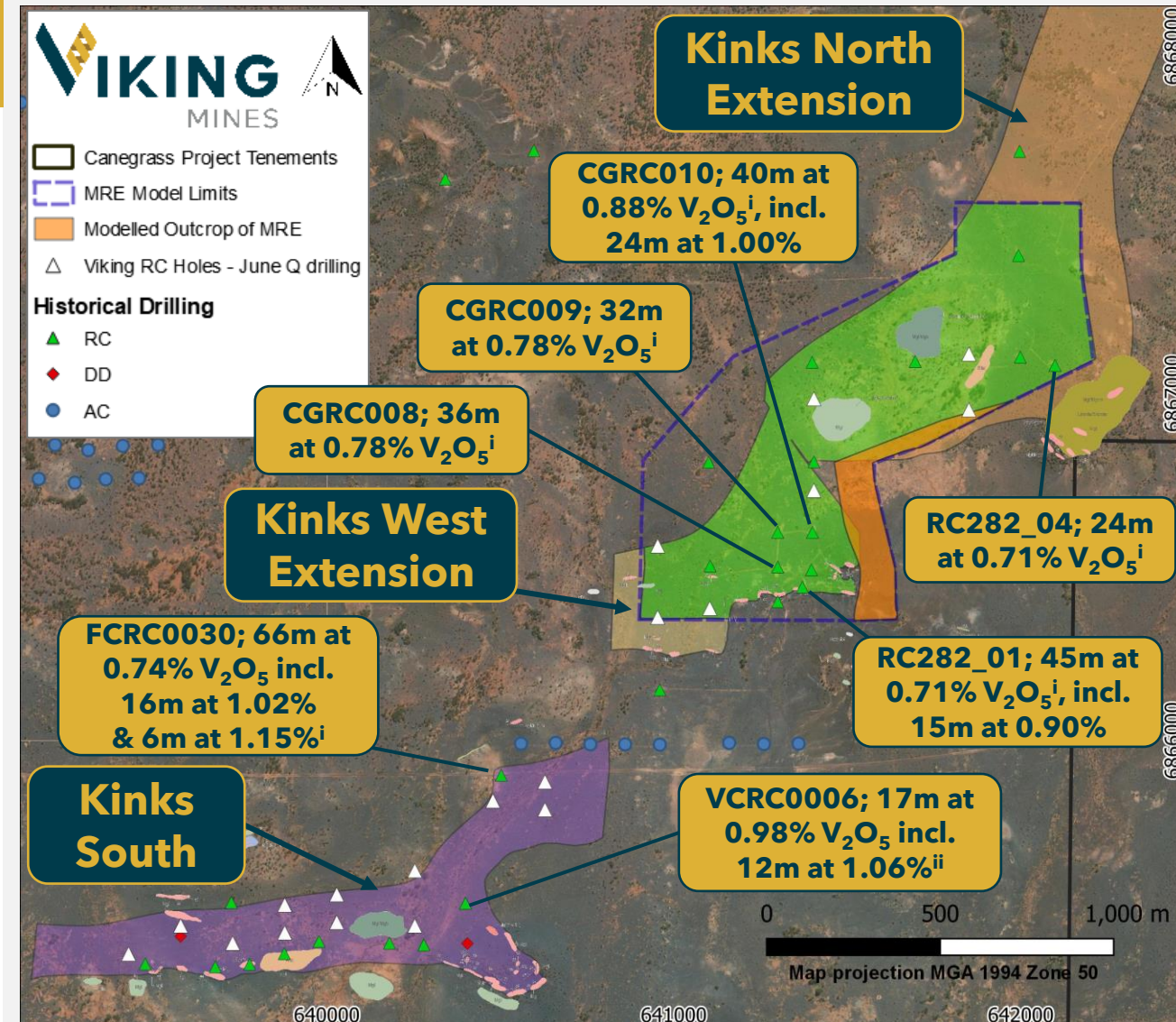
# Kinks North And West Extension Targets



**20Mt at 0.57%  $V_2O_5$  for ~0.25 Billion lbs  $V_2O_5$ <sup>i</sup>**

- Solid base for growth from existing MRE.
- Thick, high-grade drillholes completed since last MRE update not yet incorporated into the estimate:
  - CGRC0008, 9 & 10, RC282\_01 & 04<sup>i</sup>
- Outcrops to the West, but current MRE model not historically been extended to surface = **opportunity**.
- Substantial upside potential at Kinks North and West Growth Targets.
- Exploration Target Estimate for Kinks Extensions totals. <sup>iii</sup>

**30 Mt to 40 Mt at 0.51% to 0.72%  $V_2O_5$  for 0.34 to 0.64 B lbs.**
- Drilling completed and samples at the lab pending assay results.





# Kinks South Growth Target



## Substantial Exploration Target Area - No Estimated Mineral Resource

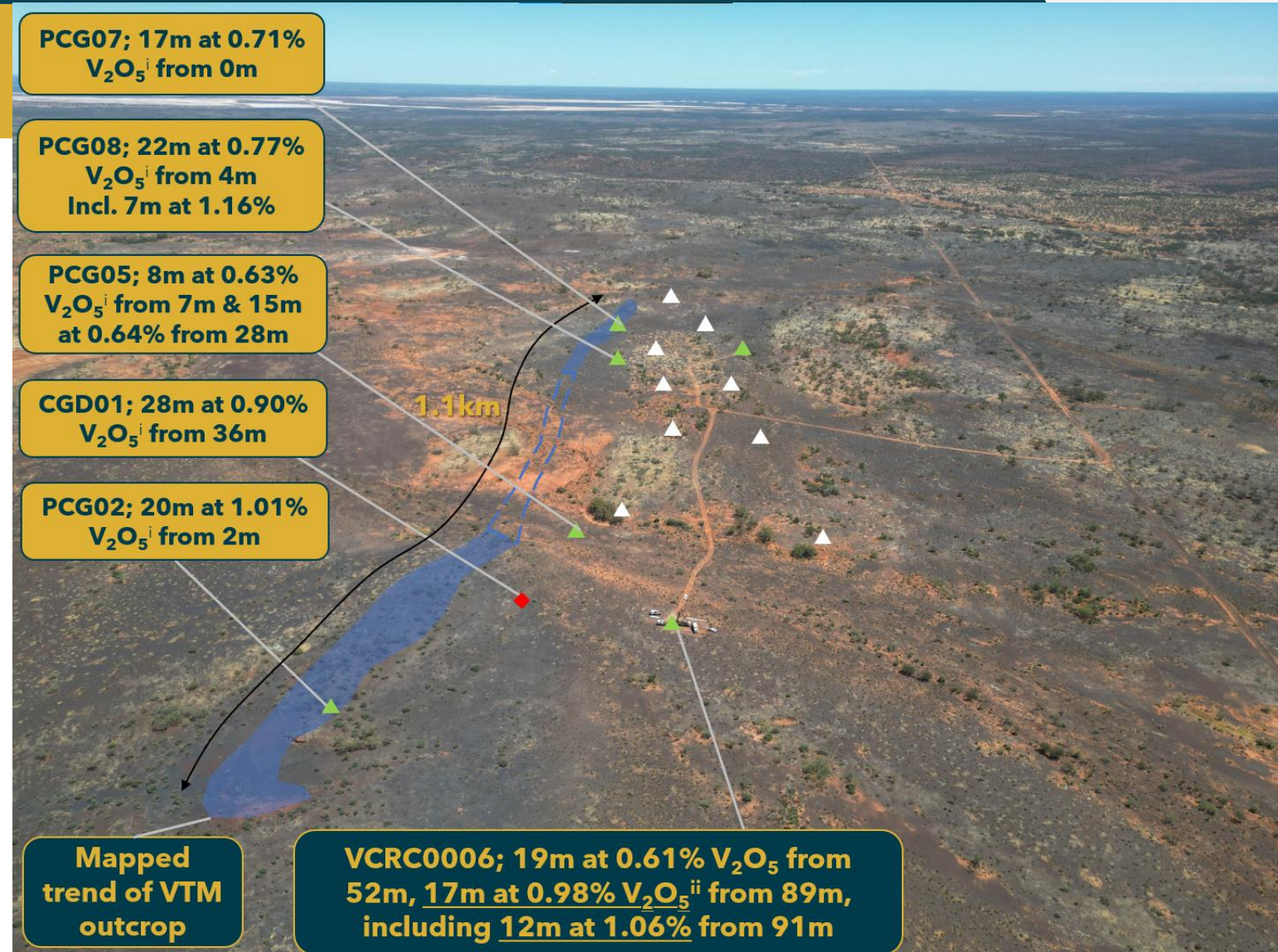
- >1.1km trend of outcropping mineralisation.
- Wide, high-grade hits in historical drilling from the 1980's never followed up. <sup>i</sup>
- Exploration Target Estimate defines major target. <sup>iii</sup>

**23.1Mt to 30.8Mt at 0.46% to 1.04%  $V_2O_5$  for 0.24 to 0.71 B lbs**

- First drilling by Viking for more than 40 years intersects thick high-grade Vanadium.

**VCRC0006; 17m at 0.98%  $V_2O_5$  <sup>ii</sup> from 89m.**

- Drilling completed and samples being shipped to the lab for analysis.
- Significant zones of magnetite observed (host rock to Vanadium Mineralisation)





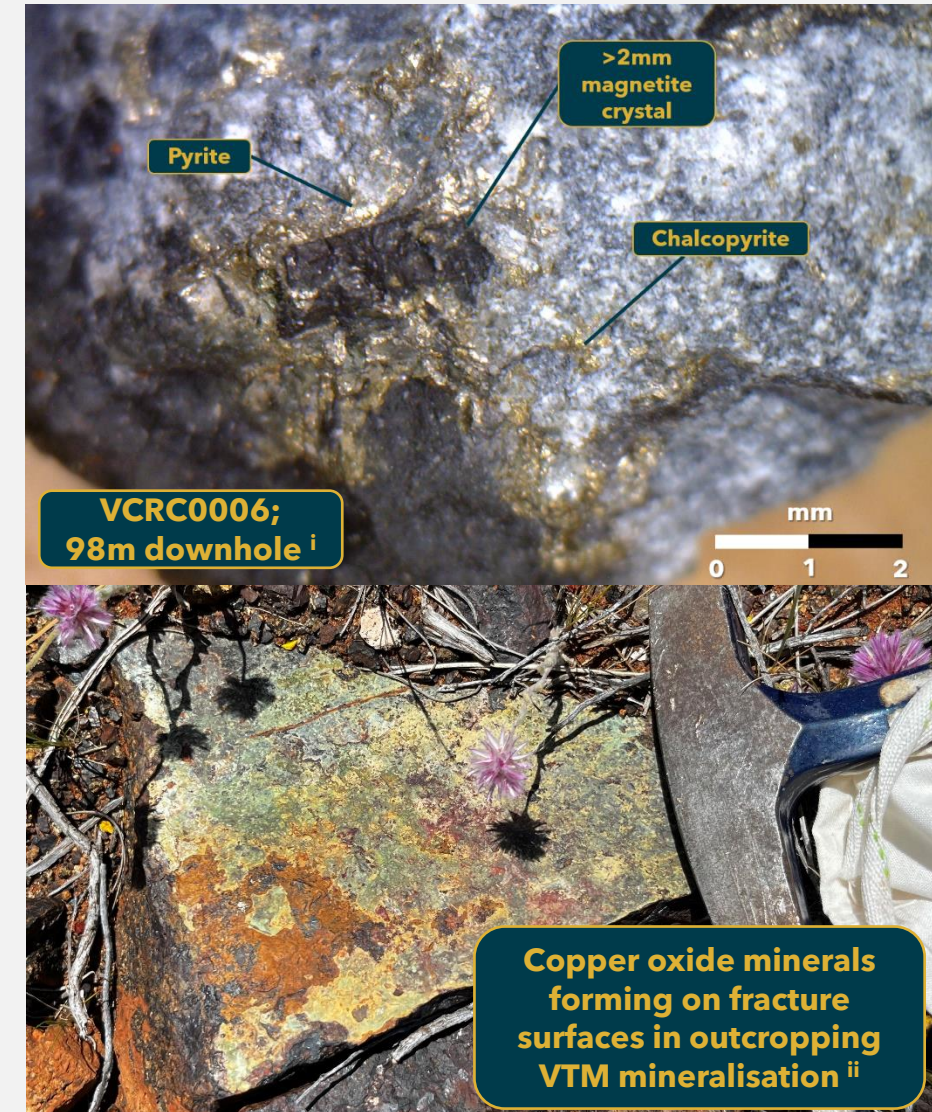
# Additional Battery Mineral Potential Ni, Cu, Co



- Copper oxides occur in outcropping mineralisation and chalcopyrite observed in RC chips. <sup>i</sup>
- Drill database includes assays for Cu, Ni & Co, but not estimated into the MRE.
- Selected DH Results across all targets include: <sup>ii</sup>
  - VCRC0006: 12m at 766ppm Ni, **1,281ppm Cu** & 122ppm Co.
  - CGRC0010: 40m at **793ppm Ni**, 801ppm Cu & 185ppm Co.
  - FCRC0010: 40m at 650ppm Ni, 661ppm Cu & **209ppm Co**.
  - FCRC0030: 66m at 731ppm Ni, **980ppm Cu** & 202ppm Co.
  - CGD01: 21.6m at 549ppm Ni and **1,021ppm Cu** (Co not assayed).

## Opportunity

- Continue to analyse for Ni, Cu & Co.
- Estimate metals into the next MRE update.
- Undertake metallurgical testwork to determine recovery potential for these battery metals into a sulphide concentrate.
- Sulphides expected to report to the non-magnetic tail during processing.



# Murchison Region Vanadium Focussed Projects



## Regional Vanadium/Titanium Projects

COMPANY	VIKING MINES (ASX:VKA)	TECHNOLOGY METALS (ASX:TMT)	AUSTRALIAN VANADIUM (ASX:AVL)	VENUS METALS (ASX:VMC)	SUREFIRE RESOURCES (ASX:SRN)
PROJECT	Canegrass Battery Minerals Project	Murchison Technology Metals Project	Australian Vanadium Project	Youanmi	Victory Bore & Unaly Hill
MRE	Inferred: 79Mt @ 0.64% V <sub>2</sub> O <sub>5</sub>	M+Ind+Inf: 154Mt @ 0.8% V <sub>2</sub> O <sub>5</sub>	M+Ind+Inf: 239Mt @ 0.73% V <sub>2</sub> O <sub>5</sub>	M+Ind+Inf: 135Mt @ 0.34% V <sub>2</sub> O <sub>5</sub>	M+Ind+Inf: 321Mt @ 0.40% V <sub>2</sub> O <sub>5</sub>
ORE RESERVES: PROVED & PROBABLE	n/a	44.48Mt @ 0.89% V <sub>2</sub> O <sub>5</sub>	30.9Mt @ 1.09% V <sub>2</sub> O <sub>5</sub>	n/a	n/a
PROJECT STATUS	Exploration	DFS complete	BFS complete	Exploration	Scoping Study

Refer to Appendix 1 for Detailed Vanadium Projects Table



# Critical Mineral Project Rapidly Advancing



Geological interpretation & targeting to define targets and develop exploration programme.



Drilling ~6,000m to expand mineral resource and test exploration targets.



Resource modelling to update Mineral Resource Estimate and expand to include Ni, Cu & Co.



Metallurgical testing to expand on preliminary testwork & evaluate Ni, Cu, Co potential.



Scoping study to determine value opportunity and decision to move to next step resource drilling.

Category	Activity	Mar Q FY23			Jun Q FY23			Sep Q FY24			Dec Q FY24			Mar Q FY24		
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Geological interpretation & targeting	Historical data compilation and database review															
	Field mapping & rock chip sampling															
	Geophysical data review & reprocessing															
	Structural geology interpretation and modelling															
	Exploration Target Estimate & drill targeting/planning															
Drilling & resource update	Heritage review & surveys															
	Resource drilling & exploration target testing															
	Mineral Resource update															
Metallurgy	Metallurgical consultant engagement															
	Testplan Development															
	Metallurgical testwork															
Studies	Commence scoping study															

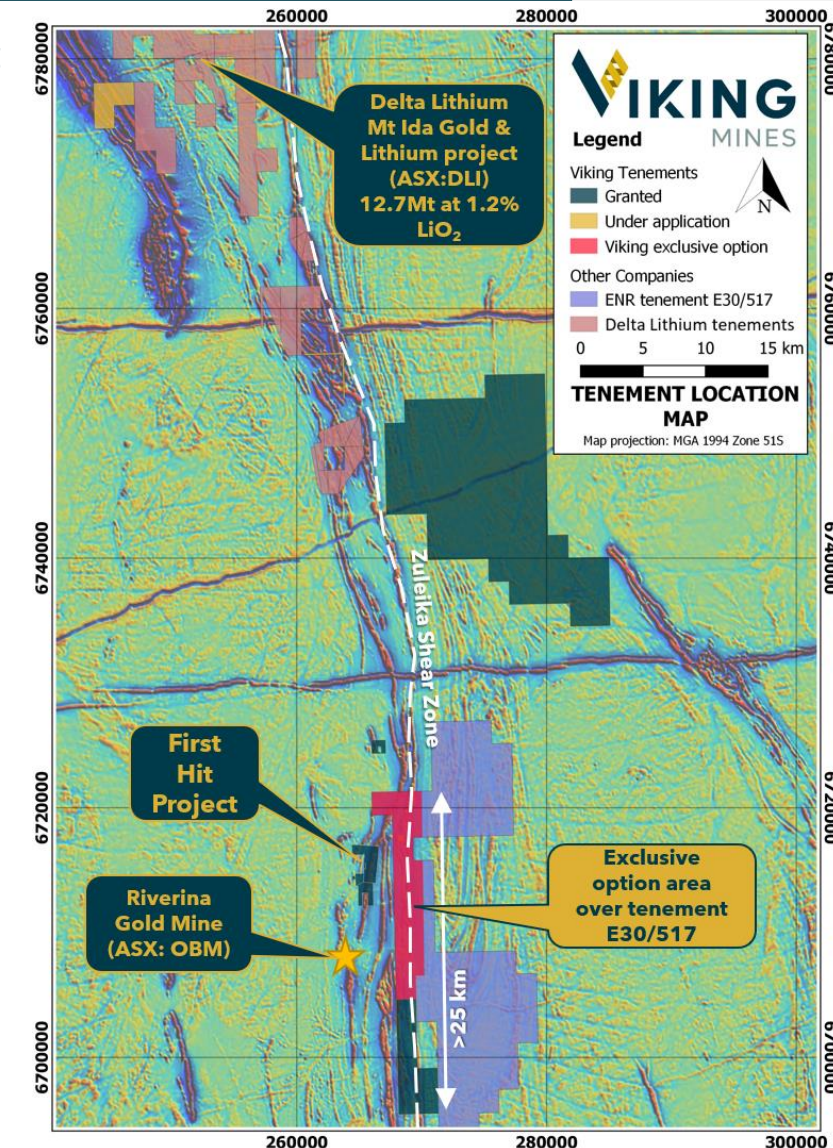
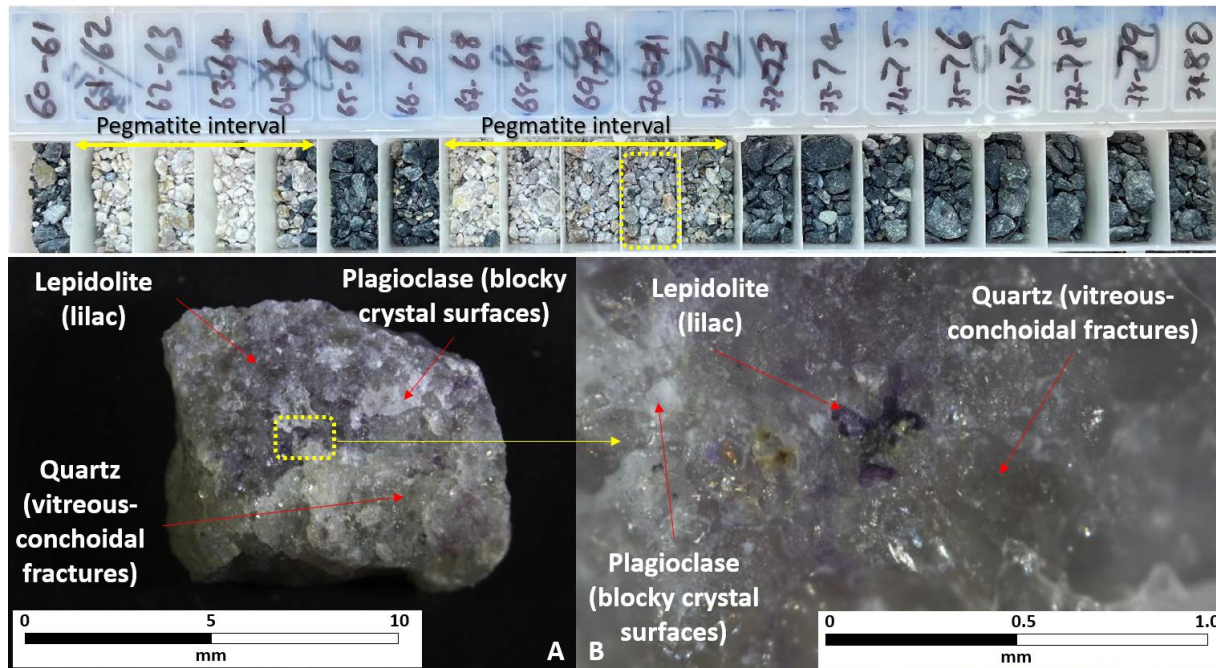
*Disclaimer; The timelines and activities listed in this table are indicative and subject to change based on knowledge gained at any point in the exploration process. The work programmes outlined are conceptual and require further activity to determine the most effective course of action to advance the Canegrass Battery Minerals Project. The Company reserves the right to amend or suspend any of the listed items at its discretion.*



# First Hit Project Gold & Lithium Opportunity



- Substantial >270km<sup>2</sup> tenement holding in prolific gold and lithium district.<sup>i</sup>
- 25km long continuous land position covering 60km<sup>2</sup> along highly prospective and well-endowed Zuleika Shear Zone.
- Delta Lithium advancing to production at Mt Ida Lithium Project.
- Multiple pegmatites intersected at First Hit.
- Hole VKRC0030 intersected lithium bearing minerals in pegmatite intersected from 61-72m.<sup>ii</sup>
- Follow up exploration required.



# Why Invest in Viking Mines



**Exposure To Critical Mineral Vanadium with Cu, Ni, & Co Upside**



**Large Mineral Resource Estimate with Huge Growth Potential**



**Rapidly Advancing Project with Fully Funded Extensive Work Programme**



**Low Market Cap with Major Newsflow Catalysts on the Horizon**





**For more information  
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**E** [zander@whitenoisecomms.com](mailto:zander@whitenoisecomms.com)



# Appendix 1 – Vanadium Company Snapshot



COMPANY	VIKING MINES (ASX:VKA)	TECHNOLOGY METALS (ASX:TMT)	AUSTRALIAN VANADIUM (ASX:AVL)	VENUS METALS (ASX: VMC)	SUREFIRE RESOURCES (ASX:SRN)
PROJECT	Canegrass	Murchison Technology Metals Project	Australian Vanadium Project	Youanmi	Victory Bore and Unaly Hill
	79Mt @ 0.64% V <sub>2</sub> O <sub>5</sub>	154Mt @ 0.8% V <sub>2</sub> O <sub>5</sub>	239Mt @ 0.73% V <sub>2</sub> O <sub>5</sub>	135Mt @ 0.34% V <sub>2</sub> O <sub>5</sub>	321Mt @ 0.40% V <sub>2</sub> O <sub>5</sub>
MINERAL RESOURCES	Inferred: 79Mt @ 0.64% V <sub>2</sub> O <sub>5</sub> TOTAL: 79Mt @ 0.64% V <sub>2</sub> O <sub>5</sub> (Source: 30 November 2022)	Measured: 12.1Mt @ 1.0% V <sub>2</sub> O <sub>5</sub> Indicated: 51.2Mt @ 0.9% V <sub>2</sub> O <sub>5</sub> Inferred: 90.5Mt @ 0.8% V <sub>2</sub> O <sub>5</sub> TOTAL: 153.7Mt @ 0.8% V <sub>2</sub> O <sub>5</sub> (Source: TMT 7 November 2022)	Measured: 11.3Mt at 1.14% V <sub>2</sub> O <sub>5</sub> Indicated: 82.4Mt at 0.70% V <sub>2</sub> O <sub>5</sub> Inferred: 145.3Mt at 0.71% V <sub>2</sub> O <sub>5</sub> TOTAL: 239Mt @ 0.73% V <sub>2</sub> O <sub>5</sub> (Source: <a href="https://www.australianvanadium.com.au/our-assets/the-australian-vanadium-project/">https://www.australianvanadium.com.au/our-assets/the-australian-vanadium-project/</a> )	Measured: 31.55Mt @ 0.33% V <sub>2</sub> O <sub>5</sub> Indicated: 54.37Mt @ 0.33% V <sub>2</sub> O <sub>5</sub> Inferred: 48.82Mt @ 0.36% V <sub>2</sub> O <sub>5</sub> TOTAL: 134.73Mt @ 0.34% V <sub>2</sub> O <sub>5</sub> (Source: VMC 20 March 2019)	Measured: 16.8Mt @ 0.42% V <sub>2</sub> O <sub>5</sub> Indicated: 70.3Mt @ 0.40% V <sub>2</sub> O <sub>5</sub> Inferred: 234.0Mt @ 0.40% V <sub>2</sub> O <sub>5</sub> TOTAL: 321Mt @ 0.40% V <sub>2</sub> O <sub>5</sub> (Source: SRN 1 February 2023)
ORE RESERVES	n/a	Proved: 1.12Mt @ 0.95% V <sub>2</sub> O <sub>5</sub> Probable: 43.36Mt @ 0.89% V <sub>2</sub> O <sub>5</sub> TOTAL: 44.48Mt @ 0.89% (Source: <a href="https://www.tmtlimited.com.au/murchison-technology-metals-project/mineral-resources-ore-reserves/">https://www.tmtlimited.com.au/murchison-technology-metals-project/mineral-resources-ore-reserves/</a> )	Proved: 10.5Mt @ 1.11% V <sub>2</sub> O <sub>5</sub> Probable: 20.4Mt @ 1.07% V <sub>2</sub> O <sub>5</sub> TOTAL: 30.9Mt @ 1.09% V <sub>2</sub> O <sub>5</sub> (Source: <a href="https://www.australianvanadium.com.au/our-assets/the-australian-vanadium-project/">https://www.australianvanadium.com.au/our-assets/the-australian-vanadium-project/</a> )	n/a	n/a
PROJECT STATUS	Exploration	Definitive Feasibility Study complete	Bankable Feasibility Study complete	Exploration	Scoping Study