



Unlocking Steelpoortdrift  
as one of the world's largest  
and highest-grade  
Vanadium projects for a  
new era

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Mining Indaba & 1-2-1

**Investor Presentation**  
**May 2022**

**ASX:VR8**

**WWW.VR8.GLOBAL**



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## Compliance Statement

The Company confirms that the information 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 on 29 April 2020, 23 September 2020 and 22 June 2021 continue to apply and have not materially changed, and that it is not aware of any new information or data that materially affects the information that has been included in this presentation. 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. The Company confirms it is not aware of any new information or data that materially affects the information included in the 31 July 2020 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 29 April 2020 (*Mineral Resource Update Confirms Steelpoortdrift's Global Vanadium Standing*). 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. 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 Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the Maiden Ore Reserves Statement. The Information that has been presented in this report has been extracted from the announcements made being the Pre-Feasibility Report dated 22 June 2021 (*Steelpoortdrift PFS delivers superior results*) and Ore Reserve Statement dated 22 July 2021 (*VR8 declares maiden ore reserve additional information*). 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. All financial outcomes as reported in this announcement are done so on a 100% project basis. VR8 currently holds 73.95%<sup>2</sup> ownership in the Steelpoortdrift project.

- Refer to Asx Announcements dated 23 September 2020 “Scoping Study Confirms Viability of V2O5 Production”, 20 July 2021 “VR8 declares maiden ore reserve for SPD Project”, 11 October 2021 “VR8 secures strategic placement at significant premium”, 07 March 2022 “DFS update - Trial mining and bulk sampling progress” and 24 March 2022 “Completed bulk sampling and pilot test work commencement”.
- <sup>1</sup> Refer to Asx Announcement dated 22 June 2021 “PFS Delivers Superior Results”.
- <sup>2</sup> Refer to Asx Announcement dated 19 January 2022 “VR8 interest in Tier 1 Vanadium Project increases to 73.95%”

# An emerging Vanadium producer



Fully funded  
to FID



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



PFS indicates strong  
financial outcomes with  
post-tax NPV8% of US\$1.2B,  
45% IRR post-tax



Ore body easy to  
mine & upgrade  
to concentrate



Using conventional Salt  
Roast Leach ("SRL")  
process to produce  
12,000t to 18,500t  $V_2O_5$   
flake per annum



Mining license  
granted



Infrastructure – close to existing  
operating processing plants,  
power and water nearby, with  
proven road & rail options to port



Expert and  
experienced  
management team





## Corporate structure (ASX: VR8)

as at 30 April 2022

<p><b>~473m</b> Shares on issue (undiluted)</p>	<p><b>A\$0.145</b> Share price</p>
<p><b>~A\$68m</b> Market cap (~5% of att. NPV)</p>	<p><b>A\$0.046 – A\$0.18</b> 52-week range</p>
<p><b>~A\$5M</b> Cash (as at 31 Dec 21)</p>	<p><b>~9.6M</b> Perf. Rights (Class A)</p>
<p><b>~4M</b> Perf. Rights (Class B)</p>	<p><b>5M</b> Broker Options (ex. @ 10c s.p reaching 15c @ 15day vwap before 2 Nov. 2022)</p>

### 61.6% Top 20 Shareholders

Top Shareholders

9.5% - Kumane Investments | 9.5% - Danterne Pty Ltd | 9.4% - Raubex Ltd | Other



## Board

Jurie Wessels | [Exec. Chairman](#)

Michael Davy | [Non-Executive Director](#)

John Ciganek | [Non-Executive Director](#)

## VR8 – Share Price & Volume





## 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 two operating chrome mines and recently refunded by JSE-listed Raubex Group Ltd, 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 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.

## EUGENE NEL

### Chief Executive Officer

Eugene Nel has 25 years' experience as a metallurgical and process engineer in the operations, management, design and optimisation of mineral beneficiation in Africa, South America, Europe and the Middle East. He has been involved in a number of successful mining and processing operations and has assisted client teams throughout project lifecycles and disciplines. As a registered Pr. Tech. Eng. with the Engineering Council of South Africa, as well as member of the Southern African Institute of Mining and Metallurgy and Mine Metallurgical Managers Association of South Africa, he qualifies as a competent person under JORC.

## 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 Michael had 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 a non-executive director of Arcadia Minerals Ltd (AM7.Asx).

## JOHN CIGANEK

### Non-Executive Director

John Ciganek has worked in the mining sector for more than 30 years. His experience spans working in mining operations, project finance, M&A and the equity capital markets. John is a Mining Engineer and holds an MBA. He has experience in a range of roles covering mining engineering, operations, business development, research and corporate finance.

John is currently an executive director and founder of Euclase, which is a corporate finance advisory and investment firm included providing financing and structuring advice, as well as arranging debt and equity financings for capital intensive projects.

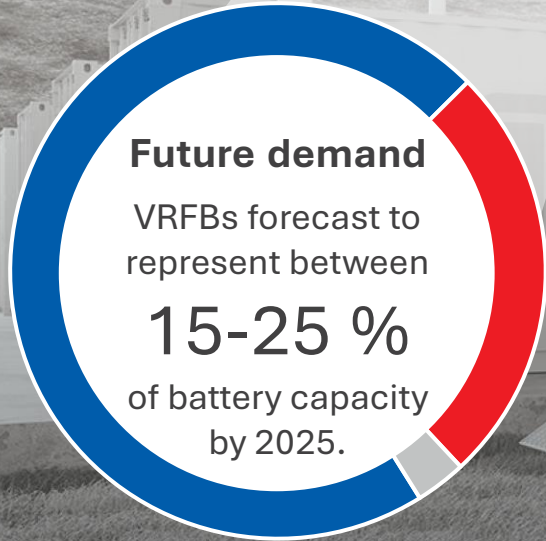
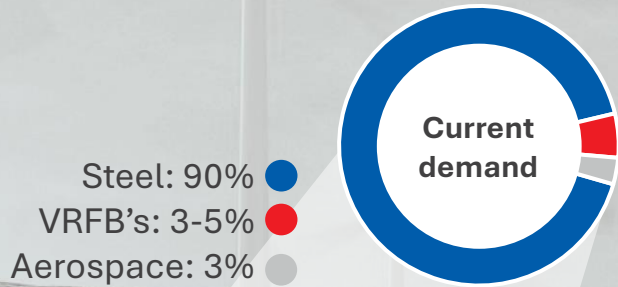
John is a Non-Executive Director of Calidus Resources Limited (CAL.Asx) and Ookami Limited (OOK.Asx).

## DANIËL ELLIS

### CFO

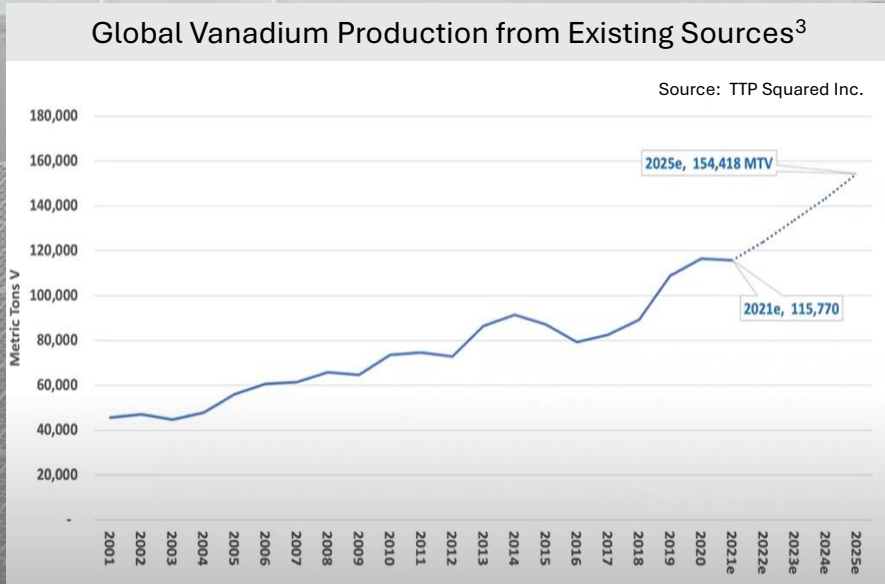
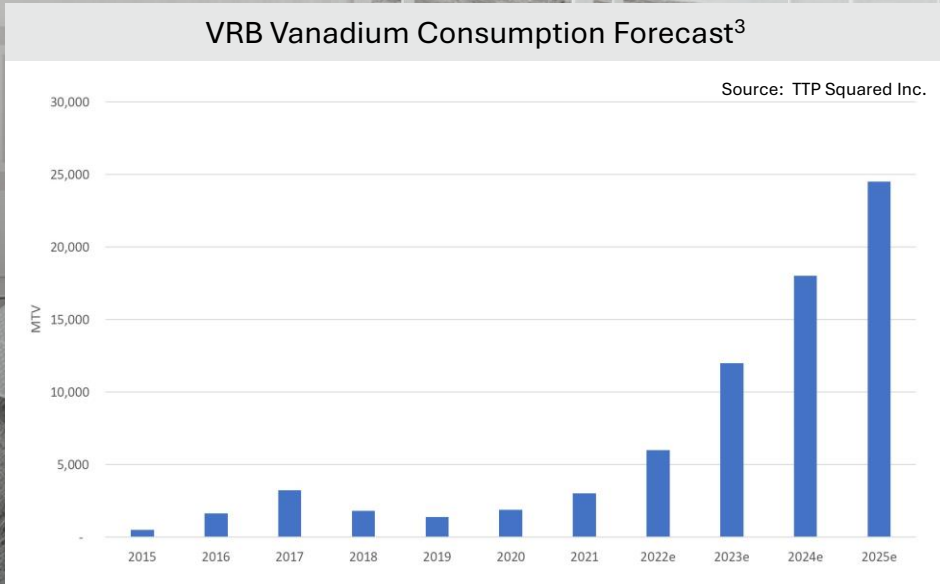
Daniël is a practising Professional Accountant in Cape Town, South Africa and has 24 years' experience in the accounting industry. During the last nine years Daniël acted as accountant for a number of publicly listed companies, including AIM listed GoldStone Resources Ltd and ASX listed Arcadia Minerals Ltd (ASX:AM7). Daniël holds B Acc and B Compt (Hons) degrees.

# Global Demand Forecast



Forecasters expect over **1,200GW** of battery capacity to be added between today and 2050, with approximately 600GW before 2025.<sup>1</sup>

Could add up to **10,000mtV** of demand into an already undersupplied market.<sup>2</sup>



<sup>1</sup> BloombergNEF, New Energy Outlook 2018; International Energy Agency, World Energy Outlook 2018

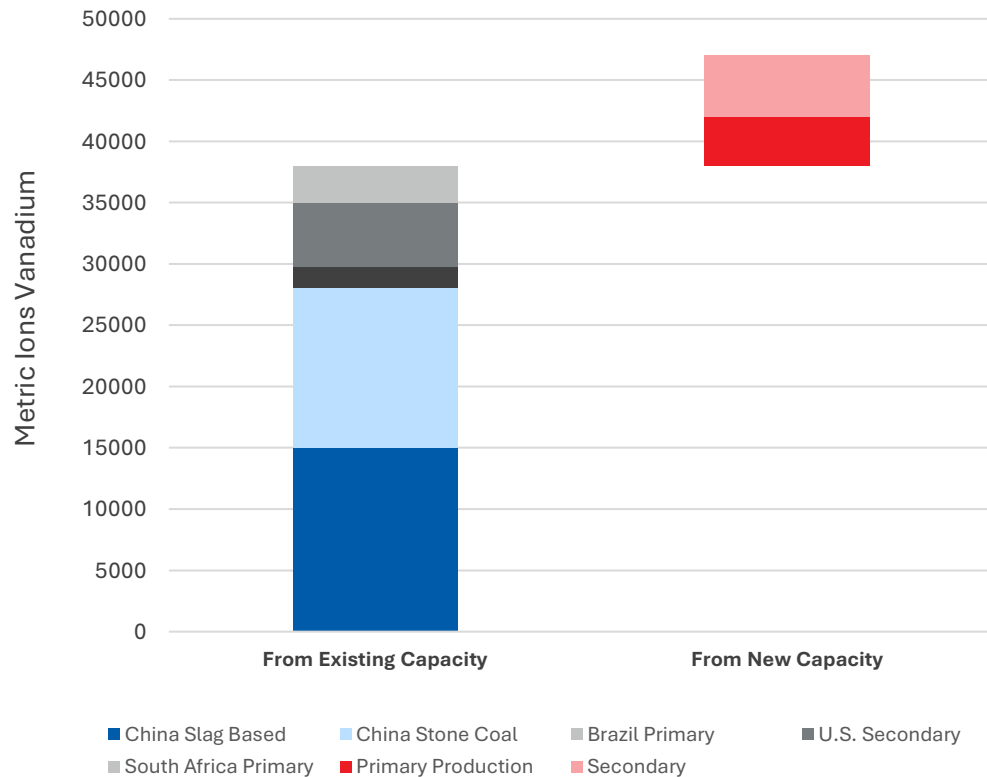
<sup>2</sup> Noack et. al, 2016. Techno-economic modelling of RFB Systems (Energies 2016, 9, 627) Vanadium Flow Batteries: An In Depth Analysis. EPRI, Palo Alto, CA: 2007.1014836

<sup>3</sup>Source: TTP Squared, Inc.



## New Capacity Potential

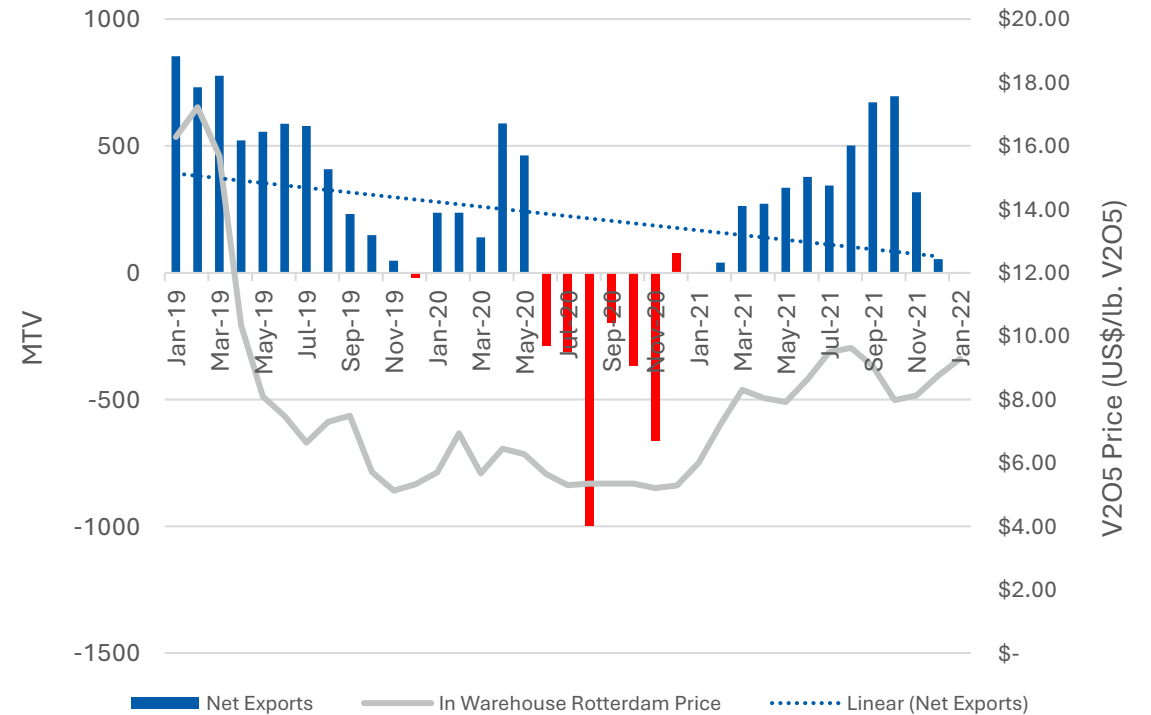
Production Expansion between 2020-2025



Source: TTP Squared Inc.

## China as a net importer of Vanadium?

China Monthly Net Vanadium Exports

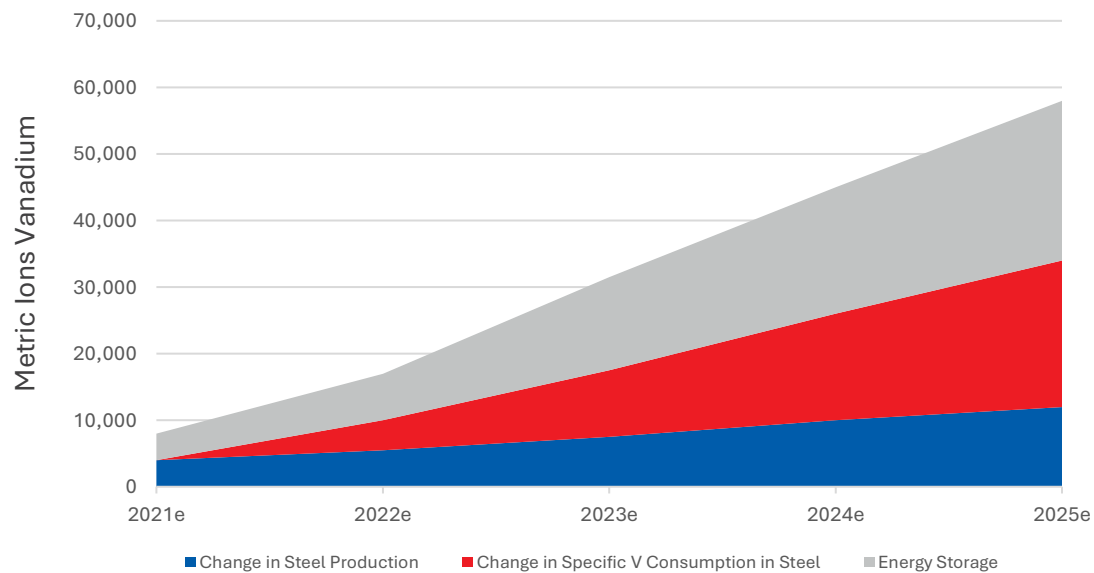


Source: China Iron & Steel Research Institute, Metal Bulletin publication

# V<sub>2</sub>O<sub>5</sub> Price Dynamics



### Projection of potential MtV demand change 2020-2025



Source: TTP Squared Inc.

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



Source: [www.vanadiumprice.com](http://www.vanadiumprice.com)



# Located in the Bushveld Complex



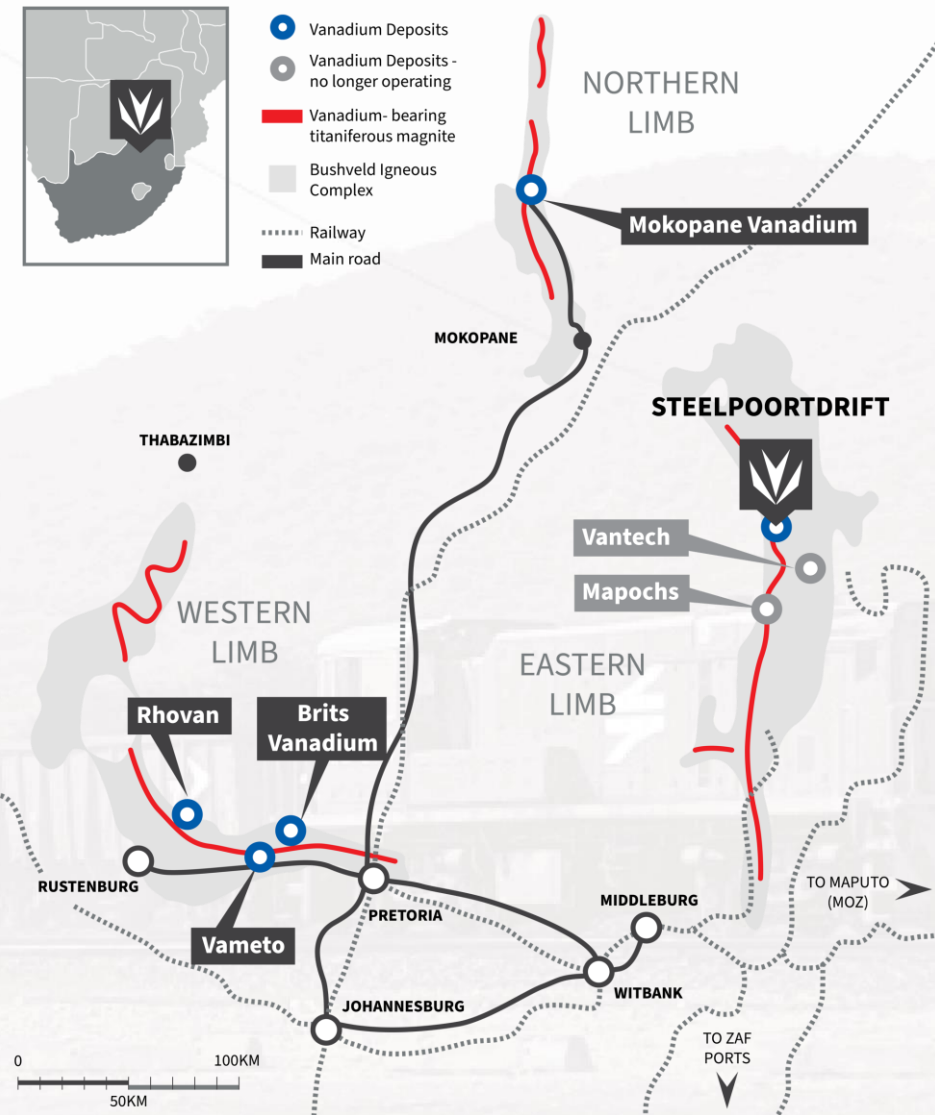
This world-renowned mining location is host to several mining operations, multiple major mining companies are active in the area, and is located in close proximity to existing infrastructure.

## Other Mines in the Bushveld Complex

Bushveld Minerals	Vametco Vanadium Mine, Mokopane Vanadium Project
Glencore	Rhovan Vanadium Mine
Anglo American	Twickenham PGE Mine
African Rainbow	Modikwa PGE Mine
Sibanye Stillwater	Marikana PGE Mine
Impala Platinum	Rustenburg PGE Mine

## Regional Infrastructure in the Bushveld Complex

ESKOM	Sub station 12km from project
Xstrata	Ferrochrome smelter in Steelpoort
Rail Siding	30km from the project
De Hoop Dam	15km from the project





Sufficient  
Resource to  
supply  
product  
economically



“Mineable”  
resource to  
reduce Opex  
and Capex



High grade  
to reduce  
Opex



Mineralogy to  
reduce Opex  
and Capex

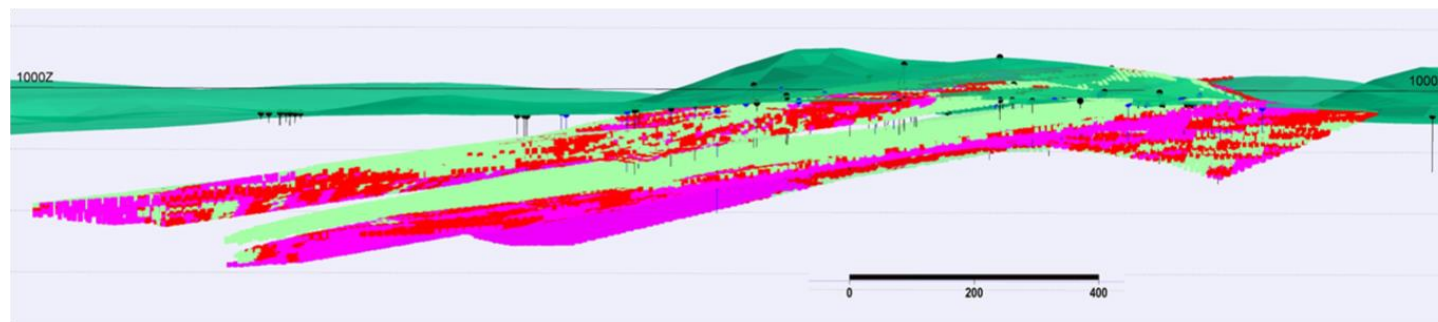
# JORC Resource, Mineralisation



- Global Mineral Resource of 662Mt at 0.77% V<sub>2</sub>O<sub>5</sub> (0.45% V<sub>2</sub>O<sub>5</sub> cut-off)
- High grade Mineral Resource of 188Mt at 1.23% V<sub>2</sub>O<sub>5</sub> (0.9% V<sub>2</sub>O<sub>5</sub> cut-off)
- Mineralisation outcrops at surface, meaning amenable to open pit mining
- Mineralisation dips shallowly (~10°) – less waste to mine, low strip ratios and cheaper mining cost



Mineral Resource by Grade <sup>1</sup>				
Total Measured, Indicated & Inferred	V <sub>2</sub> O <sub>5</sub> Range (%)	Quantity (Mt)	V <sub>2</sub> O <sub>5</sub> (%)	Fe <sub>2</sub> O <sub>3</sub> (%)
Total (0.45 to 0.90)	0.45 to 0.90	474.1	0.59	20.51
Total (>0.90)	>0.90	187.9	1.23	34.99
<b>Total</b>		<b>662.0</b>	<b>0.77</b>	<b>24.62</b>



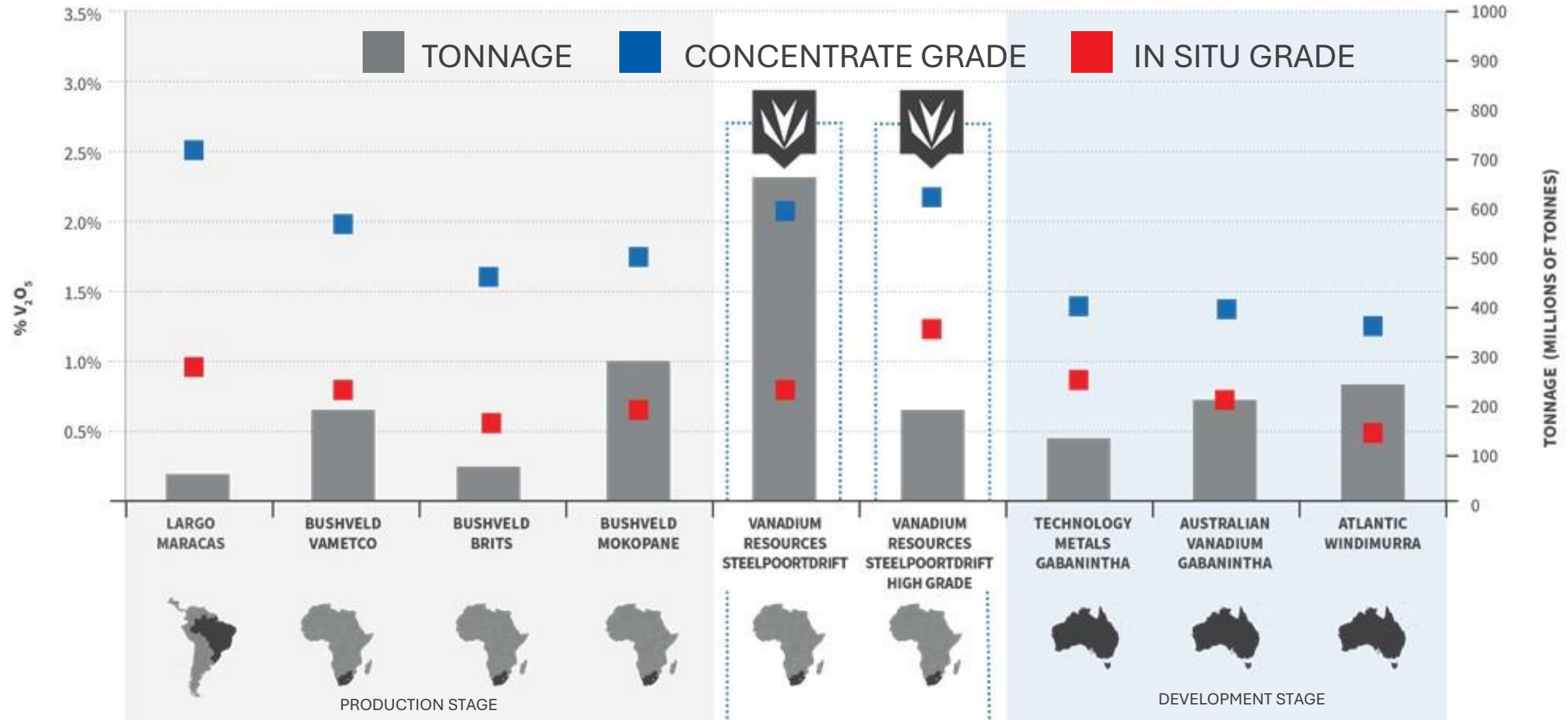
Ore Reserves as at 30 June 2021<sup>2</sup>

Material Type	Proven			Probable			Total		
	Quantity (Mt)	Grade (%)	Vanadium Content (Mt)	Quantity (Mt)	Grade (%)	Vanadium Content (Mt)	Quantity (Mt)	Grade (%)	Vanadium Content (Mt)
HG RoM Material	15.57	1.01%	0.16	24.68	0.93%	0.23	40.25	0.96%	0.39
MG RoM Material	15.60	0.51%	0.08	18.00	0.50%	0.09	33.60	0.50%	0.17
<b>Total Mineral Reserve</b>	<b>31.17</b>	<b>0.76%</b>	<b>0.24</b>	<b>42.68</b>	<b>0.75%</b>	<b>0.32</b>	<b>73.85</b>	<b>0.73%</b>	<b>0.56</b>

1. Source: ASX Announcement titled "Steelpoortdrift PFS Delivers Superior Results", 22 June 2021

2. Source: ASX Announcement titled "VR8 declares maiden ore reserve for SPD project", 20 & 22nd July 2021

# Global Primary Resources



The above chart compares Resources reported under different codes and companies at different stages of development as detailed in ASX Announcement titled "Scoping Study Confirms Viability of V<sub>2</sub>O<sub>5</sub> Production", 23 September 2020 (pages 13-14). Only Resources with a quoted in situ grade > 0.45% V<sub>2</sub>O<sub>5</sub> are shown in the figure. Please refer to the annexure "Peer Comparison Table" attached to this presentation.



Concentrator  
+ Salt Roast  
Leach Plant



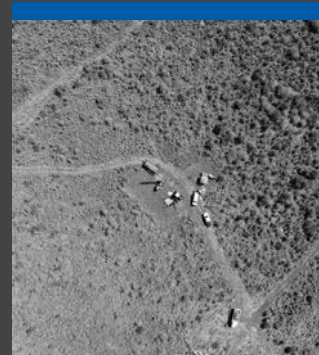
**\$200M**  
Capex



**18**  
Months  
to build



**12,5**  
Ktpa  
of  $V_2O_5$  for  
first  
6 years



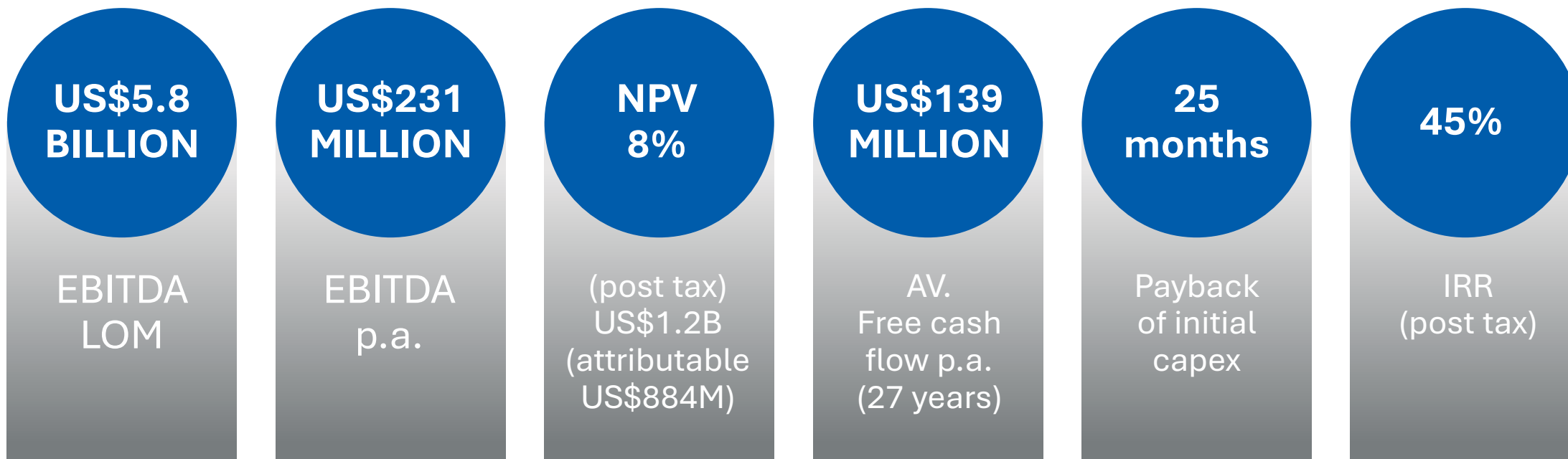
**\$147M**  
Expansion  
Capex in  
year 6



**18,5**  
Ktpa  
of  $V_2O_5$  for  
next  
19 years



**39**  
Mlbs/a  
of  $V_2O_5$  for  
25  
years (over  
only 12% of  
resource)



# Aspirant Producers / Peer Comparison



	Steelpoortdrift (VR8) Pre-Feas. Stage	Bushveld- Mokopane <sup>1</sup> Pre- Feas. Stage	TMT Gabanintha <sup>2</sup> Definitive-Feas. Stage	AVL Project <sup>3</sup> Definitive Feas. stage
<b>V<sub>2</sub>O<sub>5</sub> Price</b>	US\$9.03/lb	US\$7.50/lb	US\$10.88/lb	US\$10.50/lb
<b>Market Cap (undiluted)</b>	<b>Au\$68M</b>	n.a.	<b>Au\$123M</b>	<b>Au\$240M</b>
<b>NPV (Post Tax)</b>	<b>NPV<sub>8</sub> Au\$1.597B (Att. Au\$1.250B)</b>	<b>NPV<sub>9</sub> Au\$344M</b>	<b>NPV<sub>8</sub> Au\$870M</b>	<b>NPV<sub>7.5</sub> Au\$507M</b>
<b>IRR (Post Tax)</b>	45%	20.36%	27.3%	Unclear
<b>Plant Feed</b>	1.6mtpa + 1.6mtpa	1.5-1.8mtpa	1.7-2.3mtpa	1,5-1.9mtpa
<b>Production (V<sub>2</sub>O<sub>5</sub>)</b>	18,500tpa (12,5ktpa + 6ktpa)	9,525tpa	12,655tpa	11,200tpa
<b>Capex</b>	<b>US\$200M (12,5ktpa)</b> US\$147M (from cash flow)	<b>US\$298M</b>	<b>US\$389M</b>	<b>US\$435M</b>
<b>C3 Opex US\$/lb</b>	<b>\$3.08</b>	Unclear	<b>\$5.75</b>	<b>\$6.11</b>

<sup>1</sup> Bushveld Minerals PFS study results: <http://www.bushveldminerals.com/wp-content/uploads/2017/08/201602040458050.pdf>

<sup>2</sup> TMT DFS Announcement: <https://www.tmtlimited.com.au/sites/default/files/asx-announcements/6941650.pdf>

<sup>3</sup> Australian Vanadium Bankable Feasibility Study <https://www.australianvanadium.com.au/wp-content/uploads/2022/04/AVL-Bankable-Feasibility-Study-final.pdf>

# Current Producers / Peer Comparison

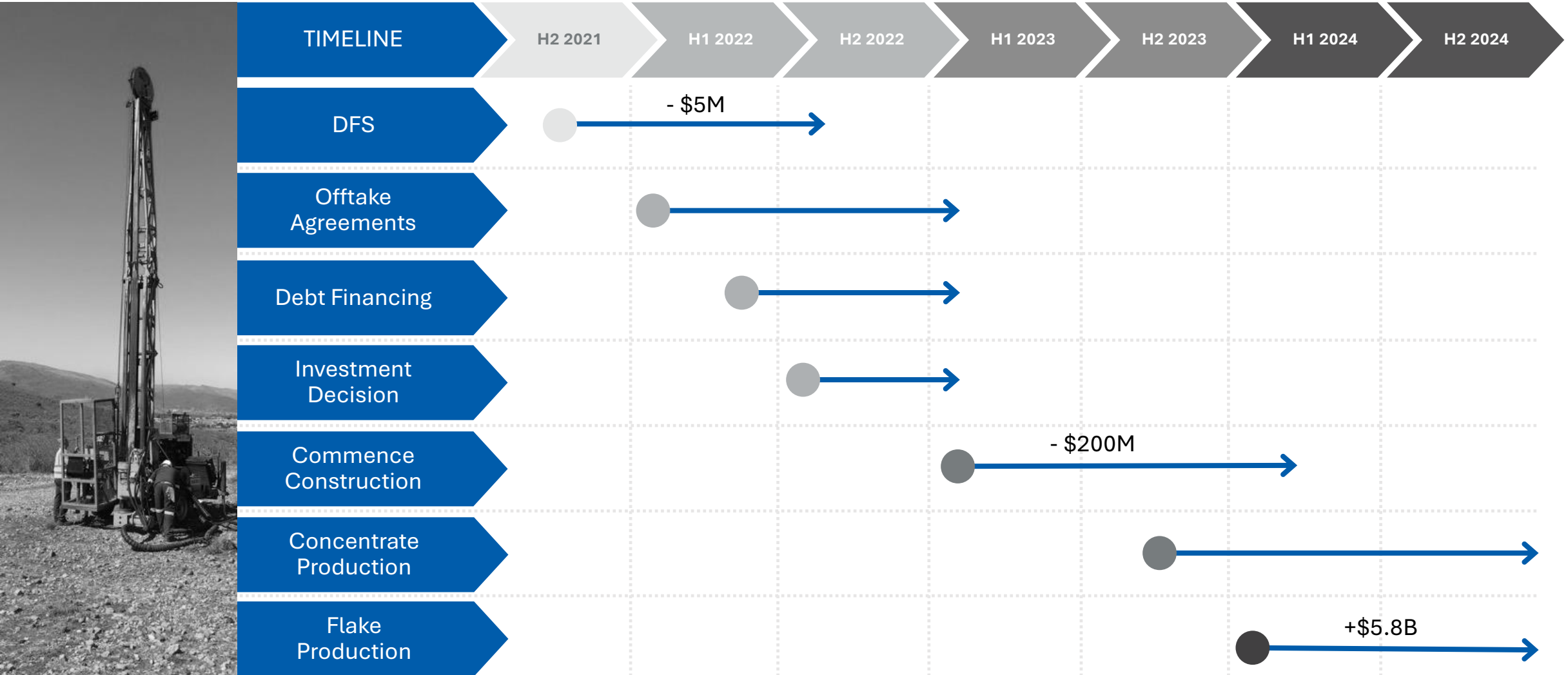


	<b>Steelpoortdrift (VR8) Pre-Feas. Stage</b>	<b>Largo<sup>1</sup> annual financial results ending Dec 2021</b>
<b>V<sub>2</sub>O<sub>5</sub> Price</b>	US\$9.03/lb	US\$7.89/lb
<b>Market Capitalization (undiluted)</b>	~Au\$68M	~C\$700M (\$Au771M)
<b>Gross Revenue p.a.</b>	<b>US\$280m (increasing to US\$450m)</b>	<b>US\$198m</b>
<b>Average RoM grade over LOM</b>	0,74% V2O5	0,78% V2O5
<b>Life of Mine</b>	25+ Years	20 years
<b>Production (V<sub>2</sub>O<sub>5</sub>)</b>	18,500tpa (12,5ktpa + 6ktpa)	10 319t
<b>Capex</b>	<b>US\$200M (12,5ktpa) US\$147M (from cash flow)</b>	<b>US\$241M (at startup 2014/5)</b>
<b>Opex US\$/lb</b>	<b>\$3.08</b>	\$3.37 (excl. royalties)

<sup>1</sup> <https://www.largoinc.com/news/news-details/2022/Largo-Reports-2021-Net-Income-of-22.6-Million-and-Strong-Financial-Position-Focused-on-Two-Pillar-Strategy-as-a-Leading-Vanadium-Supplier-Benefiting-from-Strong-Vanadium-Fundamentals-with-an-Emerging-Clean-Energy-Division/default.aspx>



# Timeline to Production



# DFS Progress & Expected Newsflow



Trial  
mining  
and bulk  
sampling

ESG  
Initiatives  
Progress

Pilot plant  
campaigns

Preparation  
to raise  
construction  
finance

Technical  
Progress

DFS  
Completion  
Q3 2022



## Commenced process toward securing binding offtake and project financing

### Offtake Agreement

- A process is underway with a range of international traders and downstream users of vanadium
- The rationale for the process is to optimize value to VR8 and secure terms that will support project financing of Steelpoortdrift

### Project Financing

- Indicative debt sizing analysis received from several potential debt financiers / advisors
- Steelpoortdrift has the potential to easily support ~60% debt gearing of the total funding requirement – based on a 2x debt service cover ratio (DSCR) over a 5-year debt loan term
- Discussions with potential debt financiers have commenced with a view to securing indicative terms sheets in the lead up to the completion of the Steelpoortdrift BFS
- Target completion of due diligence and credit approvals in the lead up to a final investment decision by early 2023



## Dry deposition of tailings

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Dewatering of tailings material means reduced risk exposure from conventional tailings deposition methodologies



## Renewable electricity supply

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Inclusion of photo voltaic solar plant reduces carbon footprint and reliance on grid-based electricity. Electrification of mining fleet further reduces carbon footprint



## Co-products

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Studies underway to unlock value from other metals contained in the ore body most notably Titanium and Iron which would also reduce tailings footprint



## Community

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Initiatives to maximize community involvement and benefits including implementation of Social Labour Plans, upgrading of area infrastructure and community-based procurement systems

# Why is VR8's Project World Class?



PHENOMENAL  
FINANCIAL  
METRICS



ONLY 12% OF  
RESOURCE  
MINED IN 25Y



MINING  
JURISDICTION  
WITH  
INFRASTRUCTURE  
& EXPERTISE



COMPETITIVE  
OPEX AND  
CAPEX (LOWEST  
QUARTILE)



EXPERIENCED  
MANAGEMENT  
TEAM



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**Eugene Nel:** [enel@vr8.global](mailto:enel@vr8.global)



# Annexure: Peer comparison Table



Company	Code	Project	Stage	Resource Category	Resource Tonnes	Resource Grade	Concentrate Grade	Information Source
Largo	LGO.TSX	Maracas	Production	Measured, Indicated & Inferred (43-101)	49.25	0.99	3.10	43-101 Technical Report dated 26/10/2017 <a href="http://largoresources.com/operations/maracas-menchen-mine">largoresources.com/operations/maracas-menchen-mine</a> <a href="https://www.largoinc.com/news/news-details/2022/Largo-Reports-2021-Net-Income-of-22.6-Million-and-Strong-Financial-Position-Focused-on-Two-Pillar-Strategy-as-a-Leading-Vanadium-Supplier-Benefiting-from-Strong-Vanadium-Fundamentals-with-an-Emerging-Clean-Energy-Division/default.aspx">https://www.largoinc.com/news/news-details/2022/Largo-Reports-2021-Net-Income-of-22.6-Million-and-Strong-Financial-Position-Focused-on-Two-Pillar-Strategy-as-a-Leading-Vanadium-Supplier-Benefiting-from-Strong-Vanadium-Fundamentals-with-an-Emerging-Clean-Energy-Division/default.aspx</a>
Bushveld	BMN.LSE	Vametco	Production	Indicated & Inferred	187	0.78	1.98	Competent Persons' Report on the Vametco Vanadium Mine Jan 2020 <a href="https://www.bushveldminerals.com/technical-reports/">https://www.bushveldminerals.com/technical-reports/</a>
		Mokopane	Development	Indicated & Inferred	298	0.68	1.75	Mokopane PFS Study Report Jan 2016 <a href="http://bushveldminerals.com/technical-reports/">bushveldminerals.com/technical-reports/</a>
		Britts	Exploration	Indicated & Inferred	67	0.56	1.58	Competent Persons' Report on the Brits Vanadium Project Jan 2020 <a href="https://www.bushveldminerals.com/technical-reports/">https://www.bushveldminerals.com/technical-reports/</a>
Vanadium Resources	VR8.ASX	Steelpoortdrift	Development	Measured, Indicated & Inferred	662	0.77	2.18	ASX Announcement 16 April 2019
TNG	TNG.ASX	Mt Peake	Development	Measured, Indicated & Inferred	160	0.28	1.20	ASX Announcement 26/03/2013
King River	KRR.ASX	Speewah	Development	Measured, Indicated & Inferred	4,712	0.30	2.11	ASX Announcement 02/11/2018 21/03/2018
Pursuit	PUR.ASX	Koitelainen Vosa	Development	Inferred	116.4	0.28	2.25	ASX Announcement 06/02/2019
		Airijoki	Development	Inferred	44.3	0.40	1.70	ASX Announcement 08/03/2019
Aust Vanadium	AVL.ASX	Gabanimtha	Development	Measured, Indicated & Inferred	208.2	0.74	1.39	ASX Announcement 04/03/2020, 17/03/2020
Technology Metals	TMT.ASX	Gabanimtha	Development	Indicated & Inferred	131	0.90	1.36	ASX Announcement 29/03/2019
Atlantic	Private	Windimurra	Development	Measured, Indicated & Inferred	235	0.49	1.26	<a href="https://atlanticytyltd.com.au/projects/windimurra/geology-reserves-resources">https://atlanticytyltd.com.au/projects/windimurra/geology-reserves-resources</a>

Source: ASX Announcement titled "Scoping Study Confirms Viability of V2O5 Production", 23 September 2020 (page 213-14).