



# Steelpoortdrift Vanadium Project

## Corporate Presentation

March 2024

ASX:VR8  
[www.vr8.global](http://www.vr8.global)



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All financial outcomes as reported in this announcement are done so on a 100% project basis. VR8 currently holds 86.49% ownership in the Steelpoortdrift project.

## **Competent Person Statement, Previously Reported Information & Cautionary Statement**

The information in the referenced in this presentation that relates to Exploration Results, including the Mineral Resources contained within the Production Target (and forecast financial information derived from the production targets) at the Steelpoortdrift project has previously been released to the ASX. Refer to ASX announcements released on 21 May 2018 titled “Exploration on High Grade Pipes Commences At SPD Vanadium Project”, 23 September 2020 titled “Scoping Study Confirms Viability of V2O5 Production”, 4 October 2022 titled “DFS Delivers A\$1.9BN NPV Confirming World Class Steelpoortdrift Vanadium Project” and 4 October 2022 titled VR8 updates Mineral Resources and Ore Reserve. The Company confirms that it is not aware of any information or data that materially affects the information included in the market announcement, and that all material assumptions and technical parameters underpinning the announcement continue to apply. 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 announcements referred to above.

## **Mineral Resources**

The Company confirms it is not aware of any new information or data that materially affects the information included in the 4 October 2022 (VR8 updated mineral resource and ore reserve for the Steelpoortdrift Vanadium Project) Vanadium Resource estimate and all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed when referring to its resource announcement made on 04 October 2022. 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 announcements.

## **Ore Reserves**

The Company confirms that it is not aware of any new information or data that materially affects the information included in the Ore Reserves Statement and that all material assumptions and technical parameters underpinning the estimates in the Ore Reserves Statement continue to apply and have not materially changed. The Information that has been presented in this report has been extracted from the announcement dated 4 October 2022 (VR8 updated mineral resource and ore reserve for the Steelpoortdrift Vanadium Project). 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 announcements.

## **Cautionary Statement LR 5.16.4**

There is a low level of geological confidence associated with the inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that production target itself will be realised.

# Emerging Vanadium Producer



One of the world's largest and highest-grade vanadium deposits



DFS indicates strong financial outcomes with post-tax NPV<sub>7.5%</sub> of US\$1.2Bn (US\$1.05Bn att. 86.5%)<sup>1</sup>, 42% IRR



Ore body easy to mine, low strip ratio & low operating cost



Using conventional / proven concentrate & Salt Roast Leach (SRL) processes to produce an average of 10.7kt to 21.0kt V<sub>2</sub>O<sub>5</sub> flake per annum



Mining licence granted



Established major mining & smelting jurisdiction



Located in a major industrial region with established infrastructure – existing operating plants, power and water, proven road & rail options to port



Experienced management team & commenced recruitment process for key technical & commercial roles

<sup>1</sup> ASX Announcement titled "VR8 Increases Project Interest in Steelpoortdrift to 86.49%", 15 November 2023.

## Corporate Structure (ASX: VR8) – as at 25 March 2024

**560.3m**

Shares on issue  
(undiluted)

**A\$0.045**

Share Price

**A\$25.8m**

Market Cap  
(@ \$0.045c)

**A\$4.1m**

Cash  
(As at 31 December 2023)

**20.3m**

Performance Rights  
(1.3m Class A & 1m Class B)

### Top Shareholders

1	Matrix Resources (Zhejiang) Co Ltd	9.6%
2	Danterne Pty Ltd <sup>1</sup>	8.1%
3	Raubex Pty Ltd	7.9%
4	Romfal Sifat Pty Ltd	5.0%
5	Davy Corp Pty Ltd <sup>2</sup>	3.0%

### Top 20 Shareholders

58.4%

### Board of Directors



**Jurie Wessels**

Executive Chairman



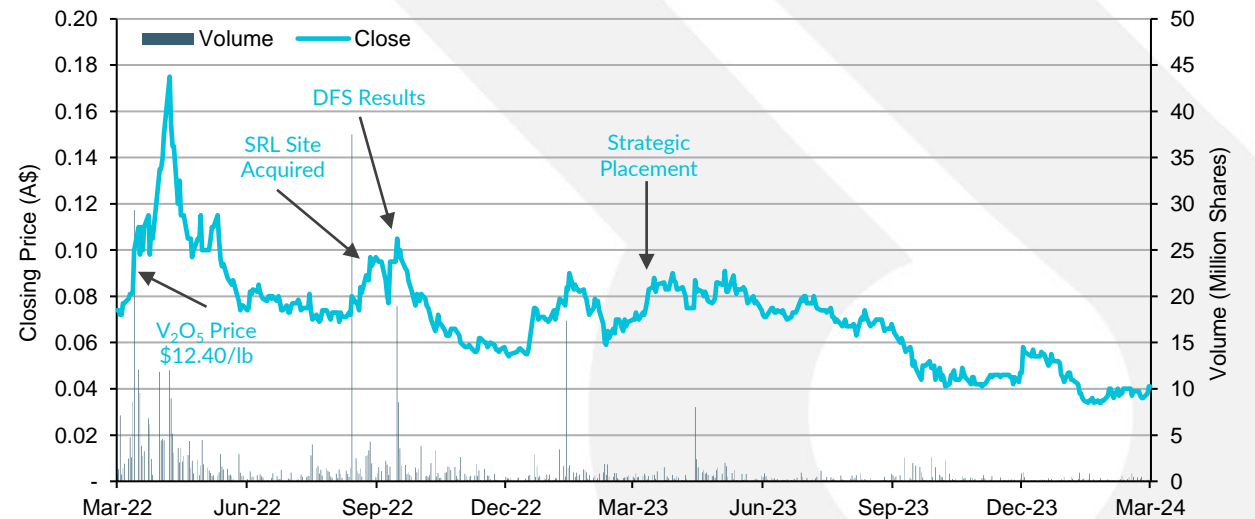
**John Ciganek**

Managing Director & CEO



**Michael Davy**

Non-Executive Director



<sup>1</sup> Mr Jurie Hendrik Wessels (Executive Chairman) is a director and shareholder of Danterne Pty Ltd

<sup>2</sup> Mr Michael Davy (Non-Executive Director) is the sole director and shareholder of Davy Corp Pty Ltd



Listed as a Critical Mineral in Australia, the US, UK and European Union, Vanadium demand is expected to grow significantly from its energy storage capabilities

## Vanadium Redox Flow Batteries (VRFBs)

- VRFBs forecast to represent up to 20% of total battery capacity<sup>1</sup>
- Significant advantages available over counterparts, particularly in the storage and grid-relief capacities with further development upside



**Easily scalable** – additional capacity easy to build in by adding more storage tanks



**Sustainable** – vanadium can be fully reused or recycled at end of battery lifespan



**20+ year lifespan** – zero degradation over time with battery life twice that of lithium



**Reliable** – no performance loss in harsh conditions and 100% depth of discharge available



**Safety** – non-flammable, non-toxic, water based battery that is safer than alternatives



**Efficient** – lower emissions and lower associated energy costs than alternative technologies



### Dalian Flow Battery Energy Storage Peak-shaving Power Station

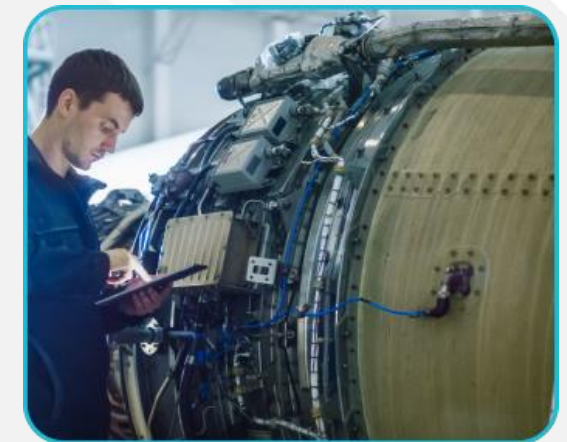
A world-leading Vanadium Redox Flow Battery facility was recently switched on in China, with Stage 1 providing a capacity of 100MW / 400MWh. Stage 2 will double this capacity

<sup>1</sup> Eurometaux (2022), Metals for Clean Energy

<sup>2</sup> SP Angel (2018), Commodity Research Note: Vanadium

## Steel & Alloys

- Over 90% of the current demand for vanadium arises from its use to strengthen steel and alloys
- The performance benefit in strengthening steel has seen demand grow and imminent construction regulation changes in China to mandate higher quality Rebar is expected to drive further growth
- Development of strong, lightweight alloys has seen vanadium incorporated to a large range of products including jet engines, 3D printing and tools
  - Boeing's fleet of 787s and A350s include up to 100 tons of light weight vanadium alloys<sup>2</sup>



# Global Demand & Pricing Dynamics



Annual demand for VRFBs is expected to equate to between **50kt and 100kt of  $V_2O_5$**  by 2033.

Demand for VRFBs in 2022 was ~9kt of  $V_2O_5$ , largely for new installations in China.

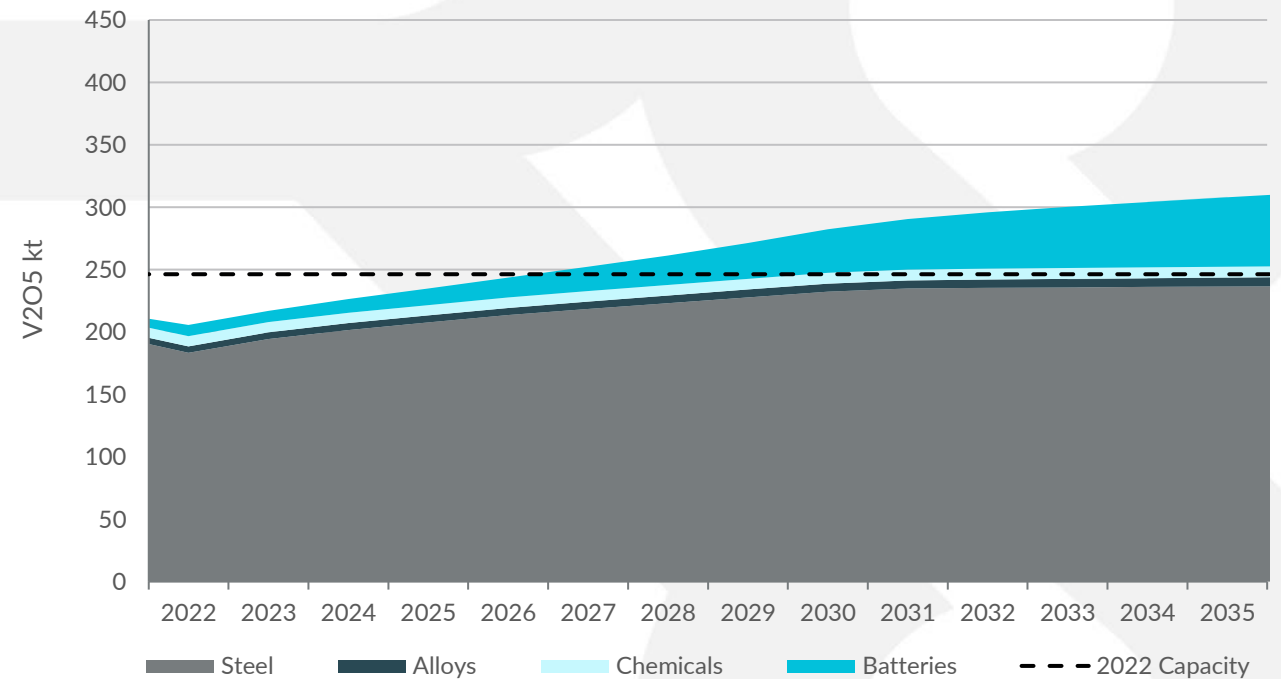
Source: Project Blue 2023

Vanadium demand for steel will grow strongly and **may double by 2050.**<sup>2</sup>

This will be driven by China and India, and an increased production of micro-alloyed steel.

Source: Vanitec & TTP Squared Inc

## $V_2O_5$ Demand by Sector & Production Capacity



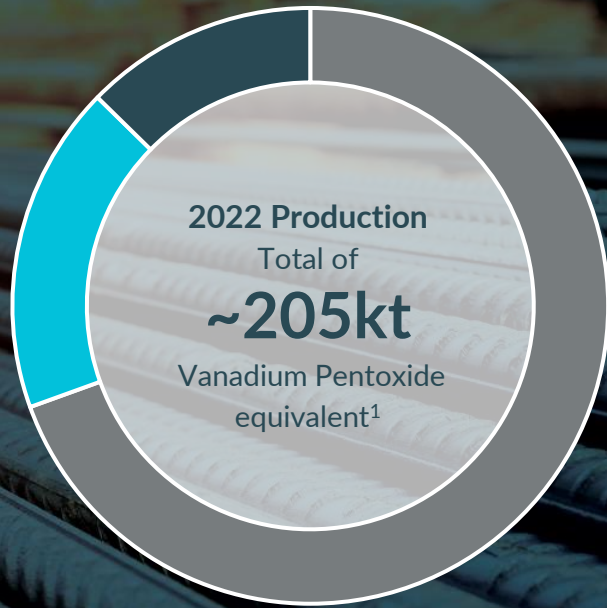
Source: Project Blue 2023

<sup>1</sup> Project Blue 2022 – based on contained vanadium, converted to  $V_2O_5$  based on vanadium content of 56.016% in Vanadium Pentoxide

<sup>2</sup> Terry Perles 2022, Vanadium is a key steel additive for sustainable, decarbonised construction: Vanitec (referencing International Energy Agency)



# Global Demand & Pricing Dynamics

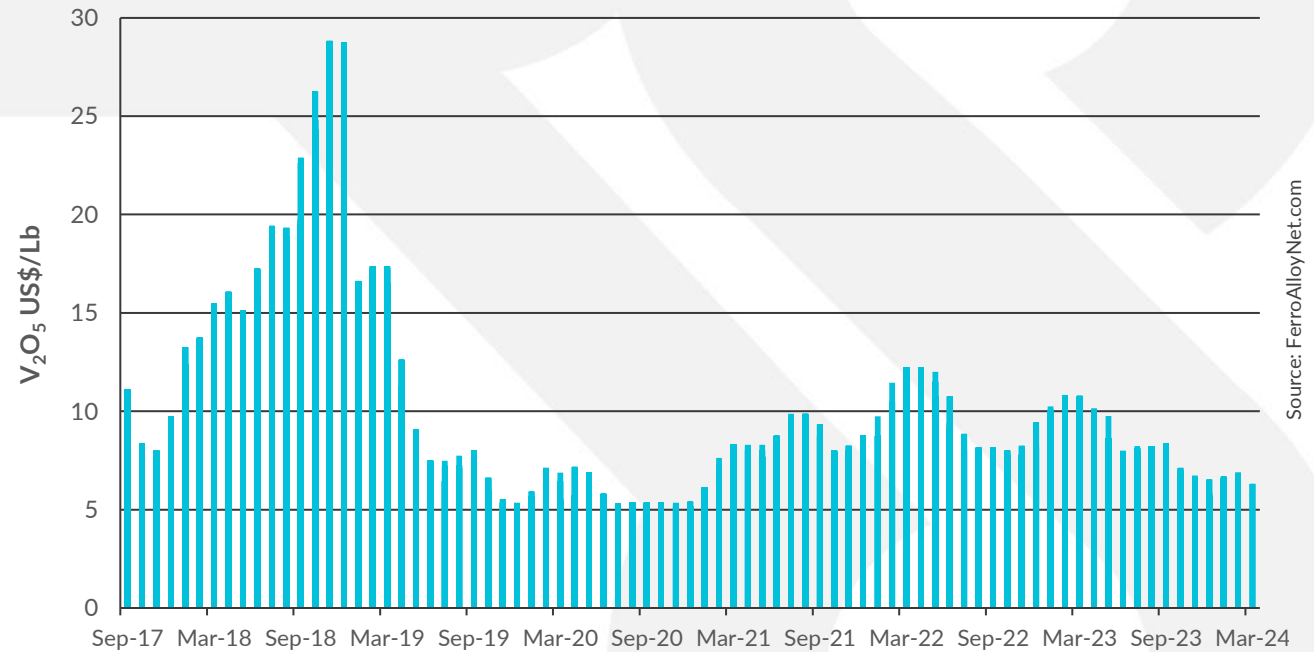


## Production Type

Co-production:	144kt
Primary:	37kt
Secondary:	26kt

**VR8 will provide critically needed V<sub>2</sub>O<sub>5</sub> supply with the Project to be a significant primary producer**

## Vanadium Pentoxide 98% min Europe US\$/lb



Source: FerroAlloyNet.com

<sup>1</sup> Project Blue 2022 - based on contained vanadium, converted to V<sub>2</sub>O<sub>5</sub> based on vanadium content of 56.016% in Vanadium Pentoxide

<sup>2</sup> Terry Perles 2022, Vanadium is a key steel additive for sustainable, decarbonised construction: Vanitec (referencing International Energy Agency)

# International Cost Curve

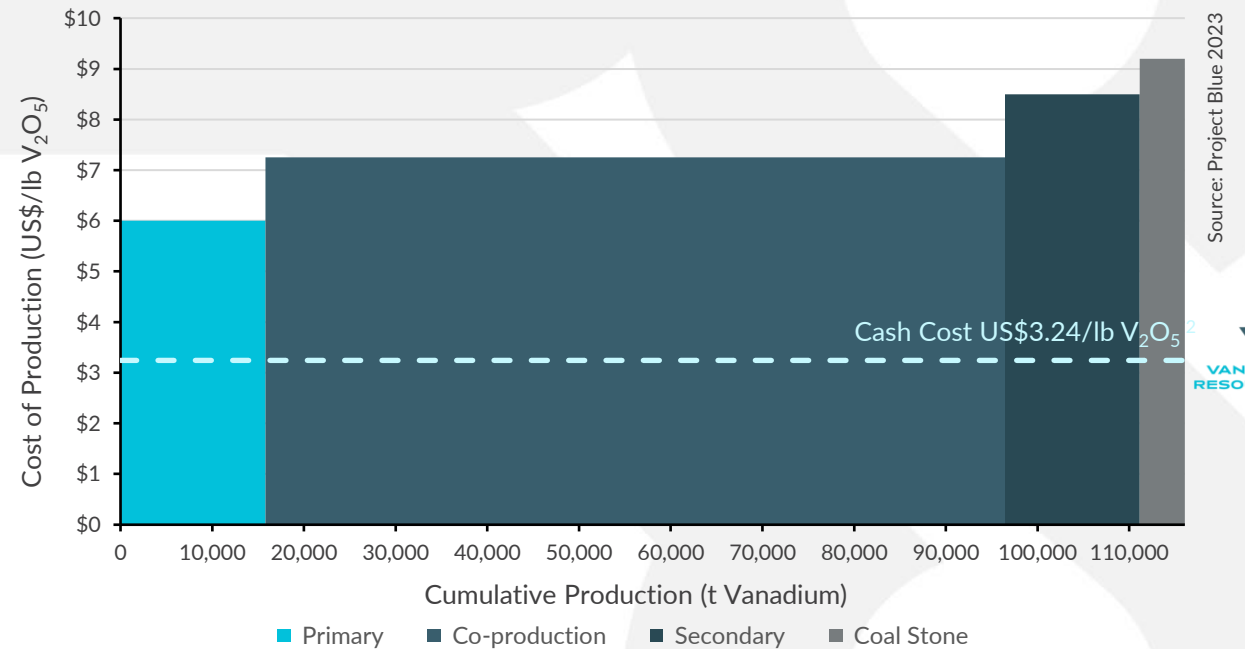


Cash cost of US\$3.24/lb  $V_2O_5$  places the Project within the lowest quartile of the international cost curve for vanadium pentoxide

Well placed to remain cashflow positive throughout all price cycles

Low cost and resilient cashflow will assist with securing offtake and debt financing

## Vanadium Pentoxide Production Costs, 2022



<sup>1</sup> Project Blue 2023 – Cost Curve Analysis (2022)

<sup>2</sup> Refer ASX Announcement dated 4 October 2022 “DFS Delivers A\$1.9BN NPV Confirming World Class Steelpoortdrift Vanadium Project”



# Global VRFB Installation Projects



**280+**

VRFB Installations constructed or announced<sup>1</sup>

**9GWh**

Capacity of VRFB Installations (>2.6GW)<sup>1</sup>

**78**

VRFB Installations in Europe (excl. residential units)<sup>1</sup>



Source: Vanitec Website - 2023 VRFB Project Map

<sup>1</sup> Vanitec (2023) VRFB Global Database

# DFS Delivers World Class Vanadium Project<sup>1</sup>



**US\$1.21bn**  
(A\$1.9bn)

NPV<sub>7.5%</sub> (post-tax)



**US\$1.05bn**  
(A\$1.62bn)

Attributable 86.49% NPV<sup>2</sup>



**US\$152m**  
(A\$237m)

Yearly Free Cashflows



**42%**

IRR (post-tax)



**27 months**

Payback



**US\$211m**  
(A\$329m)

incl. contingency  
Start up Capex



**US\$3.24**

Cash Costs V<sub>2</sub>O<sub>5</sub>/lb



**US\$9.50**

(Deloitte forward mid-range)

Price per V<sub>2</sub>O<sub>5</sub>/lb

1. Refer ASX Announcement dated 4 October 2022 "DFS Delivers A\$1.9BN NPV Confirming World Class Steelpoortdrift Vanadium Project"

2. Refer ASX Announcement dated 15 November 2023 "VR8 Increases Project Interest in Steelpoortdrift to 86.49%"



# Location – in the Bushveld Complex



This world-renowned mining location is host to several mining operations, multiple major mining companies are active in the area, and is in close proximity to existing infrastructure.

## Other Mines in the Bushveld Complex



Vametco – Vanadium Mine  
Mokopane – Vanadium Project



Rhovan – Vanadium Mine  
Lion Smelter – Ferrochrome



Twefontein – Ferrochrome Mine



Twickenham – PGE Mine



Modikwa – PGE Mine



Marikana – PGE Mine

## Regional Infrastructure in the Bushveld Complex



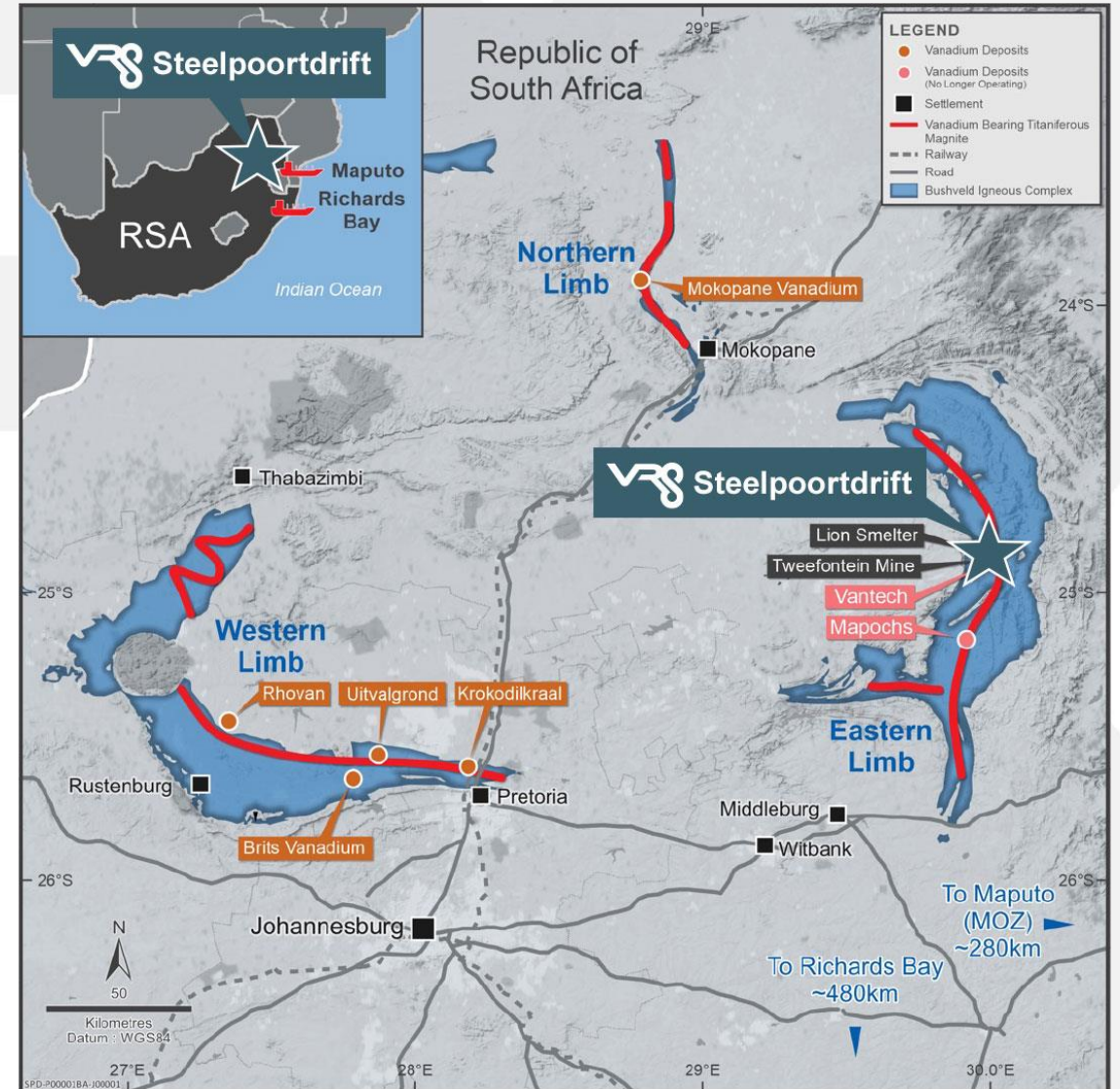
Eskom Substation  
12km away



De Hoop Dam  
15km away



Rail Siding  
30km away





## Mine Site - View of the North of Mining Area

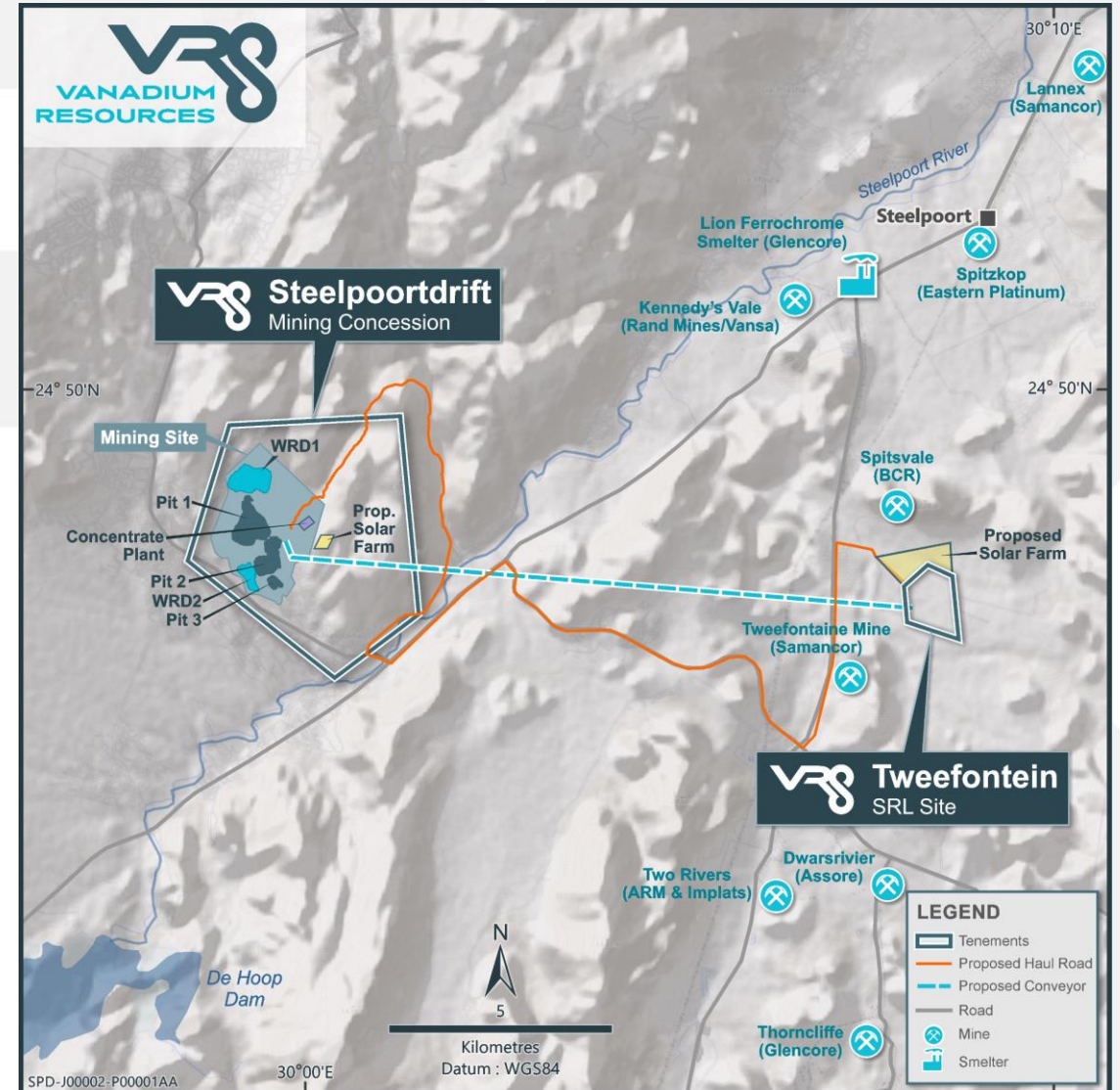


The mine site, concentrator and SRL sites are located within a substantial mining and smelting district, with well established infrastructure (including water, power, sealed roads, rail, etc.)

## VR8 Offices and Warehouses in Steelpoort Industrial Park



VR8 administration offices, core shed, main laboratory and SRL site are located within the Steelpoort Industrial Park





# Resources & Ore Reserves



- Global Mineral Resource of 680Mt at 0.70% V<sub>2</sub>O<sub>5</sub>
- Total Ore Reserve of 77Mt at 0.72% V<sub>2</sub>O<sub>5</sub>
- Mineralisation outcrops at surface and dips shallowly (~10°) – less waste to mine, low strip ratios (0.88x waste : ore) and cheaper mining cost
- Orebody able to achieve a high-grade concentrate of greater than 2% V<sub>2</sub>O<sub>5</sub>

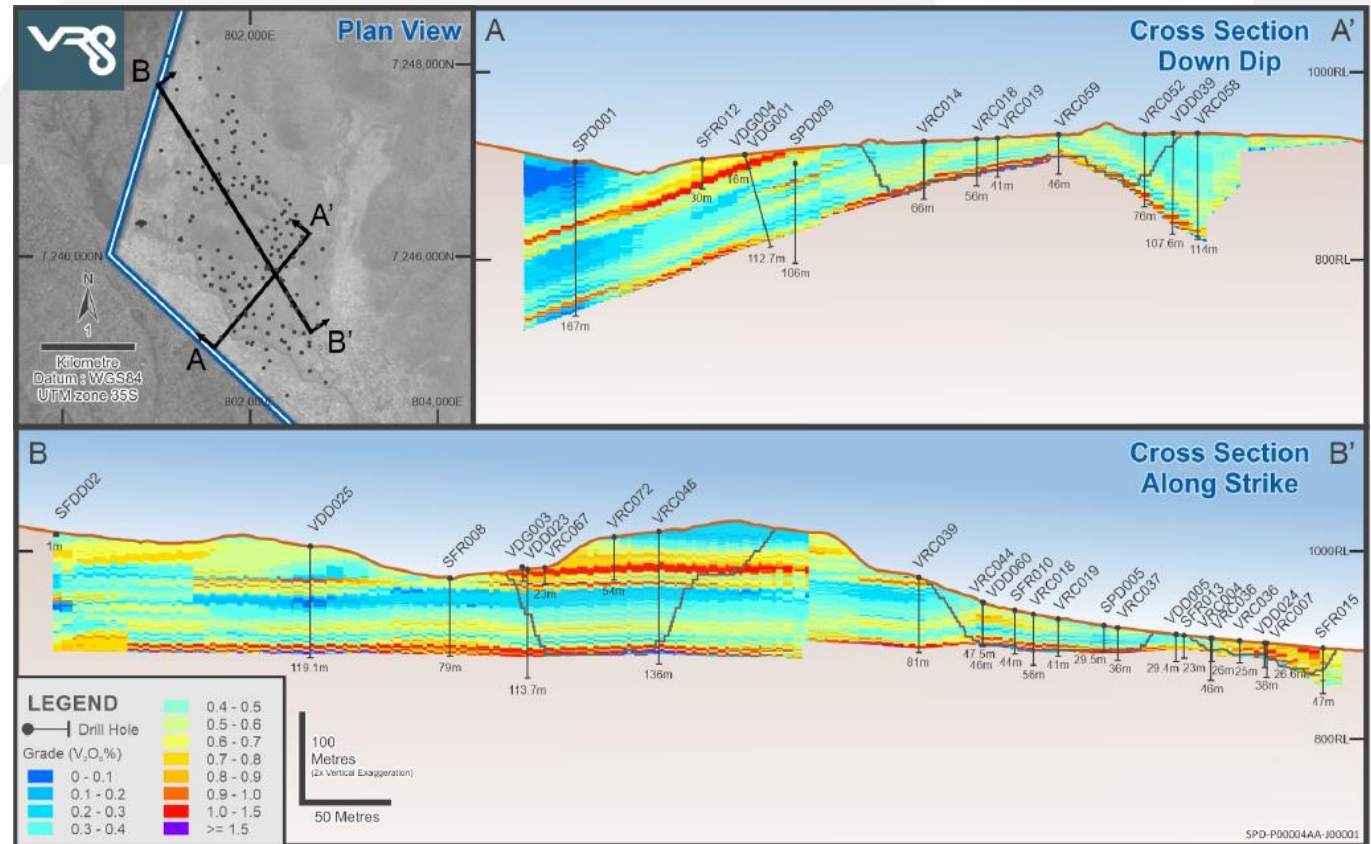
## Mineral Resource<sup>1&2</sup>

Mineral Resource Category	Tonnage (Mt)	V <sub>2</sub> O <sub>5</sub> (%)	Fe <sub>2</sub> O (%)	Contained V <sub>2</sub> O <sub>5</sub> (Mt)
Measured	145.5	0.72	22.47	1.05
Indicated	327.3	0.70	22.80	2.29
Inferred	207.4	0.68	22.90	1.40
<b>Total / Average</b>	<b>680.1</b>	<b>0.70</b>	<b>22.76</b>	<b>4.74</b>

## Ore Reserve<sup>1</sup>

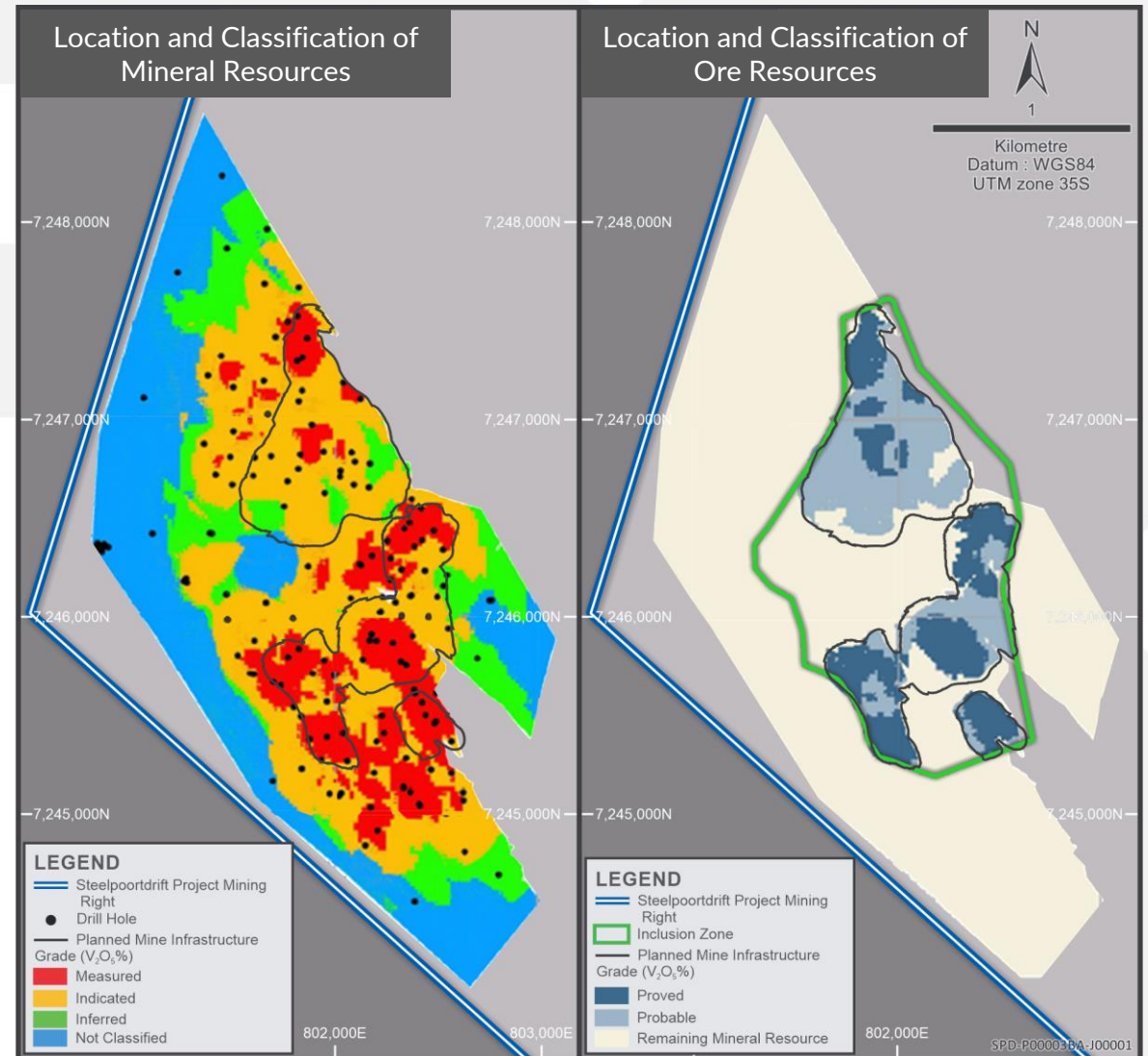
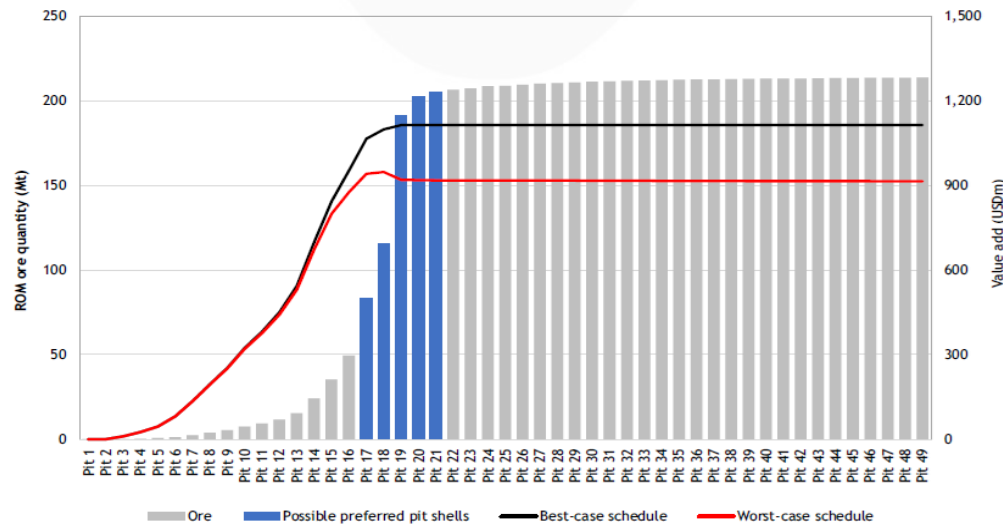
Ore Reserve Category	Tonnage (Mt)	V <sub>2</sub> O <sub>5</sub> (%)	Contained V <sub>2</sub> O <sub>5</sub> (Mt)	Tonnage by Category (%)
Proved	30.2	0.70	0.21	39.3%
Probable	46.6	0.72	0.34	60.7%
<b>Total / Average</b>	<b>76.8</b>	<b>0.72</b>	<b>0.55</b>	<b>100.0%</b>

1. Refer ASX Announcement dated 4 October 2022 “VR8 Updates Mineral Resource and Ore Reserve”
2. Source: Sound Mining CPR (2022). Notes: V<sub>2</sub>O<sub>5</sub> cut off >= 0.45%, tonnage rounded down to nearest 100,000t and metal content to nearest 10,000t



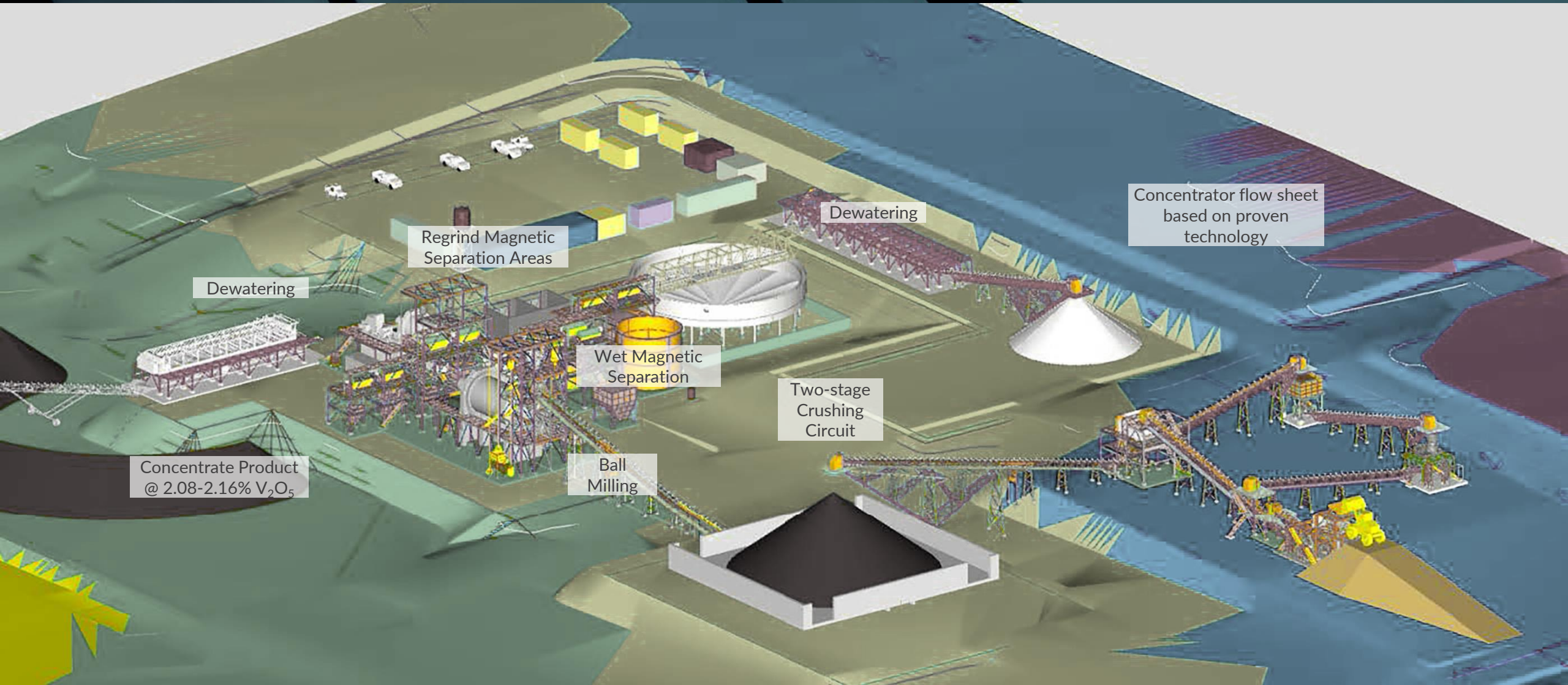
# Location of Mineral Resources & Ore Reserves

- The final pit design and Ore Reserves based on LOM of 25 years (designed to match Mining Right term)
- Final pit design was based on Pit 17, which highlights potential for a larger ultimate pit design
- Ore Reserves represent 12% of Mineral Resources and highlight the substantial scale of the project
- Based on a ROM ore production rate of 3.5Mtpa, the project would have a mine of over 180 years
- Potential opportunity to increase Resources and Reserves with infill drilling within “Not Classified” zones





# Steelpoortdrift Concentrator Plant



Dewatering

Regrind Magnetic Separation Areas

Dewatering

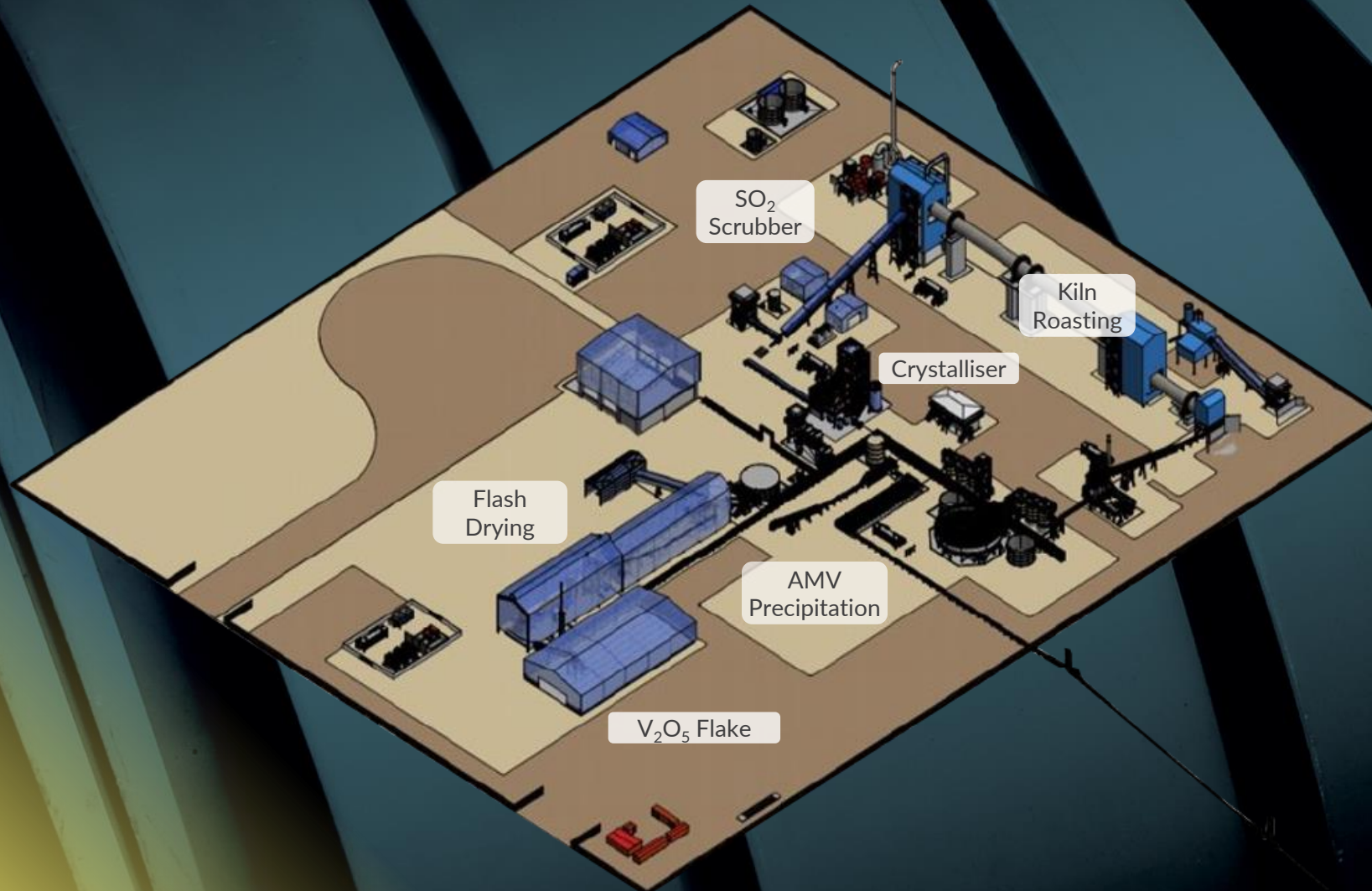
Concentrator flow sheet based on proven technology

Wet Magnetic Separation

Two-stage Crushing Circuit

Concentrate Product @ 2.08-2.16%  $V_2O_5$

Ball Milling



## SRL flow sheet based on proven technology

SRL Plant comprises kiln roasting, desulfurization, ammonium metavanadate (AMV) precipitation, flash drying and V<sub>2</sub>O<sub>5</sub> flake production

Concentrate feed rate of 790ktpa with a grade of >2.00% V<sub>2</sub>O<sub>5</sub> to produce ~13.2ktpa of vanadium flake of >98% V<sub>2</sub>O<sub>5</sub>

Evaporation and crystallisation to recover Na<sub>2</sub>SO<sub>4</sub> crystals for recirculation to the kiln has also been included



## Strong progress toward securing binding offtake, strategic investment and project financing

### Offtake Agreements & Strategic Investment

- Secured A\$5.9M strategic equity at 40% premium with Matrix Resources, May 2023
- Appointment of HK based offtake and equity advisors to assist with running an offtake and strategic equity process, which has yielded several interested parties from Asia and Europe
- The rationale for the process is to optimise value to VR8 by securing offtake and strategic investment terms that will support project financing for the Steelpoortdrift and Tweefontein operations

### Project Financing

- Several potential funding pathways available to finance the Project having received a number of non-binding indicative term sheets from debt financiers
- The Project has the potential to support ~65% debt gearing of the total funding requirement
- Discussions with potential debt financiers have continued as VR8 aims to obtain credit approved term sheets and ensure that the Project is ready for a due diligence process

Hand specimen of vanadiferous titanomagnetite from the Project<sup>1</sup>



<sup>1</sup> Refer ASX Announcement dated 21 May 2018 "Exploration On High Grade Pipes Commences At SPD Vanadium Project"

## Key Catalysts to FID

- Secure long-term offtake(s)
- Secure project funding from combination of:
  - Debt ~65% PF debt
  - Equity ~35% from offtakers, strategic equity & ECMs

## Build Phase 1

- Flake Production of avg 10.7ktpa  $V_2O_5$
- ROM Ore avg. of 1.6Mtpa at 0.83%  $V_2O_5$
- Concentrate avg. of 724ktpa at >2.0%  $V_2O_5$
- Capex US\$211M (pre-production)

## Build Phase 2 (4 years after Phase 1)

- Flake Production of avg 21.0ktpa  $V_2O_5$
- ROM Ore avg. of 3.5Mtpa at 0.70%  $V_2O_5$
- Concentrate avg. of 1,247ktpa at >2.0%  $V_2O_5$
- Capex US\$188M

## Valuation Upside Options

### Optimise Resource & Production

- Ropeway conveyor from Mine to SRL plant
- Delineation drilling and re-optimisation based on unconstrained Mineral Resource
- Increase production rate >3.5Mtpa ROM (given 180yr mine life)

### Additional Revenue Streams

- Residual vanadium recovery plant and potential additional products ( $V_2O_3$ , FerroVanadium,  $TiO_2$ , Ilmenite)
- Titanium ( $TiO_2$ ) in SRL tailings recovery

### Explore VRFB Potential

- Investigate larger VRFB size (currently 1MW) to meet 100% of power requirements for site operations
- Vertical integration opportunities including vanadium electrolyte, battery manufacture and energy generation



# Investment Highlights



- ✓ Strong financials with attributable NPV of US\$1.05bn, IRR of 42% and payback period of 27 months
- ✓ Competitive capex (US\$211m) and lowest quartile opex (Cash cost US\$3.24/lb)
- ✓ Long life project with excellent production profile – 25 years at an average of 19.4ktpa
- ✓ Established mining jurisdiction with significant infrastructure and expertise nearby
- ✓ Debt advisors appointed, positive engagement and discussions advancing with banks and other financial institutions
- ✓ Securing offtake and strategic equity – offtake and strategic equity advisors appointed, which has yielded several interested parties
- ➔ Building a strong project development and execution team
- ➔ Significant upside potential with a range of opportunities and initiatives identified to increase value
- ➔ Securing debt financing
- ➔ Targeting first concentrate and flake production in H2 CY2026

The background of the bottom half of the slide is a photograph of a sustainable energy landscape. It features a large array of solar panels in the foreground, with several wind turbines visible in the distance against a clear sky. The scene is set in a rural, green area with a body of water in the lower left.

**Shaping a sustainable tomorrow**

by unlocking vanadium's potential across energy storage, infrastructure and beyond



# Appendix

March 2024







**JURIE WESSELS**  
Executive Chairman

Jurie Wessels has 26 years' experience in the exploration industry and co-founded a number of exploration and mining companies, including Bauba Resources Ltd (BAU.J), which owns three operating chrome mines, GoldStone Resources Ltd (GRL.L), which company is mining the Homase-Akrokerrri Gold Mine in Ghana acquired and developed by GoldStone when Jurie was CEO, Arcadia Minerals Ltd (AM7.ASX), which company owns an advanced Tantalum project, the Bitterwasser Lithium Clay and Brine Projects and tier 1 exploration assets, and Vanadium Resources Ltd. Jurie has significant experience in the sourcing and assessment of exploration and exploitation projects and in the governance, funding and management of resource companies. He explored for various minerals in Africa, South America, the Indian sub-continent and Europe, and explored and developed several mining projects to successful conclusion.



**JOHN CIGANEK**  
Managing Director &  
Chief Executive Officer

John Ciganek is a qualified Mining Engineer, holds a Master of Business Administration and has more than 30 years of mining and finance experience. His experience spans working in mining operations, project development, project finance, offtake agreements, M&A and the equity capital markets. Through his career to date, John has been involved with successfully raising debt and equity funding in excess of ~A\$5 Bn for various clients. Mr Ciganek's previous roles are Principal / Director of Euclase Capital, Executive Director of BurnVoor Corporate Finance, General Manger Corporate Development at PMI Gold, Senior Banks Engineer and Risk Executive at Commonwealth Bank, and Senior Mining Engineering positions with Hargraves Resources, Reynolds Yilgarn Gold and Comalco / Rio Tinto (CRA). John is a Non-Executive Director of Calidus Resources Limited (CAI.ASX) and Ookami Limited (OOK.ASX).



**MICHAEL DAVY**  
Non-Executive Director

Michael Davy is an Australian executive and Accountant with over 18 years' experience across a range of industries. Michael previously held a senior management role in Australia for Songa Offshore (listed Norwegian Oil and Gas drilling company), where he assisted with the start-up of the Australian operations and managed the finance team for a two rig operation with multi-hundred million dollar revenues. Prior to that he worked in Australia and London for other large organisations overseeing various finance functions. Michael is currently a director and owner of a number of successful private businesses all under his personal management. During the past five years Michael has held directorships in several ASX listed companies and is currently the Non-Executive Chairman of Raiden Resources Limited (ASX:RDN) and Haranga Resources Ltd (ASX:HAR) and is a non-executive director of Arcadia Minerals Ltd (ASX:AM7).



**JURIE WESSELS**  
Executive Chairman



**JOHN CIGANEK**  
Managing Director &  
Chief Executive Officer



**TIM FEATHER**  
Chief Financial Officer

Tim Feather has over 25 years of experience in corporate finance. Following a law degree at the University of Nottingham, he qualified as a chartered accountant with Deloitte in the UK. In 1995 he moved into corporate finance in the City of London by joining Brown Shipley before leaving to co-found Westhouse Securities, where he was head of corporate finance and specialised in advising and fundraising for mining and oil and gas companies. He joined WH Ireland in 2012 and continued to focus on the resource sector. In 2019, he joined the Sumner Group, a privately held group with interests in mining, healthcare and defence, where he was Business Development Director. He is a non-executive director of Orcadian Energy plc, a North Sea oil development company



**ALEX OEHMEN**  
General Manager  
Operations

Alex Oehmen has over 40 years industry experience across the resources, mineral processing and engineering sectors, with a demonstrated track record in the management of vanadium and steel making operations within the Bushveld region of South Africa. Alex holds a Bachelor of Engineering (Metallurgical) and Master of Business Leadership. Most recently, Alex was Operations Manager at Bushveld Minerals Ltd for their Vanchem operations and General Manager Operations at Vanchem Vanadium Products (Pty) Ltd prior to its acquisition by Bushveld, whose operations are within the same geological and mineralogical terrain as the Steelpoortdrift Project. Alex was responsible for operations and production of various vanadium products including vanadium pentoxide flake, ferrovandium and various vanadium chemicals. He also held roles in the marketing of vanadium products to domestic and international markets.



**LEON REPSOLD**  
Project Manager

Leon Repsold has over 35 years industry experience across the project, engineering and maintenance sectors, with a proven track record in the engineering and maintenance of vanadium and steel making operations. Leon holds a Bachelor of Engineering (Electrical). In the early 1990's he was part of the Columbus Stainless expansion project followed by the greenfield Duferco Steel Processing steelmaking facility on the West coast of South Africa in the late 1990's. After the successful commissioning of the facility, he was the Engineering Manager until he joined Vanchem Vanadium Products (Pty) LTD as Maintenance and Projects Manager prior to its acquisition by Bushveld Minerals Ltd. In 2015 he was the Project Manager at Lesedi and Letsatsi, two 75MW Solar PV Power facilities in the Free State province of RSA. Most recently Leon was Engineering and Project Manager at Bushveld Minerals for their Vanchem operations situated within the same geological and mineralogical terrain as the Steelpoortdrift Project



**ILZE-MARI WENTZEL**  
Contracts & Project Manager

Ilze-Mari Wentzel has over nine years of experience in mining infrastructure projects, of which three years were as part of the management team for a R3.3 billion Greenfields Mega project (coal) and the other six years in SIB projects and was involved with mining operations the last two years. Ilze-Mari holds a Bachelor of Commerce (Honours) in Econometrics and is a registered Project Management Professional with PMI International. Her principal areas of expertise are procurement, contract management and project management and the setup of projects to ensure all controls are in place with a focus on continuous improvement and streamlining processes. Most recently she was Contracts Manager at Bushveld Minerals where she helped to establish the contracts department.



# Key Project Workstreams



## Environmental Authorisation & Water Use Licence Applications

Environmental authorisations and water use licence applications for each site are progressing well with approval expected H1 CY2024

## Social And Labour Plan & Community Engagement

Social and Labour Plan amendments submitted to regulators for review after receiving clear community encouragement and support

## Front-End Engineering Design Underway

Commenced work on the Front-End Engineering Design (FEED) with a focus on locking down detailed designs, schedule optimisation and development of Project Execution and Operational Readiness plans

## Engineering – Tendering & Awarding Contracts

As designs are completed, tenders will be drawn up for each specific piece of plant/equipment and will be issued to pre-identified suppliers, with an aim to award tenders and finalise contracts in early H2 CY2024

## Contractor Delivery and Project Management

Project delivery model expected to lean on multiple Engineering, Procurement and Construction (EPC) contracts over core elements of the operation, with oversight by experienced project managers to mitigate interface risks

## Expanding Project Management Team

VR8's engineering and support team to be expanded to include a Project Engineer, Project Management and Execution Manager, Contracts Manager, and HR Manager

## Power Solutions, Rope Conveyor and Site Access

VR8 continues to progress work with Kadoma to provide solutions for the provision of power to both operations, has initiated studies on a rope conveyor between the operations and is building alternate site access roads

## Updated Project Implementation Plan

Updated project implementation plan includes a revised target for FID of H2 CY2024 with first production in H1 CY2026 – management are confident the delay will allow for a more robust and efficient project which maximises the deposit's value

<sup>1</sup> Refer ASX Announcement dated 03 Oct 2023 "Steelpoortdrift and Tweefontein Projects Update"

# Project Timeline



Year	CY24		CY25		CY26	
Quarter	H1	H2	H1	H2	H1	H2
Environmental & Water Permits						
Build Project Development Team						
FEED						
Offtake & Strategic Investment						
Debt Financing						
Equity Financing						
FID						
Engineering & Procurement						
Construction						
Production (incl. Ramp up)						



# Peer Comparison



	Largo Maracas <sup>1,2&amp;3</sup> In Production (Results as at 30 Dec 2021)	Steelpoortdrift (VR8) <sup>4&amp;5</sup> DFS Stage	Bushveld Mokopane <sup>6</sup> PFS Stage	TMT Project <sup>7,8</sup> DFS Stage <sup>#</sup> (Pre-Merger with AVL)	AVL Project <sup>9</sup> BFS stage <sup>#</sup> (Pre-Merger with TMT)	Richmond Vanadium <sup>10</sup> PFS Stage
V <sub>2</sub> O <sub>5</sub> Price	US\$7.80/lb	US\$9.50/lb	US\$7.50/lb	US\$10.50/lb	US\$10.50/lb	US\$9.60/lb
Market Cap (undiluted) (As at 25 Mar 2024)	US\$97M	US\$17M (Undiluted)	n.a. (Vametco in production)	n.a. (Merged with AVL)	US\$90M (Undiluted Post Merger)	US\$50M (Undiluted)
NPV (Pre Tax)	NPV <sub>7%</sub> US\$2.8B <sup>†</sup>	NPV <sub>7.5%</sub> US\$1.6B (Att. US\$1.2B)	NPV <sub>9%</sub> US\$418M	NPV <sub>8%</sub> US\$659M	NPV <sub>7.5%</sub> US\$600M	NPV <sub>10%</sub> US\$447M
IRR (Pre Tax)	48%	47%	25%	23%	21%	38%
NPV (Post Tax)	NPV <sub>7%</sub> US\$2.0B <sup>†</sup>	NPV <sub>7.5%</sub> US\$1.2B (Att. US\$0.9B)	NPV <sub>9%</sub> US\$259M	-	NPV <sub>7.5%</sub> US\$365M	-
IRR (Post Tax)	-	42%	20%	-	-	-
LOM	20 years	25 years	30 years	25 years	25 years	25 years
Plant Feed	1.5 - 5.0mtpa	1.6 - 3.5mtpa	1.0mtpa	1.7-2.3mtpa*	1.6mtpa	4.1mtpa
Production (V <sub>2</sub> O <sub>5</sub> )	11,000-12,000tpa	10,700-21,000tpa	9,525tpa	12, 500tpa	11,200tpa	12,700tpa
Capex	US\$241M (at startup 2014/5) <sup>†</sup>	US\$211M (11ktpa) US\$188M (Stage 2 from free cashflows)	US\$298M	US\$423M	US\$435M	US\$177M
Cash Costs (US\$/lbV <sub>2</sub> O <sub>5</sub> )	\$4.85 - \$5.25	\$3.24	\$3.28	\$4.04*	\$4.43	\$6.32

<sup>†</sup> The NPV's relate to the 2021 NI43-101 which includes production of ilmenite and titanium which requires additional capital expenditure. The Capex reported in this table is for the pre-production expenditure of the vanadium plant only<sup>3</sup>

\* Metrics presented from 2019 DFS<sup>8</sup>, all other metrics for ASX:TMT are from the August 2022 Integration Study<sup>7</sup>

<sup>#</sup> Note AVL and TMT have completed a merger via a scheme of arrangement, with AVL to continue as the listed entity holding the combined assets (see ASX announcement from AVL on 01 February 2024), a combined resource and study is yet to be published

<sup>1</sup> Largo Inc NI43-101 16 December 2021

<sup>3</sup> Largo Inc Announcement 9 July 2014

<sup>5</sup> Vanadium Resources – Steelpoortdrift DFS Financial Model

<sup>8</sup> Technology Metals – Gabanintha DFS 21 August 2019

<sup>2</sup> Largo Inc MD&A Q3 2022 & 2023 Guidance per Website

<sup>4</sup> Vanadium Resources – Steelpoortdrift DFS – 4 October 2022

<sup>6</sup> Bushveld Minerals – Mokopane PFS 4 February 2016

<sup>9</sup> Australian Vanadium – BFS 6 April 2022

<sup>7</sup> Technology Metals – MTMP Integration Study 5 August 2022

<sup>10</sup> Richmond Vanadium – Prospectus 9 December 2022

# Peer Comparison – Mineral Resources



Company	Code	Project	Stage	Resource Category	Resource Tonnes (Millions)	Resource Grade (V <sub>2</sub> O <sub>5</sub> %)	Total Resource (Mt)	Concentrate Grade (V <sub>2</sub> O <sub>5</sub> %)	Information Source
Largo	LGO.TSX	Maracas	Production	Measured	46	0.83	79	2.46	Largo Maracas NI43-101 Technical Report - 16 December 2021
				Indicated	18	0.70			
				Inferred	15	0.74			
Glencore	GLEN:LSE	Rhovan	Production	Measured	40	0.47	187		Glencore 2023 Reserves & Resources report as at 31 December 2023
				Indicated	37	0.46			
				Inferred	110	0.49			
Bushveld	BMN.LSE	Vametco	Production	Indicated	139	0.74	182	1.98	Vametco Inferred & Indicated Mineral Resource and Ore Reserve Update for Annual Reporting purposes, as at 31 December 2022
				Inferred	43	0.90			
		Mokopane	Development	Indicated	63	1.32	285	1.75	Mokopane PFS Study Report 4 February 2016
				Inferred	222	0.50			
		Brits	Exploration	Indicated	45	0.56	67	1.58	Competent Persons' Report on the Brits Vanadium Project Jan 2020
				Inferred	22	0.55			
Vanadium Resources	VR8.ASX	Steepoortdrift	Development	Measured	145	0.72	680	2.10	ASX Announcement 4 October 2022 - Steepoortdrift DFS
				Indicated	327	0.70			
				Inferred	207	0.68			
Australian Vanadium*	AVL.ASX	Gabanintha South	Development	Measured	11	1.14	239	1.39	AVL BFS 6 April 2022
				Indicated	82	0.70			
				Inferred	145	0.71			
		Gabanintha North & Yarrabubba	Development	Measured	12	1.00	154	1.40	MTMP Mineral Resource Upgrade - 7 November 2022 & RIU Resurgence Conference Presentation 23 November 2022 – Note: a combined resource statement is expected following the merger
				Indicated	51	0.90			
				Inferred	91	0.80			
Richmond Vanadium	RVT.ASX	Richmond-Julia Creek	Development	Indicated	430	0.50	1838	1.83	BFS Update Announcement (ASX) – 16 January 2024
				Inferred	1438	0.31			

\* AVL and TMT have completed a merger via a scheme of arrangement, with AVL continuing as the listed entity holding the combined assets (see ASX announcement from AVL on 01 February 2024)





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